LETTER OF TRANSMITTAL

Pennoni
2 Aquarium Drive
Suite 320
Camden, NJ 08103
(856) 668-8600
www.pennoni.com

TO: Remington & Vernick Engineers
2059 Springdale Road
Cherry Hill, NJ 08003

DATE:	11/17/25	**JOB NO.**	SCHER25001
ATTENTION:	Dena Moore Johnson, P.E., C.M.E.		
RE:	Coriell Institute Camden		

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2	11/17/25		Preliminary / Final Site Plan (Sheets 1 through 45)
2	09/23/25		Boundary & Topographic Survey (Sheet 1 of 1)
2	11/10/22		Geotechnical Report
2	02/24/23		Infiltration Testing Summary Report
2	06/20/22		Phase I Environmental Site Assessment (w/out Appendicies)
2	11/17/22		Phase II Environmental Site Assessment (w/ out Appendicies)
2	11/17/25		Stormwater Management Report
2	11/17/25		Stormwater Management Maintenance Report
2	06/22/23		Environmental Assessment – Level 1
2	10/17/25		Traffic Impact Study
2	11/17/25		Community Impact Statement
2	11/14/25		Visual Impact Statement
2	11/14/25		Architectural Plans

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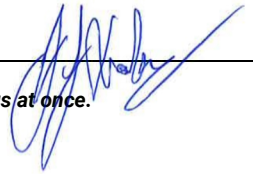
SIGNED: 

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TO: Capehart & Scatchard
8000 Midlantic Drive, Ste. 5016
Mount Laurel, NJ 08054

DATE:	11/17/25	**JOB NO.**	SCHER25001
ATTENTION:	William G. Wright		
RE:	Coriell Institute Camden		

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2 Aquarium Drive
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TO: City of Camden Planning Board
520 Market Street
City Hall, Room 224
Camden, NJ 08102

DATE:	11/17/25	**JOB NO.**	SCHER25001
ATTENTION:	Dr. Edward Williams		
RE:	Coriell Institute Camden – Planning Board Submission		

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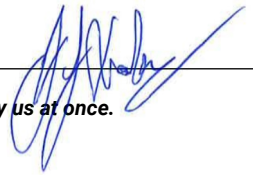
SIGNED: 

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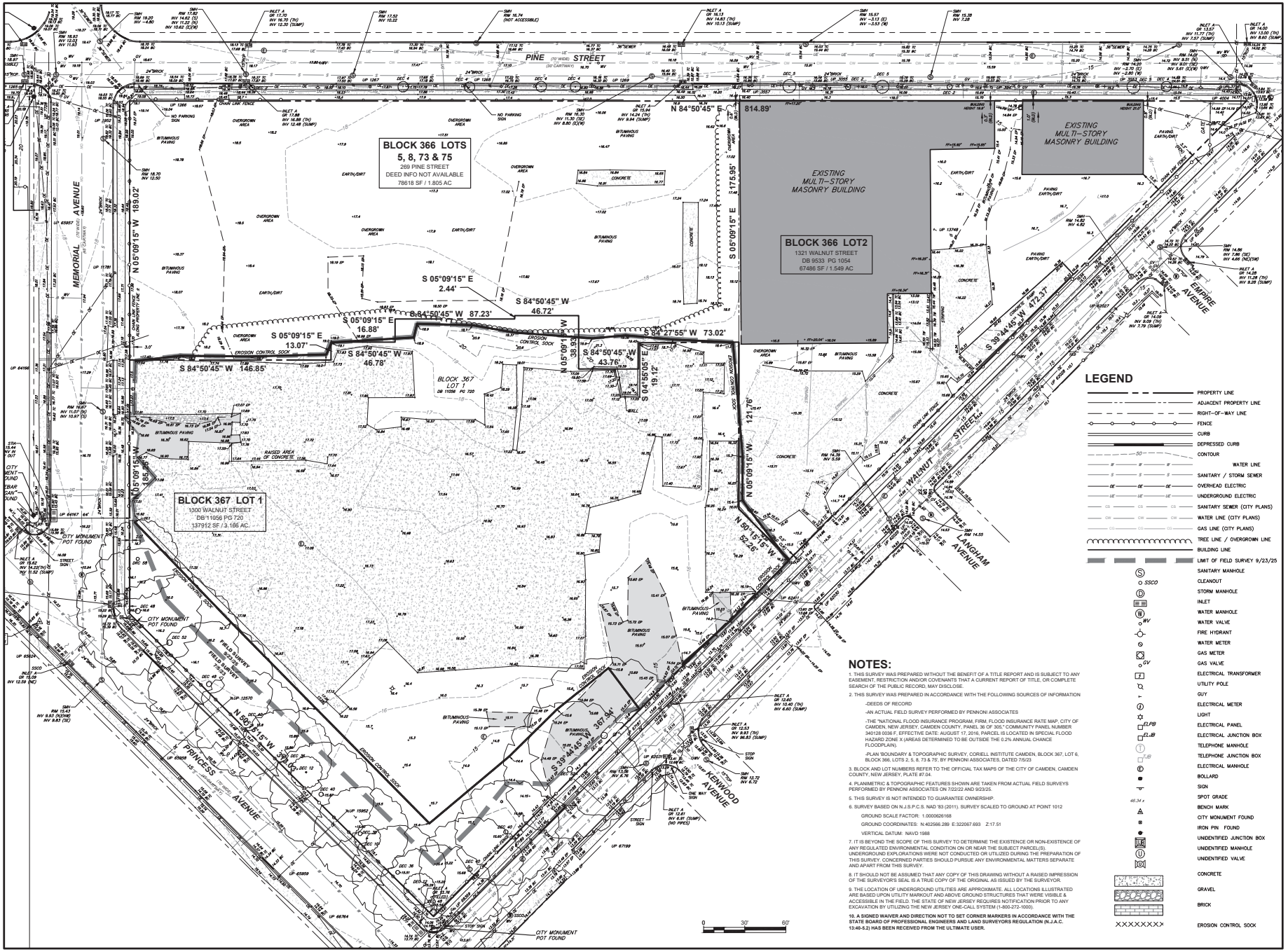

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2. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE FOLLOWING SOURCES OF INFORMATION
   - -DEEDS OF RECORD
   - -AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES
   - -THE "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, CITY OF CAMDEN, NEW JERSEY, CAMDEN COUNTY, PANEL 36 OF 305," COMMUNITY PANEL NUMBER 340128 0036 F, EFFECTIVE DATE: AUGUST 17, 2016, PARCEL IS LOCATED IN SPECIAL FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).
   - -PLAN "BOUNDARY & TOPOGRAPHIC SURVEY, CORIELL INSTITUTE CAMDEN, BLOCK 367, LOT 6, BLOCK 366, LOTS 2, 5, 8, 73 & 75', BY PENNONI ASSOCIATES, DATED 7/5/23
3. BLOCK AND LOT NUMBERS REFER TO THE OFFICIAL TAX MAPS OF THE CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY, PLATE #7.04.
4. PLANIMETRIC & TOPOGRAPHIC FEATURES SHOWN ARE TAKEN FROM ACTUAL FIELD SURVEYS PERFORMED BY PENNONI ASSOCIATES ON 7/22/22 AND 9/23/25.
5. THIS SURVEY IS NOT INTENDED TO GUARANTEE OWNERSHIP.
6. SURVEY BASED ON N.J.S.P.C.S. NAD '83 (2011). SURVEY SCALED TO GROUND AT POINT 1012
   - GROUND SCALE FACTOR: 1.0000626168
   - GROUND COORDINATES: N:402566.289 E:322067.693 Z:17.51
   - VERTICAL DATUM: NAVD 1988
7. IT IS BEYOND THE SCOPE OF THIS SURVEY TO DETERMINE THE EXISTENCE OR NON-EXISTENCE OF ANY REGULATED ENVIRONMENTAL CONDITION ON OR NEAR THE SUBJECT PARCEL(S). UNDERGROUND EXPLORATIONS WERE NOT CONDUCTED OR UTILIZED DURING THE PREPARATION OF THIS SURVEY. CONCERNED PARTIES SHOULD PURSUE ANY ENVIRONMENTAL MATTERS SEPARATE AND APART FROM THIS SURVEY.
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10. **A SIGNED WAIVER AND DIRECTION NOT TO SET CORNER MARKERS IN ACCORDANCE WITH THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS REGULATION (N.J.A.C. 13:40-5.2) HAS BEEN RECEIVED FROM THE ULTIMATE USER.**

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT-OF-WAY LINE
- FENCE
- CURB
- DEPRESSED CURB
- CONTOUR
- WATER LINE
- SANITARY / STORM SEWER
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- SANITARY SEWER (CITY PLANS)
- WATER LINE (CITY PLANS)
- GAS LINE (CITY PLANS)
- TREE LINE / OVERGROWN LINE
- BUILDING LINE
- LIMIT OF FIELD SURVEY 9/23/25
- SANITARY MANHOLE
- CLEANOUT
- STORM MANHOLE
- INLET
- WATER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- GAS METER
- GAS VALVE
- ELECTRICAL TRANSFORMER
- UTILITY POLE
- GUY
- ELECTRICAL METER
- LIGHT
- ELECTRICAL PANEL
- ELECTRICAL JUNCTION BOX
- TELEPHONE MANHOLE
- TELEPHONE JUNCTION BOX
- ELECTRICAL MANHOLE
- BOLLARD
- SIGN
- SPOT GRADE
- BENCH MARK
- CITY MONUMENT FOUND
- IRON PIN FOUND
- UNIDENTIFIED JUNCTION BOX
- UNIDENTIFIED MANHOLE
- UNIDENTIFIED VALVE
- CONCRETE
- GRAVEL
- BRICK
- EROSION CONTROL SOCK

PENNONI ASSOCIATES INC.
515 Grove Street, Suite 1B
Haddon Heights, NJ 08035
T 856.547.0505 F 856.547.9174
NJ COA NO. GA0003300

THIS PLAN WAS PREPARED UNDER MY IMMEDIATE SUPERVISION

Digitally signed by Keith M Ludwig
Date: 2025.09.26 14:50:00 -04'00'

Keith M. Ludwig, PLS
New Jersey Lic. 24GS04324400

CORIELL INSTITUTE CAMDEN

BLOCK 367 LOT 6, BLOCK 366 LOTS 2, 5, 8, 73 & 75
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

BOUNDARY & TOPOGRAPHIC SURVEY

SCHEER PARTNERS INC.
1245 SHADY GROVE ROAD
ROCKVILLE, MARYLAND 20850

NO.	DATE	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSION OF THE PROJECT OR ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER22001
DATE	9/23/25
DRAWING SCALE	1"=30'
DRAWN BY	CSC
APPROVED BY	KML

V0501

SHEET 1 OF 1

U:\Accounts\SCHER\PROJECTS\22001-1--Coriell Institute Camden\CAD\SURVEY\SURVEY\V0501 22SEP.dwg PLOTSTYLE: Pennoni-MOL_CSC.ctb PROJECT STATUS: — PLOTTED: 9/26/2025 11:31 AM BY:

Angela Miller, Secretary
City of Camden Department of Development & Planning
City Hall ~ Room 224
520 Market Street
Camden, New Jersey 08101

Date: 14 November 2025

RE: CITY OF CAMDEN PLANNING BOARD – VISUAL IMPACT ASSESSMENT
CORIELL INSTITUTE HEADQUARTERS
BLOCK 367, LOTS 1 AND 6
CAMDEN CITY, CAMDEN COUNTY, NEW JERSEY

Section 870-25 of the Camden Code requires that a Visual Impact Assessment be prepared as part of preliminary approval of the site plan if, in the opinion of the Division of Planning and Zoning, the development could have an adverse effect on the visual environment and may be waived at the discretion of the Zoning Officer/ Administration Officer. The Division of Planning and Zoning shall review the application with specific reference to scenic corridors and vistas. In addition, shadow analysis shall be required for some buildings on a case-by-case basis. During the Planning Workshop held on August 23, 2023, a Visual Impact Assessment was requested.

The Visual Impact Assessment describes the proposed project and provides the written and graphic materials as required by provisions of that ordinance.

1. **A description of the proposed project shall be presented to indicate the extent to which the site must be altered, the kinds of facilities to be constructed and the uses intended.**

The Coriell Institute for Medical Research plans to redevelop the property at 1300 Walnut Street (identified as Block 367, Lots 1 and 6 on the City's Official Tax Maps), recently acquired by Coriell, specifically for this project. A new state-of-the-art research and office facility, approximately 96,000 square feet in size and up to 65-feet high (four stories), along with related site improvements, including but not limited to off-street parking, landscaping, liquid storage tanks, and stormwater management infrastructure.

The property currently consists of vacant buildings and land, and has existing environmental contamination which will be remediated in connection with the redevelopment of the property.

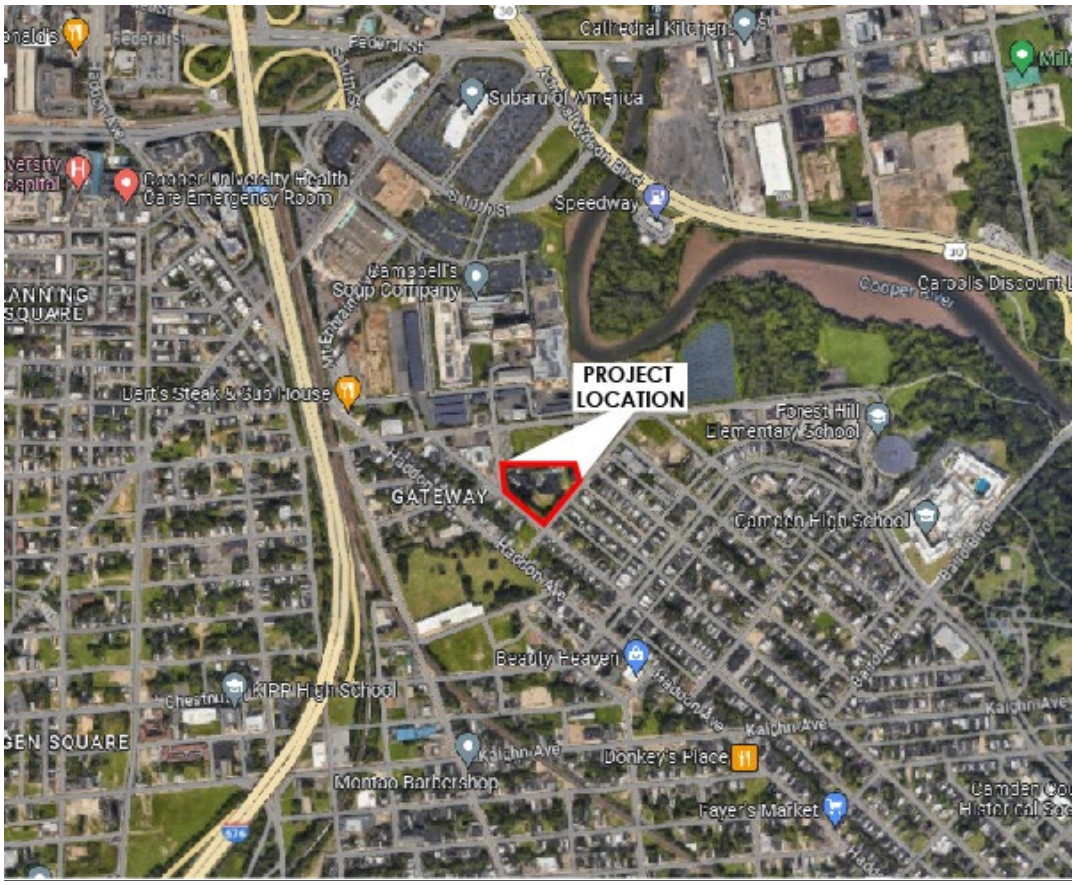

Figure 01 – Map of Project Area

Appearance

The headquarters will be a four-story structure with a partially enclosed penthouse and perforated mechanical screen atop the roof. Due to requirements for laboratory use, each story is 15'-0" Tall. The first floor of the structure will be brick, referencing the materiality and scale of much of the surrounding context.

Wrapping the top three stories will be a metal panel skin. The frontage towards Princess Ave utilizes small window openings in an alternating pattern that acknowledges the scale of the adjacent structures. The façade facing Princess Avenue will host signage on the roof penthouse, along the portion that is set back an additional 40'. The northern face of the building, faces the future courtyard, and utilizes larger openings that are continuous between floors. The spacing and rhythm of these windows correlate to the modular placement of the lab benches within. The façade that faces east towards Walnut Street has sparse openings and is set back generously to give space to the nearby residences. The western façade towards Memorial Ave marks the entrance of the site. The lobby is expressed through a 2-story perimeter space wrapped in glass. This façade will host signage on the roof screen.

Along the Princess Ave frontage, the upper three stories protrude out slightly above the brick podium. The distance at the furthest protrusion to Princess Ave is 32.1'. Southward, along Princess Ave, also lies the loading dock and bulk tank enclosure. The tank enclosure it wrapped in a 2-story brick screen that matches the brick used elsewhere on the façade. The tank enclosure is set 42' back from the property line along Princess Ave. This corner of the building also situates the waste removal and generator enclosures, each one-story structures wrapped in a brick screen in parity with the primary structure's podium. Landscaping will shield and buffer views of the enclosures and any utility equipment.

Location

The property has frontage on Walnut Street, Princess Avenue, and Memorial Avenue. The site is adjacent to two properties, one of which is also owned by Coriell and represents potential for future expansion of the site as a campus. The site is surrounded by residential neighborhoods to the south, warehouse/ industrial structures to the west, and Campbell's Headquarters to the north. The buildings primary street-facing façade will be on Princess Ave. The site has been identified as part of Camden's Gateway redevelopment strategy well positioned for redevelopment.

Sitework

Sitework will be an integral component of the site development. The sidewalk that abuts the site along Memorial Ave, Princess Ave, and Walnut St will receive a new concrete curb, brick paving strip that situates tree pits, and new concrete sidewalk surface. The stormwater management approach includes two rain gardens; one located along Memorial Ave directly adjacent to the drive aisle entrance and the other at the corner of Walnut and Princess. Work within the site will see the addition of a visitor and employee parking lot, pathways connecting the lots to the visitor and employee entrances, a perimeter fence, and a planted internal courtyard. The light fixtures utilized along the site frontage will embody the historical character of the context, while contemporary bollard lighting will be used to safely illuminate pathways within the site.

Figure 02 – Rendering of proposed entry sitework

Figure 03 – Rendering of future courtyard alternative phasing

2. The compatibility or incompatibility of the proposed project shall be described in relation to the City of Camden Master Plan, Camden County planning documents, and the Camden County Urban Complex Strategic Plan.

This proposed state-of-the-art research facility aligns seamlessly with Camden County's overarching planning documents, including the Amended Redevelopment Plan and the Urban Complex Strategic Plan. This facility will further Camden County's goals and initiatives, embodying a harmonious blend of functionality and aesthetic appeal. This visionary project aligns with the county's strategic goals and aspirations for a better place to live with an improved local economy providing exceptional service and value.
Consistent with Camden County's planning documents, including the Amended Redevelopment Plan and the Urban Complex Strategic Plan, this facility will act as a catalyst for positive change. It not only brings forth a wave of job opportunities but also represents a transformative force set to enhance the county's infrastructure and address vacant lots and environmental contamination. All the following points are highlighted within Camden County's planning documents as points of emphasis and all are addressed positively by this development.

Aesthetic Pleasure: The architectural design of the research facility has been meticulously crafted to complement the surrounding area, improve the current landscape of the area, and add a touch of modern elegance. The landscaping and thoughtful design elements ensure that the facility is not only a beacon of scientific innovation but also a visually pleasing addition to the county's landscape. The design takes into account the surrounding area, while introducing a forward-looking, aesthetically pleasing structure.

Job Opportunities and Economic Growth: One of the key virtues of the research facility lies in its potential to be a catalyst for economic growth within the county. The establishment of this facility will create a plethora of job opportunities, ranging from skilled research positions to support staff, thereby contributing to the county's economic prosperity. The facility's presence will attract top-tier talent, fostering a vibrant community and enriching the local workforce.

Transformation of Vacant Lots: The development of the research facility will breathe new life into previously vacant lots, transforming underutilized spaces into hubs of innovation and productivity. This new development will improve the current abandoned structures and will remediate the poor landscaping and overgrown vegetation that currently resides in this area.

Hub for Scientific Research: The research facility is poised to become a nucleus for scientific inquiry, drawing together experts and researches from diverse fields. This centralized hub will facilitate collaboration and knowledge exchange, positioning the county as a center for groundbreaking discoveries and advancements. Currently, there is no research facility on the Haddon Ave commercial corridor, so this will provide for more diverse commercial offerings.

In conclusion, the proposed research facility is not merely a structure; it is a testament to Camden County's commitment to progress, economic development, and an overall improved community. Through its aesthetic integration, job creation, repurposing of vacant lots, and role as a scientific hub, the facility embodies the values and aspirations outlined in Camden County's planning documents, including the Amended Redevelopment Plan and the Urban Complex Strategic Plan.

3. The suitability of the site for the intended use shall be discussed. This shall include a description of environmental conditions on the site which shall include, but not limited to, the following items:

Figure 04 – Project Location: Views and Vistas

a) Describe and map those portions of the site that can be considered to have unique scenic qualities and any scenic view from the site

Currently the site, with its abandoned structures and overgrown vegetation is an eye sore for the surrounding neighborhood. The new development will clean up the run down sidewalks, provide abundant landscaping, and bring pedestrian activity to the site. The view from Memorial Ave looking East towards the site will provide a pleasing view of the lobby and entry, as well as the planted rainwater garden and future courtyard planting.

From the site, at grade views are largely blocked. Raising above the context at around elevation 45'-0" Above ground, the new structure will offer an unobstructed view of Camden water front and Philadelphia.

b) Analyze and demonstrate the impact of the building on its surroundings, showing the maximum extent of the shadow lengths on December 21 in the a.m., noon and p.m.

Shadows created by the proposed structure: Figures 5 through 7 show the shadows created by the structure on December 21 (the winter solstice and lowest peak solar angle) at 9:00 AM, 12:00 PM and 3:00 PM.

Impact of the project on its surroundings: The shadow of the structure will have the greatest impact on its surroundings during the winter in the morning. At the hour of 9:00 AM on December 21st, the structure casts a shadow that lands on the sidewalk on the opposite side of Memorial Ave. The impact throughout the day is limited to casting a shadow within the site, impacting the parking lot and future courtyard.

Figure 5 – Solar Study Diagram (9:00 AM)

Figure 6 – Solar Study Diagram (12:00 PM)

Figure 7– Solar Study Diagram (3:00 PM)

4. The negative and positive visual impacts of the project shall be discussed.

Negative Visual Impact:
The greatest negative impact the proposed structure will pose is that of the tank storage and waste storage located at the loading dock. This could be seen as an overall improvement from the abandoned and overgrown structure that currently occupies the site. The design remains conscious and respectful of the residential context by concealing these necessary utilities in a quality brick screen which will additionally be shielded with perimeter landscaping along the edge of the site.

Positive Visual Impact:
Overall, the redevelopment of an unused and unmaintained site will mark a general positive impact on all of the affected frontages. The greatest location of positive impact can be observed on Memorial Ave: where the entrance will be located in addition to landscaping. The entry gesture will signal a shift in trajectory for the future of the site, and the future courtyard will hold more plantings to further improve the visual and physical comfort of the site.

Figure 8 – Loading dock, waste storage, and tank enclosure (The corner of Walnut and Princess)

Figure 9 – Proposed entry, Memorial Ave looking south-east

Figure 10 – The corner of Memorial Ave and Princess Ave, looking East

5. **The applicant shall include the measures which will be employed to minimize or eliminate negative visual impacts on and off site.**

The materials selected are intended to be contextual yet contemporary. The scale of the building, both in terms of overall volume and also that of the design gestures is a response to the site's surroundings. Punched openings along Princess avenue respond to the scale of nearby homes, and limits use of continuous glass surfaces. The selected glass is a balance of performance and alight blue color, which will be both reflective and transparent depending on time of day. The equipment penthouse screen is set back as much as possible along princess to minimize the visual impact of its height.

6. **A discussion of the site design and project location alternatives that were considered shall be provided. The discussion shall indicate why an alternative was rejected if it would have resulted in less of a negative impact than the proposed development.**

Previous siting strategies saw the building oriented along Walnut St and along the northern boundary of the property. The siting along Walnut St was decided unsuitable as it fronted the four-story structure immediately towards a low-density residential neighborhood. The siting along the northern-property line was not utilized because it negatively impacted the future flexibility of the site as a long-term campus supporting the growth of the Coriell Institute. The selected siting strategy was preferred because it allows for a generous distance from the 4-story height to the predominately 2-story structure adjacent to it, is urbanistically more appropriate, siting the building on the road rather than parking, and also supports future connections should the remaining sites be constructed.

7. All publications, file reports, manuscripts or other written sources of information which were consulted and employed in the compilation of the environmental impact assessment shall be listed. A list of al agencies and individuals from whom pertinent information was obtained orally or by letter shall be listed separately. Dates and locations of all meetings shall be specified.

- Preliminary and Final Site Plan, November 14, 2025 | Coriell Institute Headquarters | 1300 Walnut St prepared by Pennoni
- Cite City Of Camden Master Plan Reports Cited By Pennoni

8. Applicants shall be encouraged or required to provide suitable mitigation for all adverse visual impacts and other conditions identified in the visual impact assessment and/or in the course of the public hearings before the appropriate municipal board.

Traffic Impact Study

CORIELL INSTITUTE HEADQUARTERS
1300 WALNUT STREET
BLOCK 367 – LOTS 1,6
CITY OF CAMDEN, NEW JERSEY

Submitted To:

Walnut Street Acquisition Group, LLC
403 Haddon Avenue
Camden, NJ 08103

Joseph Raday, PE
Office Manager/Associate Vice President
Professional Engineer: New Jersey – No. GE043768

Traffic Impact Study

SCHER25001
October 17, 2025

Pennoni

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Introduction

Pennoni Associates, Inc. has completed a Transportation Impact Study (TIS) associated with the proposed Coriell Institute Headquarters located at 1300 Walnut Street in the City of Camden, New Jersey. The development consists of a 92,000 SF multi-use, mid-rise, repository/research, and headquarters administration building with on-site parking. The proposed development will include one (1) full-movement site driveway on Memorial Avenue. The off-street parking is a surface lot providing a total of 96 spaces.

The existing site is bounded by Walnut Street to the east, Memorial Avenue to the west, Pine Street to the north, and Princess Avenue to the south. The development is anticipated to be completed in 2027.

The project study area is depicted in **Figure 1** and the ground floor site plan is shown in **Figure 2**.

Study Area

The study area defined for this TIS includes the following intersections:

- Haddon Avenue (CR 561) and Pine Street
- Princess Avenue and Pine Street
- Memorial Avenue/Campbell's Driveway and Pine Street
- Walnut Street and Pine Street
- Princess Avenue and Memorial Avenue
- Princess Avenue and Walnut Street
- Haddon Avenue (CR 561) and Walnut Street
- Haddon Avenue (CR 561) and Kaighns Avenue (CR 607)

The signal timings for the traffic signals at Haddon Avenue (CR 561) and Pine Street, Haddon Avenue (CR 561) and Walnut Street, and Haddon Avenue (CR 561) and Kaighns Avenue (CR 607) were obtained from the City of Camden.

Study Methodology

This TIS was prepared in accordance with Chapter 47 of the New Jersey State Highway Access Management Code, Appendix F (N.J.A.C. 16:47 App. F). As required, two (2) analysis years are being considered; the Existing baseline traffic conditions and the opening or "Build" year analysis. The Build year analysis includes an assessment of the operational conditions of the study intersections under both "No-Build" and "Build" scenarios. The No-Build condition is described as the opening year for the development without the addition of the site generated traffic onto the adjacent roadway network. The proposed development is anticipated to be completed in 2027 and includes two (2) years of background traffic growth using rates published by the New Jersey Department of Transportation (NJDOT).

Specific elements included within the study are as follows:

- An inventory of the roadway facilities within the study area, including the existing physical and traffic operating characteristics.
- Manual turning movement (MTM) counts performed at each of the study intersections during the weekday afternoon and Saturday evening peak periods.
- Projection of future background traffic volumes.
- Calculations of vehicular trip generation for the proposed development within the study area based on trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 12th Edition*.
- Distribution of development-generated traffic onto the study area roadways in accordance with current travel patterns.
- Assessment of Existing and Build year traffic conditions based on capacity and Level of Service (LOS) analysis performed at the study intersections.

The performance of the study intersections for each analysis condition was evaluated through a qualitative measure of operating conditions called LOS. Six (6) LOS are defined with letter designations from "A" to "F", with LOS "A" indicating delays up to ten (10) seconds and LOS "F" indicating delays exceeding eighty (80) seconds at signalized intersections. LOS "C" or better is considered acceptable, with a threshold of LOS "E" in urban areas. Pennoni expects to utilize Trafficware *Synchro, 12th Edition* ("Synchro") software for capacity analysis calculations.

LOS are determined through analysis procedures outlined in the Transportation Research Board (TRB) *Highway Capacity Manual, 7th Edition*. Under certain circumstances, *HCM 7th Edition* cannot be used to evaluate the LOS at a given intersection due to several limiting factors which include, but are not limited to, traffic signals with non-NEMA phasing schemes, intersections with approaches having shared lanes, and clustered traffic signals. Under such circumstances,

a previous version of the *Highway Capacity Manual* or Trafficware Synchro's *Percentile Delay* methodology will be utilized.

LOS for signalized intersections are based on average daily delay experienced by motorists passing through the intersection. The delay is based on results of the capacity analysis (rate of demand flow to capacity, in seconds) and other important variables such as quality of progression, cycle length, and the ratio of green time for a given approach.

LOS for unsignalized intersections is defined in terms of delay for vehicles entering the from the minor street approach(es) and left turning vehicles from the major street approaches. The delay is a function of the capacity of the approach and degree of saturation. The capacity is based on the distribution of gaps in the major street traffic stream, driver judgement in selecting available gaps to execute the desired maneuver, and follow-up time required by each driver in the queue. The LOS criteria for both signalized and unsignalized intersections is provided in the below **Table 2**.

Table 1: Level of Service Criteria

Level of Service (LOS)	Signalized Intersections	Unsignalized Intersections
	Control Delay (seconds per vehicle)	
A	≤10	≤10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

2025 Existing Conditions

Existing Roadway Facilities

The existing roadways within the study area are summarized below:

- **Haddon Avenue (CR 561) –** Haddon Avenue (CR 561) is a north-south Urban Minor Arterial roadway. Haddon Avenue (CR 561) is approximately 42' wide and designated as a two-way. Within the study area, Haddon Avenue (CR 561) consists of one (1) travel lane in each direction and parking on both sides of the roadway. Sidewalk is present on both sides of the roadway. The speed limit is unposted on Haddon Avenue (CR 561), but is assumed to be 25 MPH.
- **Kaighns Avenue (CR 607)** – Kaighns Avenue (CR 607) is an east-west Urban Minor Arterial roadway. Kaighns Avenue (CR 607) is approximately 36' wide and designated as a two-way. Within the study area, Kaighns Avenue (CR 607) consists of one (1) travel lane in each direction and parking on the westbound side of the roadway. Sidewalk is present on both sides of the roadway. The speed limit is unposted on Kaighns Avenue (CR 607), but is assumed to be 25 MPH.
- **Pine Street –** Pine Street is an east-west Urban Local roadway. Pine Street is approximately 28' wide and designated as a two-way. Within the study area, Pine Street consists of one (1) travel lane in each direction and no parking on either side of the roadway. Sidewalk is present on both sides of the roadway. The speed limit is unposted on Pine Street, but is assumed to be 25 MPH.
- **Princess Avenue –** Princess Avenue is a north-south Urban Local roadway. Princess Avenue has a varying width and is designated two-way. Within the study area, Princess Avenue consists of one (1) travel lane in each direction and parking on both sides of the roadway. Sidewalk is present on both sides of the roadway. The speed limit is unposted on Princess Avenue, but is assumed to be 25 MPH.
- **Walnut Street –** Walnut Street is a north-south Urban Local roadway but is designated as east-west for analysis purposes for the duration of the report. Walnut Street is approximately 24' wide and designated as a two-way. Within the study area, Walnut Street consists of one (1) travel lane in each direction and parking on both sides of the roadway. Sidewalk is present on both sides of the roadway. The speed limit is unposted on Walnut Street, but is assumed to be 25 MPH.
- **Memorial Avenue –** Memorial Avenue is a north-south Urban Local roadway. Memorial Avenue is approximately 42' wide and designated as a two-way. Within the study area, Memorial Avenue consists of one (1) travel lane in each direction and parking on both sides of the roadway. Sidewalk is present intermittently on both sides of the roadway. The speed limit is unposted on Memorial Avenue, but assumed to be 25 MPH.

Existing Intersections

The existing intersections within the study area are summarized below:

- **Haddon Avenue (CR 561) and Pine Street –** The intersection of Haddon Avenue (CR 561) and Pine Street is a signalized intersection. The eastbound, westbound, northbound, and southbound approaches each consist of one (1) shared left/through/right lane. The traffic signal is a 2-phase signal with push buttons for crossing Haddon Avenue (CR 561).
- **Princess Avenue and Pine Street –** The intersection of Princess Avenue and Pine Street is an unsignalized intersection. The eastbound approach consists of one (1) shared through/right lane. The westbound approach consists of one (1) shared left/through lane. The northbound approach consists of one (1) shared left turn/right turn lane. Both the eastbound and westbound approaches of Pine Street are stop controlled.
- **Memorial Avenue/Campbell's Driveway and Pine Street –** The intersection of Memorial Avenue/Campbell's Driveway and Pine Street is an unsignalized intersection. The eastbound, westbound, northbound, and southbound approaches each consist of one (1) shared left/through/right. The eastbound and westbound approaches of Pine Street are stop controlled.
- **Walnut Street and Pine Street** – The intersection of Walnut Street and Pine Street is an unsignalized intersection. The eastbound approach consists of one (1) shared through/right lane. The westbound approach consists of one (1) shared left/through lane. The northbound approach consists of one (1) shared left turn/right turn lane. The northbound approach of Walnut Street is stop controlled.
- **Princess Avenue and Memorial Avenue –** The intersection of Princess Avenue and Memorial Avenue is an unsignalized intersection. The westbound approach of Memorial Avenue consists of one (1) shared left/right lane. The northbound approach of Princess Avenue consists of one (1) shared through/right lane. The southbound approach of Princess Lane consists of one (1) shared left /through lane. There are no stop signs or stop lines present at the intersection. For the purposes of the analyses in this report, Memorial Avenue is evaluated as stop controlled.
- **Walnut Street and Princess Avenue** – The intersection of Walnut Street and Princess Avenue is an unsignalized intersection. The eastbound, westbound, northbound, and southbound approaches each consist of one (1) shared left/through/right. The eastbound and westbound approaches of Walnut Street are stop controlled. It is noteworthy that this intersection's traffic control configuration is considered non-standard with respect to *HCM 7th Edition* methodologies, so *HCM 2000* was utilized when analyzing this intersection.
- **Haddon Avenue (CR 561) and Walnut Street** – The intersection of Haddon Avenue (CR 561) and Walnut Street is a signalized intersection. The southbound approach consists of one (1) shared left/through lane. The northbound approach consists of one (1) through/right lane. The westbound approach consists of one (1) shared left turn/right turn lane. The traffic signal is a 2-phase signal with push buttons for crossing both Haddon Avenue (CR 561) and Walnut Avenue.
- **Haddon Avenue (CR 561) and Park Boulevard** – The intersection of Haddon Avenue (CR 561) and Park Boulevard is a signalized intersection. The northbound and southbound approaches each consist of one (1) shared left/through lane. The eastbound and westbound approaches each consist of one (1) shared left turn/right turn lane. The traffic signal is operating as a 2-phase fixed time signal.
- **Haddon Avenue (CR 561) and Kaighns Avenue (CR 607) –** The intersection of Haddon Avenue (CR 561) and Kaighns Avenue (CR 607) is a signalized intersection. The eastbound, westbound, northbound, and southbound approaches each consist of one (1) shared left/through/right lane. The traffic signal is a 2-phase signal with countdown timers for crossing both Haddon Avenue (CR 561) and Kaighns Avenue (CR 607).

Data Collection

Manual turning movement counts were conducted on Tuesday, October 7th, 2025, during the AM peak period between 7:00 – 9:00 AM and during the PM peak period between 4:00 – 6:00 PM. The turning movement counts were conducted at the following intersections:

- Haddon Avenue (CR 561) and Pine Street
- Princess Avenue and Pine Street
- Memorial Avenue/Campbell's Driveway and Pine Street
- Walnut Street and Pine Street
- Princess Avenue and Memorial Avenue
- Princess Avenue and Walnut Street
- Haddon Avenue (CR 561) and Walnut Street

- Haddon Avenue (CR 561) and Park Boulevard
- Haddon Avenue (CR 561) and Kaighns Avenue (CR 607)

The turning movement counts are provided in **Appendix A**. The 2025 Existing Condition traffic volumes for the study intersection are illustrated on **Figure 3**.

Analysis of Existing Conditions

Capacity Analysis

Under the 2022 Existing Conditions, all study intersections operate at LOS B or better and all approaches/movements operate at LOS C or better.

The results of the capacity analysis are summarized in **Table 3**. *Synchro HCM 7th Edition* output summaries for the 2022 Existing Condition can be found in **Appendix B.**

2027 No-Build Conditions

Background Growth

Annual Background Growth Rate

To account for general background traffic growth in the area, an annual background growth rate is applied to the baseline existing traffic volumes on the study area roadways. NJDOT publishes the *Access Permit Annual Background Growth Rate Table* to establish these background growth rates by roadway type and County which are valid for use between November 2023 to November 2025.

Per the Access Permit Annual Background Growth Rate Table, a 1.0% growth rate has been established for Urban Minor Arterials and Urban Local Roadways in Camden County.

Figure 5 depicts the 2027 No-Build Conditions traffic volumes.

Analysis of No-Build Conditions

Capacity Analysis

Under 2027 No-Build Conditions, like the 2025 Existing Conditions, the study intersection operates at LOS A and all approaches/movements operate at LOS C or better with the following exceptions:

The delay, V/C ratio, and LOS summaries for the study intersection for both peak periods can be found tabulated below in **Table 4**. Synchro HCM 7th Edition output summaries for the 2027 No-Build Condition can be found in **Appendix C**.

Table 2: 2025 Existing Condition Delay and LOS

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec)	LOS	Delay (sec)
Haddon Avenue (CR 561) & Pine Street (signalized)	EB Approach	C	27.8	C	23.6
	WB Approach	C	24.5	C	21.0
	NB Approach	A	8.2	A	6.3
	SB Approach	A	8.0	A	8.1
	Overall	**B**	**18.0**	**B**	**13.6**
Princess Avenue & Pine Street (unsignalized)	EB Approach	B	10.2	A	9.9
	WB Approach	B	11.9	B	10.1
	NB Approach	A	7.2	A	6.9
	Overall	**B**	**11.2**	**A**	**9.6**
Memorial Avenue/Campbell's Driveway & Pine Streets Driveway & Pine Street (unsignalized)	EB Approach	B	10.4	B	8.1
	WB Approach	B	12.5	B	10.7
	NB Approach	A	1.2	A	3.7
	SB Approach	A	2.8	A	3.1
	Overall	**B**	**11.4**	**A**	**8.1**
Pine Street & Walnut Street (unsignalized)	WB Approach	A	1.8	A	1.9
	NB Approach	B	12.3	A	9.4
	Overall	**A**	**1.9**	**A**	**1.6**
Princess Avenue & Memorial Avenue (unsignalized)	WB Approach	A	8.9	A	9.0
	SB Approach	A	0.4	A	0.3
	Overall	**A**	**1.1**	**A**	**1.9**
Princess Avenue & Walnut Street (unsignalized)	EB Approach	A	9.2	A	9.1
	WB Approach	A	9.8	A	9.1
	SB Approach	A	3.0	A	1.2
	Overall	**A**	**8.9**	**A**	**6.9**
Haddon Avenue (CR 561) & Walnut Street (signalized)	WB Approach	C	28.0	C	24.7
	NB Approach	A	4.0	A	4.9
	SB Approach	A	3.6	A	4.3
	Overall	**A**	**6.9**	**A**	**5.5**
Haddon Avenue (CR 561) & Park Boulevard (signalized)	EB Approach	C	21.0	C	21.7
	WB Approach	B	18.7	C	24.9
	NB Approach	A	8.8	A	8.9
	SB Approach	A	8.9	A	9.9
	Overall	**B**	**13.0**	**B**	**16.2**
Haddon Avenue (CR 561) & Kaighns Avenue (CR 607) (signalized)	EB Approach	A	9.4	B	9.2
	WB Approach	A	9.3	B	9.7
	NB Approach	B	17.8	B	18.3
	SB Approach	B	14.8	B	16.9
	Overall	**B**	**12.7**	**B**	**13.6**

Table 3: 2027 No-Build Condition Delay and LOS

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec)	LOS	Delay (sec)
Haddon Avenue (CR 561) & Pine Street (signalized)	EB Approach	C	29.3	C	23.6
	WB Approach	C	24.9	C	21.0
	NB Approach	A	8.2	A	6.3
	SB Approach	A	8.1	A	8.1
	Overall	**B**	**18.6**	**B**	**13.6**
Princess Avenue & Pine Street (unsignalized)	EB Approach	B	10.2	A	9.9
	WB Approach	B	12.0	B	10.1
	NB Approach	A	7.2	A	7.0
	Overall	**B**	**11.2**	**A**	**9.6**
Memorial Avenue/Campbell's Driveway & Pine Streets Driveway & Pine Street (unsignalized)	EB Approach	B	10.5	B	10.7
	WB Approach	B	12.7	B	10.7
	NB Approach	A	1.2	A	3.7
	SB Approach	A	2.9	A	3.1
	Overall	**B**	**11.5**	**A**	**8.1**
Pine Street & Walnut Street (unsignalized)	WB Approach	A	1.8	A	1.9
	NB Approach	B	12.5	A	9.4
	Overall	**A**	**1.9**	**A**	**1.6**
Princess Avenue & Memorial Avenue (unsignalized)	WB Approach	A	8.9	A	9.0
	SB Approach	A	0.4	A	0.3
	Overall	**A**	**1.1**	**A**	**1.9**
Princess Avenue & Walnut Street (unsignalized)	EB Approach	A	9.2	A	9.1
	WB Approach	A	9.9	A	9.1
	SB Approach	A	3.0	A	1.2
	Overall	**A**	**8.9**	**A**	**6.9**
Haddon Avenue (CR 561) & Walnut Street (signalized)	WB Approach	C	30.1	C	24.7
	NB Approach	A	4.1	A	4.9
	SB Approach	A	3.7	A	4.3
	Overall	**A**	**8.9**	**A**	**5.5**
Haddon Avenue (CR 561) & Park Boulevard (signalized)	EB Approach	B	21.1	B	21.7
	WB Approach	B	18.8	B	24.9
	NB Approach	B	8.9	B	8.9
	SB Approach	B	9.0	B	9.9
	Overall	**B**	**13.1**	**B**	**16.2**
Haddon Avenue (CR 561) & Kaighns Avenue (CR 607) (signalized)	EB Approach	A	9.4	B	9.2
	WB Approach	A	9.3	B	9.7
	NB Approach	B	17.9	B	18.3
	SB Approach	B	14.8	B	16.9
	Overall	**B**	**12.8**	**B**	**13.6**

2027 Build Conditions

Development Description

The proposed development is a multi-use, mid-rise, repository/research, and headquarters administration building located on 1300 Walnut Street in the City of Camden, New Jersey. The proposed headquarters building will be 92,000 SF with on-site consisting of 96 parking spaces. The site will have one (1) full-movement site driveway along Memorial Avenue.

The ground floor site plan is illustrated in **Figure 2**.

Trip Generation

The trips generated by the proposed headquarters building were estimated in accordance with the methodology outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition. A trip is defined as a "single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site". The trip generation was calculated for the Land Use Code 760 – Research and Development Center which is defined as a facility or group of facilities devoted almost exclusively to research and development activities.

The site trips, per ITE, for the proposed Project are summarized below in **Table 5**.

Table 4: Proposed Trip Generation per ITE

LUC	Independent Variable	Weekday AM Peak			Weekday PM Peak		
		In	Out	Total	In	Out	Total
760 – Research and Development Center	92,000 SF	34	10	44	10	31	41

Per ITE and the NJDOT State Highway Access Management Code, a "significant" increase in traffic is an increase of 100 or more trips during any peak hour. The proposed Research and Development Center will result in a total of 44 and 41 new trips during the AM and PM peak periods, respectively, and is therefore not considered a significant generator of traffic.

Summaries of the trip generation are provided in **Appendix D**.

Trip Distribution

The trip distribution to the proposed facility is based on existing traffic patterns. The distribution throughout the study area and resultant site generated trips are depicted in **Figure 5** and **Figure 6**.

Figure 7 depicts the 2027 Build Conditions traffic volumes.

Analysis of Build Conditions

Capacity Analysis

The impact of the proposed research and development center was evaluated for the AM and PM roadway peak periods with stop control at the proposed site driveway and no additional mitigation at any of other study intersections. Under the Build Conditions, all study intersections continue to operate at a LOS B or better and all approaches operate at a LOS C or better.

The results of the capacity analysis are summarized in **Table 6**. *Synchro HCM 7th Edition* output summaries for the 2024 Build Conditions can be found in **Appendix E.**

Table 5: 2027 Build Condition Delay and LOS

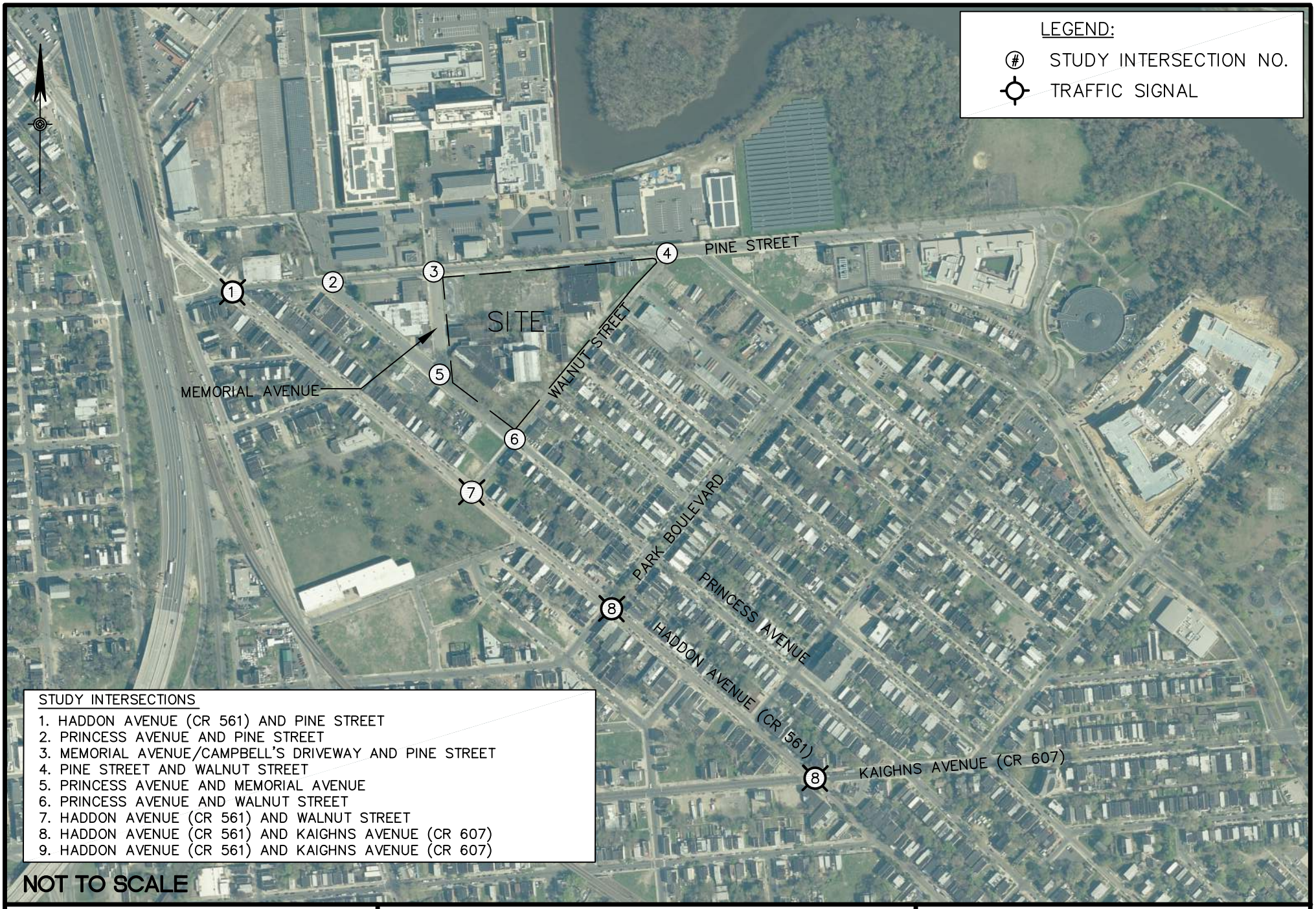
Intersection	Approach	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec)	LOS	Delay (sec)
Haddon Avenue (CR 561) & Pine Street (signalized)	EB Approach	C	27.8	C	23.6
	WB Approach	C	24.5	C	21.0
	NB Approach	A	8.2	A	6.3
	SB Approach	A	8.0	A	8.1
	Overall	**B**	**18.0**	**B**	**13.6**
Princess Avenue & Pine Street (unsignalized)	EB Approach	B	10.2	A	9.9
	WB Approach	B	11.9	B	10.1
	NB Approach	A	7.2	A	6.9
	Overall	**B**	**11.2**	**A**	**9.6**
Memorial Avenue/Campbell's Driveway & Pine Streets Driveway & Pine Street (unsignalized)	EB Approach	B	10.4	B	8.1
	WB Approach	B	12.5	B	10.7
	NB Approach	A	1.2	A	3.7
	SB Approach	A	2.8	A	3.1
	Overall	**B**	**11.4**	**A**	**8.1**
Pine Street & Walnut Street (unsignalized)	WB Approach	A	1.8	A	1.9
	NB Approach	B	12.3	A	9.4
	Overall	**A**	**1.9**	**A**	**1.6**
Princess Avenue & Memorial Avenue (unsignalized)	WB Approach	A	8.9	A	9.0
	SB Approach	A	0.4	A	0.3
	Overall	**A**	**1.1**	**A**	**1.9**
Princess Avenue & Walnut Street (unsignalized)	EB Approach	A	9.2	A	9.1
	WB Approach	A	9.8	A	9.1
	SB Approach	A	3.0	A	1.2
	Overall	**A**	**8.9**	**A**	**6.9**
Haddon Avenue (CR 561) & Walnut Street (signalized)	WB Approach	C	28.0	C	24.7
	NB Approach	A	4.0	A	4.9
	SB Approach	A	3.6	A	4.3
	Overall	**A**	**6.9**	**A**	**5.5**
Haddon Avenue (CR 561) & Park Boulevard (signalized)	EB Approach	B	12.6	B	12.9
	WB Approach	B	11.4	B	14.3
	NB Approach	B	15.3	B	15.5
	SB Approach	B	15.5	B	17.4
	Overall	**B**	**14.3**	**B**	**15.2**
Haddon Avenue (CR 561) & Kaighns Avenue (CR 607) (signalized)	EB Approach	A	9.4	B	9.2
	WB Approach	A	9.3	B	9.7
	NB Approach	B	17.8	B	18.3
	SB Approach	B	14.8	B	16.9
	Overall	**B**	**12.7**	**B**	**13.6**

Conclusions

A summary of the findings of the report is presented below:

- Under the Existing and No-Build conditions, the study intersections operate at LOS B or better and all study approaches operate at LOS C or better during the AM and PM peak periods.
- The proposed research and development center will generate a total of 44 (34 entering and 10 exiting) and 41 (10 entering and 31 exiting) new trips during the morning and afternoon peak hours, respectively.
- Under the Build Condition, as in the Existing and No-Build conditions, the study intersections continue to operate at a LOS B or better and all approaches operate at a LOS C or better.

In conclusion, the construction of the proposed research and development center located at 1300 Walnut Street in the City of Camden, New Jersey will not generate a significant number of new trips. As a result, the proposed development will not result in an appreciable impact in overall intersection or approach delays during either the AM or PM peak periods and will not adversely impact traffic flow on the adjacent roadway network or operation of the signalized and unsignalized intersections within study area.



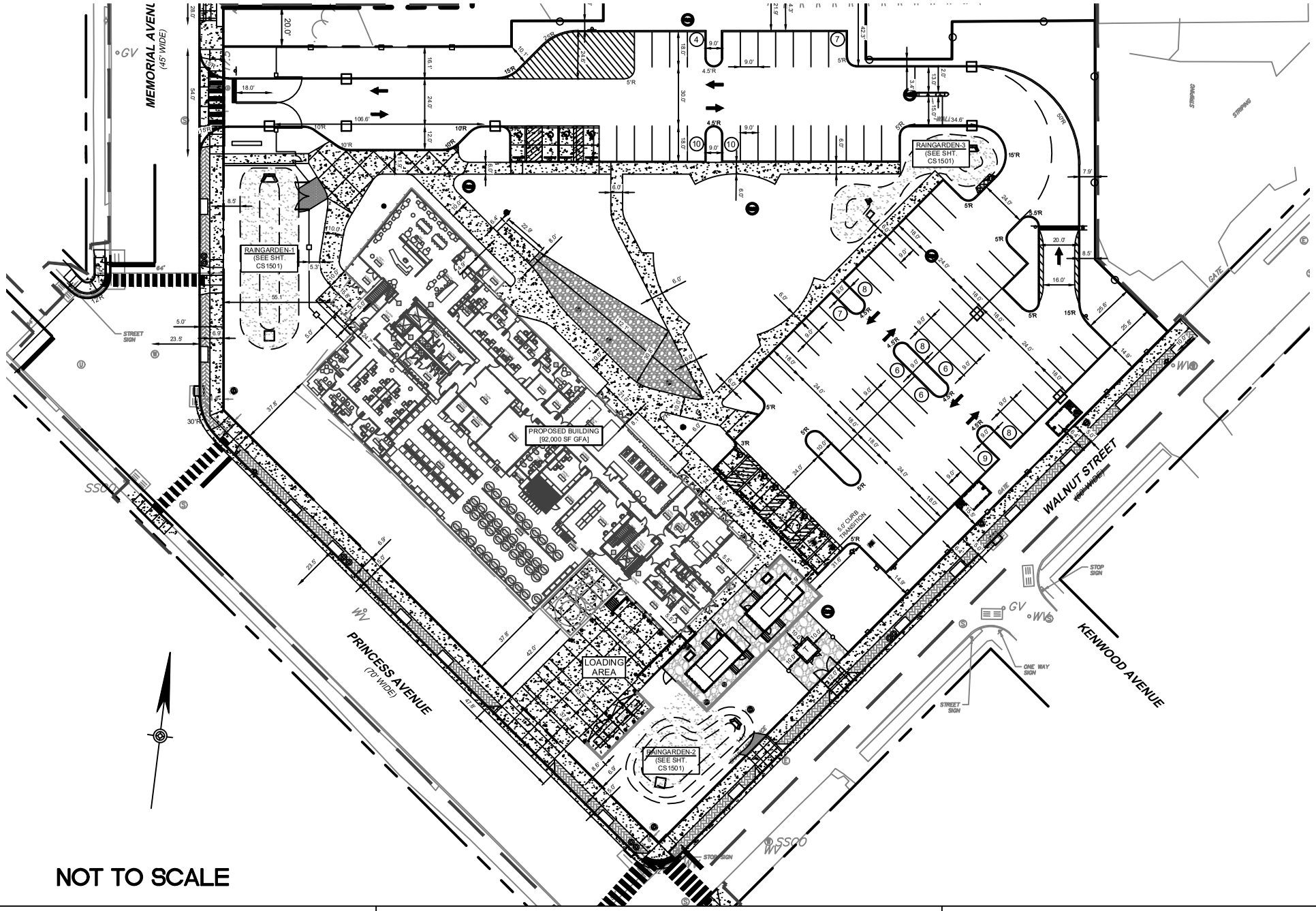
Pennoni
PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS
515 GROVE STREET
HADDON HEIGHTS, NJ

CORIELL INSTITUTE HEADQUARTERS

Proposed Research and Development Center
Camden, New Jersey

FIGURE 1

Project Area



NOT TO SCALE

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CONSULTING ENGINEERS
515 GROVE STREET
HADDON HEIGHTS, NJ

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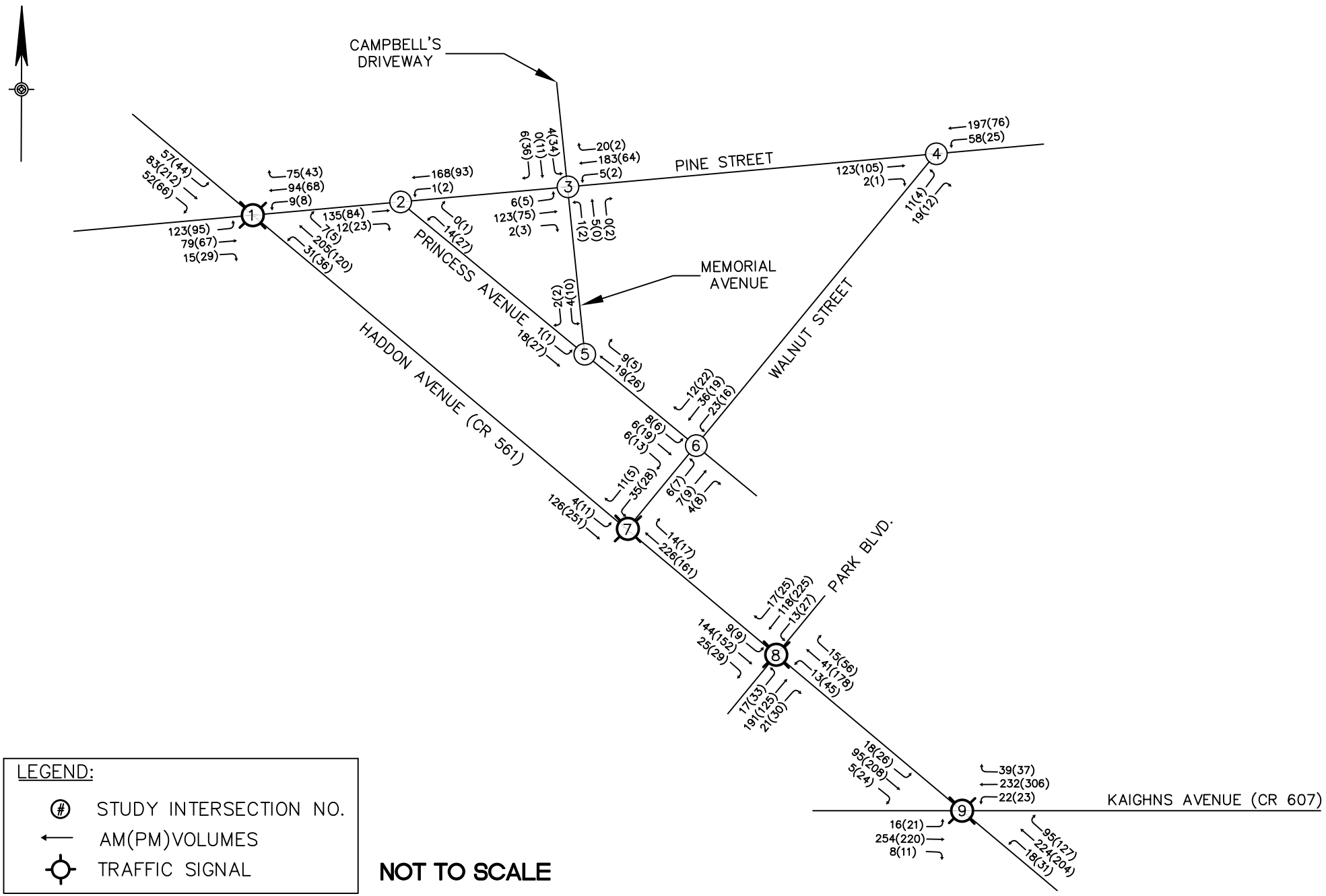
Proposed Research and Development Center
Camden, New Jersey

FIGURE 2

Site Plan



LEGEND:

- (#) STUDY INTERSECTION NO.
- ← AM(PM)VOLUMES
- TRAFFIC SIGNAL

NOT TO SCALE

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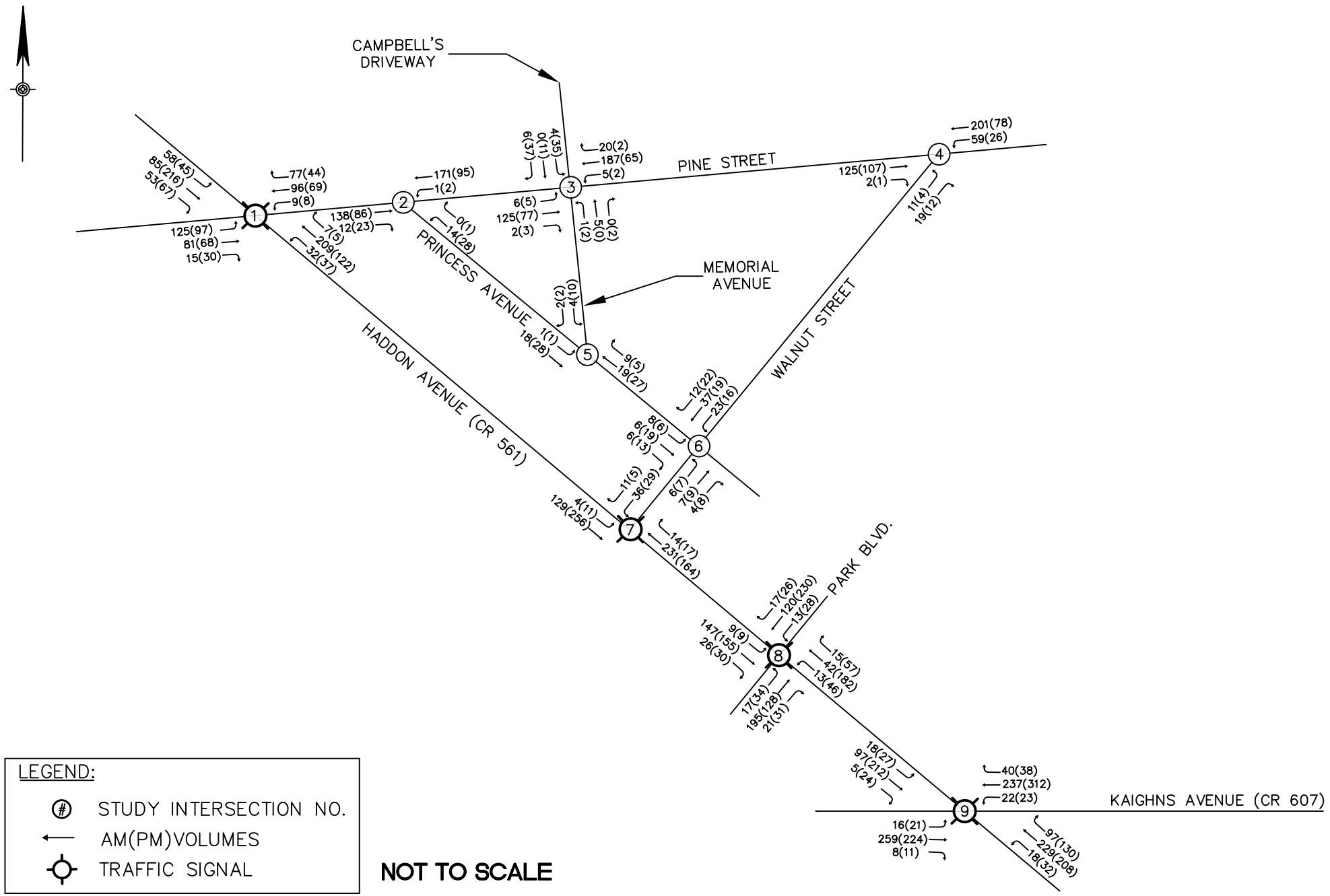
Camden, New Jersey

FIGURE 3

2025 Existing Condition
Peak Hour Traffic Volumes



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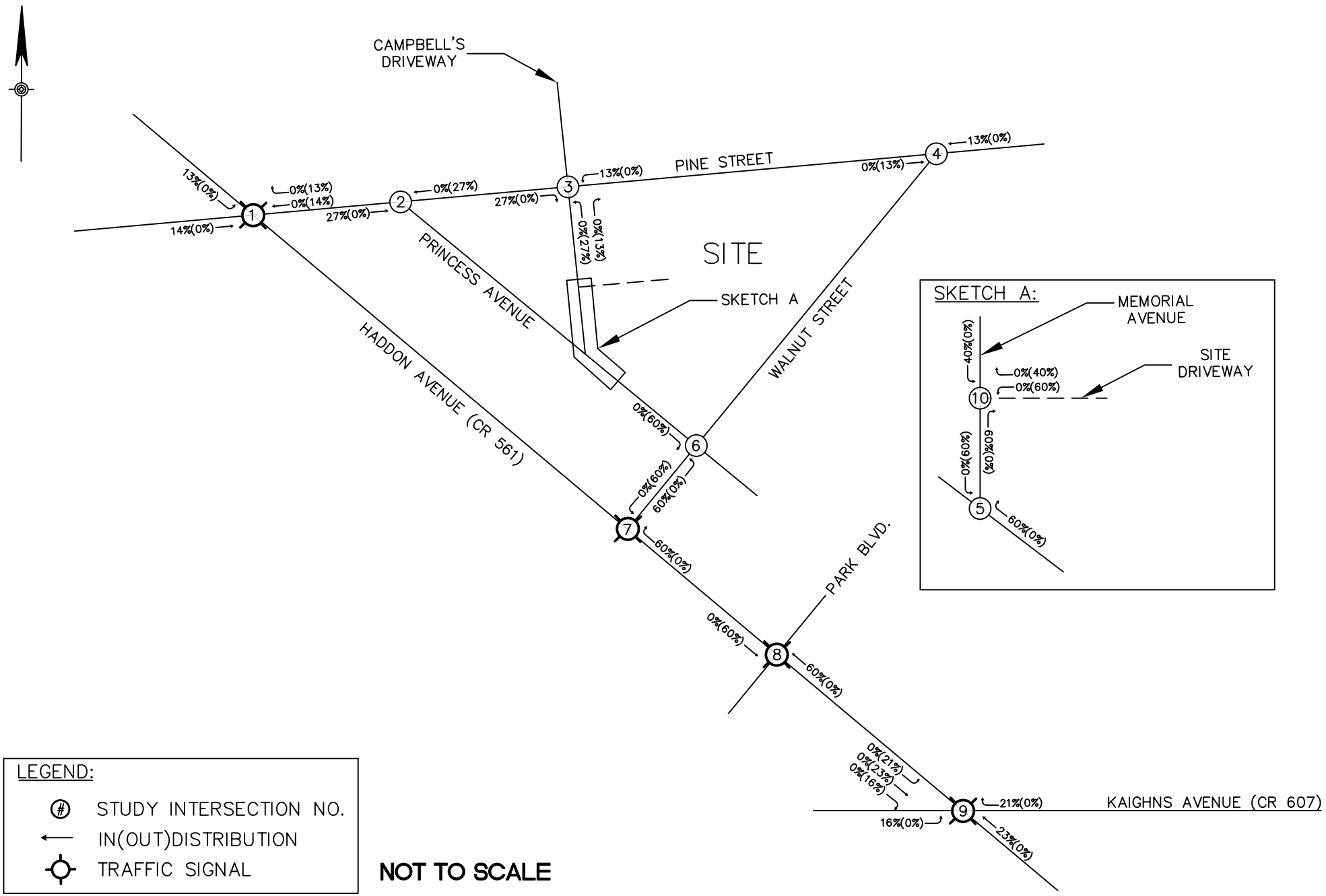
Camden, New Jersey

FIGURE 4

2027 No-Build Condition
Peak Hour Traffic Volumes



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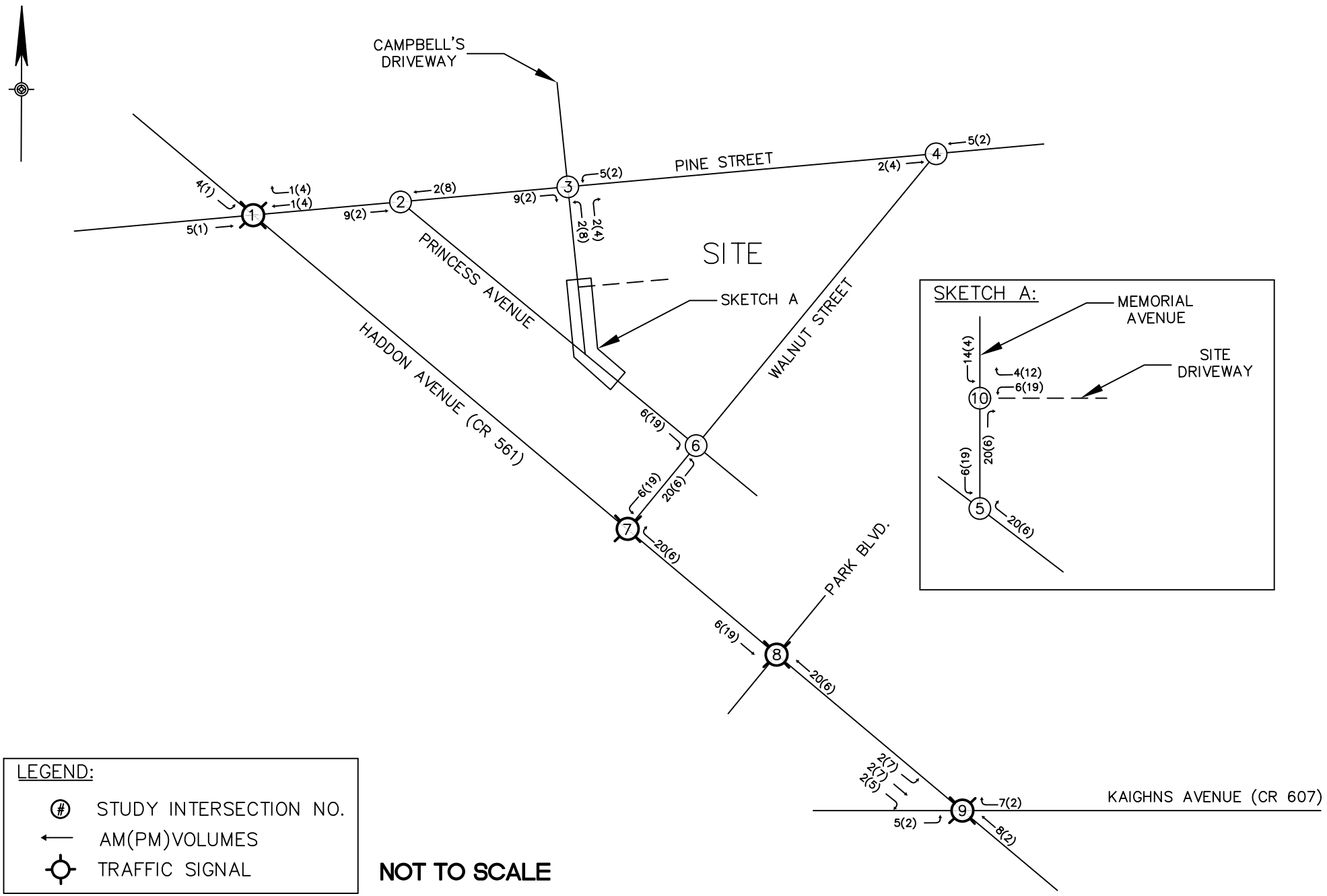
Camden, New Jersey

FIGURE 5

Site Trip Distribution



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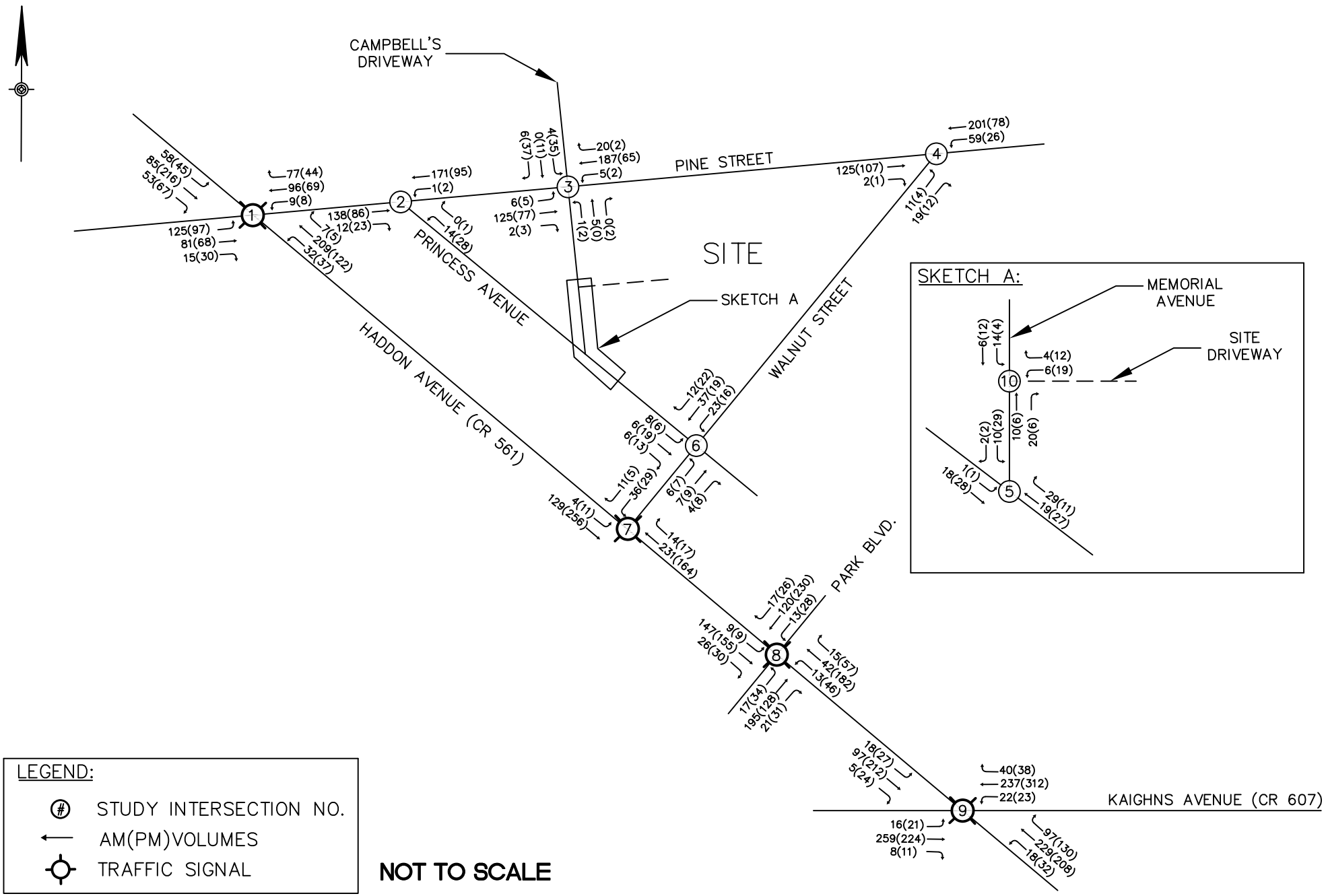
Camden, New Jersey

FIGURE 6

Peak Hour Site Trips



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515 GROVE STREET
HADDON HEIGHTS, NJ

CORIELL INSTITUTE HEADQUARTERS

Proposed Research and Development Center
Camden, New Jersey

FIGURE 7

2027 Build Condition
Peak Hour Traffic Volumes

Appendix A:
Data Collection

Imperial
TRAFFIC & DATA COLLECTION

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937125, -75.110676

Count Name: 1. Haddon Avenue & Pine Street
Site Code: 1
Start Date: 10/07/2025

Turning Movement Data

Start Time	Pine Street Eastbound						Pine Street Westbound						Haddon Avenue Northbound						Haddon Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	18	5	2	1	25	0	0	3	6	4	9	0	0	22	1	1	23	0	9	16	11	0	36	93
7:15 AM	0	33	7	4	2	44	0	1	7	11	3	19	0	0	42	1	2	43	0	2	17	10	1	29	135
7:30 AM	0	32	19	6	4	57	0	0	21	24	3	45	0	9	25	0	1	34	0	10	22	12	2	44	180
7:45 AM	0	33	19	8	1	60	0	0	22	18	2	40	0	4	52	2	2	58	0	13	26	12	2	51	209
Hourly Total	0	116	50	20	8	186	0	1	53	59	12	113	0	13	141	4	6	158	0	34	81	45	5	160	617
8:00 AM	0	37	15	3	6	55	0	2	12	18	7	32	0	6	55	3	3	64	0	10	24	13	2	47	198
8:15 AM	0	27	18	1	1	46	0	1	22	16	4	39	0	7	55	2	6	64	0	14	13	18	0	45	194
8:30 AM	0	24	23	4	3	51	0	2	14	12	9	28	0	9	46	1	2	56	0	16	21	12	7	49	184
8:45 AM	0	35	23	7	4	65	0	4	46	29	5	79	0	9	49	1	3	59	0	17	25	9	3	51	254
Hourly Total	0	123	79	15	14	217	0	9	94	75	25	178	0	31	205	7	14	243	0	57	83	52	12	192	830
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	23	21	4	5	48	0	3	20	17	4	40	0	11	42	0	3	53	0	11	49	18	0	78	219
4:15 PM	0	27	10	6	9	43	0	4	15	11	4	30	0	10	24	2	9	36	0	9	37	13	3	59	168
4:30 PM	0	19	22	12	5	53	0	0	12	7	5	19	0	12	22	1	2	35	0	13	73	18	1	104	211
4:45 PM	0	26	14	7	3	47	0	1	21	8	6	30	0	3	32	2	7	37	0	11	53	17	0	81	195
Hourly Total	0	95	67	29	22	191	0	8	68	43	19	119	0	36	120	5	21	161	0	44	212	66	4	322	793
5:00 PM	0	24	11	9	1	44	0	0	25	16	2	41	0	5	21	1	0	27	0	10	39	22	1	71	183
5:15 PM	0	26	10	13	1	49	0	2	15	13	3	30	0	3	20	5	1	28	0	8	41	23	1	72	179
5:30 PM	0	30	15	2	1	47	0	1	19	11	2	31	0	8	17	0	1	25	0	6	32	9	1	47	150
5:45 PM	0	12	6	8	8	26	0	2	11	10	2	23	0	9	30	0	5	39	0	3	14	15	2	32	120
Hourly Total	0	92	42	32	11	166	0	5	70	50	9	125	0	25	88	6	7	119	0	27	126	69	5	222	632
Grand Total	0	426	238	96	55	760	0	23	285	227	65	535	0	105	554	22	48	681	0	162	502	232	26	896	2872
Approach %	0.0	56.1	31.3	12.6	-	-	0.0	4.3	53.3	42.4	-	-	0.0	15.4	81.4	3.2	-	-	0.0	18.1	56.0	25.9	-	-	-
Total %	0.0	14.8	8.3	3.3	-	26.5	0.0	0.8	9.9	7.9	-	18.6	0.0	3.7	19.3	0.8	-	23.7	0.0	5.6	17.5	8.1	-	31.2	-
Lights	0	405	229	90	-	724	0	21	273	221	-	515	0	100	521	21	-	642	0	157	472	211	-	840	2721
% Lights	-	95.1	96.2	93.8	-	95.3	-	91.3	95.8	97.4	-	96.3	-	95.2	94.0	95.5	-	94.3	-	96.9	94.0	90.9	-	93.8	94.7
Mediums	0	21	9	6	-	36	0	1	10	5	-	16	0	5	32	1	-	38	0	3	30	20	-	53	143
% Mediums	-	4.9	3.8	6.3	-	4.7	-	4.3	3.5	2.2	-	3.0	-	4.8	5.8	4.5	-	5.6	-	1.9	6.0	8.6	-	5.9	5.0
Articulated Trucks	0	0	0	0	-	0	0	1	2	1	-	4	0	0	1	0	-	1	0	2	0	1	-	3	8
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	4.3	0.7	0.4	-	0.7	-	0.0	0.2	0.0	-	0.1	-	1.2	0.0	0.4	-	0.3	0.3
Bicycles on Crosswalk	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	3	-	-
% Bicycles on Crosswalk	-	-	-	-	9.1	-	-	-	-	-	0.0	-	-	-	-	-	2.1	-	-	-	-	-	11.5	-	-
Pedestrians	-	-	-	-	50	-	-	-	-	-	65	-	-	-	-	-	47	-	-	-	-	-	23	-	-

% Pedestrians	-	-	-	-	90.9	-	-	-	-	-	100.0	-	-	-	-	-	97.9	-	-	-	-	-	88.5	-	-

Imperial Traffic & Data Collection
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1804 Haddonfield-Berlin Road
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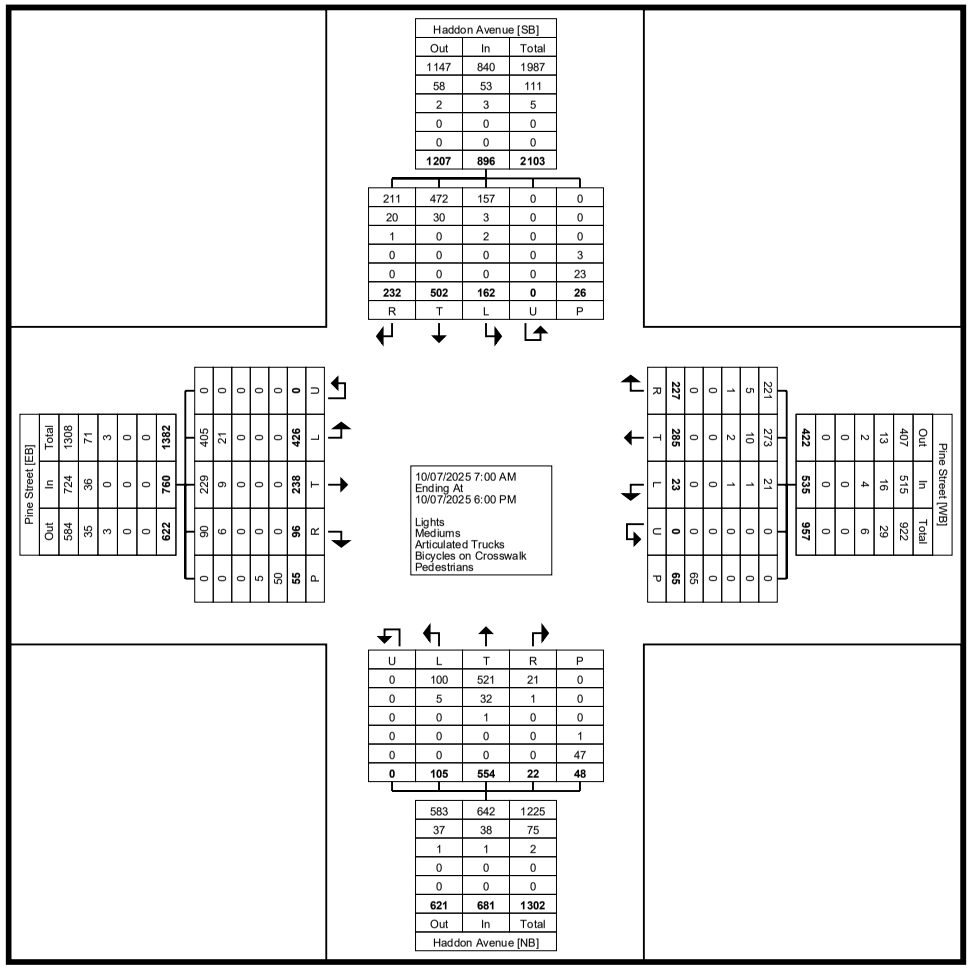
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937125, -75.110676

Count Name: 1. Haddon Avenue & Pine Street
Site Code: 1
Start Date: 10/07/2025



Turning Movement Data Plot

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Location: 39.937125, -75.110676

Count Name: 1. Haddon Avenue & Pine Street
Site Code: 1
Start Date: 10/07/2025

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Pine Street Eastbound						Pine Street Westbound						Haddon Avenue Northbound						Haddon Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
8:00 AM	0	37	15	3	6	55	0	2	12	18	7	32	0	6	55	3	3	64	0	10	24	13	2	47	198
8:15 AM	0	27	18	1	1	46	0	1	22	16	4	39	0	7	55	2	6	64	0	14	13	18	0	45	194
8:30 AM	0	24	23	4	3	51	0	2	14	12	9	28	0	9	46	1	2	56	0	16	21	12	7	49	184
8:45 AM	0	35	23	7	4	65	0	4	46	29	5	79	0	9	49	1	3	59	0	17	25	9	3	51	254
Total	0	123	79	15	14	217	0	9	94	75	25	178	0	31	205	7	14	243	0	57	83	52	12	192	830
Approach %	0.0	56.7	36.4	6.9	-	-	0.0	5.1	52.8	42.1	-	-	0.0	12.8	84.4	2.9	-	-	0.0	29.7	43.2	27.1	-	-	-
Total %	0.0	14.8	9.5	1.8	-	26.1	0.0	1.1	11.3	9.0	-	21.4	0.0	3.7	24.7	0.8	-	29.3	0.0	6.9	10.0	6.3	-	23.1	-
PHF	0.000	0.831	0.859	0.536	-	0.835	0.000	0.563	0.511	0.647	-	0.563	0.000	0.861	0.932	0.583	-	0.949	0.000	0.838	0.830	0.722	-	0.941	0.817
Lights	0	113	75	14	-	202	0	8	88	72	-	168	0	30	194	6	-	230	0	55	75	48	-	178	778
% Lights	-	91.9	94.9	93.3	-	93.1	-	88.9	93.6	96.0	-	94.4	-	96.8	94.6	85.7	-	94.7	-	96.5	90.4	92.3	-	92.7	93.7
Mediums	0	10	4	1	-	15	0	0	6	3	-	9	0	1	10	1	-	12	0	1	8	4	-	13	49
% Mediums	-	8.1	5.1	6.7	-	6.9	-	0.0	6.4	4.0	-	5.1	-	3.2	4.9	14.3	-	4.9	-	1.8	9.6	7.7	-	6.8	5.9
Articulated Trucks	0	0	0	0	-	0	0	1	0	0	-	1	0	0	1	0	-	1	0	1	0	0	-	1	3
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	11.1	0.0	0.0	-	0.6	-	0.0	0.5	0.0	-	0.4	-	1.8	0.0	0.0	-	0.5	0.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	7.1	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	14	-	-	-	-	-	25	-	-	-	-	-	13	-	-	-	-	-	12	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	92.9	-	-	-	-	-	100.0	-	-

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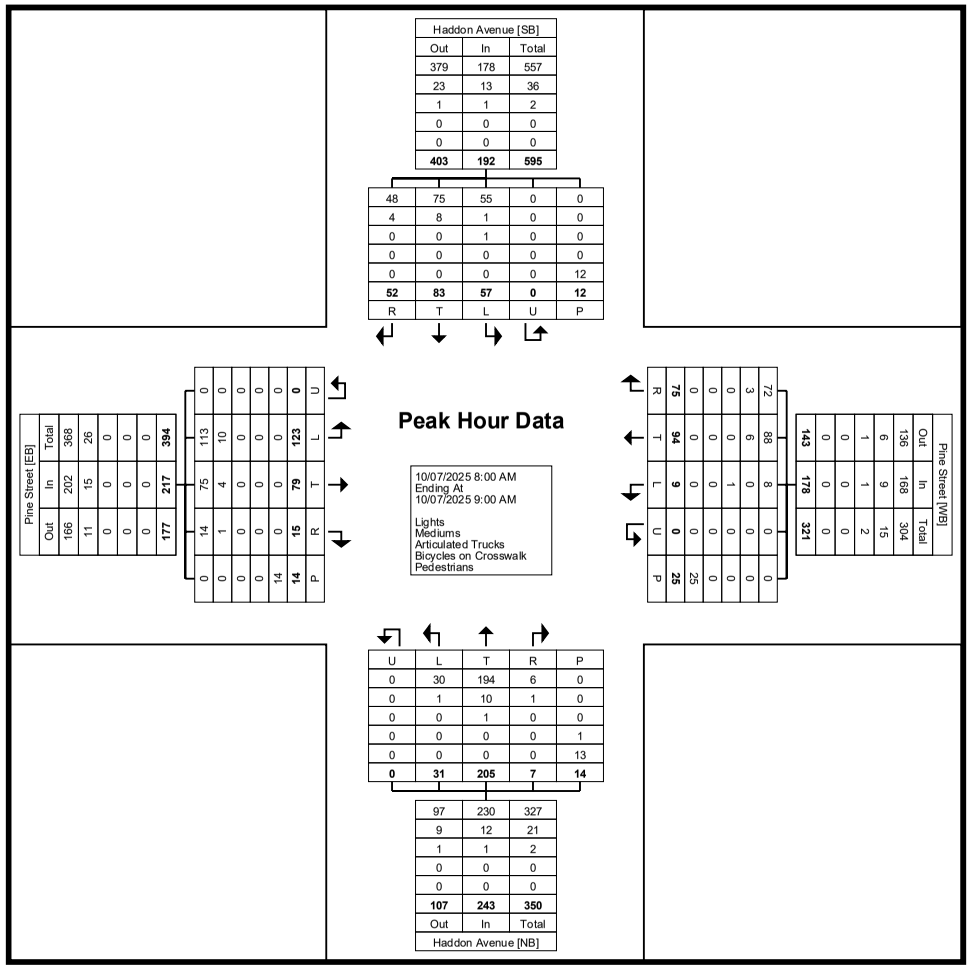

Turning Movement Peak Hour Data Plot (8:00 AM)

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Count Name: 1. Haddon Avenue & Pine Street
Site Code: 1
Start Date: 10/07/2025

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Pine Street Eastbound						Pine Street Westbound						Haddon Avenue Northbound						Haddon Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:00 PM	0	23	21	4	5	48	0	3	20	17	4	40	0	11	42	0	3	53	0	11	49	18	0	78	219
4:15 PM	0	27	10	6	9	43	0	4	15	11	4	30	0	10	24	2	9	36	0	9	37	13	3	59	168
4:30 PM	0	19	22	12	5	53	0	0	12	7	5	19	0	12	22	1	2	35	0	13	73	18	1	104	211
4:45 PM	0	26	14	7	3	47	0	1	21	8	6	30	0	3	32	2	7	37	0	11	53	17	0	81	195
Total	0	95	67	29	22	191	0	8	68	43	19	119	0	36	120	5	21	161	0	44	212	66	4	322	793
Approach %	0.0	49.7	35.1	15.2	-	-	0.0	6.7	57.1	36.1	-	-	0.0	22.4	74.5	3.1	-	-	0.0	13.7	65.8	20.5	-	-	-
Total %	0.0	12.0	8.4	3.7	-	24.1	0.0	1.0	8.6	5.4	-	15.0	0.0	4.5	15.1	0.6	-	20.3	0.0	5.5	26.7	8.3	-	40.6	-
PHF	0.000	0.880	0.761	0.604	-	0.901	0.000	0.500	0.810	0.632	-	0.744	0.000	0.750	0.714	0.625	-	0.759	0.000	0.846	0.726	0.917	-	0.774	0.905
Lights	0	90	65	28	-	183	0	7	67	42	-	116	0	34	112	5	-	151	0	43	206	59	-	308	758
% Lights	-	94.7	97.0	96.6	-	95.8	-	87.5	98.5	97.7	-	97.5	-	94.4	93.3	100.0	-	93.8	-	97.7	97.2	89.4	-	95.7	95.6
Mediums	0	5	2	1	-	8	0	1	1	0	-	2	0	2	8	0	-	10	0	1	6	7	-	14	34
% Mediums	-	5.3	3.0	3.4	-	4.2	-	12.5	1.5	0.0	-	1.7	-	5.6	6.7	0.0	-	6.2	-	2.3	2.8	10.6	-	4.3	4.3
Articulated Trucks	0	0	0	0	-	0	0	0	0	1	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	2.3	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	9.1	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	20	-	-	-	-	-	19	-	-	-	-	-	21	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	90.9	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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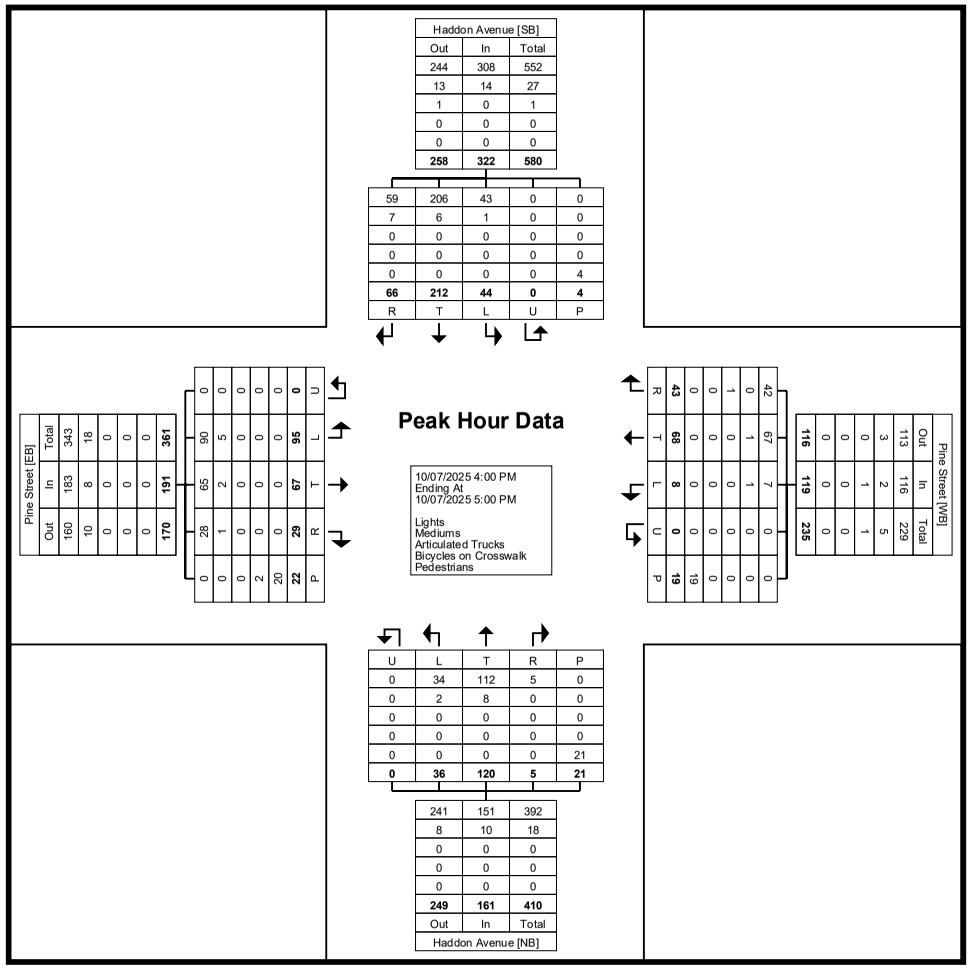

Turning Movement Peak Hour Data Plot (4:00 PM)

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1804 Haddonfield-Berlin Road
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609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937242, -75.109391

Count Name: 2. Princess Avenue & Pine Street
Site Code: 2
Start Date: 10/07/2025

Turning Movement Data

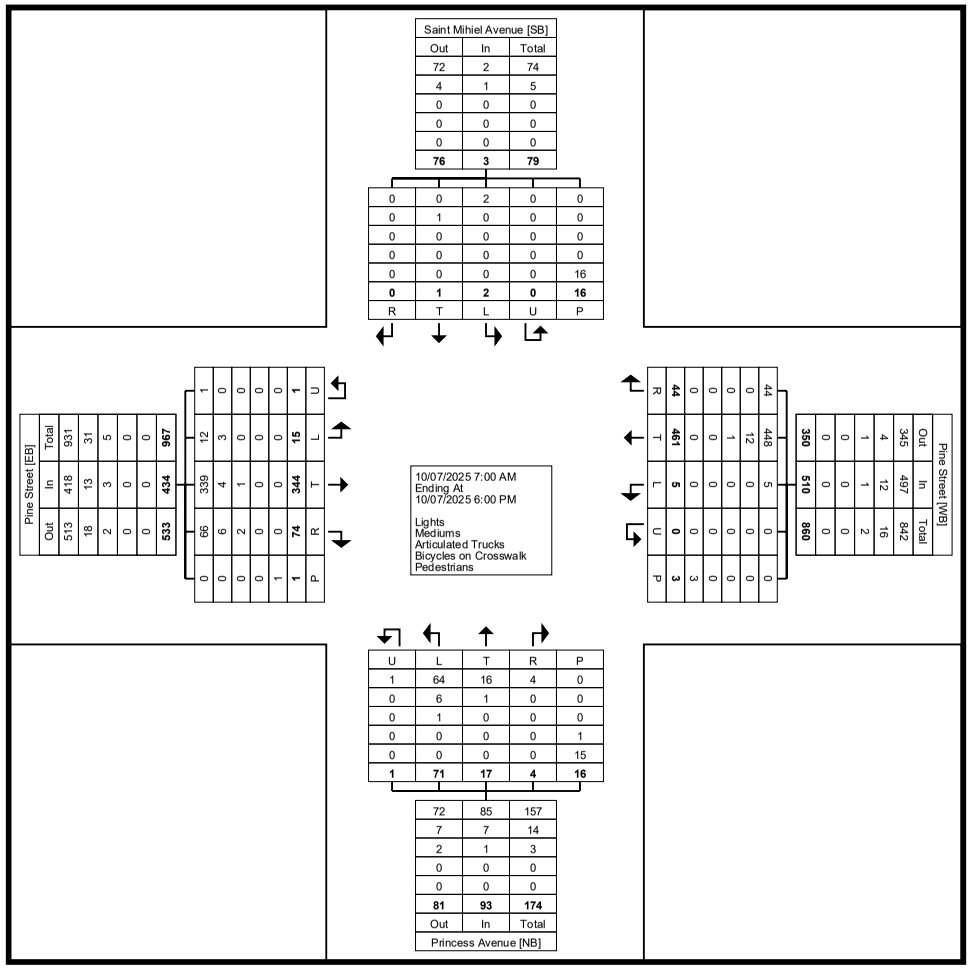
Start Time	Pine Street Eastbound						Pine Street Westbound						Princess Avenue Northbound						Saint Mihiel Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	1	10	5	0	16	0	1	8	0	1	9	0	1	0	1	0	2	0	0	0	0	2	0	27
7:15 AM	0	0	9	2	0	11	0	0	14	0	0	14	0	5	1	0	0	6	0	0	0	0	1	0	31
7:30 AM	0	1	25	4	0	30	0	0	39	4	0	43	0	7	0	0	0	7	0	0	0	0	0	0	80
7:45 AM	0	0	29	4	0	33	0	0	37	7	0	44	0	3	8	0	0	11	0	0	0	0	0	0	88
Hourly Total	0	2	73	15	0	90	0	1	98	11	1	110	0	16	9	1	0	26	0	0	0	0	3	0	226
8:00 AM	0	1	30	2	0	33	0	0	30	2	0	32	0	2	2	0	1	4	0	0	0	0	1	0	69
8:15 AM	0	1	26	5	0	32	0	0	37	0	0	37	0	3	0	0	1	3	0	1	0	0	1	1	73
8:30 AM	0	1	40	2	0	43	0	0	26	2	1	28	0	2	0	0	0	2	0	0	0	0	7	0	73
8:45 AM	0	0	39	3	1	42	0	1	75	13	1	89	0	4	1	0	5	5	0	0	0	0	2	0	136
Hourly Total	0	3	135	12	1	150	0	1	168	17	2	186	0	11	3	0	7	14	0	1	0	0	11	1	351
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	4	21	7	0	32	0	1	25	2	0	28	0	11	3	0	0	14	0	0	0	0	1	0	74
4:15 PM	0	0	13	7	0	20	0	0	25	1	0	26	0	6	0	0	4	6	0	0	0	0	0	0	52
4:30 PM	0	3	27	4	0	34	0	0	17	4	0	21	0	2	0	0	1	2	0	1	0	0	0	1	58
4:45 PM	0	0	23	5	0	28	0	1	26	1	0	28	0	4	1	1	1	6	0	0	0	0	0	0	62
Hourly Total	0	7	84	23	0	114	0	2	93	8	0	103	0	23	4	1	6	28	0	1	0	0	1	1	246
5:00 PM	0	1	16	5	0	22	0	1	34	6	0	41	0	5	1	1	0	7	0	0	0	0	1	0	70
5:15 PM	1	2	17	7	0	27	0	0	24	0	0	24	0	5	0	0	2	5	0	0	0	0	0	0	56
5:30 PM	0	0	14	7	0	21	0	0	24	1	0	25	0	7	0	0	0	7	0	0	0	0	0	0	53
5:45 PM	0	0	5	5	0	10	0	0	20	1	0	21	1	4	0	1	1	6	0	0	1	0	0	1	38
Hourly Total	1	3	52	24	0	80	0	1	102	8	0	111	1	21	1	2	3	25	0	0	1	0	1	1	217
Grand Total	1	15	344	74	1	434	0	5	461	44	3	510	1	71	17	4	16	93	0	2	1	0	16	3	1040
Approach %	0.2	3.5	79.3	17.1	-	-	0.0	1.0	90.4	8.6	-	-	1.1	76.3	18.3	4.3	-	-	0.0	66.7	33.3	0.0	-	-	-
Total %	0.1	1.4	33.1	7.1	-	41.7	0.0	0.5	44.3	4.2	-	49.0	0.1	6.8	1.6	0.4	-	8.9	0.0	0.2	0.1	0.0	-	0.3	-
Lights	1	12	339	66	-	418	0	5	448	44	-	497	1	64	16	4	-	85	0	2	0	0	-	2	1002
% Lights	100.0	80.0	98.5	89.2	-	96.3	-	100.0	97.2	100.0	-	97.5	100.0	90.1	94.1	100.0	-	91.4	-	100.0	0.0	-	-	66.7	96.3
Mediums	0	3	4	6	-	13	0	0	12	0	-	12	0	6	1	0	-	7	0	0	1	0	-	1	33
% Mediums	0.0	20.0	1.2	8.1	-	3.0	-	0.0	2.6	0.0	-	2.4	0.0	8.5	5.9	0.0	-	7.5	-	0.0	100.0	-	-	33.3	3.2
Articulated Trucks	0	0	1	2	-	3	0	0	1	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	5
% Articulated Trucks	0.0	0.0	0.3	2.7	-	0.7	-	0.0	0.2	0.0	-	0.2	0.0	1.4	0.0	0.0	-	1.1	-	0.0	0.0	-	-	0.0	0.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	6.3	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	15	-	-	-	-	-	16	-	-

% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	93.8	-	-	-	-	-	100.0	-	-

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937242, -75.109391

Count Name: 2. Princess Avenue & Pine Street
Site Code: 2
Start Date: 10/07/2025



Turning Movement Data Plot

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609-706-6100

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Setup: AH/SF
Location: 39.937242, -75.109391

Count Name: 2. Princess Avenue & Pine Street
Site Code: 2
Start Date: 10/07/2025

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Pine Street Eastbound						Pine Street Westbound						Princess Avenue Northbound						Saint Mihiel Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
8:00 AM	0	1	30	2	0	33	0	0	30	2	0	32	0	2	2	0	1	4	0	0	0	0	1	0	69
8:15 AM	0	1	26	5	0	32	0	0	37	0	0	37	0	3	0	0	1	3	0	1	0	0	1	1	73
8:30 AM	0	1	40	2	0	43	0	0	26	2	1	28	0	2	0	0	0	2	0	0	0	0	7	0	73
8:45 AM	0	0	39	3	1	42	0	1	75	13	1	89	0	4	1	0	5	5	0	0	0	0	2	0	136
Total	0	3	135	12	1	150	0	1	168	17	2	186	0	11	3	0	7	14	0	1	0	0	11	1	351
Approach %	0.0	2.0	90.0	8.0	-	-	0.0	0.5	90.3	9.1	-	-	0.0	78.6	21.4	0.0	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	0.0	0.9	38.5	3.4	-	42.7	0.0	0.3	47.9	4.8	-	53.0	0.0	3.1	0.9	0.0	-	4.0	0.0	0.3	0.0	0.0	-	0.3	-
PHF	0.000	0.750	0.844	0.600	-	0.872	0.000	0.250	0.560	0.327	-	0.522	0.000	0.688	0.375	0.000	-	0.700	0.000	0.250	0.000	0.000	-	0.250	0.645
Lights	0	2	132	9	-	143	0	1	159	17	-	177	0	9	2	0	-	11	0	1	0	0	-	1	332
% Lights	-	66.7	97.8	75.0	-	95.3	-	100.0	94.6	100.0	-	95.2	-	81.8	66.7	-	-	78.6	-	100.0	-	-	-	100.0	94.6
Mediums	0	1	2	3	-	6	0	0	8	0	-	8	0	2	1	0	-	3	0	0	0	0	-	0	17
% Mediums	-	33.3	1.5	25.0	-	4.0	-	0.0	4.8	0.0	-	4.3	-	18.2	33.3	-	-	21.4	-	0.0	-	-	-	0.0	4.8
Articulated Trucks	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Articulated Trucks	-	0.0	0.7	0.0	-	0.7	-	0.0	0.6	0.0	-	0.5	-	0.0	0.0	-	-	0.0	-	0.0	-	-	-	0.0	0.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	7	-	-	-	-	-	11	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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Count Name: 2. Princess Avenue & Pine Street
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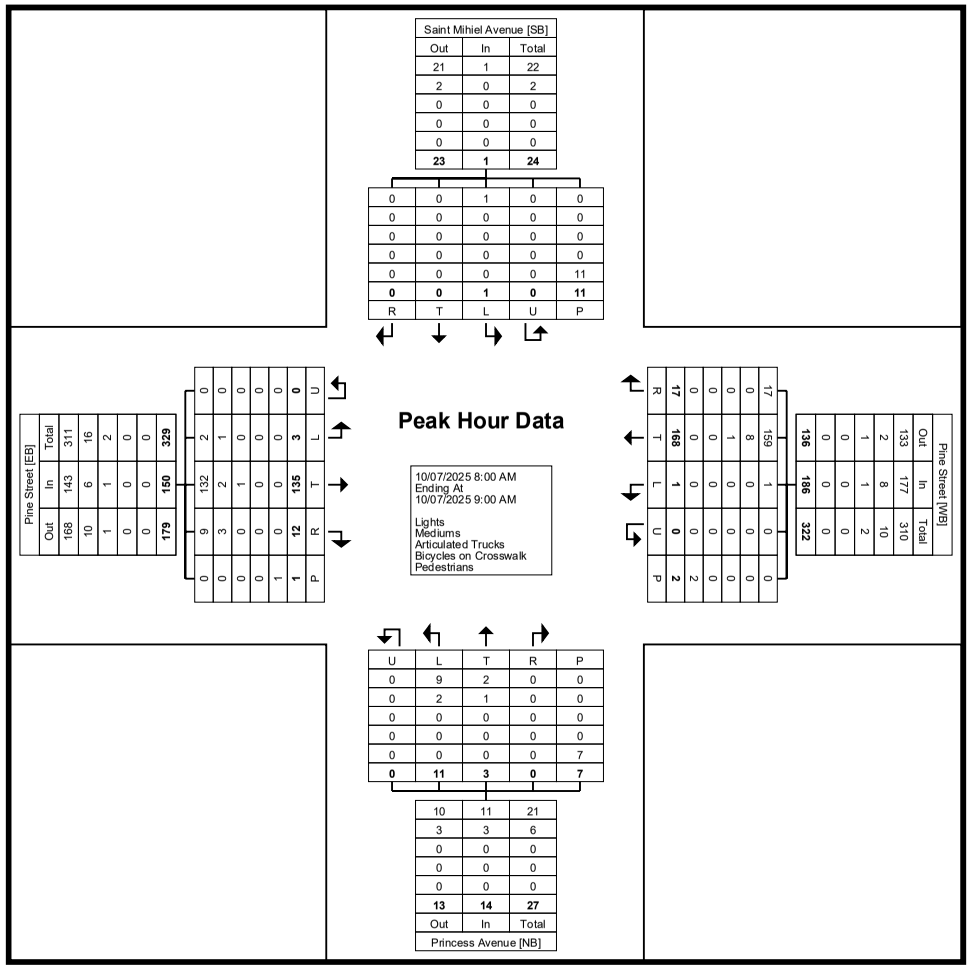
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (8:00 AM)

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937242, -75.109391

Count Name: 2. Princess Avenue & Pine Street
Site Code: 2
Start Date: 10/07/2025

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Pine Street Eastbound						Pine Street Westbound						Princess Avenue Northbound						Saint Mihiel Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:00 PM	0	4	21	7	0	32	0	1	25	2	0	28	0	11	3	0	0	14	0	0	0	0	1	0	74
4:15 PM	0	0	13	7	0	20	0	0	25	1	0	26	0	6	0	0	4	6	0	0	0	0	0	0	52
4:30 PM	0	3	27	4	0	34	0	0	17	4	0	21	0	2	0	0	1	2	0	1	0	0	0	1	58
4:45 PM	0	0	23	5	0	28	0	1	26	1	0	28	0	4	1	1	1	6	0	0	0	0	0	0	62
Total	0	7	84	23	0	114	0	2	93	8	0	103	0	23	4	1	6	28	0	1	0	0	1	1	246
Approach %	0.0	6.1	73.7	20.2	-	-	0.0	1.9	90.3	7.8	-	-	0.0	82.1	14.3	3.6	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	0.0	2.8	34.1	9.3	-	46.3	0.0	0.8	37.8	3.3	-	41.9	0.0	9.3	1.6	0.4	-	11.4	0.0	0.4	0.0	0.0	-	0.4	-
PHF	0.000	0.438	0.778	0.821	-	0.838	0.000	0.500	0.894	0.500	-	0.920	0.000	0.523	0.333	0.250	-	0.500	0.000	0.250	0.000	0.000	-	0.250	0.831
Lights	0	6	83	22	-	111	0	2	92	8	-	102	0	21	4	1	-	26	0	1	0	0	-	1	240
% Lights	-	85.7	98.8	95.7	-	97.4	-	100.0	98.9	100.0	-	99.0	-	91.3	100.0	100.0	-	92.9	-	100.0	-	-	-	100.0	97.6
Mediums	0	1	1	1	-	3	0	0	1	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	5
% Mediums	-	14.3	1.2	4.3	-	2.6	-	0.0	1.1	0.0	-	1.0	-	4.3	0.0	0.0	-	3.6	-	0.0	-	-	-	0.0	2.0
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	4.3	0.0	0.0	-	3.6	-	0.0	-	-	-	0.0	0.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.7	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83.3	-	-	-	-	-	100.0	-	-

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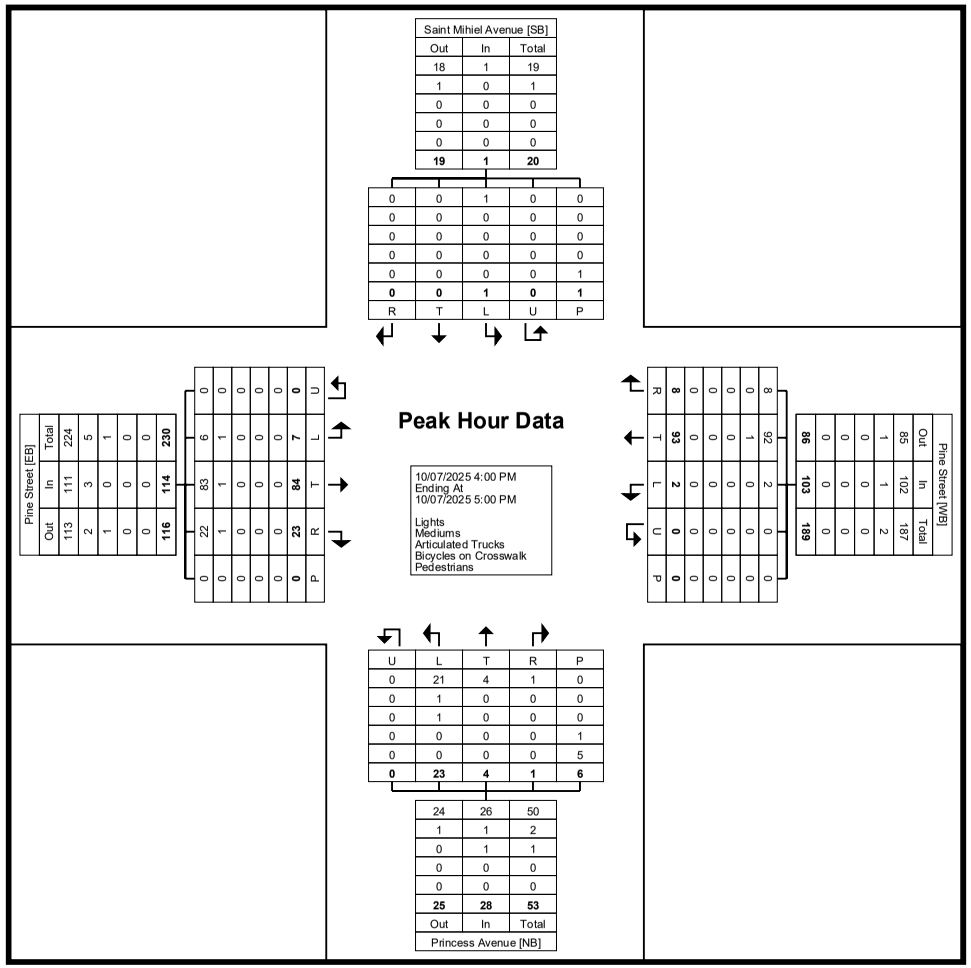
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937242, -75.109391

Count Name: 2. Princess Avenue & Pine Street
Site Code: 2
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (4:00 PM)

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1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937357, -75.10793

Count Name: 3. Memorial Avenue/Campbell's Driveway & Pine Street
Site Code: 3
Start Date: 10/07/2025

Turning Movement Data

Start Time	Pine Street Eastbound						Pine Street Westbound						Memorial Avenue Northbound						Campbell's Driveway Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	0	9	0	0	9	0	0	6	1	1	7	0	3	0	0	5	3	0	1	0	0	3	1	20
7:15 AM	0	1	7	0	0	8	0	0	14	3	0	17	0	0	0	1	0	1	0	0	0	2	0	2	28
7:30 AM	0	2	20	0	0	22	0	0	40	4	1	44	0	0	1	0	1	1	0	0	0	2	1	2	69
7:45 AM	0	2	25	0	0	27	0	1	39	5	0	45	0	0	3	0	0	3	0	0	1	4	0	5	80
Hourly Total	0	5	61	0	0	66	0	1	99	13	2	113	0	3	4	1	6	8	0	1	1	8	4	10	197
8:00 AM	0	1	23	1	0	25	0	0	31	4	0	35	0	0	4	0	1	4	0	1	0	1	0	2	66
8:15 AM	0	2	24	0	0	26	0	2	33	7	0	42	0	1	0	0	2	1	0	0	0	1	0	1	70
8:30 AM	0	1	39	0	0	40	0	0	27	7	0	34	0	0	0	0	1	0	0	2	0	2	6	4	78
8:45 AM	0	2	37	1	0	40	0	3	92	2	0	97	0	0	1	0	1	1	0	1	0	2	1	3	141
Hourly Total	0	6	123	2	0	131	0	5	183	20	0	208	0	1	5	0	5	6	0	4	0	6	7	10	355
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	20	0	0	20	0	0	22	0	0	22	0	0	0	1	0	1	0	2	2	5	1	9	52
4:15 PM	0	0	14	0	0	14	1	0	19	1	0	21	0	0	0	0	3	0	0	4	0	6	0	10	45
4:30 PM	0	1	27	0	0	28	0	0	12	1	0	13	0	2	0	1	0	3	0	7	3	7	0	17	61
4:45 PM	0	1	18	2	0	21	0	1	23	0	0	24	0	0	0	0	1	0	0	11	4	7	0	22	67
Hourly Total	0	2	79	2	0	83	1	1	76	2	0	80	0	2	0	2	4	4	0	24	9	25	1	58	225
5:00 PM	0	1	15	1	0	17	0	1	15	0	0	16	0	0	0	1	0	1	0	8	3	13	0	24	58
5:15 PM	0	2	15	0	0	17	0	0	14	1	0	15	0	0	0	0	0	0	0	8	1	9	0	18	50
5:30 PM	0	0	14	0	0	14	0	0	15	1	0	16	0	0	0	0	2	0	0	7	2	10	0	19	49
5:45 PM	0	0	4	1	0	5	0	1	16	1	0	18	0	0	0	0	1	0	0	1	0	4	0	5	28
Hourly Total	0	3	48	2	0	53	0	2	60	3	0	65	0	0	0	1	3	1	0	24	6	36	0	66	185
Grand Total	0	16	311	6	0	333	1	9	418	38	2	466	0	6	9	4	18	19	0	53	16	75	12	144	962
Approach %	0.0	4.8	93.4	1.8	-	-	0.2	1.9	89.7	8.2	-	-	0.0	31.6	47.4	21.1	-	-	0.0	36.8	11.1	52.1	-	-	-
Total %	0.0	1.7	32.3	0.6	-	34.6	0.1	0.9	43.5	4.0	-	48.4	0.0	0.6	0.9	0.4	-	2.0	0.0	5.5	1.7	7.8	-	15.0	-
Lights	0	15	307	6	-	328	1	9	406	38	-	454	0	5	9	3	-	17	0	53	15	74	-	142	941
% Lights	-	93.8	98.7	100.0	-	98.5	100.0	100.0	97.1	100.0	-	97.4	-	83.3	100.0	75.0	-	89.5	-	100.0	93.8	98.7	-	98.6	97.8
Mediums	0	1	3	0	-	4	0	0	11	0	-	11	0	1	0	0	-	1	0	0	1	1	-	2	18
% Mediums	-	6.3	1.0	0.0	-	1.2	0.0	0.0	2.6	0.0	-	2.4	-	16.7	0.0	0.0	-	5.3	-	0.0	6.3	1.3	-	1.4	1.9
Articulated Trucks	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	1	-	1	0	0	0	0	-	0	3
% Articulated Trucks	-	0.0	0.3	0.0	-	0.3	0.0	0.0	0.2	0.0	-	0.2	-	0.0	0.0	25.0	-	5.3	-	0.0	0.0	0.0	-	0.0	0.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	11.1	-	-	-	-	-	8.3	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	16	-	-	-	-	-	11	-	-

% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	88.9	-	-	-	-	-	91.7	-	-

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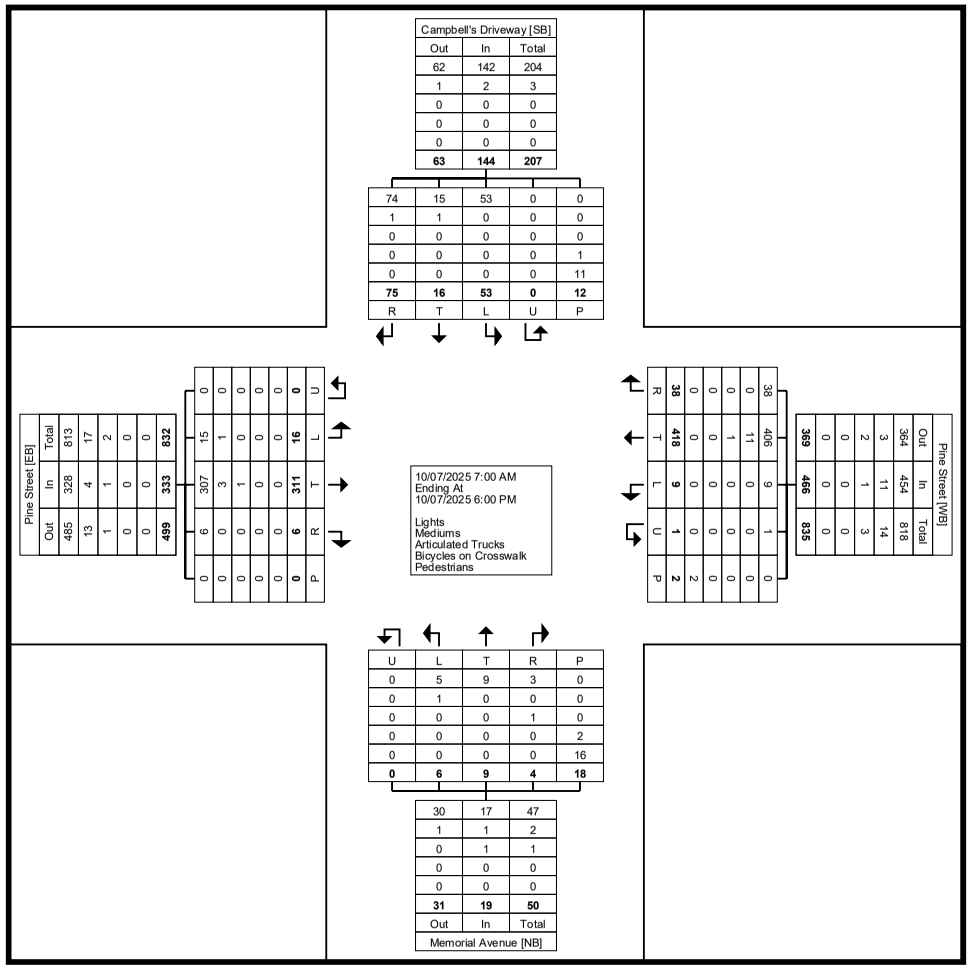

Turning Movement Data Plot

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937357, -75.10793

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Count Name: 3. Memorial Avenue/Campbell's Driveway & Pine Street
Site Code: 3
Start Date: 10/07/2025

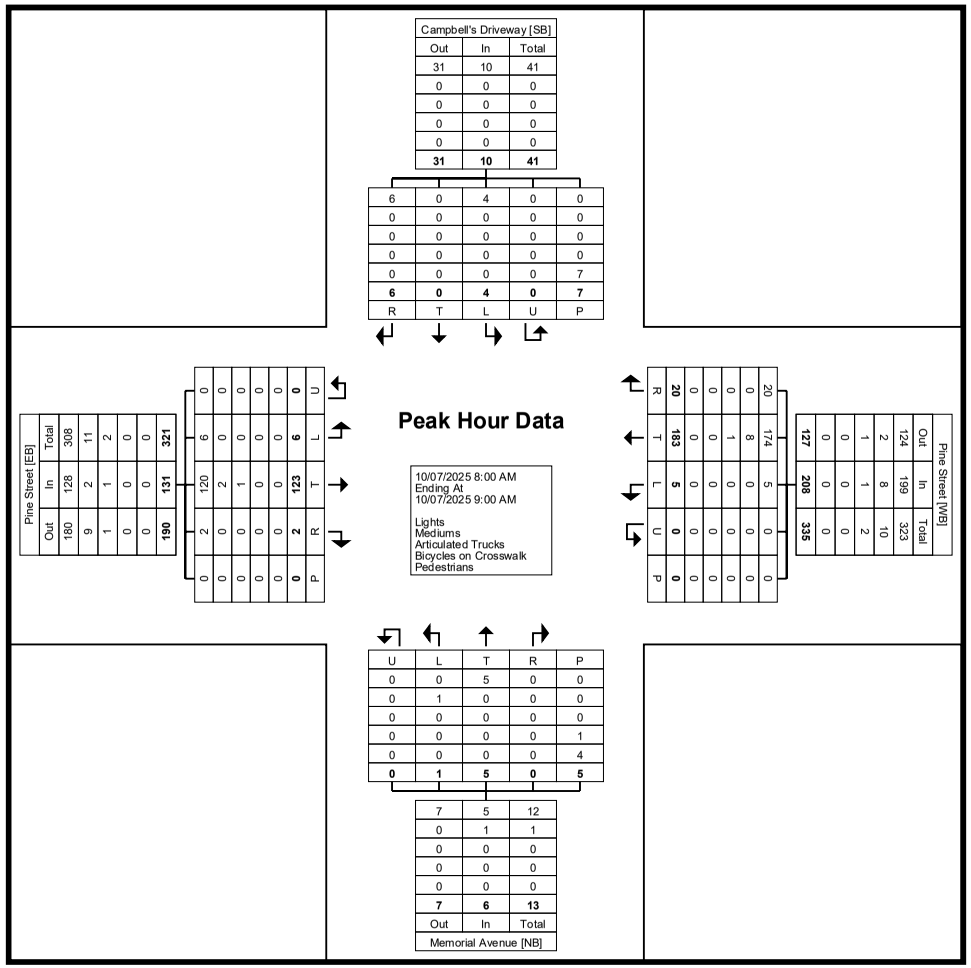
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Pine Street Eastbound						Pine Street Westbound						Memorial Avenue Northbound						Campbell's Driveway Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
8:00 AM	0	1	23	1	0	25	0	0	31	4	0	35	0	0	4	0	1	4	0	1	0	1	0	2	66
8:15 AM	0	2	24	0	0	26	0	2	33	7	0	42	0	1	0	0	2	1	0	0	0	1	0	1	70
8:30 AM	0	1	39	0	0	40	0	0	27	7	0	34	0	0	0	0	1	0	0	2	0	2	6	4	78
8:45 AM	0	2	37	1	0	40	0	3	92	2	0	97	0	0	1	0	1	1	0	1	0	2	1	3	141
Total	0	6	123	2	0	131	0	5	183	20	0	208	0	1	5	0	5	6	0	4	0	6	7	10	355
Approach %	0.0	4.6	93.9	1.5	-	-	0.0	2.4	88.0	9.6	-	-	0.0	16.7	83.3	0.0	-	-	0.0	40.0	0.0	60.0	-	-	-
Total %	0.0	1.7	34.6	0.6	-	36.9	0.0	1.4	51.5	5.6	-	58.6	0.0	0.3	1.4	0.0	-	1.7	0.0	1.1	0.0	1.7	-	2.8	-
PHF	0.000	0.750	0.788	0.500	-	0.819	0.000	0.417	0.497	0.714	-	0.536	0.000	0.250	0.313	0.000	-	0.375	0.000	0.500	0.000	0.750	-	0.625	0.629
Lights	0	6	120	2	-	128	0	5	174	20	-	199	0	0	5	0	-	5	0	4	0	6	-	10	342
% Lights	-	100.0	97.6	100.0	-	97.7	-	100.0	95.1	100.0	-	95.7	-	0.0	100.0	-	-	83.3	-	100.0	-	100.0	-	100.0	96.3
Mediums	0	0	2	0	-	2	0	0	8	0	-	8	0	1	0	0	-	1	0	0	0	0	-	0	11
% Mediums	-	0.0	1.6	0.0	-	1.5	-	0.0	4.4	0.0	-	3.8	-	100.0	0.0	-	-	16.7	-	0.0	-	0.0	-	0.0	3.1
Articulated Trucks	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Articulated Trucks	-	0.0	0.8	0.0	-	0.8	-	0.0	0.5	0.0	-	0.5	-	0.0	0.0	-	-	0.0	-	0.0	-	0.0	-	0.0	0.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	7	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80.0	-	-	-	-	-	100.0	-	-

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937357, -75.10793

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 3. Memorial Avenue/Campbell's Driveway & Pine Street
Site Code: 3
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (8:00 AM)

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937357, -75.10793

Count Name: 3. Memorial Avenue/Campbell's Driveway & Pine Street
Site Code: 3
Start Date: 10/07/2025

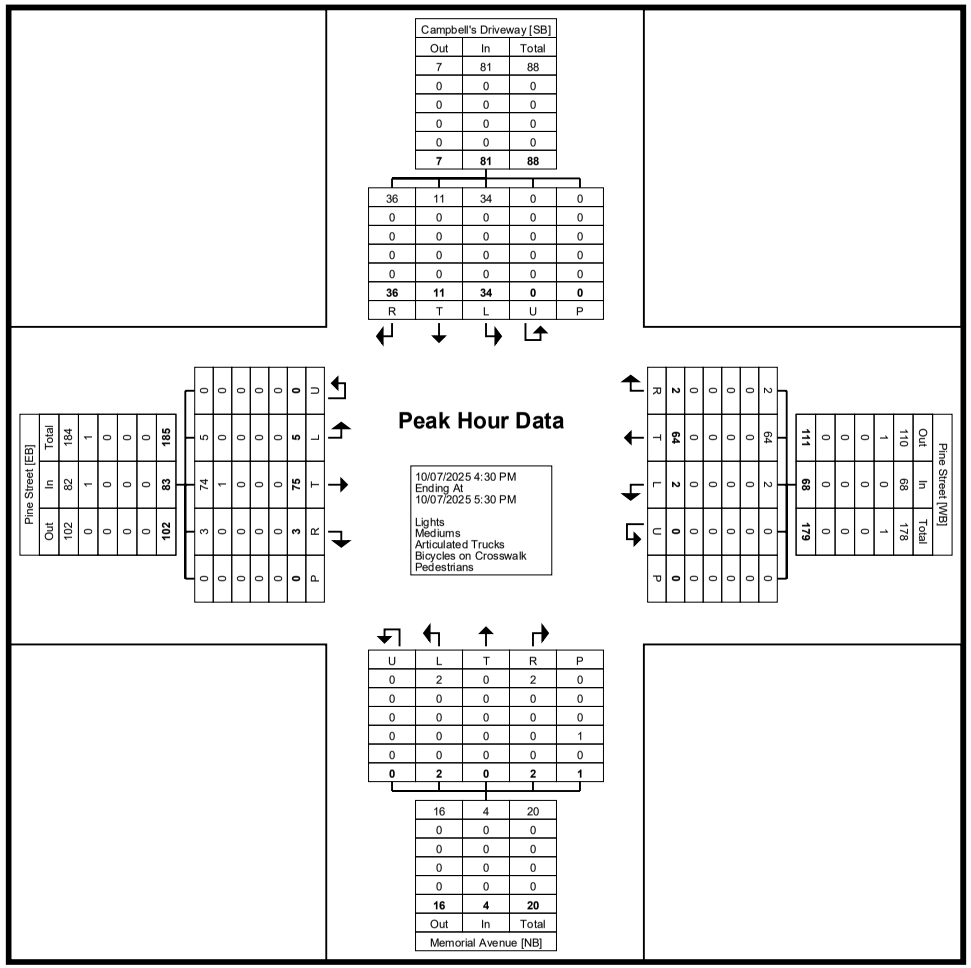
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Pine Street Eastbound						Pine Street Westbound						Memorial Avenue Northbound						Campbell's Driveway Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:30 PM	0	1	27	0	0	28	0	0	12	1	0	13	0	2	0	1	0	3	0	7	3	7	0	17	61
4:45 PM	0	1	18	2	0	21	0	1	23	0	0	24	0	0	0	0	1	0	0	11	4	7	0	22	67
5:00 PM	0	1	15	1	0	17	0	1	15	0	0	16	0	0	0	1	0	1	0	8	3	13	0	24	58
5:15 PM	0	2	15	0	0	17	0	0	14	1	0	15	0	0	0	0	0	0	0	8	1	9	0	18	50
Total	0	5	75	3	0	83	0	2	64	2	0	68	0	2	0	2	1	4	0	34	11	36	0	81	236
Approach %	0.0	6.0	90.4	3.6	-	-	0.0	2.9	94.1	2.9	-	-	0.0	50.0	0.0	50.0	-	-	0.0	42.0	13.6	44.4	-	-	-
Total %	0.0	2.1	31.8	1.3	-	35.2	0.0	0.8	27.1	0.8	-	28.8	0.0	0.8	0.0	0.8	-	1.7	0.0	14.4	4.7	15.3	-	34.3	-
PHF	0.000	0.625	0.694	0.375	-	0.741	0.000	0.500	0.696	0.500	-	0.708	0.000	0.250	0.000	0.500	-	0.333	0.000	0.773	0.688	0.692	-	0.844	0.881
Lights	0	5	74	3	-	82	0	2	64	2	-	68	0	2	0	2	-	4	0	34	11	36	-	81	235
% Lights	-	100.0	98.7	100.0	-	98.8	-	100.0	100.0	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	99.6
Mediums	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Mediums	-	0.0	1.3	0.0	-	1.2	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.4
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937357, -75.10793

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 3. Memorial Avenue/Campbell's Driveway & Pine Street
Site Code: 3
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (4:30 PM)

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937562, -75.104772

Count Name: 4. Walnut Street & Pine Street
Site Code: 4
Start Date: 10/07/2025

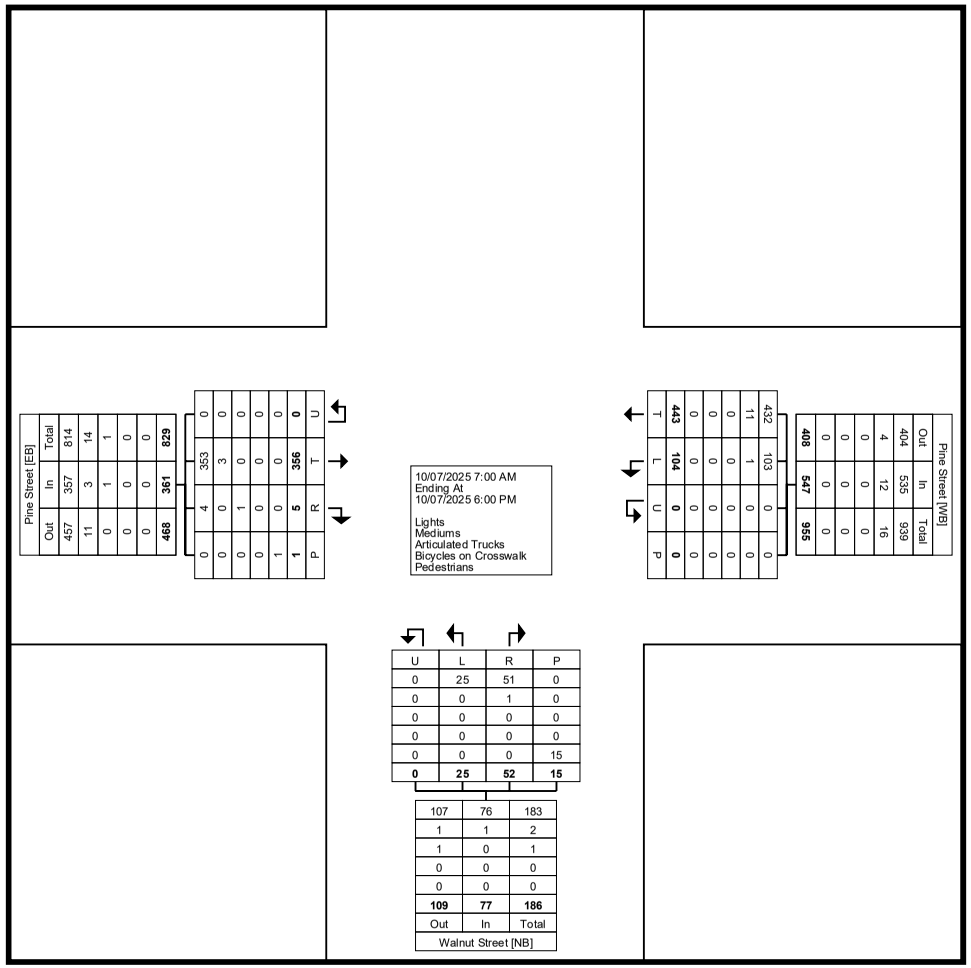
Turning Movement Data

Start Time	Pine Street Eastbound					Pine Street Westbound					Walnut Street Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:00 AM	0	8	0	0	8	0	1	11	0	12	0	0	1	2	1	21
7:15 AM	0	8	0	0	8	0	1	15	0	16	0	0	4	0	4	28
7:30 AM	0	15	0	0	15	0	1	38	0	39	0	5	2	1	7	61
7:45 AM	0	26	0	0	26	0	2	45	0	47	0	0	2	0	2	75
Hourly Total	0	57	0	0	57	0	5	109	0	114	0	5	9	3	14	185
8:00 AM	0	24	0	0	24	0	6	32	0	38	0	1	5	0	6	68
8:15 AM	0	23	0	0	23	0	6	39	0	45	0	3	5	1	8	76
8:30 AM	0	39	0	0	39	0	3	32	0	35	0	4	5	3	9	83
8:45 AM	0	37	2	1	39	0	43	94	0	137	0	3	4	1	7	183
Hourly Total	0	123	2	1	125	0	58	197	0	255	0	11	19	5	30	410
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	23	0	0	23	0	11	22	0	33	0	2	3	4	5	61
4:15 PM	0	16	0	0	16	0	7	22	0	29	0	0	6	0	6	51
4:30 PM	0	35	1	0	36	0	5	8	0	13	0	2	2	0	4	53
4:45 PM	0	31	0	0	31	0	2	24	0	26	0	0	1	0	1	58
Hourly Total	0	105	1	0	106	0	25	76	0	101	0	4	12	4	16	223
5:00 PM	0	22	1	0	23	0	3	14	0	17	0	1	1	0	2	42
5:15 PM	0	24	0	0	24	0	3	16	0	19	0	0	3	0	3	46
5:30 PM	0	21	0	0	21	0	8	14	0	22	0	2	3	2	5	48
5:45 PM	0	4	1	0	5	0	2	17	0	19	0	2	5	1	7	31
Hourly Total	0	71	2	0	73	0	16	61	0	77	0	5	12	3	17	167
Grand Total	0	356	5	1	361	0	104	443	0	547	0	25	52	15	77	985
Approach %	0.0	98.6	1.4	-	-	0.0	19.0	81.0	-	-	0.0	32.5	67.5	-	-	-
Total %	0.0	36.1	0.5	-	36.6	0.0	10.6	45.0	-	55.5	0.0	2.5	5.3	-	7.8	-
Lights	0	353	4	-	357	0	103	432	-	535	0	25	51	-	76	968
% Lights	-	99.2	80.0	-	98.9	-	99.0	97.5	-	97.8	-	100.0	98.1	-	98.7	98.3
Mediums	0	3	0	-	3	0	1	11	-	12	0	0	1	-	1	16
% Mediums	-	0.8	0.0	-	0.8	-	1.0	2.5	-	2.2	-	0.0	1.9	-	1.3	1.6
Articulated Trucks	0	0	1	-	1	0	0	0	-	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	20.0	-	0.3	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	15	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937562, -75.104772

Count Name: 4. Walnut Street & Pine Street
Site Code: 4
Start Date: 10/07/2025



Turning Movement Data Plot

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937562, -75.104772

Count Name: 4. Walnut Street & Pine Street
Site Code: 4
Start Date: 10/07/2025

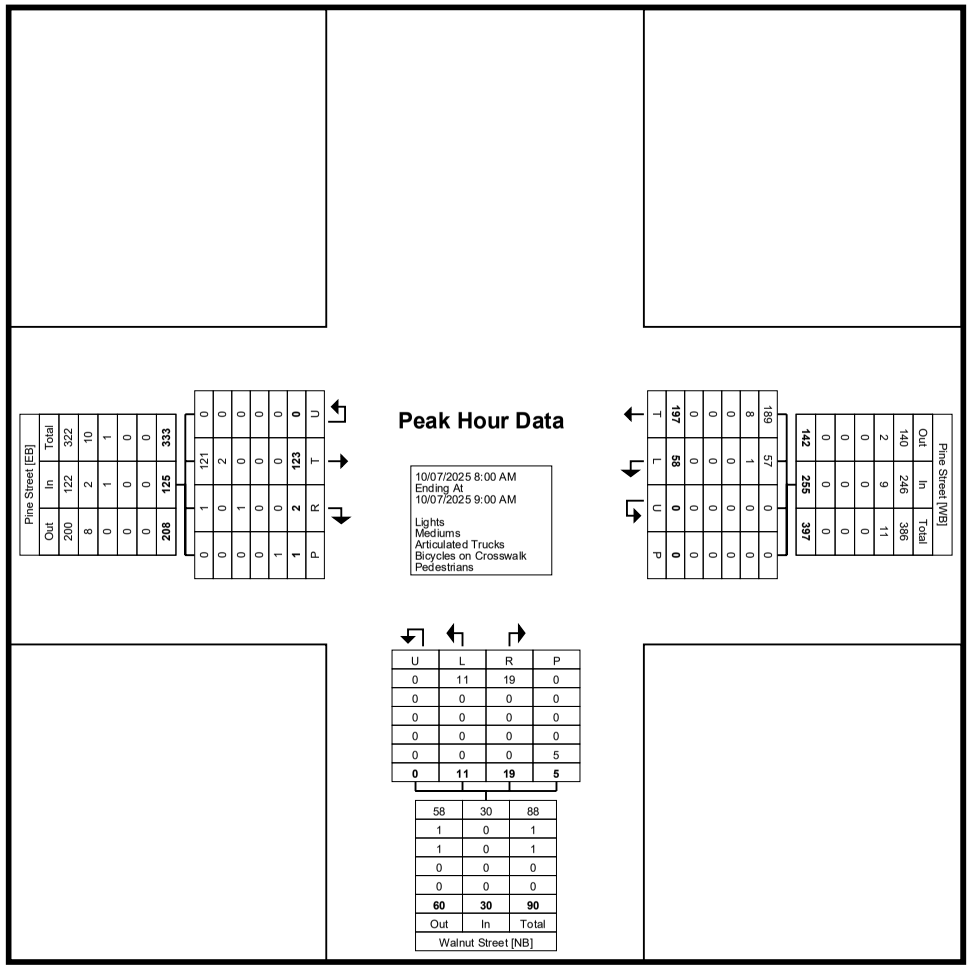
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Pine Street Eastbound					Pine Street Westbound					Walnut Street Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
8:00 AM	0	24	0	0	24	0	6	32	0	38	0	1	5	0	6	68
8:15 AM	0	23	0	0	23	0	6	39	0	45	0	3	5	1	8	76
8:30 AM	0	39	0	0	39	0	3	32	0	35	0	4	5	3	9	83
8:45 AM	0	37	2	1	39	0	43	94	0	137	0	3	4	1	7	183
Total	0	123	2	1	125	0	58	197	0	255	0	11	19	5	30	410
Approach %	0.0	98.4	1.6	-	-	0.0	22.7	77.3	-	-	0.0	36.7	63.3	-	-	-
Total %	0.0	30.0	0.5	-	30.5	0.0	14.1	48.0	-	62.2	0.0	2.7	4.6	-	7.3	-
PHF	0.000	0.788	0.250	-	0.801	0.000	0.337	0.524	-	0.465	0.000	0.688	0.950	-	0.833	0.560
Lights	0	121	1	-	122	0	57	189	-	246	0	11	19	-	30	398
% Lights	-	98.4	50.0	-	97.6	-	98.3	95.9	-	96.5	-	100.0	100.0	-	100.0	97.1
Mediums	0	2	0	-	2	0	1	8	-	9	0	0	0	-	0	11
% Mediums	-	1.6	0.0	-	1.6	-	1.7	4.1	-	3.5	-	0.0	0.0	-	0.0	2.7
Articulated Trucks	0	0	1	-	1	0	0	0	-	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	50.0	-	0.8	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	5	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937562, -75.104772

Count Name: 4. Walnut Street & Pine Street
Site Code: 4
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (8:00 AM)

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937562, -75.104772

Count Name: 4. Walnut Street & Pine Street
Site Code: 4
Start Date: 10/07/2025

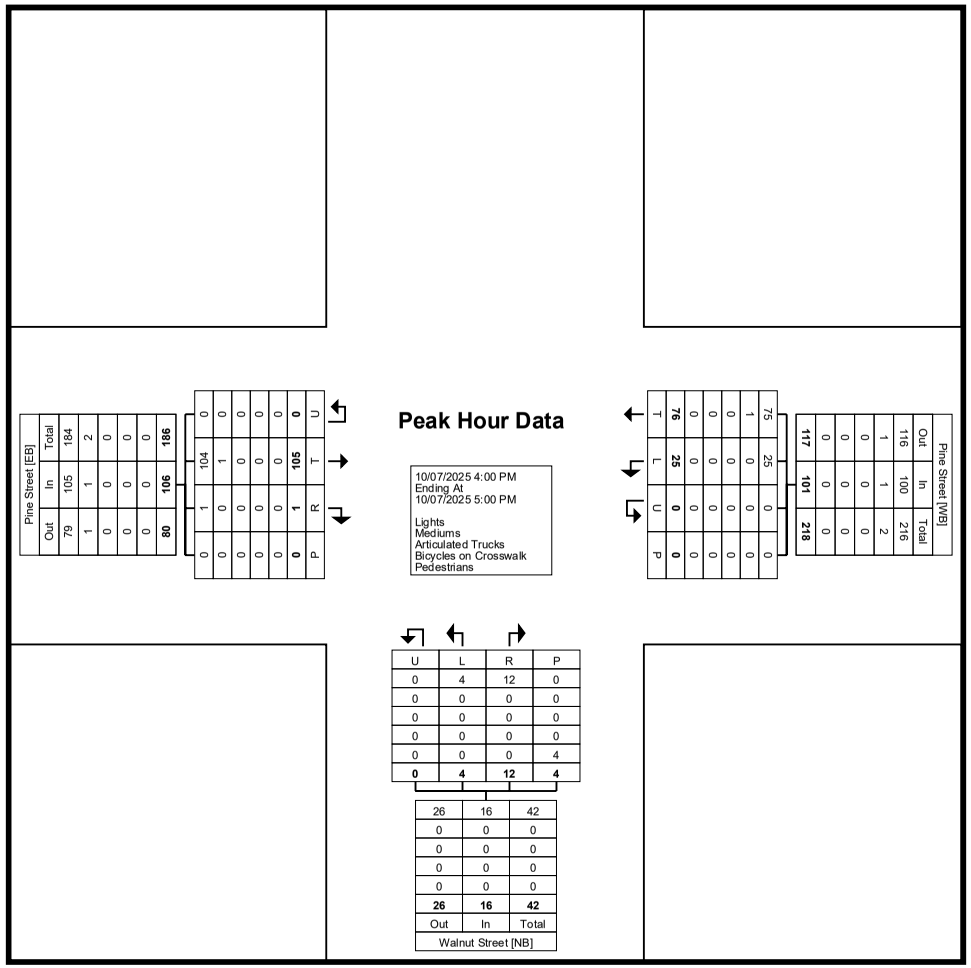
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Pine Street Eastbound					Pine Street Westbound					Walnut Street Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
4:00 PM	0	23	0	0	23	0	11	22	0	33	0	2	3	4	5	61
4:15 PM	0	16	0	0	16	0	7	22	0	29	0	0	6	0	6	51
4:30 PM	0	35	1	0	36	0	5	8	0	13	0	2	2	0	4	53
4:45 PM	0	31	0	0	31	0	2	24	0	26	0	0	1	0	1	58
Total	0	105	1	0	106	0	25	76	0	101	0	4	12	4	16	223
Approach %	0.0	99.1	0.9	-	-	0.0	24.8	75.2	-	-	0.0	25.0	75.0	-	-	-
Total %	0.0	47.1	0.4	-	47.5	0.0	11.2	34.1	-	45.3	0.0	1.8	5.4	-	7.2	-
PHF	0.000	0.750	0.250	-	0.736	0.000	0.568	0.792	-	0.765	0.000	0.500	0.500	-	0.667	0.914
Lights	0	104	1	-	105	0	25	75	-	100	0	4	12	-	16	221
% Lights	-	99.0	100.0	-	99.1	-	100.0	98.7	-	99.0	-	100.0	100.0	-	100.0	99.1
Mediums	0	1	0	-	1	0	0	1	-	1	0	0	0	-	0	2
% Mediums	-	1.0	0.0	-	0.9	-	0.0	1.3	-	1.0	-	0.0	0.0	-	0.0	0.9
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.937562, -75.104772

Count Name: 4. Walnut Street & Pine Street
Site Code: 4
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (4:00 PM)

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93632, -75.107815

Count Name: 5. Princess Avenue & Memorial Avenue
Site Code: 5
Start Date: 10/07/2025

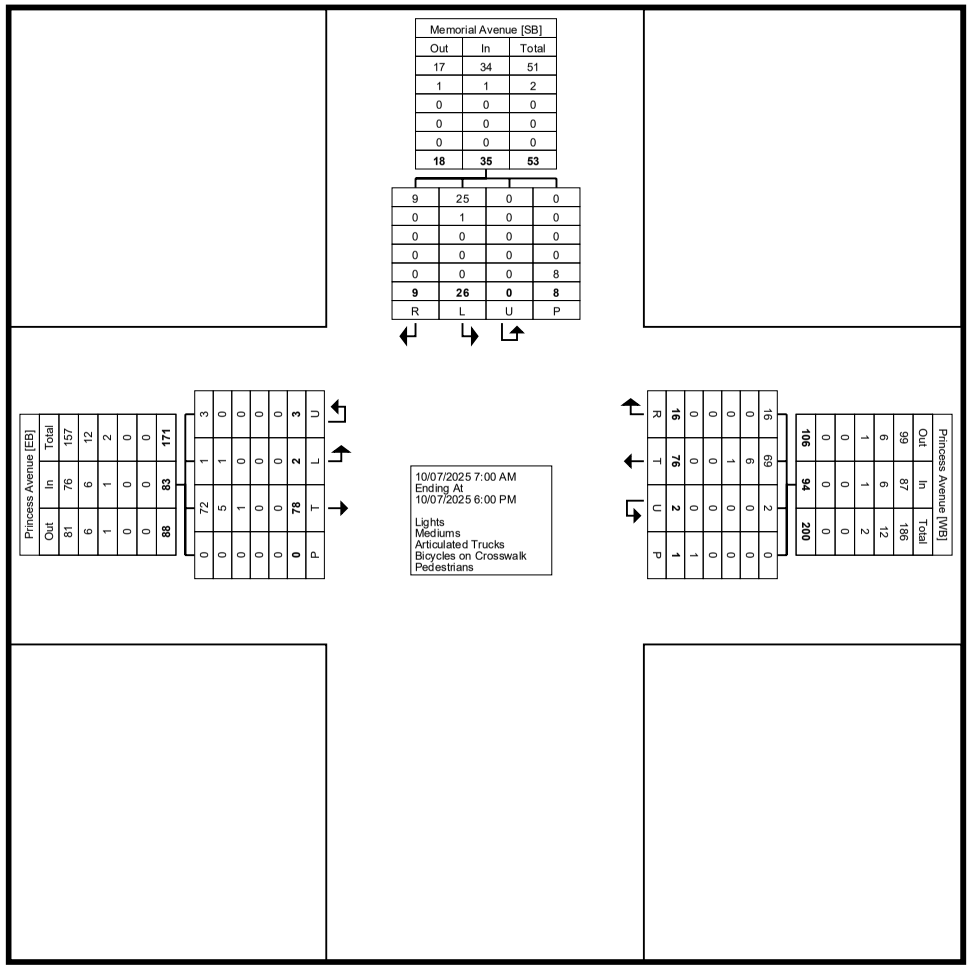
Turning Movement Data

Start Time	Princess Avenue Eastbound					Princess Avenue Westbound					Memorial Avenue Southbound					
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:00 AM	0	0	5	0	5	0	2	0	0	2	0	0	1	2	1	8
7:15 AM	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	6
7:30 AM	0	0	5	0	5	1	8	2	0	11	0	0	0	0	0	16
7:45 AM	0	0	5	0	5	0	4	3	0	7	0	1	1	0	2	14
Hourly Total	0	0	16	0	16	1	19	5	0	25	0	1	2	2	3	44
8:00 AM	0	0	3	0	3	0	4	4	0	8	0	1	1	1	2	13
8:15 AM	0	1	5	0	6	0	3	0	0	3	0	2	0	1	2	11
8:30 AM	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	5
8:45 AM	0	0	4	0	4	0	4	1	0	5	0	4	1	2	5	14
Hourly Total	0	1	14	0	15	0	14	5	0	19	0	7	2	4	9	43
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	1	6	0	7	0	13	1	0	14	0	2	0	0	2	23
4:15 PM	0	0	9	0	9	0	5	1	0	6	0	1	0	0	1	16
4:30 PM	0	0	6	0	6	0	3	2	0	5	0	3	0	1	3	14
4:45 PM	0	0	6	0	6	0	5	1	0	6	0	4	2	1	6	18
Hourly Total	0	1	27	0	28	0	26	5	0	31	0	10	2	2	12	71
5:00 PM	1	0	5	0	6	0	3	0	0	3	0	3	3	0	6	15
5:15 PM	1	0	6	0	7	0	5	0	0	5	0	1	0	0	1	13
5:30 PM	0	0	7	0	7	1	6	0	1	7	0	1	0	0	1	15
5:45 PM	1	0	3	0	4	0	3	1	0	4	0	3	0	0	3	11
Hourly Total	3	0	21	0	24	1	17	1	1	19	0	8	3	0	11	54
Grand Total	3	2	78	0	83	2	76	16	1	94	0	26	9	8	35	212
Approach %	3.6	2.4	94.0	-	-	2.1	80.9	17.0	-	-	0.0	74.3	25.7	-	-	-
Total %	1.4	0.9	36.8	-	39.2	0.9	35.8	7.5	-	44.3	0.0	12.3	4.2	-	16.5	-
Lights	3	1	72	-	76	2	69	16	-	87	0	25	9	-	34	197
% Lights	100.0	50.0	92.3	-	91.6	100.0	90.8	100.0	-	92.6	-	96.2	100.0	-	97.1	92.9
Mediums	0	1	5	-	6	0	6	0	-	6	0	1	0	-	1	13
% Mediums	0.0	50.0	6.4	-	7.2	0.0	7.9	0.0	-	6.4	-	3.8	0.0	-	2.9	6.1
Articulated Trucks	0	0	1	-	1	0	1	0	-	1	0	0	0	-	0	2
% Articulated Trucks	0.0	0.0	1.3	-	1.2	0.0	1.3	0.0	-	1.1	-	0.0	0.0	-	0.0	0.9
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93632, -75.107815

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 5. Princess Avenue & Memorial Avenue
Site Code: 5
Start Date: 10/07/2025



Turning Movement Data Plot

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93632, -75.107815

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 5. Princess Avenue & Memorial Avenue
Site Code: 5
Start Date: 10/07/2025

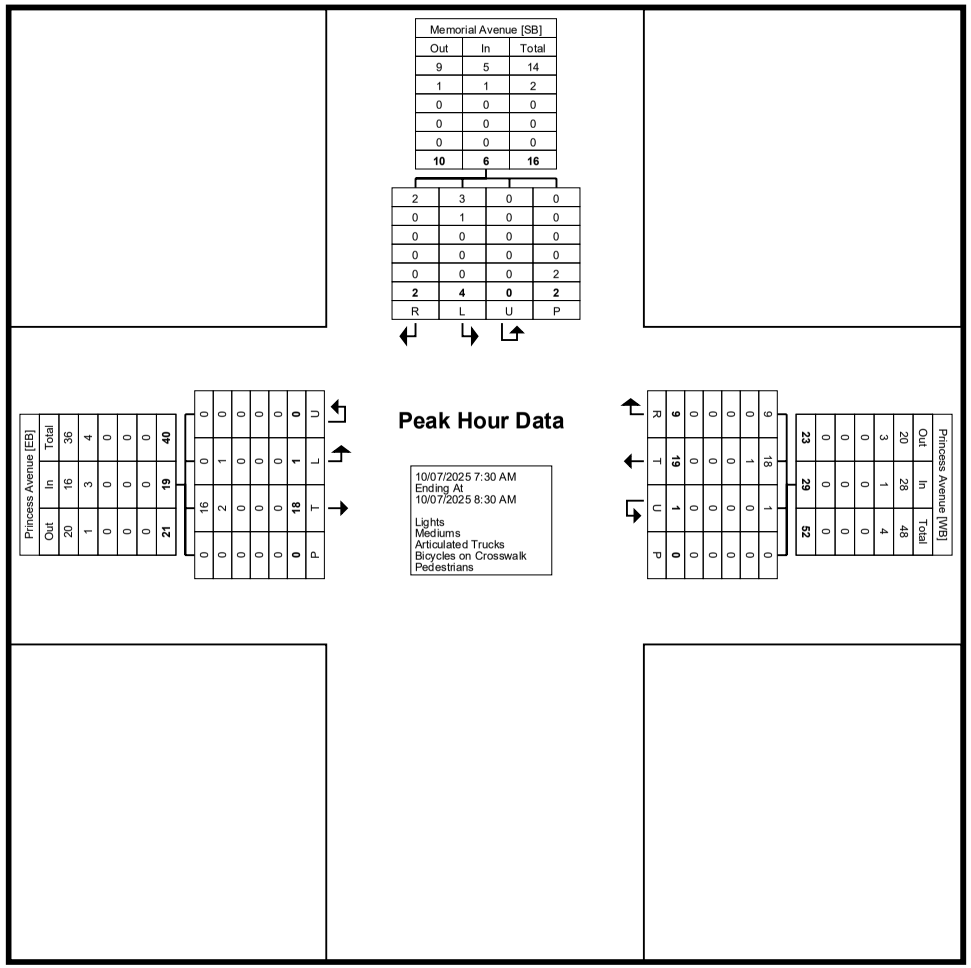
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Princess Avenue Eastbound					Princess Avenue Westbound					Memorial Avenue Southbound					
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:30 AM	0	0	5	0	5	1	8	2	0	11	0	0	0	0	0	16
7:45 AM	0	0	5	0	5	0	4	3	0	7	0	1	1	0	2	14
8:00 AM	0	0	3	0	3	0	4	4	0	8	0	1	1	1	2	13
8:15 AM	0	1	5	0	6	0	3	0	0	3	0	2	0	1	2	11
Total	0	1	18	0	19	1	19	9	0	29	0	4	2	2	6	54
Approach %	0.0	5.3	94.7	-	-	3.4	65.5	31.0	-	-	0.0	66.7	33.3	-	-	-
Total %	0.0	1.9	33.3	-	35.2	1.9	35.2	16.7	-	53.7	0.0	7.4	3.7	-	11.1	-
PHF	0.000	0.250	0.900	-	0.792	0.250	0.594	0.563	-	0.659	0.000	0.500	0.500	-	0.750	0.844
Lights	0	0	16	-	16	1	18	9	-	28	0	3	2	-	5	49
% Lights	-	0.0	88.9	-	84.2	100.0	94.7	100.0	-	96.6	-	75.0	100.0	-	83.3	90.7
Mediums	0	1	2	-	3	0	1	0	-	1	0	1	0	-	1	5
% Mediums	-	100.0	11.1	-	15.8	0.0	5.3	0.0	-	3.4	-	25.0	0.0	-	16.7	9.3
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93632, -75.107815

Count Name: 5. Princess Avenue & Memorial Avenue
Site Code: 5
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (7:30 AM)

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93632, -75.107815

Count Name: 5. Princess Avenue & Memorial Avenue
Site Code: 5
Start Date: 10/07/2025

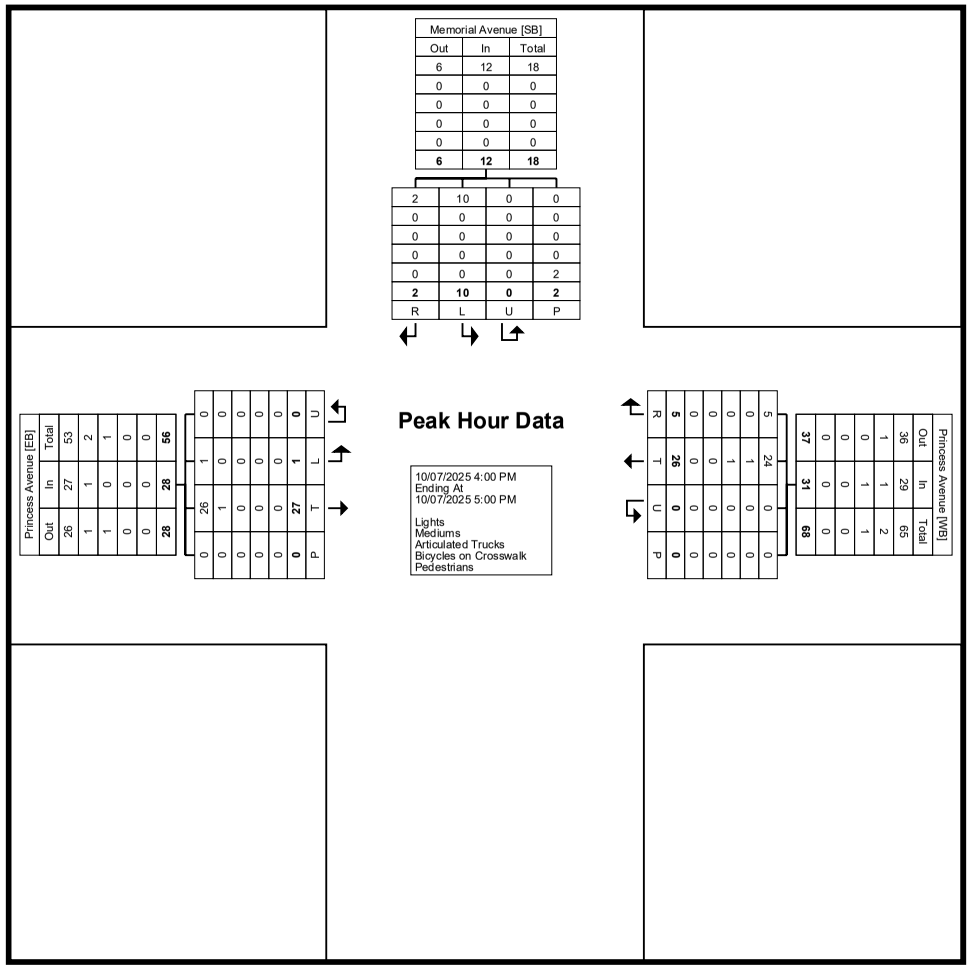
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Princess Avenue Eastbound					Princess Avenue Westbound					Memorial Avenue Southbound					
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
4:00 PM	0	1	6	0	7	0	13	1	0	14	0	2	0	0	2	23
4:15 PM	0	0	9	0	9	0	5	1	0	6	0	1	0	0	1	16
4:30 PM	0	0	6	0	6	0	3	2	0	5	0	3	0	1	3	14
4:45 PM	0	0	6	0	6	0	5	1	0	6	0	4	2	1	6	18
Total	0	1	27	0	28	0	26	5	0	31	0	10	2	2	12	71
Approach %	0.0	3.6	96.4	-	-	0.0	83.9	16.1	-	-	0.0	83.3	16.7	-	-	-
Total %	0.0	1.4	38.0	-	39.4	0.0	36.6	7.0	-	43.7	0.0	14.1	2.8	-	16.9	-
PHF	0.000	0.250	0.750	-	0.778	0.000	0.500	0.625	-	0.554	0.000	0.625	0.250	-	0.500	0.772
Lights	0	1	26	-	27	0	24	5	-	29	0	10	2	-	12	68
% Lights	-	100.0	96.3	-	96.4	-	92.3	100.0	-	93.5	-	100.0	100.0	-	100.0	95.8
Mediums	0	0	1	-	1	0	1	0	-	1	0	0	0	-	0	2
% Mediums	-	0.0	3.7	-	3.6	-	3.8	0.0	-	3.2	-	0.0	0.0	-	0.0	2.8
Articulated Trucks	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	-	0.0	-	3.8	0.0	-	3.2	-	0.0	0.0	-	0.0	1.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93632, -75.107815

Count Name: 5. Princess Avenue & Memorial Avenue
Site Code: 5
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (4:00 PM)

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.935601, -75.106798

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 6. Princess Avenue & Walnut Street
Site Code: 6
Start Date: 10/07/2025

Turning Movement Data

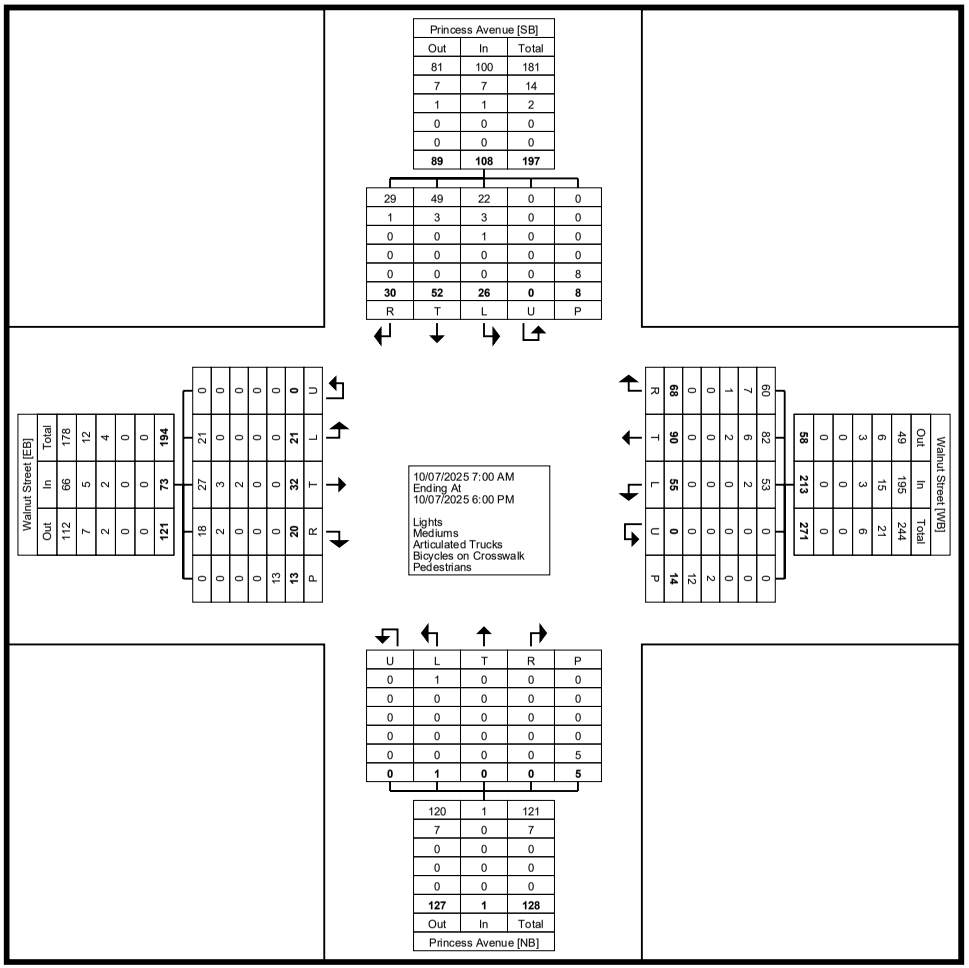
Start Time	Walnut Street Eastbound						Walnut Street Westbound						Princess Avenue Northbound						Princess Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	1	0	0	0	1	0	0	6	1	2	7	0	0	0	0	0	0	0	2	3	0	1	5	13
7:15 AM	0	0	2	1	0	3	0	1	7	5	0	13	0	0	0	0	0	0	0	0	0	0	1	0	16
7:30 AM	0	1	2	0	1	3	0	4	3	9	0	16	0	0	0	0	0	0	0	2	4	0	0	6	25
7:45 AM	0	2	4	2	0	8	0	1	6	4	0	11	0	0	0	0	0	0	0	1	4	2	0	7	26
Hourly Total	0	4	8	3	1	15	0	6	22	19	2	47	0	0	0	0	0	0	0	5	11	2	2	18	80
8:00 AM	0	5	1	0	3	6	0	4	5	3	1	12	0	0	0	0	1	0	0	2	0	2	0	4	22
8:15 AM	0	0	2	1	0	3	0	3	3	3	1	9	0	1	0	0	0	1	0	4	2	1	1	7	20
8:30 AM	0	0	3	1	0	4	0	3	4	2	1	9	0	0	0	0	0	0	0	0	2	0	0	2	15
8:45 AM	0	1	1	2	0	4	0	13	24	4	2	41	0	0	0	0	2	0	0	2	2	3	0	7	52
Hourly Total	0	6	7	4	3	17	0	23	36	12	5	71	0	1	0	0	3	1	0	8	6	6	1	20	109
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	4	1	4	0	9	0	2	6	11	2	19	0	0	0	0	0	0	0	0	6	2	1	8	36
4:15 PM	0	0	5	2	5	7	0	6	7	6	0	19	0	0	0	0	0	0	0	2	6	1	0	9	35
4:30 PM	0	2	2	1	0	5	0	4	5	1	0	10	0	0	0	0	0	0	0	3	3	4	1	10	25
4:45 PM	0	1	1	1	1	3	0	4	1	4	1	9	0	0	0	0	0	0	0	1	4	6	0	11	23
Hourly Total	0	7	9	8	6	24	0	16	19	22	3	57	0	0	0	0	0	0	0	6	19	13	2	38	119
5:00 PM	0	1	2	2	2	5	0	1	4	2	3	7	0	0	0	0	2	0	0	1	2	5	0	8	20
5:15 PM	0	1	4	2	0	7	0	4	3	4	1	11	0	0	0	0	0	0	0	2	4	1	1	7	25
5:30 PM	0	1	1	1	0	3	0	5	3	6	0	14	0	0	0	0	0	0	0	2	5	2	1	9	26
5:45 PM	0	1	1	0	1	2	0	0	3	3	0	6	0	0	0	0	0	0	0	2	5	1	1	8	16
Hourly Total	0	4	8	5	3	17	0	10	13	15	4	38	0	0	0	0	2	0	0	7	16	9	3	32	87
Grand Total	0	21	32	20	13	73	0	55	90	68	14	213	0	1	0	0	5	1	0	26	52	30	8	108	395
Approach %	0.0	28.8	43.8	27.4	-	-	0.0	25.8	42.3	31.9	-	-	0.0	100.0	0.0	0.0	-	-	0.0	24.1	48.1	27.8	-	-	-
Total %	0.0	5.3	8.1	5.1	-	18.5	0.0	13.9	22.8	17.2	-	53.9	0.0	0.3	0.0	0.0	-	0.3	0.0	6.6	13.2	7.6	-	27.3	-
Lights	0	21	27	18	-	66	0	53	82	60	-	195	0	1	0	0	-	1	0	22	49	29	-	100	362
% Lights	-	100.0	84.4	90.0	-	90.4	-	96.4	91.1	88.2	-	91.5	-	100.0	-	-	-	100.0	-	84.6	94.2	96.7	-	92.6	91.6
Mediums	0	0	3	2	-	5	0	2	6	7	-	15	0	0	0	0	-	0	0	3	3	1	-	7	27
% Mediums	-	0.0	9.4	10.0	-	6.8	-	3.6	6.7	10.3	-	7.0	-	0.0	-	-	-	0.0	-	11.5	5.8	3.3	-	6.5	6.8
Articulated Trucks	0	0	2	0	-	2	0	0	2	1	-	3	0	0	0	0	-	0	0	1	0	0	-	1	6
% Articulated Trucks	-	0.0	6.3	0.0	-	2.7	-	0.0	2.2	1.5	-	1.4	-	0.0	-	-	-	0.0	-	3.8	0.0	0.0	-	0.9	1.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	14.3	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	13	-	-	-	-	-	12	-	-	-	-	-	5	-	-	-	-	-	8	-	-

% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	85.7	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.935601, -75.106798

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 6. Princess Avenue & Walnut Street
Site Code: 6
Start Date: 10/07/2025



Turning Movement Data Plot

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.935601, -75.106798

Count Name: 6. Princess Avenue & Walnut Street
Site Code: 6
Start Date: 10/07/2025

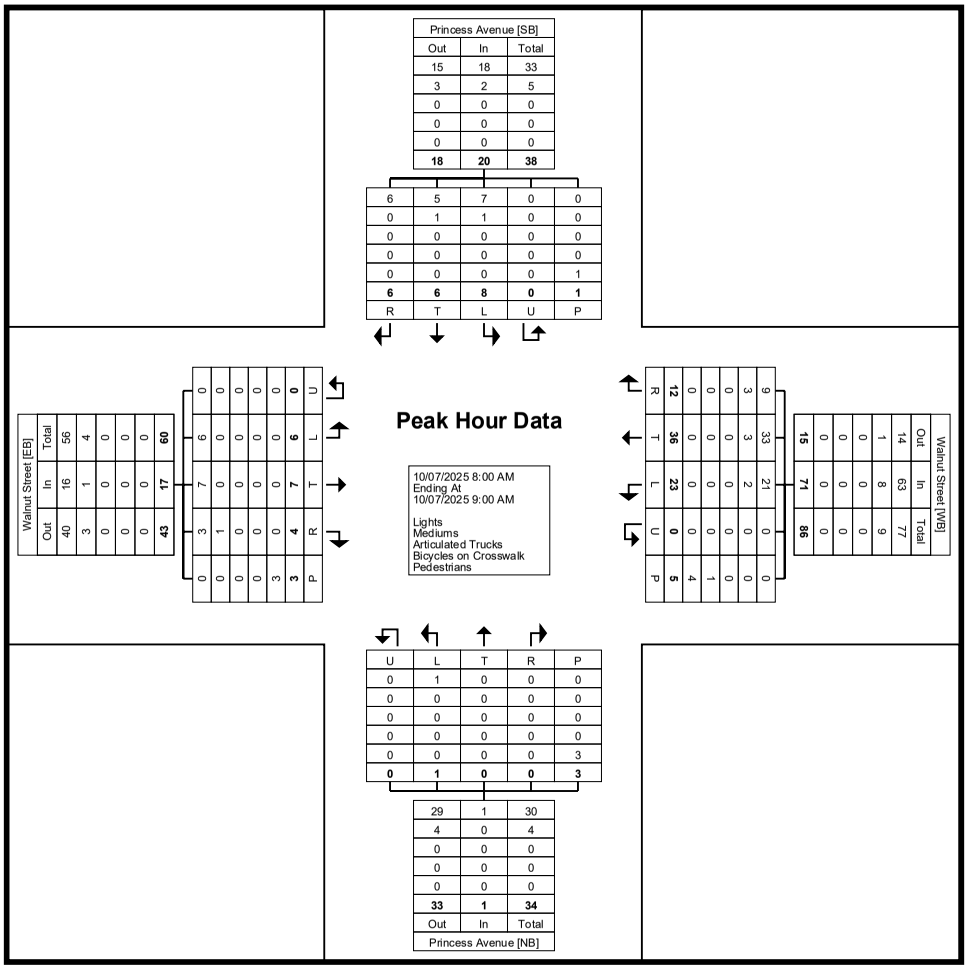
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Walnut Street Eastbound						Walnut Street Westbound						Princess Avenue Northbound						Princess Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
8:00 AM	0	5	1	0	3	6	0	4	5	3	1	12	0	0	0	0	1	0	0	2	0	2	0	4	22
8:15 AM	0	0	2	1	0	3	0	3	3	3	1	9	0	1	0	0	0	1	0	4	2	1	1	7	20
8:30 AM	0	0	3	1	0	4	0	3	4	2	1	9	0	0	0	0	0	0	0	0	2	0	0	2	15
8:45 AM	0	1	1	2	0	4	0	13	24	4	2	41	0	0	0	0	2	0	0	2	2	3	0	7	52
Total	0	6	7	4	3	17	0	23	36	12	5	71	0	1	0	0	3	1	0	8	6	6	1	20	109
Approach %	0.0	35.3	41.2	23.5	-	-	0.0	32.4	50.7	16.9	-	-	0.0	100.0	0.0	0.0	-	-	0.0	40.0	30.0	30.0	-	-	-
Total %	0.0	5.5	6.4	3.7	-	15.6	0.0	21.1	33.0	11.0	-	65.1	0.0	0.9	0.0	0.0	-	0.9	0.0	7.3	5.5	5.5	-	18.3	-
PHF	0.000	0.300	0.583	0.500	-	0.708	0.000	0.442	0.375	0.750	-	0.433	0.000	0.250	0.000	0.000	-	0.250	0.000	0.500	0.750	0.500	-	0.714	0.524
Lights	0	6	7	3	-	16	0	21	33	9	-	63	0	1	0	0	-	1	0	7	5	6	-	18	98
% Lights	-	100.0	100.0	75.0	-	94.1	-	91.3	91.7	75.0	-	88.7	-	100.0	-	-	-	100.0	-	87.5	83.3	100.0	-	90.0	89.9
Mediums	0	0	0	1	-	1	0	2	3	3	-	8	0	0	0	0	-	0	0	1	1	0	-	2	11
% Mediums	-	0.0	0.0	25.0	-	5.9	-	8.7	8.3	25.0	-	11.3	-	0.0	-	-	-	0.0	-	12.5	16.7	0.0	-	10.0	10.1
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	-	-	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	20.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	3	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	80.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.935601, -75.106798

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 6. Princess Avenue & Walnut Street
Site Code: 6
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (8:00 AM)

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.935601, -75.106798

Count Name: 6. Princess Avenue & Walnut Street
Site Code: 6
Start Date: 10/07/2025

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Walnut Street Eastbound						Walnut Street Westbound						Princess Avenue Northbound						Princess Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:00 PM	0	4	1	4	0	9	0	2	6	11	2	19	0	0	0	0	0	0	0	0	6	2	1	8	36
4:15 PM	0	0	5	2	5	7	0	6	7	6	0	19	0	0	0	0	0	0	0	2	6	1	0	9	35
4:30 PM	0	2	2	1	0	5	0	4	5	1	0	10	0	0	0	0	0	0	0	3	3	4	1	10	25
4:45 PM	0	1	1	1	1	3	0	4	1	4	1	9	0	0	0	0	0	0	0	1	4	6	0	11	23
Total	0	7	9	8	6	24	0	16	19	22	3	57	0	0	0	0	0	0	0	6	19	13	2	38	119
Approach %	0.0	29.2	37.5	33.3	-	-	0.0	28.1	33.3	38.6	-	-	0.0	0.0	0.0	0.0	-	-	0.0	15.8	50.0	34.2	-	-	-
Total %	0.0	5.9	7.6	6.7	-	20.2	0.0	13.4	16.0	18.5	-	47.9	0.0	0.0	0.0	0.0	-	0.0	0.0	5.0	16.0	10.9	-	31.9	-
PHF	0.000	0.438	0.450	0.500	-	0.667	0.000	0.667	0.679	0.500	-	0.750	0.000	0.000	0.000	0.000	-	0.000	0.000	0.500	0.792	0.542	-	0.864	0.826
Lights	0	7	6	8	-	21	0	16	18	20	-	54	0	0	0	0	-	0	0	5	19	13	-	37	112
% Lights	-	100.0	66.7	100.0	-	87.5	-	100.0	94.7	90.9	-	94.7	-	-	-	-	-	-	-	83.3	100.0	100.0	-	97.4	94.1
Mediums	0	0	1	0	-	1	0	0	0	1	-	1	0	0	0	0	-	0	0	1	0	0	-	1	3
% Mediums	-	0.0	11.1	0.0	-	4.2	-	0.0	0.0	4.5	-	1.8	-	-	-	-	-	-	-	16.7	0.0	0.0	-	2.6	2.5
Articulated Trucks	0	0	2	0	-	2	0	0	1	1	-	2	0	0	0	0	-	0	0	0	0	0	-	0	4
% Articulated Trucks	-	0.0	22.2	0.0	-	8.3	-	0.0	5.3	4.5	-	3.5	-	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0	3.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Imperial Traffic & Data Collection
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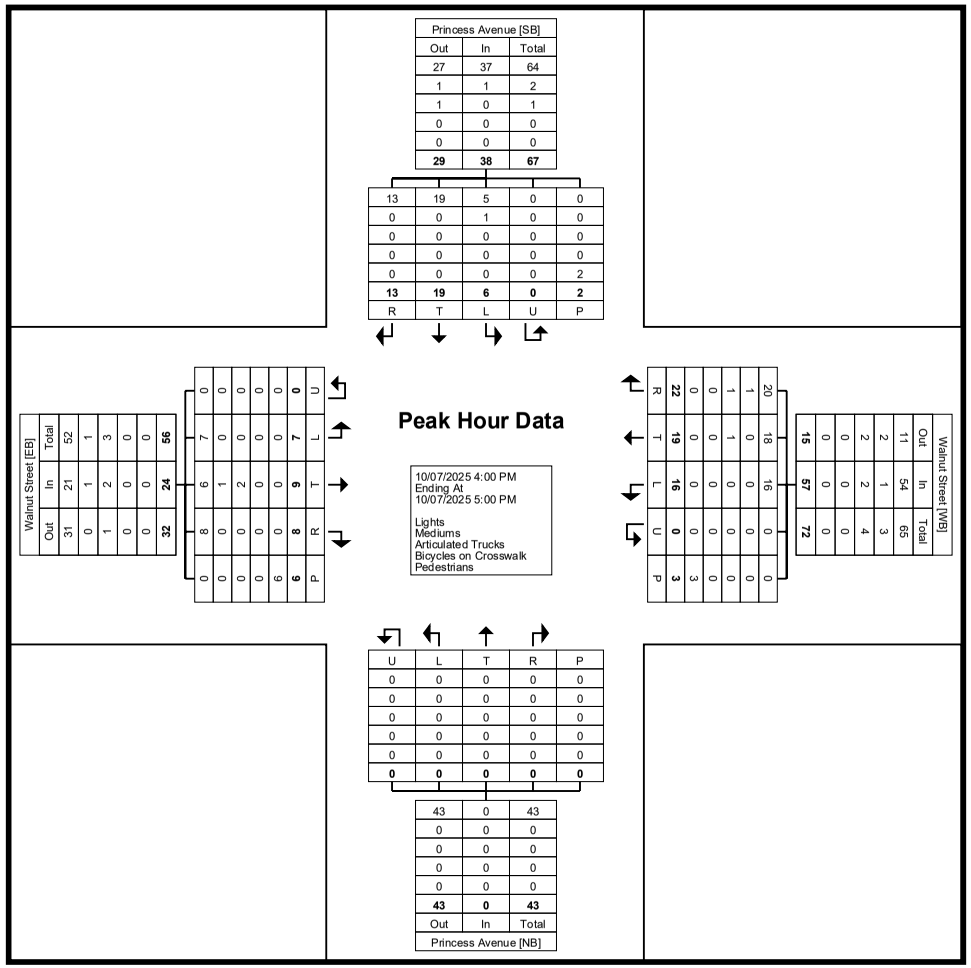
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.935601, -75.106798

Count Name: 6. Princess Avenue & Walnut Street
Site Code: 6
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (4:00 PM)

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93505, -75.107379

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 7. Haddon Avenue & Walnut Street
Site Code: 7
Start Date: 10/07/2025

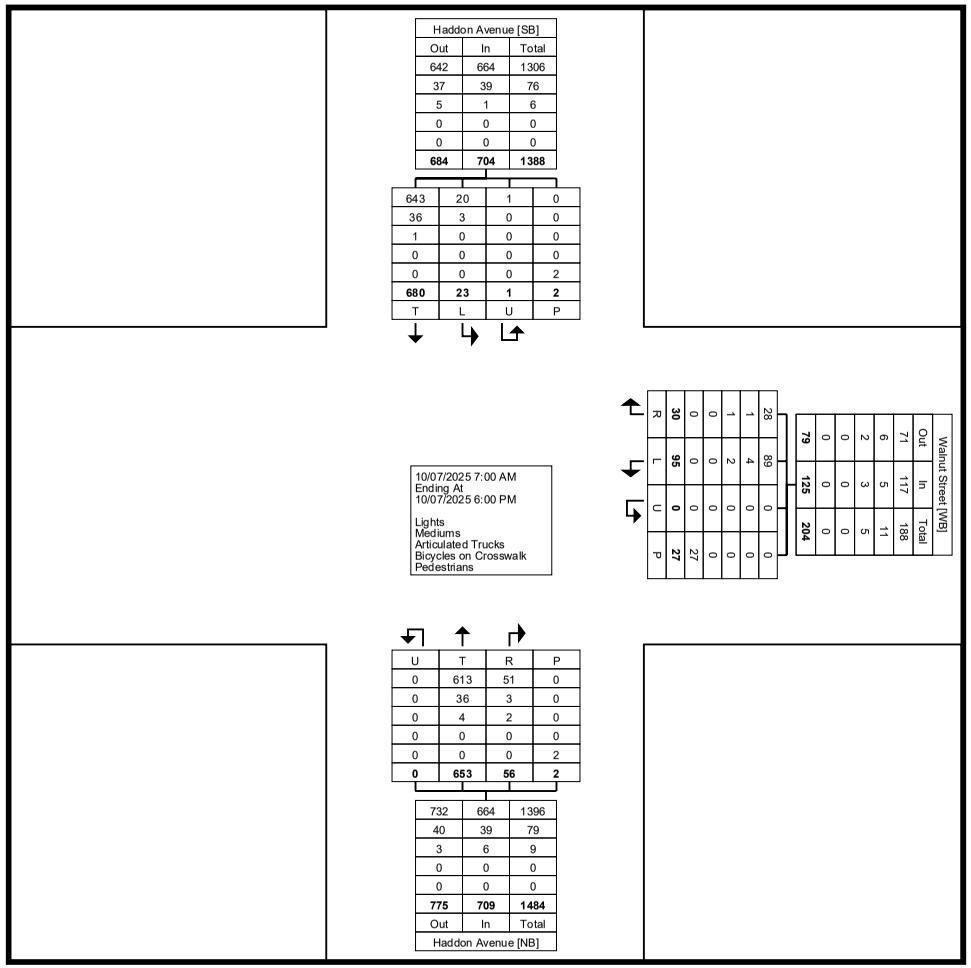
Turning Movement Data

Start Time	Walnut Street Westbound					Haddon Avenue Northbound					Haddon Avenue Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
7:00 AM	0	5	1	1	6	0	22	1	0	23	0	1	17	0	18	47
7:15 AM	0	2	6	1	8	0	42	3	0	45	0	0	27	0	27	80
7:30 AM	0	2	1	0	3	0	30	2	0	32	0	1	32	0	33	68
7:45 AM	0	6	1	1	7	0	52	7	0	59	0	1	35	0	36	102
Hourly Total	0	15	9	3	24	0	146	13	0	159	0	3	111	0	114	297
8:00 AM	0	6	3	2	9	0	66	6	1	72	0	0	32	2	32	113
8:15 AM	0	4	2	4	6	0	50	2	0	52	0	1	20	0	21	79
8:30 AM	0	2	1	3	3	0	56	5	0	61	0	0	27	0	27	91
8:45 AM	0	23	5	2	28	0	54	1	1	55	0	3	47	0	50	133
Hourly Total	0	35	11	11	46	0	226	14	2	240	0	4	126	2	130	416
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	7	1	1	8	0	54	6	0	60	0	4	57	0	61	129
4:15 PM	0	7	2	1	9	0	34	4	0	38	1	4	45	0	50	97
4:30 PM	0	7	2	1	9	0	34	5	0	39	0	2	86	0	88	136
4:45 PM	0	7	0	3	7	0	39	2	0	41	0	1	63	0	64	112
Hourly Total	0	28	5	6	33	0	161	17	0	178	1	11	251	0	263	474
5:00 PM	0	6	3	2	9	0	30	5	0	35	0	0	63	0	63	107
5:15 PM	0	3	0	3	3	0	27	4	0	31	0	4	51	0	55	89
5:30 PM	0	5	1	2	6	0	26	1	0	27	0	1	45	0	46	79
5:45 PM	0	3	1	0	4	0	37	2	0	39	0	0	33	0	33	76
Hourly Total	0	17	5	7	22	0	120	12	0	132	0	5	192	0	197	351
Grand Total	0	95	30	27	125	0	653	56	2	709	1	23	680	2	704	1538
Approach %	0.0	76.0	24.0	-	-	0.0	92.1	7.9	-	-	0.1	3.3	96.6	-	-	-
Total %	0.0	6.2	2.0	-	8.1	0.0	42.5	3.6	-	46.1	0.1	1.5	44.2	-	45.8	-
Lights	0	89	28	-	117	0	613	51	-	664	1	20	643	-	664	1445
% Lights	-	93.7	93.3	-	93.6	-	93.9	91.1	-	93.7	100.0	87.0	94.6	-	94.3	94.0
Mediums	0	4	1	-	5	0	36	3	-	39	0	3	36	-	39	83
% Mediums	-	4.2	3.3	-	4.0	-	5.5	5.4	-	5.5	0.0	13.0	5.3	-	5.5	5.4
Articulated Trucks	0	2	1	-	3	0	4	2	-	6	0	0	1	-	1	10
% Articulated Trucks	-	2.1	3.3	-	2.4	-	0.6	3.6	-	0.8	0.0	0.0	0.1	-	0.1	0.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	27	-	-	-	-	2	-	-	-	-	2	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93505, -75.107379

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 7. Haddon Avenue & Walnut Street
Site Code: 7
Start Date: 10/07/2025



Turning Movement Data Plot

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Imperial Traffic & Data Collection
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1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93505, -75.107379

Count Name: 7. Haddon Avenue & Walnut Street
Site Code: 7
Start Date: 10/07/2025

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Walnut Street Westbound					Haddon Avenue Northbound					Haddon Avenue Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
8:00 AM	0	6	3	2	9	0	66	6	1	72	0	0	32	2	32	113
8:15 AM	0	4	2	4	6	0	50	2	0	52	0	1	20	0	21	79
8:30 AM	0	2	1	3	3	0	56	5	0	61	0	0	27	0	27	91
8:45 AM	0	23	5	2	28	0	54	1	1	55	0	3	47	0	50	133
Total	0	35	11	11	46	0	226	14	2	240	0	4	126	2	130	416
Approach %	0.0	76.1	23.9	-	-	0.0	94.2	5.8	-	-	0.0	3.1	96.9	-	-	-
Total %	0.0	8.4	2.6	-	11.1	0.0	54.3	3.4	-	57.7	0.0	1.0	30.3	-	31.3	-
PHF	0.000	0.380	0.550	-	0.411	0.000	0.856	0.583	-	0.833	0.000	0.333	0.670	-	0.650	0.782
Lights	0	33	10	-	43	0	210	13	-	223	0	3	114	-	117	383
% Lights	-	94.3	90.9	-	93.5	-	92.9	92.9	-	92.9	-	75.0	90.5	-	90.0	92.1
Mediums	0	2	1	-	3	0	14	1	-	15	0	1	11	-	12	30
% Mediums	-	5.7	9.1	-	6.5	-	6.2	7.1	-	6.3	-	25.0	8.7	-	9.2	7.2
Articulated Trucks	0	0	0	-	0	0	2	0	-	2	0	0	1	-	1	3
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.9	0.0	-	0.8	-	0.0	0.8	-	0.8	0.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	11	-	-	-	-	2	-	-	-	-	2	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Imperial Traffic & Data Collection
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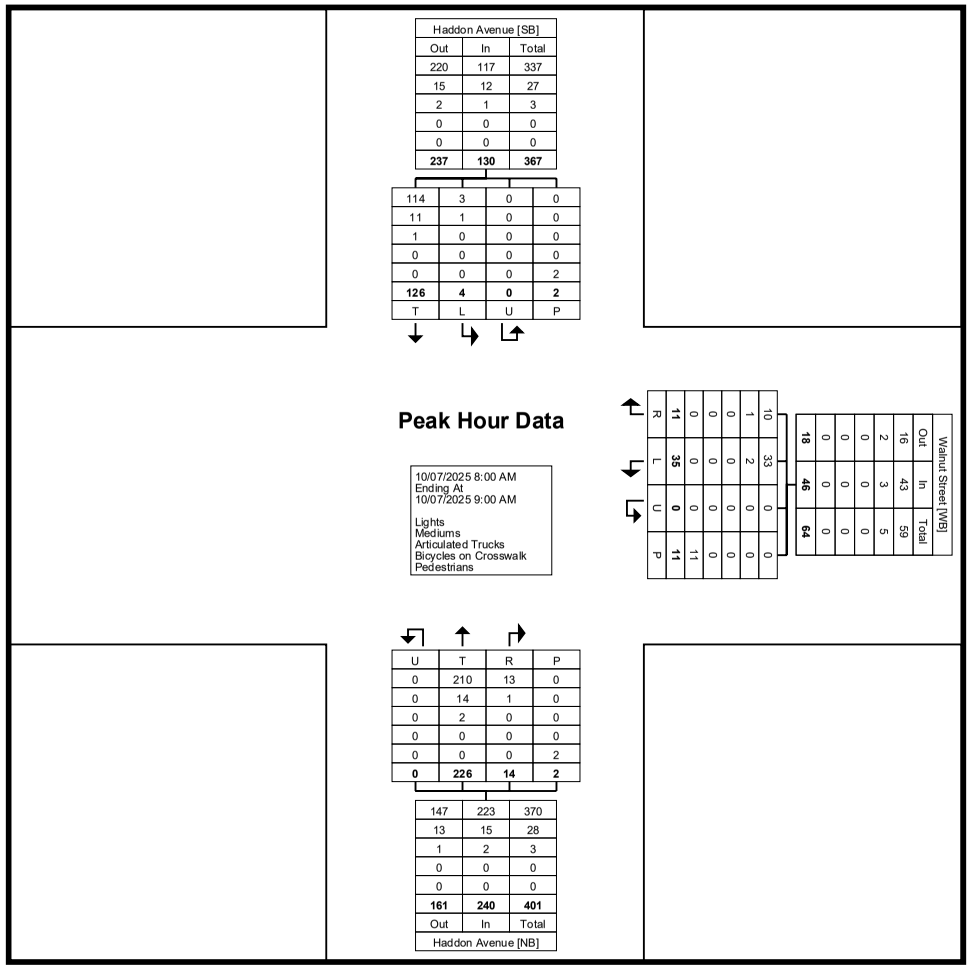
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93505, -75.107379

Count Name: 7. Haddon Avenue & Walnut Street
Site Code: 7
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (8:00 AM)

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Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93505, -75.107379

Count Name: 7. Haddon Avenue & Walnut Street
Site Code: 7
Start Date: 10/07/2025

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Walnut Street Westbound					Haddon Avenue Northbound					Haddon Avenue Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
4:00 PM	0	7	1	1	8	0	54	6	0	60	0	4	57	0	61	129
4:15 PM	0	7	2	1	9	0	34	4	0	38	1	4	45	0	50	97
4:30 PM	0	7	2	1	9	0	34	5	0	39	0	2	86	0	88	136
4:45 PM	0	7	0	3	7	0	39	2	0	41	0	1	63	0	64	112
Total	0	28	5	6	33	0	161	17	0	178	1	11	251	0	263	474
Approach %	0.0	84.8	15.2	-	-	0.0	90.4	9.6	-	-	0.4	4.2	95.4	-	-	-
Total %	0.0	5.9	1.1	-	7.0	0.0	34.0	3.6	-	37.6	0.2	2.3	53.0	-	55.5	-
PHF	0.000	1.000	0.625	-	0.917	0.000	0.745	0.708	-	0.742	0.250	0.688	0.730	-	0.747	0.871
Lights	0	27	5	-	32	0	151	15	-	166	1	10	244	-	255	453
% Lights	-	96.4	100.0	-	97.0	-	93.8	88.2	-	93.3	100.0	90.9	97.2	-	97.0	95.6
Mediums	0	0	0	-	0	0	10	0	-	10	0	1	7	-	8	18
% Mediums	-	0.0	0.0	-	0.0	-	6.2	0.0	-	5.6	0.0	9.1	2.8	-	3.0	3.8
Articulated Trucks	0	1	0	-	1	0	0	2	-	2	0	0	0	-	0	3
% Articulated Trucks	-	3.6	0.0	-	3.0	-	0.0	11.8	-	1.1	0.0	0.0	0.0	-	0.0	0.6
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

Imperial Traffic & Data Collection
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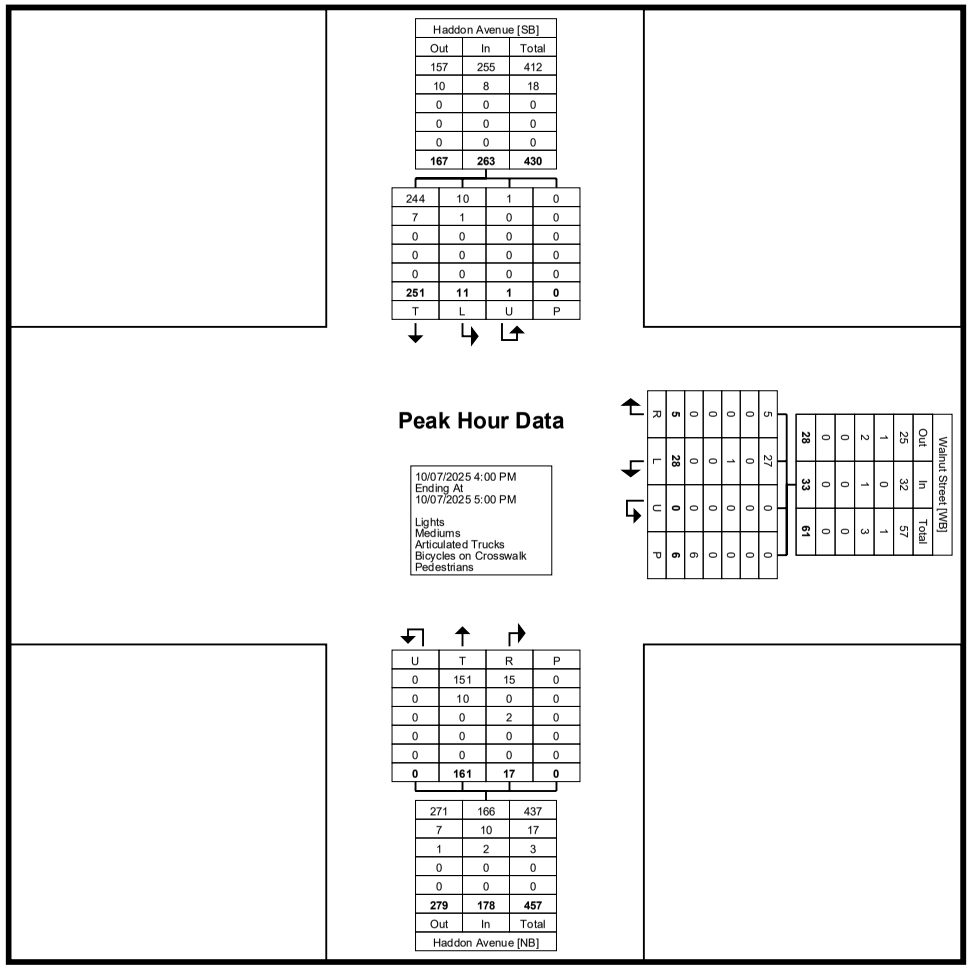
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.93505, -75.107379

Count Name: 7. Haddon Avenue & Walnut Street
Site Code: 7
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (4:00 PM)

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.933868, -75.105505

Imperial Traffic & Data Collection
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1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 8. Haddon Avenue & Park Boulevard/Chestnut Street
Site Code: 8
Start Date: 10/07/2025

Turning Movement Data

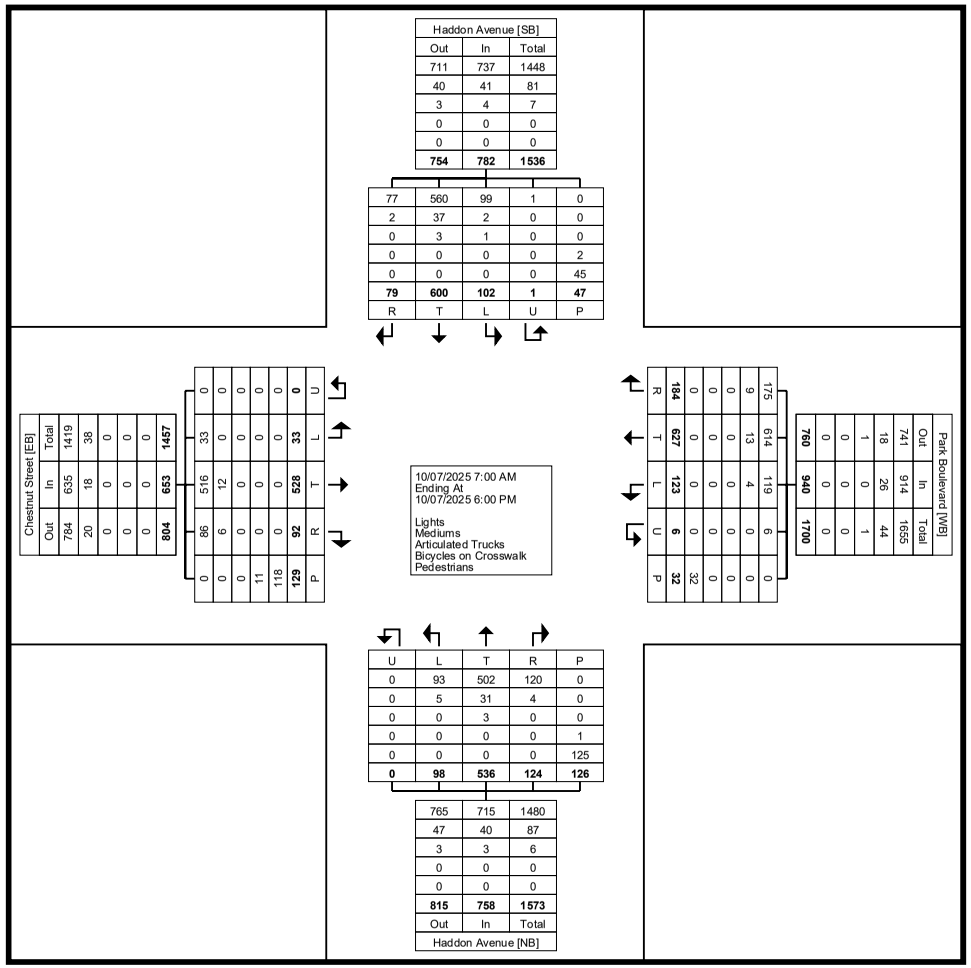
Start Time	Chestnut Street Eastbound						Park Boulevard Westbound						Haddon Avenue Northbound						Haddon Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	3	12	1	8	16	0	4	16	4	1	24	0	4	22	7	5	33	0	5	12	2	3	19	92
7:15 AM	0	1	25	3	9	29	0	3	24	8	1	35	0	4	36	3	5	43	0	5	22	5	5	32	139
7:30 AM	0	0	29	8	8	37	0	6	33	7	0	46	0	5	28	9	2	42	0	8	32	4	0	44	169
7:45 AM	0	1	33	6	8	40	0	6	27	13	2	46	0	6	51	0	2	57	0	8	29	6	3	43	186
Hourly Total	0	5	99	18	33	122	0	19	100	32	4	151	0	19	137	19	14	175	0	26	95	17	11	138	586
8:00 AM	0	3	38	2	6	43	0	6	34	14	2	54	0	2	56	6	5	64	0	5	29	1	0	35	196
8:15 AM	0	3	35	3	7	41	0	2	39	9	5	50	0	4	42	2	7	48	0	6	16	3	3	25	164
8:30 AM	0	1	42	8	1	51	0	2	39	12	4	53	0	6	52	6	5	64	0	5	23	2	3	30	198
8:45 AM	0	2	29	12	6	43	0	13	41	15	0	69	0	5	41	7	12	53	0	7	50	11	3	68	233
Hourly Total	0	9	144	25	20	178	0	23	153	50	11	226	0	17	191	21	29	229	0	23	118	17	9	158	791
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	5	44	9	9	58	1	16	53	12	0	82	0	9	40	10	13	59	0	4	55	7	7	66	265
4:15 PM	0	0	29	10	11	39	2	9	33	13	0	57	0	13	29	10	10	52	0	7	35	7	0	49	197
4:30 PM	0	4	45	5	8	54	0	10	45	17	3	72	0	4	18	7	9	29	0	8	83	2	1	93	248
4:45 PM	0	0	34	5	15	39	1	10	47	14	3	72	0	7	38	3	13	48	1	8	52	9	3	70	229
Hourly Total	0	9	152	29	43	190	4	45	178	56	6	283	0	33	125	30	45	188	1	27	225	25	11	278	939
5:00 PM	0	4	30	6	13	40	0	7	50	6	4	63	0	8	23	9	11	40	0	7	55	6	4	68	211
5:15 PM	0	0	34	5	7	39	0	10	54	13	2	77	0	10	21	18	10	49	0	6	45	5	7	56	221
5:30 PM	0	3	37	1	2	41	0	9	47	12	4	68	0	4	18	10	7	32	0	6	38	4	1	48	189
5:45 PM	0	3	32	8	11	43	2	10	45	15	1	72	0	7	21	17	10	45	0	7	24	5	4	36	196
Hourly Total	0	10	133	20	33	163	2	36	196	46	11	280	0	29	83	54	38	166	0	26	162	20	16	208	817
Grand Total	0	33	528	92	129	653	6	123	627	184	32	940	0	98	536	124	126	758	1	102	600	79	47	782	3133
Approach %	0.0	5.1	80.9	14.1	-	-	0.6	13.1	66.7	19.6	-	-	0.0	12.9	70.7	16.4	-	-	0.1	13.0	76.7	10.1	-	-	-
Total %	0.0	1.1	16.9	2.9	-	20.8	0.2	3.9	20.0	5.9	-	30.0	0.0	3.1	17.1	4.0	-	24.2	0.0	3.3	19.2	2.5	-	25.0	-
Lights	0	33	516	86	-	635	6	119	614	175	-	914	0	93	502	120	-	715	1	99	560	77	-	737	3001
% Lights	-	100.0	97.7	93.5	-	97.2	100.0	96.7	97.9	95.1	-	97.2	-	94.9	93.7	96.8	-	94.3	100.0	97.1	93.3	97.5	-	94.2	95.8
Mediums	0	0	12	6	-	18	0	4	13	9	-	26	0	5	31	4	-	40	0	2	37	2	-	41	125
% Mediums	-	0.0	2.3	6.5	-	2.8	0.0	3.3	2.1	4.9	-	2.8	-	5.1	5.8	3.2	-	5.3	0.0	2.0	6.2	2.5	-	5.2	4.0
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	3	0	-	3	0	1	3	0	-	4	7
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.6	0.0	-	0.4	0.0	1.0	0.5	0.0	-	0.5	0.2
Bicycles on Crosswalk	-	-	-	-	11	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	8.5	-	-	-	-	-	0.0	-	-	-	-	-	0.8	-	-	-	-	-	4.3	-	-
Pedestrians	-	-	-	-	118	-	-	-	-	-	32	-	-	-	-	-	125	-	-	-	-	-	45	-	-

% Pedestrians	-	-	-	-	91.5	-	-	-	-	-	100.0	-	-	-	-	-	99.2	-	-	-	-	-	95.7	-	-

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.933868, -75.105505

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 8. Haddon Avenue & Park Boulevard/Chestnut Street
Site Code: 8
Start Date: 10/07/2025



Turning Movement Data Plot

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.933868, -75.105505

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 8. Haddon Avenue & Park Boulevard/Chestnut Street
Site Code: 8
Start Date: 10/07/2025

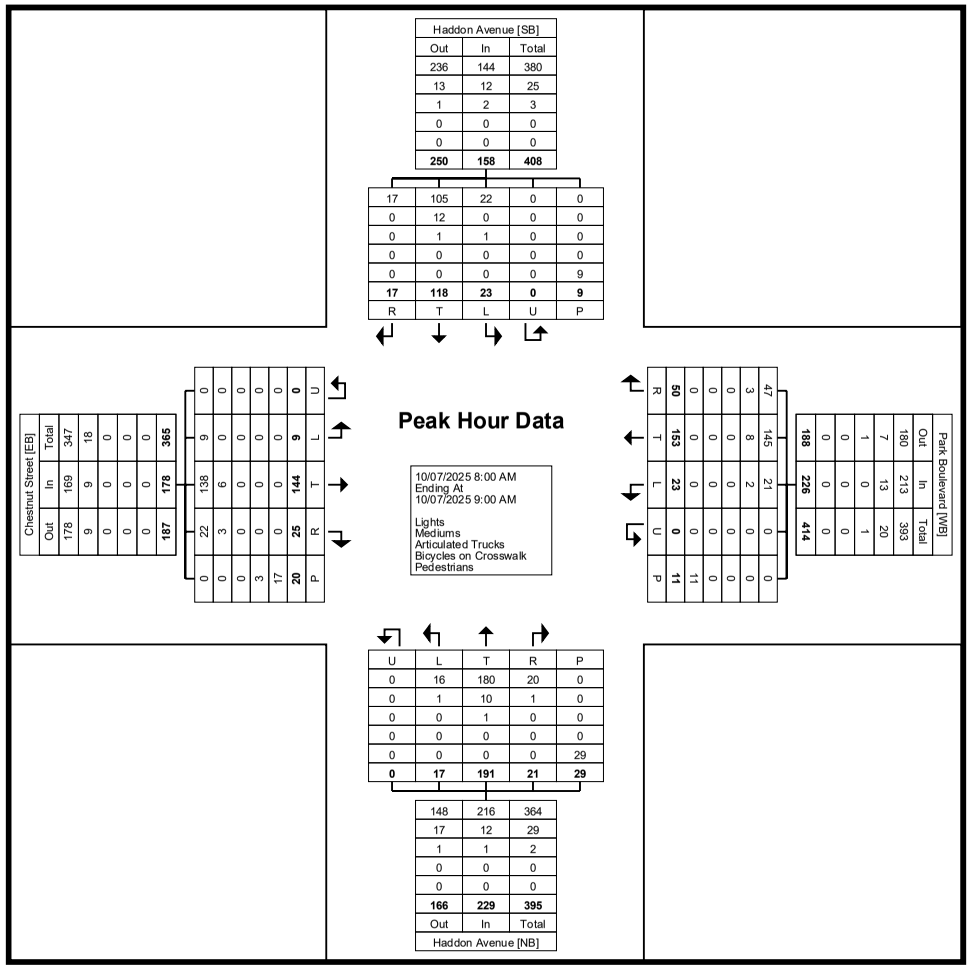
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Chestnut Street Eastbound						Park Boulevard Westbound						Haddon Avenue Northbound						Haddon Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
8:00 AM	0	3	38	2	6	43	0	6	34	14	2	54	0	2	56	6	5	64	0	5	29	1	0	35	196
8:15 AM	0	3	35	3	7	41	0	2	39	9	5	50	0	4	42	2	7	48	0	6	16	3	3	25	164
8:30 AM	0	1	42	8	1	51	0	2	39	12	4	53	0	6	52	6	5	64	0	5	23	2	3	30	198
8:45 AM	0	2	29	12	6	43	0	13	41	15	0	69	0	5	41	7	12	53	0	7	50	11	3	68	233
Total	0	9	144	25	20	178	0	23	153	50	11	226	0	17	191	21	29	229	0	23	118	17	9	158	791
Approach %	0.0	5.1	80.9	14.0	-	-	0.0	10.2	67.7	22.1	-	-	0.0	7.4	83.4	9.2	-	-	0.0	14.6	74.7	10.8	-	-	-
Total %	0.0	1.1	18.2	3.2	-	22.5	0.0	2.9	19.3	6.3	-	28.6	0.0	2.1	24.1	2.7	-	29.0	0.0	2.9	14.9	2.1	-	20.0	-
PHF	0.000	0.750	0.857	0.521	-	0.873	0.000	0.442	0.933	0.833	-	0.819	0.000	0.708	0.853	0.750	-	0.895	0.000	0.821	0.590	0.386	-	0.581	0.849
Lights	0	9	138	22	-	169	0	21	145	47	-	213	0	16	180	20	-	216	0	22	105	17	-	144	742
% Lights	-	100.0	95.8	88.0	-	94.9	-	91.3	94.8	94.0	-	94.2	-	94.1	94.2	95.2	-	94.3	-	95.7	89.0	100.0	-	91.1	93.8
Mediums	0	0	6	3	-	9	0	2	8	3	-	13	0	1	10	1	-	12	0	0	12	0	-	12	46
% Mediums	-	0.0	4.2	12.0	-	5.1	-	8.7	5.2	6.0	-	5.8	-	5.9	5.2	4.8	-	5.2	-	0.0	10.2	0.0	-	7.6	5.8
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	1	1	0	-	2	3
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.5	0.0	-	0.4	-	4.3	0.8	0.0	-	1.3	0.4
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	15.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	17	-	-	-	-	-	11	-	-	-	-	-	29	-	-	-	-	-	9	-	-
% Pedestrians	-	-	-	-	85.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.933868, -75.105505

Count Name: 8. Haddon Avenue & Park Boulevard/Chestnut Street
Site Code: 8
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (8:00 AM)

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.933868, -75.105505

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 8. Haddon Avenue & Park Boulevard/Chestnut Street
Site Code: 8
Start Date: 10/07/2025

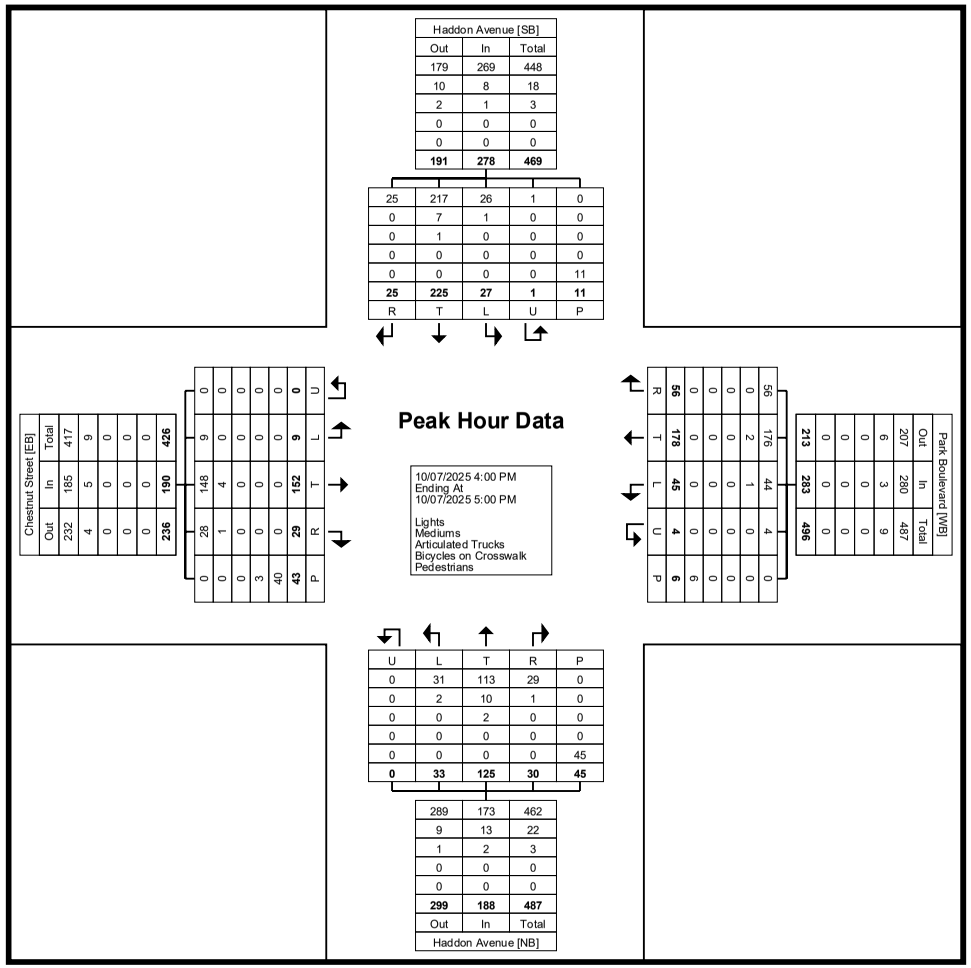
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Chestnut Street Eastbound						Park Boulevard Westbound						Haddon Avenue Northbound						Haddon Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:00 PM	0	5	44	9	9	58	1	16	53	12	0	82	0	9	40	10	13	59	0	4	55	7	7	66	265
4:15 PM	0	0	29	10	11	39	2	9	33	13	0	57	0	13	29	10	10	52	0	7	35	7	0	49	197
4:30 PM	0	4	45	5	8	54	0	10	45	17	3	72	0	4	18	7	9	29	0	8	83	2	1	93	248
4:45 PM	0	0	34	5	15	39	1	10	47	14	3	72	0	7	38	3	13	48	1	8	52	9	3	70	229
Total	0	9	152	29	43	190	4	45	178	56	6	283	0	33	125	30	45	188	1	27	225	25	11	278	939
Approach %	0.0	4.7	80.0	15.3	-	-	1.4	15.9	62.9	19.8	-	-	0.0	17.6	66.5	16.0	-	-	0.4	9.7	80.9	9.0	-	-	-
Total %	0.0	1.0	16.2	3.1	-	20.2	0.4	4.8	19.0	6.0	-	30.1	0.0	3.5	13.3	3.2	-	20.0	0.1	2.9	24.0	2.7	-	29.6	-
PHF	0.000	0.450	0.844	0.725	-	0.819	0.500	0.703	0.840	0.824	-	0.863	0.000	0.635	0.781	0.750	-	0.797	0.250	0.844	0.678	0.694	-	0.747	0.886
Lights	0	9	148	28	-	185	4	44	176	56	-	280	0	31	113	29	-	173	1	26	217	25	-	269	907
% Lights	-	100.0	97.4	96.6	-	97.4	100.0	97.8	98.9	100.0	-	98.9	-	93.9	90.4	96.7	-	92.0	100.0	96.3	96.4	100.0	-	96.8	96.6
Mediums	0	0	4	1	-	5	0	1	2	0	-	3	0	2	10	1	-	13	0	1	7	0	-	8	29
% Mediums	-	0.0	2.6	3.4	-	2.6	0.0	2.2	1.1	0.0	-	1.1	-	6.1	8.0	3.3	-	6.9	0.0	3.7	3.1	0.0	-	2.9	3.1
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	1	0	-	1	3
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	1.6	0.0	-	1.1	0.0	0.0	0.4	0.0	-	0.4	0.3
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	7.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	40	-	-	-	-	-	6	-	-	-	-	-	45	-	-	-	-	-	11	-	-
% Pedestrians	-	-	-	-	93.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.933868, -75.105505

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 8. Haddon Avenue & Park Boulevard/Chestnut Street
Site Code: 8
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (4:00 PM)

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.932086, -75.102716

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 9. Haddon Avenue & Kaighns Avenue
Site Code: 9
Start Date: 10/07/2025

Turning Movement Data

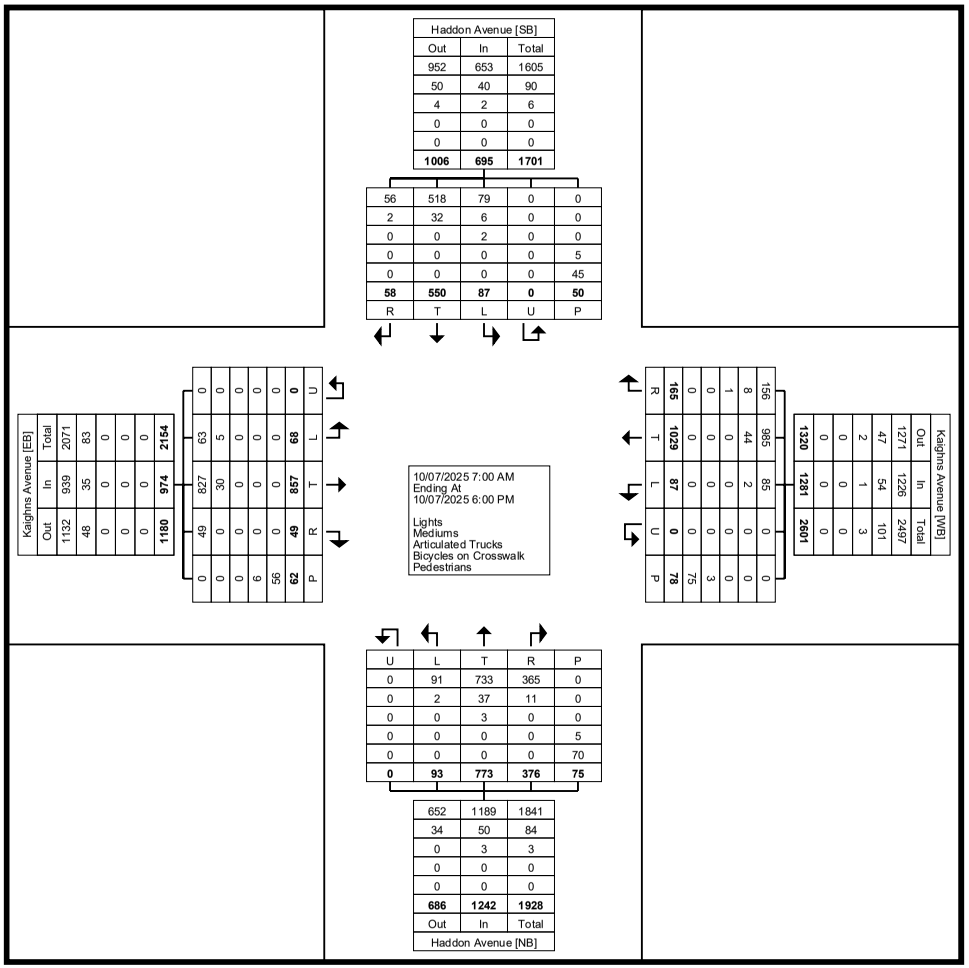
Start Time	Kaighns Avenue Eastbound						Kaighns Avenue Westbound						Haddon Avenue Northbound						Haddon Avenue Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	5	25	0	1	30	0	3	40	6	8	49	0	0	26	14	9	40	0	0	12	1	0	13	132
7:15 AM	0	2	33	0	7	35	0	2	39	9	5	50	0	2	37	19	6	58	0	6	18	2	2	26	169
7:30 AM	0	0	59	3	2	62	0	5	51	13	3	69	0	2	46	28	4	76	0	9	28	2	0	39	246
7:45 AM	0	4	54	1	2	59	0	4	66	7	0	77	0	8	66	20	6	94	0	3	29	0	2	32	262
Hourly Total	0	11	171	4	12	186	0	14	196	35	16	245	0	12	175	81	25	268	0	18	87	5	4	110	809
8:00 AM	0	4	77	3	0	84	0	3	64	8	5	75	0	5	66	16	4	87	0	1	25	1	2	27	273
8:15 AM	0	8	64	1	1	73	0	10	51	11	3	72	0	3	46	31	0	80	0	5	13	2	7	20	245
8:30 AM	0	4	43	3	1	50	0	5	59	14	15	78	0	4	70	15	12	89	0	1	20	2	8	23	240
8:45 AM	0	9	40	4	2	53	0	4	57	19	14	80	0	7	48	19	5	74	0	8	42	5	6	55	262
Hourly Total	0	25	224	11	4	260	0	22	231	52	37	305	0	19	230	81	21	330	0	15	100	10	23	125	1020
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	5	72	4	7	81	0	11	66	8	9	85	0	7	62	31	5	100	0	9	61	8	4	78	344
4:15 PM	0	9	42	2	11	53	0	5	73	10	7	88	0	8	55	27	6	90	0	5	30	4	7	39	270
4:30 PM	0	3	46	2	7	51	0	2	85	9	2	96	0	6	32	35	10	73	0	9	68	7	9	84	304
4:45 PM	0	4	60	3	6	67	0	5	82	10	1	97	0	10	55	34	6	99	0	3	49	5	2	57	320
Hourly Total	0	21	220	11	31	252	0	23	306	37	19	366	0	31	204	127	27	362	0	26	208	24	22	258	1238
5:00 PM	0	2	91	8	3	101	0	1	72	13	1	86	0	11	44	24	0	79	0	6	51	6	0	63	329
5:15 PM	0	2	44	3	3	49	0	10	81	11	0	102	0	6	46	19	0	71	0	10	39	4	1	53	275
5:30 PM	0	3	55	7	2	65	0	11	73	13	2	97	0	7	36	24	2	67	0	7	29	6	0	42	271
5:45 PM	0	4	52	5	7	61	0	6	70	4	3	80	0	7	38	20	0	65	0	5	36	3	0	44	250
Hourly Total	0	11	242	23	15	276	0	28	296	41	6	365	0	31	164	87	2	282	0	28	155	19	1	202	1125
Grand Total	0	68	857	49	62	974	0	87	1029	165	78	1281	0	93	773	376	75	1242	0	87	550	58	50	695	4192
Approach %	0.0	7.0	88.0	5.0	-	-	0.0	6.8	80.3	12.9	-	-	0.0	7.5	62.2	30.3	-	-	0.0	12.5	79.1	8.3	-	-	-
Total %	0.0	1.6	20.4	1.2	-	23.2	0.0	2.1	24.5	3.9	-	30.6	0.0	2.2	18.4	9.0	-	29.6	0.0	2.1	13.1	1.4	-	16.6	-
Lights	0	63	827	49	-	939	0	85	985	156	-	1226	0	91	733	365	-	1189	0	79	518	56	-	653	4007
% Lights	-	92.6	96.5	100.0	-	96.4	-	97.7	95.7	94.5	-	95.7	-	97.8	94.8	97.1	-	95.7	-	90.8	94.2	96.6	-	94.0	95.6
Mediums	0	5	30	0	-	35	0	2	44	8	-	54	0	2	37	11	-	50	0	6	32	2	-	40	179
% Mediums	-	7.4	3.5	0.0	-	3.6	-	2.3	4.3	4.8	-	4.2	-	2.2	4.8	2.9	-	4.0	-	6.9	5.8	3.4	-	5.8	4.3
Articulated Trucks	0	0	0	0	-	0	0	0	0	1	-	1	0	0	3	0	-	3	0	2	0	0	-	2	6
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.6	-	0.1	-	0.0	0.4	0.0	-	0.2	-	2.3	0.0	0.0	-	0.3	0.1
Bicycles on Crosswalk	-	-	-	-	6	-	-	-	-	-	3	-	-	-	-	-	5	-	-	-	-	-	5	-	-
% Bicycles on Crosswalk	-	-	-	-	9.7	-	-	-	-	-	3.8	-	-	-	-	-	6.7	-	-	-	-	-	10.0	-	-
Pedestrians	-	-	-	-	56	-	-	-	-	-	75	-	-	-	-	-	70	-	-	-	-	-	45	-	-

% Pedestrians	-	-	-	-	90.3	-	-	-	-	-	96.2	-	-	-	-	-	93.3	-	-	-	-	-	90.0	-	-

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.932086, -75.102716

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 9. Haddon Avenue & Kaighns Avenue
Site Code: 9
Start Date: 10/07/2025



Turning Movement Data Plot

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.932086, -75.102716

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Count Name: 9. Haddon Avenue & Kaighns Avenue
Site Code: 9
Start Date: 10/07/2025

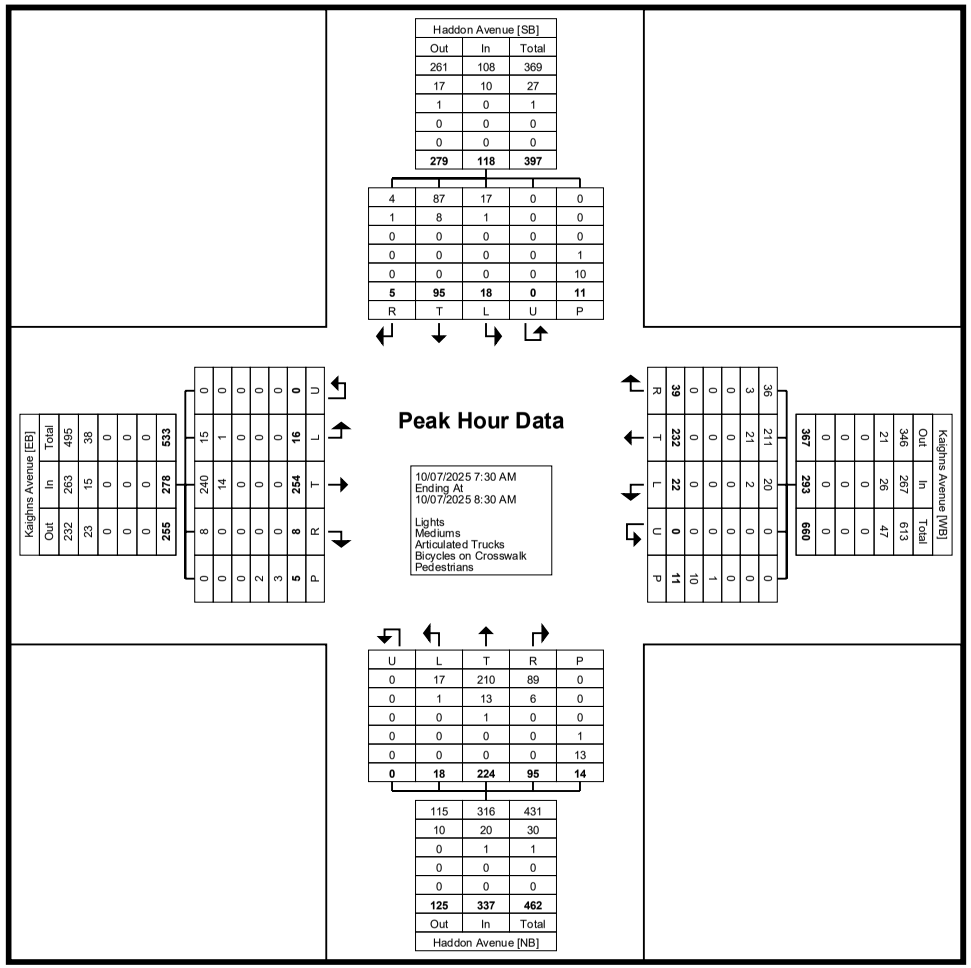
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Kaighns Avenue Eastbound						Kaighns Avenue Westbound						Haddon Avenue Northbound						Haddon Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	0	59	3	2	62	0	5	51	13	3	69	0	2	46	28	4	76	0	9	28	2	0	39	246
7:45 AM	0	4	54	1	2	59	0	4	66	7	0	77	0	8	66	20	6	94	0	3	29	0	2	32	262
8:00 AM	0	4	77	3	0	84	0	3	64	8	5	75	0	5	66	16	4	87	0	1	25	1	2	27	273
8:15 AM	0	8	64	1	1	73	0	10	51	11	3	72	0	3	46	31	0	80	0	5	13	2	7	20	245
Total	0	16	254	8	5	278	0	22	232	39	11	293	0	18	224	95	14	337	0	18	95	5	11	118	1026
Approach %	0.0	5.8	91.4	2.9	-	-	0.0	7.5	79.2	13.3	-	-	0.0	5.3	66.5	28.2	-	-	0.0	15.3	80.5	4.2	-	-	-
Total %	0.0	1.6	24.8	0.8	-	27.1	0.0	2.1	22.6	3.8	-	28.6	0.0	1.8	21.8	9.3	-	32.8	0.0	1.8	9.3	0.5	-	11.5	-
PHF	0.000	0.500	0.825	0.667	-	0.827	0.000	0.550	0.879	0.750	-	0.951	0.000	0.563	0.848	0.766	-	0.896	0.000	0.500	0.819	0.625	-	0.756	0.940
Lights	0	15	240	8	-	263	0	20	211	36	-	267	0	17	210	89	-	316	0	17	87	4	-	108	954
% Lights	-	93.8	94.5	100.0	-	94.6	-	90.9	90.9	92.3	-	91.1	-	94.4	93.8	93.7	-	93.8	-	94.4	91.6	80.0	-	91.5	93.0
Mediums	0	1	14	0	-	15	0	2	21	3	-	26	0	1	13	6	-	20	0	1	8	1	-	10	71
% Mediums	-	6.3	5.5	0.0	-	5.4	-	9.1	9.1	7.7	-	8.9	-	5.6	5.8	6.3	-	5.9	-	5.6	8.4	20.0	-	8.5	6.9
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.4	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	40.0	-	-	-	-	-	9.1	-	-	-	-	-	7.1	-	-	-	-	-	9.1	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	10	-	-	-	-	-	13	-	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	60.0	-	-	-	-	-	90.9	-	-	-	-	-	92.9	-	-	-	-	-	90.9	-	-

Imperial Traffic & Data Collection
www.imperialtdc.com
1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.932086, -75.102716

Count Name: 9. Haddon Avenue & Kaighns Avenue
Site Code: 9
Start Date: 10/07/2025



Turning Movement Peak Hour Data Plot (7:30 AM)

Imperial Traffic & Data Collection
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1804 Haddonfield-Berlin Road
Cherry Hill, New Jersey, United States 08034
609-706-6100

Project: Pine & Haddon
Municipality: Camden, Camden County, NJ
Setup: AH/SF
Location: 39.932086, -75.102716

Count Name: 9. Haddon Avenue & Kaighns Avenue
Site Code: 9
Start Date: 10/07/2025

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Kaighns Avenue Eastbound						Kaighns Avenue Westbound						Haddon Avenue Northbound						Haddon Avenue Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:00 PM	0	5	72	4	7	81	0	11	66	8	9	85	0	7	62	31	5	100	0	9	61	8	4	78	344
4:15 PM	0	9	42	2	11	53	0	5	73	10	7	88	0	8	55	27	6	90	0	5	30	4	7	39	270
4:30 PM	0	3	46	2	7	51	0	2	85	9	2	96	0	6	32	35	10	73	0	9	68	7	9	84	304
4:45 PM	0	4	60	3	6	67	0	5	82	10	1	97	0	10	55	34	6	99	0	3	49	5	2	57	320
Total	0	21	220	11	31	252	0	23	306	37	19	366	0	31	204	127	27	362	0	26	208	24	22	258	1238
Approach %	0.0	8.3	87.3	4.4	-	-	0.0	6.3	83.6	10.1	-	-	0.0	8.6	56.4	35.1	-	-	0.0	10.1	80.6	9.3	-	-	-
Total %	0.0	1.7	17.8	0.9	-	20.4	0.0	1.9	24.7	3.0	-	29.6	0.0	2.5	16.5	10.3	-	29.2	0.0	2.1	16.8	1.9	-	20.8	-
PHF	0.000	0.583	0.764	0.688	-	0.778	0.000	0.523	0.900	0.925	-	0.943	0.000	0.775	0.823	0.907	-	0.905	0.000	0.722	0.765	0.750	-	0.768	0.900
Lights	0	21	215	11	-	247	0	23	299	34	-	356	0	30	190	127	-	347	0	24	199	24	-	247	1197
% Lights	-	100.0	97.7	100.0	-	98.0	-	100.0	97.7	91.9	-	97.3	-	96.8	93.1	100.0	-	95.9	-	92.3	95.7	100.0	-	95.7	96.7
Mediums	0	0	5	0	-	5	0	0	7	2	-	9	0	1	12	0	-	13	0	1	9	0	-	10	37
% Mediums	-	0.0	2.3	0.0	-	2.0	-	0.0	2.3	5.4	-	2.5	-	3.2	5.9	0.0	-	3.6	-	3.8	4.3	0.0	-	3.9	3.0
Articulated Trucks	0	0	0	0	-	0	0	0	0	1	-	1	0	0	2	0	-	2	0	1	0	0	-	1	4
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	2.7	-	0.3	-	0.0	1.0	0.0	-	0.6	-	3.8	0.0	0.0	-	0.4	0.3
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	9.7	-	-	-	-	-	0.0	-	-	-	-	-	7.4	-	-	-	-	-	9.1	-	-
Pedestrians	-	-	-	-	28	-	-	-	-	-	19	-	-	-	-	-	25	-	-	-	-	-	20	-	-
% Pedestrians	-	-	-	-	90.3	-	-	-	-	-	100.0	-	-	-	-	-	92.6	-	-	-	-	-	90.9	-	-

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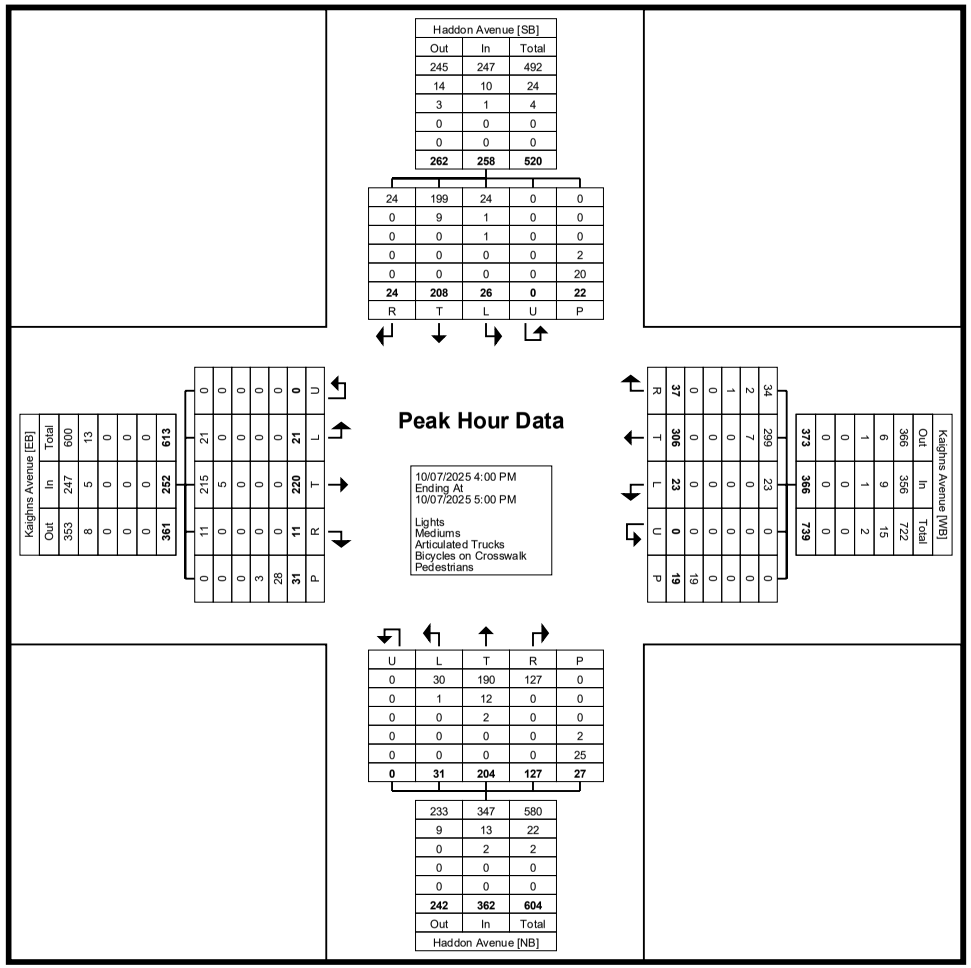
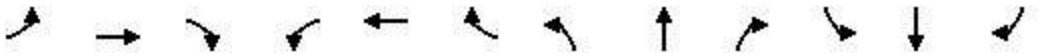


Turning Movement Peak Hour Data Plot (4:00 PM)

Appendix B:
2025 Existing Conditions Analysis and LOS Output Summaries



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	79	15	9	94	75	31	205	7	57	83	52
Future Volume (veh/h)	123	79	15	9	94	75	31	205	7	57	83	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1828	1874	1844	1950	1920	1859	1889	1874	1737	1920	1798	1828
Adj Flow Rate, veh/h	146	94	18	16	168	134	33	216	7	61	88	55
Peak Hour Factor	0.84	0.84	0.84	0.56	0.56	0.56	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	8	5	7	0	2	6	4	5	14	2	10	8
Cap, veh/h	233	121	19	73	236	179	143	853	26	275	381	213
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	594	519	83	43	1012	768	140	1600	49	369	715	400
Grp Volume(v), veh/h	258	0	0	318	0	0	256	0	0	204	0	0
Grp Sat Flow(s),veh/h/ln	1196	0	0	1822	0	0	1789	0	0	1483	0	0
Q Serve(g_s), s	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.8	0.0	0.0	9.8	0.0	0.0	4.5	0.0	0.0	3.8	0.0	0.0
Prop In Lane	0.57		0.07	0.05		0.42	0.13		0.03	0.30		0.27
Lane Grp Cap(c), veh/h	373	0	0	488	0	0	1022	0	0	869	0	0
V/C Ratio(X)	0.69	0.00	0.00	0.65	0.00	0.00	0.25	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	373	0	0	488	0	0	1022	0	0	869	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.4	0.0	0.0	21.4	0.0	0.0	7.6	0.0	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	5.4	0.0	0.0	3.1	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	4.3	0.0	0.0	1.7	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.8	0.0	0.0	24.5	0.0	0.0	8.2	0.0	0.0	8.0	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		258			318			256			204	
Approach Delay, s/veh		27.8			24.5			8.2			8.0	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.0	21.0	39.0	21.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	32.0	14.0	32.0	14.0
Max Q Clear Time (g_c+I1), s	6.5	14.8	5.8	11.8
Green Ext Time (p_c), s	1.0	0.0	0.9	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.0
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	135	12	1	168	0	14	0	0	0	0	0
Future Vol, veh/h	0	135	12	1	168	0	14	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	52	52	52	70	70	70	92	92	92
Heavy Vehicles, %	1	0	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	155	14	2	323	0	20	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	41	1	119	41	-	1	0	0	0	0	0
Stage 1	-	1	-	40	40	-	-	-	-	-	-	-
Stage 2	-	40	-	79	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.5	6.2	7.1	6.51	-	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	5.5	-	6.1	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.5	-	6.1	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	-	4	3.3	3.5	4.009	-	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	855	1089	862	853	0	1635	-	-	-	-	-
Stage 1	0	899	-	980	864	0	-	-	-	-	-	-
Stage 2	0	866	-	935	897	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	844	1089	688	842	-	1635	-	-	-	-	-
Mov Cap-2 Maneuver	-	844	-	688	842	-	-	-	-	-	-	-
Stage 1	-	899	-	968	853	-	-	-	-	-	-	-
Stage 2	-	855	-	764	897	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.21	11.95	7.23	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1635	-	-	860	841	-	-	-
HCM Lane V/C Ratio	0.012	-	-	0.196	0.386	-	-	-
HCM Ctrl Dly (s/v)	7.2	0	-	10.2	11.9	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	1.8	-	-	-

Intersection	
Int Delay, s/veh	11.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	123	2	5	183	20	1	5	0	4	0	6
Future Vol, veh/h	6	123	2	5	183	20	1	5	0	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	54	54	54	38	38	38	63	63	63
Heavy Vehicles, %	0	0	0	0	2	0	1	0	0	0	0	0
Mvmt Flow	7	150	2	9	339	37	3	13	0	6	0	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	205	36	5	106	41	13	10	0	0	13	0	0
Stage 1	17	17	-	18	18	-	-	-	-	-	-	-
Stage 2	188	18	-	88	22	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	757	860	1084	878	851	1073	1617	-	-	1619	-	-
Stage 1	1007	885	-	1006	880	-	-	-	-	-	-	-
Stage 2	819	884	-	925	877	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	437	856	1084	719	847	1073	1617	-	-	1619	-	-
Mov Cap-2 Maneuver	437	856	-	719	847	-	-	-	-	-	-	-
Stage 1	1003	881	-	1004	879	-	-	-	-	-	-	-
Stage 2	485	883	-	763	873	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.43	12.53	1.21	2.89
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	300	-	-	822	860	600	-	-
HCM Lane V/C Ratio	0.002	-	-	0.194	0.448	0.004	-	-
HCM Ctrl Dly (s/v)	7.2	0	-	10.4	12.5	7.2	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	2.3	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	2	58	197	11	19
Future Vol, veh/h	123	2	58	197	11	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	47	47	83	83
Heavy Vehicles, %	2	0	2	4	0	0
Mvmt Flow	154	3	123	419	13	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	156	0	821	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	666	-
Critical Hdwy	-	-	4.12	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1424	-	347	896
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1424	-	308	896
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	456	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.77	12.34
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	527	-	-	409	-
HCM Lane V/C Ratio	0.069	-	-	0.087	-
HCM Ctrl Dly (s/v)	12.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.3	-

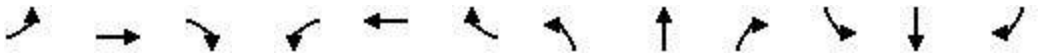
Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	2	19	9	1	18
Future Vol, veh/h	4	2	19	9	1	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	66	66	79	79
Heavy Vehicles, %	25	0	0	5	10	10
Mvmt Flow	5	3	29	14	1	23

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	61	36	0	0	42	0
Stage 1	36	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.2	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.29	-
Pot Cap-1 Maneuver	891	1043	-	-	1516	-
Stage 1	931	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	890	1043	-	-	1516	-
Mov Cap-2 Maneuver	890	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	940	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.88	0	0.39
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	936	95	-
HCM Lane V/C Ratio	-	-	0.009	0.001	-
HCM Ctrl Dly (s/v)	-	-	8.9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	7	4	23	36	12	0	0	0	8	6	6
Future Volume (Veh/h)	6	7	4	23	36	12	0	0	0	8	6	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.43	0.43	0.43	0.25	0.25	0.25	0.71	0.71	0.71
Hourly flow rate (vph)	8	10	6	53	84	28	0	0	0	11	8	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	104	34	12	45	38	0	16			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	104	34	12	45	38	0	16			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	99	94	90	97	100			99		
cM capacity (veh/h)	789	857	1072	938	847	1082	1615			1636		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	165	27
Volume Left	8	53	11
Volume Right	6	28	8
cSH	876	909	1636
Volume to Capacity	0.03	0.18	0.00*
Queue Length 95th (ft)	2	17	1
Control Delay (s/veh)	9.2	9.8	3.0
Lane LOS	A	A	A
Approach Delay (s/veh)	9.2	9.8	3.0
Approach LOS	A	A	

Intersection Summary				
Average Delay	8.9			
Intersection Capacity Utilization	14.8%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	11	226	14	4	126
Future Volume (veh/h)	35	11	226	14	4	126
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1859	1813	1844	1844	1935	1767
Adj Flow Rate, veh/h	85	27	272	17	6	194
Peak Hour Factor	0.41	0.41	0.83	0.83	0.65	0.65
Percent Heavy Veh, %	6	9	7	7	1	12
Cap, veh/h	199	63	1189	74	67	1205
Arrive On Green	0.15	0.15	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1294	411	1717	107	15	1741
Grp Volume(v), veh/h	113	0	0	289	200	0
Grp Sat Flow(s),veh/h/ln	1720	0	0	1824	1756	0
Q Serve(g_s), s	3.9	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	3.8	2.6	0.0
Prop In Lane	0.75	0.24		0.06	0.03	
Lane Grp Cap(c), veh/h	265	0	0	1263	1273	0
V/C Ratio(X)	0.43	0.00	0.00	0.23	0.16	0.00
Avail Cap(c_a), veh/h	265	0	0	1263	1273	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.9	0.0	0.0	3.7	3.5	0.0
Incr Delay (d2), s/veh	5.0	0.0	0.0	0.4	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.1	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	29.9	0.0	0.0	4.1	3.7	0.0
LnGrp LOS	C			A	A	
Approach Vol, veh/h	113		289			200
Approach Delay, s/veh	29.9		4.1			3.7
Approach LOS	C		A			A

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		50.0				50.0	15.0
Change Period (Y+Rc), s		5.0				5.0	5.0
Max Green Setting (Gmax), s		45.0				45.0	10.0
Max Q Clear Time (g_c+I1), s		0.0				0.0	0.0
Green Ext Time (p_c), s		0.0				0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	8.8
HCM 7th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	144	25	13	41	15	17	191	21	13	118	17
Future Volume (veh/h)	9	144	25	13	41	15	17	191	21	13	118	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	1889	1767	1813	1874	1859	1859	1844	1874	1889	1783	1950
Adj Flow Rate, veh/h	10	166	29	16	50	18	19	212	23	22	203	29
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.90	0.90	0.90	0.58	0.58	0.58
Percent Heavy Veh, %	0	4	12	9	5	6	6	7	5	4	11	0
Cap, veh/h	62	470	79	121	343	110	91	858	89	99	789	107
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	32	1538	259	201	1123	361	66	1544	160	80	1420	193
Grp Volume(v), veh/h	205	0	0	84	0	0	254	0	0	254	0	0
Grp Sat Flow(s),veh/h/ln	1829	0	0	1685	0	0	1770	0	0	1694	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	2.4	0.0	0.0	5.2	0.0	0.0	5.4	0.0	0.0
Prop In Lane	0.05		0.14	0.19		0.21	0.07		0.09	0.09		0.11
Lane Grp Cap(c), veh/h	611	0	0	574	0	0	1037	0	0	995	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.15	0.00	0.00	0.24	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	611	0	0	574	0	0	1037	0	0	995	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.5	0.0	0.0	18.2	0.0	0.0	8.3	0.0	0.0	8.3	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.5	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	1.1	0.0	0.0	2.0	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.0	0.0	0.0	18.7	0.0	0.0	8.8	0.0	0.0	8.9	0.0	0.0
LnGrp LOS	C			B			A			A		
Approach Vol, veh/h		205			84			254			254	
Approach Delay, s/veh		21.0			18.7			8.8			8.9	
Approach LOS		C			B			A			A	

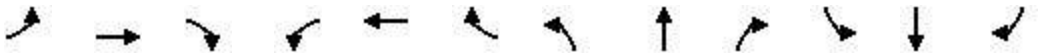
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	45.0	27.0	45.0	27.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	40.0	22.0	40.0	22.0
Max Q Clear Time (g_c+I1), s	7.2	8.3	7.4	4.4
Green Ext Time (p_c), s	1.7	0.9	1.6	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	13.0
HCM 7th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (veh/h)	16	254	8	22	232	39	18	224	95	18	95	5
Future Volume (veh/h)	16	254	8	22	232	39	18	224	95	18	95	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1859	1859	1950	1813	1813	1844	1859	1859	1844	1859	1828	1646
Adj Flow Rate, veh/h	19	306	10	23	244	41	20	249	106	24	125	7
Peak Hour Factor	0.83	0.83	0.83	0.95	0.95	0.95	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	6	6	0	9	9	7	6	6	7	6	8	20
Cap, veh/h	84	861	27	92	721	115	77	404	165	116	500	26
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	41	1723	54	55	1442	230	41	1213	494	139	1499	77
Grp Volume(v), veh/h	335	0	0	308	0	0	375	0	0	156	0	0
Grp Sat Flow(s),veh/h/ln	1818	0	0	1727	0	0	1748	0	0	1715	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.6	0.0	0.0	6.3	0.0	0.0	10.8	0.0	0.0	3.8	0.0	0.0
Prop In Lane	0.06		0.03	0.07		0.13	0.05		0.28	0.15		0.04
Lane Grp Cap(c), veh/h	972	0	0	928	0	0	646	0	0	641	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.33	0.00	0.00	0.58	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	1002	0	0	956	0	0	904	0	0	881	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.2	0.0	0.0	9.1	0.0	0.0	16.9	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.0	0.8	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	2.1	0.0	0.0	4.1	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.4	0.0	0.0	9.3	0.0	0.0	17.8	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		335			308			375			156	
Approach Delay, s/veh		9.4			9.3			17.8			14.8	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	25.0	35.0	25.0	35.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	29.0	31.0	29.0	31.0
Max Q Clear Time (g_c+I1), s	12.8	8.6	5.8	8.3
Green Ext Time (p_c), s	2.1	1.3	0.9	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	12.7
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	67	29	8	68	43	36	120	5	44	212	66
Future Volume (veh/h)	95	67	29	8	68	43	36	120	5	44	212	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1874	1904	1904	1752	1920	1950	1859	1828	1950	1920	1904	1783
Adj Flow Rate, veh/h	125	88	38	10	87	55	40	133	6	59	286	89
Peak Hour Factor	0.76	0.76	0.76	0.78	0.78	0.78	0.90	0.90	0.90	0.74	0.74	0.74
Percent Heavy Veh, %	5	3	3	13	2	0	6	8	0	2	3	11
Cap, veh/h	232	119	46	77	205	122	230	716	30	157	708	204
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	738	642	246	51	1105	656	268	1264	53	150	1249	361
Grp Volume(v), veh/h	251	0	0	152	0	0	179	0	0	434	0	0
Grp Sat Flow(s),veh/h/ln	1626	0	0	1812	0	0	1585	0	0	1759	0	0
Q Serve(g_s), s	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.1	0.0	0.0	4.2	0.0	0.0	2.7	0.0	0.0	7.6	0.0	0.0
Prop In Lane	0.50		0.15	0.07		0.36	0.22		0.03	0.14		0.21
Lane Grp Cap(c), veh/h	397	0	0	404	0	0	976	0	0	1069	0	0
V/C Ratio(X)	0.63	0.00	0.00	0.38	0.00	0.00	0.18	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	489	0	0	513	0	0	976	0	0	1069	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.8	0.0	0.0	20.5	0.0	0.0	5.9	0.0	0.0	6.9	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.0	1.7	0.0	0.0	0.9	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.6	0.0	0.0	21.0	0.0	0.0	6.3	0.0	0.0	8.1	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		251			152			179			434	
Approach Delay, s/veh		23.6			21.0			6.3			8.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.0		17.5		39.0		17.5				
Change Period (Y+Rc), s		7.0		7.0		7.0		7.0				
Max Green Setting (Gmax), s		32.0		14.0		32.0		14.0				
Max Q Clear Time (g_c+I1), s		4.7		10.1		9.6		6.2				
Green Ext Time (p_c), s		0.8		0.4		2.0		0.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	13.6
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	84	23	2	93	0	27	0	1	0	0	0
Future Vol, veh/h	0	84	23	2	93	0	27	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	92	92	92	93	93	93	92	92	92
Heavy Vehicles, %	2	3	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	0	100	27	2	101	0	29	0	1	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	60	1	110	60	-	1	0	0	1	0	0
Stage 1	-	1	-	59	59	-	-	-	-	-	-	-
Stage 2	-	59	-	51	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.53	6.2	7.1	6.51	-	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.53	-	6.1	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.53	-	6.1	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.027	3.3	3.5	4.009	-	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	829	1089	873	833	0	1635	-	-	1622	-	-
Stage 1	0	893	-	958	848	0	-	-	-	-	-	-
Stage 2	0	844	-	967	897	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	814	1089	735	818	-	1635	-	-	1622	-	-
Mov Cap-2 Maneuver	-	814	-	735	818	-	-	-	-	-	-	-
Stage 1	-	893	-	941	833	-	-	-	-	-	-	-
Stage 2	-	829	-	837	897	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.91	10.05	6.98	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1446	-	-	861	816	1622	-	-
HCM Lane V/C Ratio	0.018	-	-	0.148	0.126	-	-	-
HCM Ctrl Dly (s/v)	7.2	0	-	9.9	10	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.4	0	-	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	75	3	2	64	2	2	0	2	34	11	36
Future Vol, veh/h	5	75	3	2	64	2	2	0	2	34	11	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	71	71	71	33	33	33	84	84	84
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	101	4	3	90	3	6	0	6	40	13	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	173	134	35	160	152	3	56	0	0	6	0	0
Stage 1	115	115	-	15	15	-	-	-	-	-	-	-
Stage 2	57	18	-	145	137	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.51	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.009	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	795	759	1044	810	743	1087	1562	-	-	1628	-	-
Stage 1	894	802	-	1010	887	-	-	-	-	-	-	-
Stage 2	960	882	-	863	787	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	676	737	1044	678	721	1087	1562	-	-	1628	-	-
Mov Cap-2 Maneuver	676	737	-	678	721	-	-	-	-	-	-	-
Stage 1	871	781	-	1006	883	-	-	-	-	-	-	-
Stage 2	856	879	-	729	767	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.73	10.7	3.66	3.05
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	750	-	-	740	727	655	-	-
HCM Lane V/C Ratio	0.004	-	-	0.151	0.132	0.025	-	-
HCM Ctrl Dly (s/v)	7.3	0	-	10.7	10.7	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	105	1	25	76	4	12
Future Vol, veh/h	105	1	25	76	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	77	77	67	67
Heavy Vehicles, %	3	0	0	1	0	0
Mvmt Flow	142	1	32	99	6	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	143	0	306	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1452	-	690	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1452	-	674	910
Mov Cap-2 Maneuver	-	-	-	-	674	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	850	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.87	9.43
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	837	-	-	446	-
HCM Lane V/C Ratio	0.029	-	-	0.022	-
HCM Ctrl Dly (s/v)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

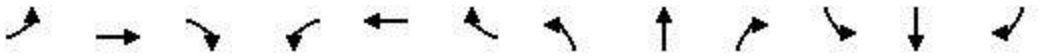
Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	2	26	5	1	27
Future Vol, veh/h	10	2	26	5	1	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	56	56	78	78
Heavy Vehicles, %	0	0	0	4	8	0
Mvmt Flow	20	4	46	9	1	35

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	88	51	0	0	55	0
Stage 1	51	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.18	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.272	-
Pot Cap-1 Maneuver	918	1023	-	-	1512	-
Stage 1	977	-	-	-	-	-
Stage 2	990	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	917	1023	-	-	1512	-
Mov Cap-2 Maneuver	917	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	990	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.96	0	0.26
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	933	64	-
HCM Lane V/C Ratio	-	-	0.026	0.001	-
HCM Ctrl Dly (s/v)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	9	8	16	19	22	0	0	0	6	19	13
Future Volume (Veh/h)	7	9	8	16	19	22	0	0	0	6	19	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.75	0.75	0.75	0.25	0.25	0.25	0.86	0.86	0.86
Hourly flow rate (vph)	10	13	12	21	25	29	0	0	0	7	22	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	85	44	30	62	51	0	37			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85	44	30	62	51	0	37			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	98	99	98	97	97	100			100		
cM capacity (veh/h)	859	843	1051	913	841	1091	1587			1630		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	35	75	44
Volume Left	10	21	7
Volume Right	12	29	15
cSH	910	946	1630
Volume to Capacity	0.04	0.08	0.00*
Queue Length 95th (ft)	3	6	0
Control Delay (s/veh)	9.1	9.1	1.2
Lane LOS	A	A	A
Approach Delay (s/veh)	9.1	9.1	1.2
Approach LOS	A	A	

Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	14.1%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	28	5	161	17	11	251
Future Volume (veh/h)	28	5	161	17	11	251
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1950	1783	1904	1874	1950	1874
Adj Flow Rate, veh/h	30	5	424	45	15	335
Peak Hour Factor	0.92	0.92	0.38	0.38	0.75	0.75
Percent Heavy Veh, %	0	11	3	5	0	5
Cap, veh/h	234	39	1172	124	78	1256
Arrive On Green	0.15	0.15	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1523	254	1692	180	29	1814
Grp Volume(v), veh/h	36	0	0	469	350	0
Grp Sat Flow(s),veh/h/ln	1828	0	0	1872	1843	0
Q Serve(g_s), s	1.1	0.0	0.0	6.7	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	6.7	4.6	0.0
Prop In Lane	0.83	0.14		0.10	0.04	
Lane Grp Cap(c), veh/h	281	0	0	1296	1333	0
V/C Ratio(X)	0.13	0.00	0.00	0.36	0.26	0.00
Avail Cap(c_a), veh/h	281	0	0	1296	1333	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.7	0.0	0.0	4.1	3.8	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.8	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	2.1	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	24.7	0.0	0.0	4.9	4.3	0.0
LnGrp LOS	C			A	A	
Approach Vol, veh/h	36		469			350
Approach Delay, s/veh	24.7		4.9			4.3
Approach LOS	C		A			A

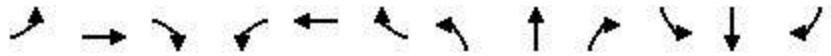
Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		50.0				50.0	15.0
Change Period (Y+Rc), s		5.0				5.0	5.0
Max Green Setting (Gmax), s		45.0				45.0	10.0
Max Q Clear Time (g_c+I1), s		0.0				0.0	0.0
Green Ext Time (p_c), s		0.0				0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	5.5
HCM 7th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	155	30	46	182	57	34	128	31	28	230	26
Future Volume (veh/h)	9	155	30	46	182	57	34	128	31	28	230	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	1920	1904	1920	1935	1950	1859	1798	1889	1889	1904	1950
Adj Flow Rate, veh/h	11	189	37	53	212	66	42	160	39	37	307	35
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.80	0.80	0.80	0.75	0.75	0.75
Percent Heavy Veh, %	0	2	3	2	1	0	6	10	4	4	3	0
Cap, veh/h	62	466	88	115	372	107	172	621	142	112	856	93
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	31	1525	288	185	1218	349	205	1118	255	103	1540	167
Grp Volume(v), veh/h	237	0	0	331	0	0	241	0	0	379	0	0
Grp Sat Flow(s),veh/h/ln	1844	0	0	1752	0	0	1578	0	0	1810	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	11.2	0.0	0.0	5.1	0.0	0.0	8.1	0.0	0.0
Prop In Lane	0.05		0.16	0.16		0.20	0.17		0.16	0.10		0.09
Lane Grp Cap(c), veh/h	616	0	0	593	0	0	936	0	0	1061	0	0
V/C Ratio(X)	0.38	0.00	0.00	0.56	0.00	0.00	0.26	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	616	0	0	593	0	0	936	0	0	1061	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	21.1	0.0	0.0	8.2	0.0	0.0	8.9	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	3.8	0.0	0.0	0.7	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	0.0	5.1	0.0	0.0	1.9	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.7	0.0	0.0	24.9	0.0	0.0	8.9	0.0	0.0	9.9	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		237			331			241			379	
Approach Delay, s/veh		21.7			24.9			8.9			9.9	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	45.0	27.0	45.0	27.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	40.0	22.0	40.0	22.0
Max Q Clear Time (g_c+I1), s	7.1	9.3	10.1	13.2
Green Ext Time (p_c), s	1.7	1.1	2.6	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.2
HCM 7th LOS	B

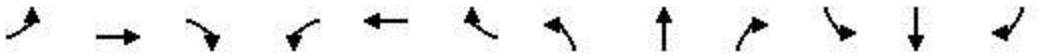


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (veh/h)	21	220	11	23	306	37	31	204	127	26	208	24
Future Volume (veh/h)	21	220	11	23	306	37	31	204	127	26	208	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	1920	1950	1950	1920	1828	1904	1859	1950	1828	1889	1950
Adj Flow Rate, veh/h	27	282	14	24	326	39	34	224	140	34	270	31
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	0	2	0	0	2	8	3	6	0	8	4	0
Cap, veh/h	100	847	40	89	806	93	91	340	198	99	512	56
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	70	1693	80	50	1612	185	78	1019	595	98	1536	167
Grp Volume(v), veh/h	323	0	0	389	0	0	398	0	0	335	0	0
Grp Sat Flow(s),veh/h/ln	1843	0	0	1848	0	0	1691	0	0	1801	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.1	0.0	0.0	7.8	0.0	0.0	12.0	0.0	0.0	8.8	0.0	0.0
Prop In Lane	0.08		0.04	0.06		0.10	0.09		0.35	0.10		0.09
Lane Grp Cap(c), veh/h	987	0	0	988	0	0	629	0	0	667	0	0
V/C Ratio(X)	0.33	0.00	0.00	0.39	0.00	0.00	0.63	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	1016	0	0	1018	0	0	876	0	0	923	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.0	0.0	0.0	9.4	0.0	0.0	17.3	0.0	0.0	16.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	2.7	0.0	0.0	4.4	0.0	0.0	3.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.2	0.0	0.0	9.7	0.0	0.0	18.3	0.0	0.0	16.9	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		323			389			398			335	
Approach Delay, s/veh		9.2			9.7			18.3			16.9	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	25.0	35.0	25.0	35.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	29.0	31.0	29.0	31.0
Max Q Clear Time (g_c+I1), s	14.0	8.1	10.8	9.8
Green Ext Time (p_c), s	2.3	1.3	2.0	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	13.6
HCM 7th LOS	B

Appendix C:
2027 No-Build Conditions Analysis and LOS Summaries



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	81	15	9	96	77	32	209	7	58	85	53
Future Volume (veh/h)	125	81	15	9	96	77	32	209	7	58	85	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1828	1874	1844	1950	1920	1859	1889	1874	1737	1920	1798	1828
Adj Flow Rate, veh/h	149	96	18	16	171	138	34	220	7	62	90	56
Peak Hour Factor	0.84	0.84	0.84	0.56	0.56	0.56	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	8	5	7	0	2	6	4	5	14	2	10	8
Cap, veh/h	230	118	19	73	235	181	144	852	26	274	382	213
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	584	505	80	42	1009	775	142	1597	48	367	716	399
Grp Volume(v), veh/h	263	0	0	325	0	0	261	0	0	208	0	0
Grp Sat Flow(s),veh/h/ln	1169	0	0	1826	0	0	1788	0	0	1482	0	0
Q Serve(g_s), s	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.4	0.0	0.0	10.1	0.0	0.0	4.6	0.0	0.0	3.9	0.0	0.0
Prop In Lane	0.57		0.07	0.05		0.42	0.13		0.03	0.30		0.27
Lane Grp Cap(c), veh/h	367	0	0	489	0	0	1021	0	0	869	0	0
V/C Ratio(X)	0.72	0.00	0.00	0.66	0.00	0.00	0.26	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	367	0	0	489	0	0	1021	0	0	869	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	21.5	0.0	0.0	7.6	0.0	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	6.6	0.0	0.0	3.4	0.0	0.0	0.6	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	0.0	4.5	0.0	0.0	1.7	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.3	0.0	0.0	24.9	0.0	0.0	8.2	0.0	0.0	8.1	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		263			325			261			208	
Approach Delay, s/veh		29.3			24.9			8.2			8.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.0	21.0	39.0	21.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	32.0	14.0	32.0	14.0
Max Q Clear Time (g_c+I1), s	6.6	15.4	5.9	12.1
Green Ext Time (p_c), s	1.1	0.0	0.9	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	138	12	1	171	0	14	0	0	0	0	0
Future Vol, veh/h	0	138	12	1	171	0	14	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	52	52	52	70	70	70	92	92	92
Heavy Vehicles, %	1	0	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	159	14	2	329	0	20	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	41	1	120	41	-	1	0	0	0	0	0
Stage 1	-	1	-	40	40	-	-	-	-	-	-	-
Stage 2	-	40	-	80	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.5	6.2	7.1	6.51	-	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	5.5	-	6.1	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.5	-	6.1	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	-	4	3.3	3.5	4.009	-	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	855	1089	860	853	0	1635	-	-	-	-	-
Stage 1	0	899	-	980	864	0	-	-	-	-	-	-
Stage 2	0	866	-	933	897	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	844	1089	682	842	-	1635	-	-	-	-	-
Mov Cap-2 Maneuver	-	844	-	682	842	-	-	-	-	-	-	-
Stage 1	-	899	-	968	853	-	-	-	-	-	-	-
Stage 2	-	855	-	759	897	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.23	12.02	7.23	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1635	-	-	860	841	-	-	-
HCM Lane V/C Ratio	0.012	-	-	0.201	0.393	-	-	-
HCM Ctrl Dly (s/v)	7.2	0	-	10.2	12	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	1.9	-	-	-

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	125	2	5	187	20	1	5	0	4	0	6
Future Vol, veh/h	6	125	2	5	187	20	1	5	0	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	54	54	54	38	38	38	63	63	63
Heavy Vehicles, %	0	0	0	0	2	0	1	0	0	0	0	0
Mvmt Flow	7	152	2	9	346	37	3	13	0	6	0	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	209	36	5	107	41	13	10	0	0	13	0	0
Stage 1	17	17	-	18	18	-	-	-	-	-	-	-
Stage 2	192	18	-	89	22	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	753	860	1084	877	851	1073	1617	-	-	1619	-	-
Stage 1	1007	885	-	1006	880	-	-	-	-	-	-	-
Stage 2	815	884	-	924	877	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	428	856	1084	715	847	1073	1617	-	-	1619	-	-
Mov Cap-2 Maneuver	428	856	-	715	847	-	-	-	-	-	-	-
Stage 1	1003	881	-	1004	879	-	-	-	-	-	-	-
Stage 2	476	883	-	759	873	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.46	12.65	1.21	2.89
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	300	-	-	821	860	600	-	-
HCM Lane V/C Ratio	0.002	-	-	0.197	0.456	0.004	-	-
HCM Ctrl Dly (s/v)	7.2	0	-	10.5	12.7	7.2	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	2.4	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	2	59	201	11	19
Future Vol, veh/h	125	2	59	201	11	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	47	47	83	83
Heavy Vehicles, %	2	0	2	4	0	0
Mvmt Flow	156	3	126	428	13	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	159	0	836	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	-	-	4.12	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1421	-	340	893
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	508	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1421	-	300	893
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.77	12.47
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	518	-	-	408	-
HCM Lane V/C Ratio	0.07	-	-	0.088	-
HCM Ctrl Dly (s/v)	12.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.3	-

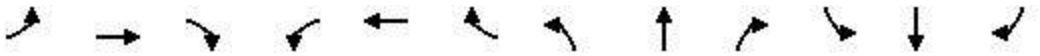
Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	2	19	9	1	18
Future Vol, veh/h	4	2	19	9	1	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	66	66	79	79
Heavy Vehicles, %	25	0	0	5	10	10
Mvmt Flow	5	3	29	14	1	23

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	61	36	0	0	42	0
Stage 1	36	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.2	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.29	-
Pot Cap-1 Maneuver	891	1043	-	-	1516	-
Stage 1	931	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	890	1043	-	-	1516	-
Mov Cap-2 Maneuver	890	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	940	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.88	0	0.39
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	936	95	-
HCM Lane V/C Ratio	-	-	0.009	0.001	-
HCM Ctrl Dly (s/v)	-	-	8.9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	7	4	23	37	12	0	0	0	8	6	6
Future Volume (Veh/h)	6	7	4	23	37	12	0	0	0	8	6	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.43	0.43	0.43	0.25	0.25	0.25	0.71	0.71	0.71
Hourly flow rate (vph)	8	10	6	53	86	28	0	0	0	11	8	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	105	34	12	45	38	0	16			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	105	34	12	45	38	0	16			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	99	94	90	97	100			99		
cM capacity (veh/h)	786	857	1072	938	847	1082	1615			1636		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	167	27
Volume Left	8	53	11
Volume Right	6	28	8
cSH	874	908	1636
Volume to Capacity	0.03	0.18	0.00*
Queue Length 95th (ft)	2	17	1
Control Delay (s/veh)	9.2	9.9	3.0
Lane LOS	A	A	A
Approach Delay (s/veh)	9.2	9.9	3.0
Approach LOS	A	A	

Intersection Summary				
Average Delay	8.9			
Intersection Capacity Utilization	14.9%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	36	11	231	14	4	129
Future Volume (veh/h)	36	11	231	14	4	129
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1859	1813	1844	1844	1935	1767
Adj Flow Rate, veh/h	88	27	278	17	6	198
Peak Hour Factor	0.41	0.41	0.83	0.83	0.65	0.65
Percent Heavy Veh, %	6	9	7	7	1	12
Cap, veh/h	201	62	1190	73	67	1206
Arrive On Green	0.15	0.15	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1306	401	1719	105	14	1742
Grp Volume(v), veh/h	116	0	0	295	204	0
Grp Sat Flow(s),veh/h/ln	1721	0	0	1825	1756	0
Q Serve(g_s), s	4.0	0.0	0.0	3.9	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	0.0	3.9	2.6	0.0
Prop In Lane	0.76	0.23		0.06	0.03	
Lane Grp Cap(c), veh/h	265	0	0	1263	1273	0
V/C Ratio(X)	0.44	0.00	0.00	0.23	0.16	0.00
Avail Cap(c_a), veh/h	265	0	0	1263	1273	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.0	0.0	0.0	3.7	3.5	0.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	0.4	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.2	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.1	0.0	0.0	4.1	3.7	0.0
LnGrp LOS	C			A	A	
Approach Vol, veh/h	116		295			204
Approach Delay, s/veh	30.1		4.1			3.7
Approach LOS	C		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	50.0			50.0	15.0
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	45.0			45.0	10.0
Max Q Clear Time (g_c+I1), s	0.0			0.0	0.0
Green Ext Time (p_c), s	0.0			0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	8.9
HCM 7th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	147	26	13	42	15	17	195	21	13	120	17
Future Volume (veh/h)	9	147	26	13	42	15	17	195	21	13	120	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	1889	1767	1813	1874	1859	1859	1844	1874	1889	1783	1950
Adj Flow Rate, veh/h	10	169	30	16	51	18	19	217	23	22	207	29
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.90	0.90	0.90	0.58	0.58	0.58
Percent Heavy Veh, %	0	4	12	9	5	6	6	7	5	4	11	0
Cap, veh/h	62	469	80	120	346	109	89	861	87	98	792	106
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	31	1535	262	198	1132	357	64	1550	157	78	1426	191
Grp Volume(v), veh/h	209	0	0	85	0	0	259	0	0	258	0	0
Grp Sat Flow(s),veh/h/ln	1828	0	0	1687	0	0	1772	0	0	1695	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.4	0.0	0.0	2.5	0.0	0.0	5.3	0.0	0.0	5.5	0.0	0.0
Prop In Lane	0.05		0.14	0.19		0.21	0.07		0.09	0.09		0.11
Lane Grp Cap(c), veh/h	611	0	0	575	0	0	1038	0	0	996	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.15	0.00	0.00	0.25	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	611	0	0	575	0	0	1038	0	0	996	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.6	0.0	0.0	18.2	0.0	0.0	8.3	0.0	0.0	8.3	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.5	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	1.1	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	0.0	0.0	18.8	0.0	0.0	8.9	0.0	0.0	9.0	0.0	0.0
LnGrp LOS	C			B			A			A		
Approach Vol, veh/h		209			85			259			258	
Approach Delay, s/veh		21.1			18.8			8.9			9.0	
Approach LOS		C			B			A			A	

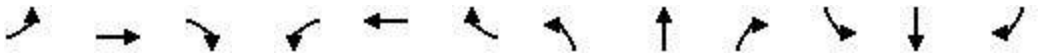
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	45.0	27.0	45.0	27.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	40.0	22.0	40.0	22.0
Max Q Clear Time (g_c+I1), s	7.3	8.4	7.5	4.5
Green Ext Time (p_c), s	1.8	0.9	1.7	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	13.1
HCM 7th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	16	259	8	22	237	40	18	229	97	18	97	5
Future Volume (veh/h)	16	259	8	22	237	40	18	229	97	18	97	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1859	1859	1950	1813	1813	1844	1859	1859	1844	1859	1828	1646
Adj Flow Rate, veh/h	19	312	10	23	249	42	20	254	108	24	128	7
Peak Hour Factor	0.83	0.83	0.83	0.95	0.95	0.95	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	6	6	0	9	9	7	6	6	7	6	8	20
Cap, veh/h	83	862	27	91	721	116	77	404	165	114	503	25
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	40	1725	53	54	1442	231	41	1213	494	135	1508	76
Grp Volume(v), veh/h	341	0	0	314	0	0	382	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1818	0	0	1727	0	0	1748	0	0	1719	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.0	6.5	0.0	0.0	11.0	0.0	0.0	3.8	0.0	0.0
Prop In Lane	0.06		0.03	0.07		0.13	0.05		0.28	0.15		0.04
Lane Grp Cap(c), veh/h	973	0	0	928	0	0	646	0	0	642	0	0
V/C Ratio(X)	0.35	0.00	0.00	0.34	0.00	0.00	0.59	0.00	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	1002	0	0	956	0	0	904	0	0	882	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.2	0.0	0.0	9.1	0.0	0.0	17.0	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.0	0.9	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	2.1	0.0	0.0	4.2	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.4	0.0	0.0	9.3	0.0	0.0	17.9	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		341			314			382			159	
Approach Delay, s/veh		9.4			9.3			17.9			14.8	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	25.0	35.0	25.0	35.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	29.0	31.0	29.0	31.0
Max Q Clear Time (g_c+I1), s	13.0	8.8	5.8	8.5
Green Ext Time (p_c), s	2.2	1.4	0.9	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	12.8
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	68	30	8	69	44	37	122	5	45	216	67
Future Volume (veh/h)	97	68	30	8	69	44	37	122	5	45	216	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1874	1904	1904	1752	1920	1950	1859	1828	1950	1920	1904	1783
Adj Flow Rate, veh/h	128	89	39	10	88	56	41	136	6	61	292	91
Peak Hour Factor	0.76	0.76	0.76	0.78	0.78	0.78	0.90	0.90	0.90	0.74	0.74	0.74
Percent Heavy Veh, %	5	3	3	13	2	0	6	8	0	2	3	11
Cap, veh/h	235	120	47	77	208	124	229	714	29	158	703	203
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	742	635	247	50	1103	659	268	1264	52	152	1246	360
Grp Volume(v), veh/h	256	0	0	154	0	0	183	0	0	444	0	0
Grp Sat Flow(s),veh/h/ln	1623	0	0	1812	0	0	1584	0	0	1758	0	0
Q Serve(g_s), s	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	4.3	0.0	0.0	2.8	0.0	0.0	7.9	0.0	0.0
Prop In Lane	0.50		0.15	0.06		0.36	0.22		0.03	0.14		0.20
Lane Grp Cap(c), veh/h	401	0	0	409	0	0	972	0	0	1064	0	0
V/C Ratio(X)	0.64	0.00	0.00	0.38	0.00	0.00	0.19	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	487	0	0	511	0	0	972	0	0	1064	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.8	0.0	0.0	20.4	0.0	0.0	6.0	0.0	0.0	7.1	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	1.8	0.0	0.0	1.0	0.0	0.0	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.8	0.0	0.0	21.0	0.0	0.0	6.4	0.0	0.0	8.3	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		256			154			183			444	
Approach Delay, s/veh		23.8			21.0			6.4			8.3	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.0		17.7		39.0		17.7				
Change Period (Y+Rc), s		7.0		7.0		7.0		7.0				
Max Green Setting (Gmax), s		32.0		14.0		32.0		14.0				
Max Q Clear Time (g_c+I1), s		4.8		10.3		9.9		6.3				
Green Ext Time (p_c), s		0.8		0.4		2.0		0.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	13.7
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	86	23	2	95	0	28	0	1	0	0	0
Future Vol, veh/h	0	86	23	2	95	0	28	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	92	92	92	93	93	93	92	92	92
Heavy Vehicles, %	2	3	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	0	102	27	2	103	0	30	0	1	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	62	1	113	62	-	1	0	0	1	0	0
Stage 1	-	1	-	61	61	-	-	-	-	-	-	-
Stage 2	-	61	-	52	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.53	6.2	7.1	6.51	-	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.53	-	6.1	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.53	-	6.1	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.027	3.3	3.5	4.009	-	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	827	1089	869	831	0	1635	-	-	1622	-	-
Stage 1	0	893	-	956	846	0	-	-	-	-	-	-
Stage 2	0	842	-	966	897	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	811	1089	728	816	-	1635	-	-	1622	-	-
Mov Cap-2 Maneuver	-	811	-	728	816	-	-	-	-	-	-	-
Stage 1	-	893	-	938	831	-	-	-	-	-	-	-
Stage 2	-	826	-	833	897	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.95	10.08	6.99	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	857	814	1622	-	-
HCM Lane V/C Ratio	0.018	-	-	0.151	0.13	-	-	-
HCM Ctrl Dly (s/v)	7.2	0	-	9.9	10.1	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.4	0	-	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	77	3	2	65	2	2	0	2	35	11	37
Future Vol, veh/h	5	77	3	2	65	2	2	0	2	35	11	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	71	71	71	33	33	33	84	84	84
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	104	4	3	92	3	6	0	6	42	13	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	176	137	35	164	156	3	57	0	0	6	0	0
Stage 1	118	118	-	15	15	-	-	-	-	-	-	-
Stage 2	58	18	-	148	140	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.51	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.009	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	790	756	1044	806	740	1087	1560	-	-	1628	-	-
Stage 1	891	800	-	1010	887	-	-	-	-	-	-	-
Stage 2	959	882	-	859	784	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	670	733	1044	671	718	1087	1560	-	-	1628	-	-
Mov Cap-2 Maneuver	670	733	-	671	718	-	-	-	-	-	-	-
Stage 1	867	778	-	1006	883	-	-	-	-	-	-	-
Stage 2	854	879	-	722	763	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.79	10.75	3.66	3.07
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	750	-	-	737	723	658	-	-
HCM Lane V/C Ratio	0.004	-	-	0.156	0.134	0.026	-	-
HCM Ctrl Dly (s/v)	7.3	0	-	10.8	10.7	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	107	1	26	78	4	12
Future Vol, veh/h	107	1	26	78	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	77	77	67	67
Heavy Vehicles, %	3	0	0	1	0	0
Mvmt Flow	145	1	34	101	6	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	146	0	314	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1448	-	683	907
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	866	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1448	-	666	907
Mov Cap-2 Maneuver	-	-	-	-	666	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	844	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.89	9.46
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	832	-	-	450	-
HCM Lane V/C Ratio	0.029	-	-	0.023	-
HCM Ctrl Dly (s/v)	9.5	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

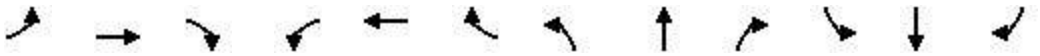
Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	2	27	5	1	28
Future Vol, veh/h	10	2	27	5	1	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	56	56	78	78
Heavy Vehicles, %	0	0	0	4	8	0
Mvmt Flow	20	4	48	9	1	36

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	91	53	0	0	57	0
Stage 1	53	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.18	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.272	-
Pot Cap-1 Maneuver	914	1021	-	-	1510	-
Stage 1	975	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	913	1021	-	-	1510	-
Mov Cap-2 Maneuver	913	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.98	0	0.25
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	930	62	-
HCM Lane V/C Ratio	-	-	0.026	0.001	-
HCM Ctrl Dly (s/v)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	9	8	16	19	22	0	0	0	6	19	13
Future Volume (Veh/h)	7	9	8	16	19	22	0	0	0	6	19	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.75	0.75	0.75	0.25	0.25	0.25	0.86	0.86	0.86
Hourly flow rate (vph)	10	13	12	21	25	29	0	0	0	7	22	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	85	44	30	62	51	0	37			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85	44	30	62	51	0	37			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	98	99	98	97	97	100			100		
cM capacity (veh/h)	859	843	1051	913	841	1091	1587			1630		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	35	75	44
Volume Left	10	21	7
Volume Right	12	29	15
cSH	910	946	1630
Volume to Capacity	0.04	0.08	0.00*
Queue Length 95th (ft)	3	6	0
Control Delay (s/veh)	9.1	9.1	1.2
Lane LOS	A	A	A
Approach Delay (s/veh)	9.1	9.1	1.2
Approach LOS	A	A	

Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	14.1%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	5	164	17	11	256
Future Volume (veh/h)	29	5	164	17	11	256
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1950	1783	1904	1874	1950	1874
Adj Flow Rate, veh/h	32	5	432	45	15	341
Peak Hour Factor	0.92	0.92	0.38	0.38	0.75	0.75
Percent Heavy Veh, %	0	11	3	5	0	5
Cap, veh/h	237	37	1174	122	77	1257
Arrive On Green	0.15	0.15	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1541	241	1696	177	28	1815
Grp Volume(v), veh/h	38	0	0	477	356	0
Grp Sat Flow(s),veh/h/ln	1830	0	0	1873	1843	0
Q Serve(g_s), s	1.2	0.0	0.0	6.8	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	6.8	4.7	0.0
Prop In Lane	0.84	0.13		0.09	0.04	
Lane Grp Cap(c), veh/h	281	0	0	1296	1334	0
V/C Ratio(X)	0.13	0.00	0.00	0.37	0.27	0.00
Avail Cap(c_a), veh/h	281	0	0	1296	1334	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.8	0.0	0.0	4.1	3.8	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.8	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	2.1	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	24.8	0.0	0.0	4.9	4.3	0.0
LnGrp LOS	C			A	A	
Approach Vol, veh/h	38		477			356
Approach Delay, s/veh	24.8		4.9			4.3
Approach LOS	C		A			A

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		50.0				50.0	15.0
Change Period (Y+Rc), s		5.0				5.0	5.0
Max Green Setting (Gmax), s		45.0				45.0	10.0
Max Q Clear Time (g_c+I1), s		0.0				0.0	0.0
Green Ext Time (p_c), s		0.0				0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	5.5
HCM 7th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	155	30	46	182	57	34	128	31	28	230	26
Future Volume (veh/h)	9	155	30	46	182	57	34	128	31	28	230	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	1920	1904	1920	1935	1950	1859	1798	1889	1889	1904	1950
Adj Flow Rate, veh/h	11	189	37	53	212	66	42	160	39	37	307	35
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.80	0.80	0.80	0.75	0.75	0.75
Percent Heavy Veh, %	0	2	3	2	1	0	6	10	4	4	3	0
Cap, veh/h	62	466	88	115	372	107	172	621	142	112	856	93
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	31	1525	288	185	1218	349	205	1118	255	103	1540	167
Grp Volume(v), veh/h	237	0	0	331	0	0	241	0	0	379	0	0
Grp Sat Flow(s),veh/h/ln	1844	0	0	1752	0	0	1578	0	0	1810	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	11.2	0.0	0.0	5.1	0.0	0.0	8.1	0.0	0.0
Prop In Lane	0.05		0.16	0.16		0.20	0.17		0.16	0.10		0.09
Lane Grp Cap(c), veh/h	616	0	0	593	0	0	936	0	0	1061	0	0
V/C Ratio(X)	0.38	0.00	0.00	0.56	0.00	0.00	0.26	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	616	0	0	593	0	0	936	0	0	1061	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	21.1	0.0	0.0	8.2	0.0	0.0	8.9	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	3.8	0.0	0.0	0.7	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	0.0	5.1	0.0	0.0	1.9	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.7	0.0	0.0	24.9	0.0	0.0	8.9	0.0	0.0	9.9	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		237			331			241			379	
Approach Delay, s/veh		21.7			24.9			8.9			9.9	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	45.0	27.0	45.0	27.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	40.0	22.0	40.0	22.0
Max Q Clear Time (g_c+I1), s	7.1	9.3	10.1	13.2
Green Ext Time (p_c), s	1.7	1.1	2.6	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.2
HCM 7th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (veh/h)	21	224	11	23	312	38	32	208	130	27	212	24
Future Volume (veh/h)	21	224	11	23	312	38	32	208	130	27	212	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	1920	1950	1950	1920	1828	1904	1859	1950	1828	1889	1950
Adj Flow Rate, veh/h	27	287	14	24	332	40	35	229	143	35	275	31
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	0	2	0	0	2	8	3	6	0	8	4	0
Cap, veh/h	99	848	39	88	806	93	91	339	198	100	513	55
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	69	1696	79	49	1612	187	79	1018	594	101	1539	164
Grp Volume(v), veh/h	328	0	0	396	0	0	407	0	0	341	0	0
Grp Sat Flow(s),veh/h/ln	1843	0	0	1848	0	0	1691	0	0	1804	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	0.0	8.0	0.0	0.0	12.4	0.0	0.0	9.0	0.0	0.0
Prop In Lane	0.08		0.04	0.06		0.10	0.09		0.35	0.10		0.09
Lane Grp Cap(c), veh/h	987	0	0	987	0	0	629	0	0	667	0	0
V/C Ratio(X)	0.33	0.00	0.00	0.40	0.00	0.00	0.65	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	1016	0	0	1017	0	0	875	0	0	923	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.1	0.0	0.0	9.5	0.0	0.0	17.4	0.0	0.0	16.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	2.8	0.0	0.0	4.5	0.0	0.0	3.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.3	0.0	0.0	9.8	0.0	0.0	18.5	0.0	0.0	16.9	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		328			396			407			341	
Approach Delay, s/veh		9.3			9.8			18.5			16.9	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	25.0	35.0	25.0	35.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	29.0	31.0	29.0	31.0
Max Q Clear Time (g_c+I1), s	14.4	8.2	11.0	10.0
Green Ext Time (p_c), s	2.3	1.3	2.0	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	13.7
HCM 7th LOS	B

Appendix D:
Trip Generation

Land Use: 760
Research and Development Center

Description

A research and development center is a facility or group of facilities devoted almost exclusively to research and development activities. The types of businesses included in this land use category vary significantly. Research and development centers may include offices and light fabrication areas.

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in Alberta (CAN), Iowa, Montana, and Pennsylvania.

Source Numbers

630, 723, 911, 973

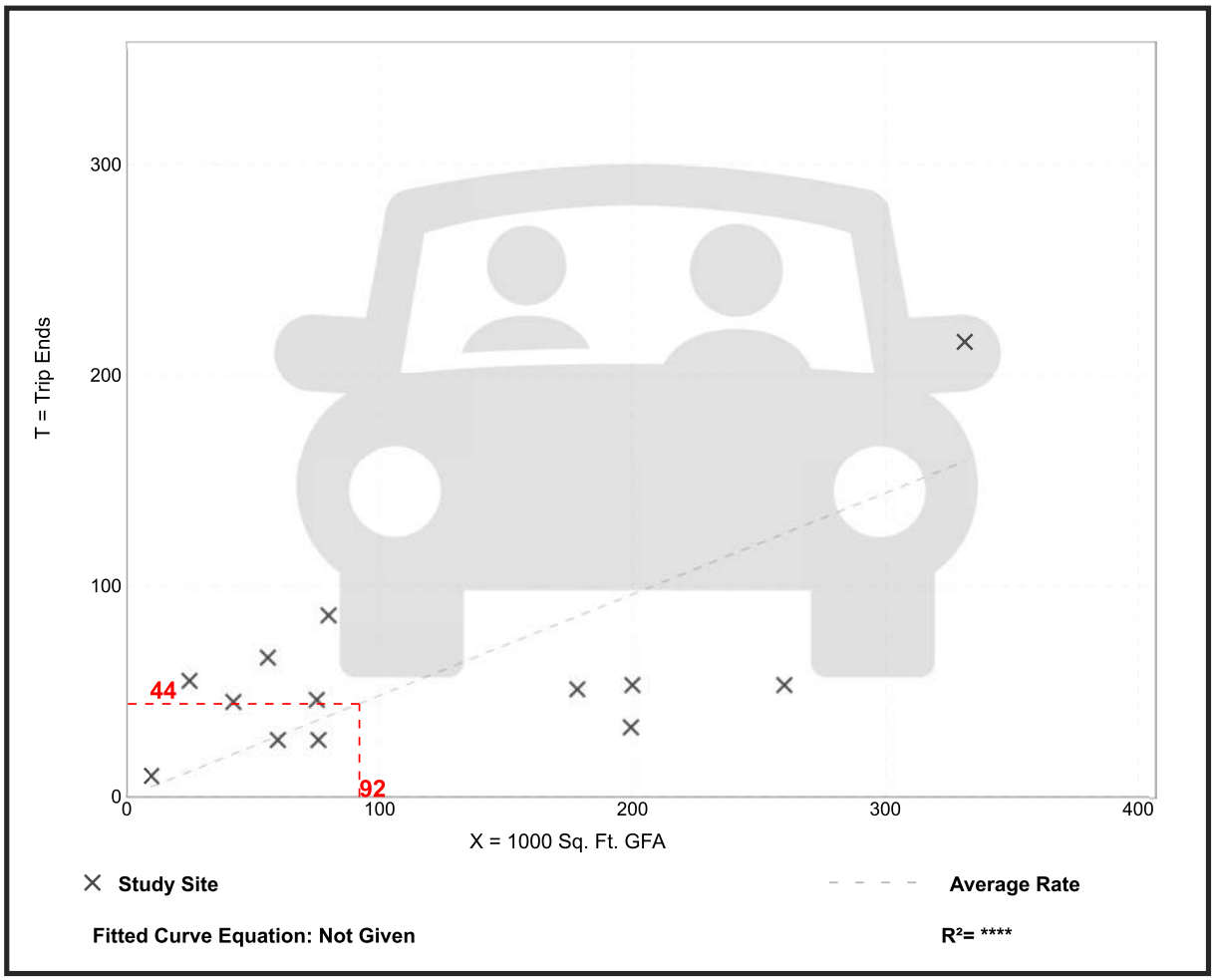
Research and Development Center
(760)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	13
Avg. 1000 Sq. Ft. GFA:	123
Directional Distribution:	78% entering, 22% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.48	0.17 - 2.19	0.38

Data Plot and Equation



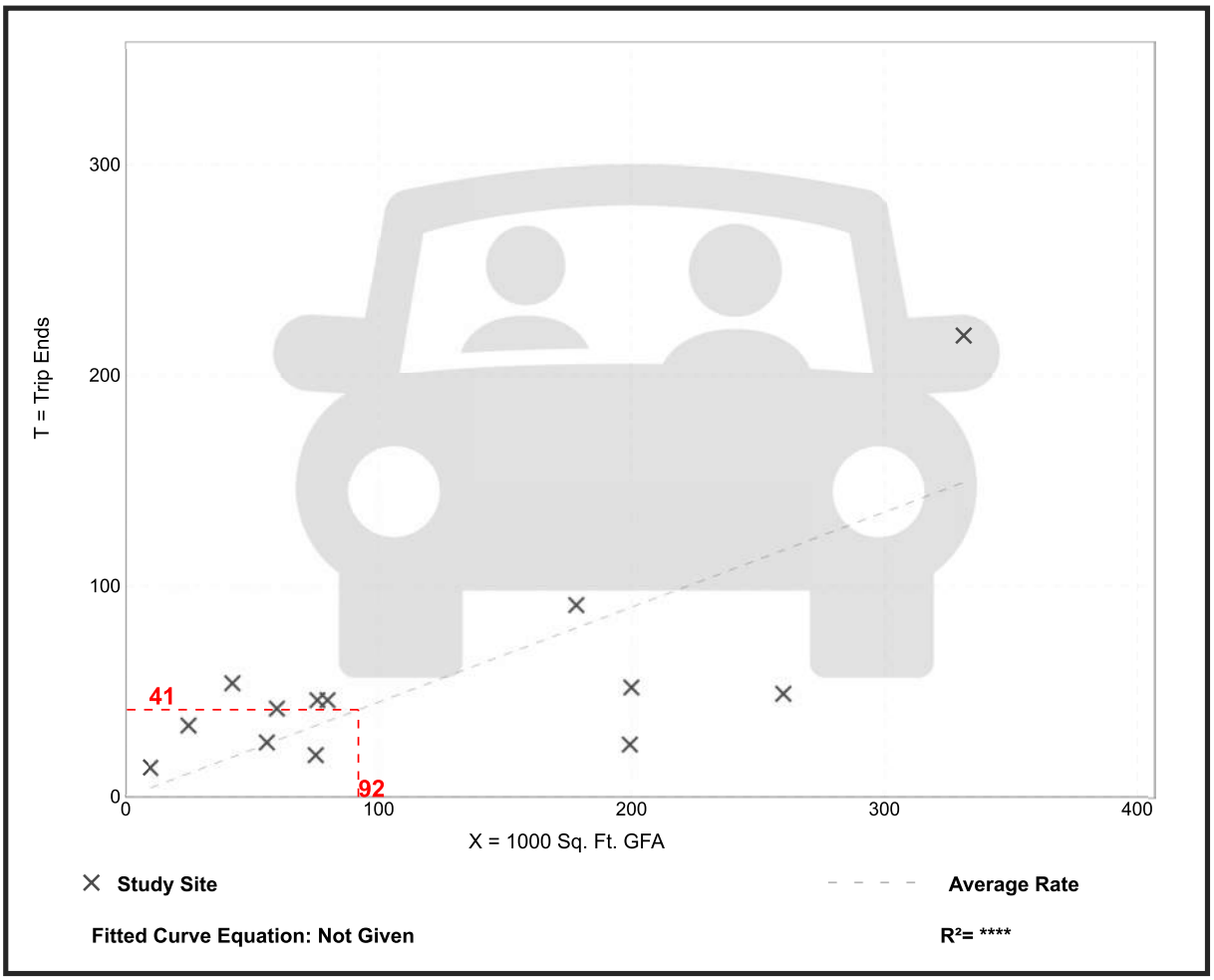
Research and Development Center
(760)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	13
Avg. 1000 Sq. Ft. GFA:	123
Directional Distribution:	25% entering, 75% exiting

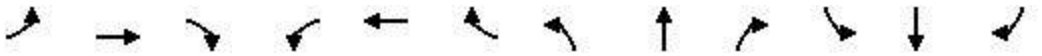
Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.45	0.13 - 1.40	0.30

Data Plot and Equation



Appendix E:
2027 Build Conditions Analysis and LOS Summaries



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	81	15	9	96	77	32	209	7	58	85	53
Future Volume (veh/h)	125	81	15	9	96	77	32	209	7	58	85	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1828	1874	1844	1950	1920	1859	1889	1874	1737	1920	1798	1828
Adj Flow Rate, veh/h	149	96	18	16	171	138	34	220	7	62	90	56
Peak Hour Factor	0.84	0.84	0.84	0.56	0.56	0.56	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	8	5	7	0	2	6	4	5	14	2	10	8
Cap, veh/h	230	118	19	73	235	181	144	852	26	274	382	213
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	584	505	80	42	1009	775	142	1597	48	367	716	399
Grp Volume(v), veh/h	263	0	0	325	0	0	261	0	0	208	0	0
Grp Sat Flow(s),veh/h/ln	1169	0	0	1826	0	0	1788	0	0	1482	0	0
Q Serve(g_s), s	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.4	0.0	0.0	10.1	0.0	0.0	4.6	0.0	0.0	3.9	0.0	0.0
Prop In Lane	0.57		0.07	0.05		0.42	0.13		0.03	0.30		0.27
Lane Grp Cap(c), veh/h	367	0	0	489	0	0	1021	0	0	869	0	0
V/C Ratio(X)	0.72	0.00	0.00	0.66	0.00	0.00	0.26	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	367	0	0	489	0	0	1021	0	0	869	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	21.5	0.0	0.0	7.6	0.0	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	6.6	0.0	0.0	3.4	0.0	0.0	0.6	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	0.0	4.5	0.0	0.0	1.7	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.3	0.0	0.0	24.9	0.0	0.0	8.2	0.0	0.0	8.1	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		263			325			261			208	
Approach Delay, s/veh		29.3			24.9			8.2			8.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.0		21.0		39.0		21.0				
Change Period (Y+Rc), s		7.0		7.0		7.0		7.0				
Max Green Setting (Gmax), s		32.0		14.0		32.0		14.0				
Max Q Clear Time (g_c+I1), s		6.6		15.4		5.9		12.1				
Green Ext Time (p_c), s		1.1		0.0		0.9		0.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	138	12	1	171	0	14	0	0	0	0	0
Future Vol, veh/h	0	138	12	1	171	0	14	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	52	52	52	70	70	70	92	92	92
Heavy Vehicles, %	1	0	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	159	14	2	329	0	20	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	41	1	120	41	-	1	0	0	0	0	0
Stage 1	-	1	-	40	40	-	-	-	-	-	-	-
Stage 2	-	40	-	80	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.5	6.2	7.1	6.51	-	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	5.5	-	6.1	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.5	-	6.1	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	-	4	3.3	3.5	4.009	-	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	855	1089	860	853	0	1635	-	-	-	-	-
Stage 1	0	899	-	980	864	0	-	-	-	-	-	-
Stage 2	0	866	-	933	897	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	844	1089	682	842	-	1635	-	-	-	-	-
Mov Cap-2 Maneuver	-	844	-	682	842	-	-	-	-	-	-	-
Stage 1	-	899	-	968	853	-	-	-	-	-	-	-
Stage 2	-	855	-	759	897	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.23	12.02	7.23	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1635	-	-	860	841	-	-	-
HCM Lane V/C Ratio	0.012	-	-	0.201	0.393	-	-	-
HCM Ctrl Dly (s/v)	7.2	0	-	10.2	12	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	1.9	-	-	-

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	125	2	5	187	20	1	5	0	4	0	6
Future Vol, veh/h	6	125	2	5	187	20	1	5	0	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	54	54	54	38	38	38	63	63	63
Heavy Vehicles, %	0	0	0	0	2	0	1	0	0	0	0	0
Mvmt Flow	7	152	2	9	346	37	3	13	0	6	0	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	209	36	5	107	41	13	10	0	0	13	0	0
Stage 1	17	17	-	18	18	-	-	-	-	-	-	-
Stage 2	192	18	-	89	22	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	753	860	1084	877	851	1073	1617	-	-	1619	-	-
Stage 1	1007	885	-	1006	880	-	-	-	-	-	-	-
Stage 2	815	884	-	924	877	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	428	856	1084	715	847	1073	1617	-	-	1619	-	-
Mov Cap-2 Maneuver	428	856	-	715	847	-	-	-	-	-	-	-
Stage 1	1003	881	-	1004	879	-	-	-	-	-	-	-
Stage 2	476	883	-	759	873	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.46	12.65	1.21	2.89
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	300	-	-	821	860	600	-	-
HCM Lane V/C Ratio	0.002	-	-	0.197	0.456	0.004	-	-
HCM Ctrl Dly (s/v)	7.2	0	-	10.5	12.7	7.2	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	2.4	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	2	59	201	11	19
Future Vol, veh/h	125	2	59	201	11	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	47	47	83	83
Heavy Vehicles, %	2	0	2	4	0	0
Mvmt Flow	156	3	126	428	13	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	159	0	836	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	-	-	4.12	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1421	-	340	893
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	508	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1421	-	300	893
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.77	12.47
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	518	-	-	408	-
HCM Lane V/C Ratio	0.07	-	-	0.088	-
HCM Ctrl Dly (s/v)	12.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.3	-

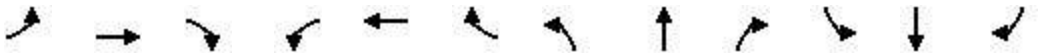
Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	2	19	9	1	18
Future Vol, veh/h	4	2	19	9	1	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	66	66	79	79
Heavy Vehicles, %	25	0	0	5	10	10
Mvmt Flow	5	3	29	14	1	23

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	61	36	0	0	42	0
Stage 1	36	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.2	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.29	-
Pot Cap-1 Maneuver	891	1043	-	-	1516	-
Stage 1	931	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	890	1043	-	-	1516	-
Mov Cap-2 Maneuver	890	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	940	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.88	0	0.39
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	936	95	-
HCM Lane V/C Ratio	-	-	0.009	0.001	-
HCM Ctrl Dly (s/v)	-	-	8.9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	7	4	23	37	12	0	0	0	8	6	6
Future Volume (Veh/h)	6	7	4	23	37	12	0	0	0	8	6	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.43	0.43	0.43	0.25	0.25	0.25	0.71	0.71	0.71
Hourly flow rate (vph)	8	10	6	53	86	28	0	0	0	11	8	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	105	34	12	45	38	0	16			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	105	34	12	45	38	0	16			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	99	94	90	97	100			99		
cM capacity (veh/h)	786	857	1072	938	847	1082	1615			1636		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	167	27
Volume Left	8	53	11
Volume Right	6	28	8
cSH	874	908	1636
Volume to Capacity	0.03	0.18	0.00*
Queue Length 95th (ft)	2	17	1
Control Delay (s/veh)	9.2	9.9	3.0
Lane LOS	A	A	A
Approach Delay (s/veh)	9.2	9.9	3.0
Approach LOS	A	A	

Intersection Summary				
Average Delay	8.9			
Intersection Capacity Utilization	14.9%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	36	11	231	14	4	129
Future Volume (veh/h)	36	11	231	14	4	129
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1859	1813	1844	1844	1935	1767
Adj Flow Rate, veh/h	88	27	278	17	6	198
Peak Hour Factor	0.41	0.41	0.83	0.83	0.65	0.65
Percent Heavy Veh, %	6	9	7	7	1	12
Cap, veh/h	201	62	1190	73	67	1206
Arrive On Green	0.15	0.15	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1306	401	1719	105	14	1742
Grp Volume(v), veh/h	116	0	0	295	204	0
Grp Sat Flow(s),veh/h/ln	1721	0	0	1825	1756	0
Q Serve(g_s), s	4.0	0.0	0.0	3.9	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	0.0	3.9	2.6	0.0
Prop In Lane	0.76	0.23		0.06	0.03	
Lane Grp Cap(c), veh/h	265	0	0	1263	1273	0
V/C Ratio(X)	0.44	0.00	0.00	0.23	0.16	0.00
Avail Cap(c_a), veh/h	265	0	0	1263	1273	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.0	0.0	0.0	3.7	3.5	0.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	0.4	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.2	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.1	0.0	0.0	4.1	3.7	0.0
LnGrp LOS	C			A	A	
Approach Vol, veh/h	116		295			204
Approach Delay, s/veh	30.1		4.1			3.7
Approach LOS	C		A			A

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		50.0				50.0	15.0
Change Period (Y+Rc), s		5.0				5.0	5.0
Max Green Setting (Gmax), s		45.0				45.0	10.0
Max Q Clear Time (g_c+I1), s		0.0				0.0	0.0
Green Ext Time (p_c), s		0.0				0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	8.9
HCM 7th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	147	26	13	42	15	17	195	21	13	120	17
Future Volume (veh/h)	9	147	26	13	42	15	17	195	21	13	120	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	1889	1767	1813	1874	1859	1859	1844	1874	1889	1783	1950
Adj Flow Rate, veh/h	10	169	30	16	51	18	19	217	23	22	207	29
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.90	0.90	0.90	0.58	0.58	0.58
Percent Heavy Veh, %	0	4	12	9	5	6	6	7	5	4	11	0
Cap, veh/h	62	469	80	120	346	109	89	861	87	98	792	106
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	31	1535	262	198	1132	357	64	1550	157	78	1426	191
Grp Volume(v), veh/h	209	0	0	85	0	0	259	0	0	258	0	0
Grp Sat Flow(s),veh/h/ln	1828	0	0	1687	0	0	1772	0	0	1695	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.4	0.0	0.0	2.5	0.0	0.0	5.3	0.0	0.0	5.5	0.0	0.0
Prop In Lane	0.05		0.14	0.19		0.21	0.07		0.09	0.09		0.11
Lane Grp Cap(c), veh/h	611	0	0	575	0	0	1038	0	0	996	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.15	0.00	0.00	0.25	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	611	0	0	575	0	0	1038	0	0	996	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.6	0.0	0.0	18.2	0.0	0.0	8.3	0.0	0.0	8.3	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.5	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	1.1	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	0.0	0.0	18.8	0.0	0.0	8.9	0.0	0.0	9.0	0.0	0.0
LnGrp LOS	C			B			A			A		
Approach Vol, veh/h		209			85			259			258	
Approach Delay, s/veh		21.1			18.8			8.9			9.0	
Approach LOS		C			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	45.0	27.0	45.0	27.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	40.0	22.0	40.0	22.0
Max Q Clear Time (g_c+I1), s	7.3	8.4	7.5	4.5
Green Ext Time (p_c), s	1.8	0.9	1.7	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	13.1
HCM 7th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	16	259	8	22	237	40	18	229	37	18	97	5
Future Volume (veh/h)	16	259	8	22	237	40	18	229	37	18	97	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1859	1859	1950	1813	1813	1844	1859	1859	1844	1859	1828	1646
Adj Flow Rate, veh/h	19	312	10	23	249	42	20	254	41	24	128	7
Peak Hour Factor	0.83	0.83	0.83	0.95	0.95	0.95	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	6	6	0	9	9	7	6	6	7	6	8	20
Cap, veh/h	83	862	27	91	721	116	81	502	78	114	501	25
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	40	1725	53	54	1442	231	50	1507	233	134	1502	75
Grp Volume(v), veh/h	341	0	0	314	0	0	315	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1818	0	0	1727	0	0	1790	0	0	1711	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.0	6.5	0.0	0.0	8.4	0.0	0.0	3.8	0.0	0.0
Prop In Lane	0.06		0.03	0.07		0.13	0.06		0.13	0.15		0.04
Lane Grp Cap(c), veh/h	973	0	0	928	0	0	661	0	0	639	0	0
V/C Ratio(X)	0.35	0.00	0.00	0.34	0.00	0.00	0.48	0.00	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	1002	0	0	956	0	0	924	0	0	883	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.2	0.0	0.0	9.1	0.0	0.0	16.1	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	2.1	0.0	0.0	3.2	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.4	0.0	0.0	9.3	0.0	0.0	16.7	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		341			314			315			159	
Approach Delay, s/veh		9.4			9.3			16.7			14.8	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	25.0	35.0	25.0	35.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	29.0	31.0	29.0	31.0
Max Q Clear Time (g_c+I1), s	10.4	8.8	5.8	8.5
Green Ext Time (p_c), s	1.8	1.4	0.9	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	12.2
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	4	10	20	14	6
Future Vol, veh/h	6	4	10	20	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	4	11	22	15	7

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	59	22	0	0	33	0
Stage 1	22	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	948	1055	-	-	1579	-
Stage 1	1001	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	939	1055	-	-	1579	-
Mov Cap-2 Maneuver	939	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	976	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.71	0	5.11
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	982	1260	-
HCM Lane V/C Ratio	-	-	0.011	0.01	-
HCM Ctrl Dly (s/v)	-	-	8.7	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	97	69	30	8	73	48	37	122	5	46	216	67
Future Volume (veh/h)	97	69	30	8	73	48	37	122	5	46	216	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1874	1904	1904	1752	1920	1950	1859	1828	1950	1920	1904	1783
Adj Flow Rate, veh/h	128	91	39	10	94	62	41	136	6	62	292	91
Peak Hour Factor	0.76	0.76	0.76	0.78	0.78	0.78	0.90	0.90	0.90	0.74	0.74	0.74
Percent Heavy Veh, %	5	3	3	13	2	0	6	8	0	2	3	11
Cap, veh/h	234	122	47	76	206	128	229	713	29	160	701	203
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	737	644	246	46	1088	676	268	1264	52	155	1242	359
Grp Volume(v), veh/h	258	0	0	166	0	0	183	0	0	445	0	0
Grp Sat Flow(s),veh/h/ln	1627	0	0	1811	0	0	1585	0	0	1756	0	0
Q Serve(g_s), s	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	0.0	4.7	0.0	0.0	2.8	0.0	0.0	7.9	0.0	0.0
Prop In Lane	0.50		0.15	0.06		0.37	0.22		0.03	0.14		0.20
Lane Grp Cap(c), veh/h	403	0	0	410	0	0	971	0	0	1063	0	0
V/C Ratio(X)	0.64	0.00	0.00	0.40	0.00	0.00	0.19	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	487	0	0	510	0	0	971	0	0	1063	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.8	0.0	0.0	20.5	0.0	0.0	6.0	0.0	0.0	7.1	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	1.9	0.0	0.0	1.0	0.0	0.0	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.9	0.0	0.0	21.2	0.0	0.0	6.4	0.0	0.0	8.3	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		258			166			183			445	
Approach Delay, s/veh		23.9			21.2			6.4			8.3	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.0	17.7	39.0	17.7
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	32.0	14.0	32.0	14.0
Max Q Clear Time (g_c+I1), s	4.8	10.4	9.9	6.7
Green Ext Time (p_c), s	0.8	0.4	2.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	13.8
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	88	23	2	103	0	28	0	1	0	0	0
Future Vol, veh/h	0	88	23	2	103	0	28	0	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	92	92	92	93	93	93	92	92	92
Heavy Vehicles, %	2	3	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	0	105	27	2	112	0	30	0	1	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	62	1	114	62	-	1	0	0	1	0	0
Stage 1	-	1	-	61	61	-	-	-	-	-	-	-
Stage 2	-	61	-	53	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.53	6.2	7.1	6.51	-	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.53	-	6.1	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.53	-	6.1	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.027	3.3	3.5	4.009	-	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	827	1089	868	831	0	1635	-	-	1622	-	-
Stage 1	0	893	-	956	846	0	-	-	-	-	-	-
Stage 2	0	842	-	964	897	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	811	1089	725	816	-	1635	-	-	1622	-	-
Mov Cap-2 Maneuver	-	811	-	725	816	-	-	-	-	-	-	-
Stage 1	-	893	-	938	831	-	-	-	-	-	-	-
Stage 2	-	826	-	830	897	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.97	10.14	6.99	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	857	814	1622	-	-
HCM Lane V/C Ratio	0.018	-	-	0.154	0.14	-	-	-
HCM Ctrl Dly (s/v)	7.2	0	-	10	10.1	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.5	0	-	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	77	3	2	65	2	2	0	2	35	11	37
Future Vol, veh/h	5	77	3	2	65	2	2	0	2	35	11	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	71	71	71	33	33	33	84	84	84
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	104	4	3	92	3	6	0	6	42	13	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	176	137	35	164	156	3	57	0	0	6	0	0
Stage 1	118	118	-	15	15	-	-	-	-	-	-	-
Stage 2	58	18	-	148	140	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.51	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.009	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	790	756	1044	806	740	1087	1560	-	-	1628	-	-
Stage 1	891	800	-	1010	887	-	-	-	-	-	-	-
Stage 2	959	882	-	859	784	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	670	733	1044	671	718	1087	1560	-	-	1628	-	-
Mov Cap-2 Maneuver	670	733	-	671	718	-	-	-	-	-	-	-
Stage 1	867	778	-	1006	883	-	-	-	-	-	-	-
Stage 2	854	879	-	722	763	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.79	10.75	3.66	3.07
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	750	-	-	737	723	658	-	-
HCM Lane V/C Ratio	0.004	-	-	0.156	0.134	0.026	-	-
HCM Ctrl Dly (s/v)	7.3	0	-	10.8	10.7	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	111	1	26	79	4	12
Future Vol, veh/h	111	1	26	79	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	77	77	67	67
Heavy Vehicles, %	3	0	0	1	0	0
Mvmt Flow	150	1	34	103	6	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	151	0	321	151
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	170	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1442	-	677	901
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	660	901
Mov Cap-2 Maneuver	-	-	-	-	660	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	843	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	1.87	9.49
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	826	-	-	446	-
HCM Lane V/C Ratio	0.029	-	-	0.023	-
HCM Ctrl Dly (s/v)	9.5	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

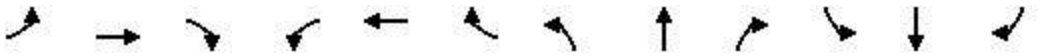
Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	2	27	11	1	28
Future Vol, veh/h	29	2	27	11	1	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	56	56	78	78
Heavy Vehicles, %	0	0	0	4	8	0
Mvmt Flow	58	4	48	20	1	36

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	96	58	0	0	68	0
Stage 1	58	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.18	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.272	-
Pot Cap-1 Maneuver	908	1014	-	-	1496	-
Stage 1	970	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	907	1014	-	-	1496	-
Mov Cap-2 Maneuver	907	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.23	0	0.26
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	913	62	-
HCM Lane V/C Ratio	-	-	0.068	0.001	-
HCM Ctrl Dly (s/v)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	9	8	16	19	22	0	0	0	6	19	32
Future Volume (Veh/h)	13	9	8	16	19	22	0	0	0	6	19	32
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.75	0.75	0.75	0.25	0.25	0.25	0.86	0.86	0.86
Hourly flow rate (vph)	19	13	12	21	25	29	0	0	0	7	22	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	96	55	41	73	73	0	59			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	96	55	41	73	73	0	59			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	98	99	98	97	97	100			100		
cM capacity (veh/h)	845	831	1036	898	818	1091	1558			1630		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	44	75	66
Volume Left	19	21	7
Volume Right	12	29	37
cSH	885	931	1630
Volume to Capacity	0.05	0.08	0.00*
Queue Length 95th (ft)	4	7	0
Control Delay (s/veh)	9.3	9.2	0.8
Lane LOS	A	A	A
Approach Delay (s/veh)	9.3	9.2	0.8
Approach LOS	A	A	

Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	13.6%	ICU Level of Service	A	
Analysis Period (min)	15			

* Value less than 0.01.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	48	5	164	23	11	256
Future Volume (veh/h)	48	5	164	23	11	256
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1950	1783	1904	1874	1950	1874
Adj Flow Rate, veh/h	52	5	432	61	15	341
Peak Hour Factor	0.92	0.92	0.38	0.38	0.75	0.75
Percent Heavy Veh, %	0	11	3	5	0	5
Cap, veh/h	254	24	1130	160	77	1256
Arrive On Green	0.15	0.15	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1649	159	1632	230	28	1814
Grp Volume(v), veh/h	58	0	0	493	356	0
Grp Sat Flow(s),veh/h/ln	1839	0	0	1863	1842	0
Q Serve(g_s), s	1.8	0.0	0.0	7.2	0.0	0.0
Cycle Q Clear(g_c), s	1.8	0.0	0.0	7.2	4.7	0.0
Prop In Lane	0.90	0.09		0.12	0.04	
Lane Grp Cap(c), veh/h	283	0	0	1290	1333	0
V/C Ratio(X)	0.20	0.00	0.00	0.38	0.27	0.00
Avail Cap(c_a), veh/h	283	0	0	1290	1333	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.0	0.0	0.0	4.2	3.8	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.9	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.2	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	25.7	0.0	0.0	5.0	4.3	0.0
LnGrp LOS	C			A	A	
Approach Vol, veh/h	58		493			356
Approach Delay, s/veh	25.7		5.0			4.3
Approach LOS	C		A			A

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	50.0				50.0	15.0
Change Period (Y+Rc), s	5.0				5.0	5.0
Max Green Setting (Gmax), s	45.0				45.0	10.0
Max Q Clear Time (g_c+I1), s	0.0				0.0	0.0
Green Ext Time (p_c), s	0.0				0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	6.1
HCM 7th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	155	30	46	182	60	34	130	31	35	237	31
Future Volume (veh/h)	11	155	30	46	182	60	34	130	31	35	237	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	1920	1904	1920	1935	1950	1859	1798	1889	1889	1904	1950
Adj Flow Rate, veh/h	13	189	37	53	212	70	42	162	39	47	316	41
Peak Hour Factor	0.82	0.82	0.82	0.86	0.86	0.86	0.80	0.80	0.80	0.75	0.75	0.75
Percent Heavy Veh, %	0	2	3	2	1	0	6	10	4	4	3	0
Cap, veh/h	65	463	87	114	367	112	171	623	141	129	819	101
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	39	1515	285	183	1202	366	202	1121	253	132	1475	182
Grp Volume(v), veh/h	239	0	0	335	0	0	243	0	0	404	0	0
Grp Sat Flow(s),veh/h/ln	1839	0	0	1751	0	0	1576	0	0	1789	0	0
Q Serve(g_s), s	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	11.4	0.0	0.0	5.2	0.0	0.0	8.8	0.0	0.0
Prop In Lane	0.05		0.15	0.16		0.21	0.17		0.16	0.12		0.10
Lane Grp Cap(c), veh/h	615	0	0	593	0	0	934	0	0	1050	0	0
V/C Ratio(X)	0.39	0.00	0.00	0.56	0.00	0.00	0.26	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	615	0	0	593	0	0	934	0	0	1050	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	21.2	0.0	0.0	8.3	0.0	0.0	9.1	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	3.9	0.0	0.0	0.7	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	5.1	0.0	0.0	1.9	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.8	0.0	0.0	25.1	0.0	0.0	8.9	0.0	0.0	10.1	0.0	0.0
LnGrp LOS	C			C			A			B		
Approach Vol, veh/h		239			335			243			404	
Approach Delay, s/veh		21.8			25.1			8.9			10.1	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	45.0	27.0	45.0	27.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	40.0	22.0	40.0	22.0
Max Q Clear Time (g_c+I1), s	7.2	9.3	10.8	13.4
Green Ext Time (p_c), s	1.7	1.1	2.8	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.3
HCM 7th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (veh/h)	23	224	11	23	312	40	32	210	130	34	219	29
Future Volume (veh/h)	23	224	11	23	312	40	32	210	130	34	219	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	1920	1950	1950	1920	1828	1904	1859	1950	1828	1889	1950
Adj Flow Rate, veh/h	29	287	14	24	332	43	35	231	143	44	284	38
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	0	2	0	0	2	8	3	6	0	8	4	0
Cap, veh/h	103	842	39	88	799	99	92	342	198	109	490	62
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	75	1684	78	49	1598	199	79	1026	594	127	1471	185
Grp Volume(v), veh/h	330	0	0	399	0	0	409	0	0	366	0	0
Grp Sat Flow(s),veh/h/ln	1837	0	0	1846	0	0	1699	0	0	1782	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	8.1	0.0	0.0	12.3	0.0	0.0	9.9	0.0	0.0
Prop In Lane	0.09		0.04	0.06		0.11	0.09		0.35	0.12		0.10
Lane Grp Cap(c), veh/h	984	0	0	986	0	0	632	0	0	661	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.40	0.00	0.00	0.65	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	1013	0	0	1016	0	0	878	0	0	913	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.1	0.0	0.0	9.5	0.0	0.0	17.4	0.0	0.0	16.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	1.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	2.8	0.0	0.0	4.6	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.3	0.0	0.0	9.8	0.0	0.0	18.5	0.0	0.0	17.3	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		330			399			409			366	
Approach Delay, s/veh		9.3			9.8			18.5			17.3	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	25.0	35.0	25.0	35.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	29.0	31.0	29.0	31.0
Max Q Clear Time (g_c+I1), s	14.3	8.3	11.9	10.1
Green Ext Time (p_c), s	2.3	1.3	2.1	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	13.9
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	12	6	6	4	12
Future Vol, veh/h	19	12	6	6	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	13	7	7	4	13

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	32	10	0	0	13	0
Stage 1	10	-	-	-	-	-
Stage 2	22	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	982	1072	-	-	1605	-
Stage 1	1013	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	980	1072	-	-	1605	-
Mov Cap-2 Maneuver	980	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	998	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.67	0	1.81
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1013	450	-
HCM Lane V/C Ratio	-	-	0.033	0.003	-
HCM Ctrl Dly (s/v)	-	-	8.7	7.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

TECHNICAL REPORT
STORMWATER MANAGEMENT REPORT
CORIELL INSTITUTE CAMDEN
BLOCK 367, LOTS 1 & 6
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

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SCHER25001

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EXHIBITS

FIGURE 1 – LOCATION MAP

FIGURE 2 – TAX MAP

FIGURE 3 - SOILS MAP

FIGURE 4 – FLOOD INSURANCE RATE MAP

APPENDICIES

APPENDIX A – EXISTING 2-, 10- & 100-YEAR RUNOFF HYDROGRAPHS
(CURRENT AND PROJECTED PRECIPITATION)

APPENDIX B – PROPOSED 2-, 10- & 100-YEAR RUNOFF HYDROGRAPHS
(CURRENT AND PROJECTED PRECIPITATION)

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APPENDIX D –WATER QUALITY STORM HYDROGRAPHS

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APPENDIX F – SUPPORTING DOCUMENTATION

APPENDIX G – DRAINAGE AREA PLANS

1.0 INTRODUCTION

Pennoni Associates, Inc., has been retained by Walnut Street Acquisition Group, LLC to provide preliminary/final design for a proposed research facility and headquarter administration building, stormwater management facilities, landscaping and lighting in the City of Camden, Camden County, New Jersey.

2.0 PROJECT DESCRIPTION

The project is bounded by Walnut Street to the east, Princess Avenue to the south and Memorial Avenue to the west in Camden, New Jersey. The property can be found on the United States Geological Survey (USGS) 7.5- minute topographic quadrangle for Camden, New Jersey. A copy of the USGS map is provided as Figure 1. The property consists of Block 367, Lots 1 & 6 (Figure 2). The "site" is defined as the tax map property boundaries. The site is the location of a vacant industrial building with paved truck loading and parking areas that have been overgrown with vegetation.

Existing Conditions

For existing condition runoff calculations, the site was analyzed as four (4) drainage sub-areas Existing Drainage Area 1 (EDA-1) thru Existing Drainage Area 4 (EDA-4), which drain to two (2) points in question (P.I.Q.) PIQ-1 and PIQ-2 (See Dwg. CS-9001, Appendix G).

Existing drainage area 1 (EDA-1) consists of the existing warehouse building and paved truck area located on the northerly side of the site. The stormwater runoff drains to Memorial Avenue to an existing stormwater inlet at the intersection of Memorial Avenue and Princess Avenue and discharges into the combined sewer system. The combined sewer system conveys the flow along Princess Avenue to Walnut Street to PIQ-1.

Existing drainage area 2 (EDA-2) consists of existing overgrown grass and tree area adjacent to Lot 73. The stormwater runoff drains offsite in a northerly direction towards Lot 73 (PIQ-2).

Existing drainage area 3 (EDA-3) consists of the existing building and paved truck area located on the easterly side of the site along Walnut Street. The stormwater runoff drains to Walnut Street to an existing stormwater inlet. The inlet discharges into the combined sewer system. The combined sewer system conveys the flow to Walnut Street to PIQ-1.

Existing drainage area 4 (EDA-4) consists of the existing building and paved truck area located on the southernly side of the site along Princess Avenue. The stormwater runoff drains to Princess Avenue and flows in a southernly direction to an existing stormwater inlet at the intersection of Princess Avenue and Walnut Street. The inlet discharges into the combined sewer system. The combined sewer system conveys the flow to Walnut Street to PIQ-1

A schematic diagram indicating the flow patterns is provided below. The Pre-Developed Drainage Area Plan (CS9001) can be found in Appendix G.

Proposed Conditions

The project construction consists of demolition of the abandoned warehouse building for the construction of a proposed research facility and headquarter administration building, stormwater collection, stormwater management, landscaping and lighting. **The proposed construction will reduce impervious lot coverage by approximately 0.60 ac.**

The proposed watershed areas for this analysis are divided into six (6) sub areas, proposed drainage area 1 thru proposed drainage area 6 (PDA-1 thru PDA-6) (See Dwg. CS9002). For this report the post-developed calculations were analyzed to two (2) “points in question” (P.I.Q.) PIQ-1 and PIQ-2 (Appendix B).

Proposed drainage area 1 (PDA-1) consists of runoff from the northerly parking area, building loading area, outdoor employee seating area and open area. The runoff flows to a proposed stormwater collection system and is discharged to bioretention basin #1. The basin discharges to stormwater inlet I-10 at the intersection of Memorial Avenue and Princess Avenue and into the combined sewer system. The combined sewer system conveys the flow along Princess Avenue to Walnut Street to PIQ-1.

Proposed drainage area 2 (PDA-2) consists of grass and landscaped area adjacent to Lot 73. The stormwater runoff drains offsite in a northerly direction towards Lot 73 (PIQ-2).

Proposed drainage area 3 (PDA-3) consists of grass and landscaped area adjacent to Walnut Street. The runoff drains to stormwater inlet I-8 within Walnut Street and into the combined sewer system along Walnut Street to PIQ-1.

Proposed drainage area 4 Bypass (PDA-4 Bypass) consists of a grass and landscape area on the southernly side of the site along Princess Avenue. The stormwater runoff drains to Princess Avenue and flows in a southernly direction to stormwater inlet I-9 at the intersection of Princess Avenue and Walnut Street. The inlet discharges into the combined sewer system. The combined sewer system conveys the flow to Walnut Street to PIQ-1

Proposed drainage area 4 (PDA-4) consists of runoff from the southernly truck loading area, building area, and grass area along Princess Avenue. The runoff flows to bioretention basin #2. The basin discharges to stormwater inlet I-9 at the intersection of Princess Avenue and Walnut Street and into the combined sewer system. The combined sewer system conveys the flow to Walnut Street to PIQ-1.

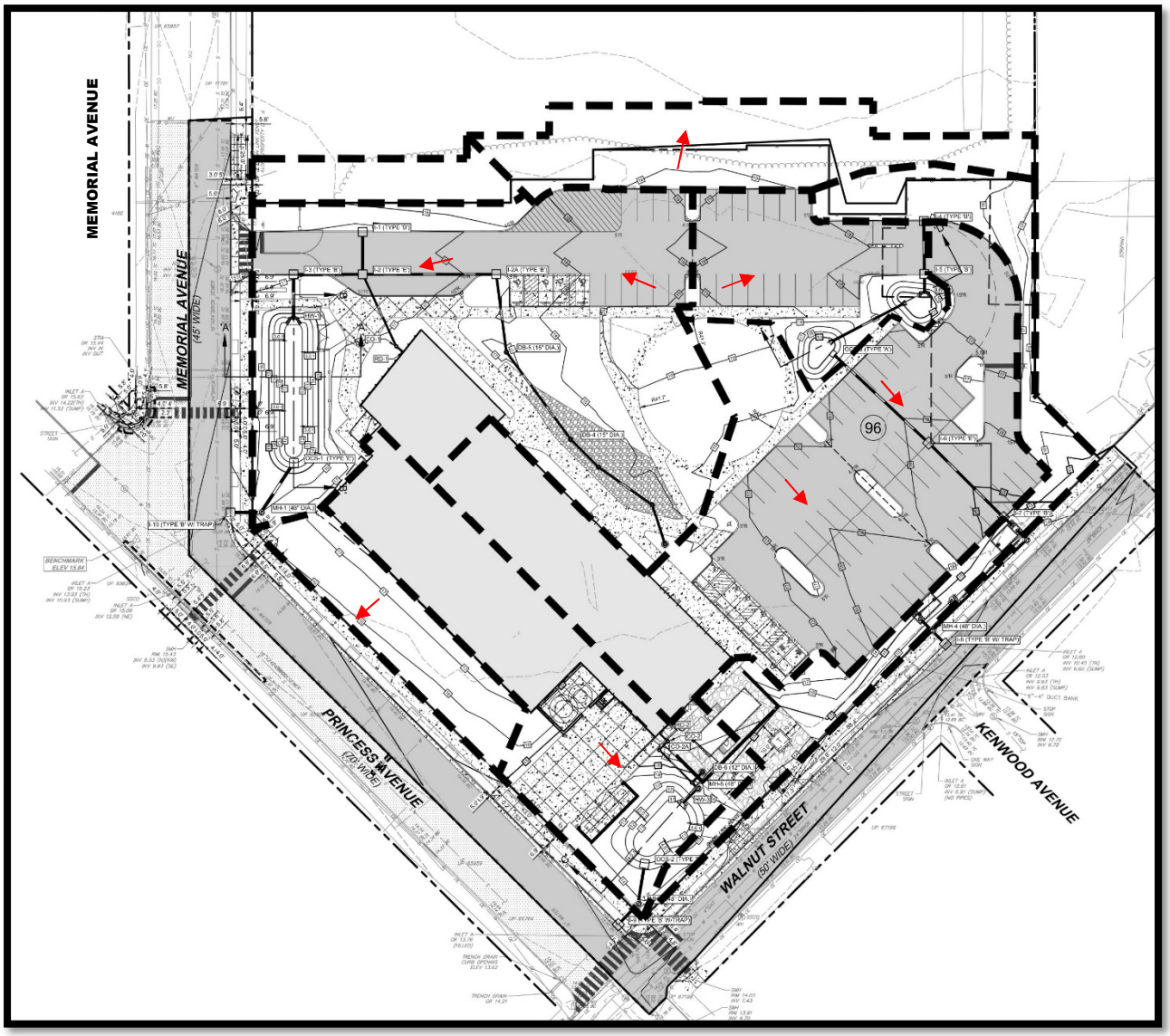
Proposed drainage area 5 (PDA-5) consists of runoff from the easterly parking area, building area, and open area. The runoff flows to a proposed stormwater collection system and into green infrastructure manufactured treatment devices, to stormwater inlet I-8 within Walnut Street. Inlet #8 discharges into the combined sewer system. The combined sewer system conveys the flow along Walnut Street to PIQ-1.

Proposed drainage area 6 (PDA-6) consists of runoff from the northerly parking area. The runoff flows to a proposed stormwater collection system and is discharged to bioretention basin #3. The basin discharges to a stormwater conveyance system, to stormwater inlet I-8 within Walnut Street. Inlet #8 discharges to the combined sewer system along Walnut Street to PIQ-1.

A schematic diagram indicating the flow patterns is provided below. The Post-Developed Drainage Area Plan (CS9002) can be found in Appendix G.

3.0 SOIL DATA

The site soils consist of Urban land (Ur), 0 to 5 percent slopes as depicted on the United States Department of Agriculture, (USDA) Web Soil Survey of Camden County, New Jersey (Figure 3). Urban land has not been assigned a hydrologic soil group; therefore Type “D” soils have been utilized.



4.0 WATERSHED DATA

Based on a review of FEMA Flood Insurance Rate Maps, and NJ GeoWeb, we have made the following determinations near the project limits:

According to the National Flood Insurance Program's Effective Flood Insurance Rate Map FEMA Panel #34007C0036F, revised 8/17/2016, the proposed site is not located within the FEMA flood hazard area (Figure 4).

5.0 DESIGN CRITERIA

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Stormwater Management Rules at N.J.A.C. 7:8, a Major Development is defined as a development which ultimately disturbs one or more acres of land and/or increases impervious coverage by one-quarter of an acre or more.

GREEN INFRASTRUCTURE:

To satisfy the groundwater recharge, runoff quality and runoff quantity the project design must utilize green infrastructure BMP's (GI BMP) as identified in Table 5-1 at N.J.A.C. 7:8-5.2 (f) or an alternative stormwater management measure approved in accordance with N.J.A.C. 7:8-5.2(g). The following green infrastructure BMP's from Table 5-1 at N.J.A.C. 7:8-5.2 (b) have been incorporated into the project design:

1. Small scale bioretention area – Three (3) small scale bioretention areas are provided as part of the project design. As required by N.J.A.C. 7:8-5.3 (b), the small-scale bioretention area is subject to a maximum contributory drainage area of 2.5 acres.

The proposed bioretention areas will have contributory drainage areas of 0.96 acres (Basin-1), 0.46 acres (Basin-2) and 0.23 acres (Basin-3). The proposed green infrastructure BMP's comply with N.J.A.C. 7:8-5.3 (b).

2. Green Infrastructure Stormwater MTD's – Two (2) green infrastructure BMP's in the form of Filterra bioretention systems are provided as part of the project design. As required by N.J.A.C. 7:8-5.3 (b), the small-scale green infrastructure BMP is subject to a maximum contributory drainage area of 2.5 acres.

The proposed green infrastructure MTD's will have a contributory drainage area of 0.33 acres and 0.66 acres (PDA-5). The proposed green infrastructure BMP complies with N.J.A.C. 7:8-5.3 (b).

GROUNDWATER RECHARGE:

Pursuant to the N.J.A.C. 7:8-5.4 (b) groundwater recharge requirements apply if there is either a 0.25 acre increase in impervious area or 1 acre of disturbance. The project disturbs more than 1 acre and increases motor vehicle surfaces by more than 0.25 acres. Therefore, one of the following requirements shall be met to satisfy the standards for groundwater recharge: (1) 100 percent of the site's average annual pre-developed groundwater recharge volume shall be maintained after development; (2) 100 percent of the difference between the site's pre- and post-developed 2-year runoff volumes shall be infiltrated.

According to the New Jersey State Development and Redevelopment Plan, the site is within a designated Urban Center. Groundwater recharge is not required within an "Urban Redevelopment Area" pursuant to N.J.A.C. 7:8-5.4(b)2 (Appendix F, Supporting Documentation). Therefore, groundwater recharge was not evaluated for this project.

RUNOFF QUANTITY:

Post-construction runoff hydrographs for the 2, 10 and 100-year have been analyzed as part of the stormwater management design. Pursuant to N.J.A.C. 7:8-5.6(b)one of the following peak runoff requirements must be met: (1) demonstrate that the post development hydrograph is less than the pre-development hydrograph at all points during 2, 10 and 100 year storm events; (2) demonstrate that the there is no increase in peak runoff rates of stormwater leaving the site for the 2, 10 and 100 year storm events and that the increased volume or change in timing will not increase flood damage at or downstream of the site; or (3) reduce the post-development peak discharge for the 2, 10, and 100-year storm events to release 50%, 75% and 80%, respectively as a result of the proposed development.

The proposed stormwater management system has been designed to demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in peak runoff rates of stormwater leaving the site for the 2-, 10- and 100-year storm events and that the increased volume or change in timing will not increase flood damage at or downstream of the site. See Appendices A & B for pre- and post-construction hydrographs.

In accordance with N.J.A.C. 7:8-5.6(b)2 the stormwater management measures are designed so that that there is no increase, as compared to the pre-construction condition, in peak runoff rates and volumes of stormwater leaving the site for the 2-, 10- and 100-year storm events. The post developed site does not create an increase in runoff rate or runoff volume to the existing combined sewer system. The combined sewer system drains to a regulator chamber located on Pine Street to the CSO discharge along Cooper River. The CSO collection area is a fully developed urban area with industrial sites and row homes.

RUNOFF QUALITY:

Pursuant to N.J.A.C. 7:8-5.2 (f), the green infrastructure BMP's can be utilized to satisfy the requirements of N.J.A.C. 7:8-5.5 for stormwater runoff quality. Stormwater Management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm by 80 percent of the anticipated load from the developed site. The increase in motor vehicle surface, must be treated for 80% TSS reductions.

The water quality standards will apply as the net increase of motor vehicle surface is 3.28 acres which exceeds the maximum net increase of 0.25 acres.

The water quality (WQ) design storm is 1.25 inches of rainfall in 2-hours. In accordance with N.J.A.C. 7:8-5.5, Table 5-4, a one-minute water quality design storm rainfall distribution was utilized for the calculations. Bentley's Pondpack Connect Edition was used to perform the calculations.

The proposed bioretention areas will provide 80% TSS removal for motor vehicle surfaces of 0.21 acres (PDA-1) , 0.09 acres (PDA-4) and 0.16 acres (PDA-6). The DelMarVa unit hydrograph was utilized for the bioretention area calculations.

The proposed green infrastructure MTD's will provide 80% TSS removal for motor vehicle surface of 0.53 acres. Note: The standard unit hydrograph was utilized for the MTD calculations. The proposed design complies with the requirements of N.J.A.C. 7:8-5.5.

6.0 TECHNIQUES OF ANALYSIS

In accordance with the stormwater runoff calculation methodology at N.J.A.C. 7:8-5.6, the quantity (volume and rate) of stormwater runoff for pre- and post-developed conditions is calculated based on the USDA NRCS methodology as described in Technical Release 55 - Urban Hydrology for Small Watersheds (TR-55), dated June 1986. NRCS 24 hr design storm rainfall depths for New Jersey, as revised September 2004, are used in the calculations.

Pre- and post-developed times of concentration (TC) are determined using the hydraulically longest flow path. Curve numbers (CN) for the drainage areas for the pre- and post-developed condition are based on the hydrologic soil group and land use.

The developed area is made up of Urban Land, Type D soils. Therefore, CNs of 80 for lawn in good condition, 84 for lawn/landscaped areas in fair condition, 98 for impervious areas have been utilized in the calculations. The impervious areas were calculated as separate subareas to generate hydrographs without weighted CNs as outlined in the BMP manual chapter 5.

Using the drainage areas, the TCs and CNs as input data, *Pond Pack Connect Edition,* a hydrologic/hydraulic software program by Bentley, was utilized to generate the runoff volume and rates.

7.0 KEY HYDROLOGIC PRINCIPALS

A 24-hour, NOAA _C storm distribution (Supporting Documentation, Appendix G) was utilized with the following rainfall amounts, within Camden County for each storm analyzed.

Current		Projected	
2 year	3.41 inches	2 year	3.91 inches
10 year	5.26 inches	10 year	6.17 inches
25 year	6.00 inches	25 year	7.70 inches
100 year	8.95 inches	100 year	11.84 inches

8.0 PRE- VS. POST-DEVELOPED RUNOFF COMPARISON

The proposed stormwater management system has been designed to demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in peak runoff rates and volumes of stormwater leaving the site for the 2-, 10- and 100-year storm events for current and projected rainfall amounts. The post-developed calculations were analyzed to two (2) "points in question" (P.I.Q.) PIQ-1 and PIQ-2. These results are detailed in Tables 1 through 4 below.

Table 1
Pre-Developed vs. Post-Developed Current Flow Comparison
Walnut Street Storm System (PIQ-1)

Storm (Year)	Pre-Developed Runoff Rate (cfs)	Pre-Developed Runoff Volume (cf)	Post-Developed Runoff Rate (cfs)	Post-Developed Runoff Volume (cf)	Runoff Rate Decrease from Pre-Developed (cfs)	Runoff Volume Decrease from Pre-Developed (cf)
2	8.85	34,765	5.46	25,755	-3.39	-9,010
10	14.03	56,063	11.22	45,917	-2.81	-10,146
25	16.10	64,642	13.19	54,160	-2.91	-10,482
100	34.35	98,997	20.73	87,528	-13.62	-11,469

The above indicates that the post developed site does not create an increase in runoff rate or runoff volume to the existing combined sewer system. The combined sewer system drains to a regulator chamber located on Pine Street to the CSO discharge along Cooper River.

Table 2
Pre-Developed vs. Post-Developed Current Flow Comparison
to Lot 73 (PIQ-2)

Storm (Year)	Pre-Developed Runoff Rate (cfs)	Pre-Developed Runoff Volume (cf)	Post-Developed Runoff Rate (cfs)	Post-Developed Runoff Volume (cf)	Runoff Rate Decrease from Pre-Developed (cfs)	Runoff Volume Decrease from Pre-Developed (cf)
2	0.67	2,505	0.47	1,750	-0.20	-755
10	1.06	4,023	0.87	3,303	-0.19	-720
25	1.22	4,633	1.03	3,950	-0.19	-683
100	1.84	7,076	1.68	6,600	-0.16	-476

The above indicates that the post developed site does not create an increase in runoff rate or runoff volume onto Lot 73.

Table 3
Pre-Developed vs. Post-Developed Projected Flow Comparison
Walnut Street Storm System (PIQ-1)

Storm (Year)	Pre-Developed Runoff Rate (cfs)	Pre-Developed Runoff Volume (cf)	Post-Developed Runoff Rate (cfs)	Post-Developed Runoff Volume (cf)	Runoff Rate Decrease from Pre-Developed (cfs)	Runoff Volume Decrease from Pre-Developed (cf)
2	10.23	40,565	7.05	31,360	-3.18	-9,205
10	16.55	66,732	13.59	56,434	-2.96	-10,298
25	20.83	84,564	17.44	73,768	-3.39	-10,796
100	32.45	132,778	29.80	120,638	-2.65	-12,140

Table 4
Pre-Developed vs. Post-Developed Projected Flow Comparison to Lot 73 (PIQ-2)

Storm (Year)	Pre-Developed Runoff Rate (cfs)	Pre-Developed Runoff Volume (cf)	Post-Developed Runoff Rate (cfs)	Post-Developed Runoff Volume (cf)	Runoff Rate Decrease from Pre-Developed (cfs)	Runoff Volume Decrease from Pre-Developed (cf)
2	0.77	2,918	0.51	1,857	-0.26	-1,061
10	1.25	4,781	1.01	3,714	-0.24	-1,067
25	1.57	6,049	1.35	5,044	-0.22	1,005
100	2.45	9,477	2.29	8,750	-0.16	-727

9.0 STORMWATER MANAGEMENT

Stormwater management measures are designed so that there is no increase, as compared to the pre-construction condition, in the peak runoff rates and volumes leaving the site for the 2-, 10-, and 100-year storm events. Bentley's Pondpack Connect Edition was used to perform the calculations. Three (3) bioretention basins are proposed for the project.

Bioretention Area #1 (Basin #1)

The basin consists of a small-scale surface bioretention basin. Runoff enters the basin through an 18" RCP pipe. An outflow structure provides slow release of the stormwater into an existing combined sewer system at the intersection of Memorial Avenue and Princess Avenue. The outlet structure consists of a pre-cast concrete box with a 1-foot rectangular weir (el. 13.31) and grate (el. 14.70) to regulate the discharge from the facility.

Tables 5 and 6 below provides summary of the basin inflow rates, outflow rates, storage volumes and elevations for current and projected rainfall amounts.

Table 5
Bioretention Basin #1 - Proposed Basin Parameters Current Rainfall

Storm (year)	Peak Inflow (cfs)	Peak Outflow Routed (cfs)	Storage Volume (cf)	Peak Elevations (ft)
2	2.14	1.54	2,764	13.95
10	3.61	2.75	3,407	14.25
25	4.21	3.24	3,647	14.36
100	6.61	5.73	4,531	14.75

Table 6
Bioretention Basin #1 - Proposed Basin Parameters Projected Rainfall

Storm (year)	Peak Inflow (cfs)	Peak Outflow Routed (cfs)	Storage Volume (cf)	Peak Elevations (ft)
2	2.57	1.85	3,023	14.03
10	4.41	3.28	3,859	14.37
25	5.68	4.25	4,413	14.57
100	9.12	8.29	5,322	14.87

Note: Exfiltration is not included in basin routings.

Bioretention Area #2 (Basin #2)

The basin consists of a small-scale surface bioretention basin. Runoff enters the basin through a 15" RCP pipe. An outflow structure provides slow release of the stormwater into an existing combined sewer system along Princess Avenue. The outlet structure consists of a pre-cast concrete box with a 0.75-foot rectangular weir (el. 12.37) and grate (el. 12.80) to regulate the discharge from the facility.

Tables 7 and 8 below provides summary of the basin inflow rates, outflow rates, storage volumes and elevations for current and projected rainfall amounts.

Table 7
Bioretention Basin #2 - Proposed Basin Parameters Current Rainfall

Storm (year)	Peak Inflow (cfs)	Peak Outflow Routed (cfs)	Storage Volume (cf)	Peak Elevations (ft)
2	1.28	0.73	2,167	12.80
10	2.06	1.97	2,315	12.89
25	2.38	2.33	2,346	12.91
100	3.63	3.54	2,433	12.96

Table 8
Bioretention Basin #2 - Proposed Basin Parameters Projected Rainfall

Storm (year)	Peak Inflow (cfs)	Peak Outflow Routed (cfs)	Storage Volume (cf)	Peak Elevations (ft)
2	1.49	1.25	2.214	12.84
10	2.44	2.40	2,334	12.92
	3.09	3.02	2,377	12.94
100	4.85	4.76	2,496	13.01

Note: Exfiltration is not included in basin routings.

Bioretention Area #3 (Basin #3)

The basin consists of a small-scale surface bioretention basin. Runoff enters the basin through a 15" RCP pipe. An outflow structure provides slow release of the stormwater into the proposed stormwater conveyance system and to the existing combined sewer system located within Walnut Street. The outlet structure consists of a pre-cast concrete box with a 2.5" diameter orifice (el. 15.66) and grate (el. 16.50) to regulate the discharge from the facility.

Tables 9 and 10 below provides summary of the basin inflow rates, outflow rates, storage volumes and elevations for current and projected rainfall amounts.

Table 9
Bioretention Basin #3 - Proposed Basin Parameters Current Rainfall

Storm (year)	Peak Inflow (cfs)	Peak Outflow Routed (cfs)	Storage Volume (cf)	Peak Elevations (ft)
2	0.62	0.13	1,227	16.41
10	1.03	0.95	1,410	16.57
25	1.19	1.15	1,430	16.59
100	1.85	1.81	1,472	16.63

Table 10
Bioretention Basin #3 - Proposed Basin Parameters Projected Rainfall

Storm (year)	Peak Inflow (cfs)	Peak Outflow Routed (cfs)	Storage Volume (cf)	Peak Elevations (ft)
2	0.73	0.32	1,346	16.52
10	1.23	1.19	1,433	16.59
25	1.56	1.55	1,457	16.61
100	2.49	2.44	1,508	16.66

Note: Exfiltration is not included in basin routings.

10.0 GROUNDWATER MOUNDING

A groundwater mounding (GWM) analysis has been performed to determine the height and range of groundwater mounding beneath the stormwater infiltration facility .

The U.S. Geological Survey (USGS), in coordination with N.J. Department of Environmental Protection developed a report entitled “Simulation of Groundwater Mounding Beneath Hypothetical Stormwater Infiltration Basins”, this report outlines the method utilized for analysis of groundwater mounding.

A spreadsheet was then developed by USGS to solve the Hantush equation, referred to as the Hantush Spreadsheet, which calculates the maximum height of the mounding formed and assumes all groundwater flow is horizontal above an infinite aquifer.

The maximum height of mounding occurs when the entire volume of runoff has been infiltrated into the subsoil through the bottom of the infiltration basin. Duration of the infiltration in accordance with NJ BMP Manual, Groundwater Table Hydraulic Assessment Guide for Infiltration BMP's, Chapter 13, for each facility is calculated below:

$$\text{Duration of Infiltration Period, } t = \frac{\text{volume of runoff to be infiltrated (cf)}}{\text{Infiltration area (sf) x recharge rate (ft/day)}}$$

Current Rainfall

$$\text{Infiltration Area (Basin 1), } t = \frac{1{,}578 \text{ cf}}{740 \text{ sf x } 2.5 \text{ (ft/day)}} = 0.85 \text{ days / } 20.4 \text{ hrs.}$$

$$\text{Infiltration Area (Basin 2), } t = \frac{1{,}522 \text{ cf}}{610 \text{ sf x } 1.2 \text{ (ft/day)}} = 2.08 \text{ days / } 49.9 \text{ hrs.}$$

$$\text{Infiltration Area (Basin 3), } t = \frac{601 \text{ cf}}{305 \text{ sf x } 1.2 \text{ (ft/day)}} = 1.64 \text{ days / } 39.4 \text{ hrs.}$$

Utilizing the Hantush method and minimum input model parameters in accordance with NJ BMP Manual, Groundwater Table Hydraulic Assessment Guide for Infiltration BMP's, Chapter 13, the maximum height and range of the groundwater mound was calculated (Refer to the Appendix F for Hantush GWM spreadsheet). Note that the Hantush method is uses conservative values for the horizontal hydraulic conductivity (Kh) in the calculations. Limiting Kh to 5x the recharge rate results.

A higher Kh would result in a flatter curve, less mounding height and a greater horizontal distance with hydraulic conductive zone effects further out.

A minimum of two (2) feet above the estimated seasonal high-water table as measured to the bottom of the basin sand layer is required per NJ Stormwater Regulations (NJAC 7:8).

Table 11 summarizes the calculated groundwater mounding, ESHW elevation and bottom of basin elevations.

Table 9
Groundwater Mounding Results Summary

Basin	Time (Hrs.)	GWM (ft) by Hantush Spreadsheet	ESHW (Elev.)	Bottom of Basin (Elev.)
1	20.4	2.34	Not encountered to Elev. 8.3	12.00
2	41.8	2.89	Not encountered to Elev. 7.2	11.00
3	39.4	1.79	Not encountered to Elev. 8.5	14.50

11.0 STORM SEWER DESIGN

Storm sewer design consists of Type “B” inlets, manholes, and RCP and HDPE storm pipes. All proposed conveyance systems have been sized to accommodate the 25-year storm event (Appendix G). Rainfall intensities are based on NOAA data for City of Camden, NJ (Appendix F). The infrastructure is depicted on sheet CS9003, Inlet Drainage Area Plan (Appendix G).

12.0 SOIL EROSION AND SEDIMENT CONTROL

The project will comply with the minimum design and performance standards for erosion control established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. and implementing rules. Anticipated BMP's to be included in the Soil Erosion and Sediment Control Plan will include, structural and non-structural soil erosion BMP's to be implemented during construction, including: minimizing the area of disturbance, placement of silt fencing around the limit of disturbance, temporary soil stockpiles surrounded with silt fencing, temporary vegetative cover standards, inlet filter covers over all existing stormwater inlets, and an anti-tracking stabilized construction entrance (see Dwg. CS8001). The project will be submitted to the Camden County Conservation District for certification of a Soil Erosion and Sediment Control Plan prior to commencement of construction.

13.0 CONCLUSION

The project discharges to a combined sewer system within Memorial Avenue, Princess Avenue and Walnut Street. The project reduces impervious cover by approximately 1.0 acre. A summary of the stormwater management design is as follows:

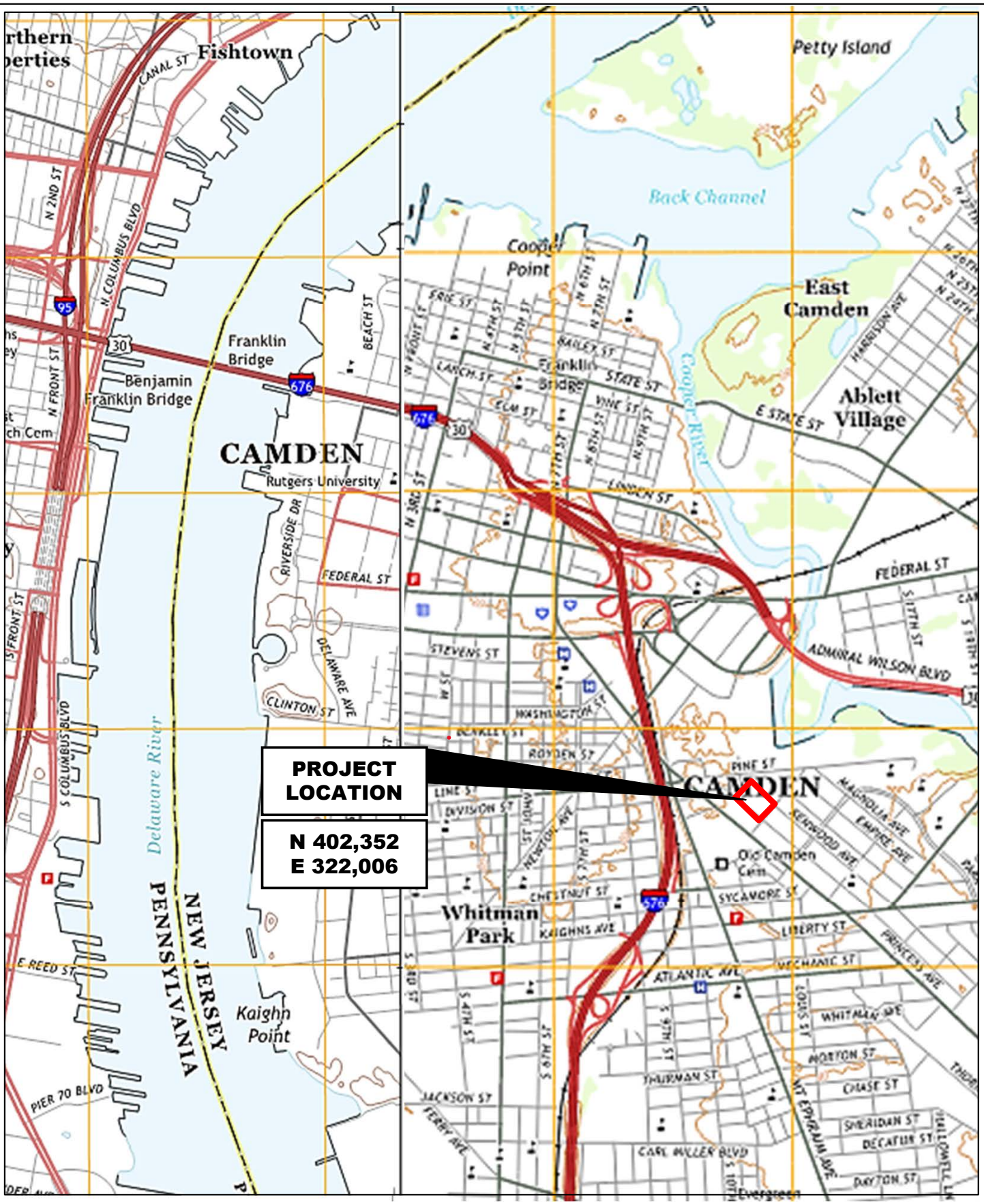
- Pursuant to N.J.A.C. 7:8-5.6(b)(2), the proposed stormwater management system has been designed to demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in peak runoff rates and volume of stormwater leaving the site for the 2-, 10- and 100-year storm events to the existing combined sewer system. The combined sewer system drains to a regulator chamber located on Pine Street to the CSO discharge along Cooper River. The CSO collection area is a fully developed urban area with industrial sites and row homes.

- The project is located within an Urban Redevelopment Area, and therefore, pursuant to N.J.A.C. 7:8-5.4(b)2 the groundwater recharge requirement does not apply.

- Pursuant to N.J.A.C. 7:8-5.5 (b)1, eighty percent TSS removal will be achieved utilizing bioretention areas and green infrastructure MTD’s.

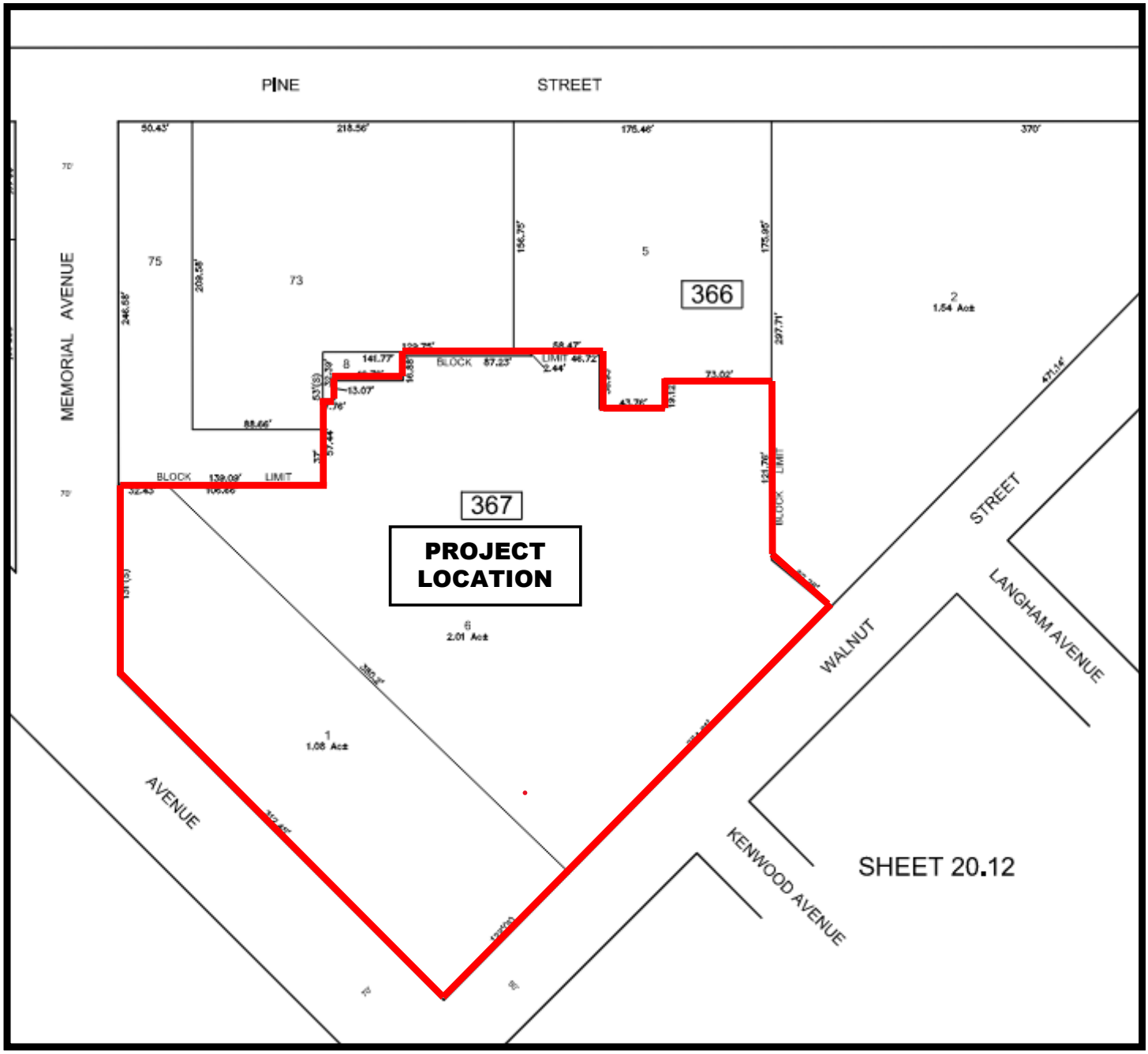
- The surface basins meet the definition the small-scale bioretention basins; having a contributory drainage area of 0.96 acres to Basin 1, 0.46 acres to Basin 2 and 0.23 acres to Basin 3, which is less than the maximum 2.5 acres.

Exhibits



USGS 7.5 Min. Camden Quadrangle, Camden County, New Jersey

Pennoni PENNONI ASSOCIATES INC. 2 AQUARIUM DRIVE, SUITE 320 CAMDEN, NEW JERSEY 08103		CORIELL INSTITUTE CAMDEN BLOCK 367, LOTS 1 & 6 CITY OF CAMDEN, CAMDEN COUNTY NEW JERSEY
Job No. SCHER22001	Scale: 1"=2,000'	Figure 1 –USGS Map



City of Camden Tax Map, Plate 7.04

Pennoni PENNONI ASSOCIATES INC. 2 AQUARIUM DRIVE, SUITE 320 CAMDEN, NEW JERSEY 08103		CORIELL INSTITUTE CAMDEN BLOCK 367, LOTS 1 & 6 CITY OF CAMDEN, CAMDEN COUNTY NEW JERSEY
Job No. SCHER22001	Scale: NTS	Figure 2 –Tax Map

Map Unit Symbol	Map Unit Name
UR	Urban land

USDA WebSoil Survey, Camden County, NJ

Pennoni PENNONI ASSOCIATES INC. 2 AQUARIUM DRIVE, SUITE 320 CAMDEN, NEW JERSEY 08103		CORIELL INSTITUTE CAMDEN BLOCK 367, LOTS 1 & 6 CITY OF CAMDEN, CAMDEN COUNTY NEW JERSEY
Job No. SCHER22001	Scale: NTS	Figure 3 –Soils Map

National Flood Insurance Rate Map, Panel Number 34007C0036F, effective 8/17/2016

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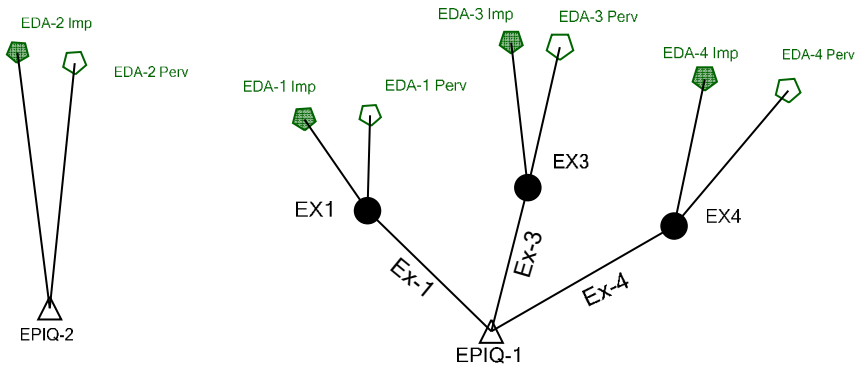
Job No. SCHER22001	Scale: NTS	Figure 4 –FIRM Map

Appendix A

Scenario: 100 year



FlexTable: Catchment Table (Prelim Pre-Post1.ppc)

Current Time: 0.000 hours

Label	Outflow Node	Area (User Defined) (acres)	SCS CN (Composite)	Time of Concentration (Composite) (hours)
EDA-1 Imp	EX1	1.200	98.000	0.083
EDA-1 Perv	EX1	0.040	84.000	0.118
EDA-2 Imp	EPIQ-2	0.200	98.000	0.083
EDA-2 Perv	EPIQ-2	0.030	84.000	0.083
EDA-3 Imp	EX3	1.210	98.000	0.083
EDA-3 Perv	EX3	0.180	84.000	0.083
EDA-4 Imp	EX4	0.300	98.000	0.161
EDA-4 Perv	EX4	0.310	84.000	0.161
PDA1 Perv Bypass	PR1	0.090	80.000	0.233
PDA1-Imp	RG-1	0.510	98.000	0.083
PDA1-Perv	RG-1	0.460	80.000	0.132
PDA-2 Perv	PPIQ-2	0.260	84.000	0.120
PDA-3 Imp	PR3	0.060	98.000	0.138
PDA-3 Perv	PR3	0.290	80.000	0.138
PDA-4 Bypass	PR4	0.150	84.000	0.116
PDA-4 Imp	RG-2	0.340	98.000	0.083
PDA-4 Perv	RG-2	0.120	84.000	0.083
PDA-5 Imp	J5	0.820	98.000	0.083
PDA-5 Perv	J5	0.140	80.000	0.145
PDA-6 Imp	RG-3	0.160	98.000	0.083
PDA-6 Perv	RG-3	0.080	80.000	0.083

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-1 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.012 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.14 ft/s
Segment Time of Concentration	0.024 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	234.00 ft
Is Paved?	True
Slope	0.008 ft/ft
Average Velocity	1.86 ft/s
Segment Time of Concentration	0.035 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-1 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-1 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	63.00 ft
Manning's n	0.150
Slope	0.018 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.15 ft/s
Segment Time of Concentration	0.118 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.118 hours

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-1 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-2 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	30.00 ft
Manning's n	0.011
Slope	0.016 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.00 ft/s
Segment Time of Concentration	0.008 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	18.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.11 ft/s
Segment Time of Concentration	0.046 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-2 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-2 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	30.00 ft
Manning's n	0.011
Slope	0.016 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.00 ft/s
Segment Time of Concentration	0.008 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	18.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.11 ft/s
Segment Time of Concentration	0.046 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-2 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-3 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.026 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.55 ft/s
Segment Time of Concentration	0.018 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	177.00 ft
Is Paved?	True
Slope	0.022 ft/ft
Average Velocity	3.02 ft/s
Segment Time of Concentration	0.016 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-3 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-3 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	74.00 ft
Manning's n	0.011
Slope	0.036 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.66 ft/s
Segment Time of Concentration	0.012 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	32.00 ft
Is Paved?	True
Slope	0.040 ft/ft
Average Velocity	4.07 ft/s
Segment Time of Concentration	0.002 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-3 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-4 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	56.00 ft
Manning's n	0.011
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.11 ft/s
Segment Time of Concentration	0.014 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	44.00 ft
Manning's n	0.150
Slope	0.006 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.09 ft/s
Segment Time of Concentration	0.140 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	70.00 ft
Is Paved?	True
Slope	0.019 ft/ft
Average Velocity	2.80 ft/s
Segment Time of Concentration	0.007 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.161 hours

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-4 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-4 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	56.00 ft
Manning's n	0.011
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.11 ft/s
Segment Time of Concentration	0.014 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	44.00 ft
Manning's n	0.150
Slope	0.006 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.09 ft/s
Segment Time of Concentration	0.140 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	70.00 ft
Is Paved?	True
Slope	0.019 ft/ft
Average Velocity	2.80 ft/s
Segment Time of Concentration	0.007 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.161 hours

Pre-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: EDA-4 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Current Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA1-Perv	2 year	2	2,604.00	12.150	0.66
PDA1-Perv	10 year	10	5,194.00	12.150	1.33
PDA1-Perv	25 year	25	6,294.00	12.150	1.61
PDA1-Perv	100 year	100	10,857.00	12.150	2.73
PDA1-Imp	2 year	2	5,872.00	12.100	1.56
PDA1-Imp	10 year	10	9,285.00	12.100	2.42
PDA1-Imp	25 year	25	10,651.00	12.100	2.76
PDA1-Imp	100 year	100	16,101.00	12.100	4.13
EDA-1 Imp	2 year	2	13,817.00	12.100	3.67
EDA-1 Imp	10 year	10	21,847.00	12.100	5.69
EDA-1 Imp	25 year	25	25,062.00	12.100	6.50
EDA-1 Imp	100 year	100	37,885.00	12.100	9.72
EDA-1 Perv	2 year	2	269.00	12.150	0.07
EDA-1 Perv	10 year	10	508.00	12.150	0.14
EDA-1 Perv	25 year	25	608.00	12.150	0.16
EDA-1 Perv	100 year	100	1,016.00	12.150	0.26
EDA-2 Imp	2 year	2	2,303.00	12.100	0.61
EDA-2 Imp	10 year	10	3,641.00	12.100	0.95
EDA-2 Imp	25 year	25	4,177.00	12.100	1.08
EDA-2 Imp	100 year	100	6,314.00	12.100	1.62
EDA-2 Perv	2 year	2	202.00	12.100	0.06
EDA-2 Perv	10 year	10	381.00	12.100	0.11
EDA-2 Perv	25 year	25	456.00	12.100	0.13
EDA-2 Perv	100 year	100	762.00	12.100	0.22
EDA-3 Imp	2 year	2	13,932.00	12.100	3.70
EDA-3 Imp	10 year	10	22,029.00	12.100	5.74
EDA-3 Imp	25 year	25	25,271.00	12.100	6.56
EDA-3 Imp	100 year	100	38,200.00	12.100	9.80
EDA-3 Perv	2 year	2	1,212.00	12.100	0.36
EDA-3 Perv	10 year	10	2,288.00	12.100	0.68
EDA-3 Perv	25 year	25	2,737.00	12.100	0.80
EDA-3 Perv	100 year	100	4,573.00	12.100	1.31
EDA-4 Imp	2 year	2	3,450.00	12.150	0.73
EDA-4 Imp	10 year	10	5,455.00	12.150	1.13
EDA-4 Imp	25 year	25	6,258.00	12.150	1.29
EDA-4 Imp	100 year	100	9,460.00	12.150	1.93
EDA-4 Perv	2 year	2	2,084.00	12.150	0.49
EDA-4 Perv	10 year	10	3,935.00	12.150	0.91
EDA-4 Perv	25 year	25	4,706.00	12.150	1.09
EDA-4 Perv	100 year	100	7,864.00	12.150	1.78
PDA1 Perv Bypass	2 year	2	508.00	12.200	0.10
PDA1 Perv Bypass	10 year	10	1,014.00	12.200	0.20
PDA1 Perv Bypass	25 year	25	1,229.00	12.200	0.24

Pre-dev Tc Current Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA1 Perv Bypass	100 year	100	2,120.00	12.200	0.41
PDA-2 Perv	2 year	2	1,750.00	12.150	0.47
PDA-2 Perv	10 year	10	3,303.00	12.150	0.87
PDA-2 Perv	25 year	25	3,950.00	12.150	1.03
PDA-2 Perv	100 year	100	6,600.00	12.150	1.68
PDA-3 Imp	2 year	2	690.00	12.150	0.16
PDA-3 Imp	10 year	10	1,091.00	12.150	0.24
PDA-3 Imp	25 year	25	1,252.00	12.150	0.28
PDA-3 Imp	100 year	100	1,893.00	12.150	0.41
PDA-3 Perv	2 year	2	1,641.00	12.150	0.41
PDA-3 Perv	10 year	10	3,275.00	12.150	0.83
PDA-3 Perv	25 year	25	3,968.00	12.150	1.00
PDA-3 Perv	100 year	100	6,845.00	12.150	1.69
PDA-4 Imp	2 year	2	3,915.00	12.100	1.04
PDA-4 Imp	10 year	10	6,190.00	12.100	1.61
PDA-4 Imp	25 year	25	7,101.00	12.100	1.84
PDA-4 Imp	100 year	100	10,734.00	12.100	2.75
PDA-4 Perv	2 year	2	808.00	12.100	0.24
PDA-4 Perv	10 year	10	1,526.00	12.100	0.45
PDA-4 Perv	25 year	25	1,825.00	12.100	0.54
PDA-4 Perv	100 year	100	3,049.00	12.100	0.87
PDA-4 Bypass	2 year	2	1,010.00	12.150	0.27
PDA-4 Bypass	10 year	10	1,906.00	12.150	0.51
PDA-4 Bypass	25 year	25	2,279.00	12.150	0.61
PDA-4 Bypass	100 year	100	3,809.00	12.150	0.99
PDA-5 Imp	2 year	2	9,442.00	12.100	2.50
PDA-5 Imp	10 year	10	14,929.00	12.100	3.89
PDA-5 Imp	25 year	25	17,126.00	12.100	4.44
PDA-5 Imp	100 year	100	25,888.00	12.100	6.64
PDA-5 Perv	2 year	2	792.00	12.150	0.19
PDA-5 Perv	10 year	10	1,581.00	12.150	0.39
PDA-5 Perv	25 year	25	1,915.00	12.150	0.47
PDA-5 Perv	100 year	100	3,304.00	12.150	0.80
PDA-6 Imp	2 year	2	1,842.00	12.100	0.49
PDA-6 Imp	10 year	10	2,913.00	12.100	0.76
PDA-6 Imp	25 year	25	3,342.00	12.100	0.87
PDA-6 Imp	100 year	100	5,051.00	12.100	1.30
PDA-6 Perv	2 year	2	453.00	12.100	0.13
PDA-6 Perv	10 year	10	904.00	12.100	0.27
PDA-6 Perv	25 year	25	1,096.00	12.100	0.32
PDA-6 Perv	100 year	100	1,890.00	12.100	0.55

Pre-dev Tc Current Rainfall

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EPIQ-2	2 year	2	2,505.00	12.100	0.67
EPIQ-2	10 year	10	4,023.00	12.100	1.06
EPIQ-2	25 year	25	4,633.00	12.100	1.22
EPIQ-2	100 year	100	7,076.00	12.100	1.84
PPIQ-2	2 year	2	1,750.00	12.150	0.47
PPIQ-2	10 year	10	3,303.00	12.150	0.87
PPIQ-2	25 year	25	3,950.00	12.150	1.03
PPIQ-2	100 year	100	6,600.00	12.150	1.68
J5	2 year	2	10,234.00	12.100	2.67
J5	10 year	10	16,510.00	12.100	4.23
J5	25 year	25	19,041.00	12.100	4.86
J5	100 year	100	29,192.00	12.100	7.35
EPIQ-1	2 year	2	34,765.00	12.100	8.85
EPIQ-1	10 year	10	56,063.00	12.100	14.03
EPIQ-1	25 year	25	64,642.00	12.100	16.10
EPIQ-1	100 year	100	98,997.00	12.100	24.35
PPIQ-1	2 year	2	25,755.00	12.150	5.46
PPIQ-1	10 year	10	45,917.00	12.150	11.22
PPIQ-1	25 year	25	54,160.00	12.150	13.19
PPIQ-1	100 year	100	87,528.00	12.150	20.73
EX1	2 year	2	14,086.00	12.100	3.73
EX1	10 year	10	22,355.00	12.100	5.82
EX1	25 year	25	25,670.00	12.100	6.65
EX1	100 year	100	38,900.00	12.100	9.97
EX3	2 year	2	15,145.00	12.100	4.06
EX3	10 year	10	24,318.00	12.100	6.42
EX3	25 year	25	28,008.00	12.100	7.36
EX3	100 year	100	42,773.00	12.100	11.11
EX4	2 year	2	5,534.00	12.150	1.21
EX4	10 year	10	9,390.00	12.150	2.04
EX4	25 year	25	10,964.00	12.150	2.38
EX4	100 year	100	17,324.00	12.150	3.71
PR3	2 year	2	14,244.00	12.100	3.26
PR3	10 year	10	24,059.00	12.150	6.06
PR3	25 year	25	28,058.00	12.150	7.07
PR3	100 year	100	44,204.00	12.100	10.99
PR1	2 year	2	7,347.00	12.250	1.64
PR1	10 year	10	13,818.00	12.250	2.95
PR1	25 year	25	16,484.00	12.200	3.48
PR1	100 year	100	27,340.00	12.200	6.14
PR4	2 year	2	4,164.00	12.250	0.94
PR4	10 year	10	8,039.00	12.150	2.48
PR4	25 year	25	9,618.00	12.150	2.94

Pre-dev Tc Current Rainfall

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PR4	100 year	100	15,984.00	12.150	4.53

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
RG-1 (IN)	2 year	2	8,476.00	12.100	2.14	(N/A)	(N/A)
RG-1 (OUT)	2 year	2	6,839.00	12.250	1.54	13.95	2,764.00
RG-1 (IN)	10 year	10	14,479.00	12.100	3.61	(N/A)	(N/A)
RG-1 (OUT)	10 year	10	12,804.00	12.250	2.75	14.25	3,407.00
RG-1 (IN)	25 year	25	16,946.00	12.100	4.21	(N/A)	(N/A)
RG-1 (OUT)	25 year	25	15,255.00	12.200	3.24	14.36	3,647.00
RG-1 (IN)	100 year	100	26,958.00	12.100	6.61	(N/A)	(N/A)
RG-1 (OUT)	100 year	100	25,220.00	12.200	5.73	14.75	4,531.00
RG-2 (IN)	2 year	2	4,723.00	12.100	1.28	(N/A)	(N/A)
RG-2 (OUT)	2 year	2	3,154.00	12.250	0.73	12.80	2,167.00
RG-2 (IN)	10 year	10	7,716.00	12.100	2.06	(N/A)	(N/A)
RG-2 (OUT)	10 year	10	6,134.00	12.150	1.97	12.89	2,315.00
RG-2 (IN)	25 year	25	8,925.00	12.100	2.38	(N/A)	(N/A)
RG-2 (OUT)	25 year	25	7,338.00	12.150	2.33	12.91	2,346.00
RG-2 (IN)	100 year	100	13,783.00	12.100	3.63	(N/A)	(N/A)
RG-2 (OUT)	100 year	100	12,175.00	12.150	3.54	12.96	2,433.00
RG-3 (IN)	2 year	2	2,296.00	12.100	0.62	(N/A)	(N/A)
RG-3 (OUT)	2 year	2	1,678.00	12.600	0.13	16.41	1,227.00
RG-3 (IN)	10 year	10	3,817.00	12.100	1.03	(N/A)	(N/A)
RG-3 (OUT)	10 year	10	3,183.00	12.150	0.95	16.57	1,410.00
RG-3 (IN)	25 year	25	4,437.00	12.100	1.19	(N/A)	(N/A)
RG-3 (OUT)	25 year	25	3,797.00	12.150	1.15	16.59	1,430.00
RG-3 (IN)	100 year	100	6,941.00	12.100	1.85	(N/A)	(N/A)
RG-3 (OUT)	100 year	100	6,275.00	12.150	1.81	16.63	1,472.00

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Storm Event	2 yr Current
Return Event	2 years
Duration	24.000 hours
Depth	3.41 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	3.77 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	3.67 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.18 in
Runoff Volume (Pervious)	13,837.95 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	13,817.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.52 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Storm Event	10 yr Current
Return Event	10 years
Duration	24.000 hours
Depth	5.26 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	5.86 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	5.69 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.02 in
Runoff Volume (Pervious)	21,879.23 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	21,847.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.52 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Storm Event	25yr Current
Return Event	25 years
Duration	24.000 hours
Depth	6.00 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	6.69 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	6.50 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.76 in
Runoff Volume (Pervious)	25,098.66 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	25,062.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.52 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	10.00 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	9.72 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.71 in
Runoff Volume (Pervious)	37,939.33 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	37,885.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.52 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Storm Event	2 yr Current
Return Event	2 years
Duration	24.000 hours
Depth	3.41 in
Time of Concentration (Composite)	0.118 hours
Area (User Defined)	0.040 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.133 hours
Flow (Peak, Computed)	0.07 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.07 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.040 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.86 in
Runoff Volume (Pervious)	270.02 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	269.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.118 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.22 ft³/s
Unit peak time, Tp	0.078 hours
Unit receding limb, Tr	0.690 hours
Total unit time, Tb	0.768 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Storm Event	10 yr Current
Return Event	10 years
Duration	24.000 hours
Depth	5.26 in
Time of Concentration (Composite)	0.118 hours
Area (User Defined)	0.040 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.133 hours
Flow (Peak, Computed)	0.14 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.14 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.040 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.51 in
Runoff Volume (Pervious)	509.52 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	508.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.118 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.22 ft³/s
Unit peak time, Tp	0.078 hours
Unit receding limb, Tr	0.690 hours
Total unit time, Tb	0.768 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Storm Event	25yr Current
Return Event	25 years
Duration	24.000 hours
Depth	6.00 in
Time of Concentration (Composite)	0.118 hours
Area (User Defined)	0.040 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.133 hours
Flow (Peak, Computed)	0.16 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.16 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.040 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.20 in
Runoff Volume (Pervious)	609.33 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	608.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.118 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.22 ft³/s
Unit peak time, Tp	0.078 hours
Unit receding limb, Tr	0.690 hours
Total unit time, Tb	0.768 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.118 hours
Area (User Defined)	0.040 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.133 hours
Flow (Peak, Computed)	0.27 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.26 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.040 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.01 in
Runoff Volume (Pervious)	1,017.95 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,016.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.118 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.22 ft³/s
Unit peak time, Tp	0.078 hours
Unit receding limb, Tr	0.690 hours
Total unit time, Tb	0.768 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Storm Event	2 yr Current
Return Event	2 years
Duration	24.000 hours
Depth	3.41 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.63 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.61 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.18 in
Runoff Volume (Pervious)	2,306.33 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,303.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.59 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Storm Event	10 yr Current
Return Event	10 years
Duration	24.000 hours
Depth	5.26 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.98 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.95 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.02 in
Runoff Volume (Pervious)	3,646.54 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,641.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.59 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Storm Event	25yr Current
Return Event	25 years
Duration	24.000 hours
Depth	6.00 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	1.12 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.08 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.76 in
Runoff Volume (Pervious)	4,183.11 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4,177.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.59 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	1.67 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.62 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.71 in
Runoff Volume (Pervious)	6,323.22 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,314.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.59 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Storm Event	2 yr Current
Return Event	2 years
Duration	24.000 hours
Depth	3.41 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.030 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.06 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.06 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.030 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.86 in
Runoff Volume (Pervious)	202.52 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	202.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Storm Event	10 yr Current
Return Event	10 years
Duration	24.000 hours
Depth	5.26 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.030 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.12 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.11 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.030 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.51 in
Runoff Volume (Pervious)	382.14 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	381.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Storm Event	25yr Current
Return Event	25 years
Duration	24.000 hours
Depth	6.00 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.030 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.14 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.13 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.030 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.20 in
Runoff Volume (Pervious)	457.00 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	456.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.030 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.23 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.22 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.030 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.01 in
Runoff Volume (Pervious)	763.46 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	762.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Storm Event	2 yr Current
Return Event	2 years
Duration	24.000 hours
Depth	3.41 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.210 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	3.81 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	3.70 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.210 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.18 in
Runoff Volume (Pervious)	13,953.27 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	13,932.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.60 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Storm Event	10 yr Current
Return Event	10 years
Duration	24.000 hours
Depth	5.26 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.210 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	5.91 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	5.74 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.210 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.02 in
Runoff Volume (Pervious)	22,061.56 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	22,029.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.60 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Storm Event	25yr Current
Return Event	25 years
Duration	24.000 hours
Depth	6.00 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.210 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	6.75 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	6.56 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.210 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.76 in
Runoff Volume (Pervious)	25,307.81 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	25,271.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.60 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.210 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	10.09 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	9.80 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.210 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.71 in
Runoff Volume (Pervious)	38,255.49 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	38,200.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.60 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Storm Event	2 yr Current
Return Event	2 years
Duration	24.000 hours
Depth	3.41 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.180 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.38 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.36 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.180 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.86 in
Runoff Volume (Pervious)	1,215.09 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,212.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.43 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Storm Event	10 yr Current
Return Event	10 years
Duration	24.000 hours
Depth	5.26 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.180 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.70 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.68 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.180 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.51 in
Runoff Volume (Pervious)	2,292.85 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,288.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.43 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Storm Event	25yr Current
Return Event	25 years
Duration	24.000 hours
Depth	6.00 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.180 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.83 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.80 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.180 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.20 in
Runoff Volume (Pervious)	2,742.00 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,737.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.43 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.180 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	1.36 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.31 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.180 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.01 in
Runoff Volume (Pervious)	4,580.78 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4,573.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.43 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Storm Event	2 yr Current
Return Event	2 years
Duration	24.000 hours
Depth	3.41 in
Time of Concentration (Composite)	0.161 hours
Area (User Defined)	0.300 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.164 hours
Flow (Peak, Computed)	0.73 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.73 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.300 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.18 in
Runoff Volume (Pervious)	3,459.49 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,450.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.161 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.23 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.946 hours
Total unit time, Tb	1.053 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Storm Event	10 yr Current
Return Event	10 years
Duration	24.000 hours
Depth	5.26 in
Time of Concentration (Composite)	0.161 hours
Area (User Defined)	0.300 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.164 hours
Flow (Peak, Computed)	1.13 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.13 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.300 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.02 in
Runoff Volume (Pervious)	5,469.81 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5,455.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.161 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.23 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.946 hours
Total unit time, Tb	1.053 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Storm Event	25yr Current
Return Event	25 years
Duration	24.000 hours
Depth	6.00 in
Time of Concentration (Composite)	0.161 hours
Area (User Defined)	0.300 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.164 hours
Flow (Peak, Computed)	1.30 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.29 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.300 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.76 in
Runoff Volume (Pervious)	6,274.67 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,258.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.161 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.23 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.946 hours
Total unit time, Tb	1.053 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.161 hours
Area (User Defined)	0.300 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.164 hours
Flow (Peak, Computed)	1.94 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.93 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.300 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.71 in
Runoff Volume (Pervious)	9,484.83 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	9,460.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.161 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.23 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.946 hours
Total unit time, Tb	1.053 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Storm Event	2 yr Current
Return Event	2 years
Duration	24.000 hours
Depth	3.41 in
Time of Concentration (Composite)	0.161 hours
Area (User Defined)	0.310 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.164 hours
Flow (Peak, Computed)	0.49 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.49 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.310 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.86 in
Runoff Volume (Pervious)	2,092.66 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,084.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.161 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.27 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.946 hours
Total unit time, Tb	1.053 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Storm Event	10 yr Current
Return Event	10 years
Duration	24.000 hours
Depth	5.26 in
Time of Concentration (Composite)	0.161 hours
Area (User Defined)	0.310 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.164 hours
Flow (Peak, Computed)	0.92 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.91 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.310 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.51 in
Runoff Volume (Pervious)	3,948.80 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,935.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.161 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.27 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.946 hours
Total unit time, Tb	1.053 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Storm Event	25yr Current
Return Event	25 years
Duration	24.000 hours
Depth	6.00 in
Time of Concentration (Composite)	0.161 hours
Area (User Defined)	0.310 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.164 hours
Flow (Peak, Computed)	1.10 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.09 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.310 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.20 in
Runoff Volume (Pervious)	4,722.32 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4,706.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.161 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.27 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.946 hours
Total unit time, Tb	1.053 hours

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.161 hours
Area (User Defined)	0.310 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.164 hours
Flow (Peak, Computed)	1.79 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.78 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.310 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.01 in
Runoff Volume (Pervious)	7,889.12 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	7,864.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.161 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Tc Current Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.27 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.946 hours
Total unit time, Tb	1.053 hours

PROJECTED PRECIPITATION

FlexTable: Catchment Table (Prelim Pre-Post1.ppc)

Current Time: 0.000 hours

Label	Outflow Node	Area (User Defined) (acres)	SCS CN (Composite)	Time of Concentration (Composite) (hours)
EDA-1 Imp	EX1	1.200	98.000	0.083
EDA-1 Perv	EX1	0.040	84.000	0.118
EDA-2 Imp	EPIQ-2	0.200	98.000	0.083
EDA-2 Perv	EPIQ-2	0.030	84.000	0.083
EDA-3 Imp	EX3	1.210	98.000	0.083
EDA-3 Perv	EX3	0.180	84.000	0.083
EDA-4 Imp	EX4	0.300	98.000	0.161
EDA-4 Perv	EX4	0.310	84.000	0.161
PDA1 Perv Bypass	PR1	0.090	80.000	0.233
PDA1-Imp	RG-1	0.510	98.000	0.083
PDA1-Perv	RG-1	0.460	80.000	0.132
PDA-2 Perv	PPIQ-2	0.260	84.000	0.120
PDA-3 Imp	PR3	0.060	98.000	0.138
PDA-3 Perv	PR3	0.290	80.000	0.138
PDA-4 Bypass	PR4	0.150	84.000	0.116
PDA-4 Imp	RG-2	0.340	98.000	0.083
PDA-4 Perv	RG-2	0.120	84.000	0.083
PDA-5 Imp	J5	0.820	98.000	0.083
PDA-5 Perv	J5	0.140	80.000	0.145
PDA-6 Imp	RG-3	0.160	98.000	0.083
PDA-6 Perv	RG-3	0.080	80.000	0.083

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-1 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.012 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.23 ft/s
Segment Time of Concentration	0.023 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	234.00 ft
Is Paved?	True
Slope	0.008 ft/ft
Average Velocity	1.86 ft/s
Segment Time of Concentration	0.035 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-1 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-1 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	63.00 ft
Manning's n	0.150
Slope	0.017 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.16 ft/s
Segment Time of Concentration	0.109 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.109 hours

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-1 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-2 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	30.00 ft
Manning's n	0.011
Slope	0.016 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.09 ft/s
Segment Time of Concentration	0.008 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	18.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.11 ft/s
Segment Time of Concentration	0.046 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-2 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-2 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	30.00 ft
Manning's n	0.011
Slope	0.016 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.09 ft/s
Segment Time of Concentration	0.008 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	18.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.11 ft/s
Segment Time of Concentration	0.046 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-2 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-3 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.026 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.68 ft/s
Segment Time of Concentration	0.017 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	177.00 ft
Is Paved?	True
Slope	0.022 ft/ft
Average Velocity	3.02 ft/s
Segment Time of Concentration	0.016 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-3 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-3 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	74.00 ft
Manning's n	0.011
Slope	0.036 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.80 ft/s
Segment Time of Concentration	0.011 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	32.00 ft
Is Paved?	True
Slope	0.040 ft/ft
Average Velocity	4.07 ft/s
Segment Time of Concentration	0.002 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-3 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-4 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	56.00 ft
Manning's n	0.011
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.20 ft/s
Segment Time of Concentration	0.013 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	44.00 ft
Manning's n	0.150
Slope	0.006 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.09 ft/s
Segment Time of Concentration	0.140 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	70.00 ft
Is Paved?	True
Slope	0.019 ft/ft
Average Velocity	2.80 ft/s
Segment Time of Concentration	0.007 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.160 hours

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-4 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-4 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	56.00 ft
Manning's n	0.011
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.20 ft/s
Segment Time of Concentration	0.013 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	44.00 ft
Manning's n	0.150
Slope	0.006 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.09 ft/s
Segment Time of Concentration	0.140 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	70.00 ft
Is Paved?	True
Slope	0.019 ft/ft
Average Velocity	2.80 ft/s
Segment Time of Concentration	0.007 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.160 hours

Pre-dev Tc Projected Precipitation

Subsection: Time of Concentration Calculations
Label: EDA-4 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Pre-dev Projected Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA1-Perv	2yr Projected	2	3,286.00	12.150	0.87
PDA1-Perv	10yr Projected	10	6,571.00	12.150	1.73
PDA1-Perv	25yr Projected	25	8,925.00	12.150	2.32
PDA1-Perv	100yr Projected	100	15,478.00	12.150	3.93
PDA1-Imp	2yr Projected	2	6,804.00	12.100	1.79
PDA1-Imp	10yr Projected	10	10,981.00	12.100	2.83
PDA1-Imp	25yr Projected	25	13,811.00	12.100	3.54
PDA1-Imp	100yr Projected	100	21,442.00	12.100	5.47
EDA-1 Imp	2yr Projected	2	16,010.00	12.100	4.20
EDA-1 Imp	10yr Projected	10	25,838.00	12.100	6.67
EDA-1 Imp	25yr Projected	25	32,497.00	12.100	8.33
EDA-1 Imp	100yr Projected	100	50,451.00	12.100	12.87
EDA-1 Perv	2yr Projected	2	333.00	12.150	0.09
EDA-1 Perv	10yr Projected	10	632.00	12.150	0.17
EDA-1 Perv	25yr Projected	25	843.00	12.150	0.22
EDA-1 Perv	100yr Projected	100	1,424.00	12.150	0.37
EDA-2 Imp	2yr Projected	2	2,668.00	12.100	0.70
EDA-2 Imp	10yr Projected	10	4,306.00	12.100	1.11
EDA-2 Imp	25yr Projected	25	5,416.00	12.100	1.39
EDA-2 Imp	100yr Projected	100	8,409.00	12.100	2.15
EDA-2 Perv	2yr Projected	2	250.00	12.100	0.07
EDA-2 Perv	10yr Projected	10	474.00	12.100	0.14
EDA-2 Perv	25yr Projected	25	632.00	12.100	0.18
EDA-2 Perv	100yr Projected	100	1,068.00	12.100	0.30
EDA-3 Imp	2yr Projected	2	16,143.00	12.100	4.24
EDA-3 Imp	10yr Projected	10	26,054.00	12.100	6.72
EDA-3 Imp	25yr Projected	25	32,768.00	12.100	8.40
EDA-3 Imp	100yr Projected	100	50,872.00	12.100	12.98
EDA-3 Perv	2yr Projected	2	1,498.00	12.100	0.44
EDA-3 Perv	10yr Projected	10	2,846.00	12.100	0.83
EDA-3 Perv	25yr Projected	25	3,795.00	12.100	1.09
EDA-3 Perv	100yr Projected	100	6,409.00	12.100	1.80
EDA-4 Imp	2yr Projected	2	4,003.00	12.150	0.84
EDA-4 Imp	10yr Projected	10	6,460.00	12.150	1.33
EDA-4 Imp	25yr Projected	25	8,125.00	12.150	1.67
EDA-4 Imp	100yr Projected	100	12,598.00	12.150	2.56
EDA-4 Perv	2yr Projected	2	2,579.00	12.150	0.60
EDA-4 Perv	10yr Projected	10	4,902.00	12.150	1.13
EDA-4 Perv	25yr Projected	25	6,535.00	12.150	1.49
EDA-4 Perv	100yr Projected	100	11,024.00	12.150	2.47
PDA1 Perv Bypass	2yr Projected	2	643.00	12.200	0.13
PDA1 Perv Bypass	10yr Projected	10	1,286.00	12.200	0.26
PDA1 Perv Bypass	25yr Projected	25	1,746.00	12.200	0.35

Pre-dev Projected Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA1 Perv Bypass	100yr Projected	100	3,023.00	12.200	0.60
PDA-2 Perv	2yr Projected	2	1,857.00	12.150	0.51
PDA-2 Perv	10yr Projected	10	3,714.00	12.150	1.01
PDA-2 Perv	25yr Projected	25	5,044.00	12.150	1.35
PDA-2 Perv	100yr Projected	100	8,750.00	12.150	2.29
PDA-3 Imp	2yr Projected	2	800.00	12.150	0.18
PDA-3 Imp	10yr Projected	10	1,292.00	12.150	0.29
PDA-3 Imp	25yr Projected	25	1,625.00	12.150	0.36
PDA-3 Imp	100yr Projected	100	2,521.00	12.150	0.56
PDA-3 Perv	2yr Projected	2	2,071.00	12.150	0.54
PDA-3 Perv	10yr Projected	10	4,142.00	12.150	1.07
PDA-3 Perv	25yr Projected	25	5,626.00	12.150	1.44
PDA-3 Perv	100yr Projected	100	9,756.00	12.150	2.44
PDA-4 Imp	2yr Projected	2	4,536.00	12.100	1.19
PDA-4 Imp	10yr Projected	10	7,321.00	12.100	1.89
PDA-4 Imp	25yr Projected	25	9,208.00	12.100	2.36
PDA-4 Imp	100yr Projected	100	14,295.00	12.100	3.65
PDA-4 Perv	2yr Projected	2	998.00	12.100	0.30
PDA-4 Perv	10yr Projected	10	1,897.00	12.100	0.55
PDA-4 Perv	25yr Projected	25	2,530.00	12.100	0.73
PDA-4 Perv	100yr Projected	100	4,273.00	12.100	1.20
PDA-4 Bypass	2yr Projected	2	1,248.00	12.150	0.34
PDA-4 Bypass	10yr Projected	10	2,372.00	12.150	0.63
PDA-4 Bypass	25yr Projected	25	3,162.00	12.150	0.83
PDA-4 Bypass	100yr Projected	100	5,339.00	12.150	1.37
PDA-5 Imp	2yr Projected	2	10,940.00	12.100	2.87
PDA-5 Imp	10yr Projected	10	17,656.00	12.100	4.56
PDA-5 Imp	25yr Projected	25	22,207.00	12.100	5.69
PDA-5 Imp	100yr Projected	100	34,475.00	12.100	8.80
PDA-5 Perv	2yr Projected	2	1,000.00	12.150	0.25
PDA-5 Perv	10yr Projected	10	2,000.00	12.150	0.50
PDA-5 Perv	25yr Projected	25	2,716.00	12.150	0.68
PDA-5 Perv	100yr Projected	100	4,709.00	12.150	1.15
PDA-6 Imp	2yr Projected	2	2,135.00	12.100	0.56
PDA-6 Imp	10yr Projected	10	3,445.00	12.100	0.89
PDA-6 Imp	25yr Projected	25	4,333.00	12.100	1.11
PDA-6 Imp	100yr Projected	100	6,727.00	12.100	1.72
PDA-6 Perv	2yr Projected	2	571.00	12.100	0.17
PDA-6 Perv	10yr Projected	10	1,143.00	12.100	0.34
PDA-6 Perv	25yr Projected	25	1,552.00	12.100	0.45
PDA-6 Perv	100yr Projected	100	2,694.00	12.100	0.77

Pre-dev Projected Rainfall

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EPIQ-2	2yr Projected	2	2,918.00	12.100	0.77
EPIQ-2	10yr Projected	10	4,781.00	12.100	1.25
EPIQ-2	25yr Projected	25	6,049.00	12.100	1.57
EPIQ-2	100yr Projected	100	9,477.00	12.100	2.45
PPIQ-2	2yr Projected	2	1,857.00	12.150	0.51
PPIQ-2	10yr Projected	10	3,714.00	12.150	1.01
PPIQ-2	25yr Projected	25	5,044.00	12.150	1.35
PPIQ-2	100yr Projected	100	8,750.00	12.150	2.29
J5	2yr Projected	2	11,940.00	12.100	3.09
J5	10yr Projected	10	19,656.00	12.100	5.01
J5	25yr Projected	25	24,922.00	12.100	6.31
J5	100yr Projected	100	39,184.00	12.100	9.84
EPIQ-1	2yr Projected	2	40,565.00	12.100	10.23
EPIQ-1	10yr Projected	10	66,732.00	12.100	16.55
EPIQ-1	25yr Projected	25	84,564.00	12.100	20.83
EPIQ-1	100yr Projected	100	132,778.00	12.100	32.45
PPIQ-1	2yr Projected	2	31,360.00	12.150	7.05
PPIQ-1	10yr Projected	10	56,434.00	12.150	13.59
PPIQ-1	25yr Projected	25	73,768.00	12.150	17.44
PPIQ-1	100yr Projected	100	120,638.00	12.150	29.80
EX1	2yr Projected	2	16,343.00	12.100	4.29
EX1	10yr Projected	10	26,471.00	12.100	6.83
EX1	25yr Projected	25	33,341.00	12.100	8.55
EX1	100yr Projected	100	51,875.00	12.100	13.22
EX3	2yr Projected	2	17,641.00	12.100	4.68
EX3	10yr Projected	10	28,900.00	12.100	7.55
EX3	25yr Projected	25	36,563.00	12.100	9.50
EX3	100yr Projected	100	57,281.00	12.100	14.78
EX4	2yr Projected	2	6,582.00	12.150	1.44
EX4	10yr Projected	10	11,361.00	12.150	2.47
EX4	25yr Projected	25	14,660.00	12.150	3.16
EX4	100yr Projected	100	23,622.00	12.150	5.03
PR3	2yr Projected	2	16,949.00	12.100	3.85
PR3	10yr Projected	10	29,109.00	12.150	7.34
PR3	25yr Projected	25	37,489.00	12.150	9.39
PR3	100yr Projected	100	60,196.00	12.100	14.92
PR1	2yr Projected	2	9,149.00	12.250	1.97
PR1	10yr Projected	10	17,255.00	12.250	3.53
PR1	25yr Projected	25	22,899.00	12.250	4.58
PR1	100yr Projected	100	38,158.00	12.200	8.89
PR4	2yr Projected	2	5,262.00	12.200	1.54
PR4	10yr Projected	10	10,070.00	12.150	3.04
PR4	25yr Projected	25	13,380.00	12.150	3.85

Pre-dev Projected Rainfall

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PR4	100yr Projected	100	22,283.00	12.150	6.13

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
RG-1 (IN)	2yr Projected	2	10,090.00	12.100	2.57	(N/A)	(N/A)
RG-1 (OUT)	2yr Projected	2	8,507.00	12.250	1.85	14.03	3,023.00
RG-1 (IN)	10yr Projected	10	17,553.00	12.100	4.41	(N/A)	(N/A)
RG-1 (OUT)	10yr Projected	10	15,969.00	12.250	3.28	14.37	3,859.00
RG-1 (IN)	25yr Projected	25	22,736.00	12.100	5.68	(N/A)	(N/A)
RG-1 (OUT)	25yr Projected	25	21,153.00	12.250	4.25	14.57	4,413.00
RG-1 (IN)	100yr Projected	100	36,920.00	12.100	9.12	(N/A)	(N/A)
RG-1 (OUT)	100yr Projected	100	35,136.00	12.200	8.29	14.87	5,322.00
RG-2 (IN)	2yr Projected	2	5,534.00	12.100	1.49	(N/A)	(N/A)
RG-2 (OUT)	2yr Projected	2	4,014.00	12.200	1.25	12.84	2,214.00
RG-2 (IN)	10yr Projected	10	9,218.00	12.100	2.44	(N/A)	(N/A)
RG-2 (OUT)	10yr Projected	10	7,698.00	12.150	2.40	12.92	2,334.00
RG-2 (IN)	25yr Projected	25	11,737.00	12.100	3.09	(N/A)	(N/A)
RG-2 (OUT)	25yr Projected	25	10,217.00	12.150	3.02	12.94	2,377.00
RG-2 (IN)	100yr Projected	100	18,567.00	12.100	4.85	(N/A)	(N/A)
RG-2 (OUT)	100yr Projected	100	16,944.00	12.150	4.76	13.01	2,496.00
RG-3 (IN)	2yr Projected	2	2,706.00	12.100	0.73	(N/A)	(N/A)
RG-3 (OUT)	2yr Projected	2	2,137.00	12.350	0.32	16.52	1,346.00
RG-3 (IN)	10yr Projected	10	4,588.00	12.100	1.23	(N/A)	(N/A)
RG-3 (OUT)	10yr Projected	10	4,019.00	12.150	1.19	16.59	1,433.00
RG-3 (IN)	25yr Projected	25	5,885.00	12.100	1.56	(N/A)	(N/A)
RG-3 (OUT)	25yr Projected	25	5,316.00	12.150	1.55	16.61	1,457.00
RG-3 (IN)	100yr Projected	100	9,420.00	12.100	2.49	(N/A)	(N/A)
RG-3 (OUT)	100yr Projected	100	8,735.00	12.150	2.44	16.66	1,508.00

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Storm Event	2yr Projected
Return Event	2 years
Duration	120.000 hours
Depth	3.91 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	4.33 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	4.20 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.68 in
Runoff Volume (Pervious)	16,009.72 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	16,010.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.52 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Storm Event	10yr Projected
Return Event	10 years
Duration	120.000 hours
Depth	6.17 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	6.87 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	6.67 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.93 in
Runoff Volume (Pervious)	25,838.39 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	25,838.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.52 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Storm Event	25yr Projected
Return Event	25 years
Duration	120.000 hours
Depth	7.70 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	8.59 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	8.33 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.46 in
Runoff Volume (Pervious)	32,497.50 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	32,497.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.52 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	13.25 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	12.87 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.60 in
Runoff Volume (Pervious)	50,523.38 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	50,451.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.52 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Storm Event	2yr Projected
Return Event	2 years
Duration	120.000 hours
Depth	3.91 in
Time of Concentration (Composite)	0.109 hours
Area (User Defined)	0.040 acres

Computational Time Increment	0.015 hours
Time to Peak (Computed)	12.132 hours
Flow (Peak, Computed)	0.09 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.09 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.040 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.29 in
Runoff Volume (Pervious)	332.80 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	333.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.109 hours
Computational Time Increment	0.015 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.073 hours
Unit receding limb, Tr	0.642 hours
Total unit time, Tb	0.715 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Storm Event	10yr Projected
Return Event	10 years
Duration	120.000 hours
Depth	6.17 in
Time of Concentration (Composite)	0.109 hours
Area (User Defined)	0.040 acres

Computational Time Increment	0.015 hours
Time to Peak (Computed)	12.132 hours
Flow (Peak, Computed)	0.17 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.17 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.040 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.36 in
Runoff Volume (Pervious)	632.47 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	632.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.109 hours
Computational Time Increment	0.015 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.073 hours
Unit receding limb, Tr	0.642 hours
Total unit time, Tb	0.715 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Storm Event	25yr Projected
Return Event	25 years
Duration	120.000 hours
Depth	7.70 in
Time of Concentration (Composite)	0.109 hours
Area (User Defined)	0.040 acres

Computational Time Increment	0.015 hours
Time to Peak (Computed)	12.132 hours
Flow (Peak, Computed)	0.23 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.22 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.040 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.81 in
Runoff Volume (Pervious)	843.27 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	843.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.109 hours
Computational Time Increment	0.015 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.073 hours
Unit receding limb, Tr	0.642 hours
Total unit time, Tb	0.715 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.109 hours
Area (User Defined)	0.040 acres

Computational Time Increment	0.015 hours
Time to Peak (Computed)	12.132 hours
Flow (Peak, Computed)	0.37 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.37 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.040 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.83 in
Runoff Volume (Pervious)	1,426.70 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,424.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.109 hours
Computational Time Increment	0.015 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-1 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.073 hours
Unit receding limb, Tr	0.642 hours
Total unit time, Tb	0.715 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Storm Event	2yr Projected
Return Event	2 years
Duration	120.000 hours
Depth	3.91 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	0.72 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.70 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.68 in
Runoff Volume (Pervious)	2,668.29 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,668.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.59 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Storm Event	10yr Projected
Return Event	10 years
Duration	120.000 hours
Depth	6.17 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	1.15 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.11 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.93 in
Runoff Volume (Pervious)	4,306.40 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4,306.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.59 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Storm Event	25yr Projected
Return Event	25 years
Duration	120.000 hours
Depth	7.70 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	1.43 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.39 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.46 in
Runoff Volume (Pervious)	5,416.25 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5,416.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.59 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.200 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	2.21 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.15 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.200 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.60 in
Runoff Volume (Pervious)	8,420.56 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	8,409.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.59 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Storm Event	2yr Projected
Return Event	2 years
Duration	120.000 hours
Depth	3.91 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.030 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	0.08 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.07 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.030 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.29 in
Runoff Volume (Pervious)	249.60 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	250.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Storm Event	10yr Projected
Return Event	10 years
Duration	120.000 hours
Depth	6.17 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.030 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	0.14 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.14 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.030 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.36 in
Runoff Volume (Pervious)	474.35 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	474.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Storm Event	25yr Projected
Return Event	25 years
Duration	120.000 hours
Depth	7.70 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.030 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	0.19 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.18 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.030 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.81 in
Runoff Volume (Pervious)	632.45 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	632.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.030 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.31 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.30 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.030 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.83 in
Runoff Volume (Pervious)	1,070.03 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,068.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-2 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.24 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Storm Event	2yr Projected
Return Event	2 years
Duration	120.000 hours
Depth	3.91 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.210 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	4.37 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	4.24 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.210 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.68 in
Runoff Volume (Pervious)	16,143.14 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	16,143.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.60 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Storm Event	10yr Projected
Return Event	10 years
Duration	120.000 hours
Depth	6.17 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.210 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	6.93 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	6.72 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.210 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.93 in
Runoff Volume (Pervious)	26,053.71 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	26,054.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.60 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Storm Event	25yr Projected
Return Event	25 years
Duration	120.000 hours
Depth	7.70 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.210 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	8.66 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	8.40 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.210 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.46 in
Runoff Volume (Pervious)	32,768.31 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	32,768.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.60 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	1.210 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	13.36 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	12.98 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	1.210 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.60 in
Runoff Volume (Pervious)	50,944.41 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	50,872.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.60 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Storm Event	2yr Projected
Return Event	2 years
Duration	120.000 hours
Depth	3.91 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.180 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	0.46 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.44 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.180 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.29 in
Runoff Volume (Pervious)	1,497.58 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,498.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.43 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Storm Event	10yr Projected
Return Event	10 years
Duration	120.000 hours
Depth	6.17 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.180 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	0.86 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.83 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.180 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.36 in
Runoff Volume (Pervious)	2,846.11 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,846.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.43 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Storm Event	25yr Projected
Return Event	25 years
Duration	120.000 hours
Depth	7.70 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.180 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.117 hours
Flow (Peak, Computed)	1.13 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.09 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.180 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.81 in
Runoff Volume (Pervious)	3,794.70 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,795.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.43 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.180 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	1.86 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.80 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.180 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.83 in
Runoff Volume (Pervious)	6,420.16 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,409.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-3 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.43 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Storm Event	2yr Projected
Return Event	2 years
Duration	120.000 hours
Depth	3.91 in
Time of Concentration (Composite)	0.160 hours
Area (User Defined)	0.300 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.165 hours
Flow (Peak, Computed)	0.84 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.84 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.300 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.68 in
Runoff Volume (Pervious)	4,002.43 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4,003.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.160 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.24 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.939 hours
Total unit time, Tb	1.046 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Storm Event	10yr Projected
Return Event	10 years
Duration	120.000 hours
Depth	6.17 in
Time of Concentration (Composite)	0.160 hours
Area (User Defined)	0.300 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.165 hours
Flow (Peak, Computed)	1.34 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.33 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.300 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.93 in
Runoff Volume (Pervious)	6,459.60 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,460.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.160 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.24 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.939 hours
Total unit time, Tb	1.046 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Storm Event	25yr Projected
Return Event	25 years
Duration	120.000 hours
Depth	7.70 in
Time of Concentration (Composite)	0.160 hours
Area (User Defined)	0.300 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.165 hours
Flow (Peak, Computed)	1.67 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.67 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.300 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.46 in
Runoff Volume (Pervious)	8,124.37 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	8,125.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.160 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.24 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.939 hours
Total unit time, Tb	1.046 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.160 hours
Area (User Defined)	0.300 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.165 hours
Flow (Peak, Computed)	2.57 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	2.56 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.300 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.60 in
Runoff Volume (Pervious)	12,630.84 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	12,598.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.160 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.24 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.939 hours
Total unit time, Tb	1.046 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Storm Event	2yr Projected
Return Event	2 years
Duration	120.000 hours
Depth	3.91 in
Time of Concentration (Composite)	0.160 hours
Area (User Defined)	0.310 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.165 hours
Flow (Peak, Computed)	0.61 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.60 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.310 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.29 in
Runoff Volume (Pervious)	2,579.16 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,579.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.160 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.28 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.939 hours
Total unit time, Tb	1.046 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Storm Event	10yr Projected
Return Event	10 years
Duration	120.000 hours
Depth	6.17 in
Time of Concentration (Composite)	0.160 hours
Area (User Defined)	0.310 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.165 hours
Flow (Peak, Computed)	1.14 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.13 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.310 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.36 in
Runoff Volume (Pervious)	4,901.64 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4,902.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.160 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.28 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.939 hours
Total unit time, Tb	1.046 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Storm Event	25yr Projected
Return Event	25 years
Duration	120.000 hours
Depth	7.70 in
Time of Concentration (Composite)	0.160 hours
Area (User Defined)	0.310 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.165 hours
Flow (Peak, Computed)	1.50 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.49 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.310 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.81 in
Runoff Volume (Pervious)	6,535.32 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,535.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.160 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.28 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.939 hours
Total unit time, Tb	1.046 hours

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.160 hours
Area (User Defined)	0.310 acres

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.165 hours
Flow (Peak, Computed)	2.48 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	2.47 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.310 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.83 in
Runoff Volume (Pervious)	11,056.94 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11,024.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.160 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Pre-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: EDA-4 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.28 ft³/s
Unit peak time, Tp	0.107 hours
Unit receding limb, Tr	0.939 hours
Total unit time, Tb	1.046 hours

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EPIQ-1
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'EPIQ-1'

Upstream Link	Upstream Node
Ex-4	EX4
Ex-1	EX1
Ex-3	EX3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EX4	6,581.73	12.150	1.44
Flow (From)	EX1	16,342.50	12.100	4.29
Flow (From)	EX3	17,640.62	12.100	4.68
Flow (In)	EPIQ-1	40,564.84	12.100	10.23

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EPIQ-1
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'EPIQ-1'

Upstream Link	Upstream Node
Ex-4	EX4
Ex-1	EX1
Ex-3	EX3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EX4	11,361.46	12.150	2.47
Flow (From)	EX1	26,470.86	12.100	6.83
Flow (From)	EX3	28,899.72	12.100	7.55
Flow (In)	EPIQ-1	66,732.04	12.100	16.55

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EPIQ-1
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'EPIQ-1'

Upstream Link	Upstream Node
Ex-4	EX4
Ex-1	EX1
Ex-3	EX3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EX4	14,659.99	12.150	3.16
Flow (From)	EX1	33,340.77	12.100	8.55
Flow (From)	EX3	36,562.92	12.100	9.50
Flow (In)	EPIQ-1	84,563.68	12.100	20.83

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EPIQ-1
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'EPIQ-1'

Upstream Link	Upstream Node
Ex-4	EX4
Ex-1	EX1
Ex-3	EX3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EX4	23,621.95	12.150	5.03
Flow (From)	EX1	51,874.91	12.100	13.22
Flow (From)	EX3	57,281.10	12.100	14.78
Flow (In)	EPIQ-1	132,777.96	12.100	32.45

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EPIQ-2
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'EPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2 Imp
<Catchment to Outflow Node>	EDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2 Imp	2,668.28	12.100	0.70
Flow (From)	EDA-2 Perv	249.59	12.100	0.07
Flow (In)	EPIQ-2	2,917.87	12.100	0.77

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EPIQ-2
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'EPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2 Imp
<Catchment to Outflow Node>	EDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2 Imp	4,306.39	12.100	1.11
Flow (From)	EDA-2 Perv	474.34	12.100	0.14
Flow (In)	EPIQ-2	4,780.73	12.100	1.25

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EPIQ-2
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'EPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2 Imp
<Catchment to Outflow Node>	EDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2 Imp	5,416.25	12.100	1.39
Flow (From)	EDA-2 Perv	632.44	12.100	0.18
Flow (In)	EPIQ-2	6,048.68	12.100	1.57

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EPIQ-2
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'EPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2 Imp
<Catchment to Outflow Node>	EDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2 Imp	8,408.53	12.100	2.15
Flow (From)	EDA-2 Perv	1,068.25	12.100	0.30
Flow (In)	EPIQ-2	9,476.78	12.100	2.45

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX1
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'EX1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1 Perv
<Catchment to Outflow Node>	EDA-1 Imp

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EDA-1 Perv	332.81	12.150	0.09
Flow (From)	EDA-1 Imp	16,009.69	12.100	4.20
Flow (In)	EX1	16,342.50	12.100	4.29

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX1
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'EX1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1 Perv
<Catchment to Outflow Node>	EDA-1 Imp

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EDA-1 Perv	632.49	12.150	0.17
Flow (From)	EDA-1 Imp	25,838.37	12.100	6.67
Flow (In)	EX1	26,470.86	12.100	6.83

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX1
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'EX1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1 Perv
<Catchment to Outflow Node>	EDA-1 Imp

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-1 Perv	843.30	12.150	0.22
Flow (From)	EDA-1 Imp	32,497.48	12.100	8.33
Flow (In)	EX1	33,340.77	12.100	8.55

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX1
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'EX1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1 Perv
<Catchment to Outflow Node>	EDA-1 Imp

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-1 Perv	1,423.72	12.150	0.37
Flow (From)	EDA-1 Imp	50,451.19	12.100	12.87
Flow (In)	EX1	51,874.91	12.100	13.22

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX3
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'EX3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3 Imp
<Catchment to Outflow Node>	EDA-3 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-3 Imp	16,143.11	12.100	4.24
Flow (From)	EDA-3 Perv	1,497.51	12.100	0.44
Flow (In)	EX3	17,640.62	12.100	4.68

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX3
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'EX3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3 Imp
<Catchment to Outflow Node>	EDA-3 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-3 Imp	26,053.69	12.100	6.72
Flow (From)	EDA-3 Perv	2,846.03	12.100	0.83
Flow (In)	EX3	28,899.72	12.100	7.55

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX3
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'EX3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3 Imp
<Catchment to Outflow Node>	EDA-3 Perv

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EDA-3 Imp	32,768.29	12.100	8.40
Flow (From)	EDA-3 Perv	3,794.63	12.100	1.09
Flow (In)	EX3	36,562.92	12.100	9.50

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX3
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'EX3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3 Imp
<Catchment to Outflow Node>	EDA-3 Perv

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EDA-3 Imp	50,871.61	12.100	12.98
Flow (From)	EDA-3 Perv	6,409.48	12.100	1.80
Flow (In)	EX3	57,281.10	12.100	14.78

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX4
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'EX4'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-4 Imp
<Catchment to Outflow Node>	EDA-4 Perv

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EDA-4 Imp	4,002.51	12.150	0.84
Flow (From)	EDA-4 Perv	2,579.22	12.150	0.60
Flow (In)	EX4	6,581.73	12.150	1.44

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX4
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'EX4'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-4 Imp
<Catchment to Outflow Node>	EDA-4 Perv

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EDA-4 Imp	6,459.72	12.150	1.33
Flow (From)	EDA-4 Perv	4,901.74	12.150	1.13
Flow (In)	EX4	11,361.46	12.150	2.47

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX4
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'EX4'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-4 Imp
<Catchment to Outflow Node>	EDA-4 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-4 Imp	8,124.53	12.150	1.67
Flow (From)	EDA-4 Perv	6,535.46	12.150	1.49
Flow (In)	EX4	14,659.99	12.150	3.16

Pre-dev Projected Rainfall

Subsection: Addition Summary
Label: EX4
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'EX4'

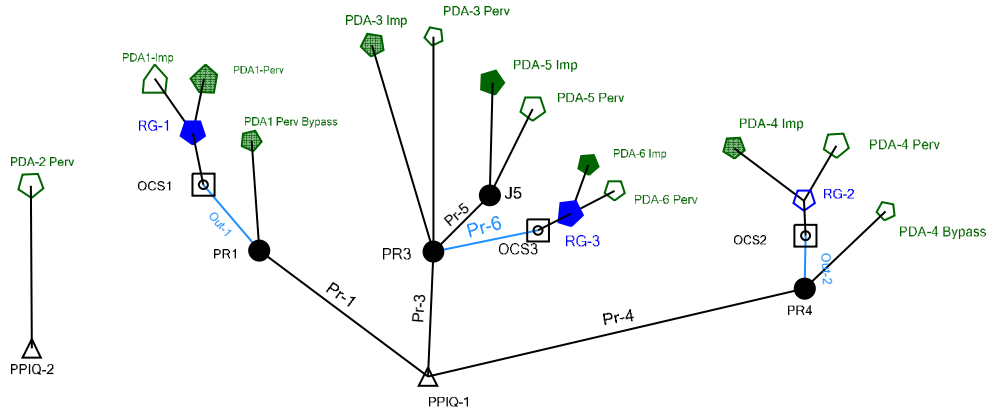
Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-4 Imp
<Catchment to Outflow Node>	EDA-4 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-4 Imp	12,598.14	12.150	2.56
Flow (From)	EDA-4 Perv	11,023.81	12.150	2.47
Flow (In)	EX4	23,621.95	12.150	5.03

Appendix B

Scenario: 100 year



FlexTable: Catchment Table (Prelim Pre-Post1.ppc)

Current Time: 0.000 hours

Label	Outflow Node	Area (User Defined) (acres)	SCS CN (Composite)	Time of Concentration (Composite) (hours)
EDA-1 Imp	EX1	1.200	98.000	0.083
EDA-1 Perv	EX1	0.040	84.000	0.118
EDA-2 Imp	EPIQ-2	0.200	98.000	0.083
EDA-2 Perv	EPIQ-2	0.030	84.000	0.083
EDA-3 Imp	EX3	1.210	98.000	0.083
EDA-3 Perv	EX3	0.180	84.000	0.083
EDA-4 Imp	EX4	0.300	98.000	0.161
EDA-4 Perv	EX4	0.310	84.000	0.161
PDA1 Perv Bypass	PR1	0.090	80.000	0.233
PDA1-Imp	RG-1	0.510	98.000	0.083
PDA1-Perv	RG-1	0.460	80.000	0.132
PDA-2 Perv	PPIQ-2	0.260	84.000	0.120
PDA-3 Imp	PR3	0.060	98.000	0.138
PDA-3 Perv	PR3	0.290	80.000	0.138
PDA-4 Bypass	PR4	0.150	84.000	0.116
PDA-4 Imp	RG-2	0.340	98.000	0.083
PDA-4 Perv	RG-2	0.120	84.000	0.083
PDA-5 Imp	J5	0.820	98.000	0.083
PDA-5 Perv	J5	0.140	80.000	0.145
PDA-6 Imp	RG-3	0.160	98.000	0.083
PDA-6 Perv	RG-3	0.080	80.000	0.083

Post-Developed Current Precip.

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA1-Perv	2 year	2	2,435.00	12.150	0.62
PDA1-Perv	10 year	10	4,960.00	12.150	1.27
PDA1-Perv	100 year	100	10,148.00	12.150	2.55
PDA1-Imp	2 year	2	5,633.00	12.100	1.50
PDA1-Imp	10 year	10	8,990.00	12.100	2.35
PDA1-Imp	100 year	100	15,270.00	12.100	3.92
EDA-1 Imp	2 year	2	13,254.00	12.100	3.52
EDA-1 Imp	10 year	10	21,152.00	12.100	5.52
EDA-1 Imp	100 year	100	35,928.00	12.100	9.23
EDA-1 Perv	2 year	2	253.00	12.150	0.07
EDA-1 Perv	10 year	10	487.00	12.150	0.13
EDA-1 Perv	100 year	100	953.00	12.150	0.25
EDA-2 Imp	2 year	2	2,209.00	12.100	0.59
EDA-2 Imp	10 year	10	3,525.00	12.100	0.92
EDA-2 Imp	100 year	100	5,988.00	12.100	1.54
EDA-2 Perv	2 year	2	190.00	12.100	0.06
EDA-2 Perv	10 year	10	365.00	12.100	0.11
EDA-2 Perv	100 year	100	715.00	12.100	0.21
EDA-3 Imp	2 year	2	13,364.00	12.100	3.55
EDA-3 Imp	10 year	10	21,328.00	12.100	5.56
EDA-3 Imp	100 year	100	36,228.00	12.100	9.31
EDA-3 Perv	2 year	2	1,141.00	12.100	0.34
EDA-3 Perv	10 year	10	2,192.00	12.100	0.65
EDA-3 Perv	100 year	100	4,289.00	12.100	1.23
EDA-4 Imp	2 year	2	3,309.00	12.150	0.70
EDA-4 Imp	10 year	10	5,282.00	12.150	1.10
EDA-4 Imp	100 year	100	8,971.00	12.150	1.83
EDA-4 Perv	2 year	2	1,961.00	12.150	0.46
EDA-4 Perv	10 year	10	3,770.00	12.150	0.88
EDA-4 Perv	100 year	100	7,376.00	12.150	1.68
PDA1 Perv Bypass	2 year	2	475.00	12.200	0.09
PDA1 Perv Bypass	10 year	10	968.00	12.200	0.19
PDA1 Perv Bypass	100 year	100	1,982.00	12.200	0.38
PDA-2 Perv	2 year	2	1,646.00	12.150	0.44
PDA-2 Perv	10 year	10	3,164.00	12.150	0.83
PDA-2 Perv	100 year	100	6,191.00	12.150	1.59
PDA-3 Imp	2 year	2	662.00	12.150	0.15
PDA-3 Imp	10 year	10	1,057.00	12.150	0.23
PDA-3 Imp	100 year	100	1,795.00	12.150	0.39
PDA-3 Perv	2 year	2	1,535.00	12.150	0.38
PDA-3 Perv	10 year	10	3,127.00	12.150	0.79
PDA-3 Perv	100 year	100	6,398.00	12.150	1.59
PDA-4 Imp	2 year	2	3,755.00	12.100	1.00

Post-Developed Current Precip.

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA-4 Imp	10 year	10	5,993.00	12.100	1.56
PDA-4 Imp	100 year	100	10,180.00	12.100	2.62
PDA-4 Perv	2 year	2	760.00	12.100	0.23
PDA-4 Perv	10 year	10	1,462.00	12.100	0.43
PDA-4 Perv	100 year	100	2,860.00	12.100	0.82
PDA-4 Bypass	2 year	2	950.00	12.150	0.26
PDA-4 Bypass	10 year	10	1,826.00	12.150	0.49
PDA-4 Bypass	100 year	100	3,573.00	12.150	0.93
PDA-5 Imp	2 year	2	9,057.00	12.100	2.41
PDA-5 Imp	10 year	10	14,454.00	12.100	3.77
PDA-5 Imp	100 year	100	24,551.00	12.100	6.31
PDA-5 Perv	2 year	2	741.00	12.150	0.18
PDA-5 Perv	10 year	10	1,509.00	12.150	0.37
PDA-5 Perv	100 year	100	3,088.00	12.150	0.75
PDA-6 Imp	2 year	2	1,767.00	12.100	0.47
PDA-6 Imp	10 year	10	2,820.00	12.100	0.74
PDA-6 Imp	100 year	100	4,790.00	12.100	1.23
PDA-6 Perv	2 year	2	424.00	12.100	0.12
PDA-6 Perv	10 year	10	864.00	12.100	0.26
PDA-6 Perv	100 year	100	1,767.00	12.100	0.52

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EPIQ-2	2 year	2	2,399.00	12.100	0.64
EPIQ-2	10 year	10	3,891.00	12.100	1.03
EPIQ-2	100 year	100	6,703.00	12.100	1.74
PPIQ-2	2 year	2	1,646.00	12.150	0.44
PPIQ-2	10 year	10	3,164.00	12.150	0.83
PPIQ-2	100 year	100	6,191.00	12.150	1.59
J5	2 year	2	9,798.00	12.100	2.56
J5	10 year	10	15,963.00	12.100	4.10
J5	100 year	100	27,639.00	12.100	6.97
EPIQ-1	2 year	2	33,282.00	12.100	8.48
EPIQ-1	10 year	10	54,211.00	12.100	13.58
EPIQ-1	100 year	100	93,746.00	12.100	23.09
PPIQ-1	2 year	2	24,386.00	12.150	5.12
PPIQ-1	10 year	10	44,156.00	12.150	10.71
PPIQ-1	100 year	100	82,412.00	12.150	19.58
EX1	2 year	2	13,507.00	12.100	3.58
EX1	10 year	10	21,639.00	12.100	5.64
EX1	100 year	100	36,881.00	12.100	9.46
EX3	2 year	2	14,505.00	12.100	3.89
EX3	10 year	10	23,521.00	12.100	6.21
EX3	100 year	100	40,517.00	12.100	10.54

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1 Perv Bypass
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.012 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.14 ft/s
Segment Time of Concentration	0.198 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	49.00 ft
Is Paved?	False
Slope	0.012 ft/ft
Average Velocity	1.77 ft/s
Segment Time of Concentration	0.008 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	185.00 ft
Is Paved?	True
Slope	0.008 ft/ft
Average Velocity	1.86 ft/s
Segment Time of Concentration	0.028 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.233 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1 Perv Bypass
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1-Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.06 ft/s
Segment Time of Concentration	0.026 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	55.00 ft
Is Paved?	True
Slope	0.010 ft/ft
Average Velocity	2.03 ft/s
Segment Time of Concentration	0.008 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	109.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.009 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1-Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1-Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	65.00 ft
Manning's n	0.150
Slope	0.020 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.16 ft/s
Segment Time of Concentration	0.114 hours

Segment #2: TR-55 Channel Flow	
Flow Area	0.8 ft²
Hydraulic Length	104.00 ft
Manning's n	0.012
Slope	0.005 ft/ft
Wetted Perimeter	3.10 ft
Average Velocity	3.56 ft/s
Segment Time of Concentration	0.008 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	115.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.010 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.132 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1-Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-2 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	60.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.14 ft/s
Segment Time of Concentration	0.120 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.120 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-2 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-3 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	62.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.14 ft/s
Segment Time of Concentration	0.123 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	82.00 ft
Is Paved?	True
Slope	0.006 ft/ft
Average Velocity	1.57 ft/s
Segment Time of Concentration	0.014 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.138 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-3 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-3 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	62.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.14 ft/s
Segment Time of Concentration	0.123 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	82.00 ft
Is Paved?	True
Slope	0.006 ft/ft
Average Velocity	1.57 ft/s
Segment Time of Concentration	0.014 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.138 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-3 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Bypass
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	49.00 ft
Manning's n	0.150
Slope	0.048 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.21 ft/s
Segment Time of Concentration	0.064 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	266.00 ft
Is Paved?	True
Slope	0.005 ft/ft
Average Velocity	1.44 ft/s
Segment Time of Concentration	0.051 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.116 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Bypass
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc =
R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =
Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	76.00 ft
Manning's n	0.011
Slope	0.013 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.11 ft/s
Segment Time of Concentration	0.019 hours

Segment #2: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	82.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.007 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	42.00 ft
Manning's n	0.150
Slope	0.050 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.21 ft/s
Segment Time of Concentration	0.056 hours

Segment #2: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	82.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.007 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-5 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.018 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.32 ft/s
Segment Time of Concentration	0.021 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	240.00 ft
Is Paved?	True
Slope	0.013 ft/ft
Average Velocity	2.32 ft/s
Segment Time of Concentration	0.029 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-5 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-5 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.035 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.22 ft/s
Segment Time of Concentration	0.129 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	120.00 ft
Is Paved?	True
Slope	0.010 ft/ft
Average Velocity	2.03 ft/s
Segment Time of Concentration	0.016 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.145 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-5 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc =
R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =
Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-6 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	1.06 ft/s
Segment Time of Concentration	0.026 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	39.00 ft
Is Paved?	True
Slope	0.010 ft/ft
Average Velocity	2.03 ft/s
Segment Time of Concentration	0.005 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	10.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.001 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-6 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-6 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	15.00 ft
Manning's n	0.150
Slope	0.200 ft/ft
2 Year 24 Hour Depth	3.28 in
Average Velocity	0.30 ft/s
Segment Time of Concentration	0.014 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Current Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-6 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Current Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EDA-1 Imp	100 year	100	37,885.00	12.100	9.72
EDA-1 Perv	100 year	100	1,016.00	12.150	0.26
EDA-2 Imp	100 year	100	6,314.00	12.100	1.62
EDA-2 Perv	100 year	100	762.00	12.100	0.22
EDA-3 Imp	100 year	100	38,200.00	12.100	9.80
EDA-3 Perv	100 year	100	4,573.00	12.100	1.31
EDA-4 Imp	100 year	100	9,460.00	12.150	1.93
EDA-4 Perv	100 year	100	7,864.00	12.150	1.78
PDA-2 Perv	100 year	100	6,600.00	12.150	1.68
PDA-3 Imp	100 year	100	1,893.00	12.150	0.41
PDA-3 Perv	100 year	100	6,845.00	12.150	1.69
PDA-4 Bypass	100 year	100	3,809.00	12.150	0.99
PDA-4 Imp	100 year	100	10,734.00	12.100	2.75
PDA-4 Perv	100 year	100	3,049.00	12.100	0.87
PDA-5 Imp	100 year	100	25,888.00	12.100	6.64
PDA-5 Perv	100 year	100	3,304.00	12.150	0.80
PDA-6 Imp	100 year	100	5,051.00	12.100	1.30
PDA-6 Perv	100 year	100	1,890.00	12.100	0.55
PDA1 Perv Bypass	100 year	100	2,120.00	12.200	0.41
PDA1-Imp	100 year	100	16,101.00	12.100	4.13
PDA1-Perv	100 year	100	10,857.00	12.150	2.73

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EPIQ-1	100 year	100	98,997.00	12.100	24.35
EPIQ-2	100 year	100	7,076.00	12.100	1.84
EX1	100 year	100	38,900.00	12.100	9.97
EX3	100 year	100	42,773.00	12.100	11.11
EX4	100 year	100	17,324.00	12.150	3.71
J5	100 year	100	29,192.00	12.100	7.35
PPIQ-1	100 year	100	87,528.00	12.150	20.73
PPIQ-2	100 year	100	6,600.00	12.150	1.68
PR1	100 year	100	27,340.00	12.200	6.14
PR3	100 year	100	44,204.00	12.100	10.99
PR4	100 year	100	15,984.00	12.150	4.53

Pond Summary

Post-dev Current Rainfall

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
RG-1 (IN)	100 year	100	26,958.00	12.100	6.61	(N/A)	(N/A)
RG-1 (OUT)	100 year	100	25,220.00	12.200	5.73	14.75	4,531.00
RG-2 (IN)	100 year	100	13,783.00	12.100	3.63	(N/A)	(N/A)
RG-2 (OUT)	100 year	100	12,175.00	12.150	3.54	12.96	2,433.00
RG-3 (IN)	100 year	100	6,941.00	12.100	1.85	(N/A)	(N/A)
RG-3 (OUT)	100 year	100	6,275.00	12.150	1.81	16.63	1,472.00

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1 Perv Bypass
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.233 hours
Area (User Defined)	0.090 acres

Computational Time Increment	0.031 hours
Time to Peak (Computed)	12.217 hours
Flow (Peak, Computed)	0.41 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	0.41 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.090 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.52 in
Runoff Volume (Pervious)	2,130.34 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,120.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.233 hours
Computational Time Increment	0.031 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1 Perv Bypass
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.26 ft³/s
Unit peak time, Tp	0.155 hours
Unit receding limb, Tr	1.368 hours
Total unit time, Tb	1.523 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1-Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.510 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	4.25 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	4.13 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.510 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.71 in
Runoff Volume (Pervious)	16,124.22 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	16,101.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1-Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.05 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1-Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.132 hours
Area (User Defined)	0.460 acres

Computational Time Increment	0.018 hours
Time to Peak (Computed)	12.143 hours
Flow (Peak, Computed)	2.74 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	2.73 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.460 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.52 in
Runoff Volume (Pervious)	10,888.39 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	10,857.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.132 hours
Computational Time Increment	0.018 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1-Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.30 ft³/s
Unit peak time, Tp	0.088 hours
Unit receding limb, Tr	0.777 hours
Total unit time, Tb	0.865 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-2 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.120 hours
Area (User Defined)	0.260 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	1.70 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.68 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.260 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.01 in
Runoff Volume (Pervious)	6,616.68 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,600.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.120 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-2 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.43 ft³/s
Unit peak time, Tp	0.080 hours
Unit receding limb, Tr	0.706 hours
Total unit time, Tb	0.786 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-3 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.138 hours
Area (User Defined)	0.060 acres

Computational Time Increment	0.018 hours
Time to Peak (Computed)	12.137 hours
Flow (Peak, Computed)	0.41 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.41 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.060 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.71 in
Runoff Volume (Pervious)	1,896.97 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,893.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.138 hours
Computational Time Increment	0.018 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-3 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.29 ft³/s
Unit peak time, Tp	0.092 hours
Unit receding limb, Tr	0.809 hours
Total unit time, Tb	0.901 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-3 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.138 hours
Area (User Defined)	0.290 acres

Computational Time Increment	0.018 hours
Time to Peak (Computed)	12.155 hours
Flow (Peak, Computed)	1.69 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.69 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.290 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.52 in
Runoff Volume (Pervious)	6,864.42 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,845.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.138 hours
Computational Time Increment	0.018 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-3 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.39 ft³/s
Unit peak time, Tp	0.092 hours
Unit receding limb, Tr	0.809 hours
Total unit time, Tb	0.901 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Bypass
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.116 hours
Area (User Defined)	0.150 acres

Computational Time Increment	0.015 hours
Time to Peak (Computed)	12.133 hours
Flow (Peak, Computed)	1.00 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.99 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.150 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.01 in
Runoff Volume (Pervious)	3,817.32 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,809.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.116 hours
Computational Time Increment	0.015 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Bypass
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.86 ft³/s
Unit peak time, Tp	0.077 hours
Unit receding limb, Tr	0.678 hours
Total unit time, Tb	0.755 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.340 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	2.83 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.75 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.340 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.71 in
Runoff Volume (Pervious)	10,749.48 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	10,734.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.70 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.120 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.90 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.87 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.120 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.01 in
Runoff Volume (Pervious)	3,053.85 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,049.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.95 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-5 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.820 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	6.84 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	6.64 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.820 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.71 in
Runoff Volume (Pervious)	25,925.21 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	25,888.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-5 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.50 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-5 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.145 hours
Area (User Defined)	0.140 acres

Computational Time Increment	0.019 hours
Time to Peak (Computed)	12.151 hours
Flow (Peak, Computed)	0.80 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.80 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.140 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.52 in
Runoff Volume (Pervious)	3,313.86 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,304.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.145 hours
Computational Time Increment	0.019 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-5 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.64 ft³/s
Unit peak time, Tp	0.097 hours
Unit receding limb, Tr	0.853 hours
Total unit time, Tb	0.950 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-6 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.160 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	1.33 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.30 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.160 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.71 in
Runoff Volume (Pervious)	5,058.58 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5,051.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-6 Imp
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.27 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-6 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Storm Event	100 Current
Return Event	100 years
Duration	24.000 hours
Depth	8.95 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.080 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.57 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.55 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.080 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.52 in
Runoff Volume (Pervious)	1,893.63 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,890.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Current Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-6 Perv
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.63 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Current Rainfall

Subsection: Addition Summary
Label: J5
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'J5'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-5 Imp
<Catchment to Outflow Node>	PDA-5 Perv

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-5 Imp	25,887.92	12.100	6.64
Flow (From)	PDA-5 Perv	3,304.03	12.150	0.80
Flow (In)	J5	29,191.95	12.100	7.35

Post-dev Current Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PR3	44,204.49	12.100	10.99
Flow (From)	PR4	15,983.70	12.150	4.53
Flow (From)	PR1	27,339.96	12.200	6.14
Flow (In)	PPIQ-1	87,528.15	12.150	20.73

Post-dev Current Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2 Perv	6,600.46	12.150	1.68
Flow (In)	PPIQ-2	6,600.46	12.150	1.68

Post-dev Current Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Out-1	25,219.77	12.200	5.73
Flow (From)	PDA1 Perv Bypass	2,120.19	12.200	0.41
Flow (In)	PR1	27,339.96	12.200	6.14

Post-dev Current Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	1,892.66	12.150	0.41
Flow (From)	PDA-3 Perv	6,844.66	12.150	1.69
Flow (From)	J5	29,191.95	12.100	7.35
Flow (From)	Pr-6	6,275.21	12.150	1.81
Flow (In)	PR3	44,204.49	12.100	10.99

Post-dev Current Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	12,174.94	12.150	3.54
Flow (From)	PDA-4 Bypass	3,808.76	12.150	0.99
Flow (In)	PR4	15,983.70	12.150	4.53

PROJECTED PRECIPITATION

FlexTable: Catchment Table (Prelim Pre-Post1.ppc)

Current Time: 0.000 hours

Label	Outflow Node	Area (User Defined) (acres)	SCS CN (Composite)	Time of Concentration (Composite) (hours)
EDA-1 Imp	EX1	1.200	98.000	0.083
EDA-1 Perv	EX1	0.040	84.000	0.118
EDA-2 Imp	EPIQ-2	0.200	98.000	0.083
EDA-2 Perv	EPIQ-2	0.030	84.000	0.083
EDA-3 Imp	EX3	1.210	98.000	0.083
EDA-3 Perv	EX3	0.180	84.000	0.083
EDA-4 Imp	EX4	0.300	98.000	0.161
EDA-4 Perv	EX4	0.310	84.000	0.161
PDA1 Perv Bypass	PR1	0.090	80.000	0.233
PDA1-Imp	RG-1	0.510	98.000	0.083
PDA1-Perv	RG-1	0.460	80.000	0.132
PDA-2 Perv	PPIQ-2	0.260	84.000	0.120
PDA-3 Imp	PR3	0.060	98.000	0.138
PDA-3 Perv	PR3	0.290	80.000	0.138
PDA-4 Bypass	PR4	0.150	84.000	0.116
PDA-4 Imp	RG-2	0.340	98.000	0.083
PDA-4 Perv	RG-2	0.120	84.000	0.083
PDA-5 Imp	J5	0.820	98.000	0.083
PDA-5 Perv	J5	0.140	80.000	0.145
PDA-6 Imp	RG-3	0.160	98.000	0.083
PDA-6 Perv	RG-3	0.080	80.000	0.083

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1 Perv Bypass
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.012 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.15 ft/s
Segment Time of Concentration	0.182 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	49.00 ft
Is Paved?	False
Slope	0.012 ft/ft
Average Velocity	1.77 ft/s
Segment Time of Concentration	0.008 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	185.00 ft
Is Paved?	True
Slope	0.008 ft/ft
Average Velocity	1.86 ft/s
Segment Time of Concentration	0.028 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.217 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1 Perv Bypass
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1-Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.15 ft/s
Segment Time of Concentration	0.024 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	55.00 ft
Is Paved?	True
Slope	0.010 ft/ft
Average Velocity	2.03 ft/s
Segment Time of Concentration	0.008 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	109.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.009 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1-Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1-Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	65.00 ft
Manning's n	0.150
Slope	0.020 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.17 ft/s
Segment Time of Concentration	0.105 hours

Segment #2: TR-55 Channel Flow	
Flow Area	0.8 ft²
Hydraulic Length	104.00 ft
Manning's n	0.012
Slope	0.005 ft/ft
Wetted Perimeter	3.10 ft
Average Velocity	3.56 ft/s
Segment Time of Concentration	0.008 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	115.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.010 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.123 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA1-Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-2 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	60.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.15 ft/s
Segment Time of Concentration	0.111 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.111 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-2 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-3 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	62.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.15 ft/s
Segment Time of Concentration	0.114 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	82.00 ft
Is Paved?	True
Slope	0.006 ft/ft
Average Velocity	1.57 ft/s
Segment Time of Concentration	0.014 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.128 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-3 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-3 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	62.00 ft
Manning's n	0.150
Slope	0.015 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.15 ft/s
Segment Time of Concentration	0.114 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	82.00 ft
Is Paved?	True
Slope	0.006 ft/ft
Average Velocity	1.57 ft/s
Segment Time of Concentration	0.014 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.128 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-3 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Bypass
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	49.00 ft
Manning's n	0.150
Slope	0.048 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.059 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	266.00 ft
Is Paved?	True
Slope	0.005 ft/ft
Average Velocity	1.44 ft/s
Segment Time of Concentration	0.051 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.111 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Bypass
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	76.00 ft
Manning's n	0.011
Slope	0.013 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.21 ft/s
Segment Time of Concentration	0.018 hours

Segment #2: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	82.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.007 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	42.00 ft
Manning's n	0.150
Slope	0.050 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.051 hours

Segment #2: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	82.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.007 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-4 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-5 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.018 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.43 ft/s
Segment Time of Concentration	0.019 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	240.00 ft
Is Paved?	True
Slope	0.013 ft/ft
Average Velocity	2.32 ft/s
Segment Time of Concentration	0.029 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-5 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-5 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.035 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.119 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	120.00 ft
Is Paved?	True
Slope	0.010 ft/ft
Average Velocity	2.03 ft/s
Segment Time of Concentration	0.016 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.135 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-5 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-6 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	1.15 ft/s
Segment Time of Concentration	0.024 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	39.00 ft
Is Paved?	True
Slope	0.010 ft/ft
Average Velocity	2.03 ft/s
Segment Time of Concentration	0.005 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	10.00 ft
Manning's n	0.015
Slope	0.005 ft/ft
Wetted Perimeter	3.90 ft
Average Velocity	3.20 ft/s
Segment Time of Concentration	0.001 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-6 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-6 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	15.00 ft
Manning's n	0.150
Slope	0.200 ft/ft
2 Year 24 Hour Depth	3.87 in
Average Velocity	0.32 ft/s
Segment Time of Concentration	0.013 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Post-dev Tc Projected Rainfall

Subsection: Time of Concentration Calculations
Label: PDA-6 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Post-dev Projected Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EDA-1 Imp	100yr Projected	100	50,451.00	12.100	12.87
EDA-1 Perv	100yr Projected	100	1,424.00	12.150	0.37
EDA-2 Imp	100yr Projected	100	8,409.00	12.100	2.15
EDA-2 Perv	100yr Projected	100	1,068.00	12.100	0.30
EDA-3 Imp	100yr Projected	100	50,872.00	12.100	12.98
EDA-3 Perv	100yr Projected	100	6,409.00	12.100	1.80
EDA-4 Imp	100yr Projected	100	12,598.00	12.150	2.56
EDA-4 Perv	100yr Projected	100	11,024.00	12.150	2.47
PDA-2 Perv	100yr Projected	100	8,750.00	12.150	2.29
PDA-3 Imp	100yr Projected	100	2,521.00	12.150	0.56
PDA-3 Perv	100yr Projected	100	9,756.00	12.150	2.44
PDA-4 Bypass	100yr Projected	100	5,339.00	12.150	1.37
PDA-4 Imp	100yr Projected	100	14,295.00	12.100	3.65
PDA-4 Perv	100yr Projected	100	4,273.00	12.100	1.20
PDA-5 Imp	100yr Projected	100	34,475.00	12.100	8.80
PDA-5 Perv	100yr Projected	100	4,709.00	12.150	1.15
PDA-6 Imp	100yr Projected	100	6,727.00	12.100	1.72
PDA-6 Perv	100yr Projected	100	2,694.00	12.100	0.77
PDA1 Perv Bypass	100yr Projected	100	3,023.00	12.200	0.60
PDA1-Imp	100yr Projected	100	21,442.00	12.100	5.47
PDA1-Perv	100yr Projected	100	15,478.00	12.150	3.93

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EPIQ-1	100yr Projected	100	132,778.00	12.100	32.45
EPIQ-2	100yr Projected	100	9,477.00	12.100	2.45
EX1	100yr Projected	100	51,875.00	12.100	13.22
EX3	100yr Projected	100	57,281.00	12.100	14.78
EX4	100yr Projected	100	23,622.00	12.150	5.03
J5	100yr Projected	100	39,184.00	12.100	9.84
PPIQ-1	100yr Projected	100	120,638.00	12.150	29.80
PPIQ-2	100yr Projected	100	8,750.00	12.150	2.29
PR1	100yr Projected	100	38,158.00	12.200	8.89
PR3	100yr Projected	100	60,196.00	12.100	14.92
PR4	100yr Projected	100	22,283.00	12.150	6.13

Pond Summary

Post-dev Projected Rainfall

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
RG-1 (IN)	100yr Projected	100	36,920.00	12.100	9.12	(N/A)	(N/A)
RG-1 (OUT)	100yr Projected	100	35,136.00	12.200	8.29	14.87	5,322.00
RG-2 (IN)	100yr Projected	100	18,567.00	12.100	4.85	(N/A)	(N/A)
RG-2 (OUT)	100yr Projected	100	16,944.00	12.150	4.76	13.01	2,496.00
RG-3 (IN)	100yr Projected	100	9,420.00	12.100	2.49	(N/A)	(N/A)
RG-3 (OUT)	100yr Projected	100	8,735.00	12.150	2.44	16.66	1,508.00

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1 Perv Bypass
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.217 hours
Area (User Defined)	0.090 acres

Computational Time Increment	0.029 hours
Time to Peak (Computed)	12.206 hours
Flow (Peak, Computed)	0.60 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	0.60 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.090 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.29 in
Runoff Volume (Pervious)	3,035.56 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,023.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.217 hours
Computational Time Increment	0.029 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1 Perv Bypass
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.27 ft³/s
Unit peak time, Tp	0.145 hours
Unit receding limb, Tr	1.276 hours
Total unit time, Tb	1.421 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1-Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.510 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	5.63 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	5.47 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.510 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.60 in
Runoff Volume (Pervious)	21,472.44 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	21,442.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1-Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.05 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1-Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.123 hours
Area (User Defined)	0.460 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.133 hours
Flow (Peak, Computed)	3.96 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	3.93 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.460 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.29 in
Runoff Volume (Pervious)	15,515.10 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	15,478.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.123 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA1-Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.47 ft³/s
Unit peak time, Tp	0.082 hours
Unit receding limb, Tr	0.723 hours
Total unit time, Tb	0.806 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-2 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.111 hours
Area (User Defined)	0.260 acres

Computational Time Increment	0.015 hours
Time to Peak (Computed)	12.134 hours
Flow (Peak, Computed)	2.33 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	2.29 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.260 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.29 in
Runoff Volume (Pervious)	8,769.40 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	8,750.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.111 hours
Computational Time Increment	0.015 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-2 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.55 ft³/s
Unit peak time, Tp	0.074 hours
Unit receding limb, Tr	0.650 hours
Total unit time, Tb	0.723 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-3 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.128 hours
Area (User Defined)	0.060 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.146 hours
Flow (Peak, Computed)	0.56 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	0.56 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.060 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.60 in
Runoff Volume (Pervious)	2,526.17 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,521.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.128 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-3 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.31 ft³/s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.752 hours
Total unit time, Tb	0.837 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-3 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.128 hours
Area (User Defined)	0.290 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.146 hours
Flow (Peak, Computed)	2.45 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	2.44 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.290 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.29 in
Runoff Volume (Pervious)	9,781.26 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	9,756.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.128 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-3 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.50 ft³/s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.752 hours
Total unit time, Tb	0.837 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Bypass
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.111 hours
Area (User Defined)	0.150 acres

Computational Time Increment	0.015 hours
Time to Peak (Computed)	12.129 hours
Flow (Peak, Computed)	1.40 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.37 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.150 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.83 in
Runoff Volume (Pervious)	5,350.13 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5,339.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.111 hours
Computational Time Increment	0.015 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Bypass
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.90 ft³/s
Unit peak time, Tp	0.074 hours
Unit receding limb, Tr	0.648 hours
Total unit time, Tb	0.722 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.340 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	3.75 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	3.65 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.340 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.60 in
Runoff Volume (Pervious)	14,314.96 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	14,295.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.70 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.120 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	1.24 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.20 ft³/s

Drainage Area	
SCS CN (Composite)	84.000
Area (User Defined)	0.120 acres
Maximum Retention (Pervious)	1.90 in
Maximum Retention (Pervious, 20 percent)	0.38 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.83 in
Runoff Volume (Pervious)	4,280.11 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4,273.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-4 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.95 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-5 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.820 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	9.05 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	8.80 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.820 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.60 in
Runoff Volume (Pervious)	34,524.31 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	34,475.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-5 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.50 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-5 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.135 hours
Area (User Defined)	0.140 acres

Computational Time Increment	0.018 hours
Time to Peak (Computed)	12.142 hours
Flow (Peak, Computed)	1.16 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.15 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.140 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.29 in
Runoff Volume (Pervious)	4,721.99 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4,709.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.135 hours
Computational Time Increment	0.018 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-5 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.68 ft³/s
Unit peak time, Tp	0.090 hours
Unit receding limb, Tr	0.793 hours
Total unit time, Tb	0.883 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-6 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.160 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	1.77 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.72 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.160 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.60 in
Runoff Volume (Pervious)	6,736.45 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,727.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-6 Imp
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.27 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-6 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Storm Event	100yr Projected
Return Event	100 years
Duration	24.000 hours
Depth	11.84 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.080 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.122 hours
Flow (Peak, Computed)	0.80 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.77 ft³/s

Drainage Area	
SCS CN (Composite)	80.000
Area (User Defined)	0.080 acres
Maximum Retention (Pervious)	2.50 in
Maximum Retention (Pervious, 20 percent)	0.50 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.29 in
Runoff Volume (Pervious)	2,698.28 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,694.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Post-dev Projected Rainfall

Subsection: Unit Hydrograph Summary
Label: PDA-6 Perv
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

SCS Unit Hydrograph Parameters	
Unit peak, qp	0.63 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

Post-dev Projected Rainfall

Subsection: Addition Summary
Label: J5
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'J5'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-5 Imp
<Catchment to Outflow Node>	PDA-5 Perv

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-5 Imp	34,474.98	12.100	8.80
Flow (From)	PDA-5 Perv	4,708.94	12.150	1.15
Flow (In)	J5	39,183.92	12.100	9.84

Post-dev Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PR3	60,196.42	12.100	14.92
Flow (From)	PR4	22,282.70	12.150	6.13
Flow (From)	PR1	38,158.46	12.200	8.89
Flow (In)	PPIQ-1	120,637.58	12.150	29.80

Post-dev Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-2 Perv	8,750.19	12.150	2.29
Flow (In)	PPIQ-2	8,750.19	12.150	2.29

Post-dev Projected Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-1	35,135.51	12.200	8.29
Flow (From)	PDA1 Perv Bypass	3,022.94	12.200	0.60
Flow (In)	PR1	38,158.46	12.200	8.89

Post-dev Projected Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	2,520.81	12.150	0.56
Flow (From)	PDA-3 Perv	9,756.22	12.150	2.44
Flow (From)	J5	39,183.92	12.100	9.84
Flow (From)	Pr-6	8,735.47	12.150	2.44
Flow (In)	PR3	60,196.42	12.100	14.92

Post-dev Projected Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	16,943.85	12.150	4.76
Flow (From)	PDA-4 Bypass	5,338.85	12.150	1.37
Flow (In)	PR4	22,282.70	12.150	6.13

Appendix C

Basin Volumes

Subsection: Elevation-Area Volume Curve
Label: RG-1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft³)	Volume (Total) (ft³)
12.00	0.0	0.017	0.000	0.00	0.00
13.00	0.0	0.034	0.075	1,090.00	1,090.00
14.00	0.0	0.048	0.122	1,777.00	2,867.00
15.00	0.0	0.056	0.156	2,263.00	5,130.00

Basin Volumes

Subsection: Elevation-Area Volume Curve
Label: RG-2
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft³)	Volume (Total) (ft³)
11.00	0.0	0.020	0.000	0.00	0.00
12.00	0.0	0.028	0.072	1,041.00	1,041.00
13.00	0.0	0.039	0.100	1,453.00	2,493.00
13.20	0.0	0.046	0.127	370.00	2,863.00

Basin Volumes

Subsection: Elevation-Area Volume Curve
Label: RG-3
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft³)	Volume (Total) (ft³)
14.50	0.0	0.008	0.000	0.00	0.00
15.00	0.0	0.010	0.027	196.00	196.00
16.00	0.0	0.020	0.044	641.00	837.00
17.00	0.0	0.031	0.076	1,102.00	1,939.00

Outlet Structures

Subsection: Outlet Input Data
Label: OCS1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Requested Pond Water Surface Elevations	
Minimum (Headwater)	12.00 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	15.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	TW	14.70	15.00
Rectangular Weir	Weir - 1	Forward	TW	13.31	15.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Outlet Structures

Subsection: Outlet Input Data
Label: OCS1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Structure ID: Riser - 1 Structure Type: Inlet Box	
Number of Openings	1
Elevation	14.70 ft
Orifice Area	2.8 ft²
Orifice Coefficient	0.600
Weir Length	11.58 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	True

Structure ID: Weir - 1 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	13.31 ft
Weir Length	1.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Outlet Structures

Subsection: Composite Rating Curve
Label: OCS1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
12.00	0.00	(N/A)	0.00
12.10	0.00	(N/A)	0.00
12.20	0.00	(N/A)	0.00
12.30	0.00	(N/A)	0.00
12.40	0.00	(N/A)	0.00
12.50	0.00	(N/A)	0.00
12.60	0.00	(N/A)	0.00
12.70	0.00	(N/A)	0.00
12.80	0.00	(N/A)	0.00
12.90	0.00	(N/A)	0.00
13.00	0.00	(N/A)	0.00
13.10	0.00	(N/A)	0.00
13.20	0.00	(N/A)	0.00
13.30	0.00	(N/A)	0.00
13.31	0.00	(N/A)	0.00
13.40	0.08	(N/A)	0.00
13.50	0.25	(N/A)	0.00
13.60	0.47	(N/A)	0.00
13.70	0.73	(N/A)	0.00
13.80	1.03	(N/A)	0.00
13.90	1.36	(N/A)	0.00
14.00	1.72	(N/A)	0.00
14.10	2.11	(N/A)	0.00
14.20	2.52	(N/A)	0.00
14.30	2.96	(N/A)	0.00
14.40	3.41	(N/A)	0.00
14.50	3.89	(N/A)	0.00
14.60	4.40	(N/A)	0.00
14.70	4.92	(N/A)	0.00
14.80	6.55	(N/A)	0.00
14.90	9.12	(N/A)	0.00
15.00	12.30	(N/A)	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing

Outlet Structures

Subsection: Composite Rating Curve
Label: OCS1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Composite Outflow Summary

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
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Weir - 1
Riser - 1 + Weir - 1
Riser - 1 + Weir - 1
Riser - 1 + Weir - 1
Riser - 1 + Weir - 1

Outlet Structures

Subsection: Outlet Input Data
Label: OCS2
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Requested Pond Water Surface Elevations	
Minimum (Headwater)	11.00 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	13.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	TW	12.80	13.20
Rectangular Weir	weir	Forward	TW	12.37	13.20
Tailwater Settings	Tailwater			(N/A)	(N/A)

Outlet Structures

Subsection: Outlet Input Data
Label: OCS2
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Structure ID: Riser - 1 Structure Type: Inlet Box	
Number of Openings	1
Elevation	12.80 ft
Orifice Area	2.8 ft²
Orifice Coefficient	0.600
Weir Length	11.58 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	True

Structure ID: weir Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	12.37 ft
Weir Length	0.83 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Outlet Structures

Subsection: Composite Rating Curve
Label: OCS2
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
11.00	0.00	(N/A)	0.00	None Contributing
11.10	0.00	(N/A)	0.00	None Contributing
11.20	0.00	(N/A)	0.00	None Contributing
11.30	0.00	(N/A)	0.00	None Contributing
11.40	0.00	(N/A)	0.00	None Contributing
11.50	0.00	(N/A)	0.00	None Contributing
11.60	0.00	(N/A)	0.00	None Contributing
11.70	0.00	(N/A)	0.00	None Contributing
11.80	0.00	(N/A)	0.00	None Contributing
11.90	0.00	(N/A)	0.00	None Contributing
12.00	0.00	(N/A)	0.00	None Contributing
12.10	0.00	(N/A)	0.00	None Contributing
12.20	0.00	(N/A)	0.00	None Contributing
12.30	0.00	(N/A)	0.00	None Contributing
12.37	0.00	(N/A)	0.00	None Contributing
12.40	0.01	(N/A)	0.00	None Contributing
12.50	0.12	(N/A)	0.00	None Contributing
12.60	0.27	(N/A)	0.00	None Contributing
12.70	0.47	(N/A)	0.00	None Contributing
12.80	0.70	(N/A)	0.00	None Contributing
12.90	2.06	(N/A)	0.00	None Contributing
13.00	4.35	(N/A)	0.00	None Contributing
13.10	7.26	(N/A)	0.00	None Contributing
13.20	10.41	(N/A)	0.00	None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				None Contributing
				weir
				weir
				weir

Outlet Structures

Subsection: Composite Rating Curve
Label: OCS2
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Composite Outflow Summary

Contributing Structures
weir
weir
Riser - 1 + weir
Riser - 1 + weir
Riser - 1 + weir
Riser - 1 + weir
Riser - 1 + weir

Outlet Structures

Subsection: Outlet Input Data
Label: OCS3
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Requested Pond Water Surface Elevations	
Minimum (Headwater)	14.50 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	17.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	TW	16.50	17.00
Orifice-Circular	Orifice - 1	Forward	TW	15.66	17.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Outlet Structures

Subsection: Outlet Input Data
Label: OCS3
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Structure ID: Riser - 1 Structure Type: Inlet Box	
Number of Openings	1
Elevation	16.50 ft
Orifice Area	2.8 ft²
Orifice Coefficient	0.600
Weir Length	11.58 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	True

Structure ID: Orifice - 1 Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	15.66 ft
Orifice Diameter	2.5 in
Orifice Coefficient	0.600

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Downstream Channel
Catalog Conduit	15 inch
Channel Slope	0.005 ft/ft
Channel Invert Elevation	11.00 ft

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

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Basin Routings Current Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA1-Perv	2 year	2	2,604.00	12.150	0.66
PDA1-Perv	10 year	10	5,194.00	12.150	1.33
PDA1-Perv	25 year	25	6,294.00	12.150	1.61
PDA1-Perv	100 year	100	10,857.00	12.150	2.73
PDA1-Imp	2 year	2	5,872.00	12.100	1.56
PDA1-Imp	10 year	10	9,285.00	12.100	2.42
PDA1-Imp	25 year	25	10,651.00	12.100	2.76
PDA1-Imp	100 year	100	16,101.00	12.100	4.13
EDA-1 Imp	2 year	2	13,817.00	12.100	3.67
EDA-1 Imp	10 year	10	21,847.00	12.100	5.69
EDA-1 Imp	25 year	25	25,062.00	12.100	6.50
EDA-1 Imp	100 year	100	37,885.00	12.100	9.72
EDA-1 Perv	2 year	2	269.00	12.150	0.07
EDA-1 Perv	10 year	10	508.00	12.150	0.14
EDA-1 Perv	25 year	25	608.00	12.150	0.16
EDA-1 Perv	100 year	100	1,016.00	12.150	0.26
EDA-2 Imp	2 year	2	2,303.00	12.100	0.61
EDA-2 Imp	10 year	10	3,641.00	12.100	0.95
EDA-2 Imp	25 year	25	4,177.00	12.100	1.08
EDA-2 Imp	100 year	100	6,314.00	12.100	1.62
EDA-2 Perv	2 year	2	202.00	12.100	0.06
EDA-2 Perv	10 year	10	381.00	12.100	0.11
EDA-2 Perv	25 year	25	456.00	12.100	0.13
EDA-2 Perv	100 year	100	762.00	12.100	0.22
EDA-3 Imp	2 year	2	13,932.00	12.100	3.70
EDA-3 Imp	10 year	10	22,029.00	12.100	5.74
EDA-3 Imp	25 year	25	25,271.00	12.100	6.56
EDA-3 Imp	100 year	100	38,200.00	12.100	9.80
EDA-3 Perv	2 year	2	1,212.00	12.100	0.36
EDA-3 Perv	10 year	10	2,288.00	12.100	0.68
EDA-3 Perv	25 year	25	2,737.00	12.100	0.80
EDA-3 Perv	100 year	100	4,573.00	12.100	1.31
EDA-4 Imp	2 year	2	3,450.00	12.150	0.73
EDA-4 Imp	10 year	10	5,455.00	12.150	1.13
EDA-4 Imp	25 year	25	6,258.00	12.150	1.29
EDA-4 Imp	100 year	100	9,460.00	12.150	1.93
EDA-4 Perv	2 year	2	2,084.00	12.150	0.49
EDA-4 Perv	10 year	10	3,935.00	12.150	0.91
EDA-4 Perv	25 year	25	4,706.00	12.150	1.09
EDA-4 Perv	100 year	100	7,864.00	12.150	1.78
PDA1 Perv Bypass	2 year	2	508.00	12.200	0.10
PDA1 Perv Bypass	10 year	10	1,014.00	12.200	0.20
PDA1 Perv Bypass	25 year	25	1,229.00	12.200	0.24

Basin Routings Current Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA1 Perv Bypass	100 year	100	2,120.00	12.200	0.41
PDA-2 Perv	2 year	2	1,750.00	12.150	0.47
PDA-2 Perv	10 year	10	3,303.00	12.150	0.87
PDA-2 Perv	25 year	25	3,950.00	12.150	1.03
PDA-2 Perv	100 year	100	6,600.00	12.150	1.68
PDA-3 Imp	2 year	2	690.00	12.150	0.16
PDA-3 Imp	10 year	10	1,091.00	12.150	0.24
PDA-3 Imp	25 year	25	1,252.00	12.150	0.28
PDA-3 Imp	100 year	100	1,893.00	12.150	0.41
PDA-3 Perv	2 year	2	1,641.00	12.150	0.41
PDA-3 Perv	10 year	10	3,275.00	12.150	0.83
PDA-3 Perv	25 year	25	3,968.00	12.150	1.00
PDA-3 Perv	100 year	100	6,845.00	12.150	1.69
PDA-4 Imp	2 year	2	3,915.00	12.100	1.04
PDA-4 Imp	10 year	10	6,190.00	12.100	1.61
PDA-4 Imp	25 year	25	7,101.00	12.100	1.84
PDA-4 Imp	100 year	100	10,734.00	12.100	2.75
PDA-4 Perv	2 year	2	808.00	12.100	0.24
PDA-4 Perv	10 year	10	1,526.00	12.100	0.45
PDA-4 Perv	25 year	25	1,825.00	12.100	0.54
PDA-4 Perv	100 year	100	3,049.00	12.100	0.87
PDA-4 Bypass	2 year	2	1,010.00	12.150	0.27
PDA-4 Bypass	10 year	10	1,906.00	12.150	0.51
PDA-4 Bypass	25 year	25	2,279.00	12.150	0.61
PDA-4 Bypass	100 year	100	3,809.00	12.150	0.99
PDA-5 Imp	2 year	2	9,442.00	12.100	2.50
PDA-5 Imp	10 year	10	14,929.00	12.100	3.89
PDA-5 Imp	25 year	25	17,126.00	12.100	4.44
PDA-5 Imp	100 year	100	25,888.00	12.100	6.64
PDA-5 Perv	2 year	2	792.00	12.150	0.19
PDA-5 Perv	10 year	10	1,581.00	12.150	0.39
PDA-5 Perv	25 year	25	1,915.00	12.150	0.47
PDA-5 Perv	100 year	100	3,304.00	12.150	0.80
PDA-6 Imp	2 year	2	1,842.00	12.100	0.49
PDA-6 Imp	10 year	10	2,913.00	12.100	0.76
PDA-6 Imp	25 year	25	3,342.00	12.100	0.87
PDA-6 Imp	100 year	100	5,051.00	12.100	1.30
PDA-6 Perv	2 year	2	453.00	12.100	0.13
PDA-6 Perv	10 year	10	904.00	12.100	0.27
PDA-6 Perv	25 year	25	1,096.00	12.100	0.32
PDA-6 Perv	100 year	100	1,890.00	12.100	0.55

Basin Routings Current Rainfall

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EPIQ-2	2 year	2	2,505.00	12.100	0.67
EPIQ-2	10 year	10	4,023.00	12.100	1.06
EPIQ-2	25 year	25	4,633.00	12.100	1.22
EPIQ-2	100 year	100	7,076.00	12.100	1.84
PPIQ-2	2 year	2	1,750.00	12.150	0.47
PPIQ-2	10 year	10	3,303.00	12.150	0.87
PPIQ-2	25 year	25	3,950.00	12.150	1.03
PPIQ-2	100 year	100	6,600.00	12.150	1.68
J5	2 year	2	10,234.00	12.100	2.67
J5	10 year	10	16,510.00	12.100	4.23
J5	25 year	25	19,041.00	12.100	4.86
J5	100 year	100	29,192.00	12.100	7.35
EPIQ-1	2 year	2	34,765.00	12.100	8.85
EPIQ-1	10 year	10	56,063.00	12.100	14.03
EPIQ-1	25 year	25	64,642.00	12.100	16.10
EPIQ-1	100 year	100	98,997.00	12.100	24.35
PPIQ-1	2 year	2	25,755.00	12.150	5.46
PPIQ-1	10 year	10	45,917.00	12.150	11.22
PPIQ-1	25 year	25	54,160.00	12.150	13.19
PPIQ-1	100 year	100	87,528.00	12.150	20.73
EX1	2 year	2	14,086.00	12.100	3.73
EX1	10 year	10	22,355.00	12.100	5.82
EX1	25 year	25	25,670.00	12.100	6.65
EX1	100 year	100	38,900.00	12.100	9.97
EX3	2 year	2	15,145.00	12.100	4.06
EX3	10 year	10	24,318.00	12.100	6.42
EX3	25 year	25	28,008.00	12.100	7.36
EX3	100 year	100	42,773.00	12.100	11.11
EX4	2 year	2	5,534.00	12.150	1.21
EX4	10 year	10	9,390.00	12.150	2.04
EX4	25 year	25	10,964.00	12.150	2.38
EX4	100 year	100	17,324.00	12.150	3.71
PR3	2 year	2	14,244.00	12.100	3.26
PR3	10 year	10	24,059.00	12.150	6.06
PR3	25 year	25	28,058.00	12.150	7.07
PR3	100 year	100	44,204.00	12.100	10.99
PR1	2 year	2	7,347.00	12.250	1.64
PR1	10 year	10	13,818.00	12.250	2.95
PR1	25 year	25	16,484.00	12.200	3.48
PR1	100 year	100	27,340.00	12.200	6.14
PR4	2 year	2	4,164.00	12.250	0.94
PR4	10 year	10	8,039.00	12.150	2.48
PR4	25 year	25	9,618.00	12.150	2.94

Basin Routings Current Rainfall

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PR4	100 year	100	15,984.00	12.150	4.53

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
RG-1 (IN)	2 year	2	8,476.00	12.100	2.14	(N/A)	(N/A)
RG-1 (OUT)	2 year	2	6,839.00	12.250	1.54	13.95	2,764.00
RG-1 (IN)	10 year	10	14,479.00	12.100	3.61	(N/A)	(N/A)
RG-1 (OUT)	10 year	10	12,804.00	12.250	2.75	14.25	3,407.00
RG-1 (IN)	25 year	25	16,946.00	12.100	4.21	(N/A)	(N/A)
RG-1 (OUT)	25 year	25	15,255.00	12.200	3.24	14.36	3,647.00
RG-1 (IN)	100 year	100	26,958.00	12.100	6.61	(N/A)	(N/A)
RG-1 (OUT)	100 year	100	25,220.00	12.200	5.73	14.75	4,531.00
RG-2 (IN)	2 year	2	4,723.00	12.100	1.28	(N/A)	(N/A)
RG-2 (OUT)	2 year	2	3,154.00	12.250	0.73	12.80	2,167.00
RG-2 (IN)	10 year	10	7,716.00	12.100	2.06	(N/A)	(N/A)
RG-2 (OUT)	10 year	10	6,134.00	12.150	1.97	12.89	2,315.00
RG-2 (IN)	25 year	25	8,925.00	12.100	2.38	(N/A)	(N/A)
RG-2 (OUT)	25 year	25	7,338.00	12.150	2.33	12.91	2,346.00
RG-2 (IN)	100 year	100	13,783.00	12.100	3.63	(N/A)	(N/A)
RG-2 (OUT)	100 year	100	12,175.00	12.150	3.54	12.96	2,433.00
RG-3 (IN)	2 year	2	2,296.00	12.100	0.62	(N/A)	(N/A)
RG-3 (OUT)	2 year	2	1,678.00	12.600	0.13	16.41	1,227.00
RG-3 (IN)	10 year	10	3,817.00	12.100	1.03	(N/A)	(N/A)
RG-3 (OUT)	10 year	10	3,183.00	12.150	0.95	16.57	1,410.00
RG-3 (IN)	25 year	25	4,437.00	12.100	1.19	(N/A)	(N/A)
RG-3 (OUT)	25 year	25	3,797.00	12.150	1.15	16.59	1,430.00
RG-3 (IN)	100 year	100	6,941.00	12.100	1.85	(N/A)	(N/A)
RG-3 (OUT)	100 year	100	6,275.00	12.150	1.81	16.63	1,472.00

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PR3	14,243.90	12.100	3.26
Flow (From)	PR4	4,163.70	12.250	0.94
Flow (From)	PR1	7,347.33	12.250	1.64
Flow (In)	PPIQ-1	25,754.92	12.150	5.46

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PR3	24,058.75	12.150	6.06
Flow (From)	PR4	8,039.49	12.150	2.48
Flow (From)	PR1	13,818.35	12.250	2.95
Flow (In)	PPIQ-1	45,916.59	12.150	11.22

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PR3	28,057.83	12.150	7.07
Flow (From)	PR4	9,617.72	12.150	2.94
Flow (From)	PR1	16,484.18	12.200	3.48
Flow (In)	PPIQ-1	54,159.73	12.150	13.19

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PR3	44,204.49	12.100	10.99
Flow (From)	PR4	15,983.70	12.150	4.53
Flow (From)	PR1	27,339.96	12.200	6.14
Flow (In)	PPIQ-1	87,528.15	12.150	20.73

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2 Perv	1,749.72	12.150	0.47
Flow (In)	PPIQ-2	1,749.72	12.150	0.47

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2 Perv	3,302.83	12.150	0.87
Flow (In)	PPIQ-2	3,302.83	12.150	0.87

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2 Perv	3,950.15	12.150	1.03
Flow (In)	PPIQ-2	3,950.15	12.150	1.03

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2 Perv	6,600.46	12.150	1.68
Flow (In)	PPIQ-2	6,600.46	12.150	1.68

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-1	6,839.16	12.250	1.54
Flow (From)	PDA1 Perv Bypass	508.17	12.200	0.10
Flow (In)	PR1	7,347.33	12.250	1.64

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-1	12,804.30	12.250	2.75
Flow (From)	PDA1 Perv Bypass	1,014.05	12.200	0.20
Flow (In)	PR1	13,818.35	12.250	2.95

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-1	15,255.31	12.200	3.24
Flow (From)	PDA1 Perv Bypass	1,228.86	12.200	0.24
Flow (In)	PR1	16,484.18	12.200	3.48

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-1	25,219.77	12.200	5.73
Flow (From)	PDA1 Perv Bypass	2,120.19	12.200	0.41
Flow (In)	PR1	27,339.96	12.200	6.14

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	690.26	12.150	0.16
Flow (From)	PDA-3 Perv	1,641.50	12.150	0.41
Flow (From)	J5	10,234.10	12.100	2.67
Flow (From)	Pr-6	1,678.03	12.600	0.13
Flow (In)	PR3	14,243.90	12.100	3.26

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	1,091.43	12.150	0.24
Flow (From)	PDA-3 Perv	3,274.54	12.150	0.83
Flow (From)	J5	16,509.56	12.100	4.23
Flow (From)	Pr-6	3,183.22	12.150	0.95
Flow (In)	PR3	24,058.75	12.150	6.06

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	1,252.05	12.150	0.28
Flow (From)	PDA-3 Perv	3,967.90	12.150	1.00
Flow (From)	J5	19,041.11	12.100	4.86
Flow (From)	Pr-6	3,796.77	12.150	1.15
Flow (In)	PR3	28,057.83	12.150	7.07

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	1,892.66	12.150	0.41
Flow (From)	PDA-3 Perv	6,844.66	12.150	1.69
Flow (From)	J5	29,191.95	12.100	7.35
Flow (From)	Pr-6	6,275.21	12.150	1.81
Flow (In)	PR3	44,204.49	12.100	10.99

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	3,154.00	12.250	0.73
Flow (From)	PDA-4 Bypass	1,009.70	12.150	0.27
Flow (In)	PR4	4,163.70	12.250	0.94

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	6,133.58	12.150	1.97
Flow (From)	PDA-4 Bypass	1,905.91	12.150	0.51
Flow (In)	PR4	8,039.49	12.150	2.48

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	7,338.28	12.150	2.33
Flow (From)	PDA-4 Bypass	2,279.44	12.150	0.61
Flow (In)	PR4	9,617.72	12.150	2.94

Basin Routings Current Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	12,174.94	12.150	3.54
Flow (From)	PDA-4 Bypass	3,808.76	12.150	0.99
Flow (In)	PR4	15,983.70	12.150	4.53

Basin Routings Current Rainfall

Subsection: Elevation-Volume-Flow Table (Pond)
Label: RG-1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
12.00	0.00	0.00	0.017	0.00	0.00	0.00
12.10	0.00	77.16	0.018	0.00	0.00	0.86
12.20	0.00	160.71	0.020	0.00	0.00	1.79
12.30	0.00	250.91	0.021	0.00	0.00	2.79
12.40	0.00	348.00	0.023	0.00	0.00	3.87
12.50	0.00	452.24	0.025	0.00	0.00	5.02
12.60	0.00	563.88	0.026	0.00	0.00	6.27
12.70	0.00	683.19	0.028	0.00	0.00	7.59
12.80	0.00	810.41	0.030	0.00	0.00	9.00
12.90	0.00	945.80	0.032	0.00	0.00	10.51
13.00	0.00	1,089.60	0.034	0.00	0.00	12.11
13.10	0.00	1,240.51	0.035	0.00	0.00	13.78
13.20	0.00	1,397.10	0.037	0.00	0.00	15.52
13.30	0.00	1,559.47	0.038	0.00	0.00	17.33
13.31	0.00	1,576.03	0.038	0.00	0.00	17.51
13.40	0.08	1,727.73	0.039	0.00	0.08	19.28
13.50	0.25	1,901.98	0.041	0.00	0.25	21.38
13.60	0.47	2,082.34	0.042	0.00	0.47	23.61
13.70	0.73	2,268.89	0.044	0.00	0.73	25.94
13.80	1.03	2,461.75	0.045	0.00	1.03	28.38
13.90	1.36	2,661.03	0.046	0.00	1.36	30.93
14.00	1.72	2,866.82	0.048	0.00	1.72	33.57
14.10	2.11	3,077.59	0.049	0.00	2.11	36.30
14.20	2.52	3,291.74	0.050	0.00	2.52	39.09
14.30	2.96	3,509.29	0.050	0.00	2.96	41.95
14.40	3.41	3,730.27	0.051	0.00	3.41	44.86
14.50	3.89	3,954.71	0.052	0.00	3.89	47.84
14.60	4.40	4,182.63	0.053	0.00	4.40	50.87
14.70	4.92	4,414.06	0.054	0.00	4.92	53.96

Basin Routings Current Rainfall

Subsection: Elevation-Volume-Flow Table (Pond)
Label: RG-1
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
14.80	6.55	4,649.04	0.054	0.00	6.55	58.21
14.90	9.12	4,887.58	0.055	0.00	9.12	63.43
15.00	12.30	5,129.71	0.056	0.00	12.30	69.30

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.14 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	1.54 ft³/s	Time to Peak (Flow, Outlet)	12.250 hours

Elevation (Water Surface, Peak)	13.95 ft
Volume (Peak)	2,764.04 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	8,476.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	6,839.00 ft³
Volume (Retained)	1,631.00 ft³
Volume (Unrouted)	-6.00 ft³
Error (Mass Balance)	0.07 %

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	3.61 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	2.75 ft³/s	Time to Peak (Flow, Outlet)	12.250 hours

Elevation (Water Surface, Peak)	14.25 ft
Volume (Peak)	3,407.37 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	14,479.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	12,804.00 ft³
Volume (Retained)	1,665.00 ft³
Volume (Unrouted)	-10.00 ft³
Error (Mass Balance)	0.07 %

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	4.21 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	3.24 ft³/s	Time to Peak (Flow, Outlet)	12.200 hours

Elevation (Water Surface, Peak)	14.36 ft
Volume (Peak)	3,647.41 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	16,946.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	15,255.00 ft³
Volume (Retained)	1,679.00 ft³
Volume (Unrouted)	-11.00 ft³
Error (Mass Balance)	0.06 %

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	6.61 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	5.73 ft³/s	Time to Peak (Flow, Outlet)	12.200 hours

Elevation (Water Surface, Peak)	14.75 ft
Volume (Peak)	4,530.81 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	26,958.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	25,220.00 ft³
Volume (Retained)	1,723.00 ft³
Volume (Unrouted)	-15.00 ft³
Error (Mass Balance)	0.06 %

Basin Routings Current Rainfall

Subsection: Elevation-Volume-Flow Table (Pond)
Label: RG-2
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
11.00	0.00	0.00	0.020	0.00	0.00	0.00
11.10	0.00	88.73	0.021	0.00	0.00	0.99
11.20	0.00	180.70	0.021	0.00	0.00	2.01
11.30	0.00	275.99	0.022	0.00	0.00	3.07
11.40	0.00	374.64	0.023	0.00	0.00	4.16
11.50	0.00	476.72	0.024	0.00	0.00	5.30
11.60	0.00	582.29	0.025	0.00	0.00	6.47
11.70	0.00	691.40	0.025	0.00	0.00	7.68
11.80	0.00	804.11	0.026	0.00	0.00	8.93
11.90	0.00	920.48	0.027	0.00	0.00	10.23
12.00	0.00	1,040.57	0.028	0.00	0.00	11.56
12.10	0.00	1,164.74	0.029	0.00	0.00	12.94
12.20	0.00	1,293.40	0.030	0.00	0.00	14.37
12.30	0.00	1,426.61	0.031	0.00	0.00	15.85
12.37	0.00	1,522.60	0.032	0.00	0.00	16.92
12.40	0.01	1,564.45	0.032	0.00	0.01	17.40
12.50	0.12	1,707.00	0.033	0.00	0.12	19.08
12.60	0.27	1,854.35	0.034	0.00	0.27	20.88
12.70	0.47	2,006.56	0.036	0.00	0.47	22.77
12.80	0.70	2,163.73	0.037	0.00	0.70	24.74
12.90	2.06	2,325.92	0.038	0.00	2.06	27.90
13.00	4.35	2,493.23	0.039	0.00	4.35	32.05
13.10	7.26	2,670.52	0.042	0.00	7.26	36.93
13.20	10.41	2,863.07	0.046	0.00	10.41	42.22

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.28 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	0.73 ft³/s	Time to Peak (Flow, Outlet)	12.250 hours

Elevation (Water Surface, Peak)	12.80 ft
Volume (Peak)	2,167.33 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	4,723.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	3,154.00 ft³
Volume (Retained)	1,566.00 ft³
Volume (Unrouted)	-3.00 ft³
Error (Mass Balance)	0.06 %

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.06 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	1.97 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	12.89 ft
Volume (Peak)	2,314.99 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	7,716.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	6,134.00 ft³
Volume (Retained)	1,577.00 ft³
Volume (Unrouted)	-5.00 ft³
Error (Mass Balance)	0.06 %

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.38 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	2.33 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	12.91 ft
Volume (Peak)	2,345.53 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	8,925.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	7,338.00 ft³
Volume (Retained)	1,582.00 ft³
Volume (Unrouted)	-5.00 ft³
Error (Mass Balance)	0.06 %

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	3.63 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	3.54 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	12.96 ft
Volume (Peak)	2,433.50 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	13,783.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	12,175.00 ft³
Volume (Retained)	1,600.00 ft³
Volume (Unrouted)	-8.00 ft³
Error (Mass Balance)	0.06 %

Basin Routings Current Rainfall

Subsection: Elevation-Volume-Flow Table (Pond)
Label: RG-3
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
14.50	0.00	0.00	0.008	0.00	0.00	0.00
14.60	0.00	35.68	0.008	0.00	0.00	0.40
14.70	0.00	73.04	0.009	0.00	0.00	0.81
14.80	0.00	112.12	0.009	0.00	0.00	1.25
14.90	0.00	152.97	0.010	0.00	0.00	1.70
15.00	0.00	195.62	0.010	0.00	0.00	2.17
15.10	0.00	241.00	0.011	0.00	0.00	2.68
15.20	0.00	290.15	0.012	0.00	0.00	3.22
15.30	0.00	343.21	0.013	0.00	0.00	3.81
15.40	0.00	400.32	0.014	0.00	0.00	4.45
15.50	0.00	461.64	0.015	0.00	0.00	5.13
15.60	0.00	527.31	0.016	0.00	0.00	5.86
15.66	0.00	568.87	0.016	0.00	0.00	6.32
15.70	0.00	597.49	0.017	0.00	0.00	6.64
15.80	0.03	672.33	0.018	0.00	0.03	7.50
15.90	0.06	751.97	0.019	0.00	0.06	8.42
16.00	0.08	836.56	0.020	0.00	0.08	9.37
16.10	0.10	925.83	0.021	0.00	0.10	10.38
16.20	0.11	1,019.48	0.022	0.00	0.11	11.44
16.30	0.12	1,117.60	0.023	0.00	0.12	12.54
16.40	0.13	1,220.30	0.024	0.00	0.13	13.69
16.50	0.14	1,327.70	0.025	0.00	0.14	14.89
16.60	1.25	1,439.88	0.026	0.00	1.25	17.25
16.70	3.27	1,556.96	0.027	0.00	3.27	20.57
16.80	5.88	1,679.04	0.029	0.00	5.88	24.53
16.90	8.70	1,806.23	0.030	0.00	8.70	28.77
17.00	9.71	1,938.62	0.031	0.00	9.71	31.25

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)
Scenario: 2 year

Return Event: 2 years
Storm Event: 2 yr Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.62 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	0.13 ft³/s	Time to Peak (Flow, Outlet)	12.600 hours

Elevation (Water Surface, Peak)	16.41 ft
Volume (Peak)	1,226.63 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	2,296.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	1,678.00 ft³
Volume (Retained)	616.00 ft³
Volume (Unrouted)	-2.00 ft³
Error (Mass Balance)	0.08 %

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)
Scenario: 10 year

Return Event: 10 years
Storm Event: 10 yr Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.03 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	0.95 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	16.57 ft
Volume (Peak)	1,409.52 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	3,817.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	3,183.00 ft³
Volume (Retained)	631.00 ft³
Volume (Unrouted)	-3.00 ft³
Error (Mass Balance)	0.08 %

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)
Scenario: 25 year

Return Event: 25 years
Storm Event: 25yr Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.19 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	1.15 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	16.59 ft
Volume (Peak)	1,429.71 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	4,437.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	3,797.00 ft³
Volume (Retained)	637.00 ft³
Volume (Unrouted)	-3.00 ft³
Error (Mass Balance)	0.08 %

Basin Routings Current Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)
Scenario: 100 year

Return Event: 100 years
Storm Event: 100 Current

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.85 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	1.81 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	16.63 ft
Volume (Peak)	1,471.79 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	6,941.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	6,275.00 ft³
Volume (Retained)	662.00 ft³
Volume (Unrouted)	-4.00 ft³
Error (Mass Balance)	0.06 %

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Basin Routings Projected Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA1-Perv	2yr Projected	2	3,286.00	12.150	0.87
PDA1-Perv	10yr Projected	10	6,571.00	12.150	1.73
PDA1-Perv	25yr Projected	25	8,925.00	12.150	2.32
PDA1-Perv	100yr Projected	100	15,478.00	12.150	3.93
PDA1-Imp	2yr Projected	2	6,804.00	12.100	1.79
PDA1-Imp	10yr Projected	10	10,981.00	12.100	2.83
PDA1-Imp	25yr Projected	25	13,811.00	12.100	3.54
PDA1-Imp	100yr Projected	100	21,442.00	12.100	5.47
EDA-1 Imp	2yr Projected	2	16,010.00	12.100	4.20
EDA-1 Imp	10yr Projected	10	25,838.00	12.100	6.67
EDA-1 Imp	25yr Projected	25	32,497.00	12.100	8.33
EDA-1 Imp	100yr Projected	100	50,451.00	12.100	12.87
EDA-1 Perv	2yr Projected	2	333.00	12.150	0.09
EDA-1 Perv	10yr Projected	10	632.00	12.150	0.17
EDA-1 Perv	25yr Projected	25	843.00	12.150	0.22
EDA-1 Perv	100yr Projected	100	1,424.00	12.150	0.37
EDA-2 Imp	2yr Projected	2	2,668.00	12.100	0.70
EDA-2 Imp	10yr Projected	10	4,306.00	12.100	1.11
EDA-2 Imp	25yr Projected	25	5,416.00	12.100	1.39
EDA-2 Imp	100yr Projected	100	8,409.00	12.100	2.15
EDA-2 Perv	2yr Projected	2	250.00	12.100	0.07
EDA-2 Perv	10yr Projected	10	474.00	12.100	0.14
EDA-2 Perv	25yr Projected	25	632.00	12.100	0.18
EDA-2 Perv	100yr Projected	100	1,068.00	12.100	0.30
EDA-3 Imp	2yr Projected	2	16,143.00	12.100	4.24
EDA-3 Imp	10yr Projected	10	26,054.00	12.100	6.72
EDA-3 Imp	25yr Projected	25	32,768.00	12.100	8.40
EDA-3 Imp	100yr Projected	100	50,872.00	12.100	12.98
EDA-3 Perv	2yr Projected	2	1,498.00	12.100	0.44
EDA-3 Perv	10yr Projected	10	2,846.00	12.100	0.83
EDA-3 Perv	25yr Projected	25	3,795.00	12.100	1.09
EDA-3 Perv	100yr Projected	100	6,409.00	12.100	1.80
EDA-4 Imp	2yr Projected	2	4,003.00	12.150	0.84
EDA-4 Imp	10yr Projected	10	6,460.00	12.150	1.33
EDA-4 Imp	25yr Projected	25	8,125.00	12.150	1.67
EDA-4 Imp	100yr Projected	100	12,598.00	12.150	2.56
EDA-4 Perv	2yr Projected	2	2,579.00	12.150	0.60
EDA-4 Perv	10yr Projected	10	4,902.00	12.150	1.13
EDA-4 Perv	25yr Projected	25	6,535.00	12.150	1.49
EDA-4 Perv	100yr Projected	100	11,024.00	12.150	2.47
PDA1 Perv Bypass	2yr Projected	2	643.00	12.200	0.13
PDA1 Perv Bypass	10yr Projected	10	1,286.00	12.200	0.26
PDA1 Perv Bypass	25yr Projected	25	1,746.00	12.200	0.35

Basin Routings Projected Rainfall

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA1 Perv Bypass	100yr Projected	100	3,023.00	12.200	0.60
PDA-2 Perv	2yr Projected	2	1,857.00	12.150	0.51
PDA-2 Perv	10yr Projected	10	3,714.00	12.150	1.01
PDA-2 Perv	25yr Projected	25	5,044.00	12.150	1.35
PDA-2 Perv	100yr Projected	100	8,750.00	12.150	2.29
PDA-3 Imp	2yr Projected	2	800.00	12.150	0.18
PDA-3 Imp	10yr Projected	10	1,292.00	12.150	0.29
PDA-3 Imp	25yr Projected	25	1,625.00	12.150	0.36
PDA-3 Imp	100yr Projected	100	2,521.00	12.150	0.56
PDA-3 Perv	2yr Projected	2	2,071.00	12.150	0.54
PDA-3 Perv	10yr Projected	10	4,142.00	12.150	1.07
PDA-3 Perv	25yr Projected	25	5,626.00	12.150	1.44
PDA-3 Perv	100yr Projected	100	9,756.00	12.150	2.44
PDA-4 Imp	2yr Projected	2	4,536.00	12.100	1.19
PDA-4 Imp	10yr Projected	10	7,321.00	12.100	1.89
PDA-4 Imp	25yr Projected	25	9,208.00	12.100	2.36
PDA-4 Imp	100yr Projected	100	14,295.00	12.100	3.65
PDA-4 Perv	2yr Projected	2	998.00	12.100	0.30
PDA-4 Perv	10yr Projected	10	1,897.00	12.100	0.55
PDA-4 Perv	25yr Projected	25	2,530.00	12.100	0.73
PDA-4 Perv	100yr Projected	100	4,273.00	12.100	1.20
PDA-4 Bypass	2yr Projected	2	1,248.00	12.150	0.34
PDA-4 Bypass	10yr Projected	10	2,372.00	12.150	0.63
PDA-4 Bypass	25yr Projected	25	3,162.00	12.150	0.83
PDA-4 Bypass	100yr Projected	100	5,339.00	12.150	1.37
PDA-5 Imp	2yr Projected	2	10,940.00	12.100	2.87
PDA-5 Imp	10yr Projected	10	17,656.00	12.100	4.56
PDA-5 Imp	25yr Projected	25	22,207.00	12.100	5.69
PDA-5 Imp	100yr Projected	100	34,475.00	12.100	8.80
PDA-5 Perv	2yr Projected	2	1,000.00	12.150	0.25
PDA-5 Perv	10yr Projected	10	2,000.00	12.150	0.50
PDA-5 Perv	25yr Projected	25	2,716.00	12.150	0.68
PDA-5 Perv	100yr Projected	100	4,709.00	12.150	1.15
PDA-6 Imp	2yr Projected	2	2,135.00	12.100	0.56
PDA-6 Imp	10yr Projected	10	3,445.00	12.100	0.89
PDA-6 Imp	25yr Projected	25	4,333.00	12.100	1.11
PDA-6 Imp	100yr Projected	100	6,727.00	12.100	1.72
PDA-6 Perv	2yr Projected	2	571.00	12.100	0.17
PDA-6 Perv	10yr Projected	10	1,143.00	12.100	0.34
PDA-6 Perv	25yr Projected	25	1,552.00	12.100	0.45
PDA-6 Perv	100yr Projected	100	2,694.00	12.100	0.77

Basin Routings Projected Rainfall

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EPIQ-2	2yr Projected	2	2,918.00	12.100	0.77
EPIQ-2	10yr Projected	10	4,781.00	12.100	1.25
EPIQ-2	25yr Projected	25	6,049.00	12.100	1.57
EPIQ-2	100yr Projected	100	9,477.00	12.100	2.45
PPIQ-2	2yr Projected	2	1,857.00	12.150	0.51
PPIQ-2	10yr Projected	10	3,714.00	12.150	1.01
PPIQ-2	25yr Projected	25	5,044.00	12.150	1.35
PPIQ-2	100yr Projected	100	8,750.00	12.150	2.29
J5	2yr Projected	2	11,940.00	12.100	3.09
J5	10yr Projected	10	19,656.00	12.100	5.01
J5	25yr Projected	25	24,922.00	12.100	6.31
J5	100yr Projected	100	39,184.00	12.100	9.84
EPIQ-1	2yr Projected	2	40,565.00	12.100	10.23
EPIQ-1	10yr Projected	10	66,732.00	12.100	16.55
EPIQ-1	25yr Projected	25	84,564.00	12.100	20.83
EPIQ-1	100yr Projected	100	132,778.00	12.100	32.45
PPIQ-1	2yr Projected	2	31,360.00	12.150	7.05
PPIQ-1	10yr Projected	10	56,434.00	12.150	13.59
PPIQ-1	25yr Projected	25	73,768.00	12.150	17.44
PPIQ-1	100yr Projected	100	120,638.00	12.150	29.80
EX1	2yr Projected	2	16,343.00	12.100	4.29
EX1	10yr Projected	10	26,471.00	12.100	6.83
EX1	25yr Projected	25	33,341.00	12.100	8.55
EX1	100yr Projected	100	51,875.00	12.100	13.22
EX3	2yr Projected	2	17,641.00	12.100	4.68
EX3	10yr Projected	10	28,900.00	12.100	7.55
EX3	25yr Projected	25	36,563.00	12.100	9.50
EX3	100yr Projected	100	57,281.00	12.100	14.78
EX4	2yr Projected	2	6,582.00	12.150	1.44
EX4	10yr Projected	10	11,361.00	12.150	2.47
EX4	25yr Projected	25	14,660.00	12.150	3.16
EX4	100yr Projected	100	23,622.00	12.150	5.03
PR3	2yr Projected	2	16,949.00	12.100	3.85
PR3	10yr Projected	10	29,109.00	12.150	7.34
PR3	25yr Projected	25	37,489.00	12.150	9.39
PR3	100yr Projected	100	60,196.00	12.100	14.92
PR1	2yr Projected	2	9,149.00	12.250	1.97
PR1	10yr Projected	10	17,255.00	12.250	3.53
PR1	25yr Projected	25	22,899.00	12.250	4.58
PR1	100yr Projected	100	38,158.00	12.200	8.89
PR4	2yr Projected	2	5,262.00	12.200	1.54
PR4	10yr Projected	10	10,070.00	12.150	3.04
PR4	25yr Projected	25	13,380.00	12.150	3.85

Basin Routings Projected Rainfall

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PR4	100yr Projected	100	22,283.00	12.150	6.13

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
RG-1 (IN)	2yr Projected	2	10,090.00	12.100	2.57	(N/A)	(N/A)
RG-1 (OUT)	2yr Projected	2	8,507.00	12.250	1.85	14.03	3,023.00
RG-1 (IN)	10yr Projected	10	17,553.00	12.100	4.41	(N/A)	(N/A)
RG-1 (OUT)	10yr Projected	10	15,969.00	12.250	3.28	14.37	3,859.00
RG-1 (IN)	25yr Projected	25	22,736.00	12.100	5.68	(N/A)	(N/A)
RG-1 (OUT)	25yr Projected	25	21,153.00	12.250	4.25	14.57	4,413.00
RG-1 (IN)	100yr Projected	100	36,920.00	12.100	9.12	(N/A)	(N/A)
RG-1 (OUT)	100yr Projected	100	35,136.00	12.200	8.29	14.87	5,322.00
RG-2 (IN)	2yr Projected	2	5,534.00	12.100	1.49	(N/A)	(N/A)
RG-2 (OUT)	2yr Projected	2	4,014.00	12.200	1.25	12.84	2,214.00
RG-2 (IN)	10yr Projected	10	9,218.00	12.100	2.44	(N/A)	(N/A)
RG-2 (OUT)	10yr Projected	10	7,698.00	12.150	2.40	12.92	2,334.00
RG-2 (IN)	25yr Projected	25	11,737.00	12.100	3.09	(N/A)	(N/A)
RG-2 (OUT)	25yr Projected	25	10,217.00	12.150	3.02	12.94	2,377.00
RG-2 (IN)	100yr Projected	100	18,567.00	12.100	4.85	(N/A)	(N/A)
RG-2 (OUT)	100yr Projected	100	16,944.00	12.150	4.76	13.01	2,496.00
RG-3 (IN)	2yr Projected	2	2,706.00	12.100	0.73	(N/A)	(N/A)
RG-3 (OUT)	2yr Projected	2	2,137.00	12.350	0.32	16.52	1,346.00
RG-3 (IN)	10yr Projected	10	4,588.00	12.100	1.23	(N/A)	(N/A)
RG-3 (OUT)	10yr Projected	10	4,019.00	12.150	1.19	16.59	1,433.00
RG-3 (IN)	25yr Projected	25	5,885.00	12.100	1.56	(N/A)	(N/A)
RG-3 (OUT)	25yr Projected	25	5,316.00	12.150	1.55	16.61	1,457.00
RG-3 (IN)	100yr Projected	100	9,420.00	12.100	2.49	(N/A)	(N/A)
RG-3 (OUT)	100yr Projected	100	8,735.00	12.150	2.44	16.66	1,508.00

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PR3	16,948.59	12.100	3.85
Flow (From)	PR4	5,262.50	12.200	1.54
Flow (From)	PR1	9,149.41	12.250	1.97
Flow (In)	PPIQ-1	31,360.50	12.150	7.05

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PR3	29,109.06	12.150	7.34
Flow (From)	PR4	10,070.11	12.150	3.04
Flow (From)	PR1	17,255.01	12.250	3.53
Flow (In)	PPIQ-1	56,434.18	12.150	13.59

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PR3	37,489.34	12.150	9.39
Flow (From)	PR4	13,379.77	12.150	3.85
Flow (From)	PR1	22,899.12	12.250	4.58
Flow (In)	PPIQ-1	73,768.23	12.150	17.44

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-1
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PPIQ-1'

Upstream Link	Upstream Node
Pr-3	PR3
Pr-4	PR4
Pr-1	PR1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PR3	60,196.42	12.100	14.92
Flow (From)	PR4	22,282.70	12.150	6.13
Flow (From)	PR1	38,158.46	12.200	8.89
Flow (In)	PPIQ-1	120,637.58	12.150	29.80

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2 Perv	1,857.07	12.150	0.51
Flow (In)	PPIQ-2	1,857.07	12.150	0.51

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2 Perv	3,714.05	12.150	1.01
Flow (In)	PPIQ-2	3,714.05	12.150	1.01

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2 Perv	5,044.24	12.150	1.35
Flow (In)	PPIQ-2	5,044.24	12.150	1.35

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PPIQ-2
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PPIQ-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2 Perv

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2 Perv	8,750.19	12.150	2.29
Flow (In)	PPIQ-2	8,750.19	12.150	2.29

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Out-1	8,506.59	12.250	1.85
Flow (From)	PDA1 Perv Bypass	642.83	12.200	0.13
Flow (In)	PR1	9,149.41	12.250	1.97

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Out-1	15,969.38	12.250	3.28
Flow (From)	PDA1 Perv Bypass	1,285.63	12.200	0.26
Flow (In)	PR1	17,255.01	12.250	3.53

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Out-1	21,153.04	12.250	4.25
Flow (From)	PDA1 Perv Bypass	1,746.08	12.200	0.35
Flow (In)	PR1	22,899.12	12.250	4.58

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR1
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PR1'

Upstream Link	Upstream Node
Out-1	RG-1
<Catchment to Outflow Node>	PDA1 Perv Bypass

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Out-1	35,135.51	12.200	8.29
Flow (From)	PDA1 Perv Bypass	3,022.94	12.200	0.60
Flow (In)	PR1	38,158.46	12.200	8.89

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	800.49	12.150	0.18
Flow (From)	PDA-3 Perv	2,071.24	12.150	0.54
Flow (From)	J5	11,939.77	12.100	3.09
Flow (From)	Pr-6	2,137.09	12.350	0.32
Flow (In)	PR3	16,948.59	12.100	3.85

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	1,291.92	12.150	0.29
Flow (From)	PDA-3 Perv	4,142.39	12.150	1.07
Flow (From)	J5	19,655.82	12.100	5.01
Flow (From)	Pr-6	4,018.93	12.150	1.19
Flow (In)	PR3	29,109.06	12.150	7.34

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	1,624.87	12.150	0.36
Flow (From)	PDA-3 Perv	5,626.00	12.150	1.44
Flow (From)	J5	24,922.39	12.100	6.31
Flow (From)	Pr-6	5,316.08	12.150	1.55
Flow (In)	PR3	37,489.34	12.150	9.39

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR3
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PR3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-3 Imp
<Catchment to Outflow Node>	PDA-3 Perv
Pr-5	J5
Pr-6	RG-3

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-3 Imp	2,520.81	12.150	0.56
Flow (From)	PDA-3 Perv	9,756.22	12.150	2.44
Flow (From)	J5	39,183.92	12.100	9.84
Flow (From)	Pr-6	8,735.47	12.150	2.44
Flow (In)	PR3	60,196.42	12.100	14.92

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	4,014.47	12.200	1.25
Flow (From)	PDA-4 Bypass	1,248.03	12.150	0.34
Flow (In)	PR4	5,262.50	12.200	1.54

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	7,698.27	12.150	2.40
Flow (From)	PDA-4 Bypass	2,371.84	12.150	0.63
Flow (In)	PR4	10,070.11	12.150	3.04

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	10,217.42	12.150	3.02
Flow (From)	PDA-4 Bypass	3,162.36	12.150	0.83
Flow (In)	PR4	13,379.77	12.150	3.85

Basin Routings Projected Rainfall

Subsection: Addition Summary
Label: PR4
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Summary for Hydrograph Addition at 'PR4'

Upstream Link	Upstream Node
Out-2	RG-2
<Catchment to Outflow Node>	PDA-4 Bypass

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	Out-2	16,943.85	12.150	4.76
Flow (From)	PDA-4 Bypass	5,338.85	12.150	1.37
Flow (In)	PR4	22,282.70	12.150	6.13

Basin Routings Projected Rainfall

Subsection: Elevation-Volume-Flow Table (Pond)
Label: RG-1
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
12.00	0.00	0.00	0.017	0.00	0.00	0.00
12.10	0.00	77.16	0.018	0.00	0.00	0.86
12.20	0.00	160.71	0.020	0.00	0.00	1.79
12.30	0.00	250.91	0.021	0.00	0.00	2.79
12.40	0.00	348.00	0.023	0.00	0.00	3.87
12.50	0.00	452.24	0.025	0.00	0.00	5.02
12.60	0.00	563.88	0.026	0.00	0.00	6.27
12.70	0.00	683.19	0.028	0.00	0.00	7.59
12.80	0.00	810.41	0.030	0.00	0.00	9.00
12.90	0.00	945.80	0.032	0.00	0.00	10.51
13.00	0.00	1,089.60	0.034	0.00	0.00	12.11
13.10	0.00	1,241.24	0.036	0.00	0.00	13.79
13.20	0.00	1,400.06	0.037	0.00	0.00	15.56
13.30	0.00	1,566.21	0.039	0.00	0.00	17.40
13.31	0.00	1,583.24	0.039	0.00	0.00	17.59
13.40	0.08	1,739.88	0.041	0.00	0.08	19.41
13.50	0.25	1,921.22	0.043	0.00	0.25	21.60
13.60	0.47	2,110.40	0.044	0.00	0.47	23.92
13.70	0.73	2,307.59	0.046	0.00	0.73	26.37
13.80	1.03	2,512.95	0.048	0.00	1.03	28.95
13.90	1.36	2,726.65	0.050	0.00	1.36	31.66
14.00	1.72	2,948.86	0.052	0.00	1.72	34.48
14.10	2.11	3,180.50	0.054	0.00	2.11	37.45
14.20	2.52	3,422.55	0.057	0.00	2.52	40.55
14.30	2.96	3,675.24	0.059	0.00	2.96	43.79
14.40	3.41	3,938.80	0.062	0.00	3.41	47.18
14.50	3.89	4,213.45	0.064	0.00	3.89	50.71
14.60	4.40	4,499.43	0.067	0.00	4.40	54.39
14.70	4.92	4,796.97	0.070	0.00	4.92	58.22

Basin Routings Projected Rainfall

Subsection: Elevation-Volume-Flow Table (Pond)
Label: RG-1
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
14.80	6.55	5,106.29	0.072	0.00	6.55	63.29
14.90	9.12	5,427.62	0.075	0.00	9.12	69.43
15.00	12.30	5,761.19	0.078	0.00	12.30	76.31

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.57 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	1.85 ft³/s	Time to Peak (Flow, Outlet)	12.250 hours

Elevation (Water Surface, Peak)	14.03 ft
Volume (Peak)	3,023.16 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	10,090.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	8,507.00 ft³
Volume (Retained)	1,583.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	4.41 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	3.28 ft³/s	Time to Peak (Flow, Outlet)	12.250 hours

Elevation (Water Surface, Peak)	14.37 ft
Volume (Peak)	3,858.98 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	17,553.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	15,969.00 ft³
Volume (Retained)	1,583.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	5.68 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	4.25 ft³/s	Time to Peak (Flow, Outlet)	12.250 hours

Elevation (Water Surface, Peak)	14.57 ft
Volume (Peak)	4,413.03 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	22,736.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	21,153.00 ft³
Volume (Retained)	1,583.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	9.12 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	8.29 ft³/s	Time to Peak (Flow, Outlet)	12.200 hours

Elevation (Water Surface, Peak)	14.87 ft
Volume (Peak)	5,322.40 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	36,920.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	35,136.00 ft³
Volume (Retained)	1,764.00 ft³
Volume (Unrouted)	-21.00 ft³
Error (Mass Balance)	0.06 %

Basin Routings Projected Rainfall

Subsection: Elevation-Volume-Flow Table (Pond)
Label: RG-2
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
11.00	0.00	0.00	0.020	0.00	0.00	0.00
11.10	0.00	88.73	0.021	0.00	0.00	0.99
11.20	0.00	180.70	0.021	0.00	0.00	2.01
11.30	0.00	275.99	0.022	0.00	0.00	3.07
11.40	0.00	374.64	0.023	0.00	0.00	4.16
11.50	0.00	476.72	0.024	0.00	0.00	5.30
11.60	0.00	582.29	0.025	0.00	0.00	6.47
11.70	0.00	691.40	0.025	0.00	0.00	7.68
11.80	0.00	804.11	0.026	0.00	0.00	8.93
11.90	0.00	920.48	0.027	0.00	0.00	10.23
12.00	0.00	1,040.57	0.028	0.00	0.00	11.56
12.10	0.00	1,164.56	0.029	0.00	0.00	12.94
12.20	0.00	1,292.64	0.030	0.00	0.00	14.36
12.30	0.00	1,424.88	0.031	0.00	0.00	15.83
12.37	0.00	1,519.95	0.032	0.00	0.00	16.89
12.40	0.01	1,561.34	0.032	0.00	0.01	17.36
12.50	0.12	1,702.09	0.033	0.00	0.12	19.03
12.60	0.27	1,847.20	0.034	0.00	0.27	20.80
12.70	0.47	1,996.73	0.035	0.00	0.47	22.66
12.80	0.70	2,150.75	0.036	0.00	0.70	24.60
12.90	2.06	2,309.32	0.037	0.00	2.06	27.72
13.00	4.35	2,472.51	0.038	0.00	4.35	31.82
13.10	7.26	2,640.20	0.039	0.00	7.26	36.60
13.20	10.41	2,812.24	0.040	0.00	10.41	41.65

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.49 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	1.25 ft³/s	Time to Peak (Flow, Outlet)	12.200 hours

Elevation (Water Surface, Peak)	12.84 ft
Volume (Peak)	2,214.23 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	5,534.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	4,014.00 ft³
Volume (Retained)	1,520.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.44 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	2.40 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	12.92 ft
Volume (Peak)	2,333.54 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	9,218.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	7,698.00 ft³
Volume (Retained)	1,520.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	3.09 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	3.02 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	12.94 ft
Volume (Peak)	2,377.21 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	11,737.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	10,217.00 ft³
Volume (Retained)	1,520.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	4.85 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	4.76 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	13.01 ft
Volume (Peak)	2,495.73 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	18,567.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	16,944.00 ft³
Volume (Retained)	1,613.00 ft³
Volume (Unrouted)	-10.00 ft³
Error (Mass Balance)	0.06 %

Basin Routings Projected Rainfall

Subsection: Elevation-Volume-Flow Table (Pond)
Label: RG-3
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
14.50	0.00	0.00	0.008	0.00	0.00	0.00
14.60	0.00	35.68	0.008	0.00	0.00	0.40
14.70	0.00	73.04	0.009	0.00	0.00	0.81
14.80	0.00	112.12	0.009	0.00	0.00	1.25
14.90	0.00	152.97	0.010	0.00	0.00	1.70
15.00	0.00	195.62	0.010	0.00	0.00	2.17
15.10	0.00	241.00	0.011	0.00	0.00	2.68
15.20	0.00	290.15	0.012	0.00	0.00	3.22
15.30	0.00	343.21	0.013	0.00	0.00	3.81
15.40	0.00	400.32	0.014	0.00	0.00	4.45
15.50	0.00	461.64	0.015	0.00	0.00	5.13
15.60	0.00	527.31	0.016	0.00	0.00	5.86
15.66	0.00	568.87	0.016	0.00	0.00	6.32
15.70	0.00	597.49	0.017	0.00	0.00	6.64
15.80	0.03	672.33	0.018	0.00	0.03	7.50
15.90	0.06	751.97	0.019	0.00	0.06	8.42
16.00	0.08	836.56	0.020	0.00	0.08	9.37
16.10	0.10	925.83	0.021	0.00	0.10	10.38
16.20	0.11	1,019.48	0.022	0.00	0.11	11.44
16.30	0.12	1,117.60	0.023	0.00	0.12	12.54
16.40	0.13	1,220.30	0.024	0.00	0.13	13.69
16.50	0.14	1,327.70	0.025	0.00	0.14	14.89
16.60	1.25	1,439.88	0.026	0.00	1.25	17.25
16.70	3.27	1,556.96	0.027	0.00	3.27	20.57
16.80	5.88	1,679.04	0.029	0.00	5.88	24.53
16.90	8.70	1,806.23	0.030	0.00	8.70	28.77
17.00	9.71	1,938.62	0.031	0.00	9.71	31.25

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)
Scenario: 2yr Projected

Return Event: 2 years
Storm Event: 2yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.73 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	0.32 ft³/s	Time to Peak (Flow, Outlet)	12.350 hours

Elevation (Water Surface, Peak)	16.52 ft
Volume (Peak)	1,345.91 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	2,706.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	2,137.00 ft³
Volume (Retained)	569.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)
Scenario: 10yr Projected

Return Event: 10 years
Storm Event: 10yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.23 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	1.19 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	16.59 ft
Volume (Peak)	1,433.32 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	4,588.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	4,019.00 ft³
Volume (Retained)	569.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)
Scenario: 25yr Projected

Return Event: 25 years
Storm Event: 25yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.56 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	1.55 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	16.61 ft
Volume (Peak)	1,456.78 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	5,885.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	5,316.00 ft³
Volume (Retained)	569.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Basin Routings Projected Rainfall

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)
Scenario: 100yr Projected

Return Event: 100 years
Storm Event: 100yr Projected

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.49 ft³/s	Time to Peak (Flow, In)	12.100 hours
Flow (Peak Outlet)	2.44 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	16.66 ft
Volume (Peak)	1,508.24 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	9,420.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	8,735.00 ft³
Volume (Retained)	679.00 ft³
Volume (Unrouted)	-6.00 ft³
Error (Mass Balance)	0.06 %

Appendix D

WQ Basin Routings

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA-3 Imp	base	1	75.00	1.150	0.04
PDA-4 Bypass	base	1	148.00	1.150	0.08
PDA-4 Imp	base	1	1,277.00	1.100	0.87
PDA-5 Imp	base	1	3,080.00	1.100	2.09
PDA-6 Imp	base	1	601.00	1.100	0.41
PDA1 Perv Bypass	base	1	57.00	1.300	0.02
PDA1-Imp	base	1	1,578.00	1.100	1.07

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
J5	base	1	3,080.00	1.100	2.09
PPIQ-1	base	1	3,394.00	1.100	2.20
PR1	base	1	58.00	1.300	0.02
PR3	base	1	3,188.00	1.100	2.13
PR4	base	1	148.00	1.150	0.08

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
RG-1 (IN)	base	1	1,578.00	1.100	1.07	(N/A)	(N/A)
RG-1 (OUT)	base	1	2.00	2.350	0.00	13.31	1,577.00
RG-2 (IN)	base	1	1,277.00	1.100	0.87	(N/A)	(N/A)
RG-2 (OUT)	base	1	0.00	0.000	0.00	12.19	1,277.00
RG-3 (IN)	base	1	601.00	1.100	0.41	(N/A)	(N/A)
RG-3 (OUT)	base	1	32.00	2.200	0.00	15.70	598.00

WQ Basin Routings

Subsection: Unit Hydrograph Summary
Label: PDA1-Imp
Scenario: base

Return Event: 1 years
Storm Event: Gauged Event (1.3 in)

Storm Event	Gauged Event (1.3 in)
Return Event	1 years
Duration	120.000 hours
Depth	1.25 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.420 acres
Computational Time Increment	0.011 hours
Time to Peak (Computed)	1.100 hours
Flow (Peak, Computed)	1.07 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	1.100 hours
Flow (Peak Interpolated Output)	1.07 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.420 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.03 in
Runoff Volume (Pervious)	1,577.31 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,578.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440

WQ Basin Routings

Subsection: Unit Hydrograph Summary
Label: PDA1-Imp
Scenario: base

Return Event: 1 years
Storm Event: Gauged Event (1.3 in)

SCS Unit Hydrograph Parameters	
Receding/Rising, Tr/Tp	3.544
Unit peak, qp	3.33 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

WQ Basin Routings

Subsection: Unit Hydrograph Summary
Label: PDA-4 Imp
Scenario: base

Return Event: 1 years
Storm Event: Gauged Event (1.3 in)

Storm Event	Gauged Event (1.3 in)
Return Event	1 years
Duration	120.000 hours
Depth	1.25 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.340 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	1.100 hours
Flow (Peak, Computed)	0.87 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	1.100 hours
Flow (Peak Interpolated Output)	0.87 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.340 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.03 in
Runoff Volume (Pervious)	1,276.87 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,277.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440

WQ Basin Routings

Subsection: Unit Hydrograph Summary
Label: PDA-4 Imp
Scenario: base

Return Event: 1 years
Storm Event: Gauged Event (1.3 in)

SCS Unit Hydrograph Parameters	
Receding/Rising, Tr/Tp	3.544
Unit peak, qp	2.70 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

WQ Basin Routings

Subsection: Unit Hydrograph Summary
Label: PDA-6 Imp
Scenario: base

Return Event: 1 years
Storm Event: Gauged Event (1.3 in)

Storm Event	Gauged Event (1.3 in)
Return Event	1 years
Duration	120.000 hours
Depth	1.25 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.160 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	1.100 hours
Flow (Peak, Computed)	0.41 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	1.100 hours
Flow (Peak Interpolated Output)	0.41 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.160 acres
Maximum Retention (Pervious)	0.20 in
Maximum Retention (Pervious, 20 percent)	0.04 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.03 in
Runoff Volume (Pervious)	600.88 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	601.00 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440

WQ Basin Routings

Subsection: Unit Hydrograph Summary
Label: PDA-6 Imp
Scenario: base

Return Event: 1 years
Storm Event: Gauged Event (1.3 in)

SCS Unit Hydrograph Parameters	
Receding/Rising, Tr/Tp	3.544
Unit peak, qp	1.27 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.489 hours
Total unit time, Tb	0.544 hours

WQ Basin Routings

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)
Scenario: base

Return Event: 1 years
Storm Event: Gauged Event (1.3 in)

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	12.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.07 ft³/s	Time to Peak (Flow, In)	1.100 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	2.350 hours

Elevation (Water Surface, Peak)	13.31 ft
Volume (Peak)	1,577.32 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	1,578.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	2.00 ft³
Volume (Retained)	1,576.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

WQ Basin Routings

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)
Scenario: base

Return Event: 1 years
Storm Event: Gauged Event (1.3 in)

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	11.00 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.87 ft³/s	Time to Peak (Flow, In)	1.100 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	12.19 ft
Volume (Peak)	1,277.01 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	1,277.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	0.00 ft³
Volume (Retained)	1,277.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.02 %

WQ Basin Routings

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)
Scenario: base

Return Event: 1 years
Storm Event: Gauged Event (1.3 in)

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	14.50 ft
Volume (Initial)	0.00 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

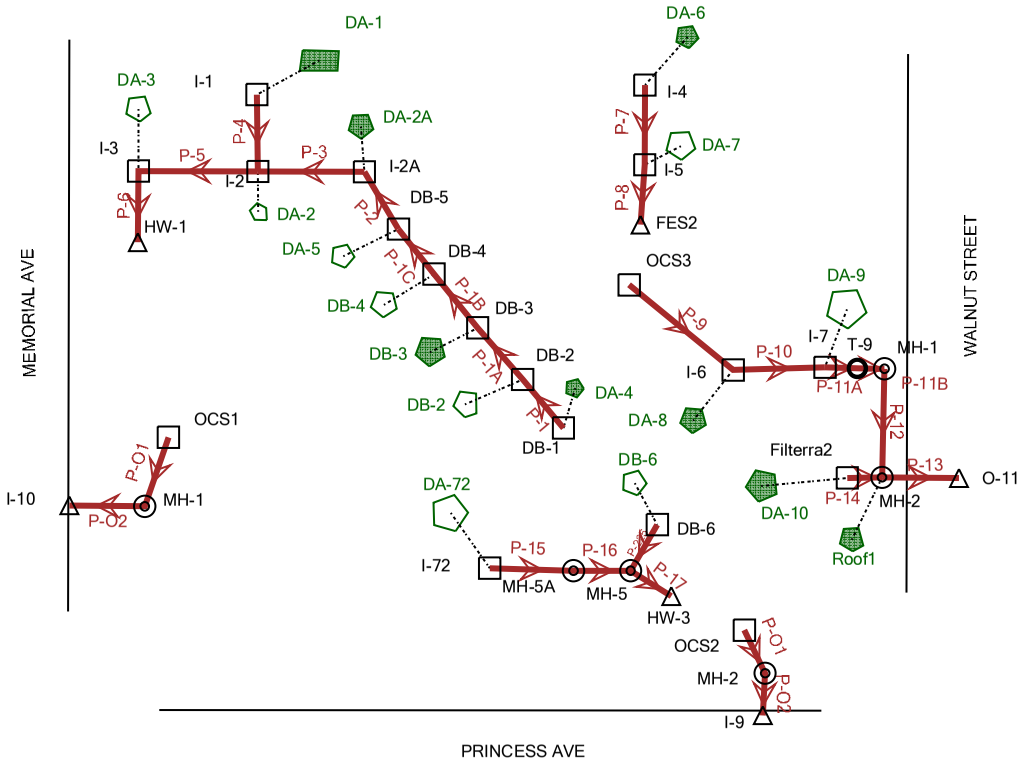
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.41 ft³/s	Time to Peak (Flow, In)	1.100 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	2.200 hours

Elevation (Water Surface, Peak)	15.70 ft
Volume (Peak)	597.80 ft³

Mass Balance (ft³)	
Volume (Initial)	0.00 ft³
Volume (Total Inflow)	601.00 ft³
Volume (Total Infiltration)	0.00 ft³
Volume (Total Outlet Outflow)	32.00 ft³
Volume (Retained)	569.00 ft³
Volume (Unrouted)	0.00 ft³
Error (Mass Balance)	0.00 %

Appendix E

Scenario: 25 year



Conduit FlexTable: Combined Pipe/Node Report

Label	Start Node	Stop Node	Upstream Inlet Area (acres)	System CA (acres)	System Intensity (in/h)	Size (Display)	Length (Unified) (ft)	Slope (Calculated) (ft/ft)	Manning's n	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Cover (Start) (ft)	Cover (Stop) (ft)
P-4	I-1	I-2	0.110	0.099	8.1	15 inch	24.0	0.005	0.015	0.81	3.96	2.53	13.27	13.15	13.71	13.69	16.15	16.15	1.63	1.75
P-5	I-2	I-3	0.057	0.546	7.7	15 inch	39.0	0.010	0.015	4.26	5.67	5.07	12.85	12.45	13.69	13.26	16.15	16.57	2.05	2.87
P-3	I-2A	I-2	0.083	0.396	7.8	15 inch	76.0	0.009	0.015	3.12	5.22	4.44	13.43	12.77	14.14	13.69	17.27	16.15	2.59	2.13
P-2	DB-5	I-2A	0.140	0.321	7.9	12 inch	45.0	0.005	0.012	2.54	2.70	3.91	13.90	13.68	14.67	14.36	16.70	17.27	1.80	2.59
P-1	DB-1	DB-2	0.060	0.054	8.1	12 inch	24.0	0.005	0.012	0.44	2.61	2.47	14.56	14.45	14.84	14.83	17.44	17.44	1.88	1.99
P-6	I-3	HW-1	0.086	0.619	7.7	18 inch	25.0	0.008	0.015	4.80	8.14	4.80	12.20	12.00	13.04	13.00	16.57	15.00	2.87	1.50
P-7	I-4	I-5	0.070	0.069	8.1	15 inch	30.0	0.007	0.015	0.56	4.79	2.61	14.80	14.58	15.09	15.04	17.38	17.38	1.33	1.55
P-8	I-5	FES2	0.110	0.168	8.0	15 inch	11.0	0.007	0.015	1.36	4.77	3.35	14.58	14.50	15.04	14.96	17.38	16.00	1.55	0.25
P-9	OCS3	I-6	(N/A)	0.000	8.1	15 inch	74.0	0.005	0.015	1.55	4.12	3.12	12.75	12.35	13.31	13.22	16.50	15.64	2.50	2.04
P-10	I-6	I-7	0.240	0.216	8.1	15 inch	60.0	0.005	0.015	3.31	3.96	3.61	12.35	12.05	13.22	12.92	15.64	14.55	2.04	1.25
P-11A	I-7	T-9	0.140	0.349	8.0	15 inch	5.6	0.009	0.015	4.36	5.27	4.80	12.05	12.00	12.92	12.85	14.55	14.25	1.25	1.00
P-13	MH-2	O-11	0.200	0.937	7.9	15 inch	11.0	0.010	0.015	9.02	5.60	7.35	9.00	8.89	10.39	10.05	13.46	12.75	3.21	2.61
P-14	Filterra2	MH-2	0.410	0.389	8.1	15 inch	10.0	0.009	0.015	3.17	5.31	4.52	10.13	10.04	10.85	10.74	15.00	13.46	3.62	2.17
P-12	MH-1	MH-2	(N/A)	0.349	8.0	15 inch	74.0	0.008	0.015	4.36	5.08	4.66	9.71	9.10	10.76	10.39	13.89	13.46	2.93	3.11
P-O1	OCS1	MH-1	(N/A)	0.000	8.1	18 inch	34.0	0.010	0.015	4.25	9.10	5.06	11.52	11.18	12.31	11.90	14.70	16.00	1.68	3.32
P-O2	MH-1	I-10	(N/A)	0.000	8.1	18 inch	17.0	0.011	0.015	4.25	9.37	5.17	11.18	11.00	11.97	11.71	16.00	15.27	3.32	2.77
P-O1	OCS2	MH-2	(N/A)	0.000	8.1	15 inch	23.0	0.015	0.015	3.09	6.91	5.47	10.00	9.65	10.71	10.24	12.80	14.44	1.55	3.54
P-O2	MH-2	I-9	(N/A)	0.000	8.1	15 inch	17.0	0.010	0.015	3.09	5.60	4.67	9.65	9.48	10.36	10.14	14.44	13.82	3.54	3.09
P-1A	DB-2	DB-3	0.060	0.099	8.0	12 inch	37.0	0.005	0.012	0.80	2.62	2.93	14.45	14.28	14.83	14.81	17.44	17.08	1.99	1.80
P-1B	DB-3	DB-4	0.066	0.148	8.0	12 inch	22.0	0.005	0.012	1.19	2.60	3.24	14.28	14.18	14.81	14.79	17.08	17.08	1.80	1.90
P-1C	DB-4	DB-5	0.090	0.216	7.9	12 inch	61.0	0.005	0.012	1.73	2.61	3.56	14.18	13.90	14.79	14.67	17.08	16.70	1.90	1.80
P-11B	T-9	MH-1	(N/A)	0.349	8.0	15 inch	5.0	0.008	0.015	4.36	5.01	4.60	9.81	9.77	10.78	10.76	14.25	13.89	3.19	2.87
P-15	I-72	MH-5A	0.020	0.020	8.1	12 inch	57.0	0.005	0.015	0.16	2.24	1.66	11.75	11.45	12.03	12.02	14.74	14.50	1.99	2.05
P-16	MH-5A	MH-5	(N/A)	0.020	7.9	12 inch	18.0	0.015	0.012	1.82	4.73	5.63	11.45	11.18	12.02	11.81	14.50	13.62	2.05	1.44
P-17	MH-5	HW-3	(N/A)	0.067	7.9	12 inch	9.0	0.020	0.012	2.19	5.46	6.56	11.18	11.00	11.81	11.50	13.62	13.00	1.44	1.00
P-225	DB-6	MH-5	0.052	0.047	8.1	12 inch	9.0	0.020	0.012	0.38	5.46	4.00	11.36	11.18	11.80	11.81	14.83	13.62	2.47	1.44

NEW JERSEY SOIL EROSION & SEDIMENT CONTROL STANDARDS

FOR

CONDUIT OUTLET PROTECTION - SCOUR HOLE

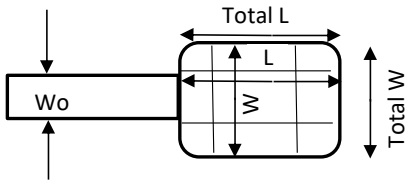
PROJECT: CORIELL INSTITUTE CAMDEN

Date: 2/28/2023
Rev:
Page:
By:

Structure: HW-1
25 Year Storm

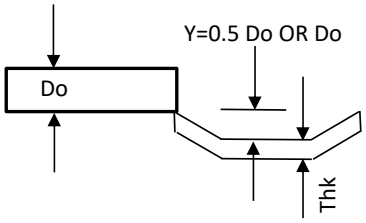
DESIGN CRITERIA:

Design Storm	25	yr
Flow Rate, Q=	4.91	CFS
Culvert Horiz Dim.=	1.50	Ft
Tailwater Depth=	1.52	*Ft
Filter Fabric Used?	y	(Y/N)
D(50) min.	3	in



SCOUR HOLE DIMENSIONS:

Culvert Vert Dim. (Do)	1.50	Ft
Depth of Hole (Y)	0.75	Ft
Length of Bottom (L)	4.50	Ft
Width of Bottom (W)	3.00	Ft
Total Length of Scour Hole	9.00	Ft
Total Width of Scour Hole	7.50	Ft
D(50) calc.	0	in
D(50) to be used	3	in
Thickness (Thk.)	6	in



NOTE: * Tailwater was calculated using SCS method. 2 yr water elev in basin is 13.52

NEW JERSEY SOIL EROSION & SEDIMENT CONTROL STANDARDS

FOR

CONDUIT OUTLET PROTECTION - SCOUR HOLE

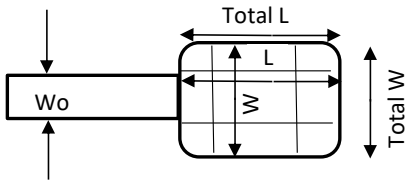
PROJECT: CORIELL INSTITUTE CAMDEN

Date: 2/28/2023
Rev:
Page:
By: BM

Structure: FES-1
25 Year Storm

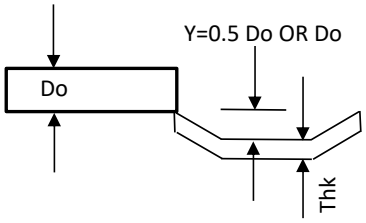
DESIGN CRITERIA:

Design Storm	25	yr
Flow Rate, Q=	1.36	CFS
Culvert Horiz Dim.=	1.25	Ft
Tailwater Depth=	1.78	*Ft
Filter Fabric Used?	y	(Y/N)
D(50) min.	3	in

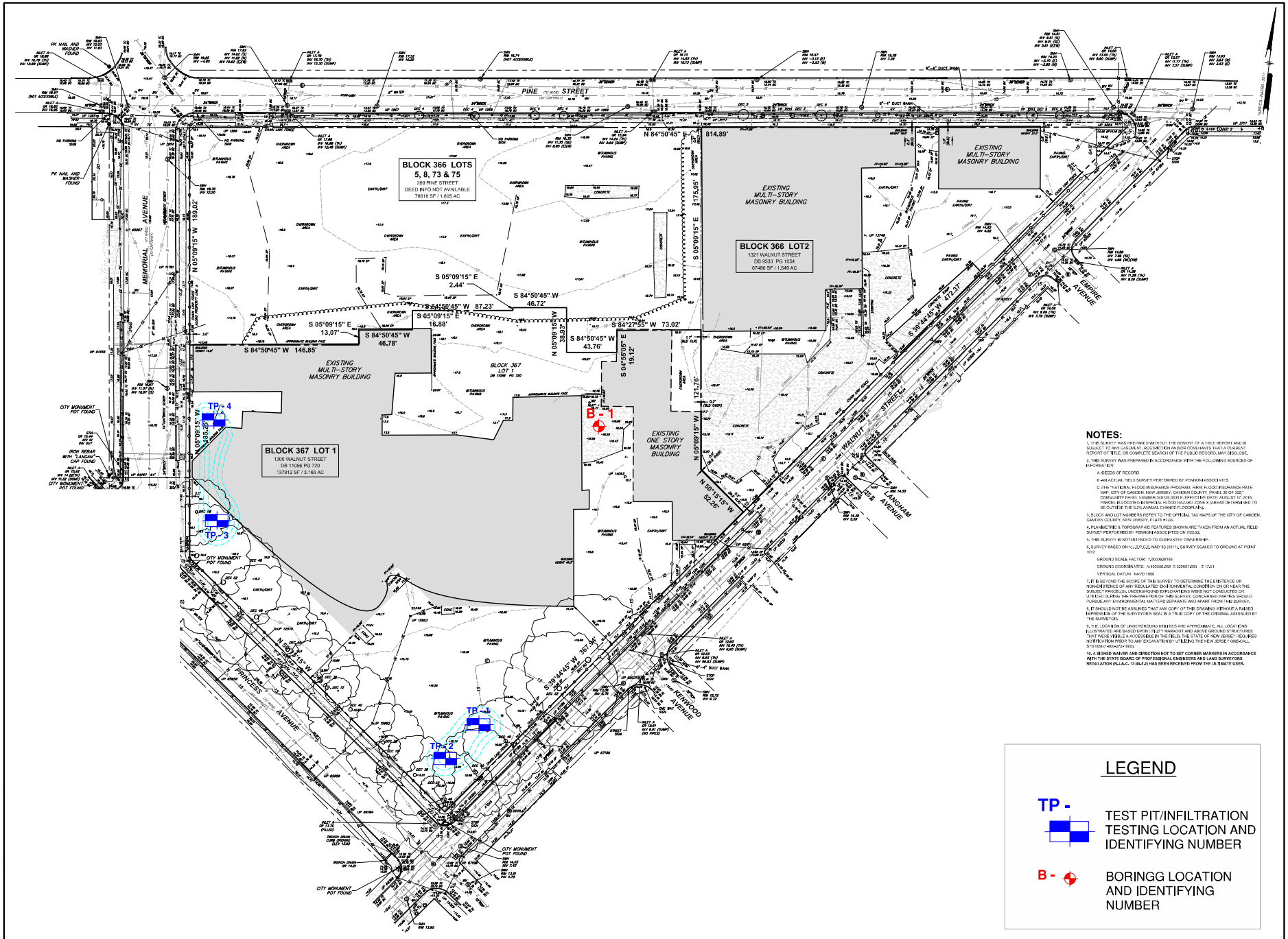


SCOUR HOLE DIMENSIONS:

Culvert Vert Dim. (Do)	1.25	Ft
Depth of Hole (Y)	0.63	Ft
Length of Bottom (L)	3.75	Ft
Width of Bottom (W)	2.50	Ft
Total Length of Scour Hole	7.53	Ft
Total Width of Scour Hole	6.28	Ft
D(50) calc.	0	in
D(50) to be used	3	in
Thickness (Thk.)	6	in



NOTE: * Tailwater was calculated using SCS method. 2 yr water elev in basin is 15.78



LEGEND

TP - TEST PIT/INFILTRATION TESTING LOCATION AND IDENTIFYING NUMBER

B - BORINGG LOCATION AND IDENTIFYING NUMBER

NOTES:

1. THIS SURVEY WAS PREPARED WITH OUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY EASEMENT, RESTRICTION AND/OR COVENANTS THAT A CURRENT REPORT OF TITLE, OR COMPLETE SEARCH OF THE PUBLIC RECORD, MAY DISCLOSE.

2. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE FOLLOWING SOURCES OF INFORMATION

A- DEEDS OF RECORD

B- AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES

C- THE "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, CITY OF CAMDEN, NEW JERSEY, CAMDEN COUNTY, PANEL 26 OF 226," COMMUNITY PANEL NUMBER 340531 0026 E, EFFECTIVE DATE: AUGUST 17, 2016, PARCEL IS LOCATED IN SPECIAL FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).

3. BLOCK AND LOT NUMBERS REFER TO THE OFFICIAL TAX MAPS OF THE CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY, PLATE #72A.

4. PLANIMETRIC & TOPOGRAPHIC FEATURES SHOWN ARE TAKEN FROM AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES ON 7/22/22.

5. THIS SURVEY IS NOT INTENDED TO GUARANTEE OWNERSHIP.

6. SURVEY BASED ON N.J.S.P.C.S. NAD 83 (2011), SURVEY SCALED TO GROUND AT POINT 1012

GROUND SCALE FACTOR: 1.0000026168

GROUND COORDINATES: N 452596.269 E 3220937.693 Z 17.51

VERTICAL DATUM: NAVD 1988

7. IT IS BEYOND THE SCOPE OF THIS SURVEY TO DETERMINE THE EXISTENCE OR NONEXISTENCE OF ANY REGULATED ENVIRONMENTAL CONDITION ON OR NEAR THE SUBJECT PARCEL(S). UNDERGROUND EXPLORATIONS WERE NOT CONDUCTED OR UTILIZED DURING THE PREPARATION OF THIS SURVEY. CONCERNED PARTIES SHOULD PURSUE ANY ENVIRONMENTAL MATTERS SEPARATE AND APART FROM THIS SURVEY.

8. IT SHOULD NOT BE ASSUMED THAT ANY COPY OF THIS DRAWING WITHOUT A RAISED IMPRESSION OF THE SURVEYOR'S SEAL IS A TRUE COPY OF THE ORIGINAL ISSUED BY THE SURVEYOR.

9. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS ILLUSTRATED ARE BASED UPON UTILITY MARKOUT AND ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD. THE STATE OF NEW JERSEY REQUIRES NOTIFICATION PRIOR TO ANY EXCAVATION BY UTILIZING THE NEW JERSEY ONE-CALL SYSTEM (1-800-272-1000).

10. **A SIGNED WAIVER AND DIRECTION NOT TO SET CORNER MARKERS IN ACCORDANCE WITH THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS REGULATION (N.J.A.C. 13:40-5.2) HAS BEEN RECEIVED FROM THE ULTIMATE USER.**

Schematic taken from Sheet V-0501 "Boundary & Topographic Survey", prepared by Pennoni Associates, dated 23 July, 2022.

PENNONI ASSOCIATES INC.
515 Grove Street, Suite 1B
Haddon Heights, NJ 08035
T 856.546.5500 F 856.547.1774
NJ COA NO. GA28003300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

THIS PLAN WAS PREPARED UNDER MY IMMEDIATE SUPERVISION

Keith M. Ludwig, PLS
New Jersey Lic. 24058

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOT 6, BLOCK 366 LOTS 2, 5, 8, 73 & 75
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

TESTING LOCATION PLAN

SCHEER PARTNERS INC.
15245 SHADY GROVE ROAD
ROCKVILLE, MARYLAND 20850

NO.	DATE	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES. OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER22001
DATE	20220723
DRAWING SCALE	1"= 30'
DRAWN BY	CWS
APPROVED BY	KML

TL - 1

SHEET 1 OF 1

515 Grove Street
Suite 1B
Haddon Heights, NJ 08035
T: 856-547-0505
F: 856-547-9174

www.pennoni.com

February 24, 2023

SCHER22001

Mr. Trevor Harris
Senior Project Manager
Scheer Partners
15245 Shady Grove Road, Suite 210
Rockville, MD 20850

RE: Infiltration Testing Summary Report
Coriell Institute Headquarters
1300 Walnut Street
Camden, New Jersey

Dear Mr. Harris:

Pennoni Associates, Inc. (Pennoni) is pleased to submit this report summarizing the infiltration tests performed as part of the above referenced project in Camden, New Jersey. The purpose of the study was to estimate the infiltration rates in the general areas of proposed Stormwater Management (SWM) facilities. Our services were performed in general accordance with our proposal dated May 13, 2022, and your subsequent authorization to proceed.

BACKGROUND

The project site is located at 1300 Walnut Street, in Camden, NJ. The site is bounded to the north by Pine Street, to the east and south by Walnut Street, and to the west and south by Princess Avenue and Memorial Avenue.

The topography of the site is generally flat with a slight descent from north to south. The site is currently occupied by four vacant commercial multi-story masonry buildings, which will be demolished to make way for the proposed new construction, with associated bituminous and concrete pavements, and open, grassy areas. Tree coverage exists along the southside perimeter. Pennoni personnel observed NJ One-Call mark outs of underground water utilities, and unknown lines running through the southern portion of the site. Overhead utilities were also observed in the south section, and along the perimeter of the site.

FIELD WORK

On February 16, 2023, four test pits were excavated to depths varying between 7.0 and 8.0 ft below the ground surface (bgs), using a rubber tire backhoe. Testing locations were selected and established in the field by Pennoni personnel and performed within the footprint of the proposed SWM facilities. Approximate locations, labeled TP-1 through TP-4, are presented on the Testing Location Plan, Drawing TL-1. The test pits were performed to determine the soil horizon and restricting layers such as the groundwater table (GWT) or seasonal high-water table (SHWT), prior to infiltration testing (described below). Following the conclusion

of the excavations and testing, the test pits were backfilled with the excavated soil in 10 to 12 in. lifts and tamped with the excavator bucket.

Excavation was performed by Ambient, LLC. Our M. Arkan, PE directed the field work, and our T. Hall, EIT observed the test pits and performed the infiltration testing. The test pit and infiltration logs are attached.

SUBSURFACE STRATIGRAPHY

Test pits TP-1 and TP-2 disclosed a surficial asphalt layer approximately 2 to 3 in. thick; TP-3 disclosed a surficial topsoil layer approximately 6 in. thick. A fill layer was encountered in all the test pits, extending to depths ranging from 4.0 to 6.0 ft bgs. The underlying subsoils encountered, including the fill, have been grouped by us into two strata. Brief stratum descriptions are presented below:

STRATUM	DESCRIPTION
F	FILL: Black to brown fine to medium to coarse SAND, varying amounts of Silt, trace Brick, Glass, and Metal Fragments, trace Cinders, trace Cobbles, trace Roots; dry (~4.0 to 6.0 ft thick)
1	Tan to brown fine SAND, with varying amounts of Silt; dry to damp (~all test pits terminated in it)

Observations for groundwater were made during and shortly after the completion of the test pits. No evidence of groundwater was observed during testing. Groundwater observations are for the times and locations noted and may not be indicative of seasonal or daily fluctuations in groundwater levels. Seasonal variations on the order of few feet should be anticipated. Additionally, no evidence of the seasonal high-water table (SHWT) was observed from mottling and redoximorphic features.

INFILTRATION TESTING RESULTS

Pennoni performed four single ring infiltration tests, one at each test pit location. Testing was performed within the general footprint of the proposed SWM facilities.

A pre-soak was performed prior to testing, where the single rings were filled with approximately 3 in. of water and allowed to drain completely. In pre-soaks where the water level to drop 1 in. exceeded 60 minutes, the pre-soak time was ended at 60 minutes. The rings were refilled and the time to drop 1 in. measured until stabilized infiltration rates were observed (where two measurements of the time is within 0.5 second). The following table presents a summary of the field results for the infiltration tests performed.

Test Location	Approx. Ground Surface Elev.	Approx. Limiting Zone Elev.	Approx. Testing Elev.	Tested Stratum	Field Infiltration Rate (in/hr)
TP-1	15.2	NE	10.2	1	1.2
TP-2	15.3	NE	10.3	1	1.4
TP-3	16.3	NE	11.3	F	10.9
TP-4	16.5	NE	11.5	1	2.5

*NE – Not Encountered

Field infiltration rates in Stratum 1 were observed to vary between 1.2 and 2.5 in/hr. At testing location TP-3, the test was conducted within the fill layer, disclosing a field infiltration rate of 10.9 in/hr.

LIMITATIONS

This work has been performed in accordance with generally accepted professional practice in the field of geotechnical engineering. Our conclusions and recommendations are based on the data revealed by this exploration. We are not responsible for any conclusions or opinions drawn from the data included herein, other than those specifically stated, nor are the recommendations presented in this report intended for direct use as construction specifications. This report is intended for use with regard to the specific project described herein; any changes in loads, structures, or locations should be brought to our attention so that we may determine how they may affect our conclusions. An attempt has been made to provide for normal contingencies, but the possibility remains that unexpected conditions may be present which we are not aware of. If additional or contradictory data are revealed in the future, we should be notified so that modifications to this report can be made, if necessary. If we do not review relevant construction documents and witness the relevant construction operations, then we cannot be responsible for any problems that may result from misinterpretation or misunderstanding of this report or failure to comply with our recommendations.

We trust that the information presented in this report is what you require at this time and we thank you for the opportunity to assist you with this project. If you have any questions, or if you need any further assistance with this project, please contact this office at your earliest convenience.

Sincerely,

PENNONI ASSOCIATES INC.

Tristan Hall, EIT
Graduate Geotechnical Engineer

Murat Arkan, PE
Senior Geotechnical Engineer

Enclosures: *Testing Location Plan (TL-1)*
Test Pit Logs (TP-1 through TP-4)
Infiltration Logs (INF-1 through INF-4)

TEST BORING LOG

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 10/21/22 **COMPLETED** 10/21/22
GROUND ELEVATION 16.5'
DRILLING CONTRACTOR F.M. & W. Drilling Inc.
WATER ENCOUNTERED:
DRILLING METHOD Hollow Stem Auger
▽ **DURING DRILLING** 18.0' / Elev -1.5'
DRILLER / HELPER Nick/Ryan
AT END OF DRILLING Not Measured
LOGGED BY T. Hall **CHECKED BY** DRAFT
AFTER DRILLING Not Measured

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0						Depth / Elev.	
	S-1	14	9-16-23		C	0.3 / 16.2 — 4" CONCRETE	
					F	FILL: Black C/MF SAND, some Silt	
	S-2	20	12-14-11-14			3.5 / 13.0	
5	S-3	18	5-3-3-4		1	Brown SILT and SAND Brown SILT and fine SAND	
	S-4	20	4-3-4-4			Grayish brown fine SAND, little Silt	
						8.0 / 8.5	
10	S-5	23	5-6-7-7			Gray fine SAND, little to trace Silt	
15	S-6	20	10-13-14-18			Grayish brown to tan F/M SAND, trace Silt	Moist
▽ 20	S-7	24	11-14-15-16			Grayish brown to multicolored M/F/C SAND, little F/C Gravel, trace Silt	Wet
25	S-8	19	6-9-12-15		2	Grayish brown fine SAND, some Silt	
30	S-9	18	10-14-14-16			Light gray to brown F/M SAND (white Clayey Sand pocket, 2-3", in spoon tip)	
35	S-10	24	13-22-28-36			Dark to light gray to tan F/M/C SAND, trace Silt	
						38.0 / -21.5	
40	S-11	24	17-27-31-43		3	Brown to tan M/F/C SAND, trace Silt	
						40.0 / -23.5	
						Borehole terminated at 40.0 feet.	

NOTES:

TEST PIT LOG

Test Pit TP-1

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 2/16/23 **COMPLETED** 2/16/23
GROUND ELEVATION 15.2'
EXCAVATION CONTRACTOR Ambient Group, LLC
WATER ENCOUNTERED:
EXCAVATION METHOD Excavator
DURING EXCAVATION Not Encountered
OPERATOR / HELPER Mike
AT END OF EXCAVATION Not Encountered
LOGGED BY T. Hall **CHECKED BY** M. Arkan
AFTER EXCAVATION Not Encountered

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0.0				Depth / Elev.	
			A	0.2 — 2" ASPHALT — 15.0	
				FILL: Black to brown F/M/C SAND, little Silt, trace Brick, trace Cinders	
2.5			F		
5.0				5.0 — 10.2	
				Tan to brown fine SAND, trace Silt	
			1		
7.5				8.0 — 7.2	
				Test Pit terminated at 8.0 feet.	

NOTES:

Test Pit TP-2

TEST PIT LOG

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 2/16/23 **COMPLETED** 2/16/23
GROUND ELEVATION 15.3'
EXCAVATION CONTRACTOR Ambient Group, LLC
WATER ENCOUNTERED:
EXCAVATION METHOD Excavator
DURING EXCAVATION Not Encountered
OPERATOR / HELPER Mike
AT END OF EXCAVATION Not Encountered
LOGGED BY T. Hall **CHECKED BY** M. Arkan
AFTER EXCAVATION Not Encountered

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0.0			A	Depth 0.3 — 3" ASPHALT — Elev. 15.1	
			F	FILL: Black to brown F/M/C SAND, little Silt, trace Cobbles, trace Roots	
2.5					
				Depth 4.0 — Elev. 11.3	
			1	Orange to brown fine SAND and CLAYEY SILT (pocket 4-5 ft)	
5.0				Tan to brown fine SAND, trace Silt	
7.5					
				Depth 8.0 — Elev. 7.3	
				Test Pit terminated at 8.0 feet.	

NOTES:

TEST PIT LOG

Test Pit TP-3
PAGE 1 OF 1

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 2/16/23 **COMPLETED** 2/16/23
GROUND ELEVATION 16.3'
EXCAVATION CONTRACTOR Ambient Group, LLC
WATER ENCOUNTERED:
EXCAVATION METHOD Excavator
DURING EXCAVATION Not Encountered
OPERATOR / HELPER Mike
AT END OF EXCAVATION Not Encountered
LOGGED BY T. Hall **CHECKED BY** M. Arkan
AFTER EXCAVATION Not Encountered

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0.0				Depth / Elev.	
			T	6" TOPSOIL	
				0.5 / 15.8	
			F	FILL: Black to brown to gray F/M/C SAND, some Silt, little F/C Gravel, trace Brick, Glass, and Metal Fragments, trace Roots	
2.5					
5.0					
				6.0 / 10.3	
			1	Brown to tan fine SAND (some gray Silty Sand pockets)	
7.5					
				8.0 / 8.3	Damp
				Test Pit terminated at 8.0 feet.	

NOTES:

Test Pit TP-4

TEST PIT LOG

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 2/16/23 **COMPLETED** 2/16/23
GROUND ELEVATION 16.5'
EXCAVATION CONTRACTOR Ambient Group, LLC
WATER ENCOUNTERED:
EXCAVATION METHOD Excavator
DURING EXCAVATION Not Encountered
OPERATOR / HELPER Mike
AT END OF EXCAVATION Not Encountered
LOGGED BY T. Hall **CHECKED BY** M. Arkan
AFTER EXCAVATION Not Encountered

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0.0				Depth Elev.	
			F	FILL: Black to brown F/M/C SAND, some Silt, trace Cobbles	
2.5					
				4.5 12.0	
			1	Brown to gray fine SAND, some Silt	
5.0					
				7.0 9.5	
				Test Pit terminated at 7.0 feet.	

NOTES:

BASIN 1

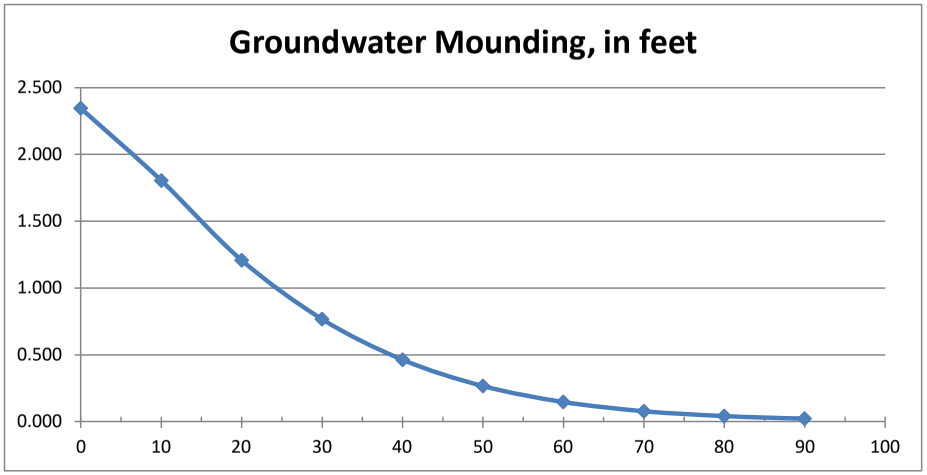
Input Values

1.25	R	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
6.25	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
5.000	x	1/2 length of basin (x direction, in feet)
39.000	y	1/2 width of basin (y direction, in feet)
20.40	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.346	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.346	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.346	0
1.805	10
1.207	20
0.767	30
0.463	40
0.266	50
0.146	60
0.077	70
0.040	80
0.021	90

Re-Calculate Now



Disclaimer

This spreadsheet solving the Hantush (1967) equation for ground-water mounding beneath an infiltration basin is made available to the general public as a convenience for those wishing to replicate values documented in the USGS Scientific Investigations Report 2010-5102 "Groundwater mounding beneath hypothetical stormwater infiltration basins" or to calculate values based on user-specified site conditions. Any changes made to the spreadsheet (other than values identified as user-specified) after transmission from the USGS could have unintended, undesirable consequences. These consequences could include, but may not be limited to: erroneous output, numerical instabilities, and violations of underlying assumptions that are inherent in results presented in the accompanying USGS published report. The USGS assumes no responsibility for the consequences of any changes made to the spreadsheet. If changes are made to the spreadsheet, the user is responsible for documenting the changes and justifying the results and conclusions.

BASIN 2

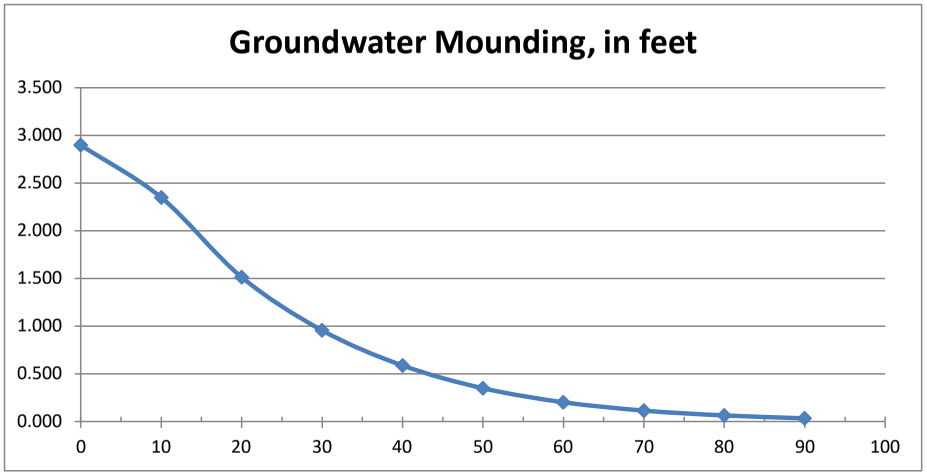
Input Values

0.60	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
3.00	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
9.000	x	1/2 length of basin (x direction, in feet)
18.000	y	1/2 width of basin (y direction, in feet)
49.90	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.899	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.899	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.899	0
2.348	10
1.514	20
0.955	30
0.587	40
0.350	50
0.202	60
0.114	70
0.062	80
0.034	90

Re-Calculate Now



Disclaimer

This spreadsheet solving the Hantush (1967) equation for ground-water mounding beneath an infiltration basin is made available to the general public as a convenience for those wishing to replicate values documented in the USGS Scientific Investigations Report 2010-5102 "Groundwater mounding beneath hypothetical stormwater infiltration basins" or to calculate values based on user-specified site conditions. Any changes made to the spreadsheet (other than values identified as user-specified) after transmission from the USGS could have unintended, undesirable consequences. These consequences could include, but may not be limited to: erroneous output, numerical instabilities, and violations of underlying assumptions that are inherent in results presented in the accompanying USGS published report. The USGS assumes no responsibility for the consequences of any changes made to the spreadsheet. If changes are made to the spreadsheet, the user is responsible for documenting the changes and justifying the results and conclusions.

BASIN 3

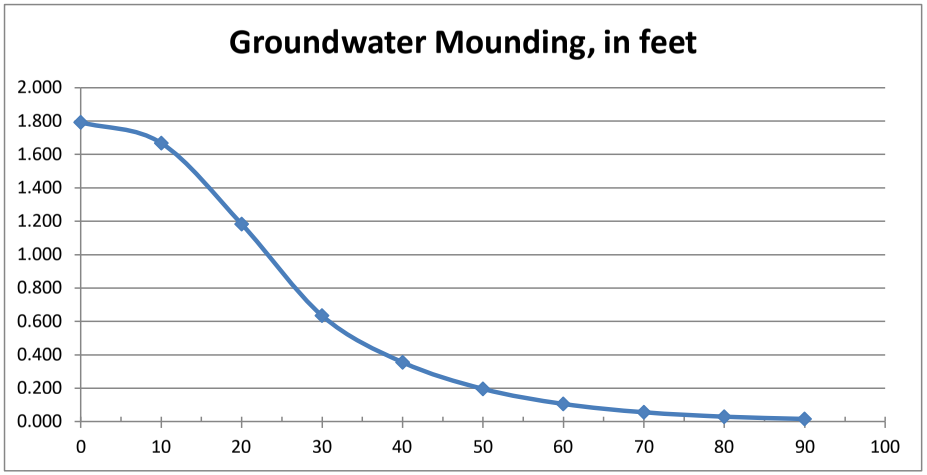
Input Values

0.60	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
3.00	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
20.000	x	1/2 length of basin (x direction, in feet)
5.000	y	1/2 width of basin (y direction, in feet)
39.40	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.792	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.792	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.792	0
1.668	10
1.183	20
0.634	30
0.354	40
0.195	50
0.105	60
0.055	70
0.029	80
0.016	90

Re-Calculate Now



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Appendix F

ii. N.J.A.C. 7:8-5.7(c)2 and N.J.A.C. 7:8-5.7(d)2 both allow an alternative to calculating the current and projected rainfall precipitation depths by using separate rainfall totals for each county. The 24-hour county rainfall amount provided by NRCS is duplicated here and can be found online at:

https://www.nrcs.usda.gov/sites/default/files/2022-09/NJ%2024%20Hour%20Rainfall%20Data.pdf.

Table 5-1: County-Specific, New Jersey 24-Hour Rainfall Frequency Data

NEW JERSEY 24 HOUR RAINFALL FREQUENCY DATA

Rainfall amounts in Inches

County	1 year	2 year	5 year	10 year	25 year	50 year	100 year
Atlantic	2.72	3.31	4.30	5.16	6.46	7.61	8.90
Bergen	2.75	3.34	4.27	5.07	6.28	7.32	8.47
Burlington	2.77	3.36	4.34	5.18	6.45	7.56	8.81
Camden	2.73	3.31	4.25	5.06	6.28	7.34	8.52
Cape May	2.67	3.25	4.22	5.07	6.34	7.47	8.73
Cumberland	2.69	3.27	4.25	5.09	6.37	7.49	8.76
Essex	2.85	3.44	4.40	5.22	6.44	7.49	8.66
Gloucester	2.71	3.29	4.24	5.05	6.29	7.36	8.55
Hudson	2.73	3.31	4.23	5.02	6.19	7.20	8.31
Hunterdon	2.80	3.38	4.26	5.00	6.09	7.02	8.03
Mercer	2.74	3.31	4.23	5.01	6.19	7.20	8.33
Middlesex	2.76	3.35	4.30	5.12	6.36	7.43	8.63
Monmouth	2.79	3.38	4.38	5.23	6.53	7.66	8.94
Morris	2.94	3.54	4.47	5.24	6.37	7.32	8.35
Ocean	2.81	3.42	4.45	5.33	6.68	7.87	9.20
Passaic	2.87	3.47	4.42	5.23	6.43	7.47	8.62
Salem	2.69	3.26	4.20	5.00	6.22	7.28	8.45
Somerset	2.76	3.34	4.25	5.01	6.15	7.13	8.21
Sussex	2.68	3.22	4.02	4.70	5.72	6.60	7.58
Union	2.80	3.39	4.35	5.17	6.42	7.49	8.69
Warren	2.78	3.34	4.18	4.89	5.93	6.83	7.82

Notes: The average point rainfall amounts listed above were developed from data contained in NOAA Atlas 14 Volume 2.

Point rainfall estimates for specific locations may be obtained from the Precipitation Frequency Data Server located at http://www.nws.noaa.gov/ohd/hdsc/

For most hydrologic design procedures, the rainfall amounts listed above may be rounded to the nearest tenth of an inch.

b. N.J.A.C.7:8-5.7(c) requires the precipitation depths of the current 2-, 10- and 100-year storm events be determined by multiplying the NOAA rainfall data with the current precipitation adjustment factors in Table 5-5 at N.J.A.C.7:8-5.7(c)2. N.J.A.C.7:8-5.7(d) requires the precipitation depths of the projected 2-, 10- and 100-year storm events be determined by multiplying the NOAA rainfall data with the future precipitation change factors in Table 5-6 at N.J.A.C.7:8-5.7(d). Table 5-5 and Table 5-6 from the Rules are reproduced below.

Current Precipitation Adjustment Factors at N.J.A.C. 7:8-5.7(c) as Table 5-5

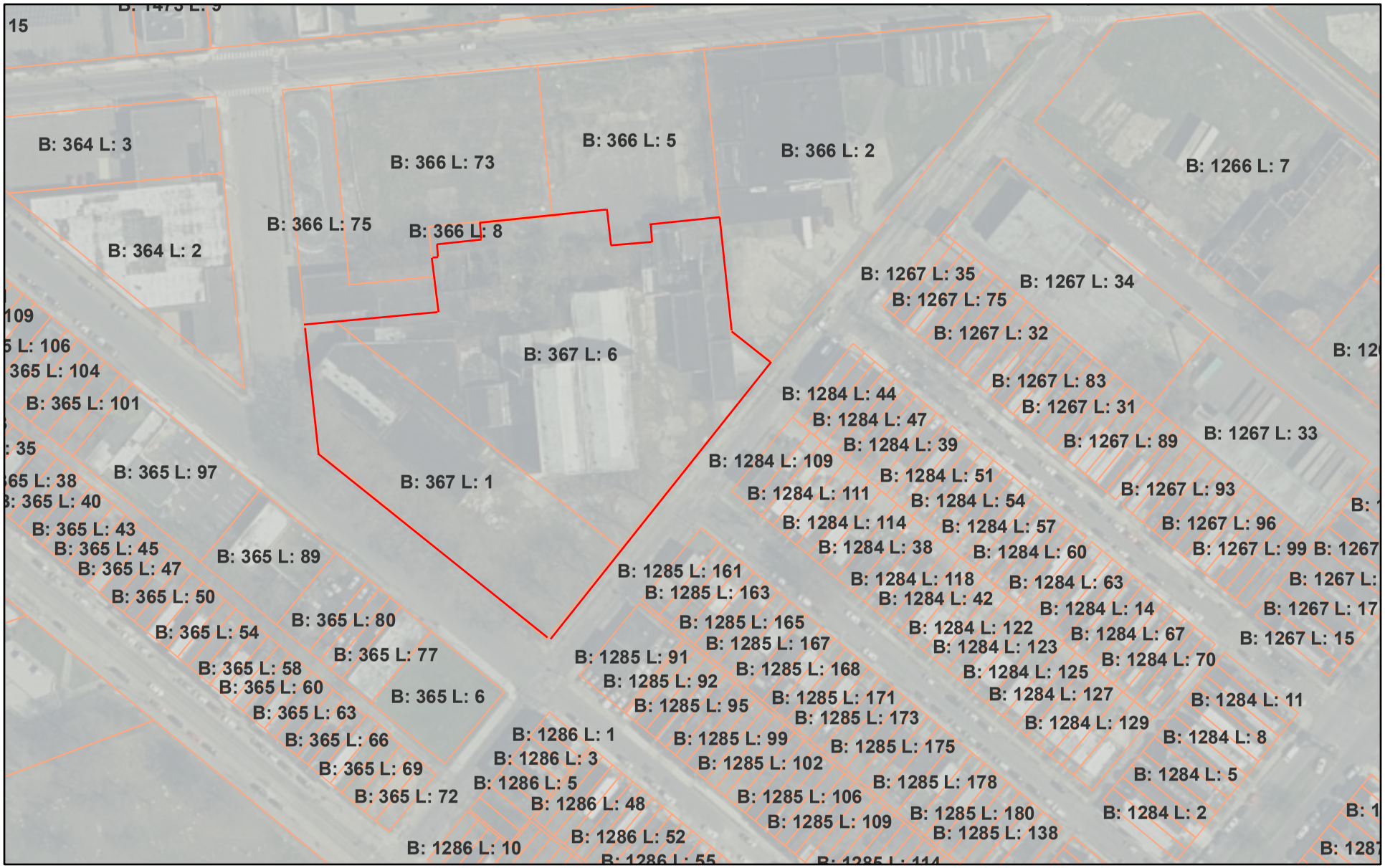
County	Current Precipitation Adjustment Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Atlantic	1.01	1.02	1.03
Bergen	1.01	1.03	1.06
Burlington	0.99	1.01	1.04
Camden	1.03	1.04	1.05
Cape May	1.03	1.03	1.04
Cumberland	1.03	1.03	1.01
Essex	1.01	1.03	1.06
Gloucester	1.05	1.06	1.06
Hudson	1.03	1.05	1.09
Hunterdon	1.02	1.05	1.13
Mercer	1.01	1.02	1.04
Middlesex	1.00	1.01	1.03
Monmouth	1.00	1.01	1.02
Morris	1.01	1.03	1.06
Ocean	1.00	1.01	1.03
Passaic	1.00	1.02	1.05
Salem	1.02	1.03	1.03
Somerset	1.00	1.03	1.09
Sussex	1.03	1.04	1.07
Union	1.01	1.03	1.06
Warren	1.02	1.07	1.15

Future Precipitation Change Factors at N.J.A.C. 7:8-5.7(d) as Table 5-6

County	Future Precipitation Change Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Atlantic	1.22	1.24	1.39
Bergen	1.20	1.23	1.37
Burlington	1.17	1.18	1.32
Camden	1.18	1.22	1.39
Cape May	1.21	1.24	1.32
Cumberland	1.20	1.21	1.39
Essex	1.19	1.22	1.33
Gloucester	1.19	1.23	1.41
Hudson	1.19	1.19	1.23
Hunterdon	1.19	1.23	1.42
Mercer	1.16	1.17	1.36
Middlesex	1.19	1.21	1.33
Monmouth	1.19	1.19	1.26
Morris	1.23	1.28	1.46
Ocean	1.18	1.19	1.24
Passaic	1.21	1.27	1.50
Salem	1.20	1.23	1.32
Somerset	1.19	1.24	1.48
Sussex	1.24	1.29	1.50
Union	1.20	1.23	1.35
Warren	1.20	1.25	1.37

Current		**Projected**
2 year	3.28 inches x 1.18 =	3.87 inches
10 year	5.10 inches x 1.22 =	6.22 inches
100 year	8.50 inches x 1.39 =	11.82 inches

NJ-GeoWeb



2/27/2023, 3:03:20 PM

State Planning Area Boundaries

Metropolitan Planning Area (PA 1)

County Boundaries

Parcels Data (Block and Lot)

1:2,257

0 0.01 0.03 0.05 mi

0 0.02 0.04 0.09 km

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New Jersey Department of Environmental Protection

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THIS IS A COURTESY COPY OF THIS RULE. ALL OF THE DEPARTMENT'S RULES ARE COMPILED IN TITLE 7 OF THE NEW JERSEY ADMINISTRATIVE CODE.

"Stormwater management measure" means any practice, technology, process, program, or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of stormwater or to eliminate illicit or illegal nonstormwater discharges into stormwater conveyances.

"Stormwater management planning agency" means a public body authorized by legislation to prepare stormwater management plans.

"Stormwater management planning area" means the geographic area for which a stormwater management planning agency is authorized to prepare stormwater management plans, or a specific portion of that area identified in a stormwater management plan prepared by that agency.

"Tidal Flood Hazard Area" means a flood hazard area in which the flood elevation resulting from the two-, 10-, or 100-year storm, as applicable, is governed by tidal flooding from the Atlantic Ocean. Flooding in a tidal flood hazard area may be contributed to, or influenced by, stormwater runoff from inland areas, but the depth of flooding generated by the tidal rise and fall of the Atlantic Ocean is greater than flooding from any fluvial sources. In some situations, depending upon the extent of the storm surge from a particular storm event, a flood hazard area may be tidal in the 100-year storm, but fluvial in more frequent storm events.

"Urban Coordinating Council Empowerment Neighborhood" means a neighborhood given priority access to State resources through the New Jersey Redevelopment Authority.

"Urban Enterprise Zones" means a zone designated by the New Jersey Urban Enterprise Zone Authority pursuant to the New Jersey Urban Enterprise Zones Act, N.J.S.A. 52:27H-60 et seq.

"Urban Redevelopment Area" is defined as previously developed portions of areas:

1. Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;
2. Designated as CAFRA Centers, Cores or Nodes;
3. Designated as Urban Enterprise Zones; and
4. Designated as Urban Coordinating Council Empowerment Neighborhoods.

“Water control structure” means a structure within, or adjacent to, a water, which intentionally or coincidentally alters the hydraulic capacity, the flood elevation resulting from the two-, 10-, or 100-year storm, flood hazard area limit, and/or floodway limit of the water. Examples of a water control structure may include a bridge, culvert, dam, embankment, ford (if above grade), retaining wall, and weir.

THIS IS A COURTESY COPY OF THIS RULE. ALL OF THE DEPARTMENT'S RULES ARE COMPILED IN TITLE 7 OF THE NEW JERSEY ADMINISTRATIVE CODE.

4. Small-scale Bioretention Systems	2.5 acres
5. Small-scale Infiltration Basin	2.5 acres
6. Small-scale Sand Filter	2.5 acres

(c) To satisfy the stormwater runoff quantity standards at N.J.A.C. 7:8-5.6, the design engineer shall utilize BMPs from Table 5-1 or from Table 5-2 and/or an alternative stormwater management measure approved in accordance with N.J.A.C. 7:8-5.2(g).

(d) If a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with N.J.A.C. 7:8-5.2(e) is granted from the requirements of this section, then BMPs from Table 5-1, 5-2, or 5-3, and/or an alternative stormwater management measure approved in accordance with N.J.A.C. 7:8-5.2(g) may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at N.J.A.C. 7:8-5.4, 5.5, and 5.6.

(e) For separate or combined storm sewer improvement projects, such as sewer separation, undertaken by a government agency or public utility (for example, a sewerage company), the requirements of this section shall only apply to areas owned in fee simple by the government agency or utility, and areas within a right-of-way or easement held or controlled by the government agency or utility; the entity shall not be required to obtain additional property or property rights to fully satisfy the requirements of this section. Regardless of the amount of area of a separate or combined storm sewer improvement project subject to the green infrastructure requirements of this section, each project shall fully comply with the applicable groundwater recharge, stormwater runoff quality control, and stormwater runoff quantity standards at N.J.A.C. 7:8-5.4, 5.5, and 5.6, unless the project is granted a waiver from strict compliance in accordance with N.J.A.C. 7:8-5.2(e).

7:8-5.4 Groundwater recharge standards

(a) This section contains minimum design and performance standards for groundwater recharge.

(b) The minimum design and performance standards for groundwater recharge are as follows:

1. The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at N.J.A.C. 7:8-5.7, either:
   i. Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site; or
   ii. Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the two-year storm is infiltrated.
2. This groundwater recharge requirement does not apply to projects within the "urban redevelopment area," or to projects subject to (b)3 below.
3. The following types of stormwater shall not be recharged:
   i. Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum

products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than 'reportable quantities' as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with a remedial action work plan approved pursuant to the Administrative Requirements for the Remediation of Contaminated Sites rules, N.J.A.C. 7:26C, or a Department approved landfill closure plan; and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

ii. Industrial stormwater exposed to "source material." "Source material" means any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

7:8-5.5 Stormwater runoff quality standards

(a) This section contains the minimum design and performance standards to control stormwater runoff quality impacts of major development. Stormwater runoff quality standards are applicable when the major development results in an increase of one-quarter acre or more of regulated motor vehicle surface.

(b) Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm as follows:

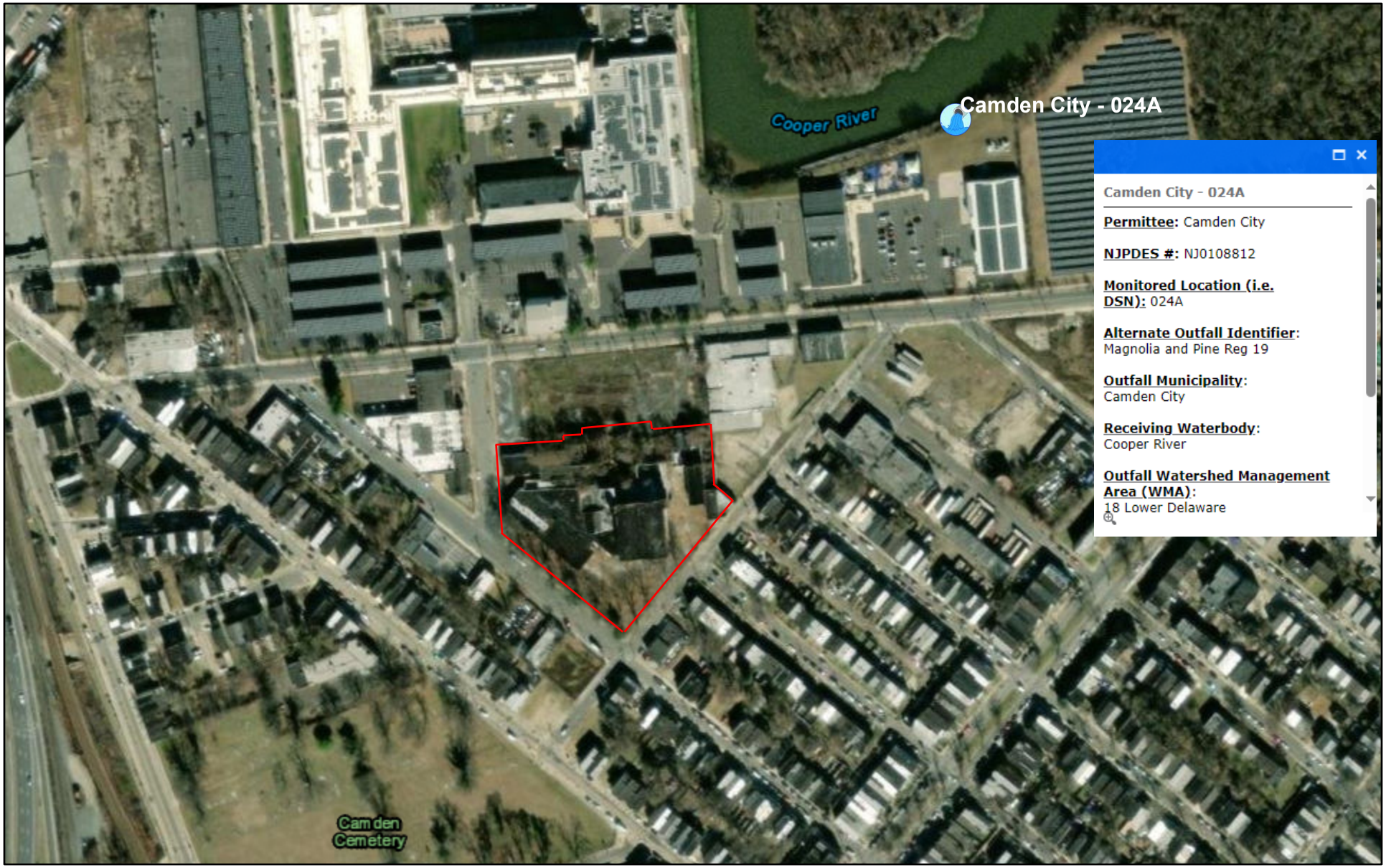
1. Eighty percent TSS removal of the anticipated load, expressed as an annual average shall be achieved for the stormwater runoff from the net increase of motor vehicle surface.

2. If the surface is considered regulated motor vehicle surface because the water quality treatment for an area of motor vehicle surface that is currently receiving water quality treatment either by vegetation or soil, by an existing stormwater management measure, or by treatment at a wastewater treatment plant is to be modified or removed, the project shall maintain or increase the existing TSS removal of the anticipated load expressed as an annual average.

(c) The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollutant Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. Every major development, including any that discharge into a combined sewer system, shall comply with (b) above, unless the major development is itself subject to a NJPDES permit with a numeric effluent limitation for TSS or the NJPDES permit to which the major development is subject exempts the development from a numeric effluent limitation for TSS.

(d) The water quality design storm is 1.25 inches of rainfall in two hours. Water quality

Corielle CSO MAP



September 18, 2023

1:4,514

0 0.03 0.06 0.11 mi

0 0.04 0.09 0.18 km

City of Philadelphia, State of New Jersey, Esri, HERE, Garmin, iPC, Maxar

Appendix G

TECHNICAL REPORT
STORMWATER MANAGEMENT MAINTENANCE REPORT
CORIELL INSTITUTE CAMDEN
BLOCK 367, LOTS 1 & 6
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

Prepared For:
Walnut Street Acquisition Group
403 Haddon Avenue
Camden, New Jersey 08103

Prepared By:
Pennoni
2 Aquarium Drive, Ste 320
Camden, New Jersey 08103
T:856-668-8600
www.pennoni.com

11/17/2025

Joseph Raday, PE
New Jersey License No. 24GE043768

SCHER25001

STORMWATER MANAGEMENT MEASURES
MAINTENANCE PLAN

Development Name: Coriell Institute Camden

Address: 1300 Walnut Street
Block 367, Lots 1 and Lot 6

Township, County: City of Camden, Camden County, NJ

Party Responsible for Maintenance:

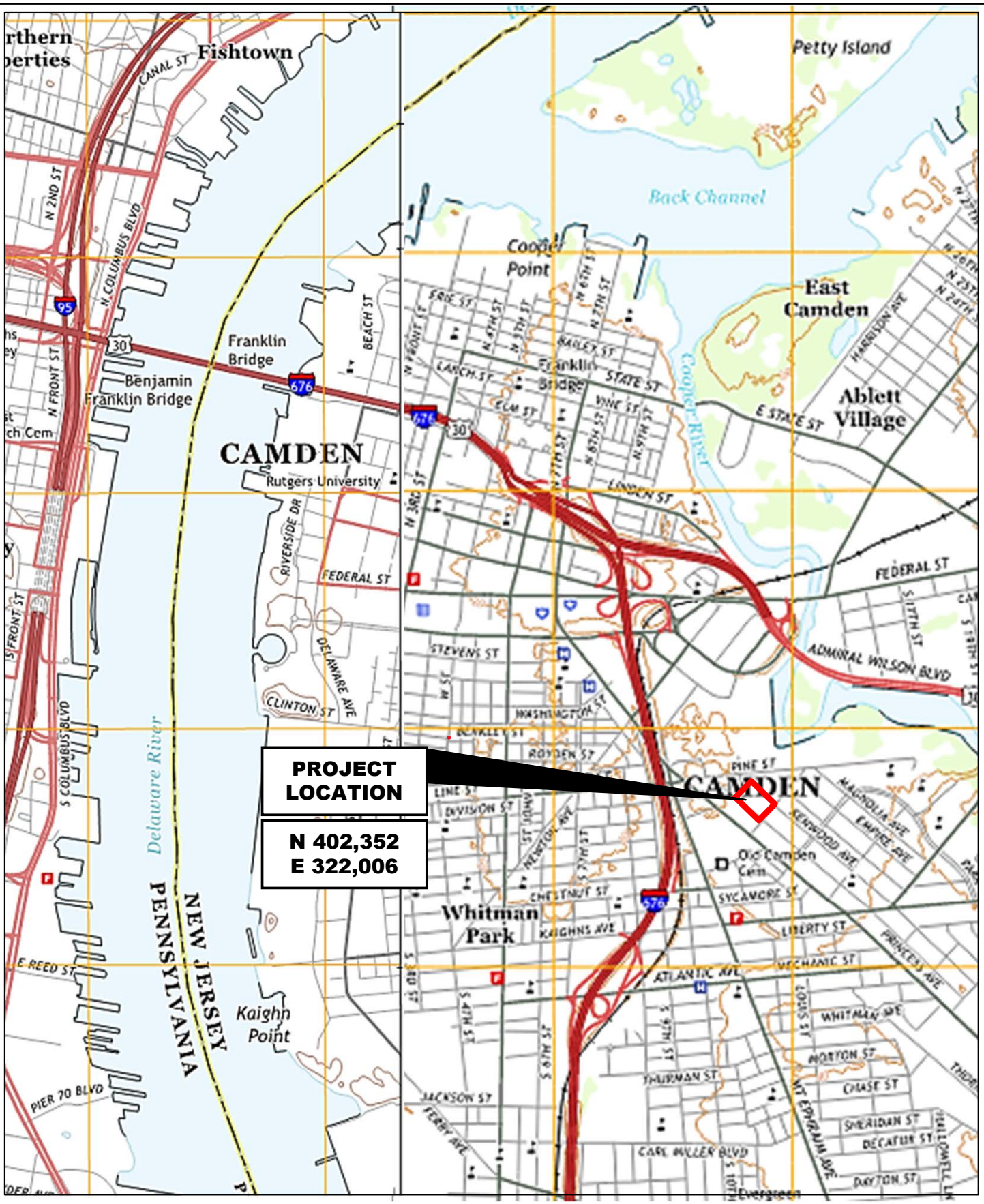
Address: Walnut Street Acquisition Group, LLC
403 Haddon Avenue
Camden, New Jersey 08103

Contact Person(s): Mr. Constantine Stoios

Phone: (856) 966-7377

Prepared by: Pennoni Associates Date: 09/22/2023

Last Revised on -- /-- / ----



USGS 7.5 Min. Camden Quadrangle, Camden County, New Jersey

Pennoni PENNONI ASSOCIATES INC. 2 AQUARIUM DRIVE, SUITE 320 CAMDEN, NEW JERSEY 08103		CORIELL INSTITUTE CAMDEN BLOCK 367, LOTS 1 & 6 CITY OF CAMDEN, CAMDEN COUNTY NEW JERSEY
Job No. SCHER22001	Scale: 1"=2,000'	Figure 1 –USGS Map

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1.0 PROJECT OVERVIEW

This Operation and Maintenance Manual has been prepared in support of the stormwater management facilities for Coriell Institute Camden, City of Camden, Camden County, NJ.

The responsibility for maintenance shall be dedicated to the property owner.

Owner:
Walnut Street Acquisition Group, LLC
403 Haddon Avenue
Camden, New Jersey 08103
(856)966-7377 / Mr. Constantine Stoios

The infiltration/detention basins are located on the following Block and Lots.

Infiltration/Detention Basin Block 367, Lot 1 and Lot 6

NJ State Plane Coordinates of each facility is indicated below:

Bioretention Basin#1 -		N 402,366	E 321,756
Outlet Control Structure#1	-	N 402,323	E 321,761
Bioretention Basin#2	-	N 402,129	E 321,979
Outlet Control Structure#2	-	N 402,112	E 321,978
Bioretention Basin#3	-	N 402,445	E 322,079
Outlet Control Structure#3	-	N 402,434	E 322,070
Green MTD #1	-	N 402,272	E 322,125
Green MTD #2	-	N 402,318	E 322,167

Each facility location relative to the site has been indicated on the Facility Location Map on page 3.

The inspection, maintenance and repair report shall be updated and kept on file at the City of Camden and the buildings maintenance office.

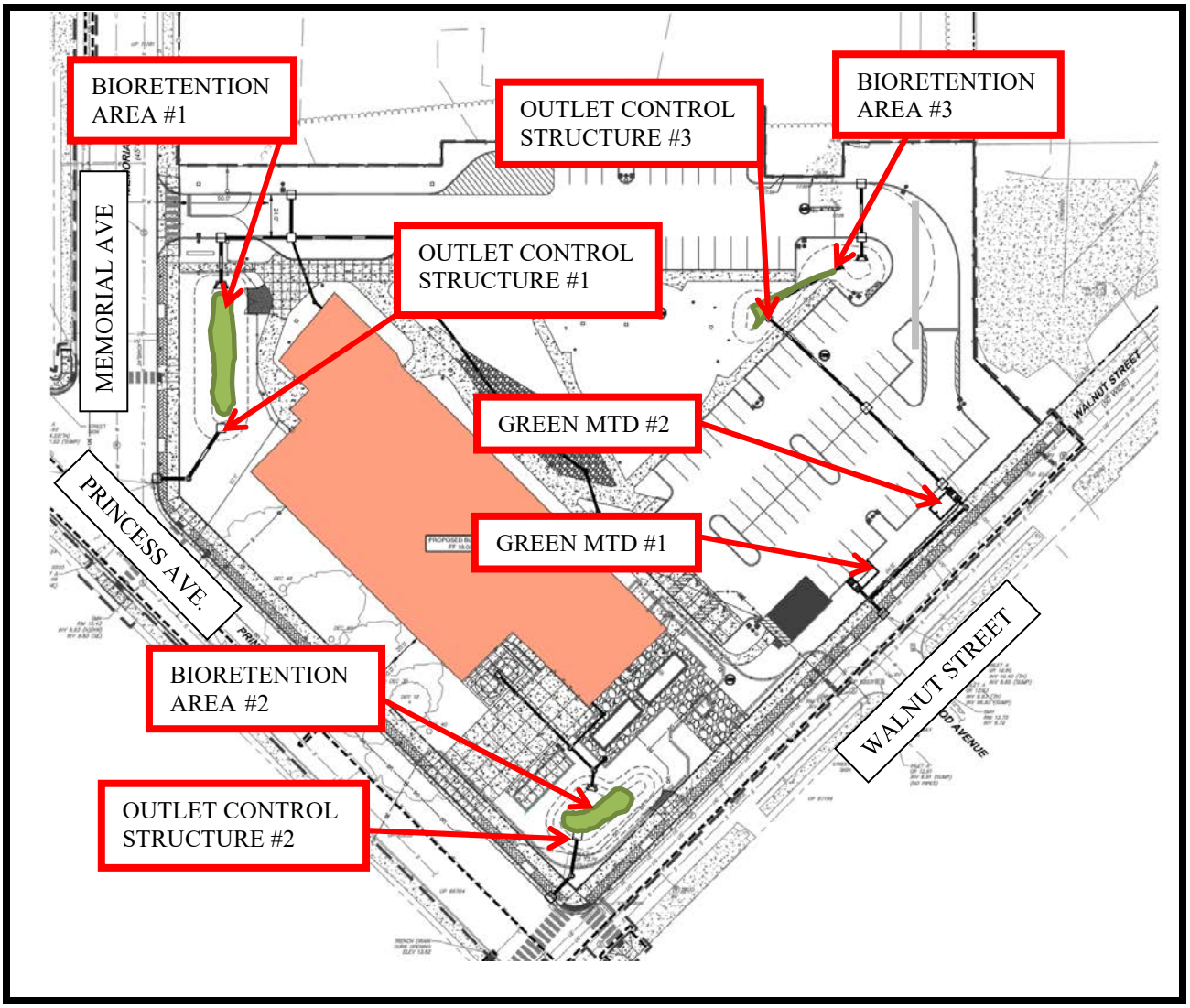
The person responsible for maintenance shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and deed as needed.

The person responsible for maintenance shall retain and make available, upon request by any public entity with administrative, health, environmental or safety authority over the site, the maintenance plan and the documentation required.
Except in the case of an emergency, the City will provide not less than seven (7) days prior notice to the performing any inspection or monitor of the System in accordance

with approved plan. The applicant agrees that the failure to timely object after receiving notice from the City constitutes consent to inspection of the property within the timeframe specified in the notice.

If, after reasonable notice by the City, the applicant fails to maintain the System in accordance with the approved Manual and the Maintenance Plan, the City may perform any maintenance needed to correct a condition that impacts the effectiveness of routine maintenance and operations of the system and collect any costs incurred as a result from each owner of the System and in the same manner as real property taxes are collected. In addition, the City may seek reimbursement under any other method legally available to collect debts owed. The applicant agrees to indemnify and save the City harmless from any and all claims for direct damages to persons or property arising from inspections performed by the City.

Facility Location Map



2.0 STORMWATER SYSTEM OVERVIEW

Area 1 consists of runoff from the northerly parking area, building loading area, outdoor employee seating area and open area. The runoff flows to a proposed stormwater collection system and is discharged to bioretention basin #1. The basin discharges to a stormwater inlet at the intersection of Memorial Avenue and Princess Avenue and into the combined sewer system.

Area 2 consists of runoff from the southernly truck loading area, building area, and grass area along Princess Avenue. The runoff flows to bioretention basin #2. The basin discharges to a stormwater inlet at the intersection of Princess Avenue and Walnut Street and into the combined sewer system.

Area 3 consists of runoff from the easterly parking area, building area, and open area. The runoff flows to a proposed stormwater collection system and into green infrastructure manufactured treatment devices #1 and #2 , to a stormwater inlet within Walnut Street into the combined sewer system.

Area 4 consists of runoff from the northerly parking area. The runoff flows to a proposed stormwater collection system and is discharged to bioretention basin #3. The basin discharges to a stormwater conveyance system, to a stormwater within Walnut Street into the combined sewer system.

3.0 MAINTENANCE/INSPECTIONS

The following summarizes general maintenance items, which should be addressed on an annual basis:

1. Removal of debris and sediment;

2. General maintenance and repairs to the infiltration areas and vegetated swales;

An inspection, maintenance and repair report will be updated annually by the municipality.

4.0 GENERAL MAINTENANCE

All facilities expected to receive and/or trap debris and sediment must be inspected for clogging and excessive debris and sediment accumulation at least four (4) times annually as well as after every storm exceeding one (1) inch of rainfall. Such components may include bottoms, riprap aprons and inflow points.

5.0 REGULAR MAINTENANCE ITEMS

Regular maintenance items, as itemized in the checklist enclosed as Appendix B. includes the following items:

1. Removal and Disposal of Trash and Debris: Immediately following any significant rainfall event, as well as after every storm exceeding 1 inch of rainfall and at least once every 3 months, all trash and debris should be removed from the impoundment area.

2. Sediment Removal and Disposal: Accumulated sediment should be removed before it threatens the operation or storage volume of the facility. Sediment volume should be monitored on a quarterly basis to assure the outlets are not blocked.

Disposal of sediment should be in accordance with current Borough standards and regulations of the New Jersey Department of Environmental Protection.

Corrective Maintenance

Corrective maintenance should be provided as soon as practicable after a situation that requires attention is reported. Corrective maintenance includes repair of damage caused by vandalism, removal of debris and sediment that threatens the operational capacity of the facility, and corrections of any problems that jeopardize the safety or operation of the facility.

Maintenance Inspection

An inspection of the facility should be made a minimum of once every year in order to determine the effectiveness of the maintenance work and the condition of the facility. In addition, an inspection should be made whenever a severe storm warning is issued in order to determine the readiness of the facility.

Records

Included in this report as Appendix B, are checklists and logs for use by maintenance personnel and inspectors. These should be utilized every time maintenance or inspection is performed on the facility. The reports should be appropriately filed and used to determine effectiveness of the existing maintenance and inspection schedules, and also used a guide to revise the schedules as necessary to effectively maintain the operational integrity of the facility.

6.0 BEST MANAGEMENT PRACTICES (BMPS)

The NJDEP Stormwater Management Regulations (N.J.A.C. 7:8) have been adopted to address the adverse impacts of land development. The stormwater management measures taken to meet these requirements are collectively known as Best Management Practices (BMPs). BMPs can be non-structural, as in the minimization of impervious surfaces, or structural, as in the construction of stormwater management facilities discussed in this manual.

6.1 BIORETENTION AREAS

The following is taken from the Rain Garden Manual of New Jersey by the Rutgers Cooperative Extension Water Resources Program:

Definition

A bioretention area is a landscaped/grassed depression that captures, filters and infiltrates stormwater runoff. The rain garden/bioretention area removes nonpoint source pollutants from stormwater runoff while recharging groundwater.

Purpose

A bioretention area has two main goals. The first goal is to serve as a functional system to capture, filter and infiltrate stormwater runoff at the source and the second goal is to be an aesthetically pleasing garden/grass area.

Maintenance

1. Vegetation

   Grasses within the bioretention area must be carefully maintained so as not to compact the soil, and through hand held equipment. The vegetative cover should be maintained at 85%.

2. Sediment/Debris Removal

   Occasionally use a flat shovel to remove any excess sediment, leaves, or debris that may accumulate. Grass clippings shall be collected and properly disposed of.

   Sediment removal should take place when the bioretention area is thoroughly dry. Disposal of debris, trash and sediment or other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste disposal regulations.

4. Structural Components

   All structural components must be inspected for cracking, erosion and deterioration at least annually.

5. Other Maintenance criteria

The maintenance plan must indicate the approximate time it would normally take to drain the maximum design storm runoff volume below the bottom of the basin. This normal drain or drawdown time should then be used to evaluate the infiltration area's actual performance.

If significant increases or decreases in the normal drain time are observed, the basin's bottom surface, subsoil and both groundwater and tailwater levels must be evaluated and appropriate measures taken to comply with the maximum drain time requirements and maintain the proper functioning of the infiltration area.

The bottom of a surface infiltration area should be inspected at least monthly as well as after each storm event exceeding one inch of rainfall. The permeability rate of the soil below the infiltration area may also be retested periodically. The field infiltration rate for the small-scale infiltration basin is listed in the table below:

Table 1 – Permeability Test Results

Bioretention Basin	Test Pit	Ground Elev.	GWT (ft)	SHWT Elev. (ft)	Soil Sample Collection Depth (ft)	Permeability Test Results (in/hr)
#1	TP-6	16.5	8.3	NE	8.0	2.5
#2	TP-7	15.2	7.2	NE	8.0	1.2
#3	TP-3	18.0	8.5	NE	40.0	1.0

For design purposes a safety factor of two (2) was applied. Table 2 below indicates approx. time the maximum design storm will take to infiltrate.

Table 2 – Maximum Design Storm Infiltration

Small Scale Infiltration Basin	Infiltration Time (hr)
#1	20.4
#2	49.9
#3	39.4

6.2 GREEN INFRASTRUCTURE MANUFACTURED TREATMENT DEVICE

Definition

A green infrastructure manufactured treatment device is a stormwater treatment system used to address stormwater runoff quality impacts of site development.

Purpose

Green infrastructure manufactured treatment devices will remove 80% total suspended solids.

Maintenance

1. Inspection

   Inspect the unit and the surrounding area with photographs. All structural components must be inspected at least once annually for cracking and deterioration or more frequently if specified in the manufacturers MTD Operations and Maintenance Manual.

2. Sediment/Debris Removal

   Sediment removal should take place when the MTD is thoroughly dry. Disposal of debris, trash and sediment or other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste disposal regulations.

3. Vegetation

   Examine the plant's health and replace if necessary. Prune as necessary to encourage growth in the correct directions. Vegetative cover must be maintained at 85%.

   A minimum of one inspection during the growing season and one inspection during the non-growing season is required to ensure the health of the vegetation.

6.3 STORMWATER INLETS AND PIPES

Definition

Inlet structures are box structures with grate openings to receive surface water which is then conveyed through the underground stormwater pipe system.

Purpose

The primary function of an inlet structure is to allow water to enter the storm drainage system. Inlets also serve as access points for cleaning and inspection.

Maintenance

1. Sediment Removal and Disposal

   Inspect your structures every six months during the first year of operation to determine your site-specific rate of pollutant accumulation. Maintenance events may include inspection, floatables removal and sediment removal.

   Disposal of debris, trash and sediment or other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste disposal regulations.

2. Other Maintenance criteria

   Regular inspections of inlets and storm pipes should take place approximately three times per year, with additional inspections advised after major weather events. Inspection of the drainage flow paths should be performed to check for blockages. All drains must remain free of foreign objects.

   Pipes should be checked for settlement at the joints, which may cause leakage and undermining of the system. Inspections in locations that are not easily accessible may be performed by video inspection of the system.

7.0 SAFETY OF INSPECTION AND MAINTENANCE PERSONNEL

Maintenance personnel may require training in maintenance tasks. Inspectors are expected to be dressed in protective clothing and use the appropriate equipment and safety gear in accordance with OSHA regulations and procedures when performing their tasks. Equipment should always be operated safely and in accordance with manufacturers specifications. Call utility companies before initiating any maintenance activity involving any excavation.

8.0 MISCELLANEOUS ITEMS

a. Emergency Conditions

Recommended corrective responses to various emergency conditions that may be encountered at the stormwater management measure are to be determined on an as-needed basis after each subsequent inspection.

b. Specialized Stormwater Management Measures

Maintenance, repair, and replacement instructions for specialized, proprietary, and non-standard measure components, in addition to manufacturer's product installation guides and user manuals, have been included and referenced, if applicable, on the design plans for the project. Refer to specific product guides and user manuals for specific detail regarding the respective item.

c. Disposal and Recycling Sites

Approved disposal and recycling sites and procedures for sediment, trash, debris, and other material removed from the stormwater management measures during maintenance operations shall be utilized and have been referenced herein and on the design plans for the project.

d. As-Built Construction Plans

As-built construction plans of the stormwater management measures and copies of pertinent construction documents, such as laboratory test results, permits, and completion certificates are required for verification for the associated measures to function properly and in accordance with the approved design.
As-built construction plans will be available through the responsible party denoted in the report.

e. Permits for Maintenance Activities

There are currently no permits required from the New Jersey Department of Environmental Protection for the maintenance activities associated with the proposed drainage system as outlined herein. However, compliance with all regulations and requirements pertaining to the disposal of sediment, trash, debris and other removed material is required.

APPENDIX A

- **TOOLS AND EQUIPMENT**
- **MAINTENANCE CATEGORIES**

TOOLS AND EQUIPMENT

The following is a list of required inspection equipment for routine operation and maintenance procedures and inspections:

1. A clipboard, a pencil and the inspection checklist. The checklist is included in Appendix B.
2. A standard 6-foot collapsible ruler.
3. A camera. Photographs or observed portions of the basin will provide a measure of performance when comparing past and present maintenance practices or conditions.
4. A probe. A stiff light stick or rod with a blunt tip of sufficient strength to penetrate soil. The probe can provide information on condition below the surface of the basin bottom, such as depth and softness of a saturated area.
5. A weed whacker. Can be used to clear non-visible areas and to perform routine maintenance on basin embankments.
6. A flashlight. Can be used to observe the inside of outlet pipes and structural components.

Maintenance of the basin may include the use of equipment including the following:

1. Chainsaw.
2. Stump grinder.
3. Wheelbarrow.
4. Backhoe.
5. Dump truck.
6. Pole with skimmer or net.
7. Trash bag for removed floatables.

Sources of the following materials should be identified for immediate use of warranted repairs by the inspection:

1. Clean sand or gravel for filling erosion rills and gullies.
2. Topsoil mixture, fertilizer and seed.
3. Large stone riprap for emergency repairs caused by erosion.
4. Synthetic geotextile fabric, netting and stakes to prevent seed and topsoil from blowing away.

MAINTENANCE CATEGORIES

1. **Immediate Maintenance:** demands immediate attention and usually requires construction equipment and professional guidance. Immediate maintain is characterized by the following:

    a. A severe slope failure.
    b. A breach or near breach caused by severe erosion.
    c. Increasing, uncontrolled seepage through the embankment.
    d. A blocked spillway, or outlet channel.
    e. A blocked inlet pipe or outlet pipe.
    f. Foul odor.
    g. Clogged drains

2. **Corrective Maintenance:** should be performed as soon as possible after an inspection. Corrective maintenance consists of the following:

    a. Clearing of trees, shrubs and underbrush on the basin embankment, crest or near the outlet structure.
    b. Filling eroded areas or gullies and seeding to stabilize the turf areas or replacing and/or regrading sand beds.
    c. Removal of borrowing animals and filling the holes.

3. **Continuing Maintenance:** will occur on a regular basis and can be performed during the inspection or in accordance with the maintenance schedule outlined above. Continuing maintenance includes:

    a. Observation of any wet areas, springs or potential seepage in the embankment.
    b. Removing small shrubs or underbrush on the embankment.
    c. Filling small, eroded gullies.
    d. Filling ruts caused by pedestrian traffic along the embankment.
    e. Removing accumulated trash and debris.
    f. Removal of borrowing animals and their dens from the infiltration basin.
    g. Fertilizing and seeding grassed areas as necessary.
    h. Mowing grassed areas.

MAINTENANCE INSPECTION

An inspection of the facilities should be made a minimum of once every three months in order to determine the effectiveness of the maintenance work and the condition. In addition an inspection should be made whenever a severe weather warning is issued in order to determine the readiness of the facilities.

Reports should be appropriately filed and used to determine the effectiveness of the existing maintenance and inspection schedules and also used as a guide to revising the schedules as necessary to maintain the operational integrity.

APPENDIX B

- **BASIN INSPECTION AND MAINTENANCE COSTS**
- **INSPECTION CHECKLISTS**
- **MAINTENANCE CHECKLISTS**
- **MAINTENANCE LOGS**
- **CORRECTIVE MAINTENANCE RECORD**

ENGINEER'S ESTIMATE OF
BASIN INSPECTION AND MAINTENANCE COSTS
CORIELL INSTITUTE CAMDEN
CITY OF CAMDEN
CAMDEN COUNTY, NEW JERSEY

Item #	Description	Rate	Unit	Total Units	Frequency Per Year	Item Total
1	Grass Trimming	$ 150.00	LS	3	15	$6,750.00
2	Landscape Maintenance (Basin)	$ 100.00	LS	1	2	$200.00
3	Landscape Maintenance Materials	$ 250.00	LS	1	1	$250.00
4	General Maintenance	$ 250.00	LS	1	2	$500.00
5	Visual Inspection	$ 150.00	LS	3	2	$900.00
6	Trash and Debris Removal	$ 250.00	LS	3	As Needed	$750.00
7	Preventive Maintenance	$ 250.00	LS	1	1	$250.00
8	Corrective Maintenance	$ 250.00	LS	1	1	$250.00
9	Vacuum Clean Subsurface Pipes	$ 750.00	LS	1	1	$750.00

TOTAL ANNUAL	$10,600.00

Bioretention Area Inspection Checklist

Name of Facilitiy:	CORIELL INSTITUTE CAMDEN
Location:	CITY OF CAMDEN, CAMDEN COUNTY, NJ
Date of Inspection:	
Weather	

Infiltration Area

Facility Item	OK	Routine	Urgent	Comments
A. Vegetation				
B. Linings				
C. Erosion				
D. Settlement				
E. Sloughing				
F. Trash and Debris				
G. Seepage				
H. Aesthetics				
I. Other				

Perimeter

Facility Item	OK	Routine	Urgent	Comments
A. Vegetation				
B. Erosion				
C. Trash and Debris				
D. Aesthetics				
E. Other				

Miscellaneous

Facility Item	OK	Routine	Urgent	Comments
A. Vegetation				
B. Erosion				
C. Trash and Debris				
D. Aesthetics				
E. Other				

(1) The item checked is in good condition and the maintenance program is adequate.

(2) The item checked requires attention but does not present an immediate threat to the facility function or other facility components

(3) The item checked requires immediate attention to keep the facility operational or to prevent damage to other facility components.

(4) Provide explanation if "Routine" or "Urgent" is checked.

Bioretention Area Maintenance Checklist

Name of Facilitiy:	CORIELL INSTITUTE CAMDEN
Location:	CITY OF CAMDEN, CAMDEN COUNTY, NJ
Date of Inspection:	
Weather	

Preventive Maintenance

Facility Item	Required	Completed	Comments
A. Bottom			
B. Embankment			
C. Side Slopes			
D. Perimeter			
E. Access Areas			
F. Other			

Maintenance

Facility Item	Required	Completed	Comments
A. Fertilizing			
B. Reseeding			
C. Dethatching			
D. Aeration			
E. Pest Control			
F. Other			

Bioretention Area Maintenance Checklist

Vegetative Cover

Facility Item	Required	Completed	Comments
A. Fertilizing			
B. Pruning			
C. Pest Control			
D. Removal			
E. Other			

Trash and Debris Removal

Facility Item	Required	Completed	Comments
A. Bottom			
B. Side Slopes			
C. Perimeter Area			
D. Access Areas			
E. Inlets			
F. Other			

Sediment Removal

Facility Item	Required	Completed	Comments
A. Inlets			
B. Bottom			
C. Other			

Bioretention Area Maintenance Checklist

Mosquito Habitat Removal

Facility Item	Required	Completed	Comments
A. Inlets			
B. Bottom			
C. Other			

Other Preventive Maintenance

Facility Item	Required	Completed	Comments
A.			
B.			
C.			

Corrective Maintenance

Facility Item	Required	Completed	Comments
A. Removal of Debris and Sediment			
B. Structural Repairs			
C. Slope Repairs			
D. Embankment Repairs			
E. Pond Maintenance			
F. Dewatering			

Bioretention Area Maintenance Checklist

Facility Item	Required	Completed	Comments
G. Mosquito Control			
H. Erosion Repair			
I. Elimination of Trees/Brush			
J. Elimination of Burrows			
K. Snow and Ice Removal			
L. Other			

Aesthetic Maintenance

Facility Item	Required	Completed	Comments
A. Grass Trimming			
B. Weeding			
C. Other			

Remarks:

Bioretention Area Maintenance Log

Name of Facilty: CORIELL INSTITUTE CAMDEN
Location: CITY OF CAMDEN, CAMDEN COUNTY, NJ

Preventive Maintenance

Grass Cutiing

Facility Item	Date	Date	Date	Date	Date	Date	Date	Date
A. Bottom								
B. Embankment								
C. Side Slopes								
D. Perimeter								
E. Access Areas								
F. Other								

Grass Maintenance

Facility Item	Date	Date	Date	Date	Date	Date	Date	Date
A. Fertilizing								
B. Reseeding								
C. Dethatching								
D. Aeration								
E. Pest Control								
F. Other								

Vegetative Cover

Facility Item	Date	Date	Date	Date	Date	Date	Date	Date
A. Fertilizing								
B. Pruning								
C. Pest Control								
D. Removal								
E. Other								

Trash and Debris Removal

Facility Item	Date	Date	Date	Date	Date	Date	Date	Date
A. Bottom								
B. Side Slopes								
C. Perimeter Area								
D. Access Areas								
E. Inlets								
E. Other								

Bioretention Area Maintenance Log

Sediment Removal

Facility Item	Date	Date	Date	Date	Date	Date	Date	Date
A. Inlets								
B. Bottom								
C. Other								

Mosquito Habitat Removal

Facility Item	Date	Date	Date	Date	Date	Date	Date	Date
A. Inlets								
B. Bottom								
C. Other								

Other Preventive Maintenance

Facility Item	Date	Date	Date	Date	Date	Date	Date	Date
A.								
B.								
C.								

Corrective Maintenance

Facility Item	Date	Date	Date	Date	Date	Date	Date	Date
A. Removal of Debris and Sediment								
B. Structural Repairs								
C. Slope Repairs								
D. Embankment Repairs								
E. Pond Maintenance								
F. Dewatering								
G. Mosquito Control								
H. Erosion Repair								
I. Elimination of Trees/Brush								
J. Elimination of Burrows								
K. Snow and Ice Removal								
L. Other								

Aesthetic Maintenance

Facility Item	Date	Date	Date	Date	Date	Date	Date	Date
A. Grass Trimming								
B. Weeding								
C. Other								

Remarks:

Filterra Vault Owner's Manual

(Precast Vault Configurations)

filterra®

Bioretention Systems

CONTECH®

ENGINEERED SOLUTIONS

This Owner's Manual applies to all precast Filterra Configurations, including Filterra Bioscape Vault and Filterra HC.

Introduction

Thank you for your purchase of the Filterra® Bioretention System. Filterra is a specially engineered stormwater treatment system incorporating high performance biofiltration media to remove pollutants from stormwater runoff. The system's biota (vegetation and soil microorganisms) then further breakdown and absorb captured pollutants. All components of the system work together to provide a sustainable long-term solution for treating stormwater runoff.

The Filterra system has been delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and a final site assessment of unit condition (mulch replacement, debris removal, and pruning of vegetation) scheduled between 6 and 12 months after activation, upon request.

Design and Installation

Each project presents different scopes for the use of Filterra systems. Information and help may be provided to the design engineer during the planning process. Correct Filterra box sizing (by rainfall region) is essential to predict pollutant removal rates for a given area. The engineer shall submit calculations for approval by the local jurisdiction. The contractor is responsible for the correct installation of Filterra units as shown in approved plans. A comprehensive installation manual is available at www.ContechES.com.

Activation Overview

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

- Removal of construction runoff protection devices.
- Planting of the system's vegetation (provided by the purchaser).
- Placement of pretreatment mulch layer using mulch acceptable for use in Filterra systems.

Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch acceptable for use in Filterra systems. More information is available in the Filterra Activation Package.

Minimum Requirements

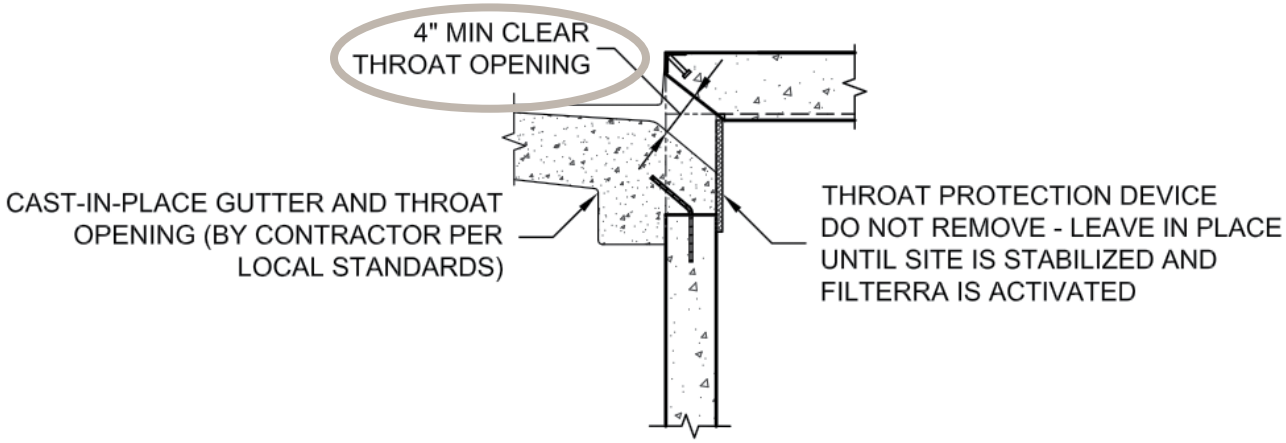
The minimum requirements for Filterra Activation are as follows:

1. **The purchaser must have procured vegetation meeting the requirements outlined in the Filterra Activation Package.**

2. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.

3. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.

4. Filterra throat opening should be at least 4" in order to ensure adequate capacity for inflow and debris.



The Filterra Activation Package is available on the Contech website (www.ContechES.com/filterra) and ensures that the proper conditions are met for Contech to perform the Activation service. Vegetation meeting Contech's requirements must be provided at time of Activation. If the site does not meet the conditions required for Activation, or acceptable vegetation is not provided by the purchaser at time of Activation, a charge of $1,500 will be invoiced to the purchaser.

Filterra Plant Selection Overview

A Plant List is available on the Contech website highlighting recommended plants for Filterra systems in your area. Keep in mind that plants are subject to availability due to seasonality and required minimum size for the Filterra system. Plants installed in the Filterra system are container plants (max 15 gallon) from nursery stock and will be immature in height and spread at Activation.

It is the responsibility of the owner to provide adequate irrigation when necessary to the plant of the Filterra system.

More information is available in the Filterra Activation Package.

Warranty Overview

Refer to the Contech Engineered Solutions LLC Stormwater Treatment System LIMITED WARRANTY for further information. The following conditions may void the Filterra system's warranty and waive the manufacturer provided Activation and Final Site Assessment services:

- Unauthorized activation or performance of any of the items listed in the activation overview
- Any tampering, modifications or damage to the Filterra system or runoff protection devices
- Removal of any Filterra system components
- Failure to prevent construction related runoff from entering the Filterra system
- Failure to properly store and protect any Filterra components (including media and underdrain stone) that may be shipped separately from the vault

Final Site Assessment

With proper routine maintenance, the biofiltration media within the Filterra system should last as long as traditional bioretention media. A final site assessment is included by the manufacturer, upon request, on all Filterra systems between 6 and 12 months after activation. This includes a final assessment of unit condition, debris removal, mulch replacement, and pruning of vegetation. More information is provided in the Operations and Maintenance Guidelines. Some Filterra systems also contain pretreatment or outlet bays. Depending on site pollutant loading, these bays may require periodic removal of debris, however this is not included in the final site assessment, and would likely not be required within the first year of operation.

These services, as well as routine maintenance outside of the included first year, can be provided by certified maintenance providers listed on the Contech website. Training can also be provided to other stormwater maintenance or landscape providers.

Why Maintain?

All stormwater treatment systems require maintenance for effective operation. This necessity is often incorporated in your property's permitting process as a legally binding BMP maintenance agreement. Other reasons to maintain are:

- Avoiding legal challenges from your jurisdiction's maintenance enforcement program.
- Prolonging the expected lifespan of your Filterra media.
- Avoiding more costly media replacement.
- Helping reduce pollutant loads leaving your property.

Simple maintenance of the Filterra is required to continue effective pollutant removal from stormwater runoff before discharge into downstream waters. This procedure will also extend the longevity of the living biofilter system. The unit will recycle and accumulate pollutants within the biomass, but is also subjected to other materials entering the inlet. This may include trash, silt and leaves etc. which will be contained above the mulch layer. Too much silt may inhibit the Filterra's flow rate, which is the reason for site stabilization before activation. Regular replacement of the mulch stops accumulation of such sediment.

When to Maintain?

Maintenance visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands while the fall visit helps the system by removing excessive leaf litter.

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required; in regions with less rainfall often only (1) one visit per annum is sufficient. Varying land uses can affect maintenance frequency. Contributing drainage areas which are subject to new development wherein the recommended erosion and sediment control measures have not been implemented may require additional maintenance visits.

Some sites may be subjected to extreme sediment or trash loads, requiring more frequent maintenance visits. This is the reason for detailed notes of maintenance actions per unit, helping the Supplier and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the maintenance provider of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology.

Exclusion of Services

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not included as part of the final site assessment. Should a major contamination event occur the Owner must block off the outlet pipe of the Filterra (where the cleaned runoff drains to, such as drop inlet) and block off the throat of the Filterra. The Supplier should be informed immediately.

Maintenance Visit Summary

Each maintenance visit consists of the following simple tasks (detailed instructions below).

1. Inspection of Filterra and surrounding area
2. Removal of tree grate and erosion control stones
3. Removal of debris, trash and mulch
4. Mulch replacement
5. Plant health evaluation and pruning or replacement as necessary
6. Clean area around Filterra
7. Complete paperwork

Maintenance Tools, Safety Equipment and Supplies

Ideal tools include: camera, bucket, shovel, broom, pruners, hoe/rake, and tape measure. Appropriate Personal Protective Equipment (PPE) should be used in accordance with local or company procedures. This may include impervious gloves where the type of trash is unknown, high visibility clothing and barricades when working in close proximity to traffic and also safety hats and shoes. A T-Bar or crowbar should be used for moving the tree grates (up to 170 lbs ea.). Most visits require minor trash removal and a full replacement of mulch. See below for actual number of bagged mulch that is required in each media bay size. Mulch should be a double shredded, hardwood variety. Some visits may require additional Filterra engineered soil media available from the Supplier.

Box Length	Box Width	Filter Surface Area (ft^2)	Volume at 3" (ft^3)	# of 2 ft^3 Mulch Bags
4	4	16	4	2
6	4	24	6	3
8	4	32	8	4
6	6	36	9	5
8	6	48	12	6
10	6	60	15	8
12	6	72	18	9
13	7	91	23	12

Other sizes not listed - 1 bag per 8 ft^2 of media.

Maintenance Visit Procedure

Keep sufficient documentation of maintenance actions to predict location specific maintenance frequencies and needs. An example Maintenance Report is included in this manual.

1. Inspection of Filterra and surrounding area

- Record individual unit before maintenance with photograph (numbered). Record on Maintenance Report (see example in this document) the following:

Record on Maintenance Report the following:

Standing Water	yes | no
Damage to Box Structure	yes | no
Damage to Grate	yes | no
Is Bypass Clear	yes | no

If yes answered to any of these observations, record with close-up photograph (numbered).

2. Removal of tree grate and erosion control stones

- Remove cast iron grates for access into Filterra box.
- Dig out silt (if any) and mulch and remove trash & foreign items.

3. Removal of debris, trash and mulch

Record on Maintenance Report the following:

Silt/Clay	yes | no
Cups/ Bags	yes | no
Leaves	yes | no
Buckets Removed	_____

- After removal of mulch and debris, measure distance from the top of the Filterra engineered media soil to the top of the top slab. Compare the measured distance to the distance shown on the approved Contract Drawings for the system. Add Filterra media (not top soil or other) to bring media up as needed to distance indicated on drawings.

Record on Maintenance Report the following:

Distance to Top of Top Slab (inches)	_____
Inches of Media Added	_____

4. Mulch replacement

- Add double shredded mulch evenly across the entire unit to a depth of 3".
- Refer to Filterra Mulch Specifications for information on acceptable sources.
- Ensure correct repositioning of erosion control stones by the Filterra inlet to allow for entry of trash during a storm event.
- Replace Filterra grates correctly using appropriate lifting or moving tools, taking care not to damage the plant.

5. Plant health evaluation and pruning or replacement as necessary

- Examine the plant's health and replace if necessary.
- Prune as necessary to encourage growth in the correct directions

Record on Maintenance Report the following:

Height above Grate	_____ (ft)
Width at Widest Point	_____ (ft)
Health	healthy | unhealthy
Damage to Plant	yes | no
Plant Replaced	yes | no

6. Clean area around Filterra

- Clean area around unit and remove all refuse to be disposed of appropriately.

7. Complete paperwork

- Deliver Maintenance Report.
- Some jurisdictions may require submission of maintenance reports in accordance with approvals. It is the responsibility of the Owner to comply with local regulations.

Plant Care for Filterra® Systems

After Activation, the Contractor is responsible for proper care of the vegetation until the site is handed over to the Owner. After that, it is the Site Owner's responsibility to care for the vegetation. Contech recommends the following care for the plants:

1. To prevent transplant shock (especially if planting takes place in the hot season), it may be necessary to prune some of the foliage to compensate for reduced root uptake capacity. This is accomplished by pruning away some of the smaller secondary branches or a main scaffold branch if there are too many. Too much foliage relative to the root ball can dehydrate and damage the plant.
2. Plant staking may be required.
3. With all trees/shrubs, remove dead, diseased, crossed/rubbing, sharply crotched branches or branches growing excessively long or in wrong direction compared to majority of branches.
4. Contech recommends irrigation of the Filterra® Vegetation. The following guidance will help to ensure the vegetation is properly irrigated.

Irrigation Recommendations:

- Each Filterra® system must receive adequate irrigation to ensure survival of the living system during periods of drier weather.
- Irrigation sources include rainfall runoff from downspouts and/or gutter flow, applied water through the tree grate or in some cases from an irrigation system with emitters installed during construction.
- At Activation: Apply about one (cool climates) to two (warm climates) gallons of water per inch of trunk diameter over the root ball.
- During Establishment: In common with all plants, each Filterra® plant will require more frequent watering during the establishment period. One inch of applied water per week for the first three months is recommended for cooler climates (2 to 3 inches for warmer climates). If the system is receiving rainfall runoff from the drainage area, then irrigation may not be needed. Inspection of the soil moisture content can be evaluated by gently brushing aside the mulch layer and feeling the soil. Be sure to replace the mulch when the assessment is complete. Irrigate as needed**.
- Established Plants: Established plants have fully developed root systems and can access the entire water column in the media. Therefore irrigation is less frequent but requires more applied water when performed. For a mature system assume 3.5 inches of available water within the media matrix. Irrigation demand can be estimated as 1" of irrigation demand per week. Therefore if dry periods exceed 3 weeks, irrigation may be required.

*** Five gallons per square yard approximates 1 inch of water. Therefore for a 6' x 6 foot Filterra® approximately 20-60 gallons of applied water is needed. To ensure even distribution of water it needs to be evenly sprinkled over the entire surface of the filter bed, with special attention to make sure the root ball is completely wetted. NOTE: if needed, measure the time it takes to fill a five gallon bucket to estimate the applied water flow rate. Then calculate the time needed to irrigate the Filterra®, For example is the flow rate of the sprinkler is 5 gallons/minute then it would take 12 minutes to irrigate a 6'x6' filter.*

Plant Replacement:

In some cases, plants will require replacement. Please follow the procedures below to ensure a properly functioning Filterra® system.

1. Remove the existing plant, and leave as much of the Filterra® media in place as possible.
2. Select a replacement per the Filterra® Activation Package.
3. Prior to removing the plant from the container, ensure the soil moisture is sufficient to maintain the integrity of the root ball. If needed, pre-wet the container plant.
4. Cut away any roots which are growing out of the container drain holes.
5. Plant(s) should be carefully removed from the pot by gently pounding on the sides of the container with the fist to loosen root ball. Then carefully slide out. Do not lift plant(s) by trunk as this can break roots and cause soil to fall off. Extract the root ball in a horizontal position and support it to prevent it from breaking apart. Alternatively, the pot can be cut away to minimize root ball disturbance.
6. Excavate a hole with a diameter 4" greater than the root ball, gently place the plant(s).
7. Plant the tree/shrub/grass with the top of the root ball 1" above surrounding media to allow for settling.
8. All plants should have the main stem centered in the tree grate (where applicable) upon completion of installation.
9. Reinstall or add mulch to a depth of 3" per Contech's mulch specifications for Filterra® systems.

Maintenance Checklist

Drainage System Failure	Problem	Conditions to Check	Condition that Should Exist	Actions
Inlet	Excessive sediment or trash accumulation.	Accumulated sediments or trash impair free flow of water into Filterra.	Inlet should be free of obstructions allowing free distributed flow of water into Filterra.	Sediments and/or trash should be removed.
Mulch Cover	Trash and floatable debris accumulation.	Excessive trash and/or debris accumulation.	Minimal trash or other debris on mulch cover.	Trash and debris should be removed and mulch cover raked level. Ensure bark nugget mulch is not used.
Mulch Cover	"Ponding" of water on mulch cover.	"Ponding" in unit could be indicative of clogging due to excessive fine sediment accumulation or spill of petroleum oils.	Stormwater should drain freely and evenly through mulch cover.	Recommend contact manufacturer and replace mulch as a minimum.
Vegetation	Plants not growing or in poor condition.	Soil/mulch too wet, evidence of spill. Incorrect plant selection. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact manufacturer for advice.
Vegetation	Plant growth excessive.	Plants should be appropriate to the species and location of Filterra.		Trim/prune plants in accordance with typical landscaping and safety needs.
Structure	Structure has visible cracks.	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through the cracks.		Vault should be repaired.
Maintenance is ideally to be performed twice annually.				

Filterra Inspection & Maintenance Log

Filterra System Size/Model:_____ **Location:** _____

Date	Mulch & Debris Removed	Depth of Mulch Added	Mulch Brand	Height of Vegetation Above Grate	Vegetation Species	Issues with System	Comments
1/1/17	*5 – 5 gal Buckets*	*3″*	*Lowe's Premium Brown Mulch*	*4′*	*Galaxy Magnolia*	*- Standing water in downstream structure*	*- Removed blockage in downstream structure*

CORRECTIVE MAINTENANCE RECORD

1. **Work Order # _____ Date Issued _____**

2. **Issue to be resolved**:

3. The issue was from **Corresponding Checklist _____, Component No. _____Inspection Item No._____.**

4. **Required Actions**

Actions	Planned Date	Date Completed

5. **Responsible person(s):**
   _____

6. **Special requirements**
   - Time of the season or weather condition :_____
   - Tools/equipment:_____
   - Subcontractor (name or specific type):_____

Approved by _____/_____ Date _____
(name/signature)

Verification of completion by _____/_____ Date _____
(name/signature)

File this Corrective Maintenance Record in the Maintenance Log after performing maintenance.

CORRECTIVE MAINTENANCE RECORD

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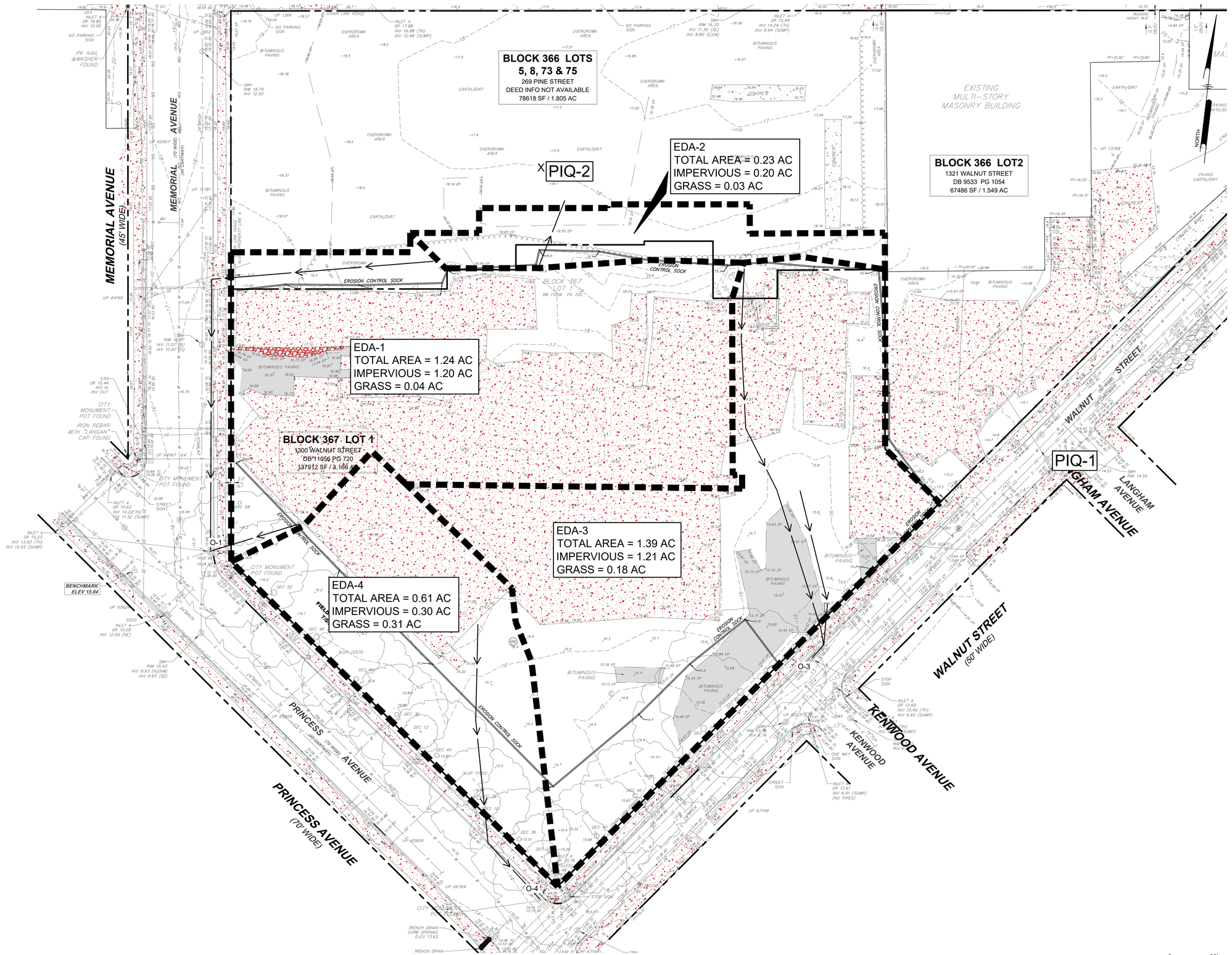

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JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

PRE-DEVELOPED DRAINAGE AREA PLAN

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
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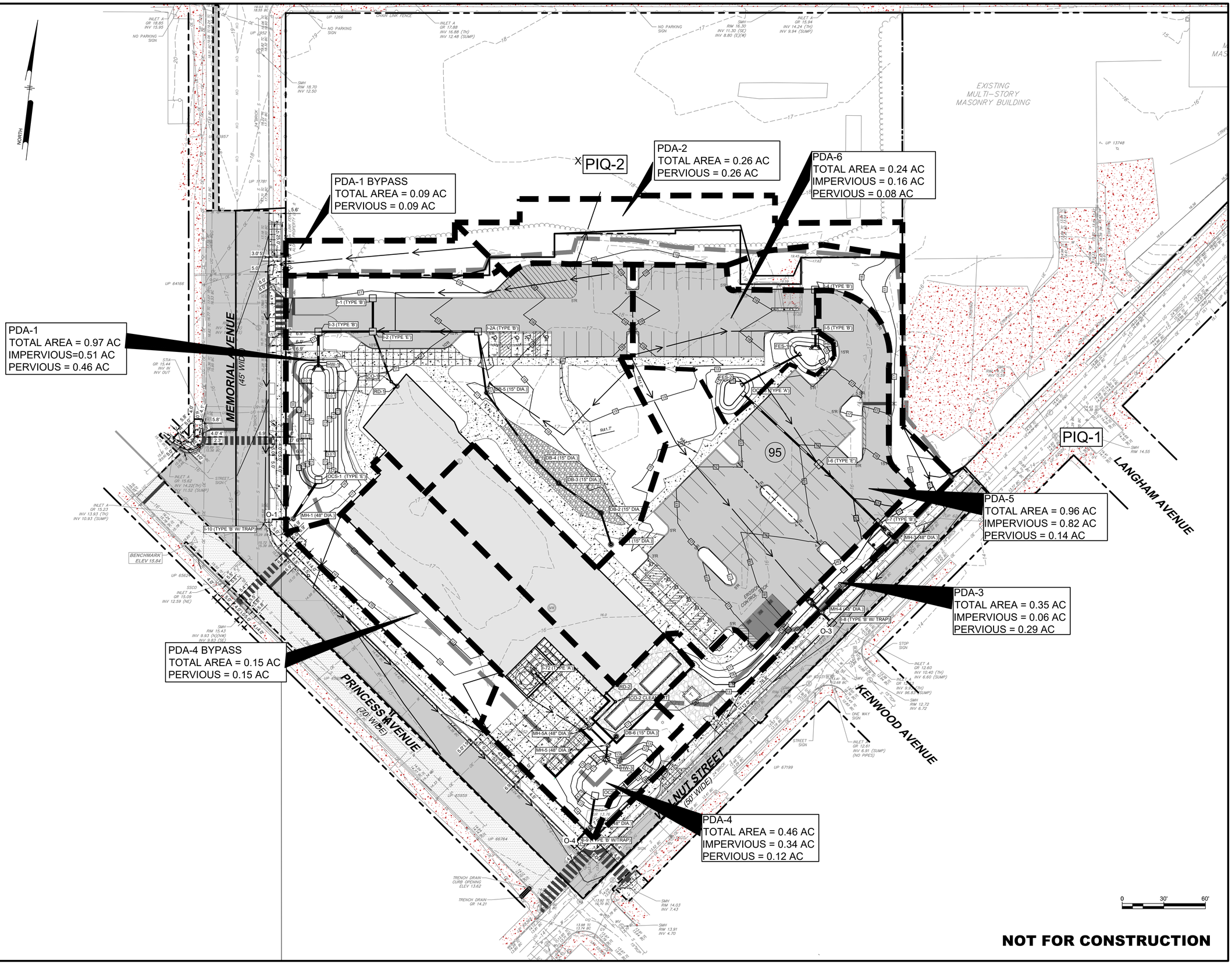

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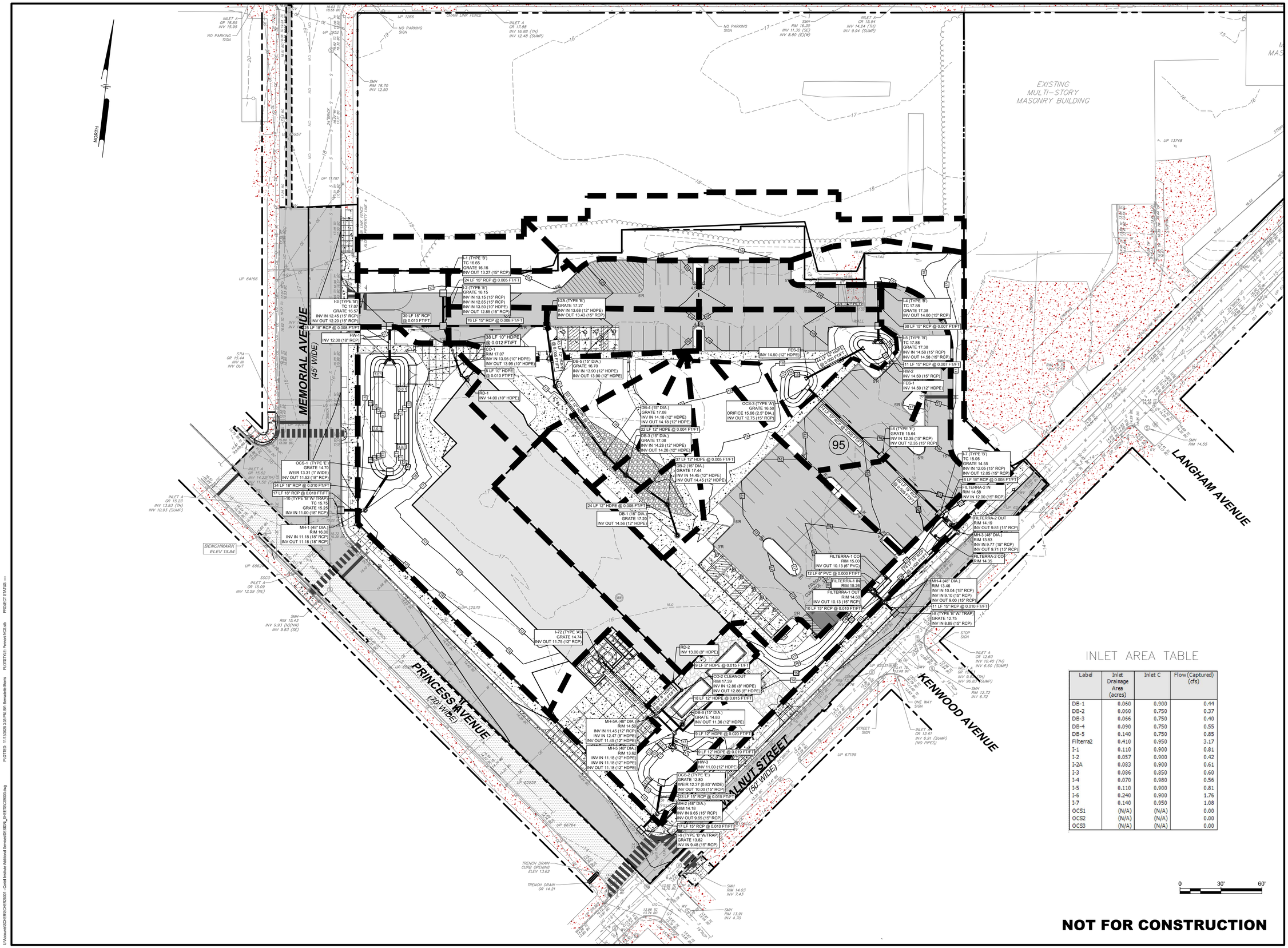

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DB-2	0.060	0.750	0.37
DB-3	0.066	0.750	0.40
DB-4	0.090	0.750	0.55
DB-5	0.140	0.750	0.85
Filterra2	0.410	0.950	3.17
I-1	0.110	0.900	0.81
I-2	0.057	0.900	0.42
I-2A	0.083	0.900	0.61
I-3	0.086	0.850	0.60
I-4	0.070	0.980	0.56
I-5	0.110	0.900	0.81
I-6	0.240	0.900	1.76
I-7	0.140	0.950	1.08
OCS1	(N/A)	(N/A)	0.00
OCS2	(N/A)	(N/A)	0.00
OCS3	(N/A)	(N/A)	0.00

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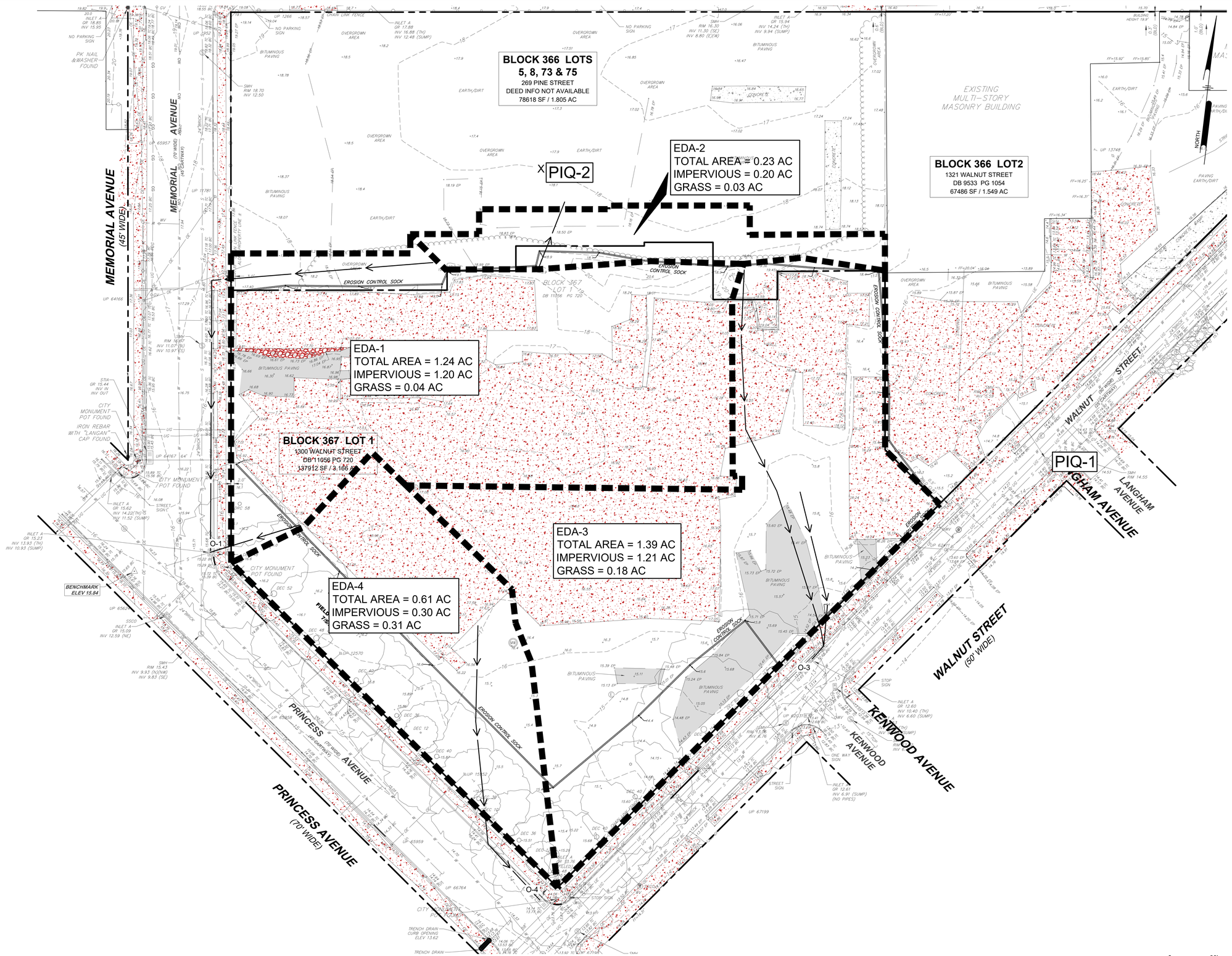

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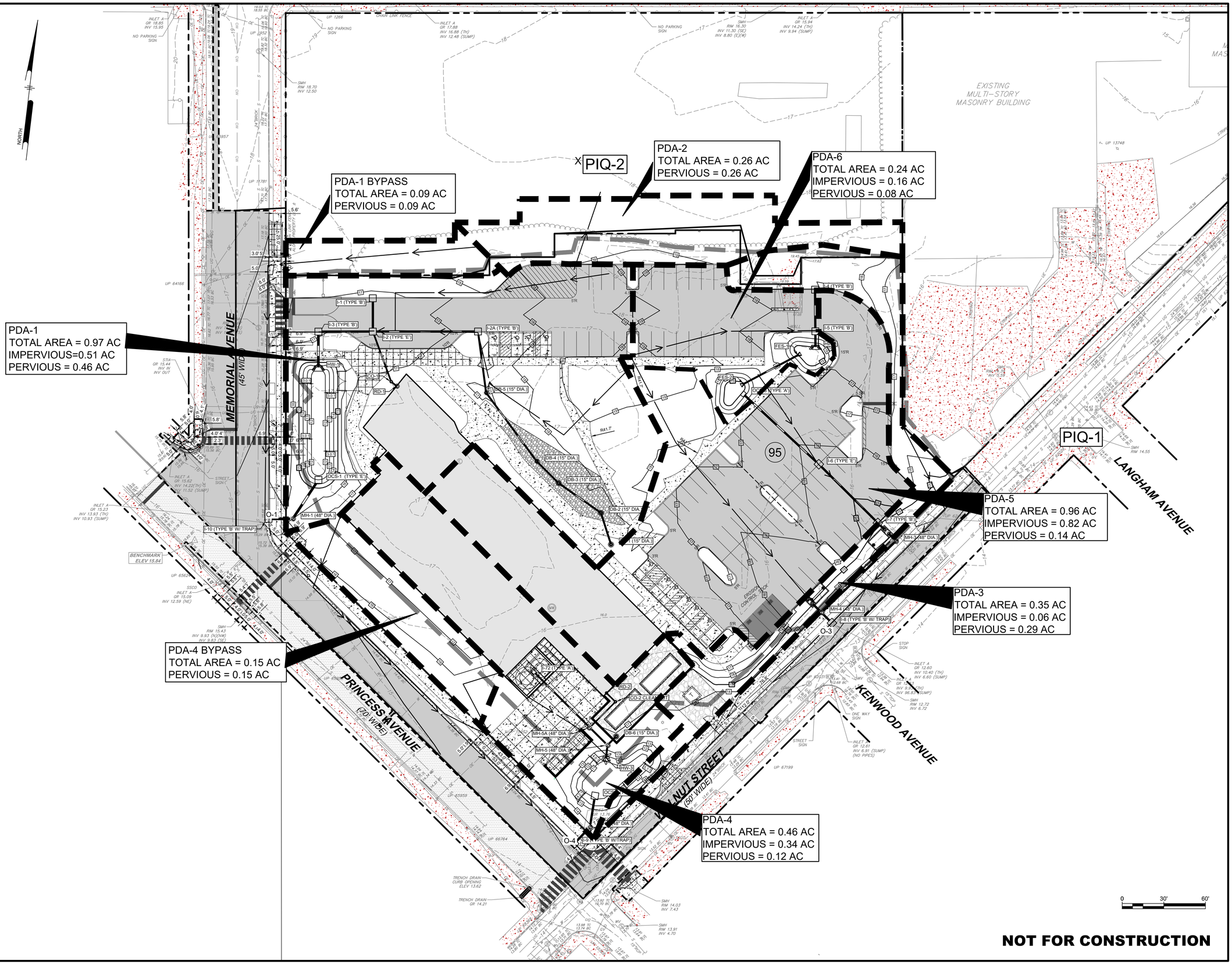

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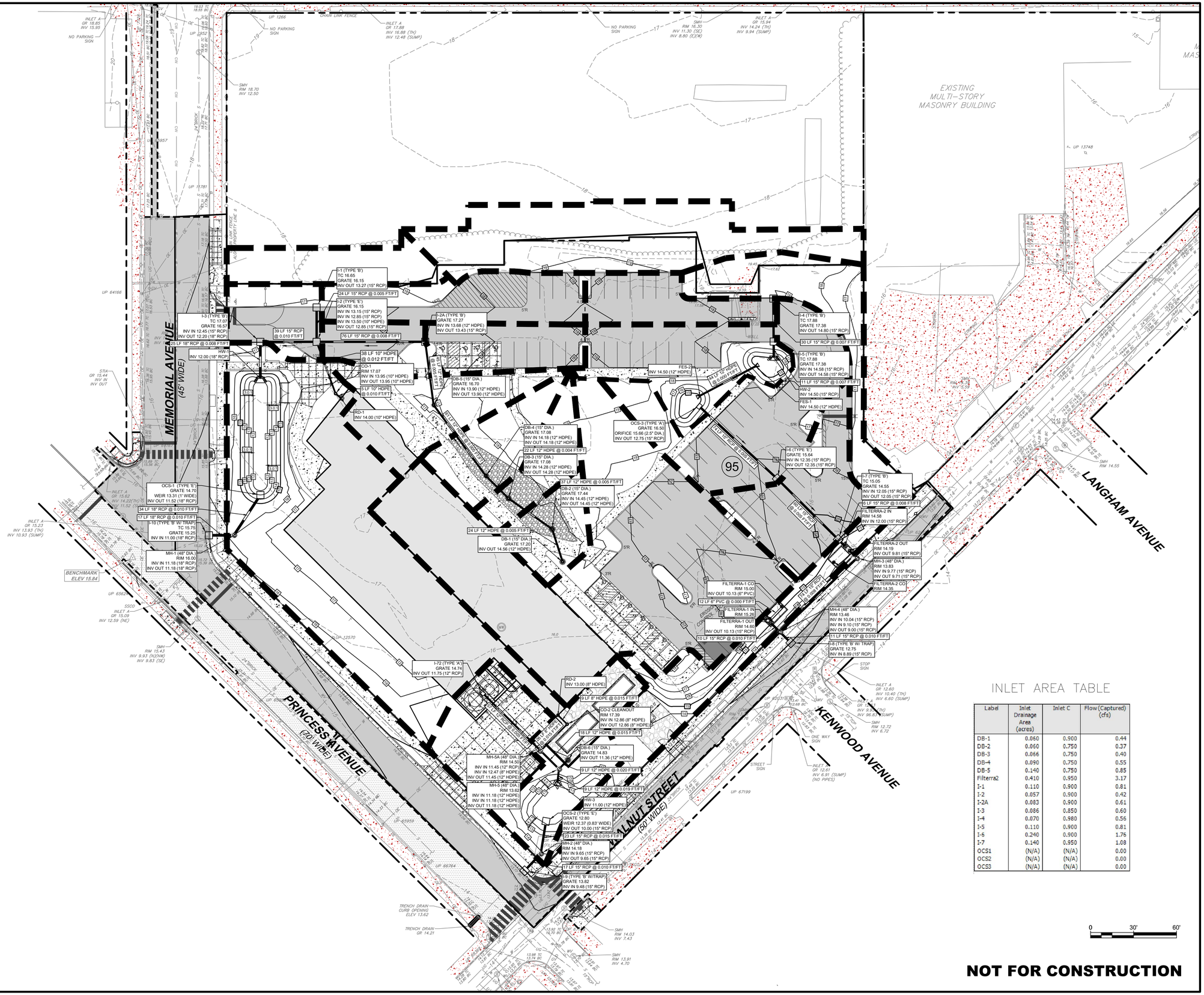

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GEOTECHNICAL ENGINEERING SERVICES

CORIELL INSTITUTE HEADQUARTERS

1300 WALNUT STREET
CAMDEN, NEW JERSEY

Submitted To:

Scheer Partners
Mr. Trevor Harris, Senior Project Manager
15245 Shady Grove Road, Suite 210
Rockville, Maryland 20850

Murat Arkan, PE
Senior Geotechnical Engineer

November 10, 2022
SCHER22001

Pennoni
PARTNERS FOR WHAT'S POSSIBLE
pennoni.com

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Haddon Heights, NJ 08035
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F: 856-547-9174

www.pennoni.com

November 10, 2022

SCHER22001

Mr. Trevor Harris
Senior Project Manager
Scheer Partners
15245 Shady Grove Road, Suite 210
Rockville, MD 20850

Re: Geotechnical Engineering Services
Coriell Institute Headquarters
1300 Walnut Street
Camden, NJ

Dear Mr. Harris:

We are pleased to submit our geotechnical engineering report for the above referenced project. Our services were initiated and completed in general accordance with our proposal dated May 13, 2022, and your subsequent authorization to proceed.

We trust that the information presented in this report is what you require at this time and we thank you for the opportunity to assist you with this project. If you have any questions, or if you need any further assistance with this project, please contact this office at your earliest convenience.

Respectfully yours,

PENNONI ASSOCIATES INC.

Tristan Hall, EIT
Graduate Geotechnical Engineer

Murat Arkan, PE
Senior Geotechnical Engineer

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APPENDICES

APPENDIX A – Field Data

Test Boring Location Plan	Drawing TL-1
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APPENDIX B – Laboratory Data

Summary of Laboratory Test Data	Table L-1
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APPENDIX C – Standard Symbols

APPENDIX D – Important Information About This Geotechnical Engineering Report

1. EXECUTIVE SUMMARY

Pennoni has completed our geotechnical study for the proposed mid-rise building. The results of our study are summarized below. The executive summary should be used in conjunction with the body of the report as it details our recommendations below.

	Proposed Construction and Site Conditions	***Section(s)***
Proposed Construction	A new multi-use, midrise repository/research and headquarters building. 33,000 ft^2 in plan, with a loading zone and associated parking lot.	2.1
Surface Materials	4 in. of concrete, 3 in. topsoil, and bituminous pavement at the surface. Site is currently occupied by four single- to multi-story masonry structures. Topography is relatively flat.	4.1 , 4.3
Subsoils	Stratum F: (FILL) Sand, varying amounts of Silt, Brick, and Glass Fragments (~2.0 to 3.5 ft thick); Stratum 1: Sand, varying amounts of Silt and thin Clay pockets (~4.5 to 6.0 ft thick); Stratum 2: Sand, varying amounts of Silt and stiff Clay pockets (~30 to 36 ft thick); Stratum 3: Sand, trace Silt (all borings terminated in it)	4.3
Field Work	4 Standard Penetration Test (SPT) borings were performed in general accordance with ASTM D1586 methods and advanced approximately 40 to 45 ft below grade; soil samples were obtained in the test borings.	3.1

	Recommendations	***Section(s)***
Seismic Site Class	D – Stiff soil profile in accordance with 2018 International Building Code (IBC).	5.1
Foundations	Shallow spread footing foundations bearing on densified site soils and/or newly compacted load bearing fill. Foundations can be sized with a net allowable bearing capacity of 3,000 psf.	5.3
Settlement	Anticipated total and differential settlements to be less than 1.0 in. and ½ in., respectively.	5.3
Frost Depth	36 inches below finished exterior grades.	5.3
Groundwater	Encountered 18 ft below existing grades (Elev. -1.5 to Elev. -2.3). Groundwater not anticipated in shallow excavations for construction.	4.4 , 5.6

2. INTRODUCTION

2.1. PROPOSED CONSTRUCTION

It is our understanding that the proposed development will be a new multi-use, midrise repository/research and headquarters building. The new building will be approximately 26,000 ft^2 in plan, with a loading zone and an associated parking lot with approximately 87 parking spaces. Because the project is in the early stages of design and planning, specific details regarding the project, such as column loads, spacings, etc., are not available. We have assumed finished floor elevations (FFE) close to the existing building's FFE.

2.2. REFERENCED INFORMATION

To assist with our geotechnical evaluation, we referenced the following information:

- Sheet V0501, titled "Boundary & Topographic Survey" (DRAFT), developed by Pennoni Associates, dated 07/23/2022; and
- Drawing File, developed by Fifteen Architecture + Design, dated 11/09/2022.

2.3. OBJECTIVES

Our objectives were to determine the subsurface conditions at the project site, evaluate these conditions with respect to the proposed structure, and present our conclusions and recommendations regarding:

- foundation design, including discussion of alternate solutions if applicable, allowable bearing capacity and anticipated total and differential settlements;
- design frost depth;
- feasibility of slab-on-grade;
- modulus of subgrade reaction;
- discussion of potential for consolidation and/or differential settlements of substrata encountered;
- seismic Soil Site Classification based on applicable IBC requirements;
- evaluation and determination of the earthwork requirements for use in preparation of the building pad, including material selection and placement operations;
- suitability of on-site material for re-use as fill as part of the site work for the project;
- groundwater conditions;
- estimated CBR value for pavement design,
- removal or treatment of objectionable material; and
- quality assurance, field-testing and observations during construction.

3. FIELD AND LABORATORY WORK

3.1. FIELD WORK

The field investigation was carried out on October 21 and October 24, 2022. Four Standard Penetration Test (SPT) borings were drilled at the approximate locations presented on the Test Boring Location Plan, TL-1. The test borings were performed by F.M. & W. Drilling, Inc. using a truck mounted drill rig with 3¼ inch hollow stem augers. The boring locations were selected and established in the field by Pennoni personnel. The test borings for the new building were performed in general accordance with ASTM D1586 methods to depths ranging between 40 and 45 ft below the existing ground surface. Continuous soil sampling was performed in the upper 10 ft, with sampling at 5 ft intervals thereafter until the termination depth. The borings were backfilled with a mixture of grout (cement) and soil cuttings upon completion and in accordance with NJDEP requirements. Appendix A includes the boring logs and the location plan.

Our M. Arkan, PE directed the field work, and our T. Hall, EIT provided full-time observations of the field operations.

3.2. LABORATORY WORK

The soil samples were delivered to our laboratory for testing. The geotechnical laboratory program consisted of the following:

- 4 Particle Size Analysis of Soils (w/o hydrometer, ASTM D422).

Appendix B includes the geotechnical laboratory testing results and a list of testing procedures.

4. SITE CONDITIONS

4.1. LOCATION AND SURFACE FEATURES

The project site is located at 1300 Walnut Street in Camden, NJ. The site is bounded to the north by Pine St., to the east and south by Walnut St., and to the west and south by Princess Ave. and Memorial Ave. The site is currently occupied by four vacant commercial multi-story masonry buildings, which will be demolished to make way for the proposed new construction, with associated bituminous and concrete pavements, and open, grassy areas. Tree coverage exists along the southside perimeter.

The topography of the site is generally flat with a slight descent from north to south. Pennoni personnel observed NJ One-Call mark outs of underground water utilities, and unknown lines running through the southern portion of the side. Overhead utilities were also observed in this south section, and along the perimeter of the site.

4.2. GEOLOGY

The project site is located within the Inner Coastal Plain Physiographic Province of New Jersey, which is characterized by relatively loose sedimentary materials, relatively flat terrain, underlain

by sands and gravels of Cretaceous origin (about 100,000,000 years old) with meandering rivers which drain to Raritan or the Delaware River. The Inner Coastal Plain has been eroded down to older sediments richer and finer, such as clay and silts. The topography of this area can be characterized by rolling lowlands. Available geologic data shows that the site is underlain by the Potomac Formation which consists of fine to coarse grained sand (locally gravelly) interbedded with white or variegated red and yellow, massive clay, rarely dark-gray woody clay, and thin beds and lenses of very fine to medium-grained, massive, white to orange-brown, micaceous sand.

4.3. SUBSURFACE STRATIGRAPHY

The B-1 revealed a surficial concrete pavement layer approximately 4 in. thick. B-2 through B-4 revealed surficial topsoil approximately 3 in. thick. Underlying the surficial layers was a layer of fill, ranging between 2.0 and 3.5 ft in thickness. The underlying subsoils, including the fill, have been grouped by us into four principal strata based on their engineering properties and our interpretation of their origin. Brief strata descriptions are presented below.

STRATUM	DESCRIPTION
F	FILL: Black to brown coarse to medium to fine SAND, with varying amounts of Silt, Brick, and Glass Fragments; approximately 2.0 to 3.5 ft thick; loose to medium dense.
1	Brown fine SAND, with varying amounts of Silt and thin pockets of Clay; approximately 4.5 to 6.0 ft thick; very loose/soft to loose/medium stiff.
2	Gray to brown fine to medium to coarse SAND, varying amounts of Silt and pockets of gray to brown stiff Clay; approximately 30 to 36 ft thick; medium dense/stiff to dense/hard.
3	Brown medium to fine to coarse SAND, trace Silt; dense to very dense; all borings terminated in it.

4.4. GROUNDWATER

Observations for groundwater were made in the test borings during sampling. Groundwater was encountered within the borings at a depth of 18.0 ft below the existing ground surface (Elev. -1.5 to Elev. -2.3).

It should be noted that the groundwater data presented on the individual boring logs are for the times indicated and may not be representative of daily or seasonal variations in the groundwater level. Seasonal variations on the order of several feet should be anticipated.

5. ANALYSES AND RECOMMENDATIONS

5.1. SEISMIC SITE CLASSIFICATION

The borings disclosed subsurface conditions generally described according to the 2018 NJ International Building Code (IBC), Section 1613.3.2 referencing ASCE 7, Chapter 20 as having a soil-profile corresponding to Site Class D – Stiff Soil. Site class determination is based on the properties in the upper 100 ft of the ground surface. The borings performed herein were advanced to a maximum depth of 45 ft. Values beyond 45 ft were estimated based on our local experience in this area.

5.2. EARTHWORK

We have assumed that the ground floor slab level of the proposed building will be close to the existing FFE and grades (approximately Elev. 17.0). Therefore, shallows cuts and fills (less than 3 ft thick) are anticipated to reach anticipated FFEs and grading.

Initially, the existing buildings which occupy the area of proposed headquarter building will be demolished. After the existing structures are razed, the foundations and floor slab concrete of the existing buildings, including all existing pavements, concrete walks, vegetation, topsoil, etc., should be completely removed from the area of proposed construction. In addition, any existing underground utilities should also be removed from the area of the proposed building. Underground utilities to be abandoned may be left in place provided that they are completely filled with concrete grout and that they do not conflict with the new foundations of the proposed building.

After the above operations, the exposed subgrades should be densified with a heavy vibratory roller, such as a Dynapac CA-25, or equal, to detect and repair loose areas. During densification, any unstable area found should be stabilized by excavating and replacing those soils with suitable soil (adequately compacted, see below), by lowering the moisture content of the subgrade soils and compacting them, or by other methods (placing a geotextile and stone layer, etc.).

Based on the laboratory testing results and our experience with similar project sites, the clean/inert granular portions of the onsite near surface soils can be reused in earthwork constructions, provided it is free of any deleterious material, debris larger than 3 in. in its greatest dimension, and there are no environmental concerns associated with the soils. Laboratory testing indicates that the near surface soils of Stratum 1 contain up to 53% of fine-grained material (silts and clays). These types of soils are sensitive to moisture and may require wetting or drying prior to compaction. Additionally, drying “wet” soil is difficult during wet periods and during lower temperatures. Therefore, depending on the season that the earthwork operations are taking place, adjusting the moisture content of these on-site soils before use in any compacted fills and/or subgrade preparation should be expected. Provisions for importing structural fill should be included in the contract documents. Proper compaction equipment and placing soil in thinner layers should be considered when preparing earthwork schedules.

Imported fill material should be selected from suitable borrow sources and be approved by Pennoni well in advance of fill construction. Granular fill should ideally consist of soils meeting the classification characteristics of GW, GP, GM, GC, SW, SP, SM, or a combination of those listed with

not more than 20 percent passing the No. 200 sieve, and have a plasticity index not greater than 8 percent, conforming to an overall gradation similar to NJDOT I-5. Other granular soils can be considered based on laboratory testing and at the discretion of the Geotechnical Engineer.

New imported fill or onsite fill required to attain the finish floor slab subgrade level should be placed in 8 to 10 in. thick lifts and compacted to not less than 98% of the laboratory determined maximum modified dry density, ASTM D 1557. This criterion might be adjusted by the geotechnical engineer in the field depending on the conditions present at the time of construction, on the compaction equipment used, and on the fill material selected. Fills placed in landscape areas can be compacted to 90 percent of the laboratory determined maximum dry density, ASTM D 1557. Fills should extend a minimum of 10 ft beyond the exterior edge of a loaded area and have side slopes not steeper than 2 horizontal to 1 vertical.

Backfill behind walls should be compacted to at least 95 percent of the laboratory determined maximum modified dry density in accordance with ASTM D 1557. The fill placed within 3 to 5 ft of the back of the wall should be compacted using vibratory plate or double drum walk behind compactors.

Specifications for the frequency of compaction testing should meet the following criteria:

1. Paved and Building Slab Areas: Each compacted fill and backfill layer, at least one test for every 2,500 sq. ft.**,** but in no case fewer than three tests per lift.

2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100 ft or less of wall length, but no fewer than two tests.

3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 100 ft or less of trench length, but no fewer than two tests.

Specifications should indicate that the percentage of maximum dry density attained in the field is not the only criteria to be used for assessing fill compaction. Observation of the behavior of the fill under the loads of construction equipment should be used. If the test results indicate that the percentage of compaction is being achieved, but the soil mass is moving under the equipment, placement of additional fill should not be continued until the movement is stabilized. Otherwise, settlement of the fill may occur.

We recommend that all site preparation and earthwork operations be carried out in the full-time presence of a qualified representative of the Geotechnical Engineer.

5.3. FOUNDATIONS

Based on the results of our field exploration and laboratory testing, and on our evaluations, it is our professional opinion that shallow spread footing type foundations will be feasible for the support of the proposed new headquarters building. Footings that bear on new fill or densified site soils can be sized using an allowable net soil bearing capacity of up to 3,000 psf. Provided that the recommendations presented above in Section 5.2 (Earthwork) are followed, total and differential settlements are anticipated to be less than 1 in. and ½ in., respectively.

Because no groundwater table was encountered to at least 18 ft below grade, problems with groundwater seepage into the footing excavations are not anticipated. However, any infiltration of surface run-off water into the footing excavations should be immediately removed by pumping.

Continuous and isolated footings should be at least 2 ft wide and 3 ft square, respectively, to prevent localized shear failure in soil. The subgrades of all exterior footings and any other foundation exposed to freezing temperatures, during construction and/or the life of the structure should be established at least 3 ft below adjacent exposed grades or otherwise protected against frost action. Foundation subgrades should be checked by a representative of Pennoni to confirm conditions suitable for support of the design bearing pressure. Where an area is questionable, it should be further explored and/or remedied by removal and replacement of unsuitable material.

5.4. FLOOR SLAB

The proposed floor slab can be constructed as slab-on-grade founded on a newly compacted granular structural load bearing fill and/or densified on site soils. Prior to construction of the slab on grade, subgrades must be proofrolled and densified according to the recommendations presented in the Earthwork section of this report.

The concrete slab on grade should be isolated from other structural elements to allow for independent movements or the slab should otherwise be designed accordingly. In addition, we recommend that the slab be provided with suitable keyed-control and/or construction joints at suitable spacings to ease out any tendency of cracking due to differential settlements arising from uneven loading conditions. In the design of the concrete slab-on-grade, a subgrade modulus (K_s) of 100 pci (based on a 1 ft square plate at the surface) may be used as representative of the new compacted fill or the densified on-site soils.

We recommend 4 to 6 in. thick layer of free-draining granular base course be provided beneath the floor slab to provide a uniform bearing surface and to aid in the proper curing of the floor slab concrete. At least 6 in. should be maintained between the bottom of the floor slab and the tops of the foundations to minimize the potential for floor slab cracking at the foundation edges or the slabs should be designed accordingly to minimize cracking.

5.5. PAVEMENTS

In the areas of proposed new pavements, such as drives, parking areas, etc., a flexible (bituminous) type pavement is recommended. The preparation of the pavement subgrades and placement of any required fill should be done as recommended under the “Earthwork” section of this report with a degree of compaction of at least 93% of the maximum modified dry density for any new fill. In the design of pavements, a California Bearing Ratio (CBR) value of 10% can be used as representative of the densified on-site granular soils, or for compacted new granular fill. We recommend that the pavement surface course (wearing and binder) be underlain by a crushed stone or coarse gravel base course at least 4 to 6 in. thick.

5.6. GROUNDWATER AND SURFACE WATER MANAGEMENT

The groundwater observations made in the borings indicate that free-standing water, wet conditions, and/or seepage are not anticipated to be encountered in shallow excavations for foundation construction (i.e., less than 3 ft deep). However, depending on the weather conditions during construction, wet conditions and/or seepage may be encountered. In the event that wet conditions and/or seepage are encountered due to perched water, sumps and pumps should be adequate to maintain stable conditions during foundation construction.

6. RECOMMENDATIONS FOR FURTHER GEOTECHNICAL SERVICES

Our experience on numerous construction projects is that the interests of the project team are best served by retaining the Geotechnical Engineer to provide construction observations during earthwork and foundation construction operations. To determine if soils, other materials, and groundwater conditions encountered during construction are similar to those encountered in the borings, and that they have comparable engineering properties or influences on the design of the structures, we recommend that Pennoni provide field observation services during construction of compacted fill; preparation of foundation, floor slab, and pavement subgrades; and installation/construction of foundations, floor slabs, and pavements. Pennoni's Geotechnical Technology should review specifications for earthwork and foundation design/construction when they are prepared.

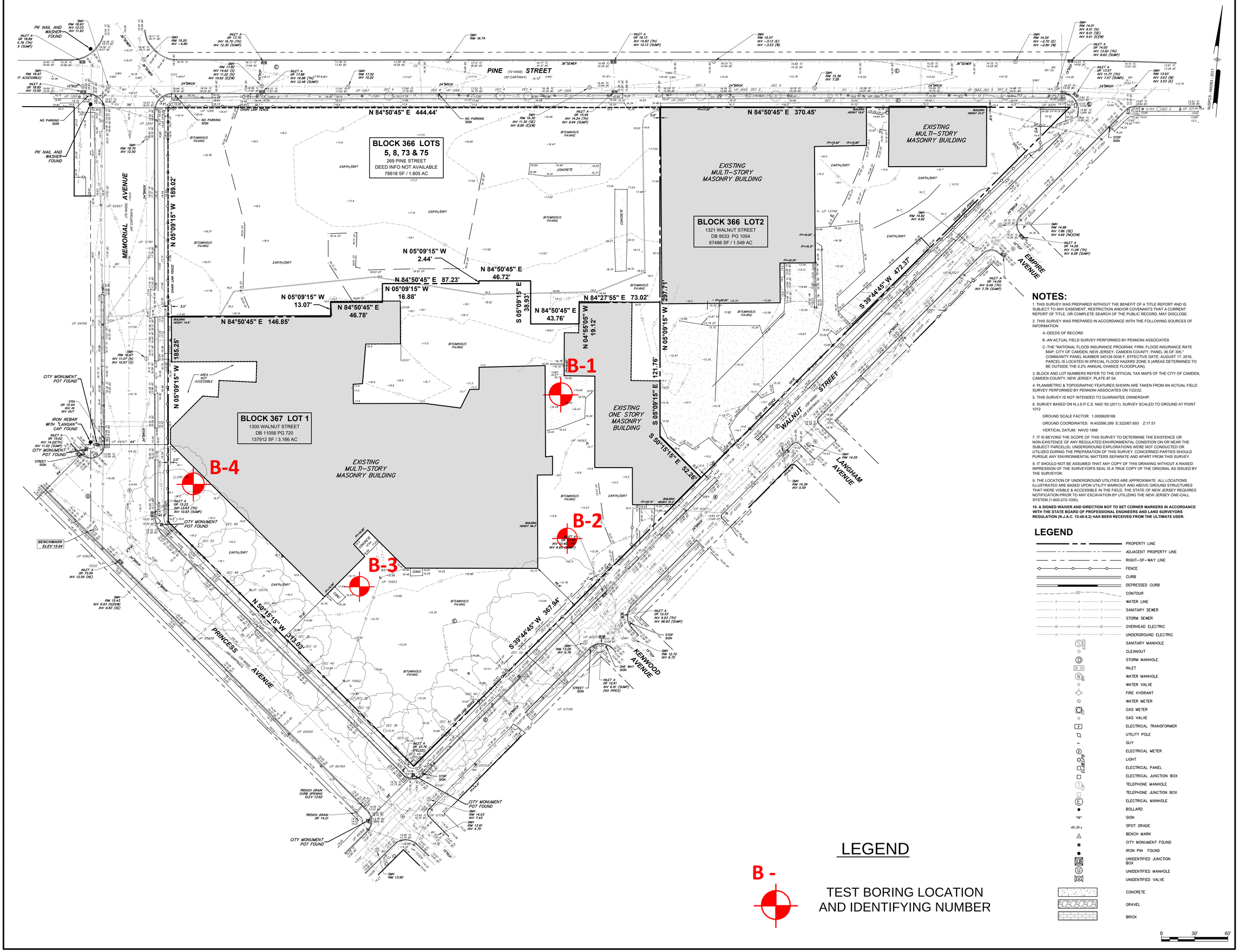
7. LIMITATIONS

This work has been done in accordance with our authorized scope of work and in accordance with generally accepted professional practice in the fields of geotechnical and foundation engineering. This warranty is in lieu of all other warranties either expressed or implied. Our conclusions and recommendations are based on the data revealed by this exploration. We are not responsible for any conclusions or opinions drawn from the data included herein, other than those specifically stated, nor are the recommendations presented in this report intended for direct use as construction specifications.

This report is intended for use with regard to the specific project described herein; any changes in loads, structures, or locations should be brought to our attention so that we may determine how they may affect our conclusions. An attempt has been made to provide for normal contingencies but the possibility remains that unexpected conditions may be encountered during construction. If this should occur, or if additional or contradictory data are revealed in the future, we should be notified so that modifications to this report can be made, if necessary. If we do not review relevant construction documents and witness the relevant construction operations, then we cannot be responsible for any problems that may result from misinterpretation or misunderstanding of this report or failure to comply with our recommendations.

APPENDICES

APPENDIX A - Field Data



NOTES:

1. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY EASEMENT, RESTRICTION AND/OR COVENANTS THAT A CURRENT REPORT OF TITLE, OR COMPLETE SEARCH OF THE PUBLIC RECORD, MAY DISCLOSE.

2. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE FOLLOWING SOURCES OF INFORMATION

   A-DEEDS OF RECORD

   B -AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES

   C -THE "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, CITY OF CAMDEN, NEW JERSEY, CAMDEN COUNTY, PANEL 36 OF 305," COMMUNITY PANEL NUMBER 340128 0036 F, EFFECTIVE DATE: AUGUST 17, 2016, PARCEL IS LOCATED IN SPECIAL FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).

3. BLOCK AND LOT NUMBERS REFER TO THE OFFICIAL TAX MAPS OF THE CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY, PLATE #7.04.

4. PLANIMETRIC & TOPOGRAPHIC FEATURES SHOWN ARE TAKEN FROM AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES ON 7/22/22.

5. THIS SURVEY IS NOT INTENDED TO GUARANTEE OWNERSHIP.

6. SURVEY BASED ON N.J.S.P.C.S. NAD '83 (2011). SURVEY SCALED TO GROUND AT POINT 1012

   GROUND SCALE FACTOR: 1.0000626168

   GROUND COORDINATES: N:402566.289 E:322067.693 Z:17.51

   VERTICAL DATUM: NAVD 1988

7. IT IS BEYOND THE SCOPE OF THIS SURVEY TO DETERMINE THE EXISTENCE OR NON-EXISTENCE OF ANY REGULATED ENVIRONMENTAL CONDITION ON OR NEAR THE SUBJECT PROPERTY PARCEL(S). UNDERGROUND EXPLORATIONS WERE NOT CONDUCTED OR UTILIZED DURING THE PREPARATION OF THIS SURVEY. CONCERNED PARTIES SHOULD PURSUE ANY ENVIRONMENTAL MATTERS SEPARATE AND APART FROM THIS SURVEY.

8. IT SHOULD NOT BE ASSUMED THAT ANY COPY OF THIS DRAWING WITHOUT A RAISED IMPRESSION OF THE SURVEYOR'S SEAL IS A TRUE COPY OF THE ORIGINAL AS ISSUED BY THE SURVEYOR.

9. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS ILLUSTRATED ARE BASED UPON UTILITY MARKOUT AND ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD. THE STATE OF NEW JERSEY REQUIRES NOTIFICATION PRIOR TO ANY EXCAVATION BY UTILIZING THE NEW JERSEY ONE-CALL SYSTEM (1-800-272-1000).

10. A SIGNED WAIVER AND DIRECTION NOT TO SET CORNER MARKERS IN ACCORDANCE WITH THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS REGULATION (N.J.A.C. 13:40-5.2) HAS BEEN RECEIVED FROM THE ULTIMATE USER.

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT-OF-WAY LINE
- FENCE
- CURB
- DEPRESSED CURB
- CONTOUR
- WATER LINE
- SANITARY SEWER
- STORM SEWER
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- SANITARY MANHOLE
- CLEANOUT
- STORM MANHOLE
- INLET
- WATER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- GAS METER
- GAS VALVE
- ELECTRICAL TRANSFORMER
- UTILITY POLE
- GUY
- ELECTRICAL METER
- LIGHT
- ELECTRICAL PANEL
- ELECTRICAL JUNCTION BOX
- TELEPHONE MANHOLE
- TELEPHONE JUNCTION BOX
- ELECTRICAL MANHOLE
- BOLLARD
- SIGN
- SPOT GRADE
- BENCH MARK
- CITY MONUMENT FOUND
- IRON PIN FOUND
- UNIDENTIFIED JUNCTION BOX
- UNIDENTIFIED MANHOLE
- UNIDENTIFIED VALVE
- CONCRETE
- GRAVEL
- BRICK

LEGEND

B - TEST BORING LOCATION AND IDENTIFYING NUMBER

0 30' 60'

PROJECT STATUS — PLOTTED: 7/27/2022 9:58 AM, BY: Charles Smith PLOTSTYLE: Pennoni NCS.ctb

I:\Accounts\SCHER\CAMDEN201 - Coriell Institute Camden\DESIGN\SURVEY\CAMDEN201 v0501 20220722.dwg

PENNONI ASSOCIATES INC.
515 Grove Street, Suite 1B
Haddon Heights, NJ 08035
T 856.547.0505 F 856.547.9174
NJ COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

THIS PLAN WAS PREPARED UNDER MY IMMEDIATE SUPERVISION.

DRAFT

Keith M. Ludwig, PLS
New Jersey Lic. 24GS04324400

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOT 6, BLOCK 366 LOTS 2, 5, 8, 73 & 75
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

TEST BORING LOCATION PLAN

SCHEER PARTNERS INC.
15240 SHADY GROVE ROAD
ROCKVILLE, MARYLAND 20850

NO.	DATE	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER22001
DATE	20220723
DRAWING SCALE	1"= 30'
DRAWN BY	CWS
APPROVED BY	KML

TL - 1

SHEET 1 OF 1

TEST BORING LOG

TEST BORING B-1

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 10/21/22 **COMPLETED** 10/21/22
GROUND ELEVATION 16.5'
DRILLING CONTRACTOR F.M. & W. Drilling Inc.
WATER ENCOUNTERED:
DRILLING METHOD Hollow Stem Auger
▽ **DURING DRILLING** 18.0' / Elev -1.5'
DRILLER / HELPER Nick/Ryan
AT END OF DRILLING Not Measured
LOGGED BY T. Hall **CHECKED BY** DRAFT
AFTER DRILLING Not Measured

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0						Depth / Elev.	
	S-1	14	9-16-23		C	0.3 / 16.2 — 4" CONCRETE	
					F	FILL: Black C/MF SAND, some Silt	
	S-2	20	12-14-11-14			3.5 / 13.0	
5	S-3	18	5-3-3-4		1	Brown SILT and SAND Brown SILT and fine SAND	
	S-4	20	4-3-4-4			Grayish brown fine SAND, little Silt	
						8.0 / 8.5	
10	S-5	23	5-6-7-7			Gray fine SAND, little to trace Silt	
15	S-6	20	10-13-14-18			Grayish brown to tan F/M SAND, trace Silt	Moist
▽ 20	S-7	24	11-14-15-16			Grayish brown to multicolored M/F/C SAND, little F/C Gravel, trace Silt	Wet
25	S-8	19	6-9-12-15		2	Grayish brown fine SAND, some Silt	
30	S-9	18	10-14-14-16			Light gray to brown F/M SAND (white Clayey Sand pocket, 2-3", in spoon tip)	
35	S-10	24	13-22-28-36			Dark to light gray to tan F/M/C SAND, trace Silt	
						38.0 / -21.5	
40	S-11	24	17-27-31-43		3	Brown to tan M/F/C SAND, trace Silt	
						40.0 / -23.5	
						Borehole terminated at 40.0 feet.	

NOTES:

TEST BORING B-2

TEST BORING LOG

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 10/21/22 **COMPLETED** 10/21/22
GROUND ELEVATION 15.7'
DRILLING CONTRACTOR F.M. & W. Drilling Inc.
WATER ENCOUNTERED:
DRILLING METHOD Hollow Stem Auger
▽ **DURING DRILLING** 18.0' / Elev -2.3'
DRILLER / HELPER Nick/Ryan
AT END OF DRILLING Not Measured
LOGGED BY T. Hall **CHECKED BY** DRAFT
AFTER DRILLING Not Measured

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0						Depth / Elev.	
	S-1	8	5-4-4-4		T F	0.3 / 15.5 — 3" TOPSOIL	
						2.0 / 13.7 — FILL: Brown to black F/M/C SAND, little Brick Fragments	
	S-2	17	4-5-4-4			Brown to dark orange F/M SAND, trace to little Silt	
5	S-3	15	1-1-2-2		1	Brown to dark orange fine CLAYEY SAND	Damp
	S-4	18	4-4-3-5			Brown to gray fine SAND, some Silt	
						8.0 / 7.7	
10	S-5	24	5-5-6-7			Tan to gray fine SAND, some Silt	Fill odor
15	S-6	22	9-9-11-15			Gray to tan F/M/C SAND, trace Silt	
20	S-7	20	8-11-12-14			Dark gray F/M SAND, trace Silt	Wet
					2	23.5 / -7.8	
25	S-8	24	6-4-15-16			24.0 / -8.3 — 6" Pocket of stiff, grayish brown to black CLAY	Clay pocket in spoon
						Dark gray F/M SAND, trace Silt	
30	S-9	24	15-19-23-29				
35	S-10	24	7-8-16-20			White to gray fine SAND, trace Silt	
						38.0 / -22.3	
40	S-11	24	18-25-22-32		3	Brown to tan to white M/F/C SAND, trace Silt	
						40.0 / -24.3	
						Borehole terminated at 40.0 feet.	

NOTES:

TEST BORING LOG

TEST BORING B-3

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 10/24/22 **COMPLETED** 10/24/22
GROUND ELEVATION 16.2'
DRILLING CONTRACTOR F.M. & W. Drilling Inc.
WATER ENCOUNTERED:
DRILLING METHOD Hollow Stem Auger
▽ **DURING DRILLING** 18.0' / Elev -1.8'
DRILLER / HELPER Kevin/Ryan
AT END OF DRILLING Not Measured
LOGGED BY T. Hall **CHECKED BY** DRAFT
AFTER DRILLING Not Measured

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0						Depth / Elev.	
	S-1	11	2-2-3-2		T/F	0.3 / 16.0 — 3" TOPSOIL	
						2.0 / 14.2 — FILL: Black to brown SILT and C/M/F SAND, trace Brick and Glass Fragments	
	S-2	14	2-3-2-1		1	Brown fine SAND, some Silt, trace Roots	
	S-3	18	2-1-2-2			Brown SILTY CLAY, trace fine Sand	Bottom Moist
	S-4	23	3-5-6-6			7.0 / 9.2	Moist
10	S-5	22	4-7-9-11			Grayish brown F/M SAND, trace to little Silt	
	S-6	22	11-18-19-11			Brown to white M/F/C SAND, trace F/C Gravel, trace Silt	
▽ 20	S-7	20	4-7-9-10			Gray to brown fine SAND, trace Silt	Wet
	S-8	24	7-8-9-10		2	Gray to brown F/M/C SAND, trace to little Silt	
30	S-9	18	4-6-7-9			Brownish gray fine SAND (pocket of Clayey Sand)	
	S-10	17	4-7-10-12			Dark gray stiff CLAY, trace fine Sand	
40	S-11	24	4-5-11-11			Dark gray F/M SAND and 10" brown CLAY pocket	
						43.0 / -26.8	
	S-12	22	17-19-19-18		3	Brown to gray F/M SAND, trace to little Silt	
						45.0 / -28.8 — Borehole terminated at 45.0 feet.	

NOTES:

TEST BORING LOG

TEST BORING B-4

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 10/21/22 **COMPLETED** 10/21/22
GROUND ELEVATION 16.4'
DRILLING CONTRACTOR F.M. & W. Drilling Inc.
WATER ENCOUNTERED:
DRILLING METHOD Hollow Stem Auger
▽ **DURING DRILLING** 18.0' / Elev -1.6'
DRILLER / HELPER Nick/Ryan
AT END OF DRILLING Not Measured
LOGGED BY T. Hall **CHECKED BY** DRAFT
AFTER DRILLING Not Measured

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS	STRATA	DESCRIPTION	REMARKS
0					Depth / Elev.	
	S-1	16	2-3-2-1	T/F	0.3 / 16.2 — 3" TOPSOIL	
					2.0 / 14.4 — FILL: Black to brown C/M/F SAND, some Silt	
	S-2	19	3-2-3-2	1	Brown fine SAND, little Silt (pockets of brownish gray Sandy Clay)	
	S-3	18	2-2-5-6			
	S-4	22	5-9-17-19		7.0 / 9.4	
10	S-5	20	18-22-22-25		Dark orange F/M/C SAND, little Silt, trace fine Gravel	
	S-6	20	12-20-21-26		Orange to tan F/M/C SAND, trace Silt	
▽ 20	S-7	18	5-4-2-2		Orangish brown to gray fine SAND, some Silt	
	S-8	20	7-8-8-10	2	Grayish brown fine SAND, little Silt	
30	S-9	22	6-7-9-11		Dark gray F/M SAND and SILT	Silt pocket
	S-10	17	7-9-13-17		Dark gray to brown stiff CLAY, some fine Sand	
40	S-11	23	9-9-11-14		39.0 / -22.6 — Gray CLAY, little to some fine Sand	
				3	Brown F/M SAND, trace Silt	
	S-12	10	15-20-24-30		Brown F/M SAND, trace Silt. gravel size Rock Fragment in spoon tip	
					45.0 / -28.6	
					Borehole terminated at 45.0 feet.	

NOTES:

TEST BORING/TEST PIT/AUGER PROBE LOG KEY SHEET

COLUMN	DESCRIPTION
Depth	Depth in feet below ground surface
Description	Description of sample including color, texture, and classification of subsurface material as applicable. Estimated depths to bottom of strata as interpolated from the boring are also shown.
Stratum	Strata numbers as assigned by the geotechnical engineer
Sample No.	Split barrel sample and sample number (S-x) Undisturbed Tube sample and sample number (U-x) Rock core run and core number (R-x) NR indicates no recovery
Blow Counts	For soils sample (ASTM D 1586): indicates number of blows obtained for each 6 inches penetration of the standard split-barrel sampler. For rock coring (ASTM D 2113): indicates percent recovery (REC) per run and rock quality designation (RQD). RQD is the sum of rock pieces that are 4 inches or longer in length in one core run divided by the total core run.
Recovery	For soil samples indicates the length of recovery in the sample spoon
Remarks	Special conditions or test data as noted during drilling

Ground Water: Free water level as shown ( )*; * Free water level as noted may not be indicative of daily, seasonal, or long term fluctuations.

DESCRIPTIVE TERMS

RELATIVE PROPORTIONS

Descriptive Term	Symbol	Estimated Percentages
Trace	tr	1 to 10
Little	l	10 to 20
Some	sm	20 to 35
And	and	35 to 50

GRADATION OF COARSE GRAINED COMPONENTS

Soil Component	Size Range	Particle Size Maximum	Minimum
Boulders		-	12"
Cobbles		12"	3"
Gravel	Coarse	3"	¾"
	Fine	¾"	#4 Sieve
Sand	Coarse	#4 Sieve	#10 Sieve
	Medium	#10 Sieve	#40 Sieve
	Fine	#40 Sieve	#200 Sieve
Silt		#200 Sieve	.005 mm
Clay		.005 mm	-

COMPOSITION OF COARSE-GRAINED COMPONENTS

Gradation Designation	Symbol	Defining Proportions
Coarse to Fine	CF	All fractions greater than 10% of the component
Coarse to Medium	CM	Less than 10% Fine
Medium to Fine	MF	Less than 10% Coarse
Coarse	C	Less than 10% Fine and Medium
Medium	M	Less than 10% Coarse and Fine
Fine	F	Less than 10% Coarse and Medium

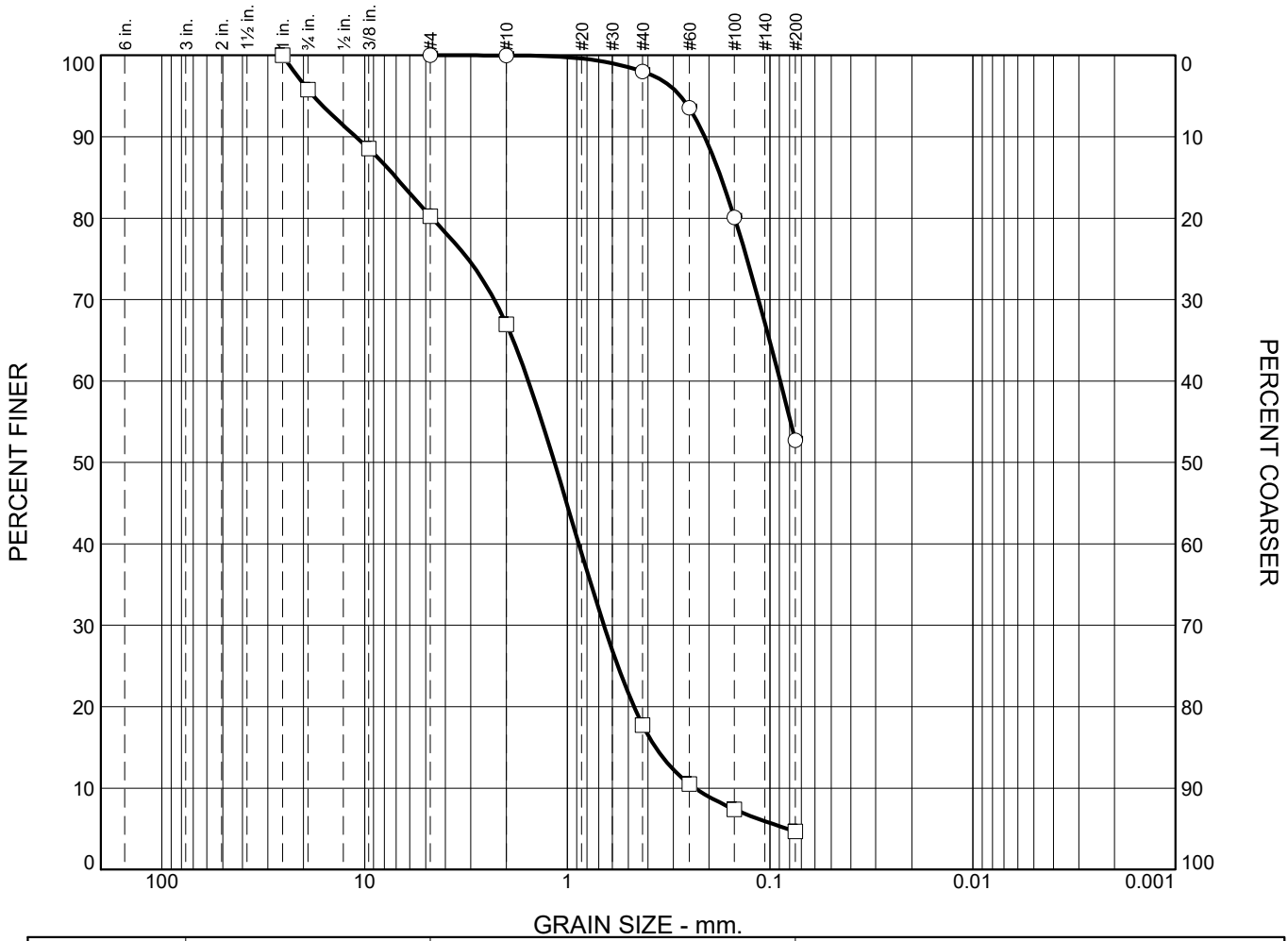
APPENDIX B – Laboratory Data

SUMMARY OF LABORATORY DATA

BORING NUMBER	SAMPLE NUMBER	DEPTH (ft)	SOIL CLASSIFICATION	GRAIN SIZE DISTRIBUTION			PLASTICITY				MOISTURE CONTENT w %	pH		ORGANIC CONTENT (%)	RESISTIVITY (ohm-cm) at T°C	VOLUMETRIC				
				GRAVEL %	SAND %	SILT/CLAY %	LIQUID LIMIT w_l	PLASTIC LIMIT wp	PLASTICITY INDEX I_P	LIQUIDITY INDEX I_L		pH in H_20	pH in $CaCl_2$			SPECIFIC GRAVITY (G) (*) ASSUMED	DRY UNIT WEIGHT (pcf)	MOIST UNIT WEIGHT (pcf)	VOID RATIO (e)	DEGREE OF SATURATION %
B-1	S-3	4-6		0	47	53														
B-1	S-7	18-20		20	75	5														
B-4	S-5	8-10		10	77	13														
B-4	S-9	28-30		0	53	47														

PENNONI ASSOCIATES INC.	DRAWN BY:	DATE:	PROJECT:		JOB No.:
	MP	11/2/2022	**Coriell Institute Headquarters**		**SCHER22001**
	CHECKED BY:	DATE:	LOCATION:		TABLE No.:
	MA	11/9/2022	**1300 Walnut Street, Camden, NJ**		**L-1**

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0	0	0	0	2	45	53	
□	0	4	16	13	49	13	5	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-1	S-3	4-6	Silt/Clay and F/ Sand	
□	B-1	S-7	18-20	M/C/F Sand Little F/C Gravel Trace Silt/Clay	

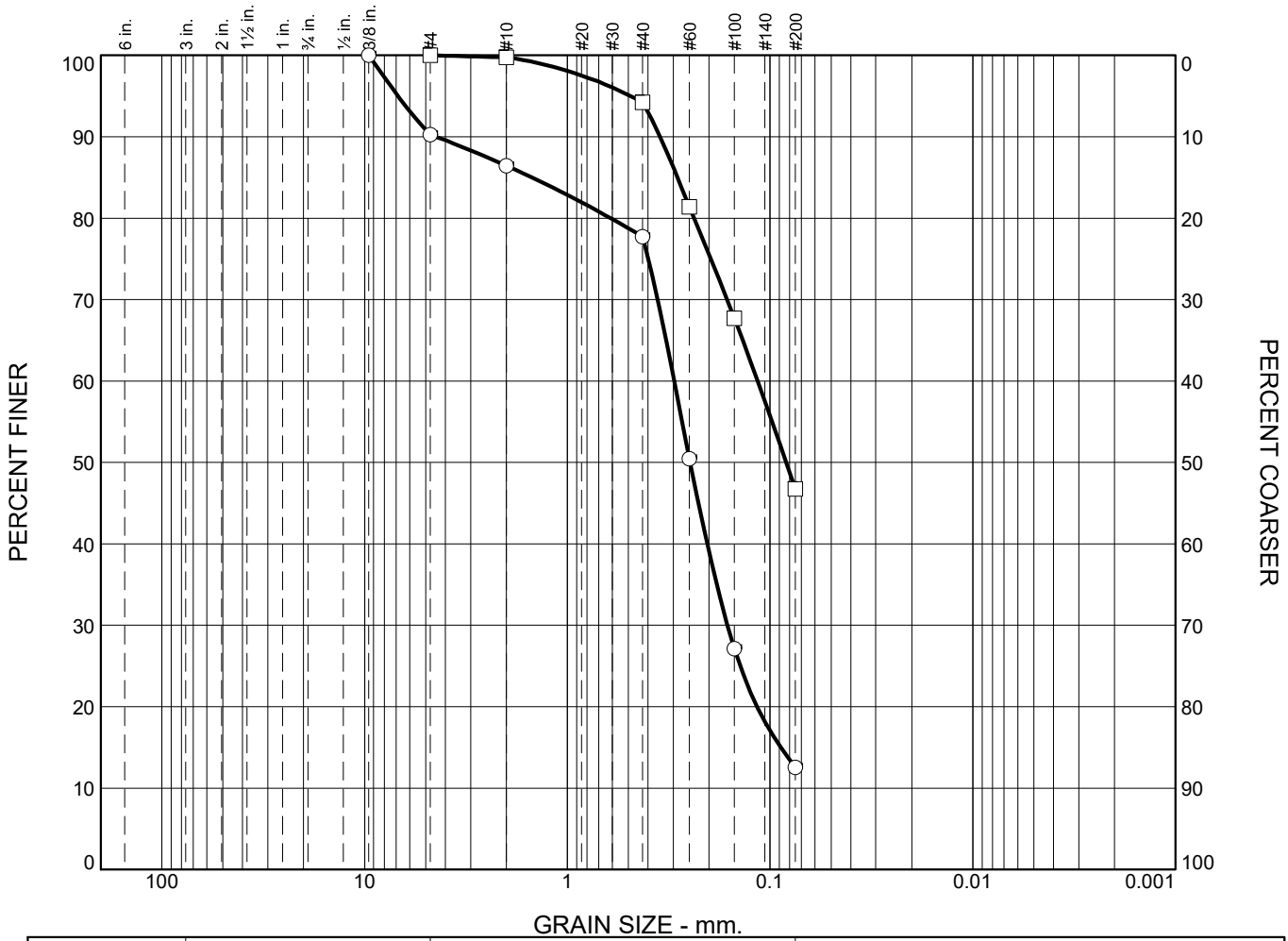
PENNONI ASSOCIATES INC.

Client: Scheer Partners

Project: Coriell Institute Headquarters

Project No.: SCHER22001.06 **Figure** S-1

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0	0	10	4	8	65	13	
□	0	0	0	0	6	47	47	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-4	S-5	8-10	F/M/C Sand Little Silt/Clay Trace F/ Gravel	
□	B-4	S-9	28-30	F/M Sand And Silt/Clay	

PENNONI ASSOCIATES INC.

Client: Scheer Partners

Project: Coriell Institute Headquarters

Project No.: SCHER22001.06 **Figure** S-2

LABORATORY TESTING PROCEDURES

All testing is either done in accordance with the indicated ASTM Designation-latest edition, or with other standard or generally accepted engineering practice as described:

1. Consolidation Test of Soils
   Preparation of samples and testing procedures generally follow the methods described in Lambe, op. Cit. In addition, the time of loading may be selected on the basis of:

   a. Controlled rate of percent of consolidation
   b. Controlled pore pressure gradient
   c. Controlled strain

   The method of test is selected to suit the soil type in question and the test is conducted in accordance with generally accepted engineering practice.

2. Atterberg Limits – Plasticity Indices
   a. Liquid limit of soils, ASTM D 4318
   b. Plastic limit and plasticity index of soils, ASTM D 4318
   c. Shrinkage factors of soils, ASTM D 427

   (Moisture content is also determined with the Atterberg Limit test, and liquidity index is also computed)

3. Moisture Content of Soil
   ASTM D 2216

4. Particle Size Analysis of Soils
   ASTM D 421, Dry preparation of soil samples; ASTM D 422, Sieve and/or hydrometer analysis.

5. Triaxial Compression Test of Soils
   Sample preparation, apparatus, and testing generally follow the procedures outlined in Soil Testing for Engineers, T.W. Lambe, John Wiley & Sons, Inc., New York, 1951 and in The Measurement of Soil Properties in the Triaxial Test, Alan W. Bishop & D.J. Henkel, 2nd Edition, St. Martin's Press, New York, 1962

6. Unconfined Compression Strength of Cohesive Soil
   ASTM D 2166

7. Specific Gravity of Soils
   ASTM D 854

8. Unit Weight Determination of Soils
   See ASTM D 2166 for preparation of specimen except that sample size may differ. For moisture content see ASTM D 2216.

9. Visual Identification of Soil Samples
   All soil samples are visually identified and/or classified. The classification system used is shown in Table L-1.

10. Identification of Rock
    Rock core samples are identified by the character and appearance of newly fractured surfaces of unweathered pieces, by core conditions and characteristics, and by the determination of simple physical and chemical properties.

11. Compaction Test of Soils
    a. Moisture-density relations of soils using 5.5 lb. hammer and 12 in. drop, ASTM D 698
    b. Moisture-density relations of soils using 10 lb. hammer and 18 in. drop, ASTM D 1557

12. Maximum and Minimum Densities of Granular Soils
    Testing procedures follow D.M. Burmeister, "Suggested Method of Test for Maximum and Minimum Densities of Granular Soils" cited in Proceedings for Testing Soils, Fourth Edition, ASTM, Philadelphia. 1964, pp 175-177.

13. Bearing Ratio of Laboratory Compacted Soils
    ASTM D 1883 (Sometimes called California Bearing Ratio or CBR)

14. Organic Content
    A modified dichromate oxidation method using ferrous ammonium sulfate is employed in determining the percent of organic matter in soil.

APPENDIX C – Standard Symbols

STANDARD SYMBOLS

B	Width of footing
c	cohesion
c_v	coefficient of consolidation
C_c	compression index
C	coefficient of secondary compression
C_3	swelling index
C_u	uniformity coefficient (D_{60}/D_{10})
CBR	California Bearing Ratio
D_f	depth of foundation
D_p	diameter of grain corresponding to percentage p on grain size curve
D_{10}	effective grain size
E	modulus of linear deformation
E_s	Young's Modulus
e	void ratio
F_s	factor of safety
G	specific gravity
h	hydraulic head
H	stratum thickness
i	hydraulic gradient
I_L	liquidity index
I_P	plasticity index
k	coefficient of permeability
k_h	coefficient of horizontal subgrade reaction
k_v	coefficient of vertical subgrade reaction
l	length of footing
n	porosity
P	deviator stress
P_c	estimated probable preconsolidation pressure
P_o	existing overburden pressure
q_a	allowable soil bearing pressure
Q	triaxial compression test unconsolidated and undrained
Q_c	triaxial compression test consolidated and undrained
S	triaxial compression test consolidated and drained
S_r	degree of saturation
υ	pore-water pressure
U	degree of consolidation
U_c	unconfined compression test
w_f	moisture content at end of test
w_l	liquid limit
w_n	natural moisture content
w_p	plastic limit
γ	unit weight
γ_d	dry unit weight
γ_b	submerged unit weight
ε	unit linear strain
ε_f	unit linear strain at failure
σ	normal stress
σ_1	major principal stress
σ_3	minor principal stress
τ	shear stress
ϕ	angle of internal friction
k_a	coefficient of active pressure
k_p	coefficient of passive pressure
δ	friction angle
tan δ	friction factor

APPENDIX D – Important Information About This Geotechnical Engineering Report

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical- engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by*: the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GEOTECHNICAL BUSINESS COUNCIL
of the Geoprofessional Business Association

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@geoprofessional.org www.geoprofessional.org

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www.pennoni.com

February 24, 2023

SCHER22001

Mr. Trevor Harris
Senior Project Manager
Scheer Partners
15245 Shady Grove Road, Suite 210
Rockville, MD 20850

RE: Infiltration Testing Summary Report
Coriell Institute Headquarters
1300 Walnut Street
Camden, New Jersey

Dear Mr. Harris:

Pennoni Associates, Inc. (Pennoni) is pleased to submit this report summarizing the infiltration tests performed as part of the above referenced project in Camden, New Jersey. The purpose of the study was to estimate the infiltration rates in the general areas of proposed Stormwater Management (SWM) facilities. Our services were performed in general accordance with our proposal dated May 13, 2022, and your subsequent authorization to proceed.

BACKGROUND

The project site is located at 1300 Walnut Street, in Camden, NJ. The site is bounded to the north by Pine Street, to the east and south by Walnut Street, and to the west and south by Princess Avenue and Memorial Avenue.

The topography of the site is generally flat with a slight descent from north to south. The site is currently occupied by four vacant commercial multi-story masonry buildings, which will be demolished to make way for the proposed new construction, with associated bituminous and concrete pavements, and open, grassy areas. Tree coverage exists along the southside perimeter. Pennoni personnel observed NJ One-Call mark outs of underground water utilities, and unknown lines running through the southern portion of the site. Overhead utilities were also observed in the south section, and along the perimeter of the site.

FIELD WORK

On February 16, 2023, four test pits were excavated to depths varying between 7.0 and 8.0 ft below the ground surface (bgs), using a rubber tire backhoe. Testing locations were selected and established in the field by Pennoni personnel and performed within the footprint of the proposed SWM facilities. Approximate locations, labeled TP-1 through TP-4, are presented on the Testing Location Plan, Drawing TL-1. The test pits were performed to determine the soil horizon and restricting layers such as the groundwater table (GWT) or seasonal high-water table (SHWT), prior to infiltration testing (described below). Following the conclusion

of the excavations and testing, the test pits were backfilled with the excavated soil in 10 to 12 in. lifts and tamped with the excavator bucket.

Excavation was performed by Ambient, LLC. Our M. Arkan, PE directed the field work, and our T. Hall, EIT observed the test pits and performed the infiltration testing. The test pit and infiltration logs are attached.

SUBSURFACE STRATIGRAPHY

Test pits TP-1 and TP-2 disclosed a surficial asphalt layer approximately 2 to 3 in. thick; TP-3 disclosed a surficial topsoil layer approximately 6 in. thick. A fill layer was encountered in all the test pits, extending to depths ranging from 4.0 to 6.0 ft bgs. The underlying subsoils encountered, including the fill, have been grouped by us into two strata. Brief stratum descriptions are presented below:

STRATUM	DESCRIPTION
F	FILL: Black to brown fine to medium to coarse SAND, varying amounts of Silt, trace Brick, Glass, and Metal Fragments, trace Cinders, trace Cobbles, trace Roots; dry (~4.0 to 6.0 ft thick)
1	Tan to brown fine SAND, with varying amounts of Silt; dry to damp (~all test pits terminated in it)

Observations for groundwater were made during and shortly after the completion of the test pits. No evidence of groundwater was observed during testing. Groundwater observations are for the times and locations noted and may not be indicative of seasonal or daily fluctuations in groundwater levels. Seasonal variations on the order of few feet should be anticipated. Additionally, no evidence of the seasonal high-water table (SHWT) was observed from mottling and redoximorphic features.

INFILTRATION TESTING RESULTS

Pennoni performed four single ring infiltration tests, one at each test pit location. Testing was performed within the general footprint of the proposed SWM facilities.

A pre-soak was performed prior to testing, where the single rings were filled with approximately 3 in. of water and allowed to drain completely. In pre-soaks where the water level to drop 1 in. exceeded 60 minutes, the pre-soak time was ended at 60 minutes. The rings were refilled and the time to drop 1 in. measured until stabilized infiltration rates were observed (where two measurements of the time is within 0.5 second). The following table presents a summary of the field results for the infiltration tests performed.

Test Location	Approx. Ground Surface Elev.	Approx. Limiting Zone Elev.	Approx. Testing Elev.	Tested Stratum	Field Infiltration Rate (in/hr)
TP-1	15.2	NE	10.2	1	1.2
TP-2	15.3	NE	10.3	1	1.4
TP-3	16.3	NE	11.3	F	10.9
TP-4	16.5	NE	11.5	1	2.5

*NE – Not Encountered

Field infiltration rates in Stratum 1 were observed to vary between 1.2 and 2.5 in/hr. At testing location TP-3, the test was conducted within the fill layer, disclosing a field infiltration rate of 10.9 in/hr.

LIMITATIONS

This work has been performed in accordance with generally accepted professional practice in the field of geotechnical engineering. Our conclusions and recommendations are based on the data revealed by this exploration. We are not responsible for any conclusions or opinions drawn from the data included herein, other than those specifically stated, nor are the recommendations presented in this report intended for direct use as construction specifications. This report is intended for use with regard to the specific project described herein; any changes in loads, structures, or locations should be brought to our attention so that we may determine how they may affect our conclusions. An attempt has been made to provide for normal contingencies, but the possibility remains that unexpected conditions may be present which we are not aware of. If additional or contradictory data are revealed in the future, we should be notified so that modifications to this report can be made, if necessary. If we do not review relevant construction documents and witness the relevant construction operations, then we cannot be responsible for any problems that may result from misinterpretation or misunderstanding of this report or failure to comply with our recommendations.

We trust that the information presented in this report is what you require at this time and we thank you for the opportunity to assist you with this project. If you have any questions, or if you need any further assistance with this project, please contact this office at your earliest convenience.

Sincerely,

PENNONI ASSOCIATES INC.

Tristan Hall, EIT
Graduate Geotechnical Engineer

Murat Arkan, PE
Senior Geotechnical Engineer

Enclosures: *Testing Location Plan (TL-1)*
Test Pit Logs (TP-1 through TP-4)
Infiltration Logs (INF-1 through INF-4)

BLOCK 366 LOTS 5, 8, 73 & 75
269 PINE STREET
DEED INFO NOT AVAILABLE
78618 SF / 1.805 AC

BLOCK 366 LOT2
1321 WALNUT STREET
DB 9533 PG 1054
67486 SF / 1.549 AC

BLOCK 367 LOT 1
1300 WALNUT STREET
DB 11056 PG 720
137912 SF / 3.166 AC

PINE (70' WIDE) STREET (30' CARTWAY)
MEMORIAL AVENUE (70' WIDE) (40' CARTWAY)
WALNUT STREET (50' WIDE) (30' CARTWAY)
EMPIRE AVENUE
LANGHAM AVENUE
KENWOOD AVENUE
PRINCESS AVENUE (50' WIDE) (30' CARTWAY)

EXISTING MULTI–STORY MASONRY BUILDING
EXISTING ONE STORY MASONRY BUILDING
BLOCK 367 LOT 1 DB 11056 PG 720

N 84°50'45" E 814.89'
N 05°09'15" W 189.02'
S 05°09'15" E 175.95'
S 84°50'45" W 46.72'
S 05°09'15" E 2.44'
S 84°50'45" W 87.23'
S 05°09'15" E 16.88'
S 84°27'55" W 73.02'
S 05°09'15" E 13.07'
S 84°50'45" W 46.78'
S 84°50'45" W 146.85'
N 05°09'15" W 38.93'
S 84°50'45" W 43.76'
S 04°55'05" E 19.12'
N 05°09'15" W 121.76'
N 84°50'45" E 472.37'
S 39°44'45" W 472.37'
N 05°09'15" W 385.25'
N 50°15'15" W 52.26'
N 50°15'15" W 312.03'
S 39°44'45" W 367.94'

NOTES:

1. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY EASEMENT, RESTRICTION AND/OR COVENANTS THAT A CURRENT REPORT OF TITLE, OR COMPLETE SEARCH OF THE PUBLIC RECORD, MAY DISCLOSE.
2. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE FOLLOWING SOURCES OF INFORMATION
   A - DEEDS OF RECORD
   B - AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES
   C - THE "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, CITY OF CAMDEN, NEW JERSEY, CAMDEN COUNTY, PANEL 36 OF 305," COMMUNITY PANEL NUMBER 340128 0036 F, EFFECTIVE DATE: AUGUST 17, 2016, PARCEL IS LOCATED IN SPECIAL FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).
3. BLOCK AND LOT NUMBERS REFER TO THE OFFICIAL TAX MAPS OF THE CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY, PLATE #7.04.
4. PLANIMETRIC & TOPOGRAPHIC FEATURES SHOWN ARE TAKEN FROM AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES ON 7/22/22.
5. THIS SURVEY IS NOT INTENDED TO GUARANTEE OWNERSHIP.
6. SURVEY BASED ON N.J.S.P.C.S. NAD '83 (2011). SURVEY SCALED TO GROUND AT POINT 1012
   GROUND SCALE FACTOR: 1.0000626168
   GROUND COORDINATES: N:402566.289 E:322067.693 Z:17.51
   VERTICAL DATUM: NAVD 1988
7. IT IS BEYOND THE SCOPE OF THIS SURVEY TO DETERMINE THE EXISTENCE OR NON-EXISTENCE OF ANY REGULATED ENVIRONMENTAL CONDITION ON OR NEAR THE SUBJECT PARCEL(S). UNDERGROUND EXPLORATIONS WERE NOT CONDUCTED OR UTILIZED DURING THE PREPARATION OF THIS SURVEY. CONCERNED PARTIES SHOULD PURSUE ANY ENVIRONMENTAL MATTERS SEPARATE AND APART FROM THIS SURVEY.
8. IT SHOULD NOT BE ASSUMED THAT ANY COPY OF THIS DRAWING WITHOUT A RAISED IMPRESSION OF THE SURVEYOR'S SEAL IS A TRUE COPY OF THE ORIGINAL AS ISSUED BY THE SURVEYOR.
9. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS ILLUSTRATED ARE BASED UPON UTILITY MARKOUT AND ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD. THE STATE OF NEW JERSEY REQUIRES NOTIFICATION PRIOR TO ANY EXCAVATION BY UTILIZING THE NEW JERSEY ONE-CALL SYSTEM (1-800-272-1000).
10. **A SIGNED WAIVER AND DIRECTION NOT TO SET CORNER MARKERS IN ACCORDANCE WITH THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS REGULATION (N.J.A.C. 13:40-5.2) HAS BEEN RECEIVED FROM THE ULTIMATE USER.**

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT–OF–WAY LINE
- FENCE
- CURB
- DEPRESSED CURB
- CONTOUR
- WATER LINE
- SANITARY / STORM SEWER
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- SANITARY SEWER (CITY PLANS)
- WATER LINE (CITY PLANS)
- GAS LINE (CITY PLANS)
- TREE LINE / OVERGROWN LINE
- BUILDING LINE
- PARKING BUILDING LINE
- SANITARY MANHOLE
- CLEANOUT
- STORM MANHOLE
- INLET
- WATER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- GAS METER
- GAS VALVE
- ELECTRICAL TRANSFORMER
- UTILITY POLE
- GUY
- ELECTRICAL METER
- LIGHT
- ELECTRICAL PANEL
- ELECTRICAL JUNCTION BOX
- TELEPHONE MANHOLE
- TELEPHONE JUNCTION BOX
- ELECTRICAL MANHOLE
- BOLLARD
- SIGN
- SPOT GRADE
- BENCH MARK
- CITY MONUMENT FOUND
- IRON PIN FOUND
- UNIDENTIFIED JUNCTION BOX
- UNIDENTIFIED MANHOLE
- UNIDENTIFIED VALVE
- CONCRETE
- GRAVEL
- BRICK

LEGEND

TP - TEST PIT/INFILTRATION TESTING LOCATION AND IDENTIFYING NUMBER

Schematic taken from Sheet V-0501 "Boundary & Topographic Survey", prepared by Pennoni Associates, dated 23 July, 2022.

0 30' 60'

PENNONI ASSOCIATES INC.
515 Grove Street, Suite 1B
Haddon Heights, NJ 08035
T 856.547.0505 F 856.547.9174
NJ COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

THIS PLAN WAS PREPARED UNDER MY IMMEDIATE SUPERVISION.

Keith M. Ludwig, PLS
New Jersey Lic. 24GS04324400

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOT 6, BLOCK 366 LOTS 2, 5, 8, 73 & 75
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SCHEER PARTNERS INC.
15240 SHADY GROVE ROAD
ROCKVILLE, MARYLAND 20850

TESTING LOCATION PLAN

NO.	DATE	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THIS PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER22001
DATE	20220723
DRAWING SCALE	1"= 30'
DRAWN BY	CWS
APPROVED BY	KML

TL - 1

SHEET 1 OF 1

U:\Accounts\SCHER\SCHER22001 - Coriell Institute Camden\SURVEY\SCH22001-V0501 20220817.dwg PLOTTED: 2/7/2023 2:06 PM, BY: Blake Fitzgerald PROJECT STATUS: — PLOTSTYLE: Pennoni NCS.ctb

TEST PIT LOG

Test Pit TP-1
PAGE 1 OF 1

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 2/16/23 **COMPLETED** 2/16/23
GROUND ELEVATION 15.2'
EXCAVATION CONTRACTOR Ambient Group, LLC
WATER ENCOUNTERED:
EXCAVATION METHOD Excavator
DURING EXCAVATION Not Encountered
OPERATOR / HELPER Mike
AT END OF EXCAVATION Not Encountered
LOGGED BY T. Hall **CHECKED BY** M. Arkan
AFTER EXCAVATION Not Encountered

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0.0				Depth / Elev.	
			A	0.2 — 2" ASPHALT — 15.0	
				FILL: Black to brown F/M/C SAND, little Silt, trace Brick, trace Cinders	
2.5			F		
5.0				5.0 — 10.2	
				Tan to brown fine SAND, trace Silt	
			1		
7.5				8.0 — 7.2	
				Test Pit terminated at 8.0 feet.	

NOTES:
No evidence of SHWT observed.

TEST PIT LOG

Test Pit TP-2
PAGE 1 OF 1

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 2/16/23 **COMPLETED** 2/16/23
GROUND ELEVATION 15.3'
EXCAVATION CONTRACTOR Ambient Group, LLC
WATER ENCOUNTERED:
EXCAVATION METHOD Excavator
DURING EXCAVATION Not Encountered
OPERATOR / HELPER Mike
AT END OF EXCAVATION Not Encountered
LOGGED BY T. Hall **CHECKED BY** M. Arkan
AFTER EXCAVATION Not Encountered

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0.0			A	Depth 0.3 — 3" ASPHALT — Elev. 15.1	
			F	FILL: Black to brown F/M/C SAND, little Silt, trace Cobbles, trace Roots	
2.5					
				Depth 4.0 — Elev. 11.3	
			1	Orange to brown fine SAND and CLAYEY SILT (pocket 4-5 ft)	
5.0				Tan to brown fine SAND, trace Silt	
7.5					
				Depth 8.0 — Elev. 7.3	
				Test Pit terminated at 8.0 feet.	

NOTES:
No evidence of SHWT observed.

TEST PIT LOG

Test Pit TP-3

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 2/16/23 **COMPLETED** 2/16/23
GROUND ELEVATION 16.3'
EXCAVATION CONTRACTOR Ambient Group, LLC
WATER ENCOUNTERED:
EXCAVATION METHOD Excavator
DURING EXCAVATION Not Encountered
OPERATOR / HELPER Mike
AT END OF EXCAVATION Not Encountered
LOGGED BY T. Hall **CHECKED BY** M. Arkan
AFTER EXCAVATION Not Encountered

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0.0				Depth / Elev.	
			T	6" TOPSOIL 0.5 / 15.8	
			F	FILL: Black to brown to gray F/M/C SAND, some Silt, little F/C Gravel, trace Brick, Glass, and Metal Fragments, trace Roots	
2.5					
5.0					
				6.0 / 10.3	
			1	Brown to tan fine SAND (some gray Silty Sand pockets)	
7.5					
				8.0 / 8.3	Damp
				Test Pit terminated at 8.0 feet.	

NOTES:
No evidence of SHWT observed.

Test Pit TP-4

TEST PIT LOG

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 2/16/23 **COMPLETED** 2/16/23
GROUND ELEVATION 16.5'
EXCAVATION CONTRACTOR Ambient Group, LLC
WATER ENCOUNTERED:
EXCAVATION METHOD Excavator
DURING EXCAVATION Not Encountered
OPERATOR / HELPER Mike
AT END OF EXCAVATION Not Encountered
LOGGED BY T. Hall **CHECKED BY** M. Arkan
AFTER EXCAVATION Not Encountered

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0.0				Depth Elev.	
			F	FILL: Black to brown F/M/C SAND, some Silt, trace Cobbles	
2.5					
				4.5 12.0	
			1	Brown to gray fine SAND, some Silt	
5.0					
				7.0 9.5	
				Test Pit terminated at 7.0 feet.	

NOTES:
No evidence of SHWT observed.

Pennoni

SINGLE RING DATA SHEET

INF-1

Project: Coriell Institute Headquarters	Project Number: SCHER22001	Date: 02/16/2023
Location: 1300 Walnut Street, Camden, NJ	Test Location: TP-1	Testing Depth (ft): 5.0
Test Performed By: T. Hall	Ring Seating Depth (in): 3	Ring Diameter (in): 6
Ground Surface Elev. 15.2		Testing Elev. 10.2
Test Soil Strat: Fine Sand, trace Silt		
Limiting Zones: Not Encountered		

Trial #	Initial Water Height (in.)	Final Water Height (in.)	ΔHeight (in.)	ΔTime (min)	Infiltration Rate (in/hr)	Converted Hydraulic Conductivity (in/hr)
Pre Soak	3.00	0.00	3.00	33.00	5.5	1.87
1	3.00	2.00	1.00	42.00	1.4	0.49
2	3.00	2.00	1.00	45.00	1.3	0.46
3	3.00	2.00	1.00	52.00	1.2	0.40
4	3.00	2.00	1.00	52.00	1.2	0.40
5						
6						
7						
8						
9						
10						
				Hydraulic Conductivity (in/hr)		0.40

INF-2

Project: Coriell Institute Headquarters	Project Number: SCHER22001	Date: 02/16/2023
Location: 1300 Walnut Street, Camden, NJ	Test Location: TP-2	Testing Depth (ft): 5.0
Test Performed By: T. Hall	Ring Seating Depth (in): 3	Ring Diameter (in): 6
Ground Surface Elev. 15.3		Testing Elev. 10.3
Test Soil Strat: Fine Sand, trace Silt		
Limiting Zones: Not Encountered		

Trial #	Initial Water Height (in.)	Final Water Height (in.)	ΔHeight (in.)	ΔTime (min)	Infiltration Rate (in/hr)	Converted Hydraulic Conductivity (in/hr)
Pre Soak	3.00	0.00	3.00	50.00	3.6	1.23
1	3.00	2.00	1.00	38.00	1.6	0.54
2	3.00	2.00	1.00	42.50	1.4	0.48
3	3.00	2.00	1.00	43.00	1.4	0.48
4	3.00	2.00	1.00	43.00	1.4	0.48
5						
6						
7						
8						
9						
10						
				Hydraulic Conductivity (in/hr)		0.48

INF-3

Project: Coriell Institute Headquarters	Project Number: SCHER22001	Date: 02/16/2023
Location: 1300 Walnut Street, Camden, NJ	Test Location: TP-3	Testing Depth (ft): 5.0
Test Performed By: T. Hall	Ring Seating Depth (in): 3	Ring Diameter (in): 6
Ground Surface Elev. 16.3		Testing Elev. 11.3
Test Soil Strat: F/M/C Sand, some Silt		
Limiting Zones: Not Encountered		

Trial #	Initial Water Height (in.)	Final Water Height (in.)	ΔHeight (in.)	ΔTime (min)	Infiltration Rate (in/hr)	Converted Hydraulic Conductivity (in/hr)
Pre Soak	3.00	0.00	3.00	10.50	17.1	5.87
1	3.00	2.00	1.00	4.00	15.0	5.14
2	3.00	2.00	1.00	4.00	15.0	5.14
3	3.00	2.00	1.00	5.50	10.9	3.74
4	3.00	2.00	1.00	5.50	10.9	3.74
5						
6						
7						
8						
9						
10						
				Hydraulic Conductivity (in/hr)		3.74

INF-4

Project: Coriell Institute Headquarters	Project Number: SCHER22001	Date: 02/16/2023
Location: 1300 Walnut Street, Camden, NJ	Test Location: TP-4	Testing Depth (ft): 5.0
Test Performed By: T. Hall	Ring Seating Depth (in): 3	Ring Diameter (in): 6
Ground Surface Elev. 16.5		Testing Elev. 11.5
Test Soil Strat: Fine Sand, trace Silt		
Limiting Zones: Not Encountered		

Trial #	Initial Water Height (in.)	Final Water Height (in.)	ΔHeight (in.)	ΔTime (min)	Infiltration Rate (in/hr)	Converted Hydraulic Conductivity (in/hr)
Pre Soak	3.00	0.33	2.67	60.00	2.7	0.91
1	3.00	2.00	1.00	23.50	2.6	0.87
2	3.00	2.00	1.00	24.00	2.5	0.86
3	3.00	2.00	1.00	24.00	2.5	0.86
4	3.00	2.00	1.00	24.00	2.5	0.86
5						
6						
7						
8						
9						
10						
				Hydraulic Conductivity (in/hr)		0.86

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Proposed Coriell Institute Headquarters
1300-1321 Walnut Street
Camden, Camden City, NJ 08103

Prepared For:

Trevor Harris
Scheer Partners
15245 Shady Grove Road, Suite 210
Rockville, MD 20850

Prepared By:

Pennoni Associates Inc.
515 Grove Street
515 Grove St, Suite 1B
Haddon Heights, NJ 08035

Philip Matranga
Associate Environmental Scientist

Andrew Zjawin
Division Manager

Project No. SCHER22001

June 20, 2022

EXECUTIVE SUMMARY

On behalf of Scheer Partners ("Client" or "User"), Pennoni has performed a Phase I Environmental Site Assessment (ESA) of Vacant, located at 1300-1321 Walnut Street, Camden, NJ (subject property or site). The subject property consists of an approximate 4.63, with buildings observed on both parcels. The buildings located on the 1300 Walnut Street Parcel, also known as the western parcel, were constructed prior to 1885 but renovated over past century. The 1321 Walnut Street Parcel, also known as the eastern parcel, was first developed with structures around the turn of the century; however the existing structure was constructed similar to it's present day layout in the 1970's. The subject property is identified as Block 367, Lot 1 & Block 366, Lot 2 of Camden.

Pennoni conducted the ESA in general conformance with the scope and limitations of the ASTM International (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-21. ASTM E 1527-21 is a voluntary consensus standard that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." The procedures included in the ASTM E 1527-21 standard comply with the United States Environmental Protection Agency (USEPA) 40 CFR Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule.

The purpose of the Phase I ESA was to identify **RECs, CRECs, HRECs,** and **BERs** in connection with the subject property. To identify **RECs, CRECs, HRECs,** and **BERs** in connection with the subject property, Pennoni's Phase I ESA included a review of historical site documents (e.g. aerial photographs, maps, etc.); a site reconnaissance; interviews with available site representatives; review of available regulatory records held by local, state, and federal agencies; a review of information provided by the User (i.e., the party seeking to complete an ESA of the subject property); and preparation of a report presenting Pennoni's findings, opinions, conclusions, and supporting documentation. The Phase I ESA for the subject property did not include any testing or sampling of materials (e.g., soil, water, air, building materials).

Pennoni has drawn the following conclusions regarding **RECs**, **CRECs**, **HRECs**, and **BERs** relative to the Site based on the ESA investigations documented herein.

This assessment has identified the following RECs, HRECs, and BERs in connection with the Subject Property:

1300 WALNUT STREET PROPERTY

- **REC: Historic Site Activities**
- **REC: Vicinity Properties of Potential Concern**
- **HREC: Former Site Remediation Program (SRP) Case PI# G000003889**

1321 WALNUT STREET PROPERTY

- **REC: Historic Site Activities / Former Machine Shop / Former Automotive Repair**
- **REC: Former Underground Storage Tanks**
- **REC: Former Rail Lines**

- **REC: Former Coal Storage Yard**
- **HREC: Former Site Remediation Program (SRP) Case PI# 20847**

<u>Subject Property Shared Findings:</u>

- **BER: Potential Industrial Site Recovery Act (ISRA) Compliance**
- **Significant Data Gaps**

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1.0 INTRODUCTION

Pennoni conducted this ESA in general conformance with the scope and limitations of the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-21. The procedures included in the ASTM E 1527-21 standard comply with the USEPA 40 CFR Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule.

ASTM E 1527-21 is a voluntary consensus standard that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." The ASTM practice is intended to permit a User (i.e., the party seeking to complete an ESA of the subject property, in this case, Scheer Partners), to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) liability (i.e., landowner liability protections or LLPs). The practice does not address whether requirements in addition to all appropriate inquiry have been met in order to qualify for LLPs (e.g., continuing obligations not to impede the integrity and effectiveness of activity and use limitations (AULs), the duty to take reasonable steps to prevent releases, or the duty to comply with legally required release reporting obligations).

ASTM E 1527-21 does not include any testing or sampling of materials (e.g., soil, water, air, building materials).

This report presents the findings, opinions, and conclusions, and supporting documentation for the ESA of the subject property, completed by Pennoni as of the date of this report. Information made available to Pennoni after this date, which would change the conclusions of this report, will be forwarded upon receipt.

1.1 Purpose

The purpose of the ESA was to identify recognized environmental conditions (**RECs**), controlled recognized environmental conditions (**CRECs**), historical recognized environmental conditions (**HRECs**), and business environmental risks (**BERs**) in connection with the subject property. A **REC** is defined as: (1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment. A *de minimis* condition is not a **REC**. A **CREC** is defined as a **REC** affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations). An **HREC** is defined as a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established

by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations). An **HREC** is not a **REC**. A **BER** is defined as a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of commercial real estate, not necessarily related to those environmental issues required to be investigated in this practice. Consideration of **BER** issues may involve addressing one or more non-scope considerations.

1.2 Scope of Work

This ESA for the subject property included a review of historical site documents; site reconnaissance; interviews with available site representatives; interviews with local, state, and federal government officials; review of information provided by the User; and preparation of this report presenting Pennoni's findings, opinions, conclusions and supporting documentation, as referenced in our Proposal # SCHER22001P, dated May 13, 2022.

The environmental professionals responsible for the preparation of this report have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. The report was reviewed by Andrew Zjawin, Division Manager of Pennoni, who was supported by various staff, including Philip Matranga, Associate Environmental Scientist, also with Pennoni. Andrew Zjawin meets the definition of an "Environmental Professional" as defined in the ASTM standard and AAI regulation. The Environmental Professional Statement and Signature are presented in Section 12.0. The Environmental Professional's qualifications are provided in Appendix E.

1.3 User Reliance

This report and findings, conclusions, and recommendations contained herein, are furnished for the sole use and benefit of the Client to aid in understanding the environmental condition and potential liabilities of the subject property. This report may not be assigned, quoted, reproduced, relied upon, or otherwise used without the express prior written consent of Pennoni.

All documents prepared by Pennoni Associates Inc. are the instruments of service in respect of the project. They are not intended or represented to be suitable for reuse by owner or others on extensions of the project or on any other project.

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2.0 SUBJECT PROPERTY DESCRIPTION

The following tables provide a description of the subject property including its location, general characteristics, and current use. Current uses of adjoining properties and properties in the surrounding area are also described below.

Copies of the topographic and tax maps depicting the subject property are included in Figures Appendix.

2.1 Subject Property Location and Legal Description

The following table summarizes the site location and legal description.

Property Location and Legal Description	
Site Address	1300-1321 Walnut Street
Site City	Camden
Site County	Camden County
Site State	NJ
Quadrangle	Camden, NJ
Site Coordinates	-75.10644391° longitude and 39.93667901° latitude
Parcel ID's / Parcel Viewer	Block 367, Lot 1,2 & Block 366, Lot 2; Camden County Open Data Portal

2.2 Subject Property Characteristics

The following table summarizes the general characteristics of the subject property, including its current use and a description of structures, roads, and other improvements (i.e., heating/cooling system, sewage disposal, source of potable water, etc.) on the subject property.

Subject Property Characteristics	
Current Use of the Subject Property	
Site Acreage	4.63
Site Occupant	Vacant
Site Structures - 1300 Walnut Street	
Number of Stories	1-3
Total Building Footprint Square Footage	105,000 sq ft
Current Use	Vacant
Construction Date	prior to 1885
Type of Heating	None
Type of Cooling	None
Site Structures - 1321 Walnut Street	
Number of Stories	1
Total Building Footprint Square Footage	25,000 sq ft
Current Use	Vacant
Construction Date	1950-1957
Type of Heating	Oil Fired Boiler / HVAC
Type of Cooling	HVAC
Site Utilities	
Sanitary Sewer Provider	City of Camden
Water Service Provider	City of Camden

Subject Property Characteristics	
Electric Provider	Public Service Electric and Gas
Natural Gas Provider	Public Service Electric and Gas

2.3 Current Uses of Adjoining Properties and Properties in the Surrounding Area

Adjoining properties, and properties and roads in the area surrounding the subject property, are identified below.

Current Uses of Adjoining and Surrounding Properties	
Direction	**Current Use**
North	Vacant lot & Commercial powder coating and spray painting
East	Walnut Street with residential homes and vacant commercial structure.
South	Princess Ave Auto Shop and residential homes along Walnut Street
West	Memorial Avenue and vacant commercial structures.

3.0 USER PROVIDED INFORMATION

A User Questionnaire was provided to Scheer Partners, the User, on June 15, 2022. No User Questionnaire was returned to Pennoni at the time of this report. Any response which alters the findings of this report shall be forwarded upon receipt.

User Provider Information			
Chain of Title Information	No	No	
Environmental Liens and/or Activity and Use Limitations	No	No	
Specialized Knowledge or Experience of the User	No	No	
Actual User Knowledge	No	No	
Valuation Reduction for Environmental Issues	No	No	
Commonly Known or Reasonably Ascertainable Information	No	No	
Purpose of the ESA/PA	No	No	

4.0 PHYSICAL SETTING

Physical Setting	
Item	**Description**
Topography/Regional Drainage	
Source(s)	Camden, NJ 7.5-minute USGS Topographic Map
Elevation	17 feet above mean sea level
Regional Drainage	Regionally, the area is drained by various creeks and streams and more precisely by Cooper River located approximately 500 feet to the north of the site.
Water Migratory Pathways	Local topography slopes to the south. Surface water and groundwater, therefore, are expected to migrate from the properties located to the north. Storm drainage and surface water flow is expected to drain into stormwater inlets located on the street and overland flow offsite.
Soils	
Source	United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) *Web Soil Survey*
Soil Type(s)	A review of ERIS revealed that soils present on the subject property consist of Urban Land (UR). The Urban Land Complex consists of nearly level to moderately steep areas where the soils have been altered or obscured by urban works and structures. Buildings and pavement cover more than 85 percent of the surface.
Underlying Formation	
Source	New Jersey Geological Survey's *Physiographic Provinces of New Jersey*
Description	The subject property lies within the Costal Plain Physiographic Province. Atlantic Coastal Plain Physiographic Province, which consists of unconsolidated to poorly consolidated sand and gravel, which are underlain by highly folded and faulted schist, gneiss and other metamorphic rock.
Groundwater	
Groundwater Flow Direction	Groundwater is expected to flow to the south, parallel to the surface gradient. Deep groundwater would be expected in the joints and fractures of the underlying formation. In order to further determine groundwater conditions on the subject property, however, a property-specific hydrogeologic investigation would be necessary.

5.0 HISTORICAL RECORDS

The purpose of consulting historical records is to develop a history of the previous uses of the subject property and surrounding area in order to help identify the likelihood of past uses having led to **RECs** in connection with the subject property.

ASTM E 1527-21 arequires identification of obvious uses of the subject property from the present, back to the subject property's first developed use (including agricultural uses and placement of fill dirt), or back to 1940, whichever is earlier. As such, Pennoni reviewed as many of the standard historical sources (i.e., aerial photographs, fire insurance maps, property tax files, recorded land title records, USGS topographic maps, local street directories, building department records, zoning/land use records, etc.) as were necessary and both reasonably ascertainable and practically reviewable (i.e., publicly available, obtainable from its source within reasonable time and cost constraints). In addition, the historical sources must be determined to be sufficiently useful by the environmental professional.

Historical Resource	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020
Historic Maps	✔	✔	✔			✔		✔	✔				
Historical Aerial Photographs				✔		✔	✔	✔	✔	✔	✔	✔	
Historic Topographic Maps					✔		✔	✔	✔	✔		✔	
City Directories			✔	✔	✔			✔	✔	✔	✔	✔	✔

5.1 Historical Summary

According to previous reports, Richard Henry Reeve established Camden Oil Cloth Works with his cousin Benjamin C Reeve by 1868 and the first two buildings, designated as building Number 1 and Number 2, were constructed 1870. Based on a review of the historic maps, as early as 1885, 1300 Walnut Street was occupied by RH. & B.C. Reeve Camden Oil Cloth Works and 1321 Walnut Street was occupied by a log house, a log storage building and a smaller shed. Approximately six buildings were located on the 1300 Walnut Street property in 1885. The site structures were labeled for the storage of oil (building on the northern portion of the subject property), printing (building in the center of the subject property) and drying (each of the buildings except the northern one). By 1906, the subject property is occupied by Farr and Bailey Manufacturing Company, who were also manufacturers of oil cloth. A number of Camden Oil Cloth Works structures have been

either demolished or had additions added by this time. By 1926, the subject property is utilized by multiple tenants including, Himmelein & Bailey Inc.; Manufactures of Leather Belting, Camden Carpet Cleaning Works, Suburban Laundry Co, ACME Boiler & Iron Works, and a vacant warehouse known as C. A. Reynolds. Two gasoline tanks are now depicted on the 1321 Walnut St property along with 2 structures labeled Auto Trucks and one labeled Auto Trucks storage. Rail spurs are now visible entering both subject property parcels from Pine Street to the north. By 1950, The Shingle Leather Co. occupies the 1300 Walnut Street parcel while the eastern parcel is occupied by Camden Lime Co. and has expanded on the western most structure with addition of a machine shop. By 1977, both parcels have slightly expanded toward Walnut Street with additions to their structures. By 1982, the western parcel is identified as V. Ponte & Sons Waste Removal Corporation, however the actual operations are not shown. Based on the City Directory, the subject property was also utilized for leather manufacturing, handbag manufacturing, die cutting, cleaning chemical manufacturing, and other unknown but likely commercial / industrial uses between the 1970's and 2000's. The subject property structures on 1300 Walnut Street have been vacant and out of use since at least 2017 while the 1321 Walnut Street property was last operated by Lerro Chemical / Products. Lerro Products is also identified in the database search as a pesticide producer. During the site inspection, chemical products stored mostly in plastic closed top 55-drums were observed throughout the warehouse / loading docks and were reportedly in the process of being removed by the former operator.

Based on the historic review, multiple **RECs, HRECs, and BERs** have been identified in connection with the subject property as follows:

REC: Historical Manufacturing and Commercial Activities at 1300-1320 Walnut Street

The western portion of the subject property was used for manufacturing of oil cloth floors between the 1870's and 1920's, mixed commercial / manufacturing uses between the 1920's and 1970's including leather belting manufacturing, carpet cleaning, laundry cleaning, machine shops, and a Boiler & Iron Works. By the 1970's and 1980's, the western portion of the site was again occupied by multiple tenants with operations ranging from commercial roofers, handbag makers, specialty leather products, die making, and other commercial / industrial uses such as recycling operations by Warehouse Associates

The eastern parcel was utilized since the late 1800's for log storage. By the 1920's until the 1970's, the site was developed with structures for automotive truck storage and likely repair. The site was also the location of a coal yard, Camden Coal, with coal storage shown on the southwestern corner of the eastern parcel along Walnut Street. The eastern parcel further expanded with a warehouse and loading dock in the 1980's similar to its present day configuration. More recent site operations included warehousing and manufacture of commercial cleaning products including but not limited to pesticide manufacturing by Lerro Products.

Oil cloth manufacturing operations at the subject property included but were not limited to the use of gasoline tanks, gasoline piping, benzene storage, oil boiling, oil storage / use / drying, printing / painting, and other activities. Other site uses such as carpet cleaning and laundry cleaning are known historically to utilize chlorinated solvents. Based on the database search, the subject

property former tenants are also identified as a pesticide producer and a recycling center. According to the City Directory, other site uses included but aren't limited to printing, die making, handbag manufacturing, commercial roofing, cleaning chemical manufacturing and other industrial / commercial uses.

The use, storage, and disposal practices of the potentially hazardous materials utilized in the various manufacturing and commercial activities throughout the sites extensive developed history is unknown. Accordingly, the historic site activities documented on the subject property, collectively, is considered a **REC** in connection with the subject property.

Former NJDEP Site Remediation Program (SRP) cases exist for each of the site parcels based on the database report and available online NJDEP records. Each of the existing cases were issued No Further Action (NFA) by the NJDEP, and as such, are identified as **HRECs** in connection with the subject property.

The previous industrial / manufacturing site uses, although not confirmed, may be subject to NJDEP's Industrial Site Recovery Act (ISRA) obligations for remediation. Accordingly, the potential ISRA obligations associated with the former uses is identified as **BER** in connection with the subject property.

5.2 Historic Maps

Available Sanborn Fire Insurance Maps were obtained from ERIS to determine past uses and conditions of the subject property. Sanborn Fire Insurance maps for the subject property were reviewed for the years 1885, 1891, 1906, 1917, 1923, 1926, 1950, 1977, and 1982. Copies of the historical maps reviewed by Pennoni are included in Appendix B. The following is a brief narrative of the historical map review.

Fire Insurance Maps	
Year(s)	**Description**
1885	1300 Walnut Street is improved with six structures operated by RH. & B.C. Reeve Camden Oil Cloth Works. The northern most building is located divided by the subject property line and is the engine room. The four remaining structures are identified as drying rooms, and The eastern most structure is labeled drying, 1321 Walnut Street is occupied by a log house, a log storage building and a smaller shed. Adjoining the site to the north are three structures part of the Camden Oil Cloth Works including an oil storage structure. Sites to the south and west are vacant fields.

Fire Insurance Maps	
Year(s)	**Description**
1891	A “gasoline well” with a capacity of 1,800-gallons and a pipe which lead to south of building Number 5 is depicted on the southwest corner of the subject property. A benzene storage shed is now also depicted centrally between the Dry Room and Printing / Dry Room structures on the western parcel. The northernmost structure is labeled "oil storage". A small structure has also been added along Walnut Street on the western parcel. The log storage area of the eastern parcel along Pine Street has expanded west while the remainder of the parcel remains vacant. No other changes to surrounding vicinity noted.
1906	Separate rail spurs are now visible entering the western and eastern parcels. A residential home is depicted at 1321 Walnut Street. The eastern parcel is now improved with a wagon shed in place of the lumber storage. The western parcel is now occupied by Farr and Bailey Manufacturing Company, manufacturers of oil cloth. The former Camden Oil Cloth Works site appears to have been redeveloped with former buildings removed and replaced or renovated. Structures are identified as follows: 59/ 64: drying rooms; 59: engine room, coating room, printing machine room; 66: printing machines, block storage; 57A: not labeled; 57: not labeled; 60: Linseed Oil and Oxidizing; 61: vacant storage. A coal pit is depicted on the northern portion of the property to the east of the structure. Two possible linseed oil tanks are shown on the southwest corner of the site; however, the description is not clear. An 8,000-gallon water tank is located on a tower in the center of the property. A 150,000-gallon reservoir is present in the basement of the central building located off-site adjacent to the north. Two storage areas which are unclear from the map are also shown on the southwest corner of the subject property in the location of the "gasoline well".
1917	The subject property and adjoining sites are not depicted on this sanborn map.
1923	The subject property and adjoining sites are not depicted on this sanborn map.
1926	The subject property is now occupied by Himmelein & Bailey Inc.; Manufactures of Leather Belting, Camden Carpet Cleaning Works, Suburban Laundry Co, ACME Boiler & Iron Works, and a warehouse labeled C. A. Reynolds. Two gasoline tanks are now depicted on the 1321 Walnut St property along with 2 structures labeled Auto Trucks and one labeled Auto Trucks storage. Residential structures are now improved to the south along Walnut Street. Site to the north is now occupied by South Jersey Warehouse Co.

Fire Insurance Maps	
Year(s)	**Description**
1950	1300 Walnut is now occupied by The Shingle Leather Co. A machine shop is now located within the building formerly labeled 59. A coal yard is now depicted on the southwest corner of the 1321 Walnut Street parcel along with a "wooden trestle" situated parallel to Walnut Street. An auto repair and machine shop have been added to the site with a structure located on the northwest corner of the 1321 Walnut Street parcel. The site is labeled Camden Lime Co. The site to the north is now the South Jersey Warehouse Co. Commercial structures have been added to the adjacent west of the site along Memorial Ave.
1977	A new building appears labeled as furniture storage in the northwest corner of the 1321 Walnut Street parcel. A motor station appears south of this new building. In addition, the coal yard no longer appears and the rail lines only appear on the northeast corner. On the 1300 Walnut Street parcel a new machine shop appears on the western portion of the property. The two large manufacturing building on the western portion of the subject property now appear connected. The connecting room is labeled shipping and sorting room. The shipping room on the western side of the main manufacturing building is now labeled buffing. Abbey Paper Stock Co. is now located adjacent north of the subject property.
1982	No major changes to the subject property or vicinity were observed from the previous sanborn map with exception to the 1300 Walnut location which is now occupied by V. Ponte & Sons Waste Removal.

5.3 Historical Aerial Photographs

Available aerial photographs were obtained from ERIS, to determine past uses and conditions of the subject property. Aerial photographs were reviewed for the years (1930, 1931, 1957, 1959, 1965, 1970, 1973, 1981, 1988, 1990, 1995, 2004, 2006, 2008, 2010, 2013, 2015, 2017, and 2019), with scales of 1"=500'. Copies of the aerial photographs reviewed by Pennoni are included in Appendix B. The following table is a summary of the aerial photographs reviewed:

Historical Aerial Photographs	
Year(s)	**Description**
1930	A large structure appears in the center of the subject property. Other small warehouse structures appear around the main building. Other warehouse type structures appear in the northeast corner of the subject property. Directly north of the subject property multiple structures appear on the same parcel. The surrounding area is mostly developed with residential properties; however, some of the parcels appear vacant. The Delaware River appears north of the subject property. Roads appear north, west, and southeast of the subject property.

Historical Aerial Photographs	
Year(s)	**Description**
1931	No changes to the subject property or surrounding area were observed from the previous aerial photograph.
1957	The quality of the map is poor; therefore, no distinctive information for the subject property can be provided.
1959	Another structure appears in the northeast corner of the subject property. No other changes to the surrounding area appear from the previous aerial photograph.
1965	Commercial properties appear north of the subject property. No other changes to the subject property appear from the previous aerial photograph.
1970	The quality of the map is poor; therefore, no distinctive information for the subject property can be provided.
1973	No changes to the surrounding area or subject property were observed from the previous aerial photograph.
1981-1988	The quality of the map is poor; therefore, no distinctive information for the subject property can be provided.
1990-2019	No changes to the surrounding area or subject property were observed from the previous aerial photograph.

5.4 Property Tax Files

The subject property was identified as a portion of tax parcel Block 367, Lot 1 & Block 366, Lot 2. Pennoni obtained a current tax map for the subject property from the Camden County Tax Map; a copy of the tax map is included in Appendix A.

5.5 Recorded Land Title Records

According to a Title Report for 1300 Walnut Parcel, the site is owned by 1300 Walnut Road, LLC, a New Jersey limited liability company, by Deed from Warehousing Associates, a Pennsylvania partnership, dated January 2, 2019 and recorded in the office of the Clerk/Register of Camden County, New Jersey on January 22, 2019 in Book OR 11056, Page 720. A copy of the title report is provided in supporting documents.

5.6 Historical Topographical Maps

Pennoni obtained historic topographical maps from ERIS to review past uses and activities associated with the subject property. Historic topographical maps for Camden, NJ quadrangle, which includes the subject property, were reviewed for the years (2019, 2016, 2014, 1995, 1994, 1984, 1973, 1967, 1949, 1943, 1920, 1898, 1896, 1894, & 1891).

Upon review, the elevation contours and surface feature previously noted were confirmed. Also, to a lesser extent, the topographical maps depict the buildings and structures that have already been noted in the aerial photograph reviews and historical map review. No features or conditions considered materially significant for the purposes of this review were noted in historic topographical maps.

Copies of the historical topographical maps reviewed by Pennoni are included in the Figures Appendix.

5.7 Local Street Directories

A local street directory was obtained from ERIS to review past uses and activities associated with the subject property. Pennoni reviewed city directories for the years (1926, 1931, 1943, 1971, 1976, 1980, 1985, 1990, 1995, 2000, 2003, 2008, 2012, 2016, and 2020).

According to the Directory, various occupants were identified during the years (1926-2020) for the subject property. The 1300 Walnut Street Property is listed under the name Acme Boiler & Iron Works (1926), Camden Carret Clng Works (1931), Himmelein & Bailey Inc. Belting (1931-1943, 1985-1990), 1 X L Damp Wasy Indry (1931), Alexander Belting (1971), A & W Industries (1971), Baldt F W (1971), Graton & Knight CD (1971), Himmelein & Hailey (1971), Schieren Charles A (1971), Shingle L H (1971), Special Leathers (1971), The Specl Leathers (1971), Ambassador Florng (1976), Baron Maintenance (1976), Carilo Leathr Prod (1976-1980), Container Inspectn (1976), Passios Handbags (1976), M L Tallman Co (1976), ERH Die Cutting (1980-2008), Jersey Roofing (1980), P S Creations (1980), Sterlng Trnsman (1980), A & W Industries (1985), Special Leathrs Co. (1985-1990), Fast Doors Inc. (1990), Prints on Tap (1995), Nubian Designs (2008-2016), Warehousing Assocaites (2008-2016), and Ruggiero Anthony (2016-2020).

The 1321/1361 Walnut Street Property is listed under the name Johnson Jos S (1926-1931), North Camden Coal Co. (1943), Kirby and Kirby Garage (1971), Budd Plywood (1980-1985), Amer Red Cross Fd (1990), Food Bank S Jersey (1995), Food Bank of South Jersey (2000), JDL Enterprises (2012), RJL International LLC (2012), and Lerro Products (2016).

The occupants identified in the Directory do appear to be of any adverse environmental impact to the subject property based on their typical known uses and practices. Accordingly, the above historic industrial and commercial uses and extensive site history are identified as **REC** in connection with the subject property.

Copies of the local street directories reviewed by Pennoni are included in Appendix B.

5.8 Previous Environmental Reports

Phase I ESA, 1300 Walnut Street, Camden, NJ prepared by Property Solutions of Moorestown, NJ, dated May 21, 2021

Property Solutions conducted an ASTM Phase I ESA of the 1300 Walnut Street parcel (western portion of subject property) and identified the following REC in connection with the site:

REC (1) Due to the extensive history of manufacturing operations at the subject property, Property Solutions recommends further investigation. Property Solutions recommends conducting a file review of NJDEP to further assess the potential for vapor encroachment at the subject property due to the known groundwater contamination at the subject property and at east adjoining property, 1361 Walnut Street.

Property Solutions also identified ASTM non-scope considerations at the site consisting of potential asbestos containing materials (ACMs), lead based paints (LBPs), water intrusion, and general HAZMAT debris / containers. They also noted the property is in a derelict condition. Property Solutions recommended that prior to reconstruction or demolition activities that a comprehensive hazardous material, lead, and asbestos survey be conducted in accordance with applicable regulations. Identified materials should be gathered and properly disposed of. Lead hazards and ACMs should be abated in accordance with applicable regulations prior to renovation or demolition activities. Due to the extensive moisture damage, moisture intrusion should be addressed as an engineering issue and impacted materials be replaced as appropriate.

Based on the previous environmental report reviewed, Pennoni has identified the following in connection with the subject property:

Former manufacturing activities at the 1300 Walnut Street parcel are considered a **REC** in connection with the site. Additionally, the 1361 Walnut Street groundwater contamination, aka 1321 Walnut Street, is also identified as a **REC** in connection with the site.

Pennoni's further review of documents revealed that the 1361 Walnut Street environmental case received an NFA from the NJDEP; and as such, is considered an **HREC** in connection with the subject property.

6.0 REGULATORY AGENCY RECORDS REVIEW

As part of the ESA for the subject property, Pennoni reviewed both standard and additional environmental record sources for the subject property and surrounding area. Our environmental records review consisted of a review of the following:

- the Environmental Risk Information Services Report for the subject property provided by ERIS
- information requested from the USEPA
- information requested from the New Jersey Department of Environmental Protection (NJDEP).
- information requested from Camden County and Camden

6.1 Standard Environmental Record Sources, Federal and State

Pennoni contracted the services of ERIS to search both state and federal environmental databases to identify potential concerns that may be associated with either the subject site and/or surrounding properties. The ERIS Report provided listings, accompanied by a map, of facilities and operations with reported environmental concerns within the ASTM E 1527-21 specified search radius around the subject property.

The federal databases searched by the ERIS Report included the following:

- Federal National Priorities List (NPL) site list;
- Federal Delisted NPL site list;
- Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list;
- Federal CERCLIS No Further Remedial Action Planned (NFRAP) site list;
- Federal Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACTS) facilities list;
- Federal Treatment, Storage, and Disposal (RCRA TSD) facilities list;
- Federal RCRA (RCRA GEN) generators list;
- Federal Institutional Control/Engineering Control (IC/EC) registries; and
- Federal Emergency Response Notification System (ERNS) list.

The ERIS Report also searched the following state database files:

- State Hazardous Waste Sites (SHWS) list;
- State Solid Waste Facility/Landfill (SWF/LF) site list;
- State Leaking Underground Storage Tank (LUST) site list;

- State Registered Underground and Aboveground Storage Tank (REG UST/AST) site list;
- State Institutional Control/Engineering Control (IC/EC) registries;
- State Voluntary Cleanup Program (VCP) sites list; and
- State Brownfields sites list.

The ERIS Report is presented in Appendix B. Complete listings and descriptions of the each of the databases search are included in the ERIS Report.

Regulatory Report Summary

Database	Search Radius	Target Property	Within 0.12mi	0.12mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
SUPERFUND ROD	1.0	0	0	0	0	1	1
SWF/LF	0.5	0	1	0	0	-	1
UST	0.25	1	6	7	-	-	14
UST REM	0.5	0	0	2	12	-	14
VCP	0.5	0	0	3	5	-	8
AFS	0.02	0	1	-	-	-	1
ALL SITES	0.25	3	51	59	-	-	113
BROWNFIELDS	0.5	0	3	3	20	-	26
CEA	0.5	0	2	3	8	-	13
CERCLIS	0.5	0	1	3	4	-	8
CERCLIS NFRAP	0.5	0	0	1	2	-	3
DEED	0.5	0	2	1	4	-	7
DELISTSTR	0.5	0	2	1	3	-	6
DELISTED LST	0.5	0	1	0	4	-	5

Database	Search Radius	Target Property	Within 0.12mi	0.12mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DELISTED SRP	0.5	0	2	2	2	-	6
DELISTED TNK	0.25	0	0	1	-	-	1
DSHW	1.0	0	0	1	6	29	36
ERNS	0.02	0	1	-	-	-	1
FED BROWNFIELDS	0.5	0	0	0	7	-	7
FINDS/ FRS	0.02	4	11	-	-	-	15
FUDS	1.0	0	1	0	0	1	2
HIS SPILL	0.125	0	15	-	-	-	15
HIST FILL	0.25	0	3	3	-	-	6
HIST LUST	0.5	1	1	2	14	-	18
HIST MLTS	0.02	0	1	-	-	-	1
ICIS	0.02	1	1	-	-	-	2
ISRA	0.5	0	6	3	7	-	16
LUST	0.5	0	3	3	12	-	18
MAJOR FAC	0.5	0	1	0	4	-	5
NJEMS	0.25	3	38	35	1	-	77
NPL	1.0	0	0	0	0	2	2
PUB FUNDED	1.0	0	0	0	0	3	3

Database	Search Radius	Target Property	Within 0.12mi	0.12mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
RCRA CORRACTS	1.0	0	1	0	0	2	3
RCRA LQG	0.25	0	0	1	-	-	1
RCRA NON GEN	0.25	1	5	3	-	-	9
RCRA SQG	0.25	0	0	1	-	-	1
RCRA TSD	0.5	0	0	0	3	-	3
RCRA VSQG	0.25	0	0	1	-	-	1
RE EVAL	1.0	0	0	1	1	3	5
SEMS	0.5	0	1	1	2	-	4
SEMS ARCHIVE	0.5	0	1	0	2	-	3
SHWS	1.0	1	8	13	39	125	186
SITE REMEDIATION	0.5	1	12	18	57	-	88
SPILLS	0.125	1	11	-	-	-	12
SSTS	0.25	2	0	0	-	-	2

6.1.1 Subject Property

The subject property was identified as a HIST LUST, RCRA NON-GEN, SHWS, UST, FIND/FRS, NJEMS, SITE REMEDIATION, ALL SITES, SPILLS, ICIS, SSTS site by the ERIS Report.

According to the ERIS Report, a historic leaking underground storage tank was reported in July 1991 and a 1,000-gallon leaded gasoline UST was removed / closed in September 1991. The NJDEP SHWS listing identified the 1361 Walnut Street address as PI Number 20847 with a status as

"Closed Sites with Remediated Contamination". No RCRA violations or other compliance / enforcement violations associated with 1361 Walnut Street were revealed by the database listings. Review of NJDEP Dataminer confirmed that PI 20847 was issued a No Further Action - Unrestricted Use - (NFA) for case number 91-07-17-1549-53. Comm Center No: 11-09-14-1444-45 was reported by a caller that reported a tire shop is taking in scrap tires and banding them up to be shipped out without a permit. Based on the regulatory status, no adverse impacts to the subject property are expected from case number 11-09-14-1444-45. Accordingly, the closure and remediation of the former 1,000-gallon leaded gasoline UST and associated spill case number 91-07-17-1549-53 is an **HREC** in connection with the subject property.

Listings for 1300 Walnut Street are listed in the vicinity properties list. The property is identified as NJDEP PI Number
G000003889 as WAREHOUSING ASSOCIATES with Closed Sites with Remediated Contamination. Review of NJDEP Dataminer revealed that a historic NFA was issued for the PI Number on November 20, 1992. Accordingly, the remediation associated with NJDEP PI G000003889, WAREHOUSING ASSOCIATES, is considered an **HREC** in connection with the subject property.

Spill Case No: 88-01-21-0932 Dt Received: 21-JAN-88 was reported at 1300 Walnut Street for abandoned containers. The contents, location and size of the containers is unknown. The status of the spill is unknown. Accordingly, this spill record is a **REC** in connection with the subject property, included as part of REC-1 identified above.

Target Property Summary

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HIST LUST		1361 WALNUT ST, CAMDEN, NJ,	0.00/ESE	-1.0	Case No: 91-7-17-1549 -53 reported 17-JUL-91 by FOOD BANK OF SOUTH J.

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
RCRA NON GEN	FOOD BANK OF SOUTH JERSEY	1361 WALNUT ST, CAMDEN, NJ, 08103-2752	0.00/ESE	-1.0	As of Apr 2022, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID)
SHWS	FOOD BANK OF SOUTH JERSEY	1361 WALNUT ST, Camden City, NJ,	0.00/ESE	-1.0	PI No: 20847 case status is listed as Closed Sites with Remediated Contaminatio n.
UST	FOOD BANK OF SOUTH JERSEY	1361 WALNUT ST, Camden City, NJ, 8103	0.00/ESE	-1.0	A 1,000-gallon leaded gasoline UST was registered removed 18-Sep-1991
FINDS/FRS	UNITED WAY OF CAMDEN COUNTY	1361 WALNUT STREET, CAMDEN, NJ, 08103-2752	0.00/ESE	-1.0	Registry ID: 110004226043
NJEMS	UNITED WAY OF CAMDEN CNTY	1361 WALNUT ST, CAMDEN, NJ, 08103	0.00/ESE	-1.0	See ERIS Report
SITE REMEDIATIO N	FOOD BANK OF SOUTH JERSEY	1361 WALNUT ST, Camden City, NJ, 08103	0.00/ESE	-1.0	Site ID: 53069 PI ID: 020847 Type: SRP-PI Program: Site Remediation

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	UNITED WAY	1361 WALNUT ST, Camden City, NJ, 08103	0.00/ESE	-1.0	Site ID: 53069 PI ID: NJD986610921 Type: HW GENERATOR
FINDS/FRS	CRANE INTERNATIONAL CORP	1321 WALNUT ST, CAMDEN, NJ, 08103	0.00/ENE	-3.0	Registry ID: 110057034490
SPILLS		1321 WALNUT ST, Camden City, NJ, 08101	0.00/ENE	-3.0	Comm Center No: 11-09-14-1444-45 CALLER STATES THAT A TIRE SHOP IS TAKING IN SCRAP TIRES AND BANDING THEM UP TO BE SHIPPED OUT WITHOUT A PERMIT

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
FINDS/FRS	LERRO CHEMICAL CO	1321 WALNUT ST, CAMDEN CITY, NJ, 08101	0.00/ENE	-3.0	INDUSTRIAL SUPPLIES, MISCELLANEOUS RETAIL STORES, NOT ELSEWHERE CLASSIFIED, SOAP AND OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS, SPECIALTY CLEANING, POLISHING, AND SANITATION PREPARATIONS
ICIS	LERRO PRODUCTS INC.	1321 WALNUT STREET, CAMDEN, NJ, 08103	0.00/ENE	-3.0	Registry ID: 110064696137
SSTS	Products, INC.	1321 WALNUT ST -, CAMDEN, NJ, 8103	0.00/ENE	-3.0	See ERIS Report
SSTS	LERRO'S PRODUCTS INC.	1321 WALNUT ST -, CAMDEN, NJ, 8103	0.00/ENE	-3.0	The site is identified as a PESTICIDE PRODUCER
NJEMS	CRANE INTERNATIONAL CORP	1321 WALNUT ST, CAMDEN, NJ, 08103	0.00/ENE	-3.0	Site ID: 414145
ALL SITES	LERRO CHEMICAL INC	1321 WALNUT ST, Camden City, NJ, 08103	0.00/ENE	-3.0	Site ID: 36321 PI ID: 000617 Pesticide Producer

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	CRANE INTERNATIONAL LLC	1321 WALNUT ST, Camden City, NJ, 08103	0.00/ENE	-3.0	Site ID: 414145 PI ID: 519068 Recycling Center
NJEMS	LERRO CHEMICAL CO	1321 WALNUT ST, CAMDEN CITY, NJ, 08101	0.00/ENE	-3.0	Site ID: 36321

6.1.2 Vicinity Properties -- Facilities of Potential Concern

The ERIS Report identified the following facilities located adjacent to or in close proximity to the subject property:

The adjoining properties of 1240 Walnut Street, 821 Memorial Avenue, and 800 Memorial Ave were listed as NJ SHWS, NJ UST, NJ Release, and RCRA NonGen. The cases are listed with a status of closed.

The Ponte Bros Inc. site is located adjacent to the west-northwest of the subject property. According to the Environmental Risk Information Services Report, the site is listed as UST. The site has a 3000-gallon medium diesel fuel UST that was removed in 2011. Based on the regulatory status, distance and location of the site relative to the subject property, no adverse impacts to the subject property are not expected however, historic industrial activities at the site related to the former oil cloth manufacturing and other operations have been documented at the site. Accordingly, the vicinity property is considered a property of potential concern based on the distance of the site to the subject property and industrial site activities.

The BLOCK 364 LOT 2/IPAK/821 Memorial Avenue site is located adjacent to the west-northwest of the subject property. According to the Environmental Risk Information Services Report, the site is listed as SHWS, DELIST STR, UST, LUST, NJEMS, SITE REMEDIATION, and ALL SITES. The site contains one 1000-gallon medium diesel fuel UST that was removed in 2015. The site has a clean up complete listing and is not a concern. Based on the regulatory status, distance and location of the site relative to the subject property, no adverse impacts to the subject property are not expected.

The Francis Metal Fabricators site is located approximately 0.09 miles to the west of the subject property. According to the Environmental Risk Information Services Report, the site is listed as CERCLIS, BROWNFIELDS, SHWS, SEMS, NJEMS, SITE REMEDIATION, ALL SITES, and ISRA. The

site is listed with an ISRA case PI #: G000012872. Based on the regulatory status, distance and location of the site relative to the subject property, no adverse impacts to the subject property are not expected.

The NJDOT Central Gateway site is located approximately 0.13 miles to the west-northwest of the subject property. According to the Environmental Risk Information Services Report, the site is listed as a NJEMS site. The site is listed with a Site ID 382827. Based on the regulatory status, distance and location of the site relative to the subject property, no adverse impacts to the subject property are not expected.

The Campbell Soup Co. site is located 0.23 miles to the north-northwest of the subject property. According to the Environmental Risk Information Services Report, the site is listed as a RCRA SQG, UST, NJEMS, SITE REMEDIATION, ALL SITES, CEA, and SHWS. The site has a CEA that extends approximately 56 feet from ground water monitoring well MW-1. This was recalculated to be 102 feet based upon 1-4-11 data for benzene at MW-1. Based on the regulatory status, distance and location of the site relative to the subject property, adverse impacts to the subject property are not expected.

Surrounding Properties Summary

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	JONNI NORMAN TRUCKING	I-295, CAMDEN, NJ, 08101	0.00/WSW	-1.0	
FINDS/FRS	TALON MFG INC	800 MEMORIAL AVE, CAMDEN, NJ, 08103	0.01/WSW	-2.0	
FINDS/FRS	SPRAY TECH INC	800 MEMORIAL AVE, CAMDEN, NJ, 08103	0.01/WSW	-2.0	
SPILLS		800 MEMORIAL AVE, Camden City, NJ,	0.01/WSW	-2.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
RCRA NON GEN	SPRAY TECH	800 MEMORIAL AVE, CAMDEN, NJ, 08103	0.01/WSW	-2.0	
NJEMS	TALON MFG INC	800 MEMORIAL AVE, CAMDEN, NJ, 08103	0.01/WSW	-2.0	
NJEMS	SPRAY TECH INC	800 MEMORIAL AVE, CAMDEN, NJ, 08103	0.01/WSW	-2.0	
ALL SITES	SPRAY TECH	800 MEMORIAL AVE, Camden City, NJ, 08103	0.01/WSW	-2.0	
ALL SITES	TALON MFG INC	800 MEMORIAL AVE, Camden City, NJ, 08103	0.01/WSW	-2.0	
ALL SITES	PRECISION METAL COMPONENTS	800 MEMORIAL AVE, Camden City, NJ, 08103	0.01/WSW	-2.0	
ALL SITES	SPRAY TECH	800 MEMORIAL AVE, Camden City, NJ, 08103	0.01/WSW	-2.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	SPRAY TECH INC	800 MEMORIAL AVE, Camden City, NJ, 08103	0.01/WSW	-2.0	
ALL SITES	PRECISION METAL COMPONENT	800 MEMORIAL AVE, Camden City, NJ, 08103	0.01/WSW	-2.0	
ALL SITES	SPRAY TECH INC	800 MEMORIAL AVE, Camden City, NJ, 08103	0.01/WSW	-2.0	
ALL SITES	SPRAY TECH	800 MEMORIAL AVE, Camden City, NJ, 08103	0.01/WSW	-2.0	
ALL SITES	SPRAY TECH	800 MEMORIAL AVE, Camden City, NJ, 08103	0.01/WSW	-2.0	
UST	1240 WALNUT STREET SITE	1240 WALNUT ST, Camden City, NJ, 8103	0.01/S	-2.0	
SITE REMEDIATIO N	1240 WALNUT STREET SITE	1240 WALNUT ST, AKA 919 PRINCESS ST, Camden City, NJ, 08103	0.01/S	-2.0	
HIS SPILL		1000 BLOCK EMPIRE AV, CAMDEN, NJ,	0.01/ENE	-2.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ERNS		1000 BLOCK OF EMPIRE AVE, CAMDEN, NJ,	0.01/ENE	-2.0	
HIS SPILL		1300 WALNUT ST, CAMDEN, NJ,	0.01/SE	-2	Case No: 88-01-21-0932 Dt Received: 21-JAN-88
RCRA NON GEN	WAREHOUSING ASSOCIATES	1300 WALNUT ST, CAMDEN, NJ, 08104	0.01/SE	-2.0	EPA Handler ID: NJD086423191 NO RECORDS: As of Apr 2022, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).
SHWS	WAREHOUSING ASSOCIATES	1300 WALNUT ST, Camden City, NJ,	0.01/SE	-2.0	PI No: G000003889 PI Name (Data Miner): WAREHOUSING ASSOCIATES Closed Sites with Remediated Contamination
FINDS/FRS	CRANE INTERNATIONAL	1300 WALNUT ST, CAMDEN, NJ, 08103	0.01/SE	-2.0	Registry ID: 110042215974

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
FINDS/FRS	ERH DIE CUTTING	1300 WALNUT ST, CAMDEN, NJ, 08103	0.01/SE	-2.0	Registry ID: 110031901253
FINDS/FRS	WAREHOUSING ASSOC	1300 WALNUT ST, CAMDEN, NJ, 08103-2786	0.01/SE	-2.0	Registry ID: 110004166321
HIST MLTS	CONTAINER INSPECTION CO., INC.	1300 WALNUT STREET, CAMDEN, NJ, 08103	0.01/SE	-2.0	Docket: 3011486 License No: 29-16689-01
NJEMS	ERH DIE CUTTING	1300 WALNUT ST, CAMDEN, NJ, 08103	0.01/SE	-2.0	CORRUGATED AND SOLID FIBER BOXES, DIE-CUT PAPER AND PAPERBOARD AND CARDBOARD
NJEMS	WAREHOUSING ASSOC	1300 WALNUT ST, CAMDEN CITY, NJ, 08100	0.01/SE	-2.0	Site ID: 76419
ALL SITES	WAREHOUSING ASSOCS	1300 WALNUT ST, Camden City, NJ, 08104	0.01/SE	-2.0	Site ID: 431552 PI ID: 541324 Type: RECYCLING CENTER Program: Solid Waste

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	WAREHOUSING ASSOCIATES	1300 WALNUT ST, Camden City, NJ, 08100	0.01/SE	-2.0	PI No: G000003889 PI Name (Data Miner): WAREHOUSING ASSOCIATES
ALL SITES	CRANE INTERNATIONAL LLC	1300 WALNUT ST, Camden City, NJ, 08103	0.01/SE	-2.0	Site ID: 431552 PI ID: 541324 Type: RECYCLING CENTER Program: Solid Waste
ALL SITES	E R H DIE CUTTING	1300 WALNUT ST, Camden City, NJ, 08103	0.01/SE	-2.0	Site ID: 23113 PI ID: 51724 Type: AIR NON-REGULATED
ALL SITES	EARL G ROBINSON JR	1300 WALNUT ST, Camden City, NJ, 08103	0.01/SE	-2.0	Site ID: 23113 PI ID: 512261000000 Type: Pollution Prevention/ Right to Know
NJEMS	CRANE INTERNATIONAL	1300 WALNUT ST, CAMDEN, NJ, 08103	0.01/SE	-2.0	Site ID: 431552
HIS SPILL		WALNUT & PINE STS, CAMDEN, NJ,	0.01/ENE	-3.0	
ALL SITES	CAMPBELL SOUP COMPANY	PINE & WALNUT STREETS, Camden City, NJ, 08103	0.01/ENE	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
FINDS/FRS	RED HAWK RECYCLING	1368 WALNUT ST, CAMDEN, NJ, 08103	0.01/ENE	-2.0	
ICIS	RED HAWK RECYCLING	1368 WALNUT ST, CAMDEN, NJ, 08103	0.01/ENE	-2.0	
ALL SITES	RED HAWK RECYCLING	1368 WALNUT ST, Camden City, NJ, 08103	0.01/ENE	-2.0	
NJEMS	RED HAWK RECYCLING	1368 WALNUT ST, CAMDEN, NJ, 08103	0.01/ENE	-2.0	
AFS	RED HAWK RECYCLING	1368 WALNUT ST, CAMDEN, NJ, 08103	0.01/ENE	-2.0	
DELIST STR	1240 WALNUT STREET	SE PRINCESS & WALNUT ST, Camden City, NJ,	0.01/SSW	-3.0	
HIS SPILL		WALNUT & PRINCESS AV, CAMDEN, NJ,	0.01/SSW	-3.0	
FINDS/FRS	SOUTH EAST PRINCESS AVENUE & WALNUT STREET	SE PRINCESS AVE & WALNUT ST, CAMDEN, NJ, 08102	0.01/SSW	-3.0	
SHWS	1240 WALNUT STREET SITE	SE PRINCESS AVE & WALNUT ST, Camden City, NJ,	0.01/SSW	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	SOUTH EAST PRINCESS AVENUE & WALNUT STREET	SE PRINCESS AVE & WALNUT ST, CAMDEN, NJ, 08102	0.01/SSW	-3.0	
FINDS/FRS	PRINCESS AVENUE AUTO SALES	911 PRINCESS AVE, CAMDEN, NJ, 08103	0.01/SW	-2.0	
NJEMS	PRINCESS AVENUE AUTO SALES	911 PRINCESS AVE, CAMDEN, NJ, 08103	0.01/SW	-2.0	
ALL SITES	PRINCESS AVE AUTO SALES	911 PRINCESS AVE, Camden City, NJ, 08103	0.01/SW	-2.0	
ALL SITES	PRINCESS AVE AUTO SALES	911 PRINCESS AVE, Camden City, NJ, 08103	0.01/SW	-2.0	
ALL SITES	PRINCES AVE AUTO SALES INC	911-913 PRINCESS AVE, Camden City, NJ, 08103	0.01/SW	-2.0	
HIS SPILL		EMPIRE & WALNUT AVE, CAMDEN, NJ,	0.01/ENE	-2.0	
LUST		919 PRINCESS ST, Camden City, NJ, 08101	0.01/SSW	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	CAMPBELL SOUP COMPANY WAREHOUSE	1433 PINE ST, Camden City, NJ, 08103	0.01/NE	-4.0	
SITE REMEDIATIO N	CAMPBELL SOUP COMPANY WAREHOUSE	1433 PINE ST, 1437 PINE ST, Camden City, NJ, 08103	0.01/NE	-4.0	
ALL SITES	CAMPBELL SUPPLY CO	1433 PINE ST, Camden City, NJ, 08103	0.01/NE	-4.0	
NJEMS	CAMPBELL SUPPLY CO	1433 PINE ST, CAMDEN, NJ, 08103	0.01/NE	-4.0	
SITE REMEDIATIO N	CAMPBELLS FAMILY CENTER	1433 PINE ST, Camden City, NJ, 08103	0.01/NE	-4.0	
DELISTED SRP	CAMPBELL SOUP CO	1433 PINE ST, 1437 PINE ST, Camden City, NJ, 08101	0.01/NE	-4.0	
DELISTED LST	CAMPBELL SOUP CO	1433 PINE ST, Camden City, NJ,	0.01/NE	-4.0	
FINDS/FRS	CAMPBELL SUPPLY CO	1433 PINE ST, CAMDEN, NJ, 08103	0.01/NE	-4.0	
UST	CAMPBELL SOUP COMPANY WAREHOUSE	1433 PINE ST, Camden City, NJ, 8103	0.01/NE	-4.0	
SPILLS		1433 PINE ST, Camden City, NJ, 08103	0.01/NE	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
DEED	CAMPBELL SOUP COMPANY WAREHOUSE	1433 PINE ST 1437 PINE ST, Camden City, NJ, 08103	0.01/NE	-4.0	
CEA	CAMPBELL SOUP COMPANY WAREHOUSE	1433 PINE ST 1437 PINE ST, Camden City, NJ, 08103	0.01/NE	-4.0	
UST	PONTE BROS INC	SS PINE 50 MEMORIAL AVE E, Camden City, NJ, 8103	0.01/WNW	1.0	
FINDS/FRS	Z&R MOTOR	899 PRINCESS AVE, CAMDEN, NJ, 08103	0.02/WSW	-2.0	
NJEMS	Z&R MOTOR	899 PRINCESS AVE, CAMDEN, NJ, 08103	0.02/WSW	-2.0	
ALL SITES	Z&R MOTOR	899 PRINCESS AVE, Camden City, NJ, 08103	0.02/WSW	-2.0	
FINDS/FRS	DEPUTY CROWN INC	861 PRINCESS AVE, CAMDEN, NJ, 08103	0.02/WSW	-1.0	
NJEMS	DEPUTY CROWN INC	861 PRINCESS AVE, CAMDEN, NJ, 08103	0.02/WSW	-1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	DEPUTY CROWN INC	861 PRINCESS AVE, Camden City, NJ, 08103	0.02/WSW	-1.0	
SHWS	BLOCK 364 LOT 2	821 MEMORIAL AVE, Camden City, NJ,	0.03/WNW	1.0	
DELIST STR	BLOCK 364 LOT 2	821 MEMORIAL AVE, Camden City, NJ,	0.03/WNW	1.0	
UST	BLOCK 364 LOT 2	821 MEMORIAL AVE, Camden City, NJ, 8103	0.03/WNW	1.0	
LUST		821 MEMORIAL AVE, Camden City, NJ, 08101	0.03/WNW	1.0	
NJEMS	821 MEMORIAL AVENUE	821 MEMORIAL AVE, CAMDEN, NJ, 08103	0.03/WNW	1.0	
SITE REMEDIATION	BLOCK 364 LOT 2	821 MEMORIAL AVE, Camden City, NJ, 08103	0.03/WNW	1.0	
ALL SITES	IPAK	821 MEMORIAL AVE, Camden City, NJ, 08103	0.03/WNW	1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	IPAK	821 MEMORIAL AVE, CAMDEN, NJ, 08103	0.03/WNW	1.0	
LUST		859 PRINCESS AVE, Camden City, NJ,	0.03/W	0.0	
NJEMS	SOUTH JERSEY COMMUNITY TYPESETTING	859 PRINCESS AVE, CAMDEN, NJ, 08103	0.03/W	0.0	
ALL SITES	SOUTH JERSEY COMMUNITY TYPESETTING INC	859 PRINCESS AVE, Camden City, NJ, 08103	0.03/W	0.0	
ALL SITES	SOUTH JERSEY (COMMUNIT Y)	859 PRINCESS AVE, Camden City, NJ, 08103	0.03/W	0.0	
ALL SITES	SOUTH JERSEY PRINTING IMPRESSION S	859 PRINCESS AVE, Camden City, NJ, 08103	0.03/W	0.0	
SPILLS		1015 PRINCESS AVE, Camden City, NJ, 08103	0.03/S	-4.0	
HIS SPILL		MAGNOLIA/ PINE ST, CAMDEN, NJ, 08103	0.04/ENE	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
RCRA NON GEN	NJDEP/BER	MAGNOLIA & PINE STREETS, CAMDEN, NJ, 08625	0.04/ENE	-3.0	
NJEMS	NJDEP BER REGION 2	E MAGNOLIA ST & PINE ST, CAMDEN CITY, NJ, 08103	0.04/ENE	-3.0	
ALL SITES	CAMDEN BD OF ED	MAGNOLIA & PINE ST, Camden City, NJ, 08103	0.04/ENE	-3.0	
NJEMS	CANOPY PFT SOLAR ARRAY	PINE ST, CAMDEN, NJ, 08103	0.04/N	-7.0	
HIS SPILL		1300 PINE ST., CAMDEN, NJ,	0.04/WNW	2.0	
NJEMS	V PONTE & SONS INC	1300 PINE ST, CAMDEN, NJ, 08103	0.04/WNW	2.0	
NJEMS	CIRT URBAN RENEWAL CORP	CAMPBELL PL, CAMDEN, NJ, 08101	0.05/SW	-1.0	
SPILLS		1443 PINE ST., Camden City, NJ, 08103	0.05/ENE	-3.0	
SPILLS		845 - 849 Princess Ave, Camden City, NJ, 8103	0.05/W	2.0	
HIS SPILL		PINE & MEMORA AVENUE, CAMDEN, NJ,	0.05/WNW	2.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HIS SPILL		OFF PINE & MEMORIAL, CAMDEN, NJ,	0.05/WNW	2.0	
NJEMS	CAMDEN CITY SEWER DEPT	PINE ST & MEMORIAL AVE, CAMDEN, NJ, 08103	0.05/WNW	2.0	
NJEMS	PON TEBROS INC	PINE ST & MEMORIAL AVE, CAMDEN, NJ, 08009	0.05/WNW	2.0	
ALL SITES	CAMDEN CITY SEWER DEPT	PINE & MEMORIAL AVE, Camden City, NJ, 08103	0.05/WNW	2.0	
ALL SITES	PON TEBROS INC	PINE & E MEMORIAL AVE, Camden City, NJ, 08009	0.05/WNW	2.0	
SPILLS		926 HADDON AVE, Camden City, NJ,	0.06/SW	-2.0	
NJEMS	926 HADDON AVENUE	926 HADDON AVE & INGE PL, CAMDEN CITY, NJ, 08103	0.06/SW	-2.0	
SITE REMEDIATION	926 HADDON AVE	926 HADDON AVE, Camden City, NJ, 08103	0.06/SW	-2.0	
HIS SPILL		876 HADDON AVE, CAMDEN, NJ,	0.06/WSW	2.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	CAMDEN REAL ESTATE & PROPERTY	876 HADDON AVE, CAMDEN, NJ, 08104	0.06/WSW	2.0	
ALL SITES	CAMDEN REAL ESTATE & PROP	876 HADDON AVE, Camden City, NJ, 08104	0.06/WSW	2.0	
DELISTED SRP	HADD0EN AVENUE CHILDCARE	915 HADDON AVE, Camden City, NJ, 08103	0.06/WSW	2.0	
HIST FILL		, , NJ,	0.07/N	-8.0	
HIST FILL		, , NJ,	0.07/ENE	-1.0	
HIS SPILL		1048 LANGHAM, CAMDEN, NJ,	0.07/ESE	-3.0	
NJEMS	MAGNOLIA CORP	1041 1053 MAGNOLIA AVE, CAMDEN, NJ, 08103	0.07/E	-3.0	
ALL SITES	MAGNOLIA CORP	1041-1053 MAGNOLIA AVE, Camden City, NJ, 08103	0.07/E	-3.0	
SPILLS		1022 HADDON AVE, Camden City, NJ, 08101	0.07/SSW	-6.0	
NJEMS	ROGERS CONTAINER	1051 MAGNOLIA AVE, CAMDEN, NJ, 08101	0.08/E	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	ROGERS CONTAINER CORPORATION	1051 MAGNOLIA AVE, Camden City, NJ, 08100	0.08/E	-3.0	
ALL SITES	ROGERS CONTAINER CORP	1051 MAGNOLIA AVE, Camden City, NJ, 08103	0.08/E	-3.0	
ISRA	ROGERS CONTAINER CORPORATION	1051 MAGNOLIA AVENUE, Camden City, NJ, 08101	0.08/E	-3.0	
ALL SITES	HEATHS HOME REMODELING	1049 PRINCESS AVE, Camden City, NJ, 08103	0.08/SSE	-4.0	
NJEMS	HEATHS HOME REMODELING	1049 PRINCESS AVE, CAMDEN, NJ, 08103	0.08/SSE	-4.0	
HIS SPILL		1038 HADDON AVENUE, CAMDEN, NJ,	0.08/S	-6.0	
HIST LUST		1053 MAGNOLIA AVE, CAMDEN, NJ,	0.08/E	-3.0	
SPILLS		1059 EMPIRE AVE, Camden City, NJ, 08103	0.08/E	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SPILLS		1059 EMPIRE AVE, Camden City, NJ, 08103	0.08/E	-3.0	
NJEMS	EMPIRE WAREHOUSING & LEASING CO INC	1059 EMPIRE AVE, CAMDEN, NJ, 08103	0.08/E	-3.0	
ALL SITES	IMPERIAL TRANSPORT & LEASING	1059 EMPIRE AVE, Camden City, NJ, 08103	0.08/E	-3.0	
ALL SITES	EMPIRE WAREHOUSING & LEASING CO INC	1059 EMPIRE AVE, Camden City, NJ, 08103	0.08/E	-3.0	
ALL SITES	EMPIRE WAREHOUSING & LEASING CO INC	1059 EMPIRE AVE, Camden City, NJ, 08103	0.08/E	-3.0	
ALL SITES	NATIONAL ABANDONED FUEL OIL DEALERSHIP	1055 1059 MAGNOLIA AVE, Camden City, NJ, 08101	0.09/E	-3.0	
NJEMS	NATIONAL ABANDONED FUEL OIL DEALERSHIP	1055 1059 MAGNOLIA AVE, CAMDEN, NJ, 08101	0.09/E	-3.0	
CERCLIS	FRANCIS METAL FABRICATORS INCORPORATED	813 PRINCESS AVENUE, CAMDEN, NJ, 08103	0.09/W	4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
BROWNFIELDS	FRANCIS METAL FABRICATORS INCORPORATED	813 PRINCESS AVE, Camden City, NJ, 08100	0.09/W	4.0	
SHWS	FRANCIS METAL FABRICATORS INCORPORATED	813 PRINCESS AVE, Camden City, NJ,	0.09/W	4.0	
SEMS	FRANCIS METAL FABRICATORS INCORPORATED	813 PRINCESS AVENUE, CAMDEN, NJ, 08103	0.09/W	4.0	
NJEMS	FRANCIS METAL FABRICATORS INC	813 PRINCESS AVE, CAMDEN CITY, NJ, 08100	0.09/W	4.0	
NJEMS	R&R METAL FABRICATORS INC	813 PRINCESS AVE, CAMDEN, NJ, 08103	0.09/W	4.0	
SITE REMEDIATION	FRANCIS METAL FABRICATORS INCORPORATED	813 PRINCESS AVE, Camden City, NJ, 08100	0.09/W	4.0	
ALL SITES	R&R METAL FABRICATORS INC	813 PRINCESS AVE, Camden City, NJ, 08103	0.09/W	4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	R & R METAL FABRICATORS INC	813 PRINCESS AVE, Camden City, NJ, 08103	0.09/W	4.0	
ISRA	FRANCIS METAL FABRICATORS INCORPORATED	813 PRINCESS AVENUE, Camden City, NJ, 08100	0.09/W	4.0	
ISRA	FRANCIS METAL FABRICATORS INCORPORATED	813 PRINCESS AVE, Camden City, NJ, 08100	0.09/W	4.0	
NJEMS	MARONE CONTRACTORS	1057 MAGNOLIA AVE, CAMDEN, NJ, 08103	0.09/E	-2.0	
ALL SITES	MANGIATORE MONTE INC	1057 MAGNOLIA ST, Camden City, NJ, 08103	0.09/E	-2.0	
HIS SPILL		1043 HADDON AVE, CAMDEN, NJ,	0.09/S	-7.0	
SPILLS		PINE ST & PRINCESS AVE, Camden City, NJ, 08103	0.09/WNW	4.0	
SWF/LF	MONSANTO	1500 PINE ST, CAMDEN CITY, NJ,	0.09/ENE	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
BROWNFIELDS	MONSANTO COMPANY	1500 Pine St, Camden City, NJ, 08103	0.09/ENE	-4.0	
BROWNFIELDS	MONSANTO CHEMICAL CO	1500 PINE ST, Camden City, NJ, 08000	0.09/ENE	-4.0	
RCRA NON GEN	MONSANTO CO	1500 PINE ST, CAMDEN, NJ, 08103-0000	0.09/ENE	-4.0	
RCRA NON GEN	CAMDETT CORP	1501 PINE ST, CAMDEN, NJ, 08103-1717	0.09/ENE	-4.0	
RCRA CORRACTS	MONSANTO CO	1500 PINE ST, CAMDEN, NJ, 08103-0000	0.09/ENE	-4.0	
SHWS	MONSANTO CHEMICAL CO	1500 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
SHWS	CAMDETT CORP	1501 PINE ST, Camden City, NJ,	0.09/ENE	-4.0	
UST	MONSANTO CHEMICAL CO	1500 PINE ST, Camden City, NJ, 8103	0.09/ENE	-4.0	
SEMS ARCHIVE	MONSANTO CO	1500 PINE ST, CAMDEN, NJ, 08103	0.09/ENE	-4.0	
MAJOR FAC	CAMDETT CORP	1501 PINE ST, CAMDEN, NJ, 08103	0.09/ENE	-4.0	
NJEMS	MONSANTO CO SLF	1500 PINE ST, CAMDEN, NJ, 08103	0.09/ENE	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	CAMDETT CORP	1501 PINE ST, CAMDEN, NJ, 08103	0.09/ENE	-4.0	
SITE REMEDIATION	CAMDETT CORP	1501 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
ALL SITES	CAMDETT CORP	1501 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
SITE REMEDIATION	MONSANTO CHEMICAL CO	1500 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
ALL SITES	MONSANTO CO LANDFILL	1500 PINE ST, Camden City, NJ, 08000	0.09/ENE	-4.0	
ALL SITES	MONSANTO CO	1500 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
ALL SITES	BNB CAMDEN SOLAR LLC	1500 PINE STREET, Camden City, NJ, 08102	0.09/ENE	-4.0	
ALL SITES	CAMDETT CORP	1501 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
ALL SITES	CAMDETT CORP	1501 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
ALL SITES	CAMDETT CORP	1501 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
ISRA	CAMDETT CORP	1500 PINE STREET, Camden City, NJ, 08103	0.09/ENE	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ISRA	MONSANTO CHEMICAL CO	1500 PINE STREET, Camden City, NJ, 08103	0.09/ENE	-4.0	
DEED	MONSANTO CHEMICAL CO	1500 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
CEA	MONSANTO CHEMICAL CO	1500 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
ISRA	CAMDETT CORP	1501 PINE ST, Camden City, NJ, 08103	0.09/ENE	-4.0	
SHWS	MONSANTO CHEMICAL CO	1500 PINE ST, Camden City, NJ,	0.09/ENE	-4.0	
UST	STRACO CONSTRUCTION CO	1071 MAGNOLIA AVE, Camden City, NJ, 8103	0.10/E	-2.0	
NJEMS	STRACO CONSTRUCTION CO	1071 MAGNOLIA AVE, CAMDEN, NJ, 08103	0.10/E	-2.0	
SITE REMEDIATION	STRACO CONSTRUCTION CO	1071 MAGNOLIA AVE, Camden City, NJ, 08103	0.10/E	-2.0	
SPILLS		1051 HADDON AVE, Camden City, NJ,	0.10/S	-7.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	ALMOND GLASS WORKS	1051 HADDON AVE, CAMDEN, NJ, 08103	0.10/S	-7.0	
SITE REMEDIATIO N	THE HAPPY CHILD LEARNING CENTER	1051 1053 HADDON AVE, Camden City, NJ, 08103	0.10/S	-7.0	
ALL SITES	ALMOND GLASS WORKS	1051 HADDON AVE, Camden City, NJ, 08103	0.10/S	-7.0	
HIST FILL		, , NJ,	0.10/NNE	-17.0	
NJEMS	UNITED GLASS & TOP WORKS	1057 HADDON AVE, CAMDEN, NJ, 08103	0.11/S	-7.0	
ALL SITES	UNITED GLASS & TOP WORKS	1057 HADDON AVE, Camden City, NJ, 08103	0.11/S	-7.0	
ALL SITES	UNITED GLASS & TOP WORKS	1057 HADDON AVE, Camden City, NJ, 08103	0.11/S	-7.0	
ALL SITES	PUBLIC SERVICE ELECTRIC & GAS CO.	1526 PINE ST, Camden City, NJ, 08101	0.11/ENE	-3.0	
FUDS	NAVAL RESERVE CENTER	, CAMDEN, NJ,	0.12/NNW	-10.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	NJDEP	SPRUCE ST, CAMDEN, NJ, 08101	0.12/WSW	3.0	
HIS SPILL		1067 DIAMOND ST, CAMDEN, NJ,	0.12/S	-7.0	
HIS SPILL		1067 DIAMOND ST, CAMDEN, NJ,	0.12/S	-7.0	
NJEMS	NJDEP BER REGION 2	1067 DIAMOND ST, CAMDEN, NJ, 08103	0.12/S	-7.0	
ALL SITES	NJDEPE REGION II	1067 DIAMOND ST, Camden City, NJ, 08101	0.12/S	-7.0	
SHWS	1411 PARK BOULEVARD	1411 PARK BLVD, Camden City, NJ,	0.13/ESE	-4.0	
VCP	1411 PARK BOULEVARD	1411 PARK BLVD, Camden City, NJ, 08103	0.13/ESE	-4.0	
NJEMS	1411 PARK BOULEVARD	1411 PARK BLVD, CAMDEN, NJ, 08103	0.13/ESE	-4.0	
SITE REMEDIATION	1411 PARK BOULEVARD	1411 PARK BLVD, Camden City, NJ, 08103	0.13/ESE	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	NJDOT CENTRAL GATEWAY ROADWAY & DRAINAGE	S 11TH ST, CAMDEN, NJ, 08102	0.13/WNW	3.0	
NJEMS	PSE&G PINE STREET SUBSTATION	PINE ST, CAMDEN, NJ, 08101	0.14/ENE	-2.0	
NJEMS	NJDEP BER REGION 2	DIVISION ST, CAMDEN, NJ, 08101	0.14/W	3.0	
ALL SITES	NJDEP BER REGION 2	1125 LINE ST, Camden City, NJ, 08103	0.15/WNW	3.0	
NJEMS	NJDEP BER REGION 2	1125 LINE ST, CAMDEN, NJ, 08103	0.15/WNW	3.0	
UST	CAMDEN BROADCAST FACILITY	1529 PINE ST, Camden City, NJ, 8102	0.15/ENE	-1.0	
DELIST STR	CAMDEN BROADCAST FACILITY	1529 PINE ST, Camden City, NJ,	0.15/ENE	-1.0	
LUST		1529 PINE ST, Camden City, NJ, 08102	0.15/ENE	-1.0	
SHWS	CAMDEN BROADCAST FACILITY	1529 PINE ST, Camden City, NJ,	0.15/ENE	-1.0	
SITE REMEDIATION	CAMDEN BROADCAST FACILITY	1529 PINE ST, Camden City, NJ, 08102	0.15/ENE	-1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	CAMDEN CITY BD OF ED BROADCAST FACILITY	1529 PINE ST, CAMDEN, NJ, 08102	0.15/ENE	-1.0	
ALL SITES	VERIZON	HADDON AVE & PINE ST, Camden City, NJ, 08101	0.16/W	2.0	
NJEMS	VERIZON COMMUNICATIONS INC	HADDON AVE & PINE ST, CAMDEN, NJ, 08101	0.16/W	2.0	
ALL SITES	EXOTHERM CORPORATION	1035 LINE ST, Camden City, NJ, 08103	0.16/WNW	3.0	
DELISTED TNK	CAMPBELL SOUP CO	1437 PINE ST, Camden City, NJ,	0.16/ENE	-3.0	
DELISTED SRP	CAMPBELL SOUP CO	1437 PINE ST, Camden City, NJ, 08101	0.16/ENE	-3.0	
NJEMS	EMDUR METAL PRODUCTS INC	1115 MT VERNON ST P O BOX 1087, CAMDEN, NJ, 08101	0.17/SW	-4.0	
ALL SITES	EMDUR METAL PRODUCTS INC	1115 MT VERNON ST, Camden City, NJ, 08103	0.17/SW	-4.0	
ALL SITES	EMDUR METAL PRODUCTS INC	1115 MT VERNON ST, Camden City, NJ, 08103	0.17/SW	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	EMDUR METAL PRODUCTS INC	1115 MT VERNON ST, Camden City, NJ, 08103	0.17/SW	-4.0	
NJEMS	NJDEP BER REGION 2	1187 CHESTNUT ST, CAMDEN, NJ, 08102	0.17/S	-7.0	
NJEMS	RESIDENCE @ 1187 CHESTNUT STREET	1187 CHESTNUT ST, CAMDEN CITY, NJ, 08101	0.17/S	-7.0	
ALL SITES	NJDEP BER REGION II	1187 CHESTNUT ST, Camden City, NJ, 08102	0.17/S	-7.0	
SITE REMEDIATIO N	RESIDENCE @ 1187 CHESTNUT STREET	1187 CHESTNUT ST, Camden City, NJ, 08101	0.17/S	-7.0	
CERCLIS	CAMPBELL SOUP CO.(CAMPBE LL PLACE)	CAMPBELL PLACE, CAMDEN, NJ, 08101	0.18/NNW	-4.0	
CERCLIS	CUTLER METAL FACILITY	1025 LINE STREET, CAMDEN, NJ, 081031609	0.18/WNW	1.0	
RCRA NON GEN	STAR JUNK DEALER INC	1190 CHESTNUT ST, CAMDEN, NJ, 08103-2759	0.19/SSW	-9.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
VCP	Star Junk Yard	1190 Chestnut St, Camden, NJ, 08101-5120	0.19/SSW	-9.0	
NJEMS	STAR JUNK DEALER INC	1190 CHESTNUT ST, CAMDEN, NJ, 08103	0.19/SSW	-9.0	
SITE REMEDIATIO N	STAR JUNK YARD	1190 CHESTNUT ST, Camden City, NJ, 08103	0.19/SSW	-9.0	
ALL SITES	STAR JUNK DEALER INC	1190 CHESTNUT ST, Camden City, NJ, 08103	0.19/SSW	-9.0	
ALL SITES	STAR JUNK DEALER INC	1190 CHESTNUT ST, Camden City, NJ, 08103	0.19/SSW	-9.0	
ALL SITES	STAR JUNK DEALER INC	1190 CHESTNUT ST, Camden City, NJ, 08100	0.19/SSW	-9.0	
ALL SITES	STAR JUNK DEALER	1190 CHESTNUT ST, Camden City, NJ, 08103	0.19/SSW	-9.0	
HIST FILL		, , NJ,	0.19/WSW	6.0	
DELISTED SRP	CDI HEAD START AT PARKSIDE	1131-1133 HADDON AVE, Camden City, NJ, 103	0.19/SSE	-6.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HIST LUST		1500 PINE ST, CAMDEN, NJ,	0.19/ENE	-5.0	
CERCLIS	MONSANTO CO	1500 PINE ST, CAMDEN, NJ, 08103	0.19/ENE	-5.0	
CERCLIS NFRAP	MONSANTO CO	1500 PINE ST, CAMDEN, NJ, 8103	0.19/ENE	-5.0	
UST REM	RELIABLE TIRE CO	1115 CHESTNUT ST, Camden City, NJ,	0.19/SSW	-7.0	
UST	RELIABLE TIRE CO	1115 CHESTNUT ST, Camden City, NJ, 8103	0.19/SSW	-7.0	
NJEMS	RELIABLE TIRE CO	1115 CHESTNUT ST, CAMDEN CITY, NJ, 08103	0.19/SSW	-7.0	
SITE REMEDIATION	RELIABLE TIRE CO	1115 CHESTNUT ST, NW CHESTNUT & ORCHARD STS, Camden City, NJ, 08103	0.19/SSW	-7.0	
SITE REMEDIATION	706 HADDON AVENUE	706 HADDON AVE, Collingswood Boro, NJ, 08108	0.19/W	1.0	
LUST		706 Haddon Ave, Collingswood Boro, NJ, 8108	0.19/W	1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	706 HADDON AVENUE	706 HADDON AVE, COLLINGSWOOD BORO, NJ, 08108	0.19/W	1.0	
SHWS	706 HADDON AVENUE	706 HADDON AVE, Collingswood Boro, NJ,	0.19/W	1.0	
NJEMS	MAGNOLIA PARK APARTMENTS	1543 PARK BLVD 'A', CAMDEN, NJ, 08103	0.19/E	0.0	
NJEMS	KOHLDER MFG CO INC	1001 LINE ST, CAMDEN, NJ, 08103	0.19/WNW	2.0	
SITE REMEDIATION	KOHLDER MANUFACTURING	1001 LINE ST, Camden City, NJ, 08100	0.19/WNW	2.0	
ALL SITES	KOHLDER MFG CO INC	1001 LINE ST, Camden City, NJ, 08103	0.19/WNW	2.0	
ALL SITES	KOHLDER MFG CO INC	1001 LINE ST, Camden City, NJ, 08103	0.19/WNW	2.0	
ALL SITES	KOHLDER MANUFACTURING CO INC	1001 LINE ST, Camden City, NJ, 08103	0.19/WNW	2.0	
ISRA	KOHLDER MANUFACTURING	1001 LINE STREET, Camden City, NJ, 08103	0.19/WNW	2.0	
ALL SITES	MAGNOLIA PARK APTS	1543 A PARK BLVD, Camden City, NJ, 08103	0.19/E	0.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	SOB TRUCKING	1136 EMPIRE AVE, CAMDEN, NJ, 08103	0.20/ESE	-2.0	
ALL SITES	SOB TRUCKING	1136 EMPIRE AVE, Camden City, NJ, 08103	0.20/ESE	-2.0	
NJEMS	CDI HEAD START @ PARKSIDE	1131 1133 HADDON AVE, CAMDEN, NJ, 08103	0.20/SSE	-6.0	
SITE REMEDIATIO N	MARYAM EARLY LEARNING CENTER PROPOSED	1131 33 HADDON AVE, Camden City, NJ, 08103	0.20/SSE	-6.0	
BROWNFIEL DS	CUTLER METALS	1025 LINE ST, Camden City, NJ, 08103	0.20/WNW	1.0	
RCRA NON GEN	CUTLER METAL PRODUCTS CO	1025 LINE ST, CAMDEN, NJ, 08103	0.20/WNW	1.0	
SHWS	CUTLER METALS	1025 LINE ST, Camden City, NJ, 08100	0.20/WNW	1.0	
DSHW		1025 LINE ST, Camden City, NJ,	0.20/WNW	1.0	
SEMS	CUTLER METAL FACILITY	1025 LINE STREET, CAMDEN, NJ, 08103-1609	0.20/WNW	1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	1035 LINE STREET	1025 LINE ST 1035 LINE ST, CAMDEN, NJ, 08103	0.20/WNW	1.0	
SITE REMEDIATION	CUTLER METALS	1025 LINE ST, Camden City, NJ, 08100	0.20/WNW	1.0	
ALL SITES	CUTLER METAL PRODUCTS CO	1025 LINE ST, Camden City, NJ, 08103	0.20/WNW	1.0	
ISRA	CUTLER METALS	1025 LINE STREET, Camden City, NJ, 08103	0.20/WNW	1.0	
ALL SITES	ALPHA GROUP III INC	1025 LINE ST, Camden City, NJ, 08103	0.20/WNW	1.0	
ALL SITES	ADELPHIA, INC.	1025 LINE STREET, Camden City, NJ, 08103	0.20/WNW	1.0	
ALL SITES	ALPHA PLASTICS INC	1025 LINE ST, Camden City, NJ, 08103	0.20/WNW	1.0	
ALL SITES	ALPHA PLASTICS	1025 LINE ST, Camden City, NJ, 08103	0.20/WNW	1.0	
NJEMS	DFP TRANSPORTATION	I-676, CAMDEN, NJ, 08105	0.21/W	17.0	
NJEMS	NJDOT BIN #0430166	I-670 N, CAMDEN, NJ, 08101	0.21/W	17.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	EASTERN AMERICAN TRANSPORT	I-676, CAMDEN CITY, NJ, 08105	0.21/W	17.0	
NJEMS	NJDOT BRIDGE PAINTING CAMDEN	I-676, CAMDEN, NJ, 08102	0.21/W	17.0	
ALL SITES	COOPER EMERGENCY MEDICAL SRVCS	1000 S 10TH ST, Camden City, NJ, 081032601	0.21/WSW	-5.0	
HIST FILL		, , NJ,	0.22/W	18.0	
RE EVAL		1112 CHESTNUT ST, CAMDEN CITY, NJ, 08103-2702	0.22/SSW	-7.0	
BROWNFIELDS	PENN JERSEY RUBBER & WASTE COMPANY	1112 CHESTNUT ST, Camden City, NJ, 08103	0.22/SSW	-7.0	
RCRA VSQG	PENN JERSEY RECYCLING INC	1112 CHESTNUT ST, CAMDEN, NJ, 08103	0.22/SSW	-7.0	
NJEMS	PENN JERSEY RECYCLING INC	1112 CHESTNUT ST, CAMDEN, NJ, 08103	0.22/SSW	-7.0	
SITE REMEDIATION	PENN JERSEY RUBBER & WASTE COMPANY	1112 CHESTNUT ST, Camden City, NJ, 08100	0.22/SSW	-7.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	PENN JERSEY RECYCLING INC	1112 CHESTNUT ST, Camden City, NJ, 08103	0.22/SSW	-7.0	
ALL SITES	PENN JERSEY RECYCLING	1112 CHESTNUT ST, Camden City, NJ, 08103	0.22/SSW	-7.0	
ALL SITES	PENN JERSEY RECYCLING INC	1112 CHESTNUT ST, Camden City, NJ, 08103	0.22/SSW	-7.0	
ALL SITES	PENN JERSEY RECYCLING INC	1112 CHESTNUT ST, Camden City, NJ, 08103	0.22/SSW	-7.0	
ALL SITES	PENN JERSEY RECYCLING	1112 CHESTNUT ST, Camden City, NJ, 08103	0.22/SSW	-7.0	
ALL SITES	PENN JERSEY RECYCLING INC	1112 CHESTNUT ST, Camden City, NJ, 08103	0.22/SSW	-7.0	
ALL SITES	PENN JERSEY RECYCLING INC	1112 CHESTNUT ST, Camden City, NJ, 08103	0.22/SSW	-7.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	PENN JERSEY RECYCLING INC	1112 CHESTNUT ST, Camden City, NJ, 08103	0.22/SSW	-7.0	
SHWS	PENN JERSEY RUBBER & WASTE COMPANY	1112 CHESTNUT ST, Camden City, NJ, 08100	0.22/SSW	-7.0	
SHWS	1576 PARK BOULEVARD	1576 PARK BLVD, Camden City, NJ, 08103	0.22/E	2.0	
LUST		1576 PARK BLVD, Camden City, NJ,	0.22/E	2.0	
NJEMS	1576 PARK BOULEVARD	1576 PARK BLVD, CAMDEN CITY, NJ, 08103	0.22/E	2.0	
SITE REMEDIATION	1576 PARK BOULEVARD	1576 PARK BLVD, Camden City, NJ, 08103	0.22/E	2.0	
ALL SITES	CHRIS F. COLOPINTO, D.O., LLC	1168 HADDON AVE, Camden City, NJ, 08103	0.23/SSE	-5.0	
SHWS	MLR ENTERPRISES	1035 MT EPHRAIM AVE, Camden City, NJ,	0.23/SW	-5.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
UST	MLR ENTERPRISES	1035 MT EPHRAM AVE, Camden City, NJ, 8104	0.23/SW	-5.0	
NJEMS	KENS AUTO REPAIR CENTER	1035 MT EPHRAIM AVE, CAMDEN, NJ, 08108	0.23/SW	-5.0	
SITE REMEDIATIO N	MLR ENTERPRISES	1035 MT EPHRAM AVE, Camden City, NJ, 08104	0.23/SW	-5.0	
ALL SITES	M&M TIRE	1035 MT EPHRAIM AVE, Camden City, NJ, 08103	0.23/SW	-5.0	
ALL SITES	M AND M TIRE SERVICE	1035 MT EPHRAIM AVE, Camden City, NJ, 08105	0.23/SW	-5.0	
RCRA SQG	CAMPBELL SOUP CO	1 CAMPBELL PL, CAMDEN, NJ, 08103	0.23/NNW	-4.0	
SHWS	CAMPBELL SOUP COMPANY	ONE CAMPBELL PL, Camden City, NJ, 081031799	0.23/NNW	-4.0	
UST	CAMPBELL SOUP COMPANY	ONE CAMPBELL PL, Camden City, NJ, 81031799	0.23/NNW	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	CAMPBELL SUPPLY CO	1 CAMPBELL PL, CAMDEN, NJ, 08103	0.23/NNW	-4.0	
SITE REMEDIATION	CAMPBELL SOUP COMPANY	ONE CAMPBELL PL, Camden City, NJ, 081031799	0.23/NNW	-4.0	
ALL SITES	CAMBELL SOUP CO	1 CAMPBELL PL, Camden City, NJ, 08103	0.23/NNW	-4.0	
ALL SITES	CAMPBELL SUPPLY CO LLC	1 CAMPBELL PLACE, Camden City, NJ, 081031799	0.23/NNW	-4.0	
ALL SITES	CAMPBELL SOUP CO	1 CAMPBELL PL, Camden City, NJ, 08103	0.23/NNW	-4.0	
ALL SITES	CAMPBELL SOUP COMPANY	ONE CAMPBELLS PLACE, Camden City, NJ, 08103	0.23/NNW	-4.0	
ALL SITES	CAMPBELL SOUP COMPANY	1 CAMPBELL PLACE, Camden City, NJ, 081030000	0.23/NNW	-4.0	
ALL SITES	CAMBELL SOUP COMPANY	1 CAMPBELL PL, Camden City, NJ, 08103	0.23/NNW	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	CAMPBELL SOUP CO	ONE CAMPBELL PL, Camden City, NJ, 08103	0.23/NNW	-4.0	
ALL SITES	CAMPBELL SOUP CO	1 CAMPBELL PL, Camden City, NJ, 08103	0.23/NNW	-4.0	
ALL SITES	PF BRANDS	1 CAMPBELL PL, Camden City, NJ, 081030000	0.23/NNW	-4.0	
ALL SITES	CAMPBELL SOUP CO	ONE CAMPBELLS PL, Camden City, NJ, 08103	0.23/NNW	-4.0	
ALL SITES	CAMPBELL SOUP CO	1 CAMPBELL PL, Camden City, NJ, 08103	0.23/NNW	-4.0	
ALL SITES	CSC STANDARDS INC	1 CAMPBELL PL, Camden City, NJ, 08103	0.23/NNW	-4.0	
ALL SITES	VLASIC INTERNATIONAL SALES INC.	ONE CAMPBELL PL, Camden City, NJ, 08103	0.23/NNW	-4.0	
ALL SITES	CAMPBELL SOUP/ MEDICAL DEPT	1 CAMPBELL PL, Camden City, NJ, 081031701	0.23/NNW	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	CAMPBELL SOUP/ MICROBIOLOGY DEP	1 CAMPBELL PL, Camden City, NJ, 081031701	0.23/NNW	-4.0	
CEA	CAMPBELL SOUP COMPANY	ONE CAMPBELL PL, Camden City, NJ, 081031799	0.23/NNW	-4.0	
ALL SITES	WHQ OCCUPATIONAL HEALTH CENTER	1 CAMPBELL PL, Camden City, NJ, 08103	0.23/NNW	-4.0	
SHWS	CAMPBELL SOUP COMPANY	1 CAMPBELL PL, Camden City, NJ,	0.23/NNW	-4.0	
BROWNFIELDS	EARLY CHILDHOOD DEVELOPMENT	1600 PINE ST, Camden City, NJ, 081021722	0.23/E	-5.0	
RCRA LQG	EARLY CHILDHOOD DEVELOPMENT CENTER	1600 PINE ST, CAMDEN, NJ, 08103	0.23/E	-5.0	
SHWS	EARLY CHILDHOOD DEVELOPMENT	1600 PINE ST, Camden City, NJ, 081021722	0.23/E	-5.0	
UST	EARLY CHILDHOOD DEVELOPMENT	1600 PINE ST, Camden City, NJ, 81021722	0.23/E	-5.0	
NJEMS	CAMDEN CITY BD OF ED SKILL DEVELOPMENT CENTER	1600 PINE ST, CAMDEN, NJ, 08102	0.23/E	-5.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	EARLY CHILDHOOD DEVELOPMENT CENTER PROPOSED	1600 PINE ST, Camden City, NJ, 08103	0.23/E	-5.0	
SITE REMEDIATION	EARLY CHILDHOOD DEVELOPMENT	1600 PINE ST, Camden City, NJ, 081021722	0.23/E	-5.0	
ALL SITES	EARLY CHILDHOOD DEV CTR #25	1600 PINE ST, Camden City, NJ, 08103	0.23/E	-5.0	
DEED	EARLY CHILDHOOD DEVELOPMENT	1600 PINE ST, Camden City, NJ, 081021722	0.23/E	-5.0	
CEA	EARLY CHILDHOOD DEVELOPMENT	1600 PINE ST, Camden City, NJ, 081021722	0.23/E	-5.0	
SHWS	EARLY CHILDHOOD DEVELOPMENT	1600 PINE ST, Camden City, NJ,	0.23/E	-5.0	
SHWS	1158 1166 & 1172 1182 SYCAMORE STREET	1158 1166 1172 1182 SYCAMORE ST, Camden City, NJ,	0.23/S	-7.0	
VCP	1158 1166 & 1172 1182 SYCAMORE STREET	1158 1166 1172 1182 SYCAMORE ST, Camden City, NJ, 08103	0.23/S	-7.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	1158 1166 1172 1182 SYCAMORE STREET	1158 1166 1172 1182 SYCAMORE ST, CAMDEN, NJ, 08103	0.23/S	-7.0	
NJEMS	CAMDEN CITY SCH DIST-EARLY CHILDHOOD DEVELOPME NT CENTER	1602 PINE ST, CAMDEN, NJ, 08103	0.23/E	-5.0	
ALL SITES	CITY OF CAMDEN EARLY CHILDHO	1602 PINE ST, Camden City, NJ, 08103	0.23/E	-5.0	
ALL SITES	CAMDEN CITY SCH DIST-EARLY CHILDHOOD DEVELOP	1602 PINE ST, Camden City, NJ, 08103	0.23/E	-5.0	
ALL SITES	EARLY CHILDHOOD DEVELOPME NT CENTER	1602 PINE ST, Camden City, NJ, 08103	0.23/E	-5.0	
NJEMS	EARLY CHILDHOOD DEVELOPME NT CENTER	1602 PINE ST, CAMDEN CITY, NJ, 08103	0.23/E	-5.0	
HIST FILL		, , NJ,	0.23/SSW	-5.0	
UST REM	SPEEDWAY 3500	1420 ADMIRAL WILSON BLVD, Camden City, NJ,	0.24/NNE	-6.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HIST LUST		1420 ADM WILSON BLVD, CAMDEN, NJ,	0.24/NNE	-6.0	
RCRA NON GEN	HESS CORP STATION #30523	1420 ADMIRAL WILSON BLVD, CAMDEN, NJ, 08109-3902	0.24/NNE	-6.0	
SHWS	SPEEDWAY 3500	1420 ADMIRAL WILSON BLVD, Camden City, NJ, 081093902	0.24/NNE	-6.0	
UST	SPEEDWAY 3500	1420 ADMIRAL WILSON BLVD, Camden City, NJ, 81093902	0.24/NNE	-6.0	
NJEMS	SPEEDWAY SERVICE STATION #03500	1420 ADMIRAL WILSON BLVD, CAMDEN, NJ, 08105	0.24/NNE	-6.0	
SITE REMEDIATIO N	SPEEDWAY 3500	1420 ADMIRAL WILSON BLVD, Camden City, NJ, 081093902	0.24/NNE	-6.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	SPEEDWAY LLC - #3500	1420 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.24/NNE	-6.0	
ALL SITES	SPEEDWAY #03500	1420 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.24/NNE	-6.0	
ALL SITES	MERIT GAS STATION	1420 ADMIRAL WILSON BLVD, Camden City, NJ, 00000	0.24/NNE	-6.0	
UST	SPEEDWAY #03500	1420 ADMIRAL WILSON BLVD, Camden City, NJ,	0.24/NNE	-6.0	
CEA	SPEEDWAY 3500	1420 ADMIRAL WILSON BLVD, Camden City, NJ, 081093902	0.24/NNE	-6.0	
NJEMS	BERNICE MILLER DAY CARE CENTER	1157 HADDON AVE, CAMDEN, NJ, 08102	0.24/SSE	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	BERNICE MILLER DAY CARE CENTER	1157 HADDON AVE, Camden City, NJ, 08102	0.24/SSE	-4.0	
ALL SITES	ERICK INDUSTRIES	827 S 9TH ST, Camden City, NJ, 08103	0.24/W	0.0	
ALL SITES	ERICK INDUSTRIES, INC.	827 S 9TH ST, Camden City, NJ, 08103	0.24/W	0.0	
SITE REMEDIATION	ERICK INDUSTRIES INC	829 S 9TH ST, Camden City, NJ, 08103	0.24/W	-1.0	
ISRA	ERICK INDUSTRIES INC	829 S 9TH ST, Camden City, NJ, 08103	0.24/W	-1.0	
NJEMS	TEES TIRE SHOP	1112 MT EPHRAIM AVE, CAMDEN, NJ, 08104	0.24/SSW	-8.0	
ALL SITES	TEES TIRE SHOP	1112 MT EPHRAIM AVE, Camden City, NJ, 08104	0.24/SSW	-8.0	
NJEMS	CAMDEN CITY BD OF ED SCHOOL DISTRICT	PINE ST, CAMDEN CITY, NJ, 08102	0.24/E	-4.0	
NJEMS	MIGUELS AUTO BODY	1106 SYCAMORE ST, CAMDEN, NJ, 08103	0.25/SSW	-6.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NJEMS	ERICK INDUSTRIES INC	827 829 9TH ST, CAMDEN, NJ, 08103	0.25/W	-1.0	
HIST LUST		1596 PARK BLVD, CAMDEN, NJ,	0.25/E	3.0	
HIST LUST		1596 PARK BLVD, CAMDEN, NJ,	0.25/E	3.0	
SITE REMEDIATION	1596 PARK BOULEVARD	1596 PARK BLVD, Camden City, NJ, 08100	0.25/E	3.0	
LUST		1120 CHERRY ST, Camden City, NJ, 08103	0.25/WSW	-1.0	
UST REM	MARTINEZ AUTO REPAIR	1119-25 MT EPHRAIM AVE, Camden City, NJ,	0.25/SW	-8.0	
SITE REMEDIATION	MARTINEZ AUTO REPAIR	1119-25 MT EPHRAIM AVE, Camden City, NJ, 08101	0.25/SW	-8.0	
RCRA TSD	DEEZEE CHEMICAL INC	602 MT EPHRAIM AVE, CAMDEN, NJ, 08103	0.26/WNW	2.0	
LUST		1119 - 1125 MT. ETHRAIM AVE, Camden City, NJ, 08101	0.26/SW	-8.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
BROWNFIELDS	Star Junkyard	1100 Block of Sycamore & Chestnut Streets, Camden City, NJ, 08103	0.26/SSW	-8.0	
SITE REMEDIATION	ROCK OF AGES CHRISTIAN DAY CARE	1000 CHESTNUT ST, Camden City, NJ, 08103	0.26/SW	-8.0	
CERCLIS	DEEZEE CHEMICAL	600 MOUNT EPHRAM AVE, CAMDEN, NJ, 08103	0.27/WNW	2.0	
BROWNFIELDS	DEEZEE INCORPORATED	600 MT EPHRAIM AVE, Camden City, NJ, 08103	0.27/WNW	2.0	
SEMS	DEEZEE CHEMICAL	600 MOUNT EPHRAM AVE, CAMDEN, NJ, 08103	0.27/WNW	2.0	
MAJOR FAC	DEEZEE CHEMICAL INC.	600 MT. EPHRAIM AVE, CAMDEN, NJ, 08103	0.27/WNW	2.0	
SITE REMEDIATION	DEEZEE INCORPORATED	600 MT EPHRAIM AVE, Camden City, NJ, 08100	0.27/WNW	2.0	
ISRA	DEEZEE INCORPORATED	600 MOUNT EPHRAIM AVENUE, Camden City, NJ, 08103	0.27/WNW	2.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	PARKSIDE SCHOOL	WILDWOOD & PRINCESS STS, Camden City, NJ, 08103	0.27/SE	-3.0	
HIST LUST		1501 ADMIRAL WILSON, CAMDEN, NJ,	0.27/NE	-9.0	
VCP	SEARS TIRE & BATTERY FORMER	1350 ADMIRAL WILSON BLVD, Camden City, NJ, 08103	0.27/NNE	-3.0	
DEED	SEARS TIRE & BATTERY FORMER	1350 ADMIRAL WILSON BLVD, Camden City, NJ, 08103	0.27/NNE	-3.0	
CEA	SEARS TIRE & BATTERY FORMER	1350 ADMIRAL WILSON BLVD, Camden City, NJ, 08103	0.27/NNE	-3.0	
RCRA TSD	SPRAY COAT FINISHING	1125 KAIGHN AVE, CAMDEN, NJ, 08103-2711	0.27/S	-6.0	
SITE REMEDIATION	LINCOLN ELEMENTARY SCHOOL	ROSE ST & KAIGHNS AVE, Camden City, NJ, 08103	0.27/S	-6.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
DELIST STR	CAMPBELL SOUP COMPANY	ONE CAMPBELL PL, Camden City, NJ,	0.27/NNW	-8.0	
DELISTED SRP	CAMPBELLS FAMILY CENTER	291 EPHRAIM AVE, AKA 1 CAMPBELLS PL, Camden City, NJ, 08101	0.27/NNW	-8.0	
UST REM	WAREHOUSE @ 1501 ADM WILSON BLVD	1501 ADMIRAL WILSON BLVD, Camden City, NJ,	0.27/NE	-10.0	
SHWS	WAREHOUSE @ 1501 ADM WILSON BLVD	1501 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.27/NE	-10.0	
MAJOR FAC	WAREHOUSE SERVICE, INC	1501 ADMIRAL WILSON BLVD, CAMDEN, NJ, 08109	0.27/NE	-10.0	
SITE REMEDIATION	WAREHOUSE @ 1501 ADM WILSON BLVD	1501 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.27/NE	-10.0	
SITE REMEDIATION	WAREHOUSE @ 1501 ADMIRAL WILSON BOULEVARD	1501 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.27/NE	-10.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
UST REM	FORMER ABC COMPANIES	1421 1521 ADMIRAL WILSON BLVD, Camden City, NJ,	0.27/NNE	-5.0	
SHWS	FORMER ABC COMPANIES	1421 1521 ADMIRAL WILSON BLVD, Camden City, NJ, 08105	0.27/NNE	-5.0	
LUST		1300 ADMIRAL WILSON BLVD, Camden City, NJ,	0.28/NNE	-3.0	
SHWS	SEARS BUILDING FORMER	1300 ADMIRAL WILSON BLVD, Camden City, NJ,	0.28/NNE	-3.0	
SITE REMEDIATION	SEARS BUILDING FORMER	1300 ADMIRAL WILSON BLVD, Camden City, NJ, 08105	0.28/NNE	-3.0	
SITE REMEDIATION	BERNICE MILLER DAY CARE CENTER	1300 ADMIRAL WILSON BLVD, Camden City, NJ, 08105	0.28/NNE	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	BERNICE GREEN DAY CARE CENTER	1185 HADDON AVE, Camden City, NJ, 08103	0.28/SE	-3.0	
SHWS	1549 WILDWOOD AVENUE	1549 WILDWOOD AVE, Camden City, NJ,	0.28/E	6.0	
LUST		1549 WILDWOOD AVE, Camden City, NJ,	0.28/E	6.0	
SITE REMEDIATION	1549 WILDWOOD AVENUE	1549 WILDWOOD AVE, Camden City, NJ, 08103	0.28/E	6.0	
BROWNFIELDS	Fire Station-Kaighn Avenue	1204-1220 Kaighn Ave & 1200-1212 Louis Street, Camden City, NJ, 08103	0.28/SSE	-3.0	
VCP	Kaighn Avenue Fire Station	1204-1220 Kaighn Ave, Camden, NJ, 08101	0.29/SSE	-3.0	
SHWS	KAIGHN AVE FIRE STATION	1204 1220 KAIGHN AVE, Camden City, NJ, 08102	0.29/SSE	-3.0	
SITE REMEDIATION	KAIGHN AVE FIRE STATION	1204 1220 KAIGHN AVE, Camden City, NJ, 08102	0.29/SSE	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ISRA	JOSEPH H STOMEL & SONS	1255-65 KAIGHAS AVENUE, Camden City, NJ, 081030000	0.29/SSE	-2.0	
HIST LUST		1033 KAIGHNS AVE, CAMDEN, NJ,	0.30/SSW	-8.0	
SHWS	5975 CAMDEN FUELS	1033 KAIGHNS AVE, Camden City, NJ, 08103	0.30/SSW	-8.0	
BROWNFIELDS	KAIGHN AVE FIRE STATION	1204 1220 KAIGHNS AVE, Camden City, NJ, 08102	0.30/SSE	-2.0	
SITE REMEDIATION	JOSEPH H STOMEL & SONS	1255 TO 1265 KAIGHNS AVE, Camden City, NJ, 08103	0.30/SSE	-1.0	
SHWS	CADILLAC LAUNDRY SITE (FORMER)	151 MT EPHRAIM AVE, Camden City, NJ,	0.30/NW	-1.0	
SITE REMEDIATION	PENN LINEN & UNIFORM SERVICE INC	151 MT EPHRAIM AVE, Camden City, NJ, 08013	0.30/NW	-1.0	
LUST		151 MT. EPHRAIM AV, Camden City, NJ, 08103	0.30/NW	-1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
UST REM	5975 CAMDEN FUELS	NW KAIGHN & MT EPHRAIM, Camden City, NJ,	0.30/SSW	-8.0	
SHWS	KAIGHN AVE & MT EPHRAIM AVE GW CONTAMINATION	KAIGHN AVE & MT EPHRAIM AVE, Camden City, NJ,	0.30/SSW	-8.0	
SITE REMEDIATION	KAIGHN AVE & MT EPHRAIM AVE GW CONTAMINATION	KAIGHN AVE & MT EPHRAIM AVE, Camden City, NJ, 08105	0.30/SSW	-8.0	
CEA	5975 CAMDEN FUELS	NW KAIGHN & MT EPHRAIM 1033 KAIGHS AVE, Camden City, NJ, 08103	0.30/SSW	-8.0	
LUST		1222 LANGHAN AVE, Camden City, NJ,	0.31/ESE	2.0	
DELIST STR	CITY OF CAMDEN BD OF ED WAREHOUSE	8TH & SPRUCE STS, Camden City, NJ,	0.31/W	3.0	
LUST		8TH STREET & SPRUCE, Camden City, NJ, 08113	0.31/W	3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	CITY OF CAMDEN BD OF ED	8TH & SPRUCE STS, Camden City, NJ, 08101	0.31/W	3.0	
DELISTED LST	CITY OF CAMDEN BD OF ED	8TH & SPRUCE STS, Camden City, NJ,	0.31/W	3.0	
HIST LUST		8TH+SPRUCE STS, CAMDEN, NJ,	0.31/W	3.0	
SHWS	CITY OF CAMDEN BD OF ED	901 S 8TH ST, Camden City, NJ,	0.31/W	4.0	
SITE REMEDIATION	534 S 8TH ST HEATING OIL SPILL	534 S 8TH ST, Camden City, NJ, 08103	0.32/W	3.0	
BROWNFIELDS	PEARLYE PARK VIEW APARTMENTS	1617 1655 PARK BLVD, Camden City, NJ, 08103	0.33/ESE	20.0	
SHWS	PEARLYE PARK VIEW APARTMENTS	1617 1655 PARK BLVD, Camden City, NJ,	0.33/ESE	20.0	
SITE REMEDIATION	PEARLYE PARK VIEW APARTMENTS	1655 PARK BLVD, 1617 1619 & 1633 1635 1629 PARK BLVD, Camden City, NJ, 08103	0.33/ESE	20.0	
UST REM	SEARS TIRE & BATTERY FORMER	1350 ADMIRAL WILSON BLVD, Camden City, NJ,	0.34/N	-8.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
BROWNFIELDS	Sears Automotive Center	1350 Admiral Wilson Blvd., Camden City, NJ, 08101	0.34/N	-8.0	
SHWS	SEARS TIRE & BATTERY FORMER	1350 ADMIRAL WILSON BLVD, Camden City, NJ, 08103	0.34/N	-8.0	
SITE REMEDIATION	SEARS TIRE & BATTERY FORMER	1350 ADMIRAL WILSON BLVD, Camden City, NJ, 08103	0.34/N	-8.0	
BROWNFIELDS	ENGINE WORLDSPOT A POTTY	1311 1325 ADMIRAL WILSON BLVD, Camden City, NJ, 08102	0.34/N	-2.0	
SHWS	ENGINE WORLDSPOT A POTTY	1311 1325 ADMIRAL WILSON BLVD, Camden City, NJ, 08102	0.34/N	-2.0	
SITE REMEDIATION	ENGINE WORLDSPOT A POTTY	1311 1325 ADMIRAL WILSON BLVD, Camden City, NJ, 08102	0.34/N	-2.0	
FED BROWNFIELDS	Former Engine World/Spot A Pot	1319-25 ADMIRAL WILSON BOULEVARD, CAMDEN, NJ, 08102	0.34/N	-5.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
BROWNFIELDS	FORMER ENGINE WORLD/ SPOT A POT	1311-1325 ADMIRAL WILSON BLVD, Camden City, NJ, 08101	0.35/N	-5.0	
VCP	Former Engine World/ Spot-A-Pot	1311-1325 Admiral Wilson Blvd, Camden, NJ, 08101	0.35/N	-5.0	
SHWS	NJ DOT US RT 30 COOPER RIVER DRAINAGE PROJ	RT 30 & ADMIRAL WILSON BLVD, Camden City, NJ,	0.35/N	-6.0	
SITE REMEDIATION	LITTLE SMILEING FACES DAY CARE CENTER	1340 KAIGHN AVE, AKA 1340 KAIGHNS AVE, Camden City, NJ, 08104	0.36/SE	3.0	
UST REM	NEWTON AVENUE BUS FACILITY	350 NEWTON AVE, Camden City, NJ,	0.36/NW	-1.0	
BROWNFIELDS	NJ TRANSIT BUS OPERATIONS INCORPORATED	350 Newton Ave, Camden City, NJ, 08103	0.36/NW	-1.0	
BROWNFIELDS	NEWTON AVENUE BUS FACILITY	350 NEWTON AVE, Camden City, NJ, 08000	0.36/NW	-1.0	
DSHW	NEWTON AVE GARAGE	350 NEWTON AVE, Camden City, NJ,	0.36/NW	-1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	NEWTON AVENUE BUS FACILITY	350 NEWTON AVE, Camden City, NJ, 08102	0.36/NW	-1.0	
MAJOR FAC	NJ TRANSIT - NEWTON AVENUE GARAGE	350 NEWTON AVE, CAMDEN, NJ, 08103	0.36/NW	-1.0	
SITE REMEDIATION	NEWTON AVENUE BUS FACILITY	350 NEWTON AVE, Camden City, NJ, 08102	0.36/NW	-1.0	
CEA	NEWTON AVENUE BUS FACILITY	350 NEWTON AVE, Camden City, NJ, 08102	0.36/NW	-1.0	
ISRA	ARCHITECTURAL PRODUCTS INCORPORATED	351-355 NEWTON AVENUE, Camden City, NJ, 08100	0.36/NW	-1.0	
SHWS	1262 KENWOOD AVENUE	1262 KENWOOD AVE, Camden City, NJ,	0.37/SE	6.0	
SITE REMEDIATION	1262 KENWOOD AVENUE	1262 KENWOOD AVE, Camden City, NJ, 08103	0.37/SE	6.0	
SHWS	KIPP COOPER NORCROSS ACADEMY PARKING LOT	814 CHESTNUT ST, Camden City, NJ, 08103	0.37/WSW	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	BUSH REFRIGERATION	17TH ST & ADMIRAL WILSON BLVD, 1700 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.37/ENE	-9.0	
BROWNFIELDS	TRAILWAYS INC	17TH ST & ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.37/ENE	-11.0	
FED BROWNFIELDS	Robert Schweiker Site	ADMIRAL WILSON & 17TH STREET, CAMDEN, NJ, 08102	0.37/ENE	-11.0	
SHWS	TRAILWAYS INC	17TH ST & ADMIRAL WILSON BLVD, Camden City, NJ, 08102	0.37/ENE	-11.0	
SHWS	BUSH REFRIGERATION	17TH ST & ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.37/ENE	-11.0	
DEED	BUSH REFRIGERATION	17TH ST & ADMIRAL WILSON BLVD 1700 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.37/ENE	-11.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CEA	BUSH REFRIGERATION	17TH ST & ADMIRAL WILSON BLVD 1700 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.37/ENE	-11.0	
DSHW	CAMDEN CITY FIRE DEPARTMENT	LIBERTY ST & MECHANIC ST, Camden City, NJ,	0.37/S	2.0	
CERCLIS	RHM AUTOMOTIVE	299 S. 17TH STREET, CAMDEN, NJ, 08102	0.37/ENE	-11.0	
CERCLIS NFRAP	RHM AUTOMOTIVE	299 S. 17TH STREET, CAMDEN, NJ, 8102	0.37/ENE	-11.0	
LUST		17TH & ADM WILSON BLVD, Camden City, NJ,	0.38/ENE	-11.0	
DSHW	GREYHOUND BUS TERMINAL	1311 1317 ADMIRAL WILSON BLVD, Camden City, NJ,	0.38/N	-8.0	
SHWS	SUBARU OF AMERICA HEADQUARTERS	1 SUBARU DR, Camden City, NJ, 08103	0.38/NNW	-5.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	SUBARU OF AMERICA HEADQUARTERS	1 SUBARU DR, 1300 ADMIRAL WILSON BLVD FORMER, Camden City, NJ, 08103	0.38/NNW	-5.0	
UST REM	SUBARU OF AMERICA HEADQUARTERS	1 SUBARU DR, Camden City, NJ,	0.38/NNW	-5.0	
SHWS	1274 LIBERTY STREET	1274 LIBERTY ST, Camden City, NJ,	0.39/SE	4.0	
SITE REMEDIATION	1274 LIBERTY STREET	1274 LIBERTY ST, Camden City, NJ, 08104	0.39/SE	4.0	
HIST LUST		130 MICKEL BLVD, CAMDEN, NJ, 08101	0.39/NNE	-11.0	
SITE REMEDIATION	807 815 SYCAMORE STREET	807 815 SYCAMORE ST, Camden City, NJ, 08103	0.39/SW	-6.0	
SHWS	807 815 SYCAMORE STREET	807 815 SYCAMORE ST, Camden City, NJ, 08103	0.39/SW	-6.0	
MAJOR FAC	ALCHESTER MILLS CO., INC.	314 S. 11TH ST, CAMDEN, NJ, 08103	0.39/NW	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
DELIST STR	SEARS BUILDING FORMER	1300 ADMIRAL WILSON BLVD, Camden City, NJ,	0.39/N	-9.0	
HIST LUST		31 MOUNT EPHRAIM AVE, CAMDEN, NJ,	0.39/N	-10.0	
SHWS	R M H AUTOMOTIV E (FORMER)	WS 17TH ST 160 N ADMIRAL WILSON BLVD, Camden City, NJ, 08100	0.40/NE	-9.0	
SHWS	KAIGHN AVENUE BAPTIST CHURCH	831 KAIGHNS AVE, Camden City, NJ,	0.40/SW	-9.0	
LUST		831 KAIGHN AVE, Camden City, NJ, 08102	0.40/SW	-9.0	
SITE REMEDIATIO N	KAIGHN AVENUE BAPTIST CHURCH	831 KAIGHN AVE, Camden City, NJ, 08100	0.40/SW	-9.0	
BROWNFIEL DS	Robert Schwiker Site	299 S 17th St, Camden City, NJ, 08105	0.41/NE	-10.0	
SEMS ARCHIVE	RHM AUTOMOTIV E	299 S. 17TH STREET, CAMDEN, NJ, 08102	0.41/NE	-10.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	CAMDEN HIGH SCHOOL & VOCATIONAL COMPLEX	1700 PARK BLVD, Camden City, NJ, 08103	0.41/ESE	30.0	
SITE REMEDIATION	CAMDEN HIGH SCHOOL & VOCATIONAL COMPLEX	1700 PARK AVE & BAIRD BLVD, Camden City, NJ, 08103	0.41/ESE	30.0	
SITE REMEDIATION	PARTNERS IN PARENTING CHILD DEVELOPMENT CENTE	1700 PARK BLVD, Camden City, NJ, 08103	0.41/ESE	30.0	
UST REM	CAMDEN HIGH SCHOOL & VOCATIONAL COMPLEX	1700 PARK AVE & BAIRD BLVD, Camden City, NJ,	0.41/ESE	30.0	
HIST LUST		79 NEWTON AVE, CAMDEN, NJ,	0.41/NNW	-4.0	
SHWS	SUBARU NATIONAL SERVICE TRAINING CENTER	79 NEWTON AVE, Camden City, NJ, 08103	0.41/NNW	-4.0	
SHWS	VI-TECH FACILITY (FORMER)	79 NEWTON AVE, Camden City, NJ,	0.41/NNW	-4.0	
SITE REMEDIATION	VI-TECH FACILITY (FORMER)	79 NEWTON AVE, Camden City, NJ, 08103	0.41/NNW	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	SUBARU NATIONAL SERVICE TRAINING CENTER	79 NEWTON AVE, 1100 1151 WRIGHT AVE FORMER, Camden City, NJ, 08103	0.41/NNW	-4.0	
DEED	SUBARU NATIONAL SERVICE TRAINING CENTER	79 NEWTON AVE 1100 1151 WRIGHT AVE FORMER, Camden City, NJ, 08103	0.41/NNW	-4.0	
ISRA	SUBARU NATIONAL SERVICE TRAINING CENTER	79 NEWTON AVE, Camden City, NJ, 08103	0.41/NNW	-4.0	
SHWS	SUBARU NATIONAL SERVICE TRAINING CENTER	79 NEWTON AVE, Camden City, NJ,	0.41/NNW	-4.0	
SITE REMEDIATION	CAMDEN HIGH VOCATIONAL COMPLEX	PARK AVE & BAIRD BLVD, Camden City, NJ, 08103	0.41/ESE	26.0	
CERCLIS	CLASSIC CHEMICAL	16TH & MICKLES STREETS, CAMDEN, NJ, 08002	0.41/NE	-12.0	
CERCLIS NFRAP	CLASSIC CHEMICAL	16TH & MICKLES STREETS, CAMDEN, NJ, 8002	0.41/NE	-12.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	CLASSIC CHEMICAL	16TH ST & MICKLE ST, Camden City, NJ, 08100	0.41/NE	-12.0	
SEMS ARCHIVE	CLASSIC CHEMICAL	16TH & MICKLES STREETS, CAMDEN, NJ, 08002	0.41/NE	-12.0	
ISRA	CONCORD CHEMICAL COMPANY INC FORMER	16TH AND MICKLE STREETS, Camden City, NJ, 08105	0.41/NE	-12.0	
SITE REMEDIATION	NJ WIRE STITCHING MACHINE COMPANY	215 10TH ST S, Camden City, NJ, 08100	0.42/NW	-1.0	
ISRA	NJ WIRE STITCHING MACHINE COMPANY	215 SOUTH 10TH STREET, Camden City, NJ, 08103	0.42/NW	-1.0	
LUST		1700 PARK AVENUE, Camden City, NJ, 08103	0.42/ESE	27.0	
SITE REMEDIATION	KIPP COOPER NORCROSS ACADEMY @ WHITTIER	740 CHESTNUT ST, Camden City, NJ, 08103	0.43/WSW	-1.0	
SHWS	KIPP COOPER NORCROSS ACADEMY @ WHITTIER	740 CHESTNUT ST, Camden City, NJ, 08103	0.43/WSW	-1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
DELISTED LST	KIPP COOPER NORCROSS ACADEMY @ WHITTIER	740 CHESTNUT ST, Camden City, NJ,	0.43/WSW	-1.0	
DEED	KIPP COOPER NORCROSS ACADEMY @ WHITTIER	740 CHESTNUT ST, Camden City, NJ, 08103	0.43/WSW	-1.0	
CEA	KIPP COOPER NORCROSS ACADEMY @ WHITTIER	740 CHESTNUT ST, Camden City, NJ, 08103	0.43/WSW	-1.0	
SHWS	KIPP COOPER NORCROSS ACADEMY @ WHITTIER	740 CHESTNUT ST, Camden City, NJ,	0.43/WSW	-1.0	
HIST LUST		MT EPHRAM & ATLANTIC, CAMDEN, NJ,	0.43/S	4.0	
SITE REMEDIATION	10TH & MECHANIC ST DRUM SITE	10TH & MECHANIC ST, Camden City, NJ, 08104	0.43/SSW	-7.0	
SITE REMEDIATION	JOSEPH GARTLAND INC	1300 S 9TH ST, Camden City, NJ, 08104	0.43/SW	-10.0	
SHWS	60 NEWTON AVENUE	60 NEWTON AVE, Camden City, NJ,	0.43/NNW	-6.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SEMS	INDUSTRIAL LIQUID CHEMICAL COMPANY (ILC)	60 NEWTON AVENUE, CAMDEN, NJ, 08101	0.43/NNW	-6.0	
SITE REMEDIATION	60 NEWTON AVENUE	60 NEWTON AVE, Camden City, NJ, 08102	0.43/NNW	-6.0	
CERCLIS	INDUSTRIAL LIQUID CHEMICAL COMPANY (ILC)	60 NEWTON AVENUE, CAMDEN, NJ, 08101	0.43/NNW	-6.0	
LUST		CHESTNUT STREET/ MAURICE ST, Camden City, NJ, 08103	0.44/WSW	-1.0	
FED BROWNFIELDS	7th and Clinton	700-734 Clinton Street, CAMDEN, NJ, 08103	0.44/W	5.0	
SITE REMEDIATION	BPUM CHILD DEV CTRS INC SOUTH CAMDEN CTR	1200 ATLANTIC AVE, Camden City, NJ, 08104	0.44/SSE	13.0	
UST REM	KIPP COOPER NORCROSS ACADEMY	726 740 CHESTNUT ST, Camden City, NJ,	0.44/WSW	-1.0	
SHWS	KIPP COOPER NORCROSS ACADEMY	726 740 CHESTNUT ST, Camden City, NJ, 08103	0.44/WSW	-1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	JULIANI CLEANERS	1327 HADDON AVE, Camden City, NJ, 08103	0.44/SE	10.0	
UST REM	GATEWAY PARK PROPERTIES PARCEL S16	1820 ADMIRAL WILSON BLVD, Camden City, NJ,	0.45/ENE	-11.0	
SHWS	GATEWAY PARK PROPERTIES PARCEL S16	1820 ADMIRAL WILSON BLVD, Camden City, NJ, 08101	0.45/ENE	-11.0	
CEA	GATEWAY PARK PROPERTIES PARCEL S16	1820 ADMIRAL WILSON BLVD 1836 ADMIRAL WILSON BVLD FORMERLY, Camden City, NJ, 08101	0.45/ENE	-11.0	
HIST LUST		1800 ADM WILSON BLVD, CAMDEN, NJ,	0.45/ENE	-11.0	
FED BROWNFIELDS	Northwest Corner of Federal Street & River Avenue	Northwest Corner of Federal Street & River Avenue, CAMDEN, NJ, 08105	0.45/NNE	-9.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	732 CHESTNUT STREET	732 CHESTNUT ST, Camden City, NJ, 08103	0.45/WSW	0.0	
SHWS	732 CHESTNUT STREET	732 CHESTNUT ST, Camden City, NJ, 08103	0.45/WSW	0.0	
SHWS	ACTION PORT A POT	E RIVER RD & N E FEDERAL ST, Camden City, NJ, 08100	0.45/NNE	-9.0	
SITE REMEDIATION	ACTION PORT A POT	E RIVER RD & N E FEDERAL ST, Camden City, NJ, 08100	0.45/NNE	-9.0	
VCP	Former Action Port-A-Pot	East River Rd & Ne Federal St, Camden, NJ, 081O1	0.46/NNE	-9.0	
BROWNFIELDS	Action Port-A-Pot	NE FEDERAL & RIVER AVE, Camden City, NJ, 08105	0.46/NNE	-9.0	
BROWNFIELDS	MOBIL STATION FORMER	1836 ADMIRAL WILSON BLVD, Camden City, NJ, 08102	0.46/ENE	-10.0	
RE EVAL		FEDERAL ST & ADMIRAL WILSON BLV, CAMDEN CITY, NJ,	0.46/NNW	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
DSHW	CAMDEN TRANSFER STATION	FEDERAL ST & ADMIRAL WILSON BLVD, Camden City, NJ,	0.46/NNW	-4.0	
LUST		FEDERAL & NEWTON AVES, Camden City, NJ,	0.46/NNW	-4.0	
DELISTED LST	CAMDEN GATEWAY FINGER 4	1140 WRIGHT AVE, Camden City, NJ,	0.47/NNW	-4.0	
DSHW	CAMDEN GATEWAY FINGER 4	1140 WRIGHT AVE, Camden City, NJ,	0.47/NNW	-4.0	
HIST LUST		1125 WRIGHT AVE, CAMDEN, NJ,	0.47/NNW	-3.0	
SITE REMEDIATIO N	745 SYCAMORE STREET	745 SYCAMORE ST, Camden City, NJ, 08103	0.47/WSW	-3.0	
SHWS	745 SYCAMORE STREET	745 SYCAMORE ST, Camden City, NJ, 08103	0.47/WSW	-3.0	
HIST LUST		1000 ATLANTIC AVE, CAMDEN, NJ,	0.47/SSW	0.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	PROVIDENCE PEDIATRIC MEDICAL DAYCARE	1000 ATLANTIC AVE, Camden City, NJ, 08104	0.47/SSW	0.0	
SITE REMEDIATION	WEST JERSEY HEALTH SYSTEM	1000 ATLANTIC AVE, Camden City, NJ, 08104	0.47/SSW	0.0	
DELISTED SRP	RESPOND LEAPS & BOUNDS	1000 ATLANTIC AVE, Camden City, NJ, 08104	0.47/SSW	0.0	
RCRA TSD	VIRTUA CAMDEN	1000 ATLANTIC AVE, CAMDEN, NJ, 08101	0.47/SSW	0.0	
BROWNFIELDS	CONCORD CHEMICAL COMPANY INC	17TH ST & MICKLE ST, Camden City, NJ, 08105	0.47/NE	-11.0	
SHWS	CONCORD CHEMICAL COMPANY INC FORMER	17TH ST & MICKLE ST, Camden City, NJ, 08105	0.47/NE	-11.0	
FED BROWNFIELDS	Former Port a Pot	1501-1515 Federal Street Block 1182, Camden, NJ, 08105	0.47/NNE	-9.0	
SITE REMEDIATION	PARIS FOODS CORP	1632 CARMAN ST, Camden City, NJ, 08105	0.47/NE	-11.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
UST REM	EDUCATION & RESEARCH	401 HADDON AVE, Camden City, NJ,	0.47/WNW	6.0	
SITE REMEDIATION	EDUCATION & RESEARCH	401 HADDON AVE, Camden City, NJ, 081031433	0.47/WNW	6.0	
DELISTED LST	FIRESTONE STORE (FORMER)	SW NEWTON AND FEDERAL STS, Camden City, NJ,	0.47/NNW	-5.0	
CEA	US PETROLEUM	1839 ADMIRAL WILSON BLVD 1825 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.48/ENE	-11.0	
HIST LUST		124 SO 17TH ST, CAMDEN, NJ,	0.48/NE	-10.0	
SITE REMEDIATION	ST BARTHOLOMEW PARSIDE CATHOLIC	1725 PARK BLVD, Camden City, NJ, 08103	0.48/ESE	26.0	
SITE REMEDIATION	BOYS & GIRLS CLUB OF CAMDEN COUNTY	1725 PARK BLVD, Camden City, NJ, 08103	0.48/ESE	26.0	
SITE REMEDIATION	1315 ATLANTIC AVE DAYCARE	1315 ATLANTIC AVE, Camden City, NJ, 08104	0.48/SE	12.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
BROWNFIELDS	Old Antrim Building	1514 Federal St, Camden City, NJ, 08105	0.48/NNE	-9.0	
SITE REMEDIATION	ANTRIM HARDWARE	1514 FEDERAL ST, Camden City, NJ, 08105	0.48/NNE	-9.0	
UST REM	US PETROLEUM	1839 ADMIRAL WILSON BLVD, Camden City, NJ,	0.48/ENE	-11.0	
SHWS	US PETROLEUM	1839 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.48/ENE	-11.0	
SITE REMEDIATION	US PETROLEUM	1839 ADMIRAL WILSON BLVD, 1825 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.48/ENE	-11.0	
BROWNFIELDS	CONSOLIDATED FOAM	1521 Federal St, Camden City, NJ, 08105	0.49/NNE	-9.0	
VCP	Export Machine Sales	Ne Newton & Division Sts, Camden, NJ, 08101	0.49/W	8.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SITE REMEDIATION	JAYMAR PRECISION	1169 COOPER ST, Camden City, NJ, 08100	0.49/NNW	-2.0	
ISRA	JAYMAR PRECISION	1169 COOPER STREET, Camden City, NJ, 08102	0.49/NNW	-2.0	
BROWNFIELDS	EXPORT MACHINE SALES	NE CORNER OF RAMONA GONZALEZ STREET & NEWTON AVE., Camden City, NJ, 08103	0.49/W	10.0	
FED BROWNFIELDS	Export Machine Sales	NEWTON & DIVISION STREETS Block 299, Lot 105, CAMDEN, NJ, 08102	0.49/W	10.0	
BROWNFIELDS	EXPORT MACHINE SALES	NEWTON AVE & DIVISION ST, Camden City, NJ, 08102	0.49/W	10.0	
DSHW	EXPORT MACHINE SALES	NEWTON AVE & DIVISION ST, Camden City, NJ,	0.49/W	10.0	
SITE REMEDIATION	EXPORT MACHINE SALES	NEWTON AVE & DIVISION ST, Camden City, NJ, 08102	0.49/W	10.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
FED BROWNFIELDS	Former Gas Station	Federal and Cooper Streets, Camden, NJ, 08102	0.49/NNW	-4.0	
HIST LUST		100 S 17TH ST, CAMDEN, NJ,	0.50/NE	-10.0	
BROWNFIELDS	GOODWILL INDUSTRIES	100 S 17TH ST, Camden City, NJ, 081050000	0.50/NE	-10.0	
SHWS	GOODWILL INDUSTRIES	100 S 17TH ST, Camden City, NJ, 08105	0.50/NE	-10.0	
SITE REMEDIATION	FEDERAL & 16TH STREET GW CONTAMINATION	FEDERAL & 16TH ST, Camden City, NJ, 08105	0.50/NNE	-10.0	
SITE REMEDIATION	GOODWILL INDUSTRIES	100 17TH ST, Camden City, NJ, 08105	0.50/NE	-10.0	
CEA	GOODWILL INDUSTRIES	100 17TH ST, Camden City, NJ, 08105	0.50/NE	-10.0	
SHWS	GATEWAY PARK PROPERTIES PARCEL S17	1950 ADMIRAL WILSON BLVD, Camden City, NJ, 081011949	0.50/ENE	-12.0	
SHWS	1155 FEDERAL STREET	1155 FEDERAL ST, Camden City, NJ, 08104	0.51/NNW	-2.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	SYCKAMORE STREET	714 SYCAMORE ST, Camden City, NJ,	0.52/WSW	-1.0	
SHWS	COOPER UNIVERSITY HOSPITAL	1 COOPER PLAZA, Camden City, NJ, 08103	0.52/WNW	5.0	
DSHW		1650 FEDERAL ST, Camden City, NJ,	0.53/NE	-9.0	
SHWS	CONCORD CHEMICAL COMPANY INC	1650 FEDERAL ST, Camden City, NJ, 08105	0.53/NE	-9.0	
RCRA CORRACTS	BORDEN CHEMICAL PRINTING INK	1625 FEDERAL ST, CAMDEN, NJ, 08105-1713	0.53/NE	-9.0	
SHWS	BORDEN CHEMICAL PRINTING	1625 FEDERAL ST, Camden City, NJ, 08100	0.53/NE	-9.0	
DSHW	NJ TRANSIT RIVER LINE CAMDEN COUNTY	1625 FEDERAL ST, Camden City, NJ,	0.53/NE	-9.0	
SHWS	HARRY PAPE & SONS	1427 HADDON AVE, Camden City, NJ, 08102	0.54/SE	18.0	
SHWS	CWS INDUSTRIES, INC	726 KAIGHNS AVE, Camden City, NJ, 08103	0.55/WSW	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	ADMIRAL WILSON DBA CAMDEN CITGO	1901 ADMIRAL WILSON BLVD, Camden City, NJ, 08105	0.55/ENE	-10.0	
SHWS	1130 COOPER STREET	1130 COOPER ST, Camden City, NJ,	0.55/NNW	1.0	
DSHW	COOPER RIVER	RT 30 & COOPER ST, Camden City, NJ,	0.57/NNW	-5.0	
DSHW	COOPER RIVER	RT 30 & COOPER ST, Camden City, NJ,	0.57/NNW	-5.0	
SHWS	IRRIGATION SYSTEMS INC	936 FAIRMOUNT ST, Camden City, NJ,	0.57/SSW	-5.0	
SHWS	ADAMS OIL INC	1435 RIVER AVE REAR, Camden City, NJ, 08105	0.58/NNE	-9.0	
DSHW	MARY H THOMAS NURSERY HOME INC	1435 8TH ST, Camden City, NJ,	0.58/SW	-9.0	
SHWS	MARY H THOMAS NURSERY HOME INC	1435 8TH ST, Camden City, NJ,	0.58/SW	-9.0	
RCRA CORRACTS	LORCO PETROLEUM SERVICES	1800 CARMAN ST, CAMDEN, NJ, 08105	0.58/NE	-6.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	COOPER HOME TOWNHOMES LLC	584 WASHINGTON ST, Camden City, NJ,	0.58/WNW	1.0	
DSHW	MARY H THOMAS NURSERY HOME INC	1435 8TH ST, Camden City, NJ,	0.58/SW	-8.0	
SHWS	PSE&G TRANSFORMER IN FRONT OF 1478 SOUTH 9TH	1478 S 9TH ST, Camden City, NJ,	0.59/SSW	-8.0	
SHWS	REMTECH ENVIRONMENTAL	1800 CARMEN ST, Camden City, NJ, 08105	0.60/NE	-6.0	
DSHW	NJ TRANSIT RIVER LINE CAMDEN COUNTY	MICKLE BLVD & HADDON AVE, Camden City, NJ,	0.61/WNW	5.0	
FUDS	AAA BATTERY #30	, CAMDEN, NJ,	0.62/ESE	22.0	
SHWS	AMOCO STATION (FORMER)	710 BROADWAY, Camden City, NJ,	0.62/W	7.0	
SHWS	MONK'S GULF	710 BROADWAY, Camden City, NJ, 08103	0.62/W	7.0	
PUB FUNDED	Amoco Service Station Camden City	710 Broadway and Pine Street, Camden City, NJ,	0.62/W	7.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	DIMEDIO LIME CO	1801 FEDERAL ST, Camden City, NJ, 08105	0.63/NE	-7.0	
DSHW	EVERETT STREET & 9TH STREET	EVERETT ST & S 9TH ST, Camden City, NJ,	0.63/SSW	-8.0	
SHWS	EVERETT STREET & 9TH STREET	EVERETT ST & S 9TH ST, Camden City, NJ, 08104	0.63/SSW	-8.0	
SHWS	FIRST NAZARENE CHRISTIAN ACADEMY PROPOSED	EVERETT ST & S 9TH ST, Camden City, NJ,	0.63/SSW	-8.0	
DSHW	FIRST NAZARENE CHRISTIAN ACADEMY PROPOSED	EVERETT ST & S 9TH ST, Camden City, NJ,	0.63/SSW	-8.0	
DSHW	MCGUIRE GARDENS COMMUNITY CENTER	S 20TH ST & RANDOLPH ST, Camden City, NJ,	0.63/ENE	-11.0	
SHWS	1540 KAIGHN AVENUE	1540 KAIGHN AVE, Camden City, NJ,	0.64/ESE	22.0	
DSHW	NJDOT I-676 & ATLANTIC AVENUE PROJECT	I-676 & ATLANTIC AVE, Camden City, NJ,	0.65/SW	-9.0	
SHWS	1895 FEDERAL STREET	1895 FEDERAL ST, Camden City, NJ, 08015	0.65/NE	-5.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	OASIS HOTEL FORMER	2000 ADMIRAL WILSON BLVD, Camden City, NJ, 08101	0.66/E	-10.0	
SHWS	428 SOUTH BROADWAY	428 S BROADWAY, Camden City, NJ,	0.66/WNW	-2.0	
SHWS	CRYSTAL CLEANERS & DYERS INC	1012 BROADWAY, Camden City, NJ, 08103	0.66/WSW	5.0	
SHWS	LANNING SQUARE ELEMENTARY SCHOOL	525 CLINTON ST, Camden City, NJ, 08103	0.66/W	4.0	
DSHW	GATEWAY PARK PROPERTIES PARCELS S18 & S19	2004 ADMIRAL WILSON BLVD, Camden City, NJ,	0.66/E	-10.0	
DSHW	GATEWAY PARK PROPERTIES PARCELS S26 & S27	SE BAIRD BLVD ADJACENT TO COOPER CREEK, Camden City, NJ,	0.66/E	-7.0	
SHWS	COOPER MEDICAL SCHOOL OF ROWAN UNIVERSITY	401 S BROADWAY, Camden City, NJ, 08103	0.68/WNW	-1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	FOOTE & JENKS CORP	1420 1432 CRESTMONT AVE, Camden City, NJ,	0.69/SE	22.0	
SHWS	LANNING SQUARE ELEMENTARY SCHOOL	446 WILLIAMS ST, Camden City, NJ,	0.69/WNW	-1.0	
SHWS	KENNEDY TOWERS	2021 WATSON ST, Camden City, NJ,	0.69/ENE	-6.0	
SHWS	ACELERO LEARNING CAMDEN	2021 WATSON ST, Camden City, NJ,	0.69/ENE	-6.0	
SHWS	ABRAHAM DUNOFF	1112 LINDEN ST, Camden City, NJ,	0.70/NNW	1.0	
DSHW	ACELERO LEARNING CAMDEN	2021 WATSON ST, Camden City, NJ,	0.71/ENE	-7.0	
SHWS	ROYDEN & 5TH ST GROUNDWATER CONTAMINATION	ROYDEN ST & 5TH ST, Camden City, NJ, 08103	0.71/W	2.0	
SHWS	808 MARKET STREET	808 MARKET ST, Camden City, NJ, 08102	0.71/NW	8.0	
RE EVAL		1000 5TH ST N, CAMDEN CITY, NJ, 08103-2010	0.71/WSW	2.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	CHARLIE & SON SERVICE CENTER LLC	1503 HADDON AVE, Camden City, NJ,	0.71/SE	19.0	
SHWS	1598 EUCLID AVENUE	1598 EUCLID AVE, Camden City, NJ,	0.71/ESE	19.0	
SHWS	ESTATE OF JOSEPH SAITTA	531 541 S 5TH ST, Camden City, NJ,	0.72/W	0.0	
SHWS	NORTHWEST 5TH & BERKLEY STREET	5TH ST & BERKLEY ST, Camden City, NJ, 08101	0.72/W	1.0	
SHWS	PSE&G TRANSFORMER IN ROW IFO 1901 PARK BLVD	1901 Park Blvd, Camden City, NJ, 08103	0.72/ESE	23.0	
SHWS	CAMDEN CNTY HISTORICAL SOCIETY	1900 PARK BLVD, Camden City, NJ,	0.72/ESE	23.0	
SHWS	514 BENSON STREET	514 BENSON ST, Camden City, NJ,	0.73/WNW	-4.0	
SHWS	BONSALL ANNEX SCHOOL	1038 LOWELL ST, Camden City, NJ,	0.73/S	5.0	
DSHW	BONSALL ELEMENTARY SCHOOL	1575 MT EPHRAIM AVE, Camden City, NJ,	0.73/S	17.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	J E BRENNEMAN & CO	800 840 COOPER ST, Camden City, NJ, 08202	0.73/NW	11.0	
SHWS	J E BRENNEMAN & CO	800 840 COOPER ST, Camden City, NJ,	0.73/NW	11.0	
SHWS	VOLUNTEERS OF AMERICA OF DELAWARE VALLEY	510 LIBERTY ST, Camden City, NJ,	0.75/WSW	-4.0	
SHWS	SL SURFACE TECHNOLOGIES INC	1416 S 6TH ST, Camden City, NJ, 08105	0.75/SW	-7.0	
SHWS	BLOCK 189 - LOT 9 - ROWAN UNIVERSITY	402 S 5TH ST, Camden City, NJ, 08103	0.76/WNW	-6.0	
SHWS	CITY OF CAMDEN	449 KAIGHNS AVE, Camden City, NJ, 08103	0.76/WSW	-2.0	
SHWS	SUNOCO 0004-5542 FORMER	2150 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.76/E	-10.0	
SHWS	UNITED FABRICATORS CO	1999 COOPER ST, Camden City, NJ,	0.76/NE	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
NPL	WELSBACH & GENERAL GAS MANTLE (CAMDEN RADIATION)	6 AREAS IN CAMDEN AND GLOUCESTER CITY, CAMDEN AND GLOUCESTER CIT, NJ, 08030	0.77/SW	-8.0	
SHWS	LUKOIL #57200	2225 ADMIRAL WILSON BLVD, Camden City, NJ, 08109	0.78/E	-9.0	
SHWS	LUKOIL #57200	2225 ADMIRAL WILSON BLVD, Camden City, NJ,	0.78/E	-9.0	
SHWS	CAMDEN PARKING AUTORITY	1 BROADWAY, Camden City, NJ, 08101	0.79/WNW	6.0	
SHWS	BPUM CHILD DEVELOPME NT INC WEST STREET	501 WEST ST, Camden City, NJ, 08103	0.79/W	-4.0	
SHWS	BPUM CHILD DEVELOPME NT INC WEST ST	501 WEST ST, Camden City, NJ,	0.79/W	-4.0	
SHWS	B&H TRUCKING	825 E STATE ST, Camden City, NJ,	0.79/NNE	-3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	BROADWAY & LIBERTY FIRE STATION	1301 BROADWAY, Camden City, NJ,	0.80/WSW	-8.0	
SHWS	MIGALI INDUSTRIES INC	1475 S 6TH ST, Camden City, NJ, 08104	0.80/SW	-9.0	
SHWS	MCGUIRE GARDENS	2140 WESTMINSTER AVE, Camden City, NJ, 08100	0.80/ENE	-6.0	
DSHW	NJ TRANSIT RIVER LINE CAMDEN COUNTY	2005 HIGH ST, Camden City, NJ,	0.80/NE	-4.0	
SHWS	CAMDEN CITY BOE DUDLEY ELEMENTARY	2250 BERWICK AVE, Camden City, NJ, 08101	0.81/ENE	-4.0	
SHWS	THE AUTO PL	2075 FEDERAL ST, Camden City, NJ,	0.82/NE	-2.0	
SHWS	CENTER CITY TEXACO	7TH ST & COOPER ST, Camden City, NJ,	0.82/NW	8.0	
SHWS	NORTH WEST EAST STATE STREET & RIVER AVENUE	NW E STATE ST & RIVER AVE, Camden City, NJ, 08100	0.82/NNE	-7.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	2305 ADMIRAL WILSON BLVD	2305 ADMIRAL WILSON BLVD, Camden City, NJ,	0.82/E	-10.0	
DSHW	CAMDEN PROPERTIES	E STATE ST & RIVER AVE, Camden City, NJ,	0.82/NNE	-7.0	
DSHW	ADVANCED CHEMICAL TECHNOLOGY	E STATE ST & RIVER AVE, Camden City, NJ,	0.82/NNE	-7.0	
SHWS	GATEWAY PARK PROPERTIES PARCELS S28 & S29	2248 2258 ADMIRAL WILSON BLVD, Camden City, NJ,	0.83/E	-11.0	
SHWS	GATEWAY PARK	ADMIRAL WILSON BLVD, Camden City, NJ, 08101	0.83/E	-11.0	
SHWS	GATEWAY PARK PROPERITES PARCELS S30 S31 & S32	2248 2350 ADMIRAL WILSON BLVD, Camden City, NJ,	0.83/E	-11.0	
DSHW	548 FEDERAL STREET	548 FEDERAL ST, Camden City, NJ,	0.83/WNW	6.0	
SHWS	BILLS GAS & GO	698 COOPER ST, Camden City, NJ, 08102	0.83/NW	9.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	GUARANTEED BRAKE PARTS COMPANY	2101 FEDERAL ST, Camden City, NJ,	0.84/NE	-2.0	
SHWS	PAVONIA YARD DIESEL TERMINAL	1516 RIVER RD, Camden City, NJ, 08105	0.84/NNE	-6.0	
SHWS	CAMDEN COUNTY COMMUNITY CHARTER SCHOOL	415 N 9TH ST, Camden City, NJ, 08102	0.84/NNW	11.0	
SHWS	CAMDEN IRON & METAL INCORPORATED	1500 6TH ST S, Camden City, NJ, 08103	0.84/SW	-11.0	
DSHW	CAMDEN PARKING AUTORITY	502 504 FEDERAL ST, Camden City, NJ,	0.85/WNW	5.0	
SHWS	RUTGERS - CAMDEN NURSING & SCIENCE BLDG	530 FEDERAL ST, Camden City, NJ, 08102	0.85/WNW	4.0	
SHWS	KIPP COOPER NORCROSS ACADEMY @ SUMNER	1600 S 8TH ST, Camden City, NJ,	0.85/SSW	-4.0	
DSHW	10TH STREET & STATE STREET	10TH ST & STATE ST, Camden City, NJ,	0.85/WNW	-7.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	CORNELIUS MARTIN PARK	562 N 10TH ST, Camden City, NJ, 08101	0.85/NNW	10.0	
DSHW	TRAILWAYS INC	17TH ST & ADMIRAL WILSON BLVD, Camden City, NJ,	0.85/WNW	-7.0	
DSHW	CADILLAC LAUNDRY SITE (FORMER)	11TH ST & MT EPHRAIM AVE, Camden City, NJ,	0.85/WNW	-7.0	
NPL	MARTIN AARON, INC.	1542 SOUTH BROADWAY, CAMDEN, NJ, 08104	0.86/SW	-11.0	
SHWS	CAMDEN GAS STATION	2361 ADMIRAL WILSON BLVD, Camden City, NJ,	0.86/E	-7.0	
SHWS	445 NORTH 9TH STREET	445 N 9TH ST, Camden City, NJ,	0.86/NNW	11.0	
SHWS	CAMDEN COUNTY COMPLEX	600 MARKET ST, Camden City, NJ,	0.87/WNW	6.0	
SHWS	VIRTUA OUR LADY OF LOURDES HOSPITAL	1600 HADDON AVE, Camden City, NJ, 08103	0.87/SE	13.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	438 MARTIN LUTHER KING BOULEVARD	438 MARTIN LUTHER KING BLVD, Camden City, NJ, 08103	0.88/WNW	-7.0	
SHWS	1714 MT EPHRAIM LLC	1714 MT EPHRAIM AVE, Camden City, NJ,	0.88/S	16.0	
PUB FUNDED	Camden City Water Department Parkside Well Field Contaminatio n	Vesper & Park Boulevards, Camden City, NJ,	0.88/ESE	12.0	
SHWS	CAMDEN CITY WD PARKSIDE WELLFIELD CONTAM	PARK BLVD & VESPER BLVD, Camden City, NJ,	0.88/ESE	12.0	
SHWS	CAMDEN HIGH SCHOOL FIELD HOUSE	PARK BLVD & VESPER BLVD, Camden City, NJ,	0.88/ESE	12.0	
SHWS	BRANCH VILLAGE	1700 S 9TH ST, Camden City, NJ, 08102	0.88/SSW	-2.0	
SHWS	FORMER HARRISON AVENUE LANDFILL	HARRISON AVE & STATE ST, Camden City, NJ, 08100	0.88/N	-12.0	
SHWS	CAMDEN PROPERTIES	1600 RIVER AVE, Camden City, NJ, 08110	0.89/NNE	-5.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	218 MORSE STREET	218 MORSE ST, Camden City, NJ,	0.89/ENE	-3.0	
DSHW	GATEWAY PARK PROPERTIES PARCEL S33	2800 ADMIRAL WILSON BLVD, Pennsauken Twp, NJ,	0.89/E	-10.0	
SHWS	GARLOCK INC VALVES & IND PLASTIC	602 N 10TH ST, Camden City, NJ,	0.89/NNW	11.0	
SHWS	415 425 NORTH 8TH STREET	415 425 N 8TH ST, Camden City, NJ, 08102	0.89/NW	9.0	
RE EVAL		FEDERAL & 5TH STS NW, CAMDEN CITY, NJ,	0.90/WNW	2.0	
DSHW	NJ TRANSIT RIVER LINE CAMDEN COUNTY	NW FEDERAL ST & 5TH ST, Camden City, NJ,	0.90/WNW	2.0	
SHWS	CAMDEN NJ STATE INSPECTION & REPAIR	1489 BROADWAY, Camden City, NJ,	0.90/SW	-9.0	
SHWS	NICKS AUTO PARTS INCORPORATED	1506 E STATE ST, Camden City, NJ,	0.90/N	-12.0	
SHWS	GENERAL IRON WORKS CORP	407 ATLANTIC AVE, Camden City, NJ,	0.91/WSW	-10.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	LIEDTKA TRUCKING INC	1535 S BROADWAY, Camden City, NJ, 08104	0.91/SW	-10.0	
RE EVAL		1115 NORTH 16TH ST, CAMDEN CITY, NJ,	0.91/NNE	-9.0	
SHWS	STEED SCRAP PAPER & METAL	1115 NORTH 16TH ST, Camden City, NJ, 08100	0.91/NNE	-9.0	
SHWS	PSE&G TRANSFORMER @ 6-8 SOUTH 4TH STREET	6 8 S 4TH ST, Camden City, NJ,	0.91/WNW	-8.0	
SHWS	ADVERTISING PRINTING COMPANY INC	1590 PIERCE AVE, Camden City, NJ,	0.91/NNE	-10.0	
SHWS	508 PFEIFFER STREET	508 PFEIFFER ST, Camden City, NJ,	0.92/E	-9.0	
SHWS	SEVENTH AND LINDEN STREET	7TH ST & LINDEN ST, Camden City, NJ, 08102	0.92/NW	9.0	
SHWS	CAMDEN COUNTY COMPLEX	520 MARKET ST, Camden City, NJ, 08101	0.92/WNW	3.0	
SHWS	1787 RIVER AVENUE	1787 RIVER AVE, Camden City, NJ,	0.92/NNE	-4.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	PERMALITH LAMINATING COMPANY	27 23RD ST, Camden City, NJ,	0.93/ENE	0.0	
SUPERFUND ROD	MARTIN AARON, INC.	1542 SOUTH BROADWAY, CAMDEN, NJ, 08104	0.94/SW	-12.0	
SHWS	1347 DECATUR STREET	1347 DECATUR ST, Camden City, NJ,	0.94/SSE	16.0	
SHWS	GATEWAY PARK PROPERTIES PARCELS S34 & S36	2920 ADMIRAL WILSON BLVD, Pennsauken Twp, NJ, 08109	0.94/E	-11.0	
SHWS	GATEWAY PARK PROPERTIES PARCELS S34 & S36	2920 ADMIRAL WILSON BLVD, Pennsauken Twp, NJ,	0.94/E	-11.0	
SHWS	LARRY'S PROFESSIONAL SERVICENTER	1799 RIVER AVE, Camden City, NJ, 08105	0.94/NNE	-4.0	
SHWS	FORMER NELSON AUTO LEASING	2825 ADMIRAL WILSON BLVD, Pennsauken Twp, NJ,	0.94/E	-11.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	GATEWAY PARK PROPERTIES PARCEL S38	3000 ADMIRAL WILSON BLVD, Pennsauken Twp, NJ,	0.95/E	-11.0	
SHWS	BONTEGLIO & SONS PAPER COMPA	259 DIVISION ST, Camden City, NJ, 08102	0.95/W	-8.0	
SHWS	3RD ST FIRE STATION	3RD ST & WASHINGTON ST, Camden City, NJ, 08102	0.95/WNW	-10.0	
PUB FUNDED	Martin Aaron Incorporated	1542 South Broadway, camden City, NJ,	0.95/SW	-10.0	
SHWS	MARTIN AARON INCORPORATED/RHODES DRUM CO	1542 BROADWAY, Camden City, NJ, 08104	0.96/SW	-10.0	
SHWS	FORMER EXXON SERVICE STATION #3-0056	245 MARLTON AVE, Camden City, NJ, 08105	0.97/ENE	-2.0	
SHWS	CAMDEN CNTY CORRECTIONAL FACILIT	330 FEDERAL ST, Camden City, NJ,	0.97/WNW	-1.0	
SHWS	CAMDEN LABORATORIES	1667 DAVIS ST, Camden City, NJ, 08103	0.97/SE	7.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
DSHW	NJ TRANSIT RIVER LINE CAMDEN COUNTY	4TH ST & ARCH ST, Camden City, NJ,	0.97/WNW	-1.0	
SHWS	GATEWAY PARK PROPERTIES PARCEL S39	3030 ADMIRAL WILSON BLVD, Pennsauken Twp, NJ, 08109	0.97/E	-10.0	
SHWS	500 N 7TH ST NORTHGATE II APARTMENTS	500 N 7TH ST, Camden City, NJ,	0.97/NW	11.0	
DSHW	500 N 7th STREET	500 N 7TH ST, Camden City, NJ,	0.97/NW	11.0	
DSHW	GATEWAY PARK PROPERTIES PARCELS S42 & S43	3100 ADMIRAL WILSON BLVD, Pennsauken Twp, NJ,	0.98/E	-10.0	
SHWS	MAGNETIC METALS	1900 HAYES AVE, Camden City, NJ, 08101	0.98/NE	1.0	
SHWS	525-527 PENN STREET	525 527 PENN ST, Camden City, NJ,	0.98/NW	3.0	
SHWS	PSE&G LOCUST STREET SUBSTATION CLASS H BUILD	LOCUST ST & CHERRY ST, Camden City, NJ,	0.99/W	-11.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SHWS	THE NEIGHBORHOOD CENTER INC	278 KAIGHNS AVE, Camden City, NJ,	0.99/WSW	-10.0	
SHWS	P H C INDUSTRIES INC	1675 1677 HADDON AVE, Camden City, NJ, 08103	0.99/SE	8.0	
SHWS	GALAXY AUTO SALES	1649 HADDON AVE, Camden City, NJ,	0.99/SE	8.0	
SHWS	RECORDED PUBLICATIONS LAB INC	1100 STATE ST, Camden City, NJ, 08105	0.99/NNW	-17.0	
SHWS	1344 DAYTON STREET	1344 DAYTON ST, Camden City, NJ,	0.99/SSE	13.0	
SHWS	RF PRODUCTS INCORPORATED	DAVIS ST & COPEWOOD ST, Camden City, NJ, 08103	1.00/SE	5.0	
DSHW		DAVIS ST & COPEWOOD ST, Camden City, NJ,	1.00/SE	5.0	

6.1.3 Orphan Sites

The unfiltered ERIS Report identified 0 orphan sites, or sites which could not be mapped due to inadequate address information.

6.2 Regulatory Agency File and Records Review

6.2.1 Department of Environmental Protection

Pennoni submitted online requests for information regarding environmental concerns at the subject property.

Insert appropriate WordBank item.

Department of Environmental Protection Records Request		
Agency	**Date of Request**	**Agency Response**
NJDEP Open Public Records Act (OPRA)	6/13/2022	Pennoni received a response from agency on 6/16/2022 indicating the Department had responsive records. Responsive records will be sent to Pennoni.

In addition, Pennoni accessed the NJDEP DataMiner website to review information available for the subject property. According to the database, the subject property was identified under the Site Remediation Program (SRP) for two cases described in the sections above. Based on the regulatory status of the SRP cases, the former closed remediation cases are identified as **HRECs** in connection with the subject property. Copies of the documents obtained from DataMiner are included as an of this report.

6.2.2 United States Environmental Protection Agency

A request was submitted online to the USEPA, *MyPropertyInfo* website, on June 17, 2022, to search federal files for any information regarding the subject property, and any instances of illegal waste discharges, Notices of Violations, and the current regulatory status of the subject property.

The subject property was identified in the EPA Database for 1300 Walnut St, 1321 Walnut St, and 1361 Walnut St.

Crane International is identified as **NJEMS**-541324 MATERIAL RECYCLING No violations were noted.

ERH Die Cutting is identified as **NJEMS**-51226100000, EPCRA **NJEMS**-51724 AIR PROGRAM. The activities are listed as die cut carboard and paper. No violations were noted.

WAREHOUSING ASSOC is identified in the RCRA database as NJD086423191. No violations are noted. The occupant is also listed in the following databases: **NJEMS**-G000003889 STATE CLEANUP SITE, **NJEMS**-NJD086423191, HAZARDOUS WASTE PROGRAM. No violations were noted.

LERRO PRODUCTS INC. is identified at 1321 Walnut Street under the FRS and ICIS databases. No violations were noted.

A copy of the inquiry is contained as Appendix C of this report.

6.3 Additional Environmental Records Sources – Regional and Local

Additional Environmental Records Sources – Regional and Local			
Records Source	**Date of Records Request**	**Method of Request**	**Findings**
County of Camden County	6/13/2022	Email	Camden County responded to the request on 6/13/2022, stating that there are no files on record for the subject property. A copy of the correspondence is contained as an appendix of this report.
City of Camden	6/13/2022	Email	No response to this inquiry has been received by Pennoni to date. Information received, which changes the findings of this report, will be forwarded upon receipt. A copy of this request is included as an appendix of this report.

7.0 SITE RECONNAISSANCE

Pennoni personnel completed an inspection of the subject property on June 15, 2022 to visually inspect the site for evidence of **RECs**. During the site visit, Kurtis Hayes of Pennoni was escorted by Ralph Rizziello, Site Contact. Photographs of the significant features observed during the site visit are provided in Appendix D.

Methodology and Limiting Conditions	
Personnel	Kurtis Hayes
Site Inspection Date	June 15, 2022
Methodology	The site was observed by walking the surveyed property line.
Limiting Conditions	Access to interior areas within the buildings on the subject property was provided. Some portions of the 1300 Walnut Street structure were unable to be accessed due to structural deterioration and limited accessibility. LIST RECS THAT ACCESS WAS LIMITED HERE.

7.1 General Observations – Exterior Areas

The 1300 Walnut Street portion of the subject property consists of an irregular-shaped industrial structure which consists of one-story portions and three-story portions. The 1300 Walnut Street portion of the site is a 3.09-acre parcel of land which is bordered by Walnut Street to the east, Princess Avenue to the south, Memorial Avenue to the west and a vacant undeveloped lot to the north. This property consists of two separate structures which are located adjacent to each other. There are several entrances located throughout the structure which include doorways and garage type doors located at various locations throughout the structure. A fire suppression system is located along the perimeter of the site structures.

The 1321 Walnut Street portion of the subject property consists of three separate industrial structures. The structures are bordered by Pine Street to the north, Walnut Avenue to the east, the 1300 Walnut Street property to the south, and vacant undeveloped land which is asphalt paved to the west. The larger structure is equipped with 10 loading/unloading areas.

7.2 General Observations – Interior Areas

The 1300 Walnut Street portion of the subject property is currently vacant and no longer in operation. The structure is constructed mainly of painted masonry block and and brick. This subject building contains a high voltage room, fire pump room, a paint spray booth room, and a cable drawn elevator. These rooms were not operational at the time on the site inspection and were identified

during a review of historical documentation. Renovations to the subject buildings included additions to the subject building through 1906-1977. The 1300 Walnut Street has been vacant since approximately 2017.

The 1321 Walnut Street portion of the subject property is equipped with three commercial structures which are currently not in operation. The largest of the three structures formerly operated as a soap manufacturing facility. During the site reconnaissance there approximately 50 drums of soap manufacturing materials which were staged in the area adjacent to the loading/ unloading bays. According to the site manager, the drums were being removed from the facility by the prior site operators. The structure is equipped with an office, ten loading/unloading areas, material storage areas, two restrooms, and a small below grade basement area. One 275-gallon No.2 fuel oil aboveground storage tank (AST) is present in the small basement area. A restroom and HVAC unit is also present in the small basement area. The two other structures are currently utilized for storage.

7.3 Hazardous Substances in Connection with Identified Uses

1300 Walnut Street - Based on a review of the Sanborn maps and site reconnaissance the subject property historically operated as the RH. & BC. Reeve Camden Oil Cloth Works from 1868 until at least 1891. Operations consisted of the manufacturing and distribution of oil cloths. Chemicals, hazardous materials, and raw materials utilized during these operations consisted of burlap, linseed oil, lubricating oil, benzene, gasoline, coal, varnish and paints. Lead and other metals were reportedly used in the oil cloth manufacturing process.

The subject property condition at the time of the site reconnaissance was significantly dilapidated. Various debris was observed throughout the site structure which included masonry materials such as block and pavers. Suspect asbestos containing materials, lead and other potentially regulated materials in small containers were observed throughout the site. The former industrial site use is identified as **REC** in connection with the subject property.

1321 Walnut Street - The larger structure housed approximately 50 drums of substances/materials associated with the soap manufacturing activities observed throughout the site structure. The facility appeared to have various staining throughout the concrete floor from water infiltration or unknown substances. The concrete floor appeared to be in competent condition throughout the facility. The materials observed but not limited to onsite included the following: E-Cryl 11; Citric Acid; Soap manufacturing color dyes; Ph9; and Sodium Hydroxide. A materials inventory list was not provided by the current site owner/operator during this Phase I assessment. The absence of a complete materials inventory list is considered a significant data gap in order to identify potential **RECs** associated with the subject property.

7.4 Storage Tanks

The Storage Tank Summary table below provides information associated with aboveground storage tanks (ASTs) and underground storage tanks (UST) in connection with the subject property.

Storage Tank Summary			
Quantity	**Type**	**Location**	**Status**
275-Gallon	No.2 Heating Oil AST	1321 Walnut Street	No staining or evidence of a release in vicinity of concrete flooring surrounding AST.
1,000-Gallon	Leaded Gasoline UST	1321 Walnut Street	Removed / Closed - NFA Issued by NJDEP - **HREC**
1,800-Galllon Approx	Gasoline Well / Piping	1300 Walnut Street	Unknown - **REC**
Two USTs shown on 1926 Sanborn	Gasoline (leaded)	1321 Walnut Street	Unknown - **REC**
Unkown	Fuel Oil "tank"	1300 Walnut Street	1977 Sanborn shown adjacent to the boiler room - **REC**

7.5 Floor Drains and/or Sumps

1300 Walnut Street - No wells or floor drains were observed on the property during the property visit. A sump was located in the paint spray booth room. The ultimate discharge location of the sump is unknown, however it is assumed to discharge to the City of Camden sanitary system. No evidence of adverse environmental concerns were observed in the vicinity of the sump.

1321 Walnut Street - Floor drains were observed in the restroom in the small basement area of the large warehouse structure. No evidence of adverse environmental concerns were observed in the vicinity of the floor drain.

7.6 Other Observations

Other Observations	
Stains or Corrosion	Not Observed
Pits, Ponds or Lagoons	Not Observed
Stained Soil or Pavement	Observed
Stressed Vegetation	Not Observed
Fill Material	Not Observed

Other Observations	
Municipal Solid Waste	Observed
Regulated Waste Disposal	Not Observed
Biomedical Waste Disposal	Not Observed
Waste Water	Not Observed
Wells	Not Observed
Septic Systems	Not Observed
Current Agricultural Activity	Not Observed
Odors	Not Observed
Pools of Liquid	Observed
Drums/Containers	Observed
Unidentified Chemicals	Not Observed

7.6.1 Stains or Corrosion

1300 Walnut Street - Various concrete staining was observed throughout the site structure. The source of the staining is unclear at this time due to the significant amount of debris present throughout the structure. However, the concrete floor appeared to be in competent condition.

1321 Walnut Street - Various staining was observed throughout the three structure present on this portion of the subject property however the source of staining (petroleum or water intrusion or dust / dirt) is unknown and maybe from lack of maintenance / care of the structure. The concrete appeared to be in competent condition and therefore adverse environmental concerns are not anticipated in these areas.

7.6.2 Municipal Solid Waste

1300 Walnut Street - Various debris was observed throughout the site structure, however, no municipal solid waste dumpsters were observed on this portion of the subject property.

1321 Walnut Street - Two municipal solid waste dumpsters were observed centrally located on this portion of the site. No adverse environmental concerns were observed in the vicinity of the municipal solid waste dumpsters.

7.6.3 Drums/Containers

1300 Walnut Street - No significant amount of drums or containers were observed on this portion of the subject property.

1321 Walnut Street - Approximately 50 55-gallon plastic closed-top drums of soap manufacturing supplies were observed in the large warehouse structure on the subject property. The drums are staged in the vicinity of the loading/unloading docks. According to the site contact, the drums are product which are in the process of being moved from the site to the new facility location. No evidence of adverse environmental concerns were observed in the vicinity of the staged drums. The 55-gallon drums contents do no pose an adverse environmental concern to the site.

7.7 Polychlorinated Biphenyls (PCBs)

PCBs are a class of compounds that were developed in the 1930s and became widely used in industry from the mid-1900s to the late 1970s. The flame resistance of PCBs made them ideal for use in electrical equipment and they did not break down or react with other chemicals, even under extreme conditions of high temperature and pressure. PCBs were commonly used, therefore, in hydraulic fluids, lubricating oils, and transformers, electric motors, switches, and capacitors (including fluorescent lighting ballasts), as well as in paints, plastics, and other household items.

Because PCBs persist in the environment and, because they are fat-soluble, they bio-accumulate in the food chain, the elimination of PCBs from distribution in commerce was mandated in federal legislation in the late 1970s. For economic reasons, however, the use of PCBs in existing equipment was allowed to continue for the useful or normal life of the equipment, as long as specific conditions were met. At present, many industrial facilities continue to rely upon PCB-containing equipment and transformers, while many commercial and residential structures continue to use lighting fixtures, switches, and other articles that contain some level of PCBs.

7.7.1 Transformers and Capacitors

1300 Walnut Street - Various electrical/mechanical rooms were observed throughout the site structure which were equipped with transformers. Based on the site reconnaissance, evidence of a release (i.e., staining) was observed on the sides of the multiple transformers observed in the facility. Based on a review of the 1977 and 1982 Sanborn maps identified the presence of a transformer centrally located on the site in courtyard portion south of the boiler room. which was not observed during the site visit. Staining was observed on the concrete below the location of the former transformer. The current site conditions observed in the vicinity of the transformers constitutes a **REC**.

1321 Walnut Street - Three pole-mounted transformers were observed on the 1321 Walnut Street portion of the subject property. The transformers a likely owned and operated by Public Service Electric and Gas Co (PSE&G). No evidence of adverse environmental concerns were observed in the vicinity of the pole-mounted transformers. As such no suspect environmental concerns were identified in the vicinity of the pole-mounted transformers.

7.7.2 Elevators and Hydraulic Equipment

Elevators and hydraulic equipment that contain hydraulic fluid are a potential area of environmental concern due to the potential for PCBs to be present in the hydraulic fluid.

1300 Walnut Street - No hydraulic equipment was observed during the site reconnaissance. Based on a review of the Sanborn maps a former elevator was identified along the northern portion of the site structure at the adjacent to the northwestern corner of the former boiler room. The former elevator may have been equipped with hydraulic equipment. As such, the former elevator is considered a **REC.**

1321 Walnut Street - Three hydraulic forklifts were observed in the larger warehouse structure on the 1321 Walnut Street property. No evidence of adverse environmental concerns were observed in the vicinity of the forklifts. Additionally, the concrete floor appeared to be in competent condition in the vicinity of the forklifts.

7.8 Potential Vapor Migration Pathways

Pennoni conducted a limited visual inspection throughout the buildings to determine the potential for subsurface vapors to enter the subject property structures. A Tier 1 Vapor Encroachment Screening (VES) for the subject property pursuant to ASTM E2600-15 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions was not performed. However, Pennoni inspected the floor of the lowest level of the subject property building for potential vapor intrusion.

Additionally, a review of regulatory records for the subject property and surrounding area did not reveal the presence of a potential groundwater plume or area subsurface soil contaminated with Volatile Organic Compounds (VOCs); however, the former site operators are known to have utilized materials containing VOCs. Therefore, potential vapor migration into the structures on the subject property is a concern; however, the subject property structures are vacant and not in use at this time.

8.0 INTERVIEWS

Interviews		
Title	**Contact**	**Comments**
Key Site Manager	Not Available	The subject property is currently vacant and unoccupied, and therefore a key site manager was not available for an interview.
Site Occupant	Vacant	The subject property is currently vacant and unoccupied.
Past Owners, Operators and Occupants	Not Available	Past owners, operators or occupants of the subject property were not available to be interviewed at the time of the assessment.
Environmental Professionals	Not Applicable	No Environmental Professional associated with the subject property was interviewed at the time of the assessment.

9.0 DATA GAPS AND DEVIATIONS

According to the Standards and Practices for All Appropriate Inquiries, Phase I ESAs must identify data gaps that would affect the ability of the environmental professional to identify conditions indicative of releases or threatened releases of pollutants, contaminants, petroleum and petroleum products, and controlled substances on the subject properties and to explain the significance of these data gaps. The following issues represent instances when either the investigation was hindered in some way, or where some issue was identified as a potential for concern but insufficient information was available to draw a conclusion or rule out that the issue did not represent a **REC**.

No property valuation was provided for review; therefore, Pennoni is unable to comment on whether the purchase price being paid for subject property reasonably reflects the fair market value of the subject property. Pennoni does not consider this data gap to be a significant constraint on our ability to provide an opinion regarding RECs on the subject property.

Pennoni was unable to interview former owners of the subject property; however, the previous uses of the subject property are documented in the historical sources reviewed by Pennoni. Therefore, Pennoni does not consider this data gap to be a significant constraint on our ability to provide an opinion regarding RECs on the subject property.

As of the date of this report, Pennoni has not been able to review NJDEP file review documents. Pennoni does consider this data gap to be a significant constraint on our ability to provide an opinion regarding **RECs** on the subject property due to the extensive site history and prior remedial actions.

10.0 FINDINGS AND CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of 1300-1321 Walnut Street, Camden, NJ. Any exceptions to, or deletions from, this practice are described in Section 9.0 of this report. This assessment has revealed the following RECs, CRECs, HRECs, BERs , or significant data gaps in connection with the subject property.

1300 WALNUT STREET PROPERTY

REC: Historic Site Activities

The western portion of the subject property was used for manufacturing of oil cloth floors between the 1870's and 1920's, mixed commercial / manufacturing uses between the 1920's and 1970's including leather belting manufacturing, carpet cleaning, laundry cleaning, machine shops, and a Boiler & Iron Works. By the 1970's and 1980's, the western portion of the site was again occupied by multiple tenants with operations ranging from commercial roofers, handbag makers, specialty leather products, die making, and other commercial / industrial uses. Based on historic map review, the following has been observed in connection with the subject property:

The 1,800-gallon gasoline UST ("gas well"), piping, and faucet located on the west portion of the subject property in the 1891 map; a benzene storage house located between Building 3 and 7 on the 1891 map; Printing and Linseed Oil and Oxidizing room shown on 1906 map; coal pit on the northern portion of the property on the 1906, 1926 and 1950 maps; rail spur depicted on the northern portion of the property in the 1906-1982 maps; machine shops depicted in the eastern portion of the subject building in the 1950 map; paint spraying booth depicted in the northern portion of the subject building in the 1977 map; fuel oil tank depicted on the east side of the boiler room in the 1977 map; and transformer depicted on 1977-1982 sanborn maps.

Accordingly, based on the extensive industrial site history, the former site use of 1300 Walnut Street parcel are considered a **REC** in connection with the site.

REC: Vicinity Properties of Potential Concern

The Ponte Bros Inc. site is located adjacent to the west-northwest of the subject property. According to the Environmental Risk Information Services Report, the site is listed as UST. The site has a 3000-gallon medium diesel fuel UST that was removed in 2011. Based on the regulatory status, distance and location of the site relative to the subject property, no adverse impacts to the subject property are not expected however, historic industrial activities at the site related to the former oil cloth manufacturing and other operations have been documented in the historic review. Accordingly, the vicinity property is considered a property of potential concern based on the distance of the site to the subject property and known former industrial site activities which are known to have utilizes regulated substances in their operations.

HREC: Former Site Remediation Program (SRP) Case PI# G000003889

A former NJDEP Site Remediation Program (SRP) case exists for the 1300 Walnut Street property. The case is identified as PI# G000003889 in available NJDEP records and database search. The case was issued an NFA by the NJDEP on November 20, 1992. As such, is identified as an **HREC** in connection with the subject property.

BER: Potential Industrial Site Recovery Act (ISRA) Compliance

The previous industrial / manufacturing site uses, although not confirmed, may be subject to NJDEP's Industrial Site Recovery Act (ISRA) obligations for remediation. Accordingly, the potential ISRA obligations associated with the former uses is identified as **BER** in connection with the subject property.

1321 WALNUT STREET PROPERTY

REC: Historic Site Activities / Former Machine Shop / Former Automotive Repair

The eastern parcel was utilized since the late 1800's for log storage. By the 1920's until the 1970's, the site was developed with structures for automotive truck storage with a machine shop. The eastern parcel further expanded with a warehouse and loading dock in the 1980's similar to its present day configuration. More recent site operations included warehousing and manufacture of commercial cleaning products, including pesticides. Accordingly, the historic site activities documented on the subject property, collectively, is considered a **REC** in connection with the subject property.

REC: Former Underground Storage Tanks

Online NJDEP information and historical site documents suggest that former USTs were formerly present on the site. The absence of closure documentation or a no further action determination from the NJDEP result in the former USTs being considered a **REC**. If appropriate closure documents are procured in the future, it is possible that this **REC** could be redefined as an **HREC.**

REC: Former Rail Lines

Online NJDEP information and historical site documents suggest that former USTs were formerly present on the site. The absence of closure documentation or a no further action determination from the NJDEP result in the former USTs being considered a **REC**.

REC: Former Coal Storage Yard

According to historic Fire Insurance Maps (FIMs), coal storage was observed on the Site in 1950. Contaminants of concern that can be associated with coal yards include metals and PAHs. Accordingly, the former coal yard on the subject property is identified as a **REC**.

HREC: Former Site Remediation Program (SRP) Case PI# 20847

A former NJDEP Site Remediation Program (SRP) case exists for the 1321 Walnut Street property and is related to a historic leaking underground storage tank was reported in July 1991 and assigned case number 91-07-17-1549-53. The 1,000-gallon leaded gasoline UST was removed / closed in September 1991. Review of NJDEP Dataminer confirmed that PI 20847 was issued a No Further Action - Unrestricted Use - (NFA) for case number 91-07-17-1549-53, and as such, it is identified as an **HREC** in connection with the subject property.

BER: Potential Industrial Site Recovery Act (ISRA) Compliance

The previous industrial / manufacturing site uses, although not confirmed, may be subject to NJDEP's Industrial Site Recovery Act (ISRA) obligations for remediation. Accordingly, the potential ISRA obligations associated with the former uses is identified as **BER** in connection with the subject property.

Significant Data Gaps

Historic environmental case files for the subject property have not been reviewed as of the date of this Phase I ESA. Additionally, a full list of hazardous substance use at the site has not been able to be completed with out a file review and responses from the prior operators. Accordingly, Pennoni has identified significant data gaps in connection with the historic site uses and material use.

11.0 LIMITATIONS, EXCEPTIONS, SPECIAL TERMS AND CONDITIONS

Pennoni conducted an ESA of the subject property in general conformance with the scope and limitations of ASTM Standard E 1527-21. The ESA for the subject property did not deviate from this standard. Data gaps that would affect the ability of the environmental professional to identify conditions indicative of releases or threatened releases of pollutants, contaminants, petroleum and petroleum products are identified in Section 9.0 of this report. This ESA is presumed to be valid provided it has been completed less than 180 days prior to the acquisition of the subject property or the date of the intended transaction and within 180 days from the interviews, environmental lien search, regulatory records review, site reconnaissance and the environmental professional's declaration. Recognizing that the passage of time affects the information provided in the reports; our opinions relating to site conditions are based upon information that existed at the time our conclusions were formulated.

12.0 ENVIRONMENTAL PROFESSIONAL STATEMENT AND SIGNATURE

I declare that, to the best of my professional knowledge and belief, I meet the definition of an "environmental professional" as defined at 40 C.F.R. §312.10. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 C.F.R. Part 312.

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Andrew Zjawin
Division Manager

13.0 REFERENCES

The following documents, publications, maps, etc. were used as source materials for this Phase I ESA:

- USEPA 40 CFR Part 312 Standards and Practices for All Appropriate Inquiries; Final Rule, November 1, 2005.
- ASTM Standards on Environmental Site Assessments for Commercial Real Estate (E 1527-21), Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, 2021.
- Camden, NJ quadrangle, USGS, 7.5 minute topographic quadrangle, 2016.
- Web Soil Survey website published by the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS). Available on-line at: http://websoilsurvey.nrcs.usda.gov/app/
- Database Report, Report No. 22061001584, June 13, 2022, obtained from Environmental Risk Information Services.
- *Phase I ESA, 1300 Walnut Street, Camden, NJ*, prepared by Property Solutions of Moorestown, NJ, dated May 21, 2021
- Fire Insurance Maps, Report No. 22061001584, June 12, 2022, obtained from Environmental Risk Information Services.
- Historical Aerial Photographs, Report No. XXX, Date, obtained from Environmental Risk Information Services.
- Physical Setting Report, Report No. 22061001584p, June 12, 2022, obtained from Environmental Risk Information Services.
- City Directory, Report No. 22061001584, June 16, 2022, obtained from Environmental Risk Information Services.
- Topographic Maps, Report No. 22061001584, June 12, 2022, obtained from Environmental Risk Information Services.

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November 17, 2022

SCHER22001

Mr. Trevor Harris
Scheer Partners
15245 Shady Grove Road, Suite 210
Rockville, MD 20850

RE: LIMITED PHASE II INVESTIGATION
1300 WALNUT STREET
CAMDEN CITY, CAMDEN COUNTY, NJ

Dear Trevor:

Pennoni has prepared this Phase II Environmental Site Assessment (ESA) Letter Report on behalf of **Scheer Partners** (Client) to document finding of a limited Phase II ESA activities conducted at the property located at 1300 Walnut Street in the City of Camden, Camden County, New Jersey 08103, hereinafter referred to as the "Site" or "subject property". The Site consists of one parcel approximately 3.09-acres in size identified on the City of Camden Tax Map as Block 367 Lot 1. The subject property is currently occupied by two vacant warehouse structures equipped with various rooms, former office areas, material storage areas and mechanical rooms. Pennoni completed the investigations for the property in general accordance with the ASTM International Standard Practice for ESAs: Phase II ESA Process ASTM E1903 – 19 and the New Jersey Department of Environmental Protection (NJDEP) *Technical Requirements for Site Remediation N.J.A.C. 7:26E (TRSR)* and applicable guidance.

This Phase II ESA was conducted to further investigate the Recognized Environmental Conditions (RECs) identified in Pennoni's Phase I ESA, dated June 20, 2022. A topographic map of the site location is included as **Figure 1**, a tax map is included as **Figure 2** and a map showing general Site's features is included as **Figure 3** in **Attachment A**.

BACKGROUND

The Site is approximately 3.09-acres in size and consists of two vacant warehouse structures equipped with various rooms, former office areas, material storage areas and mechanical rooms. According to previous reports, Richard Henry Reeve established Camden Oil Cloth Works with his cousin Benjamin C Reeve by 1868. The first two buildings, designated as building Number 1 and Number 2, were constructed in 1870. Based on a review of the historic maps, approximately six buildings were located on the subject property as early as 1885. The site structures were labeled for the storage of oil (building on the northern portion of the subject property), printing (building in the center of the subject property) and drying (each of the buildings except the northern one). By 1906, the subject property was occupied by Farr and Bailey Manufacturing Company, manufacturers of oil cloth. A number of structures previously depicted on the maps have been either demolished or had additions added by this time. Rail spurs are observed entering subject property from Pine Street to the north. By 1926, the subject property is utilized by multiple tenants including, Himmelein & Bailey Inc.; Manufactures of Leather Belting, Camden Carpet Cleaning Works, Suburban Laundry Co, ACME Boiler & Iron Works, and a vacant warehouse known as C. A.

Reynolds. By 1950, The Shingle Leather Co., manufacturer of leather belting, occupies the subject property with the addition of a machine shop. By 1977, the subject property has expanded toward Walnut Street with additions to their structures. By 1982, the western parcel is identified as V. Ponte & Sons Waste Removal Corporation, however the actual operations are not shown. Based on the City Directory, the subject property was also utilized for leather manufacturing, handbag manufacturing, die cutting, cleaning chemical manufacturing, and other commercial/industrial uses between the 1970's and 2000's. The subject property structures on 1300 Walnut Street have been vacant since at least 2017.

Based on the findings of Pennoni's Phase I ESA dated June 20, 2022, the following REC was identified which may pose an adverse environmental impact to the subject property. The REC requiring further investigation includes the following:

- REC-1: Historic Site Activities

The western portion of the subject property was used for manufacturing of oil cloth floors between the 1870's and 1920's, mixed commercial/manufacturing uses between the 1920's and 1970's including leather belting manufacturing, carpet cleaning, laundry cleaning, machine shops, and a Boiler & Iron Works. By the 1970's and 1980's, the western portion of the site was again occupied by multiple tenants with operations ranging from commercial roofers, handbag makers, specialty leather products, die making, and other commercial/industrial uses.

Based on historical maps review, the following historical operations have been identified in connection with the subject property:

- Oil Storage/Engine Room: *1885 Sanborn Map*
- Benzene Storage Shed: *1891 Sanborn Map*
- Printing & Drying Rooms: *1*891 *Sanborn Map*
- Gasoline Well & Piping: *1891 Sanborn Map*
- Elevated Gasoline Tank: *1891 Sanborn Map*
- Coal Pit: *1906 Sanborn Map*
- Printing Machine Rooms: *1906 Sanborn Map*
- Engine Room: *1906 Sanborn Map*
- Linseed Oil/Oxidizing Room: *1906 Sanborn Map*
- Drying Room: *1906 Sanborn Map*
- Varnish Store House: *1906 Sanborn Map*
- Coating Room: *1906 Sanborn Map*
- Rail Spurs: *1906 - 1982 Sanborn Maps*
- Paint Grinding Room: 1*906 Sanborn Map*
- Oil Storage Tanks: *1906 Sanborn Map*
- Benzene Storage Tanks: *1906 Sanborn Map*
- Machine Shop Bldg 59: *1950 Sanborn Map*
- Oil Storage: *1950 Sanborn Map*
- Manufacturing*: 1950-1982 Sanborn Maps*
- Spray Booth North: *1977 Sanborn Map*
- Former Heating Oil Storage Tank East of Boiler Room: *1977 Sanborn Map*
- Transformer: *1977-1982 Sanborn Maps*

The historical site operation locations are depicted on **Figure 4** in **Attachment A**.

SCOPE OF INVESTIGATION

To evaluate the REC – Historic Site Activities, identified in Pennoni's Phase I, Pennoni's Phase II ESA investigations included the completion of a non-invasive geophysical survey, and soil boring advancement, temporary monitoring well point (TWMP) installation and soil/groundwater sample collection for laboratory analysis.

The soil and groundwater investigation activities were conducted in general accordance with the ASTM International *Phase II Environmental Site Assessment Process*, *NJDEP Evaluation of Extractable Petroleum Hydrocarbons in Soil Technical Guidance, dated June 2019; Soil Remediation Standards (N.J.A.C. 7:26D), NJDEP Technical Requirements for Site Remediation and Field Sampling Procedures Manual, NJDEP, August 2005.* The sample results were compared to NJDEPs Soil Remediation Standards (N.J.A.C. 7:26D) last amended May 2021 (SRS) and the Ground Water Quality Standards (N.J.A.C 7:9C) (GWQS).

SOIL & GROUNDWATER INVESTIGATION

GEOPHYSICAL SURVEY
On October 18, 2022, SiteQuest performed a geophysical/ground penetrating radar (GPR) survey of the site. The geophysical survey was conducting utilizing ground penetrating radar system (GPR) and multi-frequency electromagnetic conductivity meter (EM). The purpose of the survey was to identify the presence of underground storage tanks (USTs) depicted on historical Sanborn Maps, to locate underground utilities onsite and to clear a series of proposed soil boring locations.

Based on the EM/GPR survey, no anomalies which were representative of an underground storage tank (UST) were identified. The GPR survey identified the presence of electric, natural gas, sanitary sewer and city water utilities present on the site which were marked out on the surface of the site. A copy of the Ground Penetrating Radar and Utility Locate Summary Report, prepared by SiteQuest, dated October 20, 2022 is provided in **Attachment B**.

SOIL INVESTIGATION
To evaluate the REC – Historic Site Activities, an invasive soil investigation was conducted between October 18 and 20, 2022. Pennoni retained a service of Ace DeWatering (ACE) to provide a track mounted Geoprobe to advance soil borings. Pennoni oversaw advance a total of seventeen (17) soil borings (SB-1 through SB-17) to a maximum depth of 25-feet below grade surface (bgs). Based on a review of former Sanborn maps soil boring locations were installed in areas which may pose environmental concerns to the subject property. Classification and field screening of subsurface soils was facilitated by inspecting and screening retrieved soils. Soils were field screened visually and olfactorily using a photoionization detector (PID) meter that was calibrated with 100 parts per million (ppm) of isobutylene to measure a relative concentrations of volatile organic compounds (VOCs).

Evidence of historic fill material (gravel, concrete, brick, asphalt, etc.) was observed in an upper layer in all the soil boring locations advanced throughout the Site. Historical fill material was observed to a maximum depth of 8.5 feet bgs.

In addition to the surface layer of historic fill material observed throughout the site during the soil screening process, two additional distinct layers of suspect soils were observed in various soil borings throughout the site. A distinct soil layer observed beneath the historic fill material consisted of soils with

a greenish staining/color which was observed below the fill material at approximately 5-feet bgs to maximum depths of approximately 20-feet bgs. Another distinct layer of suspect soils consisting of grey/black in color and was observed at depths ranging from approximately 12.5-feet bgs to a maximum depth of 25-feet bgs. The maximum depth soil borings were advanced was to 25-feet bgs. The terminal depth of the grey/black soils is unknown.

In accordance with the soil sampling procedure soils which exhibit the most suspect characteristic in each soil boring, soil samples were collected from depths below the historic fill in areas of the green and grey/black soils. As such, soil sample depths vary per soil boring/former site operation area. Soil sample depths are provided on the soil boring logs provided in **Attachment C** and on the soil sample analytical summary tables in **Attachment D**.

The table lists the soil boring locations and laboratory analysis relative to the identified former site operation areas on the subject property.

Soil Boring Location	Former Site Operation Area	Soil Analysis
SB-1	Dry Room - 1891 Sanborn Map	VOCs+TICs, EPH, PAHs, TAL Metals
SB-2	Oil Storage Tanks - Southwest - 1906 Sanborn Map	EPH
SB-3	Benzene Storage Tanks - Southwest - 1906 Sanborn Map	VO+TICs, Lead
SB-4	Gasoline Well & Piping - 1891 Sanborn Map	VO+TICs, Lead
SB-5	Machine Shop Bldg 59 - 1950 Sanborn Map	EPH
SB-6	Transformer - 1977-1982 Sanborn Maps	EPH, PCBs
SB-7	Manufacturing - 1950-1982 Sanborn Maps	EPH, VOCs, SVOCs, TAL Metals
SB-8	Gasoline Well & Piping - 1891 Sanborn Map	VO+TICs, Lead
SB-9	Engine Room - 1906 Sanborn Map	EPH
SB-10	Linseed Oil/Oxidizing Room - 1906 Sanborn Map	EPH
SB-11	Varnish Store House - 1906 Sanborn Map	VOC+TICs, SVOCs+TICs, EPH
SB-12	Dry Room - 1891 Sanborn Map	VOCs+TICs, EPH, PAHs, TAL Metals
SB-13	Drying Room - 1906 Sanborn Map	VOCs+TICs, EPH, PAHs, TAL Metals
SB-14	Printing & Drying Rooms - 1891 Sanborn Map	EPH
SB-14	Coating Room - 1906 Sanborn Map	EPH
SB-15	Drying Room - 1906 Sanborn Map	EPH
SB-16	Printing Machine Rooms - 1906 Sanborn Map	EPH
SB-17	Benzene Storage Shed - 1891 Sanborn Map	VO+TICs, Lead, EPH

VOCs: Volatile Organic Compounds
SVOCS: Semi-Volatile Organic Compounds
TICs: Tentatively Identified Compound
EPH: Extractable Petroleum Hydrocarbon
TAL: Target Analyte List

Due to site access limitations the below historical site operation/features were not investigated as part of this assessment:

- Oil Storage/Engine Room: *1885 Sanborn Map*
- Elevated Gasoline Tank: *1891 Sanborn Map*
- Coal Pit: *1906 Sanborn Map*
- Rail Spurs: *1906 Sanborn Map*
- Paint Grinding Room: *1906 Sanborn Map*
- Oil Storage: *1950 Sanborn Map*
- Spray Booth North: *1977 Sanborn Map*
- Former Heating Oil Storage Tank East of Boiler Room: *1977 Sanborn Map*

Upon completion of the sampling activities, the soil samples were containerized in laboratory prepared glassware, placed into a cooler with ice, and transported under chain of custody to Eurofins TestAmerica Edison ("Eurofins") of Edison, New Jersey, a NJDEP-certified laboratory.

The soil boring/sample locations are depicted on **Figure 5** of **Attachment A**. Soil boring logs are provided in **Attachment C**.

GROUNDWATER INVESTIGATION

Upon completion of soil sampling activities, temporary monitoring well points (TMWPs) (TW-1, TW-3, TW-5, TW-8, TW-11, TW-14, TW-15, and TW-17) were installed in their respective soil boring locations to evaluate onsite groundwater conditions. The TMWPs were installed to a maximum depth of 25-feet bgs with 10-foot of screen. Groundwater depths were recorded at approximately 18-feet bgs in the TMWPs installed throughout the site. Groundwater samples were collected and submitted for VOCs+TICs, SVOCs+TICs, and Target Analyte List (TAL) Metals analysis. The below table lists the TMWP/groundwater sample location relative to the identified former site operation area on the subject property.

Temporary Well Location/AOC	Former Site Operation Area
TW-1	Dry Room - 1891 Sanborn Map
TW-3	Oil Storage Tanks - Southwest - 1906 Sanborn Map
TW-3	Benzene Storage Tanks - Southwest - 1906 Sanborn Map
TW-5	Machine Shop Bldg 59 - 1950 Sanborn Map
TW-8	Gasoline Well & Piping - 1891 Sanborn Map
TW-8	Transformer - 1977-1982 Sanborn Maps
TW-8	Gasoline Well & Piping - 1891 Sanborn Map
TW-8	Engine Room - 1906 Sanborn Map
TW-8	Linseed Oil/Oxidizing Room - 1906 Sanborn Map
TW-11	Manufacturing - 1950-1982 Sanborn Maps
TW-11	Varnish Store House - 1906 Sanborn Map
TW-11	Dry Room - 1891 Sanborn Map
TW-14/TW-15	Drying Room - 1906 Sanborn Map

TW-14	Printing & Drying Rooms - 1891 Sanborn Map
TW-14	Coating Room - 1906 Sanborn Map
TW-15	Drying Room - 1906 Sanborn Map
TW-17	Printing Machine Rooms - 1906 Sanborn Map
TW-17	Benzene Storage Shed - 1891 Sanborn Map

Upon completion of the sampling activities, the groundwater samples were containerized in laboratory prepared glassware, placed into a cooler with ice, and transported under chain of custody to Eurofins of Edison, New Jersey, a NJDEP-certified laboratory.

The TMWP sample locations are depicted on **Figure 5** of **Attachment A**.

ANALYTICAL RESULTS

SOIL RESULTS
A review of the soil sample analytical results identified the following NJDEP Site Remediation Standards (SRSs) exceedances.

- Soil sample **SB-1** collected from 17 to 17.5' bgs exhibited the presence of Polyaromatic Hydrocarbons (PAHs) Benzo(a)anthracene at a concentration of 11,000 milligram per kilogram (mg/kg) which is in excess of the NJDEP Non-Residential Ingestion-Dermal Exposure Pathway (NRIDEP) of 23 mg/kg; Benzo(a)pyrene at a concentration of 9,800 mg/kg which is in excess of the NJDEP NRIDEP of 2.3 mg/kg; Benzo(b)fluoranthene at a concentration of 14,000 mg/kg which is in excess of the NJDEP NRIDEP of 23 mg/kg; Dibenzo(a,h)anthracene at a concentration of 1,800 mg/kg which is in excess of the NJDEP NRIDEP of 2.3 mg/kg; Indeno(1,2,3-cd)pyrene at a concentration of 5,900 which is in excess of the NJDEP NRIDEP of 23 mg/kg; and metals Lead at a concentration of 242 mg/kg which is excess of the NJDEP Migration to Groundwater Exposure Pathway (MGEP) of 90 mg/kg; and Mercury at a concentration of 0.19 mg/kg which is in excess of the NJDEP MGEP of 0.1 mg/kg.

- Soil sample **SB-12A** collected from 7 to 7.5' bgs exhibited the presence of Tetrachloroethene (PCE) at a concentration of 0.15 mg/kg which is excess of the NJDEP MGEP standard of 0.0086 mg/kg.

No other soil sample analytical results exhibited exceedances of the NJDEP SRS.

Due to the most suspect soils collected from each soil boring/former historical operation area investigated the soil sample analytical results indicate the presence of PCE, PAHs, and metals appear to be associated with the former historical operations on-site.

Soil sample analytical results summary tables are provided in in **Attachment D.** The laboratory analytical report is provided in **Volume II**.

GROUNDWATER RESULTS
A review of the TMWP groundwater sample analytical results identified the following NJDEP Groundwater Quality Standard (GWQS) exceedances.

- TMWP **TW-1** exhibited the presence of metals Aluminum at a concentration of 10,300 micrograms per liter (ug/l) which in excess of the NJDEP GWQS of 200 ug/l; Arsenic at a concentration of 8.5 ug/l

which is excess of the NJDEP GWQS of 3 ug/l; Iron a concentration of 50,100 ug/l which is excess of the NJDEP GWQS of 300 ug/l; Lead a concentration of 5.5 ug/l which is excess of the NJDEP GWQS of 5 ug/l; and Manganese a concentration of 697 ug/l which is excess of the NJDEP GWQS of 50 ug/l;

- TMWP **TW-3** exhibited the presence of metals Aluminum at a concentration of 103,000 ug/l which in excess of the NJDEP GWQS of 200 ug/l; Arsenic at a concentration of 19.5 ug/l which is excess of the NJDEP GWQS of 3 ug/l; Chromium a concentration of 70.4 ug/l which is excess of the NJDEP GWQS of 70 ug/l; Iron a concentration of 29,700 ug/l which is excess of the NJDEP GWQS of 300 ug/l; Lead a concentration of 125 ug/l which is excess of the NJDEP GWQS of 50 ug/l; Manganese a concentration of 365 ug/l which is excess of the NJDEP GWQS of 50 ug/l; Sodium a concentration of 126,000 ug/l which is excess of the NJDEP GWQS of 50,000 ug/l; and SVOC Hexachlorobenzene at a concentration of 0.032 ug/l which in excess of the NJDEP GWQS of 0.02 ug/l.

- TMWP **TW-5** exhibited the presence of metals Aluminum at a concentration of 677 ug/l which in excess of the NJDEP GWQS of 200 ug/l; Arsenic at a concentration of 3.7 ug/l which is excess of the NJDEP GWQS of 3 ug/l; Iron a concentration of 20,100 ug/l which is excess of the NJDEP GWQS of 300 ug/l; and Manganese a concentration of 262 ug/l which is excess of the NJDEP GWQS of 50 ug/l.

- TMWP **TW-8** exhibited the presence of metals Aluminum at a concentration of 9,820 ug/l which in excess of the NJDEP GWQS of 200 ug/l; Arsenic at a concentration of 80.1 ug/l which is excess of the NJDEP GWQS of 3 ug/l; Beryllium at a concentration of 3.1 ug/l which is in excess of the NJDEP GWQS of 1 ug/l; Chromium a concentration of 83.6 ug/l which is excess of the NJDEP GWQS of 70 ug/l; Iron a concentration of 79,100 ug/l which is excess of the NJDEP GWQS of 300 ug/l; Lead a concentration of 57.9 ug/l which is excess of the NJDEP GWQS of 50 ug/l; Manganese a concentration of 324 ug/l which is excess of the NJDEP GWQS of 50 ug/l; and Sodium a concentration of 126,000 ug/l which is excess of the NJDEP GWQS of 50,000 ug/l.

- TMWP **TW-11** exhibited the presence of metals Aluminum at a concentration of 39,100 ug/l which in excess of the NJDEP GWQS of 200 ug/l; Arsenic at a concentration of 81.0 ug/l which is excess of the NJDEP GWQS of 3 ug/l; Beryllium at a concentration of 1.7 ug/l which is in excess of the NJDEP GWQS of 1 ug/l; Chromium a concentration of 316 ug/l which is excess of the NJDEP GWQS of 70 ug/l; Iron a concentration of 108,000 ug/l which is excess of the NJDEP GWQS of 300 ug/l; Lead a concentration of 79.7 ug/l which is excess of the NJDEP GWQS of 50 ug/l; Manganese a concentration of 214 ug/l which is excess of the NJDEP GWQS of 50 ug/l; and Sodium a concentration of 59,200 ug/l which is excess of the NJDEP GWQS of 50,000 ug/l.

- TMWP **TW-14** exhibited the presence of metals Aluminum at a concentration of 4,790 ug/l which in excess of the NJDEP GWQS of 200 ug/l; Arsenic at a concentration of 10.3 ug/l which is excess of the NJDEP GWQS of 3 ug/l; Iron a concentration of 49,400 ug/l which is excess of the NJDEP GWQS of 300 ug/l; Lead a concentration of 15.6 ug/l which is excess of the NJDEP GWQS of 50 ug/l; Manganese a concentration of 1,070 ug/l which is excess of the NJDEP GWQS of 50 ug/l and VOCs, PCE at a concentration of 16 ug/l which is in excess of the NJDEP GWQS of 1 ug/l and Trichloroethene (TCE) at concentration of 110 ug/l which is in excess of the NJDEP GWQS of 1 ug/l.

- TMWP **TW-15** exhibited the presence of metals Aluminum at a concentration of 9,690 ug/l which in excess of the NJDEP GWQS of 200 ug/l; Arsenic at a concentration of 19.3 ug/l which is excess of the NJDEP GWQS of 3 ug/l; Beryllium at a concentration of 1.2 ug/l which is in excess of the NJDEP GWQS

of 1 ug/l; Chromium a concentration of 77.9 ug/l which is excess of the NJDEP GWQS of 70 ug/l; Iron a concentration of 90,100 ug/l which is excess of the NJDEP GWQS of 300 ug/l; Lead a concentration of 32.5 ug/l which is excess of the NJDEP GWQS of 50 ug/l; Manganese at a concentration of 644 ug/l which is excess of the NJDEP GWQS of 50 ug/l; SVOCs Benzo(a)anthracene at a concentration of 0.16 which is in excess of the NJDEP GWQS of 0.1 ug/l and Benzo(a)pyrene at concentration of 0.14 ug/l which is in excess of the NJDEP GWQS of 0.1 ug/l.

- TMWP **TW-17** exhibited the presence of metals Aluminum at a concentration of 6,940 ug/l which in excess of the NJDEP GWQS of 200 ug/l; Arsenic at a concentration of 26.8 ug/l which is excess of the NJDEP GWQS of 3 ug/l; Iron a concentration of 59,800 ug/l which is excess of the NJDEP GWQS of 300 ug/l; Lead a concentration of 187 ug/l which is excess of the NJDEP GWQS of 50 ug/l; Manganese a concentration of 347 ug/l which is excess of the NJDEP GWQS of 50 ug/l and SVOCs Benzo(a)anthracene at a concentration of 0.18 ug/l which is in excess of the NJDEP GWQS of 0.1 ug/l and Benzo(a)pyrene at concentration of 0.15 ug/l which is in excess of the NJDEP GWQS of 0.1 ug/l.

Groundwater sample analytical results summary tables are provided in in **Attachment D.** The laboratory analytical reports are provided in **Volume II**.

FINDINGS AND CONCLUSIONS

Pennoni conducted limited Phase II investigations at the subject property to determine if the Historic Site Activities REC which included the following: Benzene Storage Shed, Printing & Drying Rooms, Dry Room< Dry Room, Gasoline Well & Piping, Printing Machine Rooms, Printing Machine Rooms, Engine Room, Linseed Oil/Oxidizing Room, Drying Room, Drying Room, Varnish Store House, Coating Room, Machine Shop Bldg 59, Transformer, Oil Storage Tanks: Southwest, Benzine Storage Tanks, Manufacturing, Oil Storage/Engine Room, Elevated Gasoline Tank, Rail Spurs, Paint Grinding Room, Oil Storage, Spray Booth North, and Former Heating Oil Storage Tank East of Boiler Room have impacted the subject property.

- A total of 17 soil borings and 8 TMWPs were advanced/installed on the subject property to investigation soil and groundwater conditions in the vicinity of the former site operation areas.

- Evidence of historic fill material (gravel, concrete, brick, asphalt, etc.) was observed in soil boring locations advanced throughout the Site. Historical fill material was observed to a maximum depth of 8.5 feet bgs. Soil samples were not collected from the historic fill material during the investigation due to the nature of the investigation in order to further evaluate former historical site operations. Due to the heterogenous nature and unknown origin of urban historic fill, it is possible that it may contain concentrations of contaminants above applicable regulatory standards. As such, characterization of the fill material is recommended prior to site redevelopment activities.

- Soil sample analytical results for soil sample SB-1 identified the presence of PAHs: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene at concentrations in excess of the NJDEP NRIDEP and metals: Lead and Mercury at concentrations in excess of the NJDEP MGEP. These contaminants of concern (COCs) may be attributed to former historic site operations; however, due to the absence of these contaminants exhibited in other soil sample locations collected at similar depths it appears these COCs are limited onsite.

- Soil sample analytical results for soil sample SB-12A identified the presence of PCE at a concentration in excess of the NJDEP MGEP. The groundwater sample collected from TMWP TW-11 which was located in the vicinity of soil boring SB-12 did not exhibit the presence of PCE. The PCE concentration appears to be attributed to former historical site operations. No further evaluation of PCE in soil is recommended at this time.

- TMWP groundwater analytical results identified the presence of metals: Aluminum, Arsenic, Beryllium, Chromium, Iron, Lean, Manganese, and Sodium; SVOCs Benzo(a)anthracene, Benzo(a)pyrene and Hexachlorobenzene; and VOCs, PCE and TCE in excess of the NJDEP GWQS.

- The presence of metals and SVOCs exhibited in the TMWP groundwater samples are likely associated with the migration of historic fill contaminants observed in the soil located throughout the site. The presence of the PCE and TCE exhibited in the TW-14 groundwater sample may be attributed to the former site operations. As such, further groundwater investigations are warranted.

- Due to site access limitations the following historical site operation/features were not investigated: Oil Storage/Engine Room, Coal Pit, Elevated Gasoline Tank, Rail Spurs, Paint Grinding Room, Oil Storage, Spray Booth North, and Former Heating Oil Storage Tank East of Boiler Room. Further investigation is warranted.

- Due to the presence of metals, SVOCs, and VOCs, specifically PCE and TCE in groundwater concentrations great than the applicable NJDEP GWQS and PAHs and metals in soil at concentrations greater than its applicable NRIDEP, the Owner/Responsible party is required to report the discharge to the appropriate local health agency in accordance with local requirements, and to the NJDEPs Environmental Action Hotline 877-927-6337. Within 14-days of reporting the discharge, the Owner/Responsible party will be required to retain the services of a NJDEP Licenses Site Remediation Professional (LSRP) to oversee the remediation.

Thank you for affording us the opportunity to continue working with you on this project. If you have any questions, feel free to contact us.

Sincerely,

PENNONI ASSOCIATES INC.

Kurtis Hayes, ENV SP
Project Environmental Scientist

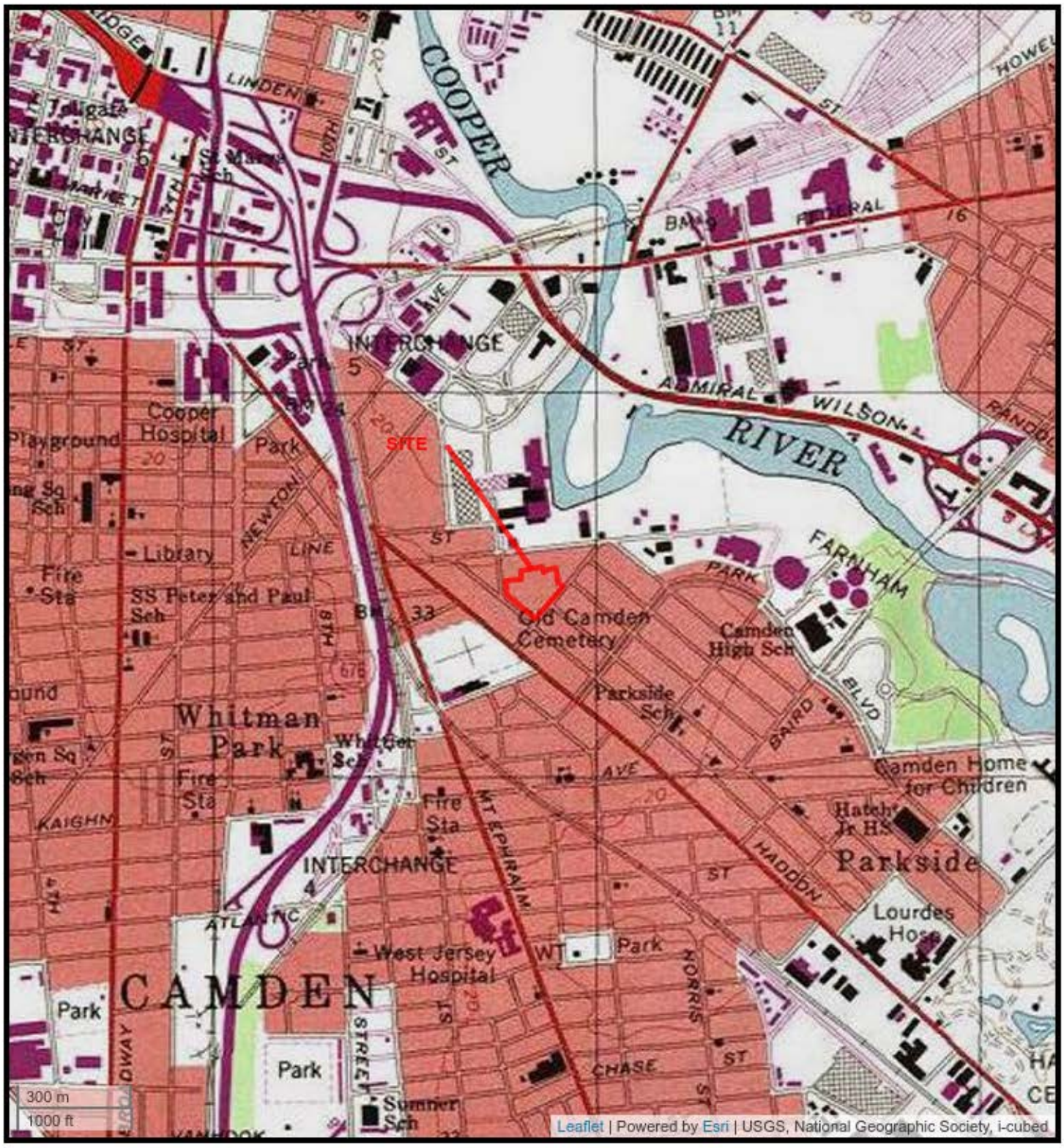
Barbara Koszalka
Staff Environmental Engineer

Attachments:

Attachment A	Figures
Attachment B	GPR Survey
Attachment C	Soil Boring Logs
Attachment D	Analytical Summary Tables
Volume II	Laboratory Analytical Package

ATTACHMENT A

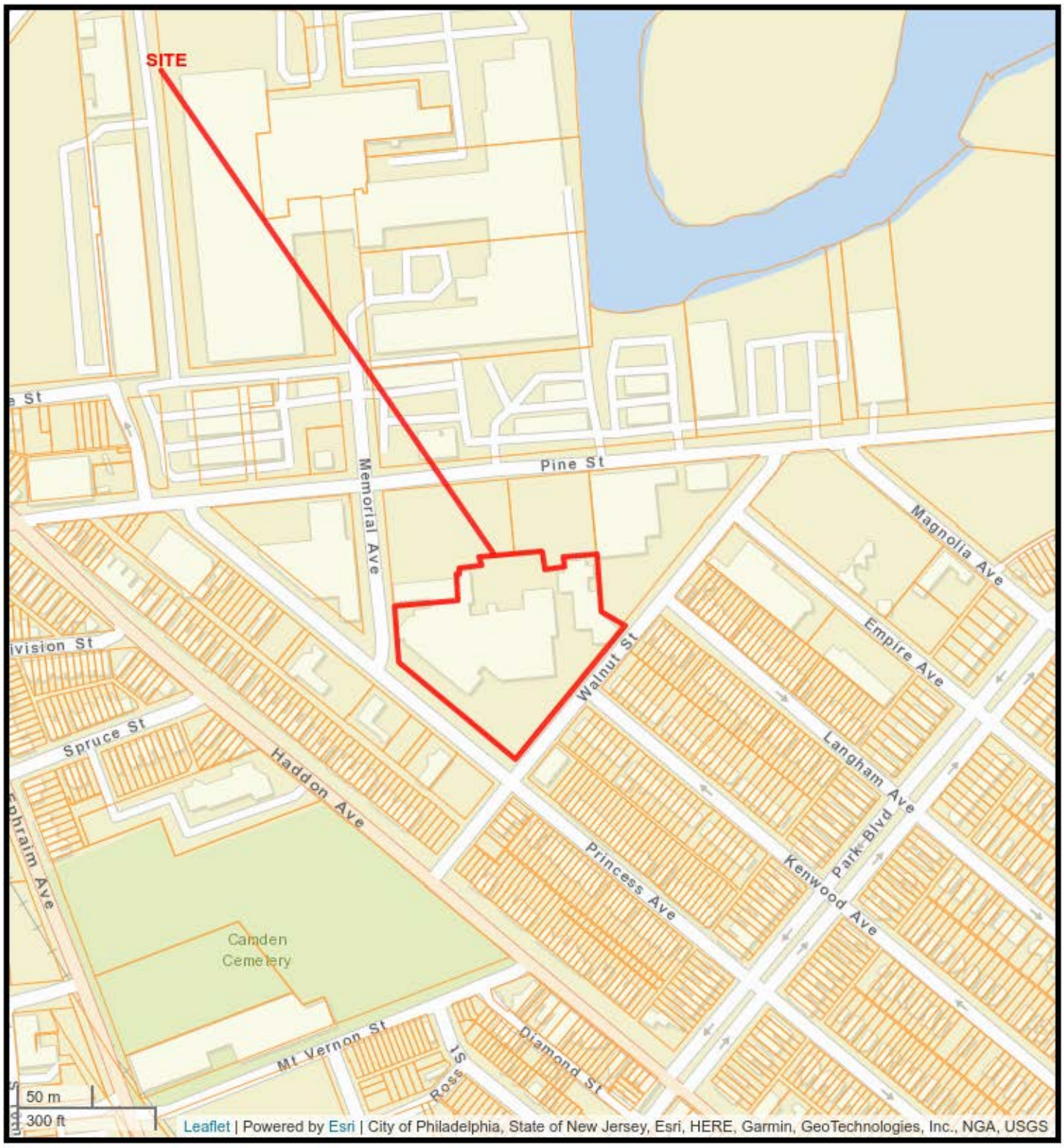
SITE FIGURES



Pennoni

Topographic Map

1300-1321 Walnut Street
Camden, NJ 08103
Project Number: SCHER22001
Figure 1



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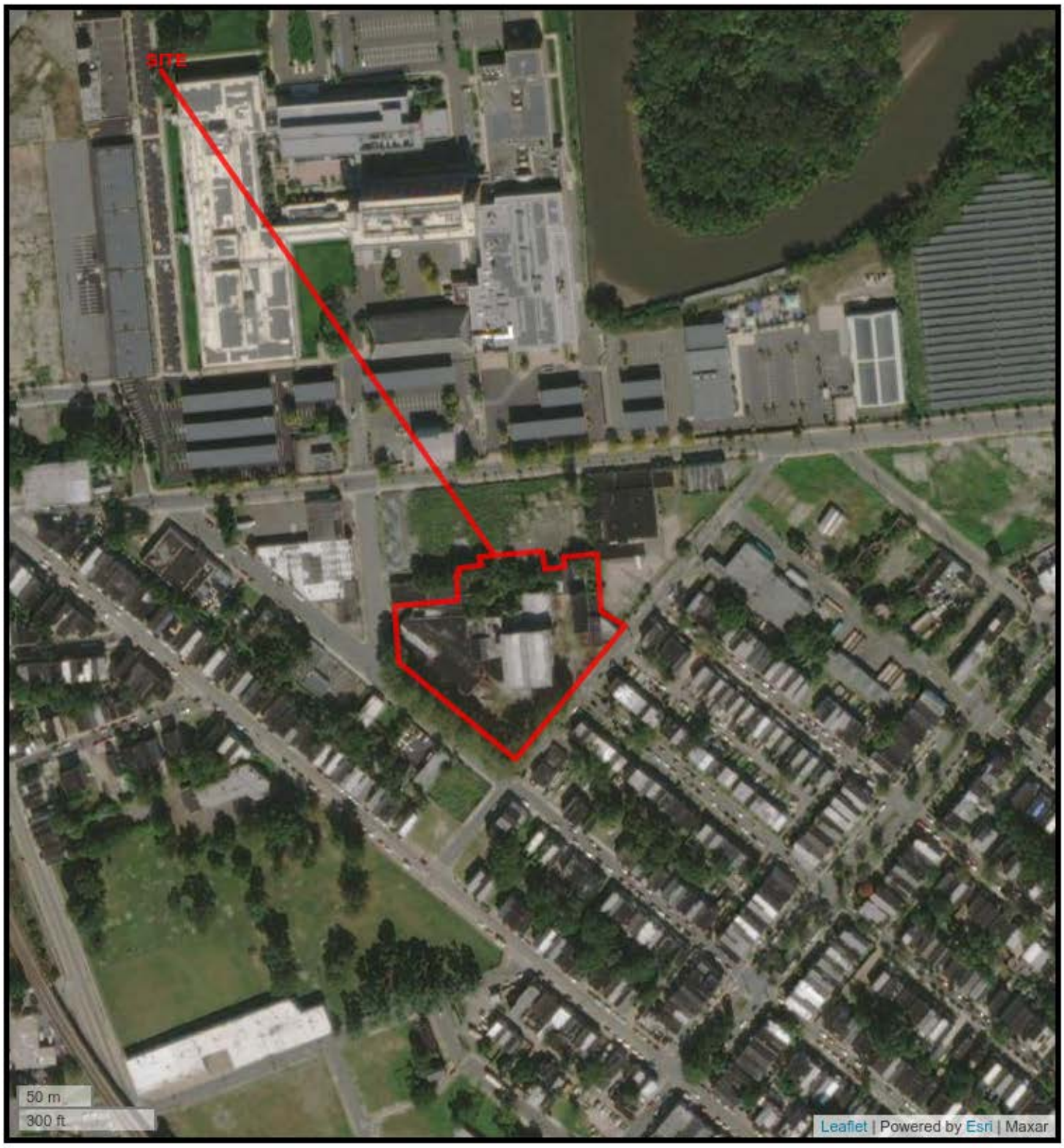
Tax Map

1300-1321 Walnut Street
Camden, NJ 08103
Project Number: SCHER22001
Figure 2



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Aerial Map

1300-1321 Walnut Street
Camden, NJ 08103
Project Number: SCHER22001
Figure 3

YEAR	LETTER	DESCRIPTION
1885	A	Oil Storage/ Engine Room
1891	B	Benzene Storage Shed
	C	Printing & Drying Rooms
	D,E	Dry Room
	F	Gas Well 11,800 Gal. & Piping
	G	Elevated Gasoline Tank
1906	H	Coal Pit
	I	Rail Spurs
	J, K	Printing Machine Room
	L	Engine Room
	M	Linseed Oil/Oxidizing Room
	N, O	Drying Room
	P	Varnish Store House
	Q	Paint Grinding Room
	R	Coating Room
	S	Linseed Oil Tanks
	T	Benzine Storage Tanks
1950	U	Machine Shop Bldg 59
	V	Oil Storage
1977	W	Spray Booth
	X	Fmr. Heating Oil Tank
1982	Y	Transformer

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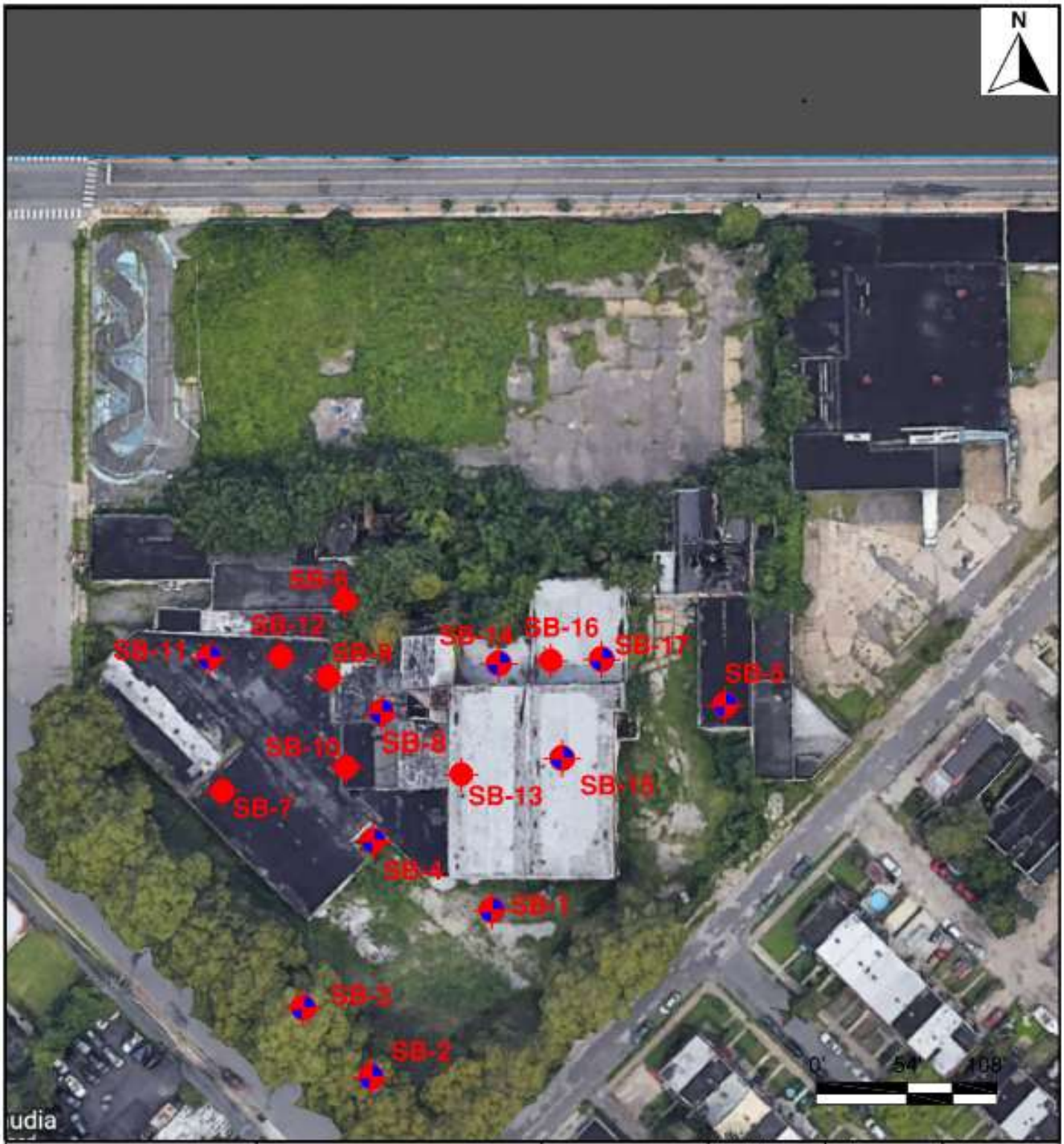
DATE: 11/03/2022



LEGEND

- Soil Sample Location
- Soil/Groundwater Location

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CHECKED BY: KH	TAX MAP No. NA		
JOB No. SCHER22001	SKETCH No. 5		

PHASE II SAMPLE LOCATION PLAN

YEAR	LETTER	DESCRIPTION
1885	A	Oil Storage/ Engine Room
1891	B	Benzene Storage Shed
	C	Printing & Drying Rooms
	D,E	Dry Room
	F	Gas Well 11,000 Gal. & Piping
	G	Elevated Gasoline Tank
1900	H	Coal Pit
	I	Roll Room
	J, K	Printing Machine Room
	L	Engine Room
	M	Linseed Oil Cooking Room
	N, O	Drying Room
	P	Varnish Store House
	Q	Paint Grinding Room
	R	Coating Room
	S	Linseed Oil Tanks
	T	Benzene Storage Tanks
1910	U	Machine Shop Bldg 39
	V	Oil Storage
1917	W	Spray Booth
	X	Fmr. Heating Oil Tank
1962	Y	Transformer

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JOB No.	SKETCH No. 4

HISTORIC SITE OPERATION LOCATION PLAN

ENVIRONMENTAL ASSESSMENT

LEVEL 1

CORIELL INSTITUTE
BLOCK 367, LOTS 1 & 6
CITY OF CAMDEN
CAMDEN COUNTY, NEW JERSEY

Prepared For:

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Date: 2023.06.28 15:03:55-04'00'

Blake J. Fitzgerald

Blake J. Fitzgerald, PE
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Proj. No.SCHER22001

January 27, 2023
Revised June 22, 2023

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6.2 EDUCATION 14
6.3 PROFESSIONAL REGISTRATIONS 14
6.4 CERTIFICATIONS/TRAININGS 14
6.5 PROJECT EXPERIENCE 14
7.0 REFERENCES 21

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FIGURE 1 – CITY OF CAMDEN TAX MAP
FIGURE 2 - SITE LOCATION MAP
FIGURE 3 – STATE PLANNING AREA
FIGURE 4 – SOILS MAP
FIGURE 5 – USGS QUANDRANGLE
FIGURE 6 – FEMA FLOOD MAP
FIGURE 7 – WETLANDS MAP

APPENDICIES

APPENDIX A – PHASE I ENVIRONMENTAL SITE ASSESSMENT (AVAILABLE UPON REQUEST)
PHASE II ENVIRONMENTAL SITE ASSESSMENT (AVAILABLE UPON REQUEST)
APPENDIX B – GEOTECHNICAL ENGINEERING REPORT
APPENDIX C – NJDEP AIR MONITORING REPORTS

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FIGURES

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1.0 INTRODUCTION

1.1 Overview and Background

On behalf of **Walnut Street Acquisition, LLC** ("Client"), **Pennoni Associates Inc.** ("Pennoni"**)** has performed an Environmental Assessment (EA) for the parcel identified as Block 367, Lots 1 & 6, located at 1300 Walnut Street in Camden, New Jersey, herein referenced as the "subject property" and/or "site". Refer to Figure 1 for copy of City of Camden Tax Map. The site is bounded by Walnut Street to the east, Princess Avenue to the south, and Memorial Avenue to the west. See Figure 2 for Site Location Map.

The purpose of this EA is to evaluate the current environmental conditions at the subject property, describe the proposed development details and provide an analysis of the potential direct and indirect environmental impacts.

The subject property is approximately 3.166 acres (139,912 SF) of land. Under current conditions, the site contains two (2) vacant, structural deficient, multi-story buildings. In addition, areas of bituminous pavement and trees along the southern and eastern property lines, exist on the site.

The two (2) buildings were originally constructed in 1885. The site and buildings were periodically renovated over the years. The last known use was manufacturing of leather. Since 2017 the subject property has been vacant.

The proposed development consists of demolishing the two (2) existing buildings and constructing a new 91,000 square foot, 4-story, building. The proposed improvements include a surface asphalt parking lot containing 98 parking spaces with a single gated driveway to Memorial Avenue. Additionally, a loading area/dock will be off Princess Avenue. The site will be appropriately landscaped and include green-infrastructure facility for stormwater management.

The new improvements are anticipated to have minimal impact on the surrounding environmental resources. The project is designed for compatibility with surrounding uses and minimize impacts to any natural features that exist onsite. Construction of the proposed building and surface parking lot is anticipated to result in minimal short-term and long-term adverse environmental impacts relative to the existing development phase and the surrounding land uses. Impacts will be mitigated through proper engineering, planning and design, proper construction management techniques, as well as implementation of the various mitigation measures and BMP's discussed within this assessment. The project will be designed to comply with local, county, and state development standards and planning objectives and will not pose significant impacts to the natural environment or local community.

Pennoni has conducted a Phase I and Phase II Environmental Site Assessment (ESA) at the subject property. Reports were prepared in general conformance with the scope and limitations of the ASTM International (ASTM) Standard Practice for ESAs: Phase I ESA Process, Designation E 1527-13. See Appendix A for reports.

Pennoni has performed four (4) geotechnical test borings at the site. A copy of the report can be found under Appendix B.

The following Environmental Assessment (EA) identifies recognized environmental impacts in connection with the redevelopment of the subject property per the City of Camden and New Jersey Department of Environmental Protection (NJDEP) requirements.

1.2 Purpose and Need

The subject property is particularly suitable for the proposed redevelopment as the site was previously developed site for commercial/office use. Utilization of a previously disturbed site within an urban area allows for the protection and preservation of undeveloped, wooded, or agricultural lands elsewhere in the City, County and region. The proposed uses and densities are in accordance with the City Ordinance and Gateway Redevelopment Plan. In addition, with the site being previously developed, existing infrastructure is in place to service the new building.

The Site is located within Planning Area 1 (PA-1) - Metropolitan, based on the State Plan Policy Map, which is slated as an Urban Center and growth area. (See Figure 3). The State Plan's focus for the metropolitan planning area is to provide for much of the state's future development and promote growth in centers and other compact forms. Goals for the metropolitan planning area are to provide public facilities, consumer services, and community activities for surrounding residential uses, while preventing sprawl into lesser developed areas. Overall goals of the State Plan include the protection of natural and historic resources, promotion of economic growth and to make reasonable housing costs available.

The State Plan encourages development, redevelopment and economic growth in locations that are well situated with respect to present or anticipated public services or facilities and discourages development that would impact or destroy natural features or resources. Additionally, the plan focuses to reduce sprawl, promote development and redevelopment in a manner consistent with sound planning. As detailed above, the proposed project is consistent with these goals.

2.0 AFFECTED ENVIRONMENTAL AND POTENTIAL IMPACTS OF THE ALTERNATES CONSIDERED

2.1 Alternates Analyzed and Dismissed

Repair/Re-Construction of Current Facilities

Repair/Re-construction of the existing facilities was considered but it was determined that due to the overall condition of the existing buildings, it is incapable of satisfying the Client's strategic plan for provisions of service and growth.

2.2 Alternates Further Evaluated

No Action Alternative

No alternates were evaluated due to the poor conditions of the existing buildings/site. This would inhibit the Client of satisfying its strategic plan for providing a more efficient sustainable facility.

New Construction Alternative

Construction of the proposed site will require the demolition of two (2) existing multi-story commercial buildings and the construction of one (1) office/research building. The existing pavement will be removed and replaced with a combination of lawn area and full depth pavement. The new building will have a finished floor elevation slightly higher than existing to promote positive drainage away from the structure to prevent flooding. Additionally, raising the elevation of the site will allow contaminated material to remain onsite and be capped as necessary.

The impervious coverage on the site from the new development will result in a net decrease from existing conditions. This will reduce the peak volume stormwater runoff leaving the site. This impervious coverage reduction will have a positive impact on the surrounding existing drainage system and prevent flooding.

3.0 AFFECTED ENVIRONMENTS AND POTENTIAL IMPACTS OF THE ALTERNATES CONSIDERED

3.1 Geology, Seismic Activity and Soils

Geology

Surficial impacts to geology will be required for the placement of proposed underground utility services, drainage piping and media for green infrastructure. According to the Geotechnical Investigation Report prepared by Pennoni (Refer to Appendix B), bedrock is not anticipated to be encountered during excavation. All soil movement activities will be performed within the "made land" strata of the site. Adverse impacts to the geology of the site and surrounding area are not expected to occur as a result of the proposed project.

Seismic Activity

Executive Order 12699 directs Federal Agencies to incorporate cost-effective seismic safety measures in all new buildings that are constructed, leased, assisted, or regulated by the Federal Government. This area of New Jersey is in Seismic Zone 1 (0.0075g). Seismic activity as related to this proposed project is low. During the construction phase, no blasting will be permitted.

Soils

A review of soil information provided in the USDA Web Soil Survey Map Database Report indicates that the soils on the subject property consist of the urban land. Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. Soil permeability and water capacity data is not available for this soil series.

Urban Land consists of cut and fill areas, most of which have been developed for residential, commercial, or industrial use or for multilane highways.

A copy USDA Soils Map is attached under Figure 4 of this report.

Impacts to Soil

No Action Alternative

Normal occurrences of soil erosion would be expected to occur if the site is not improved. The existing facility is not within a 100–year floodplain and is not subject to flooding, due to its elevation and topography (See FEMA Map in Figure 6).

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

The area within the property will likely be disturbed during construction. Soil loss would occur directly or indirectly via wind or water. Best Management Practices will be developed and implemented, such as implementing an erosion and sedimentation control plan using silt fence, inlet protection, construction entrance and re-vegetating disturbed soils and maintaining site soil stockpiles during construction, to prevent soils from eroding and dispersing off-site. During the construction process the Camden County Soil Conservation District will also be monitoring the construction phase to ensure that the soil erosion measures have been implemented.

3.2 Land Use and Zoning

The subject property is located at 1300 Walnut Street, City of Camden, Camden County, 08103. The site is bounded by Walnut Street to the east, Princess Avenue to the west, Memorial Avenue to the west, and Block 366, Lots 5, 8, 73 and 75 to the north. The site can be found on the 2019 United States Geological Survey (USGS) 7.5- minute topographic quadrangle for Camden, New Jersey-Pennsylvania, at map coordinates Longitude 39.9363° North, Latitude -75.1069 ° West. See Figure 5.

The existing facility a is listed in the Camden City Zoning Map/Ordinance as an OLI Office Light Industrial Zone. The neighboring properties to the west of the site is listed in the C-1 Commercial Zone. The neighboring properties to the east of the site is listed in the R2 Residential Zone. The subject and neighboring properties are included within the Gateway Redevelopment Plan.

No Action Alternative

No impact. The existing buildings will remain vacant with no operations and services to the community.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

The construction/rehabilitation of the facility will be designed so that it meets the requirements of the City of Camden's Land Use Ordinance and Redevelopment Plan while servicing the community.

3.3 Floodplain Encroachment

Executive Order 11988 (Floodplain Management) requires that a Federal Agency avoid direct or indirect support of development within the 100-year floodplain whenever there is practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRM's) to identify the regulatory 100-year floodplain for the new National Flood Insurance Program (NFIP).

Based on the respective FEMA Flood Panel Map, the subject property is located within Zone X (Areas with a 0.2% annual chance flood). A copy of the FEMA map is included as Figure 6 in this report.

No Action Alternative

No impact because the existing Facility is not within the100-Year Floodplain.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

No impact as the construction/rehabilitation of the facility will not be within the 100-year floodplain.

3.4 Traffic

The construction of the proposed research and development center and associated surface parking area will not result in a significant increase to overall intersection or approach delays during either the AM or PM peak periods and will not significantly impact traffic flow on the adjacent roadway network or operation of the signalized and unsignalized intersections within study area.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

The new development will not result in a significantly impact traffic flow to the surrounding area.

3.5 Hazardous Materials Current Conditions

Since the site was initially developed in 1885, the buildings were used for manufacturing of various products. The use, storage, and disposal practices of the potentially hazardous materials utilized in the various manufacturing and commercial activities throughout the sites extensive developed history is unknown.

A review of the Phase I Environmental Site Assessment (ESA) prepared by Pennoni identifies historic fill material underlying the subject property to a maximum depth of 8.5 feet. The New Jersey Department of Environmental Protection (NJDEP) views historic fill material as "material generally deposited to raise the topographic elevation of the site, which was

contaminated prior to emplacement and was used extensively throughout the State, particularly along industrialized waterfront areas in North-Eastern and South-Western New Jersey." The report findings revealed RECs, HRECs, and BERs onsite. See Appendix A for copy of Phase I ESA.

Following the Phase I ESA, Pennoni performed a Phase II ESA at the subject property. Upon review of the Phase II ESA findings, soil samples contained containments in excess of the NJDEP standards. These contaminants may be attributed to form historic site operations. See Appendix A for copy of Phase II ESA.

A remedial action plan will be developed to address the site contamination in accordance with all Local, State and Federal regulations.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

Proper institutional controls will be established to address contaminated areas.

3.6 Solid Waste Disposal

During construction, construction wastes and materials will be collected, transported, and disposed of offsite by a private contractor. Any waste determined to be contaminated will be separated and classified. All wastes will be exported off-site to an approved State and/or Local collection facilities based on the type and quantity of materials. Burning or dumping of onsite debris will not be permitted.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

Regular and medical waste will be picked up by a private trash company on a routine basis. All waste will be disposed offsite in accordance with all Local, State and Federal regulations.

3.7 Socioeconomics Impacts

There is no additional population growth because there will be no proposed residential use on this property. The new building will be utilized as office and medical research space. No people, farms, or existing businesses shall be displaced by the proposed development. There are no projected impacts to municipal services such as schools, police, or fire. In compliance with local zoning and the Redevelopment Plan, the proposed Project is consistent with surrounding land uses and will not result in undesirable land use patterns.

No Action Alternative

No Impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

The proposed action would benefit the community by utilizing a previously disturbed site within an urban area allows for the protection and preservation of undeveloped, wooded, or agricultural lands elsewhere in the City, County and region. In addition, a contaminated site will be remediated in accordance with the NJDEP approved remedial action work plan.

3.8 Air Quality

Ambient air quality in the vicinity is tracked by the NJDEP. The subject property lies within the “Southern Delaware Valley Region", consisting of Camden and Gloucester Counties. The NJDEP maintains one (1) air monitoring station within the Southern Delaware Valley Region at Spruce Street in Camden, New Jersey. This station monitors air quality parameters including ozone, carbon monoxide, nitrogen oxide, sulfer dioxide and particulate matter on a daily basis. At the time of the preparation of this report, the NJDEP was reporting "good" air quality for this region. See Appendix C for Air Monitoring results.

According to the most recent Air Quality Index Report by the United States Environmental Protection Agency (USEPA), out of 338 days sampled the Philadelphia-Camden-Wilmington averages "good" air quality 189 days a year; "moderate" air quality 138 days a year; and "unhealthy for sensitive groups" and “unhealthy 11 days out of the year. Results are shown in Appendix C.

As a result of the proposed development, additional vehicular traffic will be present at the site. The improvements include a surface parking lot with less than 100 spaces. A majority of the parking facility will serve the employees for the new building, whom will be accessing the site at peak hours. Air quality at the site is not anticipated to be impacted due to the minor increase and intervals of vehicular traffic accessing the site. Note designated electric vehicle parking spaces will be included in the development of the site to serve less air pollutant generating vehicles.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

An increase in vehicle exhaust emissions and dust is anticipated during construction. Federal and State air attainment levels would not be exceeded. Best management practices would be developed and implemented to cover and or wet area soils during construction to minimize dust.

3.9 Noise Level

The State of New Jersey regulates noise under the New Jersey Noise Control Act, N.J.A.C. 7:29. This Act contains both protocols for assessing noise impacts as well as the allowable noise levels. Allowable noise levels differ for residential properties and industrial/commercial zoned areas. The regulations are as follows:

Residential:
7:00 AM - 10:00 PM 65 DBA at the nearest property line 10:00 PM -7:00 AM 50 DBA at the nearest property line

Industrial/Commercial:
65 DBA at the nearest property lines at all times.

Note, as stated above, the subject property is in a office/light industrial zone.

During the construction phase, the noise levels will be slightly elevated as a result of construction activities, such as the operation of construction equipment. No blasting will be permitted. Disturbances will be limited to the site construction time period and normal working hours.

After completion of the project, the noise level will be reduced to normal commercial and residential levels. Noise generating operations that will occur onsite including vehicular traffic, pedestrian activities, delivery activities and electrical equipment. Noise levels are anticipated to be at levels far below than those allowed by State regulations. Further, landscape buffering and equipment enclosures are proposed to decrease offsite noise levels.

No Action Alternative

No Impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

The noise levels during construction will be short term and limited to the duration of construction activities. The proposed development is anticipated to have a negligible impact on the site and the surrounding vicinity, given the nature of the proposed office/research use.

3.10 Public Service and Utilities

The subject property is serviced by Public Service Electric and Gas (PSE&G) for electric and gas, Camden County MUA for sewer, Camden Public Works for storm drainage and sewer, American Water for water, and Comcast and Verizon for communications. These services are located within Walnut Street, Memorial Avenue and Princess Avenue. Currently the site is vacant with all service lines abandoned.

No Action Alternative

No impacts.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

Any impact would be short term during active site preparation and construction activities. All normal construction permits and best management practices will be undertaken to minimize and or eliminate any disruption to public utility services in the area.

3.11 Topography/Regional Drainage

The subject property is located on the Camden, New Jersey-Pennsylvania 7.5-minute USGS topographic quadrangle (See Figure 5). The site elevation ranges from 15.5 feet above mean sea level at the southeastern corner of the subject property; to 19.0 feet above mean sea level at the northern end of the site.

Stormwater runoff flows over land from north to south direction and concentrates before leaving the site. No stormwater management facilities were observed onsite. Runoff is ultimately collected within existing inlets located in the Princess Avenue and Walnut Street and into a combined sewer system. The runoff conveys through piping the CCMUA treatment plant with an ultimate discharge to the Delaware River.

Regionally, the area is drained by various creeks and streams and more precisely by Cooper River located approximately 500 feet to the north of the subject property.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

Impervious surface coverage is being reduced under proposed conditions, reducing the peak runoff volume leaving the site and entering the existing drainage system. Water quality will be addressed using structural BMPs and small-scale green infrastructure.

3.12 Surface Drainage

The site will be sloped to convey surface runoff toward the new storm conveyance system. Stormwater runoff generated from the proposed improvements will be collected through a drainage system of inlets and pipes. The drainage system will discharge to on-site green infrastructure facilities and connect directly to the existing combined sewer system. Additionally, a portion of the drainage system will flow to a structural BMP for water quality prior to connection to the existing combined sewer system.

With the impervious surface coverage on the site being decreased under proposed conditions, adverse impacts to the surface drainage onsite and surrounding areas is not anticipated.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

There are no anticipated impacts to nearby surface water. A stormwater drainage system will consist of a combination of inlets, piping, structural BMPs and small-scale green infrastructure.

3.13 Water Quality

The impervious surfaces subject to vehicular traffic are classified as "pollutant generating surfaces" and will be treated for water quality under the proposed development. The proposed improvements will be treated for water quality through a combination of structural and non-structural BMP's to the standards set forth in the stormwater management rules.

Since the existing site contains untreated vehicular traveled impervious coverage. The proposed site, in conjunction with the structural and non-structural BMP's, will improve storm water quality leaving the site. In addition, the proposed improvements will reduce the amount of impervious coverage in comparison to the sites current condition.

No Action Alternative

No impacts.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

Water quality for impervious surfaces generating pollutant load will be addressed using structural BMPs and small-scale green infrastructure prior to leaving the site.

3.14 Impacts to Groundwater

Groundwater is expected to flow through the site from north to south , parallel to the surface gradient and towards the intersection of Princess Avenue and Walnut Street. A review of the Geotechnical Investigation Report and test boring logs, the identified depth to groundwater is approximately 18 feet.

A review of the Phase I ESA identifies two aquifer systems beneath the area of the subject property, separated by a confining layer. Additionally, the results of the study indicate these aquifers are tidally influenced by the Delaware River, as such, groundwater flow is variable. A review of the Geotechnical Investigation Report and test boring logs, the identified depth to groundwater is approximately 18 feet**.**

Typical sources for groundwater pollution include infiltration of contaminated stormwater, malfunctioning septic systems, underground storage tank leakage, and uncontrolled discharges of industrial manufacturing wastes.

Upon review of the Phase 1 ESA prepared by Pennoni, the existing site contains known groundwater contamination due to the extensive history of manufacturing operations. Due to the known condition of contaminated groundwater, Pennoni conducted and Phase II ESA for further investigation. Based on the information gathered under the Phase II ESA, the groundwater was found to contain metals above the NJDEP standard concentrations.

Additional field studies are necessary to determine the plume of groundwater contamination.

The proposed use will not include any manufacturing or industrial operations. In addition, the new development will not generate industrial discharges nor waste to surrounding bodies of water. Permitting will be obtained through the CCMUA for the discharge of water from well pointing and trench dewatering activities during construction, as necessary.

Stormwater management design will include methods to safely manage stormwater runoff from high pollutant loading areas such as parking areas and roadways in compliance with all applicable State stormwater regulations.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

The drainage from the proposed site will tie into the existing combined sewer system; therefore, it will not impact the groundwater conditions.

3.15 Biological Resources

A desktop investigation was conducted utilizing the NJDEP NJ-Geoweb webpage to identify potential areas that could be considered regulated features as defined in the New Jersey Freshwater Protection Act Rules (NJAC 7:7A) including freshwater wetlands, State open waters, transition areas, and certain ditches and swales. No freshwater wetlands were identified on or within 300-feet to the subject property. A copy of the Wetlands map is included as Figure 7.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

There are no wetlands identified within 300-ft of the subject property No action is required.

3.16 Wildlife Habitat

The subject property is currently developed and located within an area with no onsite or adjacent indigenous vegetative communities. The site does not contain wildlife habitat and is not anticipated to be conducive to foraging, resting, and limited breeding habitat for threatened and endangered species. No suitable habitat for mammal, reptile, or amphibian species is anticipated to be present onsite under existing and proposed conditions.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

No threatened and endangered species were observed during the survey conducted by EDR's search of available government records. No impacts are anticipated.

3.17 Aquatic Habitat

The project does not propose any improvements within the mean high water of the Cooper River. There are no aquatic habitats located on site.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

There are no anticipated impacts to nearby surface water. No action is required.

3.18 Archeological and Historical Features

The subject property is previously developed for manufacturing use and currently vacant. Two (2) existing mutli-story buildings exist onsite and are proposed to be demolished under the proposed improvements.

As the site is previously disturbed and developed and is documented to have up to 8 feet of historic fill thus, there is a low probability for the existence of any archeological resources near the soil surface that would be potentially disturbed during construction. Should any archeological resources or remains be encountered during construction, all construction activities will immediately cease, the proper authorities will be notified, and the matter will be handled in accordance will all applicable laws, regulations, and standard operating procedures.

No Action Alternative

No impact.

Action Alternative Rehabilitation of Existing Facility/Construction of New Facility

The site is not listed on the NJDEP Historic Preservation Office, New Jersey, and National Registers of Historic Places. No action required.

3.19 Coordination and Permits

Agency	Type	Status
City of Camden. Planning Board	Preliminary and Final Site Plan Approval	TBD
Camden County Planning Board	No Impact	TBD
Camden County SCD	Certification	TBD
NJDEP Sewer	Treatment Works	TBD
NJDEP Water (if necessary)	Water Extension	TBD

All necessary permits and coordination with governing agencies will be the responsibility of the architect/engineer and or contractor selected for site construction. All required regulatory permits will be maintained and posted on the construction site.

Building permits will be obtained from the Camden City Construction Office and the applicant will be responsible for acquiring any necessary permits prior to commencing construction at the site.

4.0 PUBLIC INVOLVEMENT AND AGENCIES CONSULTED

The proposed action will be publicized during a fifteen-day public period in a local newspaper and will be made available to the public at Camden City's Clerks Office. If no substantive comments are received, the Draft EA will become final and this initial Public Notice will also serve as the final Public Notice. Substantive comments will be addressed as appropriate in the final documents.

5.0 CONCLUSION

The proposed development is anticipated to have minimal impact on environmental resources. The project is located within New Jersey's Urban Center and Growth Area, and in the City's Gateway Redevelopment Zone. The proposed use is office and medical research and is a permitted use in the Office Light Industrial zoning district.

The site improvements have been designed to be compatible with surrounding uses and minimize impacts to natural features on the previously developed "made land" site. Minor impacts will be minimized and mitigated through proper engineering, planning and design, proper construction management techniques, as well as implementation of the various mitigation measures and BMP's discussed within this assessment and defined within the site plan package. The project will be designed to comply with local, County, and State development standards and planning objectives and will not pose significant impacts to the natural environment or local community.

6.0 LIST OF PREPARERS

Blake J. Fitzgerald, PE
Project Engineer

6.1 Experience Summary

Mr. Fitzgerald is a Project Engineer in our Civil/Site with more than 12 years of experience. He provides engineering, design, and technical services for various civil and environmental improvement projects. He has worked extensively on both large-scale and small-scale projects, involving site and infrastructure improvements and land development. With more than 5 years of experience, His responsibilities have included technical engineering design of residential, private, institutional, and commercial improvement projects, covering all aspects of design from feasibility studies, initial planning, and final design to detailed construction documents. His broad design experience is comprised of stormwater management design, storm sewer conveyance system, sanitary sewer and water main design, pavement design and construction services. He also has experience in the preparation of soil erosion and sediment control permit applications and plans and technical specifications for demolition and site improvement projects. In addition, Mr. Fitzgerald has technical design experience, utilizing CADD, including 3-D modeling, storm sewer design and modeling software, and basin modeling/routing software, and is a certified professional in the Site-Ops site engineering software.

6.2 Education

BS, Civil & Environmental Engineering; Rowan University (2010)

6.3 Professional Registrations

Professional Engineer: NJ (#24GE05321600, 4-30-24)

6.4 Certifications/Trainings

- SiteOps Certified Professional, Bentley Systems (2014)
- Focus on Shop Drawings: Vital Link between Design and Construction, National Society of Professional Engineers (2014)
- Low Impact Development, HEI (2013)
- NJDEP Stormwater Management Rules & BMP Manual, Rutgers (2012)

6.5 Project Experience

Rowan University – School of Veterinary Medicine, Mullica Hill, NJ (West Campus)
Project Engineer – Assisted in programming and development of site layout for proposed improvements. Prepared concept plans and cross sections for civil design features. The site poses grading challenges with a greater differential in topography as you move across the site. Design grading and stormwater management will continue as the project moves into schematic phase. Once complete, this project will provide a 135,000 square foot complex for students to pursue a career in veterinary related studies.

Rowan University - New Academic Building – Discovery Hall, Glassboro, NJ
Staff Engineer - Responsible for construction administration for a new academic building, known as Discovery Hall, to be utilized by School of Earth & Environmental and the College of Science and Mathematics. The proposed site improvements include a secured stone parking lot for owner use. Construction administration services included review of shop drawings, RFI responses, construction sketches, and attending progress meetings. The site is adjacent to the Universities Central Utility Plan which posed constructability issues due to multiple conflicts with existing utilities. The solution was to investigate, coordinate, and prepare design sketches to the contractor that eliminated conflicts. The successful completion of this project will provide an additional building to serve the growing University's needs.

Rowan University/Rutgers Camden Board of Governors - Demolition of Buildings, Camden, NJ
Associate Engineer - Prepared construction plans for the demolition of existing retail building strip in Camden. The proposed site improvements included a secured stone parking lot for owner use. Design aspects included demolition plans, parking layout and grading. Additional design included temporary pedestrian detour access plan. The site is restricted by adjacent properties and right-of-way's which poised difficulties for specifying construction staging areas. The solution was to stage the demolition and close additional areas of sidewalks. The successful completion of this project provides additional parking to serve the growing university footprint in Camden.

KSS Architects LLP/Rowan University – Rohrer College of Business, Glassboro, NJ
Associate Engineer – Assisted design team to develop chilled water and steam piping plans for a new building to be used by the Rowan College of Business. These utilities are complex and required integration with the existing on-site systems. Design included complex phasing plans as the project was constructed in stages. The completed project created a building with 99,000-SF to support the growth of the University.

Rowan University – Ellis Street, Glassboro, NJ
Associate Engineer - Responsible for all aspects of site improvements, grading, 3-D modeling, utility and stormwater conveyance and management system layout and grading for the phased construction of a new student parking facility in Glassboro, NJ. The parking facility was part of the Rowan University Strategic Parking Initiative Feasibility Study. Design aspects included the widening of County Route #641 (Ellis Street), accessible parking and circulation, and shuttle bus circulation thru the site and stormwater management facility design of an infiltration basin. Further, the utility design included new electrical wiring to the site for the design of lighting and emergency call stations. The successful project completion supplies an additional 815 student parking spaces to support parking demands and campus growth.

Rowan University – Glassboro High School Parking Lot Improvements, Glassboro, NJ
Associate Engineer – Provided design aspects of site layout, grading, and stormwater drainage system layout and sizing. Worked with the project team to coordinate a new traffic signal under the separate design of the new Rowan College of Engineering building and incorporated these aspects into the high school parking lot improvements. The successful completion of the project created additional parking at the high school along with a safer circulation via the traffic signal.

Rowan University – College of Engineering, Glassboro, NJ
Associate Engineer – Assisted design team to prepare design and permit drawings for a new building to be used by the Rowan College of Engineering. Design aspects included site layout, grading and stormwater drainage system with the use of manufactured treatment devices to provide water quality treatment. Utility design included a complex steam piping system to serve the new building. Permit applications included water and treatment works and flood hazard area individual permit. The

completed project provides an additional 88,000-SF to the existing Rowan Hall building to represent the development of a new engineering campus within the University's campus.

Stockton University – Unified Science Center II and Academic Buildings, Galloway Township, NJ
Associate Engineer - Responsible for all aspects of planning, site improvements, grading, 3-D modeling, utility, and stormwater conveyance layout for two new buildings in the Pinelands Comprehensive Management Area. Prepared engineer's cost estimate to set an initial site construction cost. As part of Stockton University's strategic growth plans, the $40 million-dollar project consists of site improvements, utility and storm sewer connections associated with the design of an additional 85,000-SF new laboratory science building and classroom floor area to meet the University's needs. Design aspects included site layout and grading design to provide accessible circulation throughout the project site and stormwater management design of five on-site bioretention/rain garden features to meet the Pinelands water quality standards. The utility design included the integration of the new water supply with the University's own on-site water supply system and the sanitary sewage with the multiple on-site sewage pump stations.

Stockton University – Barlow Parking Lot Improvements (Phase 3), Galloway Township, NJ
Associate Engineer - Responsible for aspects of site layout, grading, 3-D modeling, and storm water piping layout for new internal drives and gravel parking lot within the Pinelands Comprehensive Management Area. This parking lot is a phased portion (known as Phase 3) of the Barlow Parking Improvements Masterplan (Masterplan). The proposed site improvements include a base design of a stone parking lot for students with lighting, landscaping, and security cameras. Design aspects included demolition plans, parking layout, grading and storm sewer design. The incorporation of storm structures and piping deviated from the Masterplan design. The storm structures design was included reduced soil erosion from large watersheds and alleviated ponding in the landscape medians, due to over compacted soils from construction operations (issues observed at previously constructed phases of the Masterplan. Alternate design included a bore path for a 2-way conduit pathway under an existing roadway (Delaware Avenue). The option to bore the conduit was used as the University wanted to limit the amount of road reconstruction in recently paved Delaware Avenue. Additional design included profiles for the 2-way conduit, electrical and communication paths for site lighting and cameras, and a connection to existing Communication Building. The finished project provides approximately 343 additional parking spaces to meet the University's needs.

Stockton University – Barlow Boulevard, Galloway Township, NJ
Associate Engineer - Responsible for aspects of site layout, grading, 3-D modeling, and storm water piping layout for new internal drives (known as Barlow Boulevard and Delaware Avenue) and surface parking lots at Stockton University within the Pinelands Comprehensive Management Area. Design aspects included a complex layout of the internal drives that would not impact the Pinelands wetland buffer or deed restricted area. Extraordinary measures were integrated into the roadway design for Delaware Avenue to avoid impact with the regulated wetlands buffer area. Design included bus circulation with pick-up and drop-off locations, a round-a-bout, and stormwater management consisting of roadside bio-swales and retention basins. The finished project provides approximately 900 additional parking spaces to meet the University's needs.

Camden County Improvement Authority - Wilson Complex Demolition, Camden County College, Blackwood, NJ
Associate Engineer - Prepared construction plans, bid documents and technical specifications for the demolition of existing vacant building (Wilson Hall) at the Camden County College Blackwood Campus. The building contained hazardous materials and required abatement work prior to demolition. Design aspects included demolition plans and post development plans including grading to provide positive

drainage. Additional design included temporary pedestrian detour access plan. The successful completion of this project enhances the appearance of the campus and provides an open space area for outdoor events/ceremonies and future development.

Camden Parking Authority – Lot 50 Site Improvements, Camden, NJ (4/19 – Present)
Associate Engineer – Responsible for the grading design, three-dimensional modeling, and stormwater conveyance layout for the reconstruction of an existing gravel parking lot. The site improvements a paved parking lot, with landscaped islands, lighting and ADA improvements. Design aspects included grading inlets to avoid various underground utilities and to keep stormwater from entering subway vents. The successful completion of this project will provide the Parking Authority a safer parking lot with increased spaces. (PACAX19002)

Ewing Township Board of Education – Parking Lot Improvements/Ewing High School, Ewing, NJ (2/19 – Present)
Associate Engineer – Responsible for all aspects of site layout, grading, three-dimensional modeling, utility and stormwater conveyance layout for the expansion of the existing parking lot at Ewing High School. The site improvements include new parking in the area of existing tennis courts, reconstruction of existing parking lot, ADA improvements and lighting. Design aspects included altering layout to maintain existing utility poles, stormwater conveyance and a manufactured treatment device. This project is portions of other proposed projects at the High School. Thought had to be provided in the design to allow this project to function independently if the other proposed projects are constructed at a later time. The successful completion of this project will provide additional parking spaces to meet the school's needs. (FVHDA18001)

Clean Energy - Burleigh CNG Facility, Middle Township, Cape May County, NJ (8/18-Present)
Associate Engineer - Responsible for all aspects of site improvements, grading, three-dimensional modeling, utility and stormwater conveyance and management system layout and grading for the construction of a new natural gas vehicle fueling facility in Middle Township, NJ. The facility provides two dispensers for vehicle fueling. The site improvements include a new driveway, fueling station and equipment area. Design aspects include an infiltration basin for storage and water quality and a grassed swale for low-impact-development. Permitting for this project includes an individual CAFRA permit. The successful completion of this project will provide another CNG feeling station to the South Jersey area for increased convenience for the growing popularity of CNG-fueled vehicles. (CLEN1502.03)

Bostik Inc., - Bostik Facilities Expansion, West Deptford, NJ (8/18 - 9/18)
Associate Engineer – Responsible for all aspects of site improvements, layout, grading, three-dimensional modeling, utility and stormwater conveyance and management system for the construction of a building expansion and silo pad at Bostik Facilities in West Deptford Township. Site improvements included a new asphalt driveway for truck access to the silos, a truck parking area, and ADA improvements to the existing parking lot. Design included providing the minimal amount of new pavement area for truck circulation to and from the silos to reduce the area of improvements within the adjacent wetlands buffer. Design aspects included separate extended/infiltration areas interconnected to function as one facility for stormwater management. Grading was a challenge as to minimize encroachment in the wetlands buffer. For NJDEP permitting for outfall into wetlands (FWGP-11), a transition area plan was created to show compensation areas for proposed disturbance in wetlands buffer. The successful completion of this project will provide an additional building square footage and new silos to satisfy the facility's needs. (RGARX18001)

Resin Tech, Inc. – Warehouse Building, Camden, NJ (3/17 – 9/17)
Associate Engineer – Responsible for the preparation of conceptual site plans for pricing of a new warehouses located in the City of Camden. The development includes the construction of a new approximately 150,000 square foot warehouse building and associated site improvements. These improvements consist of parking lots, security gates, landscaping, and separate truck and car circulation into and within the site. Design aspect included concept layout, grading, stormwater drainage and management, utilities, landscaping and lighting. The successful completion of this project will provide new headquarter facility within the City of Camden. (RESN1701)

Resin Tech, Inc., - ActionPak, Packing Facility, Camden, NJ (3/17 – 9/17)
Associate Engineer – Responsible for the preparation of conceptual site plans for pricing of a new warehouses located in the City of Camden. The development includes the construction of a new approximately 130,000 square foot packing facility and associated site improvements. These improvements consist of parking lots, security gates, landscaping, and separate truck and car circulation into and within the site. Design aspect included concept layout, grading, stormwater drainage and management, utilities, landscaping and lighting. The successful completion of this project will provide new headquarter facility within the City of Camden. (RESN1702)

Liberty Property Limited Partnership - The Camden Waterfront, American Water Building, Parking Garage & Infrastructure, Camden, NJ (12/15 – 3/17)
Associate Engineer - Responsible for the preparation of design, permit and construction plans for the Camden Waterfront Master Plan. The development includes the construction of four commercial buildings, including two (2) high-rises (20-22 stories), hotel, retail, and residential buildings along with three parking structures. Design aspects included layout, grading, drainage, utilities and 3-d modeling for various site improvements. These improvements consisted of improved street and road network, replacement of a 72" CSO, utility mains, patio areas, streetscape, paved and concrete walkways, and a surface parking lot. The storm drainage system design is complex as it separates the storm runoff from sewer flow. Under existing conditions, the storm and sewer flows are managed through a combined system. The drainage system design incorporated manufactured treatment devices and underground cisterns. Further, design included complex phasing plans as the project is to be constructed in stages. The successful completion of this project will provide a mixed-use urban neighborhood to re-connect the city with the waterfront. (LIBP1512)

Burlington County Department of Resource Conservation, Rancocas Creek Greenway Trail, Delran, Riverside & Delanco Townships, NJ (10/17 - Present)
Associate Engineer - Responsible for all aspects of permitting, site improvements, layout, grading, three-dimensional modeling, utility and stormwater conveyance and management system layout and grading for the construction of a new shared-use path in the Townships of Delran, Riverside and Delanco, Burlington County. The Federal and NJDOT funded path is over four miles in length with a combination of on-road and off-road sections, running parallel with Rancocas Creek. The new path connects existing trails at Pennington Park to provide pedestrian access to Amico Island. The plan set was packaged to NJDOT format. Site improvements consist of a 10-foot wide asphalt path for pedestrian and bicyclist use, ADA improvements, asphalt driveway into Amico Island, pedestrian bridges and way finding signage. This project posed many design and permitting challenges. Assisted in preparing permitting plans for US Army Corps of Engineers Nation Wide Permit, NJDEP freshwater Wetlands General Permit and Coastal General Permit. The design aspects included grading to not trap water or create an excessive amount of import/export material and avoid disturbance in areas where historic artifacts were uncovered. The layout

included a round-a-bout to improve circulation and detailed way-finding signage. Drainage and stormwater management included swales, piping, and a recharge basin. The recharge basin was required to compensate for areas of tree removal for the pre-developed conditions versus the same area converted to impervious surface under post-developed conditions. The successful completion of this project will provide the residents of Burlington County a safe trail for exercise and enjoying nature. (TDGR1701)

City of Salem Board of Education, Salem High School Track & Field Facilities, Salem County, NJ (6/18 - 7/18)
Associate Engineer - Responsible for all aspects of site improvements, layout, grading, three-dimensional modeling, utility and stormwater conveyance and management system layout and grading for the construction of a new running track, grassed field and field events at the Salem City High School grounds in the City of Salem. The site improvements included concrete walkways for ADA accessibility to bleachers. Design aspects included stormwater management with an infiltration/extended detention facility to manage runoff from the new track surface and field events. Design for field events included high jump, triple jump/triple jump, discus, pole vault and shot put. A challenge to the design was keeping the improvements out of adjoining wetlands. The finished project will provide a new running track, athletic fields and field events to meet the school's needs. (NEWRD18002)

Bostik Inc., Bostik Facilities Expansion, West Deptford, NJ (8/18 - 9/18)
Associate Engineer – Responsible for all aspects of site improvements, layout, grading, three-dimensional modeling, utility and stormwater conveyance and management system for the construction of a building expansion and silo pad at Bostik Facilities in West Deptford Township. Site improvements included a new asphalt driveway for truck access to the silos, a truck parking area, and ADA improvements to the existing parking lot. Design included providing the minimal amount of new pavement area for truck circulation to and from the silos to reduce the area of improvements within the adjacent wetlands buffer. Design aspects included separate extended/infiltration areas interconnected to function as one facility for stormwater management. Grading was a challenge as to minimize encroachment in the wetlands buffer. For NJDEP permitting for outfall into wetlands (FWGP-11), a transition area plan was created to show compensation areas for proposed disturbance in wetlands buffer. The successful completion of this project will provide an additional building square footage and new silos to satisfy the facility's needs. (RGARX18001)

Camden Hotel Partners, Hilton Garden Inn at Camden Waterfront, Camden, NJ (6/18 - Present)
Associate Engineer **–** Responsible for aspects of site layout, grading, three-dimensional modeling, and storm water piping connections for a new 7-story, 180 room hotel as part of The Camden Waterfront Master Plan Development in Camden, NJ. The Hotel is planned to serve the wave of commercial development as well as tourism trade from the aquarium and other waterfront attractions. Design aspects included complex modifications of the layout, grading, storm drainage and utility design completed under the Parking Garage and Infrastructure project to incorporate the site improvements of the new hotel. The successful completion of this project will serve the commercial development as part of the Camden Waterfront mixed-use development as well as tourism trade. (INTCX18001)

Resin Tech, Inc. – Warehouse Building, Camden, NJ (3/17 – 9/17)
Associate Engineer – Responsible for the preparation of conceptual site plans for pricing of a new warehouses located in the City of Camden. The development includes the construction of a new

approximately 150,000 square foot warehouse building and associated site improvements. These improvements consist of parking lots, security gates, landscaping, and separate truck and car circulation into and within the site. Design aspect included concept layout, grading, stormwater drainage and management, utilities, landscaping and lighting. The successful completion of this project will provide new headquarter facility within the City of Camden. (RESN1701)

Resin Tech, Inc., - ActionPak, Packing Facility, Camden, NJ (3/17 – 9/17)
Associate Engineer – Responsible for the preparation of conceptual site plans for pricing of a new warehouses located in the City of Camden. The development includes the construction of a new approximately 130,000 square foot packing facility and associated site improvements. These improvements consist of parking lots, security gates, landscaping, and separate truck and car circulation into and within the site. Design aspect included concept layout, grading, stormwater drainage and management, utilities, landscaping and lighting. The successful completion of this project will provide new headquarter facility within the City of Camden. (RESN1702)

Diocese of Camden - St. Mary's Cemetery Accessory Office and Garage Buildings, Bellmawr Borough, NJ (4/15 – 6/17)
Associate Engineer - Responsible for the preparation of conceptual and design plans for a new office and garage building located at St. Mary's Cemetery in Bellmawr, NJ. The plans were developed as the NJDOT will take portions of the property that requires the demolition of an existing building that serves as an office building. Attended meeting with the client and their representative to coordinate a design that meets the Client's needs. The conceptual and design plans were prepared in conformance with Bellmawr land use ordinance and design standards. Design consisted of road and parking lot layout, grading, water and sewer design, and stormwater drainage system. Stormwater drainage design included coordination with the NJDOT as the runoff from the new site improvement at the Cemetery will be treated by a stormwater facility within their right-of-way. The successful completion of this project will provide a new sales office to replace the removed building and maintenance building that addresses the Cemetery's needs. (DIOC1503)

The Michaels Organization/NFI - The Camden Waterfront, The Camden Tower, Camden, NJ (3/17 – Present)
Associate Engineer - Responsible for aspects of site layout, grading, three-dimensional modeling, and storm water piping connections for a new 18-story, Commercial Building and Parking Garage as part of The Camden Waterfront Master Plan Development located in Camden, NJ. The high-rise tower will provide new headquarters for Conner Strong & Buckelew, NFI, and The Michaels Organization. Design aspects included complex modifications of the layout, grading, storm drainage and utility design completed under the Parking Garage and Infrastructure project to incorporate the site improvements of the new building. The successful completion of this project will serve the commercial development as part of the Camden Waterfront mixed-use development and have a positive impact on the economy of Camden. (MCHO1701)

Macerich Deptford LLC - Deptford Mall Outfall Mitigation, Deptford, NJ (3/17 – 12/17)
Associate Engineer - Responsible for the preparation of permit drawings for mitigation of an existing outfall within the Deptford Mall site located in Deptford Township, NJ. Design aspects included layout, grading and storm drainage for the new outfall. Further design included a complex use of gabions as an erosion control measure. The design plans were prepared in conformance with N.J.A.C. Title 7rules and regulations. Prepared permit plans in coordination with Lomax Consulting Group for Freshwater Wetlands Outfall Mitigation and Tidelands. The

successful completion of the project will provide a stable outfall for storm runoff from the site and reduce erosion to the nearby waterbody, Almonesson Creek. (MCRH1602)

7.0 REFERENCES

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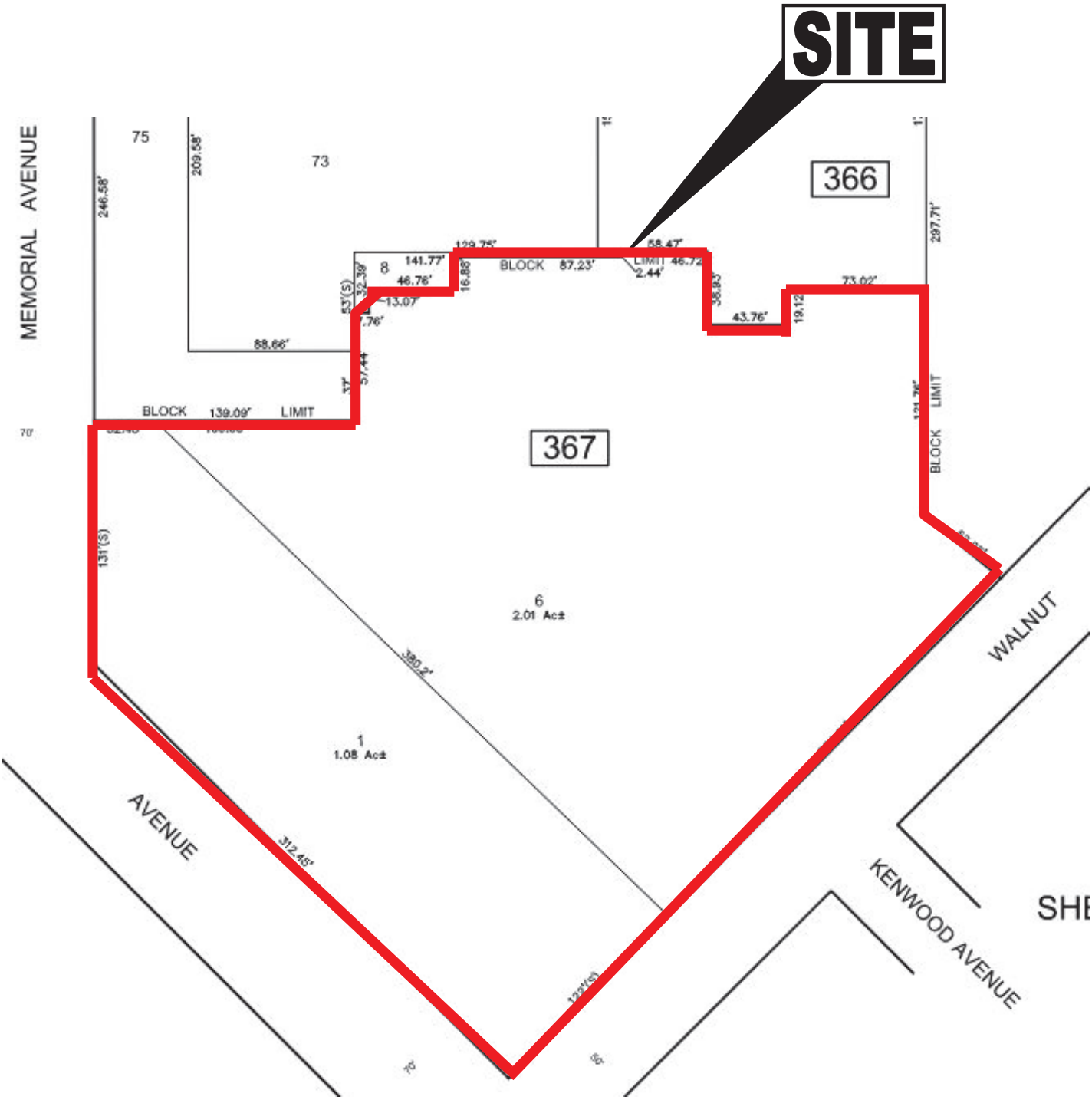
Camden, NJ USGS, 7.5-minute topographic quadrangle, 2016.

City of Camden Ordinance.

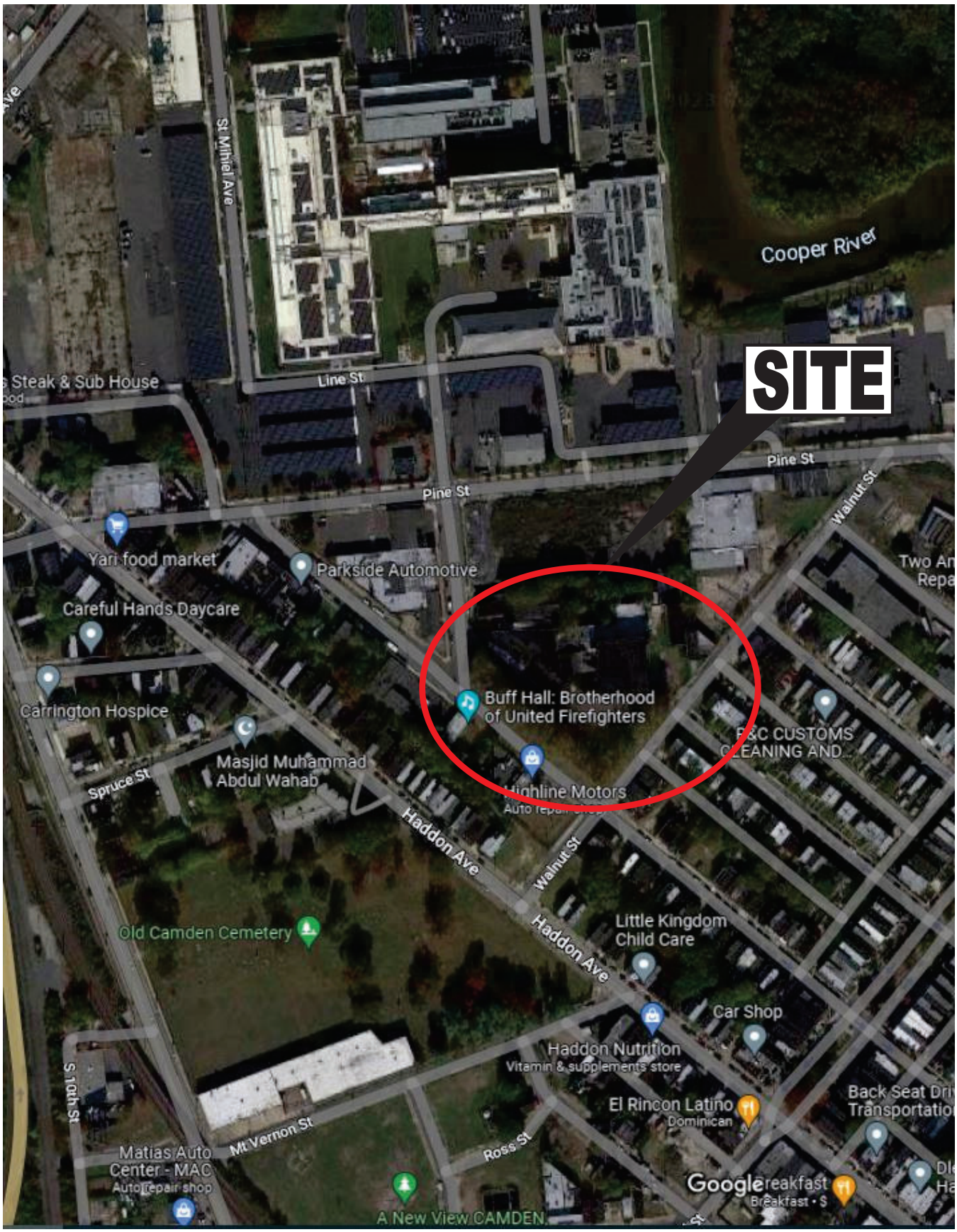
City of Camden Gateway Redevelopment Plan.

FIGURES



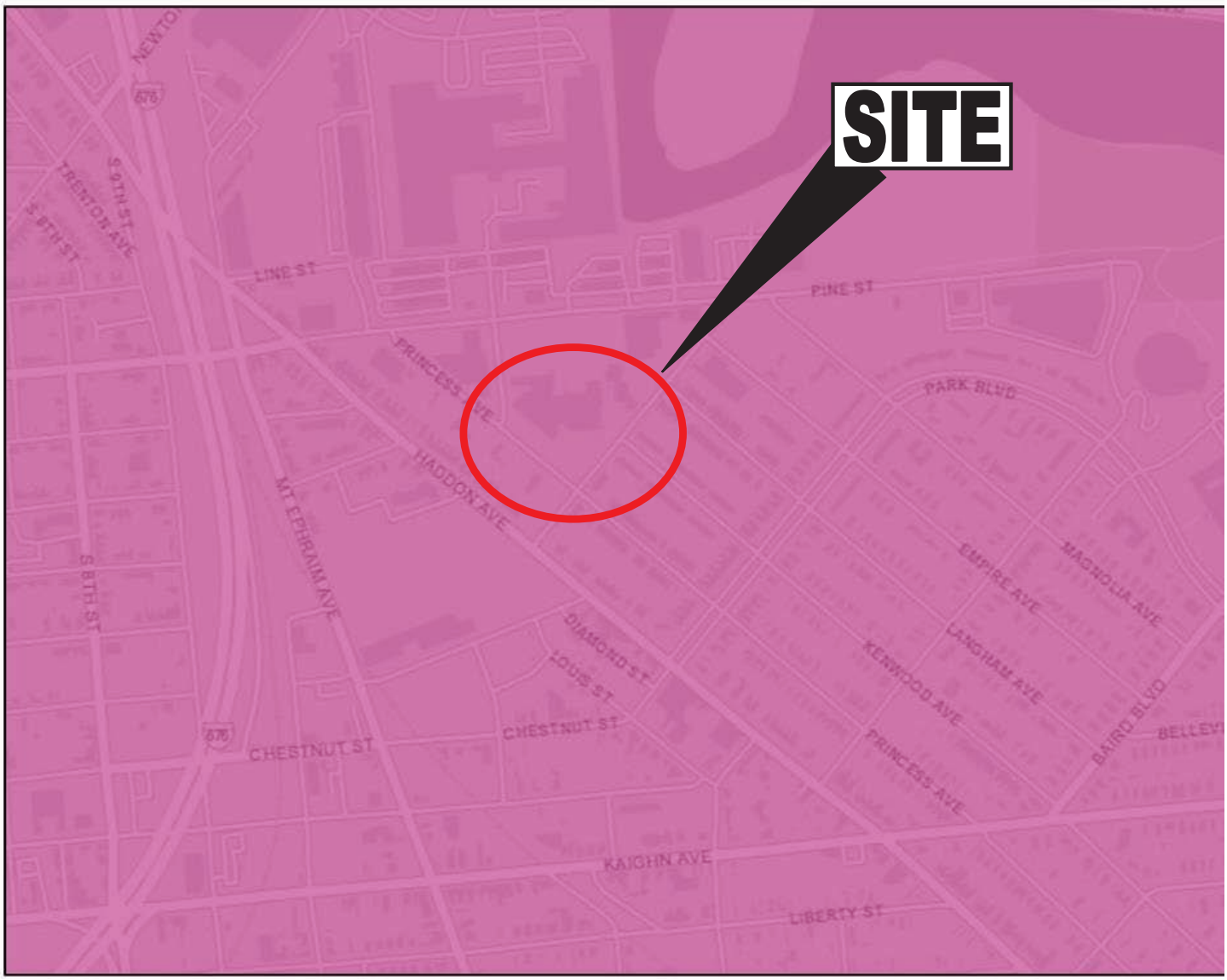
City of Camden Tax Map – Plate 7.04

Pennoni PENNONI 2 AQUARIUM DRIVE CAMDEN, NEW JERSEY 08103		CORIELL INSTITUTE BLOCK 367, LOTS 1& 6 CITY OF CAMDEN CAMDEN COUNTY, NEW JERSEY
Job No. SCHER22001	Scale: NTS	Figure 1 – Tax Map



Google Maps

Pennoni PENNONI 2 AQUARIUM DRIVE CAMDEN, NEW JERSEY 08103		CORIELL INSTITUTE BLOCK 367, LOTS 1& 6 CITY OF CAMDEN CAMDEN COUNTY, NEW JERSEY
Job No. SCHER22001	Scale: NTS	Figure 2 – Site Location Map



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Planning Area Boundaries of the State Development and Redevelopment Plan

Metropolitan Planning Area

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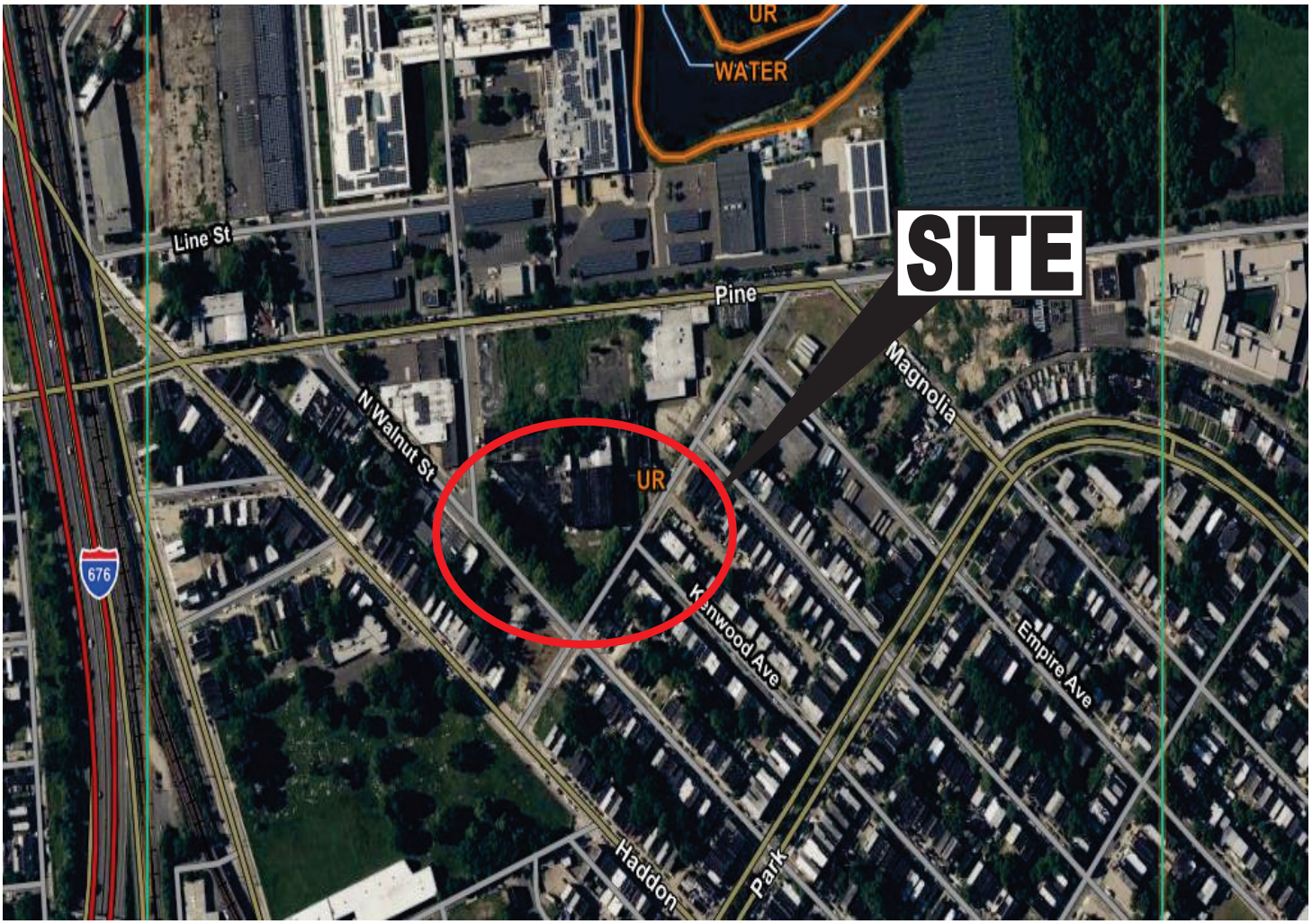
0

State of New Jersey, Esri, HERE, Garmin,

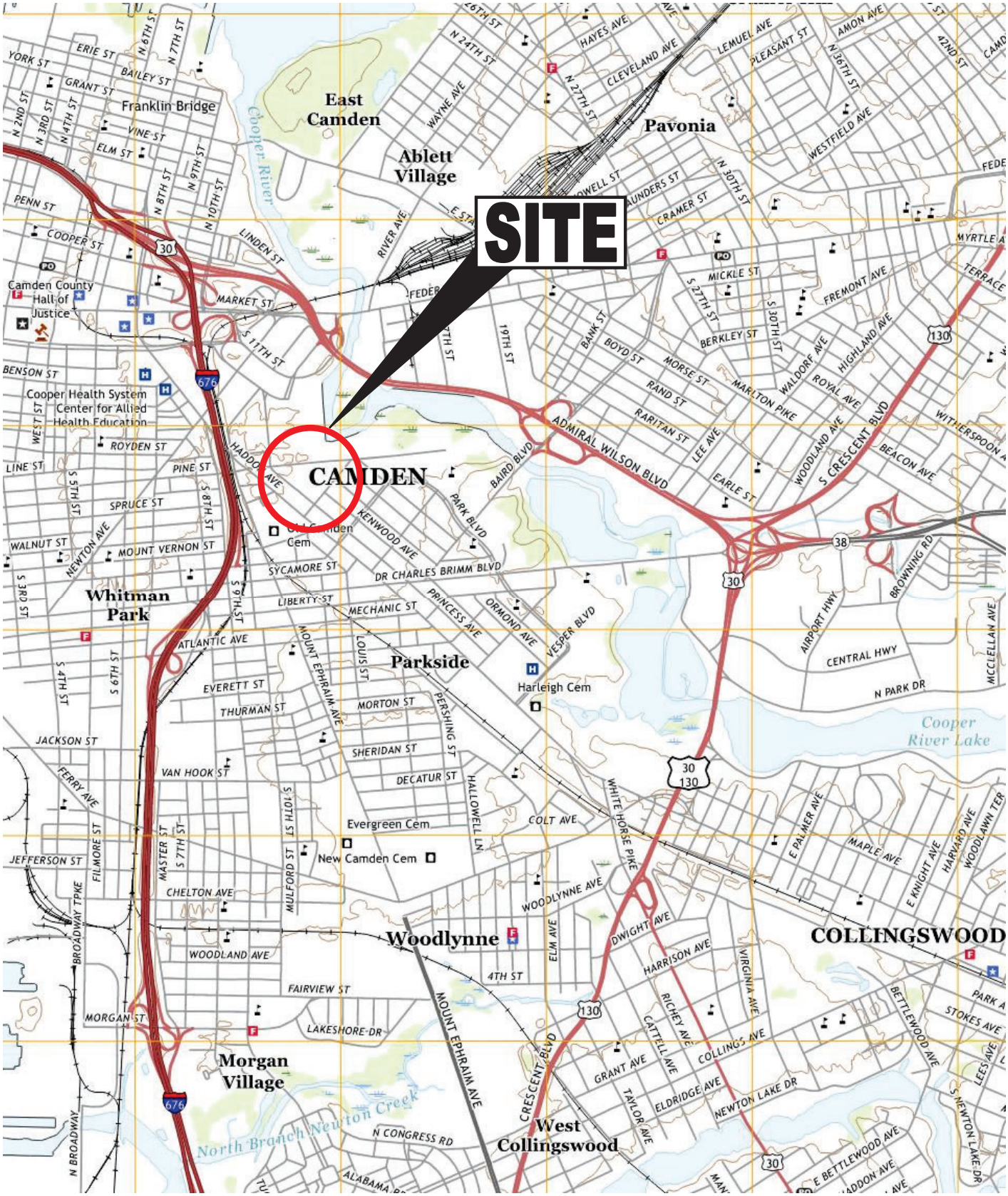
State Plan Policy Map – Planning Area 1 (PA-1) Metropolition

Pennoni PENNONI 2 AQUARIUM DRIVE CAMDEN, NEW JERSEY 08103		CORIELL INSTITUTE BLOCK 367, LOTS 1& 6 CITY OF CAMDEN CAMDEN COUNTY, NEW JERSEY
Job No. SCHER22001	Scale: NTS	Figure 3 – State Planning Area



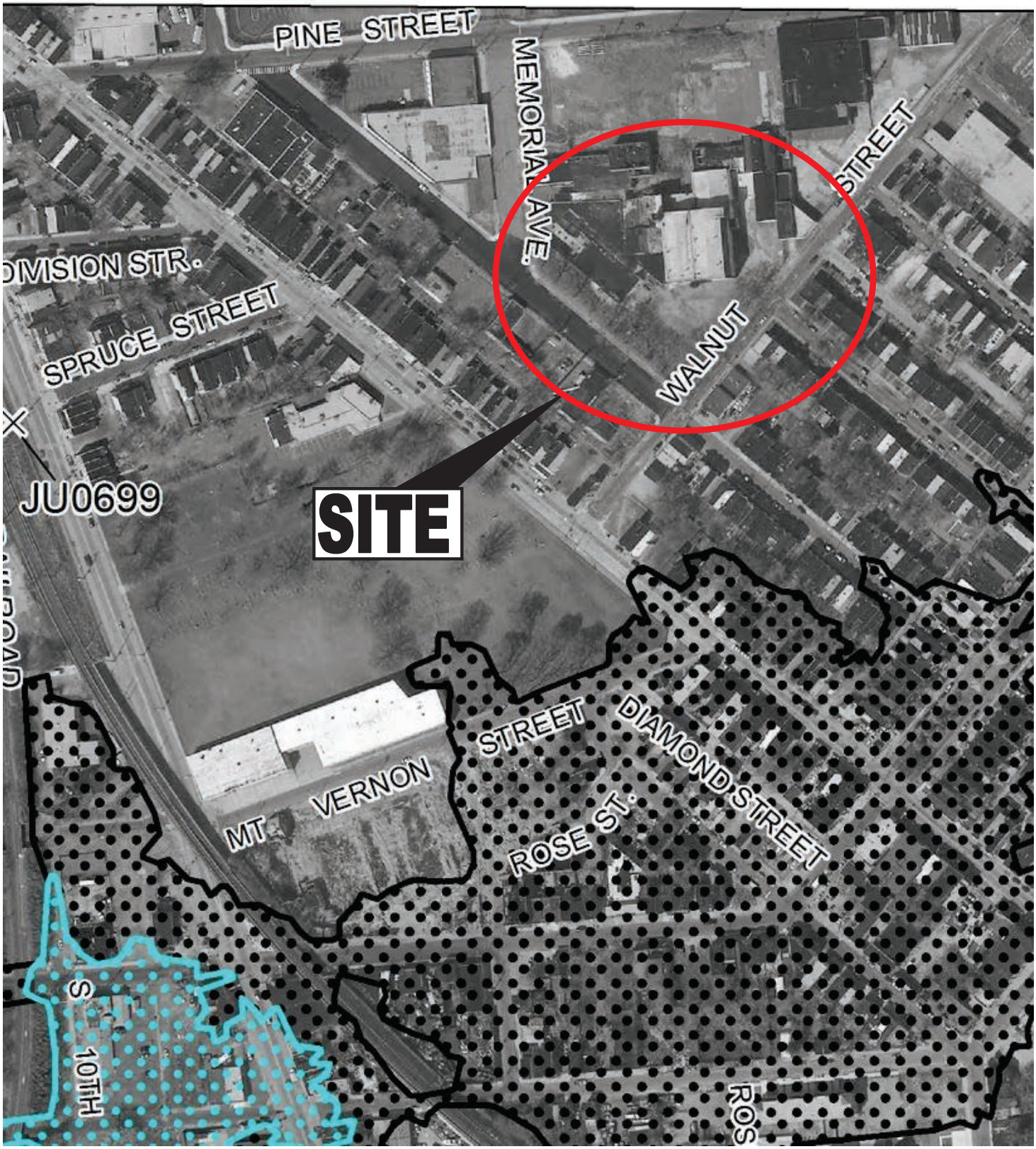
USDA SOILS MAP

Pennoni	PENNONI 2 AQUARIUM DRIVE CAMDEN, NEW JERSEY 08103	CORIELL INSTITUTE BLOCK 367, LOTS 1& 6 CITY OF CAMDEN CAMDEN COUNTY, NEW JERSEY	
Job No. SCHER22001	Scale: NTS	Figure 4 – Soils Map	



USGS – CAMDEN QUADRANGLE – 7.5 MINUTE SERIES

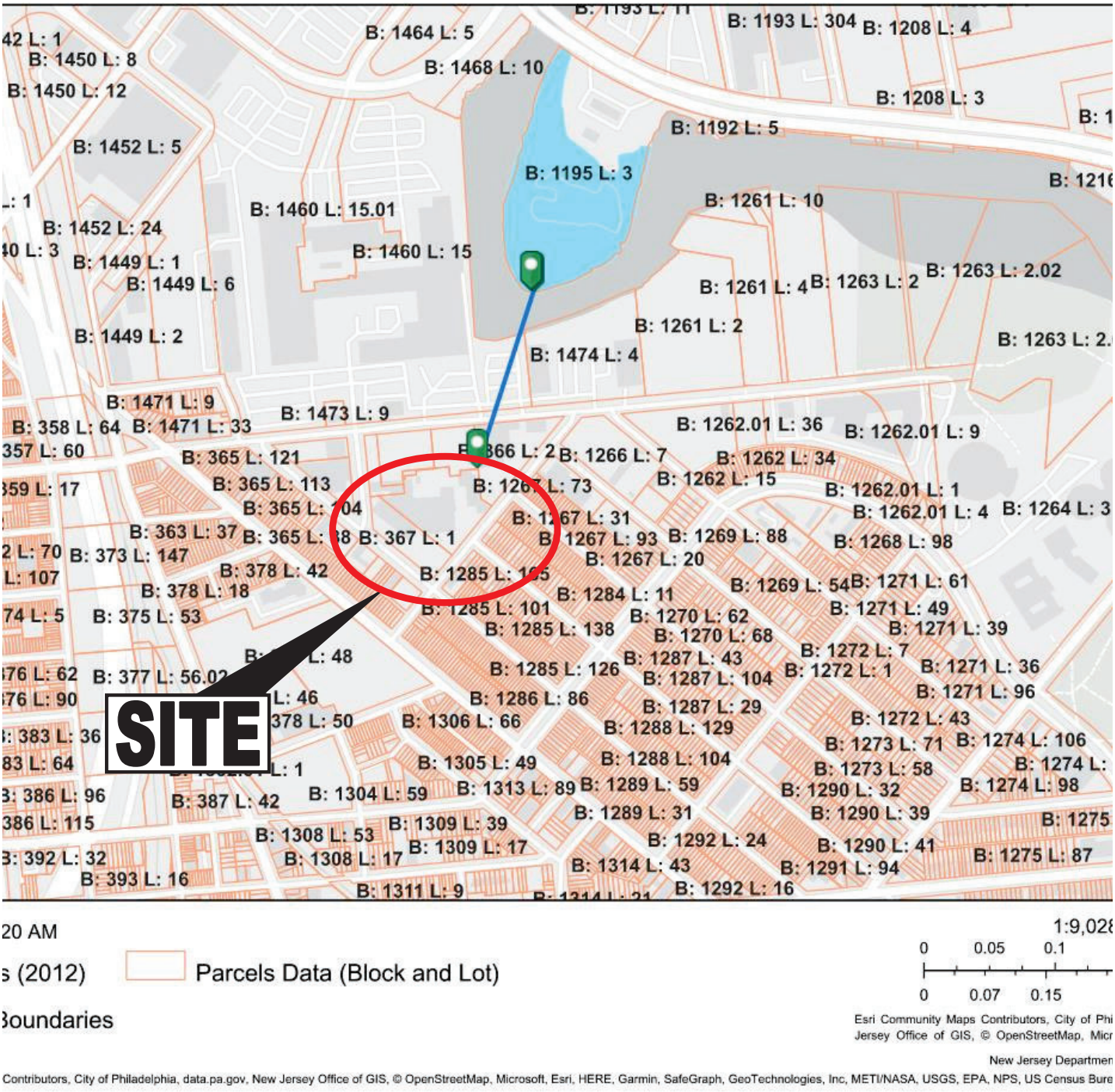
Pennoni PENNONI 2 AQUARIUM DRIVE CAMDEN, NEW JERSEY 08103		CORIELL INSTITUTE BLOCK 367, LOTS 1& 6 CITY OF CAMDEN CAMDEN COUNTY, NEW JERSEY
Job No. SCHER22001	Scale: NTS	Figure 5 – USGS MAP



FEMA FLOOD MAP; MAP #34007C0036F; 8/17/2016

Pennoni PENNONI 2 AQUARIUM DRIVE CAMDEN, NEW JERSEY 08103		CORIELL INSTITUTE BLOCK 367, LOTS 1& 6 CITY OF CAMDEN CAMDEN COUNTY, NEW JERSEY
Job No. SCHER22001	Scale: NTS	Figure 6 – FEMA FLOOD MAP

NJ-GeoWeb



NJDEP GeoWeb – Wetlands Map

Pennoni	PENNONI 2 AQUARIUM DRIVE CAMDEN, NEW JERSEY 08103	CORIELL INSTITUTE BLOCK 367, LOTS 1& 6 CITY OF CAMDEN CAMDEN COUNTY, NEW JERSEY
Job No. SCHER22001	Scale: NTS	Figure 7 – Wetlands Map

Appendix A
PHASE I ENVIRONMENTAL ASSESSMENT
(Available Upon Request)

PHASE II ENVIRONMENTAL ASSESSMENT

(Available Upon Request)

Appendix B
GEOTECHNICAL ENGINEERING REPORT

GEOTECHNICAL ENGINEERING SERVICES

CORIELL INSTITUTE HEADQUARTERS

1300 Walnut Street
Camden, New Jersey

Submitted To:

Scheer Partners
Mr. Trevor Harris, Senior Project Manager
15245 Shady Grove Road, Suite 210
Rockville, Maryland 20850

Murat Arkan, PE
Senior Geotechnical Engineer

November 10, 2022
SCHER22001

Pennoni
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www.pennoni.com

November 10, 2022

SCHER22001

Mr. Trevor Harris
Senior Project Manager
Scheer Partners
15245 Shady Grove Road, Suite 210
Rockville, MD 20850

Re: Geotechnical Engineering Services
Coriell Institute Headquarters
1300 Walnut Street
Camden, NJ

Dear Mr. Harris:

We are pleased to submit our geotechnical engineering report for the above referenced project. Our services were initiated and completed in general accordance with our proposal dated May 13, 2022, and your subsequent authorization to proceed.

We trust that the information presented in this report is what you require at this time and we thank you for the opportunity to assist you with this project. If you have any questions, or if you need any further assistance with this project, please contact this office at your earliest convenience.

Respectfully yours,

PENNONI ASSOCIATES INC.

Tristan Hall, EIT
Graduate Geotechnical Engineer

Murat Arkan, PE
Senior Geotechnical Engineer

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APPENDICES

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APPENDIX C – Standard Symbols

APPENDIX D – Important Information About This Geotechnical Engineering Report

1. EXECUTIVE SUMMARY

Pennoni has completed our geotechnical study for the proposed mid-rise building. The results of our study are summarized below. The executive summary should be used in conjunction with the body of the report as it details our recommendations below.

	Proposed Construction and Site Conditions	***Section(s)***
Proposed Construction	A new multi-use, midrise repository/research and headquarters building. 33,000 ft^2 in plan, with a loading zone and associated parking lot.	2.1
Surface Materials	4 in. of concrete, 3 in. topsoil, and bituminous pavement at the surface. Site is currently occupied by four single- to multi-story masonry structures. Topography is relatively flat.	4.1 , 4.3
Subsoils	Stratum F: (FILL) Sand, varying amounts of Silt, Brick, and Glass Fragments (~2.0 to 3.5 ft thick); Stratum 1: Sand, varying amounts of Silt and thin Clay pockets (~4.5 to 6.0 ft thick); Stratum 2: Sand, varying amounts of Silt and stiff Clay pockets (~30 to 36 ft thick); Stratum 3: Sand, trace Silt (all borings terminated in it)	4.3
Field Work	4 Standard Penetration Test (SPT) borings were performed in general accordance with ASTM D1586 methods and advanced approximately 40 to 45 ft below grade; soil samples were obtained in the test borings.	3.1

	Recommendations	***Section(s)***
Seismic Site Class	D – Stiff soil profile in accordance with 2018 International Building Code (IBC).	5.1
Foundations	Shallow spread footing foundations bearing on densified site soils and/or newly compacted load bearing fill. Foundations can be sized with a net allowable bearing capacity of 3,000 psf.	5.3
Settlement	Anticipated total and differential settlements to be less than 1.0 in. and ½ in., respectively.	5.3
Frost Depth	36 inches below finished exterior grades.	5.3
Groundwater	Encountered 18 ft below existing grades (Elev. -1.5 to Elev. -2.3). Groundwater not anticipated in shallow excavations for construction.	4.4 , 5.6

2. INTRODUCTION

2.1. PROPOSED CONSTRUCTION

It is our understanding that the proposed development will be a new multi-use, midrise repository/research and headquarters building. The new building will be approximately 26,000 ft^2 in plan, with a loading zone and an associated parking lot with approximately 87 parking spaces. Because the project is in the early stages of design and planning, specific details regarding the project, such as column loads, spacings, etc., are not available. We have assumed finished floor elevations (FFE) close to the existing building's FFE.

2.2. REFERENCED INFORMATION

To assist with our geotechnical evaluation, we referenced the following information:

- Sheet V0501, titled "Boundary & Topographic Survey" (DRAFT), developed by Pennoni Associates, dated 07/23/2022; and
- Drawing File, developed by Fifteen Architecture + Design, dated 11/09/2022.

2.3. OBJECTIVES

Our objectives were to determine the subsurface conditions at the project site, evaluate these conditions with respect to the proposed structure, and present our conclusions and recommendations regarding:

- foundation design, including discussion of alternate solutions if applicable, allowable bearing capacity and anticipated total and differential settlements;
- design frost depth;
- feasibility of slab-on-grade;
- modulus of subgrade reaction;
- discussion of potential for consolidation and/or differential settlements of substrata encountered;
- seismic Soil Site Classification based on applicable IBC requirements;
- evaluation and determination of the earthwork requirements for use in preparation of the building pad, including material selection and placement operations;
- suitability of on-site material for re-use as fill as part of the site work for the project;
- groundwater conditions;
- estimated CBR value for pavement design,
- removal or treatment of objectionable material; and
- quality assurance, field-testing and observations during construction.

3. FIELD AND LABORATORY WORK

3.1. FIELD WORK

The field investigation was carried out on October 21 and October 24, 2022. Four Standard Penetration Test (SPT) borings were drilled at the approximate locations presented on the Test Boring Location Plan, TL-1. The test borings were performed by F.M. & W. Drilling, Inc. using a truck mounted drill rig with 3¼ inch hollow stem augers. The boring locations were selected and established in the field by Pennoni personnel. The test borings for the new building were performed in general accordance with ASTM D1586 methods to depths ranging between 40 and 45 ft below the existing ground surface. Continuous soil sampling was performed in the upper 10 ft, with sampling at 5 ft intervals thereafter until the termination depth. The borings were backfilled with a mixture of grout (cement) and soil cuttings upon completion and in accordance with NJDEP requirements. Appendix A includes the boring logs and the location plan.

Our M. Arkan, PE directed the field work, and our T. Hall, EIT provided full-time observations of the field operations.

3.2. LABORATORY WORK

The soil samples were delivered to our laboratory for testing. The geotechnical laboratory program consisted of the following:

- 4 Particle Size Analysis of Soils (w/o hydrometer, ASTM D422).

Appendix B includes the geotechnical laboratory testing results and a list of testing procedures.

4. SITE CONDITIONS

4.1. LOCATION AND SURFACE FEATURES

The project site is located at 1300 Walnut Street in Camden, NJ. The site is bounded to the north by Pine St., to the east and south by Walnut St., and to the west and south by Princess Ave. and Memorial Ave. The site is currently occupied by four vacant commercial multi-story masonry buildings, which will be demolished to make way for the proposed new construction, with associated bituminous and concrete pavements, and open, grassy areas. Tree coverage exists along the southside perimeter.

The topography of the site is generally flat with a slight descent from north to south. Pennoni personnel observed NJ One-Call mark outs of underground water utilities, and unknown lines running through the southern portion of the side. Overhead utilities were also observed in this south section, and along the perimeter of the site.

4.2. GEOLOGY

The project site is located within the Inner Coastal Plain Physiographic Province of New Jersey, which is characterized by relatively loose sedimentary materials, relatively flat terrain, underlain

by sands and gravels of Cretaceous origin (about 100,000,000 years old) with meandering rivers which drain to Raritan or the Delaware River. The Inner Coastal Plain has been eroded down to older sediments richer and finer, such as clay and silts. The topography of this area can be characterized by rolling lowlands. Available geologic data shows that the site is underlain by the Potomac Formation which consists of fine to coarse grained sand (locally gravelly) interbedded with white or variegated red and yellow, massive clay, rarely dark-gray woody clay, and thin beds and lenses of very fine to medium-grained, massive, white to orange-brown, micaceous sand.

4.3. SUBSURFACE STRATIGRAPHY

The B-1 revealed a surficial concrete pavement layer approximately 4 in. thick. B-2 through B-4 revealed surficial topsoil approximately 3 in. thick. Underlying the surficial layers was a layer of fill, ranging between 2.0 and 3.5 ft in thickness. The underlying subsoils, including the fill, have been grouped by us into four principal strata based on their engineering properties and our interpretation of their origin. Brief strata descriptions are presented below.

STRATUM	DESCRIPTION
F	FILL: Black to brown coarse to medium to fine SAND, with varying amounts of Silt, Brick, and Glass Fragments; approximately 2.0 to 3.5 ft thick; loose to medium dense.
1	Brown fine SAND, with varying amounts of Silt and thin pockets of Clay; approximately 4.5 to 6.0 ft thick; very loose/soft to loose/medium stiff.
2	Gray to brown fine to medium to coarse SAND, varying amounts of Silt and pockets of gray to brown stiff Clay; approximately 30 to 36 ft thick; medium dense/stiff to dense/hard.
3	Brown medium to fine to coarse SAND, trace Silt; dense to very dense; all borings terminated in it.

4.4. GROUNDWATER

Observations for groundwater were made in the test borings during sampling. Groundwater was encountered within the borings at a depth of 18.0 ft below the existing ground surface (Elev. -1.5 to Elev. -2.3).

It should be noted that the groundwater data presented on the individual boring logs are for the times indicated and may not be representative of daily or seasonal variations in the groundwater level. Seasonal variations on the order of several feet should be anticipated.

5. ANALYSES AND RECOMMENDATIONS

5.1. SEISMIC SITE CLASSIFICATION

The borings disclosed subsurface conditions generally described according to the 2018 NJ International Building Code (IBC), Section 1613.3.2 referencing ASCE 7, Chapter 20 as having a soil-profile corresponding to Site Class D – Stiff Soil. Site class determination is based on the properties in the upper 100 ft of the ground surface. The borings performed herein were advanced to a maximum depth of 45 ft. Values beyond 45 ft were estimated based on our local experience in this area.

5.2. EARTHWORK

We have assumed that the ground floor slab level of the proposed building will be close to the existing FFE and grades (approximately Elev. 17.0). Therefore, shallows cuts and fills (less than 3 ft thick) are anticipated to reach anticipated FFEs and grading.

Initially, the existing buildings which occupy the area of proposed headquarter building will be demolished. After the existing structures are razed, the foundations and floor slab concrete of the existing buildings, including all existing pavements, concrete walks, vegetation, topsoil, etc., should be completely removed from the area of proposed construction. In addition, any existing underground utilities should also be removed from the area of the proposed building. Underground utilities to be abandoned may be left in place provided that they are completely filled with concrete grout and that they do not conflict with the new foundations of the proposed building.

After the above operations, the exposed subgrades should be densified with a heavy vibratory roller, such as a Dynapac CA-25, or equal, to detect and repair loose areas. During densification, any unstable area found should be stabilized by excavating and replacing those soils with suitable soil (adequately compacted, see below), by lowering the moisture content of the subgrade soils and compacting them, or by other methods (placing a geotextile and stone layer, etc.).

Based on the laboratory testing results and our experience with similar project sites, the clean/inert granular portions of the onsite near surface soils can be reused in earthwork constructions, provided it is free of any deleterious material, debris larger than 3 in. in its greatest dimension, and there are no environmental concerns associated with the soils. Laboratory testing indicates that the near surface soils of Stratum 1 contain up to 53% of fine-grained material (silts and clays). These types of soils are sensitive to moisture and may require wetting or drying prior to compaction. Additionally, drying “wet” soil is difficult during wet periods and during lower temperatures. Therefore, depending on the season that the earthwork operations are taking place, adjusting the moisture content of these on-site soils before use in any compacted fills and/or subgrade preparation should be expected. Provisions for importing structural fill should be included in the contract documents. Proper compaction equipment and placing soil in thinner layers should be considered when preparing earthwork schedules.

Imported fill material should be selected from suitable borrow sources and be approved by Pennoni well in advance of fill construction. Granular fill should ideally consist of soils meeting the classification characteristics of GW, GP, GM, GC, SW, SP, SM, or a combination of those listed with

not more than 20 percent passing the No. 200 sieve, and have a plasticity index not greater than 8 percent, conforming to an overall gradation similar to NJDOT I-5. Other granular soils can be considered based on laboratory testing and at the discretion of the Geotechnical Engineer.

New imported fill or onsite fill required to attain the finish floor slab subgrade level should be placed in 8 to 10 in. thick lifts and compacted to not less than 98% of the laboratory determined maximum modified dry density, ASTM D 1557. This criterion might be adjusted by the geotechnical engineer in the field depending on the conditions present at the time of construction, on the compaction equipment used, and on the fill material selected. Fills placed in landscape areas can be compacted to 90 percent of the laboratory determined maximum dry density, ASTM D 1557. Fills should extend a minimum of 10 ft beyond the exterior edge of a loaded area and have side slopes not steeper than 2 horizontal to 1 vertical.

Backfill behind walls should be compacted to at least 95 percent of the laboratory determined maximum modified dry density in accordance with ASTM D 1557. The fill placed within 3 to 5 ft of the back of the wall should be compacted using vibratory plate or double drum walk behind compactors.

Specifications for the frequency of compaction testing should meet the following criteria:

1. Paved and Building Slab Areas: Each compacted fill and backfill layer, at least one test for every 2,500 sq. ft.**,** but in no case fewer than three tests per lift.

2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100 ft or less of wall length, but no fewer than two tests.

3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 100 ft or less of trench length, but no fewer than two tests.

Specifications should indicate that the percentage of maximum dry density attained in the field is not the only criteria to be used for assessing fill compaction. Observation of the behavior of the fill under the loads of construction equipment should be used. If the test results indicate that the percentage of compaction is being achieved, but the soil mass is moving under the equipment, placement of additional fill should not be continued until the movement is stabilized. Otherwise, settlement of the fill may occur.

We recommend that all site preparation and earthwork operations be carried out in the full-time presence of a qualified representative of the Geotechnical Engineer.

5.3. FOUNDATIONS

Based on the results of our field exploration and laboratory testing, and on our evaluations, it is our professional opinion that shallow spread footing type foundations will be feasible for the support of the proposed new headquarters building. Footings that bear on new fill or densified site soils can be sized using an allowable net soil bearing capacity of up to 3,000 psf. Provided that the recommendations presented above in Section 5.2 (Earthwork) are followed, total and differential settlements are anticipated to be less than 1 in. and ½ in., respectively.

Because no groundwater table was encountered to at least 18 ft below grade, problems with groundwater seepage into the footing excavations are not anticipated. However, any infiltration of surface run-off water into the footing excavations should be immediately removed by pumping.

Continuous and isolated footings should be at least 2 ft wide and 3 ft square, respectively, to prevent localized shear failure in soil. The subgrades of all exterior footings and any other foundation exposed to freezing temperatures, during construction and/or the life of the structure should be established at least 3 ft below adjacent exposed grades or otherwise protected against frost action. Foundation subgrades should be checked by a representative of Pennoni to confirm conditions suitable for support of the design bearing pressure. Where an area is questionable, it should be further explored and/or remedied by removal and replacement of unsuitable material.

5.4. FLOOR SLAB

The proposed floor slab can be constructed as slab-on-grade founded on a newly compacted granular structural load bearing fill and/or densified on site soils. Prior to construction of the slab on grade, subgrades must be proofrolled and densified according to the recommendations presented in the Earthwork section of this report.

The concrete slab on grade should be isolated from other structural elements to allow for independent movements or the slab should otherwise be designed accordingly. In addition, we recommend that the slab be provided with suitable keyed-control and/or construction joints at suitable spacings to ease out any tendency of cracking due to differential settlements arising from uneven loading conditions. In the design of the concrete slab-on-grade, a subgrade modulus (K_s) of 100 pci (based on a 1 ft square plate at the surface) may be used as representative of the new compacted fill or the densified on-site soils.

We recommend 4 to 6 in. thick layer of free-draining granular base course be provided beneath the floor slab to provide a uniform bearing surface and to aid in the proper curing of the floor slab concrete. At least 6 in. should be maintained between the bottom of the floor slab and the tops of the foundations to minimize the potential for floor slab cracking at the foundation edges or the slabs should be designed accordingly to minimize cracking.

5.5. PAVEMENTS

In the areas of proposed new pavements, such as drives, parking areas, etc., a flexible (bituminous) type pavement is recommended. The preparation of the pavement subgrades and placement of any required fill should be done as recommended under the “Earthwork” section of this report with a degree of compaction of at least 93% of the maximum modified dry density for any new fill. In the design of pavements, a California Bearing Ratio (CBR) value of 10% can be used as representative of the densified on-site granular soils, or for compacted new granular fill. We recommend that the pavement surface course (wearing and binder) be underlain by a crushed stone or coarse gravel base course at least 4 to 6 in. thick.

5.6. GROUNDWATER AND SURFACE WATER MANAGEMENT

The groundwater observations made in the borings indicate that free-standing water, wet conditions, and/or seepage are not anticipated to be encountered in shallow excavations for foundation construction (i.e., less than 3 ft deep). However, depending on the weather conditions during construction, wet conditions and/or seepage may be encountered. In the event that wet conditions and/or seepage are encountered due to perched water, sumps and pumps should be adequate to maintain stable conditions during foundation construction.

6. RECOMMENDATIONS FOR FURTHER GEOTECHNICAL SERVICES

Our experience on numerous construction projects is that the interests of the project team are best served by retaining the Geotechnical Engineer to provide construction observations during earthwork and foundation construction operations. To determine if soils, other materials, and groundwater conditions encountered during construction are similar to those encountered in the borings, and that they have comparable engineering properties or influences on the design of the structures, we recommend that Pennoni provide field observation services during construction of compacted fill; preparation of foundation, floor slab, and pavement subgrades; and installation/construction of foundations, floor slabs, and pavements. Pennoni's Geotechnical Technology should review specifications for earthwork and foundation design/construction when they are prepared.

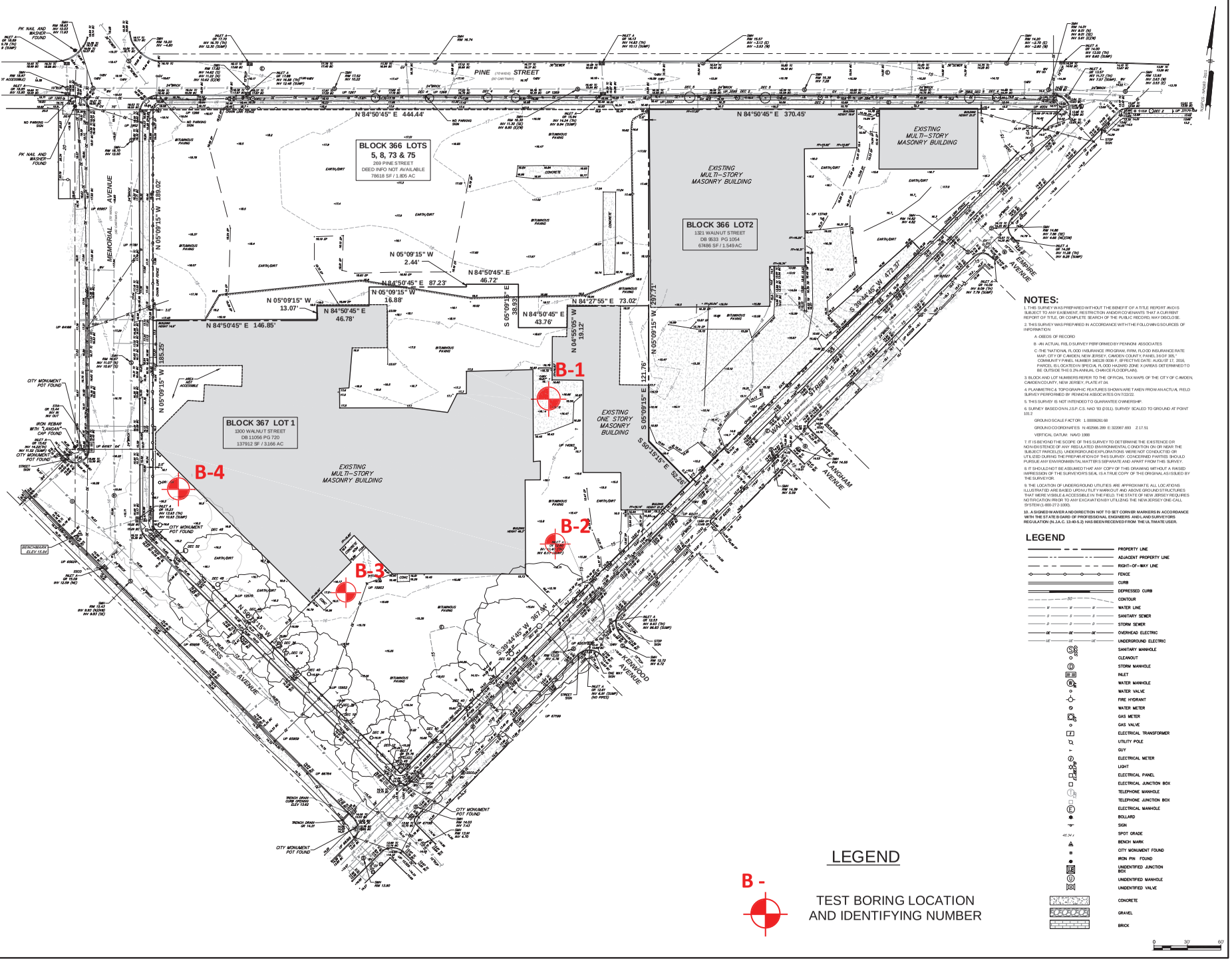
7. LIMITATIONS

This work has been done in accordance with our authorized scope of work and in accordance with generally accepted professional practice in the fields of geotechnical and foundation engineering. This warranty is in lieu of all other warranties either expressed or implied. Our conclusions and recommendations are based on the data revealed by this exploration. We are not responsible for any conclusions or opinions drawn from the data included herein, other than those specifically stated, nor are the recommendations presented in this report intended for direct use as construction specifications.

This report is intended for use with regard to the specific project described herein; any changes in loads, structures, or locations should be brought to our attention so that we may determine how they may affect our conclusions. An attempt has been made to provide for normal contingencies but the possibility remains that unexpected conditions may be encountered during construction. If this should occur, or if additional or contradictory data are revealed in the future, we should be notified so that modifications to this report can be made, if necessary. If we do not review relevant construction documents and witness the relevant construction operations, then we cannot be responsible for any problems that may result from misinterpretation or misunderstanding of this report or failure to comply with our recommendations.

APPENDICES

APPENDIX A - Field Data



NOTES:

1. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY EASEMENT, RESTRICTION AND/OR COVENANTS THAT A CURRENT REPORT OF TITLE, OR COMPLETE SEARCH OF THE PUBLIC RECORD, MAY DISCLOSE.
2. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE FOLLOWING SOURCES OF INFORMATION:
   - A- DEEDS OF RECORD
   - B -AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES
   - C- THE "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, CITY OF CAMDEN, NEW JERSEY, CAMDEN COUNTY, PANEL 34 OF 305," COMMUNITY PANEL NUMBER 340126 0336 F, EFFECTIVE DATE: AUGUST 17, 2016, PARCEL IS LOCATED IN SPECIAL FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).
3. BLOCK AND LOT NUMBERS REFER TO THE OFFICIAL TAX MAPS OF THE CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY, PLATE #7 04.
4. PLANIMETRIC & TOPOGRAPHIC FEATURES SHOWN ARE TAKEN FROM AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES ON 7/22/22.
5. THIS SURVEY IS NOT INTENDED TO GUARANTEE OWNERSHIP.
6. SURVEY BASED ON N.J.S.P. C.S. NAD '83 (2011). SURVEY SCALED TO GROUND AT POINT 101 2
   - GROUND SCALE FACTOR: 1.00006261 68
   - GROUND COORDINATES N 462566.289 E 322067.693 Z 17.51
   - VERTICAL DATUM: NAVD 1988
7. IT IS BEYOND THE SCOPE OF THIS SURVEY TO DETERMINE THE EXISTENCE OR NON-EXISTENCE OF ANY REGULATED ENVIRONMENTAL CONDITION ON OR NEAR THE SUBJECT PARCEL(S). UNDERGROUND EXPLORATIONS WERE NOT CONDUCTED OR UTILIZED DURING THE PREPARATION OF THIS SURVEY. CONCERNED PARTIES SHOULD PURSUE ANY ENVIRONMENTAL MATTERS SEPARATE AND APART FROM THIS SURVEY.
8. IT SHOULD NOT BE ASSUMED THAT ANY COPY OF THIS DRAWING WITHOUT A RAISED IMPRESSION OF THE SURVEYOR'S SEAL IS A TRUE COPY OF THE ORIGINAL AS ISSUED BY THE SURVEYOR.
9. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS ILLUSTRATED ARE BASED UPON UTILITY MARKOUT AND ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD. THE STATE OF NEW JERSEY REQUIRES NOTIFICATION PRIOR TO ANY EXCAVATION BY UTILIZING THE NEW JERSEY ONE-CALL SYSTEM (1-800-272-1000).
10. **A SIGNED WAIVER AND DIRECTION NOT TO SET CORNER MARKERS IN ACCORDANCE WITH THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS REGULATION (N.J.A.C. 13:40-5.2) HAS BEEN RECEIVED FROM THE ULTIMATE USER.**

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT-OF-WAY LINE
- FENCE
- CURB
- DEPRESSED CURB
- CONTOUR
- WATER LINE
- SANITARY SEWER
- STORM SEWER
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- SANITARY MANHOLE
- CLEANOUT
- STORM MANHOLE
- INLET
- WATER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- GAS METER
- GAS VALVE
- ELECTRICAL TRANSFORMER
- UTILITY POLE
- GUY
- ELECTRICAL METER
- LIGHT
- ELECTRICAL PANEL
- ELECTRICAL JUNCTION BOX
- TELEPHONE MANHOLE
- TELEPHONE JUNCTION BOX
- ELECTRICAL MANHOLE
- BOLLARD
- SIGN
- SPOT GRADE
- BENCH MARK
- CITY MONUMENT FOUND
- IRON PIN FOUND
- UNIDENTIFIED JUNCTION BOX
- UNIDENTIFIED MANHOLE
- UNIDENTIFIED VALVE
- CONCRETE
- GRAVEL
- BRICK

LEGEND

B - TEST BORING LOCATION AND IDENTIFYING NUMBER

0 30' 60'

PENNONI ASSOCIATES INC.
515 Grove Street, Suite 1B
Haddon Heights, NJ 08035
T 856.547.1100 F 856.547.1174
NJ COA NO. GA28003300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

THIS PLAN WAS PREPARED UNDER MY IMMEDIATE SUPERVISION.

DRAFT

Keith M. Ludwig, PLS
New Jersey Lic. 24GS04233400

CORIELL INSTITUTE CAMDEN

BLOCK 367 LOT 6, BLOCK 366 LOTS 2, 5, 8, 73 & 75
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

TEST BORING LOCATION PLAN

SCHEER PARTNERS INC.
1526S SHADY GROVE ROAD
ROCKVILLE, MARYLAND 20850

NO.	DATE	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR SUITABLE FOR REUSE SUCH AS, BUT NOT LIMITED TO, PERMIT APPLICATIONS ON OTHER PROJECTS OR EXTENSIONS OF THE PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES. OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER22001
DATE	20220723
DRAWING SCALE	1" = 30'
DRAWN BY	CWS
APPROVED BY	KML

TL - 1

SHEET 1 OF 1

TEST BORING LOG

TEST BORING B-1

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 10/21/22 **COMPLETED** 10/21/22
GROUND ELEVATION 16.5'
DRILLING CONTRACTOR F.M. & W. Drilling Inc.
WATER ENCOUNTERED:
DRILLING METHOD Hollow Stem Auger
▽ **DURING DRILLING** 18.0' / Elev -1.5'
DRILLER / HELPER Nick/Ryan
AT END OF DRILLING Not Measured
LOGGED BY T. Hall **CHECKED BY** DRAFT
AFTER DRILLING Not Measured

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0						Depth / Elev.	
	S-1	14	9-16-23		C	0.3 / 16.2 — 4" CONCRETE	
					F	FILL: Black C/MF SAND, some Silt	
	S-2	20	12-14-11-14			3.5 / 13.0	
5	S-3	18	5-3-3-4		1	Brown SILT and SAND Brown SILT and fine SAND	
	S-4	20	4-3-4-4			Grayish brown fine SAND, little Silt	
						8.0 / 8.5	
10	S-5	23	5-6-7-7			Gray fine SAND, little to trace Silt	
15	S-6	20	10-13-14-18			Grayish brown to tan F/M SAND, trace Silt	Moist
▽ 20	S-7	24	11-14-15-16			Grayish brown to multicolored M/F/C SAND, little F/C Gravel, trace Silt	Wet
25	S-8	19	6-9-12-15		2	Grayish brown fine SAND, some Silt	
30	S-9	18	10-14-14-16			Light gray to brown F/M SAND (white Clayey Sand pocket, 2-3", in spoon tip)	
35	S-10	24	13-22-28-36			Dark to light gray to tan F/M/C SAND, trace Silt	
						38.0 / -21.5	
40	S-11	24	17-27-31-43		3	Brown to tan M/F/C SAND, trace Silt	
						40.0 / -23.5	
						Borehole terminated at 40.0 feet.	

NOTES:

TEST BORING LOG

TEST BORING B-2

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 10/21/22 **COMPLETED** 10/21/22
GROUND ELEVATION 15.7'
DRILLING CONTRACTOR F.M. & W. Drilling Inc.
WATER ENCOUNTERED:
DRILLING METHOD Hollow Stem Auger
▽ **DURING DRILLING** 18.0' / Elev -2.3'
DRILLER / HELPER Nick/Ryan
AT END OF DRILLING Not Measured
LOGGED BY T. Hall **CHECKED BY** DRAFT
AFTER DRILLING Not Measured

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0						Depth / Elev.	
	S-1	8	5-4-4-4		T / F	0.3 / 15.5 — 3" TOPSOIL	
						2.0 / 13.7 — FILL: Brown to black F/M/C SAND, little Brick Fragments	
	S-2	17	4-5-4-4			Brown to dark orange F/M SAND, trace to little Silt	
5	S-3	15	1-1-2-2		1	Brown to dark orange fine CLAYEY SAND	Damp
	S-4	18	4-4-3-5			Brown to gray fine SAND, some Silt	
						8.0 / 7.7	
10	S-5	24	5-5-6-7			Tan to gray fine SAND, some Silt	Fill odor
15	S-6	22	9-9-11-15			Gray to tan F/M/C SAND, trace Silt	
20	S-7	20	8-11-12-14			Dark gray F/M SAND, trace Silt	Wet
					2	23.5 / -7.8	
25	S-8	24	6-4-15-16			24.0 / -8.3 — 6" Pocket of stiff, grayish brown to black CLAY	Clay pocket in spoon
						Dark gray F/M SAND, trace Silt	
30	S-9	24	15-19-23-29				
35	S-10	24	7-8-16-20			White to gray fine SAND, trace Silt	
						38.0 / -22.3	
40	S-11	24	18-25-22-32		3	Brown to tan to white M/F/C SAND, trace Silt	
						40.0 / -24.3	
						Borehole terminated at 40.0 feet.	

NOTES:

TEST BORING B-3

TEST BORING LOG

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 10/24/22 **COMPLETED** 10/24/22
GROUND ELEVATION 16.2'
DRILLING CONTRACTOR F.M. & W. Drilling Inc.
WATER ENCOUNTERED:
DRILLING METHOD Hollow Stem Auger
▽ **DURING DRILLING** 18.0' / Elev -1.8'
DRILLER / HELPER Kevin/Ryan
AT END OF DRILLING Not Measured
LOGGED BY T. Hall **CHECKED BY** DRAFT
AFTER DRILLING Not Measured

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0						Depth / Elev.	
	S-1	11	2-2-3-2		T/F	0.3 / 16.0 — 3" TOPSOIL	
						2.0 / 14.2 — FILL: Black to brown SILT and C/M/F SAND, trace Brick and Glass Fragments	
	S-2	14	2-3-2-1		1	Brown fine SAND, some Silt, trace Roots	
	S-3	18	2-1-2-2			Brown SILTY CLAY, trace fine Sand	Bottom Moist
	S-4	23	3-5-6-6			7.0 / 9.2	Moist
10	S-5	22	4-7-9-11			Grayish brown F/M SAND, trace to little Silt	
	S-6	22	11-18-19-11			Brown to white M/F/C SAND, trace F/C Gravel, trace Silt	
▽ 20	S-7	20	4-7-9-10			Gray to brown fine SAND, trace Silt	Wet
	S-8	24	7-8-9-10		2	Gray to brown F/M/C SAND, trace to little Silt	
30	S-9	18	4-6-7-9			Brownish gray fine SAND (pocket of Clayey Sand)	
	S-10	17	4-7-10-12			Dark gray stiff CLAY, trace fine Sand	
40	S-11	24	4-5-11-11			Dark gray F/M SAND and 10" brown CLAY pocket	
						43.0 / -26.8	
	S-12	22	17-19-19-18		3	Brown to gray F/M SAND, trace to little Silt	
						45.0 / -28.8 — Borehole terminated at 45.0 feet.	

NOTES:

TEST BORING LOG

TEST BORING B-4
PAGE 1 OF 1

CLIENT Scheer Partners
PROJECT NAME Coriell Institute Headquarters
PROJECT NUMBER SCHER22001
PROJECT LOCATION 1300 Walnut Street, Camden, NJ
DATE STARTED 10/21/22 **COMPLETED** 10/21/22
GROUND ELEVATION 16.4'
DRILLING CONTRACTOR F.M. & W. Drilling Inc.
WATER ENCOUNTERED:
DRILLING METHOD Hollow Stem Auger
▽ **DURING DRILLING** 18.0' / Elev -1.6'
DRILLER / HELPER Nick/Ryan
AT END OF DRILLING Not Measured
LOGGED BY T. Hall **CHECKED BY** DRAFT
AFTER DRILLING Not Measured

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in.)	BLOW COUNTS	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0						Depth / Elev.	
	S-1	16	2-3-2-1		T / F	0.3 — 3" TOPSOIL — 16.2 2.0 — FILL: Black to brown C/M/F SAND, some Silt — 14.4	
	S-2	19	3-2-3-2		1	Brown fine SAND, little Silt (pockets of brownish gray Sandy Clay)	
	S-3	18	2-2-5-6				
	S-4	22	5-9-17-19			7.0 — 9.4	
10	S-5	20	18-22-22-25			Dark orange F/M/C SAND, little Silt, trace fine Gravel	
	S-6	20	12-20-21-26			Orange to tan F/M/C SAND, trace Silt	
▽ 20	S-7	18	5-4-2-2			Orangish brown to gray fine SAND, some Silt	
	S-8	20	7-8-8-10		2	Grayish brown fine SAND, little Silt	
30	S-9	22	6-7-9-11			Dark gray F/M SAND and SILT	Silt pocket
	S-10	17	7-9-13-17			Dark gray to brown stiff CLAY, some fine Sand	
40	S-11	23	9-9-11-14			39.0 — Gray CLAY, little to some fine Sand — -22.6 Brown F/M SAND, trace Silt	
					3		
	S-12	10	15-20-24-30			Brown F/M SAND, trace Silt. gravel size Rock Fragment in spoon tip 45.0 — -28.6	
						Borehole terminated at 45.0 feet.	

NOTES:

TEST BORING/TEST PIT/AUGER PROBE LOG KEY SHEET

COLUMN	DESCRIPTION
Depth	Depth in feet below ground surface
Description	Description of sample including color, texture, and classification of subsurface material as applicable. Estimated depths to bottom of strata as interpolated from the boring are also shown.
Stratum	Strata numbers as assigned by the geotechnical engineer
Sample No.	Split barrel sample and sample number (S-x) Undisturbed Tube sample and sample number (U-x) Rock core run and core number (R-x) NR indicates no recovery
Blow Counts	For soils sample (ASTM D 1586): indicates number of blows obtained for each 6 inches penetration of the standard split-barrel sampler. For rock coring (ASTM D 2113): indicates percent recovery (REC) per run and rock quality designation (RQD). RQD is the sum of rock pieces that are 4 inches or longer in length in one core run divided by the total core run.
Recovery	For soil samples indicates the length of recovery in the sample spoon
Remarks	Special conditions or test data as noted during drilling

Ground Water: Free water level as shown ( )*; * Free water level as noted may not be indicative of daily, seasonal, or long term fluctuations.

DESCRIPTIVE TERMS

RELATIVE PROPORTIONS

Descriptive Term	Symbol	Estimated Percentages
Trace	tr	1 to 10
Little	l	10 to 20
Some	sm	20 to 35
And	and	35 to 50

GRADATION OF COARSE GRAINED COMPONENTS

Soil Component	Size Range	Particle Size Maximum	Minimum
Boulders		-	12"
Cobbles		12"	3"
Gravel	Coarse	3"	¾"
	Fine	¾"	#4 Sieve
Sand	Coarse	#4 Sieve	#10 Sieve
	Medium	#10 Sieve	#40 Sieve
	Fine	#40 Sieve	#200 Sieve
Silt		#200 Sieve	.005 mm
Clay		.005 mm	-

COMPOSITION OF COARSE-GRAINED COMPONENTS

Gradation Designation	Symbol	Defining Proportions
Coarse to Fine	CF	All fractions greater than 10% of the component
Coarse to Medium	CM	Less than 10% Fine
Medium to Fine	MF	Less than 10% Coarse
Coarse	C	Less than 10% Fine and Medium
Medium	M	Less than 10% Coarse and Fine
Fine	F	Less than 10% Coarse and Medium

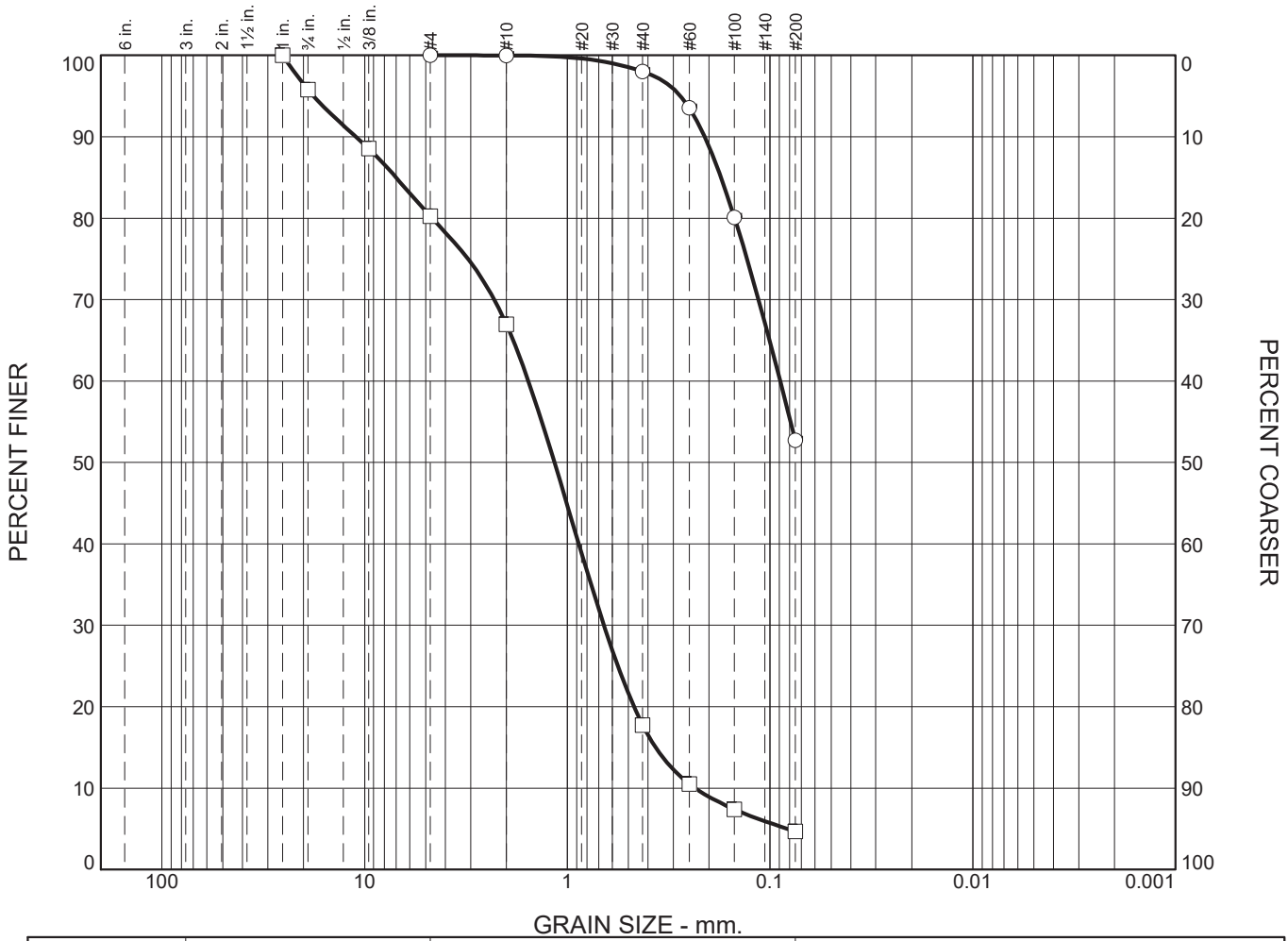
APPENDIX B – Laboratory Data

SUMMARY OF LABORATORY DATA

BORING NUMBER	SAMPLE NUMBER	DEPTH (ft)	SOIL CLASSIFICATION	GRAIN SIZE DISTRIBUTION			PLASTICITY				MOISTURE CONTENT w %	pH		ORGANIC CONTENT (%)	RESISTIVITY (ohm-cm) at T°C	VOLUMETRIC				
				GRAVEL %	SAND %	SILT/CLAY %	LIQUID LIMIT w_l	PLASTIC LIMIT wp	PLASTICITY INDEX I_p	LIQUIDITY INDEX I_L		pH in H_20	pH in $CaCl_2$			SPECIFIC GRAVITY (G) (*) ASSUMED	DRY UNIT WEIGHT (pcf)	MOIST UNIT WEIGHT (pcf)	VOID RATIO (e)	DEGREE OF SATURATION %
B-1	S-3	4-6		0	47	53														
B-1	S-7	18-20		20	75	5														
B-4	S-5	8-10		10	77	13														
B-4	S-9	28-30		0	53	47														

PENNONI ASSOCIATES INC.	DRAWN BY:	DATE:	PROJECT:		JOB No.:
	MP	11/2/2022	**Coriell Institute Headquarters**		**SCHER22001**
	CHECKED BY:	DATE:	LOCATION:		TABLE No.:
	MA	11/9/2022	**1300 Walnut Street, Camden, NJ**		**L-1**

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0	0	0	0	2	45	53	
□	0	4	16	13	49	13	5	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-1	S-3	4-6	Silt/Clay and F/ Sand	
□	B-1	S-7	18-20	M/C/F Sand Little F/C Gravel Trace Silt/Clay	

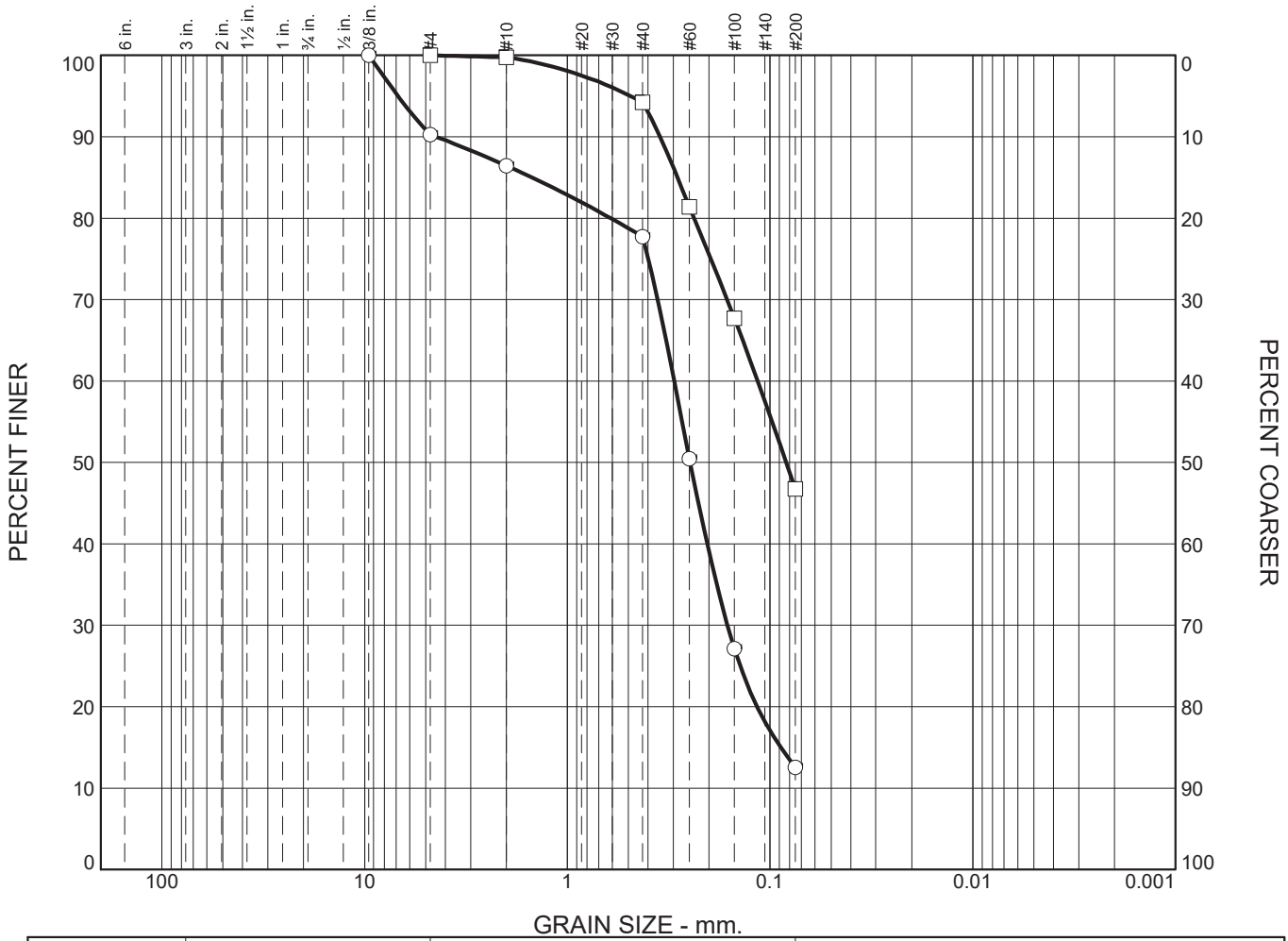
PENNONI ASSOCIATES INC.

Client: Scheer Partners

Project: Coriell Institute Headquarters

Project No.: SCHER22001.06 **Figure** S-1

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0	0	10	4	8	65	13	
□	0	0	0	0	6	47	47	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-4	S-5	8-10	F/M/C Sand Little Silt/Clay Trace F/ Gravel	
□	B-4	S-9	28-30	F/M Sand And Silt/Clay	

PENNONI ASSOCIATES INC.

Client: Scheer Partners

Project: Coriell Institute Headquarters

Project No.: SCHER22001.06 **Figure** S-2

LABORATORY TESTING PROCEDURES

All testing is either done in accordance with the indicated ASTM Designation-latest edition, or with other standard or generally accepted engineering practice as described:

1. Consolidation Test of Soils
   Preparation of samples and testing procedures generally follow the methods described in Lambe, op. Cit. In addition, the time of loading may be selected on the basis of:

   a. Controlled rate of percent of consolidation
   b. Controlled pore pressure gradient
   c. Controlled strain

   The method of test is selected to suit the soil type in question and the test is conducted in accordance with generally accepted engineering practice.

2. Atterberg Limits – Plasticity Indices
   a. Liquid limit of soils, ASTM D 4318
   b. Plastic limit and plasticity index of soils, ASTM D 4318
   c. Shrinkage factors of soils, ASTM D 427

   (Moisture content is also determined with the Atterberg Limit test, and liquidity index is also computed)

3. Moisture Content of Soil
   ASTM D 2216

4. Particle Size Analysis of Soils
   ASTM D 421, Dry preparation of soil samples; ASTM D 422, Sieve and/or hydrometer analysis.

5. Triaxial Compression Test of Soils
   Sample preparation, apparatus, and testing generally follow the procedures outlined in Soil Testing for Engineers, T.W. Lambe, John Wiley & Sons, Inc., New York, 1951 and in The Measurement of Soil Properties in the Triaxial Test, Alan W. Bishop & D.J. Henkel, 2nd Edition, St. Martin's Press, New York, 1962

6. Unconfined Compression Strength of Cohesive Soil
   ASTM D 2166

7. Specific Gravity of Soils
   ASTM D 854

8. Unit Weight Determination of Soils
   See ASTM D 2166 for preparation of specimen except that sample size may differ. For moisture content see ASTM D 2216.

9. Visual Identification of Soil Samples
   All soil samples are visually identified and/or classified. The classification system used is shown in Table L-1.

10. Identification of Rock
    Rock core samples are identified by the character and appearance of newly fractured surfaces of unweathered pieces, by core conditions and characteristics, and by the determination of simple physical and chemical properties.

11. Compaction Test of Soils
    a. Moisture-density relations of soils using 5.5 lb. hammer and 12 in. drop, ASTM D 698
    b. Moisture-density relations of soils using 10 lb. hammer and 18 in. drop, ASTM D 1557

12. Maximum and Minimum Densities of Granular Soils
    Testing procedures follow D.M. Burmeister, "Suggested Method of Test for Maximum and Minimum Densities of Granular Soils" cited in Proceedings for Testing Soils, Fourth Edition, ASTM, Philadelphia. 1964, pp 175-177.

13. Bearing Ratio of Laboratory Compacted Soils
    ASTM D 1883 (Sometimes called California Bearing Ratio or CBR)

14. Organic Content
    A modified dichromate oxidation method using ferrous ammonium sulfate is employed in determining the percent of organic matter in soil.

APPENDIX C – Standard Symbols

STANDARD SYMBOLS

B	Width of footing
c	cohesion
c_v	coefficient of consolidation
C_c	compression index
C	coefficient of secondary compression
C_3	swelling index
C_u	uniformity coefficient (D_{60}/D_{10})
CBR	California Bearing Ratio
D_f	depth of foundation
D_p	diameter of grain corresponding to percentage p on grain size curve
D_{10}	effective grain size
E	modulus of linear deformation
E_s	Young's Modulus
e	void ratio
F_s	factor of safety
G	specific gravity
h	hydraulic head
H	stratum thickness
i	hydraulic gradient
I_L	liquidity index
I_P	plasticity index
k	coefficient of permeability
k_h	coefficient of horizontal subgrade reaction
k_v	coefficient of vertical subgrade reaction
l	length of footing
n	porosity
P	deviator stress
P_c	estimated probable preconsolidation pressure
P_o	existing overburden pressure
q_a	allowable soil bearing pressure
Q	triaxial compression test unconsolidated and undrained
Q_c	triaxial compression test consolidated and undrained
S	triaxial compression test consolidated and drained
S_r	degree of saturation
υ	pore-water pressure
U	degree of consolidation
U_c	unconfined compression test
w_f	moisture content at end of test
w_l	liquid limit
w_n	natural moisture content
w_p	plastic limit
γ	unit weight
γ_d	dry unit weight
γ_b	submerged unit weight
ε	unit linear strain
ε_f	unit linear strain at failure
σ	normal stress
σ_1	major principal stress
σ_3	minor principal stress
τ	shear stress
ϕ	angle of internal friction
k_a	coefficient of active pressure
k_p	coefficient of passive pressure
δ	friction angle
tan δ	friction factor

APPENDIX D – Important Information About This Geotechnical Engineering Report

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical- engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by*: the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GEOTECHNICAL BUSINESS COUNCIL
of the Geoprofessional Business Association

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@geoprofessional.org www.geoprofessional.org

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Appendix C
NJDEP AIR MONITORING REPORTS

Air Quality Index Report

Geographic Area: New Jersey
Summary: by CBSA
Year: 2022 (Annual statistics for 2022 are not final until May 1, 2023)

		Number of Days when Air Quality was...						AQI Statistics			Number of Days when AQI Pollutant was...				
CBSA	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy	Hazardous	Maximum	90th Percentile	Median	CO	NO2	O3	PM2.5	PM10
Allentown-Bethlehem-Easton, PA-NJ	334	255	79	.	.	.	.	93	62	42	.	10	202	122	.
Atlantic City-Hammonton, NJ	273	257	15	.	1	.	.	176	47	35	.	.	209	64	.
New York-Newark-Jersey City, NY-NJ-PA	338	189	138	10	1	.	.	161	80	48	.	35	177	126	.
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	365	203	157	5	.	.	.	126	74	48	.	8	157	200	.
Trenton, NJ	303	242	58	3	.	.	.	119	60	41	.	.	233	70	.
Vineland-Bridgeton, NJ	271	246	25	.	.	.	.	84	49	38	.	3	237	31	.

Get detailed information about this report, including column descriptions, at https://www.epa.gov/outdoor-air-quality-data/about-air-data-reports#aqi

AirData reports are produced from a direct query of the AQS Data Mart. The data represent the best and most recent information available to EPA from state agencies. However, some values may be absent due to incomplete reporting, and some values may change due to quality assurance activities. The AQS database is updated by state, local, and tribal organizations who own and submit the data.

Readers are cautioned not to rank order geographic areas based on AirData reports. Air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area.

Source: U.S. EPA AirData <https://www.epa.gov/air-data>
Generated: January 26, 2023

Camden Spruce Street - Latitude: 39.93 Longitude: -75.13 Site Code: 340070002

Date	Hour	CO (ppm)	NO2 (ppb)	SO2 (ppb)
1/26/23	12:00 PM	**0.24 - Good**	**14.6 - Good**	**1.2 - Good**

Report Generated: 1/26/23 12:00 PM

Camden Spruce Street - Latitude: 39.93 Longitude: -75.13 Site Code: 340070002

24-Hour Average PM2.5: 8.9 µg/m3 - Good		
Date (PM)	**Hour (PM)**	**PM2.5 (µg/m3)**
1/25/2023	1:00 PM	11.1
	2:00 PM	11
	3:00 PM	7.6
	4:00 PM	6.6
	4:00 PM	10.5
	6:00 PM	8
	7:00 PM	7.7
	8:00 PM	5.6
	9:00 PM	1.2
	10:00 PM	4.2
	11:00 PM	2.2
1/26/2023	12:00 AM	4.6
	1:00 AM	12
	2:00 AM	8.6
	3:00 AM	9.5
	4:00 AM	7.3
	5:00 AM	3.7
	6:00 AM	3.9
	7:00 AM	3.8
	8:00 AM	8.7
	9:00 AM	18.1
	10:00 AM	30.4
	11:00 AM	15.3
	12:00 PM	12

PM2.5 NowCast
15.2 µg/m3 - Moderate

Report Generated: 1/26/23 12:00 PM

Camden Spruce Street - Latitude: 39.93 Longitude: -75.13 Site Code: 340070002

Date	Hour	CO (ppm)	NO2 (ppb)	SO2 (ppb)
1/26/23	12:00 PM	**0.24 - Good**	**14.6 - Good**	**1.2 - Good**

Report Generated: 1/26/23 12:00 PM

Camden Spruce Street - Latitude: 39.93 Longitude: -75.13 Site Code: 340070002

8-Hour Average Ozone: 19 ppb - Good		
Date	Hour	O3 (ppb)
1/26/23	5:00 AM	20
	6:00 AM	21
	7:00 AM	17
	8:00 AM	13
	9:00 AM	17
	10:00 AM	21
	11:00 AM	21
	12:00 PM	24

Ozone NowCast
22 ppb - Good

Report Generated: 1/26/23 12:00 PM

Camden Spruce Street - Latitude: 39.93 Longitude: -75.13 Site Code: 340070002

Date	Hour	CO (ppm)	NO2 (ppb)	SO2 (ppb)
1/26/23	12:00 PM	**0.24 - Good**	**14.6 - Good**	**1.2 - Good**

Report Generated: 1/26/23 12:00 PM

Community Impact Statement

November 17, 2025

For the Development Site at 1300 Walnut Street, located south of Pine Street, west of Memorial Avenue, northwest of Princess Street, and northeast of Walnut Street in the City of Camden, Camden County, New Jersey

Block 367, Lots 1 and 6

Prepared for:

Scheer Partners
15245 Shady Grove Road, Suite 210
Rockville, MD 20850

Prepared by:

Matthew Wanamaker, AICP/PP
NJ Planner License No. 33LI00650500
November 17, 2025

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Chapter 1: Community Impact Statement

I. Introduction

The applicant is proposing to redevelop the property located at 1300 Walnut Street and identified as Block 367, Lots 1 and 6 on the City's Official Tax Maps. The Coriell Institute for Medical Research ("Coriell" or "Coriell Institute") will be the redeveloper of the Property. The Property currently consists of vacant buildings and land, and has frontage on Walnut Street, Princess Avenue, and Memorial Avenue. Coriell intends to redevelop the Property with a new, state-of-the-art research and office facility, approximately 92,000 square feet in size and 60 feet high (four stories), along with related site improvements, including but not limited to off-street parking, landscaping, cryogenic tanks, and stormwater management infrastructure, as well as potential additional research or office space for third party users (collectively, the "Project"'). The full vision is illustrated in Figure 1.

Figure 1: Concept Plan

Source: FIFTEEN Architecture + Design, from Coriell Institute New Headquarters Handout, March 15, 2023

The Subject Site is located south of Pine Street, west of Memorial Avenue, northwest of Princess Avenue, and northeast of Walnut Street in the City of Camden.

As currently proposed, at full build-out the Project site will include:

- 92,000 gross square foot, 4-story building
- Surface asphalt parking lot with 98 parking spaces with a single gated driveway to Memorial Avenue

- Loading area/dock off of Princess Avenue
- Appropriate landscaping and a green-infrastructure facility for stormwater management

Pennoni was asked to review the proposed project for any potential community impacts that it might have on the City of Camden. This report contains the community impact that the proposed Project will have on the City.

II. Methodology

The aim of the Community Impact Statement is to ensure that proposed development will meet the goals and objectives outlined by the community in relevant Master Plan documents and Zoning Codes, as well as provide a positive impact to the community in which it is being constructed.

III. Current & Projected Population

According to the latest US Census data, the 2023 5-year American Community Survey (ACS) DP05 recorded that the population of the City of Camden was 71,471. The proposed Project site is within Camden's 6002 Census Tract, which the 2021 5-year ACS reported as having a population of 1,786.

The proposed development will be utilized as an office and medical research space and will not include a residential component. Therefore, there is no projected increase in population. No people, farms, or existing businesses shall be displaced by the proposed development.

IV. Relationship to Local Master Plan

The proposed development of the Subject Site is consistent with stated goals of Camden's Master Plan, *FutureCamden*. The subsequent 2008 and 2018 Master Plan Reexamination Reports reaffirmed these goals. The Master Plan outlines six major goals "for achieving a dynamic economy" in the City of Camden. This includes three goals which are strongly related to the proposed project:

- Maintain and attract job generating businesses to the City
- Support the growth of health service and related technology industries
- Prepare Camden's workforce and connect workers with living wage jobs

This project will create a new medical research campus in Camden that achieves these three goals. The construction of the new research campus will allow the Coriell Institute to continue carrying out innovative medical research in the City of Camden using the latest technologies and with sufficient work space. Developing state-of-the-art facilities mantains and attracts living wage jobs to the City while supporting the growth of health service industries.

Furthermore, one of the goals outlined in the City's Master Plan is to "create compact and lively major commercial corridors." The proposed project will be located near Campbell's Soup Company's campus on Pine Street and builds off of the recent relocation of Subaru to the vacant lands north of Campbell's campus in 2018. These various large economic generators nestled together fulfills this stated goal of creating a more compact major commercial corridor in Camden.

The project site is located in the Gateway neighborhood of Camden. Gateway's latest neighborhood redevelopment plan was published in December of 2005. A 2009 amendment was related to Block 1463, Lot 1 (a portion of the Sears site) and does not affect this property. The goals of this plan include to:

- Facilitate institutional development (i.e., schools and non-profit organizations)
- Facilitate the environmental cleanup of contaminated sites
- Improve area infrastructure

This project will support all of the aforementioned neighborhood redevelopment goals. First, by providing research facilities for the Coriell Institute for Medical Research, instutional development will be advanced as the Coriell Institute is an independent, non-profit biomedical research center dedicated to advancing the public good. Next, the development of this site will facilitiate the environmental cleanup of a contaminated site, as the site used to be an industrial factory, and the developer will begin environmental cleanup prior and during the construction of the facility. Finally, the vacant and potentially dangerous building that is currently existing on the site will be demolished in order for a state-of-the-art new facility to be built, including new landscaping and stormwater management facilities, an improvement to the area infrastructure. Also, the project site is identified as an area in need for redevelopment in the Redevelopment Plan.

Furthermore, this proposed project abuts the Parkside neighborhood of Camden, although the parcel is not within the neighborhood plan boundary. The 2020 Parkside Neighborhood Revitalization Plan calls for the redevelopment of vacant properties into either stable residential properties or businesses which can support jobs for residents. This proposed project will transform a currently vacant property into a productive area which will support potential jobs for nearby residents of the Parkside neighborhood. It will also likely have positive ripple effects into nearby neighborhoods like Parkside, which will be buoyed by an increase in local jobs and new workers to support local businesses, all of which are outlined as priorities in the Parkside Neighborhood Revitalization Plan.

V. Findings

Below is an analysis of Community Impacts of the proposed project at both this initial phase as well as at proposed total build-out. The analysis follows the City of Camden's checklist. The requirements of the checklist are in bold, and the responses follow.

1. **An analysis of the number of people to be expected to be added to the City's population as a result of the proposed development according to the following age cohorts: pre-school aged children, school aged children, adults of childbearing age, middle aged adults and persons of retirement age.**

The Project does not include a residential component, therefore no permanent residents can be attributed to the construction of the new office and research facility.

2. **An analysis of the anticipated number of pupils who will be added to the student population in the City and anticipated operating and capital improvement costs.**

The Project does not include a residential component, and thus no additional students will be added to the student population in the City or enrolled in the school district. The operating and capital improvement costs will not be affected by this development.

3. **Applicants' evaluation as to the adequacy of the existing facilities to serve the proposed development, including the adequacy of existing public water facilities; public sewerage facilities; recreational facilities; and library facilities.**

Public Water and Sewerage Facilities: The project engineer has met with representatives of the City that oversee the City's public water and public sewerage facilities. The full build-out program was discussed and service loads were provided and analyzed. Based on these discussions, there is adequate capacity of water and sewer infrastructure to serve the proposed project, inclusive of the Subject Site.

Recreational Facilities: The development of the Project site will place limited to no burden on the adequacy of recreational facilities. Office workers typically do not generate needs for active public recreation. Nonetheless, the currently available outdoor passive recreation options for walking or mid-day lunch in nearby neighborhoods are more than adequate to meet the demands of users of the facility. As such, there is no need for additional city recreational facilities.

Library Facilities: The development of the Project does not include a residential component. As such, there is no expectation that there will be notable increases in demand for library facilities. Nonetheless, the Subject Site and Waterfront Development will be adequately served by the Nilsa I. Cruz-Perez Downtown branch library of the Camden County Library System. It is located within the Robeson Library on the Rutgers University campus in Camden, approximately one mile from the project site.

The Nilsa I. Cruz-Perez Downtown branch occupies 5,000 square feet of space and features offices, a programming room, a digital classroom, and public access computers. Current hours of operation are 10:00 am to 8:00 pm Monday through Thursday, and 10:00 am to 5:00 pm on Friday and Saturday. The library offers many events and learning opportunities, including MS Word classes for adults 18 and up, and ESL and Basic Reading classes as well as programming opportunities for children and teens such as "Cartooning Fun" and "Dinner and a Movie Nights." The Robeson Library itself is also open to the public, and further contributes to adequate library facilities service of the Waterfront Development.

4. **Applicants' evaluation as to the adequacy of the existing public services to serve the proposed development and the impact of the development upon the services, including police protection, fire protection; solid waste disposal and street maintenance services.**

The applicant has indicated that all services are sufficient for the scope of the project.

Police Protection, Solid Waste Disposal & Street Maintenance Services: The project site is located within one mile of the Camden County Police Administration Building located at 800 Federal Street. The applicant has indicated that they will be contracting private waste disposal services. The applicant has indicated that the current street maintenance services will be sufficient for the scope of the project.

Fire Protection: The proposed structure will utilize conscious incorporation of fire-safe design in the architecture of the structures as well as the incorporation of fire protection in engineering and construction.

The project facility will be constructed in accordance with all applicable codes and standards for fire protection systems, inclusive of applicable building codes, electrical codes and fire/life safety codes and State of New Jersey amendments to these documents. The project facility will be designed to the highest standard of fire safety, thus minimizing reliance on local fire protection. Should the need for fire protection services occur, the Camden Fire Marshall's Office, located at 4 N 3rd Street, is located approximately one mile from the project site.

5. **Letters directed to the Zoning Officer/Administrative Officer signed by a responsible official of the water company, and of any other utility company or governmental authority or district having jurisdiction in the area and which will provide utility service to the proposed development approving the design of each proposed utility installation and stating who will construct the facility so that service will be available prior to occupancy.**

The project engineer, through several meetings with various individuals, has presented to the City the development plans for the project. The public utility entities are aware of the demands and loads necessary for water, sewer, electricity, and gas services. Officials from these entities have indicated that infrastructure is adequate and available for development needs.

The City Engineer for the City of Camden has indicated that water and sewer services are available at the project site. The site has assess to electricity, natural gas, and connections to water and sewer. Letters to the City will be given to the Planning Board at the time of plan approval.

6. **An analysis of the impact of the project on the road network including the capacity of the existing and proposed roadways in relation to the anticipated traffic volumes from the proposed development as well as any increases in traffic volumes expected from other developments within the area; and any existing and anticipated problem spots in the overall road network including unsafe intersections, turns or grades.**

Scheer Partners commissioned Pennoni to perform a Transportation Impact Study for the proposed development at 1300 Walnut Street in Camden. The full Traffic Impact Study was submitted as part of the application for the Coriell Institute development. The analysis concluded that the construction of the proposed research and development will not result in a significant increase to overall intersection or approach delays during either the AM or PM peak periods and will not significantly impact traffic flow on the adjacent roadway network or operation of the signalized and unsignalized intersections within study area.

7. **An analysis of the revenues expected to be generated from the development compared to the anticipated costs which the proposed development is expected to generate. Revenues and costs shall be shown for the City, the public school system and the County.**

Due to the proposed development's use as a non-profit research facility, the development will not be directly revenue generating. The estimate of land development and utility fees, including City utility connection fees, City planning and zoning fees, County Planning Division fees, and New Jersey Department of Envirionmental Protection fees totals $374,881.49.

Additionally, there will be no costs to the public school system, as the proposed development does not have a residential component, so no new students will be added as a result of the development of this project site.

8. **Compliance with any and all requirements as provided for by the New Jersey Environmental Justice Law, N.J.S.A. 13:1D-157 et seq., and the New Jersey Department of Environmental Protection regulations, N.J.A.C. 7:1C et seq., Environmental Justice, and shall include, but not be limited to, an environmental justice impact statement which refers to a systematic, interdisciplinary and integrated assessment of environmental and public health conditions in an overburdened community that identifies and analyzes 1) existing environmental and public health stressors; 2) any adverse environmental and public health stressors; 3) the presence or absence of adverse cumulative stressors; 4) potential environmental and public health stressors associated with a facility; 5)**

whether the facility can avoid causing a disproportionate impact; 6) the measures the facility will propose to implement to avoid or address any disproportionate impact; and 7) where applicable, how the new facility serves a compelling public interest in the overburdened community. This environmental justice impact statement shall take into account both the residents in the area of the development as well as all other residents in the City of Camden to ensure that each resident has a safe and healthy environment in which to live.

The following environmental justice statement addresses each of the required elements of the environmental justice analysis enumerated above:

(1) Existing environmental and public health stressors: The property currently consists of vacant buildings and land in various states of disrepair, abandonment, and decline. The existing site is in need of redevelopment, and its existing condition creates a blighting influence on the surrounding area and residential neighborhoods.

(2) Any adverse environmental and public health stressors: Coriell intends to redevelop the property with a new state-of-the-art research and office facility, along with related site improvements, landscaping, parking, and stormwater management infrastructure. The new development will be a significant improvement over existing conditions and will not create any adverse environmental and public health stressors on the surrounding residential neighborhoods. In fact, the proposed development will reduce the existing environmental stressors resulting from the existing blighted conditions of the property.

(3) The presence or absence of adverse cumulative stressors: The existing condition of the property creates adverse stressors on the neighborhood. The new development removes these existing stressors and will not add any adverse cumulative stressors.

(4) Potential environmental and public health stressors associated with a facility: As noted, Coriell intends to redevelop the property with a new state-of-the-art research and office facility that will be a significant improvement over existing conditions and will not create any adverse environmental and public health stressors on the surrounding residential neighborhoods.

(5) Whether the facility can avoid causing a disproportionate impact: The new development will be designed using modern site planning techniques meeting all relevant and applicable environmental design standards and regulations. Accordingly, the proposed development will not have a disproportionate impact on the surrounding area and community.

(6) The measures the facility will propose to implement to avoid or address any disproportionate impact: As noted, the development will be designed using modern site planning techniques meeting all relevant and applicable environmental design standards and regulations, as well as all relevant codes and standards of the City. All applicable methods to avoid impacts during construction will be implemented. No disproportionate impacts after construction are anticipated.

(7) Where applicable, how the new facility serves a compelling public interest in the overburdened community: The proposed development will serve the public interest in an overburdened community through the redevelopment of an existing blighted site that is currently having an adverse impact on the surrounding area. Its redevelopment will not have a positive impact on the immediate area but will represent a positive public benefit for the City of Camden.

REMINGTON & VERNICK ENGINEERS PROJECT #: 0408P952
THIS MAP IS HEREBY APPROVED BY THE PLANNING BOARD OF THE CITY OF CAMDEN.

BOARD CHAIRMAN DATE

BOARD SECRETARY DATE

BOARD ENGINEER DATE

ZONING OFFICER/ADMINISTRATIVE OFFICER DATE

OWNER: WALNUT STREET ACQUISITION GROUP, LLC. DATE

APPLICANT: WALNUT STREET ACQUISITION GROUP, LLC. DATE

CORIELL INSTITUTE CAMDEN

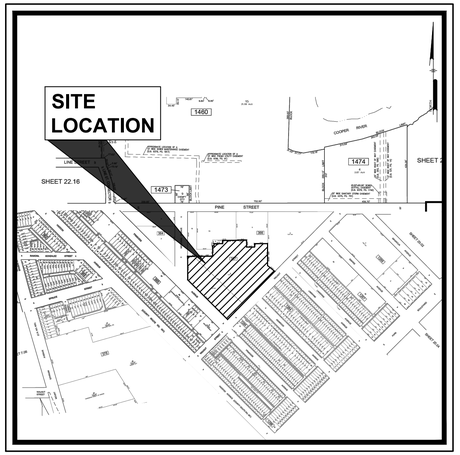
PRELIMINARY / FINAL SITE PLAN

BLOCK 367, LOTS 1 & 6
CAMDEN COUNTY. NEW JERSEY

PREPARED FOR:

WALNUT PROPERTY ACQUISITION, LLC.

403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103



TAX MAP
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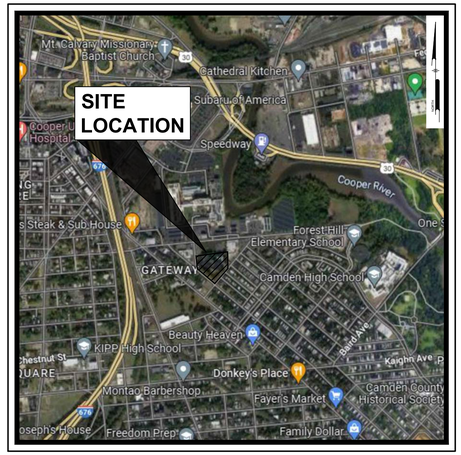
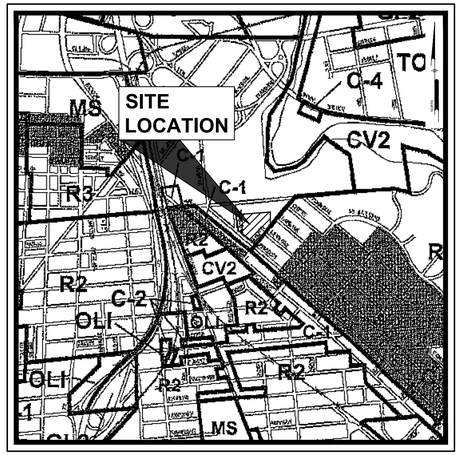


LOCATION MAP
Scale: 1" = 1000'



ZONING MAP
Scale: 1" = 1000'

Sheet List Table			
Sheet No.	Drawing No.	Sheet Title	Drawing Date
1	CS0001	COVER SHEET	yyyy-mm-dd
2	CS0002	GENERAL NOTES I	yyyy-mm-dd
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4	CS0004	PROPERTY OWNERS LIST - 200FT	yyyy-mm-dd
5	CS0500	OVERALL SITE PLAN	yyyy-mm-dd
6	CS0501	DEMOLITION PLAN	yyyy-mm-dd
7	CS1001	SITE PLAN (PHASE 1)	yyyy-mm-dd
8	CS1002	SITE PLAN (PHASE 1 + PHASE 2)	yyyy-mm-dd
9	CS1501	GRADING PLAN (PHASE 1 + PHASE 2)	yyyy-mm-dd
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18	CS2001	LANDSCAPE PLAN (PHASE 1)	yyyy-mm-dd
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21	CS2201	LIGHTING PLAN (PHASE 1)	yyyy-mm-dd
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24	CS3501	ROAD PROFILES - MEMORIAL AVENUE	yyyy-mm-dd
25	CS3502	ROAD PROFILES - PRINCESS AVENUE	yyyy-mm-dd
26	CS3503	ROAD PROFILES - WALNUT STREET	yyyy-mm-dd
27	CS4001	STORM AND SEWER PROFILES	yyyy-mm-dd
28	CS6001	CONSTRUCTION DETAILS I	yyyy-mm-dd
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30	CS6003	CONSTRUCTION DETAILS III	yyyy-mm-dd
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38	CS6041	WATER DETAILS	yyyy-mm-dd
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40	CS6061	LANDSCAPE NOTES	yyyy-mm-dd
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NEW JERSEY
ONE CALL
CALL BEFORE YOU DIG
1-800-272-1000

CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE REQUIREMENTS OF THE NEW JERSEY ONE-CALL DAMAGE PREVENTION SYSTEM AS STATED IN THE "UNDERGROUND FACILITY PROTECTION ACT". TICKET NUMBER(S):

PREPARED BY:
PENNONI ASSOCIATES INC.

2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.668.8600

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.668.8600
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768
11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

COVER SHEET

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	AS NOTED
DRAWN BY	BF
APPROVED BY	JJR

CS0001
SHEET 1 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS0001.dwg PLOTTED: 11/13/2025 5:39 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS: —

DEMOLITION NOTES:

1. DEMOLITION WILL BEGIN UPON RECEIPT OF ALL NECESSARY APPROVALS AND PERMITS FROM ALL APPLICABLE GOVERNMENTAL AGENCIES AND AFTER ALL UTILITIES HAVE BEEN DEACTIVATED / DISCONNECTED. CONTRACTOR SHALL CONTACT UNDERGROUND UTILITIES AS PER NEW JERSEY ONE CALL LAW NOT LESS THAN FIVE (5) DAYS NOR MORE THAN TEN (10) WORKING DAYS BEFORE COMMENCING WITH DEMOLITION.

2. ALL DEMOLITION WORK SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT NFPA 241 AND OSHA STANDARDS, LATEST EDITION.

3. CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY PURVEYOR , OWNER AND THE ENGINEER 72 HRS. PRIOR TO INITIATING UTILITY REMOVAL AND/OR ABANDONMENT.

4. PRIOR TO START OF DEMOLITION, THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH EACH UTILITY AND THE OWNER TO THE WORK RELATIVE TO THEIR FACILITIES WITHIN THE LIMITS OF DEMOLITION AREA. THE CONTRACTOR SHALL ASSUME THAT ALL UTILITIES WHETHER SHOWN OR NOT ARE INACTIVE OR DE-ENERGIZED PRIOR TO DEMOLITION.

5. REMOVE ALL SANITARY SEWER, STORM SEWER, TELEPHONE AND CABLE SERVICES AND CONDUITS WITHIN THE LIMIT OF DEMOLITION UNLESS OTHERWISE NOTED. ALL WATER SERVICE CONNECTIONS SHALL BE CUT AND CAPPED AT THE MAIN LOCATED IN BROADWAY. STORM INLETS AND ASSOCIATED PIPING SHALL REMAIN IN-PLACE.

6. ALL SANITARY SEWER CONVEYANCE FACILITIES, WHICH ARE TO BE ABANDONED, SHALL BE EMPTIED OF WASTES AND EITHER REMOVED OR ABANDONED IN-PLACE IN A MANNER WHICH IS ACCEPTABLE TO THE OWNER AND ENGINEER.

7. ABOVE GRADE ROOF DRAINS SHALL BE REMOVED WITH THE BUILDING, AND CUT AND CAPPED A MINIMUM OF FIVE (5) FEET FROM THE BUILDING.

8. ALL SANITARY SEWER CONVEYANCE FACILITIES, WHICH ARE TO BE ABANDONED, SHALL BE EMPTIED OF WASTES AND EITHER REMOVED OR ABANDONED IN-PLACE IN A MANNER WHICH IS ACCEPTABLE TO THE OWNER AND ENGINEER.

9. ABOVE GRADE ROOF DRAINS SHALL BE REMOVED WITH THE BUILDING, AND CUT AND CAPPED A MINIMUM OF FIVE (5) FEET FROM THE BUILDING.

10. BACKFILL ALL VOIDS CREATED BY REMOVALS, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: FOUNDATIONS, MANHOLES, INLETS, SITE PIPING, VALVES, CONDUITS, CLEANOUTS, AND TREE ROOT REMOVALS. BACKFILL WITH STRUCTURAL FILL IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.

11. CRUSHING OF MATERIALS WILL BE PERMITTED ONSITE WITHIN THE DESIGNATED WORK AREA ONLY, AND THE PROCESS SHALL BE FIRST REVIEWED AND APPROVED BY THE ENGINEER.

12. RECYCLED MATERIALS MAY BE USED AS BACKFILL IF THE MATERIAL MEETS ALL THE REQUIREMENTS ESTABLISHED IN THE PROJECT SPECIFICATIONS AND ON THE CONTRACT DRAWINGS.

13. WHERE A PIPE BEING REMOVED IS CONNECTED TO AN EXISTING STRUCTURE, EITHER REMOVE THE PIPE AND FILL THE WALL OPENING WITH CONCRETE, OR CUT THE PIPE WITHOUT PERCUSSION NOT MORE THAN 6" FROM THE OUTSIDE FACE OF THE STRUCTURE AND FILL THE REMAINING LENGTH OF PIPE WITH CONCRETE.

14. THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING PAVING, CURBING, CONCRETE, BRICK AND SITE AMENITIES NOT CALLED OUT TO BE REMOVED, ANY EXISTING CURB, SIDEWALK, PAVEMENT, LANDSCAPING, LIGHTING OR OTHER SITE AMENITIES THAT ARE TO BE MAINTAINED AND PROTECTED AND ARE DAMAGED DURING DEMOLITION OR OTHER CONSTRUCTION RELATED ACTIVITIES, SHALL BE REPLACED PROMPTLY BY THE CONTRACTOR AT NO COST TO THE OWNER.

15. THE REMOVAL OF EXISTING BOLLARDS, GUIDE RAIL POSTS & FOOTINGS SHALL INCLUDE THE PIPE/ POST AND CONCRETE FOOTING IN ITS ENTIRETY.

16. PROTECTION OF FIRE HYDRANTS SHALL BE COORDINATED WITH THE OWNER.

17. WATER WILL BE AVAILABLE ONSITE VIA EXISTING HYDRANTS. CONTRACTOR TO COORDINATE WITH OWNER.

18. ELECTRICAL UTILITIES SHALL BE DISCONNECTED PRIOR TO BEGINNING ANY DEMOLITION WORK. DEMOLITION SHALL INCLUDE THE REMOVAL OF BURIED AND EXPOSED CONDUIT IN THE AREA DESIGNATED FOR DEMOLITION, SEALING ENDS OF REMAINING BURIED CONDUIT ABANDONED IN PLACE AND REMOVING ALL POWER AND CONTROL WIRING BETWEEN THE DEMOLISHED FACILITY AND THE TERMINAL JUNCTION BOX, CIRCUIT BREAKER, OR METER CONTROL CENTER SUPPLYING POWER TO THE FACILITY.

19. ALL MATERIAL BROUGHT ON SITE SHALL BE CLEAN FILL, SAMPLED, AND ANALYZED WITH STANDARD NJDEP QUALITY ASSURANCE STANDARDS AND PRACTICES AT A MINIMUM, AS SPECIFIED IN N.J.A.C. 7:26E, TO FULLY CHARACTERIZE THE CONTAMINANTS IN THE LATEST SOIL CLEANUP CRITERIA (SCC). THE CONTRACTOR SHALL SUBMIT TO THE OWNER WRITTEN DOCUMENTATION FROM A LABORATORY CERTIFIED IN NEW JERSEY ENVIRONMENTAL LABORATORY CERTIFICATION PROGRAM (ELCP) AND IN ACCORDANCE WITH N.J.A.C. 7:18 PRIOR TO PLACEMENT OF THE MATERIAL ON SITE. THE MATERIAL MUST NOT CONTAIN CONTAMINANTS ABOVE THE MOST RESTRICTIVE DIRECT CONTACT OR IMPACT TO GROUNDWATER (IGW) SCC.

20. ALL DEMOLITION MATERIAL AND DEBRIS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. NO ON-SITE BURIAL IS PERMITTED. A SOIL REMOVAL PERMIT IS THE RESPONSIBILITY OF THE CONTRACTOR.

21. ALL ACTIVE CONSTRUCTION SITES AND LOCATIONS SHALL BE PROVIDED WITH NON-COMBUSTIBLE REFUSE CONTAINER(S) IN SUCH NUMBERS AS SHALL BE NECESSARY TO CONTAIN ALL COMBUSTIBLE REFUSE GENERATED BY THE CONSTRUCTION ACTIVITIES.

22. ALL COMBUSTIBLE REFUSE, RUBBISH AND DEBRIS SHALL BE COLLECTED AND DEPOSITED IN THE CONTAINER(S) ON A DAILY BASIS. REFUSE CONTAINER(S) SHALL BE LOCATED A MINIMUM OF TWENTY (20) FEET AWAY FROM ANY BUILDING, STRUCTURE, LOT LINE OR COMBUSTIBLE MATERIAL STORAGE LOCATION.

23. WHILE CONSTRUCTION ACTIVITIES ARE IN PROGRESS, AT LEAST FOUR(4) PORTABLE FIRE EXTINGUISHERS HAVING A RATING OF AT LEAST 10-A, 80-BC SHALL BE PROVIDED, AND SHALL BE MAINTAINED IN A LOCATION APPROVED BY THE FIRE OFFICIAL. PERSONNEL NORMALLY ON THE CONSTRUCTION SITE SHALL BE INSTRUCTED IN THE USE OF THE FIRE EXTINGUISHERS PROVIDED.

24. THE CONTRACTOR SHALL CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS TO ENSURE MINIMAL INTERFERENCE WITH ROADS, WALKS AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. THE AREAS OF DEMOLITION SHALL BE PROTECTED TO ENSURE THE SAFE PASSAGE OF PEDESTRIANS AS SHOWN ON THE CONTRACT DRAWINGS.

25. NO DISTURBANCES NOR PLACEMENT OF MATERIALS SHALL BE PERMITTED BEYOND THE PROJECT LIMIT LINES WITHOUT WRITTEN CONSENT OF THE PROPERTY OWNER(S) INVOLVED. DAMAGE CAUSED TO ADJACENT FACILITIES BY DEMOLITIONS OPERATIONS AND/OR STORAGE OF MATERIALS OR EQUIPMENT SHALL BE PROMPTLY REPAIRED/REPLACED AT NO COST TO THE OWNER.

26. DEMOLITION EQUIPMENT AND VEHICLES SHALL STAGE WITHIN PAVED DRIVEWAYS, PARKING LOTS AND WITHIN THE AREA OF EXISTING BUILDING FOOTPRINT TO MINIMIZE SOIL DISTURBANCES DURING DEMOLITION PROCESS..

27. CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES PRIOR TO DEMOLITION.

28. CONTRACTOR TO COORDINATE ALL UTILITY REMOVAL(S) AND SHUT-OFF(S) (TYPICAL).

29. CONTRACTOR TO COORDINATE WITH ALL APPLICABLE AGENCIES DURING THE DEMOLITION OF EXISTING BUILDINGS.

30. ALL MATERIALS REMOVED FROM SITE ARE TO BE DISPOSED OF AT AN APPROVED FACILITY.

31. NO MATERIALS ARE TO BE BURIED ONSITE.

32. SUPPORT AND STABILIZATION OF REMAINING STRUCTURES SHALL CONFORM TO THE LATEST BOCA BUILDING CODE.

33. ALL DEMOLITION TO BE PERFORMED IN STRICT ADHERENCE TO ALL FEDERAL, STATE AND LOCAL REGULATIONS.

34. CONDUCT DEMOLITION IN SUCH A MANNER TO INSURE MINIMUM INTERFERENCE WITH ROADS, WALKS AND OTHER ADJACENT FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER OCCUPIED AREAS WITHOUT WRITTEN CONSENT OF OWNER AND ANY APPLICABLE GOVERNMENTAL AUTHORITIES.

35. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS, IF REQUIRED BY CITY OR STATE AGENCIES.

36. CONTRACTOR TO USE TEMPORARY ENCLOSURES, WATERING OR OTHER SUITABLE METHODS, AS NECESSARY TO LIMIT THE AMOUNT OF DUST AND DIRT.

34. REMOVED MATERIALS SHALL NOT BE STORED, SOLD OR BURNED ON SITE. REMOVAL OF HAZARDOUS AND COMBUSTIBLE MATERIAL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROCEDURES AS AUTHORIZED BY THE FIRE DEPARTMENT OR OTHER APPROPRIATE REGULATORY AGENCIES AND AUTHORITIES.

34. DISCONNECT, SHUT OFF AND SEAL IN CONCRETE ALL UTILITIES SERVING THE STRUCTURE(S) TO BE DEMOLISHED BEFORE THE COMMENCEMENT OF DESIGNATED DEMOLITION. CLEARLY IDENTIFY BEFORE THE COMMENCEMENT OF DESIGNATED DEMOLITION THE REQUIRED INTERRUPTION OF ACTIVE SYSTEMS THAT MAY AFFECT OTHER PARTIES, AND NOTIFY APPLICABLE UTILITY COMPANIES TO INSURE CONTINUATION OF SERVICE

35. NEW JERSEY REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE. (NJ ONE CALL SYSTEM, INC. 1-800-272-1000).

35. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE IMPROVEMENTS AND UTILITIES. ANY/ALL DISCREPANCIES SHALL BE REPORTED TO ENGINEER IN WRITING PRIOR TO ANY CONSTRUCTION.

36. ALL EXISTING UTILITIES SHALL BE REMOVED BY CONTRACTOR IN ACCORDANCE WITH CITY REQUIREMENTS.

HIGH-VOLTAGE PROXIMITY ACT

THE CONTRACTOR IS NOTIFIED THAT ALL PROVISIONS OF THE HIGH-VOLTAGE PROXIMITY ACT, P.L. 1948, c. 249 AS AMENDED THROUGH MAY 20, 1987 SHALL BE STRICTLY ADHERED TO. THE CONTRACTOR SHALL ALSO ADHERE TO ALL PROVISIONS OF PART 1926.550, SUBPART N OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF DECEMBER, 1970. PARTICULAR ATTENTION IS DIRECTED TO THE PROVISIONS OF THE ABOVE ACT REQUIRED WARNING SIGNS, NOTIFICATION TO POWER COMPANY AND RESPONSIBILITY FOR SAFEGUARDS AND ALSO PROHIBITED ACTIVITY.

A COPY OF THE HIGH-VOLTAGE PROXIMITY ACT IS AVAILABLE IN THE OFFICE OF THE COUNTY ENGINEER OR MAY BE OBTAINED FROM THE NEW JERSEY DEPARTMENT OF LABOR, DIVISION OF WORKPLACE STANDARDS, OFFICE OF SAFETY COMPLIANCE, TRENTON, NJ 08625

LEED V4.1 NOTES:

1. MATERIALS AND RESOURCES: CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT:

A) CONTRACTOR MUST ESTABLISH AND IMPLEMENT A STRATEGY (WASTE MANAGEMENT PLAN) TO ACHIEVE WASTE DIVERSION FROM LANDFILLS AND INCINERATION FACILITIES FOR AT LEAST 50% OF THE TOTAL WASTE FROM THE PROJECT (FOR THE DEMOLITION OF THE WORK, IT IS ANTICIPATED THAT A MUCH HIGHER PERCENTAGE CAN BE REACHED). PLAN MUST BE SUBMITTED TO ARCHITECT AND ENGINEER FOR APPROVAL PRIOR TO STARTING CONSTRUCTION ON-SITE.

B) WASTE MANAGEMENT PLAN MUST COMPLY WITH LEED V4 REFERENCE/REQUIREMENTS.

C) PLAN IS TO INCLUDE REQUIREMENTS FOR THE DEMOLITION CONTRACTOR TO ORGANIZATION ON-SITE RECYCLING AND DIVERSION EQUIPMENT, REPORT ON HOW MATERIALS WILL BE SORTED, WHERE THE MATERIALS WILL BE TAKEN, AND HOW THE RECYCLING FACILITY WILL PROCESS THE MATERIAL.

D) THE DEMOLITION CONTRACTOR MUST PROVIDE THE FOLLOWING INFORMATION WITHIN THE WASTE MANAGEMENT PLAN/REPORT:

- TOTAL DEMOLITION WASTE PRODUCED BY THE PROJECT.
- TYPES OF WASTE MATERIAL AND QUANTITY OF EACH MATERIAL BY WEIGHT.
- TOTAL DIVERTED WASTE MATERIAL AND QUANTITY OF EACH MATERIAL.
- PERCENTAGE OF DIVERTED WASTE (DEMOLITION WASTE DIVERTED FROM LANDFILL/TOTAL: DEMOLITION WASTE).
- NOTE: LAND-CLEARING DEBRIS IS NOT CONSIDERED DEMOLITION WASTE, BUT MUST BE TRACKED SEPARATELY, AND MATERIAL DESTINED FOR ALTERNATIVE DAILY COVER (ADC) AT LANDFILLS MUST BE CALCULATED AS WASTE, NOT DIVERSION.
- ANY MATERIALS SENT TO A COMMINGLED RECYCLING FACILITY (I.E.: REVOLUTION RECOVERY IN PHILADELPHIA) FOR PROCESSING MUST TAKE THE FACILITY AVERAGE RECYCLING RATE AND MUST DESIGNATE ANY ADC AS WASTE (NOT DIVERSION).

E) ESTABLISHMENT OF CLEAR TRACKING PROCEDURES AND RECORD-KEEPING FOR ALL WASTE AND RECYCLED MATERIALS. THESE PROCEDURES MUST BE INCLUDED IN PROJECT DOCUMENTATION AND MUST BE MADE CLEAR TO WASTE HAULERS AND ALL PARTIES INVLIVED IN DEMOLITION AND WASTE/RECYCLING REMOVAL. IT IS ESSENTIAL FOR CONTRACTORS AND HAULERS TO KEEP COMPREHENSIVE RECORDS OF ALL WASTE REMOVED (INCLUDING, BUT NOT LIMITED TO: WEIGHTS, VOLUMES, AND COSTS OF DISPOSAL (WHERE APPLICABLE)). INCLUDE TRACKING ANY MATERIALS REUSED ON-SITE, DONATED, AND/OR SOLD TO REUSE RETAILERS OR OTHER PARTIES.

F) TYPICAL RECYCLING PROCEDURES INCLUDE THE SEPARATION, STOCKPILING, AND RECYCLING OF THE FOLLOWING:

- CLEAN CONCRETE (INCLUDING CMU), ASPHALT, SCRAP METAL, WOOD PRODUCTS.
- MASONRY (INCLUDING FACE BRICKS, HOLLOW BRICKS, ETC.) THAT CAN/ARE REUSABLE AND BE STOCKPILED AND RECYCLED. UNUSABLE MASONRY MAY BE APPROPRIATE FOR ON-SITE BASE FILL OR MAY BE USED AS ALTERNATE DAILY COVER OR LANDFILLED.
- DRYWALL THAT IS CLEAN AND UNPAINTED CAN BE RECYCLED. OTHER DRYWALL MAY BE SENT TO A LANDFILL.
- WIRE, CONDUIT, AND ELECTRICAL MATERIAL CAN BE RECYCLED.
- UN-RECYCLABLE PLASTICS, AND OTHER NON-RECYCLABLE MATERIALS CAN BE LANDFILLED.

G) AREAS WHERE LANDFILL WASTE CAN BE REDUCED:

- METALS: CONTRACTORS CAN RECYCLE ALL METALS FROM THE SITE THAT ARE NOT CONNECTED TO ANY EXISTING OPERATIONAL UTILITIES. CONTRACTOR MUST SEAL ENDS OF ANY ABANDON UTILITY AND/OR PORTION OF UTILITY REMOVED. METALS WITHIN CONCRETE SIDEWALK, CONCRETE APRON, BUILDING, FOUNDATION, FOOTERS, ETC. CAN BE RECYCLED. ALL WORK IS TO BE IN ACCORDANCE TO CITY OF CAMDEN ORDINANCE AND LOCAL UTILITY REQUIREMENTS PRIOR TO REMOVAL. CONTRACTOR MUST DISCUSS WITH AND RECEIVE APPROVAL FROM ARCHITECT, ENGINEER, AND/OR CITY.
- BLOCK: CLEAN CONCRETE MASONRY UNITS ON-SITE CAN BE CRUSHED AND USED AS NON-STRUCTURAL BACKFILL AND ROAD BASE UNDER ON-SITE PARKING LOTS AND WALKWAYS/SIDEWALKS. ALL REUSED CRUSHED CONCRETE MASONRY UNITS FOR NON-STRUCTURAL BACKFILL AND ROAD BASE MUST CONFIRM, BE IN ACCORDANCE/COMPLY WITH NJDOT (LATEST) REQUIREMENTS, AND BE IN ACCORDANCE/COMPLY WITH NJDEP (LATEST) REQUIREMENTS. PAINTED BLOCK IS NOT ACCEPTED BY ALL RUBBLE RECYCLERS. CONTRACTOR WILL BE REQUIRED TO TEST RECYCLED PRODUCTS AND MUST SUBMIT CUT SHEETS/SHOP DRAWINGS FOR APPROVAL TO ARCHITECT AND ENGINEER PRIOR TO CONSTRUCTION. THE CUT SHEETS/SHOP DRAWINGS FOR RECYCLED CONCRETE AGGREGATE MUST CONTAIN BUT NOT LIMITED TO: SOURCE/LOCATION OF PRODUCT, USAGE, GRADATION, PLASTICITY, COMPOSITION, PERCENTAGE OF WEAR, AND ETC. AS REQUIRED FOR VIRGIN DGA.
- REMOVAL OF TREES: CONTRACTOR MUST USE A MINIMUM OF 50% OF EXISTING TREES WOOD (TO BE REMOVED) GRINDINGS IN WITH THE MULCH PROVIDED ON SITE. THE EXISTING GRINDED WOOD MUST BE MIXED AND BLENDED WITH NEW MULCH IN A LARGE COMMERCIAL GRADE BLENDING MACHINE. CONTRACTOR IS TO MIX A FUNGICIDE IN THE BLENDING MACHINE.
- SITE FENCING: ANY EXISTING NON-DAMAGED CHAIN LINK FENCE TO BE REPLACED WITH NEW FENCE (CHAIN LINK OR ORNAMENTAL) CAN BE REUSED ON-SITE. PRIOR TO COMPLETING THIS WORK, CONTRACTOR WILL REQUIRE APPROVAL FROM ENGINEER.
- VIRGIN MATERIAL PRODUCTS MUST BE USED WITHIN CITY R-O-W. NO RECYCLABLE PRODUCTS WILL BE ALLOWED.

H) A SCHEDULE WALK-THROUGH MEETING ON-SITE BETWEEN CONTRACTOR, DEMOLITION CONTRACTOR, ARCHITECT, AND ENGINEER MUST BE COMPLETED PRIOR TO COMPLETING DOCUMENTATION TO IDENTIFY MATERIALS THAT CAN BE RECYCLED, MATERIALS THAT WILL BE SENT TO LANDFILL, THE GOALS FOR THE PROJECT, SAFETY PROTOCOLS, AND OTHER PRACTICES. THE WALK-THROUGH MEETING WILL IDENTIFY ANY MATERIALS THAT HAVE POTENTIAL VALUE FOR RE-USE ON-SITE AS FILL OR SUB-BASE FOR CONSTRUCTION.

I) ESTABLISHMENT OF A COMMUNICATION PLAN TO IDENTIFY AND RESOLVE UNEXPECTED ISSUES THAT ARISE DURING DEMOLITION. THE COMMUNICATIONS PLAN SHOULD INCLUDE CLEAR DEFINITIONS OF ALL DEMOLITION AND LAND-CLEARING WASTE, MATERIALS THAT CAN BE SALVAGED, MATERIALS THAT CAN BE RECYCLED, AND MATERIALS THAT WILL BE SENT TO A LANDFILL.

J) DOCUMENT AND PLAN TO INCLUDE MULTI-LINGUAL SIGNAGE ON-SITE FOR USE BY SUBCONTRACTORS AND LABORERS TO ENSURE CORRECT HANDLING OF WASTE.

K) MATERIALS ON SITE THAT ARE OF RECYCLING GOALS FOR WASTE PREVENTION, WASTE DIVERSION, IDENTIFICATION OF RECYCLING HAULERS/RECYCLING FACILITIES, AND DATE COLLECTION/REPORTING PROCEDURES.SALVAGING OR RECYCLING AT LEAST 50% OF RENOVATION AND/OR DEMOLITION DEBRIS AND UTILIZE WASTE TO MINIMIZE DESIGN STRATEGIES AND CONSTRUCTION TECHNIQUES FOR NEW CONSTRUCTION ELEMENTS.

L) CONTRACTOR IS REQUIRED TO TRACK AND DOCUMENT ALL RENOVATION, DEMOLITION, AND NEW CONSTRUCTION DEBRIS GENERATED BY THE PROJECT FROM START OF CONSTRUCTION THROUGH PROJECT COMPLETION.

2. HEAT ISLAND REDUCTION

SURFACE AREA
- HMA ASPHALT PARKING LOT: 40,400 SF
- STONE (IN COURTYARD AND PSE&G ENCLOSURE: 3,200 SF
- CONCRETE, WHITE (SIDEWALKS, LOADING AREA. ACCESSIBLE PARKING SPACE AREA, EQUIPMENT PADS: 22,300 SF

COMPLIANCE FORMULA
- 40,400 SF (ASPHALT) < 6,400 SF (STONE X 2) + 44,600 SF (CONCRETE X 2)
- 40,400 SF (ASPHALT) <51,000 SF (STONE AND CONCRETE)

3. RAINWATER MANAGEMENT

TO REDUCE RUNOFF VOLUME AND IMPROVE WATER QUALITY BY REPLACING THE NATURAL HYDROLOGY AND WATER BALANCE OF THE SITE, BASED ON HISTORICAL CONDITIONS AND UNDEVELOPED ECOSYSTEMS IN THE REGION TO AVOID CONTRIBUTING TO FLOODING DOWNSTREAM IN FRONTLINE COMMUNITIES.

OPTION 2: NATURAL LAND COVER CONDITIONS:
CALCULATE THE DIFFERENCE BETWEEN THE PROJECTED RUNOFF VOLUME UNDER THE PROPOSED DESIGN CONDITIONS AND THE RUNOFF VOLUME UNDER NATURAL LAND COVER CONDITIONS THAT EXISTED PRIOR TO ANY DISTURBANCE. RETAIN (I.E.: INFILTRATE, EVAPOTRANSPIRATE, OR COLLECT AND RESUE) ON SITE THE INCREASE IN RUNOFF VOLUME USING LID AND GI PRACTICES. EXAMPLES OF ACCEPTABLE LID TECHNIQUES: PLANTING RAIN GARDENS WITH NATIVE OR ADAPTED PLANT MATERIAL.

RETAIN ON-SITE AN ADDITIONAL 20% IN RUNOFF VOLUME TO ADDRESS FUTURE PRECIPITATION RATES:

	EXISTING	PROPOSED	NET REDUCTION
IMPERVIOUS	78.2%	59.7%	23.6%
COVERAGE	107,787 SF	82,330 SF	25,457 SF

GENERAL NOTES:

G-1. THE LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES SHOWN ON THE CONTRACT DRAWINGS ARE APPROXIMATE AND ARE BASED UPON BEST AVAILABLE INFORMATION PROVIDED TO ENGINEER. THE FOLLOWING SHALL BE PERFORMED:

A) VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES WITHIN THE WORK AREA PRIOR TO CONSTRUCTION.

B) EXERCISE EXTREME CAUTION WHEN WORKING ADJACENT TO EXISTING POWER, COMMUNICATIONS, WATER OR GAS LINES TO PREVENT DAMAGE TO THESE LINES.

C) IMMEDIATELY REPAIR ANY DAMAGE TO EXISTING UTILITIES IN A MANNER APPROVED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE OWNER.

G-2. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN SITE EXAMINATION AND DETERMINING THE ACTUAL NATURE AND EXTENT OF EXISTING CONDITIONS PRIOR TO UNDERTAKING WORK.

G-3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES AND TO TAKE WHATEVER STEPS NECESSARY TO PROVIDE FOR THEIR PROTECTION. THE ENGINEER HAS DILIGENTLY ATTEMPTED TO LOCATE AND INDICATE ALL EXISTING FACILITIES ON THESE PLANS; HOWEVER, THIS INFORMATION IS SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS OF UTILITIES SHOWN OR NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES FOR EXACT LOCATION OF THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AND REPLACE ANY AND ALL DAMAGE MADE TO UTILITIES BY THE CONTRACTOR.

G-4. BEFORE EXCAVATING THE PROJECT AREA THE CONTRACTOR IS TO VERIFY THE LOCATION OF ANY UNDERGROUND UTILITY (GAS MAINS, WATER MAINS, SEWER LINES, TELEPHONE LINES, ETC.), SHOULD ANY UNDERGROUND UTILITY INTERFERE WITH PROJECT CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH WORK. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND THE OWNER THREE (3) DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION FOR ACCURATE FIELD LOCATIONS. FOR UTILITY MARKOUT CALL 1-800-272-1000. CERTAIN UTILITIES WITHIN THE PROJECT AREA ARE PRIVATE AND A UTILITY MARKOUT (ONE-CALL) MAY NOT DETECT AND MARK THE LOCATION OF THESE UTILITIES. CONTRACTOR SHALL OBTAIN AN INDEPENDENT MARKOUT COMPANY.

G-5. VERIFY ALL INDICATED CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE PERFORMING ANY WORK. NOTIFY THE ENGINEER OF ANY CONDITIONS OR DIMENSIONS THAT WOULD PREVENT OR HAMPER THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

G-6. THE CONTRACTOR AND OR ENGINEER SHALL RESOLVE APPARENT CONTRADICTIONS IN CONTRACT DOCUMENTS WITH THE OWNER BEFORE AFFECTED WORK PROCEEDS.

G-7. DEVIATION FROM THESE PLANS AND NOTES WITHOUT THE PRIOR CONSENT OF THE OWNER, OWNER'S REPRESENTATIVE AND/OR THE DESIGN ENGINEER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE.

G-8. EXISTING SANITARY SEWERS THAT ARE TO REMAIN IN SERVICE SHALL REMAIN IN ACTIVE OPERATION AT ALL TIMES. EXISTING WATER MAINS SHALL REMAIN IN ACTIVE OPERATION EXCEPT AS NECESSARY FOR CONNECTIONS. PROVIDE A MINIMUM OF TWO WEEKS NOTICE TO THE ENGINEER AND OWNER PRIOR TO SERVICE DISRUPTIONS.

G-9. UTILIZE A MOBILE SWEEPER AND WATER TRUCK DAILY FOR DUST CONTROL ALONG HAUL ROUTES AND IN AREAS MADE AVAILABLE FOR CONSTRUCTION.

G-10. PREVENT WATER PONDING RESULTING FROM CONSTRUCTION OPERATIONS. PROMPTLY REMOVE ANY PONDED WATER TO THE SATISFACTION OF THE ENGINEER.

G-11. ALL TOPSOIL SHALL BE STRIPPED, STOCKPILED AND REUSED ON SITE AND MAY NOT BE TRANSPORTED OFF-SITE WITHOUT WRITTEN REQUEST AND RESPONSE FROM THE OWNER AUTHORIZING SAME..

G-12. CONTRACTOR SHALL WORK TO MINIMIZE EXCESS SOIL GENERATED. IF IT IS NECESSARY TO REMOVE SOIL FROM THE SITE, IT SHOULD BE DISPOSED OF AT A PERMITTED DISPOSAL FACILITY. PROVIDE THE NAME OF THE DISPOSAL FACILITY AND SOIL SAMPLE RESULTS 7 DAYS PRIOR TO HAULING SOIL. COPIES OF ALL BILLS-OF-LADING SHALL BE PROVIDED TO THE ENGINEER WITHIN 24 HOURS OF SOIL LEAVING THE SITE. CONTRACTOR SHALL ASSUME OWNERSHIP/RESPONSIBILITY OF EARTH OR CONCRETE SPOILS AND/OR DEBRIS GENERATED DURING CONSTRUCTION.

G-13. ALL AREAS OUTSIDE THE LIMITS OF CONSTRUCTION WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION TO THE SATISFACTION OF THE ENGINEER AND OWNER.

G-14. VERIFY ALL INDICATED CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE PERFORMING ANY WORK. NOTIFY THE ENGINEER OF ANY CONDITIONS OR DIMENSIONS THAT WOULD PREVENT OR HAMPER THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

G-15. UPON COMPLETION OF THE WORK, REMOVE ALL DEBRIS, EQUIPMENT AND UNUSED MATERIALS FROM OWNER PROPERTY AND RESTORE THE AREAS TO THEIR ORIGINAL CONDITION, AS APPROVED BY THE ENGINEER.

G-16. A GEOTECHNICAL ENGINEER, RETAINED BY THE CONTRACTOR, IS REQUIRED TO INSPECT, TEST, AND CERTIFY TO THE COMPACTION OF ALL FILLS.

G-17. THE CONTRACTOR SHALL PROVIDE ANY AND ALL EXCAVATION AND MATERIAL SAMPLES NECESSARY TO CONDUCT REQUIRED SOIL TESTS. ALL ARRANGEMENTS AND SCHEDULING FOR THE TESTING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

G-18. SOILS TESTING AND ON-SITE INSPECTION SHALL BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER, RETAINED BY THE CONTRACTOR. THE GEOTECHNICAL ENGINEER SHALL PROVIDE COPIES OF TEST REPORTS TO THE CONTRACTOR, AND THE CONSTRUCTION MANAGER, AND SHALL PROMPTLY NOTIFY THE CONSTRUCTION MANAGER AND THE CONTRACTOR SHOULD WORK PERFORMED BY THE CONTRACTOR FAIL TO MEET THESE SPECIFICATIONS.

G-19. THE BOTTOM OF ALL EXCAVATIONS AND COMPACTED EARTHWORK SHALL BE INSPECTED AND APPROVED BY A REGISTERED GEOTECHNICAL ENGINEER RETAINED BY THE CONTRACTOR PRIOR TO PLACING CONCRETE STRUCTURES AND/OR BACKFILLING. APPROVAL BY THE GEOTECHNICAL ENGINEER, IN WRITING, SHALL INDICATE THAT THE SOIL IS ADEQUATE TO SAFELY SUPPORT A FOUNDATION PRESSURE OF 2,000 PSF. EXCAVATION BELOW THE ANTICIPATED BOTTOMS OF CONCRETE STRUCTURES ALONG WITH PLACEMENT OF COMPACTED BACKFILL MAY BE REQUIRED.

G-20. CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES AND FENCING AROUND THE PERIMETER OF THE WORK AREA AND SHALL PROVIDE PROTECTION AGAINST WATER DAMAGE AND SOIL EROSION.

G-21. ALL TRAFFIC CONTROL DEVICES TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION. SIGN POSTS SHALL BE GALVANIZED STEEL AND ALL SIGN MATERIALS SHALL BE MADE OF REFLECTIVE SHEETING ON ALUMINUM BLANKS IN ACCORDANCE WITH NJDOT STANDARD SPECIFICATIONS.

G-22. ALL DIMENSIONING IS TO CURB OR BUILDING FACE, UNLESS OTHERWISE NOTED.

G-23 UNLESS OTHERWISE INDICATED, ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2007, OR LATEST EDITION, AS AMENDED AND SUPPLEMENTED TO DATE.

G-24. ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, UNLESS OTHERWISE NOTED.

G-25. ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL AND LOCAL CODES, AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE UNLESS PREVIOUSLY OBTAINED BY THE OWNER/DEVELOPER.

G-26. NO

UTILITY NOTES:

1. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AT NO COST TO THE OWNER INCLUDING, BUT NOT LIMITED TO, A ROAD OPENING PERMIT FROM THE CITY, COUNTY & STATE.
2. COVER OVER ALL WATER MAINS & FIRE SERVICES SHALL BE 4'-0" MINIMUM.
3. THE CONTRACTOR SHALL NOTIFY THE LOCAL ELECTRIC COMPANY IN ADVANCE OF CONSTRUCTION FOR TEMPORARY SUPPORT OF UTILITY POLES.
4. THE CONTRACTOR SHALL COMPLY WITH ALL STANDARDS SET FORTH BY THE LOCAL M.U.A. & CITY.
5. THE LOCATION AND/OR DEPTHS OF EXISTING UTILITIES ARE APPROXIMATE & MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
6. ALL TRENCHES WILL BE BACKFILLED BY COMPACTION IN EIGHT (8) INCH LAYERS COMPACTED TO 95% DENSITY IN STRICT ACCORDANCE WITH THE TRENCH DETAILS & SPECIFICATIONS.
7. NO MATERIAL SHALL BE PLACED OR DISTURBED BEYOND THE PROPERTY LINE OF RIGHT-OF-WAY WITHOUT WRITTEN PERMISSION OF THE PROPERTY OWNERS DIRECTLY INVOLVED.
8. INSPECTION OF, OR FAILURE TO INSPECT ANY MATERIALS OR WORKMANSHIP BY THE ENGINEER FOR THE M.U.A. SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH THE PLAN, SPECIFICATIONS AND APPLICABLE LAWS.
9. WHENEVER THE TRENCH BOTTOM DOES NOT AFFORD SUFFICIENT BEARING STRENGTH TO SUSTAIN THE WEIGHT OF THE PIPE & SUPERIMPOSED LOADS, THE TRENCH BOTTOM SHALL BE OVER-EXCAVATED & STABILIZED WITH SIX (6) INCHES MINIMUM THICK LAYERS OF CRUSHED STONE, AS DIRECTED BY THE ENGINEER.
10. ALL GENERAL CONSTRUCTION MATERIALS, TESTING & METHODS OF INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE M.U.A. & THE ENGINEER.
11. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM VARIOUS SOURCES & ARE SHOWN FOR DESIGN & ESTIMATED PURPOSED ONLY. ACTUAL LOCATIONS OF UTILITIES SHALL BE FIELD VERIFIED. ANY DISCREPANCIES OR APPARENT CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER FOR REMEDIATION.
12. CONCRETE ENCASEMENT SHALL BE PROVIDED FOR ALL PIPE/UTILITY CROSSING WHERE LESS THAN EIGHTEEN INCHES OF CLEARANCE WILL RESULT, SUBJECT TO THE REQUIREMENTS OF THE UTILITY COMPANY.
13. EXISTING UTILITIES INCLUDING VALVE BOXES, CLEAN OUTS, CURB STOPS, MANHOLES, ETC., SHALL BE ADJUSTED TO MATCH PROPOSED FINISHED GRADE. STORM DRAINAGE STRUCTURES SHALL NOT BE ADJUSTED UNLESS SPECIFICALLY CALLED FOR.
14. THE CONTRACTORS ARE ADVISED THAT ANY REQUIRED UNDERGROUND UTILITY RELOCATIONS INCLUDING GAS MAINS AND SERVICES, WATER MAINS AND SERVICES, SEWER MAINS AND SERVICES, ELECTRIC AND TELEPHONE LINES SHALL BE COMPLETED AT NO COST TO THE OWNER UNLESS SPECIFICALLY NOTED OTHERWISE.
15. LOCATION OF ALL ELECTRICAL EQUIPMENT, CIRCUITS, AND INSTALLED ELECTRICAL APPLIANCES IN A MANNER WHICH WILL ASSURE THAT THEY ARE NOT SUBJECT TO INUNDATION AND FLOODING.
16. INLET PIPE OPENINGS SHALL BE SEALED WITH NON-SHRINK DRY-PACKED GROUT OR APPROVED EQUAL.
17. INSTALLATION OF ALL WATER AND SEWER MAINS AND WATER AND SEWER SERVICES MUST COMPLY WITH CITY ORDINANCE.
18. THE CITY ENGINEER, AND AMERICAN WATER ENTERPRISES SHHALL BE GIVEN 48 HOURS ADVANCE NOTICE OF SANITARY SEWER/WATER MAIN WORK AND THE REPRESENTATIVES MUST WITNESS THE WORK AND CONNECTION.
19. ALL EXISTING WATER SERVICE LINES TO BE ABANDONED SHALL BE CUT AND CAPPED AT THE MAIN, IN ACCORDANCE WITH CAPITAL IMPROVEMENTS AND PROJECT MANAGEMENT (CIP) STANDARDS, AND INSPECTED WITHIN 24 HOURS AFTER INSTALLATION OF NEW TAP.
20. ALL JOINTS AND FITTINGS SHALL BE SPECIFIED IN THE CITY ORDINANCE WATER MAIN STANDARD.
21. CONTRACTOR IS REQUIRED TO SUBMIT RECORD DRAWINGS IN ACCORDANCE WITH THE ORDINANCE FOR WATER SERVICE LINES AND SEWER LATERALS.
22. ALL SEWER INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE PROCEDURE MANUAL OF THE CITY OF CAMDEN.
23. ALL METER INSTALLATIONS IN METER PIT OR VAULT SHALL BE PRE-APPROVED BY CIP AND HAVE PROPER ACCESS OPENINGS FOR METER READING AND REPLACEMENT.
24. UPON COMPLETION OF THE WATER/SEWER INSTALLATION, THE APPLICANT SHALL SUBMIT THREE (3) SETS OF "AS BUILT" PLANS TO THE CIP AND AMERICAN WATER ENTERPRISES. THE CIP WILL AUTHORIZE SUPPLY WATER UPON ACCEPTANCE OF THE "AS BUILT" DRAWINGS. SUBMISSIONS OF RECORD DRAWINGS IS REQUIRED IN ACCORDANCE WITH ORDINANCE FOR WATER SERVICE LINES AND SEWER LATERALS.
25. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL TELEVISE THE SEWER MAIN WHERE CONNECTION IS PROPOSED. THE CCTV SHALL BE TAKEN FROM THE TERMINAL MANHOLE TO THE FIRST MANHOLE EASTERLY OF THE PROPOSED CONNECTION POINT. COST TO BE INCLUDED IN THE COST FOR CONSTRUCTING THE SEWER SERVICE LATERAL.
26. ALL REINFORCED CONCRETE PIPE SHALL BE CLASS III, UNLESS OTHERWISE NOTED.
27. SELECT FILL FOR WATER/SEWER TRENCH INSTALLATION SHALL BE DENSE GRADED AGGREGATE I-5, IN ACCORDANCE WITH THE SPECIFICATION SUBSECTION 901.08 OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION AND CONFORM TO THE TABLE IN SECTION 577-229.H OF THE ORDINANCE.
28. AIR RELEASE VALVE SHALL BE INSTALLED AT HIGH POINTS OF THE WATER MAIN.
29. THRUST BLOCKS AND RESTRAINTS SHALL BE INSTALLED AT ALL BENDS AND FITTINGS, THRUST BLOCKS SHALL HAVE TWENTY EIGHT (28) DAY STRENGTH OF 4,000 PSI.
30. STORM INLETS WHICH ARE CONNECTED DIRECTLY TO CITY COMBINED SEWERS MUST BE FURNISHED WITH A SUMP AND TRAP PER CITY STANDARD DETAILS.
31. ALL RCP SHALL BE LINED ON THE INTERIOR WITH A COAT TAR EPOXY SEAL COAT WITH A MINIMUM OF FOUR (4) MILS IN THICKNESS (DFT).
32. ALL PIPE SHALL BE MANUFACTURED AND SUPPLIED WITHOUT LIFTING HOLES.
33. ALL EXISTING WATER/SEWER SERVICE NOT PROPOSED FOR RE-USE SHALL BE PROPERLY ABANDONED IN ACCORDANCE WITH CITY REQUIREMENTS.
34. THE INSTALLATION OF ALL WATER/SEWER MAINS AND SERVICES SHALL COMPLY WITH CITY ORDINANCE.
35. SUBMISSION OF RECORD DRAWINGS IS REQUIRED IN ACCORDANCE WITH ORDINANCE FOR WATER SERVICES, LINES AND SEWER LATERALS.
36. ALL WATER PIPES, FITTINGS, AND VALVES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA REQUIREMENTS.
37. ALL METERS SHALL BE ADEQUATELY RESTRAINED WITH METAL BRACKETS FASTENED TO THE FLOOR OR WALL OR OTHER APPROVED MEANS SUCH AS UNIFLANGES WHERE INTERNAL PIPE PRESSURE AND FLOW WARRANT SUCH RESTRAINTS. METERS, DETECTOR CHECKS, AND VALVES MAY BE SEATED ON CONCRETE BLOCK AND TAPERED SHIMS TO PROVIDE ADEQUATE SUPPORT. METERS SHALL BE INSTALLED APPROXIMATELY 36" ABOVE FLOOR GRADE.
38. AFTER OBTAINING THE REQUIRED PERMITS (STREET OPENING, TAP, AND METER) THE APPLICANT SHALL CALL THE AUTHORIZED AGENT REPRESENTING CIP TO SCHEDULE THE TAP AT THE CONTRACTOR'S OWN COST. THE EXCAVATION SHALL BE COMPLETED TWENTY-FOUR (24) HOURS PRIOR TO THE SCHEDULED TAP, AND VERIFIED BY CIP OR IT'S AUTHORIZED AGENT BEFORE THE TAP WILL BE INSTALLED. EXCAVATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA REQUIREMENTS FOR SHEETING AND SAFETY.
39. THE TAPPING SLEEVE SHALL PASS PRESSURE TESTING BASED ON AWWA STANDARDS BEFORE TAP IS MADE.
40. TAPPING GATES SHALL BE FURNISHED OPEN RIGHT. ALL TAPPING AND CURB VALVES SHALL BE DOUBLE DISC GATE VALVES AND MEET AWWA STANDARDS. THE WET TAP UP TO 12 INCHES SHALL BE PERFORMED BY THE AUTHORIZED AGENT REPRESENTING CIP.
41. THE MAXIMUM OF ONE (1) TAP SHALL BE MADE FOR BOTH DOMESTIC AND FIRE SERVICE PER FACILITY. THE TAP SHALL BE A MAXIMUM OF ONE (1) SIZE SMALLER THAN THE CITY'S WATER MAIN. NO TAPPING SHALL BE DONE BY ANYONE EXCEPT THE AUTHORIZED AGENT UNLESS SPECIFICALLY APPROVED BY CIP.
42. ALL METERS SIZES 2 INCHES THROUGH 6 INCHES SHALL BE SINGLE COMPOUND METERS AND ALL METERS 8 INCHES AND LARGER SHALL BE DUPLEX COMPOUND MANIFOLD METERS.
43. ALL NEW MANHOLES AND CATCH BASINS SHALL HAVE AN EXTERIOR COATING OF CARBOLINE COAL TAR EPOXY 300m, OR EQUAL, TWO COATS. EACH MANHOLE BASE SHALL BE PROVIDED CIRCULAR OPENINGS AT THE REQUIRED LOCATIONS AND ELEVATIONS FOR THE PROPER CONNECTION OF ALL PIPES. THE FLEXIBLE CONNECTIONS SHALL BE A-LOK FLEXIBLE CONNECTOR BY A-LOK PRODUCTS, OR APPROVED EQUAL.
44. MANHOLE FRAMES AND COVERS ARE TO PROVIDE FOR A THIRTY INCH CLEAR OPENING AT THE COVER IN ORDER TO ALLOW EASY ACCESS UNDER CONFINED SPACE ENTRY REQUIREMENTS. CAMPBELL FOUNDRY PATTERN NUMBER 10128 OR NJDOT APPROVED EQUAL.
45. VIDEO SEWER INSPECTIONS, INFILTRATION/EXFILTRATION TESTING AND PIPE ALIGNMENT TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY SEWER MANUAL ON ALL NEW SEWERS (PVC AND RCP) AT THE COMPLETION OF THE PROJECT, BUT PRIOR TO ACCEPTANCE AND/OR DEDICATION OF THE SAME TO THE CITY. THE MAXIMUM RATE OF INFILTRATION/EXFILTRATION SHALL NOT EXCEED THE ORDINANCE REQUIREMENT.

UTILITY NOTES CONT.:

46. ALL UTILITIES AND RELATED APPURTENANCES ON THE SITE SHALL BE LOCATED UNDERGROUND OR LOCATED IN THE BUILDING. WHERE OVERHEAD ELECTRIC OR TELEPHONE DISTRIBUTION SUPPLY LINES AND SERVICE CONNECTIONS HAVE BEEN INSTALLED FROM THOSE OVERHEAD LINES, THE CONNECTIONS FROM THE UTILITIES' OVERHEAD LINES MUST BE INSTALLED UNDERGROUND.
47. ALL EXISTING SEWER MAINS AND LATERAL TO BE ABANDONED MUST BE REMOVED FROM THE CATCH BASINS AND MANHOLES MUST BE REMOVED FROM THE GROUND.
48. ALL STORM AND SANITARY/COMBINED SEWER SERVICE ABOVE 6-INCH DIAMETER SHALL TIE INTO THE SEWER MAIN WITH A MANHOLE.
49. ALL RCP FROM 24 INCHES UP TO AND INCLUDING 72 INCHES DIAMETER SHALL CONFORM TO ASTM C76, MINIMUM PIPE CLASS IV, WALL B.
50. THE STRENGTH OF PRECAST CONCRETE FOR INLETS AND MANHOLES SHALL BE EQUAL TO OR EXCEED 4,000 PSI.
51. "DOG HOUSE" MANHOLES WILL NOT BE PERMITTED ON ANY CITY RIGHT-OF-WAY AND ROADWAY.
52. THE APPLICANT SHALL NOTE THAT CITY ORDINANCE DOES REQUIRE THE METERING OF A "FIRE LINE".
53. ALL WATER/SEWER SERVICE LATERALS BEYOND THE RIGHT-OF-WAY OR EASEMENT SHALL BE OWNED, MAINTAINED AND OPERATED BY THE APPLICANT.
54. THE SIZE, MATERIAL, DEPTH, CONDITION, DIRECTION OF FLOW AND ANY OTHER RELEVANT CONDITIONS OF THE EXISTING CITY SEWER TO WHICH YOU PLAN TO CONNECT MUST BE FIELD VERIFIED BY THE APPLICANT TO DETERMINE IF SAID CONNECTION IS PHYSICALLY POSSIBLE AND PRACTICAL.
55. THE APPLICANT SHALL BE RESPONSIBLE FOR ALL COSTS RELATED TO ANY REQUIRED ISOLATION OF THE WATERMAIN AND BY-PASSING OF THE SEWER IN ORDER TO MAKE A PROPOSED CONNECTION.
56. VALVE BOX PARTS FOR ALL VALVES SHALL BE PROVIDED BY THE APPLICANT. ALL TAPPING GATE VALVES/STOPS REGARDLESS OF CAST IN THE COVER. BURIED CORPORATION WALVES/STOP SHALL BE USED AT THE TAP FOR CLASS K COPPER SERVICES 2-INCHES AND SMALLER.

DIVISION OF CAPITAL IMPROVEMENTS & PROJECT MANAGEMENT (CIP) CONSTRUCTION GENERAL NOTES (IF REQUIRED)

1. ALL CONSTRUCTION, MATERIALS, RESTORATIONS AND METHODS OF INSTALLATON IN CITY ROADS SHALL BE SUBJECT TO THE REQUIREMENTS AND APPROVAL OF THE MUNICIPALITY.
2. SANITARY SEWER CONSTRUCTION, MATERIALS AND TESTING SHALL BE SUBJECT TO THE APPROVAL OF AN INSPECTION BY THE CITY ENGINEER AND SUBJECT TO CITY REQUIREMENTS.
3. ALL SANITARY SEWERS SHALL BE CONSTRUCTED WITH CLASS "C" MODIFIED BEDDING UNLESS OTHERWISE NOTED.
4. WHEREVER THE TRENCH BOTTOM DOES NOT AFFORD SUFFICIENT BEARING STRENGTH TO SUSTAIN THE WEIGHT OF THE PIPE AND SUPERIMPOSED LOADS, IT SHALL BE OVER EXCAVATED AND STABILIZED WITH A LAYER OF CRUSHED STONE.
5. THE CONTRACTOR SHALL CONSTRUCT TEST PITS AS REQUIRED TO VERIFY THE LOCATION AND THE DEPTH OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND PROPOSED FACILITIES.
6. CONTRACTOR EFFORTS SHALL BE MADE TO RETAIN EXISTING TREES, VEGETATION AND NATURAL CHARACTERISTICS OF THE TRACT.
7. THE CONTRACTOR SHALL PAY ALL STREET OPENING FEES AND GIVE NOTICES NECESSARY FOR AND INCIDENTAL TO THE DUE AND LAWFUL EXECUTION OF THE PROJECT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES. Q THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES BEFORE EXCAVATION.
9. NO MATERIALS SHALL BE PLACED NOR ANY DISTURBANCE PERMITTED BEYOND THE PROJECT PROPERTY LINE WITHOUT THE WRITTEN PERMISSION OF THE PROPERTY OWNER DIRECTLY INVOLVED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING, PAVING, TOPSOILING, SODDING, FERTILIZING AND SEEDING ALL AREAS DISTURBED BY HIS ACTIVITIES. ROAD PAYMENT, REPLACEMENT, AND ALL RESTORATON IN COUNTY ROADS SHALL MEET THE REQUIREMENTS OF THE CITY ENGINEER.
11. INSPECTION OF, OR FAILURE TO INSPECT ANY MATERIALS OR WORKMANSHIP BY STATE, COUNTY OR TOWNSHIP OFFICIALS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO PERFORM THE WORK IN ACCORDANCE WITH APPLICABLE PLANS, SEPCIFICATIONS AND LAWS.
12. PRIOR TO CONSTRUCTION, ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE APPROVED BY THE SOIL CONSERVATON DISTRICT IN COMPLIANCE WITH CHAPTER 251 OR THE PUBLIC LAWS OF 1975. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR THE AREA IS STABILIZED IN ACCORDANCE WITH THE SOIL CONSERVATION DISTRICT'S RECOMMENDATIONS.
13. ALL SEWER INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE PROCEDURES MANUAL OF THE CITY OF CAMDEN.
14. THRUST BLOCKS ARE TO BE INSTALLED AT ALL FORCE MAIN BENDS.
15. SANITARY SEWER LATERALS SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES. AN EXCEPTION TO THIS RULE MAY BE MADE FOR COMMERCIAL OR INDUSTRIAL USERS AT THE DECISION OF THE CITY. DOMESTIC LATERAL CONNECTIONS SHALL BE MADE A MINIMUM TWO FEET AWAY FROM MANHOLE AND NOT INTO JOINT OF MAIN.
16. THE APPLICANT/OWNER IS AWARE AND AGREEES THAT THE REVIEW BY THE CITY AND CITY ENGINEER IS BASED UPON THE BEST INFORMATION AVAILABLE AND IN NO WAY DOES IT GUARANTEE THE EXISTENCE OF, OR NON EXISTENCE OF SANITARY SEWER AND FORCE MAINS, AND/OR APPURTENANCES IN THE RESPONSIBILITY OF THE APPLICANT/OWNER TO VERIFY THE LOCATION OF SUCH MAINS/APPURTENANCES.
17. ANY UNITS HAVING FOOD PREPARATION FACILITIES SHALL INSTALL A GREASE TRAP WITHIN THE SEWER LATERAL. SIZING OF GREASE TRAP SHALL BE IN ACCORDANCE WITH CITY RECOMMENDED CALCULATIONS AND SUBMITTED FOR REVIEW.
18. THE CONNECTION TO THE EXISTING CITY MANHOLE MUST BE MADE WITH A CORING MACHINE AND WITNESSED BY THE CITY ENGINEER.
19. AN A-LOCK SEAL SHOULD BE USED AT THE PIPE PENETRATION. ONLY IN THE CASE THAT AN A-LOCK IS NOT POSSIBLE, THE ANNULAR SPACE SHOULD BE FILLED WITH NON-SHRINK GROUT.
20. WHEN POSSIBLE THE NEW BENCH CHANNEL SHOULD BE MADE WITH THE CORING MACHINE; OTHERWISE, THE BENCH CHANNEL SHOULD BE CAREFULLY SAWCUT OR HILTI CUT TO ACCOMMODATE THE NEW SEWER CONNECTION.
21. CHANNEL RECONSTRUCTION CEMENT SHALL BE SPEED-CRETE AS MANUFACTURED BY TAMMS, INC. FORMED PORTLAND CEMENT CONCRETE OF 4,000 PSI COMPRESSION STRENGTH. ANY SUBSTITUTES MUST BE APPROVED BY THE CITY.
22. MANHOLE INTERIOR WALLS AND BENCHES SHALL BE PATCHED WITH CEMENTITIOUS PATCHING/PLUGGING COMPOUNDS AS MANUFACTURED BY TAMMS INC, OR APPROVED EQUAL.
23. A PIPE JOINT SHOULD BE PROVIDED WITHIN FOUR FEET OF THE MANHOLE CONNECTION TO ALLOW FOR DIFFERENTIAL SETTLEMENT.
24. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES TO THE MANHOLE, THE SEWER OR THE ADJACENT PROPERTY DUE TO CONNECTION CONSTRUCTION.
25. THE CITY ENGINEER MUST BE GIVEN 48 HOURS ADVANCE NOTICE OF SANITARY SEWER MAIN WORK AND A CITY ENGINEER REPRESENTATIVE MUST BE PRESENT TO WITNESS THE CONNECTION.

SITE IMPROVEMENT NOTES:

1. SIDEWALK CONSTRUCTION SHOWN ON THESE PLANS SHALL MEET ALL REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT OF JULY 2010, TITLE II, TITLE III AND ANY STATE, COUNTY, LOCAL OR OTHER APPLICABLE LAWS.
2. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO NJDOT STANDARDS, LATEST ED.
3. ALL TRAFFIC CONTROL DEVICES, SUCH AS SIGNS AND STRIPING, ARE TO BE INSTALLED AND DESIGNED IN ACCORDANCE WITH THE MOST RECENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NJDOT STANDARDS.
4. ALL PAVEMENT SUBGRADE IS SUBJECT TO THE REVIEW AND APPROVAL OF A GEOTECHNICAL ENGINEER.
5. ANY EXISTING CURB, SIDEWALK, TREES, LIGHTING FIXTURES, ETC., OUTSIDE OF THE PROJECT LIMIT OR NOTED TO BE MAINTAINED AND PROTECTED THAT IS DAMAGED DURING CONSTRUCTION, SHALL BE REPLACED IN-KIND BY THE CONTRACTOR, TO THE SATISFACTION OF THE OWNER. REPLACEMENT WORK SHALL BE BY THE CONTRACTOR AT NO COST TO THE OWNER.

SITE SAFETY:

1. THE CONTRACTOR, OR HIS REPRESENTATIVE, IS TO DESIGNATE AN INDIVIDUAL RESPONSIBLE FOR CONSTRUCTION SITE SAFETY DURING THE COURSE OF SITE IMPROVEMENTS PURSUANT TO N.J.A.C. 5:23-2.21 (E) OF THE NEW JERSEY UNIFORM CONSTRUCTION CODE AND CFR 1926.32 (F) (OSHA COMPETENT PERSON).

SURVEY NOTES:

1. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY EASEMENT, RESTRICTION AND/OR COVENANTS THAT A CURRENT REPORT OF TITLE, OR COMPLETE SEARCH OF THE PUBLIC RECORD, MAY DISCLOSE.
2. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE FOLLOWING SOURCES OF INFORMATION
   -DEEDS OF RECORD
   -AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES
   -THE "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, CITY OF CAMDEN, NEW JERSEY, CAMDEN COUNTY, PANEL 36 OF 305," COMMUNITY PANEL NUMBER 340128 0036 F, EFFECTIVE DATE: AUGUST 17, 2016, PARCEL IS LOCATED IN SPECIAL FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).
   -PLAN "BOUNDARY & TOPOGRAPHIC SURVEY, CORIELL INSTITUTE CAMDEN, BLOCK 367, LOT 6, BLOCK 366, LOTS 2, 5, 8, 73 & 75", BY PENNONI ASSOCIATES, DATED 7/5/23
3. BLOCK AND LOT NUMBERS REFER TO THE OFFICIAL TAX MAPS OF THE CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY, PLATE #7.04.
4. PLANIMETRIC & TOPOGRAPHIC FEATURES SHOWN ARE TAKEN FROM ACTUAL FIELD SURVEYS PERFORMED BY PENNONI ASSOCIATES ON 7/22/22 AND 9/23/25.
5. THIS SURVEY IS NOT INTENDED TO GUARANTEE OWNERSHIP.
6. SURVEY BASED ON N.J.S.P.C.S. NAD '83 (2011). SURVEY SCALED TO GROUND AT POINT 1012
   GROUND SCALE FACTOR: 1.0000626168
   GROUND COORDINATES: N:402566.289 E:322067.693 Z:17.51
   VERTICAL DATUM: NAVD 1988
7. IT IS BEYOND THE SCOPE OF THIS SURVEY TO DETERMINE THE EXISTENCE OR NON-EXISTENCE OF ANY REGULATED ENVIRONMENTAL CONDITION ON OR NEAR THE SUBJECT PARCEL(S). UNDERGROUND EXPLORATIONS WERE NOT CONDUCTED OR UTILIZED DURING THE PREPARATION OF THIS SURVEY. CONCERNED PARTIES SHOULD PURSUE ANY ENVIRONMENTAL MATTERS SEPARATE AND APART FROM THIS SURVEY.
8. IT SHOULD NOT BE ASSUMED THAT ANY COPY OF THIS DRAWING WITHOUT A RAISED IMPRESSION OF THE SURVEYOR'S SEAL IS A TRUE COPY OF THE ORIGINAL AS ISSUED BY THE SURVEYOR.
9. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS ILLUSTRATED ARE BASED UPON UTILITY MARKOUT AND ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD. THE STATE OF NEW JERSEY REQUIRES NOTIFICATION PRIOR TO ANY EXCAVATION BY UTILIZING THE NEW JERSEY ONE-CALL SYSTEM (1-800-272-1000).
10. A SIGNED WAIVER AND DIRECTION NOT TO SET CORNER MARKERS IN ACCORDANCE WITH THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS REGULATION (N.J.A.C. 13:40-5.2) HAS BEEN RECEIVED FROM THE ULTIMATE USER.

ENVIRONMENTAL NOTES:

E-1. ALL MATERIAL BROUGHT ON SITE SHALL BE CERTIFIED CLEAN FILL, SAMPLED, AND ANALYZED IN ACCORDANCE WITH STANDARD NJDEP QUALITY ASSURANCE STANDARDS AND PRACTICES AT A MINIMUM, AS SPECIFIED IN N.J.A.C. 7:26E. TO FULLY CHARACTERIZE THE CONTAMINANTS IN THE LATEST SOIL CLEANUP CRITERIA (SCC). THE CONTRACTOR SHALL SUBMIT TO THE OWNER WRITTEN DOCUMENTATION FROM A LABORATORY CERTIFIED IN NEW JERSEY ENVIRONMENTAL LABORATORY CERTIFICATION PROGRAM (ELCP) AND IN ACCORDANCE WITH N.J.A.C. 7:18 PRIOR TO PLACEMENT OF THE MATERIAL ON SITE. THE MATERIAL MUST NOT CONTAIN CONTAMINANTS ABOVE THE MOST RESTRICTIVE DIRECT CONTACT OR IMPACT TO GROUNDWATER (IGW) SCC.

E-2 DEWATERING ACTIVITIES SHALL BE CONDUCTED PURSUANT TO CCMUA AND/OR NJDEP PERMITTING OBTAINED BY THE CONTRACTOR. ALL PERMIT FEES ARE TO BE PAID BY CONTRACTOR, INCLUDED IN BID, AND AT NO ADDITIONAL COST TO THE OWNER.

E-3 ABANDONMENT OF EXISTING MONITORING WELLS SHALL BE COORDINATED WITH THE ENGINEER (IF REQUIRED).

E-4 AS PART OF THE CONSTRUCTION OF RUTGERS FIELD, AN ENGINEERED CAP WILL BE INSTALLED. THIS SITE WAS PREVIOUSLY CAPPED. SINCE A PORTION OF THE HARD SURFACE ON THE SITE (CONCRETE WALKWAYS AND PAVEMENT) WILL BE REMOVED, THE REMOVED SECTIONS NEED TO BE CAPPED. CONTRACTOR HAS 2 OPTIONS FOR ACCOMPLISHING THIS CAP. ALL VEGETATED COVERED AREAS WILL HAVE A MINIMUM THICKNESS OF 2 FEET OR GREATER, OR A MINIMUM THICKNESS OF ONE FOOT OVERLAYING A GEOSYNTHETIC FABRIC BARRIER. THIS INCLUDES IF OVER EXCAVATION IS REQUIRED TO ACCOMPLISH REQUIRED CAP. ALL WORK IS TO BE INCLUDED IN THE COST OF CONTRACTORS BID. NO CHANGE ORDERS WILL BE APPROVED NOR ACCEPTED BY OWNER.

E-5 "CLEAN FILL" DEFINITION: "MATERIAL TO BE USED IN A REMEDIAL ACTION THAT MEETS ALL SOIL REMEDIATION STANDARDS, SITE-SPECIFIC ALTERNATIVE STANDARDS, OR SITE-SPECIFIC INTERIM STANDARDS, DOES NOT CONTAIN EXTRANEOUS DEBRIS OR SOLID WASTE, AND DOES NOT CONTAIN FREE LIQUIDS. THIS ALSO INCLUDES ANY MATERIAL THAT MEETS ALL CRITERIA OR ACTION LEVELS FOR CONTAMINANTS WITHOUT STANDARDS." (N.J.A.C. 7:26E-1.8).

E-6 THE PRESENCE OF UNCLASSIFIED FILL MATERIALS SHALL BE DOCUMENTED AND ALL LOCAL/STATE/FEDERAL REGULATIONS WILL BE FOLLOWED.

E-7 CONSTRUCTION STAGING ACTIVITIES (INCLUDING THE STORAGE OF EQUIPMENT/VEHICLES/MATERIALS) ARE PROHIBITED IN ENVIRONMENTALLY SENSITIVE AREAS. IF THE CONTRACTOR WISHES TO USE THESE AREAS OR ACCESS THESE AREAS FOR ANY REASON, ALL APPROPRIATE PERMITS/APPROVALS MUST BE OBTAINED PRIOR TO SUCH USE.

E-8 BEST MANAGEMENT PRACTICES (SUCH AS THE INSTALLATION OF SILT FENCE, INLET PROTECTION AND PERIODIC CLEAN OUT OF DEBRIS) WILL BE UTILIZED DURING CONSTRUCTION TO PREVENT SEDIMENT AND DEBRIS FROM ENTERING STORMWATER INLETS AND ENVIRONMENTALLY SENSITIVE AREAS. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

E-9 CONTRACTOR TO REFER TO NJ SOIL EROSION STANDARDS/REQUIREMENTS FOR IMPLEMENTING STANDARD MEASURES FOR MINIMIZATION OF CONSTRUCTION-RELATED NOISE AND AIR QUALITY (DUST) IMPACTS.

E-10 ANY EXCESS SOILS RELATED TO PROJECT CONSTRUCTION NEEDS TO BE STOCKPILED, SAMPLED, AND DISPOSED OF IN ACCORDANCE WITH NJDEP RULES AND REGULATIONS.

E-11 VEGETATED COVERED AREAS WILL HAVE A MINIMUM THICKNESS OF ONE FOOT OVERLYING A GEOTEXTILE FABRIC BARRIER.

E-12 FOR EACH TYPE AND SOURCE OF IMPORTED CLEAN FILL DERIVED OR ORIGINATED FROM A VIRGIN SOURCE OR QUARRY, LABORATORY ANALYTICAL DATA FROM ONE SAMPLE COLLECTED WITHIN THE LAST YEAR AND DOCUMENTATION OF CLEAN FILL IS TO BE PROVIDED (AT THE DISCRETION OF THE LSRP, A SAMPLE MAY NOT BE REQUIRED TO ESTABLISH THE NATURE OF THE CLEAN FILL). THE SAMPLE MUST BE ANALYZED FOR FULL TCL/TAL SUITE, HEXAVALENT CHROMIUM, AND EPH BY AN NJDEP-CERTIFIED LABORATORY WITH METHOD DETECTION LEVELS THAT ALLOW A COMPARISON TO AN APPLICABLE REMEDIATION STANDARD, IN ACCORDANCE WITH THE NJDEP FILL MATERIAL GUIDANCE (http://www.state.nj.us/dep/srp/guidance/#fill_srp). IN ADDITION, IF ANY SAMPLE RESULT EXCEEDS THE NJDEP DEFAULT IGWSL, SYNTHETIC PRECIPITATION LEACHING PROCEDURE (SPLP) DATA MUST BE PROVIDED FOR THOSE COMPOUNDS TO SUPPORT THAT CLEAN FILL WILL NOT IMPACT GROUND WATER. IN ADDITION, THE VIRGIN SOURCE OR QUARRY SUPPLIER MUST PROVIDE A WRITTEN CERTIFICATION IDENTIFYING THE SOURCE LOCATION OF THE MATERIAL AND THAT THE FILL MEETS THE CLEAN FILL DEFINITION AT N.J.A.C. 7:26E-1.8.

E-13 FOR IMPORTED CLEAN FILL ORIGINATING FROM SOURCES OTHER THAN A VIRGIN SOURCE OR QUARRY, ADDITIONAL SAMPLING WILL BE REQUIRED. FOR EACH TYPE OF CLEAN FILL PER SOURCE, SOIL SAMPLES MUST BE COLLECTED AT A FREQUENCY OF ONE SAMPLE PER 20 CY FOR THE FIRST 100 CY OF SOIL, ONE SAMPLE FOR EACH ADDITIONAL 100 CY UP TO 1,000 CY, AND ONE SAMPLE FOR EVERY ADDITIONAL 1,000 CY. AN ALTERNATIVE SAMPLING FREQUENCY MAY BE USED BASED ON THE DISCRETION OF THE LSRP WHO WILL RELY ON MULTIPLE LINES OF EVIDENCE WHEN EVALUATING CLEAN FILL QUALITY. THE SAME ANALYTICAL PARAMETERS AND WRITTEN CERTIFICATION REQUIRED FOR VIRGIN SOURCES OR QUARRIES APPLIES TO THESE OTHER SOURCES OF CLEAN FILL.

E-14 ALTERNATE FILL WILL NOT BE USED AS PART OF THE ENGINEERED CAP FOR THIS PROJECT.

E-15 CONSTRUCTION IS SCHEDULED TO START NO SOONER THAN 60 DAYS AFTER SUBMISSION OF THIS RAWP TO THE NJDEP IN ACCORDANCE WITH THE TRSR AT N.J.A.C. 7:26E-5.5(A). CONSTRUCTION IS ANTICIPATED BEING COMPLETED WITHIN 8 MONTHS FROM ISSUANCE OF NOTICE TO PROCEED.

E-16 PUBLIC NOTIFICATION WILL BE MADE AT LEAST 14 DAYS PRIOR

CITY OF CAMDEN
OFFICE OF ASSESSMENTS
520 Market Street, Room 329
P.O. Box 95120
Camden, New Jersey 08101-5120
PHONE (856) 757-7017 FAX (856) 968-4721
assessor@ci.camden.nj.us

Abrina Carson, CTA
Tax Assessor

Victor Carstarphen
Mayor

MEMORANDUM

To: Applicant – 200' List

From: Camden City Assessor's Office

Date: November 5, 2025

Re: 200' Certified List
Block 367, Lot 1

Attached please find the Certified List of Property Owners within 200' of the above referenced property.

In order to comply with Chapter 245, P.L. 1991, notice of hearings shall be given to the public utility, cable television company, or local utility which possesses a right-of-way or easement within the municipality and which has registered with the municipality to receive notice. The following list includes the companies that serve the City of Camden:

CAMDEN COUNTY M.U.A.
1645 Ferry Avenue
Camden, NJ 08104

AMERICAN WATER
PO Box 52747
Phoenix, AZ 85072

PUBLIC SERVICE ELECTRIC & GAS
PO Box 790
Cranford, NJ 07016-0790

NEW JERSEY AMERICAN WATER
PO Box 578
Alton, IL 62002
(Servicing East Camden & Cramer Hill)

VERIZON
540 Broad Street
Newark, NJ 07101

COMCAST CABLEVISION
1250 Haddonfield-Berlin Road
Cherry Hill, NJ 08034-0404

The Certified List reflects the property ownership in the tax records as of November 5, 2025.

Be advised that this record may contain information governed by L. 2015, c. 226 and L. 2020, c. 125, which include civil and criminal penalties for improper disclosure.

Certified by:

/s/ Abrina Carson
Abrina Carson, CTA
Tax Assessor

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 1 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
364	2		4A	IPAK REAL ESTATE, LLC 1599 ADMIRAL WILSON BLVD PENNSAUKEN, NJ 08109	821 MEMORIAL AVE	3
365	6		15A	CAMDEN BOARD OF EDUCATION 1033 CAMBRIDGE STREET CAMDEN, NJ 08105	919 PRINCESS AVE	
365	47		2	HUGHES, DIMITA R 882 HADDON AVENUE CAMDEN, NJ 08103	882 HADDON AVE	
365	48		2	HUGHES, CARMEN V 2004 BEALL DRIVE HAMPTON, VA 23663	884 HADDON AVE	
365	49		2	GROUND UP, INC PO BOX 262 CAMDEN, NJ 08101	886 HADDON AVE	
365	50		2	GROUND UP, INC 1220 DECATUR STREET CAMDEN, NJ 08104	888 HADDON AVE	
365	51		2	MARTINEZ-MEJIA, SILVERIO A 890 HADDON AVENUE CAMDEN, NJ 08103	890 HADDON AVE	
365	52		1	PEREZ, DOMINGO & ISABEL 892 HADDON AVENUE CAMDEN, NJ 08103	892 HADDON AVE	
365	53		2	GROUND UP, INC PO BOX 262 CAMDEN, NJ 08101	894 HADDON AVE	
365	54		2	ATWELL, ROBERT 2137 43RD STREET PENNSAUKEN, NJ 08110	896 HADDON AVE	
365	55		2	KOONCE, SANDRA FAYE 3 WYE MILL DRIVE ERIAL, NJ 08081	898 HADDON AVE	
365	56		2	PREMIER HOUSING SOLUTIONS-TRUSTEE PO BOX 59048 NORFOLK, VA 23505	908 HADDON AVE	
365	57		2	YOUNG, MONTEZ - EST OF 910 HADDON AVENUE CAMDEN, NJ 08103	910 HADDON AVE	
365	58		2	NESBITT, JACQUELINE 912 HADDON AVENUE CAMDEN, NJ 08103	912 HADDON AVE	
365	59		2	JACKSON, DORIS 914 HADDON AVENUE CAMDEN, NJ 08103	914 HADDON AVE	
365	60		1	CARSTARPHEN, HERBERT V JR 916 HADDON AVENUE CAMDEN, NJ 08103	916 HADDON AVE	
365	61		2	THOMAS, MALIK 918 HADDON AVENUE CAMDEN, NJ 08103	918 HADDON AVE	
365	62		2	JIMENEZ, LISSETTE 2140 MERCHANTVILLE AVE PENNSAUKEN, NJ 08110	920 HADDON AVE	
365	63		2	ABED, ABED S PO BOX 1226 CAMDEN, NJ 08105	922 HADDON AVE	

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 2 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
365	64		2	RIVERA, JACQUELINE 1227 NO 21ST STREET CAMDEN, NJ 08105	924 HADDON AVE	
365	65		1	GATEWAY DEVELOPMENT GROUP, LLC 50 WEST 18TH STREET WEEHAWKEN, NJ 07086	926 HADDON AVE	
365	66		2	JIMENEZ, ROSA & TEJADA, JOSE 1059 PRINCESS AVENUE CAMDEN, NJ 08103	928 HADDON AVE	
365	67		2	NIXON, ANDREA G 930 HADDON AVENUE CAMDEN, NJ 08103	930 HADDON AVE	
365	68		1	NIXON, ANDREA G 932 HADDON AVENUE CAMDEN, NJ 08103	932 HADDON AVE	
365	69		1	WILEY, TAMISHA 271 DORER AVENUE HILLSIDE, NJ 07205	934 HADDON AVE	
365	70		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	936 HADDON AVE	
365	71		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	938 HADDON AVE	
365	72		1	ALFORD BENCHMARK & CO % L. RAVITZ 24 W WATER STREET TOMS RIVER, NJ 08754	940 HADDON AVE	
365	74		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	857 PRINCESS AVE	
365	77		4A	A & A MANAGEMENT CO, LLC PO BOX 1525 CHERRY HILL, NJ 08034	911 PRINCESS AVE	78,79
365	77	T01	4A	A & A MANAGEMENT CO, LLC PO BOX 1525 CHERRY HILL, NJ 08034	911 PRINCESS AVE	
365	80		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	905 PRINCESS AVE	
365	81		4A	A & A MANAGEMENT, LLC PO BOX 1525 CHERRY HILL, NJ 08034	903 PRINCESS AVE	
365	89		15F	BROTHERHOOD OF FIREFIGHTERS 871 PRINCESS AVENUE CAMDEN, NJ 08103	871 PRINCESS AVE	
365	97		15D	INNER CITY BAPTIST CHURCH 201 SO WHITE HORSE PIKE AUDUBON, NJ 08106	861 PRINCESS AVE	
365	101		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	855 PRINCESS AVE	
366	8		1	PON TEBROS, INC 268 WEST STREET NEW YORK, NY 10013	RR SS PINE 50 E MEMORIAL	
366	73		1	PON TEBROS, INC 268 WEST STREET NEW YORK, NY 10013	SS PINE 50 E MEMORIAL	

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 3 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
366	75		2	PON TEBROS, INC 268 WEST STREET NEW YORK, NY 10013	824 MEMORIAL AVE	
1284	37		2	FLAX, BARBARA 650 CHERRY STREET WOODBURY, NJ 08096	1004 KENWOOD AVE	
1284	109		2	DUTTON, LA SHAWN 1000 KENWOOD AVENUE CAMDEN, NJ 08103	1000 KENWOOD AVE	
1284	110		2	NOBLES, EARRIE O 1002 KENWOOD AVENUE CAMDEN, NJ 08103	1002 KENWOOD AVE	
1284	111		2	THOMAS, MARK A 1006 KENWOOD AVENUE CAMDEN, NJ 08103	1006 KENWOOD AVE	
1284	112		2	SEWELL, VANESSA 1008 KENWOOD AVENUE CAMDEN, NJ 08103	1008 KENWOOD AVE	
1284	113		2	ROBINSON, FLORA 1010 KENWOOD AVENUE CAMDEN, NJ 08103	1010 KENWOOD AVE	
1284	114		2	MILLS, LOIS & MILLS, SHERRY 1012 KENWOOD AVENUE CAMDEN, NJ 08103	1012 KENWOOD AVE	
1285	91		4A	1240 WALNUT STREET, INC 204 WARWICK ROAD NORTH LAWNSIDE, NJ 08045	1240 WALNUT ST	
1285	92		1	CEPHUS, PAUL 1008 PRINCESS AVENUE CAMDEN, NJ 08103	1008 PRINCESS AVE	
1285	93		1	WALTERS, LETHA 2805 MITCHELL STREET CAMDEN, NJ 08105	1010 PRINCESS AVE	
1285	94		1	ZELLARS, CHARLES L - EST OF 1012 PRINCESS AVENUE CAMDEN, NJ 08103	1012 PRINCESS AVE	
1285	95		2	MASON, ALVAH & RUTH 1014 PRINCESS AVENUE CAMDEN, NJ 08103	1014 PRINCESS AVE	
1285	96		2	REAL PORTFOLIO 16, LLC 216 HADDON AVE, #503 HADDON TWP, NJ 08108	1016 PRINCESS AVE	
1285	97		2	ESPINAL, JOEL 208 SO 34TH STREET CAMDEN, NJ 08105	1018 PRINCESS AVE	
1285	98		1	WIBLE, STEPHEN 1020 PRINCESS AVENUE CAMDEN, NJ 08103	1020 PRINCESS AVE	
1285	140		2	MARMOLEJOS, VICTOR 5251 GARDEN AVENUE PENNSAUKEN, NJ 08109	1007 KENWOOD AVE	
1285	142		2	BAILEY, STEPHANIE 1019 KENWOOD AVENUE CAMDEN, NJ 08104	1019 KENWOOD AVE	
1285	161		2	FERGUSON, DOROTHY - ESTATE OF 1001 KENWOOD AVENUE CAMDEN, NJ 08103	1001 KENWOOD AVE	

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 4 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
1285	162		2	MIEZAN, MATHIEU 796 ARLINGTON AVENUE LINDENWOLD, NJ 08021	1003 KENWOOD AVE	
1285	163		2	JA EJENDOM, LLC PO BOX 3022 CHERRY HILL, NJ 08034	1005 KENWOOD AVE	
1285	164		2	MAJEH FAHAT HOUSING, LLC PO BOX 8221 CHERRY HILL, NJ 08002	1009 KENWOOD AVE	
1285	165		2	MASTER KEY DEVELOPERS 1524 PARK BOULEVARD CAMDEN, NJ 08103	1011 KENWOOD AVE	
1285	166		2	1013 KENWOOD AVENUE, LLC 129 N COUNTY LINE RD #124 JACKSON, NJ 08527	1013 KENWOOD AVE	
1285	167		2	HENRIQUEZ, JOSEFINA & FAUSTINO 1015 KENWOOD AVENUE CAMDEN, NJ 08103	1015 KENWOOD AVE	
1286	1		2	DDC & M, LLC 28 BOYDEN AVENUE MAPLEWOOD, NJ 07040	1220 WALNUT ST	
1286	2		2	DDC & M, LLC 28 BOYDEN AVENUE MAPLEWOOD, NJ 07040	1218 WALNUT ST	
1286	3		2	THOMPSON, FRANK 1613 40TH STREET PENNSAUKEN, NJ 08110	1216 WALNUT ST	
1286	4		1	PS 2000, INC 1214 WALNUT STREET CAMDEN, NJ 08103	1214 WALNUT ST	
1286	5		2	FORTUNA-FERNANDEZ, WILLIAN A 2645 FOEHL AVENUE PENNSAUKEN, NJ 08109	1212 WALNUT ST	
1286	6		1	BEYER, MAURICE & DOROTHY 27 LAFFERTY DRIVE CHERRY HILL, NJ 08002	1210 WALNUT ST	
1286	7		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	1208 WALNUT ST	
1286	8		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	1206 WALNUT ST	
1286	9		1	BRYANT, BRENDA 505 FAIRVIEW STREET CAMDEN, NJ 08104	1000 HADDON AVE	
1286	14		2	ROMAN, JOSE A 3075 MICKLE STREET CAMDEN, NJ 08105	1010 HADDON AVE	
1286	46		1	FORD, HENRY 231 THOMPSON AVENUE CHESILHURST, NJ 08087	1009 PRINCESS AVE	
1286	47		1	LUCIANI, WILLIAM 1030 REEVES AVENUE CAMDEN, NJ 08105	1011 PRINCESS AVE	
1286	48		2	SAMPSON, LATRESHA R 5325 WEBSTER ST, APT 1 PHILADELPHIA, PA 19143	1013 PRINCESS AVE	

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 5 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
1286	49		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	1015 PRINCESS AVE	
1286	50		2	M&M STRATEGIC INVESTMENTS, LLC 606 COOPER LANDING, #A-26 CHERRY HILL, NJ 08002	1017 PRINCESS AVE	
1286	51		2	GOMEZ, EDUARDO R 2211 NO 29TH STREET #B PENNSAUKEN, NJ 08110	1019 PRINCESS AVE	
1286	52		2	EDMONDSON, LEON & ROCHON, TIFFANY 1021 PRINCESS AVENUE CAMDEN, NJ 08103	1021 PRINCESS AVE	
1286	143		1	CANDELARIO, ELENA 717 8TH STREET UNION CITY, NJ 07087	REAR 1008 HADDON AVE	

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.669.8800
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768
11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

PROPERTY OWNERS LIST - 200FT

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	BY
1.	11/17/2025	BF
	CITY PLANNING BOARD SUBMISSION	
	REVISIONS	

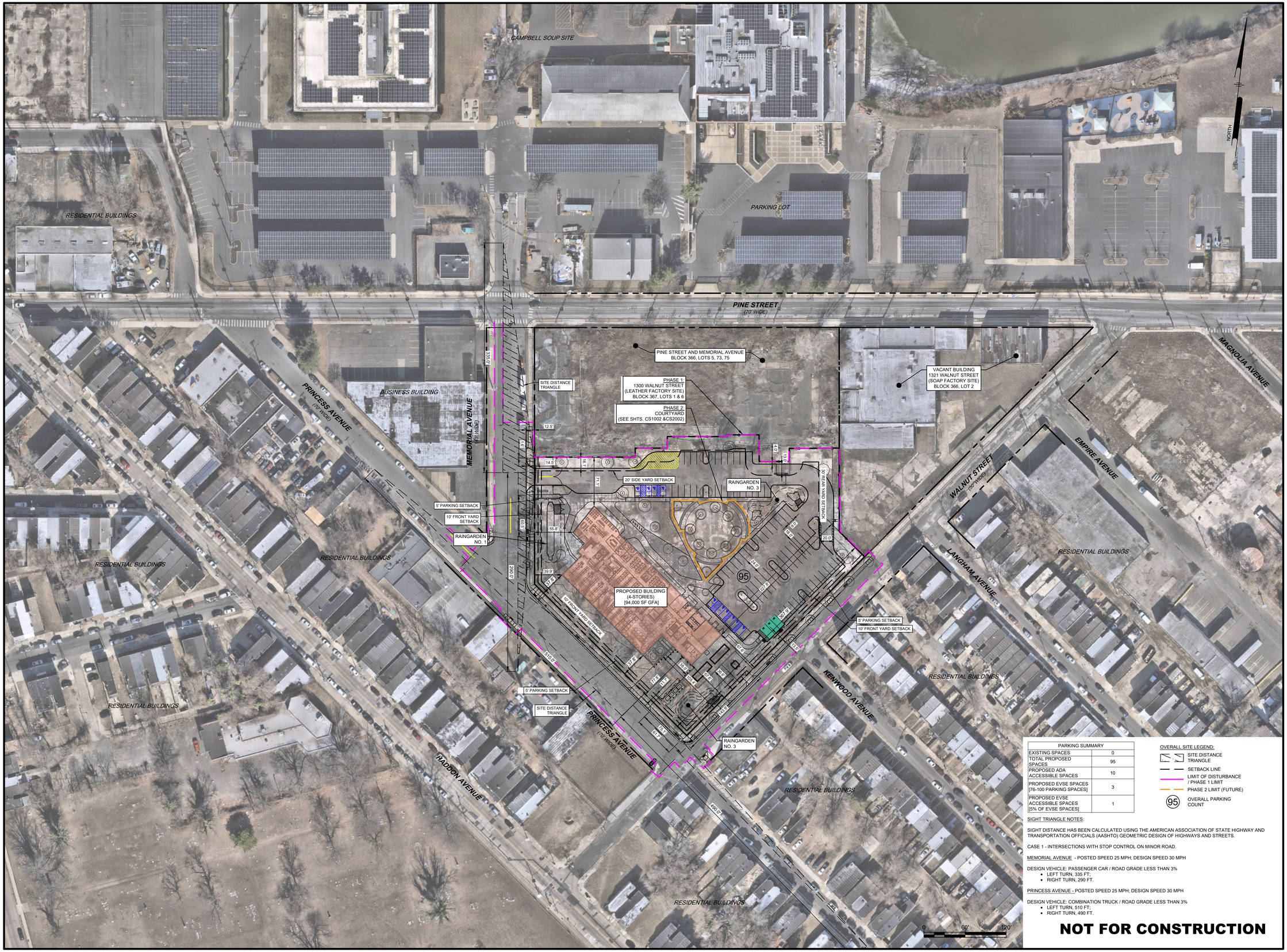
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS0004

SHEET 4 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS0004.dwg PLOTTED: 11/13/2025 5:29 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni-NCS.ctb PROJECT STATUS: —



PARKING SUMMARY	
EXISTING SPACES	0
TOTAL PROPOSED SPACES	95
PROPOSED ADA ACCESSIBLE SPACES	10
PROPOSED EVSE SPACES [76-100 PARKING SPACES]	3
PROPOSED EVSE ACCESSIBLE SPACES [5% OF EVSE SPACES]	1

OVERALL SITE LEGEND:

- SITE DISTANCE TRIANGLE
- SETBACK LINE
- LIMIT OF DISTURBANCE / PHASE 1 LIMIT
- PHASE 2 LIMIT (FUTURE)
- (95) OVERALL PARKING COUNT

SIGHT TRIANGLE NOTES:

SIGHT DISTANCE HAS BEEN CALCULATED USING THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.

CASE 1 - INTERSECTIONS WITH STOP CONTROL ON MINOR ROAD.

MEMORIAL AVENUE - POSTED SPEED 25 MPH; DESIGN SPEED 30 MPH

DESIGN VEHICLE: PASSENGER CAR / ROAD GRADE LESS THAN 3%
- LEFT TURN, 335 FT;
- RIGHT TURN, 290 FT.

PRINCESS AVENUE - POSTED SPEED 25 MPH; DESIGN SPEED 30 MPH

DESIGN VEHICLE: COMBINATION TRUCK / ROAD GRADE LESS THAN 3%
- LEFT TURN, 510 FT;
- RIGHT TURN, 490 FT.

NOT FOR CONSTRUCTION

PLOTTED: 11/13/2025 5:39 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS: —

U:\Accounts\SCHERSCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS0500.dwg

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

OVERALL SITE PLAN

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=60'
DRAWN BY	BF
APPROVED BY	JJR

CS0500

SHEET 5 OF 45

PINE STREET (70' WIDE)

MEMORIAL AVENUE (45' WIDE)

PRINCESS AVENUE (70' WIDE)

WALNUT STREET (50' WIDE)

LANGHAM AVENUE

KENWOOD AVENUE

BLOCK 367 LOT 1.19 DB 11056 PG 720

EXISTING PAVEMENT (MAINTAIN AND PROTECT)

EXISTING CHAIN LINK FENCE (MAINTAIN AND PROTECT)

EXISTING CHAIN LINK SWING GATE (MAINTAIN AND PROTECT)

EXISTING PAVEMENT TO BE MILL

EXISTING CHAIN LINK FENCE TO REMAIN IN-PLACE TEMPORARILY AS CONSTRUCTION FENCE. TO BE REMOVED AND REPLACED UNDER FINAL SITE CONSTRUCTION

EXISTING CONCRETE SIDEWALK (MAINTAIN AND PROTECT)

EXISTING FENCE TO REMOVE AND REPLACE AS REQUIRED TO INSTALL HANDICAP RAMPS

EXISTING IRON REBAR (MAINTAIN AND PROTECT)

EXISTING MONUMENT TO BE RESEET

EXISTING INLET TO BE RESET

EXISTING STREET NAME SIGNS (MAINTAIN AND PROTECT)

EXISTING PAVEMENT (MAINTAIN AND PROTECT)

EXISTING ELECTRICAL MANHOLE TO BE REMOVED

SAWCUT LINE (TYP.)

EXISTING MANHOLE TO BE RESET

EXISTING WATER MAIN (MAINTAIN AND PROTECT)

EXISTING INLET TO BE RESET

EXISTING CONCRETE SIDEWALK (MAINTAIN AND PROTECT)

EXISTING MONUMENT TO BE RESEET

EXISTING SIDEWALK TO BE REMOVED

EXISTING SEWER MANHOLE TO BE RESET

EXISTING CONCRETE SIDEWALK (MAINTAIN AND PROTECT)

EXISTING TREES (MAINTAIN AND PROTECT). PRUNE FROM THE TRUNK TO A MIN. HEIGHT OF 7-FT (TYP.)

EXISTING HYDRANT (MAINTAIN AND PROTECT)

EXISTING CONCRETE SIDEWALK TO BE REMOVED (TYP.)

EXISTING MONITORING (MAINTAIN AND PROTECT) (TYP.)

EXISTING SEWER MAIN (MAINTAIN AND PROTECT)

EXISTING CHAIN LINK FENCE TO REMAIN IN-PLACE TEMPORARILY AS CONSTRUCTION FENCE. TO BE REMOVED AND REPLACED UNDER FINAL SITE CONSTRUCTION.

EXISTING CHAIN LINK FENCE ONLY TO BE REMOVED TO ACCESS EASEMENT LINE

EXISTING CONCRETE PAVEMENT TO BE REMOVED (TYP.)

EXISTING TOPSOIL TO BE STRIPPED, 3" MIN.

EXISTING BUILDING FOOTINGS, UNDERGROUND VAULTS, CONCRETE SIDEWALK, CONCRETE PADS, DEBRIS AND CONCRETE FOUNDATIONS TO BE REMOVED

EXISTING TREES AND ROOTS TO BE REMOVED (TYP.)

EXISTING TOPSOIL TO BE STRIPPED, 3" MIN.

EXISTING BUILDING (MAINTAIN AND PROTECT)

TEMPORARY CONSTRUCTION FENCE TO REMAIN IN-PLACE TEMPORARILY AS CONSTRUCTION FENCE. TO BE REMOVED AND REPLACED UNDER FINAL SITE CONSTRUCTION

EXISTING BUILDING FOOTINGS, UNDERGROUND VAULTS, CONCRETE SIDEWALK, CONCRETE PADS, DEBRIS AND CONCRETE FOUNDATIONS TO BE REMOVED.

EXISTING CONCRETE WITH DRIVEWAY (MAINTAIN AND PROTECT)

EXISTING HYDRANT TO BE REMOVED AND REPLACED

EXISTING GAS MAIN TO BE REMOVED (COORD. W/ PSE&G)

EXISTING CONCRETE DRIVEWAY TO BE REMOVED (TYP.)

CUT AND CAP EXISTING GAS MAIN (COORD. W/ PSE&G)

EXISTING GAS MAIN TO BE REMOVED (COORD. W/ PSE&G)

CUT AND CAP EXISTING GAS MAIN (COORD. W/ PSE&G)

EXISTING 6" WATERMAIN TO BE REMOVED (COORD. WITH CITY OF CAMDEN)

CUT AND CAP EXISTING 6" WATER SERVICE (COORD. W/ CITY OF CAMDEN)

EXISTING CONCRETE PAVEMENT TO BE REMOVED (TYP.)

EXISTING GAS MAIN (MAINTAIN AND PROTECT)

EXISTING SANITARY MANHOLE (MAINTAIN AND PROTECT)

EXISTING PAVEMENT AND COBBLESTONES TO BE REMOVED (FULL DEPTH)

EXISTING SANITARY PIPE (MAINTAIN AND PROTECT)

EXISTING CONCRETE TO BE REMOVED (TYP.)

EXISTING CONCRETE PAVEMENT TO BE REMOVED (TYP.)

EXISTING CHAIN LINK FENCE TO REMAIN IN-PLACE TEMPORARILY AS CONSTRUCTION FENCE. TO BE REMOVED AND REPLACED UNDER FINAL SITE CONSTRUCTION.

EXISTING ELECTRICAL MANHOLE TO BE REMOVED

EXISTING CONCRETE CURB TO BE REMOVED (TYP.)

TREE AND ROOTS TO BE REMOVED

EXISTING HYDRANT (MAINTAIN AND PROTECT)

EXISTING STOP SIGN TO BE REMOVED

EXISTING INLET (MAINTAIN AND PROTECT)

EXISTING SANITARY MANHOLE (MAINTAIN AND PROTECT)

EXISTING SIDEWALK TO BE REMOVED

SAWCUT LINE (TYP.)

EXISTING UTILITY POLE (MAINTAIN AND PROTECT)

EXISTING ADA RAMP (MAINTAIN AND PROTECT)

FIELD SURVEY 9/23/25

DEMOLITION LEGEND:

- PAVEMENT TO BE MILL
- PAVEMENT REMOVAL - FULL DEPTH (INCLUDE COBBLESTONE)
- EXISTING CONCRETE, UNDERGROUND STRUCTURE / STORAGE REMOVAL
- CONCRETE CURB REMOVAL
- SAWCUT PAVEMENT
- UTILITY LINES REMOVAL
- CHAIN LINK FENCE REMOVAL
- TEMPORARY CONSTRUCTION FENCE
- TEMPORARY CONSTRUCTION FENCE GATE
- EXISTING MONITORING WELL TO MAINTAIN
- LIMIT OF DISTURBANCE
- TREE REMOVAL
- TREE TO REMAIN (MAINTAIN AND PROTECT)

NOTE:

1. BUILDING TO BE DEMOLISH AT EXISTING GRADE. BUILDING FOOTING, FOUNDATION, BASEMENT FLOOR, SHALL BE MAINTAIN AND PROTECT UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO MAINTAIN AND PROTECT UTILITY LINES, UNLESS OTHERWISE NOTED ON THE PLANS.
3. CUT AND CAP UTILITIES SERVING EXISTING BUILDING PER CAMDEN CITY ORDINANCE. WATER MAINS AND SEWER TO BE REMOVED TO MAIN AND CAPPED (PER CITY ORDINANCE).
4. REFER TO SHEET CS0002 BEFORE THE START OF ANY WORK.

0 30' 60'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

DEMOLITION PLAN

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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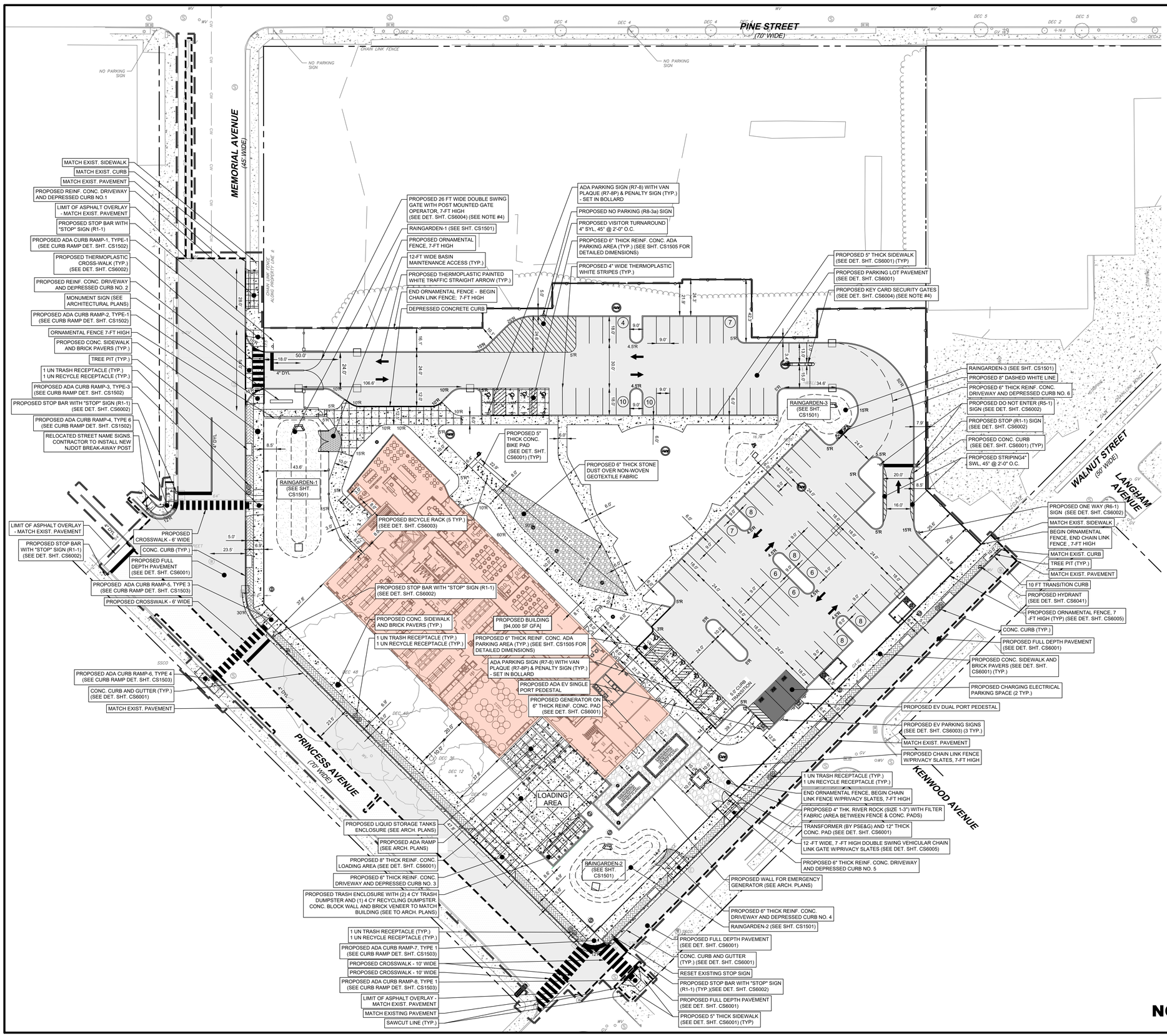
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS0501

SHEET 6 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\05SRVN_SHEETS\CS0501.dwg PLOTTED: 11/13/2025 5:33 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —



NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. ROAD AND SIDEWALK WORK LOCATED INSIDE R.O.W. MUST BE DONE IN ACCORDANCE WITH CITY OF CAMDEN ORDINANCE.
3. TRASH AND RECYCLE RECEPTACLES EXACT LOCATIONS TO BE DETERMINED IN THE FIELD.
4. MECHANICAL GATE OPERATION:

   DOUBLE SWING GATE
   OPEN DURING NORMAL BUSINESS HOURS. CLOSED ALL OTHER TIMES.

   KEY CARD SECURITY GATE
   OPEN TEMPORARILY WHEN ACTIVATED BY KEY CARD. CLOSED ALL OTHER TIMES.

   A KNOX SINGLE GATE AND KEY SWITCH WILL BE PROVIDED AT EACH GATE LOCATION FOR EMERGENCY ACESSS

NOT FOR CONSTRUCTION

PROJECT STATUS: —
PLOTTED: 11/13/2025 5:51 PM BY: Blake Fitzgerald
PLOTSTYLE: Pennoni MCS.stb
U:\Accounts\CHERSCH\ERSCH25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1001.dwg

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8888
NJ COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SITE PLAN (PHASE 1)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	REVISIONS	BY
1.	CITY PLANNING BOARD SUBMISSION	BF

DATE
11/17/2025

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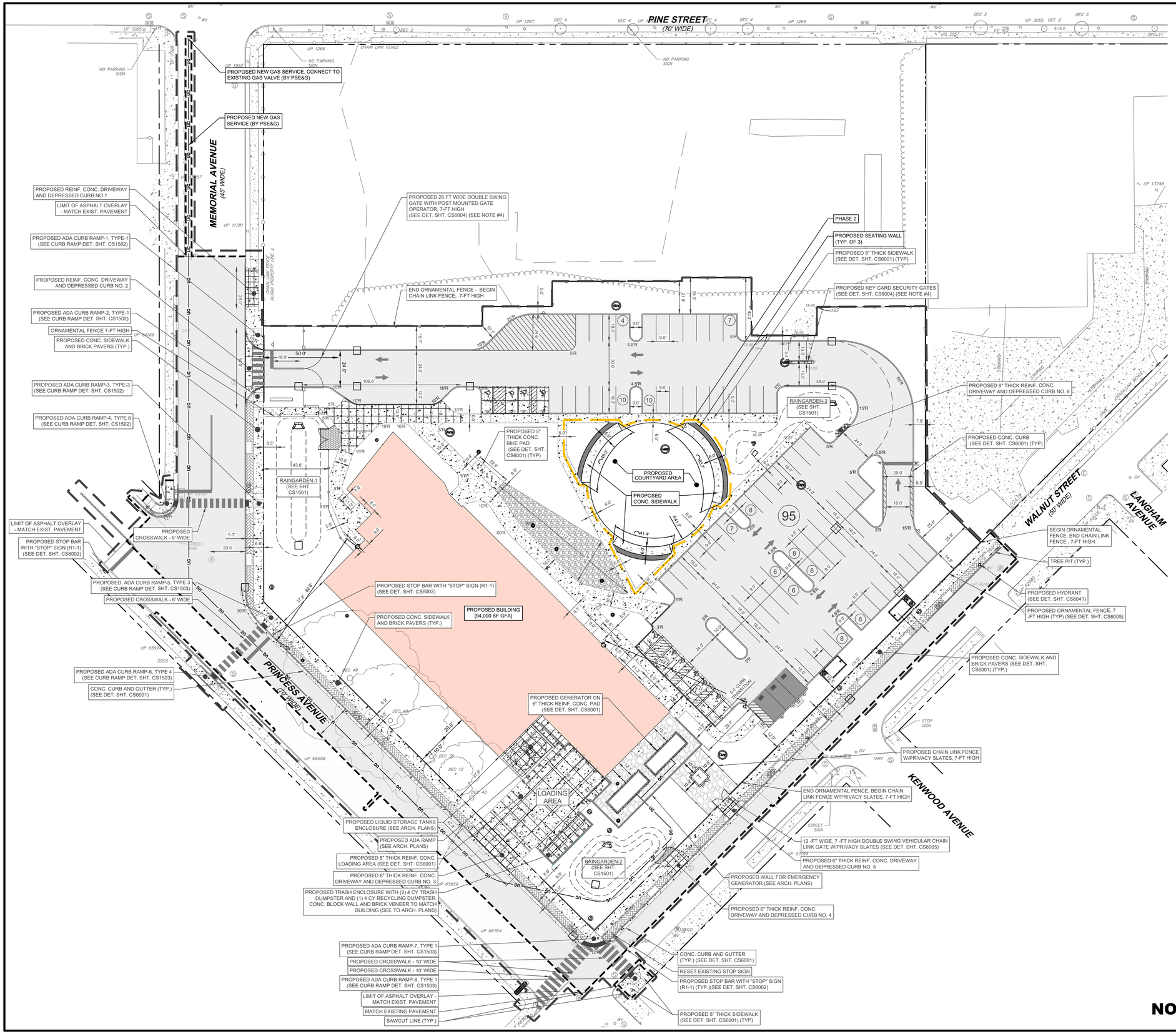
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS1001

SHEET 7 OF 45



SITE LEGEND:

- PROPOSED BUILDING
- FULL DEPTH PAVEMENT
- REINFORCED CONCRETE
- CONCRETE AND PAVER SIDEWALK
- CONCRETE SIDEWALK
- PROPOSED STONE DUST
- RAINGARDEN
- ORNAMENTAL FENCE
- CONCRETE CURB
- DEPRESSED CONCRETE CURB
- ADA PAVEMENT SYMBOL
- EV DUAL PORT PEDESTAL
- ELECTRICAL VEHICLE PAVEMENT SYMBOL
- TRASH & RECYCLE RECEPTACLE
- BICYCLE RACK
- PROPOSED BOLLARD
- DETECTABLE WARNING SURFACE
- TRAFFIC SIGN
- (8) PARKING COUNT
- LIMIT OF DISTURBANCE
- PROPOSED EASEMENT
- PHASE 2

NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. ROAD AND SIDEWALK WORK LOCATED INSIDE R.O.W. MUST BE DONE IN ACCORDANCE WITH CITY OF CAMDEN ORDINANCE.
3. TRASH AND RECYCLE RECEPTACLES EXACT LOCATIONS TO BE DETERMINED IN THE FIELD.

0 30' 60'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5888
NJ COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SITE PLAN (PHASE 1 + PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	REVISIONS	BY
1.	CITY PLANNING BOARD SUBMISSION	BF

DATE
11/17/2025

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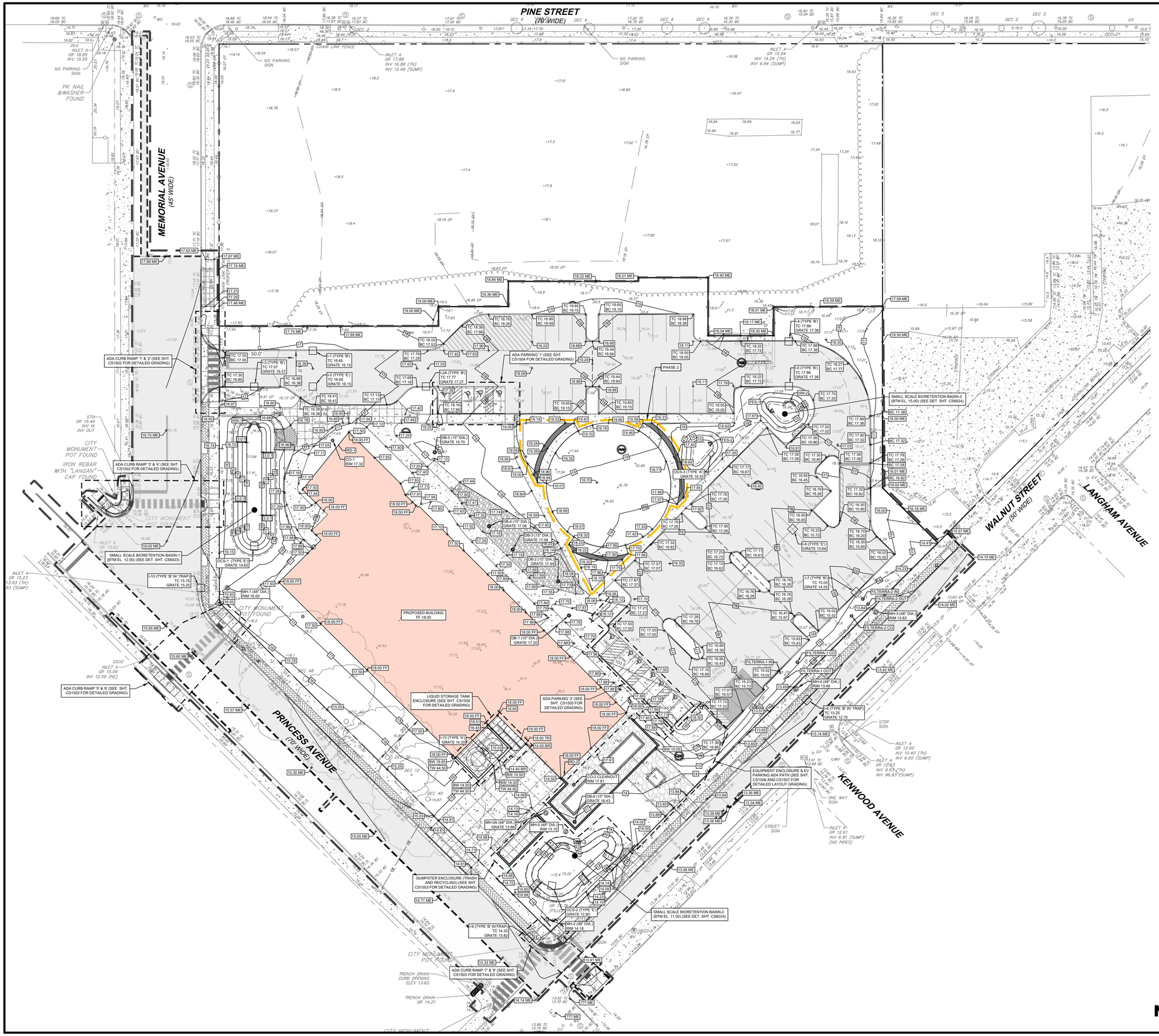
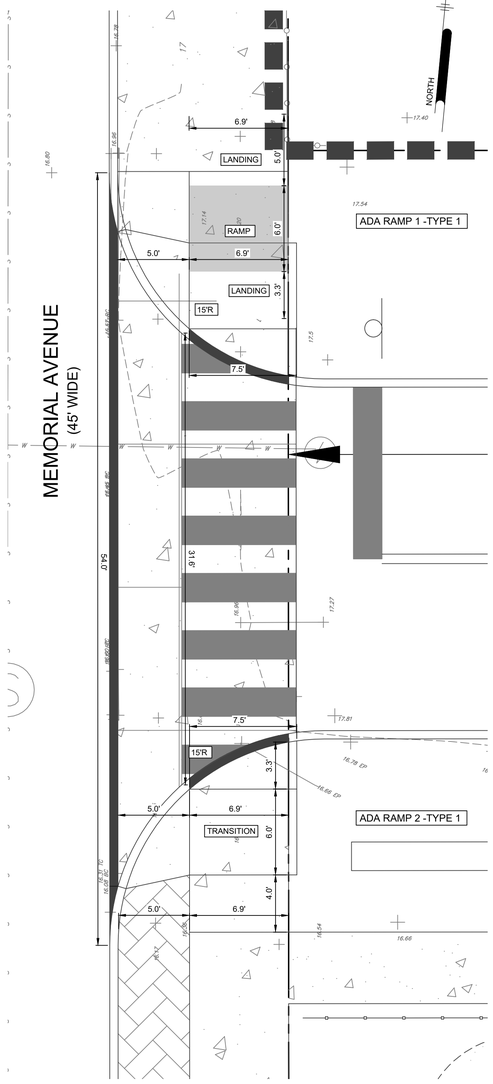
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS1002

SHEET 8 OF 45

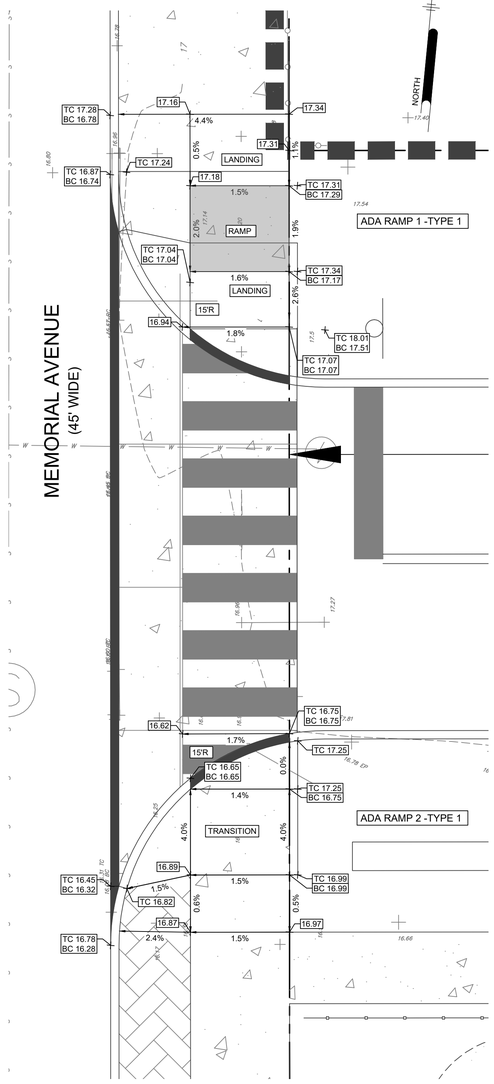
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1002.dwg PLOTTED: 11/13/2025 5:31 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —


PINE STREET
(70' WIDE)
MEMORIAL AVENUE
(45' WIDE)
WALNUT STREET
(60' WIDE)
LANGHAM AVENUE
PRINCESS AVENUE
(70' WIDE)
KENIWOOD AVENUE
NORTH
PROPOSED BUILDING
FF 18.00
LIQUID STORAGE TANK
ENCLOSURE (SEE SHT. CS1504
FOR DETAILED GRADING)
DUMPSTER ENCLOSURE (TRASH
AND RECYCLING) (SEE SHT.
CS1503 FOR DETAILED GRADING)
EQUIPMENT ENCLOSURE & EV
PARKING ADA PATH (SEE SHT.
CS1506 AND CS1507 FOR
DETAILED LAYOUT GRADING)
ADA PARKING '1' (SEE SHT.
CS1504 FOR DETAILED GRADING)
ADA PARKING '2' (SEE
SHT. CS1505 FOR
DETAILED GRADING)
ADA CURB RAMP '1' & '2' (SEE SHT.
CS1502 FOR DETAILED GRADING)
ADA CURB RAMP '3' & '4' (SEE SHT.
CS1502 FOR DETAILED GRADING)
ADA CURB RAMP '5' & '6' (SEE SHT.
CS1503 FOR DETAILED GRADING)
ADA CURB RAMP '7' & '8' (SEE SHT.
CS1503 FOR DETAILED GRADING)
SMALL SCALE BIORETENTION BASIN-1
(BTM EL. 12.00) (SEE DET. SHT. CS6023)
SMALL SCALE BIORETENTION BASIN-2
(BTM EL. 11.00) (SEE DET. SHT. CS6024)
SMALL SCALE BIORETENTION BASIN-3
(BTM EL. 15.00) (SEE DET. SHT. CS6024)
PHASE 2
NO PARKING SIGN
CHAIN LINK FENCE
PK NAIL &WASHER FOUND
CITY MONUMENT POT FOUND
IRON REBAR WITH "LANGAN" CAP FOUND
STOP SIGN
ONE WAY SIGN
STREET SIGN
INLET A
GR 15.24
3.93' (TH)
3 (SUMP)
INLET A
GR 15.44
INV IN
INV OUT
INLET A
GR 15.62
INLET A
GR 15.09
INV 12.59 (NE)
INLET A
GR 17.88
INV 16.88 (TH)
INV 12.48 (SUMP)
INLET A
GR 15.94
INV 14.24 (TH)
INV 9.94 (SUMP)
INLET A
GR 12.60
INV 10.40 (TH)
INV 6.60 (SUMP)
INLET A
GR 12.63
INV 9.63 (TH)
INV 96.83'(SUMP)
INLET A
GR 12.61
INV 6.91 (SUMP)
(NO PIPES)
SSCO
GV
SAN MH
DEC 1
DEC 2
DEC 4
DEC 5
DEC 40
DEC 46
DEC 48
DEC 12
CO-1
RIM 17.32
DCS-1 (TYPE 'E')
GRATE 14.65
DCS-2 (TYPE 'E')
GRATE 12.80
DCS-3 (TYPE 'A')
GRATE 16.50
DB-1 (15" DIA.)
GRATE 17.20
DB-2 (15" DIA.)
GRATE 17.44
DB-3 (15" DIA.)
GRATE 17.08
DB-4 (15" DIA.)
GRATE 17.08
DB-5 (15" DIA.)
GRATE 16.70
DB-6 (15" DIA.)
GRATE 16.43
CO-2 CLEANOUT
RIM 17.61
MH-1 (48" DIA.)
RIM 16.00
MH-2 (48" DIA.)
RIM 14.18
MH-3 (48" DIA.)
RIM 13.83
MH-4 (48" DIA.)
RIM 13.46
MH-5A (48" DIA.)
GRATE 13.88
MH-5B (48" DIA.)
RIM 13.18
1-1 (TYPE 'B')
TC 16.65
GRATE 16.15
1-2 (TYPE 'E')
TC 16.65
GRATE 16.15
1-3 (TYPE 'B')
TC 17.07
GRATE 16.57
1-4 (TYPE 'B')
TC 17.88
GRATE 17.38
1-5 (TYPE 'B')
TC 17.88
GRATE 17.38
1-6 (TYPE 'E')
GRATE 15.64
1-7 (TYPE 'B')
TC 15.05
GRATE 14.55
1-8 (TYPE 'B' W/ TRAP)
TC 13.25
GRATE 12.75
1-9 (TYPE 'B' W/TRAP)
TC 14.32
GRATE 13.82
1-10 (TYPE 'B' W/ TRAP)
TC 15.75
GRATE 15.25
2-1 (TYPE 'A')
TC 17.77
GRATE 17.27
2-2 (TYPE 'A')
TC 17.77
GRATE 17.27
2-3 (TYPE 'A')
GRATE 14.20
TRENCH DRAIN
CURB OPENING
ELEV 13.62
TRENCH DRAIN
GR 14.21
TRENCH DRAIN
GR 15.62
TRENCH DRAIN
GR 15.62
TRENCH DRAIN
GR 15.62



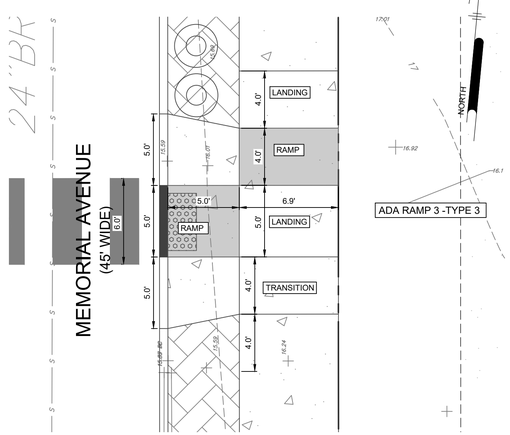
ADA RAMP LAYOUT DETAILS NO. 1 & 2

SCALE: 1" = 5'



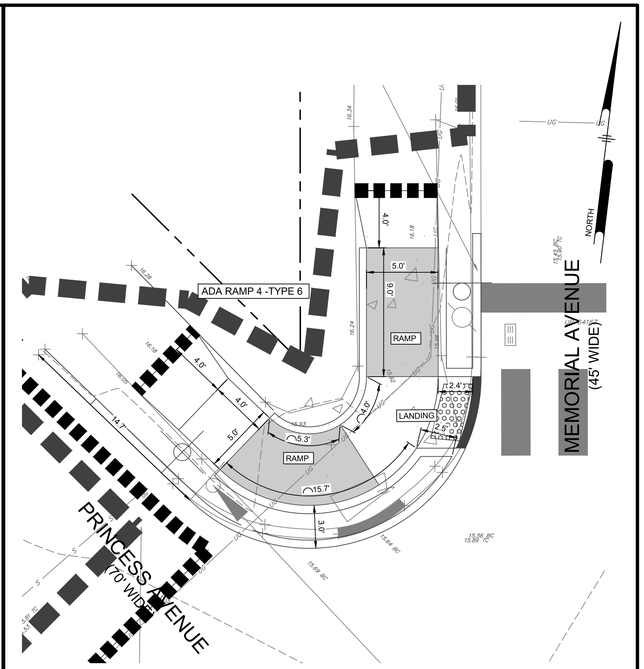
ADA RAMP GRADING DETAILS NO. 1 & 2

SCALE: 1" = 5'



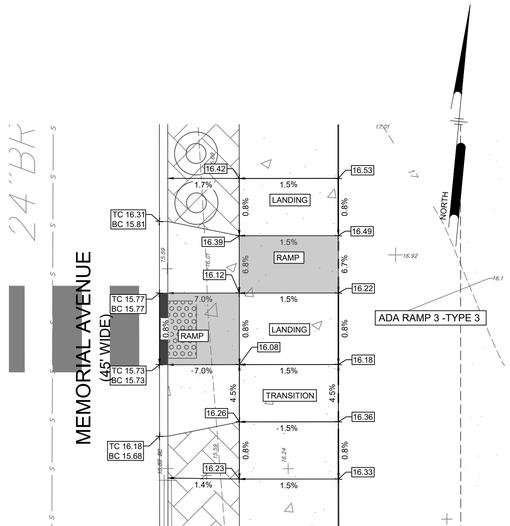
ADA RAMP LAYOUT DETAIL NO. 3

SCALE: 1" = 5'



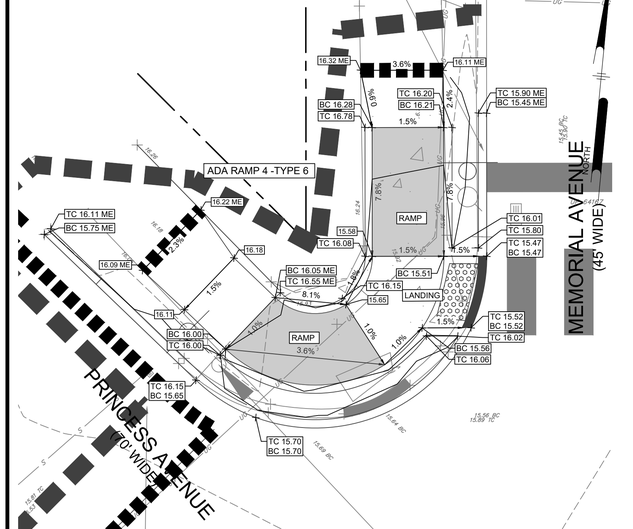
ADA RAMP LAYOUT DETAIL NO. 4

SCALE: 1" = 5'



ADA RAMP GRADING DETAIL NO. 3

SCALE: 1" = 5'



ADA RAMP GRADING DETAIL NO. 4

SCALE: 1" = 5'

0 5' 10'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8600
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS I

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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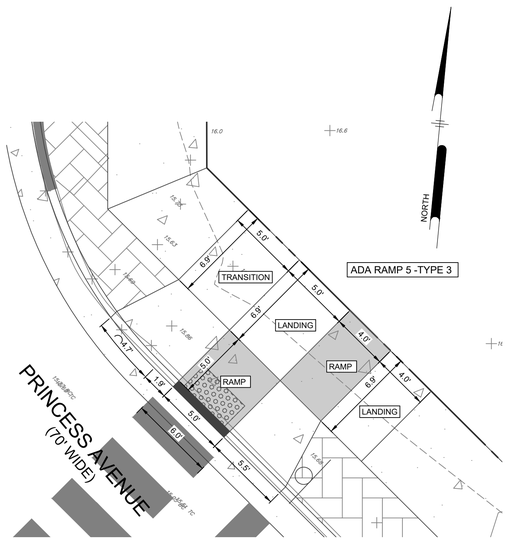
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1502

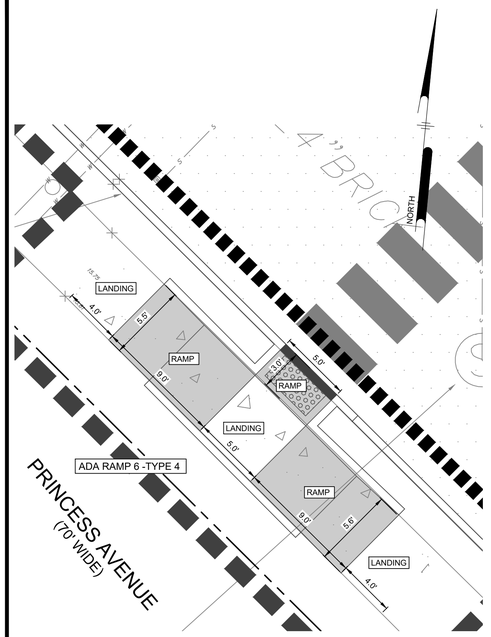
SHEET 10 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1502-CS1506.dwg PLOTTED: 11/13/2025 5:32 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni-MCS.ctb PROJECT STATUS: —



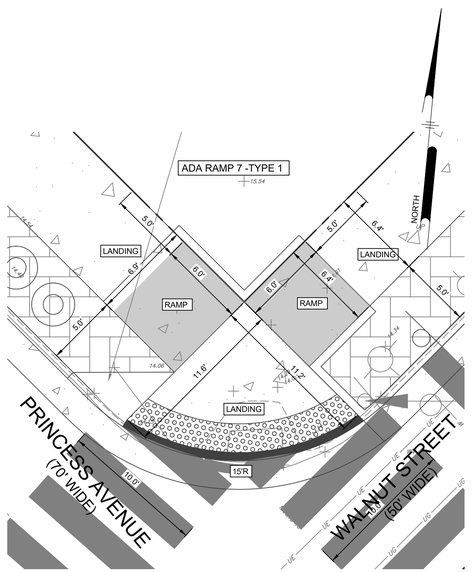
ADA RAMP LAYOUT DETAIL NO. 5

SCALE: 1" = 5'



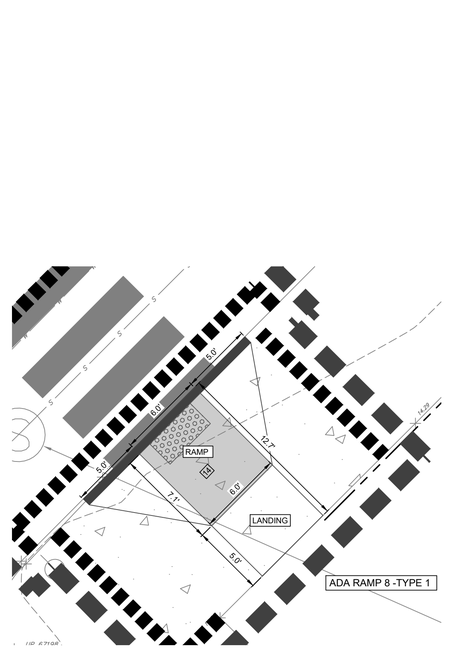
ADA RAMP LAYOUT DETAIL NO. 6

SCALE: 1" = 5'



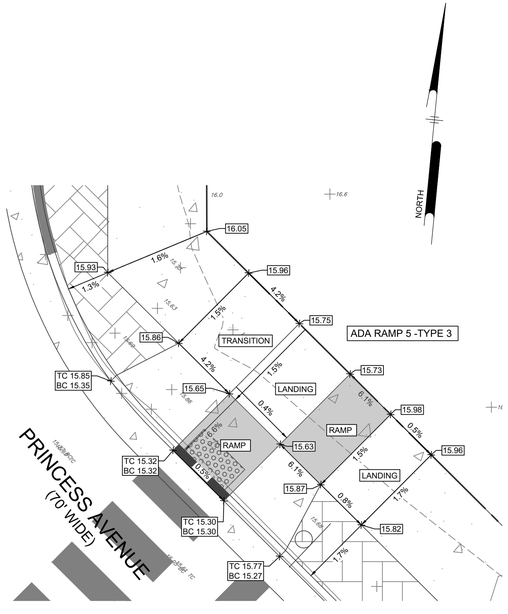
ADA RAMP LAYOUT DETAIL NO. 7

SCALE: 1" = 5'



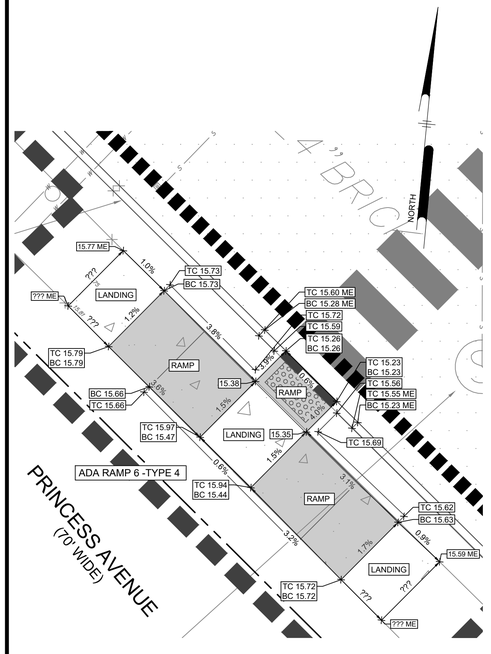
TRASH ENCLOSURE LAYOUT DETAIL NO. 8

SCALE: 1" = 5'



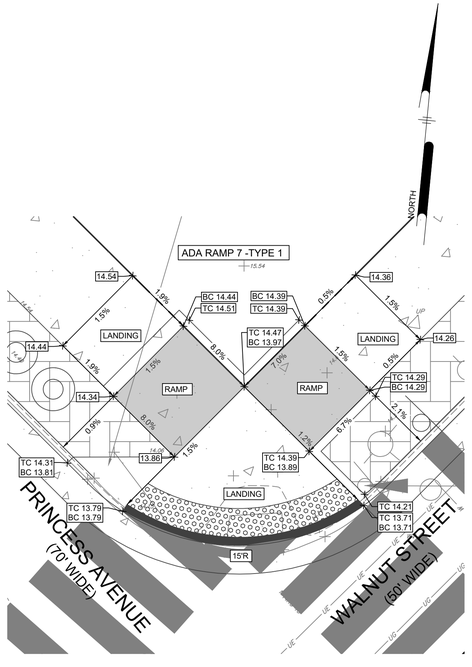
ADA RAMP GRADING DETAIL NO. 5

SCALE: 1" = 5'



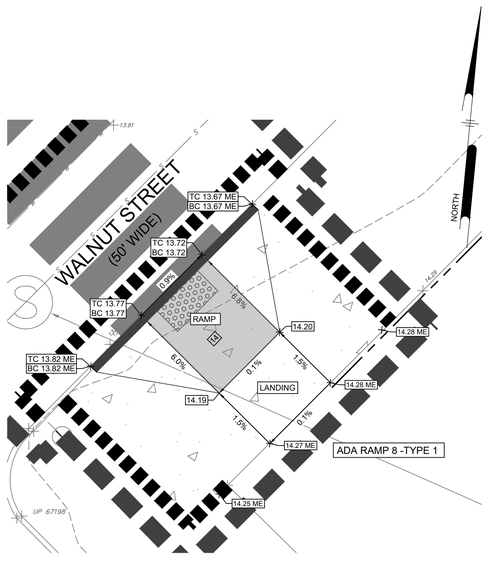
ADA RAMP GRADING DETAIL NO. 6

SCALE: 1" = 5'



ADA RAMP GRADING DETAIL NO. 7

SCALE: 1" = 5'



TRASH ENCLOSURE GRADING DETAIL NO. 8

SCALE: 1" = 5'

0 5' 10'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8000
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS II

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

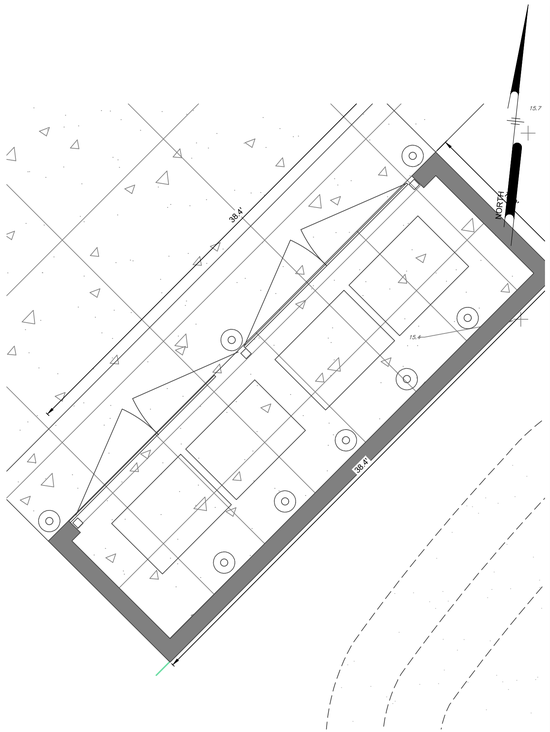
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1503

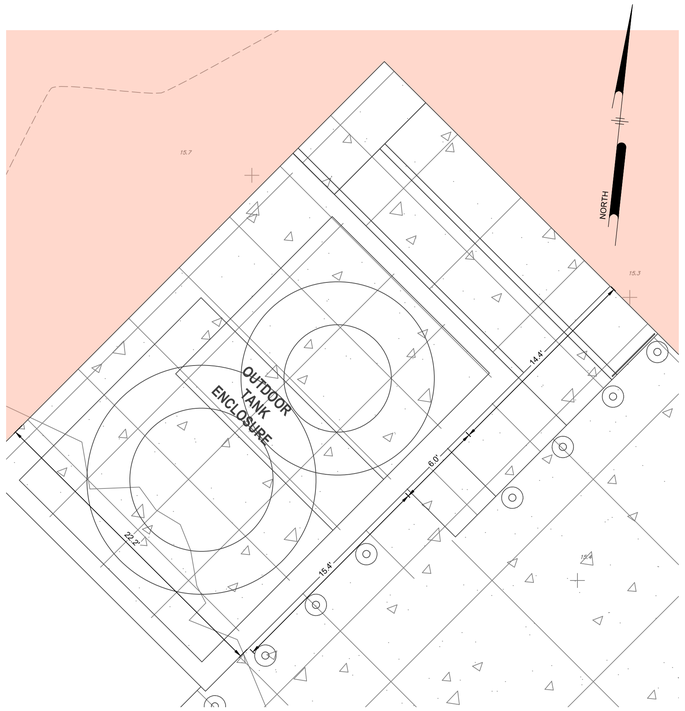
SHEET 11 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\05ENGINL_SHEETS\CS1500-CS1506.dwg PLOTTED: 11/13/2025 5:33 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



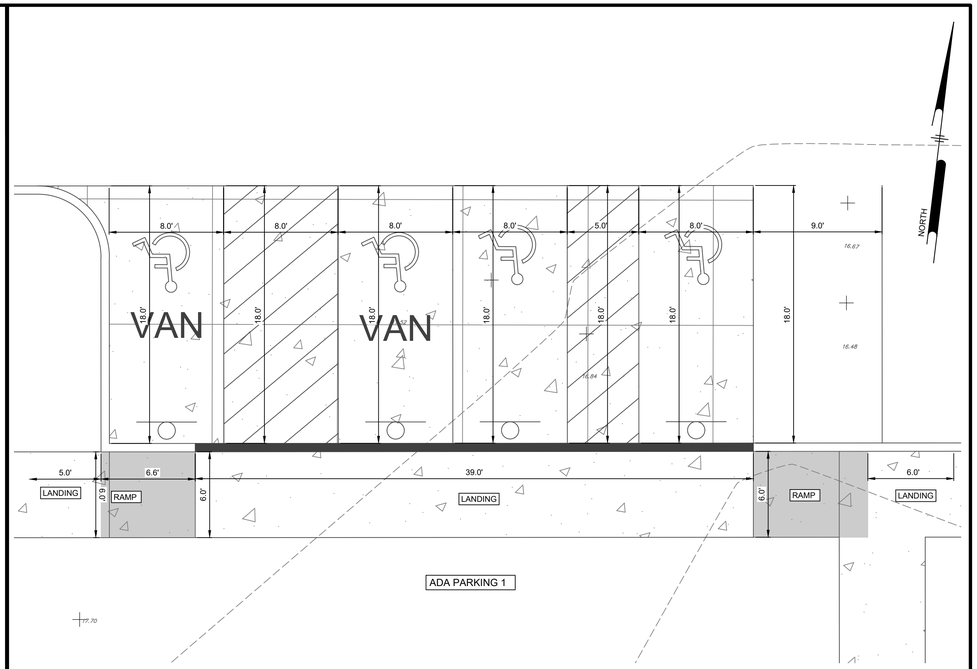
TRASH ENCLOSURE LAYOUT DETAIL

SCALE: 1" = 5'



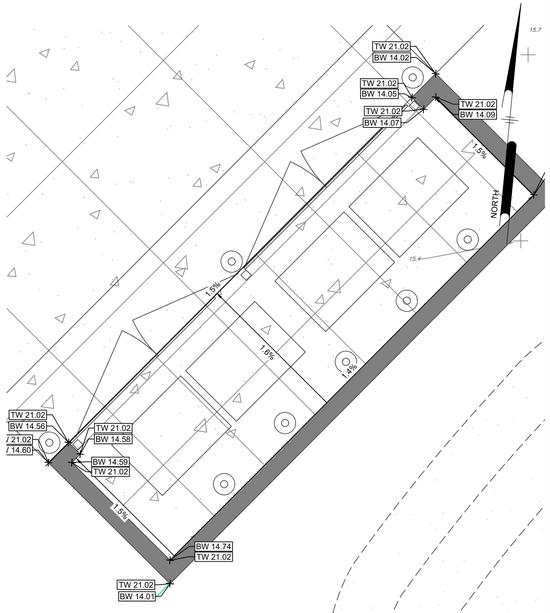
LIQUID STORAGE TANKS ENCLOSURE LAYOUT DETAIL

SCALE: 1" = 5'



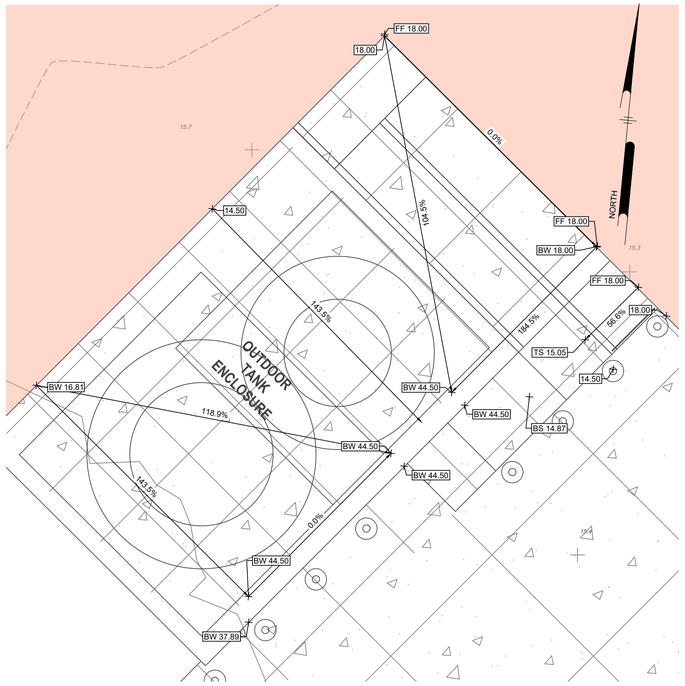
ADA PARKING LAYOUT DETAIL NO. 1

SCALE: 1" = 5'



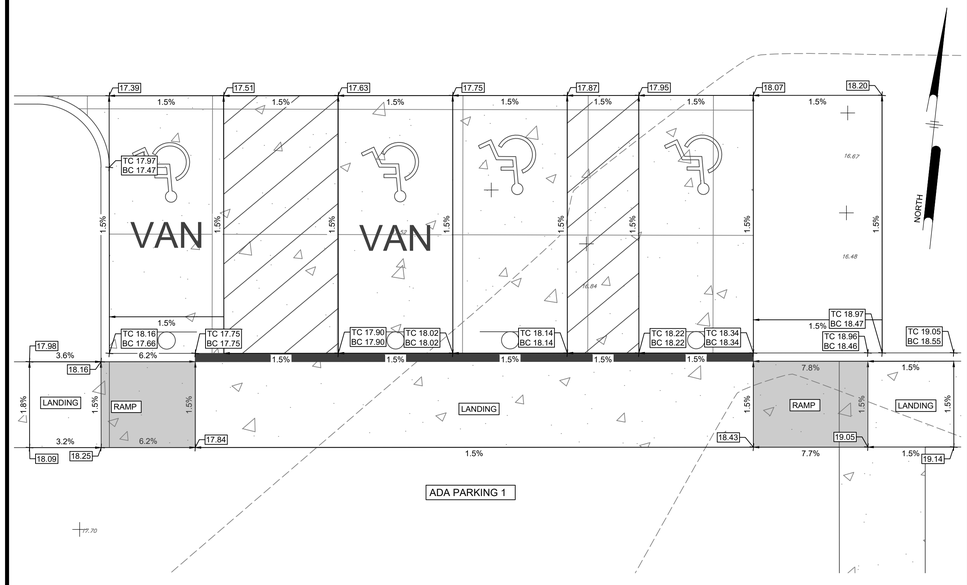
TRASH ENCLOSURE GRADING DETAIL

SCALE: 1" = 5'



LIQUID STORAGE TANKS ENCLOSURE GRADING DETAIL

SCALE: 1" = 5'



ADA PARKING GRADING DETAIL NO. 1

SCALE: 1" = 5'

0 5' 10'

NOT FOR CONSTRUCTION

PLOTTED: 11/13/2025 5:33 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

U:\Accounts\SCHER\SCHER25001 - Cornell Institute Additional Services\DESIGN_SHEETS\CS1500-CS1506.dwg

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8000
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS III

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

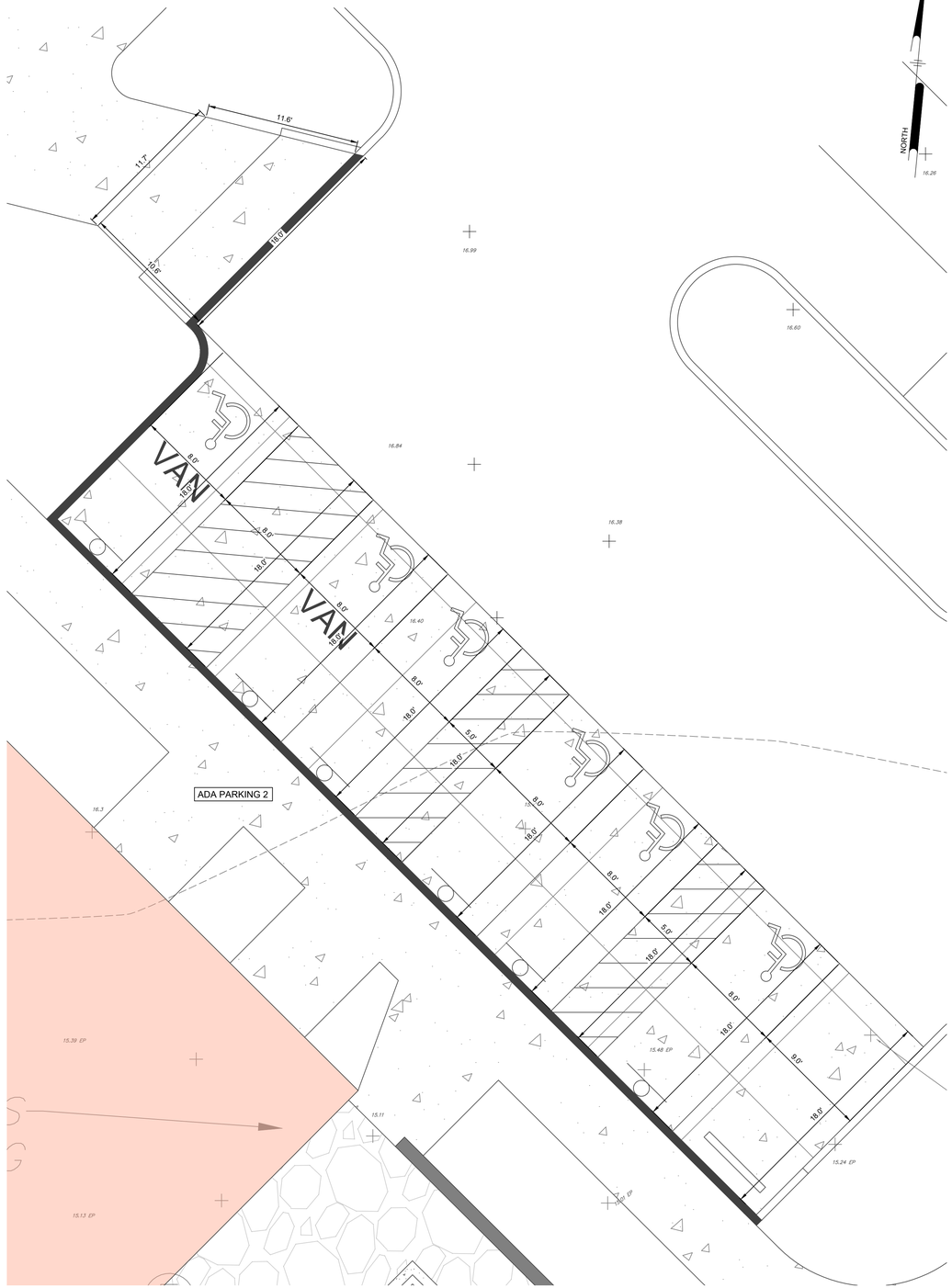
NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

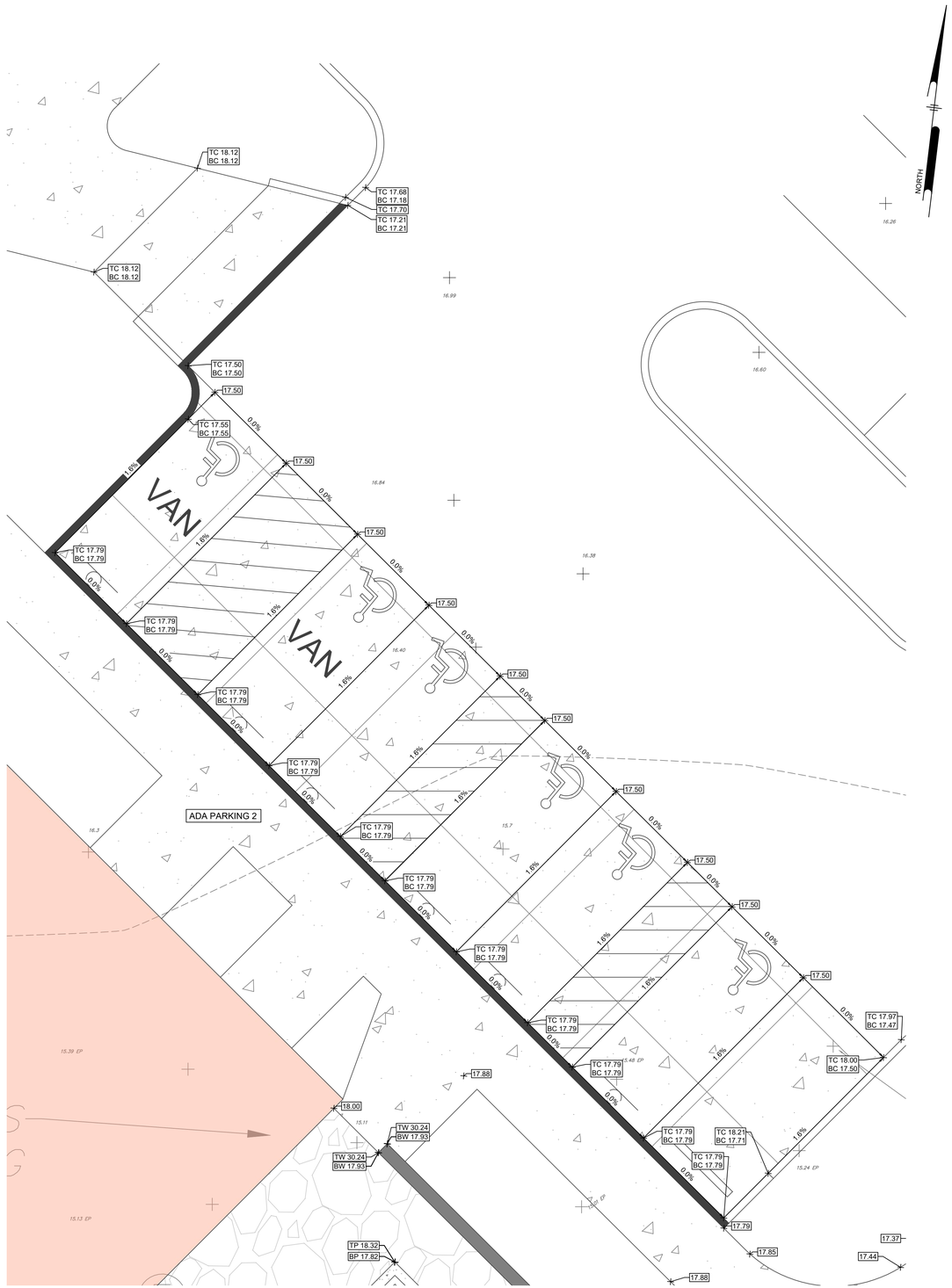
CS1504

SHEET 12 OF 45



ADA PARKING DETAIL NO. 2

SCALE: 1" = 5'



ADA PARKING GRADING DETAIL NO. 2

SCALE: 1" = 5'

0 5' 10'

NOT FOR CONSTRUCTION

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8600
NJ. COA NO. GA28033300

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS IV

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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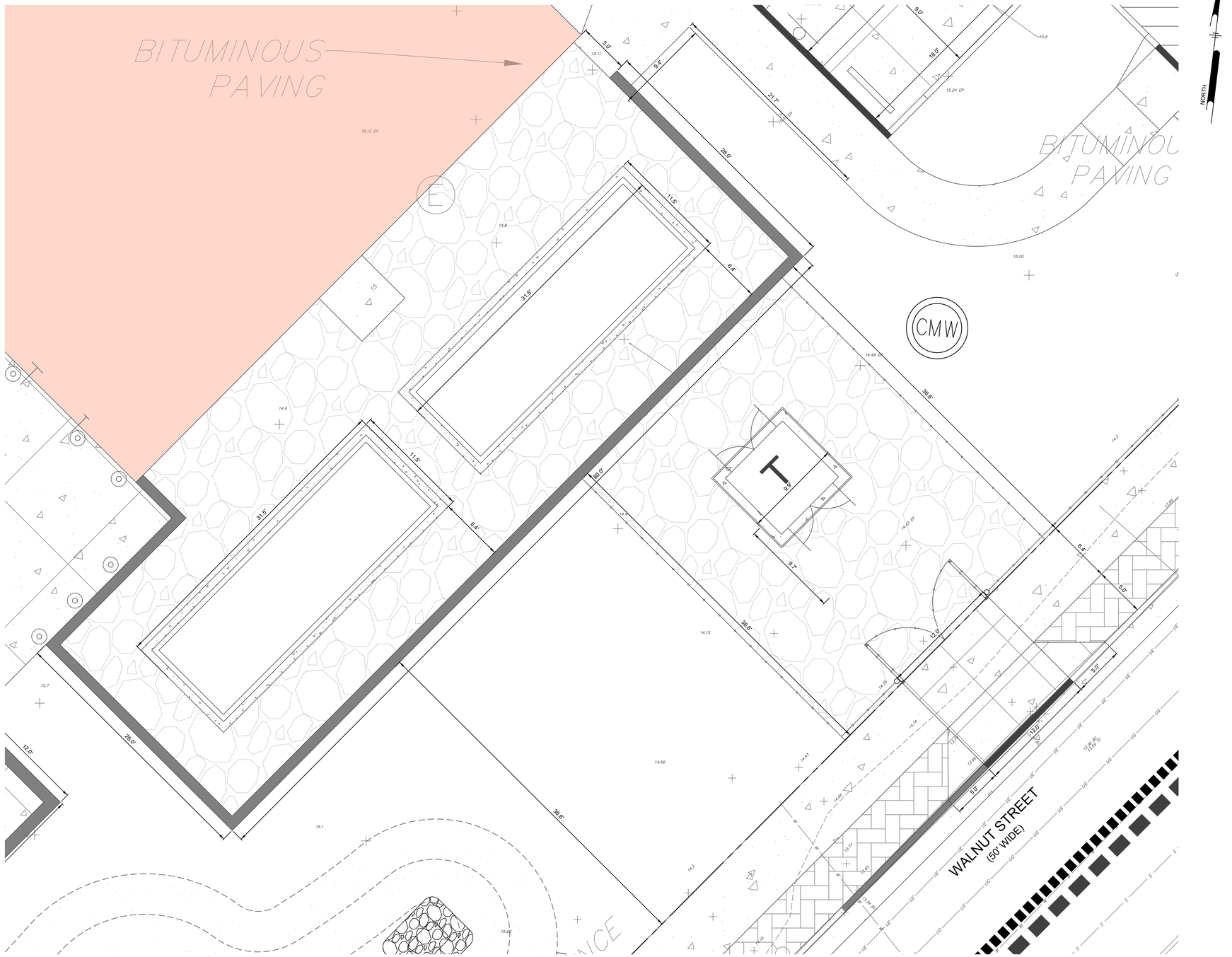
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1505

SHEET 13 OF 45

U:\Accounts\SCHER\SCHER25001 - Cornell Institute Additional Services\DESIGN_SHEETS\CS1500-CS1599.dwg PLOTTED: 11/13/2025 5:34 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS: —



GENERATOR AND TRANSFORMERS LAYOUT DETAIL

SCALE: 1" = 5'

NOT FOR CONSTRUCTION

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1500-CS1506.dwg PLOTTED: 11/13/2025 5:34 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni-MCG.ctb PROJECT STATUS: —

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8000
NJ COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS V

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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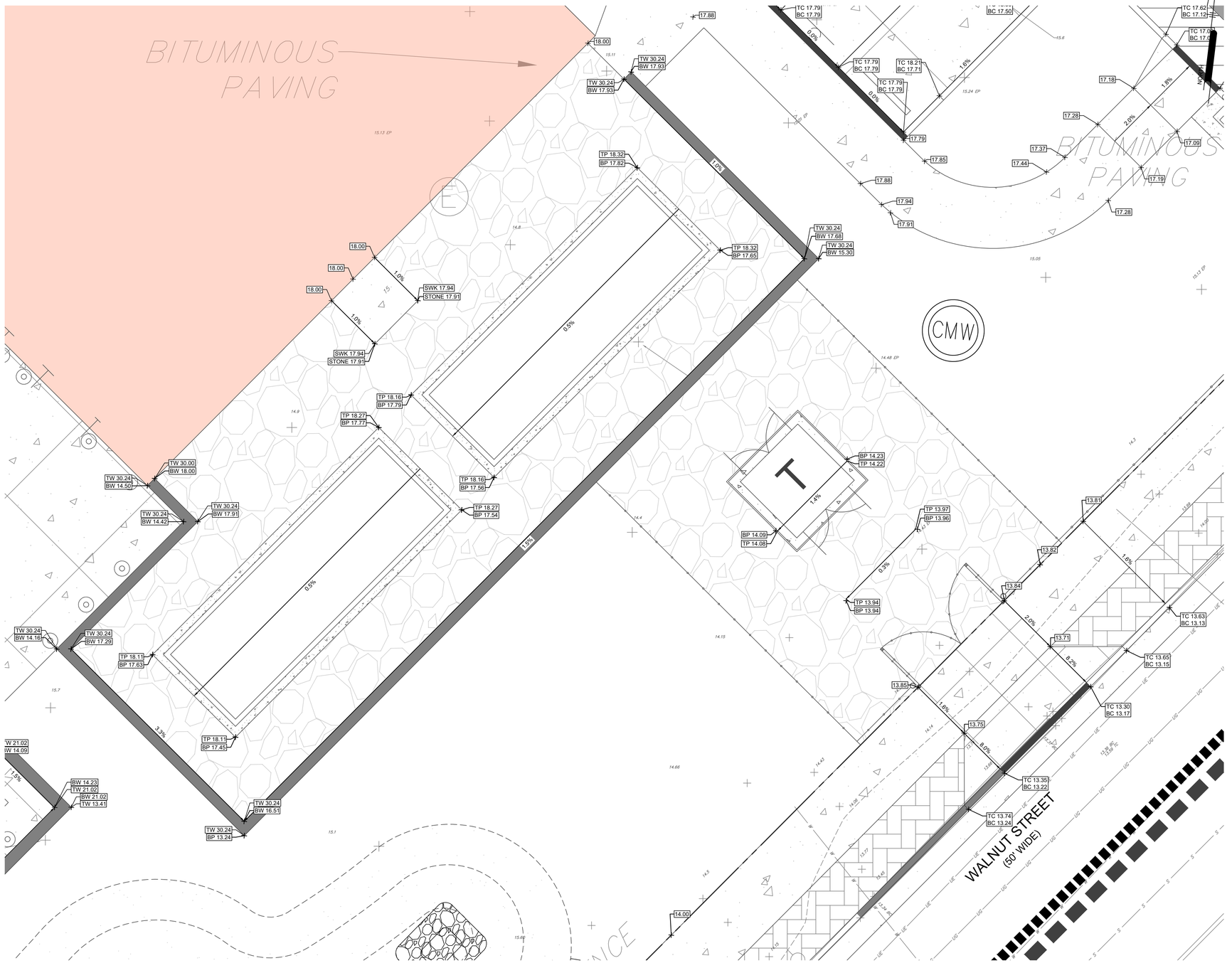
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1506

SHEET 14 OF 45



GENERATOR AND TRANSFORMERS GRADING DETAIL

SCALE: 1" = 5'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8000
NJ COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS VI

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1507

SHEET 15 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1500-CS1599.dwg PLOTTED: 11/13/2025 5:34 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni WCS.stb PROJECT STATUS: —

PROPOSED NEW GAS SERVICE. CONNECT TO EXISTING GAS VALVE (BY PSE&G)

PROPOSED NEW GAS SERVICE (BY PSE&G)

PINE STREET (70' WIDE)

MEMORIAL AVENUE (45' WIDE)

PRINCESS AVENUE (50' WIDE)

WALNUT STREET (60' WIDE)

LANGHAM AVENUE

KENWOOD AVENUE

PROPOSED BUILDING FF 18.00

I-1 (TYPE 'B')
TC 16.65
GRATE 16.15
INV OUT 13.27 (15" RCP)

I-2 (TYPE 'E')
TC 16.65
GRATE 16.15
INV IN 13.15 (15" RCP)
INV IN 12.85 (15" RCP)
INV IN 13.50 (10" HDPE)
INV OUT 12.85 (15" RCP)

I-3 (TYPE 'B')
TC 17.07
GRATE 16.57
INV IN 12.45 (15" RCP)
INV OUT 12.20 (18" RCP)

HW-1
INV 12.00 (18" RCP)

I-2A (TYPE 'B')
TC 17.77
GRATE 17.27
INV IN 13.68 (12" HDPE)
INV OUT 13.43 (15" RCP)

CO-1
RIM 17.42
INV IN 13.95 (10" HDPE)
INV OUT 13.95 (10" HDPE)

DB-5 (15" DIA.)
GRATE 16.70
INV IN 13.90 (12" HDPE)
INV OUT 13.90 (12" HDPE)

RD-1
INV 14.00 (10" HDPE)

DB-4 (15" DIA.)
GRATE 17.08
INV IN 14.18 (12" HDPE)
INV OUT 14.18 (12" HDPE)

DB-3 (15" DIA.)
GRATE 17.08
INV IN 14.28 (12" HDPE)
INV OUT 14.28 (12" HDPE)

DB-2 (15" DIA.)
GRATE 17.44
INV IN 14.45 (12" HDPE)
INV OUT 14.45 (12" HDPE)

DB-1 (15" DIA.)
GRATE 17.20
INV OUT 14.56 (12" HDPE)

OCS-1 (TYPE 'E')
GRATE 14.70
WEIR 13.31 (1' WIDE)
INV OUT 11.52 (18" RCP)

I-10 (TYPE 'B' W/ TRAP)
TC 15.75
GRATE 15.25
INV IN 11.00 (18" RCP)

MH-1 (48" DIA.)
RIM 16.00
INV IN 11.18 (18" RCP)
INV OUT 11.18 (18" RCP)

I-72 (TYPE 'A')
GRATE 14.20
INV OUT 11.75 (12" RCP)

RD-2
INV 13.00 (8" HDPE)

CO-2 CLEANOUT
RIM 17.81
INV IN 12.86 (8" HDPE)
INV OUT 12.86 (8" HDPE)

MH-5A (48" DIA.)
RIM 13.88
INV IN 11.45 (12" RCP)
INV IN 12.47 (8" HDPE)
INV OUT 11.45 (12" HDPE)

DB-6 (15" DIA.)
GRATE 16.43
INV OUT 11.36 (12" HDPE)

MH-5 (48" DIA.)
RIM 13.19
INV IN 11.18 (12" HDPE)
INV IN 11.18 (12" HDPE)
INV OUT 11.18 (12" HDPE)

HW-3
INV 11.00 (12" HDPE)

OCS-2 (TYPE 'E')
GRATE 12.80
WEIR 12.37 (0.83' WIDE)
INV OUT 10.00 (15" RCP)

MH-2 (48" DIA.)
RIM 14.18
INV IN 9.65 (15" RCP)
INV OUT 9.65 (15" RCP)

I-9 (TYPE 'B' W/TRAP)
TC 14.32
GRATE 13.82
INV IN 9.48 (15" RCP)

FES-2
INV 14.50 (12" HDPE)

OCS-3 (TYPE 'A')
GRATE 16.50
ORIFICE 15.66 (2.5" DIA.)
INV OUT 12.75 (15" RCP)

I-4 (TYPE 'B')
TC 17.88
GRATE 17.38
INV OUT 14.80 (15" RCP)

I-5 (TYPE 'B')
TC 17.88
GRATE 17.38
INV IN 14.58 (15" RCP)
INV OUT 14.58 (15" RCP)

HW-2
INV 14.50 (15" RCP)

FES-1
INV 14.50 (12" HDPE)

I-6 (TYPE 'E')
GRATE 15.64
INV IN 12.35 (15" RCP)
INV OUT 12.35 (15" RCP)

I-7 (TYPE 'B')
TC 15.05
GRATE 14.55
INV IN 12.05 (15" RCP)
INV OUT 12.05 (15" RCP)

FILTERRA-2 IN
RIM 14.58
INV IN 12.00 (15" RCP)

FILTERRA-2 OUT
RIM 14.19
INV OUT 9.81 (15" RCP)

MH-3 (48" DIA.)
RIM 13.83
INV IN 9.77 (15" RCP)
INV OUT 9.71 (15" RCP)

FILTERRA-2 CO
RIM 14.35

FILTERRA-1 CO
RIM 15.22
INV OUT 10.13 (6" PVC)

FILTERRA-1 IN
RIM 15.73

FILTERRA-1 OUT
RIM 14.60
INV OUT 10.13 (15" RCP)

MH-4 (48" DIA.)
RIM 13.46
INV IN 10.04 (15" RCP)
INV OUT 9.00 (15" RCP)

I-8 (TYPE 'B' W/ TRAP)
TC 13.25
GRATE 12.75
INV IN 8.89 (15" RCP)

INLET A
GR 18.85
INV 15.95

INLET A
GR 17.88
INV 16.88 (TH)
INV 12.48 (SUMP)

INLET A
GR 15.94
INV 14.24 (TH)
INV 9.94 (SUMP)

SMH
RIM 16.30
INV 11.30 (SE)
INV 8.80 (E)(W)

INLET A
GR 15.22
INV 14.22(TH)
INV 11.52 (SUMP)

INLET A
GR 15.23
INV 13.93 (TH)
INV 10.93 (SUMP)

INLET A
GR 15.09
INV 12.59 (NE)

SMH
RIM 15.43
INV 9.93 (N)(NW)
INV 9.83 (SE)

INLET A
GR 12.60
INV 10.40 (TH)
INV 6.60 (SUMP)

INLET A
GR 12.61
INV 6.91 (SUMP)
(NO PIPES)

SMH
RIM 12.72
INV 6.72

INLET A
GR 14.03
INV 7.43

SMH
RIM 13.91

TRENCH DRAIN
CURB OPENING
ELEV 13.62

TRENCH DRAIN
GR 14.21

CHAIN LINK FENCE

CHAIN LINK FENCE ALONG PROPERTY LINE #

NO PARKING SIGN

STOP SIGN

ONE WAY SIGN

STREET SIGN

NORTH

0 30' 60'

DRAINAGE AND UTILITY LEGEND:

- PROPOSED RCP PIPE
- PROPOSED INLET
- PROPOSED MANHOLE
- PROPOSED FILTERRA
- PROPOSED DRAIN BASIN
- PROPOSED HEADWALL
- E — PROPOSED ELECTRICAL LINE
- UG — UNDERGROUND GAS LINE
- W — WATER LINE
- S — SEWER LINE
- CLEANOUT
- LIMIT OF DISTURBANCE
- EASEMENT LINE

NOT FOR CONSTRUCTION

PROJECT STATUS: —

PLOTTED: 11/13/2025 5:34 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni WCS.stb

U:\Accounts\SCHERS\CHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1701.dwg

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

DRAINAGE PLAN

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS1701

SHEET 16 OF 45

PROPOSED NEW GAS SERVICE. CONNECT TO EXISTING GAS VALVE (BY PSE&G)

PROPOSED NEW GAS SERVICE (BY PSE&G)

PINE STREET (70' WIDE)

MEMORIAL AVENUE (45' WIDE)

PRINCESS AVENUE (70' WIDE)

WALNUT STREET (50' WIDE)

GLENWOOD AVENUE

PROPOSED FIRE DEPARTMENT CONNECTION (FDC) (SEE MEP PLANS)

FIRE HYDRANT (INCLUDES 6" CL56DIP & VALVE ASSEMBLY)

CONNECT TO EXIST. 12" WATERMAIN (WET TAP) - INSTALL 6" TAPPING VALVE (CLDIP) AND TAPPING SLEEVE (CONTRACTOR TO PERFORM TEST PIT TO FIELD VERIFY EXISTING PIPE SIZE AND DEPTH)

5 LF 6" PVC @ 0.012 FT/FT

CO-1
RIM 17.30
INV IN 11.44 (6" PVC)
INV OUT 11.44 (6" PVC)

CO-3 (W/ CHECK VALVE)
RIM 15.55
INV IN 10.90 (6" PVC)
INV OUT 10.90 (6" PVC)

PROPOSED BUILDING
FF 18.00

PROPOSED FIRE DEPARTMENT CONNECTION (FDC) (SEE MEP PLANS)

6"X6" TEE WITH 2-GATE VALVES (CLDIP) WITH VALVE BOX (CLOW OR APPROVED EQUAL)

6" CL.56 CLDIP FIRE SERVICE - BACKFLOW PREVENTER AND METER INSIDE BLDG. (SEE MEP PLANS FOR CONTINUATION INTO BLDG.)

3" CL.56 CLDIP DOMESTIC WATER SERVICE - BACKFLOW PREVENTER AND METER INSIDE BLDG. (SEE MEP PLANS FOR CONTINUATION INTO BLDG.)

90° BEND WITH 3" GATE VALVE (CLDIP) WITH VALVE BOX (CLOW OR APPROVED EQUAL)

NEW GAS SERVICE (PSE&G REQUIRES 15'X4' METER SET (SEE MEP PLANS FOR CONTINUATION INTO BLDG.)

GENERATOR (SEE MEP PLANS)

PROPOSED 2-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED UNDERGROUND COMMUNICATION

PROPOSED 20-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED ELECTRIC HANDHOLE (PEDESTRIAN)

PROPOSED 10-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED 8-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED GENERATOR DOCKING STATION (SEE MEP PLANS)

45° BEND

PROPOSED 6" CURB GATE VALVE (CL56DIP) WITH VALVE BOX (CLOW OR APPROVED EQUAL)

6"X6" TEE (CLDIP 56)

FIRE HYDRANT (INCLUDES 6" CL56 CLDIP & VALVE ASSEMBLY)

PROPOSED 2-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK) (CONTRACTOR TO COORDINATE WITH PSE&G)

PROPOSED 20-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED 10-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK) (CONTRACTOR TO COORDINATE WITH PSE&G)

PROPOSED TRANSFORMER (BY PSE&G): CONTRACTOR TO INSTALL 98" X 96" X 12" THICK CONCRETE PAD (TO BE COORDINATED WITH PSE&G)

CONTRACTOR TO REMOVE EXISTING HYDRANT & REPLACE WITH NEW FIRE HYDRANT (INSTALL NEW 6" CL56DIP AND VALVE ASSEMBLY)

CONNECT TO EXIST. 12" WATERMAIN (WET TAP) - INSTALL 6" TAPPING VALVE (CLDIP) AND TAPPING SLEEVE (CONTRACTOR TO PERFORM TEST PIT TO FIELD VERIFY EXISTING PIPE SIZE AND DEPTH)

PROPOSED 6" CL56DIP FIRE & DOMESTIC WATER SERVICE

EXISTING UTILITY POLE #67187 TO BE REMOVED AND REPLACED WITH NEW POLE (BY PSE&G)

PROPOSED 6" GATE VALVE AND CURB GATE VALVE (CL56DIP) WITH VALVE BOX (CLOW OR APPROVED EQUAL)

EXISTING OVERHEAD ELEC. WIRE TO BE REMOVED. NEW PRIMARY OVERHEAD ELEC. WIRE TO BE INSTALLED BY PSE&G.

EXISTING UTILITY POLE #62031 (MAINTAIN AND PROTECT).

CONNECT TO EXIST. 12" WATERMAIN (WET TAP) - INSTALL 6" TAPPING VALVE (CLDIP) AND TAPPING SLEEVE (CONTRACTOR TO PERFORM TEST PIT TO FIELD VERIFY EXISTING PIPE SIZE AND DEPTH)

NOT FOR CONSTRUCTION

UTILITY LEGEND:

- E — UNDERGROUND ELECTRIC LINE
- UG — UNDERGROUND GAS LINE
- UC — UNDERGROUND COMMUNICATION LINE
- W — WATER LINE
- S — SEWER LINE

0 30' 60'

NORTH

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

UTILITY PLAN

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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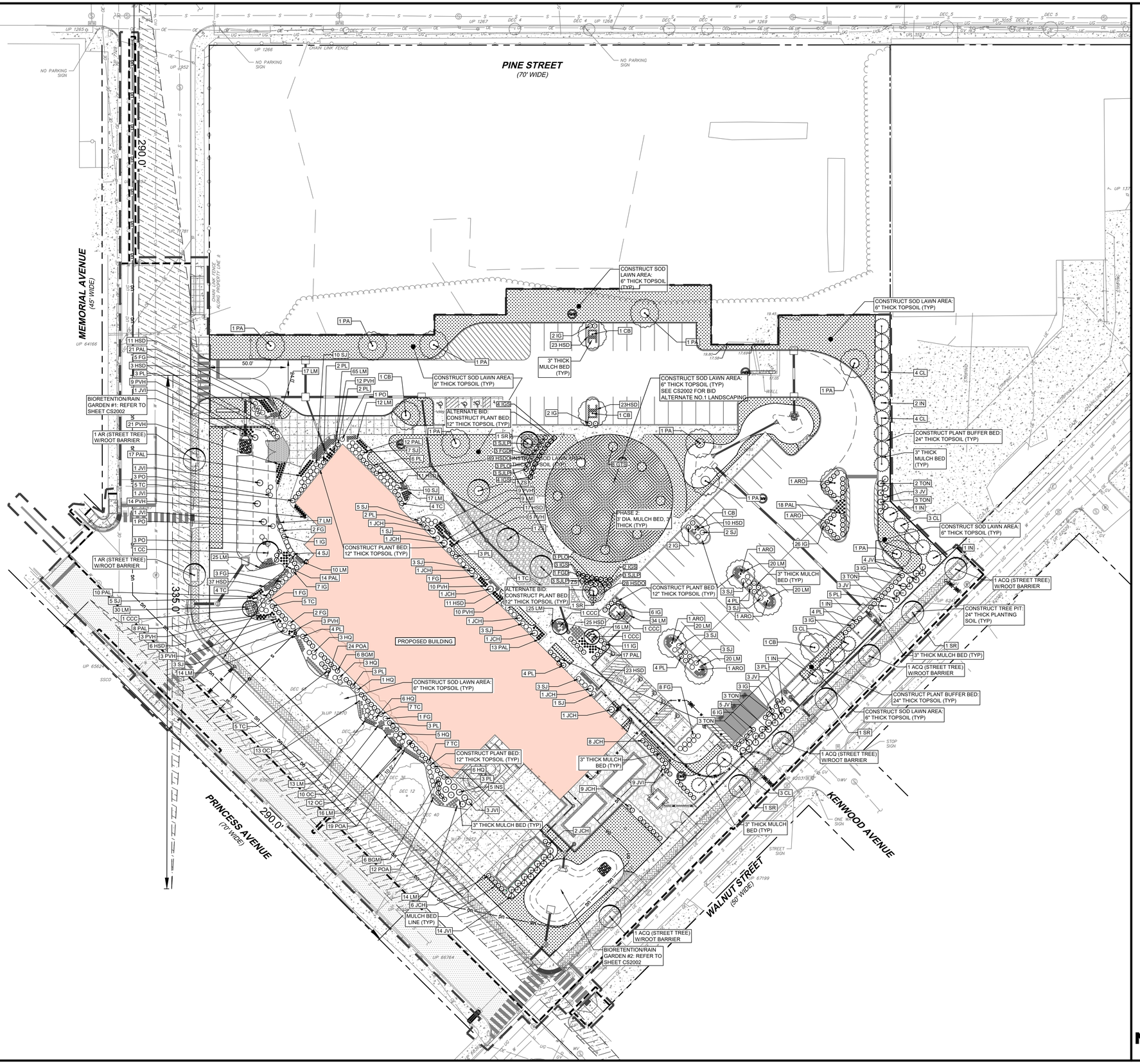
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS1702

SHEET 17 OF 45

U:\Accounts\SCHER\ORDER\25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1702.dwg PLOTTED: 11/13/2025 5:55 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —



LANDSCAPE LEGEND (PHASE 1)

- SHADE/FLOWERING TREE (2.5" CAL.)
- SHADE PARKING LOT TREE (3" CAL.)
- EVERGREEN TREE
- CLUMP FLOWERING TREE
- EVERGREEN SHRUB
- FLOWERING SHRUB
- ORNAMENTAL GRASS
- PERENNIAL
- SIGHT TRIANGLE

NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. ROAD AND SIDEWALK WORK LOCATED INSIDE R.O.W. MUST BE DONE IN ACCORDANCE WITH CITY OF CAMDEN ORDINANCE.

SIGHT DISTANCE NOTES:

SIGHT DISTANCE HAS BEEN CALCULATED USING THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

1. DESIGN INTERSECTION SIGHT DISTANCE FOR A PASSENGER CAR - RIGHT TURN FROM STOP @ 30 MPH IS 290 FT.
2. DESIGN INTERSECTION SIGHT DISTANCE FOR A PASSENGER CAR - LEFT TURN FROM STOP @ 30 MPH IS 335 FT.

0 30' 60'

NOT FOR CONSTRUCTION

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS2001.dwg PLOTTED: 11/13/2025 5:58 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS: —

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5888
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LANDSCAPE PLAN (PHASE 1)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS2001

SHEET 18 OF 45

PINE STREET
(70' WIDE)

MEMORIAL AVENUE
(48' WIDE)

PRINCESS AVENUE
(70' WIDE)

WALNUT STREET
(60' WIDE)

LANGHAM AVENUE

KENWOOD AVENUE

335.0'

290.0'

PROPOSED BUILDING

PHASE 2

CONSTRUCT SOD LAWN AREA: 6" THICK TOPSOIL (TYP)

3" THICK MULCH BED (TYP)

CONSTRUCT PLANT BED: 12" THICK TOPSOIL (TYP)

ALTERNATE BID: CONSTRUCT PLANT BED: 12" THICK TOPSOIL (TYP)

CONSTRUCT PLANT BUFFER BED: 24" THICK TOPSOIL (TYP)

CONSTRUCT SOD LAWN AREA: 6" THICK TOPSOIL (TYP)

BIORETENTION/RAIN GARDEN #1: REFER TO SHEET CS2002

BIORETENTION/RAIN GARDEN #2: REFER TO SHEET CS2002

1 AR (STREET TREE) W/ROOT BARRIER

1 ACQ (STREET TREE) W/ROOT BARRIER

CONSTRUCT TREE PIT: 24" THICK PLANTING SOIL (TYP)

MULCH BED LINE (TYP)

CHAIN LINK FENCE

CHAIN LINK FENCE ALONG PROPERTY LINE

PK NAIL &WASHER FOUND

CITY MONUMENT POT FOUND

IRON REBAR WITH "LANGAN" CAP FOUND

NORTH

LANDSCAPE LEGEND (PHASE 1)

- SHADE/FLOWERING TREE (2.5" CAL.)
- SHADE PARKING LOT TREE (3" CAL.)
- EVERGREEN TREE
- CLUMP FLOWERING TREE
- EVERGREEN SHRUB
- FLOWERING SHRUB
- ORNAMENTAL GRASS
- PERENNIAL
- SIGHT TRIANGLE

LANDSCAPE LEGEND (PHASE 2)

- SHADE TREE
- EVERGREEN SHRUB
- FLOWERING SHRUB
- PERENNIAL
- PHASE 2

NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. ROAD AND SIDEWALK WORK LOCATED INSIDE R.O.W. MUST BE DONE IN ACCORDANCE WITH CITY OF CAMDEN ORDINANCE.

0 30' 60'

NOT FOR CONSTRUCTION

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2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LANDSCAPE PLAN (PHASE 1 + PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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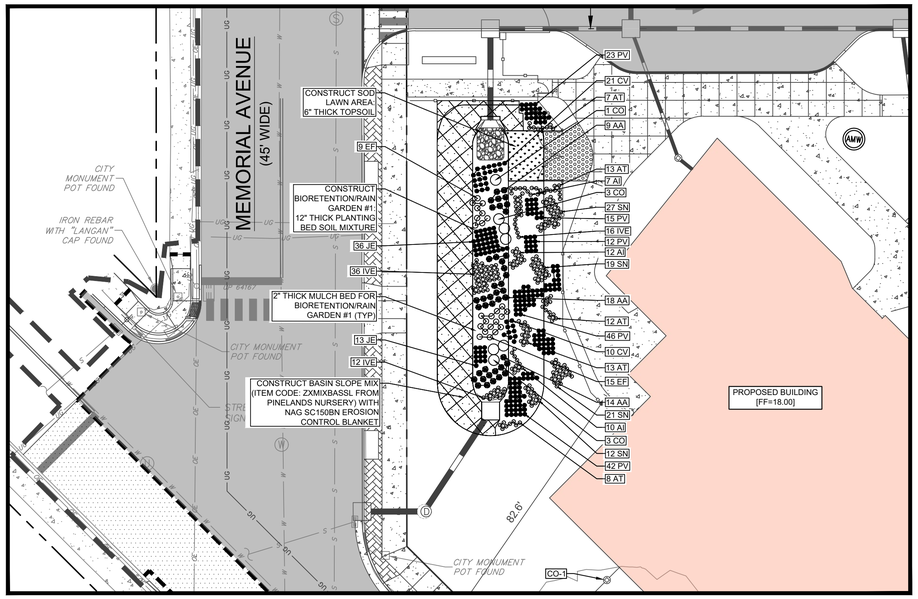
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

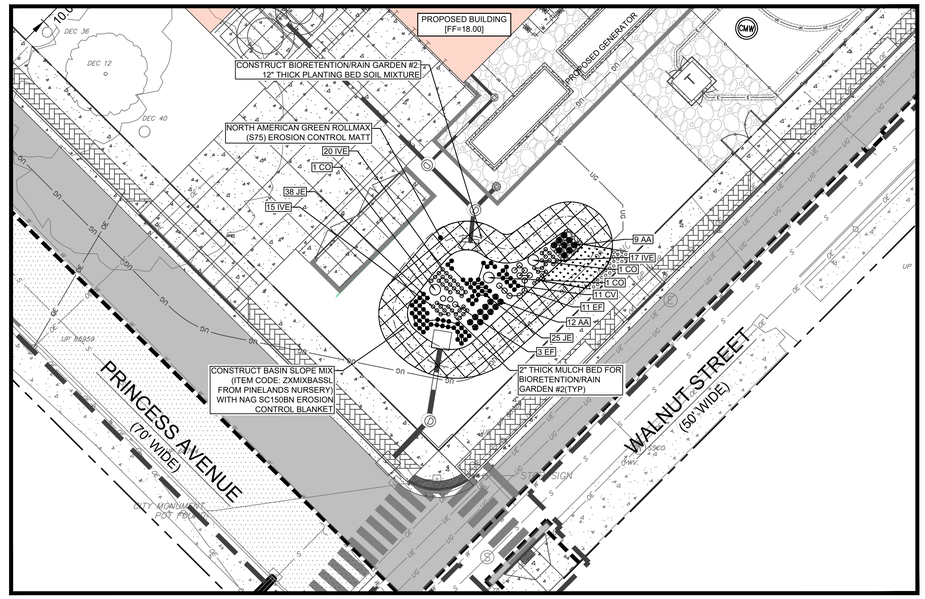
CS2002

SHEET 19 OF 45

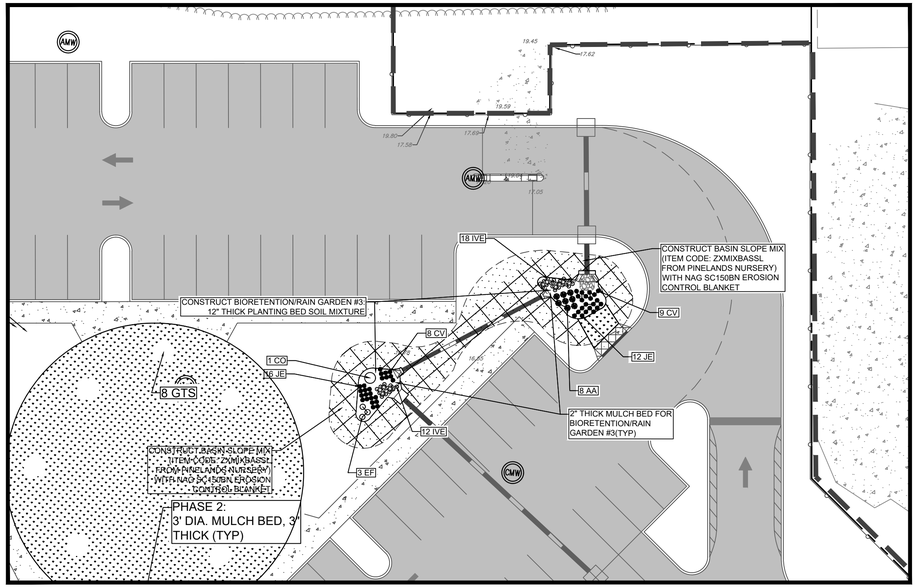
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\05CSD\CAD_SHEETS\CS2002.dwg PLOTTED: 11/13/2025 5:56 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —



BIORETENTION BASIN NO.1
SCALE: 1"=20'



BIORETENTION BASIN NO.2
SCALE: 1"=20'



BIORETENTION BASIN NO.3
SCALE: 1"=20'

LANDSCAPE LEGEND (BIORETENTION BASIN)

- EVERGREEN TREE
- FLOWERING SHRUB
- ORNAMENTAL GRASS
- PERENNIAL

0 20' 40'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768
11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LANDSCAPE PLAN DETAILS
(PHASE 1)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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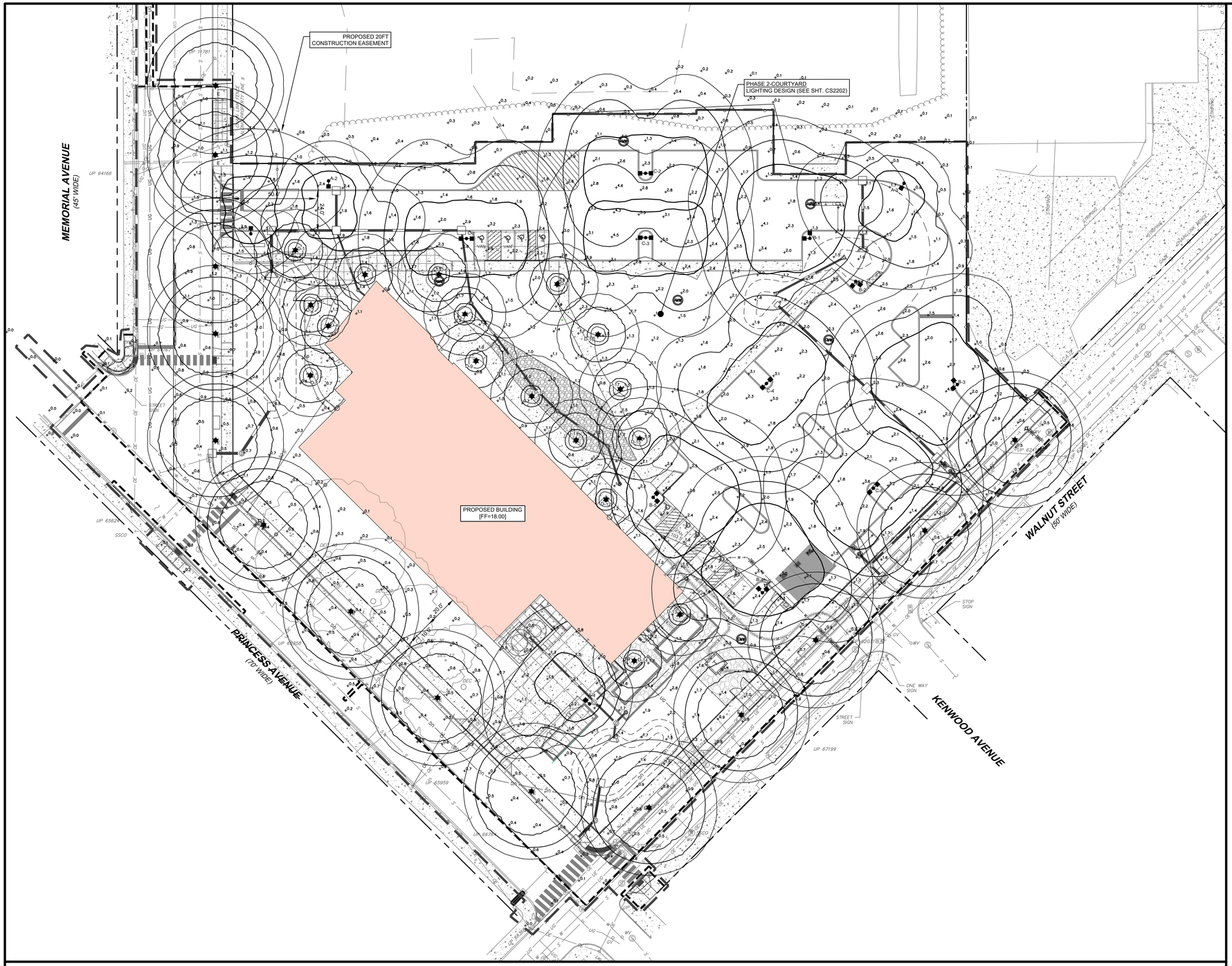
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=20'
DRAWN BY	BF
APPROVED BY	JJR

CS2003

SHEET 20 OF 45

PLOTTED: 11/13/2025 5:36 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS2003.dwg



SITE LIGHTING – POLE HEIGHTS

FIXTURE	FINISHED GRADE EL.	TOP OF FOUNDATION EL.	POLE HT.	TOP OF POLE EL.
A–1	17.08	17.58	18	35.58
A–2	16.75	17.25	18	35.25
A–3	18.14	18.64	16	34.64
A–4	14.00	14.50	20	34.50
B–1	18.03	18.53	16	34.53
B–2	17.02	17.52	18	35.52
B–3	16.35	16.85	18	34.85
B–4	17.86	18.36	16	34.36
B–5	17.61	18.01	16	34.01
C–1	17.89	18.39	16	34.39
C–2	19.55	20.05	14	35.05
C–3	19.65	20.15	14	35.15
C–4	17.62	18.12	16	34.12
C–5	16.33	16.83	18	34.83
D–1	16.77	17.27	16	33.27
D–2	16.99	17.49	16	33.49
D–3	16.92	17.42	16	33.42
D–4	17.43	17.93	16	33.93
D–5	17.55	18.05	16	34.05
D–6	17.42	17.92	16	33.92
D–7	17.09	17.59	16	33.59
D–8	18.78	19.28	14	33.28
D–9	17.88	18.38	14	32.38
D–10	17.17	17.25	16	33.25
D–11	17.75	17.83	16	33.83
D–12	17.90	18.40	14	32.40
D–13	17.86	18.36	14	32.36
D–14	17.70	18.20	16	34.20
D–15	18.18	18.68	14	32.68
D–16	19.02	19.52	14	33.52
D–17	18.41	18.91	14	32.91

NOTE: CONTRACTOR TO FIELD VERIFY ALL ELEVATIONS AND POLE HEIGHTS.

Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Description	Lamp Output	LLF	Input Power
	A	4	Cyclone Lighting	BECSxA–FGC–T4–P40–30K w/20' Cyclone PAL50 pole	Tribeca	7094	0.9	59.59553
	B	5	Cyclone Lighting	BECSxA–FGC–T4–P40–30K w/20' Cyclone PAL50 pole	Tribeca	7094	0.9	119.1911
	C	6	Cyclone Lighting	BECSxA–FGC–T4–P40–30K w/20' Cyclone PAL50 pole	Tribeca	7094	0.9	119.1911
	D	20	Cyclone Lighting	ZC4–16–P40–3K	Zen	13	0.9	54
	E	14	Holophane	GVD3 P20 30K XXXX GL5 FC w/Holophane 12' OSA Pole	GranVille Gen3, P20 Performance Package, 3000K, Type 5 distribution with Full Cover	5356	0.9	39

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking and Drive Areas	+	2.2 fc	4.6 fc	0.9 fc	5.1:1	2.4:1
Pedestrian Walkway	+	1.6 fc	3.9 fc	0.5 fc	7.8:1	3.2:1
Security Area	+	1.6 fc	2.9 fc	0.9 fc	3.2:1	1.8:1
Site	+	1.3 fc	4.6 fc	0.0 fc	N/A	N/A
Street Lighting Area	+	0.9 fc	2.4 fc	0.4 fc	6.0:1	2.3:1
Loading Area	+	1.2 fc	2.7 fc	0.6 fc	4.5:1	2.0:1

NOTE:

SEE SHEET CS2202 FOR SITE LIGHTING CONDUIT LAYOUT.

0 30' 60'

NOT FOR CONSTRUCTION

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.669.5400
NJ. CA NO. GA28033300

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LIGHTING PLAN (PHASE 1)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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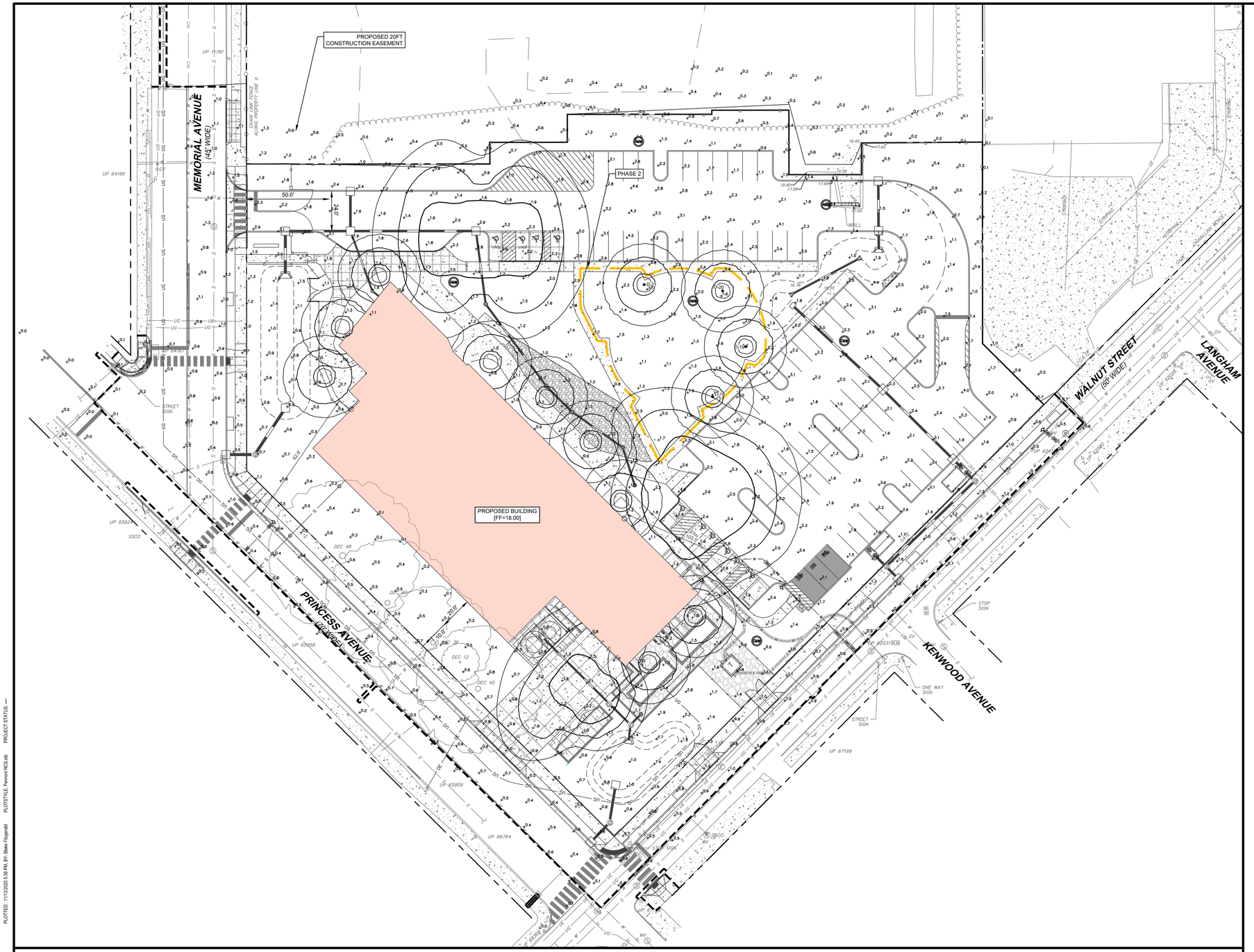
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS2201

SHEET 21 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS2201.dwg PLOTTED: 11/13/2025 5:37 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



SITE LIGHTING – POLE HEIGHTS

FIXTURE	FINISHED GRADE EL.	TOP OF FOUNDATION EL.	POLE HT.	TOP OF POLE EL.
A–1	17.08	17.58	18	35.58
A–2	16.75	17.25	18	35.25
A–3	18.14	18.64	16	34.64
A–4	14.00	14.50	20	34.50
B–1	18.03	18.53	16	34.53
B–2	17.02	17.52	18	35.52
B–3	16.35	16.85	18	34.85
B–4	17.86	18.36	16	34.36
B–5	17.61	18.01	16	34.01
C–1	17.89	18.39	16	34.39
C–2	19.55	20.05	14	35.05
C–3	19.65	20.15	14	35.15
C–4	17.62	18.12	16	34.12
C–5	16.33	16.83	18	34.83
D–1	16.77	17.27	16	33.27
D–2	16.99	17.49	16	33.49
D–3	16.92	17.42	16	33.42
D–4	17.43	17.93	16	33.93
D–5	17.55	18.05	16	34.05
D–6	17.42	17.92	16	33.92
D–7	17.09	17.59	16	33.59
D–8	18.78	19.28	14	33.28
D–9	17.88	18.38	14	32.38
D–10	17.17	17.25	16	33.25
D–11	17.75	17.83	16	33.83
D–12	17.90	18.40	14	32.40
D–13	17.86	18.36	14	32.36
D–14	17.70	18.20	16	34.20
D–15	18.18	18.68	14	32.68
D–16	19.02	19.52	14	33.52
D–17	18.41	18.91	14	32.91
D–18	17.50	18.00	16	34.00
D–19	18.18	18.68	14	32.68
D–20	19.20	19.70	14	33.70
D–21	19.63	20.13	14	34.13

NOTE: CONTRACTOR TO FIELD VERIFY ALL ELEVATIONS AND POLE HEIGHTS.

LIGHTING LEGEND:

- LIGHT FIXTURE D
- PHASE 2

NOTE:

SEE SHEET CS2203 FOR SITE LIGHTING CONDUIT LAYOUT.

0 30' 60'

NOT FOR CONSTRUCTION

Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Description	Lamp Output	LLF	Input Power
*	D	4	Cyclone Lighting	ZC4-16-P40-3K	Zen	13	0.9	54

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking and Drive Areas	+	2.2 fc	4.6 fc	0.9 fc	5.1:1	2.4:1
Pedestrian Walkway	+	1.6 fc	3.9 fc	0.5 fc	7.8:1	3.2:1
Security Area	+	1.6 fc	2.9 fc	0.9 fc	3.2:1	1.8:1
Site	+	1.3 fc	4.6 fc	0.0 fc	N/A	N/A
Street Lighting Area	+	0.9 fc	2.4 fc	0.4 fc	6.0:1	2.3:1
Loading Area	+	1.2 fc	2.7 fc	0.6 fc	4.5:1	2.0:1

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.669.5800
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LIGHTING PLAN (PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

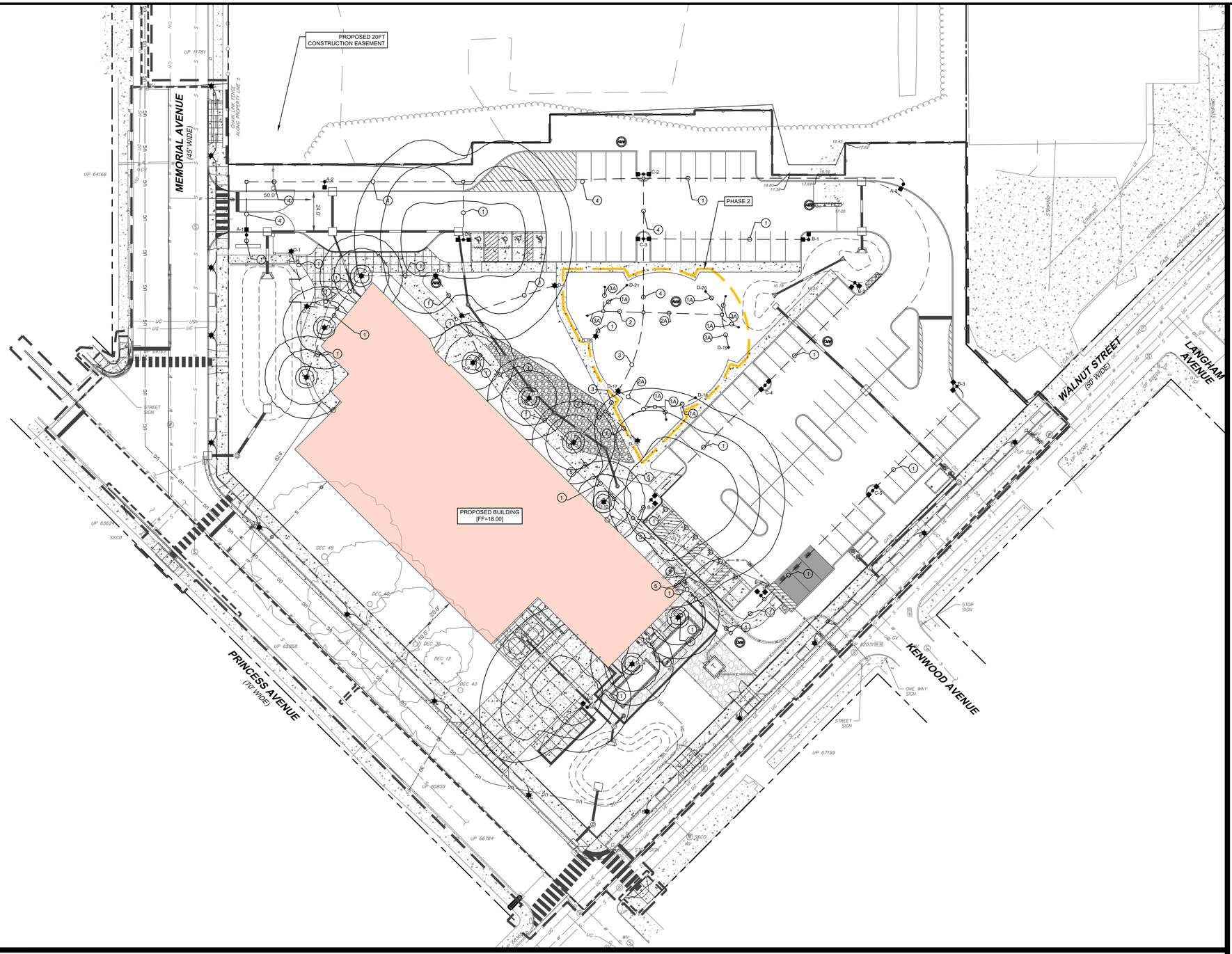
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS2202

SHEET 22 OF 45

PLOTTED: 11/13/2025 5:38 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS2202.dwg


PROPOSED 20FT CONSTRUCTION EASEMENT
MEMORIAL AVENUE (45' WIDE)
PHASE 2
PROPOSED BUILDING [FF=18.00]
WALNUT STREET (60' WIDE)
LANGHAM AVENUE
PRINCESS AVENUE (70' WIDE)
KENWOOD AVENUE
STREET SIGN
STOP SIGN
ONE WAY SIGN
50.0'
24.0'
85'-6"
20.0'
10.0'
UP 64166
UP 11781
UP 63958
UP 65621
UP 65959
UP 66764
UP 67199
UP 64208
UP 64209
UP 64210
UP 64211
UP 64212
UP 64213
UP 64214
UP 64215
UP 64216
UP 64217
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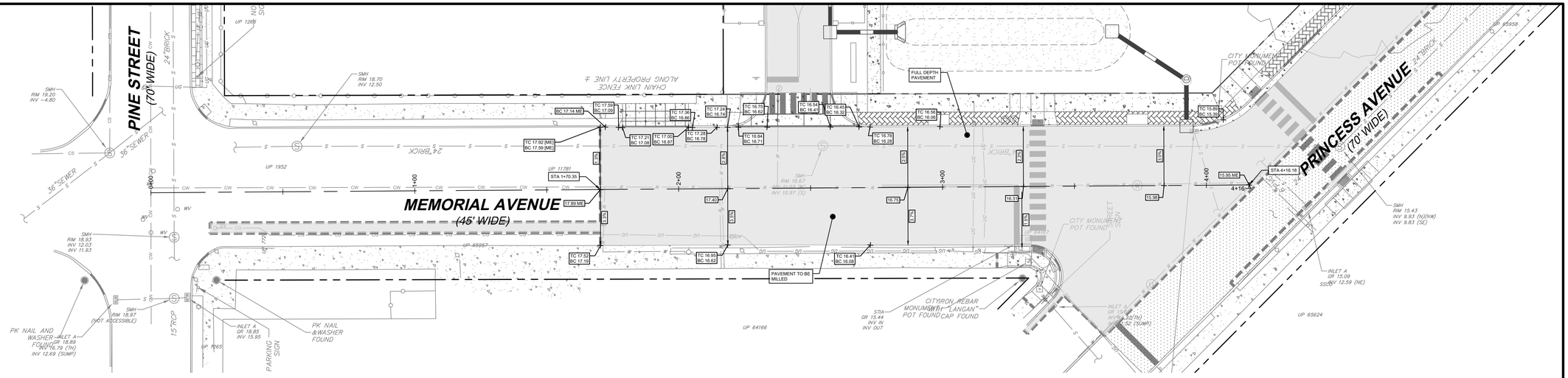
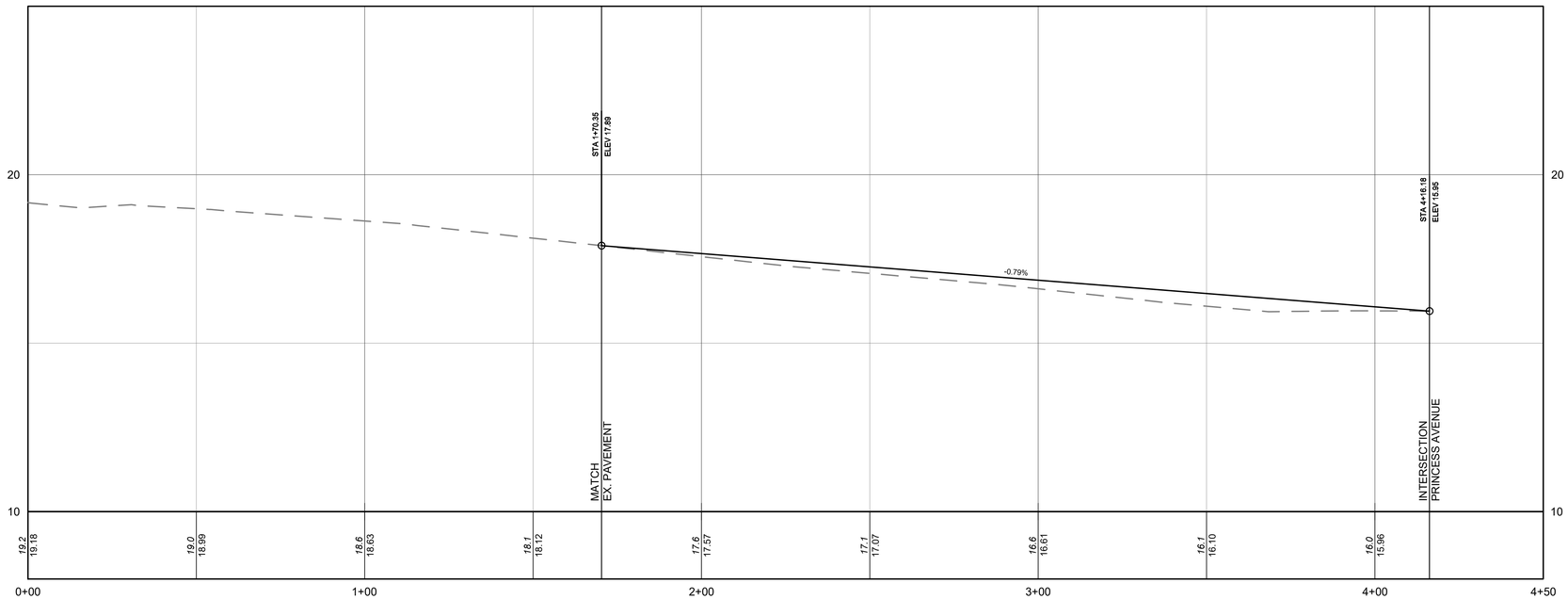
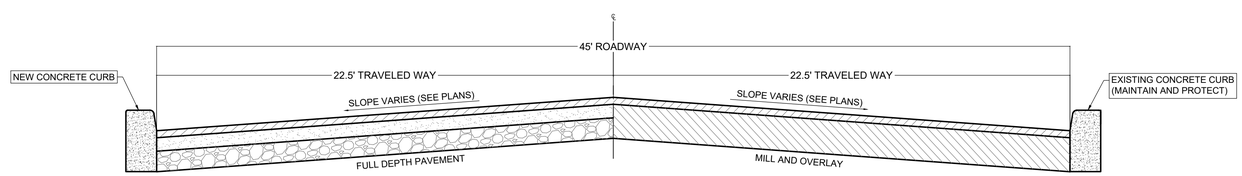
UP 64223
UP 64224
UP 64225
UP 64226
UP 64227
UP



PLAN VIEW
SCALE: 1"=20'



MEMORIAL AVENUE CENTER LINE PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



TYPICAL ROAD CROSS SECTION (MEMORIAL AVENUE)
N.T.S.

HORIZONTAL: 1" = 20'

VERTICAL: 1" = 2'

0 20' 40'

0 2' 4'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

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NEW JERSEY LICENSE NO. GE043768

11/17/25

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CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

ROAD PROFILES - MEMORIAL AVENUE

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

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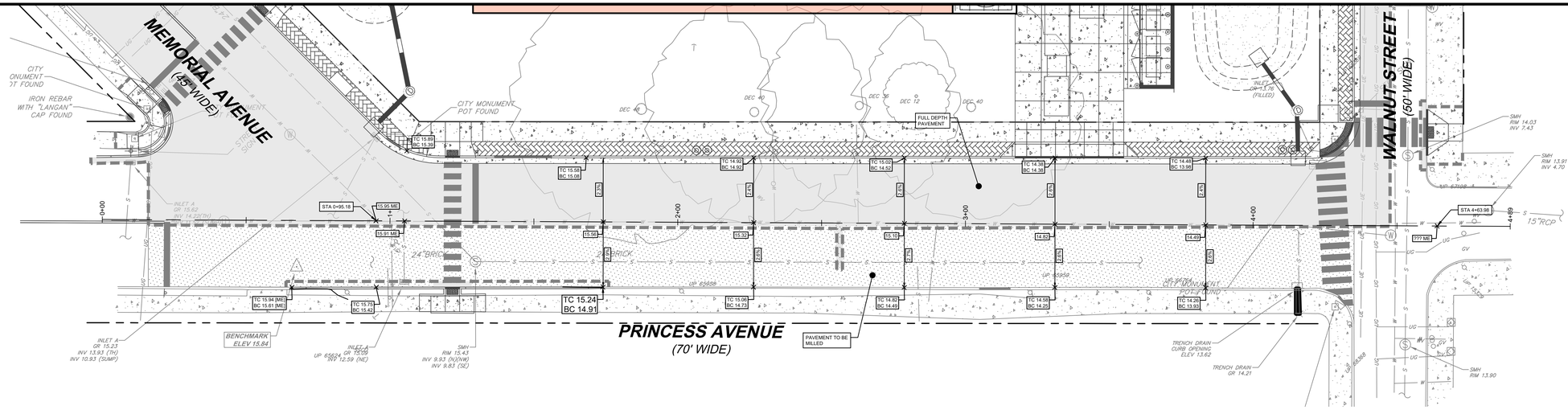
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

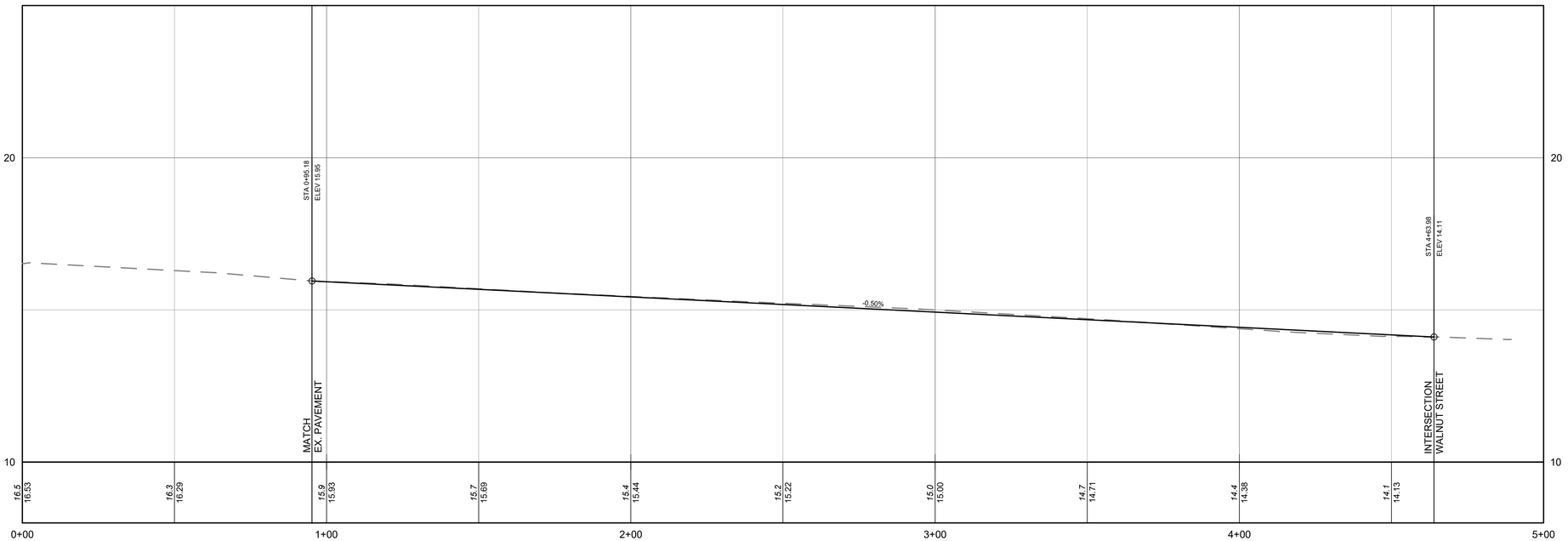
CS3501

SHEET 24 OF 45

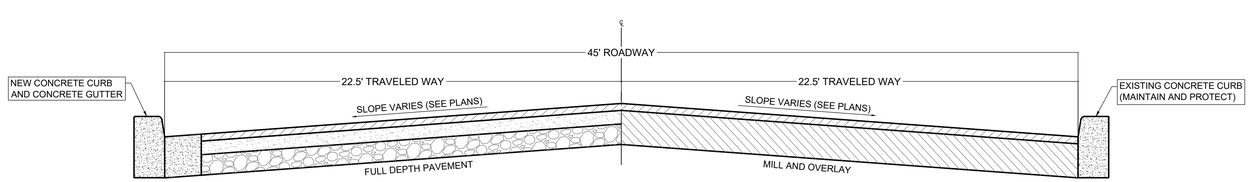
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS3501.dwg PLOTTED: 11/13/2025 5:39 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



PLAN VIEW
SCALE: 1"=30'



PRINCESS AVENUE CENTER LINE PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



TYPICAL ROAD CROSS SECTION (PRINCESS AVENUE)
N.T.S.

HORIZONTAL: 1" = 20'

VERTICAL: 1" = 2'

0 20' 40'

0 2' 4'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

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JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

ROAD PROFILES - PRINCESS AVENUE

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
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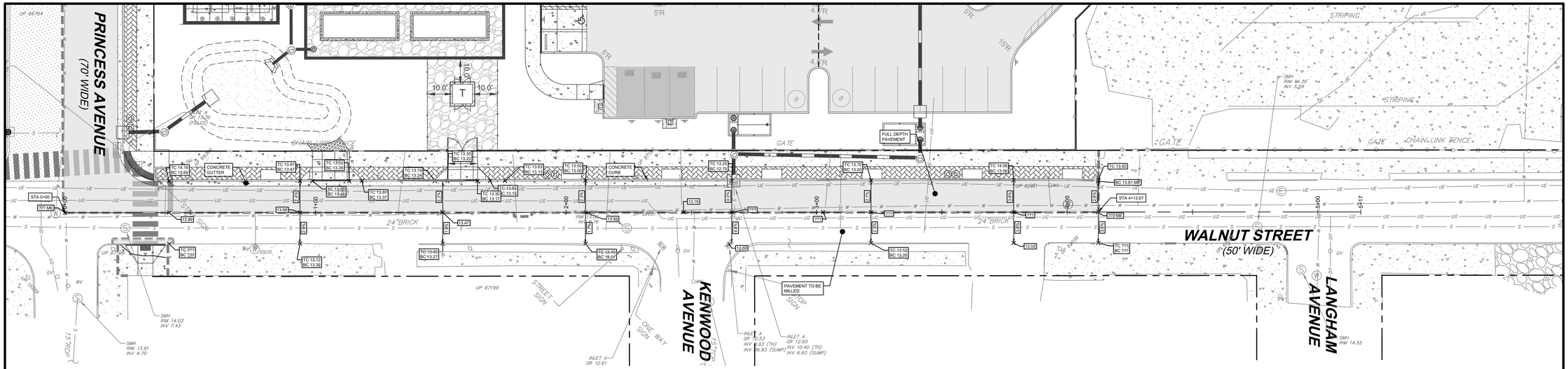
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=20'
DRAWN BY	BF
APPROVED BY	JJR

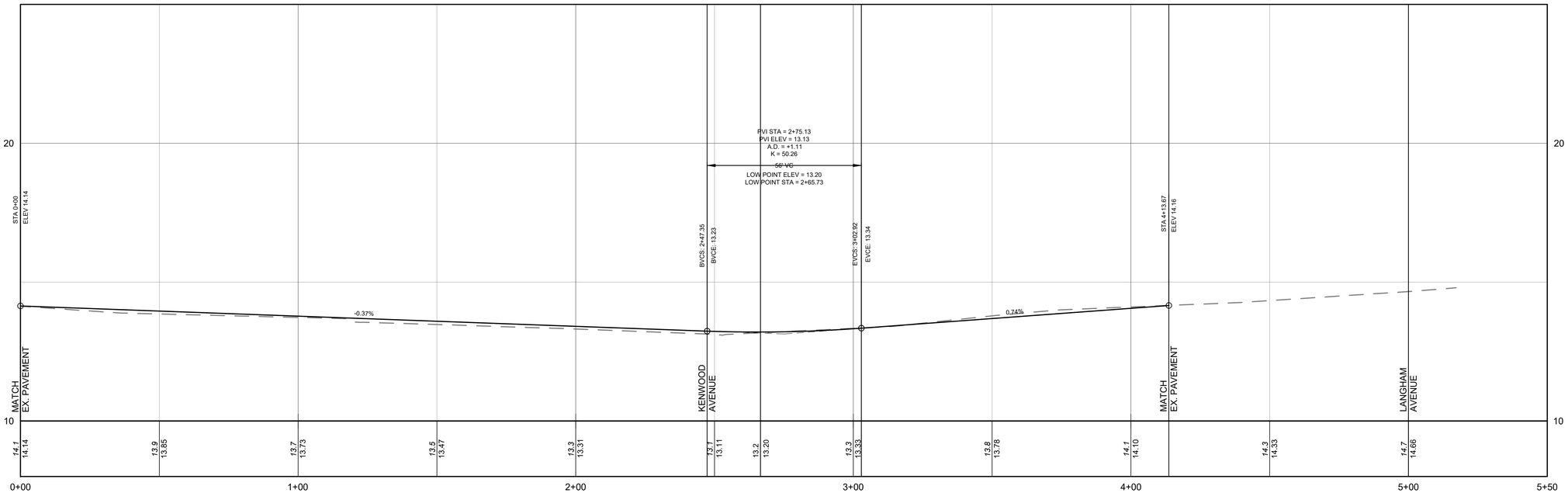
CS3502

SHEET 25 OF 45

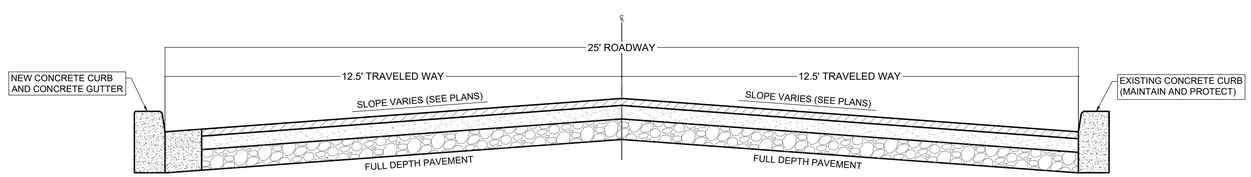
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS3502.dwg PLOTTED: 11/13/2025 5:39 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni WCS.ctb PROJECT STATUS: —



PLAN VIEW
SCALE: 1"=30'



WALNUT STREET CENTER LINE PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



TYPICAL ROAD CROSS SECTION (WALNUT STREET)
N.T.S.

HORIZONTAL: 1" = 20'

VERTICAL: 1" = 2'

0 20' 40'

0 2' 4'

NOT FOR CONSTRUCTION

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NEW JERSEY LICENSE NO. GE043768

11/17/25

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BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

ROAD PROFILES - WALNUT STREET

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
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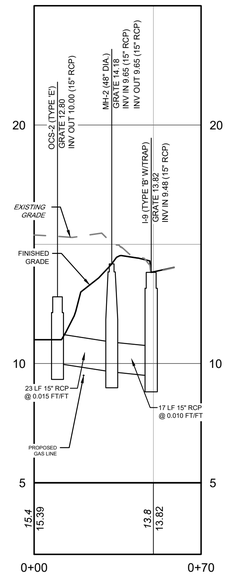
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=20'
DRAWN BY	BF
APPROVED BY	JJR

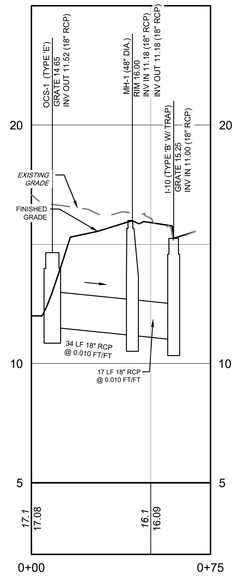
CS3503

SHEET 26 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS3503.dwg PLOTTED: 11/13/2025 5:40 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



STORM PROFILE (OCS-2 TO I-9)
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



STORM PROFILE (OCS-1 TO I-10)
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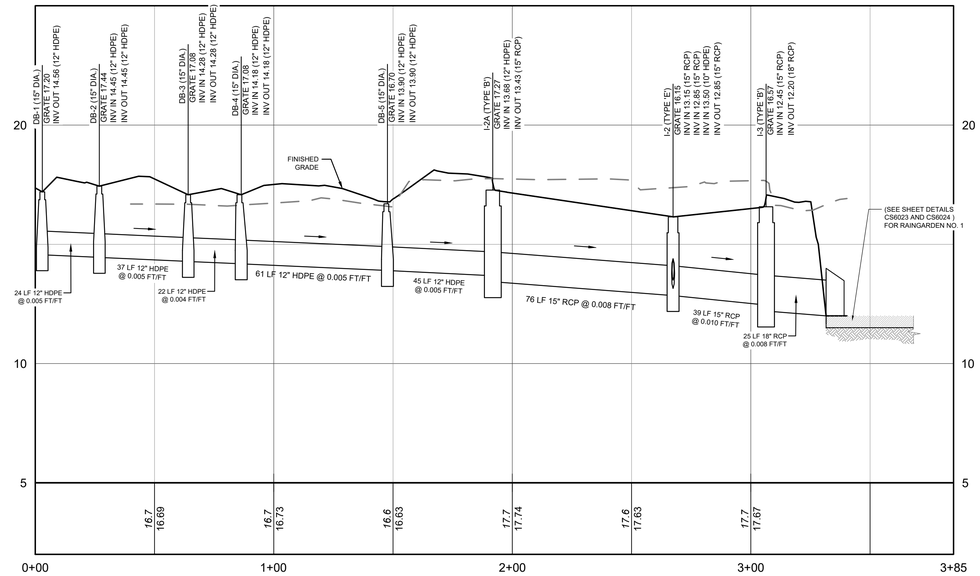
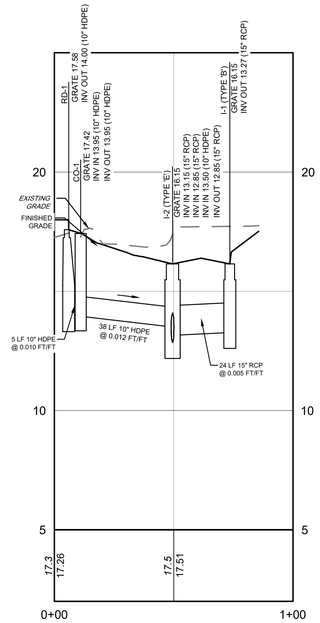
VERTICAL SCALE: 1" = 3'



STORM PROFILE (DB-1 TO HW-1)
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



STORM PROFILE (RD-1 TO I-1)
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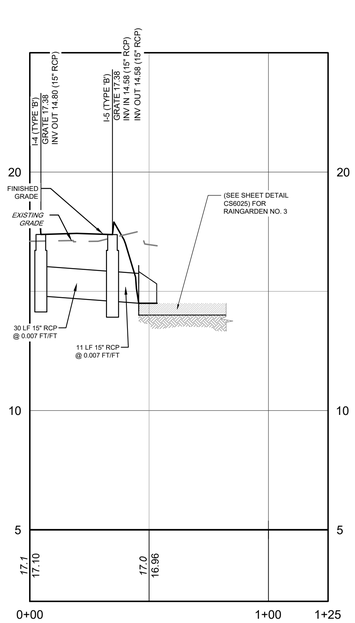
VERTICAL SCALE: 1" = 3'



STORM PROFILE (I-4 TO HW-2)
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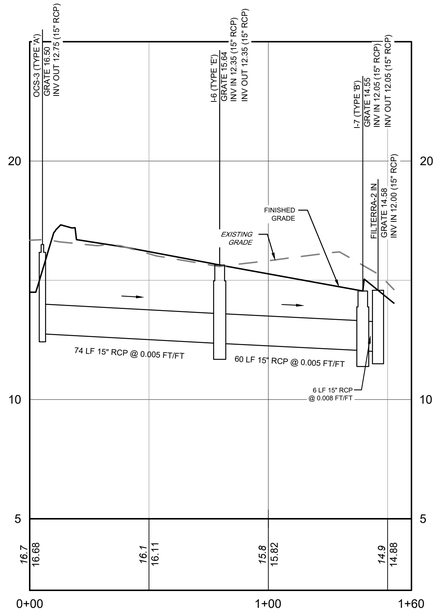
VERTICAL SCALE: 1" = 3'



STORM PROFILE (OCS-3 TO FILTERRA-2 IN)
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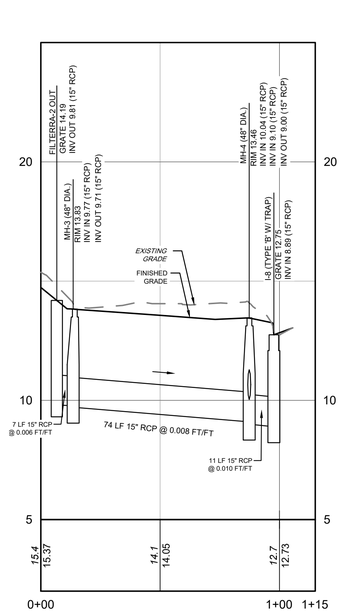
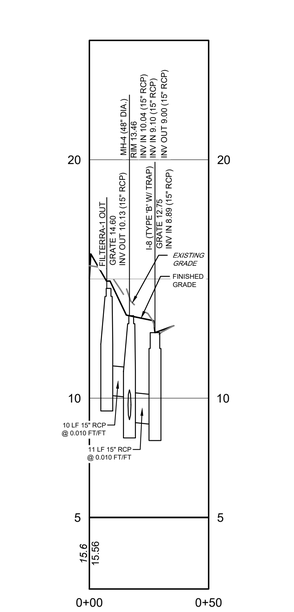
VERTICAL SCALE: 1" = 3'



STORM PROFILE (FILTERRA-2 OUT TO I-8)
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



STORM PROFILE (FILTERRA-1 OUT TO I-8)
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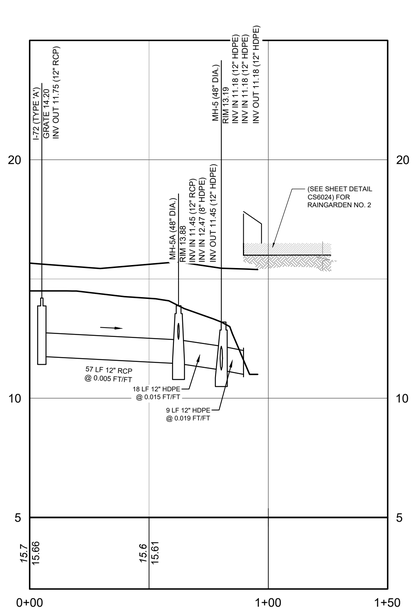
VERTICAL SCALE: 1" = 3'



STOM PROFILE (I-72 TO HW-3)
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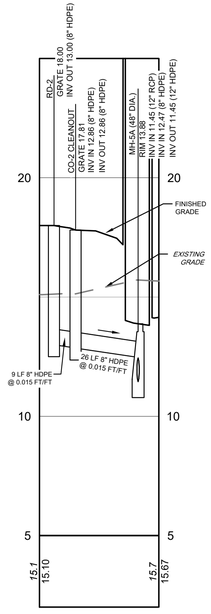
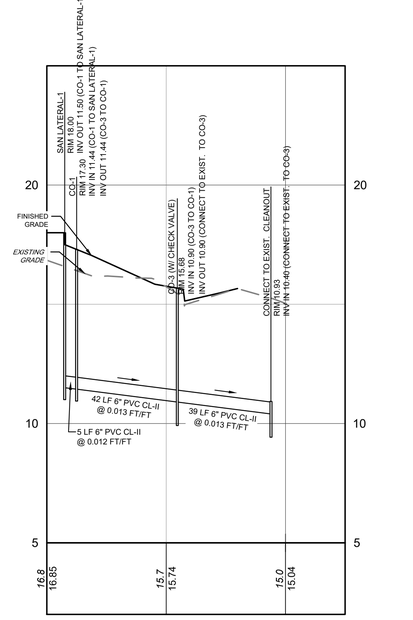
VERTICAL SCALE: 1" = 3'



STORM PROFILE (RD-2 TO MH-5A)
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



SANITARY SEWER PROFILE (LAT-1 TO EXIST. 24 BRICK SEWER)
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'

HORIZONTAL: 1" = 30'

VERTICAL: 1" = 3'

0 30' 60'

0 5' 10'

NOT FOR CONSTRUCTION

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS4001.dwg PLOTTED: 11/13/2025 5:40 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni-NCS.ctb PROJECT STATUS: —

Pennoni

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NJ. CA NO. GA28033300

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NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

STORM AND SEWER PROFILES

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

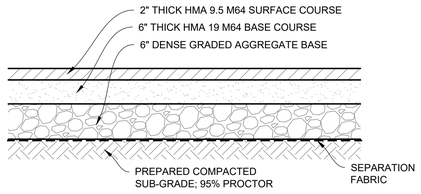
NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

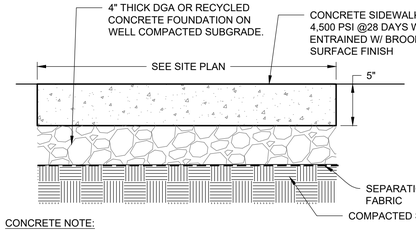
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS4001

SHEET 27 OF 45



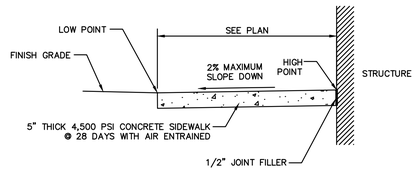
1 PAVEMENT DETAIL (PARKING AND STREET PAVEMENT RESTORATION)
NOT TO SCALE



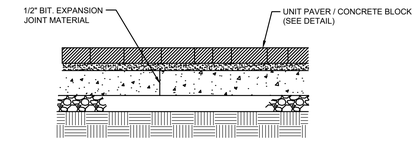
CONCRETE NOTE:

1. ALL CONCRETE SHALL BE 4,500 PSI @28 DAYS AIR ENTRAINED.
2. PRE MOLDED BITUMINOUS EXPANSION JOINT MATERIAL (OR EQUAL) SHALL BE INSTALLED EVERY TWENTY (20) FEET AND CONTRACTION JOINTS INSTALLED EVERY FOUR (4) FEET.
3. BROOM FINISH ALL CONCRETE SIDEWALK AND REINFORCED CONCRETE SURFACES PERPENDICULAR TO THE DIRECTION OF TRAFFIC TO CREATE A SKID RESISTANT SURFACE.
4. ALL CONSTRUCTION TO COMPLY WITH BARRIER FREE CODE REQUIREMENTS. SHOULD CONDITIONS NOT PERMIT COMPLIANCE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
5. CONTRACTOR ALSO MUST REFER TO BIKE RACK CONCRETE PAD ON SHEET CS6005.

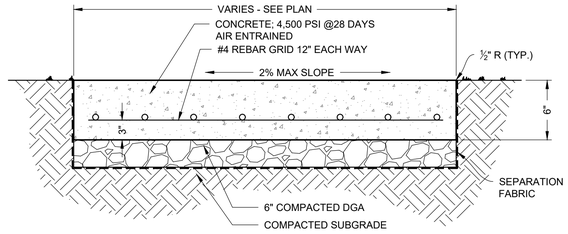
2 CONCRETE SIDEWALK/BIKE RACK PAD DETAIL
NOT TO SCALE



3 CONCRETE SIDEWALK (AT STRUCTURE)
NOT TO SCALE



4 EXPANSION JOINT (UNIT PAVER CONCRETE BLOCK) DETAIL
NOT TO SCALE

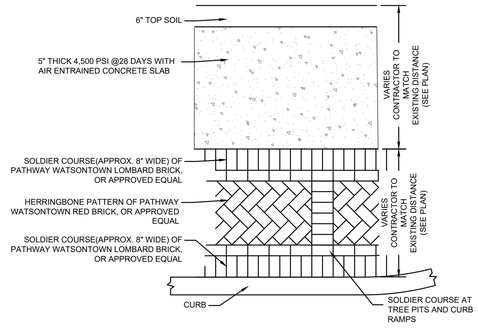


SECTION VIEW

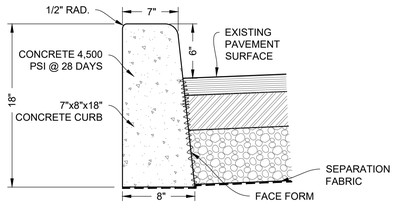
SPECIFICATIONS

1. EXPANSION JOINTS SHALL BE AT 15 FT C.C. MAXIMUM. EXPANSION JOINT LOCATIONS SHALL APPROVED BY ENGINEER/OWNER.
2. EXPANSION JOINT SHALL BE 1/2" MASTIC MATERIAL OR APPROVED EQUAL.
3. ALL EXPANSION JOINTS SHALL RECEIVE A BACKER ROD AND COLORED NON-SHRINK SEALER TO MATCH CONCRETE; SIKA OR EQUAL.
4. CONTRACTOR TO REFER TO ARCHITECTURAL PLANS FOR TRASH ENCLOSURE DETAILS.

5 REINF. CONC. PAD FOR TRASH ENCLOSURE, DROP-OFF AREA AND ADA PARKING
NOT TO SCALE



6 STANDARD BRICK PAVING PATTERN
NOT TO SCALE

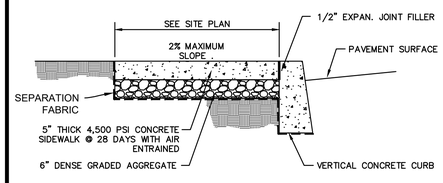


NOTES:

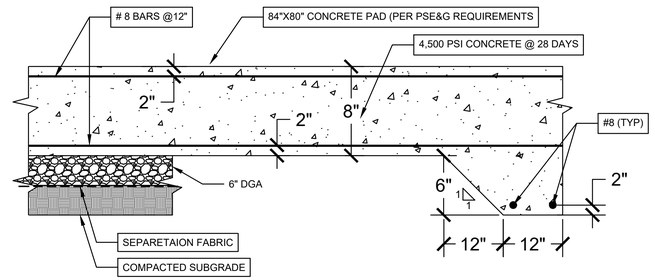
1. WHEN NEW CURB IS CONSTRUCTED ALONG AN EXISTING PAVED AREA, THE EXISTING PAVEMENT SHALL BE CUT IN A STRAIGHT LINE PARALLEL TO FACE OF NEW CURB WITH A SHARP TOOL AND THE NEW PAVEMENT SHALL BE TACKED AND BUTTED TO EXISTING PAVEMENT.
2. EXPANSION JOINTS ½" WIDE SHALL BE INSTALLED IN THE CURB 20' APART AND FILLED WITH CELLULAR COMPRESSION MATERIAL AS SPECIFIED AND RECESSED ¼" FROM FACE AND TOP OF CURB. EXPANSION JOINTS TO BE INCLUDED IN PRICE BID FOR CURB. EXPANSION JOINTS TO BE INCLUDED IN PRICE BID FOR CURB. CONSTRUCTION JOINT SHALL BE CUT MID-POINT BETWEEN EXP. JOINTS.

* WHERE NO ELEVATIONS ARE GIVEN ON THE PLAN, MATCH THE PROJECTED TOP OF EXISTING CURB. THE PROJECTED TOP OF CURB SHALL BE DETERMINED BY A STRING LINE.

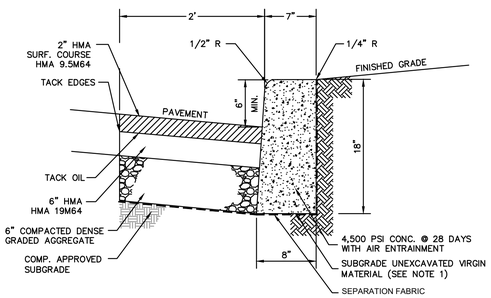
7 CITY OF CAMDEN VERTICAL CONCRETE CURB REPLACEMENT DETAIL
NOT TO SCALE



8 SIDE WALK & VERTICAL CONCRETE CURB
NOT TO SCALE



9 CONCRETE PAD FOR SWITCH
NOT TO SCALE



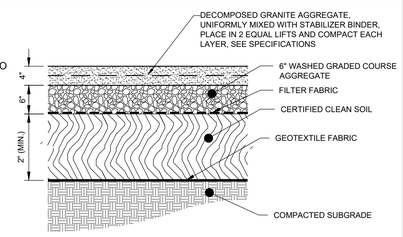
NOTES:

1. ANY EXCAVATION BELOW DESIRED GRADE DUE TO OVER EXCAVATION OR WET SOIL CONDITIONS SHALL BE BACKFILLED WITH 3/4" CLEAN CRUSHED STONE. ALL SUBGRADES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO POURING.
2. EXPANSION JOINTS SHALL BE PROVIDED AT EQUAL DISTANCES OF NOT MORE THAN 20' AND AT ALL STORM SEWER INLETS. JOINTS SHALL BE FILLED WITH PREMOLDED EXPANSION JOINTS FILLER, 1/2" THICK CONFORMING TO NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.CONTRACTION JOINTS SHALL BE PROVIDED EVERY 10'. THE JOINT SHALL BE RECESSED 1/4" FROM THE TOP AND FRONT OF THE CONCRETE CURB.
3. CURB SHALL BE TEMPORARY BACKFILLED TO FINISH GRADE WITH SOIL BEHIND AND STONE ON THE ROAD SIDE AS SOON AS IT HAS ATTAINED SUFFICIENT SUPPORTING STRENGTH OR WITHIN 24 HOURS OF POURING (WHICH EVER IS LESS).
4. WHEN NEW CURB IS INSTALLED ALONG AN EXISTING PAVED AREA, THE EXISTING PAVEMENT SHALL BE CUT 2 FEET IN FRONT OF THE NEW CURB FACE IN A STRAIGHT LINE WITH A CUTTING WHEEL OR PNEUMATIC THE NEW PAVEMENT SHALL BE TACKED AND BUTTED TO THE EXISTING PAVEMENT.
5. FOR CURB CONSTRUCTION ADJACENT TO CONCRETE PAVEMENT, CONTRACTOR TO USE 9" PLAIN CONCRETE ON 6" DGA.

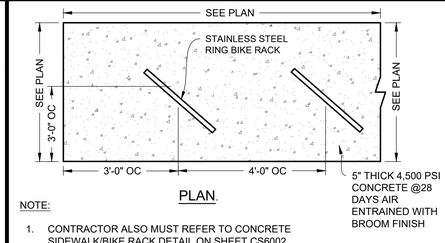
13 CONCRETE CURB DETAIL
NOT TO SCALE

NOTES:

CONTRACTOR MAY BE REQUIRED TO INSTALL MORE THAN 2" MINIMUM CLEAN FILL TO ACCOMPLISH REQUIRED POST GRADING AND TO BE IN ACCORDANCE WITH PLANS AND CONSTRUCTION SPECIFICATIONS.



10 STABILIZED GRANULAR PAVEMENT
NOT TO SCALE

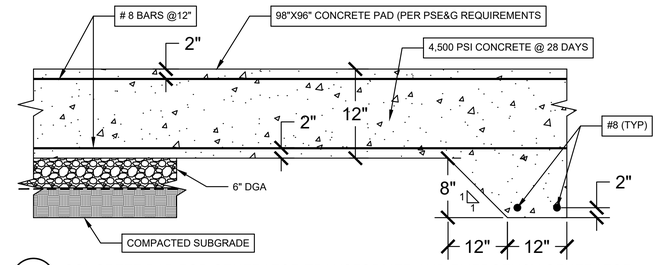


PLAN

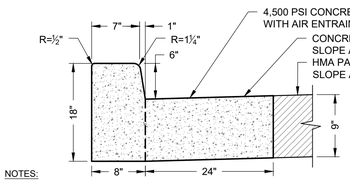
NOTE:

1. CONTRACTOR ALSO MUST REFER TO CONCRETE SIDEWALK/BIKE RACK DETAIL ON SHEET CS6002.

11 BIKE RACK AND CONCRETE PAD DETAIL
NOT TO SCALE



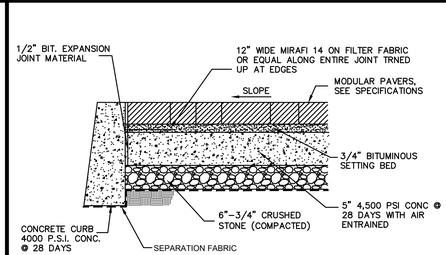
12 CONCRETE PAD FOR GENERATOR TRANSFORMER AND EMERGENCY GENERATOR
NOT TO SCALE



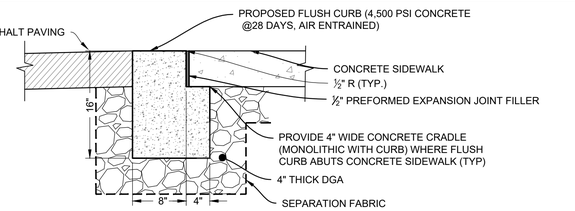
NOTES:

1. TRANSVERSE JOINTS ½" WIDE SHALL BE INSTALLED IN THE CURB 20'-0" APART AND SHALL BE FILLED WIT PREFORMED BITUMINOUS IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS FOR TYPE III FILER IN A.A.S.H.T.O. SPECS M-153, RECESSED ¼" IN FROM FRONT FACE AND TOP OF CURB.
2. JOINT MATERIAL IN THE CURB SHALL BE AS SPECIFIED FOR CONCRETE VERTICAL CURB. THE TRANSVERSE EXPANSION JOINT MATERIAL SHALL NOT EXTEND THRU THE CURB.
3. CONCRETE SHALL BE 4,500 PSI AT 28-DAY COMPRESSIVE STRENGTH WITH 6% ±1.5% AIR ENTRAINMENT.
4. CONCRETE CURB PORTION TO BE PAID FOR UNDER 7" X 8" X 18" CONCRETE VERTICAL CURB BID ITEM.
5. CONCRETE PAVEMENT SURFACE PORTION TO BE PAID FOR UNDER CONCRETE SURFACE COURSE BID ITEM.
6. *REFER TO CONSTRUCTION PLANS FOR CONCRETE CURB REVEAL.

14 STANDARD GUTTER DETAIL
NOT TO SCALE



15 JOINT AT CURBS DETAIL
NOT TO SCALE



16 FLUSH CONCRETE CURB DETAIL (AT ADA CURB RAMPS)
NOT TO SCALE

NOTES:

1. ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN.
2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS I

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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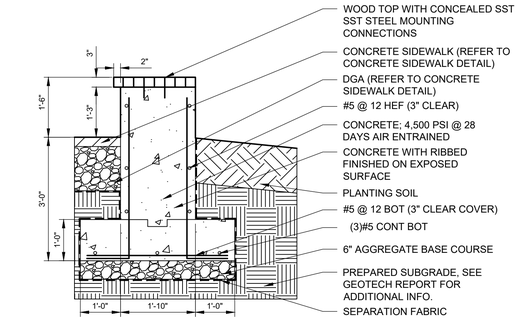
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6001

SHEET 28 OF 45

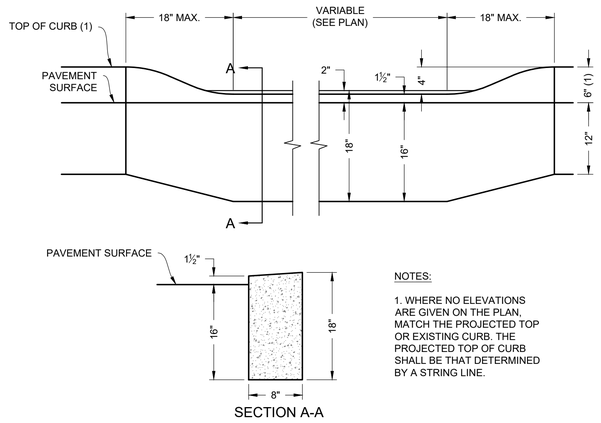
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6001-CS6006.dwg PLOTTED: 11/17/2025 5:48 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —



NOTES

1. SUBMIT SHOP DRAWINGS FOR CONCRETE WALL & WOOD BENCH.
2. CONTRACTOR TO REFER TO LANDSCAPE PLAN FOR PLANTING SOIL THICKNESS.
3. CONTRACTOR TO REFER TO SITE PLAN AND CONSTRUCTION DETAILS FOR CONCRETE SIDEWALK.

1 CONCRETE SEATWALL WITH BENCH TYPE B
NOT TO SCALE

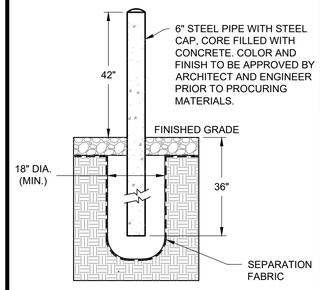


NOTES:

1. WHERE NO ELEVATIONS ARE GIVEN ON THE PLAN, MATCH THE PROJECTED TOP OR EXISTING CURB. THE PROJECTED TOP OF CURB SHALL BE THAT DETERMINED BY A STRING LINE.

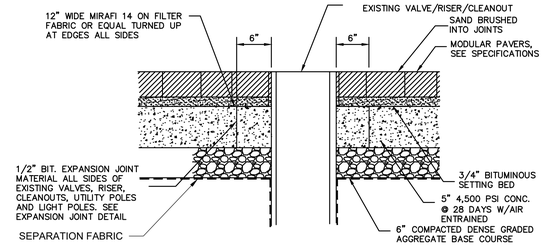
SECTION A-A

2 CITY OF CAMDEN DEPRESSED CURB DETAIL
NOT TO SCALE

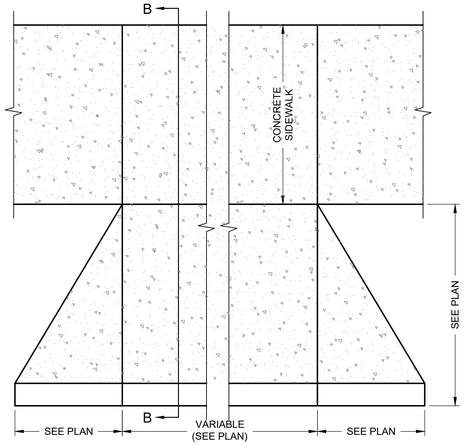


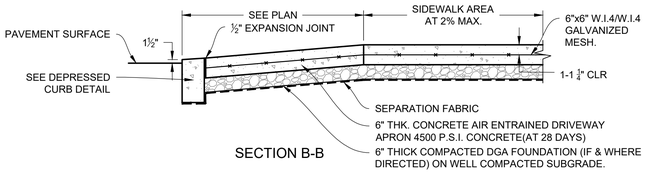
NOTE:
ALL CONCRETE SHALL HAVE A 4,000 PSI COMPRESSIVE STRENGTH @ 28 DAYS

3 BOLLARD DETAIL
NOT TO SCALE



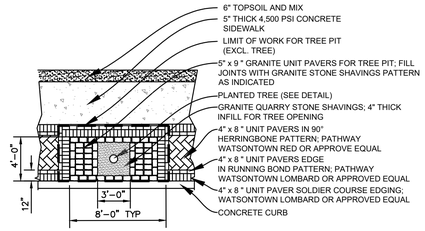
4 VALVE/RISER/CLEANOUT THROUGH BRICK SIDEWALK DETAIL
NOT TO SCALE



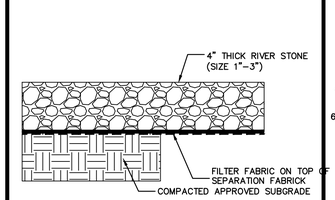


SECTION B-B

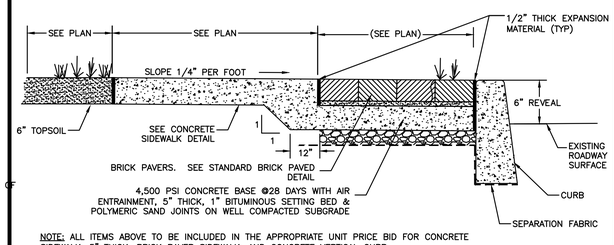
5 CITY OF CAMDEN DRIVEWAY APRON DETAIL
NOT TO SCALE



6 TYPICAL CURB SIDE TREE PIT AND UNIT PAVER SIDEWALK DETAIL
NOT TO SCALE

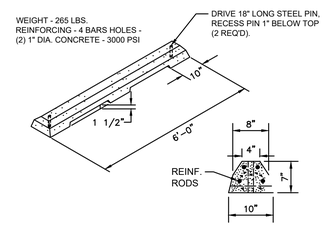


7 RIVER ROCK DETAIL
NOT TO SCALE

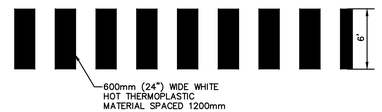


NOTE: ALL ITEMS ABOVE TO BE INCLUDED IN THE APPROPRIATE UNIT PRICE BID FOR CONCRETE SIDEWALK, 5" THICK, BRICK PAVER SIDEWALK, AND CONCRETE VERTICAL CURB

8 TYPICAL SECTION - STANDARD BRICK PAVING PATTERN
NOT TO SCALE



9 PRECAST CONCRETE WHEEL STOP (PINNED) DETAIL
NOT TO SCALE



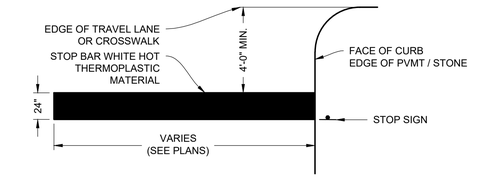
STRIPING NOTES:

1. ALL PROPOSED TRAFFIC STRIPING ON THE COUNTY ROAD SHALL BE HOT THERMOPLASTIC MATERIAL (3mm THICK), CONFORMING TO THE CURRENT NJDOT SPECIFICATIONS. CONTRACTOR SHALL HAVE STRIPING SUBCONTRACTOR SUBMIT PROPOSED SPECIFICATIONS, CONFORMING TO NJDOT SPECIFICATIONS, FOR THE THERMOPLASTIC MATERIALS TO THE ENGINEER FOR APPROVAL.

2. ALL EXISTING TRAFFIC STRIPING AND PAVING MARKINGS NOT CONFORMING WITH THIS PLAN SHALL BE REMOVED BY GRINDING, IN ACCORDANCE WITH CURRENT NJDOT REQUIREMENTS/STANDARDS AND AS APPROVED BY THE CITY ENGINEER.

3. CROSSWALK DETAIL WILL ALSO BE USED ON CITY OF CAMDEN ROADS.

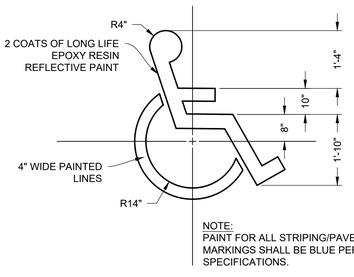
10 CROSSWALK DETAIL
NOT TO SCALE



NOTE STOP BARS LOCATED ON COUNTY ROADS AND WITHIN COUNTY R-O-W &/OR EASEMENTS:

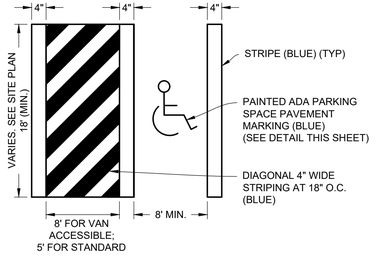
1) ALL STOP BARS TO BE HOT-EXTRUDED THERMOPLASTIC TYPE OF PAINT.
2) PAINT COLOR FOR ALL STOP BARS SHALL BE WHITE PER MUTCD REQUIREMENTS.
3) ALL DIMENSIONS SHALL CONFORM TO MUTCD AND BURLINGTON COUNTY SPECIFICATIONS.
4) CONTRACTOR TO REFER TO SIGNING AND STRIPING PLAN FOR FURTHER INFORMATION.

11 TYPICAL STOP BAR PAVEMENT MARKING DETAIL
NOT TO SCALE



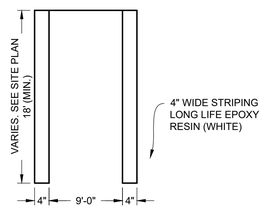
NOTE:
PAINT FOR ALL STRIPING/PAVEMENT MARKINGS SHALL BE BLUE PER ADA SPECIFICATIONS.

12 ADA PARKING SPACE PAVEMENT MARKING DETAIL
NOT TO SCALE

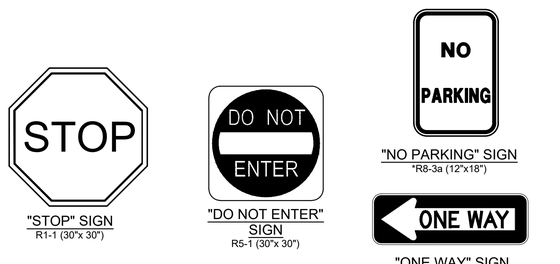


NOTE:
PAINT FOR ALL STRIPING SHALL BE LONG LIFE EPOXY RESIN BLUE REFLECTIVE PER ADA SPECIFICATIONS.

13 PAINTED ADA PARKING STALL
NOT TO SCALE



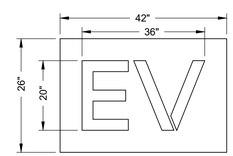
14 PAINTED PARKING STALL DETAIL
NOT TO SCALE



NOTES:

1. ALL SIGN MATERIALS SHALL BE MADE OF ALUMINUM BLANKS MOUNTED ON GALVANIZED STEEL POSTS, ALL CONFORMING TO NJDOT STANDARD SPECIFICATIONS.
2. ALL SIGNS SHALL MEET THE MOST CURRENT MUTCD REQUIREMENTS FOR RETRO-REFLECTIVITY.

15 SIGN DETAILS
NOT TO SCALE



NOTE:
PAINT FOR EV PARKING SHALL BE LONG LIFE EPOXY RESIN WITH WHITE LETTERING AND GREEN BACK GROUND PER NJ EVSE REQUIREMENTS.

16 EV MARKING DETAIL (TYP.)
NOT TO SCALE

NOTES:

1. ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN.
2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.662.8800
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS II

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

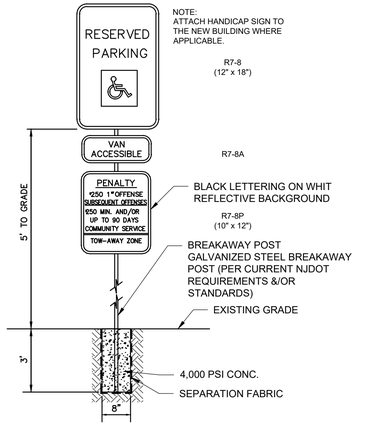
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

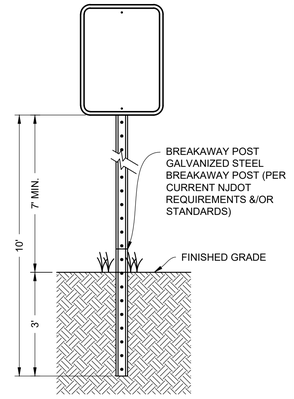
CS6002

SHEET 29 OF 45

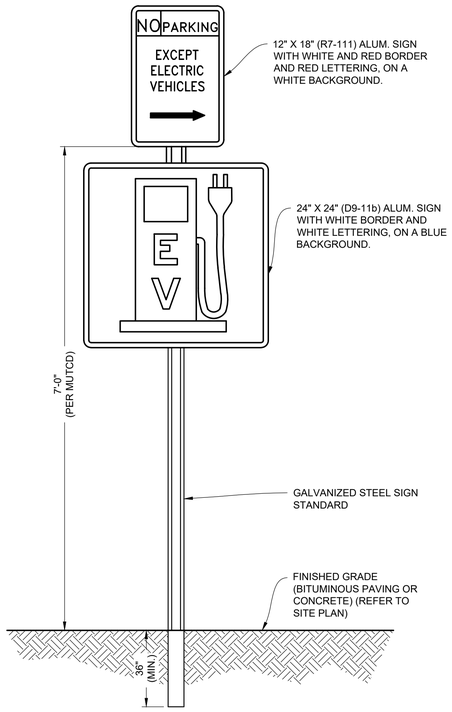
PROJECT STATUS: —
PLOTSTYLE: Pennoni NCS.stb
PLOTTED: 11/13/2025 5:40 PM, BY: Blake Fitzgerald
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6002-CS6006.dwg



1 HANDICAP PARKING w/PENALTY, VAN ACCESSIBLE DETAIL
NOT TO SCALE

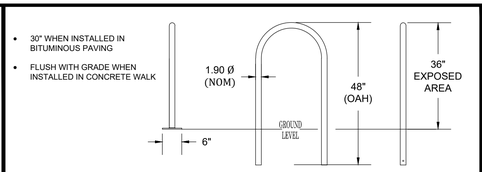


2 SIGN POST DETAIL
NOT TO SCALE



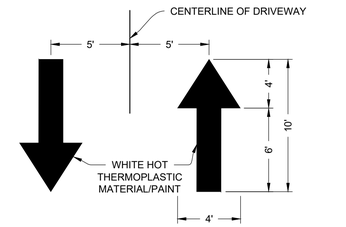
NOTES:
1. ALL SIGN MATERIALS SHALL BE MADE OF ALUMINUM BLANKS MOUNTED TO GALVANIZED STEEL POSTS, ALL CONFORMING TO NJDOT STANDARD SPECIFICATIONS.
2. ALL SIGNS SHALL MEET THE MOST CURRENT MUTCD REQUIREMENTS FOR RETRO-REFLECTIVITY.
3. ONE COAT OF PRIMER PAINT. TWO COATS OF FINISH PAINT. COLOR: TRAFFIC YELLOW.

3 EV PARKING SIGN DETAIL
NOT TO SCALE

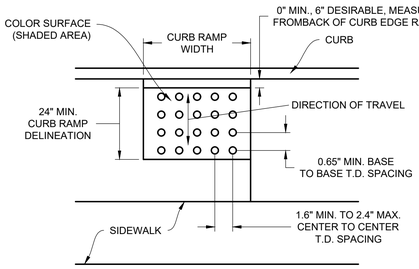


NOTES:
1. BIKE RACK TO BE MANUFACTURED BY CYCLESAFE INVERTED U-STYLE RACK, MODEL "U/2", OR APPROVED EQUIVALENT.
2. BIKE RACK FINISH SHALL BE POWER COAT, COLOR TRAFFIC BLACK.
3. PROVIDE IN-GROUND INSTALLATION PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

4 BIKE RACK DETAIL
NOT TO SCALE

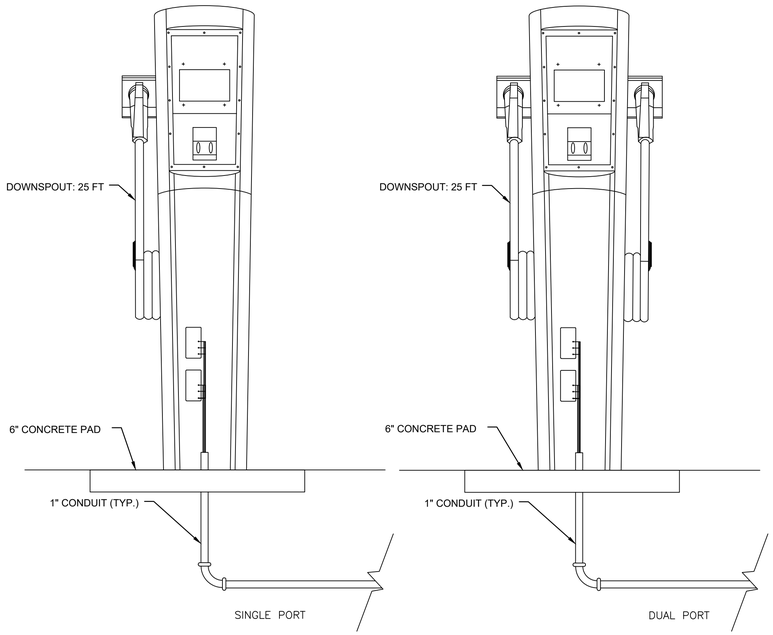


5 TRAFFIC FLOW DIRECTIONAL ARROW DETAIL
NOT TO SCALE



NOTES:
1. DETECTABLE WARNING SURFACES SHALL BE CONSTRUCTED OF ARMOR-TILE TACTILE SYSTEMS CAST IN PLACE TILES OR APPROVED EQUAL.
2. ALL DETECTABLE WARNING SURFACE PANELS COLOR: SAFETY RED. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

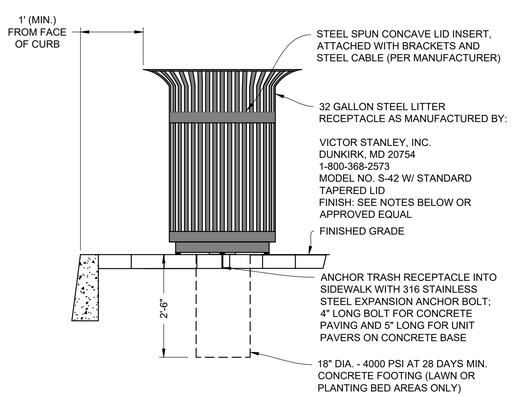
6 DETECTABLE WARNING SURFACE (DWS) DETAIL
NOT TO SCALE



NOTE:
1. CONTRACTOR TO SUBMIT SHOP DRAWING AND CONDUIT PLAN FOR REVIEW.

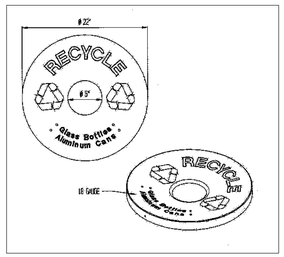
MANUFACTURER	MODEL	PRODUCT NUMBER	INPUT VOLTAGE	OUTPUT CURRENT	MOUNTING TYPE
BTC POWER	SINGLE PORT EVP-2002-40-P-0001	L2P-40-240-16	240/208 VAC PER PORT	30 , 40, OR 70 A PER PORT	PEDESTAL
BTC POWER	DUAL PORT EVP-2002-40-P-0001	L2P-40-240-15	240/208 VAC PER PORT	30 , 40, OR 70 A PER PORT	PEDESTAL

7 EV DUAL CHARGER DETAIL
NOT TO SCALE

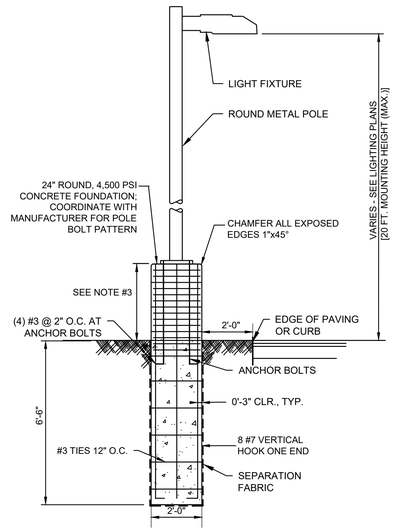


NOTES:
1. TWO TRASH RECEPTACLES SHALL BE PROVIDED AT EACH REFUSE LOCATION.
2. ONE LID INSERT FOR TRASH RECEPTACLE AND ONE LID INSERT FOR RECYCLE RECEPTACLE. TRASH FINISHED COLOR TO BE BLACK, POWDER COATED. RECYCLE FINISHED COLOR TO BE BLUE, POWDER COATED AND BE MARKED FOR RECYCLABLES.
3. CONTRACTOR SHALL PROVIDE THE OWNER WITH CATALOG CUTS FOR SELECTION OF FINAL COLOR PRIOR TO PROCUREMENT OF MATERIAL.
4. CONTRACTOR IS TO PROVIDE A COMPLETE INSTALLATION OF BOTH TYPES OF RECEPTACLE CONTAINERS.

8 TRASH AND RECYCLE RECEPTACLE DETAIL
NOT TO SCALE



9 RECYCLE LID INSERT
NOT TO SCALE



NOTES:

1. COLOR FOR LIGHT POLE, LIGHT FIXTURE, AND OTHER TYPE OF REQUIRED BRACKETS: BLACK

2. CONTRACTOR IS REQUIRED TO COORDINATE WITH MANUFACTURER ON BOLT PATTERN, TYPE OF BOLTS IN FOUNDATION, AND POLE. ALL WORK TO BE DONE IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATION.

3. SET TOP OF FOOTING 1" ABOVE GRADE FOR SIDEWALK AREAS, 6" ABOVE GRADE IN LANDSCAPE/LAWN AREAS AND 3' ABOVE GRADE IN PAVED PARKING AREAS.

10 LIGHT POLE DETAIL
NOT TO SCALE

NOTES:

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2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5400
NJ. CA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS III

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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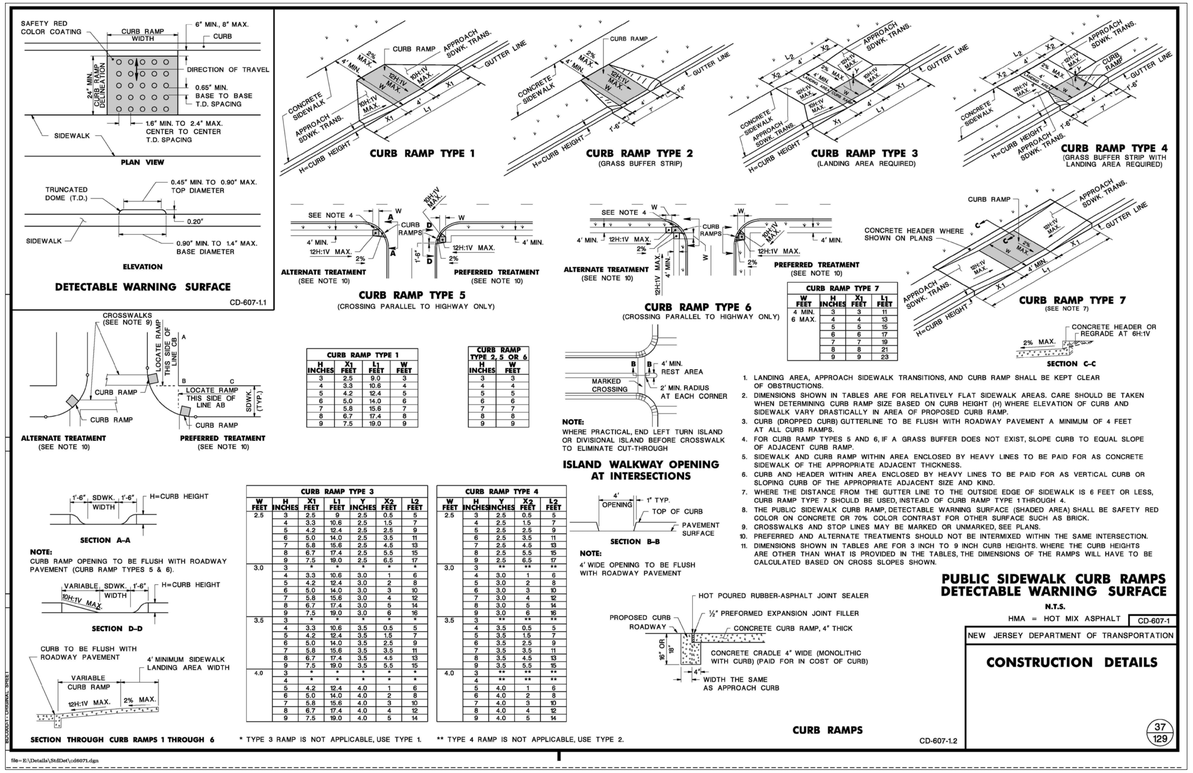
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

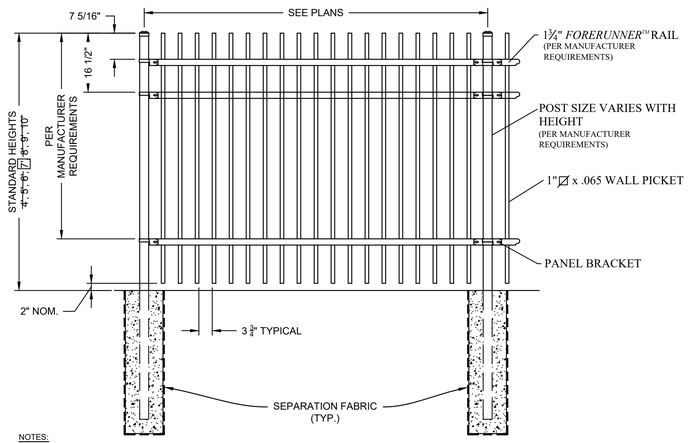
CS6003

SHEET 30 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6003-CS6006.dwg PLOTTED: 11/13/2025 5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni-MCS.ctb PROJECT STATUS: —



1 CURB RAMP DETAILS
NOT TO SCALE



NOTES:

1. FOR 7-FT HIGH FENCE AND 8' O.C. NOMINAL FENCE SECTION.
2. FENCE TO BE ECHELON II GENESIS 3-RAIL PANEL (2 TOP RAILS & 1 BOTTOM RAIL) AS MANUFACTURED BY AMERISTAR WITH "PERMACOAT" POWDER COATING SYSTEM COLOR BLACK OR APPROVAL EQUAL.
3. INSTALL PER MANUFACTURER'S REQUIREMENTS.

2 ESTATE FENCE DETAIL
NOT TO SCALE

NOTES:

1. ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN.
2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

Pennoni
PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.669.5100
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS IV

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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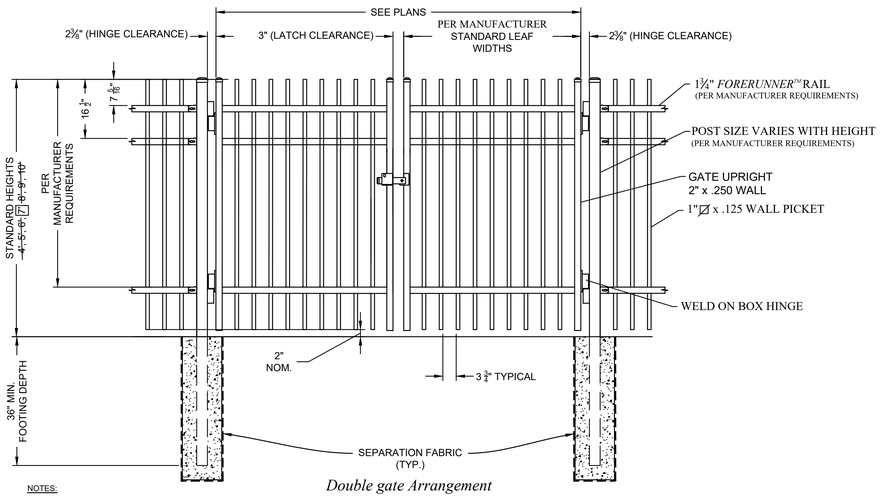
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6004

SHEET 31 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6001-CS6006.dwg PLOTTED: 11/13/2025,5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —

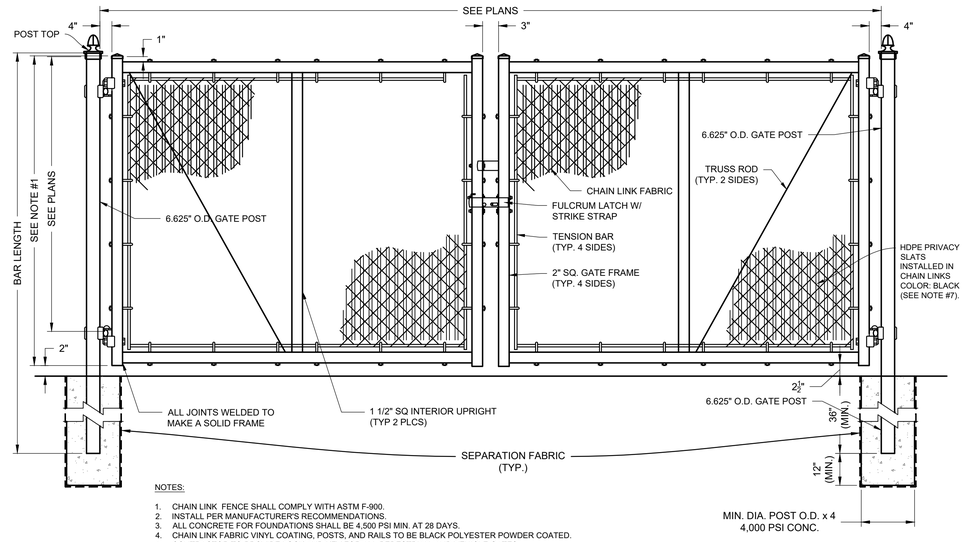


Double gate Arrangement

NOTES:

1. FOR 7-FT HIGH FENCE.
2. FENCE TO BE ECHELON II GENESIS 3-RAIL PANEL (2 TOP RAILS & 1 BOTTOM RAIL) AS MANUFACTURED BY AMERISTAR WITH "PERMACOAT" POWDER COATING SYSTEM COLOR BLACK OR APPROVED EQUIVALENT.
3. INSTALL PER MANUFACTURER'S REQUIREMENTS.
4. CONTRACTOR MUST PROVIDE A LOCK AND KEY AT NO ADDITIONAL COST TO OWNER. CONTRACTOR MUST CONFIRM WITH ENGINEER AND ARCHITECT TYPE AND NUMBER OF KEYS AND LOCKS TO BE PROVIDED PRIOR TO PROCUREMENT.

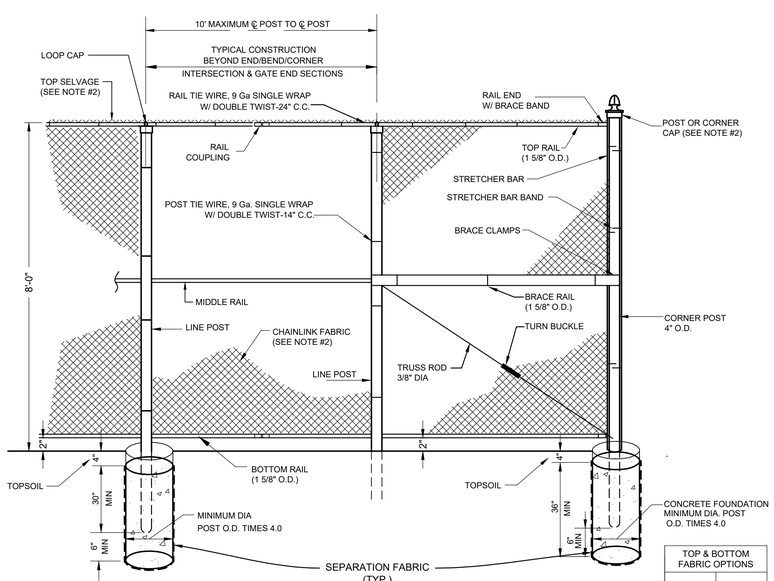
1 ESTATE FENCE DOUBLE SWING GATE DETAIL
NOT TO SCALE



NOTES:

1. CHAIN LINK FENCE SHALL COMPLY WITH ASTM F-900.
2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. ALL CONCRETE FOR FOUNDATIONS SHALL BE 4,500 PSI MIN. AT 28 DAYS.
4. CHAIN LINK FABRIC VINYL COATING, POSTS, AND RAILS TO BE BLACK POLYESTER POWDER COATED.
5. CONTRACTOR TO PROVIDE LOCK AND KEY FOR ALL PEDESTRIAN AND VEHICLE GATES.
6. PROVIDE HDPE PRIVACY SLATS FOR DOUBLE SWING GATE AT PSE&G EQUIPMENT ENCLOSURE. COST TO BE PAID FOR UNDER ASSOCIATED BID ITEM.

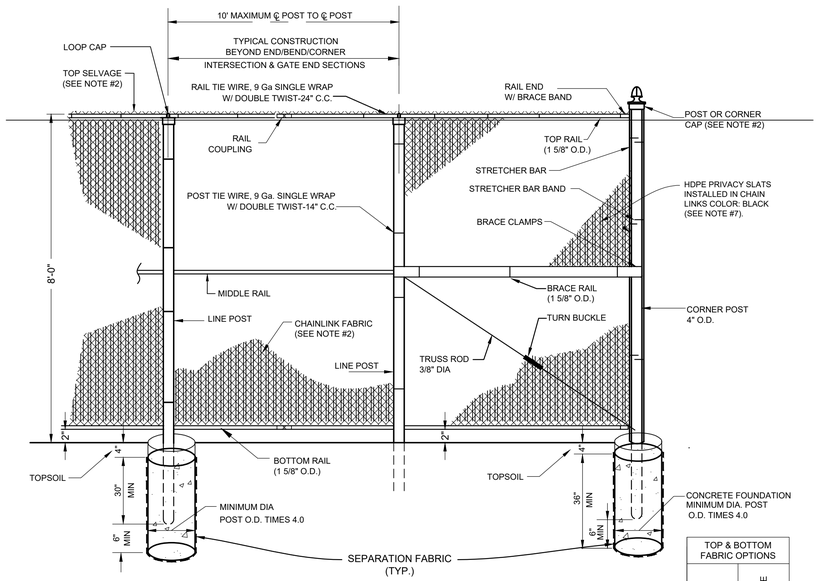
2 CHAINLINK FENCE DOUBLE SWING GATE DETAIL
NOT TO SCALE



NOTES:

1. ALL CONCRETE FOR FOUNDATIONS SHALL BE 4000 PSI MIN. @ 28 DAYS.
2. MESH FENCE FABRIC SHALL BE 9 GAUGE, BLACK, VINYL-COATED.
3. ALL HARDWARE AND FRAMING SHALL BE BLACK POLYESTER POWDER COATED.

3 CHAINLINK FENCE DETAIL
NOT TO SCALE



NOTES:

1. CHAIN LINK FENCE SHALL COMPLY WITH ASTM F-900.
2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. ALL CONCRETE FOR FOUNDATIONS SHALL BE 4,500 PSI MIN. AT 28 DAYS.
4. CHAIN LINK FABRIC VINYL COATING, POSTS, AND RAILS TO BE BLACK POLYESTER POWDER COATED.
5. CONTRACTOR TO PROVIDE LOCK AND KEY FOR ALL PEDESTRIAN AND VEHICLE GATES.
6. PROVIDE HDPE PRIVACY SLATS FOR CHAIN LINK FENCE AS SPECIFIED ON SITE PLAN. COST TO BE PAID FOR UNDER ASSOCIATED BID ITEM.

4 CHAINLINK FENCE DETAIL
NOT TO SCALE

NOTES:

1. ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN.
2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5400
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS V

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6005

SHEET 32 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6001-CS6006.dwg PLOTTED: 11/13/2025 5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

cyclone

Tribeca BECS1A/BECS2A Approval – Specification

Project: Order:
Qty: Luminaire: Type:

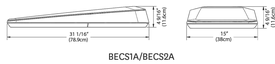
Ordering Code

Model	Lens	Distribution	Performance Package	CCT	Volts	Surge Protector
BECS1A (lenon of 1.66" to 1.9" Ø) **BECS2A** (lenon of 2 3/8" Ø)	**FGC** Flat Glass Clear **FGF** Flat Glass Frosted **NL** No lens	**T1** Type 1 **T1A** Type 1A **T1AHS** Type 1A with HS **T2** Type 2 **T2HS** Type 2 with HS **T2M** Type 2M **T2MHS** Type 2M with HS **T3** Type 3 **T3HS** Type 3 with HS **T3M** Type 3M **T3MHS** Type 3M with HS **T4** Type 4 **T4HS** Type 4 with HS **T5** Type 5 **Backward optic***	**P30** 7,000 **P50** 8,000 **P60** 10,500 **P70** 13,700 **P80** 15,500 **P90** 20,700 **P100** 23,400 **P110** 26,400 **P120** 28,700 **P130** 30,800 **P140** 32,100 **P150** 34,000	**30K** 3,000K **40K** 4,000K	**MVOLT** 120-277VAC **HVOLT** 347-480VAC **120** **208** **240** **277** **347** **480**	**10KV** 10 Kv **20KV** 20 Kv

Options	Photocell	Dimming	Color	Texture	Pre Finish
– **RMSOD30** **RMSOD45** **RMSOD45A** **RMSOD7** **RSDGR127** **RSDGR348**	– **PT** Photocell W/7-PIN receptacle (ANSI C136.41) **PX** Shorting cap W/7-PIN receptacle (ANSI C136.41) **PTL** Long life photocell W/7-PIN receptacle (ANSI C136.41) **PTDR** 7-PIN receptacle (ANSI C136.41) **PTFS** Photocell Sun-Tech model TRS-2	– **DIM** 0-10 volts dimming **PND506** Program 50% for 6 hours (11PM to 5AM) **PND508** Program 50% for 8 hours (9PM to 5AM) **SD** Field adjustable 10% increment step-dimming switch *Contact factory for wireless controls.	**BK** Black RAL9005 **DG** Dark green RAL6012 **MA** Marine blue RAL5013 **SI** Metallic silver RAL9006 (smooth only) **BZ** Dark bronze RAL8019 **BG** Burgundy RAL3005 **GM** Moss green RAL6005 **PG** Pale grey RAL7040 **WH** White RAL9003 **BKH*** Black Holophane (smooth only) **BZH*** Dark bronze Holophane (smooth only) **GNH*** Green Holophane (smooth only) **GHH*** Graphite Holophane (smooth only) **GRH*** Gray Holophane (smooth only) **SLH*** Silver Holophane (smooth only) **WHH*** White Holophane (smooth only) * Holophane colors	**TX** Textured **SM** Smooth	– **MG** Marine grade pre-finish

* Backward optic: The Orion light engine features 180° orientable optics that can be customized as needed. This makes it a simple matter to combine two distribution types in a single light engine, simultaneously lighting a road and a bike path or sidewalk, for instance. Contact factory for more information.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice. Please consult our web site for up-to-date product information and IES files.



BECS1A/BECS2A

EPA: 0.83 ft²
Weight: 41.5 lbs (18.8 kg)

Stamp/Approval:
Name: Date:

Name: Page 2 of 2
Date:

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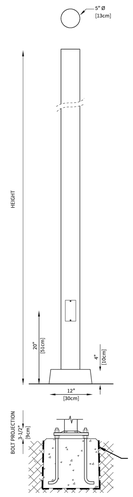
cyclone

PAL50 / PAL52 - 5" Ø STRAIGHT POLE, ALUMINUM
AASHTO 2013 Standard

Type A, B, and C Pole



SERIES	HEIGHT[1]	MOUNTING	OPTIONS[2,3]	BANNER PROVISION HOLES[4] Configuration	Banner position from ground[5]	Top Banner Height[5]	Orientation	COLOR[2,3,4]	FINISH	MG
PAL50	8' to 20'	–	–	–	Starting at 96"	24	–	BG	TX	–
PAL52		INS	DU	BHS[2]		30	A (0°)	BK	SM	MG
		TN43	GFI	BHO[2]		36	B (90°)	BZ		
			GFIC1			42	C (180°)	DG		
			GFIC2			48	D (270°)	GM		
			FU1					MA		
			FU2					PG		
			TP					SI		
								WH		

* Only necessary with banner(s)
** For multiple options selection, please contact factory.
*** Holophane colors also available. Please contact factory.

1 – Available in 0.5' increments
2 – BHS - Banner provision for single banner
3 – BHO - Banner provision for double banners
4 – Available in 1' increments
5 – Top Banner height from bottom banner

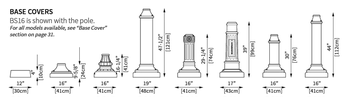
POLE
Round, 5" (13cm) Ø, 6061-T6 aluminum shaft, welded to both the top and bottom of a cast aluminum reinforced anchor plate. Hand hole 2" x 5" (8cm x 13cm) with weatherproof cover and copper ground lug.

EPA

SERIES	HEIGHT ft	HEIGHT m	WALL THICKNESS in	WALL THICKNESS mm	WEIGHT lbs	WEIGHT kg	EPA RATING (sq. ft) 80mph	90mph	100mph	110mph	120mph	150mph	ANCHOR BOLTS in
PAL50	8	2.43	0.125	3.2	26	13	9.01	9.01	9.01	8.90	8.78	7.60	3/4-20
PAL52	8	2.43	0.247	6.3	43	20	18.51	18.51	18.51	18.26	18.26	16.01	3/4-20
PAL50	10	3.04	0.125	3.2	33	15	7.11	7.11	6.94	6.84	6.84	5.85	3/4-20
PAL52	10	3.04	0.247	6.3	52	24	15.03	15.03	14.82	14.82	14.82	12.82	3/4-20
PAL50	12	3.66	0.125	3.2	36	17	5.62	5.62	5.62	5.48	5.41	4.56	3/4-20
PAL52	12	3.66	0.247	6.3	61	28	12.34	12.34	12.34	12.34	12.27	10.55	3/4-20
PAL50	14	4.27	0.125	3.2	41	19	4.50	4.50	4.50	4.39	4.27	3.55	3/4-20
PAL52	14	4.27	0.247	6.3	70	32	10.41	10.41	10.41	10.27	10.13	8.78	3/4-20
PAL50	15	4.57	0.125	3.2	43	20	4.00	4.00	4.00	3.90	3.80	3.08	3/4-20
PAL52	15	4.57	0.247	6.3	74	34	9.62	9.62	9.49	9.49	9.25	8.00	3/4-20
PAL50	16	4.88	0.125	3.2	45	21	3.60	3.55	3.55	3.42	3.37	2.66	3/4-20
PAL52	16	4.88	0.247	6.3	79	36	8.78	8.78	8.78	8.66	8.55	7.11	3/4-20
PAL50	18	5.49	0.125	3.2	50	23	1.82	1.82	1.58	1.50	1.33	-	1-36
PAL52	18	5.49	0.247	6.3	87	40	1.62	1.62	1.58	1.50	1.33	-	1-36
PAL50	20	6.10	0.125	3.2	54	25	1.12	1.12	1.05	-	-	-	1-36
PAL52	20	6.10	0.247	6.3	96	44	1.12	1.12	1.05	-	-	-	1-36

EPAs Values Calculated Following AASHTO 2013 Standard

BASE COVERS
BS16 is shown with the pole.
For all models available, see "Base Cover" section on page 33.



BS16 12" [30cm] | BC15 16" [41cm] | BC17 16" [41cm] | BC42 19" [48cm] | BC46 16" [41cm] | BC50 17" [43cm] | BC57 16" [41cm] | BC59 16" [41cm]

Bolt Circle: 11-1/2" (29cm) Ø
Accepts: 8" to 12" Ø (20 to 30cm) Ø

Pole with Anchor Plate, supplied with galvanized anchor bolts, nuts & washers.

cyclone

Type D Pole

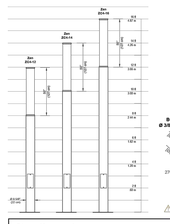
ZEN ZC4 Light Column Approval – Specification

Project: Order:
Qty: Luminaire: Type:

Ordering Code

Model	Height	Performance Package	CCT	Volts	Surge Protector
ZC4 ZEN 50" (127cm) lens	**12** 146" (371cm) **14** 170" (432cm) **16** 194" (493cm)	**P40** (5500lm) **P60** (7800lm) **P70** (10000lm)	**30K** 3000K **40K** 4000K	**MVOLT** 120-277VAC **HVOLT** 347-480VAC **120** **208** **240** **277** **347** **480**	**10KV** 10 Kv **20KV** 20 Kv

Photocell	Dimming	Duplex Receptacle	Color	Texture	Pre Finish
PC Button type photocell	**DIM** 0-10 volts dimming **SD** Field adjustable 10% increment step-dimming switch Contact factory for wireless controls and more information regarding ISO option.	**GFIC1** Duplex receptacle, 1ground fault current Interrupter, 125 VAC (15A), complete with a lockable "in-use" weather proof cover **GFIC2** Duplex receptacle, ground fault current Interrupter, 125 VAC (20A), complete with a lockable "in-use" weather proof cover	**BK** Black RAL9005 **DG** Dark green RAL6012 **MA** Marine blue RAL5013 **SI** Metallic silver RAL9006 (smooth only) **BZ** Dark bronze RAL8019 **BG** Burgundy RAL3005 **GM** Moss green RAL6005 **PG** Pale grey RAL7040 **WH** White RAL9003 **BKH*** Black Holophane (smooth only) **BZH*** Dark bronze Holophane (smooth only) **GNH*** Green Holophane (smooth only) **GHH*** Graphite Holophane (smooth only) **GRH*** Gray Holophane (smooth only) **SLH*** Silver Holophane (smooth only) **WHH*** White Holophane (smooth only) * Holophane colors	**TX** Textured **SM** Smooth	**MG** Marine grade pre-finish



Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice. Please consult our web site for up-to-date product information and IES files.

Stamp/Approval:
Name: Date:

Name: Page 2 of 2
Date:

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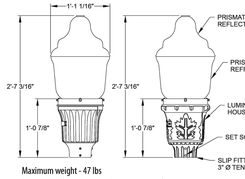
HOLOPHANE®
LEADER IN LIGHTING SOLUTIONS

Catalog Number
Notes Type

Type E Fixture



* Shown with MS Housing

Maximum weight - 47 lbs
Maximum effective projected area - 1.38 sq. ft.

GVD3
Granville Classic Utility LED3

SPECIFICATIONS

General Description
The Granville Classic Utility LED3 is designed for ease of maintenance with the plug-in electrical module common to each of the luminaires in Holophane's Utility Luminaire Series. The traditional acorn-shaped luminaire, while reminiscent of the 1920's, contains a powerful, stalk-mounted Chip-On-Board LED platform with a precision optical system that maximizes post spacings while maintaining uniform illumination.

Mechanical Specifications
The luminaire housing shall:
- Be heavy grade A360 cast aluminum (aluminum with <1% copper)
- IP55 rated housing provides tool-less access with a spring-loaded latch
- Incorporate a hidden hinge door allowing the door to swing open and remain open
- Offer units with an EEI- NEMA twist lock photocontrol receptacle, the housing contains a tempered glass window to allow light to reach the cell
- Mount to slip-fitter that will accept 3" high by 2-7/8" to 3-1/8" O.D. pole tenon
- Provide four uniquely designed stainless steel spring clips, enclosed in a clear polyvinyl chloride sleeve and adjusted by 1/4-20 hex-head bolts that securely cradle the prismatic glass refractor. The same ¼-20 bolts also support the decorative rib and banding assembly.

The finish shall:
- Utilize a polyester power coat paint to ensure maximum durability
- Rigorous multi-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117) on standard and RAL finish options.
- RAL (RALxxxxSDCR) paint colors are Super Durable Corrosion Resistant, 80% gloss.

Electrical Specifications
The driver shall meet the following requirements:
- Certified by UL or CSA for wet locations
- A factory programmable electronic driver with 0-10V dimming control leads
- LEDs shall have a minimum of 70 CRI and available in 2700K, 3000K, 4000K, and 5000K CCT
- The electrical system shall be designed to meet ANSI/IEEE C62.41.2 and shall offer a 10kV/5kA surge protection, fail off, as standard with an upgradable 20kV/10kA surge protection, fail off with indicator light, option
- Lumen output can be customized prior to manufacturing by way of FPDxx Options
- The electrical components are mounted on an aluminum plate that is removeable with minimum use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. For photoelectric operation, the electrical module is provided with an EEI-NEMA twist-lock photocell receptacle.

Optical Specifications
The optical system is IP66 rated and consists of a precisely molded thermal resistant borosilicate glass refractor and top reflector mounted within the decorative glass optic. The top reflector redirects over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape of the luminaire. The lower refractor uses precisely molded prisms to maximize the pole spacings while maintaining uniform illuminance. Two refractors are available, designed for IES type III and I/ distributions. Lunar Optics shielding is available for asymmetric and symmetric distributions.

Control Options
The control options shall include, but not limited to, the following:
- Field adjustable output to adjust output to luminaire - AO
- Long life photocontrol, 20 years – PCLL, P34 and P48 with DTL
- 7 pin receptacles internally in housing (PR7) or inside glass mounted (PR7E - not for use with photocontrols & nodes must have photocontrol disabled)
- nLight Air rSBOR6 outdoor fixture-mounted motion and photo-sensor, features a dual radio to communicate wirelessly to other nLight Air devices for group response to motion, on/off control in response to daylight and by switch – RSBOR6
- Fixture embedded nLight Air network interface for individual fixture control and dimming - NLTAIR2.

Certification and Standards
- Luminaire shall be UL or CSA listed.
- Suitable for operation in an ambient temperature up to 40°C / 105°F per UL or CSA certification
- LM79 compliant
- DesignLights Consortium™ (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check with the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN ACT
This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations.
Please refer to www.acuitybrands.com/resources/buyamerican for additional information.

Warranty
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

GVD3
Granville Classic Utility LED3

HOLOPHANE®
LEADER IN LIGHTING SOLUTIONS

ORDERING INFORMATION **Example:** GVD3 P30 30K MVOLT MS GL3 BK RB ST TBK AO

Series	LED Performance Package	LED Color temperature	Voltage	Housing Style
GVD3 Granville Classic Utility LED3	P10 3,300 nominal lumens P20 5,500 nominal lumens P30 8,400 nominal lumens P40 10,900 nominal lumens P50 13,200 nominal lumens	27K 2700K CCT 30K 3000K CCT 40K 4000K CCT 50K 5000K CCT	MVOLT AUTO-SENSING 120-277V 50/60HZ HVOLT AUTO-SENSING 347-480V 50/60HZ	MS Modern Style Swing Open Design LS Leaf Style Swing Open Design

Optics	Housing Color	Trim	Finial	Finial Color
GL3 Glass, Type III GL5 Glass, Type V GL3LU Glass, Type III Lunar Optics GL5LU Glass, Type V Lunar Optics	BK Black BZ Bronze GH Graphite GN Green GR Grey PP Prime Paint WH White CMC CustomMatchColor Finish XX STD Finish, TBD RALxxxxSDCR RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number.	[Blank] No Trim RB Ribs & Band SY Syracuse Style with Cover (MS Housing only)	[Blank] No Finial BL Ball CL Clear EG Eagle FL Flower PN Pawn CR Cross ST Standard RM Roman Cross	TBK Black TBZ Bronze TGL Gold TGH Graphite TGN Green TGR Grey TPP Prime Paint TWH White TCMC CustomMatchColor Finish TRALxxxxSDCR RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number. TXX STD FINISH, TBD

Options: *Option Compatibility Matrix on page 3 of 4*

CONTROLS OPTIONS	PREWIRED LEAD OPTIONS	COVER OPTIONS
AO Field Adjustable Output PR7 NEMA Twistlock dimming photocontrol receptacle – 7 pin PR7E NEMA Twistlock dimming photocontrol receptacle – 7 Pin (Under Glass) PCLL Long Life DTL Twistlock Photocontrol for Solid State, MVOLT P34 Long Life DTL Twistlock Photocontrol for Solid State, 347V P48 Long Life DTL Twistlock Photocontrol for Solid State, 480V SH Shorting Cap RSBOR6 nLight Motion Sensing Photocontrols NLTAIR2 nLight rID 2.0 Antenna	L1H 1.5 ft prewired leads L03 3 ft prewired leads L10 10 ft prewired leads L20 20 ft prewired leads L25 25 ft prewired leads L30 30 ft prewired leads	FC Full Cover MC Mayfield Half Cover
DRIVER ELECTRICAL OPTIONS		**NEMA LABEL OPTIONS**
FPDxx Factory Programmed Driver 20KV Extreme surge protection 20KV/10KA, Fail off with Indicator light		NL1X1 1" X 1" ANSI Wattage Label NL2X2 2" X 2" ANSI Wattage Label

Accessories: *Order as separate catalog number.*

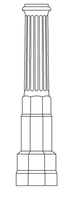
DECORATIVE BAND OPTIONS	HOUSE-SIDE SHIELD OPTIONS
GVBAND3E Decorative Band *NOTE:* *Field installed. For use with units without factory installed ribs and band.* *X = Band color, example GVBANDBK (black).*	GVDHVS090 House Side Shield Solid 90° GVDHVS512 House Side Shield Solid 120° GVDHVS518 House Side Shield Solid 180° GVDHVSL90 House Side Shield Solid 90° (Lunar) GVDHVS512 House Side Shield Solid 120° (Lunar) GVDHVSL18 House Side Shield Solid 180° (Lunar)

HOLOPHANE®
LEADER IN LIGHTING SOLUTIONS

Catalog Number
Notes Type

Type E Pole

OSA
Oslow™ Aluminum Pole



SPECIFICATIONS

General Description
The lighting post shall be all aluminum, one-piece construction, with a octagonally stepped and fluted base design.

Materials
- The base shaft shall be heavy wall, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179 or ASTM B26
- The straight shafts shall be extruded from aluminum, ASTM 6063 alloy
- The tapered shaft shall be extruded from aluminum, ASTM 6063 alloy, spun to a tapered shape
- All hardware shall be tamper resistant stainless steel
- Anchor bolts to be completely hot dip galvanized
- Utilize a polyester powder coat paint to ensure maximum durability.
- Rigorous multi-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5,000 hours exposure to salt fog chamber (operated per ASTM B117) on standard and RAL finish options.
- RAL (RALxxxxSDCR) paint colors are Super Durable Corrosion Resistant, 80% gloss.

Construction
- The shaft shall be double welded to the base casting and shipped as one piece for maximum structural integrity
- The shaft shall be welded inside the base casting at the top of the access door, and externally where the shaft exits the base.
- All welding shall be per ANSI/AWS.

Dimensions
- The post height shall range from 8' to 16' with a 10" diameter base.
- At the top of the post, an integral tenon with a transitional donut shall be provided for luminaire mounting

Installation
- The post shall be provided with four, hot dip galvanized L-type anchor bolts
- A door shall be provided in the base for anchorage and wiring access
- A grounding screw shall be provided inside the base opposite the door

Warranty
1 Years Limited. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

IMPORTANT INSTALLATION NOTES:
- **Do not** erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Acuity Brands Lighting will not accept claims for incorrect anchorage placement due to failure to use factory template.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Acuity Brands Lighting is not responsible for the foundation design.

Note: Specifications subject to change without notice.

ORDERING INFORMATION **Example:** OSA 12 54C 10D C03 BK

Post	Height	Shaft Style	Base	Tenon	
OSA Oslow Aluminum Pole	08 8' 09 9' 10 10' 11 11' 12 12' 13 13' 14 14' 15 15' 16 16'	**Fluted Shaft** F4C 4" diameter, 125 Wall F4J 4" diameter, .25 Wall F5J 5" diameter, .25 Wall **Smooth Shaft** S4C 4" diameter, 125 Wall S4J 4" diameter, .25 Wall S5J 5" diameter, .25 Wall **Tapered Shaft** T4C 3" to 4" diameter, .125 Wall T5C 3" to 5" diameter, .125 Wall	10D 10" Hexagonal, Diamond Pattern Bolt Circle	C03 3" O.D. x 3" I.G. C04 3" O.D. x 4" I.G. C05 3" O.D. x 5" I.G. C06 3" O.D. x 6" I.G. C08 3" O.D. x 8" I.G. C09 3" O.D. x 9" I.G. C12 3" O.D. x 12" I.G. C14 3" O.D. x 14" I.G.	E08 3.5" O.D. X 8" I.G. G12 4.38" O.D. X 12" I.G. H10 4.50" O.D. X 10" I.G. PLN Plain pole cap - no tenon VGP VGC Plate

Finish		Options		Welded Provisions[1]		Accessories: *Order as separate catalog number.*	
BK Black BZ Bronze DB Dark Blue GH Graphite GN Green GR Gray	PP Prime Painted SL Silver WH White CMC Customer matching color CTBS Standard color to be selected RALxxxxSDCR RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number.	GRD 1/2 Brass Grounding Lug DBB Factory Installed Direct Burial Base		EPXXXY Provision for eye bolt LPXXXY Large provision RPXXXY Receptacle provision SPXXXY Small provision SBOXXXOY Occupancy sensor provision NOTE 1 Replace XXX with height from grade (inches). Replace Y with orientation from hand hole (A=0, B=90, C=180, D=270). Add multiple provisions as necessary to cover each location. Must validate EPA restrictions for banners.		AB-31-4 3/4" Anchor bolt set, galvanized steel ADBB10 10" Galvanized steel direct burial base TMP-59 7" Bolt Circle (10D Base Option)	

1 LIGHTING DETAILS
NOT TO SCALE

NOT FOR CONSTRUCTION

Pennoni
PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
215.665.0808
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS VI

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	REVISIONS	DATE	BY
1.	CITY PLANNING BOARD SUBMISSION	11/17/2025	BF

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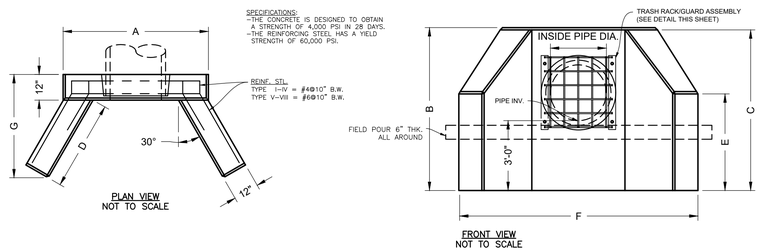
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6006

SHEET 33 OF 45

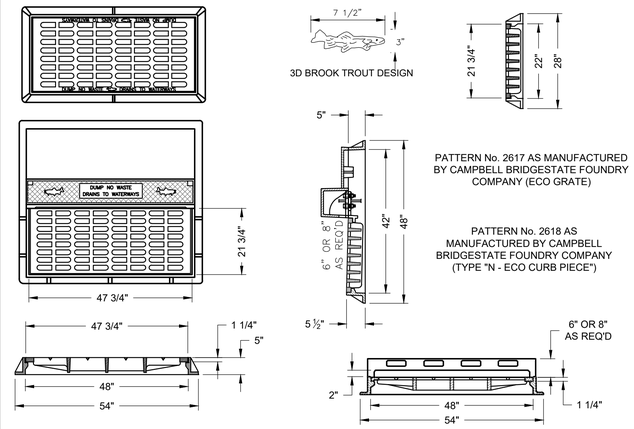
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6001-CS6006.dwg PLOTTED: 11/13/2025 5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.ctb PROJECT STATUS: —



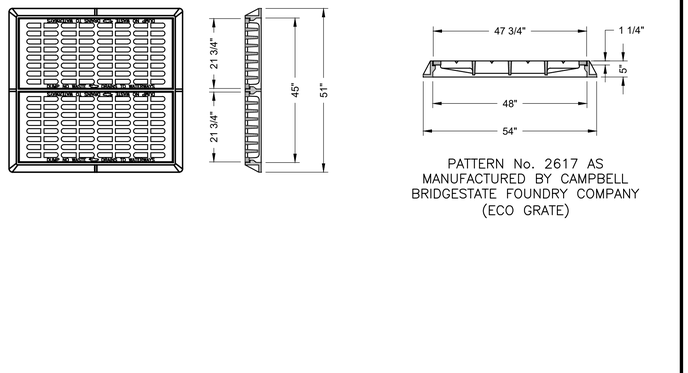
TYPE	INSIDE PIPE DIA. (IN.)	WEIGHT (LB.)	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	G (IN.)
I	12–15	6670	56	63	63	30	51	86	38
II	18–21	9350	64	69	69	42	57	106	49
III	24–27	12060	68	75	75	54	63	122	59
IV	30–36	17270	79	84	84	72	72	151	75
* V	42	29980	111	96	93	84	83	172	85
* VI	48	35320	118	103	99	96	89	192	95
* VII	54–60	47370	132	116	112	120	102	242	116
* VIII	72	61770	148	130	126	144	116	286	137

TYPE MARKED BY * INDICATES WALL MAY BE FABRICATED IN (3) PIECES

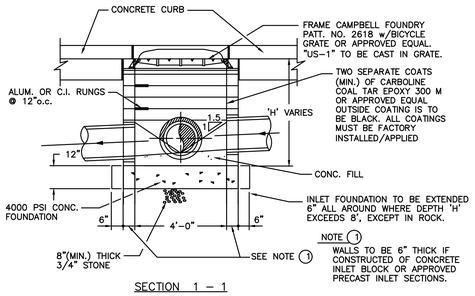
1 PRECAST CONCRETE HEADWALL DETAI
NOT TO SCALE



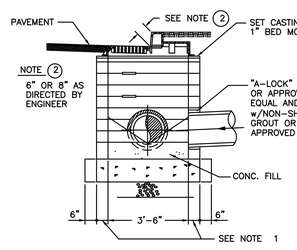
2 NJDOT TYPE "A" INLET WITH BICYCLE SAFE GRATES
NOT TO SCALE



3 NJDOT TYPE "E" INLET WITH BICYCLE SAFE GRATES
NOT TO SCALE

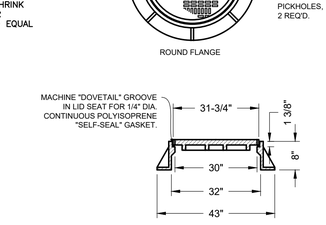


SECTION 1 – 1
TYPE "B" INLET



SECTION 2 – 2
TYPE "B" INLET

(BRIDGESTATE PATTERN No. 1012B)



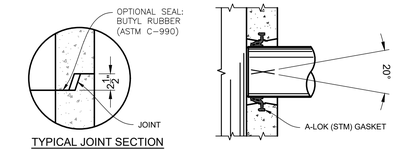
THE INLET AND MANHOLE ARE CAST WITH THE GASKET IN PLACE, SO THE GASKET BECOMES AN INTEGRAL PART OF THE WALL.

NOTES:
1. TERMINAL MANHOLES TO BE PROVIDED WITH VENTED COVERS CONSISTING OF 3/4" HOLES (4), EVENLY SPACED.

2. ALL PARTS OF CASTING SHALL BE THOROUGHLY COATED AT THE FACTORY WITH ONE COAT OF BLACK ASPHALTUM PAINT OR OTHER IMPERVIOUS PREPARATION APPROVED BY ENGINEER.

3. MANHOLE FRAMES AND COVERS ARE TO PROVIDE A MINIMUM OF THIRTY-INCH CLEAR OPENING AT THE COVER IN ORDER TO ALLOW EASY ACCESS UNDER CONFINED SPACE ENTRY REQUIREMENTS.

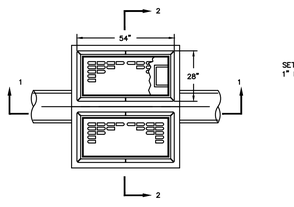
SPECIFICATIONS:
1. THE CONCRETE IS DESIGNED TO OBTAIN A STRENGTH OF 4,500 PSI IN 28 DAYS.
2. THE REINFORCING STEEL HAS A YIELD STRENGTH OF 60,000 PSI.
3. THE INLET SHALL BE DESIGNED TO MEET ASTM C-913, "PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES.
4. THE REINFORCED CONCRETE WALLS AND BASE SLAB ARE DESIGNED FOR A MAXIMUM DEPTH OF 10 FT (DEPTH = F.G. TO TOP OF BASE SLAB).
5. STRUCTURE IS DESIGNED TO MEET NJDOT SPECS.
6. THE A-LOK STORM GASKET OR APPROVED EQUAL IS DESIGNED TO MEET THE REQUIREMENTS OF ASTM C-1478, "STORM DRAIN RESILIENT CONNECTORS BETWEEN REINFORCED CONCRETE STORM SEWER STRUCTURES, PIPES, AND LATERALS."
7. INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. BOTTOMS SHALL BE DISHED AND SLOPED TOWARDS THE OUTLET PIPE AT A RATE OF GRADE OF 2 INCHES PER FOOT.



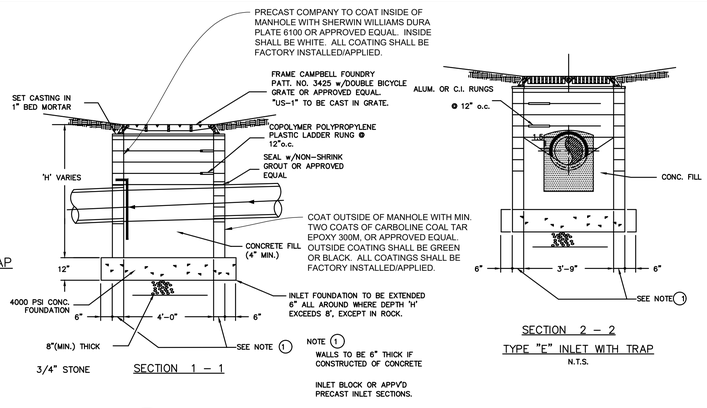
TYPICAL JOINT SECTION
NOT TO SCALE

A-LOK (STM) SECTION
NOT TO SCALE

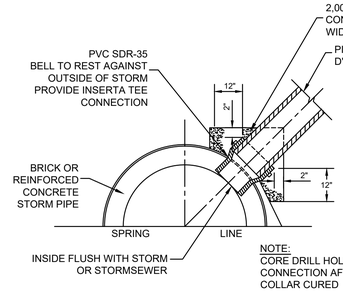
4 HEAVY DUTY MANHOLE FRAME AND COVER DETAIL
NOT TO SCALE



TYPE "E" INLET – PLAN VIEW WITH TRAP
N.T.S.



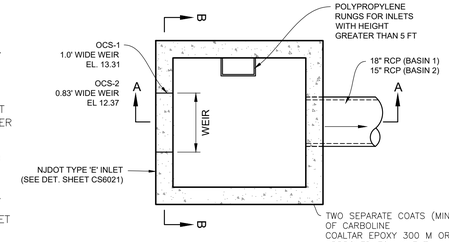
5 TYPE "E" INLET WITH TRAP
NOT TO SCALE



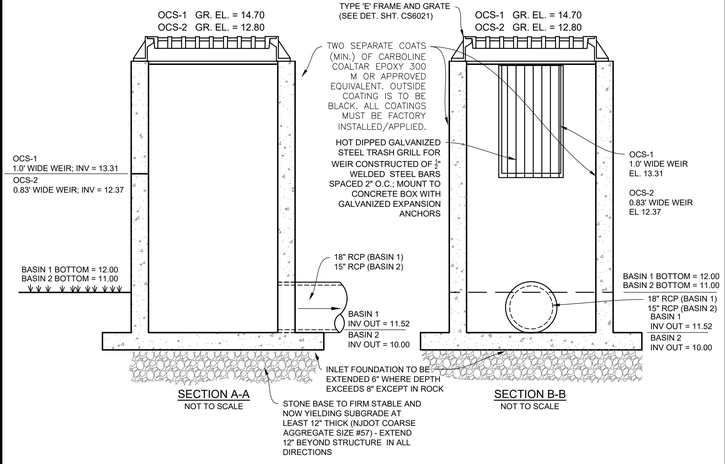
SADDLE CONNECTION TO BRICK OR R.C. PIPE STORM DETAIL (IF REQUIRED)

6
NOT TO SCALE

SPECIFICATIONS:
1. THE CONCRETE SHALL BE DESIGNED TO OBTAIN A STRENGTH OF 4,000 PSI IN 28 DAYS.
2. THE REINFORCING STEEL HAS A YIELD STRENGTH OF 60,000 PSI.
3. THE INLET SHALL BE DESIGNED TO MEET ASTM C–913, "PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES.
4. THE REINFORCED CONCRETE WALLS AND BASE SLAB ARE DESIGNED FOR A MAXIMUM DEPTH OF 10 FT (DEPTH = F.G. TO TOP OF BASE SLAB).
5. STRUCTURE SHALL BE DESIGNED TO MEET NJDOT SPECS.
6. THE A–LOK STORM GASKET OR APPROVED EQUAL IS DESIGNED TO MEET THE REQUIREMENTS OF ASTM C–1478, "STORM DRAIN RESILIENT CONNECTORS BETWEEN REINFORCED CONCRETE STORM SEWER STRUCTURES, PIPES, AND LATERALS."



PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

7 OUTLET STRUCTURE OCS-1 AND OCS-2 (NJDOT TYPE "E" INLET)
NOT TO SCALE

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

Pennoni
PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5400
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

STORMWATER DETAILS I

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

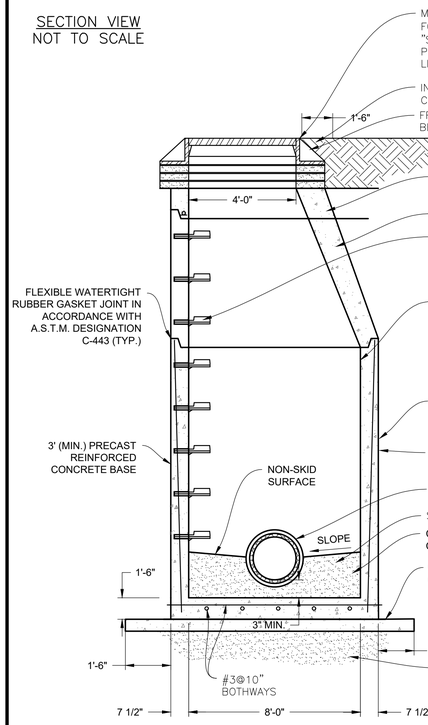
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6021

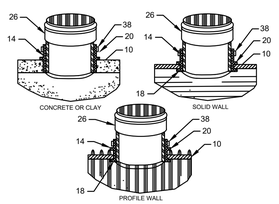
SHEET 34 OF 45

SECTION VIEW
NOT TO SCALE



NOTES:
1. PRECAST MANHOLE IN ACCORDANCE WITH A.S.T.M DESIGNATION C-478, MINIMUM COMPRESSIVE STRENGTH 4000 P.S.I. (TYP.) MANHOLE TO BE MANUFACTURED BY ATLANTIC CONCRETE, OR APPROVED EQUAL.
2. ALL MANHOLES NOT LOCATED IN CROWN OF ROAD SHALL BE CONSTRUCTED WATERTIGHT WITHOUT THE USE OF A RUBBER GASKET. WATERTIGHTNESS MAY BE ACHIEVED BY DISH SHAPED INSERTS, WATERTIGHT CASTING, OR APPROVED EQUAL. DISH SHAPED WATERTIGHT INSERT SHALL BE SUPPLIED, TWO PER MANHOLE.
3. SMOOTH CONCRETE CHANNEL WITH DEPTH EQUAL TO 0.80 TIMES THE DIA. OF THE MAIN SEWER FOR SIZES 8" TO 15" AND 0.50 TIMES THE DIA. FOR SIZES 16" AND ABOVE. (USE CLASS C CONCRETE).
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING ADEQUATE BALLAST TO OFFSET FLOATATION FORCES ACTING ON MANHOLES INSTALLED IN WET AREAS. PROVIDE CALCULATIONS WITH SUBMITTAL SIGNED AND SEALED BY N.J.P.E.
5. POLYPROPYLENE RUNGS, WITH GRADE 60 STEEL REINFORCEMENT AND TEETH AND SIDE CLEATS, AS MANUFACTURED BY MA INDUSTRIES. STEEL RUNGS NOT ALLOWED, FOR MANHOLES GREATER THAN 15'-0" DEEP. APPLICANT SHALL CONTACT CCMUA FOR SPECIFIC MANHOLE REQUIREMENTS. ALL OSHA REQUIREMENTS MUST BE MET.
6. ANY MANHOLE REQUIRING LINING SHALL HAVE MANHOLE RUNGS REMOVED AND HAVE A COMPOSITE LADDER INSTALLED.
7. PROVIDE WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM, AS MANUFACTURED BY CANUSA-CPS, AROUND FRAME AND GRADE RINGS FOR ALL MANHOLES AND AROUND ALL RISER JOINTS. INSTALLATION SHALL BE PROVIDED IN ACCORDANCE WITH ALL OF MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
8. MANHOLE FRAME SHALL BE LAID IN 1-INCH OF MORTAR AND HAVE 1-INCH MORTAR AROUND THE RIM.
9. THERE SHALL BE NO CHANGE IN FLOW DIRECTION GREATER THAN 90 DEGREES.

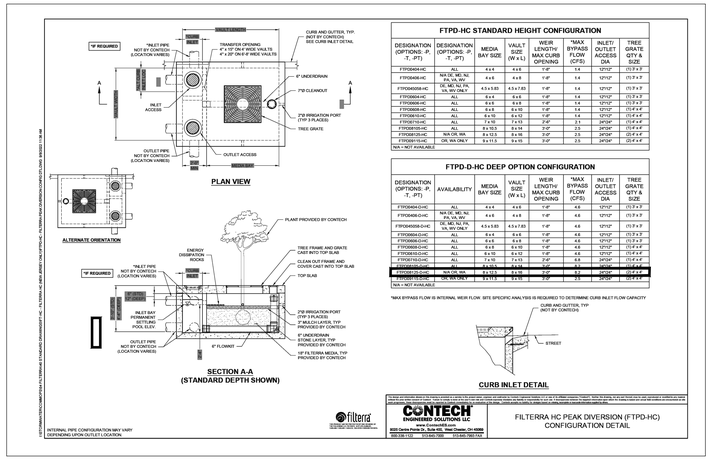
1 STANDARD 4'-0" PRECAST MANHOLE
NOT TO SCALE



NOTE: AIR TIGHT SEAL IS ACCOMPLISHED WHEN PVC HUB (NO. 26) IS DRIVEN INTO RUBBER SLEEVE (NO. 14) CAUSING THE RUBBER SLEEVE TO COMPRESS BETWEEN PIPE WALL (NO. 10) AND PVC HUB (NO. 26).

FIG. 10 MAINLINE PIPE ALL WHERE BRANCH LINE IS CONNECTED.
FIG. 14 COMPLETE RUBBER SLEEVE CONSISTING OF C-443 SPECIFICATIONS.
FIG. 18 RUBBER SEGMENT WHICH IS MOLDED INTO THE RUBBER SLEEVE. THIS PREVENTS SNAP OUT ON THE INSIDE OF THE DRILLED HOLE (PLASTIC PIPE ONLY) AND HELPS HOLD THE FITTING IN PLACE, NOT CREATING THE SEAL.
FIG. 20 RUBBER SEGMENT WHICH IS MOLDED INTO THE RUBBER SLEEVE. THIS PREVENTS THE RUBBER SLEEVE FROM GOING THROUGH THE DRILLED HOLE WHEN PVC HUB IS BEING DRIVEN INTO THE RUBBER SLEEVE.
FIG. 26 SDR-35 PVC HUB (ASTM D-3034 SEWER PIPE) WHICH IS DRIVEN INTO THE CENTER OF THE RUBBER SLEEVE AFTER THE RUBBER SLEEVE IS IN THE HOLE.
FIG. 38 STAINLESS STEEL BAND, PUT ON ABOVE FIG. 20 IS AN ADDED PRECAUTION.

4 INSERTA TEE CONNECTION DETAILS
NOT TO SCALE



FTPD-HC STANDARD HEIGHT CONFIGURATION

DESIGNATION (OPTIONS: -P, -T, -PT)	DESIGNATION (OPTIONS: -P, -T, -PT)	MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX CURB OPENING	*MAX BYPASS FLOW (CFS)	INLET/ OUTLET ACCESS DIA	TREE GRATE QTY & SIZE
FTPD0404-HC	ALL	4 x 4	4 x 8	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0404B-HC	NA SC, MD, NJ, PA, VA, WV	4 x 4	4 x 8	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0405B-HC	SC, MD, NJ, PA, VA, WV ONLY	4.5 x 5.83	4.5 x 7.83	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0604-HC	ALL	6 x 4	6 x 8	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0606-HC	ALL	6 x 6	6 x 8	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0608-HC	ALL	6 x 8	6 x 10	1'-9"	1.4	12"/12"	(1) 4' x 4'
FTPD0610-HC	ALL	6 x 10	6 x 12	1'-9"	1.4	12"/12"	(1) 4' x 4'
FTPD0710-HC	ALL	7 x 10	7 x 13	2'-6"	2.1	24"/24"	(1) 4' x 4'
FTPD0810-HC	ALL	8 x 10	8 x 14	2'-6"	2.5	24"/24"	(1) 4' x 4'
FTPD0812-HC	NA CA, WA	8 x 12.5	8 x 16	2'-6"	2.5	24"/24"	(2) 4' x 4'
FTPD0815-HC	OR, WA ONLY	8 x 11.5	9 x 15	2'-6"	2.5	24"/24"	(2) 4' x 4'

NA = NOT AVAILABLE

FTPD-D-HC DEEP OPTION CONFIGURATION

DESIGNATION (OPTIONS: -P, -T, -PT)	AVAILABILITY	MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX CURB OPENING	*MAX BYPASS FLOW (CFS)	INLET/ OUTLET ACCESS DIA	TREE GRATE QTY & SIZE
FTPD0404-D-HC	ALL	4 x 4	4 x 8	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0404B-D-HC	NA SC, MD, NJ, PA, VA, WV	4 x 4	4 x 8	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0405B-D-HC	SC, MD, NJ, PA, VA, WV ONLY	4.5 x 5.83	4.5 x 7.83	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0604-D-HC	ALL	6 x 4	6 x 8	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0606-D-HC	ALL	6 x 6	6 x 8	1'-9"	1.4	12"/12"	(1) 3' x 3'
FTPD0608-D-HC	ALL	6 x 8	6 x 10	1'-9"	1.4	12"/12"	(1) 4' x 4'
FTPD0610-D-HC	ALL	6 x 10	6 x 12	1'-9"	1.4	12"/12"	(1) 4' x 4'
FTPD0710-D-HC	ALL	7 x 10	7 x 13	2'-6"	1.8	24"/24"	(1) 4' x 4'
FTPD0810-D-HC	ALL	8 x 10	8 x 14	2'-6"	2.1	24"/24"	(1) 4' x 4'
FTPD0812-D-HC	NA CA, WA	8 x 12.5	8 x 16	2'-6"	2.5	24"/24"	(2) 4' x 4'
FTPD0815-D-HC	OR, WA ONLY	8 x 11.5	9 x 15	2'-6"	2.5	24"/24"	(2) 4' x 4'

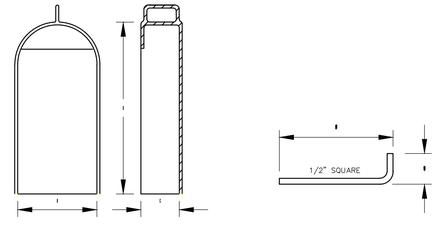
NA = NOT AVAILABLE

*MAX BYPASS FLOW IS INTERNAL WEIR FLOW. SITE SPECIFIC ANALYSIS IS REQUIRED TO DETERMINE CURB INLET FLOW CAPACITY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
800-338-1122 513-645-7000 513-645-7993 Fax

FILTERRA HC PEAK DIVERSION (FTPD-HC) CONFIGURATION DETAIL

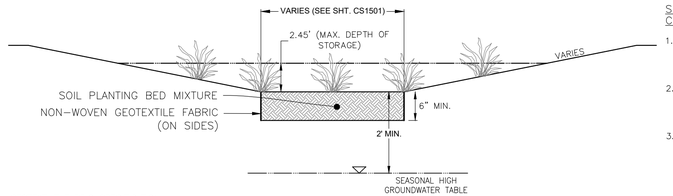
2 FTPD DETAIL
NOT TO SCALE



PATTERN NUMBER	DIMENSIONS IN INCHES A	B	C	PIPE SIZE
2560	9 1/2	16	4 3/4	6
2561	11 1/2	20 1/2	5 1/2	8
2562	13 1/4	23 1/2	6 1/2	10
2563	15 3/4	26	7 1/2	12
2564	18	27	9	15
2565	20	27	10	18
2566	25 1/4	30	11 1/4	21

NOTE: COST FOR TRAP TO BE INCLUDED IN THE BID ITEM COST FOR THE MANHOLE AND/OR INLET.

3 STANDARD CATCH BASIN TRAP DETAIL
NOT TO SCALE



GEOTEXTILE FABRIC SPECIFICATION:
NEEDLED NON-WOVEN POLYPROPYLENE FIBERS MEETING THE FOLLOWING PROPERTIES:
A. GRAB TENSILE STRENGTH (ASTM-D4632) ≥ 120 LBS
B. MULLEN BURST STRENGTH (ASTM-D3786) ≥ 225 PSI
C. FLOW RATE (ASTM-D4491) ≥ 95 GAL/MIN/FT2
D. UV RESISTANCE AFTER 500 HRS (ASTM-D4355) ≥ 70%
E. HEAT-SET OR HEAT-CALENDARED FABRICS ARE NOT PERMITTED

RAINGARDEN SOIL PLANTING BED MIX
A. 80% TO 95% SAND (WITH NO MORE THAN 25% OF THE SANDS AS FINE OR VERY FINE SAND)
B. 15% SILT
C. 2% TO 5% CLAY CONTENT
D. 3-7% ORGANIC CONTENT
E. pH RANGE FROM 5.5 TO 6.5

THE MATERIAL SHALL BE PLACED IN 6 TO 12 INCH LIFTS.

RAINGARDEN SYSTEM NOTES:

1. IN RAINGARDEN AREA DO NOT MOUND MULCH AROUND PLANTS.
2. FOR REQUIRED PLANTINGS IN EACH RAINGARDEN AREA, SEE PLANTING SCHEDULE ON SHEET CS2001.

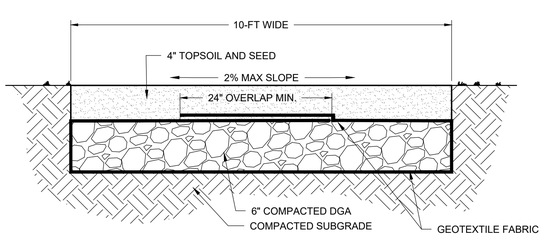
RAIN GARDEN AREA	EXISTING GROUND ELEVATION	PROPOSED TOP OF BANK ELEVATION	PROPOSED BOTTOM ELEVATION	ESTIMATED SEASON HIGH ELEVATION*	SIDE SLOPE	GRATE ELEVATION	INVERT ELEVATION OUTFLOW PIPE	CURRENT 2 YR. EL.	CURRENT 10 YR. EL.	CURRENT 100 YR. EL.	PROJECTED 2 YR. EL.	PROJECTED 10 YR. EL.	PROJECTED 100 YR. EL.	WQ EL.
1	37.0	15.75	12.0	8.3	3:1	14.70	11.52	13.95	14.25	14.75	14.03	14.37	14.87	13.31
2	35.0	13.90	11.0	7.2	3:1	12.80	10.00	12.80	12.89	12.96	12.84	12.92	13.01	12.19
3	35.0	17.50	14.5	8.5	3:1	16.50	12.75	16.41	16.57	16.63	16.52	16.59	16.66	15.70

* NOT ENCOUNTERED TO ELEVATION

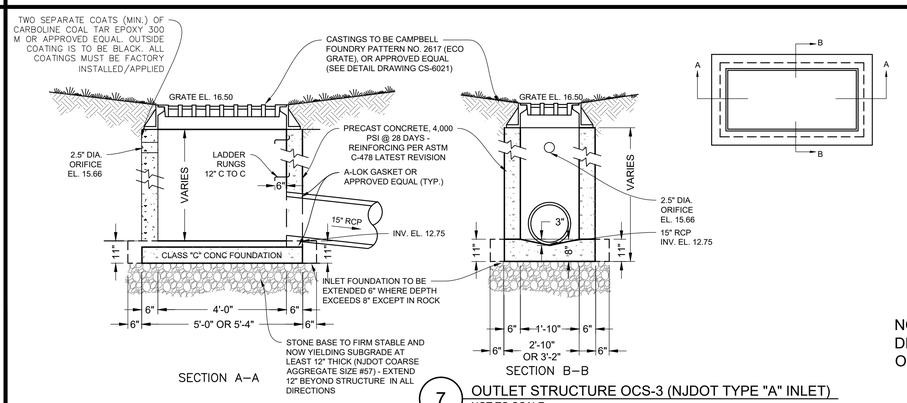
5 TYPICAL RAINGARDEN SECTION DETAIL
NOT TO SCALE

SEQUENCE OF RAINGARDEN SYSTEM CONSTRUCTION:

1. CLEARLY DELINEATE THE PROPOSED RAINGARDEN AREAS BEFORE BEGINNING ANY EARTH MOVING ACTIVITIES TO AVOID COMPACTION. AREAS SHALL BE SURROUNDED BY FABRIC FILTER FENCING TO AVOID ANY SEDIMENT FROM BUILDING UP.
2. COMPLETE THE SITE ROUGH GRADING AND STABILIZE THE DISTURBED AREAS. DO NOT FINALIZE RAINGARDEN EXCAVATION AND CONSTRUCTION UNTIL THE DRAINAGE AREA IS FULLY STABILIZED.
3. EXCAVATE RAINGARDEN AREAS TO SPECIFIED DEPTH AND MANUALLY SCARIFY THE EXISTING SOIL SURFACES. DO NOT COMPACT IN-SITU SOILS. HEAVY EQUIPMENT SHALL NOT BE USED WITHIN THE RAINGARDEN FOOTPRINT. ALL EQUIPMENT SHALL BE KEPT OUT OF THE EXCAVATED AREA TO THE MAXIMUM EXTENT POSSIBLE.
4. INSTALL NON-WOVEN GEOTEXTILE FABRIC OVER STONE AND SUBGRADE AS SHOWN.
5. BACKFILL EXCAVATED AREA AS SOON AS THE SUBGRADE PREPARATION IS COMPLETE TO AVOID ACCUMULATION OF DEBRIS. PLACE PLANTING BED SOIL IN 6-12 INCHES LIFTS AND TAMP LIGHTLY. SLIGHT OVERFILLING MIGHT BE NECESSARY TO ACCOUNT FOR SETTLEMENT.
6. AFTER ALLOWING FOR SETTLEMENT, COMPLETE FINAL GRADING WITHIN ABOUT 2 INCHES OF THE PROPOSED DESIGN ELEVATIONS, LEAVING SPACE FOR THE TOP DRESSING OF MULCH.
7. SEED AND PLANT VEGETATION AS INDICATED ON THE LANDSCAPE DRAWINGS AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
8. PLACE MULCH AND HAND GRADE TO FINAL ELEVATIONS.
9. WATER VEGETATION AT THE END OF EACH AND EVERY WORK DAY FOR TWO WEEKS AFTER PLANTING IS COMPLETED.



6 BASIN ACCESS RAMP DETAIL
NOT TO SCALE



7 OUTLET STRUCTURE OCS-3 (NJDOT TYPE "A" INLET)
NOT TO SCALE

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

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Camden, NJ 08103
215.651.8000
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

STORMWATER DETAILS II

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

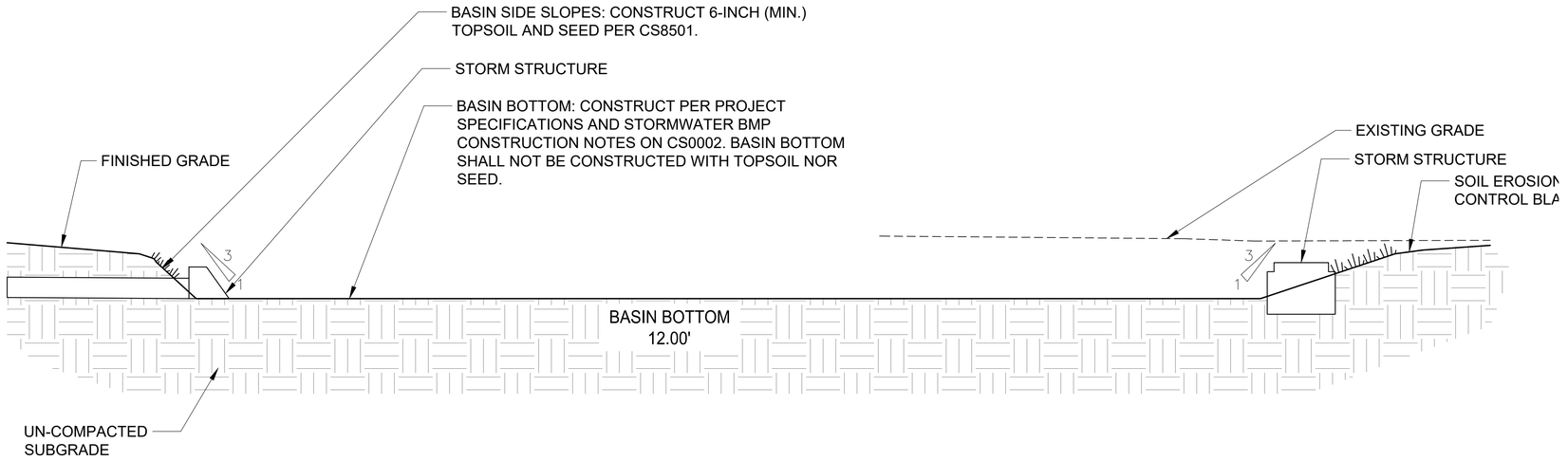
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

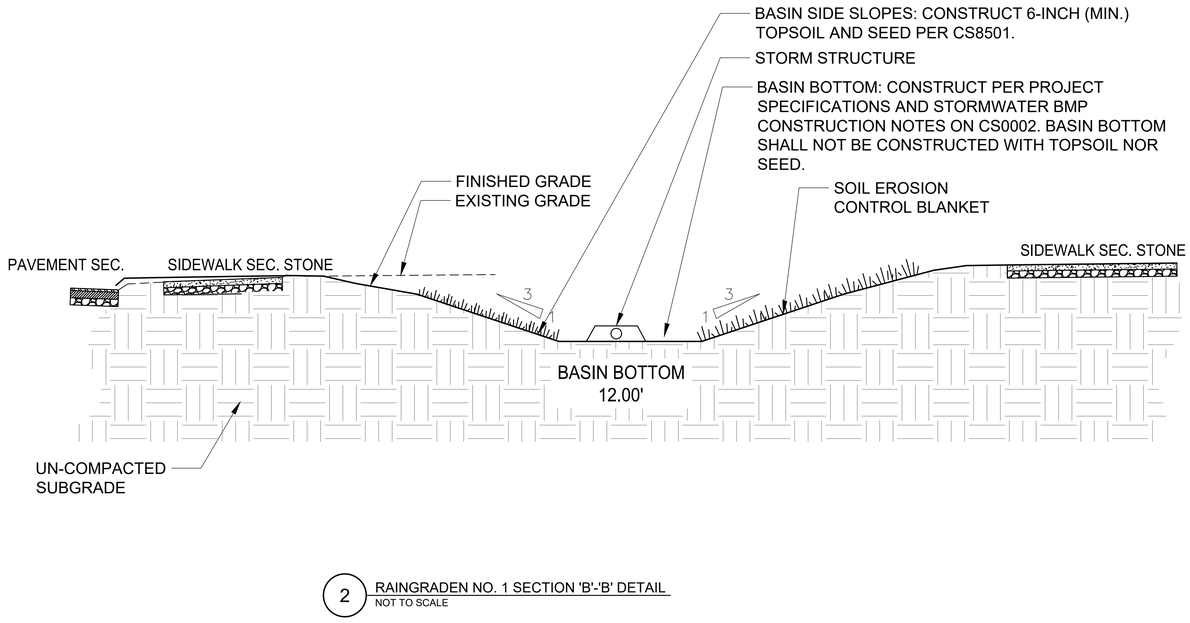
CS6022

SHEET 35 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6022-CS6023.dwg PLOTTED: 11/13/2025 5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



1 RAINGRADEN NO. 1 SECTION 'A'-'A' DETAIL
NOT TO SCALE



2 RAINGRADEN NO. 1 SECTION 'B'-'B' DETAIL
NOT TO SCALE

NOTE:

1. SEE SHEET CS1501 FOR LOCATION OF CROSS-SECTION

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8600
NJ COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY
1300 WALNUT STREET

STORMWATER DETAILS III

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6023

SHEET 36 OF 45

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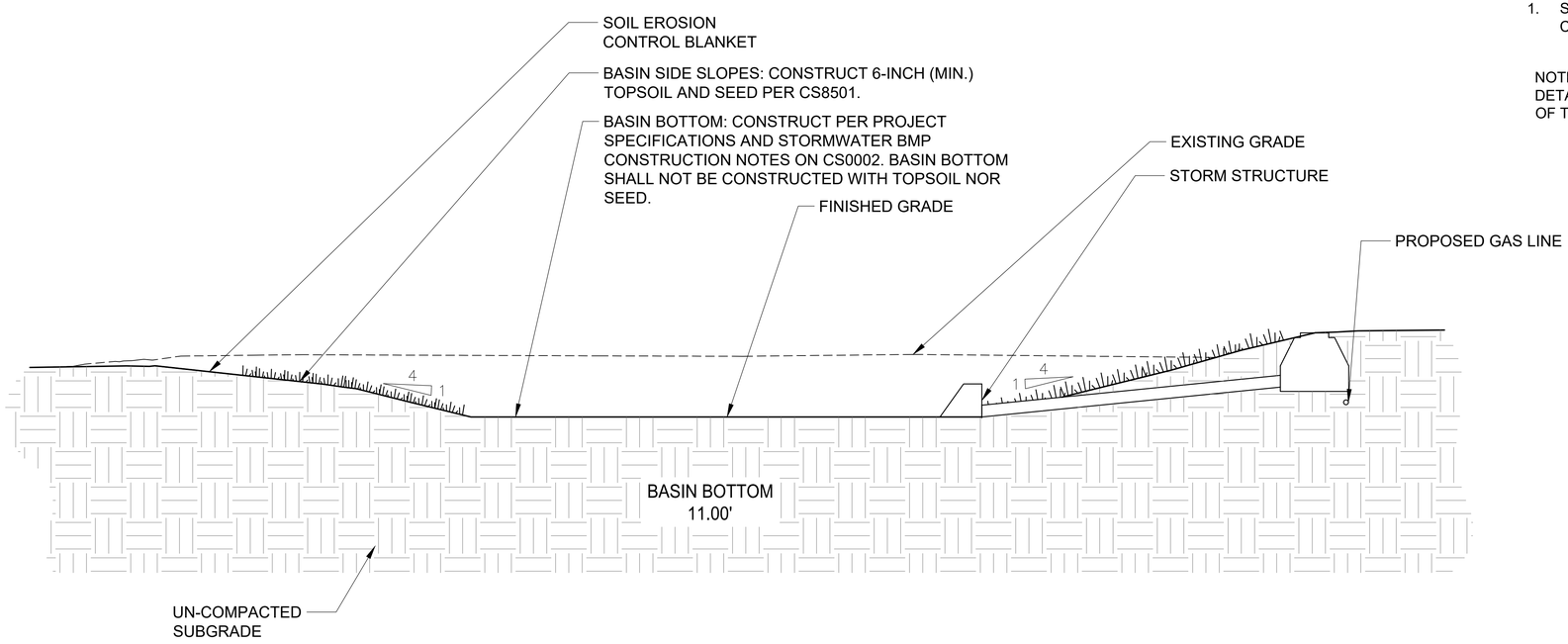
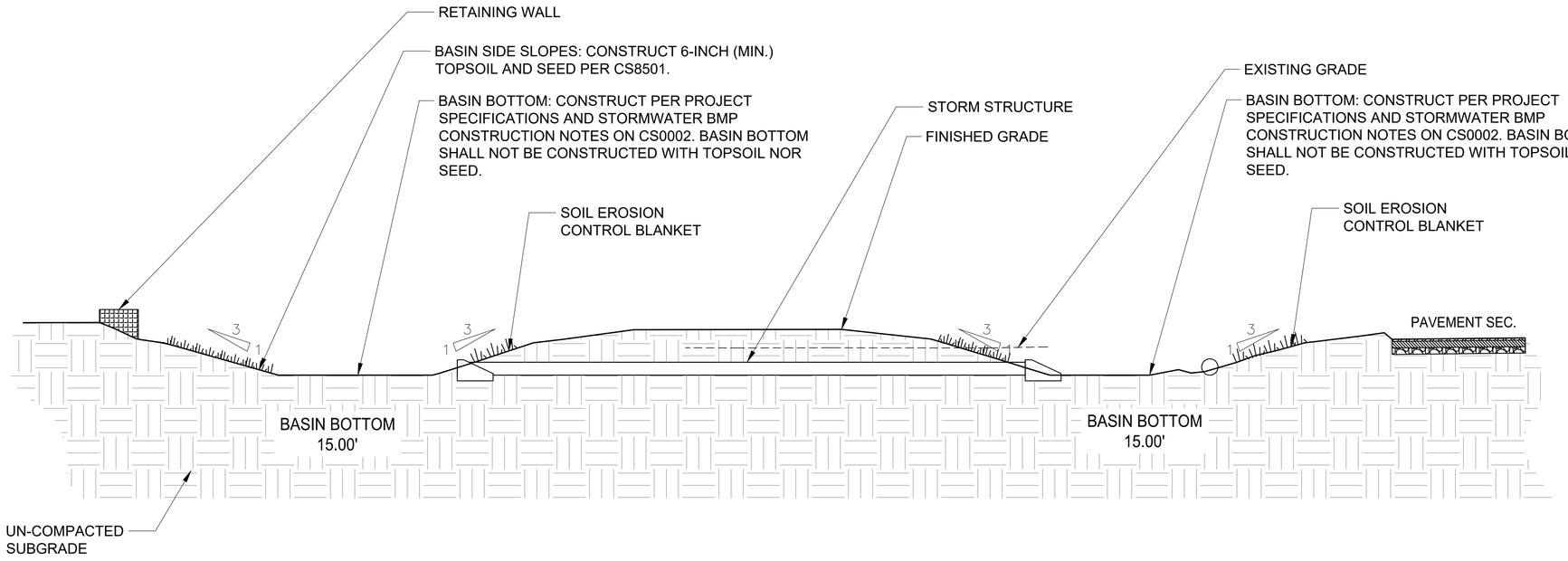
NOTE:

1. SEE SHEET CS1501 FOR LOCATION OF CROSS-SECTION

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN



1 RAINGRADEN NO. 2 SECTION 'C'-'C' DETAIL
NOT TO SCALE



2 RAINGRADEN NO. 3 SECTION 'D'-'D' DETAIL
21

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
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NJ. CA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

STORMWATER DETAILS IV

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6024

SHEET 37 OF 45

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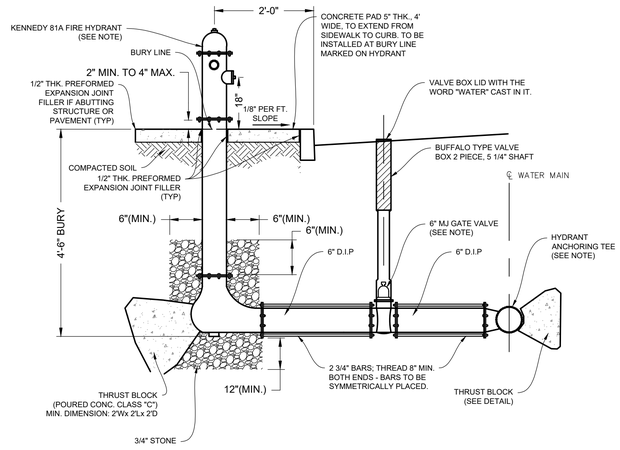
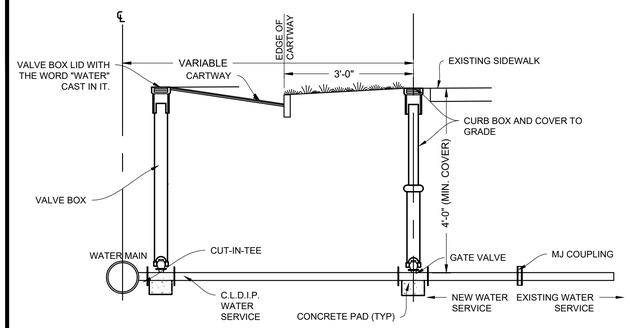


FIRE HYDRANT NOTES:

1. THE INLET HUB, GATE VALVE AND HYDRANT TEE SHALL BE RODDED TOGETHER WITH CONTINUOUS THREADED RODS (ALL THREAD - M.J.), SOCKET CLAMPS, WASHERS AND CORPORATION EYE BOLTS TO PREVENT HYDRANT FROM BLOWING OFF.
2. CONTRACTOR SHALL INSURE THAT THE FIRE HYDRANT THREADS CONFORM TO LOCAL FIRE COMPANY'S STANDARDS.
3. ALL FIRE HYDRANTS SHALL OPEN BY TURNING LEFT (COUNTERCLOCKWISE). THE OPERATING NUT AND OUTLET NOZZLE CAP NUTS SHALL BE PENTAGON, MEASURING 1 $\frac{1}{2}$" FROM POINT TO FLAT AT BASE. HYDRANTS SHALL BE PRIME COATED AND PAINTED IN ACCORDANCE WITH ANSI/SWWA STANDARD SPECIFICATIONS, FINISH PAINTED CONFORMING TO THE STANDARDS OF THE CITY OF CAMDEN.

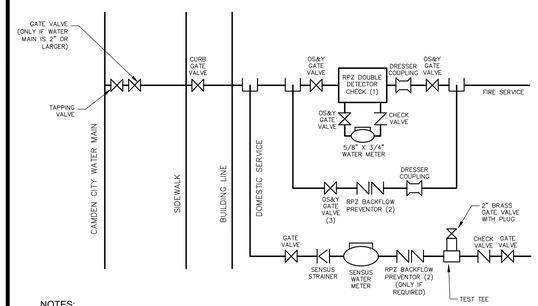
1 FIRE HYDRANT ASSEMBLY
NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL PROVIDE ALL NECESSARY PIPING, FITTINGS, ADAPTERS, ETC. TO MAKE CONNECTION TO NEW WATER SERVICE LINES. ALL TAPPING SLEEVES 2" AND LARGER SHALL BE SOLID DUCTILE IRON SUCH AS MUELLER H-615 TAPPING SLEEVE OR APPROVED EQUAL. THE TAPPING SLEEVE SHALL PASS PRESSURE TESTING BASED ON AWWA STANDARDS BEFORE TAP IS MADE.
2. CONTRACTOR SHALL PROVIDE CUT-IN-TEE AND GATE VALVES FOR WATER SERVICE CONNECTION.
3. ALL PIPE AND FITTINGS ABOVE GRADE SHALL BE FLANGE ENDS.
4. EXISTING WATER SERVICES TO BE ABANDONED IN PLACE SHALL BE CUT, PLUGGED AS CLOSE TO THE WATER MAIN AS POSSIBLE AND FREE OF LEAKS.
5. VALVES TO BE DOUBLE DISK GATE VALVES PER AWWA STANDARDS.

2 TYPICAL WATER SERVICE CONNECTION LARGER THAN 2-INCH DIAMETER
NOT TO SCALE



NOTES:

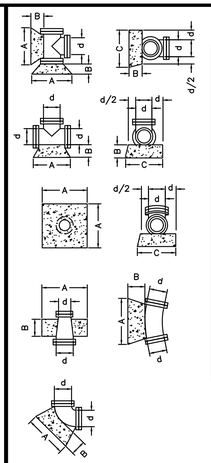
1. A BACKFLOW PREVENTER MUST BE PROVIDED FOR ALL PROPOSED FIRE SERVICE LINES. FOR A REGULAR FIRE SUPPRESSION SYSTEM (COMBINED SERVICE LINE LARGER THAN 2"), A COMBINED REDUCED PRESSUYRE DETECTOR ASSEMBLY (AMES 5000 SS, AMES 5000 RPDA OR WATT 9098 RPDA*) SHALL BE INSTALLED ON THE MAIN FIRE SERVICE LINE AND A REDUCED PRESSURE BACKFLOW PREVENTER ON THE BYPASS (AMES 4000 SS OR WATT 909*). ON THE LIMITED FIRE SUPPRESSION SYSTEM (COMBINED SERVICE LINE 1.5" OR 2"), A FIRE LINE DETECTOR CHECK WITH A SINGLE CHECK VALVE (AMES 1000 DCV*) SHALL BE INSTALLED ON THE MAIN FIRE LINE AND A REDUCED PRESSURE BACKFLOW PREVENTER (AMES 4000 SS OR WATT 909*) SGALL BE INSTALLED DOWNSTREA OF THE BYPASS. ALL REGULAR FIRE SUPPRESSION SYSTEMS MUST HAVE OS&Y VALVES, HOWEVER, LIMITED FIRE SUPPRESSION SYSTEMS MAY USE BALL VALVES (VICTAULIC SERIES 728 FIRELOCK*) INSTED OF OS&Y VALVES. THE FIRE UNIT SHALL BE FURNISHED WITHA $\frac{5}{8}$ INCH X $\frac{3}{4}$ INCH METERED BYPASS. THE APPLICANT SHALL APPLY FOR AND REGISTER ALL RPZ WITH NJDEP.

2. ALL METER SIZE 2 INCHES THROUGH 6 INCHES SHALL BE SINGLE COMPOUND METERS AND ALL METERS 8 INCHES AND LARGER SHALL BE DUPLEX COMPOUND MANIFOLD METERS.

3. ALL METERS SHALL BE ADEQUATELY RESTRAINED WITH METAL BRACKETS FASTENED TO THE FLOOR OR WALL OR OTHER APPROVED MEANS SUCH AS UNIFLANGES WHERE INTERNAL PIPE PRESSURE AND FLOW WARRANT SUCH RESTRAINTS. METERS, DETECTOR CHECKS, AND VALVES MAY BE SEATED ON CONCRETE BLOCK AND TAPERED SHIMS TO PROVIDE ADEQUATE SUPPORT. METERS SHALL BE INSTALLED APPROXIMATELY 36" ABOVE FLOOR GRADE.

4. REFER TO CITY OF CAMDEN DETAILS.

CAMDEN CITY REQUIREMENTS FOR FIRE AND DOMESTIC WATER LINE AND METER INSTALLATIONS
3 NOT TO SCALE

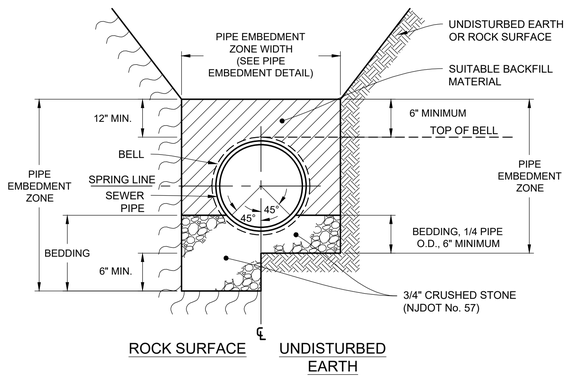


MINIMUM SIZE OF CONCRETE THRUST BLOCKS				
d	6"	8"	10"	12"
TEES & CROSSES				
A	2'-0"	2'-6"	3'-0"	3'-6"
B	8"	8"	10"	10"
C	1'-3"	1'-6"	2'-0"	2'-6"
90° BENDS				
A	2'-6"	3'-0"	3'-6"	3'-9"
B	8"	8"	10"	10"
C	1'-3"	1'-6"	2'-0"	2'-9"
45° BENDS				
A	1'-6"	1'-6"	2'-3"	2'-3"
B	8"	8"	10"	10"
C	1'-3"	1'-9"	2'-0"	2'-6"
22.5° & 11.25° BENDS				
A	1'-6"	1'-6"	1'-6"	1'-6"
B	8"	8"	10"	10"
C	1'-3"	1'-9"	2'-0"	2'-6"
REDUCERS				
dxd	6"X4"	8"X4"	10"X6"	10"X8"
A	1'-6"	2'-0"	2'-4"	2'-6"
B	1'-0"	1'-0"	1'-3"	1'-6"

NOTE:

ALL CONCRETE TO BE CLASS "C" (3,200 PSI @ 28 DAYS)

4 THRUST BLOCK DETAILS
NOT TO SCALE



5 DIP PIPE BEDDING DETAIL
NOT TO SCALE

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2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. CA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

WATER DETAILS

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6041

SHEET 38 OF 45

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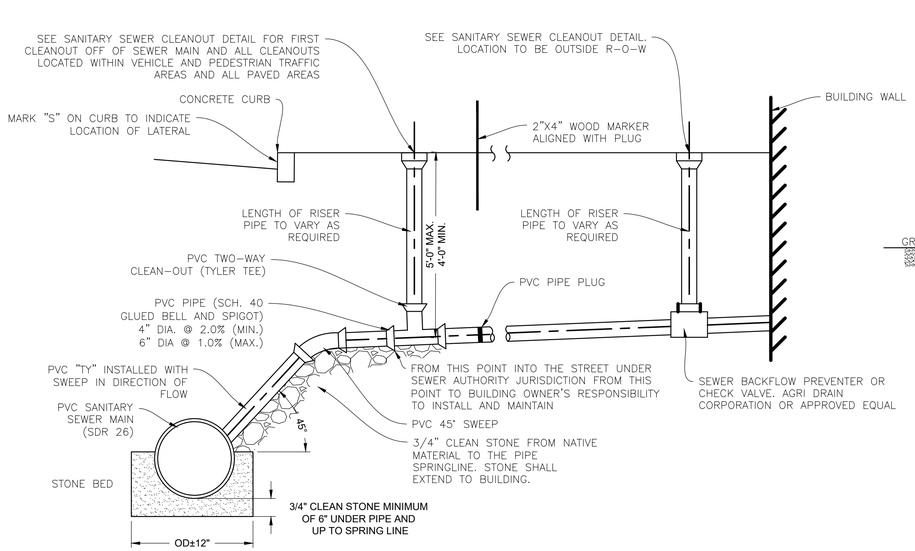
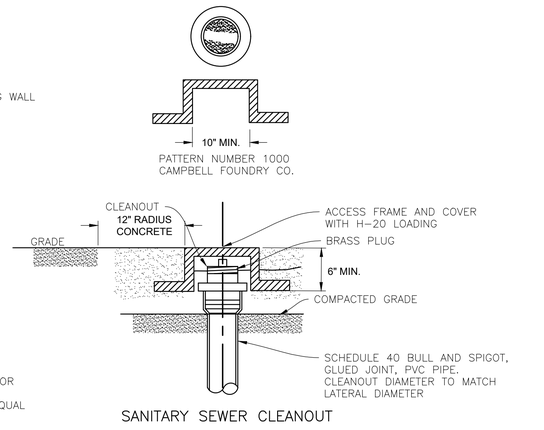


NOTES:
1. TRENCH BOTTOM TO BE VIRGIN SOIL. 0.75" STONE OR MECHANICALLY TAMPED AND TESTED BACKFILL

TYPICAL LATERAL WITH BACKFLOW PREVENTER



SANITARY SEWER CLEANOUT

NOTES:
1. REQUIRED FOR FIRST CLEANOUT OFF OF SEWER MAIN AND ALL CLEANOUTS LOCATED WITHIN VEHICULAR AND PEDESTRIAN TRAFFIC AREAS AND ALL PAVED AREAS.

NOTES:
1. INSERT A TEE USED FOR CONNECTION TO EXISTING MAIN MUST BE APPROVED BY CITY PRIOR TO INSTALLATION.
2. CONNECTION TO CITY SEWER MAIN MUST BE MADE WITH A HOLE SAW. CONNECTION WITH A HAMMER AND CHISEL OR ANY OTHER MAINS WILL NOT BE PERMITTED.
3. CLEANOUT SHALL BE LOCATED BETWEEN CURB AND SIDEWALK, OR A MAXIMUM OF 2' FROM CURB. ELEVATION OF TOP OF CLEANOUT SHALL BE LEVEL WITH THE HIGHER OF CURB OR GRADE. NO CELANOUTS LOCATED IN PAVED AREAS.
4. 3' MIN. COVER FROM FINISHED GRADE TO TOP OF SERVICE DUCTILE IRON PIPE. IN AREAS NOT SUBJECT TO VEHICULAR TRAFFIC IS REQUIRED IN AREAS WITH 3' COVER.
5. ALL CLEANOUTS ALONG LATERAL TO HAVE BRASS PLUGS OF SAME SIZE AS LATERALS.
6. ALL LATERALS MUST BE STRAIGHT RUNS.
7. LATERAL SIZE MUST BE 4" MINIMUM.

1 TYPICAL LATERAL DETAIL WITH BACKFLOW PREVENTER AND SANITARY SEWER CLEANOUT DETAIL
NOT TO SCALE

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

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Camden, NJ 08103
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11/17/25

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BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SANITARY DETAILS

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6051

SHEET 39 OF 45

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LANDSCAPE NOTES:

1. ALL PROPOSED PLANT MATERIAL NOT SURVIVING FOR A PERIOD OF TWO (2) YEARS FROM THE DATE OF FINAL INSPECTION SHALL BE REPLACE WITH THE EQUIVALENT SIZE AND SPECIE AND AT NO ADDITIONAL COST TO THE OWNER, MAINTENANCE SHALL BE PERFORMED TO INSURE THE PROPOSED PLANTS HAVE A HEALTHY/VIGOROUS GROWTH PERIOD. IF THE PROPOSED PLANT HAS A BROKEN AND/OR DAMAGE LEADER WILL CONSTITUTE EITHER A FULL REPLACEMENT OF THE TREE OR GIVEN AN EXTENDED ONE (1) YEAR GUARANTEE PENDING ON THE CITY'S REPRESENTATIVES DECISION. ANY PROPOSED PLANT THAT IS 25% DEAD OR MORE SHALL BE REPLACED IF THE TWO (2) YEAR MAINTENANCE PERIOD AND GIVEN AN EXTENDED TIME PERIOD OF ANOTHER TWO (2) YEAR MAINTENANCE PERIOD.WHERE IT IS NECESSARY TO REPLACE PLANT MATERIAL, THE LANDSCAPE ARCHITECT/ENGINEER OR OWNER SHALL INFORM THE CONTRACTOR THEREOF BEFORE SUCH REPLACEMENTS MADE. THE CONTRACTOR SHALL PERIODICALLY VISIT THE SITE AT HIS DISCRETION DURING THE TWO YEAR GUARANTEE PERIOD AND ADVISE THE OWNER, IN WRITING, OF ANY CONDITIONS WHICH APPEAR TO IMPACT. THE CONTRACTOR SHALL MAINTAIN ALL PLANTING BY WATERING, FERTILIZING. DISEASE CONTROL. PRUNING, WEEDING, ETC. SO AS TO KEEP THE COMPLETED WORK AND/OR INCOMPLETE WORK IN A CLEAN AND NEAT CONDITION AT ALL TIMES.

2. THE CONTRACTOR SHALL NOTIFY OWNER AND LANDSCAPE ARCHITECT /ENGINEER UPON COMPLETION OF GUARANTEE PERIOD AND REQUEST A FINAL REVIEW PRIOR TO ACCEPTANCE OF WORK SHOULD ANY PORTION OF THE WORK BE UNACCEPTABLE, CONTRACTOR SHALL MAKE ALL WORK ACCEPTABLE AND REQUEST RE-REVIEW BY OWNER AND LANDSCAPE ARCHITECT/ENGINEER. CONTRACTOR WILL BE NOTIFIED BY LETTER OF ACCEPTANCE WITHIN FIVE (5) DAYS AFTER INSPECTION OR FIVE (5) DAYS AFTER RE-REVIEW SHOULD THE LATTER BE NECESSARY.

3. THE GATOR BAGS ARE TO BE INSTALLED ON EACH NEW TREE AND GUARANTEE FOR ONE YEAR. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO CHECK THE GATOR BAG FOR WATER AND /OR IF PERCOLATION IS OCCURRING AROUND THE TREE. PERCOLATION IS NOT OCCURRING, THEN THE CONTRACTOR IS TO CLEAN THE GATOR BAGS OR REPLACE IT WITH A NEW ONE. IF ANY TREE INSTALLED LOOKS STRESSED OUT AND/OR IS A REPLACEMENT TREE, THE GATOR BAG MUST RECEIVE ANOTHER YEAR FROM THE TIME OF INSTALLATION WITH THE ORIGINAL GUARANTEE STILL IN PLACE ANY GATOR BAGS FOUND DEFICIENT AND/OR LOST/STOLEN MUST BE REPLACED/PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND/OR CITY. CONTRACTOR IS TO REMOVE THE GATOR BAGS EVERY SIXTY (60) DAYS AND PLACE BACK ON EVERY SEVEN (7) DAYS. THE CONTRACTOR CAN REMOVE THE GATOR BAGS DURING THE WINTER MONTHS UNLESS THE TEMPERATURE GOES ABOVE 55 DEGREES FAHRENHEIT FOR A PERIOD OF THREE STRAIGHT DAYS OR MORE.

4. ALL DISTURBED AREAS TO BE GRASS ARE TO RECEIVE SCREENED CLEAN TOPSOIL, FINE GRADED, SEEDED, AND MULCHED PRIOR TO INSTALLATION, THE CONTRACTOR. MUST SUBMIT SHOP DRAWINGS FOR BOTH EROSION CONTROL MULCH BLANKET AND SEED MIX TO THE LANDSCAPE ARCHITECT/ENGINEER FOR APPROVAL. REFER TO PROJECT SPECIFICATIONS FOR FURTHER INFORMATION REGARDING EACH ITEM.

5. ALL PLANT LOCATIONS SHALL BE STAKED IN THE FIELD AND LOCATIONS APPROVED BY LANDSCAPE ARCHITECT/OR ENGINEER PRIOR TO PLANTING.

6. TOPSOIL WITH A QUALITY ORGANIC SOIL AMENDMENT SHALL BE USED FOR ALL PLANTING AND SEEDING OPERATIONS.

7. INSTALL 24" MINIMUM TOPSOIL MIXTURE IN THREE BEDS; 12" MINIMUM TOPSOIL MIXTURE IN PERENNIAL, GROUNDCOVER, SHRUB AND EVERGREEN BEDS. 6" OF TOPSOIL MIXTURE ARE TO REMAIN ON ALL DISTURBED AREAS TO RECEIVE SEED.

8. NOTIFY ALL UTILITY COMPANIES AND LOCATE ALL UTILITIES PRIOR TO EXCAVATING PLANT PITS. PLANT LOCATIONS MAY BE ADJUSTED IN THE FIELD TO AVOID INTERFERENCE WITH UNDERGROUND UTILITIES.

9. SHOULD ANY DISCREPANCY ARISE BETWEEN THE PLANTING PLAN AND THE PLANTING SCHEDULE, THE CONTRACTOR IS RESPONSIBLE FOR THE QUANTITIES SHOWN ON THE LANDSCAPE PLAN.

10. ALL PLANT MATERIAL SHALL BE OF NURSERY STOCK QUALITY AS DEFINED BY THE AMERICAN ASSOCIATION OF NURSERYMAN STANDARDS AND SHALL BE FIRST QUALITY NURSERY GROWN STOCK FREE OF DISEASE AND OBJECTIONABLE DISFIGUREMENTS AND PLANTED IN CONFORMANCE WITH SOUND NURSERY PRACTICE AND APPLICABLE CITY STANDARDS.

11. ALL NON-BIODEGRADABLE ROOT WRAPPING TO BE REMOVED COMPLETELY BEFORE PLANTING.

12. ALL TREES SHALL BE BALLED AND BULLAPED, NURSERY GROWN STOCK.

13. ALL PLANT MATERIAL AND LAWNS SHALL BE PLANTED WITHIN THE RECOMMENDED SEASONAL TIME PERIODS AS PRESCRIBED BY ACCEPTED HORTICULTURAL PRACTICE. REFER TO CONSTRUCTION SPECIFICATIONS FOR RECOMMENDED PLANTING TIMES. FALL DIGGING AND TRANSPLANT HAZARD TREE SPECIES (OAKS,ETC.) SHALL ONLY BE DUG AND PLANTED IN SPRING.

14. ALL PLANT MATERIAL SHALL BE APPROVED UPON ARRIVAL TO THE SITE BY LANDSCAPE ARCHITECT OR ENGINEER, UNLESS OTHERWISE NOTIFIED.

15. PROPOSED PLANT MATERIAL MAY BE SUBSTITUTED BY SIMILAR PLANTS PRIOR TO INSTALLATION, SUBJECT TO APPROVAL BY THE ENGINEER.

16. A TEMPORARY FENCE, SUCH AS SNOW FENCE, SHALL BE ERECTED AT THE PERIMETER OF THE DRIPLINE OF ALL EXISTING VEGETATION INDICATED TO REMAIN. PRIOR TO EXCAVATION, CONSTRUCTION OR SITE WORK. THIS FENCE SHALL BE REMOVED ONLY AT THE TIME OF COMPLETION OF ALL CONSTRUCTION AND FINAL GRADING. COST TO BE INCLUDED IN ASSOCIATED BID ITEMS.

17. EXISTING TREES TO BE RELOCATED SHALL BE HANDLED ACCORDING TO ACCEPTABLE HORTICULTURE PRACTICE.

18. ALL DISTURBED AREAS NOT SHOWN AS PLANTED OR LAWN SHALL BE TOPSOILED AND SEEDED OR RETURNED TO THEIR ORIGINAL STATE BEFORE DISTURBANCE AS DIRECTED BY THE ENGINEER.

19. ALL AREAS NOT RELATED TO THE PROPOSED DEVELOPMENT SHALL REMAIN IN THEIR NATURAL STATE. DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO WORK AREA AND AS DEFINED ON DWGS.

20. ADDITIONAL LANDSCAPING APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE APPLICANT TO REPLACE ANY VEGETATION IN ADVERTENTLY REMOVED OUTSIDE THE LIMIT OF DISTURBANCE LINE AS SHOWN ON THE APPROVED GRADING PLAN DURING CONSTRUCTION.

21. PROPOSED TREES SHALL NOT BE PLANTED WITHIN EASEMENTS, DRIVEWAYS AND SITE TRIANGLES. THEREFORE, THE TREE LOCATIONS SHALL BE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD AS REQUIRED.

22. ALL SHADE TREES IN PEDESTRIAN WALKS AREAS SHALL HAVE AN INITIAL LIMBS PRUNED STARTING AT A MINIMUM OF 7 FT. ABOVE FINISHED GRADE.

23. MULCH THICKNESS MUST BE SHREDDED HARDWOOD BARK AND TO FOLLOW VARIOUS PLANTING DETAILS ON SHEET CS6062. NO DYE MULCH IS ACCEPTABLE. SEE CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.

24. PLANTS ARRANGED IN CONTINUOUS GROUPINGS SHALL BE SET IN MULCHED BEDS. THIS INCLUDES ANY PLANTS SPACED 7 FT O.C. OR CLOSER. ANY STREET TREES MUST FOLLOW TREE PIT DETAIL FOR STREET TREE PIT REQUIREMENTS.

25. ALL PLANTING DEBRIS SHALL BE REMOVED FROM THE PROPERTY.

26. ANY LIVE TREE WHICH IS SUBSTANTIALLY DAMAGED AS A RESULT OF GRADING OR GENERAL CONSTRUCTION MUST BE REMOVED AND REPLACED WITH ANOTHER TREE OR TREES AS APPROVED BY THE ENGINEER.

27. TREE REMOVAL FROM ANY SLOPE OR ENVIRONMENTALLY SENSITIVE AREA IS PROHIBITED IF IT WILL CONTRIBUTE, IN THE OPINION OF THE ENGINEER, TO EXTRA RUNOFF OF SURFACE WATER ONTO ADJOINING PROPERTY AND EROSION AND SILTING, UNLESS OTHER MEANS APPROVED BY THE ENGINEER ARE PROVIDED TO PREVENT RUNOFF AND EROSION.

28. NO HEALTHY TREE THAT IS SPECIAL BY VIRTUE OF HISTORY, UNUSUAL SIZE, OR AGE OR OF RARE SPECIES, SHALL BE REMOVED EXCEPT AS MAY BE REQUIRED FOR PROTECTION OF PUBLIC HEALTH, SAFETY AND WELFARE.

29. SELECTED EXISTING HEALTHY TREES SIX (6) INCHES IN CALIPER OR LESS MEASURED FOUR (4) FEET ABOVE THE GROUND SHALL BE RELOCATED ON-SITE UNDER THE DIRECTION AND APPROVAL OF THE ENGINEER.

30. NEWLY INSTALLED PLANT MATERIAL SHALL BE WATERED AT THE TIME OF PLANTING. REGULAR WATERING SHALL BE PROVIDED TO ENSURE THE ESTABLISHMENT AND REGULAR GROWTH OF PLANTS. CONTRACTOR TO REFER TO CONSTRUCTION SPECIFICATIONS.

31. SEED ALL DISTURBED AREAS WITH REQUIRED SEED MIX (CONTRACTOR TO REFER TO CONSTRUCTION SPECIFICATIONS).

32. TREES SHOULD BE PLANTED A MIN. OF FIVE (5) FEET FROM SIDEWALKS UNLESS IN TREE PITS.

33. GUY WIRES AND STAKES WILL ONLY BE UTILIZED IF CONDITIONS MERIT AND WILL BE REMOVED BY THE CONTRACTOR AT THE END OF THE GUARANTEE PERIOD.

34. CONTRACTOR MUST REVIEW CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION ON PLANTING PLANTS.

LANDSCAPE MAINTENANCE NOTES:

THE OWNERS OF THE COMPANY AND THEIR AGENTS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE INSTALLATION, PRESERVATION AND MAINTENANCE OF ALL PLANTING AND PHYSICAL FEATURES SHOWN ON THE PLANS. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF TWO(2) YEARS FROM DATE OF SUBSTANTIAL COMPLETION. ANY AND ALL PLANT MATERIAL THAT DIES OR FAILS TO THRIVE SHALL BE IMMEDIATELY REPLACED WITH LIKE SPECIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF SITE VEGETATION DURING GUARANTEED PERIOD TO INCLUDE BUT NOT BE LIMITED TO:

1. FERTILIZER: MOW LAWN - FERTILIZE TWICE PER YEAR.
   RAIN GARDEN - DO NOT FERTILIZE THE AREAS

2. PRUNING: PRUNING SHALL BE LIMITED OR REMOVAL OF DEAD WOOD OR BRANCHES FOR TREES OR FOR SIGHT DIFFERENCES/SAFETY REASONS. PRUNING OF SHRUBS AND TREES SHALL BE LIMITED TO THE PRUNING NECESSARY TO MAINTAIN THE NATURAL SHAPE OF THE PLANT EXCEPT FOR SHEARED HEDGES.

3. PEST CONTROL: PRE-EMERGENT WEED CONTROL FOR MOWN LAWNS AND SHRUB BEDS MAY BE APPLIED IN FEBRUARY. CHEMICAL TREATMENT FOR INSECT INFESTATION AND DISEASE MAY BE APPLIED AND SHALL BE SPECIFIC TO THE PROBLEM.

4. MULCHING: MULCHING SHALL BE MAINTAINED AT A DEPTH OF 3" IN PLANT BEDS AND AROUND BASE OF TREES.

5. MOWING: MOWN LAWN SEED MIX SHALL BE MOWN AT REGULAR INTERVALS THROUGHOUT THE GROWING SEASON. GRASS HEIGHT SHOULD NOT EXCEED 3 INCHES. MOWER BLADES SHALL BE SET AT 2–1/2 INCHES UNLESS OTHERWISE DIRECTED.
   MEADOW SEED MIX AREAS FIRST YEAR MAINTENANCE CONSISTS OF OBSERVATION OF THE DESIRED SPECIES GROWTH AND WEED COMPETITION WHEN MAKING MAINTENANCE DECISIONS. WHEN UNDESIRABLE VEGETATION REACHES 12"–18" TALL, MOW TO NO LESS THAN 6" HIGH (WITH A MOWER OR WEED EATER) TO PREVENT THE WEEDS FROM DEVELOPING SEED. GENERALLY, NATIVE PLANTS WILL GROW MORE EXTENSIVE ROOT SYSTEMS THAN TOPS IN THE FIRST YEAR; THEREFORE, MOWING TO 6"–8" HIGH WILL NOT CAUSE HARM. THIS PRACTICE ALLOWS SUNLIGHT TO REACH DESIRED SPECIES. DO NOT MOW WITH A LAWN MOWER, AS MOWING TOO CLOSE ENCOURAGES WEEDY GRASS SPECIES. PROVIDE IRRIGATION DURING PERIODS OF DRY WEATHER IS NEEDED FOR PROPER GERMINATION. MAINTAIN 1" OF WATER PER WEEK THROUGHOUT THE GROWING SEASON. SECOND YEAR MAINTENANCE OF THESE AREAS CONSISTS OF REMOVING UNDESIRED VEGETATION AND MOWING ONCE, CLOSE TO THE GROUND, IN EARLY SPRING. THIS ALLOWS YOUNG NATIVE PLANTS TO EMERGE AND RAPID WARMING OF THE SOIL. YEAR THREE AND BEYOND FOR THE AREAS, CONSISTS OF REMOVING UNDESIRABLE VEGETATION AND PREVENTING A BUILD–UP OF DEAD VEGETATION KNOWN AS 'THATCH'. THATCH WILL KEEP THE MEADOW AREAS FROM BEING HEALTHY AND DIVERSE. DEPENDING ON THE RATE OF THATCH BUILD–UP, MOW TO THE GROUND AND RAKE OFF THE RESIDUAL VEGETATION BEFORE SPRING GREEN–UP (APRIL), EVERY THREE TO FIVE YEARS.

6. PLANT PROTECTION: AVOID EXCESS INTRUSION INTO THE ROOT ZONE AREA OF ESTABLISHED PLANTINGS.

7. WATERING: UNLESS STATED OTHERWISE IN THESE DOCUMENTS, PROVIDE APPROXIMATELY 1–INCH OF RAINFALL/WATER PER WEEK THROUGHOUT THE GROWING SEASON FOR THE FIRST YEAR.

PERENNIAL AND GROUNDCOVER MAINTENANCE

1. WEED CONTROL CAN BE A PROBLEM UNTIL THE GROUNDCOVERS/ PERENNIALS HAVE SPREAD AND FILLED IN THE AREA. CONTROL OF PERSISTENT, PERENNIAL WEEDS, SUCH AS BERMUDAGRASS AND NUTGRASS SHOULD BE ACHIEVED BEFORE PLANTING. USE A NONSELECTIVE HERBICIDE, SUCH AS ROUNDUP. A MULCH APPLIED AFTER PLANTING AND REPLENISHED AS NEEDED TO MAINTAIN A DEPTH OF 2 INCHES WILL REDUCE THE NEED TO WEED BY HAND. PRE–EMERGENCE HERBICIDES CAN BE USED ON MANY TYPES OF GROUNDCOVER TO AID WEED CONTROL; READ THE LABEL CAREFULLY BEFORE APPLYING. AS THE GROUNDCOVER FILLS IN WEEDS WILL BECOME LESS OF A PROBLEM BECAUSE OF THE SHADED SOIL. SOME HAND WEEDING WILL MOST LIKELY BE NEEDED.

2. FOR BIORETANTION/RAINGARDEN PEST CONTROL:
   ONLY USE NJDEP APPROVED WEED CONTROL CHEMICALS, CHEMICAL TREATMENT FOR INSECTS INFESTATION AND DISEASE CAN BE USED IN THE BIORETANTION/RAINGARDENS PRIOR TO INSTALLING ANY CHEMICALS, CONTRACTOR MUST GET APPROVAL FROM CITY. GENERALLY, CONTRACTOR IS REQUIRED TO PULL WEEDS/INVASIVE WEED SPECIES (INCLUDING ROOTS) BY HAND FOR THREE (3) GROWING SEASONS / YEARS. AFTER YEAR THREE (3) PULLING WEEDS IS TO CONTINUE AS REQUIRED UNDER MAINTENACE CONTRACT WITH OWNER.

3. FERTILIZER – MOST GROUND COVERS WILL BENEFIT FROM AN APPLICATION OF FERTILIZER IN LATE WINTER TO EARLY SPRING. USE 2 TO 4 POUNDS OF A COMPLETE FERTILIZER PER 1,000 SQUARE FEET. WATER OR BRUSH FERTILIZER OFF THE FOLIAGE AFTER BROADCASTING.

4. AFTER CONTRACTOR'S GUARANTEE PERIOD IS COMPLETED, OWNERS OF THE COMPANY SHALL BE RESPONSIBLE FOR MAINTENANCE OF SITE VEGETATION AS SPECIFIED ABOVE (LANDSCAPE, PERENNIALS AND GROUNDCOVER MAINTENANCE)

SEEDING NOTES:

1. SEED ALL AREAS DISTURBED BY CONSTRUCTION NOT OTHERWISE CONTAINING PLANTING BEDS, SIDEWALKS, BUILDINGS, ETC.

2. BEFORE SEEDING, CONTRACTOR SHALL PROVIDE SOIL TESTS AND INCORPORATE NECESSARY SOIL AMENDMENTS PER SOIL TEST RECOMMENDATIONS.

3. PERFORM ALL FINISH GRADING, WITHIN AREAS OF DISTURBANCE, NECESSARY TO BRING SITE TO REQUIRED FINISHED ELEVATIONS. FINISH GRADING SHALL CONSIST OF PREPARING SUBGRADE AND SPREADING TOPSOIL READY FOR SEEDING OPERATIONS.

4. TOPSOIL SHALL BE UNIFORMLY SPREAD IN DISTURBED AREAS WITH BLADE GRADER, OR BY ANY OTHER APPROVED METHOD, TO A MINIMUM DEPTH OF 6 INCHES TO PERMIT 1 INCH OF SETTLEMENT. CORRECT ANY SURFACE IRREGULARITIES TO PREVENT FORMATION OF LOW SPOTS AND POCKETS THAT WOULD RETAIN WATER. PRIOR TO FINE GRADING, REMOVE ALL EXISTING ANNUAL TYPE VEGETATION.

5. SOW SEED AT THE RECOMMENDED SEEDING RATE AS SHOWN IN THE SEEDING MIX SCHEDULE AS NOTED ON EROSION CONTROL NOTES AND CONSTRUCTION SPECIFICATIONS.

6. SEED SHALL BE APPLIED APRIL 15TH THRU MAY 31ST OR AUGUST 17TH THRU OCTOBER 15TH.

7. AFTER SEEDING APPLICATION, WOOD CELLULOSE FIBER SHALL BE APPLIED HYDRAULICALLY AT A NET RATE DRY WEIGHT OF 1,500 LBS PER ACRE OR AT RATES RECOMMENDED BY THE MANUFACTURER. MULCH ALL SEEDED AREAS WITH CLEAN STRAW.

8. ON ALL SLOPES 3:1 OR GREATER, USE AN ORGANIC SOIL STABILIZER SUCH AS 'CON-TACK' OR EQUAL AT THE RATE OF 25 LBS PER 1,000 GALLONS OR AT RATES RECOMMENDED BY THE MANUFACTURER.

9. KEEP NEWLY SEEDED GRASS AREAS MOISTENED DURING SEED GERMINATION AND UNTIL THE GRASS COVERS AT LEAST 75% OF THE SEEDED AREAS TO A HEIGHT OF 2 TO 3 INCHES.

10. ALL AREAS AND SPOTS, WHICH DO NOT SHOW A PROMPT CATCH OF GRASS, SHALL THEN BE RE-SEEDED, AND THE OPERATION REPEATED UNTIL COMPLETE COVERAGE IS OBTAINED.

LANDSCAPING SCHEDULE - BASE BID

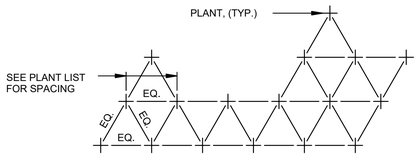
QTY	ITEM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS
BASE BID							
TREE							
3	ACQ	ACER CAMPESTRE 'QUEEN ELIZABETH'	QUEEN ELIZABETH HEDGE MAPLE	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
2	AR	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
6	ARO	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
5	CB	CARPINUS BETULUS 'FASTIGIATA'	COLUMNAR HORNBEAM	3" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
4	CCC	CERCIS CANADENSIS 'CLUMP'	CLUMP EASTERN REDBUD	8-10' HT	AS SHOWN	B&B	CLUMP, MIN. 3 SYMMETRICAL TRUNKS, FULL HEAD
1	CC	CERCIS CANADENSIS	EASTERN REDBUD	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
9	PA	PLATINUS X ACERFOLIA 'COLUMBIA'	COLUMBIA PLANETREE	3" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
5	SR	SYRINGA RETICULATA 'IVORY SILK'	IVORY SILK LILAC	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
3	ZS	ZELKOVA SERRATA ' VILLAGE GREEN'	VILLAGE GREEN ZELKOVA	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
EVERGREEN							
17	CL	X CUPRESSOCYPARIS LEYLANDII	Leyland Cypress	6'	10' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
5	INS	ILEX 'NELLIE R STEVENS'	NELLIE R STEVENS HOLLY	4-5'	5' O.C	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
6	IN	ILEX 'NELLIE R STEVENS'	NELLIE R STEVENS HOLLY	6'	10' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
33	JCH	JUNIPERUS CHINENSIS 'HETZII COLUMNARIS'	COLUMNAR HETZI JUNIPER	4-5'	3' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
18	JV	JUNIPERUS VIRGINANA	EASTERN RED CEDAR	6'	4' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
26	JVI	JUNIPERUS VIRGINANA	EASTERN RED CEDAR	4-5'	4' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
14	TON	THUJA OCCIDENTALIS 'NIGRA'	NIGRA ARBORVITAE	6'	4' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
SHRUB							
10	BGM	BUXUS 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	24-30" HT	3' O.C.	B&B	FULL FORM HEAD, BRANCHES START AT GROUND
11	CO	CLEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
19	FG	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
24	HQ	HYDRANGEA QUERCIFOLIA	OAKLEAF HYDRANGEA	18-24" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
74	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD, BRANCHES START AT GROUND
55	PL	PRUNUS LAUROCERASSUS 'OTTO LUYKENS'	OTTO LUYKENS CHERRYLAUREL	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD, BRANCHES START AT GROUND
8	PO	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE'	SUMMER WINE NINEBARK	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
66	SJ	SPIREA JAPONICA ' LITTLE PRINCESS'	LITTLE PRINCESS JAPANESE SPIREA	18-24" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
36	TC	TAXUS CUSPIDATA 'DENSA'	DENSA JAPANESE YEW	24-30" HT	3' O.C.	B&B	FULL FORM HEAD, BRANCHES START AT GROUND
PERENNIAL AND ORNAMENTAL GRASS							
200	HSD	HEMEROCALIS 'STELLA D'ORO'	STELLA D'ORO DAYLILY	-	15" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
450	LM	LIRIOPE MUSCARI 'VARIEGATA'	VARIEGATED LILY TURF	-	15" O.C.	4" POT	FULL FORM HEAD IN CONTAINER
99	PVH	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCHGRASS	-	18" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
130	PAL	PENNISETUM ALOPECUROIDES 'LITTLE BUNNY'	LITTLE BUNNY FOUNTAIN GRASS	-	18" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
24	POA	POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN	-	18" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
35	OC	OSMUNDASTRUM CINNAMOMEUM	CINNAMON FERN	-	18" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
BIORETENTION/RAIN GARDEN							
58	AA	ACORNUS AMERICANUS	SWEETFLAG	-	24" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
29	AI	ASCLEPIAS INCARNATA	SWAMP MILKWEED	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
54	AT	ASCLEPIAS TUBEROSA	BUTTERFLYWEED	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
59	CV	CAREX VULPINOIDEA	FOX SEDGE	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
44	EF	EUPATORIUM FISTULOSUM	JOE PYE WEED	-	24" O.C.	QUART	FULL FORM HEAD IN CONTAINER
143	IVE	IRIS VERSICOLOR	IRIS BLUE FLAG	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
140	JE	JUNCUS EFFUSUS	SOFT RUSH	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
138	PV	PANICUM VIRGATUM	SWITCHGRASS	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
99	SN	SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER

LANDSCAPING SCHEDULE - BID ALTERNATE

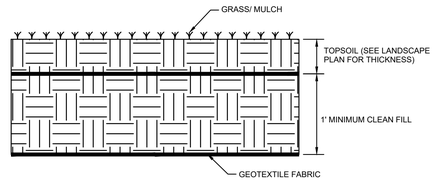
QTY	ITEM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS
ALTERNATE BID							
TREE							
8	GTS	GLEDITSIA TRIACANTHOS VAR. INERMIS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	2.5" CAL	AS SHOWN	B&B	STRIAGHT TRUNK, FULL HEAD
SHRUB							
4	FGD	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
13	IGS	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
6	PLO	PRUNUS LAUROCERASSUS 'OTTO LUYKENS'	OTTO LUYKENS CHERRYLAUREL	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
12	SJLP	SPIREA JAPONICA ' LITTLE PRINCESS'	LITTLE PRINCESS JAPANESE SPIREA	18-24" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
PERENNIAL AND ORNAMENTAL GRASS							
77	HSDO	HEMEROCALIS 'STELLA D'ORO'	STELLA D'ORO DAYLILY	-	15" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER

EXISTING TREE WORK NOTES:

1. TREE REMOVAL: CONTRACTOR IS TO REMOVE THE EXISTING TREE (I.E.: TRUNK, BRANCHES, STUMP, ROOTS, ETC. (IN THEIR ENTIRETY)). IF A STUMP GRINDER IS USED TO REMOVE STUMP AND ROOTS; CONTRACTOR WILL BE REQUIRED TO REMOVE ALL GRINDING DEBRIS OFF-SITE AND IT IS NOT TO BE MIXED INTO THE TOPSOIL AND/OR EXISTING SOIL. ALL TREE MATERIAL/DEBRIS IS TO REMOVED OFF-SITE IN ACCORDANCE TO LOCAL, COUNTY, AND/OR STATE REQUIREMENTS. ALL WORK TO BE COORDINATED WITH ENGINEER AND LSRP.
2. REMOVE DEAD BRANCHES: CONTRACTOR TO USE EQUIPMENT (I.E.: CHAIN/PRUNING SAW, PRUNERS, LOPPING SHEARS, ETC.) TO REMOVE ANY DEAD BRANCHES.THE CHOICE OF WHICH TOOL TO USE DEPENDS LARGELY ON THE BRANCH SIZE AND AMOUNT OF PRUING TO BE DONE. CONTRACTOR MUST DISCUSS OPTIONS WITH ENGINEER PRIOR TO START OF WORK. ALL TREE MATERIAL/DEBRIS IS TO REMOVED OFF-SITE IN ACCORDANCE TO LOCAL, COUNTY, AND/OR STATE REQUIREMENTS.
3. CROWN RAISING: CONTRACTOR TO REMOVE BRANCHES FROM THE BOTTOM OF THE CROWN OF TREE 10' FROM FINISH GRADE. THE CHOICE OF EQUIPMENT (I.E.: CHAIN/PRUNING SAW, PRUNERS, LOPPING SHEARS, ETC.) TO USE DEPENDS LARGELY ON THE BRANCH SIZE AND AMOUNT OF PRUNING TO BE DONE. CONTRACTOR MUST DISCUSS OPTIONS WITH ENGINEER PRIOR TO START OF WORK. ALL TREE MATERIAL/DEBRIS IS TO REMOVED OFF-SITE IN ACCORDANCE TO LOCAL, COUNTY, AND/OR STATE REQUIREMENTS.
4. CROWN THINNING/SHAPING TREE HEAD: NO MORE THEN ¼ OF LIVING CROWN SHALL BE REMOVED AT A TIME. CONTRACTOR SHALL KEEP BRANCHES WITH U-SHAPED ANGLES AND REMOVE ANY V-SHAPE ANGLES AND AVOID PRODUCING "LION'S TAIL", (TUFTS OF BRANCHES AND FOLIAGE AT THE END OF BRANCHES). BRANCHES THAT RUB/CROSS ANOTHER BRANCH SHALL BE REMOVED. THE CHOICE OF EQUIPMENT (I.E.: CHAIN/PRUNING SAW, PRUNERS, LOPPING SHEARS, ETC.) TO USE DEPENDS LARGELY ON THE BRANCH SIZE AND AMOUNT OF PRUNING TO BE DONE. CONTRACTOR MUST DISCUSS OPTIONS WITH ENGINEER PRIOR TO START OF WORK. ALL TREE MATERIAL/DEBRIS IS TO REMOVED OFF-SITE IN ACCORDANCE TO LOCAL, COUNTY, AND/OR STATE REQUIREMENTS.
5. ALL TREE WORK IS TO BE DONE IN ACCORDANCE TO ANSI A300 "TREE CARE STANDARDS".
6. PRIOR TO PERFORMING TREE WORK/REMOVAL, CONTRACTOR MUST COORDINATE WORK WITH ENGINEER. PRIOR TO REMOVING ANY TREE ROOTS/STUMPS, CONTRACTOR SHALL PERFORM TEST PITS TO DETERMINE IF ANY POSSIBLE UTILITY CONFLICTS ARE LOCATED WITHIN THE WORK AREA. THIS INCLUDES DENOTING TREES WITH RIBBON/MARKING PAINT THAT ARE NECESSARY TO BE REMOVED FOR CONSTRUCTION OF NEW IMPROVEMENTS AND REMOVING DYING/NON-HEALTHY/DEAD TREES. ENGINEER WILL REVIEW AND APPROVE TREES DENOTED TO BE REMOVED WITH THE CONTRACTOR IN THE FIELD. UPON APPROVAL, DENOTED TREES, STUBS, SHRUBS, ETC. SHALL BE REMOVED.
7. ANY TREES, OTHER THAN THE ENGINEER APPROVED DENOTED TREES, THAT ARE DAMAGED OR REMOVED BY CONTRACTOR SHALL BE REPLACED IN-



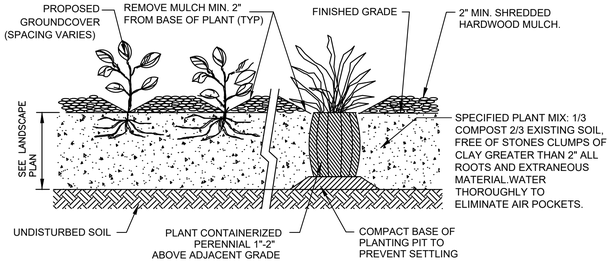
1 PLANT SPACING DIAGRAM
NOT TO SCALE



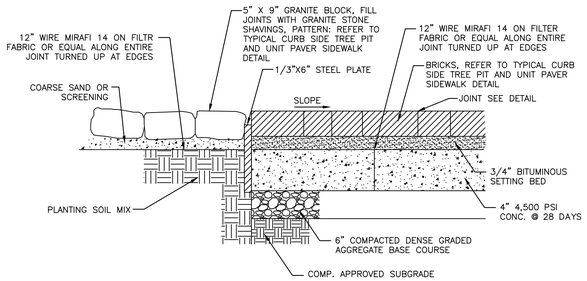
NOTE:

1. CONTRACTOR MAY BE REQUIRED TO INSTALL MORE THAN 1' MINIMUM CLEAN FILL TO ACCOMPLISH REQUIRED POST GRADING AND TO BE IN ACCORDANCE WITH PLANS AND CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR TO REFER TO ENVIRONMENTAL NOTES ON GENERAL NOTES I (CS0002)

2 VEGETATED AREA REQUIREMENTS
NOT TO SCALE



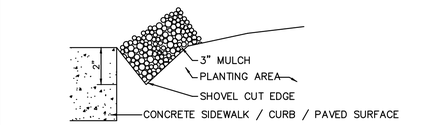
3 PERENNIAL/GROUNDCOVER/ORN. GRASS PLANTING
NOT TO SCALE



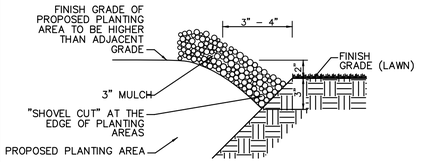
NOTE:

1. 1/3" X 6" STEEL PLATE NOT REQUIRED ALONG ANY CONCRETE SIDEWALK EDGE.
2. PAVER/GRANITE BLOCK/BRICK COLORS AND PATTERNS TO MATCH EXISTING.
3. CONTRACTOR TO SUBMIT COLOR SAMPLES TO ENGINEER, ARCHITECT, AND OWNER FOR APPROVAL PRIOR TO PROCURING PAVER, GRANITE BLOCK, & BRICK MATERIALS.

4 EDGE AT TREE PIT FOR BRICK SIDEWALK DETAIL
NOT TO SCALE



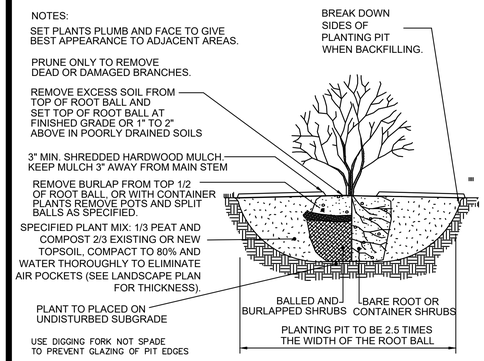
TYPICAL EDGING DETAIL AT PAVING



NOTE: PROPOSED TURF AREA TO MATCH GRADE OF SURROUNDING TURF AREA

TYPICAL EDGING DETAIL AT LAWN

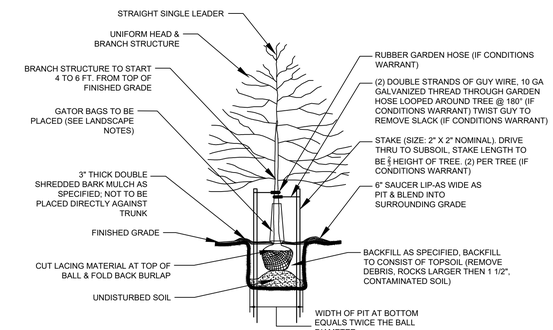
5 MULCH EDGING
NOT TO SCALE



NOTE:

1. GROUND LINE TO BE THE SAME AS EXISTING AT NURSERY.
2. CONTRACTOR TO REFER TO LANDSCAPE NOTES AND PLANS FOR TOPSOIL THICKNESS.
3. CONTRACTOR TO PROVIDE TOPSOIL/PLANTING SOIL CUT SHEET TO ENGINEER FOR APPROVAL PRIOR TO INSTALLING IT ON–SITE.

6 SHRUB PLANTING
NOT TO SCALE



NOTE:

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2. CONTRACTOR TO REFER TO LANDSCAPE NOTES AND PLANS FOR TOPSOIL THICKNESS.
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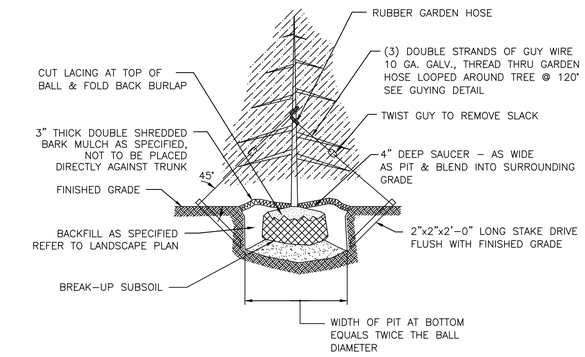
7 TREE PLANTNG DETAIL
NOT TO SCALE



NOTE:

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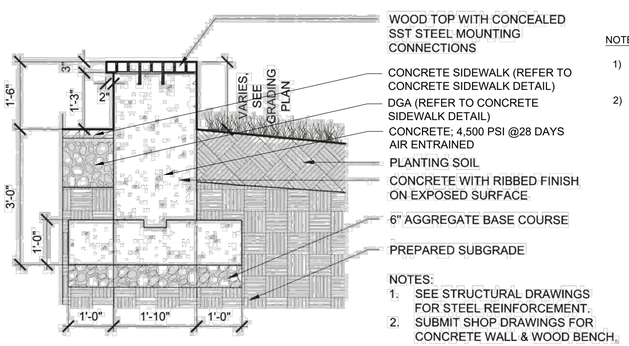
2. CONTRACTOR TO REFER TO LANDSCAPE NOTES AND PLANS FOR TOPSOIL THICKNESS.
3. CONTRACTOR TO PROVIDE TOPSOIL/PLANTING SOIL CUT SHEET TO ENGINEER FOR APPROVAL PRIOR TO INSTALLING IT ON–SITE.

8 TYPICAL PLANTING-EVERGREEN TREE
NOT TO SCALE



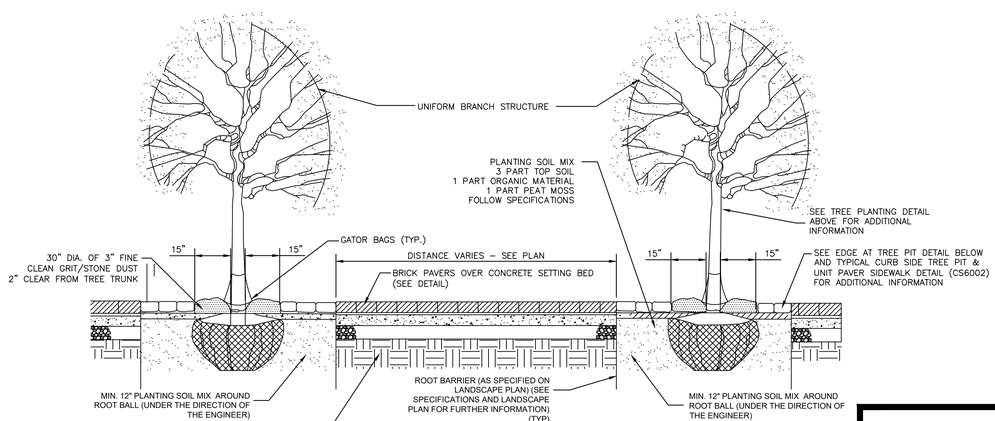
NOTES:

1. SEE STRUCTURAL DRAWINGS FOR STEEL REINFORCEMENT.
2. SUBMIT SHOP DRAWINGS FOR CONCRETE WALL & WOOD BENCH.

NOTES:

1) CONTRACTOR TO REFER TO LANDSCAPE PLAN FOR PLANTING SOIL THICKNESS.
2) CONTRACTOR TO REFER TO SITE PLAN AND CONSTRUCTION DETAILS FOR CONCRETE SIDEWALK.

9 CONCRETE SEATWALL WITH BENCH TYPE B
NOT TO SCALE



10 TREE PIT DETAIL(CROSS SECTION VIEW)
NOT TO SCALE

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T: 856.669.5100
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LANDSCAPE DETAILS

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	AS NOTED
DRAWN BY	BF
APPROVED BY	JJR

CS6062

SHEET 41 OF 45

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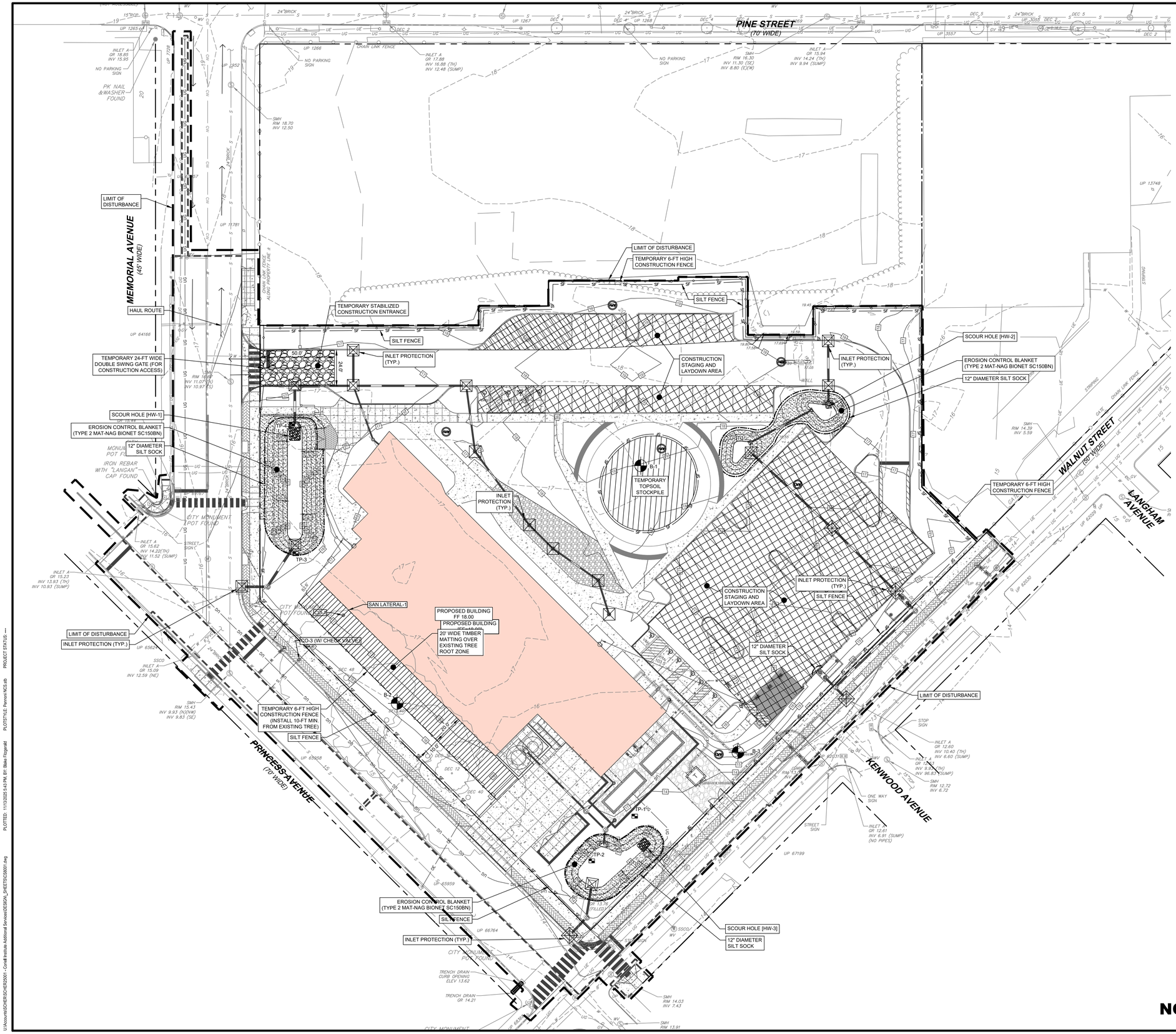

SOIL EROSION AND SEDIMENT CONTROL LEGEND:

- LIMIT OF DISTURBANCE
- SILT FENCE
- SILT SOCK
- TEMPORARY CONSTRUCTION FENCE
- TEMPORARY CONSTRUCTION FENCE GA
- PROPERTY LINE
- TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET
- TEMPORARY TOPSOIL STOCKPILE
- INLET PROTECTION
- CONSTRUCTION STAGING AREA
- HAULING ROUTE
- APPROXIMATE TEST PIT
- RECOMMENDED SOIL COMPACTION TEST LOCATION (APPROX. 1 PER 0.5 ACRE)
- ANTICIPATED MONITORING WELL
- CURRENT MONITORING WELL

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SOIL EROSION AND SEDIMENT CONTROL PLAN
(PHASE 1 + PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30;
DRAWN BY	BF
APPROVED BY	JJR

CS8001

SHEET 42 OF 45

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SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

1. ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY GRADING OPERATION AND/OR INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
2. SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
3. APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED.
4. THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND PREVENT EXCESSIVE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE.
5. ANY DISTURBED AREA THAT IS TO BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION IN ACCORDANCE WITH THE NEW JERSEY STANDARDS AND THEIR RATES SHOULD BE INCLUDED IN THE NARRATIVE. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
6. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION AND RATES OF APPLICATION AT THE REQUEST OF THE CAMDEN SOIL CONSERVATION DISTRICT.
7. ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE ACCORDING TO THE NEW JERSEY STANDARDS IMMEDIATELY FOLLOWING ROUGH GRADING.
8. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
9. ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
10. A CRUSHED STONE, TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS EXISTS. THE STABILIZED PAD WILL BE INSTALLED ACCORDING TO THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS.
11. ALL DRIVEWAYS MUST BE STABILIZED WITH 2-½" CRUSHED STONE OR SUBBASE PRIOR TO INDIVIDUAL LOT CONSTRUCTION.
12. PAVED AREAS MUST BE KEPT CLEAN AT ALL TIMES.
13. ALL CATCH BASIN INLETS WILL BE PROTECTED ACCORDING TO THE CERTIFIED PLAN.
14. ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED, AS REQUIRED BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
15. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA. THE SEDIMENT FILTER SHOULD BE COMPOSED OF A SUITABLE SEDIMENT FILTER FABRIC. (SEE DETAIL). THE BASIN MUST BE DEWATERED TO NORMAL POOL WITHIN 10 DAYS OF THE DESIGN STORM.
16. NJSA 4:24-39, ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE ALL PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR THE PROJECT MUST BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE A PREREQUISITE TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
17. MULCHING IS REQUIRED ON ALL SEEDED AREAS TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED TO PROMOTE EARLIER VEGETATION COVER.
18. OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE EROSION CONTROL INSPECTOR.
19. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
20. THE CAMDEN SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 72 HOURS PRIOR TO ANY LAND DISTURBANCE.
21. ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CERTIFIED PLAN TO ANY SUBSEQUENT OWNERS.
22. IMMEDIATELY AFTER THE COMPLETION OF STRIPPING AND STOCKPILING OF TOPSOIL, THE STOCKPILE MUST BE STABILIZED ACCORDING TO THE STANDARD FOR TEMPORARY VEGETATIVE COVER. STABILIZE TOPSOIL STOCKPILE WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE APPLICATION AND ESTABLISHMENT OF TEMPORARY SEEDING. ALL SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY AND THE BASE MUST BE PROTECTED WITH A SEDIMENT BARRIER.
23. ANY CHANGES TO THE SITE PLAN WILL REQUIRE THE SUBMISSION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE CAMDEN SOIL CONSERVATION DISTRICT. THE REVISED PLAN MUST BE IN ACCORDANCE WITH THE CURRENT NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL.
24. METHODS FOR THE MANAGEMENT OF HIGH ACID PRODUCING SOILS SHALL BE IN ACCORDANCE WITH THE STANDARDS. HIGH ACID PRODUCING SOILS ARE THOSE FOUND TO CONTAIN IRON SULFIDES OR HAVE A PH OF 4 OR LESS.
25. TEMPORARY AND PERMANENT SEEDING MEASURES MUST BE APPLIED ACCORDING TO THE NEW JERSEY STANDARDS, AND MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
26. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
27. DUST IS TO BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO THE NEW JERSEY STANDARDS AND MAY INCLUDE WATERING WITH A SOLUTION OF CALCIUM CHLORIDE AND WATER.
28. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
29. USE STAGED CONSTRUCTION METHODS TO MINIMIZE EXPOSED SURFACES, WHERE APPLICABLE.
30. ALL VEGETATIVE MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH AMERICAN STANDARDS FOR NURSERY STOCK OF THE AMERICAN ASSOCIATION OF THE NURSERYMAN AND IN ACCORDANCE WITH THE NEW JERSEY STANDARDS.
31. NATURAL VEGETATION AND SPECIES SHALL BE RETAINED WHERE SPECIFIED ON THE LANDSCAPING PLAN.
32. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.
33. CONTRACTOR SHALL REMOVE ALL WASHED, TRACKED OR SPILLED SEDIMENTS ON PAVED ROADWAY SURFACES IMMEDIATELY.

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION:

DEFINITION
ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON SOILS EXPOSED FOR PERIODS OF TWO TO 6 MONTHS WHICH ARE NOT BEING GRADED, NOT UNDER ACTIVE CONSTRUCTION OR NOT SCHEDULED FOR PERMANENT SEEDING WITHIN 60 DAYS.

PURPOSE
TO TEMPORARILY STABILIZE THE SOIL AND REDUCE DAMAGE FROM WIND AND WATER EROSION UNTIL PERMANENT STABILIZATION IS ACCOMPLISHED.

WATER QUALITY ENHANCEMENT
PROVIDES TEMPORARY PROTECTION AGAINST THE IMPACTS OF WIND AND RAIN, SLOWS THE OVERLAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE
ON EXPOSED SOILS THAT HAVE THE POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

1. SITE PREPARATION
A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, P. 19-1.

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

2. SEEDBED PREPARATION
A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 PONDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRE UNLESS SOIL TEST INDICATES OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. TABLE BELOW IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION.

SOIL TEXTURE	TONS/ACRE	LBS./1,000 S.F.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.

C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AS ABOVE.

D. SOILS HIGH ON SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1-1 OF THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

3. SEEDING
A. SELECT SEED FROM RECOMMENDATIONS IN TABLE.

SEED TYPES	SEEDING RATES 1* (POUNDS)		OPTIMUM SEEDING DATE 2* BASED ON PLANT HARDINESS ZONE 3*			OPTIMUM SEED DEPTH 4* (INCHES)
	PER ACRE	PER 1,000 SQ. FT.	ZONE 5	ZONE 6	ZONE 7	
COOL SEASON GRASSES						
PERENNIAL RYEGRASS	170	4.0	3/15 - 6/1 & 8/1 - 9/15	3/1 - 5/15 & 8/15 - 10/1	2/15 - 5/1 & 8/15 - 10/15	0.5
SPRING OATS	86	2.0	3/15 - 6/1 & 8/1 - 9/15	3/1 - 5/15 & 8/15 - 10/1	2/15 - 5/1 & 8/15 - 10/15	1.0
WINTER BARLEY	96	2.2	8/1 - 9/15	8/15 - 10/1	8/15 - 10/15	1.0
WINTER CEREAL RYE	112	2.8	8/1 - 11/1	8/1 - 11/15	8/1 - 12/15	1.0
WARM SEASON GRASSES						
PEARL MILLET	20	0.5	6/1 - 8/1	5/15 - 8/15	5/1 - 9/1	1.0
MILLET (GERMAN OR HUNGARIAN	30	0.7	6/1 - 8/1	5/15 - 8/15	5/1 - 9/1	1.0
WEEPING LOVEGRASS	5	0.2	6/1 - 8/1	5/15 - 8/15	5/1 - 9/1	0.25

1* SEEDING RATE FOR WARM SEASON GRASS, SHALL BE ADJUSTED TO REFLECT THE AMOUNT OF PURE LINE SEED (PLS) AS DETERMINED BY A GERMINATION TEST RESULT. NO ADJUSTMENT IS REQUIRED FOR COOL SEASON GRASSES.
2* MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR CAN BE IRRIGATED.
3* PLANT HARDINESS ZONE (SEE BELOW)
4* TWICE THE DEPTH FOR SANDY SOILS

ZONE 5B (-10 TO -15)
PORTIONS OF SUSSEX AND WARREN COUNTIES

ZONE 6A (-5 TO -10)
PORTIONS OF SUSSEX, WARREN, PASSAIC, MORRIS, SOMERSET AND HUNTERDON COUNTIES.

ZONE 6B (0 TO -5)
PORTIONS OR BERGEN, CAMDEN, ESSEX AND GLOUCESTER, HUNTERDON, MERCER, MIDDLESEX, HUDSON,MONMOUTH, OCEAN, BURLINGTON, MORRIS, PASSAIC, SOMERSET, UNION, ATLANTIC, CUMBERLAND, AND CAPE MAY COUNTIES.

ZONE 7A (5 TO 0)
PORTIONS OF CAMDEN, GLOUCESTER, SALEM, CUMBERLAND, CAPE MAY, ATLANTIC, BURLINGTON, OCEAN, AND MONMOUTH COUNTIES. ZONE 7B (10 TO 5) PORTIONS OF CAPEMAY, ATLANTIC, OCEAN AND MONMOUTH COUNTIES.

B. CONVENTIONAL SEEDING - APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.

D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. MULCHING
MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. (THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

APPLICATION
SPREAD UNIFORMLY BY HAND MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.

ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

1. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER (MULCH ANCHORING TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC-HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
4. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT HAY OR STRAW MULCHES.
   a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
   b. USE ONE OF THE FOLLOWING:
      (1) EMULSIFIED ASPHALT - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, AND CRS-2). APPLY 0.04 GAL./SQ. YD. OR 194 GAL./ACRE ON FLAT SLOPES LESS THAN 8 FEET HIGH. ON SLOPES 8 FEET OR MORE HIGH, USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE. THESE MATERIALS MAY BE DIFFICULT TO APPLY UNIFORMLY AND WILL DISCOLOR SURFACES.
      (2) ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
      (3) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

B. WOOD-FIBER OR PAPER-FIBER MULCH. SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH THE SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

C. PELLETIZED MULCH. COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZE MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION:

DEFINITION
ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON EXPOSED SOILS WHERE PERENNIAL VEGETATION IS NEEDED FOR LONG TERM PROTECTION.

PURPOSE
TO PERMANENTLY STABILIZE THE SOIL, ASSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.

WATER QUALITY ENHANCEMENT
SLOWS THE OVERLAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE
ON EXPOSED SOILS THAT HAVE A POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

1. SITE PREPARATION

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, P. 19-1.

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

2. SEED BED PREPARATION

A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 PONDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE IN ACCORDANCE WITH THE TABLE BELOW AND THE RESULTS OF SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. TABLE BELOW IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION RATES.

SOIL TEXTURE	TONS/ACRE	LBS./1,000 S.F.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

D. HIGH ACID PRODUCING SOIL.
SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS.

3. SEEDING

A. SEED MIX SHALL BE AS FOLLOWS

TYPE 'A-3' SEED MIXTURE - TO BE PLANTED FROM 2/1 - 4/30 AND FROM 8/15 - 10/30.

KIND OF SEED	MINIMUM PURITY-%	MINIMUM GERMINATION-%	% OF TOTAL WEIGHT MIXTURE	PLANTING RATE POUNDS/ACRE
TALL FESCUE (REBEL OR FALCON)	95	80	70	120
KENTUCKY BLUEGRASS (KENBLUE, SOUTH DAKOTA OR PARK)	85	75	10	20
CHEWINGS FESCUE (HIGHLIGHT OR JAMESTOWN)	95	85	10	40
PERENNIAL RYEGRASS (LINN)	98	85	10	20

B. CONVENTIONAL SEEDING - APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.

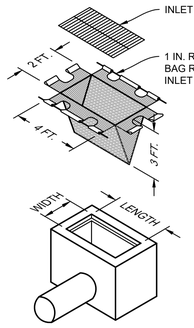
D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. MULCHING
FOLLOW SAME STANDARDS AS LISTED UNDER TEMPORARY VEGETATIVE COVER FOR STABILIZATION.

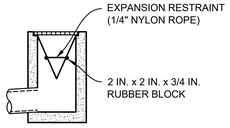
5. IRRIGATION (WHERE FEASIBLE)
IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF ½ INCH TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

6.TOPDRESSING
SINCE SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE IS PRESCRIBED IN SECTION II.A. SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GRASS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 400 POUNDS PER 1,000 SQ. FT.

7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION
THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATE IS REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION



ISOMETRIC VIEW



INSTALLATION DETAIL

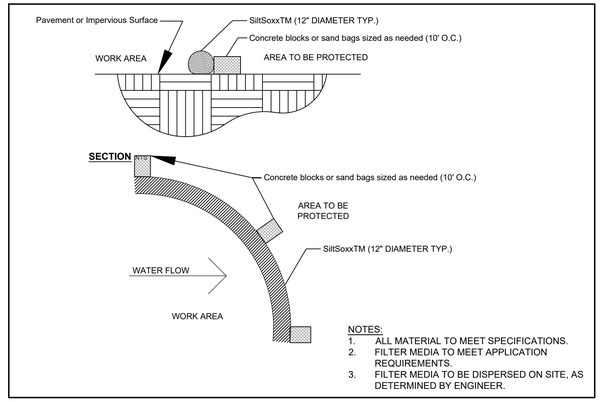
NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

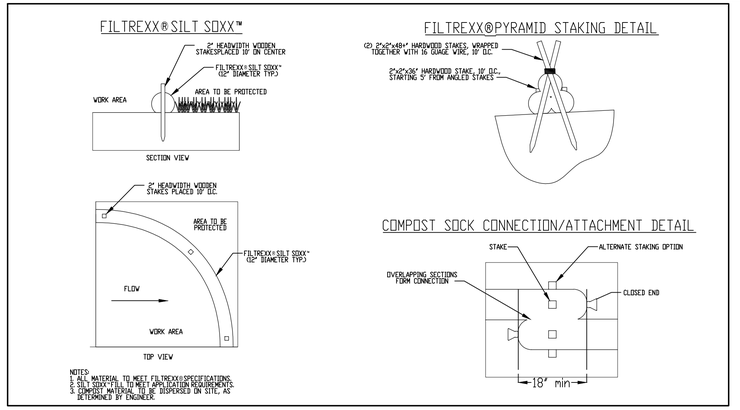
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

1 INLET FILTER BAG PROTECTION DETAIL
NOT TO SCALE



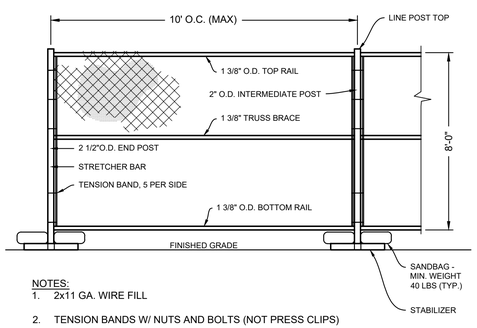
NOTES:
1. ALL MATERIAL TO MEET SPECIFICATIONS.
2. FILTER MEDIA TO MEET APPLICATION REQUIREMENTS.
3. FILTER MEDIA TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

ON PAVEMENT



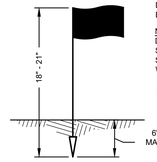
ON LAWN

2 SILT SOCK DETAIL
NOT TO SCALE



NOTES:
1. 2x11 GA. WIRE FILL
2. TENSION BANDS W/ NUTS AND BOLTS (NOT PRESS CLIPS)
3. WIRE TIES EVERY 12"
4. ALL PIPE AND WIRE TO BE HAND DIPPED GALVANIZED

3 TEMPORARY CONSTRUCTION FENCE DETAIL
NOT TO SCALE



PROBING WIRE TEST
15.5 GA. STEEL WIRE (SURVEY FLAG)
N.T.S.

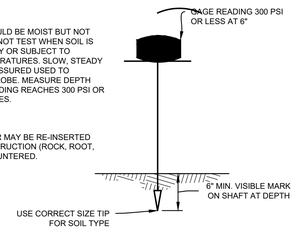
RECORD DEPTH OF PENETRATION WHEN WIRE DEFORMS; MINIMUM DEPTH OF 6" TO PASS TEST. EITHER PREMEDITATE OR PERFORM THE NEXT TEST.

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURED USED TO ADVANCE WIRE.

* WIRE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURED USED TO ADVANCE THE PROBE. MEASURE DEPTH WHEN GAGE READING REACHES 300 PSI OR DEPTH OF 6 INCHES.

* PENETROMETER MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.



SOIL DE-COMPACTION AND TESTING REQUIREMENTS

SOIL COMPACTION TESTING REQUIREMENTS

1. SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.
3. COMPACTION TESTING LOCATIONS ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION REMEDIATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
4. IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

COMPACTION TESTING METHODS

A. PROBING WIRE TEST (SEE DETAIL)
B. HAND-HELD PENETROMETER TEST (SEE DETAIL)
C. TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)
D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

FURTHER INFORMATION REGARDING SOIL TESTING METHOD OPTIONS ARE LOCATED IN THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, CHAPTER 19,
OR THE WWW.NJ.GOV/AGRICULTURE/DIVISIONS/ANR/NRCNJEROSION.HTML

SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

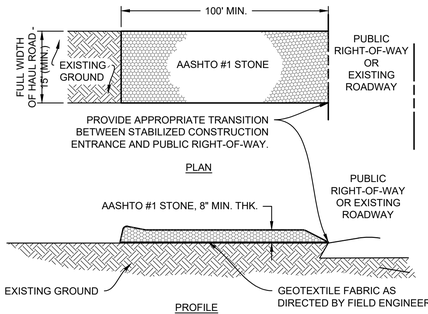
PROCEDURES FOR SOIL COMPACTION MITIGATION
PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAYBE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION MITIGATION VERIFICATION FORM

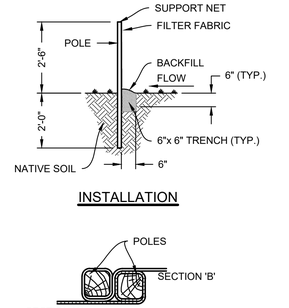
1. THE CONTRACTOR MUST COMPLETE AND SUBMIT A SOIL RESTORATION SELF-CERTIFICATION FORM TO THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT (CCSCD) FOR REVIEW AND APPROVAL. CONTRACTOR SHALL PROVIDE A COPY OF CCSCD APPROVAL TO ENGINEER FOR RECORDS.

4 HANDHELD SOIL PENETROMETER TEST
NOT TO SCALE



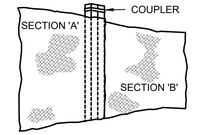
MAINTENANCE :
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

5 ROCK CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



INSTALLATION

JOINING SECTION - PLAN VIEW



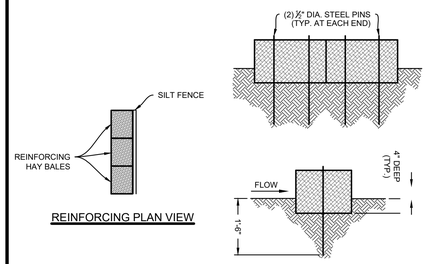
JOINING SECTION - ELEVATION

THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC.

SILT FENCE TO BE USED ON SITE SHALL BE "ENVIROFENCE" PRECONSTRUCTED SILT FENCE OR EQUAL.

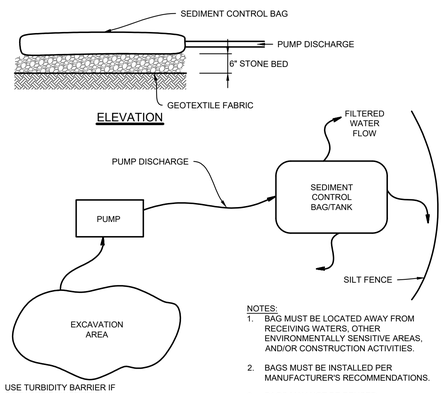
SPECIFICATIONS ARE:
LENGTH: 100 FT.
FABRIC WIDTH: 3 FT.
POLE LENGTH: 4.5 FT.
POLE SPACING: 7.7 FT.
INSTALLED HEIGHT: 2.5 FT.
SEDIMENT FABRIC: MIRAFI 100.

6 SILT FENCE DETAIL
NOT TO SCALE



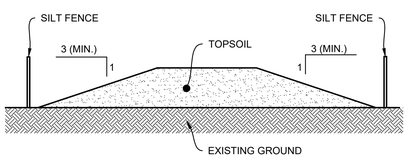
NOTE:
BALES TO BE PLACED, BEHIND SILT FENCE FOR REINFORCING, ON CONTOUR. FIRST STAKE TO BE ANGLED TOWARD LAST BALE.

7 HAY BALE SEDIMENT BARRIER DETAIL (IF & WHERE DIRECTED)
NOT TO SCALE



NOTES:
1. BAG MUST BE LOCATED AWAY FROM RECEIVING WATERS, OTHER ENVIRONMENTALLY SENSITIVE AREAS, AND/OR CONSTRUCTION ACTIVITIES.
2. BAGS MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. BAGS MAY NOT BE REUSED.
4. BAGS MUST BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

8 SEDIMENT CONTROL BAG
NOT TO SCALE



NOTES:
1. TOPSOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE.
2. STOCKPILE SHALL RECEIVE TEMPORARY VEGETATIVE STABILIZATION IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY IMMEDIATELY AFTER COMPLETION OF STOCKPILE.

9 TOPSOIL STOCKPILE DETAIL
NOT TO SCALE

ACID-PRODUCING SOIL NOTES

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID-PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID-PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF THE SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID-PRODUCING SOIL.
5. HIGH ACID-PRODUCING SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A PH OF 5.0 OR MORE EXCEPT AS FOLLOWS:
   a. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A PH OR 5 OR MORE.
   b. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES, AND OTHERS, TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

THIS PLAN IS FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.662.8620
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768
11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SOIL EROSION & SEDIMENT CONTROL DETAILS

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS8502

SHEET 44 OF 45

PROJECT STATUS: —
PLOTSTYLE: Pennoni-NCS.stb
PLOTTED: 11/13/2025 5:43 PM, BY: Blake Fitzgerald
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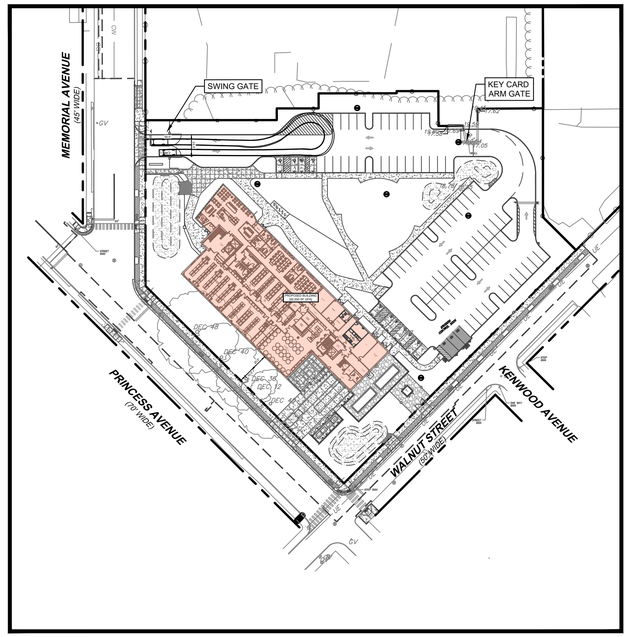
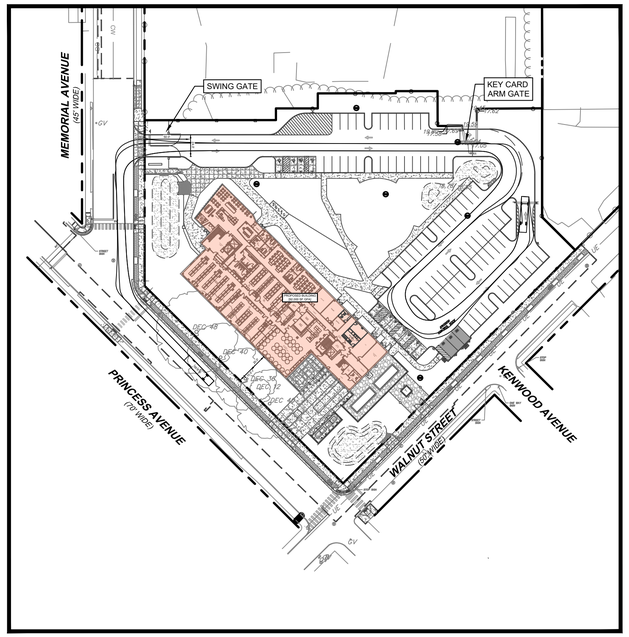
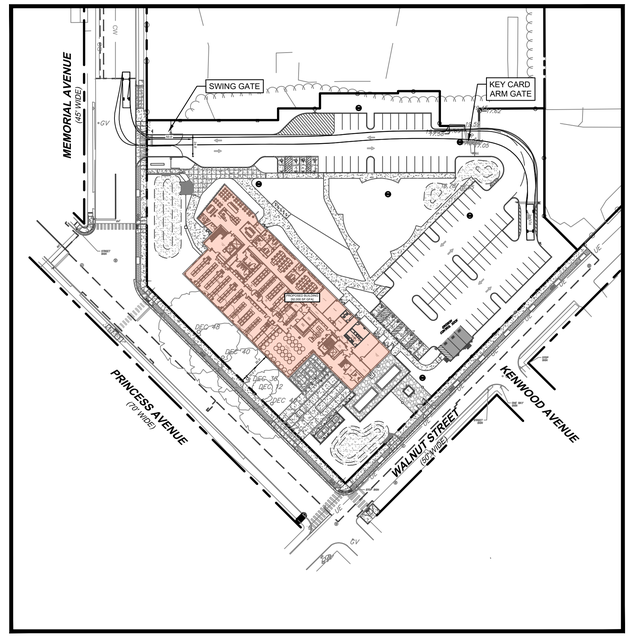


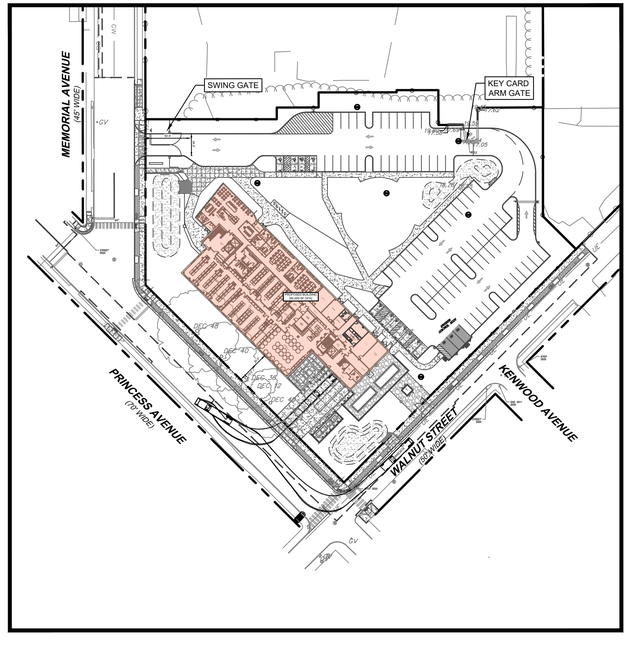
PASSENGER CAR TURN AROUND



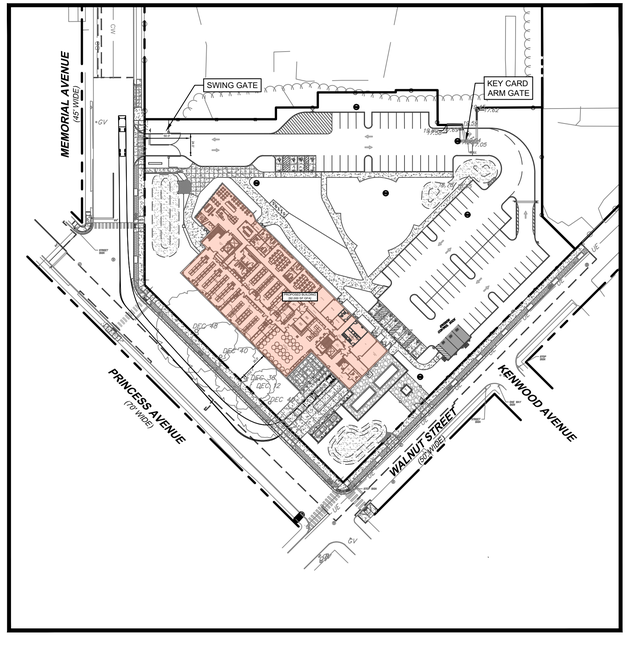
CAMDEN FIRE TRUCK-ENTERING



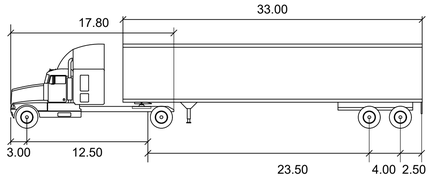
CAMDEN FIRE TRUCK-EXITING



WB-40 TRUCK-ENTERING

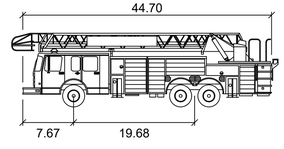


WB-40 TRUCK-EXITING



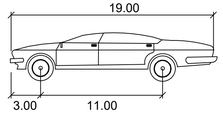
WB-40

	feet		
Overall Length	: 45.50	Lock to Lock Time	: 4.00
Overall Width	: 8.00	Steering Angle	: 20.30
Overall Body height	: 13.50		
Track Width	: 8.00		



CAMDEN FIRE TRUCK

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3



PASSENGER CAR

	feet
Width	: 7.00
Lock to Lock Time	: 4.00
Steering Angle	: 31.60

0 80' 160'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

VEHICULAR CIRCULAR CIRCULATION PLAN

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=80'
DRAWN BY	BF
APPROVED BY	JJR

CS9801

SHEET 45 OF 45

U:\Accounts\SCHER\SC-HER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS9801.dwg PLOTTED: 11/13/2025 5:45 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —

REMINGTON & VERNICK ENGINEERS PROJECT #: 0408P952

THIS MAP IS HEREBY APPROVED BY THE PLANNING BOARD OF THE CITY OF CAMDEN.

BOARD CHAIRMAN DATE

BOARD SECRETARY DATE

BOARD ENGINEER DATE

ZONING OFFICER/ADMINISTRATIVE OFFICER DATE

OWNER: WALNUT STREET ACQUISITION GROUP, LLC. DATE

APPLICANT: WALNUT STREET ACQUISITION GROUP, LLC. DATE

CORIELL INSTITUTE CAMDEN

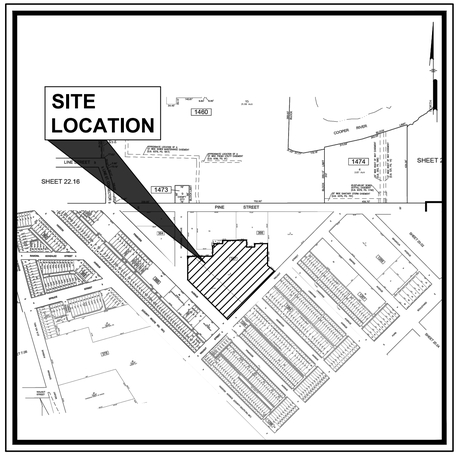
PRELIMINARY / FINAL SITE PLAN

BLOCK 367, LOTS 1 & 6
CAMDEN COUNTY. NEW JERSEY

PREPARED FOR:

WALNUT PROPERTY ACQUISITION, LLC.

403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103



TAX MAP
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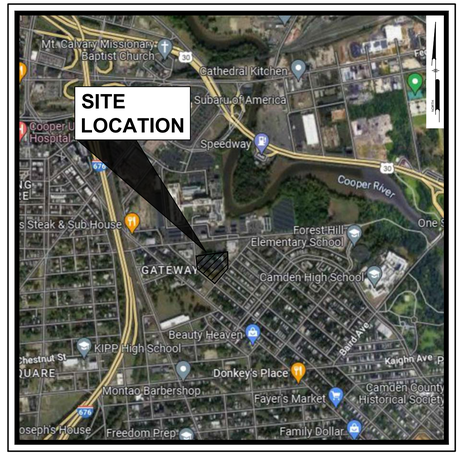

LOCATION MAP
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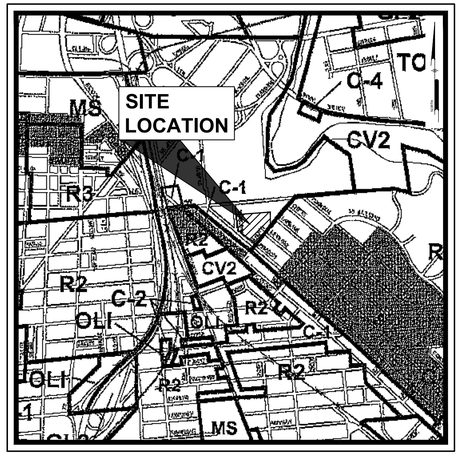

ZONING MAP
Scale: 1" = 1000'

Sheet List Table			
Sheet No.	Drawing No.	Sheet Title	Drawing Date
1	CS0001	COVER SHEET	yyyy-mm-dd
2	CS0002	GENERAL NOTES I	yyyy-mm-dd
3	CS0003	GENERAL NOTES II	yyyy-mm-dd
4	CS0004	PROPERTY OWNERS LIST - 200FT	yyyy-mm-dd
5	CS0500	OVERALL SITE PLAN	yyyy-mm-dd
6	CS0501	DEMOLITION PLAN	yyyy-mm-dd
7	CS1001	SITE PLAN (PHASE 1)	yyyy-mm-dd
8	CS1002	SITE PLAN (PHASE 1 + PHASE 2)	yyyy-mm-dd
9	CS1501	GRADING PLAN (PHASE 1 + PHASE 2)	yyyy-mm-dd
10	CS1502	GRADING DETAILS I	yyyy-mm-dd
11	CS1503	GRADING DETAILS II	yyyy-mm-dd
12	CS1504	GRADING DETAILS III	yyyy-mm-dd
13	CS1505	GRADING DETAILS IV	yyyy-mm-dd
14	CS1506	GRADING DETAILS V	yyyy-mm-dd
15	CS1507	GRADING DETAILS VI	yyyy-mm-dd
16	CS1701	DRAINAGE PLAN	yyyy-mm-dd
17	CS1702	UTILITY PLAN	yyyy-mm-dd
18	CS2001	LANDSCAPE PLAN (PHASE 1)	yyyy-mm-dd
19	CS2002	LANDSCAPE PLAN (PHASE 1 + PHASE 2)	yyyy-mm-dd
20	CS2003	LANDSCAPE PLAN DETAILS (PHASE 1)	yyyy-mm-dd
21	CS2201	LIGHTING PLAN (PHASE 1)	yyyy-mm-dd
22	CS2202	LIGHTING PLAN (PHASE 2)	yyyy-mm-dd
23	CS2203	LIGHTING PLAN - CONDUIT LAYOUT (PHASE 1 + PHASE 2)	yyyy-mm-dd
24	CS3501	ROAD PROFILES - MEMORIAL AVENUE	yyyy-mm-dd
25	CS3502	ROAD PROFILES - PRINCESS AVENUE	yyyy-mm-dd
26	CS3503	ROAD PROFILES - WALNUT STREET	yyyy-mm-dd
27	CS4001	STORM AND SEWER PROFILES	yyyy-mm-dd
28	CS6001	CONSTRUCTION DETAILS I	yyyy-mm-dd
29	CS6002	CONSTRUCTION DETAILS II	yyyy-mm-dd
30	CS6003	CONSTRUCTION DETAILS III	yyyy-mm-dd
31	CS6004	CONSTRUCTION DETAILS IV	yyyy-mm-dd
32	CS6005	CONSTRUCTION DETAILS V	yyyy-mm-dd
33	CS6006	CONSTRUCTION DETAILS VI	yyyy-mm-dd
34	CS6021	STORMWATER DETAILS I	yyyy-mm-dd
35	CS6022	STORMWATER DETAILS II	yyyy-mm-dd
36	CS6023	STORMWATER DETAILS III	yyyy-mm-dd
37	CS6024	STORMWATER DETAILS IV	yyyy-mm-dd
38	CS6041	WATER DETAILS	yyyy-mm-dd
39	CS6051	SANITARY DETAILS	yyyy-mm-dd
40	CS6061	LANDSCAPE NOTES	yyyy-mm-dd
41	CS6062	LANDSCAPE DETAILS	yyyy-mm-dd
42	CS8001	SOIL EROSION AND SEDIMENT CONTROL PLAN (PHASE 1 + PHASE 2)	yyyy-mm-dd
43	CS88501	SOIL EROSION & SEDIMENT CONTROL NOTES	yyyy-mm-dd
44	CS8502	SOIL EROSION & SEDIMENT CONTROL DETAILS	yyyy-mm-dd
45	CS9801	VEHICULAR CIRCULATION PLAN	yyyy-mm-dd

NEW JERSEY
ONE CALL
CALL BEFORE YOU DIG
1-800-272-1000

CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE REQUIREMENTS OF THE NEW JERSEY ONE-CALL DAMAGE PREVENTION SYSTEM AS STATED IN THE "UNDERGROUND FACILITY PROTECTION ACT". TICKET NUMBER(S):

PREPARED BY:
PENNONI ASSOCIATES INC.

Pennoni

2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.668.8600

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

NOT FOR CONSTRUCTION

PLOTTED: 11/13/2025 5:39 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS: —
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS0001.dwg

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.668.8600
NJ. CoA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

COVER SHEET

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	BY
1.	11/17/2025	BF

CITY PLANNING BOARD SUBMISSION

REVISIONS

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	AS NOTED
DRAWN BY	BF
APPROVED BY	JJR

CS0001

SHEET 1 OF 45

DEMOLITION NOTES:

1. DEMOLITION WILL BEGIN UPON RECEIPT OF ALL NECESSARY APPROVALS AND PERMITS FROM ALL APPLICABLE GOVERNMENTAL AGENCIES AND AFTER ALL UTILITIES HAVE BEEN DEACTIVATED / DISCONNECTED. CONTRACTOR SHALL CONTACT UNDERGROUND UTILITIES AS PER NEW JERSEY ONE CALL LAW NOT LESS THAN FIVE (5) DAYS NOR MORE THAN TEN (10) WORKING DAYS BEFORE COMMENCING WITH DEMOLITION.

2. ALL DEMOLITION WORK SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT NFPA 241 AND OSHA STANDARDS, LATEST EDITION.

3. CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY PURVEYOR , OWNER AND THE ENGINEER 72 HRS. PRIOR TO INITIATING UTILITY REMOVAL AND/OR ABANDONMENT.

4. PRIOR TO START OF DEMOLITION, THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH EACH UTILITY AND THE OWNER TO THE WORK RELATIVE TO THEIR FACILITIES WITHIN THE LIMITS OF DEMOLITION AREA. THE CONTRACTOR SHALL ASSUME THAT ALL UTILITIES WHETHER SHOWN OR NOT ARE INACTIVE OR DE-ENERGIZED PRIOR TO DEMOLITION.

5. REMOVE ALL SANITARY SEWER, STORM SEWER, TELEPHONE AND CABLE SERVICES AND CONDUITS WITHIN THE LIMIT OF DEMOLITION UNLESS OTHERWISE NOTED. ALL WATER SERVICE CONNECTIONS SHALL BE CUT AND CAPPED AT THE MAIN LOCATED IN BROADWAY. STORM INLETS AND ASSOCIATED PIPING SHALL REMAIN IN-PLACE.

6. ALL SANITARY SEWER CONVEYANCE FACILITIES, WHICH ARE TO BE ABANDONED, SHALL BE EMPTIED OF WASTES AND EITHER REMOVED OR ABANDONED IN-PLACE IN A MANNER WHICH IS ACCEPTABLE TO THE OWNER AND ENGINEER.

7. ABOVE GRADE ROOF DRAINS SHALL BE REMOVED WITH THE BUILDING, AND CUT AND CAPPED A MINIMUM OF FIVE (5) FEET FROM THE BUILDING.

8. ALL SANITARY SEWER CONVEYANCE FACILITIES, WHICH ARE TO BE ABANDONED, SHALL BE EMPTIED OF WASTES AND EITHER REMOVED OR ABANDONED IN-PLACE IN A MANNER WHICH IS ACCEPTABLE TO THE OWNER AND ENGINEER.

9. ABOVE GRADE ROOF DRAINS SHALL BE REMOVED WITH THE BUILDING, AND CUT AND CAPPED A MINIMUM OF FIVE (5) FEET FROM THE BUILDING.

10. BACKFILL ALL VOIDS CREATED BY REMOVALS, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: FOUNDATIONS, MANHOLES, INLETS, SITE PIPING, VALVES, CONDUITS, CLEANOUTS, AND TREE ROOT REMOVALS. BACKFILL WITH STRUCTURAL FILL IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.

11. CRUSHING OF MATERIALS WILL BE PERMITTED ONSITE WITHIN THE DESIGNATED WORK AREA ONLY, AND THE PROCESS SHALL BE FIRST REVIEWED AND APPROVED BY THE ENGINEER.

12. RECYCLED MATERIALS MAY BE USED AS BACKFILL IF THE MATERIAL MEETS ALL THE REQUIREMENTS ESTABLISHED IN THE PROJECT SPECIFICATIONS AND ON THE CONTRACT DRAWINGS.

13. WHERE A PIPE BEING REMOVED IS CONNECTED TO AN EXISTING STRUCTURE, EITHER REMOVE THE PIPE AND FILL THE WALL OPENING WITH CONCRETE, OR CUT THE PIPE WITHOUT PERCUSSION NOT MORE THAN 6" FROM THE OUTSIDE FACE OF THE STRUCTURE AND FILL THE REMAINING LENGTH OF PIPE WITH CONCRETE.

14. THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING PAVING, CURBING, CONCRETE, BRICK AND SITE AMENITIES NOT CALLED OUT TO BE REMOVED. ANY EXISTING CURB, SIDEWALK, PAVEMENT, LANDSCAPING, LIGHTING OR OTHER SITE AMENITIES THAT ARE TO BE MAINTAINED AND PROTECTED AND ARE DAMAGED DURING DEMOLITION OR OTHER CONSTRUCTION RELATED ACTIVITIES, SHALL BE REPLACED PROMPTLY BY THE CONTRACTOR AT NO COST TO THE OWNER.

15. THE REMOVAL OF EXISTING BOLLARDS, GUIDE RAIL POSTS & FOOTINGS SHALL INCLUDE THE PIPE/ POST AND CONCRETE FOOTING IN ITS ENTIRETY.

16. PROTECTION OF FIRE HYDRANTS SHALL BE COORDINATED WITH THE OWNER.

17. WATER WILL BE AVAILABLE ONSITE VIA EXISTING HYDRANTS. CONTRACTOR TO COORDINATE WITH OWNER.

18. ELECTRICAL UTILITIES SHALL BE DISCONNECTED PRIOR TO BEGINNING ANY DEMOLITION WORK. DEMOLITION SHALL INCLUDE THE REMOVAL OF BURIED AND EXPOSED CONDUIT IN THE AREA DESIGNATED FOR DEMOLITION, SEALING ENDS OF BURIED CONDUIT ABANDONED IN PLACE AND REMOVING ALL POWER AND CONTROL WIRING BETWEEN THE DEMOLISHED FACILITY AND THE TERMINAL JUNCTION BOX, CIRCUIT BREAKER, OR METER CONTROL CENTER SUPPLYING POWER TO THE FACILITY.

19. ALL MATERIAL BROUGHT ON SITE SHALL BE CLEAN FILL, SAMPLED, AND ANALYZED WITH STANDARD NJDEP QUALITY ASSURANCE STANDARDS AND PRACTICES AT A MINIMUM, AS SPECIFIED IN N.J.A.C. 7:26E, TO FULLY CHARACTERIZE THE CONTAMINANTS IN THE LATEST SOIL CLEANUP CRITERIA (SCC). THE CONTRACTOR SHALL SUBMIT TO THE OWNER WRITTEN DOCUMENTATION FROM A LABORATORY CERTIFIED IN NEW JERSEY ENVIRONMENTAL LABORATORY CERTIFICATION PROGRAM (ELCP) AND IN ACCORDANCE WITH N.J.A.C. 7:18 PRIOR TO PLACEMENT OF THE MATERIAL ON SITE. THE MATERIAL MUST NOT CONTAIN CONTAMINANTS ABOVE THE MOST RESTRICTIVE DIRECT CONTACT OR IMPACT TO GROUNDWATER (IGW) SCC.

20. ALL DEMOLITION MATERIAL AND DEBRIS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. NO ON-SITE BURIAL IS PERMITTED. A SOIL REMOVAL PERMIT IS THE RESPONSIBILITY OF THE CONTRACTOR.

21. ALL ACTIVE CONSTRUCTION SITES AND LOCATIONS SHALL BE PROVIDED WITH NON-COMBUSTIBLE REFUSE CONTAINER(S) IN SUCH NUMBERS AS SHALL BE NECESSARY TO CONTAIN ALL COMBUSTIBLE REFUSE GENERATED BY THE CONSTRUCTION ACTIVITIES.

22. ALL COMBUSTIBLE REFUSE, RUBBISH AND DEBRIS SHALL BE COLLECTED AND DEPOSITED IN THE CONTAINER(S) ON A DAILY BASIS. REFUSE CONTAINER(S) SHALL BE LOCATED A MINIMUM OF TWENTY (20) FEET AWAY FROM ANY BUILDING, STRUCTURE, LOT LINE OR COMBUSTIBLE MATERIAL STORAGE LOCATION.

23. WHILE CONSTRUCTION ACTIVITIES ARE IN PROGRESS, AT LEAST FOUR(4) PORTABLE FIRE EXTINGUISHERS HAVING A RATING OF AT LEAST 10-A, 80-BC SHALL BE PROVIDED, AND SHALL BE MAINTAINED IN A LOCATION APPROVED BY THE FIRE OFFICIAL. PERSONNEL NORMALLY ON THE CONSTRUCTION SITE SHALL BE INSTRUCTED IN THE USE OF THE FIRE EXTINGUISHERS PROVIDED.

24. THE CONTRACTOR SHALL CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS TO ENSURE MINIMAL INTERFERENCE WITH ROADS, WALKS AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. THE AREAS OF DEMOLITION SHALL BE PROTECTED TO ENSURE THE SAFE PASSAGE OF PEDESTRIANS AS SHOWN ON THE CONTRACT DRAWINGS.

25. NO DISTURBANCES NOR PLACEMENT OF MATERIALS SHALL BE PERMITTED BEYOND THE PROJECT LIMIT LINES WITHOUT WRITTEN CONSENT OF THE PROPERTY OWNER(S) INVOLVED. DAMAGE CAUSED TO ADJACENT FACILITIES BY DEMOLITIONS OPERATIONS AND/OR STORAGE OF MATERIALS OR EQUIPMENT SHALL BE PROMPTLY REPAIRED/REPLACED AT NO COST TO THE OWNER.

26. DEMOLITION EQUIPMENT AND VEHICLES SHALL STAGE WITHIN PAVED DRIVEWAYS, PARKING LOTS AND WITHIN THE AREA OF EXISTING BUILDING FOOTPRINT TO MINIMIZE SOIL DISTURBANCES DURING DEMOLITION PROCESS..

27. CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES PRIOR TO DEMOLITION.

28. CONTRACTOR TO COORDINATE ALL UTILITY REMOVAL(S) AND SHUT-OFF(S) (TYPICAL).

29. CONTRACTOR TO COORDINATE WITH ALL APPLICABLE AGENCIES DURING THE DEMOLITION OF EXISTING BUILDINGS.

30. ALL MATERIALS REMOVED FROM SITE ARE TO BE DISPOSED OF AT AN APPROVED FACILITY.

31. NO MATERIALS ARE TO BE BURIED ONSITE.

32. SUPPORT AND STABILIZATION OF REMAINING STRUCTURES SHALL CONFORM TO THE LATEST BOCA BUILDING CODE.

33. ALL DEMOLITION TO BE PERFORMED IN STRICT ADHERENCE TO ALL FEDERAL, STATE AND LOCAL REGULATIONS.

34. CONDUCT DEMOLITION IN SUCH A MANNER TO INSURE MINIMUM INTERFERENCE WITH ROADS, WALKS AND OTHER ADJACENT FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER OCCUPIED AREAS WITHOUT WRITTEN CONSENT OF OWNER AND ANY APPLICABLE GOVERNMENTAL AUTHORITIES.

35. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS, IF REQUIRED BY CITY OR STATE AGENCIES.

36. CONTRACTOR TO USE TEMPORARY ENCLOSURES, WATERING OR OTHER SUITABLE METHODS, AS NECESSARY TO LIMIT THE AMOUNT OF DUST AND DIRT.

34. REMOVED MATERIALS SHALL NOT BE STORED, SOLD OR BURNED ON SITE. REMOVAL OF HAZARDOUS AND COMBUSTIBLE MATERIAL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROCEDURES AS AUTHORIZED BY THE FIRE DEPARTMENT OR OTHER APPROPRIATE REGULATORY AGENCIES AND AUTHORITIES.

34. DISCONNECT, SHUT OFF AND SEAL IN CONCRETE ALL UTILITIES SERVING THE STRUCTURE(S) TO BE DEMOLISHED BEFORE THE COMMENCEMENT OF DESIGNATED DEMOLITION. CLEARLY IDENTIFY BEFORE THE COMMENCEMENT OF DESIGNATED DEMOLITION THE REQUIRED INTERRUPTION OF ACTIVE SYSTEMS THAT MAY AFFECT OTHER PARTIES, AND NOTIFY APPLICABLE UTILITY COMPANIES TO INSURE CONTINUATION OF SERVICE

35. NEW JERSEY REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE. (NJ ONE CALL SYSTEM, INC. 1-800-272-1000).

35. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE IMPROVEMENTS AND UTILITIES. ANY/ALL DISCREPANCIES SHALL BE REPORTED TO ENGINEER IN WRITING PRIOR TO ANY CONSTRUCTION.

36. ALL EXISTING UTILITIES SHALL BE REMOVED BY CONTRACTOR IN ACCORDANCE WITH CITY REQUIREMENTS.

HIGH-VOLTAGE PROXIMITY ACT

THE CONTRACTOR IS NOTIFIED THAT ALL PROVISIONS OF THE HIGH-VOLTAGE PROXIMITY ACT, P.L. 1948, c. 249 AS AMENDED THROUGH MAY 20, 1987 SHALL BE STRICTLY ADHERED TO. THE CONTRACTOR SHALL ALSO ADHERE TO ALL PROVISIONS OF PART 1926.550, SUBPART N OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF DECEMBER, 1970. PARTICULAR ATTENTION IS DIRECTED TO THE PROVISIONS OF THE ABOVE ACT REQUIRED WARNING SIGNS, NOTIFICATION TO POWER COMPANY AND RESPONSIBILITY FOR SAFEGUARDS AND ALSO PROHIBITED ACTIVITY.

A COPY OF THE HIGH-VOLTAGE PROXIMITY ACT IS AVAILABLE IN THE OFFICE OF THE COUNTY ENGINEER OR MAY BE OBTAINED FROM THE NEW JERSEY DEPARTMENT OF LABOR, DIVISION OF WORKPLACE STANDARDS, OFFICE OF SAFETY COMPLIANCE, TRENTON, NJ 08625

LEED V4.1 NOTES:

1. MATERIALS AND RESOURCES: CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT:

A) CONTRACTOR MUST ESTABLISH AND IMPLEMENT A STRATEGY (WASTE MANAGEMENT PLAN) TO ACHIEVE WASTE DIVERSION FROM LANDFILLS AND INCINERATION FACILITIES FOR AT LEAST 50% OF THE TOTAL WASTE FROM THE PROJECT (FOR THE DEMOLITION OF THE WORK, IT IS ANTICIPATED THAT A MUCH HIGHER PERCENTAGE CAN BE REACHED). PLAN MUST BE SUBMITTED TO ARCHITECT AND ENGINEER FOR APPROVAL PRIOR TO STARTING CONSTRUCTION ON-SITE.

B) WASTE MANAGEMENT PLAN MUST COMPLY WITH LEED V4 REFERENCE/REQUIREMENTS.

C) PLAN IS TO INCLUDE REQUIREMENTS FOR THE DEMOLITION CONTRACTOR TO ORGANIZATION ON-SITE RECYCLING AND DIVERSION EQUIPMENT, REPORT ON HOW MATERIALS WILL BE SORTED, WHERE THE MATERIALS WILL BE TAKEN, AND HOW THE RECYCLING FACILITY WILL PROCESS THE MATERIAL.

D) THE DEMOLITION CONTRACTOR MUST PROVIDE THE FOLLOWING INFORMATION WITHIN THE WASTE MANAGEMENT PLAN/REPORT:

- TOTAL DEMOLITION WASTE PRODUCED BY THE PROJECT.
- TYPES OF WASTE MATERIAL AND QUANTITY OF EACH MATERIAL BY WEIGHT.
- TOTAL DIVERTED WASTE MATERIAL AND QUANTITY OF EACH MATERIAL.
- PERCENTAGE OF DIVERTED WASTE (DEMOLITION WASTE DIVERTED FROM LANDFILL/TOTAL: DEMOLITION WASTE).
- NOTE: LAND-CLEARING DEBRIS IS NOT CONSIDERED DEMOLITION WASTE, BUT MUST BE TRACKED SEPARATELY, AND MATERIAL DESTINED FOR ALTERNATIVE DAILY COVER (ADC) AT LANDFILLS MUST BE CALCULATED AS WASTE, NOT DIVERSION.
- ANY MATERIALS SENT TO A COMMINGLED RECYCLING FACILITY (I.E.: REVOLUTION RECOVERY IN PHILADELPHIA) FOR PROCESSING MUST TAKE THE FACILITY AVERAGE RECYCLING RATE AND MUST DESIGNATE ANY ADC AS WASTE (NOT DIVERSION).

E) ESTABLISHMENT OF CLEAR TRACKING PROCEDURES AND RECORD-KEEPING FOR ALL WASTE AND RECYCLED MATERIALS. THESE PROCEDURES MUST BE INCLUDED IN PROJECT DOCUMENTATION AND MUST BE MADE CLEAR TO WASTE HAULERS AND ALL PARTIES INVLIVED IN DEMOLITION AND WASTE/RECYCLING REMOVAL. IT IS ESSENTIAL FOR CONTRACTORS AND HAULERS TO KEEP COMPREHENSIVE RECORDS OF ALL WASTE REMOVED (INCLUDING, BUT NOT LIMITED TO: WEIGHTS, VOLUMES, AND COSTS OF DISPOSAL (WHERE APPLICABLE)). INCLUDE TRACKING ANY MATERIALS REUSED ON-SITE, DONATED, AND/OR SOLD TO REUSE RETAILERS OR OTHER PARTIES.

F) TYPICAL RECYCLING PROCEDURES INCLUDE THE SEPARATION, STOCKPILING, AND RECYCLING OF THE FOLLOWING:

- CLEAN CONCRETE (INCLUDING CMU), ASPHALT, SCRAP METAL, WOOD PRODUCTS.
- MASONRY (INCLUDING FACE BRICKS, HOLLOW BRICKS, ETC.) THAT CAN/ARE REUSABLE AND BE STOCKPILED AND RECYCLED. UNUSABLE MASONRY MAY BE APPROPRIATE FOR ON-SITE BASE FILL OR MAY BE USED AS ALTERNATE DAILY COVER OR LANDFILLED.
- DRYWALL THAT IS CLEAN AND UNPAINTED CAN BE RECYCLED. OTHER DRYWALL MAY BE SENT TO A LANDFILL.
- WIRE, CONDUIT, AND ELECTRICAL MATERIAL CAN BE RECYCLED.
- UN-RECYCLABLE PLASTICS, AND OTHER NON-RECYCLABLE MATERIALS CAN BE LANDFILLED.

G) AREAS WHERE LANDFILL WASTE CAN BE REDUCED:

- METALS: CONTRACTORS CAN RECYCLE ALL METALS FROM THE SITE THAT ARE NOT CONNECTED TO ANY EXISTING OPERATIONAL UTILITIES. CONTRACTOR MUST SEAL ENDS OF ANY ABANDON UTILITY AND/OR PORTION OF UTILITY REMOVED. METALS WITHIN CONCRETE SIDEWALK, CONCRETE APRON, BUILDING, FOUNDATION, FOOTERS, ETC. CAN BE RECYCLED. ALL WORK IS TO BE IN ACCORDANCE TO CITY OF CAMDEN ORDINANCE AND/OR LOCAL UTILITY REQUIREMENTS PRIOR TO REMOVAL. CONTRACTOR MUST DISCUSS WITH AND RECEIVE APPROVAL FROM ARCHITECT, ENGINEER, AND/OR CITY.
- BLOCK: CLEAN CONCRETE MASONRY UNITS ON-SITE CAN BE CRUSHED AND USED AS NON-STRUCTURAL BACKFILL AND ROAD BASE UNDER ON-SITE PARKING LOTS AND WALKWAYS/SIDEWALKS. ALL REUSED CRUSHED CONCRETE MASONRY UNITS FOR NON-STRUCTURAL BACKFILL AND ROAD BASE MUST CONFIRM, BE IN ACCORDANCE/COMPLY WITH NJDOT (LATEST) REQUIREMENTS, AND BE IN ACCORDANCE/COMPLY WITH NJDEP (LATEST) REQUIREMENTS. PAINTED BLOCK IS NOT ACCEPTED BY ALL RUBBLE RECYCLERS. CONTRACTOR WILL BE REQUIRED TO TEST RECYCLED PRODUCTS AND MUST SUBMIT CUT SHEETS/SHOP DRAWINGS FOR APPROVAL TO ARCHITECT AND ENGINEER PRIOR TO CONSTRUCTION. THE CUT SHEETS/SHOP DRAWINGS FOR RECYCLED CONCRETE AGGREGATE MUST CONTAIN BUT NOT LIMITED TO: SOURCE/LOCATION OF PRODUCT, USAGE, GRADATION, PLASTICITY, COMPOSITION, PERCENTAGE OF WEAR, AND ETC. AS REQUIRED FOR VIRGIN DGA.
- REMOVAL OF TREES: CONTRACTOR MUST USE A MINIMUM OF 50% OF EXISTING TREES WOOD (TO BE REMOVED) GRINDINGS IN WITH THE MULCH PROVIDED ON SITE. THE EXISTING GRINDED WOOD MUST BE MIXED AND BLENDED WITH NEW MULCH IN A LARGE COMMERCIAL GRADE BLENDING MACHINE. CONTRACTOR IS TO MIX A FUNGICIDE IN THE BLENDING MACHINE.
- SITE FENCING: ANY EXISTING NON-DAMAGED CHAIN LINK FENCE TO BE REPLACED WITH NEW FENCE (CHAIN LINK OR ORNAMENTAL) CAN BE REUSED ON-SITE. PRIOR TO COMPLETING THIS WORK, CONTRACTOR WILL REQUIRE APPROVAL FROM ENGINEER.
- VIRGIN MATERIAL PRODUCTS MUST BE USED WITHIN CITY R-O-W. NO RECYCLABLE PRODUCTS WILL BE ALLOWED.

H) A SCHEDULE WALK-THROUGH MEETING ON-SITE BETWEEN CONTRACTOR, DEMOLITION CONTRACTOR, ARCHITECT, AND ENGINEER MUST BE COMPLETED PRIOR TO COMPLETING DOCUMENTATION TO IDENTIFY MATERIALS THAT CAN BE RECYCLED, MATERIALS THAT WILL BE SENT TO LANDFILL, THE GOALS FOR THE PROJECT, SAFETY PROTOCOLS, AND OTHER PRACTICES. THE WALK-THROUGH MEETING WILL IDENTIFY ANY MATERIALS THAT HAVE POTENTIAL VALUE FOR RE-USE ON-SITE AS FILL OR SUB-BASE FOR CONSTRUCTION.

I) ESTABLISHMENT OF A COMMUNICATION PLAN TO IDENTIFY AND RESOLVE UNEXPECTED ISSUES THAT ARISE DURING DEMOLITION. THE COMMUNICATIONS PLAN SHOULD INCLUDE CLEAR DEFINITIONS OF ALL DEMOLITION AND LAND-CLEARING WASTE, MATERIALS THAT CAN BE SALVAGED, MATERIALS THAT CAN BE RECYCLED, AND MATERIALS THAT WILL BE SENT TO A LANDFILL.

J) DOCUMENT AND PLAN TO INCLUDE MULTI-LINGUAL SIGNAGE ON-SITE FOR USE BY SUBCONTRACTORS AND LABORERS TO ENSURE CORRECT HANDLING OF WASTE.

K) MATERIALS ON SITE THAT ARE OF RECYCLING GOALS FOR WASTE PREVENTION, WASTE DIVERSION, IDENTIFICATION OF RECYCLING HAULERS/RECYCLING FACILITIES, AND DATE COLLECTION/REPORTING PROCEDURES.SALVAGING OR RECYCLING AT LEAST 50% OF RENOVATION AND/OR DEMOLITION DEBRIS AND UTILIZE WASTE TO MINIMIZE DESIGN STRATEGIES AND CONSTRUCTION TECHNIQUES FOR NEW CONSTRUCTION ELEMENTS.

L) CONTRACTOR IS REQUIRED TO TRACK AND DOCUMENT ALL RENOVATION, DEMOLITION, AND NEW CONSTRUCTION DEBRIS GENERATED BY THE PROJECT FROM START OF CONSTRUCTION THROUGH PROJECT COMPLETION.

2. HEAT ISLAND REDUCTION

SURFACE AREA
- HMA ASPHALT PARKING LOT: 40,400 SF
- STONE (IN COURTYARD AND PSE&G ENCLOSURE: 3,200 SF
- CONCRETE, WHITE (SIDEWALKS, LOADING AREA. ACCESSIBLE PARKING SPACE AREA, EQUIPMENT PADS: 22,300 SF

COMPLIANCE FORMULA
- 40,400 SF (ASPHALT) < 6,400 SF (STONE X 2) + 44,600 SF (CONCRETE X 2)
- 40,400 SF (ASPHALT) <51,000 SF (STONE AND CONCRETE)

3. RAINWATER MANAGEMENT

TO REDUCE RUNOFF VOLUME AND IMPROVE WATER QUALITY BY REPLACING THE NATURAL HYDROLOGY AND WATER BALANCE OF THE SITE, BASED ON HISTORICAL CONDITIONS AND UNDEVELOPED ECOSYSTEMS IN THE REGION TO AVOID CONTRIBUTING TO FLOODING DOWNSTREAM IN FRONTLINE COMMUNITIES.

OPTION 2: NATURAL LAND COVER CONDITIONS:
CALCULATE THE DIFFERENCE BETWEEN THE PROJECTED RUNOFF VOLUME UNDER THE PROPOSED DESIGN CONDITIONS AND THE RUNOFF VOLUME UNDER NATURAL LAND COVER CONDITIONS THAT EXISTED PRIOR TO ANY DISTURBANCE. RETAIN (I.E.: INFILTRATE, EVAPOTRANSPIRATE, OR COLLECT AND RESUE) ON SITE THE INCREASE IN RUNOFF VOLUME USING LID AND GI PRACTICES. EXAMPLES OF ACCEPTABLE LID TECHNIQUES: PLANTING RAIN GARDENS WITH NATIVE OR ADAPTED PLANT MATERIAL.

RETAIN ON-SITE AN ADDITIONAL 20% IN RUNOFF VOLUME TO ADDRESS FUTURE PRECIPITATION RATES:

	EXISTING	PROPOSED	NET REDUCTION
IMPERVIOUS	78.2%	59.7%	23.6%
COVERAGE	107,787 SF	82,330 SF	25,457 SF

GENERAL NOTES:

G-1. THE LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES SHOWN ON THE CONTRACT DRAWINGS ARE APPROXIMATE AND ARE BASED UPON BEST AVAILABLE INFORMATION PROVIDED TO ENGINEER. THE FOLLOWING SHALL BE PERFORMED:

A) VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES WITHIN THE WORK AREA PRIOR TO CONSTRUCTION.

B) EXERCISE EXTREME CAUTION WHEN WORKING ADJACENT TO EXISTING POWER, COMMUNICATIONS, WATER OR GAS LINES TO PREVENT DAMAGE TO THESE LINES.

C) IMMEDIATELY REPAIR ANY DAMAGE TO EXISTING UTILITIES IN A MANNER APPROVED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE OWNER.

G-2. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN SITE EXAMINATION AND DETERMINING THE ACTUAL NATURE AND EXTENT OF EXISTING CONDITIONS PRIOR TO UNDERTAKING WORK.

G-3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES AND TO TAKE WHATEVER STEPS NECESSARY TO PROVIDE FOR THEIR PROTECTION. THE ENGINEER HAS DILIGENTLY ATTEMPTED TO LOCATE AND INDICATE ALL EXISTING FACILITIES ON THESE PLANS; HOWEVER, THIS INFORMATION IS SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS OF UTILITIES SHOWN OR NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES FOR EXACT LOCATION OF THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AND REPLACE ANY AND ALL DAMAGE MADE TO UTILITIES BY THE CONTRACTOR.

G-4. BEFORE EXCAVATING THE PROJECT AREA THE CONTRACTOR IS TO VERIFY THE LOCATION OF ANY UNDERGROUND UTILITY (GAS MAINS, WATER MAINS, SEWER LINES, TELEPHONE LINES, ETC.). SHOULD ANY UNDERGROUND UTILITY INTERFERE WITH PROJECT CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH WORK. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND THE OWNER THREE (3) DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION FOR ACCURATE FIELD LOCATIONS. FOR UTILITY MARKOUT CALL 1-800-272-1000. CERTAIN UTILITIES WITHIN THE PROJECT AREA ARE PRIVATE AND A UTILITY MARKOUT (ONE-CALL) MAY NOT DETECT AND MARK THE LOCATION OF THESE UTILITIES. CONTRACTOR SHALL OBTAIN AN INDEPENDENT MARKOUT COMPANY.

G-5. VERIFY ALL INDICATED CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE PERFORMING ANY WORK. NOTIFY THE ENGINEER OF ANY CONDITIONS OR DIMENSIONS THAT WOULD PREVENT OR HAMPER THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

G-6. THE CONTRACTOR AND OR ENGINEER SHALL RESOLVE APPARENT CONTRADICTIONS IN CONTRACT DOCUMENTS WITH THE OWNER BEFORE AFFECTED WORK PROCEEDS.

G-7. DEVIATION FROM THESE PLANS AND NOTES WITHOUT THE PRIOR CONSENT OF THE OWNER, OWNER'S REPRESENTATIVE AND/OR THE DESIGN ENGINEER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE.

G-8. EXISTING SANITARY SEWERS THAT ARE TO REMAIN IN SERVICE SHALL REMAIN IN ACTIVE OPERATION AT ALL TIMES. EXISTING WATER MAINS SHALL REMAIN IN ACTIVE OPERATION EXCEPT AS NECESSARY FOR CONNECTIONS. PROVIDE A MINIMUM OF TWO WEEKS NOTICE TO THE ENGINEER AND OWNER PRIOR TO SERVICE DISRUPTIONS.

G-9. UTILIZE A MOBILE SWEEPER AND WATER TRUCK DAILY FOR DUST CONTROL ALONG HAUL ROUTES AND IN AREAS MADE AVAILABLE FOR CONSTRUCTION.

G-10. PREVENT WATER PONDING RESULTING FROM CONSTRUCTION OPERATIONS. PROMPTLY REMOVE ANY PONDED WATER TO THE SATISFACTION OF THE ENGINEER.

G-11. ALL TOPSOIL SHALL BE STRIPPED, STOCKPILED AND REUSED ON SITE AND MAY NOT BE TRANSPORTED OFF-SITE WITHOUT WRITTEN REQUEST AND RESPONSE FROM THE OWNER AUTHORIZING SAME..

G-12. CONTRACTOR SHALL WORK TO MINIMIZE EXCESS SOIL GENERATED. IF IT IS NECESSARY TO REMOVE SOIL FROM THE SITE, IT SHOULD BE DISPOSED OF AT A PERMITTED DISPOSAL FACILITY. PROVIDE THE NAME OF THE DISPOSAL FACILITY AND SOIL SAMPLE RESULTS 7 DAYS PRIOR TO HAULING SOIL. COPIES OF ALL BILLS-OF-LADING SHALL BE PROVIDED TO THE ENGINEER WITHIN 24 HOURS OF SOIL LEAVING THE SITE. CONTRACTOR SHALL ASSUME OWNERSHIP/RESPONSIBILITY OF EARTH OR CONCRETE SPOILS AND/OR DEBRIS GENERATED DURING CONSTRUCTION.

G-13. ALL AREAS OUTSIDE THE LIMITS OF CONSTRUCTION WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION TO THE SATISFACTION OF THE ENGINEER AND OWNER.

G-14. VERIFY ALL INDICATED CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE PERFORMING ANY WORK. NOTIFY THE ENGINEER OF ANY CONDITIONS OR DIMENSIONS THAT WOULD PREVENT OR HAMPER THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

G-15. UPON COMPLETION OF THE WORK, REMOVE ALL DEBRIS, EQUIPMENT AND UNUSED MATERIALS FROM OWNER PROPERTY AND RESTORE THE AREAS TO THEIR ORIGINAL CONDITION, AS APPROVED BY THE ENGINEER.

G-16. A GEOTECHNICAL ENGINEER, RETAINED BY THE CONTRACTOR, IS REQUIRED TO INSPECT, TEST, AND CERTIFY TO THE COMPACTION OF ALL FILLS.

G-17. THE CONTRACTOR SHALL PROVIDE ANY AND ALL EXCAVATION AND MATERIAL SAMPLES NECESSARY TO CONDUCT REQUIRED SOIL TESTS. ALL ARRANGEMENTS AND SCHEDULING FOR THE TESTING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

G-18. SOILS TESTING AND ON-SITE INSPECTION SHALL BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER, RETAINED BY THE CONTRACTOR. THE GEOTECHNICAL ENGINEER SHALL PROVIDE COPIES OF TEST REPORTS TO THE CONTRACTOR, AND THE CONSTRUCTION MANAGER, AND SHALL PROMPTLY NOTIFY THE CONSTRUCTION MANAGER AND THE CONTRACTOR SHOULD WORK PERFORMED BY THE CONTRACTOR FAIL TO MEET THESE SPECIFICATIONS.

G-19. THE BOTTOM OF ALL EXCAVATIONS AND COMPACTED EARTHWORK SHALL BE INSPECTED AND APPROVED BY A REGISTERED GEOTECHNICAL ENGINEER RETAINED BY THE CONTRACTOR PRIOR TO PLACING CONCRETE STRUCTURES AND/OR BACKFILLING. APPROVAL BY THE GEOTECHNICAL ENGINEER, IN WRITING, SHALL INDICATE THAT THE SOIL IS ADEQUATE TO SAFELY SUPPORT A FOUNDATION PRESSURE OF 2,000 PSF. EXCAVATION BELOW THE ANTICIPATED BOTTOMS OF CONCRETE STRUCTURES ALONG WITH PLACEMENT OF COMPACTED BACKFILL MAY BE REQUIRED.

G-20. CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES AND FENCING AROUND THE PERIMETER OF THE WORK AREA AND SHALL PROVIDE PROTECTION AGAINST WATER DAMAGE AND SOIL EROSION.

G-21. ALL TRAFFIC CONTROL DEVICES TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION. SIGN POSTS SHALL BE GALVANIZED STEEL AND ALL SIGN MATERIALS SHALL BE MADE OF REFLECTIVE SHEETING ON ALUMINUM BLANKS IN ACCORDANCE WITH NJDOT STANDARD SPECIFICATIONS.

G-22. ALL DIMENSIONING IS TO CURB OR BUILDING FACE, UNLESS OTHERWISE NOTED.

G-23 UNLESS OTHERWISE INDICATED, ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2007, OR LATEST EDITION, AS AMENDED AND SUPPLEMENTED TO DATE.

G-24. ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, UNLESS OTHERWISE NOTED.

G-25. ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL AND LOCAL CODES, AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE UNLESS PREVIOUSLY OBTAINED BY THE OWNER/DEVELOPER.

G-26. NO WOR

UTILITY NOTES:

1. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AT NO COST TO THE OWNER INCLUDING, BUT NOT LIMITED TO, A ROAD OPENING PERMIT FROM THE CITY, COUNTY & STATE.
2. COVER OVER ALL WATER MAINS & FIRE SERVICES SHALL BE 4'-0" MINIMUM.
3. THE CONTRACTOR SHALL NOTIFY THE LOCAL ELECTRIC COMPANY IN ADVANCE OF CONSTRUCTION FOR TEMPORARY SUPPORT OF UTILITY POLES.
4. THE CONTRACTOR SHALL COMPLY WITH ALL STANDARDS SET FORTH BY THE LOCAL M.U.A. & CITY.
5. THE LOCATION AND/OR DEPTHS OF EXISTING UTILITIES ARE APPROXIMATE & MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
6. ALL TRENCHES WILL BE BACKFILLED BY COMPACTION IN EIGHT (8) INCH LAYERS COMPACTED TO 95% DENSITY IN STRICT ACCORDANCE WITH THE TRENCH DETAILS & SPECIFICATIONS.
7. NO MATERIAL SHALL BE PLACED OR DISTURBED BEYOND THE PROPERTY LINE OF RIGHT-OF-WAY WITHOUT WRITTEN PERMISSION OF THE PROPERTY OWNERS DIRECTLY INVOLVED.
8. INSPECTION OF, OR FAILURE TO INSPECT ANY MATERIALS OR WORKMANSHIP BY THE ENGINEER FOR THE M.U.A. SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH THE PLAN, SPECIFICATIONS AND APPLICABLE LAWS.
9. WHENEVER THE TRENCH BOTTOM DOES NOT AFFORD SUFFICIENT BEARING STRENGTH TO SUSTAIN THE WEIGHT OF THE PIPE & SUPERIMPOSED LOADS, THE TRENCH BOTTOM SHALL BE OVER-EXCAVATED & STABILIZED WITH SIX (6) INCHES MINIMUM THICK LAYERS OF CRUSHED STONE, AS DIRECTED BY THE ENGINEER.
10. ALL GENERAL CONSTRUCTION MATERIALS, TESTING & METHODS OF INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE M.U.A. & THE ENGINEER.
11. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM VARIOUS SOURCES & ARE SHOWN FOR DESIGN & ESTIMATED PURPOSED ONLY. ACTUAL LOCATIONS OF UTILITIES SHALL BE FIELD VERIFIED. ANY DISCREPANCIES OR APPARENT CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER FOR REMEDIATION.
12. CONCRETE ENCASEMENT SHALL BE PROVIDED FOR ALL PIPE/UTILITY CROSSING WHERE LESS THAN EIGHTEEN INCHES OF CLEARANCE WILL RESULT, SUBJECT TO THE REQUIREMENTS OF THE UTILITY COMPANY.
13. EXISTING UTILITIES INCLUDING VALVE BOXES, CLEAN OUTS, CURB STOPS, MANHOLES, ETC., SHALL BE ADJUSTED TO MATCH PROPOSED FINISHED GRADE. STORM DRAINAGE STRUCTURES SHALL NOT BE ADJUSTED UNLESS SPECIFICALLY CALLED FOR.
14. THE CONTRACTORS ARE ADVISED THAT ANY REQUIRED UNDERGROUND UTILITY RELOCATIONS INCLUDING GAS MAINS AND SERVICES, WATER MAINS AND SERVICES, SEWER MAINS AND SERVICES, ELECTRIC AND TELEPHONE LINES SHALL BE COMPLETED AT NO COST TO THE OWNER UNLESS SPECIFICALLY NOTED OTHERWISE.
15. LOCATION OF ALL ELECTRICAL EQUIPMENT, CIRCUITS, AND INSTALLED ELECTRICAL APPLIANCES IN A MANNER WHICH WILL ASSURE THAT THEY ARE NOT SUBJECT TO INUNDATION AND FLOODING.
16. INLET PIPE OPENINGS SHALL BE SEALED WITH NON-SHRINK DRY-PACKED GROUT OR APPROVED EQUAL.
17. INSTALLATION OF ALL WATER AND SEWER MAINS AND WATER AND SEWER SERVICES MUST COMPLY WITH CITY ORDINANCE.
18. THE CITY ENGINEER, AND AMERICAN WATER ENTERPRISES SHHALL BE GIVEN 48 HOURS ADVANCE NOTICE OF SANITARY SEWER/WATER MAIN WORK AND THE REPRESENTATIVES MUST WITNESS THE WORK AND CONNECTION.
19. ALL EXISTING WATER SERVICE LINES TO BE ABANDONED SHALL BE CUT AND CAPPED AT THE MAIN, IN ACCORDANCE WITH CAPITAL IMPROVEMENTS AND PROJECT MANAGEMENT (CIP) STANDARDS, AND INSPECTED WITHIN 24 HOURS AFTER INSTALLATION OF NEW TAP.
20. ALL JOINTS AND FITTINGS SHALL BE SPECIFIED IN THE CITY ORDINANCE WATER MAIN STANDARD.
21. CONTRACTOR IS REQUIRED TO SUBMIT RECORD DRAWINGS IN ACCORDANCE WITH THE ORDINANCE FOR WATER SERVICE LINES AND SEWER LATERALS.
22. ALL SEWER INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE PROCEDURE MANUAL OF THE CITY OF CAMDEN.
23. ALL METER INSTALLATIONS IN METER PIT OR VAULT SHALL BE PRE-APPROVED BY CIP AND HAVE PROPER ACCESS OPENINGS FOR METER READING AND REPLACEMENT.
24. UPON COMPLETION OF THE WATER/SEWER INSTALLATION, THE APPLICANT SHALL SUBMIT THREE (3) SETS OF "AS BUILT" PLANS TO THE CIP AND AMERICAN WATER ENTERPRISES. THE CIP WILL AUTHORIZE SUPPLY WATER UPON ACCEPTANCE OF THE "AS BUILT" DRAWINGS. SUBMISSIONS OF RECORD DRAWINGS IS REQUIRED IN ACCORDANCE WITH ORDINANCE FOR WATER SERVICE LINES AND SEWER LATERALS.
25. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL TELEVISE THE SEWER MAIN WHERE CONNECTION IS PROPOSED. THE CCTV SHALL BE TAKEN FROM THE TERMINAL MANHOLE TO THE FIRST MANHOLE EASTERLY OF THE PROPOSED CONNECTION POINT. COST TO BE INCLUDED IN THE COST FOR CONSTRUCTING THE SEWER SERVICE LATERAL.
26. ALL REINFORCED CONCRETE PIPE SHALL BE CLASS III, UNLESS OTHERWISE NOTED.
27. SELECT FILL FOR WATER/SEWER TRENCH INSTALLATION SHALL BE DENSE GRADED AGGREGATE I-5, IN ACCORDANCE WITH THE SPECIFICATION SUBSECTION 901.08 OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION AND CONFORM TO THE TABLE IN SECTION 577-229.H OF THE ORDINANCE.
28. AIR RELEASE VALVE SHALL BE INSTALLED AT HIGH POINTS OF THE WATER MAIN.
29. THRUST BLOCKS AND RESTRAINTS SHALL BE INSTALLED AT ALL BENDS AND FITTINGS, THRUST BLOCKS SHALL HAVE TWENTY EIGHT (28) DAY STRENGTH OF 4,000 PSI.
30. STORM INLETS WHICH ARE CONNECTED DIRECTLY TO CITY COMBINED SEWERS MUST BE FURNISHED WITH A SUMP AND TRAP PER CITY STANDARD DETAILS.
31. ALL RCP SHALL BE LINED ON THE INTERIOR WITH A COAT TAR EPOXY SEAL COAT WITH A MINIMUM OF FOUR (4) MILS IN THICKNESS (DFT).
32. ALL PIPE SHALL BE MANUFACTURED AND SUPPLIED WITHOUT LIFTING HOLES.
33. ALL EXISTING WATER/SEWER SERVICE NOT PROPOSED FOR RE-USE SHALL BE PROPERLY ABANDONED IN ACCORDANCE WITH CITY REQUIREMENTS.
34. THE INSTALLATION OF ALL WATER/SEWER MAINS AND SERVICES SHALL COMPLY WITH CITY ORDINANCE.
35. SUBMISSION OF RECORD DRAWINGS IS REQUIRED IN ACCORDANCE WITH ORDINANCE FOR WATER SERVICES, LINES AND SEWER LATERALS.
36. ALL WATER PIPES, FITTINGS, AND VALVES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA REQUIREMENTS.
37. ALL METERS SHALL BE ADEQUATELY RESTRAINED WITH METAL BRACKETS FASTENED TO THE FLOOR OR WALL OR OTHER APPROVED MEANS SUCH AS UNIFLANGES WHERE INTERNAL PIPE PRESSURE AND FLOW WARRANT SUCH RESTRAINTS. METERS, DETECTOR CHECKS, AND VALVES MAY BE SEATED ON CONCRETE BLOCK AND TAPERED SHIMS TO PROVIDE ADEQUATE SUPPORT. METERS SHALL BE INSTALLED APPROXIMATELY 36" ABOVE FLOOR GRADE.
38. AFTER OBTAINING THE REQUIRED PERMITS (STREET OPENING, TAP, AND METER) THE APPLICANT SHALL CALL THE AUTHORIZED AGENT REPRESENTING CIP TO SCHEDULE THE TAP AT THE CONTRACTOR'S OWN COST. THE EXCAVATION SHALL BE COMPLETED TWENTY-FOUR (24) HOURS PRIOR TO THE SCHEDULED TAP, AND VERIFIED BY CIP OR IT'S AUTHORIZED AGENT BEFORE THE TAP WILL BE INSTALLED. EXCAVATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA REQUIREMENTS FOR SHEETING AND SAFETY.
39. THE TAPPING SLEEVE SHALL PASS PRESSURE TESTING BASED ON AWWA STANDARDS BEFORE TAP IS MADE.
40. TAPPING GATES SHALL BE FURNISHED OPEN RIGHT. ALL TAPPING AND CURB VALVES SHALL BE DOUBLE DISC GATE VALVES AND MEET AWWA STANDARDS. THE WET TAP UP TO 12 INCHES SHALL BE PERFORMED BY THE AUTHORIZED AGENT REPRESENTING CIP.
41. THE MAXIMUM OF ONE (1) TAP SHALL BE MADE FOR BOTH DOMESTIC AND FIRE SERVICE PER FACILITY. THE TAP SHALL BE A MAXIMUM OF ONE (1) SIZE SMALLER THAN THE CITY'S WATER MAIN. NO TAPPING SHALL BE DONE BY ANYONE EXCEPT THE AUTHORIZED AGENT UNLESS SPECIFICALLY APPROVED BY CIP.
42. ALL METERS SIZES 2 INCHES THROUGH 6 INCHES SHALL BE SINGLE COMPOUND METERS AND ALL METERS 8 INCHES AND LARGER SHALL BE DUPLEX COMPOUND MANIFOLD METERS.
43. ALL NEW MANHOLES AND CATCH BASINS SHALL HAVE AN EXTERIOR COATING OF CARBOLINE COAL TAR EPOXY 300m, OR EQUAL, TWO COATS. EACH MANHOLE BASE SHALL BE PROVIDED CIRCULAR OPENINGS AT THE REQUIRED LOCATIONS AND ELEVATIONS FOR THE PROPER CONNECTION OF ALL PIPES. THE FLEXIBLE CONNECTIONS SHALL BE A-LOK FLEXIBLE CONNECTOR BY A-LOK PRODUCTS, OR APPROVED EQUAL.
44. MANHOLE FRAMES AND COVERS ARE TO PROVIDE FOR A THIRTY INCH CLEAR OPENING AT THE COVER IN ORDER TO ALLOW EASY ACCESS UNDER CONFINED SPACE ENTRY REQUIREMENTS. CAMPBELL FOUNDRY PATTERN NUMBER 10128 OR NJDOT APPROVED EQUAL.
45. VIDEO SEWER INSPECTIONS, INFILTRATION/EXFILTRATION TESTING AND PIPE ALIGNMENT TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY SEWER MANUAL ON ALL NEW SEWERS (PVC AND RCP) AT THE COMPLETION OF THE PROJECT, BUT PRIOR TO ACCEPTANCE AND/OR DEDICATION OF THE SAME TO THE CITY. THE MAXIMUM RATE OF INFILTRATION/EXFILTRATION SHALL NOT EXCEED THE ORDINANCE REQUIREMENT.

UTILITY NOTES CONT.:

46. ALL UTILITIES AND RELATED APPURTENANCES ON THE SITE SHALL BE LOCATED UNDERGROUND OR LOCATED IN THE BUILDING. WHERE OVERHEAD ELECTRIC OR TELEPHONE DISTRIBUTION SUPPLY LINES AND SERVICE CONNECTIONS HAVE BEEN INSTALLED FROM THOSE OVERHEAD LINES, THE CONNECTIONS FROM THE UTILITIES' OVERHEAD LINES MUST BE INSTALLED UNDERGROUND.
47. ALL EXISTING SEWER MAINS AND LATERAL TO BE ABANDONED MUST BE REMOVED FROM THE CATCH BASINS AND MANHOLES MUST BE REMOVED FROM THE GROUND.
48. ALL STORM AND SANITARY/COMBINED SEWER SERVICE ABOVE 6-INCH DIAMETER SHALL TIE INTO THE SEWER MAIN WITH A MANHOLE.
49. ALL RCP FROM 24 INCHES UP TO AND INCLUDING 72 INCHES DIAMETER SHALL CONFORM TO ASTM C76, MINIMUM PIPE CLASS IV, WALL B.
50. THE STRENGTH OF PRECAST CONCRETE FOR INLETS AND MANHOLES SHALL BE EQUAL TO OR EXCEED 4,000 PSI.
51. "DOG HOUSE" MANHOLES WILL NOT BE PERMITTED ON ANY CITY RIGHT-OF-WAY AND ROADWAY.
52. THE APPLICANT SHALL NOTE THAT CITY ORDINANCE DOES REQUIRE THE METERING OF A "FIRE LINE".
53. ALL WATER/SEWER SERVICE LATERALS BEYOND THE RIGHT-OF-WAY OR EASEMENT SHALL BE OWNED, MAINTAINED AND OPERATED BY THE APPLICANT.
54. THE SIZE, MATERIAL, DEPTH, CONDITION, DIRECTION OF FLOW AND ANY OTHER RELEVANT CONDITIONS OF THE EXISTING CITY SEWER TO WHICH YOU PLAN TO CONNECT MUST BE FIELD VERIFIED BY THE APPLICANT TO DETERMINE IF SAID CONNECTION IS PHYSICALLY POSSIBLE AND PRACTICAL.
55. THE APPLICANT SHALL BE RESPONSIBLE FOR ALL COSTS RELATED TO ANY REQUIRED ISOLATION OF THE WATERMAIN AND BY-PASSING OF THE SEWER IN ORDER TO MAKE A PROPOSED CONNECTION.
56. VALVE BOX PARTS FOR ALL VALVES SHALL BE PROVIDED BY THE APPLICANT. ALL TAPPING GATE VALVES/STOPS REGARDLESS OF CAST IN THE COVER. BURIED CORPORATION WALVES/STOP SHALL BE USED AT THE TAP FOR CLASS K COPPER SERVICES 2-INCHES AND SMALLER.

DIVISION OF CAPITAL IMPROVEMENTS & PROJECT MANAGEMENT (CIP) CONSTRUCTION GENERAL NOTES (IF REQUIRED)

1. ALL CONSTRUCTION, MATERIALS, RESTORATIONS AND METHODS OF INSTALLATON IN CITY ROADS SHALL BE SUBJECT TO THE REQUIREMENTS AND APPROVAL OF THE MUNICIPALITY.
2. SANITARY SEWER CONSTRUCTION, MATERIALS AND TESTING SHALL BE SUBJECT TO THE APPROVAL OF AN INSPECTION BY THE CITY ENGINEER AND SUBJECT TO CITY REQUIREMENTS.
3. ALL SANITARY SEWERS SHALL BE CONSTRUCTED WITH CLASS "C" MODIFIED BEDDING UNLESS OTHERWISE NOTED.
4. WHEREVER THE TRENCH BOTTOM DOES NOT AFFORD SUFFICIENT BEARING STRENGTH TO SUSTAIN THE WEIGHT OF THE PIPE AND SUPERIMPOSED LOADS, IT SHALL BE OVER EXCAVATED AND STABILIZED WITH A LAYER OF CRUSHED STONE.
5. THE CONTRACTOR SHALL CONSTRUCT TEST PITS AS REQUIRED TO VERIFY THE LOCATION AND THE DEPTH OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND PROPOSED FACILITIES.
6. CONTRACTOR EFFORTS SHALL BE MADE TO RETAIN EXISTING TREES, VEGETATION AND NATURAL CHARACTERISTICS OF THE TRACT.
7. THE CONTRACTOR SHALL PAY ALL STREET OPENING FEES AND GIVE NOTICES NECESSARY FOR AND INCIDENTAL TO THE DUE AND LAWFUL EXECUTION OF THE PROJECT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES. Q THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES BEFORE EXCAVATION.
9. NO MATERIALS SHALL BE PLACED NOR ANY DISTURBANCE PERMITTED BEYOND THE PROJECT PROPERTY LINE WITHOUT THE WRITTEN PERMISSION OF THE PROPERTY OWNER DIRECTLY INVOLVED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING, PAVING, TOPSOILING, SODDING, FERTILIZING AND SEEDING ALL AREAS DISTURBED BY HIS ACTIVITIES. ROAD PAYMENT, REPLACEMENT, AND ALL RESTORATON IN COUNTY ROADS SHALL MEET THE REQUIREMENTS OF THE CITY ENGINEER.
11. INSPECTION OF, OR FAILURE TO INSPECT ANY MATERIALS OR WORKMANSHIP BY STATE, COUNTY OR TOWNSHIP OFFICIALS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO PERFORM THE WORK IN ACCORDANCE WITH APPLICABLE PLANS, SEPCIFICATIONS AND LAWS.
12. PRIOR TO CONSTRUCTION, ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE APPROVED BY THE SOIL CONSERVATON DISTRICT IN COMPLIANCE WITH CHAPTER 251 OR THE PUBLIC LAWS OF 1975. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR THE AREA IS STABILIZED IN ACCORDANCE WITH THE SOIL CONSERVATION DISTRICT'S RECOMMENDATIONS.
13. ALL SEWER INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE PROCEDURES MANUAL OF THE CITY OF CAMDEN.
14. THRUST BLOCKS ARE TO BE INSTALLED AT ALL FORCE MAIN BENDS.
15. SANITARY SEWER LATERALS SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES. AN EXCEPTION TO THIS RULE MAY BE MADE FOR COMMERCIAL OR INDUSTRIAL USERS AT THE DECISION OF THE CITY. DOMESTIC LATERAL CONNECTIONS SHALL BE MADE A MINIMUM TWO FEET AWAY FROM MANHOLE AND NOT INTO JOINT OF MAIN.
16. THE APPLICANT/OWNER IS AWARE AND AGREEES THAT THE REVIEW BY THE CITY AND CITY ENGINEER IS BASED UPON THE BEST INFORMATION AVAILABLE AND IN NO WAY DOES IT GUARANTEE THE EXISTENCE OF, OR NON EXISTENCE OF SANITARY SEWER AND FORCE MAINS, AND/OR APPURTENANCES IN THE RESPONSIBILITY OF THE APPLICANT/OWNER TO VERIFY THE LOCATION OF SUCH MAINS/APPURTENANCES.
17. ANY UNITS HAVING FOOD PREPARATION FACILITIES SHALL INSTALL A GREASE TRAP WITHIN THE SEWER LATERAL. SIZING OF GREASE TRAP SHALL BE IN ACCORDANCE WITH CITY RECOMMENDED CALCULATIONS AND SUBMITTED FOR REVIEW.
18. THE CONNECTION TO THE EXISTING CITY MANHOLE MUST BE MADE WITH A CORING MACHINE AND WITNESSED BY THE CITY ENGINEER.
19. AN A-LOCK SEAL SHOULD BE USED AT THE PIPE PENETRATION. ONLY IN THE CASE THAT AN A-LOCK IS NOT POSSIBLE, THE ANNULAR SPACE SHOULD BE FILLED WITH NON-SHRINK GROUT.
20. WHEN POSSIBLE THE NEW BENCH CHANNEL SHOULD BE MADE WITH THE CORING MACHINE; OTHERWISE, THE BENCH CHANNEL SHOULD BE CAREFULLY SAWCUT OR HILTI CUT TO ACCOMMODATE THE NEW SEWER CONNECTION.
21. CHANNEL RECONSTRUCTION CEMENT SHALL BE SPEED-CRETE AS MANUFACTURED BY TAMMS, INC. FORMED PORTLAND CEMENT CONCRETE OF 4,000 PSI COMPRESSION STRENGTH. ANY SUBSTITUTES MUST BE APPROVED BY THE CITY.
22. MANHOLE INTERIOR WALLS AND BENCHES SHALL BE PATCHED WITH CEMENTITIOUS PATCHING/PLUGGING COMPOUNDS AS MANUFACTURED BY TAMMS INC, OR APPROVED EQUAL.
23. A PIPE JOINT SHOULD BE PROVIDED WITHIN FOUR FEET OF THE MANHOLE CONNECTION TO ALLOW FOR DIFFERENTIAL SETTLEMENT.
24. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES TO THE MANHOLE, THE SEWER OR THE ADJACENT PROPERTY DUE TO CONNECTION CONSTRUCTION.
25. THE CITY ENGINEER MUST BE GIVEN 48 HOURS ADVANCE NOTICE OF SANITARY SEWER MAIN WORK AND A CITY ENGINEER REPRESENTATIVE MUST BE PRESENT TO WITNESS THE CONNECTION.

SITE IMPROVEMENT NOTES:

1. SIDEWALK CONSTRUCTION SHOWN ON THESE PLANS SHALL MEET ALL REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT OF JULY 2010, TITLE II, TITLE III AND ANY STATE, COUNTY, LOCAL OR OTHER APPLICABLE LAWS.
2. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO NJDOT STANDARDS, LATEST ED.
3. ALL TRAFFIC CONTROL DEVICES, SUCH AS SIGNS AND STRIPING, ARE TO BE INSTALLED AND DESIGNED IN ACCORDANCE WITH THE MOST RECENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NJDOT STANDARDS.
4. ALL PAVEMENT SUBGRADE IS SUBJECT TO THE REVIEW AND APPROVAL OF A GEOTECHNICAL ENGINEER.
5. ANY EXISTING CURB, SIDEWALK, TREES, LIGHTING FIXTURES, ETC., OUTSIDE OF THE PROJECT LIMIT OR NOTED TO BE MAINTAINED AND PROTECTED THAT IS DAMAGED DURING CONSTRUCTION, SHALL BE REPLACED IN-KIND BY THE CONTRACTOR, TO THE SATISFACTION OF THE OWNER. REPLACEMENT WORK SHALL BE BY THE CONTRACTOR AT NO COST TO THE OWNER.

SITE SAFETY:

1. THE CONTRACTOR, OR HIS REPRESENTATIVE, IS TO DESIGNATE AN INDIVIDUAL RESPONSIBLE FOR CONSTRUCTION SITE SAFETY DURING THE COURSE OF SITE IMPROVEMENTS PURSUANT TO N.J.A.C. 5:23-2.21 (E) OF THE NEW JERSEY UNIFORM CONSTRUCTION CODE AND CFR 1926.32 (F) (OSHA COMPETENT PERSON).

SURVEY NOTES:

1. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY EASEMENT, RESTRICTION AND/OR COVENANTS THAT A CURRENT REPORT OF TITLE, OR COMPLETE SEARCH OF THE PUBLIC RECORD, MAY DISCLOSE.
2. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE FOLLOWING SOURCES OF INFORMATION
   -DEEDS OF RECORD
   -AN ACTUAL FIELD SURVEY PERFORMED BY PENNONI ASSOCIATES
   -THE "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, CITY OF CAMDEN, NEW JERSEY, CAMDEN COUNTY, PANEL 36 OF 305," COMMUNITY PANEL NUMBER 340128 0036 F, EFFECTIVE DATE: AUGUST 17, 2016, PARCEL IS LOCATED IN SPECIAL FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).
   -PLAN "BOUNDARY & TOPOGRAPHIC SURVEY, CORIELL INSTITUTE CAMDEN, BLOCK 367, LOT 6, BLOCK 366, LOTS 2, 5, 8, 73 & 75", BY PENNONI ASSOCIATES, DATED 7/5/23
3. BLOCK AND LOT NUMBERS REFER TO THE OFFICIAL TAX MAPS OF THE CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY, PLATE #7.04.
4. PLANIMETRIC & TOPOGRAPHIC FEATURES SHOWN ARE TAKEN FROM ACTUAL FIELD SURVEYS PERFORMED BY PENNONI ASSOCIATES ON 7/22/22 AND 9/23/25.
5. THIS SURVEY IS NOT INTENDED TO GUARANTEE OWNERSHIP.
6. SURVEY BASED ON N.J.S.P.C.S. NAD '83 (2011). SURVEY SCALED TO GROUND AT POINT 1012
   GROUND SCALE FACTOR: 1.0000626168
   GROUND COORDINATES: N:402566.289 E:322067.693 Z:17.51
   VERTICAL DATUM: NAVD 1988
7. IT IS BEYOND THE SCOPE OF THIS SURVEY TO DETERMINE THE EXISTENCE OR NON-EXISTENCE OF ANY REGULATED ENVIRONMENTAL CONDITION ON OR NEAR THE SUBJECT PARCEL(S). UNDERGROUND EXPLORATIONS WERE NOT CONDUCTED OR UTILIZED DURING THE PREPARATION OF THIS SURVEY. CONCERNED PARTIES SHOULD PURSUE ANY ENVIRONMENTAL MATTERS SEPARATE AND APART FROM THIS SURVEY.
8. IT SHOULD NOT BE ASSUMED THAT ANY COPY OF THIS DRAWING WITHOUT A RAISED IMPRESSION OF THE SURVEYOR'S SEAL IS A TRUE COPY OF THE ORIGINAL AS ISSUED BY THE SURVEYOR.
9. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS ILLUSTRATED ARE BASED UPON UTILITY MARKOUT AND ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD. THE STATE OF NEW JERSEY REQUIRES NOTIFICATION PRIOR TO ANY EXCAVATION BY UTILIZING THE NEW JERSEY ONE-CALL SYSTEM (1-800-272-1000).
10. A SIGNED WAIVER AND DIRECTION NOT TO SET CORNER MARKERS IN ACCORDANCE WITH THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS REGULATION (N.J.A.C. 13:40-5.2) HAS BEEN RECEIVED FROM THE ULTIMATE USER.

ENVIRONMENTAL NOTES:

E-1. ALL MATERIAL BROUGHT ON SITE SHALL BE CERTIFIED CLEAN FILL, SAMPLED, AND ANALYZED IN ACCORDANCE WITH STANDARD NJDEP QUALITY ASSURANCE STANDARDS AND PRACTICES AT A MINIMUM, AS SPECIFIED IN N.J.A.C. 7:26E. TO FULLY CHARACTERIZE THE CONTAMINANTS IN THE LATEST SOIL CLEANUP CRITERIA (SCC). THE CONTRACTOR SHALL SUBMIT TO THE OWNER WRITTEN DOCUMENTATION FROM A LABORATORY CERTIFIED IN NEW JERSEY ENVIRONMENTAL LABORATORY CERTIFICATION PROGRAM (ELCP) AND IN ACCORDANCE WITH N.J.A.C. 7:18 PRIOR TO PLACEMENT OF THE MATERIAL ON SITE. THE MATERIAL MUST NOT CONTAIN CONTAMINANTS ABOVE THE MOST RESTRICTIVE DIRECT CONTACT OR IMPACT TO GROUNDWATER (IGW) SCC.

E-2 DEWATERING ACTIVITIES SHALL BE CONDUCTED PURSUANT TO CCMUA AND/OR NJDEP PERMITTING OBTAINED BY THE CONTRACTOR. ALL PERMIT FEES ARE TO BE PAID BY CONTRACTOR, INCLUDED IN BID, AND AT NO ADDITIONAL COST TO THE OWNER.

E-3 ABANDONMENT OF EXISTING MONITORING WELLS SHALL BE COORDINATED WITH THE ENGINEER (IF REQUIRED).

E-4 AS PART OF THE CONSTRUCTION OF RUTGERS FIELD, AN ENGINEERED CAP WILL BE INSTALLED. THIS SITE WAS PREVIOUSLY CAPPED. SINCE A PORTION OF THE HARD SURFACE ON THE SITE (CONCRETE WALKWAYS AND PAVEMENT) WILL BE REMOVED, THE REMOVED SECTIONS NEED TO BE CAPPED. CONTRACTOR HAS 2 OPTIONS FOR ACCOMPLISHING THIS CAP. ALL VEGETATED COVERED AREAS WILL HAVE A MINIMUM THICKNESS OF 2 FEET OR GREATER, OR A MINIMUM THICKNESS OF ONE FOOT OVERLAYING A GEOSYNTHETIC FABRIC BARRIER. THIS INCLUDES IF OVER EXCAVATION IS REQUIRED TO ACCOMPLISH REQUIRED CAP. ALL WORK IS TO BE INCLUDED IN THE COST OF CONTRACTORS BID. NO CHANGE ORDERS WILL BE APPROVED NOR ACCEPTED BY OWNER.

E-5 "CLEAN FILL" DEFINITION: "MATERIAL TO BE USED IN A REMEDIAL ACTION THAT MEETS ALL SOIL REMEDIATION STANDARDS, SITE-SPECIFIC ALTERNATIVE STANDARDS, OR SITE-SPECIFIC INTERIM STANDARDS, DOES NOT CONTAIN EXTRANEOUS DEBRIS OR SOLID WASTE, AND DOES NOT CONTAIN FREE LIQUIDS. THIS ALSO INCLUDES ANY MATERIAL THAT MEETS ALL CRITERIA OR ACTION LEVELS FOR CONTAMINANTS WITHOUT STANDARDS." (N.J.A.C. 7:26E-1.8).

E-6 THE PRESENCE OF UNCLASSIFIED FILL MATERIALS SHALL BE DOCUMENTED AND ALL LOCAL/STATE/FEDERAL REGULATIONS WILL BE FOLLOWED.

E-7 CONSTRUCTION STAGING ACTIVITIES (INCLUDING THE STORAGE OF EQUIPMENT/VEHICLES/MATERIALS) ARE PROHIBITED IN ENVIRONMENTALLY SENSITIVE AREAS. IF THE CONTRACTOR WISHES TO USE THESE AREAS OR ACCESS THESE AREAS FOR ANY REASON, ALL APPROPRIATE PERMITS/APPROVALS MUST BE OBTAINED PRIOR TO SUCH USE.

E-8 BEST MANAGEMENT PRACTICES (SUCH AS THE INSTALLATION OF SILT FENCE, INLET PROTECTION AND PERIODIC CLEAN OUT OF DEBRIS) WILL BE UTILIZED DURING CONSTRUCTION TO PREVENT SEDIMENT AND DEBRIS FROM ENTERING STORMWATER INLETS AND ENVIRONMENTALLY SENSITIVE AREAS. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

E-9 CONTRACTOR TO REFER TO NJ SOIL EROSION STANDARDS/REQUIREMENTS FOR IMPLEMENTING STANDARD MEASURES FOR MINIMIZATION OF CONSTRUCTION-RELATED NOISE AND AIR QUALITY (DUST) IMPACTS.

E-10 ANY EXCESS SOILS RELATED TO PROJECT CONSTRUCTION NEEDS TO BE STOCKPILED, SAMPLED, AND DISPOSED OF IN ACCORDANCE WITH NJDEP RULES AND REGULATIONS.

E-11 VEGETATED COVERED AREAS WILL HAVE A MINIMUM THICKNESS OF ONE FOOT OVERLYING A GEOTEXTILE FABRIC BARRIER.

E-12 FOR EACH TYPE AND SOURCE OF IMPORTED CLEAN FILL DERIVED OR ORIGINATED FROM A VIRGIN SOURCE OR QUARRY, LABORATORY ANALYTICAL DATA FROM ONE SAMPLE COLLECTED WITHIN THE LAST YEAR AND DOCUMENTATION OF CLEAN FILL IS TO BE PROVIDED (AT THE DISCRETION OF THE LSRP, A SAMPLE MAY NOT BE REQUIRED TO ESTABLISH THE NATURE OF THE CLEAN FILL). THE SAMPLE MUST BE ANALYZED FOR FULL TCL/TAL SUITE, HEXAVALENT CHROMIUM, AND EPH BY AN NJDEP-CERTIFIED LABORATORY WITH METHOD DETECTION LEVELS THAT ALLOW A COMPARISON TO AN APPLICABLE REMEDIATION STANDARD, IN ACCORDANCE WITH THE NJDEP FILL MATERIAL GUIDANCE (http://www.state.nj.us/dep/srp/guidance/#fill_srp). IN ADDITION, IF ANY SAMPLE RESULT EXCEEDS THE NJDEP DEFAULT IGWSL, SYNTHETIC PRECIPITATION LEACHING PROCEDURE (SPLP) DATA MUST BE PROVIDED FOR THOSE COMPOUNDS TO SUPPORT THAT CLEAN FILL WILL NOT IMPACT GROUND WATER. IN ADDITION, THE VIRGIN SOURCE OR QUARRY SUPPLIER MUST PROVIDE A WRITTEN CERTIFICATION IDENTIFYING THE SOURCE LOCATION OF THE MATERIAL AND THAT THE FILL MEETS THE CLEAN FILL DEFINITION AT N.J.A.C. 7:26E-1.8.

E-13 FOR IMPORTED CLEAN FILL ORIGINATING FROM SOURCES OTHER THAN A VIRGIN SOURCE OR QUARRY, ADDITIONAL SAMPLING WILL BE REQUIRED. FOR EACH TYPE OF CLEAN FILL PER SOURCE, SOIL SAMPLES MUST BE COLLECTED AT A FREQUENCY OF ONE SAMPLE PER 20 CY FOR THE FIRST 100 CY OF SOIL, ONE SAMPLE FOR EACH ADDITIONAL 100 CY UP TO 1,000 CY, AND ONE SAMPLE FOR EVERY ADDITIONAL 1,000 CY. AN ALTERNATIVE SAMPLING FREQUENCY MAY BE USED BASED ON THE DISCRETION OF THE LSRP WHO WILL RELY ON MULTIPLE LINES OF EVIDENCE WHEN EVALUATING CLEAN FILL QUALITY. THE SAME ANALYTICAL PARAMETERS AND WRITTEN CERTIFICATION REQUIRED FOR VIRGIN SOURCES OR QUARRIES APPLIES TO THESE OTHER SOURCES OF CLEAN FILL.

E-14 ALTERNATE FILL WILL NOT BE USED AS PART OF THE ENGINEERED CAP FOR THIS PROJECT.

E-15 CONSTRUCTION IS SCHEDULED TO START NO SOONER THAN 60 DAYS AFTER SUBMISSION OF THIS RAWP TO THE NJDEP IN ACCORDANCE WITH THE TRSR AT N.J.A.C. 7:26E-5.5(A). CONSTRUCTION IS ANTICIPATED BEING COMPLETED WITHIN 8 MONTHS FROM ISSUANCE OF NOTICE TO PROCEED.

E-16 PUBLIC NOTIFICATION WILL BE MADE AT LEAST 14 DAYS PRIOR TO

CITY OF CAMDEN
OFFICE OF ASSESSMENTS
520 Market Street, Room 329
P.O. Box 95120
Camden, New Jersey 08101-5120
PHONE (856) 757-7017 FAX (856) 968-4721
assessor@ci.camden.nj.us

Abrina Carson, CTA
Tax Assessor

Victor Carstarphen
Mayor

MEMORANDUM

To: Applicant – 200' List

From: Camden City Assessor's Office

Date: November 5, 2025

Re: 200' Certified List
Block 367, Lot 1

Attached please find the Certified List of Property Owners within 200' of the above referenced property.

In order to comply with Chapter 245, P.L. 1991, notice of hearings shall be given to the public utility, cable television company, or local utility which possesses a right-of-way or easement within the municipality and which has registered with the municipality to receive notice. The following list includes the companies that serve the City of Camden:

CAMDEN COUNTY M.U.A.
1645 Ferry Avenue
Camden, NJ 08104

AMERICAN WATER
PO Box 52747
Phoenix, AZ 85072

PUBLIC SERVICE ELECTRIC & GAS
PO Box 790
Cranford, NJ 07016-0790

NEW JERSEY AMERICAN WATER
PO Box 578
Alton, IL 62002
(Servicing East Camden & Cramer Hill)

VERIZON
540 Broad Street
Newark, NJ 07101

COMCAST CABLEVISION
1250 Haddonfield-Berlin Road
Cherry Hill, NJ 08034-0404

The Certified List reflects the property ownership in the tax records as of November 5, 2025.

Be advised that this record may contain information governed by L. 2015, c. 226 and L. 2020, c. 125, which include civil and criminal penalties for improper disclosure.

Certified by:

/s/ Abrina Carson
Abrina Carson, CTA
Tax Assessor

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 1 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
364	2		4A	IPAK REAL ESTATE, LLC 1599 ADMIRAL WILSON BLVD PENNSAUKEN, NJ 08109	821 MEMORIAL AVE	3
365	6		15A	CAMDEN BOARD OF EDUCATION 1033 CAMBRIDGE STREET CAMDEN, NJ 08105	919 PRINCESS AVE	
365	47		2	HUGHES, DIMITA R 882 HADDON AVENUE CAMDEN, NJ 08103	882 HADDON AVE	
365	48		2	HUGHES, CARMEN V 2004 BEALL DRIVE HAMPTON, VA 23663	884 HADDON AVE	
365	49		2	GROUND UP, INC PO BOX 262 CAMDEN, NJ 08101	886 HADDON AVE	
365	50		2	GROUND UP, INC 1220 DECATUR STREET CAMDEN, NJ 08104	888 HADDON AVE	
365	51		2	MARTINEZ-MEJIA, SILVERIO A 890 HADDON AVENUE CAMDEN, NJ 08103	890 HADDON AVE	
365	52		1	PEREZ, DOMINGO & ISABEL 892 HADDON AVENUE CAMDEN, NJ 08103	892 HADDON AVE	
365	53		2	GROUND UP, INC PO BOX 262 CAMDEN, NJ 08101	894 HADDON AVE	
365	54		2	ATWELL, ROBERT 2137 43RD STREET PENNSAUKEN, NJ 08110	896 HADDON AVE	
365	55		2	KOONCE, SANDRA FAYE 3 WYE MILL DRIVE ERIAL, NJ 08081	898 HADDON AVE	
365	56		2	PREMIER HOUSING SOLUTIONS-TRUSTEE PO BOX 59048 NORFOLK, VA 23505	908 HADDON AVE	
365	57		2	YOUNG, MONTEZ - EST OF 910 HADDON AVENUE CAMDEN, NJ 08103	910 HADDON AVE	
365	58		2	NESBITT, JACQUELINE 912 HADDON AVENUE CAMDEN, NJ 08103	912 HADDON AVE	
365	59		2	JACKSON, DORIS 914 HADDON AVENUE CAMDEN, NJ 08103	914 HADDON AVE	
365	60		1	CARSTARPHEN, HERBERT V JR 916 HADDON AVENUE CAMDEN, NJ 08103	916 HADDON AVE	
365	61		2	THOMAS, MALIK 918 HADDON AVENUE CAMDEN, NJ 08103	918 HADDON AVE	
365	62		2	JIMENEZ, LISSETTE 2140 MERCHANTVILLE AVE PENNSAUKEN, NJ 08110	920 HADDON AVE	
365	63		2	ABED, ABED S PO BOX 1226 CAMDEN, NJ 08105	922 HADDON AVE	

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 2 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
365	64		2	RIVERA, JACQUELINE 1227 NO 21ST STREET CAMDEN, NJ 08105	924 HADDON AVE	
365	65		1	GATEWAY DEVELOPMENT GROUP, LLC 50 WEST 18TH STREET WEEHAWKEN, NJ 07086	926 HADDON AVE	
365	66		2	JIMENEZ, ROSA & TEJADA, JOSE 1059 PRINCESS AVENUE CAMDEN, NJ 08103	928 HADDON AVE	
365	67		2	NIXON, ANDREA G 930 HADDON AVENUE CAMDEN, NJ 08103	930 HADDON AVE	
365	68		1	NIXON, ANDREA G 932 HADDON AVENUE CAMDEN, NJ 08103	932 HADDON AVE	
365	69		1	WILEY, TAMISHA 271 DORER AVENUE HILLSIDE, NJ 07205	934 HADDON AVE	
365	70		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	936 HADDON AVE	
365	71		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	938 HADDON AVE	
365	72		1	ALFORD BENCHMARK & CO % L. RAVITZ 24 W WATER STREET TOMS RIVER, NJ 08754	940 HADDON AVE	
365	74		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	857 PRINCESS AVE	
365	77		4A	A & A MANAGEMENT CO, LLC PO BOX 1525 CHERRY HILL, NJ 08034	911 PRINCESS AVE	78,79
365	77	T01	4A	A & A MANAGEMENT CO, LLC PO BOX 1525 CHERRY HILL, NJ 08034	911 PRINCESS AVE	
365	80		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	905 PRINCESS AVE	
365	81		4A	A & A MANAGEMENT, LLC PO BOX 1525 CHERRY HILL, NJ 08034	903 PRINCESS AVE	
365	89		15F	BROTHERHOOD OF FIREFIGHTERS 871 PRINCESS AVENUE CAMDEN, NJ 08103	871 PRINCESS AVE	
365	97		15D	INNER CITY BAPTIST CHURCH 201 SO WHITE HORSE PIKE AUDUBON, NJ 08106	861 PRINCESS AVE	
365	101		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	855 PRINCESS AVE	
366	8		1	PON TEBROS, INC 268 WEST STREET NEW YORK, NY 10013	RR SS PINE 50 E MEMORIAL	
366	73		1	PON TEBROS, INC 268 WEST STREET NEW YORK, NY 10013	SS PINE 50 E MEMORIAL	

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 3 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
366	75		2	PON TEBROS, INC 268 WEST STREET NEW YORK, NY 10013	824 MEMORIAL AVE	
1284	37		2	FLAX, BARBARA 650 CHERRY STREET WOODBURY, NJ 08096	1004 KENWOOD AVE	
1284	109		2	DUTTON, LA SHAWN 1000 KENWOOD AVENUE CAMDEN, NJ 08103	1000 KENWOOD AVE	
1284	110		2	NOBLES, EARRIE O 1002 KENWOOD AVENUE CAMDEN, NJ 08103	1002 KENWOOD AVE	
1284	111		2	THOMAS, MARK A 1006 KENWOOD AVENUE CAMDEN, NJ 08103	1006 KENWOOD AVE	
1284	112		2	SEWELL, VANESSA 1008 KENWOOD AVENUE CAMDEN, NJ 08103	1008 KENWOOD AVE	
1284	113		2	ROBINSON, FLORA 1010 KENWOOD AVENUE CAMDEN, NJ 08103	1010 KENWOOD AVE	
1284	114		2	MILLS, LOIS & MILLS, SHERRY 1012 KENWOOD AVENUE CAMDEN, NJ 08103	1012 KENWOOD AVE	
1285	91		4A	1240 WALNUT STREET, INC 204 WARWICK ROAD NORTH LAWNSIDE, NJ 08045	1240 WALNUT ST	
1285	92		1	CEPHUS, PAUL 1008 PRINCESS AVENUE CAMDEN, NJ 08103	1008 PRINCESS AVE	
1285	93		1	WALTERS, LETHA 2805 MITCHELL STREET CAMDEN, NJ 08105	1010 PRINCESS AVE	
1285	94		1	ZELLARS, CHARLES L - EST OF 1012 PRINCESS AVENUE CAMDEN, NJ 08103	1012 PRINCESS AVE	
1285	95		2	MASON, ALVAH & RUTH 1014 PRINCESS AVENUE CAMDEN, NJ 08103	1014 PRINCESS AVE	
1285	96		2	REAL PORTFOLIO 16, LLC 216 HADDON AVE, #503 HADDON TWP, NJ 08108	1016 PRINCESS AVE	
1285	97		2	ESPINAL, JOEL 208 SO 34TH STREET CAMDEN, NJ 08105	1018 PRINCESS AVE	
1285	98		1	WIBLE, STEPHEN 1020 PRINCESS AVENUE CAMDEN, NJ 08103	1020 PRINCESS AVE	
1285	140		2	MARMOLEJOS, VICTOR 5251 GARDEN AVENUE PENNSAUKEN, NJ 08109	1007 KENWOOD AVE	
1285	142		2	BAILEY, STEPHANIE 1019 KENWOOD AVENUE CAMDEN, NJ 08104	1019 KENWOOD AVE	
1285	161		2	FERGUSON, DOROTHY - ESTATE OF 1001 KENWOOD AVENUE CAMDEN, NJ 08103	1001 KENWOOD AVE	

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 4 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
1285	162		2	MIEZAN, MATHIEU 796 ARLINGTON AVENUE LINDENWOLD, NJ 08021	1003 KENWOOD AVE	
1285	163		2	JA EJENDOM, LLC PO BOX 3022 CHERRY HILL, NJ 08034	1005 KENWOOD AVE	
1285	164		2	MAJEH FAHAT HOUSING, LLC PO BOX 8221 CHERRY HILL, NJ 08002	1009 KENWOOD AVE	
1285	165		2	MASTER KEY DEVELOPERS 1524 PARK BOULEVARD CAMDEN, NJ 08103	1011 KENWOOD AVE	
1285	166		2	1013 KENWOOD AVENUE, LLC 129 N COUNTY LINE RD #124 JACKSON, NJ 08527	1013 KENWOOD AVE	
1285	167		2	HENRIQUEZ, JOSEFINA & FAUSTINO 1015 KENWOOD AVENUE CAMDEN, NJ 08103	1015 KENWOOD AVE	
1286	1		2	DDC & M, LLC 28 BOYDEN AVENUE MAPLEWOOD, NJ 07040	1220 WALNUT ST	
1286	2		2	DDC & M, LLC 28 BOYDEN AVENUE MAPLEWOOD, NJ 07040	1218 WALNUT ST	
1286	3		2	THOMPSON, FRANK 1613 40TH STREET PENNSAUKEN, NJ 08110	1216 WALNUT ST	
1286	4		1	PS 2000, INC 1214 WALNUT STREET CAMDEN, NJ 08103	1214 WALNUT ST	
1286	5		2	FORTUNA-FERNANDEZ, WILLIAN A 2645 FOEHL AVENUE PENNSAUKEN, NJ 08109	1212 WALNUT ST	
1286	6		1	BEYER, MAURICE & DOROTHY 27 LAFFERTY DRIVE CHERRY HILL, NJ 08002	1210 WALNUT ST	
1286	7		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	1208 WALNUT ST	
1286	8		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	1206 WALNUT ST	
1286	9		1	BRYANT, BRENDA 505 FAIRVIEW STREET CAMDEN, NJ 08104	1000 HADDON AVE	
1286	14		2	ROMAN, JOSE A 3075 MICKLE STREET CAMDEN, NJ 08105	1010 HADDON AVE	
1286	46		1	FORD, HENRY 231 THOMPSON AVENUE CHESILHURST, NJ 08087	1009 PRINCESS AVE	
1286	47		1	LUCIANI, WILLIAM 1030 REEVES AVENUE CAMDEN, NJ 08105	1011 PRINCESS AVE	
1286	48		2	SAMPSON, LATRESHA R 5325 WEBSTER ST, APT 1 PHILADELPHIA, PA 19143	1013 PRINCESS AVE	

OWNER & ADDRESS REPORT

CAMDEN CITY — BLOCK 367, LOT 1 — 11/05/25 Page 5 of 5

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
1286	49		15C	CAMDEN CITY PO BOX 95120 CAMDEN, NJ 08101	1015 PRINCESS AVE	
1286	50		2	M&M STRATEGIC INVESTMENTS, LLC 606 COOPER LANDING, #A-26 CHERRY HILL, NJ 08002	1017 PRINCESS AVE	
1286	51		2	GOMEZ, EDUARDO R 2211 NO 29TH STREET #B PENNSAUKEN, NJ 08110	1019 PRINCESS AVE	
1286	52		2	EDMONDSON, LEON & ROCHON, TIFFANY 1021 PRINCESS AVENUE CAMDEN, NJ 08103	1021 PRINCESS AVE	
1286	143		1	CANDELARIO, ELENA 717 8TH STREET UNION CITY, NJ 07087	REAR 1008 HADDON AVE	

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.669.5800
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

PROPERTY OWNERS LIST - 200FT

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

DATE	NO.	REVISIONS	BY
11/17/2025	1.	CITY PLANNING BOARD SUBMISSION	BF

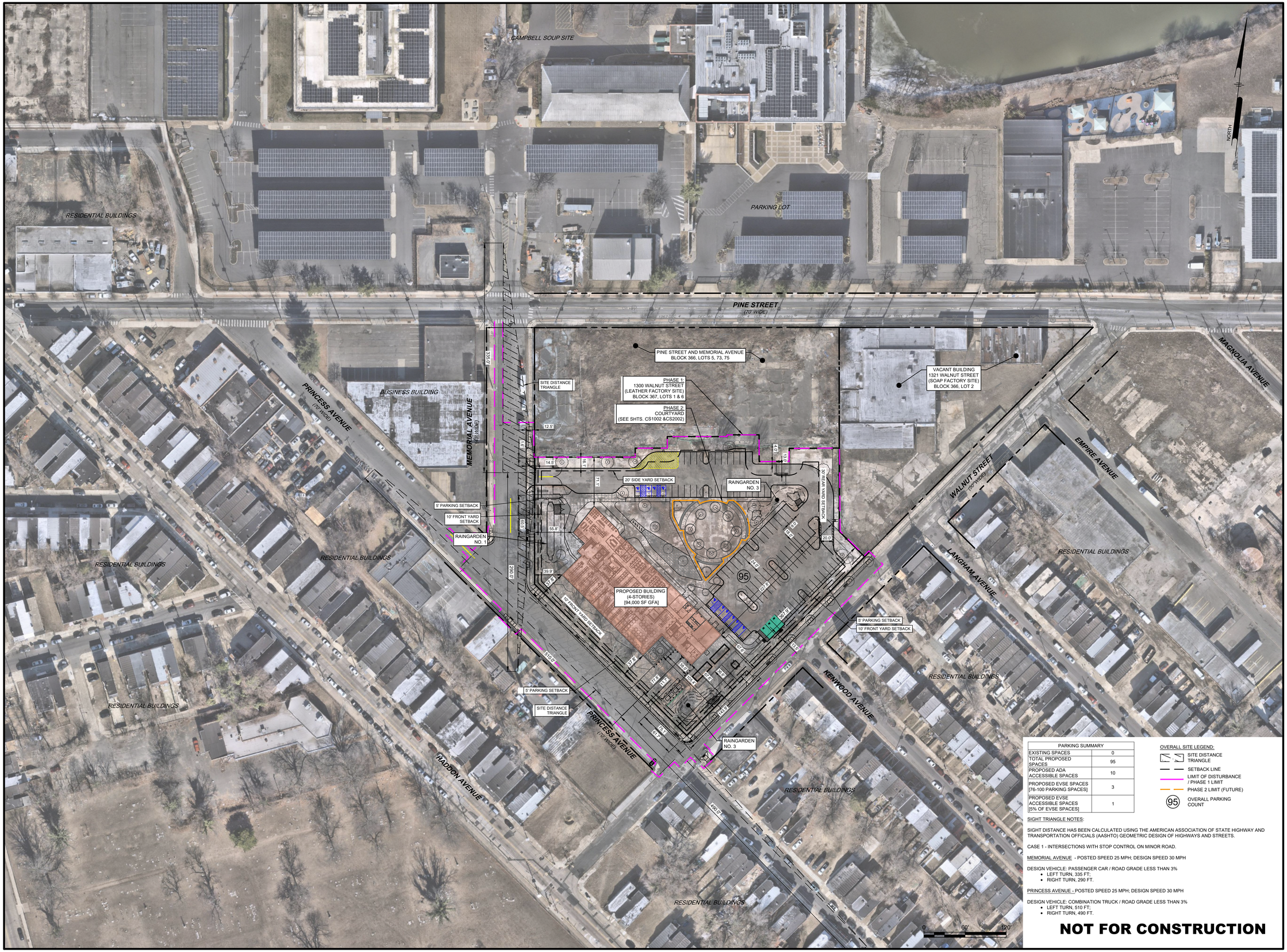
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS0004

SHEET 4 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS0004.dwg PLOTTED: 11/13/2025 5:29 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni-NCS.ctb PROJECT STATUS: —



PARKING SUMMARY	
EXISTING SPACES	0
TOTAL PROPOSED SPACES	95
PROPOSED ADA ACCESSIBLE SPACES	10
PROPOSED EVSE SPACES [76-100 PARKING SPACES]	3
PROPOSED EVSE ACCESSIBLE SPACES [5% OF EVSE SPACES]	1

OVERALL SITE LEGEND:

- SITE DISTANCE TRIANGLE
- SETBACK LINE
- LIMIT OF DISTURBANCE / PHASE 1 LIMIT
- PHASE 2 LIMIT (FUTURE)
- (95) OVERALL PARKING COUNT

SIGHT TRIANGLE NOTES:

SIGHT DISTANCE HAS BEEN CALCULATED USING THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.

CASE 1 - INTERSECTIONS WITH STOP CONTROL ON MINOR ROAD.

MEMORIAL AVENUE - POSTED SPEED 25 MPH; DESIGN SPEED 30 MPH

DESIGN VEHICLE: PASSENGER CAR / ROAD GRADE LESS THAN 3%
- LEFT TURN, 335 FT;
- RIGHT TURN, 290 FT.

PRINCESS AVENUE - POSTED SPEED 25 MPH; DESIGN SPEED 30 MPH

DESIGN VEHICLE: COMBINATION TRUCK / ROAD GRADE LESS THAN 3%
- LEFT TURN, 510 FT;
- RIGHT TURN, 490 FT.

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

OVERALL SITE PLAN

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=60'
DRAWN BY	BF
APPROVED BY	JJR

CS0500

SHEET 5 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS0500.dwg PLOTTED: 11/13/2025 5:39 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

PINE STREET (70' WIDE)

MEMORIAL AVENUE (45' WIDE)

WALNUT STREET (50' WIDE)

LANGHAM AVENUE

KENWOOD AVENUE

PRINCESS AVENUE (70' WIDE)

BLOCK 367 LOT 1.19 DB 11056 PG 720

EXISTING PAVEMENT (MAINTAIN AND PROTECT)

EXISTING CHAIN LINK FENCE (MAINTAIN AND PROTECT)

EXISTING CHAIN LINK SWING GATE (MAINTAIN AND PROTECT)

EXISTING PAVEMENT TO BE MILL

EXISTING CHAIN LINK FENCE TO REMAIN IN-PLACE TEMPORARILY AS CONSTRUCTION FENCE. TO BE REMOVED AND REPLACED UNDER FINAL SITE CONSTRUCTION

EXISTING CONCRETE SIDEWALK (MAINTAIN AND PROTECT)

EXISTING FENCE TO REMOVE AND REPLACE AS REQUIRED TO INSTALL HANDICAP RAMPS

EXISTING IRON REBAR (MAINTAIN AND PROTECT)

EXISTING MONUMENT TO BE RESEET

EXISTING INLET TO BE RESET

EXISTING STREET NAME SIGNS (MAINTAIN AND PROTECT)

EXISTING PAVEMENT (MAINTAIN AND PROTECT)

EXISTING ELECTRICAL MANHOLE TO BE REMOVED

SAWCUT LINE (TYP.)

EXISTING MANHOLE TO BE RESET

EXISTING WATER MAIN (MAINTAIN AND PROTECT)

EXISTING INLET TO BE RESET

EXISTING CONCRETE SIDEWALK (MAINTAIN AND PROTECT)

EXISTING MONUMENT TO BE RESEET

EXISTING SIDEWALK TO BE REMOVED

EXISTING SEWER MANHOLE TO BE RESET

EXISTING CONCRETE SIDEWALK (MAINTAIN AND PROTECT)

EXISTING TREES (MAINTAIN AND PROTECT). PRUNE FROM THE TRUNK TO A MIN. HEIGHT OF 7-FT (TYP.)

EXISTING HYDRANT (MAINTAIN AND PROTECT)

EXISTING CONCRETE SIDEWALK TO BE REMOVED (TYP.)

EXISTING MONITORING (MAINTAIN AND PROTECT) (TYP.)

EXISTING SEWER MAIN (MAINTAIN AND PROTECT)

EXISTING CHAIN LINK FENCE TO BE REMOVED TO ACCESS EASEMENT LINE

EXISTING CONCRETE PAVEMENT TO BE REMOVED (TYP.)

EXISTING TOPSOIL TO BE STRIPPED, 3" MIN.

EXISTING BUILDING FOOTINGS, UNDERGROUND VAULTS, CONCRETE SIDEWALK, CONCRETE PADS, DEBRIS AND CONCRETE FOUNDATIONS TO BE REMOVED

EXISTING TREES AND ROOTS TO BE REMOVED (TYP.)

EXISTING TOPSOIL TO BE STRIPPED, 3" MIN.

EXISTING CHAIN LINK FENCE TO REMAIN IN-PLACE TEMPORARILY AS CONSTRUCTION FENCE. TO BE REMOVED AND REPLACED UNDER FINAL SITE CONSTRUCTION.

EXISTING BUILDING (MAINTAIN AND PROTECT)

TEMPORARY CONSTRUCTION FENCE TO REMAIN IN-PLACE TEMPORARILY AS CONSTRUCTION FENCE. TO BE REMOVED AND REPLACED UNDER FINAL SITE CONSTRUCTION

EXISTING BUILDING FOOTINGS, UNDERGROUND VAULTS, CONCRETE SIDEWALK, CONCRETE PADS, DEBRIS AND CONCRETE FOUNDATIONS TO BE REMOVED.

EXISTING CONCRETE WITH DRIVEWAY (MAINTAIN AND PROTECT)

EXISTING HYDRANT TO BE REMOVED AND REPLACED

EXISTING GAS MAIN TO BE REMOVED (COORD. W/ PSE&G)

EXISTING CONCRETE DRIVEWAY TO BE REMOVED (TYP.)

CUT AND CAP EXISTING GAS MAIN (COORD. W/ PSE&G)

EXISTING GAS MAIN TO BE REMOVED (COORD. W/ PSE&G)

CUT AND CAP EXISTING GAS MAIN (COORD. W/ PSE&G)

EXISTING 6" WATERMAIN TO BE REMOVED (COORD. WITH CITY OF CAMDEN)

CUT AND CAP EXISTING 6" WATER SERVICE (COORD. W/ CITY OF CAMDEN)

EXISTING CONCRETE PAVEMENT TO BE REMOVED (TYP.)

EXISTING GAS MAIN (MAINTAIN AND PROTECT)

EXISTING SANITARY MANHOLE (MAINTAIN AND PROTECT)

EXISTING PAVEMENT AND COBBLESTONES TO BE REMOVED (FULL DEPTH)

EXISTING SANITARY PIPE (MAINTAIN AND PROTECT)

EXISTING CONCRETE TO BE REMOVED (TYP.)

EXISTING CONCRETE PAVEMENT TO BE REMOVED (TYP.)

EXISTING CHAIN LINK FENCE TO REMAIN IN-PLACE TEMPORARILY AS CONSTRUCTION FENCE. TO BE REMOVED AND REPLACED UNDER FINAL SITE CONSTRUCTION.

EXISTING ELECTRICAL MANHOLE TO BE REMOVED

EXISTING CONCRETE CURB TO BE REMOVED (TYP.)

TREE AND ROOTS TO BE REMOVED

EXISTING HYDRANT (MAINTAIN AND PROTECT)

EXISTING STOP SIGN TO BE REMOVED

EXISTING INLET (MAINTAIN AND PROTECT)

EXISTING SANITARY MANHOLE (MAINTAIN AND PROTECT)

EXISTING SIDEWALK TO BE REMOVED

SAWCUT LINE (TYP.)

EXISTING UTILITY POLE (MAINTAIN AND PROTECT)

EXISTING ADA RAMP (MAINTAIN AND PROTECT)

DEMOLITION LEGEND:

- PAVEMENT TO BE MILL
- PAVEMENT REMOVAL - FULL DEPTH (INCLUDE COBBLESTONE)
- EXISTING CONCRETE, UNDERGROUND STRUCTURE / STORAGE REMOVAL
- CONCRETE CURB REMOVAL
- SAWCUT PAVEMENT
- UTILITY LINES REMOVAL
- CHAIN LINK FENCE REMOVAL
- TEMPORARY CONSTRUCTION FENCE
- TEMPORARY CONSTRUCTION FENCE GATE
- EXISTING MONITORING WELL TO MAINTAIN
- LIMIT OF DISTURBANCE
- TREE REMOVAL
- TREE TO REMAIN (MAINTAIN AND PROTECT)

NOTE:

1. BUILDING TO BE DEMOLISH AT EXISTING GRADE. BUILDING FOOTING, FOUNDATION, BASEMENT FLOOR, SHALL BE MAINTAIN AND PROTECT UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO MAINTAIN AND PROTECT UTILITY LINES, UNLESS OTHERWISE NOTED ON THE PLANS.
3. CUT AND CAP UTILITIES SERVING EXISTING BUILDING PER CAMDEN CITY ORDINANCE. WATER MAINS AND SEWER TO BE REMOVED TO MAIN AND CAPPED (PER CITY ORDINANCE).
4. REFER TO SHEET CS0002 BEFORE THE START OF ANY WORK.

0 30' 60'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

DEMOLITION PLAN

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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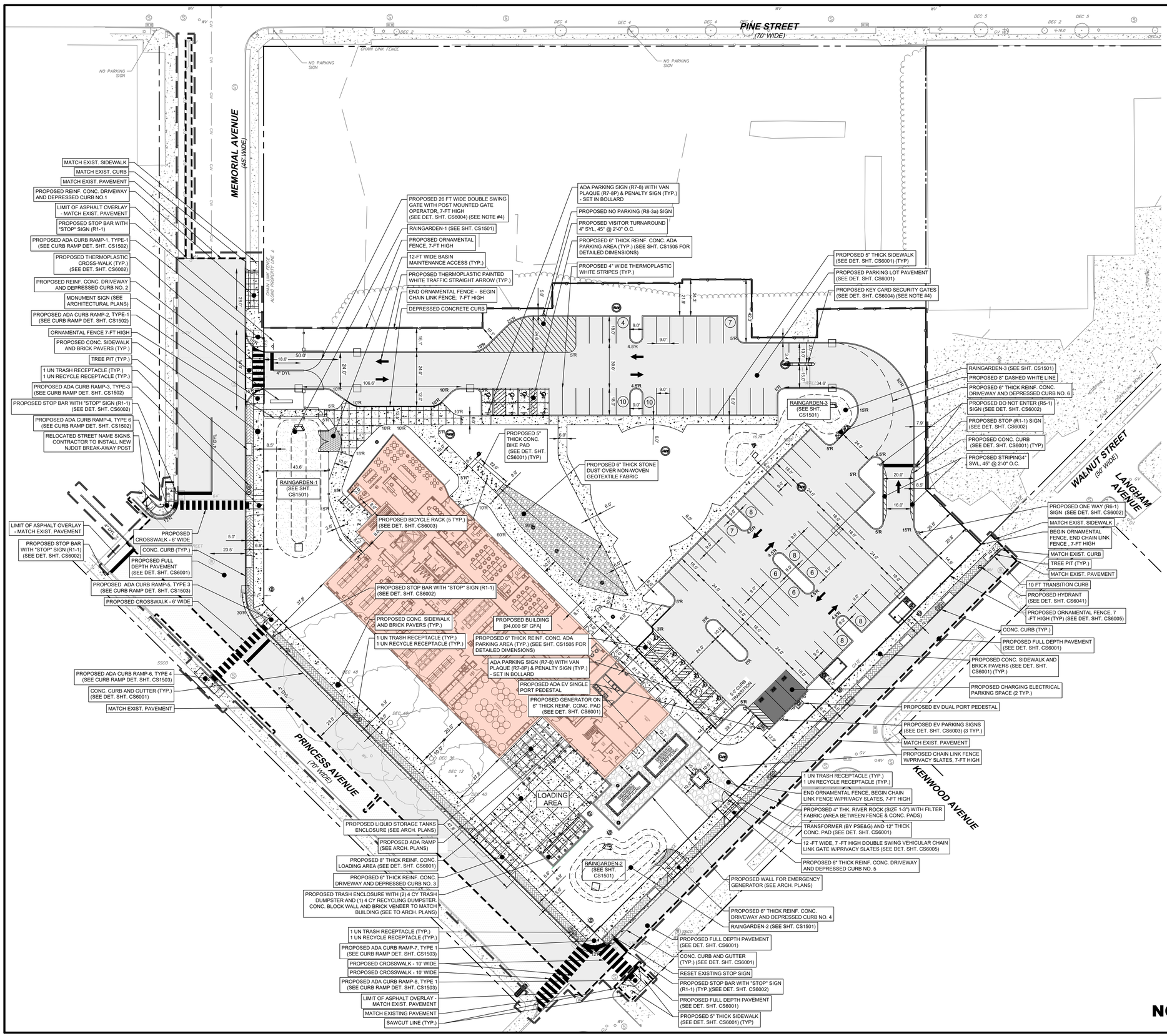
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS0501

SHEET 6 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\05CSD\CAD_SHEETS\CS0501.dwg PLOTTED: 11/13/2025 5:33 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —



SITE LEGEND:

- PROPOSED BUILDING
- FULL DEPTH PAVEMENT
- REINFORCED CONCRETE
- CONCRETE AND PAVER SIDEWALK
- CONCRETE SIDEWALK
- PROPOSED STONE DUST
- RAINGARDEN
- ORNAMENTAL FENCE
- CONCRETE CURB
- DEPRESSED CONCRETE CURB
- ADA PAVEMENT SYMBOL
- EV DUAL PORT PEDESTAL
- ELECTRICAL VEHICLE PAVEMENT SYMBOL
- TRASH & RECYCLE RECEPTACLE
- BICYCLE RACK
- PROPOSED BOLLARD
- DETECTABLE WARNING SURFACE
- TRAFFIC SIGN
- (8) PARKING COUNT
- LIMIT OF DISTURBANCE
- PROPOSED EASEMENT

NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. ROAD AND SIDEWALK WORK LOCATED INSIDE R.O.W. MUST BE DONE IN ACCORDANCE WITH CITY OF CAMDEN ORDINANCE.
3. TRASH AND RECYCLE RECEPTACLES EXACT LOCATIONS TO BE DETERMINED IN THE FIELD.
4. MECHANICAL GATE OPERATION:

   DOUBLE SWING GATE
   OPEN DURING NORMAL BUSINESS HOURS. CLOSED ALL OTHER TIMES.

   KEY CARD SECURITY GATE
   OPEN TEMPORARILY WHEN ACTIVATED BY KEY CARD. CLOSED ALL OTHER TIMES.

   A KNOX SINGLE GATE AND KEY SWITCH WILL BE PROVIDED AT EACH GATE LOCATION FOR EMERGENCY ACESSS

0 30' 60'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8033
NJ COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SITE PLAN (PHASE 1)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	REVISIONS	BY
1.	CITY PLANNING BOARD SUBMISSION	BF

DATE	
11/17/2025	CITY PLANNING BOARD SUBMISSION

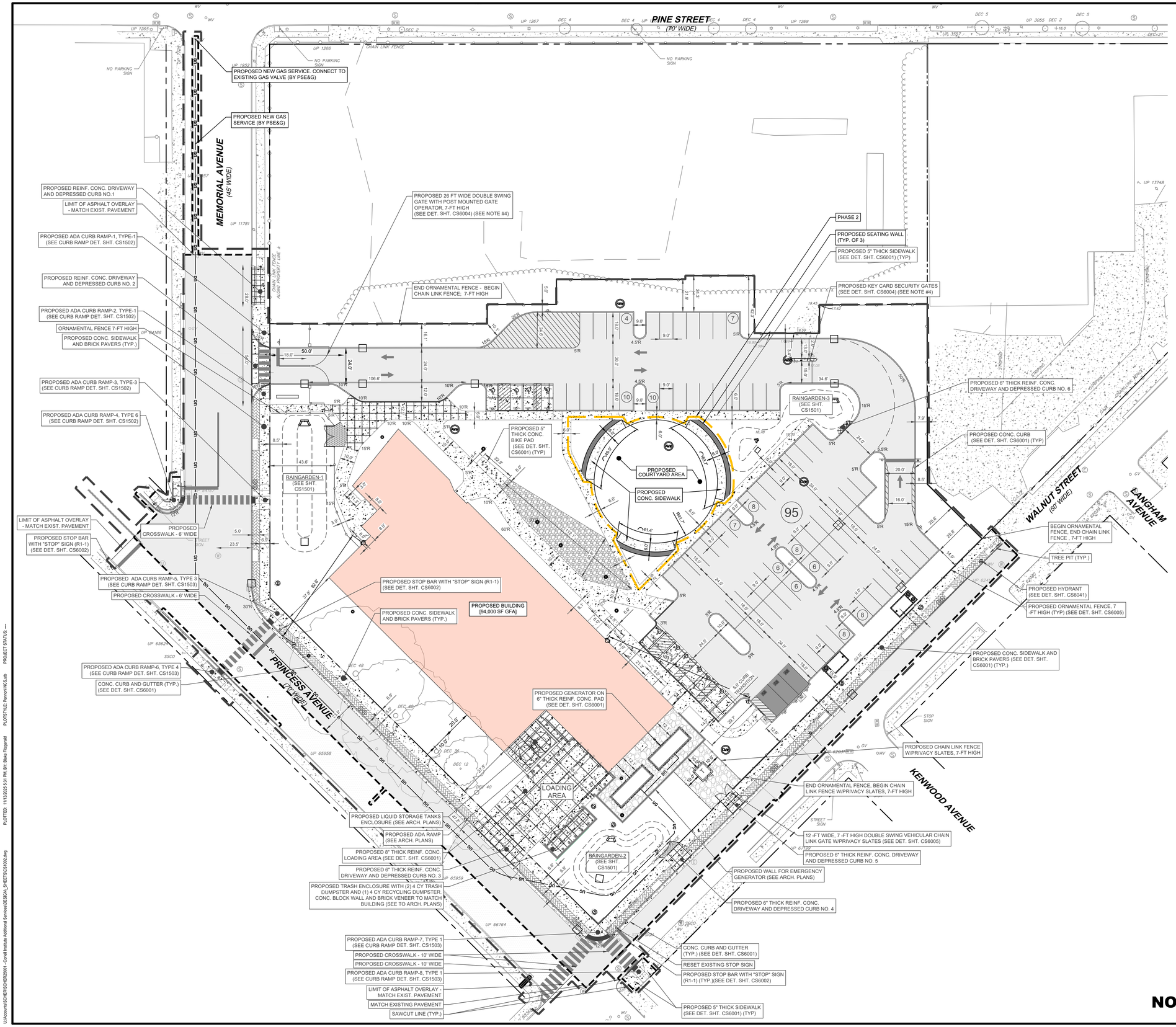
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS1001

SHEET 7 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1001.dwg PLOTTED: 11/13/2025 5:31 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni WCS.ctb PROJECT STATUS: —



SITE LEGEND:

- PROPOSED BUILDING
- FULL DEPTH PAVEMENT
- REINFORCED CONCRETE
- CONCRETE AND PAVER SIDEWALK
- CONCRETE SIDEWALK
- PROPOSED STONE DUST
- RAINGARDEN
- ORNAMENTAL FENCE
- CONCRETE CURB
- DEPRESSED CONCRETE CURB
- ADA PAVEMENT SYMBOL
- EV DUAL PORT PEDESTAL
- ELECTRICAL VEHICLE PAVEMENT SYMBOL
- TRASH & RECYCLE RECEPTACLE
- BICYCLE RACK
- PROPOSED BOLLARD
- DETECTABLE WARNING SURFACE
- TRAFFIC SIGN
- (8) PARKING COUNT
- LIMIT OF DISTURBANCE
- PROPOSED EASEMENT
- PHASE 2

NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. ROAD AND SIDEWALK WORK LOCATED INSIDE R.O.W. MUST BE DONE IN ACCORDANCE WITH CITY OF CAMDEN ORDINANCE.
3. TRASH AND RECYCLE RECEPTACLES EXACT LOCATIONS TO BE DETERMINED IN THE FIELD.

0 30' 60'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5888
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SITE PLAN (PHASE 1 + PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	REVISIONS	BY
1.	CITY PLANNING BOARD SUBMISSION	BF

DATE
11/17/2025

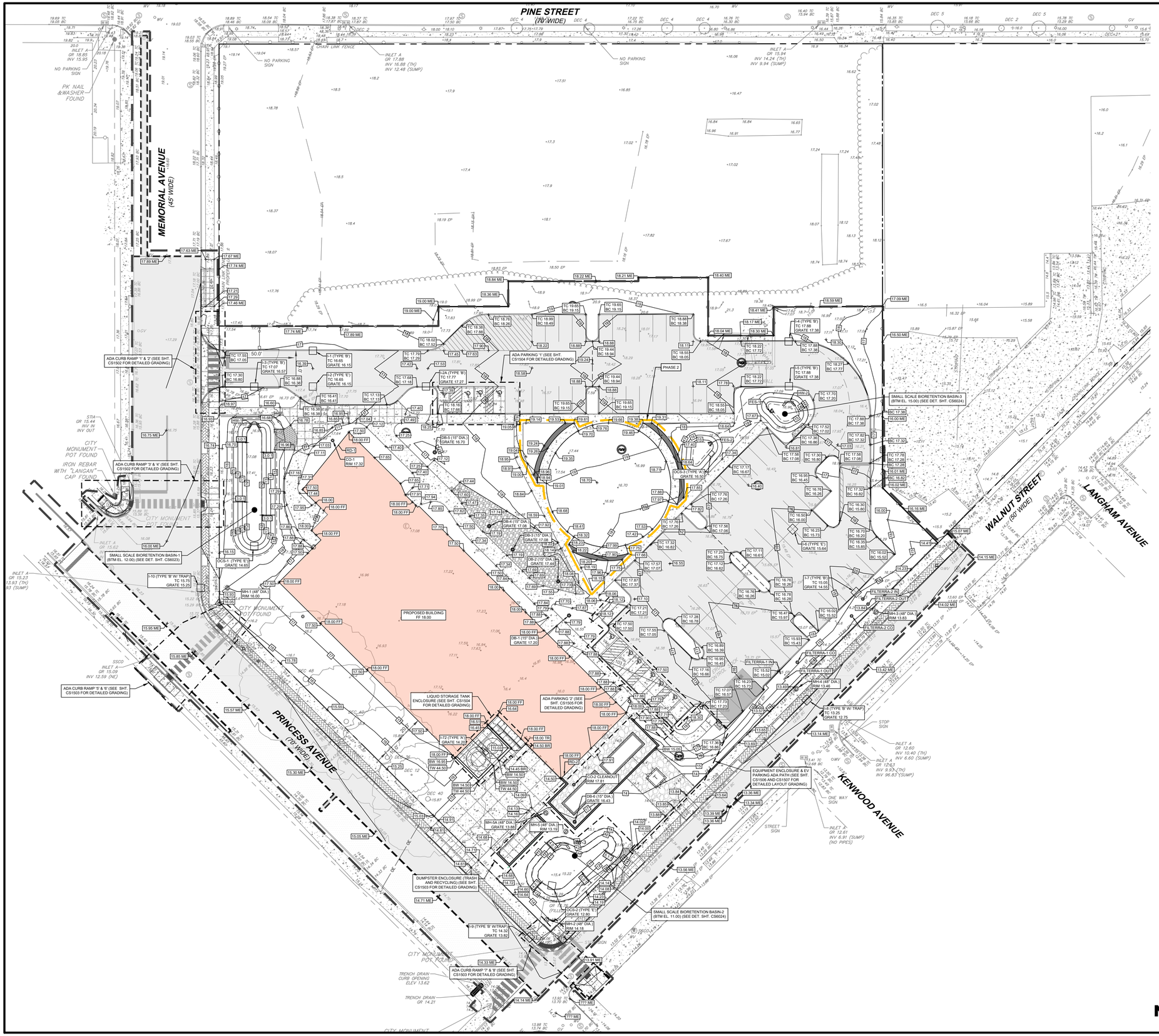
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS1002

SHEET 8 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1002.dwg PLOTTED: 11/13/2025 5:31 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



GRADING LEGEND:

- CONTOUR ELEVATION
- SPOT ELEVATION
- LIMIT OF DISTURBANCE
- EASEMENT LINE
- PHASE 2

NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. ROAD AND SIDEWALK WORK LOCATED INSIDE R.O.W. MUST BE DONE IN ACCORDANCE WITH CITY OF CAMDEN ORDINANCE.
3. FOR ROAD GRADING SEE SHEETS CS3501, CS3502 AND CS3503.

0 30' 60'

NOT FOR CONSTRUCTION

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.662.0200
NJ. COA NO. GA28033300

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING PLAN (PHASE 1 + PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION
		REVISIONS

BY	BF

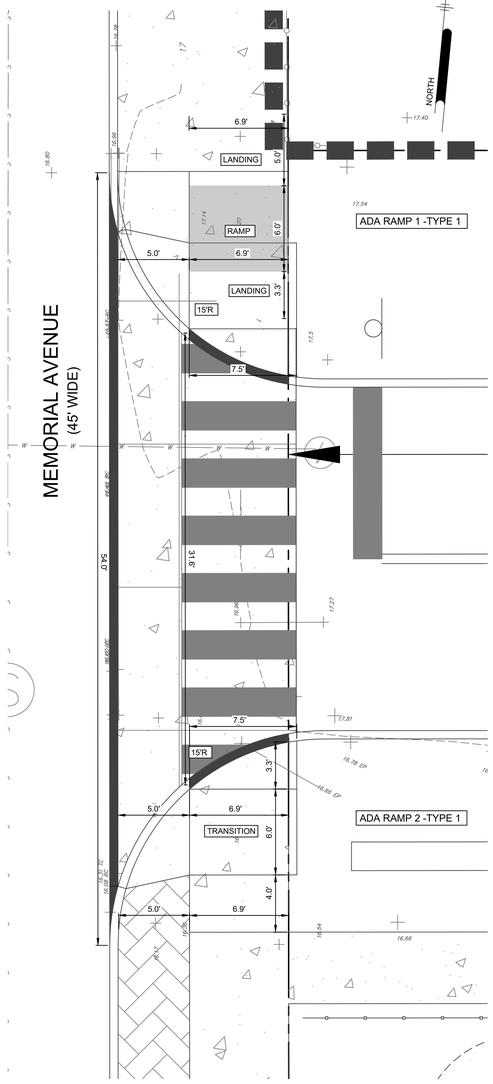
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS1501

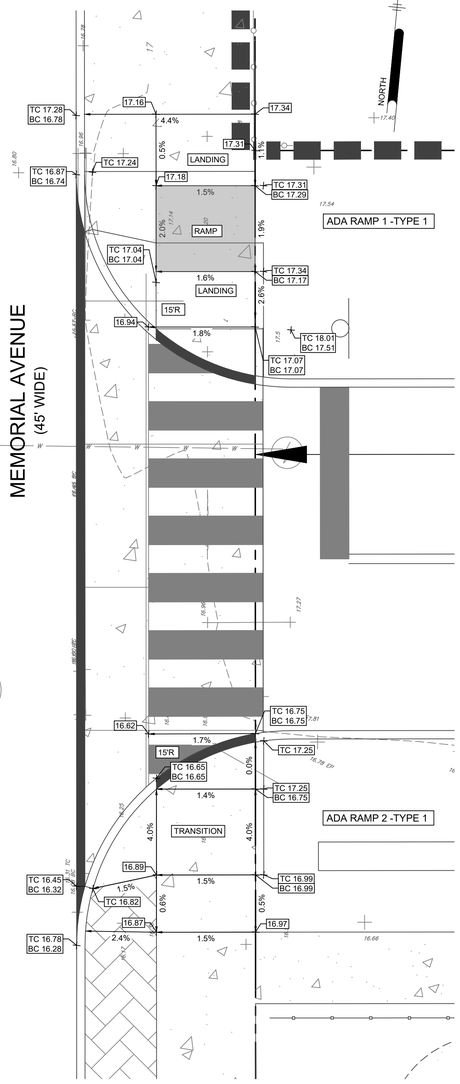
SHEET 9 OF 45

PROJECT STATUS: —
PLOTSTYLE: Pennoni WCS.stb
PLOTTED: 11/13/2025 5:32 PM, BY: Blake Fitzgerald
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1501.dwg



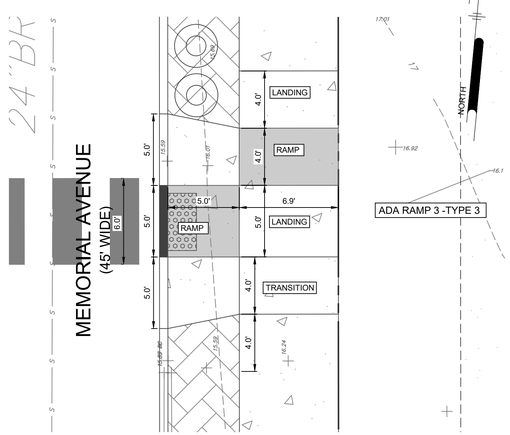
ADA RAMP LAYOUT DETAILS NO. 1 & 2

SCALE: 1" = 5'



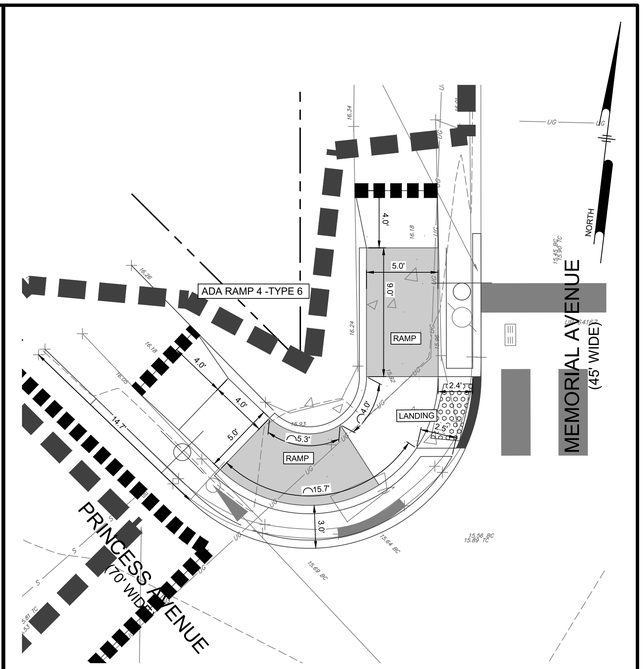
ADA RAMP GRADING DETAILS NO. 1 & 2

SCALE: 1" = 5'



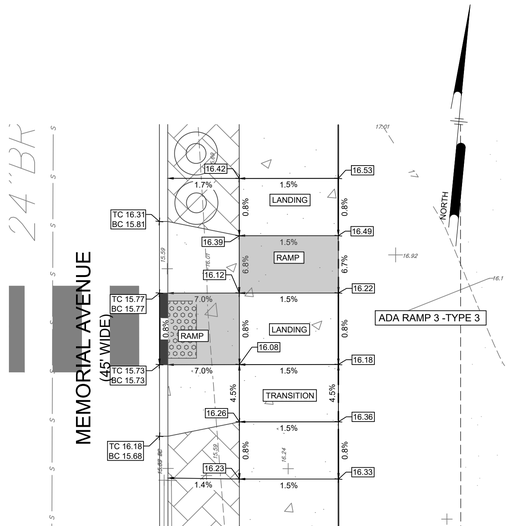
ADA RAMP LAYOUT DETAIL NO. 3

SCALE: 1" = 5'



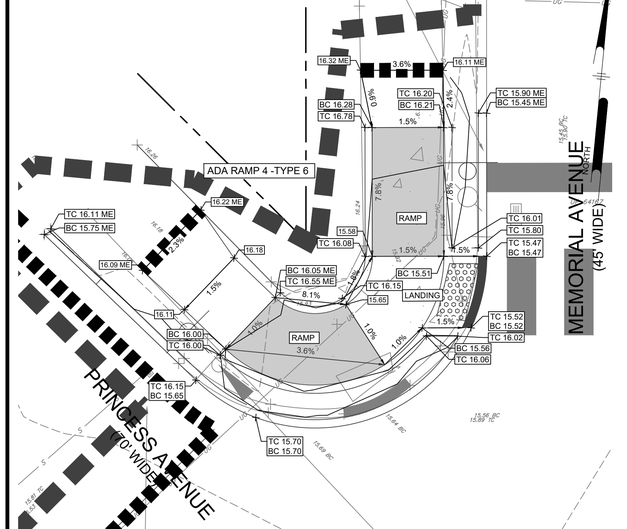
ADA RAMP LAYOUT DETAIL NO. 4

SCALE: 1" = 5'



ADA RAMP GRADING DETAIL NO. 3

SCALE: 1" = 5'



ADA RAMP GRADING DETAIL NO. 4

SCALE: 1" = 5'

0 5' 10'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8600
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS I

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

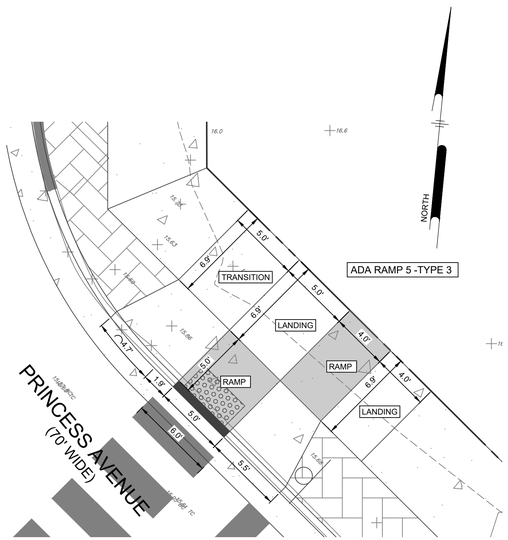
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1502

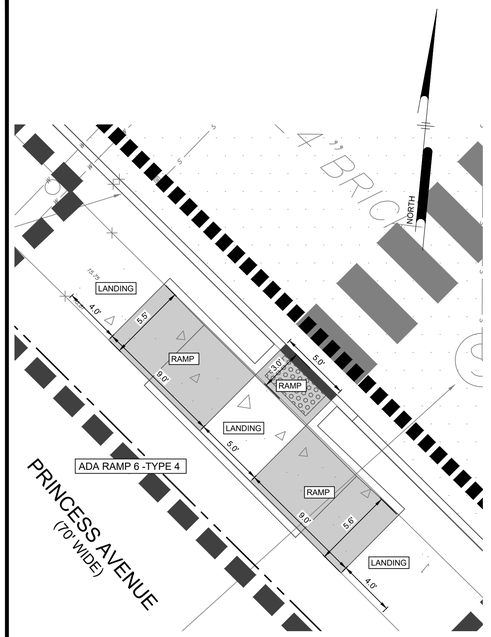
SHEET 10 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1502-CS1506.dwg PLOTTED: 11/13/2025 5:32 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni-MCS.ctb PROJECT STATUS: —



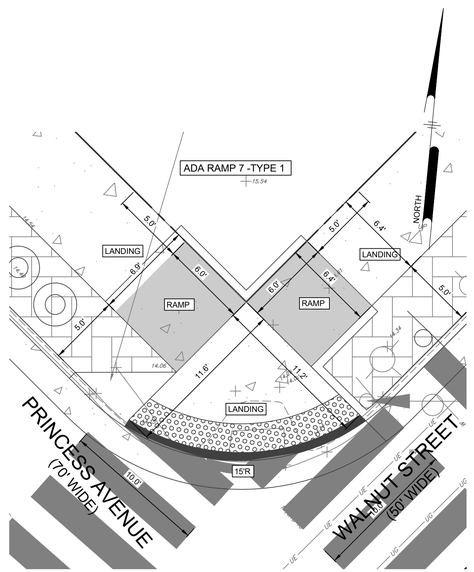
ADA RAMP LAYOUT DETAIL NO. 5

SCALE: 1" = 5'



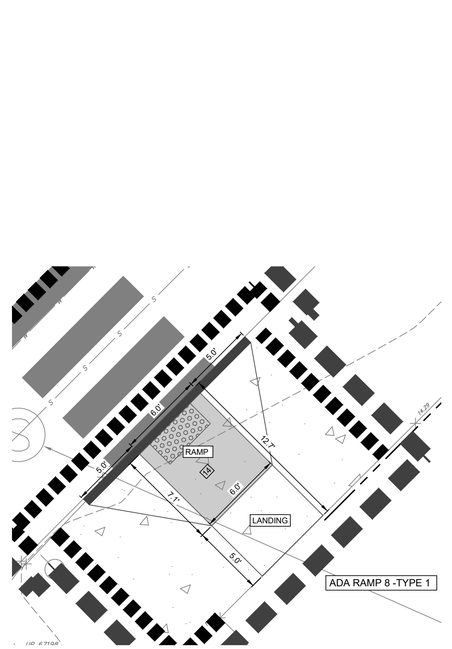
ADA RAMP LAYOUT DETAIL NO. 6

SCALE: 1" = 5'



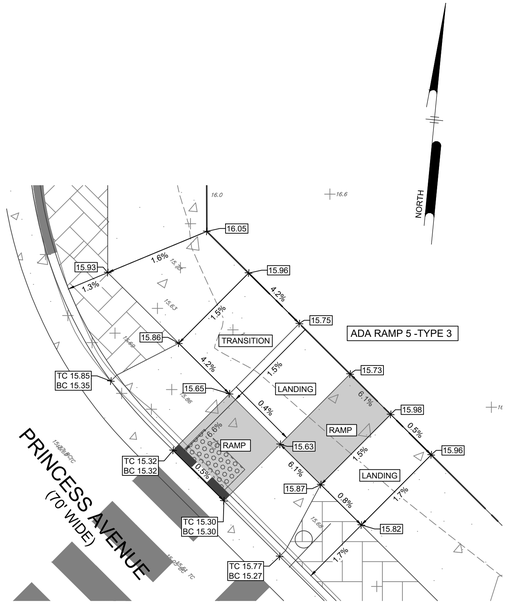
ADA RAMP LAYOUT DETAIL NO. 7

SCALE: 1" = 5'



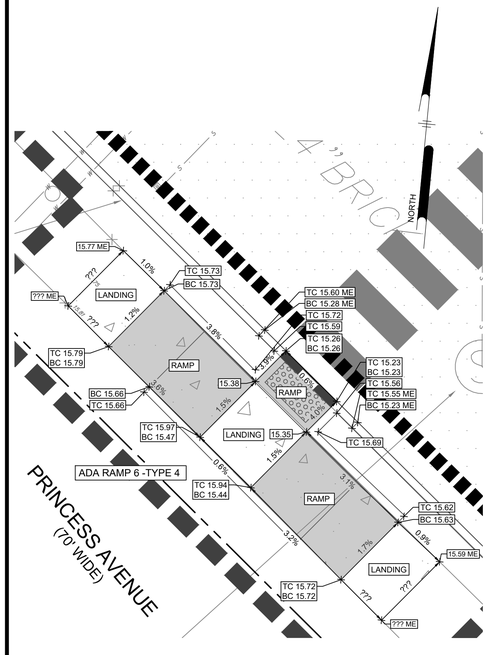
TRASH ENCLOSURE LAYOUT DETAIL NO. 8

SCALE: 1" = 5'



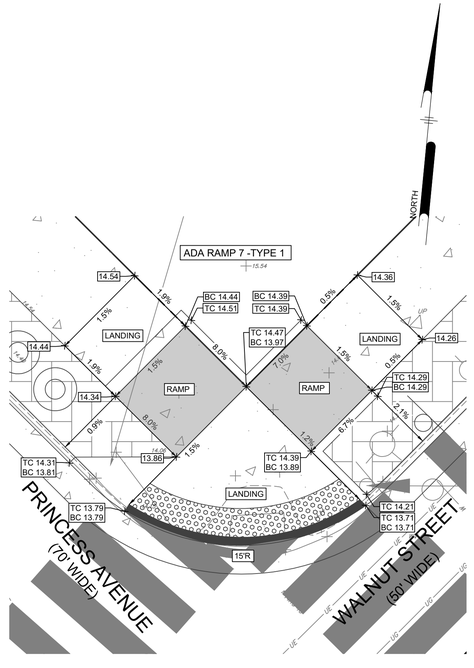
ADA RAMP GRADING DETAIL NO. 5

SCALE: 1" = 5'



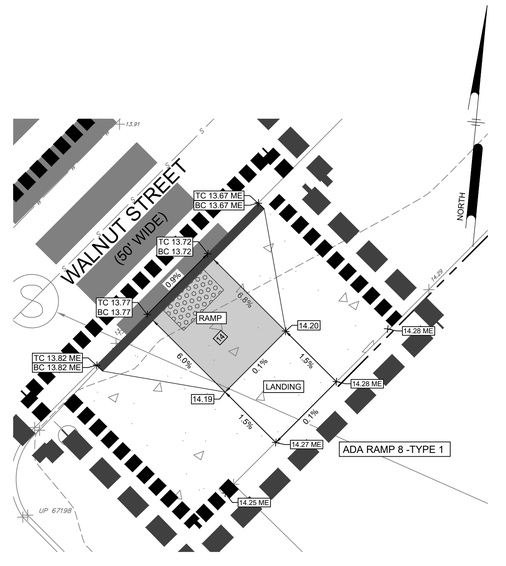
ADA RAMP GRADING DETAIL NO. 6

SCALE: 1" = 5'



ADA RAMP GRADING DETAIL NO. 7

SCALE: 1" = 5'



TRASH ENCLOSURE GRADING DETAIL NO. 8

SCALE: 1" = 5'

0 5' 10'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8000
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768
11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS II

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

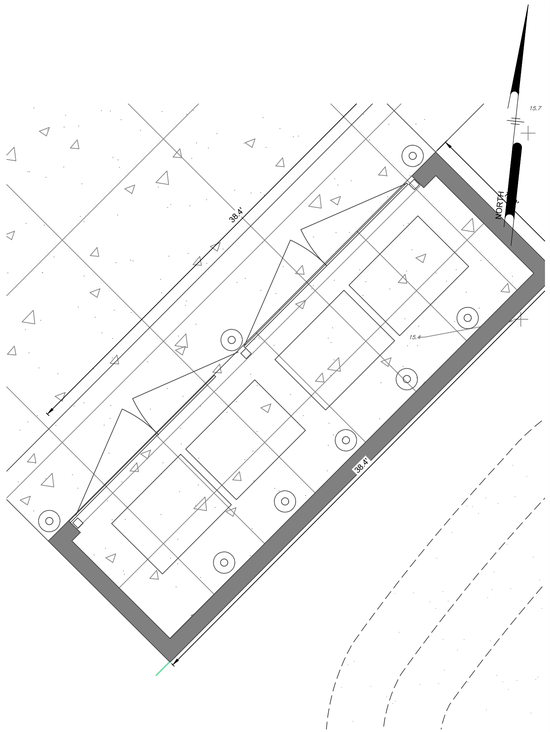
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1503

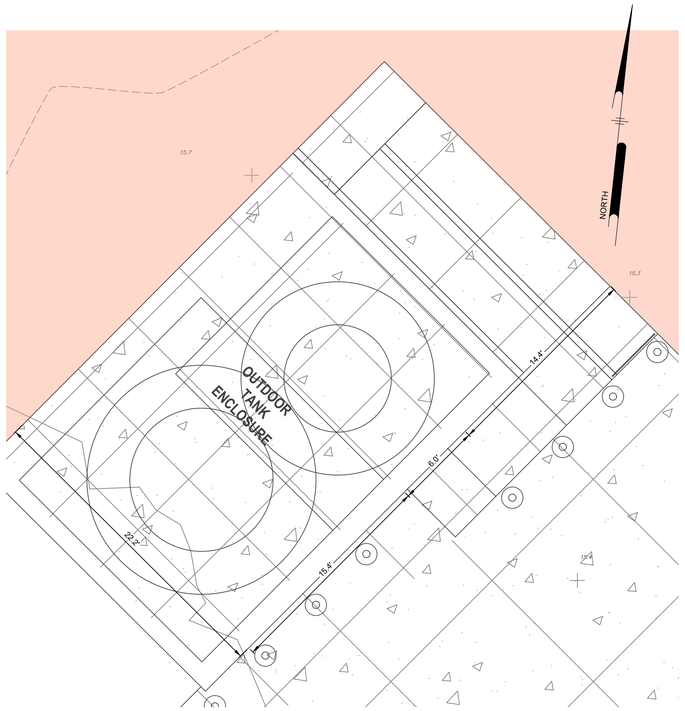
SHEET 11 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\05ENGINL_SHEETS\CS1500-CS1506.dwg PLOTTED: 11/13/2025 5:33 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



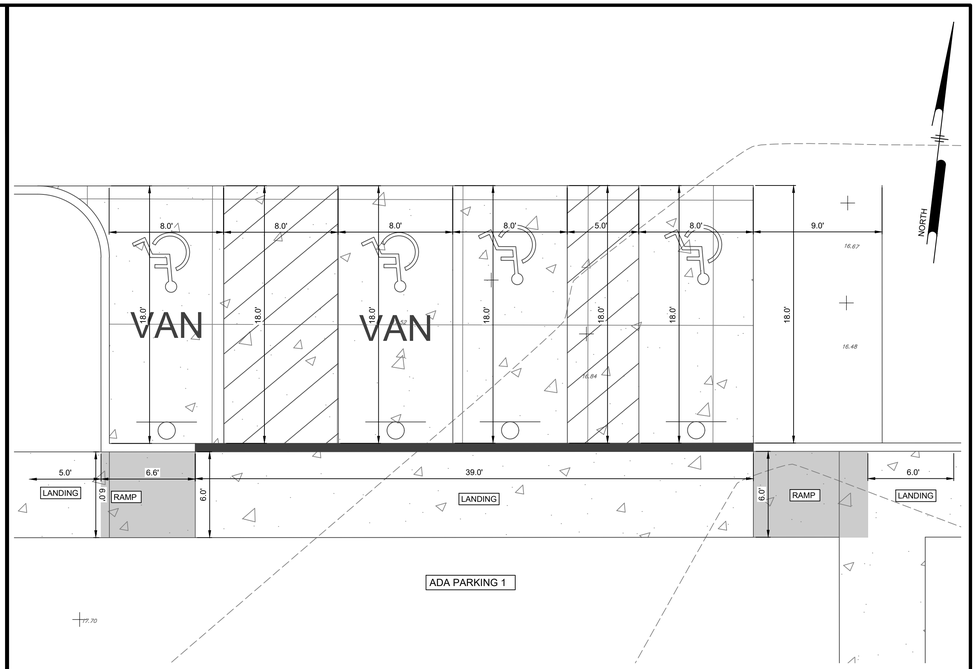
TRASH ENCLOSURE LAYOUT DETAIL

SCALE: 1" = 5'



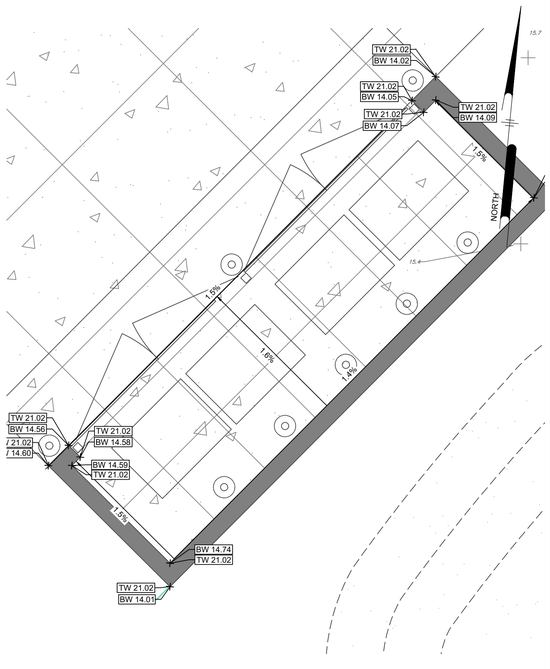
LIQUID STORAGE TANKS ENCLOSURE LAYOUT DETAIL

SCALE: 1" = 5'



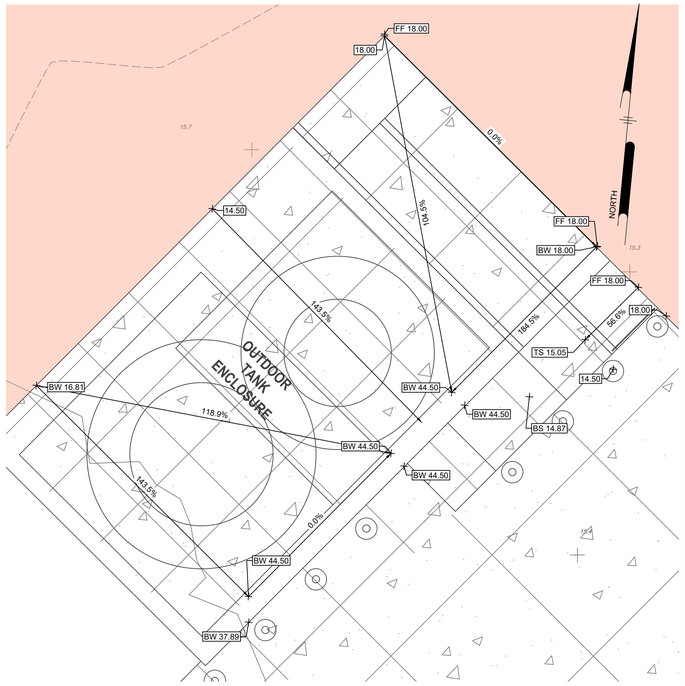
ADA PARKING LAYOUT DETAIL NO. 1

SCALE: 1" = 5'



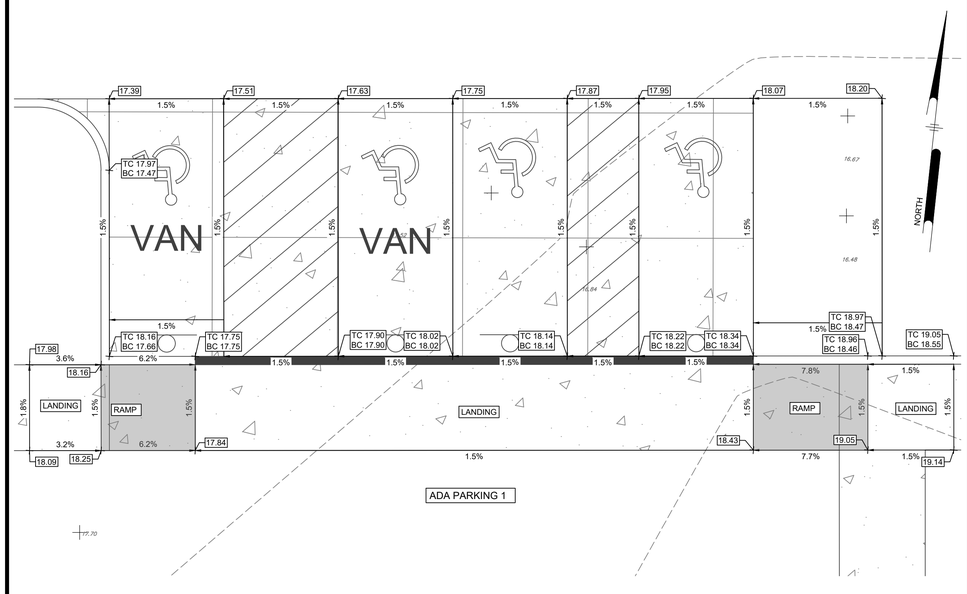
TRASH ENCLOSURE GRADING DETAIL

SCALE: 1" = 5'



LIQUID STORAGE TANKS ENCLOSURE GRADING DETAIL

SCALE: 1" = 5'



ADA PARKING GRADING DETAIL NO. 1

SCALE: 1" = 5'

0 5' 10'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8600
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS III

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

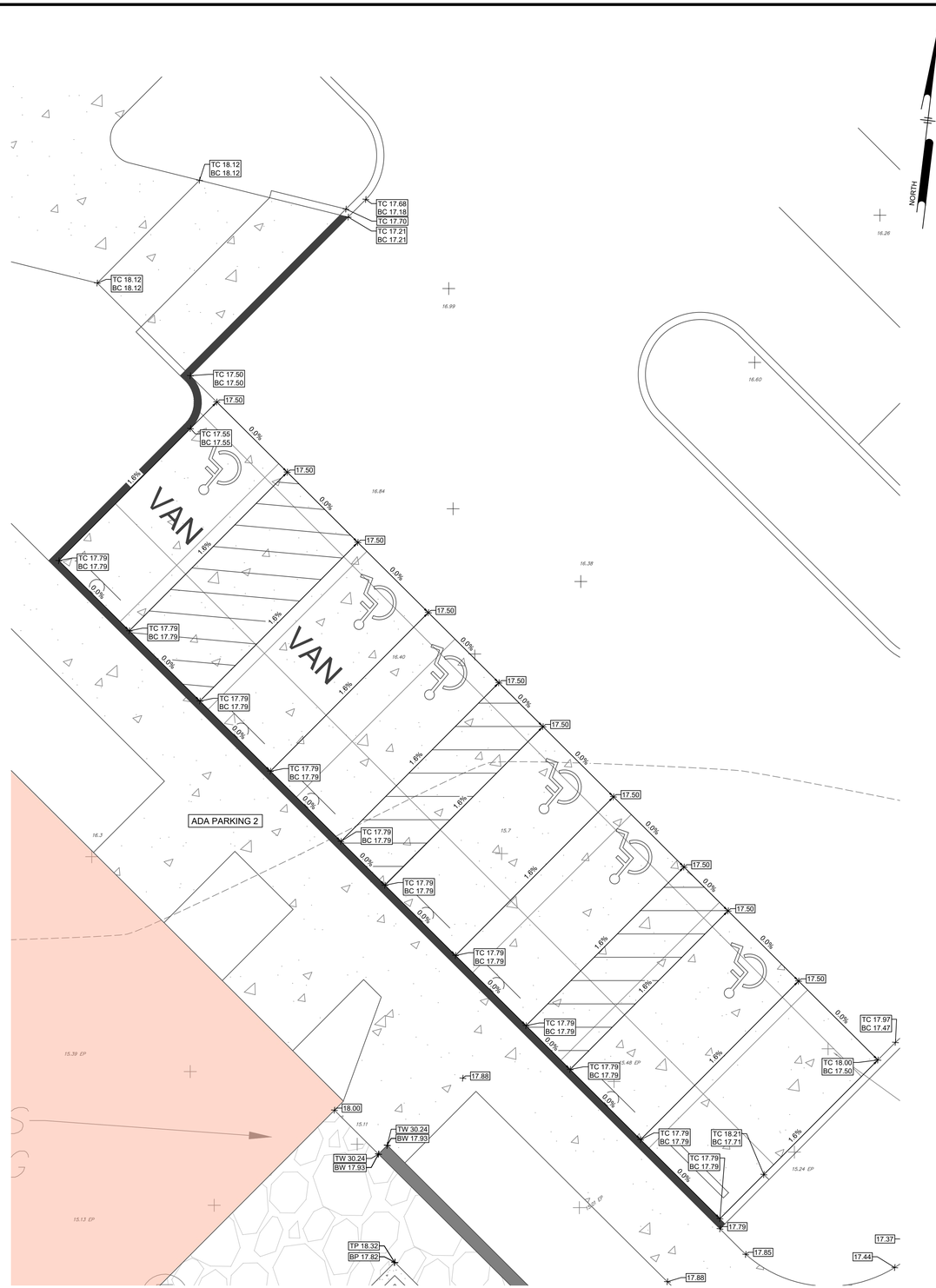
CS1504

SHEET 12 OF 45

PROJECT STATUS: —
PLOTSTYLE: Pennoni NCS.stb
PLOTTED: 11/13/2025 5:33 PM, BY: Blake Fitzgerald
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1500-CS1506.dwg

ADA PARKING DETAIL NO. 2

SCALE: 1" = 5'



ADA PARKING GRADING DETAIL NO. 2

SCALE: 1" = 5'

0 5' 10'

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8600
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS IV

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

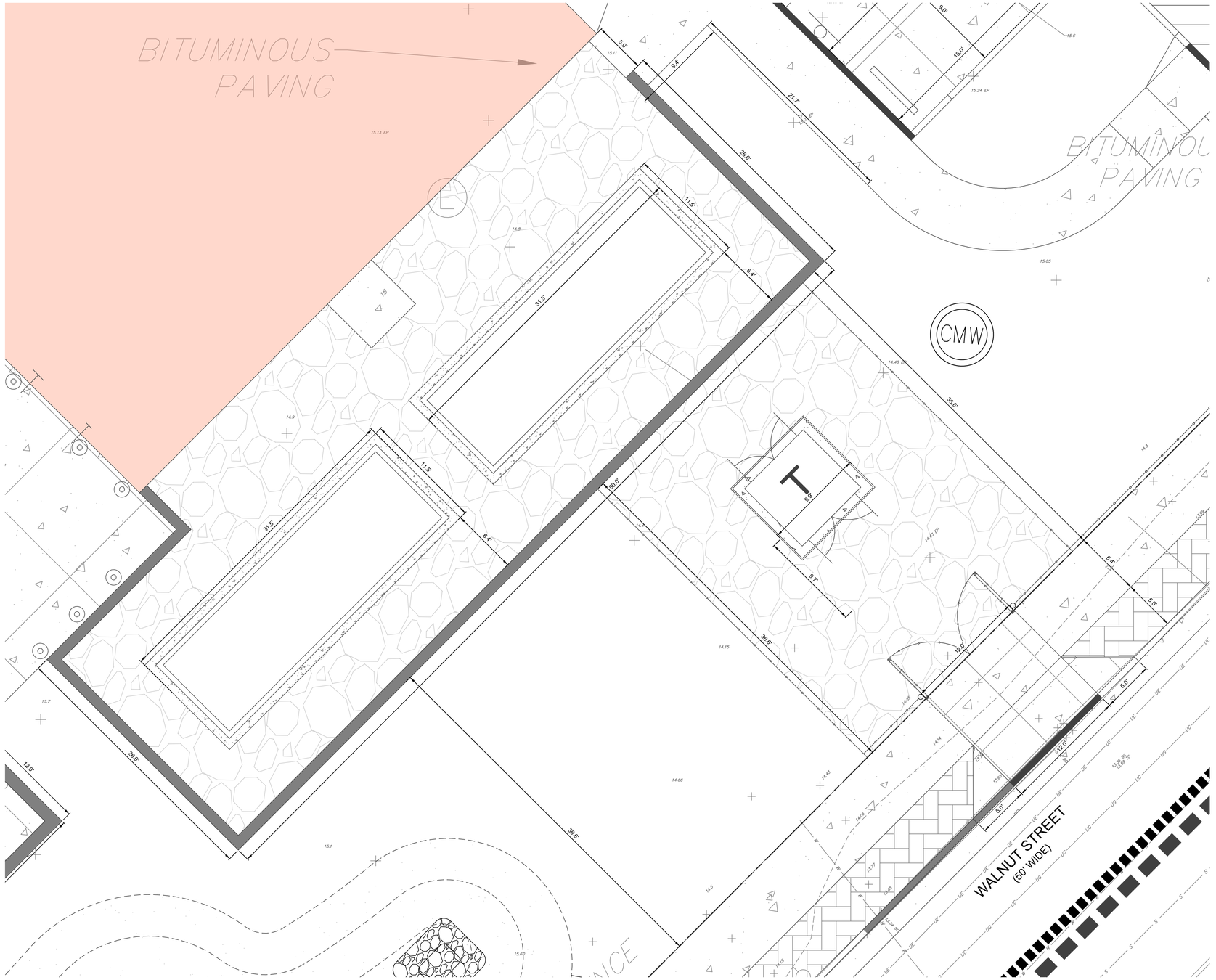
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1505

SHEET 13 OF 45

U:\Accounts\SCHER\SCHER25001 - Cornell Institute Additional Services\DESIGN_SHEETS\CS1500-CS1599.dwg PLOTTED: 11/13/2025 5:34 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS: —



GENERATOR AND TRANSFORMERS LAYOUT DETAIL

SCALE: 1" = 5'

NOT FOR CONSTRUCTION

U:\Accounts\SCHERSCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1500-CS1506.dwg PLOTTED: 11/13/2025 5:34 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni-MCG.ctb PROJECT STATUS: —

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8000
NJ COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS V

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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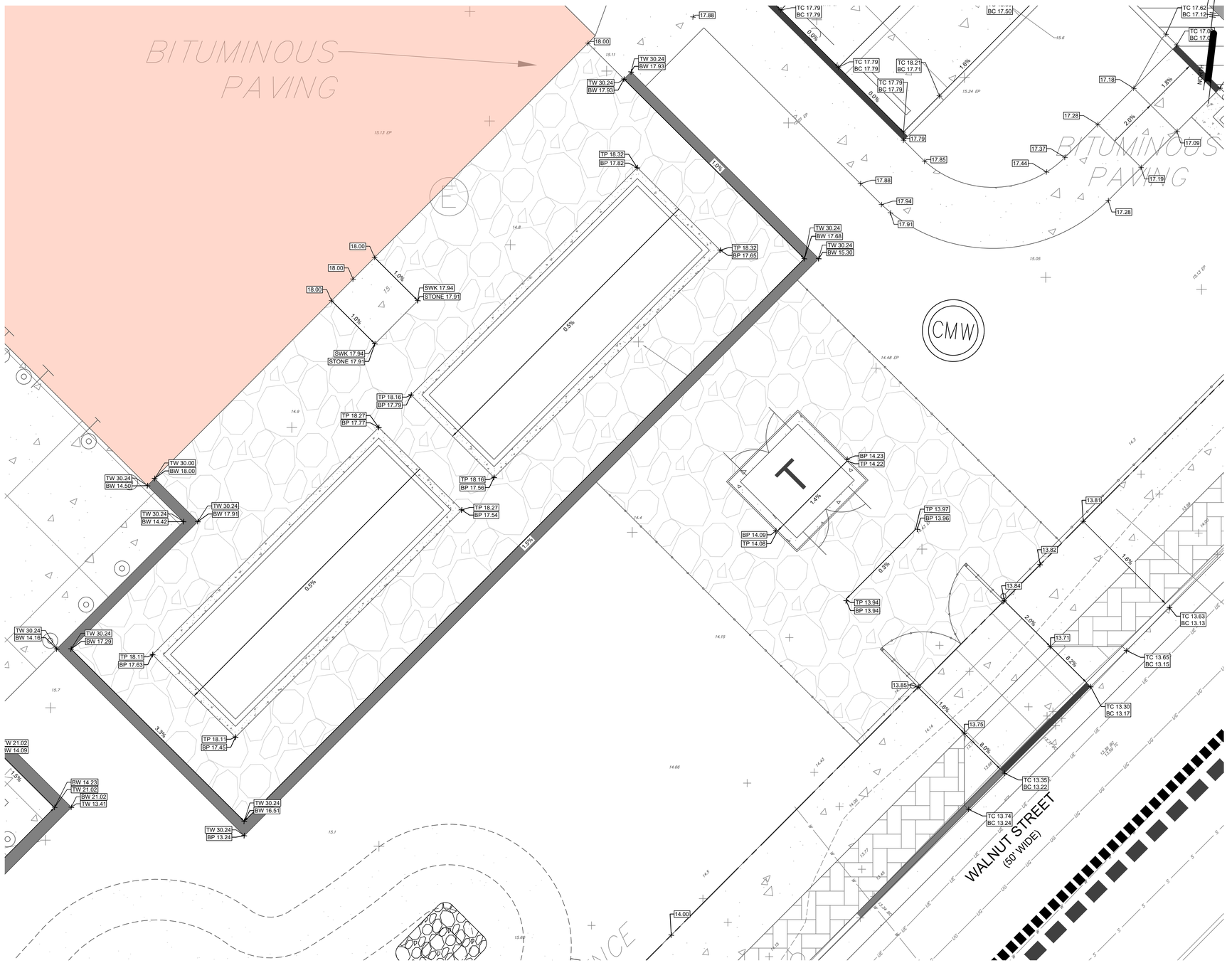
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1506

SHEET 14 OF 45



0 5' 10'

GENERATOR AND TRANSFORMERS GRADING DETAIL

SCALE: 1" = 5'

NOT FOR CONSTRUCTION

PLOTTED: 11/13/2025 5:34 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS: —

U:\Accounts\SCHER\SCHER25001 - Cornell Institute Additional Services\DESIGN_SHEETS\CS1500-CS1509.dwg

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8000
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

GRADING DETAILS VI

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=5'
DRAWN BY	BF
APPROVED BY	JJR

CS1507

SHEET 15 OF 45

PROPOSED NEW GAS SERVICE. CONNECT TO EXISTING GAS VALVE (BY PSE&G)

PROPOSED NEW GAS SERVICE (BY PSE&G)

PINE STREET (70' WIDE)

MEMORIAL AVENUE (45' WIDE)

PRINCESS AVENUE (50' WIDE)

WALNUT STREET (60' WIDE)

LANGHAM AVENUE

KENWOOD AVENUE

PROPOSED BUILDING FF 18.00

I-1 (TYPE 'B')
TC 16.65
GRATE 16.15
INV OUT 13.27 (15" RCP)

I-2 (TYPE 'E')
TC 16.65
GRATE 16.15
INV IN 13.15 (15" RCP)
INV IN 12.85 (15" RCP)
INV IN 13.50 (10" HDPE)
INV OUT 12.85 (15" RCP)

I-2A (TYPE 'B')
TC 17.77
GRATE 17.27
INV IN 13.68 (12" HDPE)
INV OUT 13.43 (15" RCP)

I-3 (TYPE 'B')
TC 17.07
GRATE 16.57
INV IN 12.45 (15" RCP)
INV OUT 12.20 (18" RCP)

HW-1
INV 12.00 (18" RCP)

I-4 (TYPE 'B')
TC 17.88
GRATE 17.38
INV OUT 14.80 (15" RCP)

I-5 (TYPE 'B')
TC 17.88
GRATE 17.38
INV IN 14.58 (15" RCP)
INV OUT 14.58 (15" RCP)

HW-2
INV 14.50 (15" RCP)

FES-1
INV 14.50 (12" HDPE)

FES-2
INV 14.50 (12" HDPE)

I-6 (TYPE 'E')
GRATE 15.64
INV IN 12.35 (15" RCP)
INV OUT 12.35 (15" RCP)

I-7 (TYPE 'B')
TC 15.05
GRATE 14.55
INV IN 12.05 (15" RCP)
INV OUT 12.05 (15" RCP)

FILTERRA-2 IN
RIM 14.58
INV IN 12.00 (15" RCP)

FILTERRA-2 OUT
RIM 14.19
INV OUT 9.81 (15" RCP)

MH-3 (48" DIA.)
RIM 13.83
INV IN 9.77 (15" RCP)
INV OUT 9.71 (15" RCP)

FILTERRA-2 CO
RIM 14.35

FILTERRA-1 CO
RIM 15.22
INV OUT 10.13 (6" PVC)

FILTERRA-1 IN
RIM 15.73

FILTERRA-1 OUT
RIM 14.60
INV OUT 10.13 (15" RCP)

MH-4 (48" DIA.)
RIM 13.46
INV IN 10.04 (15" RCP)
INV OUT 9.10 (15" RCP)
INV OUT 9.00 (15" RCP)

I-8 (TYPE 'B' W/ TRAP)
TC 13.25
GRATE 12.75
INV IN 8.89 (15" RCP)

CO-1
RIM 17.42
INV IN 13.95 (10" HDPE)
INV OUT 13.95 (10" HDPE)

DB-5 (15" DIA.)
GRATE 16.70
INV IN 13.90 (12" HDPE)
INV OUT 13.90 (12" HDPE)

RD-1
INV 14.00 (10" HDPE)

DB-4 (15" DIA.)
GRATE 17.08
INV IN 14.18 (12" HDPE)
INV OUT 14.18 (12" HDPE)

DB-3 (15" DIA.)
GRATE 17.08
INV IN 14.28 (12" HDPE)
INV OUT 14.28 (12" HDPE)

DB-2 (15" DIA.)
GRATE 17.44
INV IN 14.45 (12" HDPE)
INV OUT 14.45 (12" HDPE)

DB-1 (15" DIA.)
GRATE 17.20
INV OUT 14.56 (12" HDPE)

OCS-3 (TYPE 'A')
GRATE 16.50
ORIFICE 15.66 (2.5" DIA.)
INV OUT 12.75 (15" RCP)

OCS-1 (TYPE 'E')
GRATE 14.70
WEIR 13.31 (1' WIDE)
INV OUT 11.52 (18" RCP)

I-10 (TYPE 'B' W/ TRAP)
TC 15.75
GRATE 15.25
INV IN 11.00 (18" RCP)

MH-1 (48" DIA.)
RIM 16.00
INV IN 11.18 (18" RCP)
INV OUT 11.18 (18" RCP)

I-72 (TYPE 'A')
GRATE 14.20
INV OUT 11.75 (12" RCP)

RD-2
INV 13.00 (8" HDPE)

CO-2 CLEANOUT
RIM 17.81
INV IN 12.86 (8" HDPE)
INV OUT 12.86 (8" HDPE)

DB-6 (15" DIA.)
GRATE 16.43
INV OUT 11.36 (12" HDPE)

MH-5A (48" DIA.)
RIM 13.88
INV IN 11.45 (12" RCP)
INV IN 12.47 (8" HDPE)
INV OUT 11.45 (12" HDPE)

MH-5 (48" DIA.)
RIM 13.19
INV IN 11.18 (12" HDPE)
INV IN 11.18 (12" HDPE)
INV OUT 11.18 (12" HDPE)

HW-3
INV 11.00 (12" HDPE)

OCS-2 (TYPE 'E')
GRATE 12.80
WEIR 12.37 (0.83' WIDE)
INV OUT 10.00 (15" RCP)

MH-2 (48" DIA.)
RIM 14.18
INV IN 9.65 (15" RCP)
INV OUT 9.65 (15" RCP)

I-9 (TYPE 'B' W/TRAP)
TC 14.32
GRATE 13.82
INV IN 9.48 (15" RCP)

NO PARKING SIGN

CHAIN LINK FENCE

CHAIN LINK FENCE ALONG PROPERTY LINE

INLET A
GR 18.85
INV 15.95

INLET A
GR 17.88
INV 16.88 (TH)
INV 12.48 (SUMP)

SMH
RIM 16.30
INV 11.30 (SE)
INV 8.80 (E)(W)

INLET A
GR 15.94
INV 14.24 (TH)
INV 9.94 (SUMP)

INLET A
GR 15.22
INV 14.22(TH)
INV 11.52 (SUMP)

INLET A
GR 15.23
INV 13.93 (TH)
INV 10.93 (SUMP)

INLET A
GR 15.09
INV 12.59 (NE)

SMH
RIM 15.43
INV 9.93 (N)(NW)
INV 9.83 (SE)

INLET A
GR 12.60
INV 10.40 (TH)
INV 6.60 (SUMP)

INLET A
GR 12.61
INV 6.91 (SUMP)
(NO PIPES)

SMH
RIM 12.72
INV 6.72

SMH
RIM 14.03
INV 7.43

SMH
RIM 13.91

TRENCH DRAIN
CURB OPENING
ELEV 13.62

TRENCH DRAIN
GR 14.21

STOP SIGN

ONE WAY SIGN

STREET SIGN

NORTH

DRAINAGE AND UTILITY LEGEND:

- PROPOSED RCP PIPE
- PROPOSED INLET
- PROPOSED MANHOLE
- PROPOSED FILTERRA
- PROPOSED DRAIN BASIN
- PROPOSED HEADWALL
- E — PROPOSED ELECTRICAL LINE
- UG — UNDERGROUND GAS LINE
- W — WATER LINE
- S — SEWER LINE
- CLEANOUT
- LIMIT OF DISTURBANCE
- EASEMENT LINE

0 30' 60'

NOT FOR CONSTRUCTION

U:\Accounts\SCHERS\CH4ERS25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1701.dwg PLOTTED: 11/13/2025 5:34 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS: —

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

DRAINAGE PLAN

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS1701

SHEET 16 OF 45

PROPOSED NEW GAS SERVICE. CONNECT TO EXISTING GAS VALVE (BY PSE&G)

PROPOSED NEW GAS SERVICE (BY PSE&G)

PINE STREET (70' WIDE)

MEMORIAL AVENUE (45' WIDE)

PRINCESS AVENUE (70' WIDE)

WALNUT STREET (50' WIDE)

KENWOOD AVENUE

PROPOSED FIRE DEPARTMENT CONNECTION (FDC) (SEE MEP PLANS)

FIRE HYDRANT (INCLUDES 6" CL56DIP & VALVE ASSEMBLY)

CONNECT TO EXIST. 12" WATERMAIN (WET TAP) - INSTALL 6" TAPPING VALVE (CLDIP) AND TAPPING SLEEVE (CONTRACTOR TO PERFORM TEST PIT TO FIELD VERIFY EXISTING PIPE SIZE AND DEPTH)

5 LF 6" PVC @ 0.012 FT/FT

CO-1
RIM 17.30
INV IN 11.44 (6" PVC)
INV OUT 11.44 (6" PVC)

CO-3 (W/ CHECK VALVE)
RIM 15.55
INV IN 10.90 (6" PVC)
INV OUT 10.90 (6" PVC)

PROPOSED BUILDING
FF 18.00

PROPOSED FIRE DEPARTMENT CONNECTION (FDC) (SEE MEP PLANS)

6"X6" TEE WITH 2-GATE VALVES (CLDIP) WITH VALVE BOX (CLOW OR APPROVED EQUAL)

6" CL.56 CLDIP FIRE SERVICE - BACKFLOW PREVENTER AND METER INSIDE BLDG. (SEE MEP PLANS FOR CONTINUATION INTO BLDG.)

3" CL.56 CLDIP DOMESTIC WATER SERVICE - BACKFLOW PREVENTER AND METER INSIDE BLDG. (SEE MEP PLANS FOR CONTINUATION INTO BLDG.)

90° BEND WITH 3" GATE VALVE (CLDIP) WITH VALVE BOX (CLOW OR APPROVED EQUAL)

NEW GAS SERVICE. (PSE&G REQUIRES 15'X4' METER SET SEE MEP PLANS FOR CONTINUATION INTO BLDG.)

GENERATOR (SEE MEP PLANS)

PROPOSED 2-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED UNDERGROUND COMMUNICATION

PROPOSED 20-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED ELECTRIC HANDHOLE (PEDESTRIAN)

PROPOSED 10-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED 8-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED GENERATOR DOCKING STATION (SEE MEP PLANS)

45° BEND

PROPOSED 6" CURB GATE VALVE (CL56DIP) WITH VALVE BOX (CLOW OR APPROVED EQUAL)

6"X6" TEE (CLDIP 56)

FIRE HYDRANT (INCLUDES 6" CL56 CLDIP & VALVE ASSEMBLY)

PROPOSED 2-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK) (CONTRACTOR TO COORDINATE WITH PSE&G)

PROPOSED 20-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK)

PROPOSED 10-4" DIA. CONDUIT (SCH.40 GRAY PVC DUCTBANK) (CONTRACTOR TO COORDINATE WITH PSE&G)

PROPOSED TRANSFORMER (BY PSE&G): CONTRACTOR TO INSTALL 98" X 96" X 12" THICK CONCRETE PAD (TO BE COORDINATED WITH PSE&G)

CONTRACTOR TO REMOVE EXISTING HYDRANT & REPLACE WITH NEW FIRE HYDRANT (INSTALL NEW 6" CL56DIP AND VALVE ASSEMBLY)

CONNECT TO EXIST. 12" WATERMAIN (WET TAP) - INSTALL 6" TAPPING VALVE (CLDIP) AND TAPPING SLEEVE (CONTRACTOR TO PERFORM TEST PIT TO FIELD VERIFY EXISTING PIPE SIZE AND DEPTH)

PROPOSED 6" CL56DIP FIRE & DOMESTIC WATER SERVICE

EXISTING UTILITY POLE #67187 TO BE REMOVED AND REPLACED WITH NEW POLE (BY PSE&G)

PROPOSED 6" GATE VALVE AND CURB GATE VALVE (CL56DIP) WITH VALVE BOX (CLOW OR APPROVED EQUAL)

EXISTING OVERHEAD ELEC. WIRE TO BE REMOVED. NEW PRIMARY OVERHEAD ELEC. WIRE TO BE INSTALLED BY PSE&G.

EXISTING UTILITY POLE #62031 (MAINTAIN AND PROTECT).

CONNECT TO EXIST. 12" WATERMAIN (WET TAP) - INSTALL 6" TAPPING VALVE (CLDIP) AND TAPPING SLEEVE (CONTRACTOR TO PERFORM TEST PIT TO FIELD VERIFY EXISTING PIPE SIZE AND DEPTH)

NOT FOR CONSTRUCTION

UTILITY LEGEND:

- E — UNDERGROUND ELECTRIC LINE
- UG — UNDERGROUND GAS LINE
- UC — UNDERGROUND COMMUNICATION LINE
- W — WATER LINE
- S — SEWER LINE

0 30' 60'

NORTH

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

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JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

UTILITY PLAN

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS1702

SHEET 17 OF 45

U:\Accounts\SCHER\ORD\R25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS1702.dwg PLOTTED: 11/13/2025 5:55 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —

PINE STREET
(70' WIDE)

MEMORIAL AVENUE
(45' WIDE)

PRINCESS AVENUE
(70' WIDE)

KENWOOD AVENUE

WALNUT STREET
(60' WIDE)

290.0'

335.0'

PROPOSED BUILDING

CONSTRUCT SOD LAWN AREA: 6" THICK TOPSOIL (TYP)

CONSTRUCT SOD LAWN AREA: 6" THICK TOPSOIL (TYP) SEE CS2002 FOR BID ALTERNATE NO.1 LANDSCAPING

ALTERNATE BID: CONSTRUCT PLANT BED: 12" THICK TOPSOIL (TYP)

CONSTRUCT PLANT BED: 12" THICK TOPSOIL (TYP)

PHASE 2: 9' DIA. MULCH BED, 3" THICK (TYP)

3" THICK MULCH BED (TYP)

CONSTRUCT PLANT BUFFER BED: 24" THICK TOPSOIL (TYP)

CONSTRUCT TREE PIT: 24" THICK PLANTING SOIL (TYP)

1 ACQ (STREET TREE) W/ROOT BARRIER

BIORETENTION/RAIN GARDEN #1: REFER TO SHEET CS2002

BIORETENTION/RAIN GARDEN #2: REFER TO SHEET CS2002

MULCH BED LINE (TYP)

CHAIN LINK FENCE

NO PARKING SIGN

STOP SIGN

ONE WAY SIGN

STREET SIGN

NORTH

LANDSCAPE LEGEND (PHASE 1)

- SHADE/FLOWERING TREE (2.5" CAL.)
- SHADE PARKING LOT TREE (3" CAL.)
- EVERGREEN TREE
- CLUMP FLOWERING TREE
- EVERGREEN SHRUB
- FLOWERING SHRUB
- ORNAMENTAL GRASS
- PERENNIAL
- SIGHT TRIANGLE

NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. ROAD AND SIDEWALK WORK LOCATED INSIDE R.O.W. MUST BE DONE IN ACCORDANCE WITH CITY OF CAMDEN ORDINANCE.

SIGHT DISTANCE NOTES:

SIGHT DISTANCE HAS BEEN CALCULATED USING THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

1. DESIGN INTERSECTION SIGHT DISTANCE FOR A PASSENGER CAR - RIGHT TURN FROM STOP @ 30 MPH IS 290 FT.
2. DESIGN INTERSECTION SIGHT DISTANCE FOR A PASSENGER CAR - LEFT TURN FROM STOP @ 30 MPH IS 335 FT.

0 30' 60'

NOT FOR CONSTRUCTION

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS2001.dwg PLOTTED: 11/13/2025 5:58 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni-MCS.stb PROJECT STATUS: —

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5888
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LANDSCAPE PLAN (PHASE 1)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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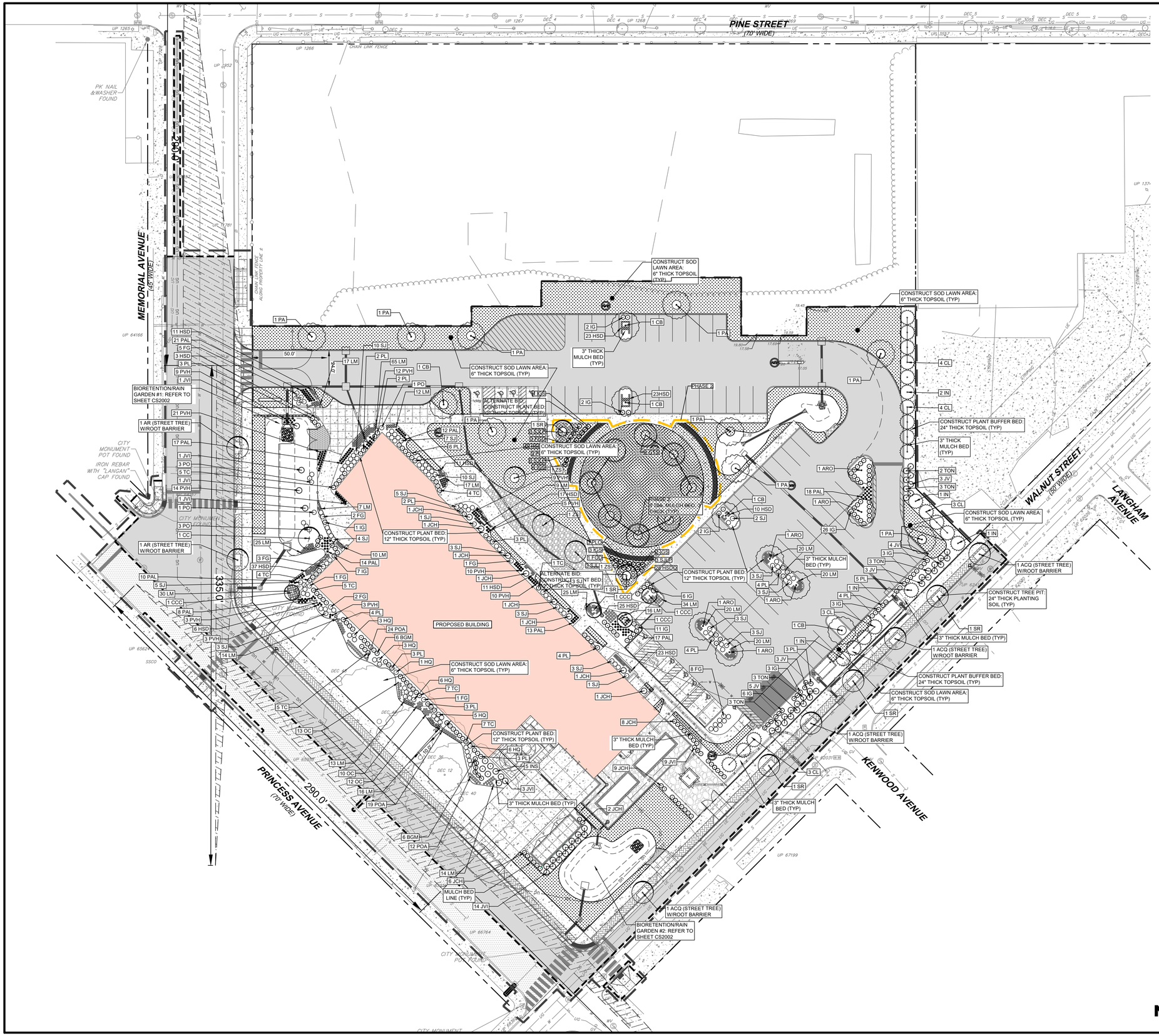
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS2001

SHEET 18 OF 45



LANDSCAPE LEGEND (PHASE 1)

- SHADE/FLOWERING TREE (2.5" CAL.)
- SHADE PARKING LOT TREE (3" CAL.)
- EVERGREEN TREE
- CLUMP FLOWERING TREE
- EVERGREEN SHRUB
- FLOWERING SHRUB
- ORNAMENTAL GRASS
- PERENNIAL
- SIGHT TRIANGLE

LANDSCAPE LEGEND (PHASE 2)

- SHADE TREE
- EVERGREEN SHRUB
- FLOWERING SHRUB
- PERENNIAL
- PHASE 2

NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. ROAD AND SIDEWALK WORK LOCATED INSIDE R.O.W. MUST BE DONE IN ACCORDANCE WITH CITY OF CAMDEN ORDINANCE.

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5888
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LANDSCAPE PLAN (PHASE 1 + PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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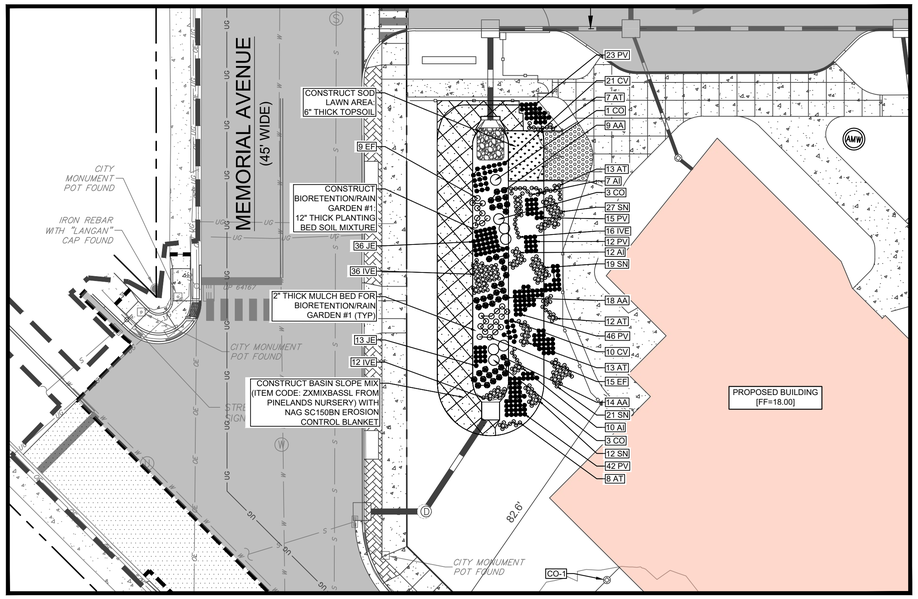
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

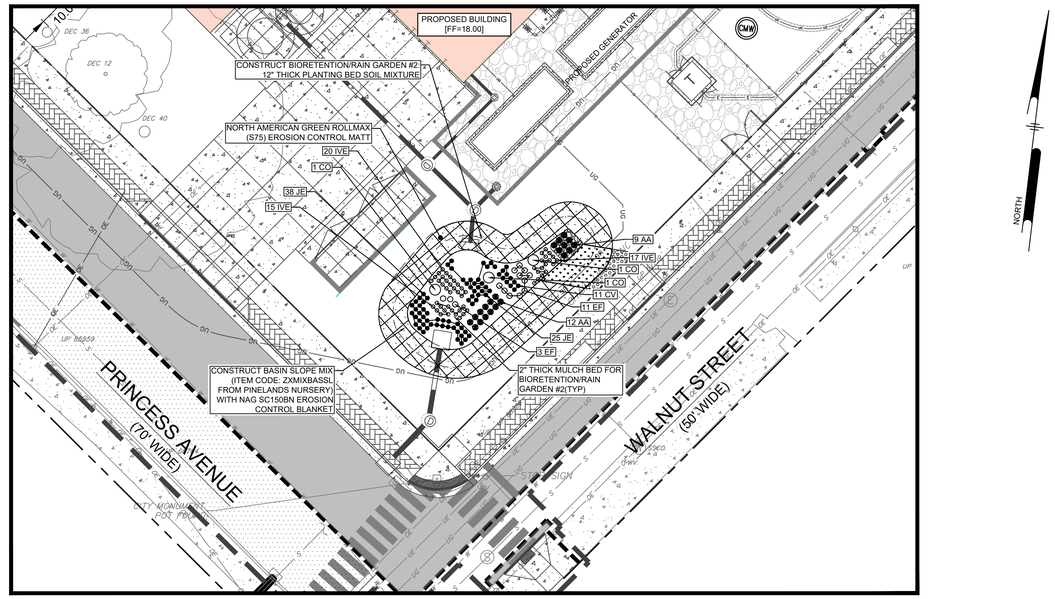
CS2002

SHEET 19 OF 45

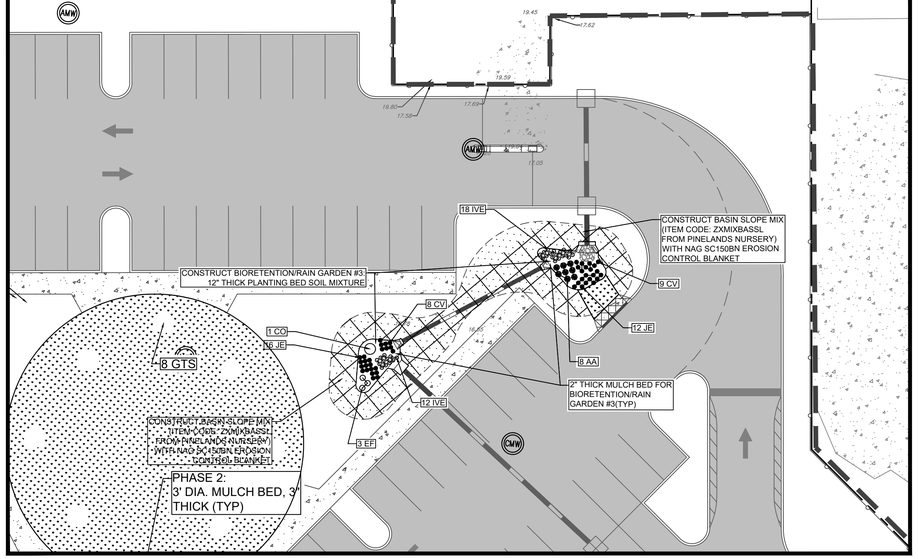
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\05DESIGN_SHEETS\CS2002.dwg PLOTTED: 11/13/2025 5:56 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —



BIORETENTION BASIN NO.1
SCALE: 1"=20'



BIORETENTION BASIN NO.2
SCALE: 1"=20'



BIORETENTION BASIN NO.3
SCALE: 1"=20'

LANDSCAPE LEGEND (BIORETENTION BASIN)

- EVERGREEN TREE
- FLOWERING SHRUB
- ORNAMENTAL GRASS
- PERENNIAL

0 20' 40'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. CA NO. GA28033300

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11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LANDSCAPE PLAN DETAILS
(PHASE 1)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=20'
DRAWN BY	BF
APPROVED BY	JJR

CS2003

SHEET 20 OF 45

PLOTTED: 11/13/2025 5:36 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —
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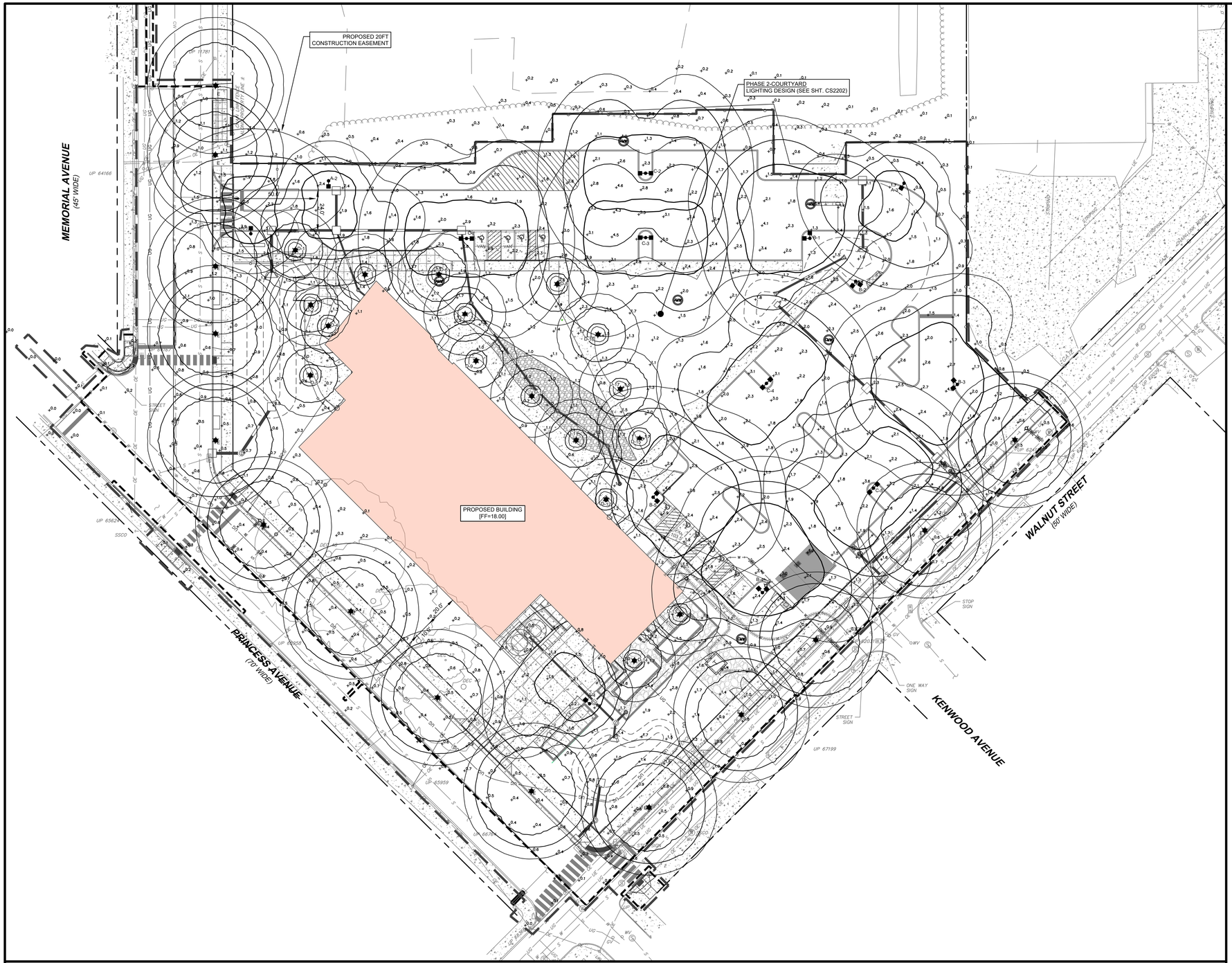

NORTH

SITE LIGHTING – POLE HEIGHTS

FIXTURE	FINISHED GRADE EL.	TOP OF FOUNDATION EL.	POLE HT.	TOP OF POLE EL.
A–1	17.08	17.58	18	35.58
A–2	16.75	17.25	18	35.25
A–3	18.14	18.64	16	34.64
A–4	14.00	14.50	20	34.50
B–1	18.03	18.53	16	34.53
B–2	17.02	17.52	18	35.52
B–3	16.35	16.85	18	34.85
B–4	17.86	18.36	16	34.36
B–5	17.61	18.01	16	34.01
C–1	17.89	18.39	16	34.39
C–2	19.55	20.05	14	35.05
C–3	19.65	20.15	14	35.15
C–4	17.62	18.12	16	34.12
C–5	16.33	16.83	18	34.83
D–1	16.77	17.27	16	33.27
D–2	16.99	17.49	16	33.49
D–3	16.92	17.42	16	33.42
D–4	17.43	17.93	16	33.93
D–5	17.55	18.05	16	34.05
D–6	17.42	17.92	16	33.92
D–7	17.09	17.59	16	33.59
D–8	18.78	19.28	14	33.28
D–9	17.88	18.38	14	32.38
D–10	17.17	17.25	16	33.25
D–11	17.75	17.83	16	33.83
D–12	17.90	18.40	14	32.40
D–13	17.86	18.36	14	32.36
D–14	17.70	18.20	16	34.20
D–15	18.18	18.68	14	32.68
D–16	19.02	19.52	14	33.52
D–17	18.41	18.91	14	32.91

NOTE: CONTRACTOR TO FIELD VERIFY ALL ELEVATIONS AND POLE HEIGHTS.

Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Description	Lamp Output	LLF	Input Power
	A	4	Cyclone Lighting	BECSxA–FGC–T4–P40–30K w/20' Cyclone PAL50 pole	Tribeca	7094	0.9	59.59553
	B	5	Cyclone Lighting	BECSxA–FGC–T4–P40–30K w/20' Cyclone PAL50 pole	Tribeca	7094	0.9	119.1911
	C	6	Cyclone Lighting	BECSxA–FGC–T4–P40–30K w/20' Cyclone PAL50 pole	Tribeca	7094	0.9	119.1911
	D	20	Cyclone Lighting	ZC4–16–P40–3K	Zen	13	0.9	54
	E	14	Holophane	GVD3 P20 30K XXXX GL5 FC w/Holophane 12' OSA Pole	GranVille Gen3, P20 Performance Package, 3000K, Type 5 distribution with Full Cover	5356	0.9	39

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking and Drive Areas	+	2.2 fc	4.6 fc	0.9 fc	5.1:1	2.4:1
Pedestrian Walkway	+	1.6 fc	3.9 fc	0.5 fc	7.8:1	3.2:1
Security Area	+	1.6 fc	2.9 fc	0.9 fc	3.2:1	1.8:1
Site	+	1.3 fc	4.6 fc	0.0 fc	N/A	N/A
Street Lighting Area	+	0.9 fc	2.4 fc	0.4 fc	6.0:1	2.3:1
Loading Area	+	1.2 fc	2.7 fc	0.6 fc	4.5:1	2.0:1

NOTE:

SEE SHEET CS2202 FOR SITE LIGHTING CONDUIT LAYOUT.

0 30' 60'

NOT FOR CONSTRUCTION

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.669.5400
NJ. CA NO. GA28033300

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LIGHTING PLAN (PHASE 1)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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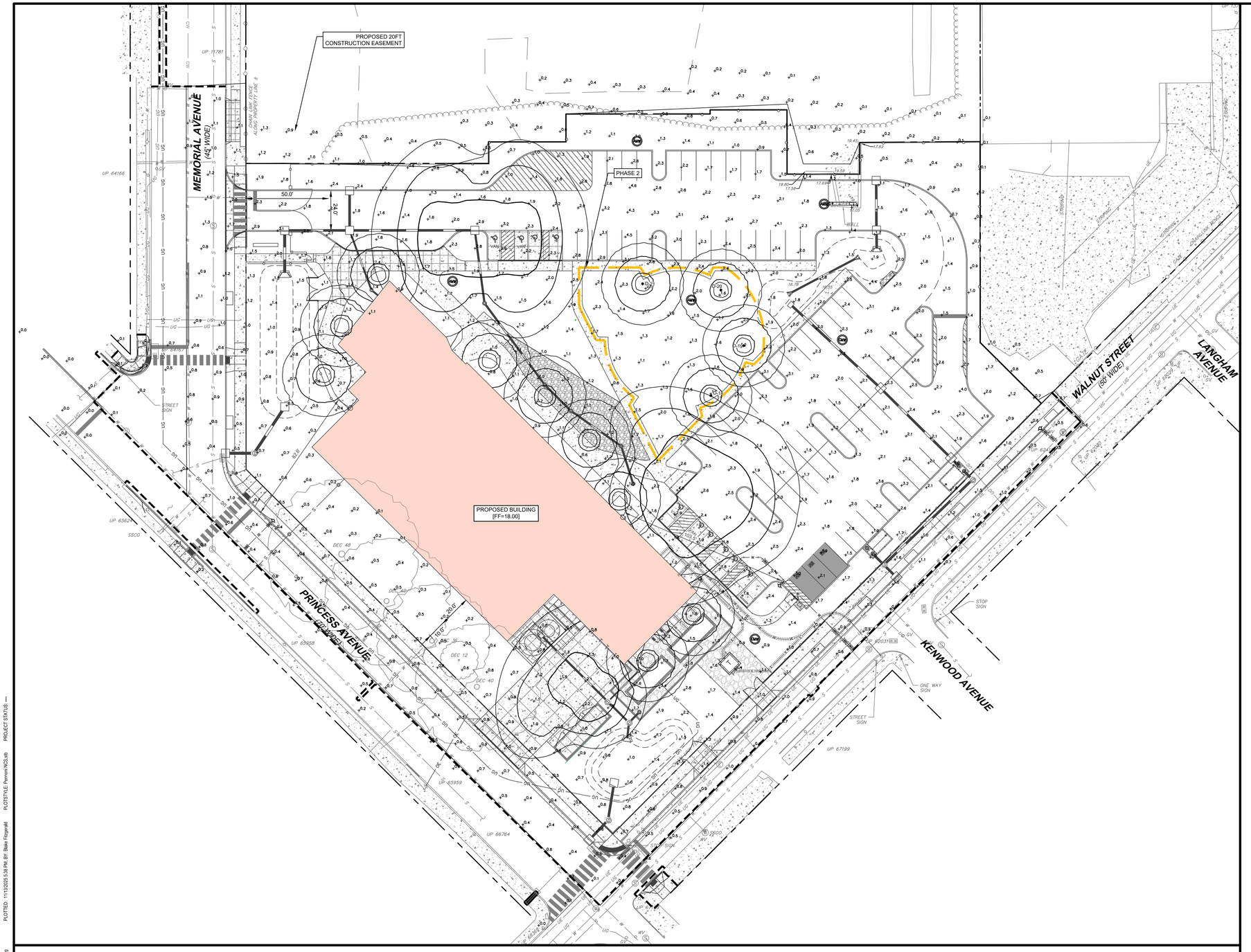
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS2201

SHEET 21 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS2201.dwg PLOTTED: 11/13/2025 5:37 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



SITE LIGHTING – POLE HEIGHTS

FIXTURE	FINISHED GRADE EL.	TOP OF FOUNDATION EL.	POLE HT.	TOP OF POLE EL.
A–1	17.08	17.58	18	35.58
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C–1	17.89	18.39	16	34.39
C–2	19.55	20.05	14	35.05
C–3	19.65	20.15	14	35.15
C–4	17.62	18.12	16	34.12
C–5	16.33	16.83	18	34.83
D–1	16.77	17.27	16	33.27
D–2	16.99	17.49	16	33.49
D–3	16.92	17.42	16	33.42
D–4	17.43	17.93	16	33.93
D–5	17.55	18.05	16	34.05
D–6	17.42	17.92	16	33.92
D–7	17.09	17.59	16	33.59
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D–11	17.75	17.83	16	33.83
D–12	17.90	18.40	14	32.40
D–13	17.86	18.36	14	32.36
D–14	17.70	18.20	16	34.20
D–15	18.18	18.68	14	32.68
D–16	19.02	19.52	14	33.52
D–17	18.41	18.91	14	32.91
D–18	17.50	18.00	16	34.00
D–19	18.18	18.68	14	32.68
D–20	19.20	19.70	14	33.70
D–21	19.63	20.13	14	34.13

NOTE: CONTRACTOR TO FIELD VERIFY ALL ELEVATIONS AND POLE HEIGHTS.

LIGHTING LEGEND:

- LIGHT FIXTURE D
- PHASE 2

NOTE:

SEE SHEET CS2203 FOR SITE LIGHTING CONDUIT LAYOUT.

0 30' 60'

NOT FOR CONSTRUCTION

Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Description	Lamp Output	LLF	Input Power
*	D	4	Cyclone Lighting	ZC4-16-P40-3K	Zen	13	0.9	54

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking and Drive Areas	+	2.2 fc	4.6 fc	0.9 fc	5.1:1	2.4:1
Pedestrian Walkway	+	1.6 fc	3.9 fc	0.5 fc	7.8:1	3.2:1
Security Area	+	1.6 fc	2.9 fc	0.9 fc	3.2:1	1.8:1
Site	+	1.3 fc	4.6 fc	0.0 fc	N/A	N/A
Street Lighting Area	+	0.9 fc	2.4 fc	0.4 fc	6.0:1	2.3:1
Loading Area	+	1.2 fc	2.7 fc	0.6 fc	4.5:1	2.0:1

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.669.8000
NJ. CA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LIGHTING PLAN (PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS2202

SHEET 22 OF 45

PLOTTED: 11/13/2025 5:38 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —
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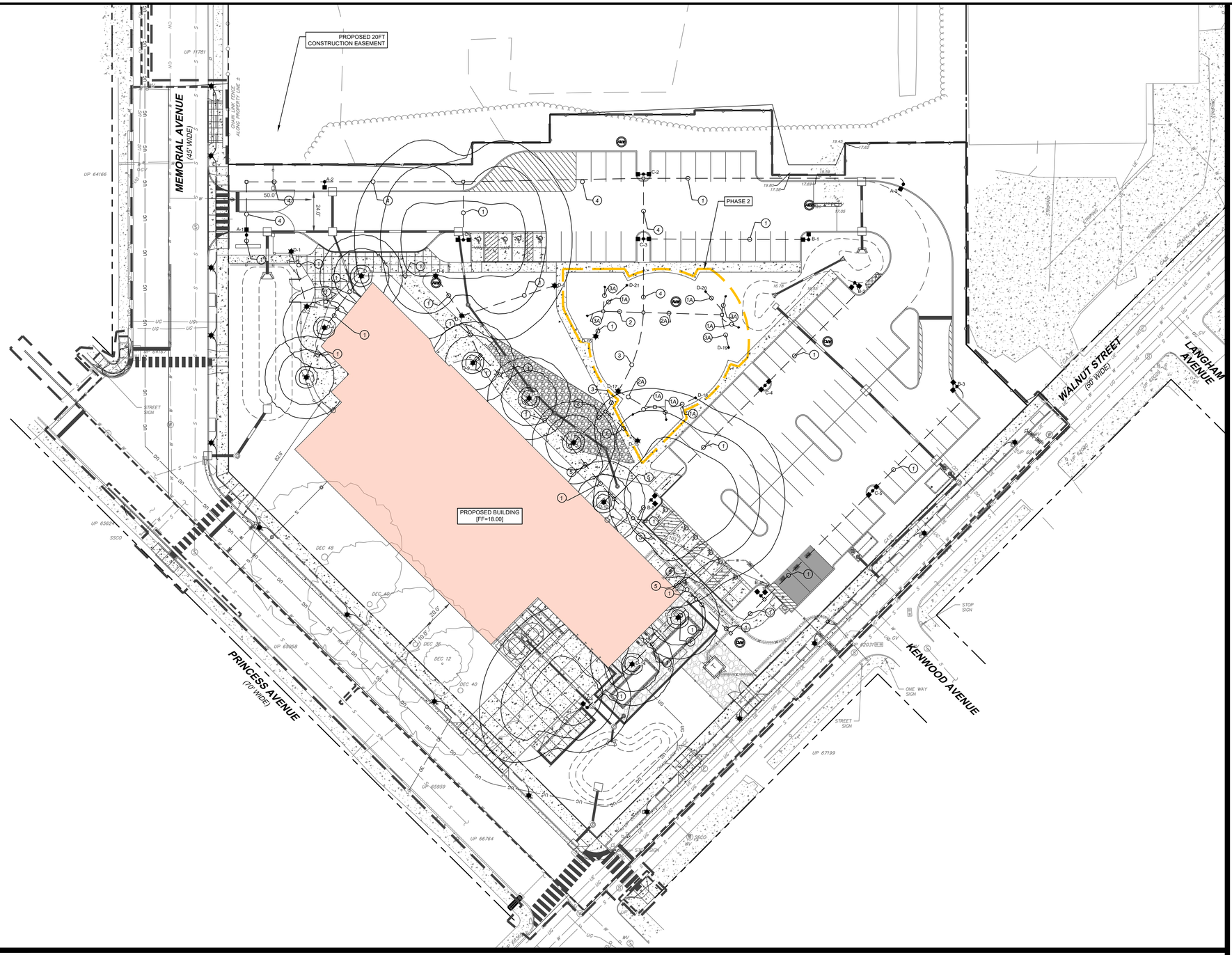

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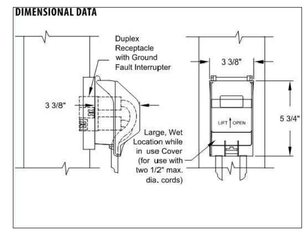

Receptacle with Large, In-Use Wet Location Cover

Specifications

A 20 amp, 125 volt, ground fault circuit interrupter duplex receptacle shall be mounted to the post. The receptacle shall be UL Listed according to E-8380 and UL 943 Class A and UL 498. The receptacle shall have a cast aluminum, lockable, UL Listed cover that is suitable for wet locations while in use and complies with NEC Article 410-57(b). The cover shall accept most common cord sets up to 1/2" diameter (12/3). The receptacle and cover shall mount to an outlet opening, on the post shaft, with a gasket and stainless steel screws.

Series	XXX Finish			
GUL XX	BK	Black	GN	Green
	BZ	Bronze	PP	Prime Paint
	DB	Dark Blue	RALxxxxSDCR	RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number.
	DG	Dark Green	SL	Silver
	GH	Graphite	WH	White

NOTES:

1. CONTRACTOR TO USE AS AN EXAMPLE FOR RECEPTACLES ON LIGHT POLES ON THE PARKING LOT.

POLE RECEPTACLE DETAIL

N.T.S

SITE CONDUIT LEGEND:

- ELECTRICAL HANDHOLE
- (1) 1 - 1 1/4" SCH. 40 PVC CONDUIT [DIRECT BURY]
  (1) CONDUIT TO NEW LIGHTING [ELEC]: 277 V
- (2) 2 - 1 1/4" SCH. 40 PVC CONDUIT [DIRECT BURY]
  (1) CONDUIT TO NEW LIGHTING [ELEC]: 277
  (1) CONDUIT TO OUTDOOR RECEPTACLE [ELEC]: 125 V
- (3) 1 - 1 1/4" SCH. 40 PVC CONDUIT [DIRECT BURY]
  (1) CONDUIT TO NEW LIGHTING [ELEC]: 277 V
  (1) CONDUIT TO OUTDOOR RECEPTACLE [ELEC]: 277 V
  (1) CONDUIT TO NEW MONUMENT [ELEC]: 277 V
- (4) 2 - 1 1/4" SCH. 40 PVC CONDUIT [DIRECT BURY]
  (1) CONDUIT TO NEW LIGHTING [ELEC]: 277 V
  (1) CONDUIT NEW MONUMENT SIGN [ELECT]: 277 V
- (5) 4- 2" SCH. 40 PVC CONDUIT [ELEC] [DIRECT BURY]

SITE CONDUIT LEGEND (BID ALTERNATE NO.1):

- COMMUNICATION HANDHOLE
- (1A) 1 - 1 1/4" SCH. 40 PVC CONDUIT [DIRECT BURY]
  (1) CONDUIT TO NEW LIGHTING [ELEC]: 277 V
- (2A) 2 - 1 1/4" SCH. 40 PVC CONDUIT [DIRECT BURY]
  (1) CONDUIT TO NEW LIGHTING [ELEC]: 277
  (1) CONDUIT TO OUTDOOR RECEPTACLE [ELEC]: 125 V
- (3A) 1 - 1 1/4" SCH. 40 PVC CONDUIT [DIRECT BURY]
  (1) CONDUIT TO OUTDOOR RECEPTACLE [ELEC]: 125 V

NOTES:

1. SEE SHEETS CS0002 & CS0003 FOR GENERAL NOTES.
2. PARKING LOT LIGHTS TO INCLUDE A RECEPTACLE WITH LARGE IN-USE WET LOCATION COVER. THE COVER CONTRACTOR TO SUBMIT SHOP DRAWING SUBMITTAL TO ENGINEER AND ARCHITECT FOR APPROVAL.
3. EACH (A-TYPE, B-TYPE, & C-TYPE) LIGHT POLE FOUNDATION IS TO BE PAINTED. CONTRACTOR TO SUBMIT COLOR CHOICE PALLET WITH SHOP DRAWING SUBMITTAL TO ENGINEER AND ARCHITECT FOR APPROVAL.

0 30' 60'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
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Camden, NJ 08103
T 856.669.8600
NJ. COA NO. GA28033300

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JOSEPH RADAY
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NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LIGHTING PLAN - CONDUIT LAYOUT (PHASE 1 + PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
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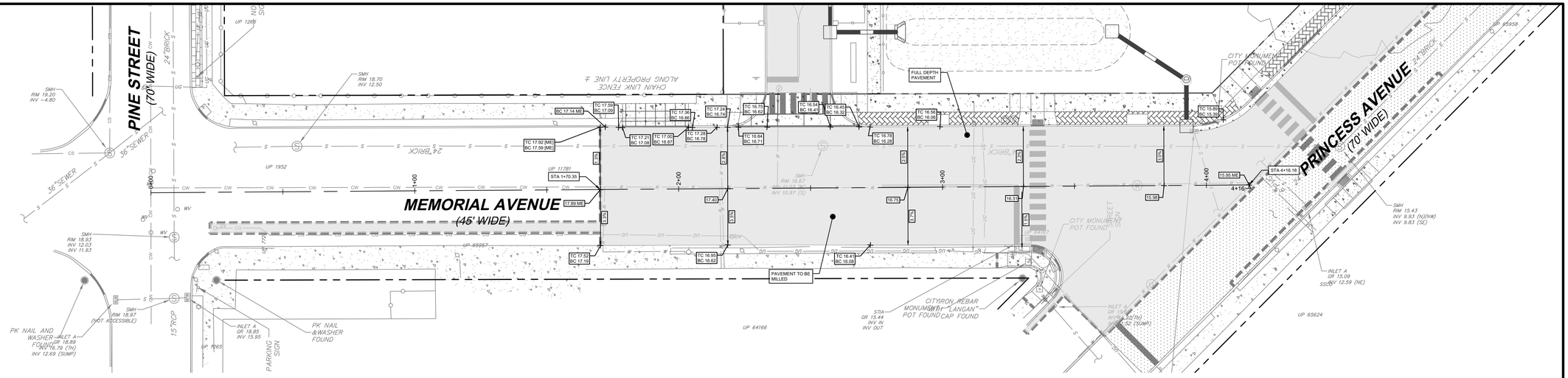
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS2203

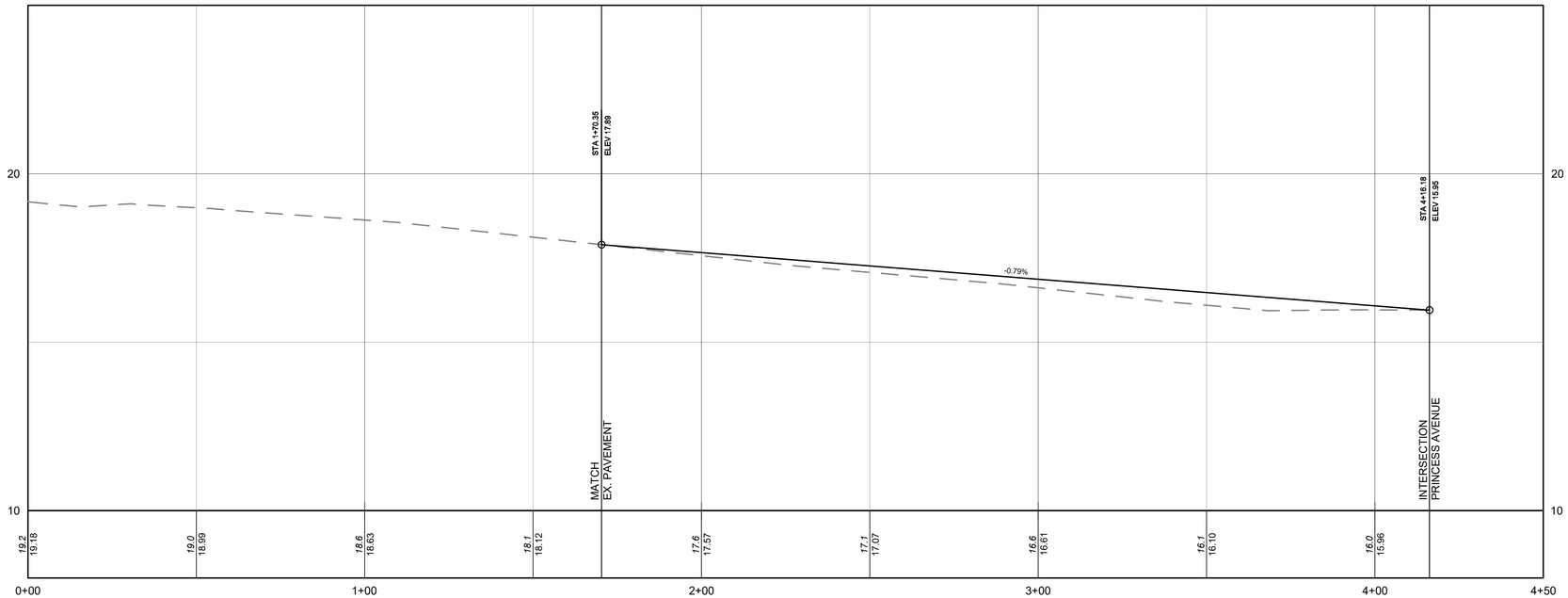
SHEET 23 OF 45

PLOTTED: 11/13/2025 5:38 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS: —
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS2203.dwg



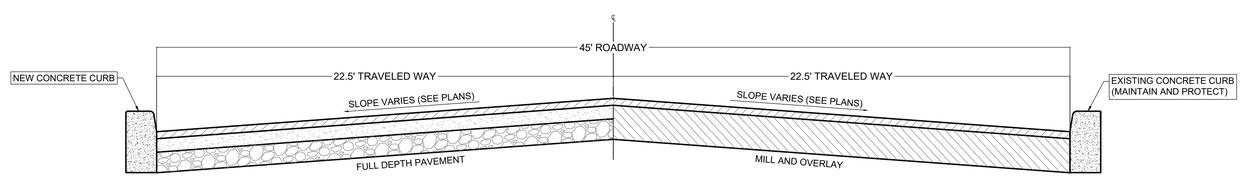
PLAN VIEW

SCALE: 1"=20'



MEMORIAL AVENUE CENTER LINE PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



TYPICAL ROAD CROSS SECTION (MEMORIAL AVENUE)

N.T.S.

HORIZONTAL: 1" = 20'

VERTICAL: 1" = 2'

0 20' 40'

0 2' 4'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

ROAD PROFILES - MEMORIAL AVENUE

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

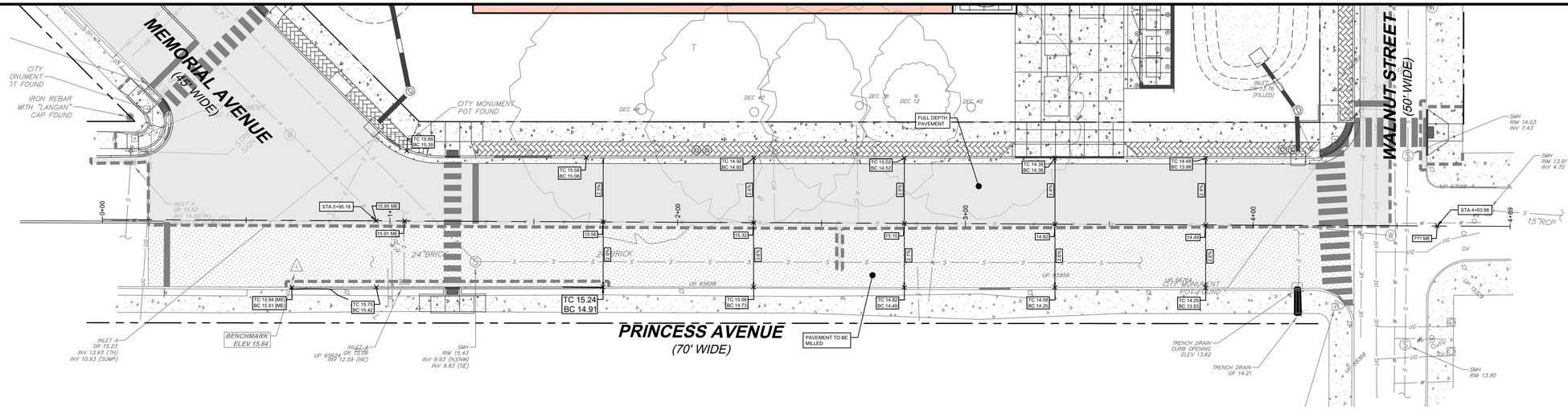
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

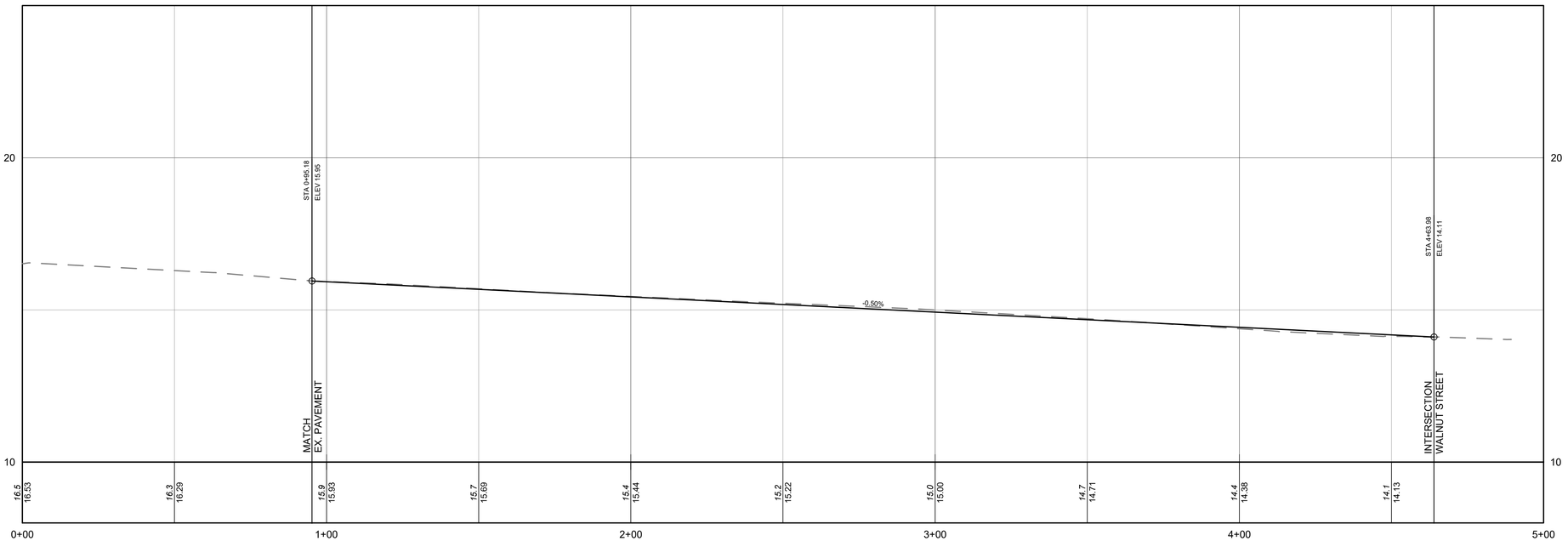
CS3501

SHEET 24 OF 45

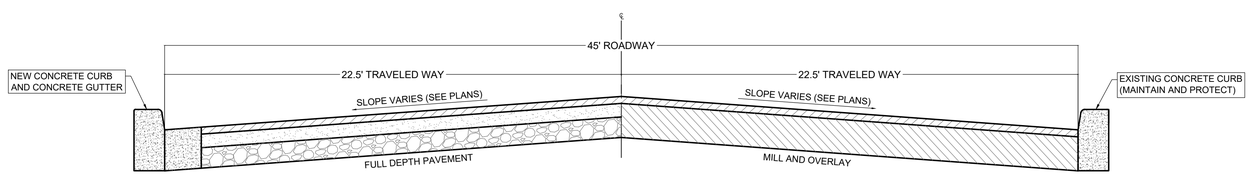
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS3501.dwg PLOTTED: 11/13/2025 5:39 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



PLAN VIEW
SCALE: 1"=30'



PRINCESS AVENUE CENTER LINE PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



TYPICAL ROAD CROSS SECTION (PRINCESS AVENUE)
N.T.S.

HORIZONTAL: 1" = 20'

VERTICAL: 1" = 2'

0 20' 40'

0 2' 4'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

ROAD PROFILES - PRINCESS AVENUE

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
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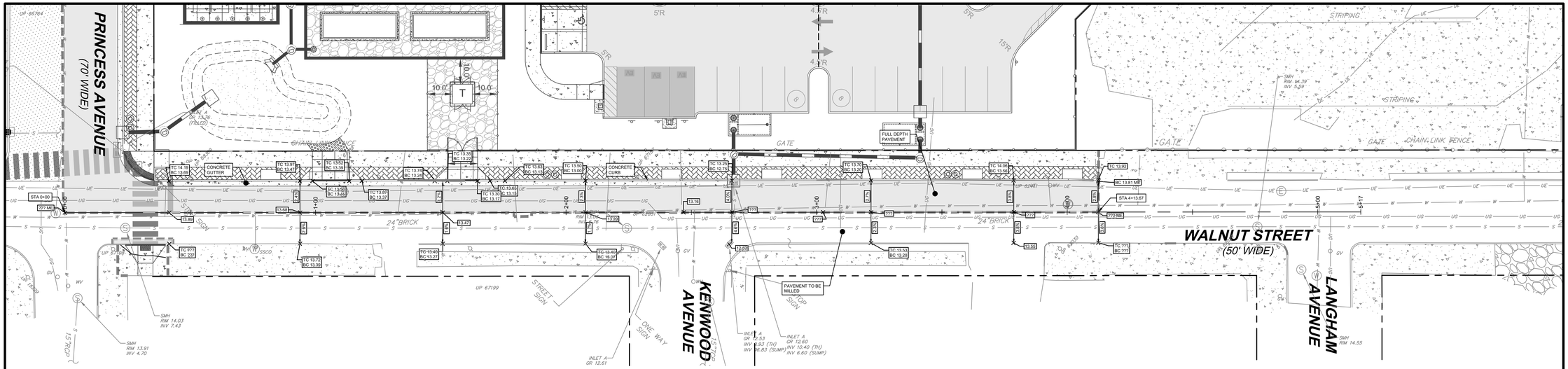
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=20'
DRAWN BY	BF
APPROVED BY	JJR

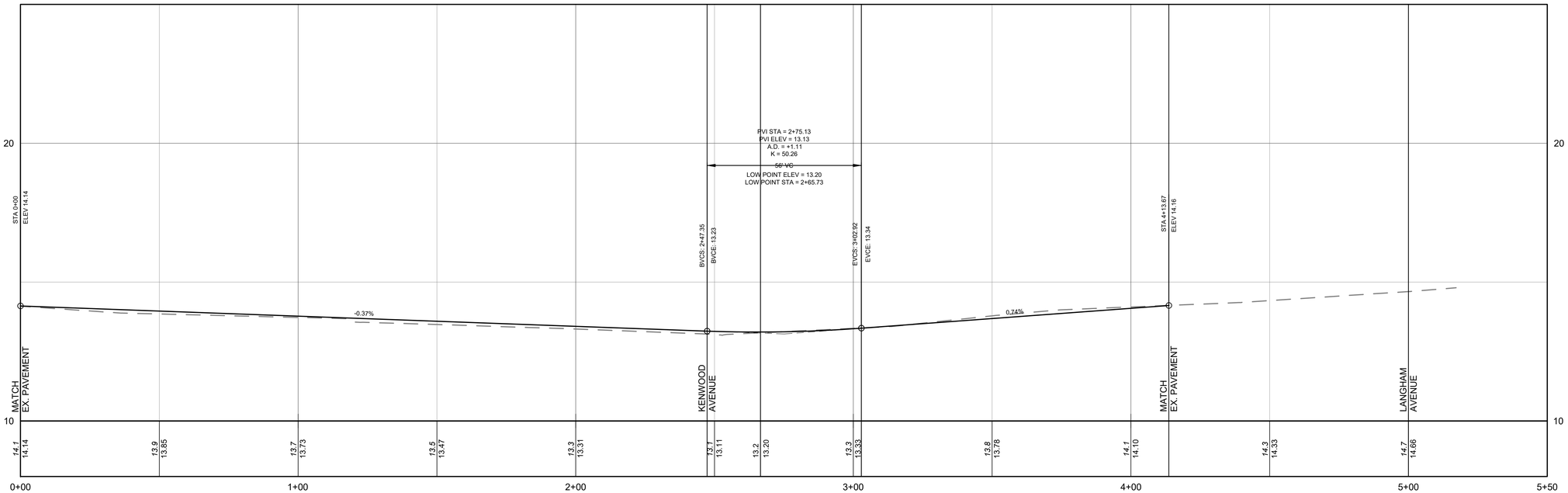
CS3502

SHEET 25 OF 45

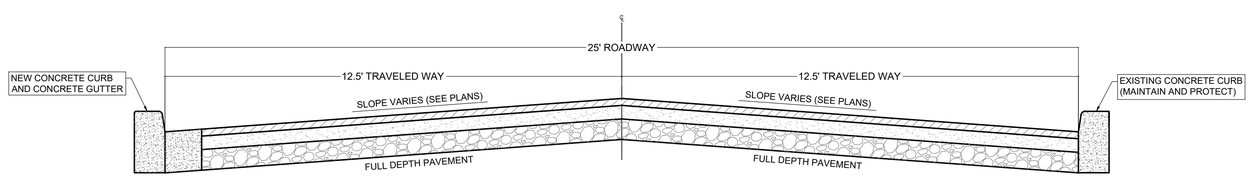
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS3502.dwg PLOTTED: 11/13/2025 5:39 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni WCS.ctb PROJECT STATUS: —



PLAN VIEW
SCALE: 1"=30'



WALNUT STREET CENTER LINE PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



TYPICAL ROAD CROSS SECTION (WALNUT STREET)
N.T.S.

HORIZONTAL: 1" = 20'

VERTICAL: 1" = 2'

0 20' 40'

0 2' 4'

NOT FOR CONSTRUCTION

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CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

ROAD PROFILES - WALNUT STREET

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
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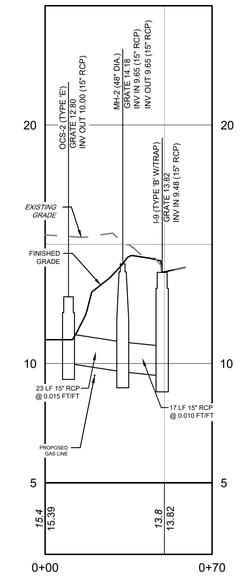
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=20'
DRAWN BY	BF
APPROVED BY	JJR

CS3503

SHEET 26 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS3503.dwg PLOTTED: 11/13/2025 5:40 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



STORM PROFILE (OCS-2 TO I-9)
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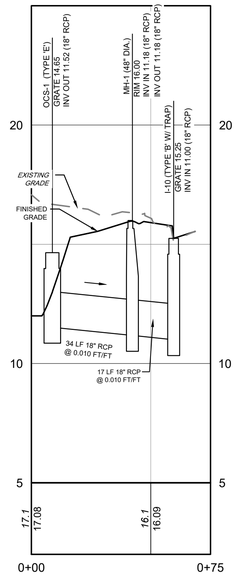
VERTICAL SCALE: 1" = 3'



STORM PROFILE (OCS-1 TO I-10)
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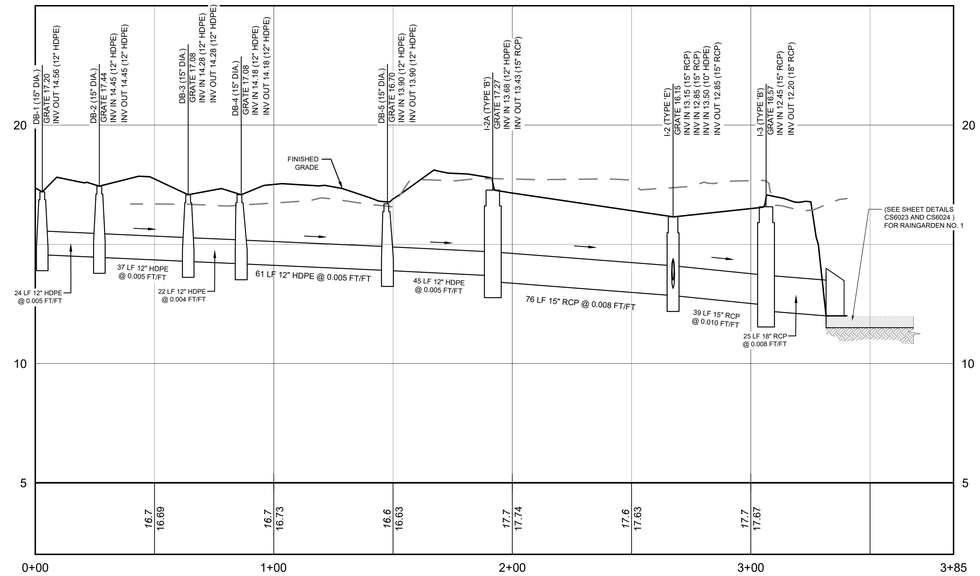

STORM PROFILE (DB-1 TO HW-1)
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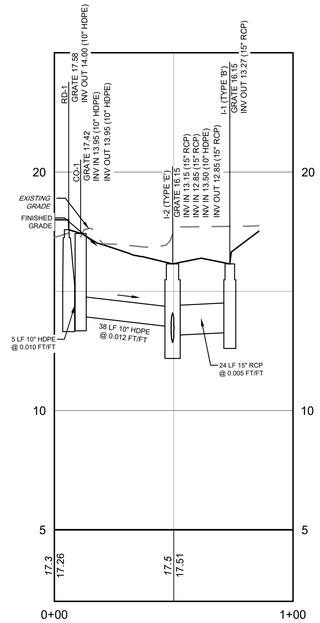
VERTICAL SCALE: 1" = 3'



STORM PROFILE (RD-1 TO I-1)
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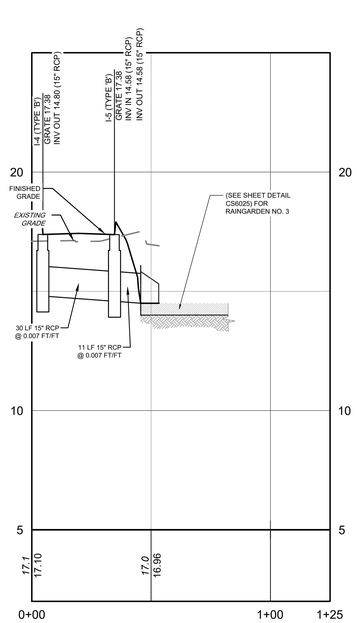

STORM PROFILE (I-4 TO HW-2)
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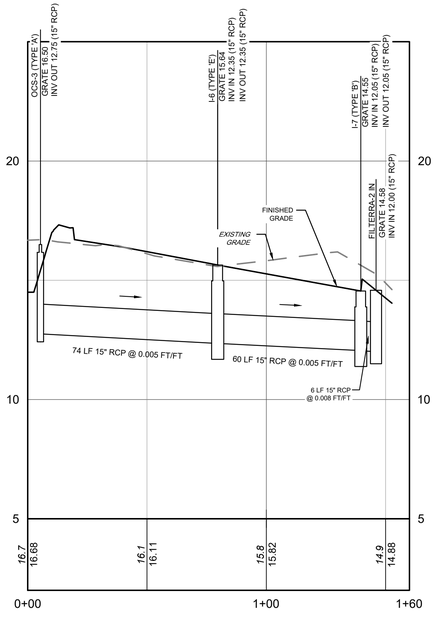

STORM PROFILE (OCS-3 TO FILTERRA-2 IN)
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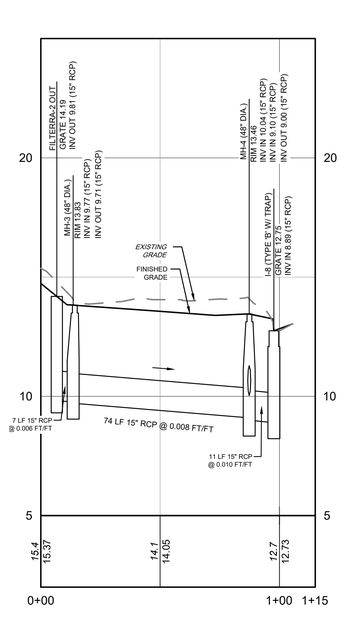
VERTICAL SCALE: 1" = 3'



STORM PROFILE (FILTERRA-2 OUT TO I-8)
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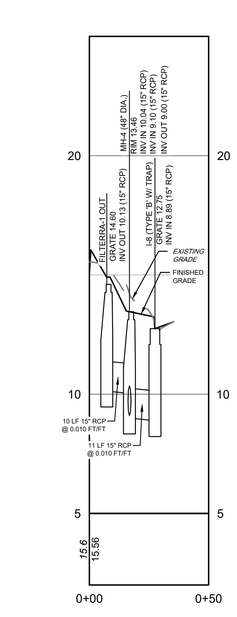
VERTICAL SCALE: 1" = 3'



STORM PROFILE (FILTERRA-1 OUT TO I-8)
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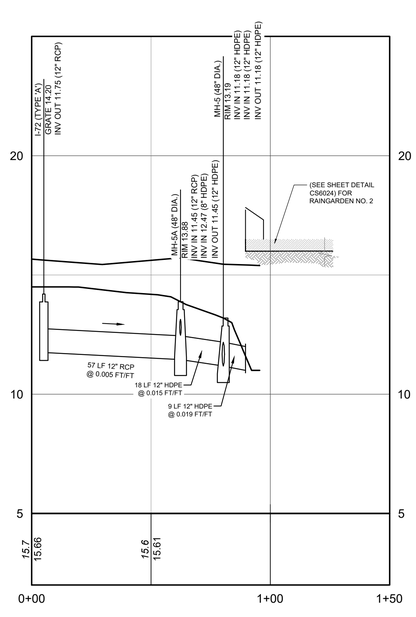
VERTICAL SCALE: 1" = 3'



STOM PROFILE (I-72 TO HW-3)
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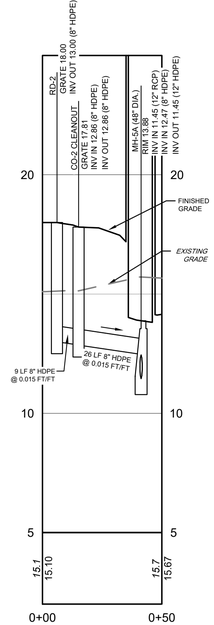
VERTICAL SCALE: 1" = 3'



STORM PROFILE (RD-2 TO MH-5A)
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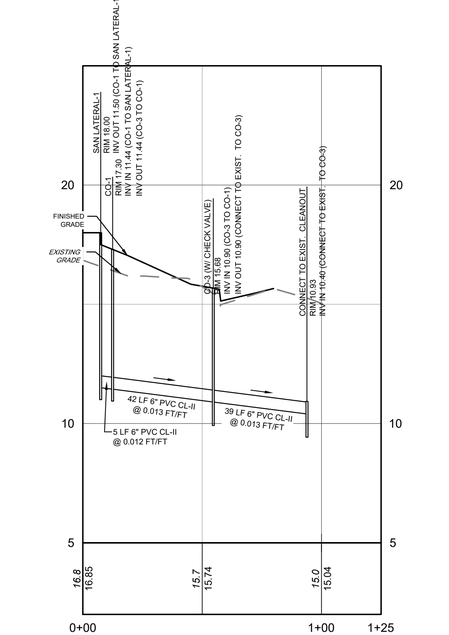
VERTICAL SCALE: 1" = 3'



SANITARY SEWER PROFILE (LAT-1 TO EXIST. 24 BRICK SEWER)
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'

HORIZONTAL: 1" = 30'

VERTICAL: 1" = 3'

0 30' 60'

0 5' 10'

NOT FOR CONSTRUCTION

U:\Accounts\SCHERS\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS4001.dwg PLOTTED: 11/13/2025 5:40 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni-NCS.ctb PROJECT STATUS: —

Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.669.5100
NJ. CA NO. GA28033300

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NEW JERSEY LICENSE NO. GE043768

11/17/25

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BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

STORM AND SEWER PROFILES

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
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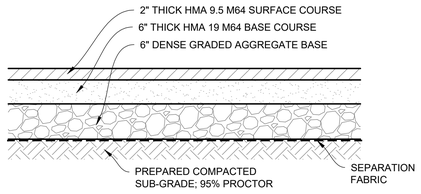
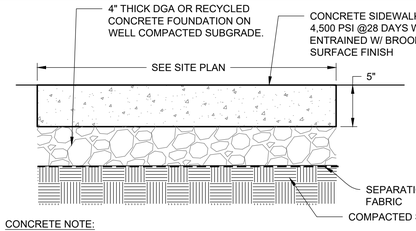
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30'
DRAWN BY	BF
APPROVED BY	JJR

CS4001

SHEET 27 OF 45



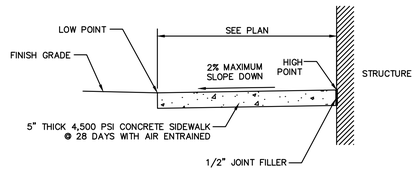
1 PAVEMENT DETAIL (PARKING AND STREET PAVEMENT RESTORATION)
NOT TO SCALE



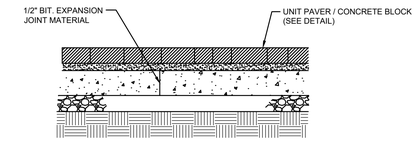
CONCRETE NOTE:

1. ALL CONCRETE SHALL BE 4,500 PSI @28 DAYS AIR ENTRAINED.
2. PRE MOLDED BITUMINOUS EXPANSION JOINT MATERIAL (OR EQUAL) SHALL BE INSTALLED EVERY TWENTY (20) FEET AND CONTRACTION JOINTS INSTALLED EVERY FOUR (4) FEET.
3. BROOM FINISH ALL CONCRETE SIDEWALK AND REINFORCED CONCRETE SURFACES PERPENDICULAR TO THE DIRECTION OF TRAFFIC TO CREATE A SKID RESISTANT SURFACE.
4. ALL CONSTRUCTION TO COMPLY WITH BARRIER FREE CODE REQUIREMENTS. SHOULD CONDITIONS NOT PERMIT COMPLIANCE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
5. CONTRACTOR ALSO MUST REFER TO BIKE RACK CONCRETE PAD ON SHEET CS6005.

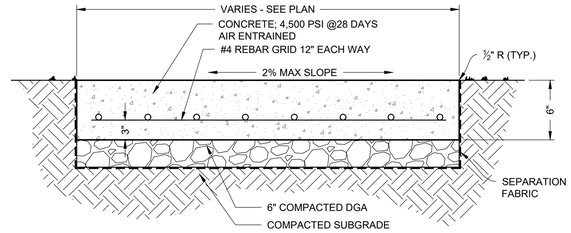
2 CONCRETE SIDEWALK/BIKE RACK PAD DETAIL
NOT TO SCALE



3 CONCRETE SIDEWALK (AT STRUCTURE)
NOT TO SCALE



4 EXPANSION JOINT (UNIT PAVER CONCRETE BLOCK) DETAIL
NOT TO SCALE

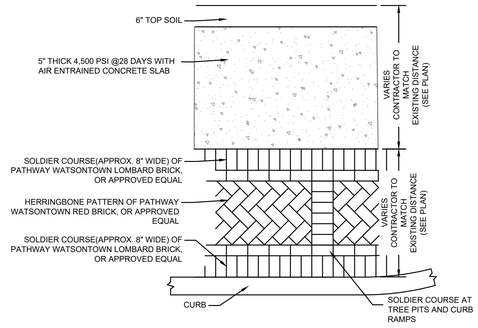


SECTION VIEW

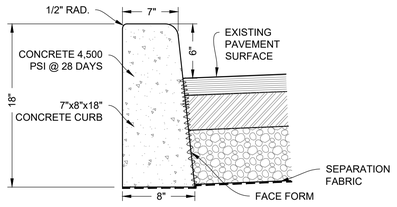
SPECIFICATIONS

1. EXPANSION JOINTS SHALL BE AT 15 FT C.C. MAXIMUM. EXPANSION JOINT LOCATIONS SHALL APPROVED BY ENGINEER/OWNER.
2. EXPANSION JOINT SHALL BE 1/2" MASTIC MATERIAL OR APPROVED EQUAL.
3. ALL EXPANSION JOINTS SHALL RECEIVE A BACKER ROD AND COLORED NON-SHRINK SEALER TO MATCH CONCRETE; SIKA OR EQUAL.
4. CONTRACTOR TO REFER TO ARCHITECTURAL PLANS FOR TRASH ENCLOSURE DETAILS.

5 REINF. CONC. PAD FOR TRASH ENCLOSURE, DROP-OFF AREA AND ADA PARKING
NOT TO SCALE



6 STANDARD BRICK PAVING PATTERN
NOT TO SCALE

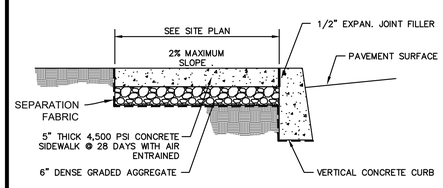


NOTES:

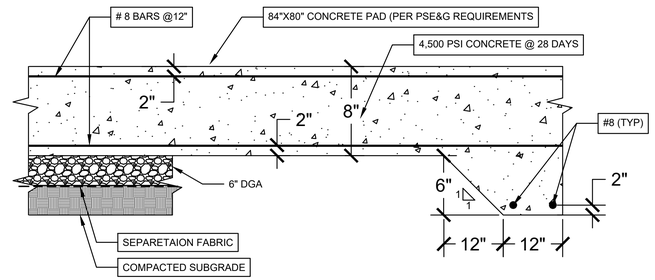
1. WHEN NEW CURB IS CONSTRUCTED ALONG AN EXISTING PAVED AREA, THE EXISTING PAVEMENT SHALL BE CUT IN A STRAIGHT LINE PARALLEL TO FACE OF NEW CURB WITH A SHARP TOOL AND THE NEW PAVEMENT SHALL BE TACKED AND BUTTED TO EXISTING PAVEMENT.
2. EXPANSION JOINTS ½" WIDE SHALL BE INSTALLED IN THE CURB 20' APART AND FILLED WITH CELLULAR COMPRESSION MATERIAL AS SPECIFIED AND RECESSED ¼" FROM FACE AND TOP OF CURB. EXPANSION JOINTS TO BE INCLUDED IN PRICE BID FOR CURB. EXPANSION JOINTS TO BE INCLUDED IN PRICE BID FOR CURB. CONSTRUCTION JOINT SHALL BE CUT MID-POINT BETWEEN EXP. JOINTS.

* WHERE NO ELEVATIONS ARE GIVEN ON THE PLAN, MATCH THE PROJECTED TOP OF EXISTING CURB. THE PROJECTED TOP OF CURB SHALL BE DETERMINED BY A STRING LINE.

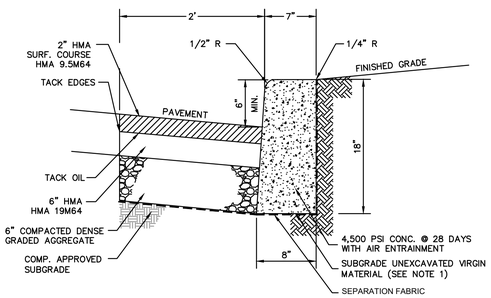
7 CITY OF CAMDEN VERTICAL CONCRETE CURB REPLACEMENT DETAIL
NOT TO SCALE



8 SIDE WALK & VERTICAL CONCRETE CURB
NOT TO SCALE



9 CONCRETE PAD FOR SWITCH
NOT TO SCALE



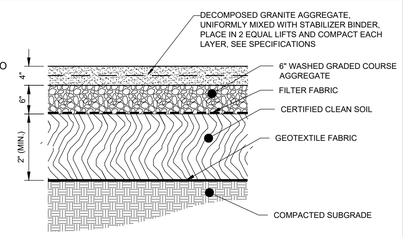
NOTES:

1. ANY EXCAVATION BELOW DESIRED GRADE DUE TO OVER EXCAVATION OR WET SOIL CONDITIONS SHALL BE BACKFILLED WITH 3/4" CLEAN CRUSHED STONE. ALL SUBGRADES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO POURING.
2. EXPANSION JOINTS SHALL BE PROVIDED AT EQUAL DISTANCES OF NOT MORE THAN 20' AND AT ALL STORM SEWER INLETS. JOINTS SHALL BE FILLED WITH PREMOLDED EXPANSION JOINTS FILLER, 1/2" THICK CONFORMING TO NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.CONTRACTION JOINTS SHALL BE PROVIDED EVERY 10'. THE JOINT SHALL BE RECESSED 1/4" FROM THE TOP AND FRONT OF THE CONCRETE CURB.
3. CURB SHALL BE TEMPORARY BACKFILLED TO FINISH GRADE WITH SOIL BEHIND AND STONE ON THE ROAD SIDE AS SOON AS IT HAS ATTAINED SUFFICIENT SUPPORTING STRENGTH OR WITHIN 24 HOURS OF POURING (WHICH EVER IS LESS).
4. WHEN NEW CURB IS INSTALLED ALONG AN EXISTING PAVED AREA, THE EXISTING PAVEMENT SHALL BE CUT 2 FEET IN FRONT OF THE NEW CURB FACE IN A STRAIGHT LINE WITH A CUTTING WHEEL OR PNEUMATIC THE NEW PAVEMENT SHALL BE TACKED AND BUTTED TO THE EXISTING PAVEMENT.
5. FOR CURB CONSTRUCTION ADJACENT TO CONCRETE PAVEMENT, CONTRACTOR TO USE 9" PLAIN CONCRETE ON 6" DGA.

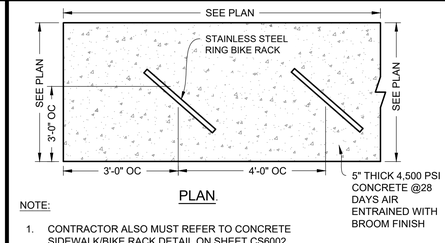
13 CONCRETE CURB DETAIL
NOT TO SCALE

NOTES:

CONTRACTOR MAY BE REQUIRED TO INSTALL MORE THAN 2" MINIMUM CLEAN FILL TO ACCOMPLISH REQUIRED POST GRADING AND TO BE IN ACCORDANCE WITH PLANS AND CONSTRUCTION SPECIFICATIONS.



10 STABILIZED GRANULAR PAVEMENT
NOT TO SCALE

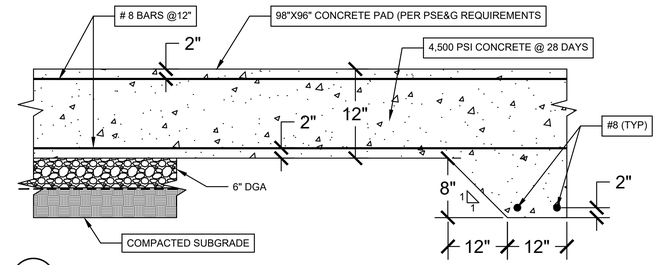


PLAN

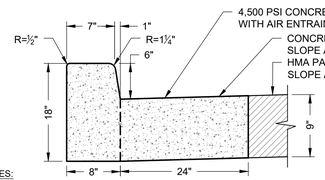
NOTE:

1. CONTRACTOR ALSO MUST REFER TO CONCRETE SIDEWALK/BIKE RACK DETAIL ON SHEET CS6002.

11 BIKE RACK AND CONCRETE PAD DETAIL
NOT TO SCALE



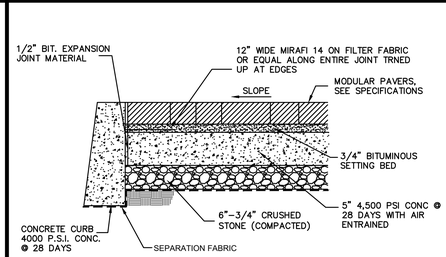
12 CONCRETE PAD FOR GENERATOR TRANSFORMER AND EMERGENCY GENERATOR
NOT TO SCALE



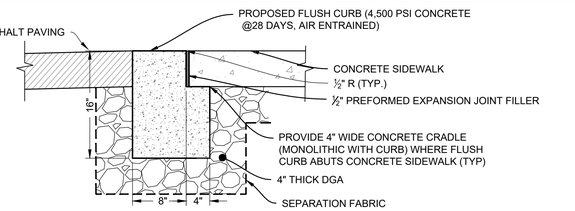
NOTES:

1. TRANSVERSE JOINTS ½" WIDE SHALL BE INSTALLED IN THE CURB 20'-0" APART AND SHALL BE FILLED WIT PREFORMED BITUMINOUS IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS FOR TYPE III FILER IN A.A.S.H.T.O. SPECS M-153, RECESSED ¼" IN FROM FRONT FACE AND TOP OF CURB.
2. JOINT MATERIAL IN THE CURB SHALL BE AS SPECIFIED FOR CONCRETE VERTICAL CURB. THE TRANSVERSE EXPANSION JOINT MATERIAL SHALL NOT EXTEND THRU THE CURB.
3. CONCRETE SHALL BE 4,500 PSI AT 28-DAY COMPRESSIVE STRENGTH WITH 6% ±1.5% AIR ENTRAINMENT.
4. CONCRETE CURB PORTION TO BE PAID FOR UNDER 7" X 8" X 18" CONCRETE VERTICAL CURB BID ITEM.
5. CONCRETE PAVEMENT SURFACE PORTION TO BE PAID FOR UNDER CONCRETE SURFACE COURSE BID ITEM.
6. *REFER TO CONSTRUCTION PLANS FOR CONCRETE CURB REVEAL.

14 STANDARD GUTTER DETAIL
NOT TO SCALE



15 JOINT AT CURBS DETAIL
NOT TO SCALE



16 FLUSH CONCRETE CURB DETAIL (AT ADA CURB RAMPS)
NOT TO SCALE

NOTES:

1. ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN.
2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS I

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

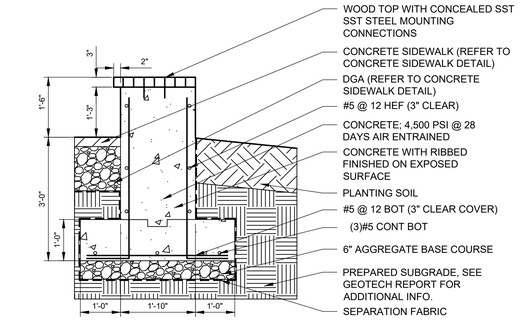
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6001

SHEET 28 OF 45

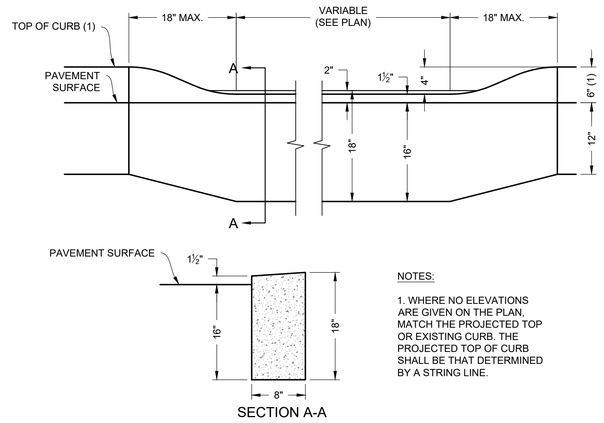
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6001-CS6006.dwg PLOTTED: 11/17/2025 5:48 PM BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —



NOTES

1. SUBMIT SHOP DRAWINGS FOR CONCRETE WALL & WOOD BENCH.
2. CONTRACTOR TO REFER TO LANDSCAPE PLAN FOR PLANTING SOIL THICKNESS.
3. CONTRACTOR TO REFER TO SITE PLAN AND CONSTRUCTION DETAILS FOR CONCRETE SIDEWALK.

1 CONCRETE SEATWALL WITH BENCH TYPE B
NOT TO SCALE

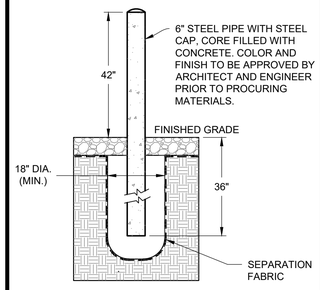


NOTES:

1. WHERE NO ELEVATIONS ARE GIVEN ON THE PLAN, MATCH THE PROJECTED TOP OR EXISTING CURB. THE PROJECTED TOP OF CURB SHALL BE THAT DETERMINED BY A STRING LINE.

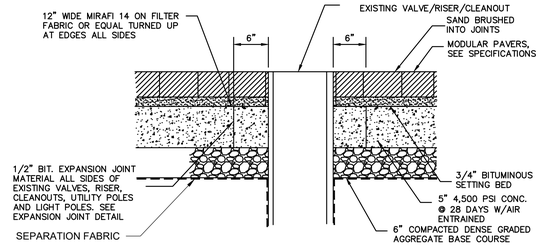
SECTION A-A

2 CITY OF CAMDEN DEPRESSED CURB DETAIL
NOT TO SCALE

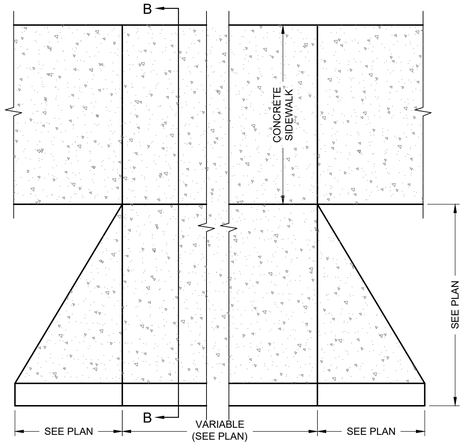


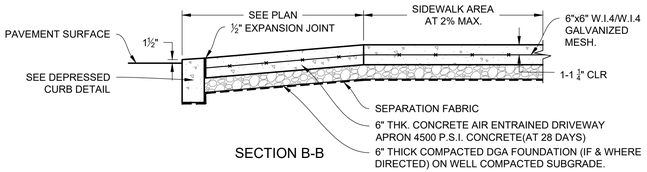
NOTE:
ALL CONCRETE SHALL HAVE A 4,000 PSI COMPRESSIVE STRENGTH @ 28 DAYS

3 BOLLARD DETAIL
NOT TO SCALE



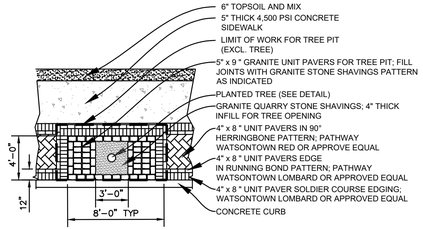
4 VALVE/RISER/CLEANOUT THROUGH BRICK SIDEWALK DETAIL
NOT TO SCALE



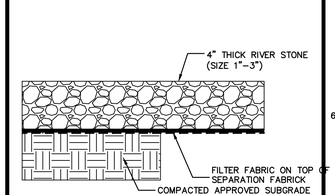


SECTION B-B

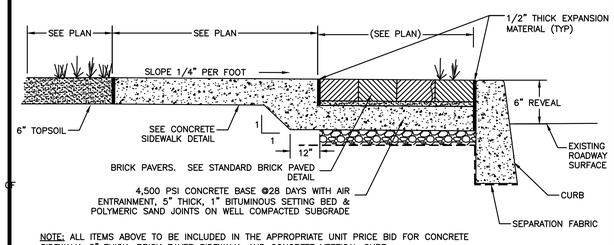
5 CITY OF CAMDEN DRIVEWAY APRON DETAIL
NOT TO SCALE



6 TYPICAL CURB SIDE TREE PIT AND UNIT PAVER SIDEWALK DETAIL
NOT TO SCALE

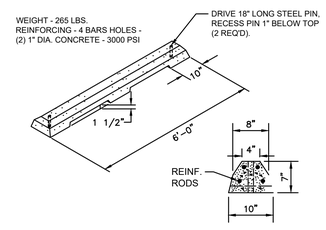


7 RIVER ROCK DETAIL
NOT TO SCALE

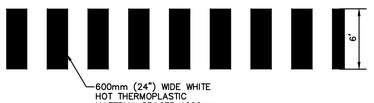


NOTE: ALL ITEMS ABOVE TO BE INCLUDED IN THE APPROPRIATE UNIT PRICE BID FOR CONCRETE SIDEWALK, 5" THICK, BRICK PAVER SIDEWALK, AND CONCRETE VERTICAL CURB

8 TYPICAL SECTION - STANDARD BRICK PAVING PATTERN
NOT TO SCALE



9 PRECAST CONCRETE WHEEL STOP (PINNED) DETAIL
NOT TO SCALE



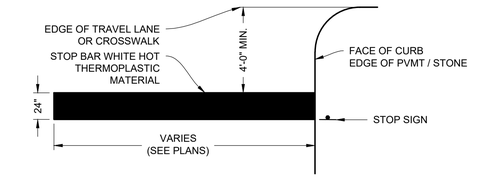
STRIPING NOTES:

1. ALL PROPOSED TRAFFIC STRIPING ON THE COUNTY ROAD SHALL BE HOT THERMOPLASTIC MATERIAL (3mm THICK), CONFORMING TO THE CURRENT NJDOT SPECIFICATIONS. CONTRACTOR SHALL HAVE STRIPING SUBCONTRACTOR SUBMIT PROPOSED SPECIFICATIONS, CONFORMING TO NJDOT SPECIFICATIONS, FOR THE THERMOPLASTIC MATERIALS TO THE ENGINEER FOR APPROVAL.

2. ALL EXISTING TRAFFIC STRIPING AND PAVING MARKINGS NOT CONFORMING WITH THIS PLAN SHALL BE REMOVED BY GRINDING, IN ACCORDANCE WITH CURRENT NJDOT REQUIREMENTS/STANDARDS AND AS APPROVED BY THE CITY ENGINEER.

3. CROSSWALK DETAIL WILL ALSO BE USED ON CITY OF CAMDEN ROADS.

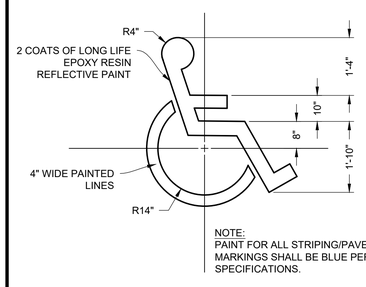
10 CROSSWALK DETAIL
NOT TO SCALE



NOTE STOP BARS LOCATED ON COUNTY ROADS AND WITHIN COUNTY R-O-W &/OR EASEMENTS:

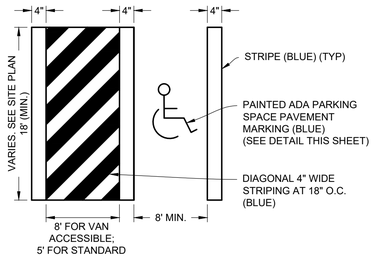
1) ALL STOP BARS TO BE HOT-EXTRUDED THERMOPLASTIC TYPE OF PAINT.
2) PAINT COLOR FOR ALL STOP BARS SHALL BE WHITE PER MUTCD REQUIREMENTS.
3) ALL DIMENSIONS SHALL CONFORM TO MUTCD AND BURLINGTON COUNTY SPECIFICATIONS.
4) CONTRACTOR TO REFER TO SIGNING AND STRIPING PLAN FOR FURTHER INFORMATION.

11 TYPICAL STOP BAR PAVEMENT MARKING DETAIL
NOT TO SCALE



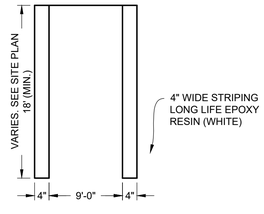
NOTE:
PAINT FOR ALL STRIPING/PAVEMENT MARKINGS SHALL BE BLUE PER ADA SPECIFICATIONS.

12 ADA PARKING SPACE PAVEMENT MARKING DETAIL
NOT TO SCALE

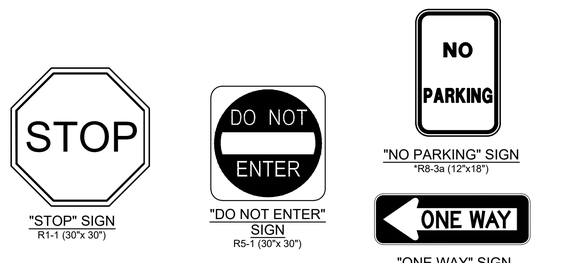


NOTE:
PAINT FOR ALL STRIPING SHALL BE LONG LIFE EPOXY RESIN BLUE REFLECTIVE PER ADA SPECIFICATIONS.

13 PAINTED ADA PARKING STALL
NOT TO SCALE



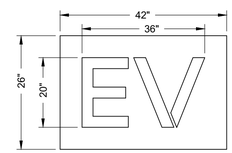
14 PAINTED PARKING STALL DETAIL
NOT TO SCALE



NOTES:

1. ALL SIGN MATERIALS SHALL BE MADE OF ALUMINUM BLANKS MOUNTED ON GALVANIZED STEEL POSTS, ALL CONFORMING TO NJDOT STANDARD SPECIFICATIONS.
2. ALL SIGNS SHALL MEET THE MOST CURRENT MUTCD REQUIREMENTS FOR RETRO-REFLECTIVITY.

15 SIGN DETAILS
NOT TO SCALE



NOTE:
PAINT FOR EV PARKING SHALL BE LONG LIFE EPOXY RESIN WITH WHITE LETTERING AND GREEN BACK GROUND PER NJ EVSE REQUIREMENTS.

16 EV MARKING DETAIL (TYP.)
NOT TO SCALE

NOTES:

1. ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN.
2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.662.0300
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS II

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6002

SHEET 29 OF 45

PROJECT STATUS: —
PLOTSTYLE: Pennoni NCS.stb
PLOTTED: 11/13/2025 5:40 PM, BY: Blake Fitzgerald
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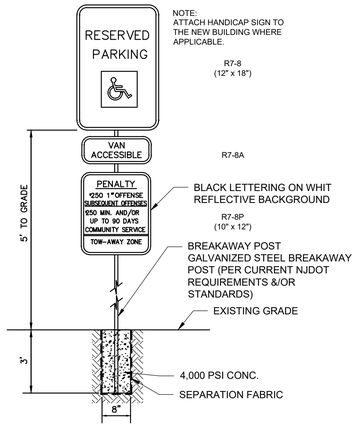
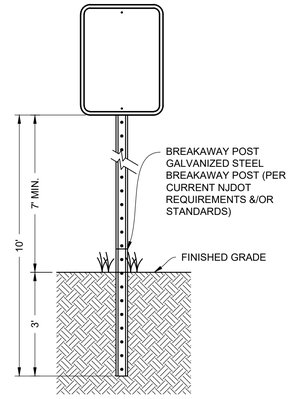
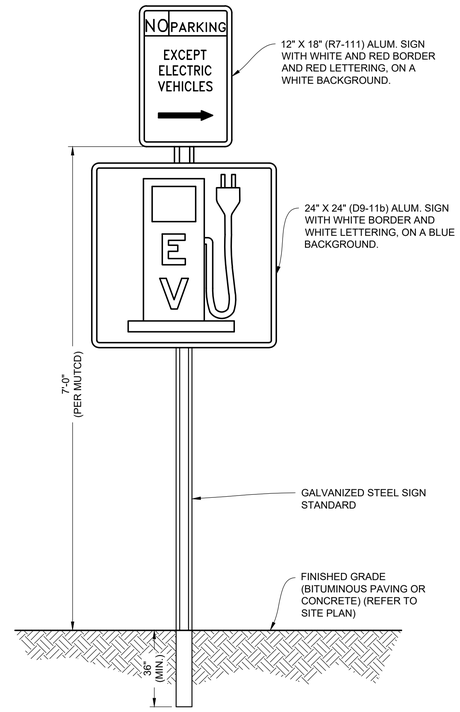


1 HANDICAP PARKING w/PENALTY, VAN ACCESSIBLE DETAIL
NOT TO SCALE



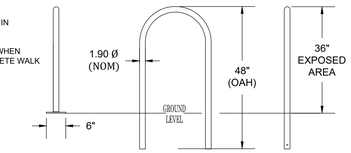
2 SIGN POST DETAIL
NOT TO SCALE



NOTES:
1. ALL SIGN MATERIALS SHALL BE MADE OF ALUMINUM BLANKS MOUNTED TO GALVANIZED STEEL POSTS, ALL CONFORMING TO NJDOT STANDARD SPECIFICATIONS.
2. ALL SIGNS SHALL MEET THE MOST CURRENT MUTCD REQUIREMENTS FOR RETRO-REFLECTIVITY.
3. ONE COAT OF PRIMER PAINT. TWO COATS OF FINISH PAINT. COLOR: TRAFFIC YELLOW.

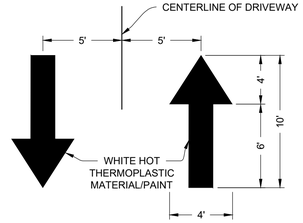
3 EV PARKING SIGN DETAIL
NOT TO SCALE

- 30" WHEN INSTALLED IN BITUMINOUS PAVING
- FLUSH WITH GRADE WHEN INSTALLED IN CONCRETE WALK

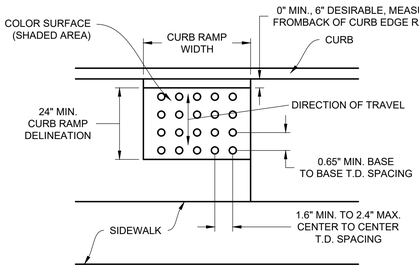


NOTES:
1. BIKE RACK TO BE MANUFACTURED BY CYCLESAFE INVERTED U-STYLE RACK, MODEL "U/2", OR APPROVED EQUIVALENT.
2. BIKE RACK FINISH SHALL BE POWER COAT, COLOR TRAFFIC BLACK.
3. PROVIDE IN-GROUND INSTALLATION PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

4 BIKE RACK DETAIL
NOT TO SCALE

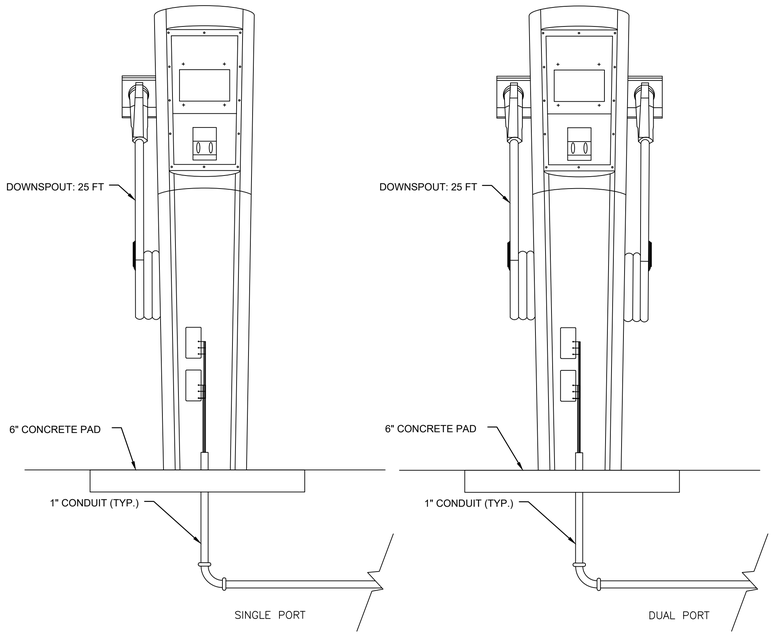


5 TRAFFIC FLOW DIRECTIONAL ARROW DETAIL
NOT TO SCALE



NOTES:
1. DETECTABLE WARNING SURFACES SHALL BE CONSTRUCTED OF ARMOR-TILE TACTILE SYSTEMS CAST IN PLACE TILES OR APPROVED EQUAL.
2. ALL DETECTABLE WARNING SURFACE PANELS COLOR: SAFETY RED. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

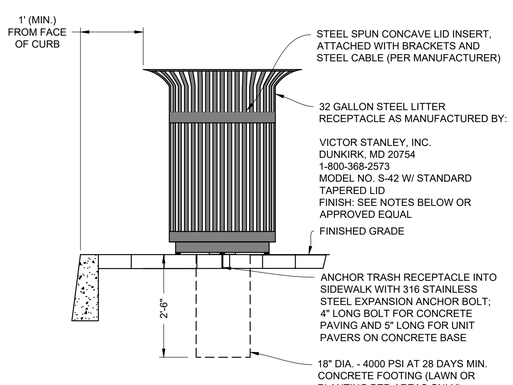
6 DETECTABLE WARNING SURFACE (DWS) DETAIL
NOT TO SCALE



NOTE:
1. CONTRACTOR TO SUBMIT SHOP DRAWING AND CONDUIT PLAN FOR REVIEW.

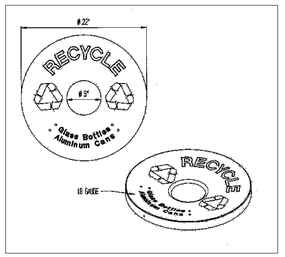
MANUFACTURER	MODEL	PRODUCT NUMBER	INPUT VOLTAGE	OUTPUT CURRENT	MOUNTING TYPE
BTC POWER	SINGLE PORT EVP-2002-40-P-0001	L2P-40-240-16	240/208 VAC PER PORT	30 , 40, OR 70 A PER PORT	PEDESTAL
BTC POWER	DUAL PORT EVP-2002-40-P-0001	L2P-40-240-15	240/208 VAC PER PORT	30 , 40, OR 70 A PER PORT	PEDESTAL

7 EV DUAL CHARGER DETAIL
NOT TO SCALE

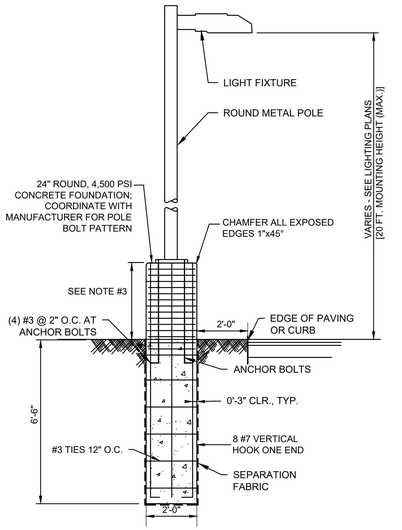


NOTES:
1. TWO TRASH RECEPTACLES SHALL BE PROVIDED AT EACH REFUSE LOCATION.
2. ONE LID INSERT FOR TRASH RECEPTACLE AND ONE LID INSERT FOR RECYCLE RECEPTACLE. TRASH FINISHED COLOR TO BE BLACK, POWDER COATED. RECYCLE FINISHED COLOR TO BE BLUE, POWDER COATED AND BE MARKED FOR RECYCLABLES.
3. CONTRACTOR SHALL PROVIDE THE OWNER WITH CATALOG CUTS FOR SELECTION OF FINAL COLOR PRIOR TO PROCUREMENT OF MATERIAL.
4. CONTRACTOR IS TO PROVIDE A COMPLETE INSTALLATION OF BOTH TYPES OF RECEPTACLE CONTAINERS.

8 TRASH AND RECYCLE RECEPTACLE DETAIL
NOT TO SCALE



9 RECYCLE LID INSERT
NOT TO SCALE



NOTES:

1. COLOR FOR LIGHT POLE, LIGHT FIXTURE, AND OTHER TYPE OF REQUIRED BRACKETS: BLACK

2. CONTRACTOR IS REQUIRED TO COORDINATE WITH MANUFACTURER ON BOLT PATTERN, TYPE OF BOLTS IN FOUNDATION, AND POLE. ALL WORK TO BE DONE IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATION.

3. SET TOP OF FOOTING 1" ABOVE GRADE FOR SIDEWALK AREAS, 6" ABOVE GRADE IN LANDSCAPE/LAWN AREAS AND 3' ABOVE GRADE IN PAVED PARKING AREAS.

10 LIGHT POLE DETAIL
NOT TO SCALE

NOTES:

1. ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN.

2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768
11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS III

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

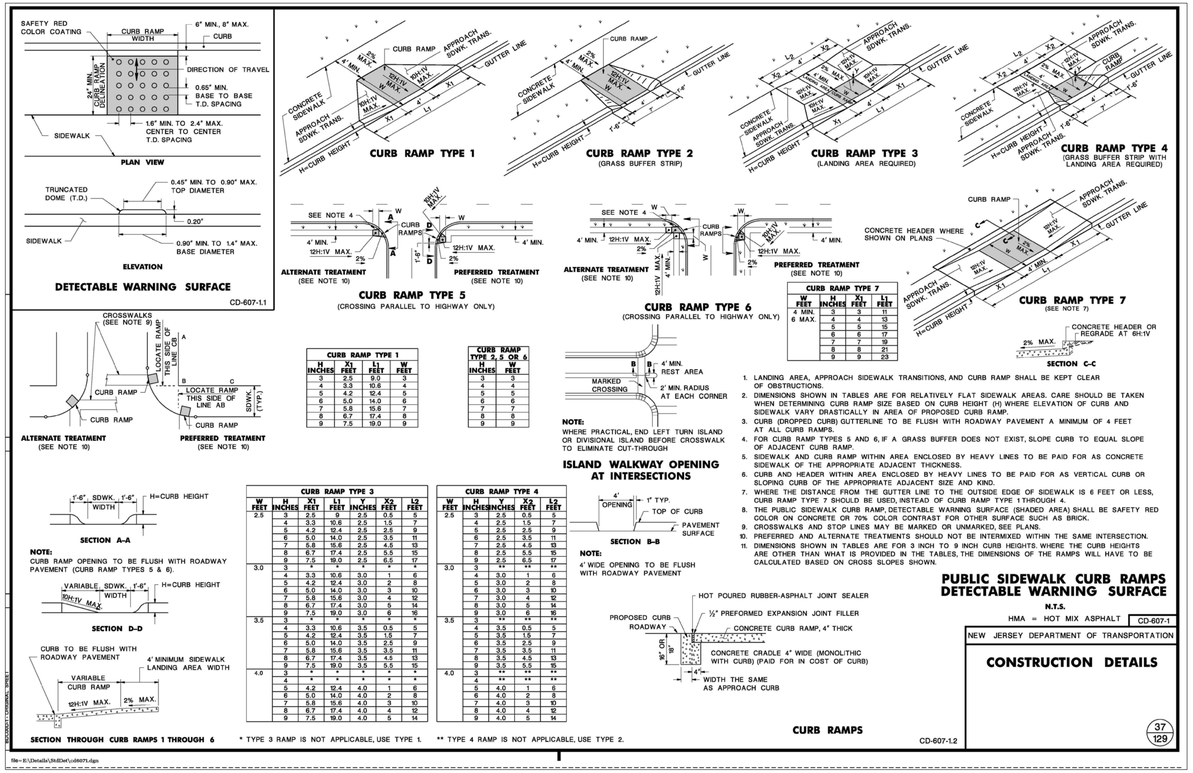
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT . THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

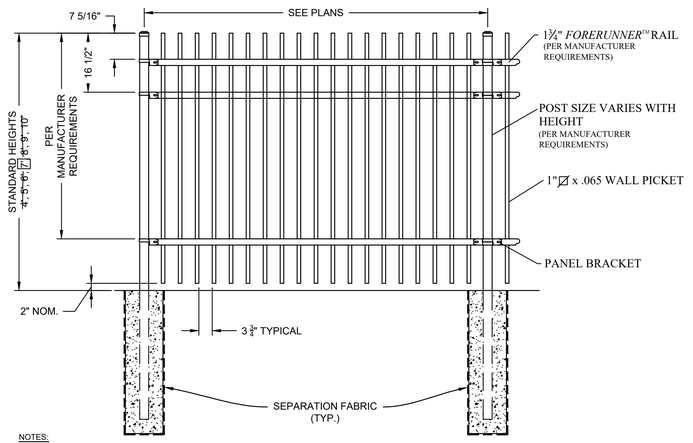
CS6003

SHEET 30 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6003-CS6006.dwg PLOTTED: 11/13/2025 5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni-MCS.ctb PROJECT STATUS: —



1 CURB RAMP DETAILS
NOT TO SCALE



NOTES:

1. FOR 7-FT HIGH FENCE AND 8' O.C. NOMINAL FENCE SECTION.
2. FENCE TO BE ECHELON II GENESIS 3-RAIL PANEL (2 TOP RAILS & 1 BOTTOM RAIL) AS MANUFACTURED BY AMERISTAR WITH "PERMACOAT" POWDER COATING SYSTEM COLOR BLACK OR APPROVAL EQUAL.
3. INSTALL PER MANUFACTURER'S REQUIREMENTS.

2 ESTATE FENCE DETAIL
NOT TO SCALE

NOTES:

1. ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN.
2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.669.8000
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS IV

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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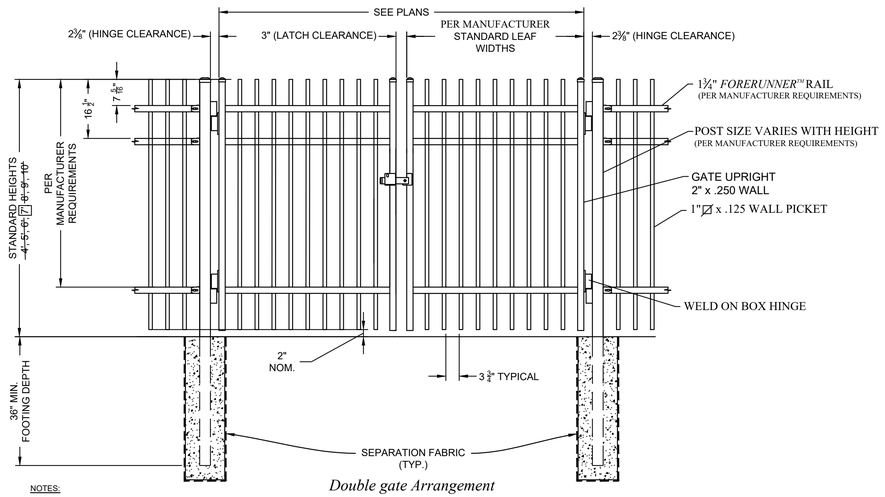
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6004

SHEET 31 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6001-CS6009.dwg PLOTTED: 11/13/2025,5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —

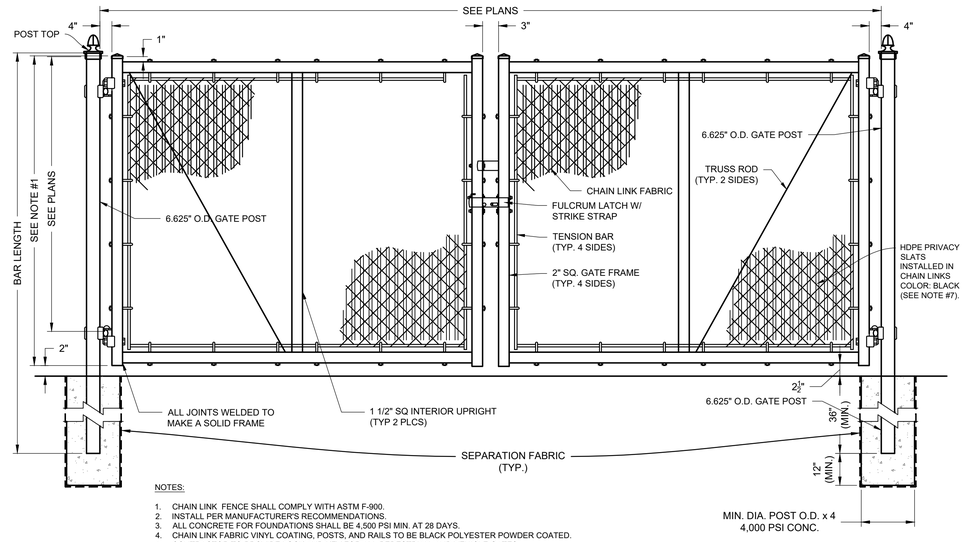


Double gate Arrangement

NOTES:

1. FOR 7-FT HIGH FENCE.
2. FENCE TO BE ECHELON II GENESIS 3-RAIL PANEL (2 TOP RAILS & 1 BOTTOM RAIL) AS MANUFACTURED BY AMERISTAR WITH "PERMACOAT" POWDER COATING SYSTEM COLOR BLACK OR APPROVED EQUIVALENT.
3. INSTALL PER MANUFACTURER'S REQUIREMENTS.
4. CONTRACTOR MUST PROVIDE A LOCK AND KEY AT NO ADDITIONAL COST TO OWNER. CONTRACTOR MUST CONFIRM WITH ENGINEER AND ARCHITECT TYPE AND NUMBER OF KEYS AND LOCKS TO BE PROVIDED PRIOR TO PROCUREMENT.

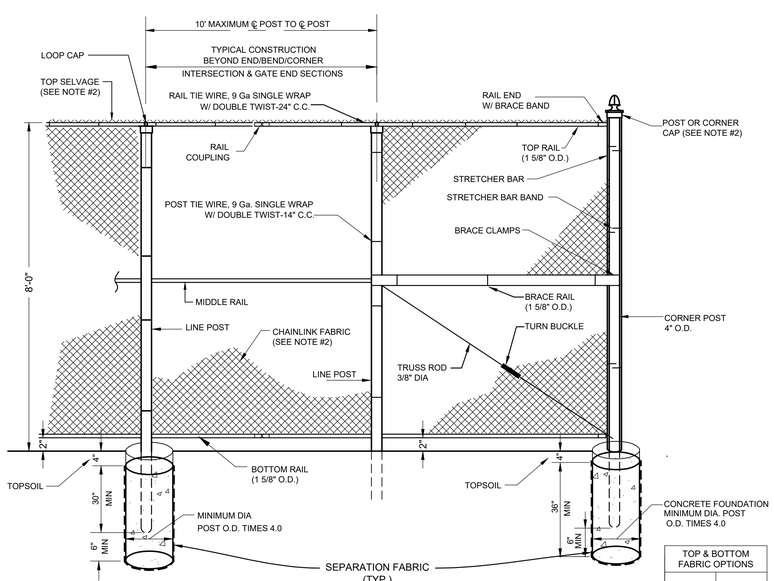
1 ESTATE FENCE DOUBLE SWING GATE DETAIL
NOT TO SCALE



NOTES:

1. CHAIN LINK FENCE SHALL COMPLY WITH ASTM F-900.
2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. ALL CONCRETE FOR FOUNDATIONS SHALL BE 4,500 PSI MIN. AT 28 DAYS.
4. CHAIN LINK FABRIC VINYL COATING, POSTS, AND RAILS TO BE BLACK POLYESTER POWDER COATED.
5. CONTRACTOR TO PROVIDE LOCK AND KEY FOR ALL PEDESTRIAN AND VEHICLE GATES.
6. PROVIDE HDPE PRIVACY SLATS FOR DOUBLE SWING GATE AT PSE&G EQUIPMENT ENCLOSURE. COST TO BE PAID FOR UNDER ASSOCIATED BID ITEM.

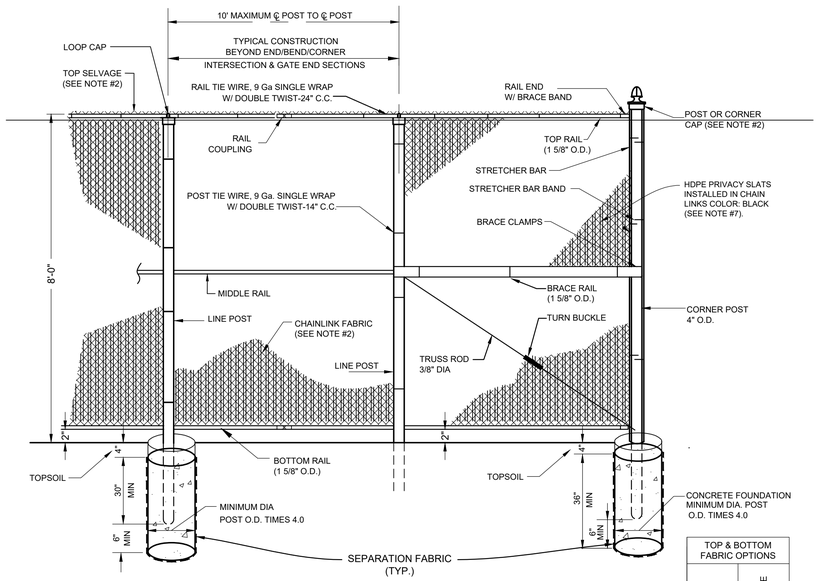
2 CHAINLINK FENCE DOUBLE SWING GATE DETAIL
NOT TO SCALE



NOTES:

1. ALL CONCRETE FOR FOUNDATIONS SHALL BE 4000 PSI MIN. @ 28 DAYS.
2. MESH FENCE FABRIC SHALL BE 9 GAUGE, BLACK, VINYL-COATED.
3. ALL HARDWARE AND FRAMING SHALL BE BLACK POLYESTER POWDER COATED.

3 CHAINLINK FENCE DETAIL
NOT TO SCALE



NOTES:

1. CHAIN LINK FENCE SHALL COMPLY WITH ASTM F-900.
2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. ALL CONCRETE FOR FOUNDATIONS SHALL BE 4,500 PSI MIN. AT 28 DAYS.
4. CHAIN LINK FABRIC VINYL COATING, POSTS, AND RAILS TO BE BLACK POLYESTER POWDER COATED.
5. CONTRACTOR TO PROVIDE LOCK AND KEY FOR ALL PEDESTRIAN AND VEHICLE GATES.
6. PROVIDE HDPE PRIVACY SLATS FOR CHAIN LINK FENCE AS SPECIFIED ON SITE PLAN. COST TO BE PAID FOR UNDER ASSOCIATED BID ITEM.

4 CHAINLINK FENCE DETAIL
NOT TO SCALE

NOTES:

1. ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN.
2. ALL CONCRETE MIX DESIGNS SHALL BE "WHITE" CONCRETE.

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5400
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS V

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6005

SHEET 32 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6001-CS6006.dwg PLOTTED: 11/13/2025 5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

cyclone

Tribeca BECS1A/BECS2A Approval – Specification

Project: Order:

Qty: Luminaire: Type:

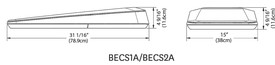
Ordering Code

Model	Lens	Distribution	Performance Package	CCT	Volts	Surge Protector
BECS1A (lenon of 1.66" to 1.9" Ø) **BECS2A** (lenon of 2 3/8" Ø)	**FGC** Flat Glass Clear **FGF** Flat Glass Frosted **NL** No lens	**T1** Type 1 **T1A** Type 1A **T1AHS** Type 1A with HS **T2** Type 2 **T2HS** Type 2 with HS **T2M** Type 2M **T2MHS** Type 2M with HS **T3** Type 3 **T3HS** Type 3 with HS **T3M** Type 3M **T3MHS** Type 3M with HS **T4** Type 4 **T4HS** Type 4 with HS **T5** Type 5 **Backward optic***	**P30** 7,000 **P50** 8,000 **P60** 10,500 **P70** 13,700 **P80** 15,500 **P90** 20,700 **P100** 23,400 **P110** 26,400 **P120** 28,700 **P130** 30,800 **P140** 32,100 **P150** 34,000	**30K** 3,000K **40K** 4,000K	**MVOLT** 120-277VAC **HVOLT** 347-480VAC **120** **208** **240** **277** **347** **480**	**10KV** 10 Kv **20KV** 20 Kv

Options	Photocell	Dimming	Color	Texture	Pre Finish
– **RMSOD30** **RMSOD45** **RMSOD45A** **RMSOD7** **RSDGR127** **RSDGR348**	– **PT** Photocell W/7-PIN receptacle (ANSI C136.41) **PX** Shorting cap W/7-PIN receptacle (ANSI C136.41) **PTL** Long life photocell W/7-PIN receptacle (ANSI C136.41) **PTDR** 7-PIN receptacle (ANSI C136.41) **PTFS** Photocell Sun-Tech model TRS-2	– **DIM** 0-10 volts dimming **PND506** Program 50% for 6 hours (11PM to 5AM) **PND508** Program 50% for 8 hours (9PM to 5AM) **SD** Field adjustable 10% increment step-dimming switch *Contact factory for wireless controls.	**BK** Black RAL9005 **DG** Dark green RAL6012 **MA** Marine blue RAL5013 **SI** Metallic silver RAL9006 (smooth only) **BZ** Dark bronze RAL8019 **BG** Burgundy RAL3005 **GM** Moss green RAL6005 **PG** Pale grey RAL7040 **WH** White RAL9003 **BKH*** Black Holophane (smooth only) **BZH*** Dark bronze Holophane (smooth only) **GNH*** Green Holophane (smooth only) **GHH*** Graphite Holophane (smooth only) **GRH*** Gray Holophane (smooth only) **SLH*** Silver Holophane (smooth only) **WHH*** White Holophane (smooth only) * Holophane colors	**TX** Textured **SM** Smooth	– **MG** Marine grade pre-finish

* Backward optic: The Orion light engine features 180° orientable optics that can be customized as needed. This makes it a simple matter to combine two distribution types in a single light engine, simultaneously lighting a road and a bike path or sidewalk, for instance. Contact factory for more information.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice. Please consult our web site for up-to-date product information and IES files.



BECS1A/BECS2A

EPA: 0.83 ft²
Weight: 41.5 lbs (18.8 kg)

Stamp/Approval:

Name: Date:

Name: Page 2 of 2

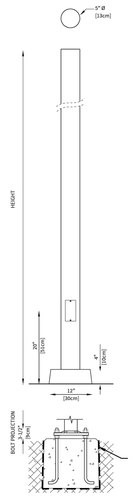
Date:

Cyclone Lighting: 2175 Des Entreprises Blvd, Terrebonne (QC) Canada J6Y 1W9 **www.cyclonelighting.com** Rev. 2022/11
Phone: 1-866-436-5500 - info@cyclonelighting.com © 2022 Acuity Brands Lighting, Inc. All Rights Reserved.

cyclone

PAL50 / PAL52 - 5" Ø STRAIGHT POLE, ALUMINUM
AASHTO 2013 Standard

Type A, B, and C Pole



Bolt Circle: 11-1/2" (29cm) Ø
Accepts: 8" to 12" Ø (20 to 30cm) Ø

Pole with Anchor Plate, supplied with galvanized anchor bolts, nuts & washers.

SERIES	HEIGHT[1]	MOUNTING	OPTIONS[2,3]	BANNER PROVISION HOLES[4] Configuration	Banner position from ground[5]	Top Banner Height[5]	Orientation	COLOR[2,3]	FINISH	MG
PAL50	8' to 20'	–	–	–	Starting at 96"	24	–	BG	TX	–
PAL52		INS	DU	BHS[2]		30	A (0°)	BK	SM	MG
		TN43	GFI	BHD[2]		36	B (90°)	BZ		
			GFIC1			42	C (180°)	DG		
			GFIC2			48	D (270°)	GM		
			FU1					MA		
			FU2					PG		
			TP					SI		
								WH		

* Only necessary with banner(s)
** For multiple options selection, please contact factory.
*** Holophane colors also available. Please contact factory.

1 - Available in 0.5' increments
2 - BHS - Banner provision for single banner
3 - BHD - Banner provision for double banners
4 - Available in 1' increments
5 - Top Banner height from bottom banner

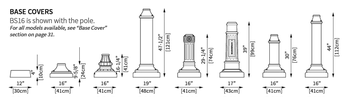
POLE
Round, 5" (13cm) Ø, 6061-T6 aluminum shaft, welded to both the top and bottom of a cast aluminum reinforced anchor plate. Hand hole 2" x 5" (8cm x 13cm) with weatherproof cover and copper ground lug.

EPA

SERIES	HEIGHT ft	HEIGHT m	WALL THICKNESS in	WALL THICKNESS mm	WEIGHT lbs	WEIGHT kg	EPA RATING (sq. ft) 80mph	90mph	100mph	110mph	120mph	150mph	ANCHOR BOLTS in
PAL50	8	2.43	0.125	3.2	26	13	9.01	9.01	9.01	8.90	8.78	7.60	3/4-20
PAL52	8	2.43	0.247	6.3	43	20	18.51	18.51	18.51	18.26	18.26	16.01	3/4-20
PAL50	10	3.04	0.125	3.2	33	15	7.11	7.11	6.94	6.84	6.84	5.85	3/4-20
PAL52	10	3.04	0.247	6.3	52	24	15.03	15.03	14.82	14.82	14.82	12.82	3/4-20
PAL50	12	3.66	0.125	3.2	36	17	5.62	5.62	5.62	5.48	5.41	4.56	3/4-20
PAL52	12	3.66	0.247	6.3	61	28	12.34	12.34	12.34	12.34	12.27	10.55	3/4-20
PAL50	14	4.27	0.125	3.2	41	19	4.50	4.50	4.50	4.39	4.27	3.55	3/4-20
PAL52	14	4.27	0.247	6.3	70	32	10.41	10.41	10.41	10.27	10.13	8.78	3/4-20
PAL50	15	4.57	0.125	3.2	43	20	4.00	4.00	4.00	3.90	3.80	3.08	3/4-20
PAL52	15	4.57	0.247	6.3	74	34	9.62	9.62	9.49	9.49	9.25	8.00	3/4-20
PAL50	16	4.88	0.125	3.2	45	21	3.60	3.55	3.55	3.42	3.37	2.66	3/4-20
PAL52	16	4.88	0.247	6.3	79	36	8.78	8.78	8.78	8.66	8.55	7.11	3/4-20
PAL50	18	5.49	0.125	3.2	50	23	1.82	1.62	1.58	1.50	1.33	-	1-36
PAL52	18	5.49	0.247	6.3	87	40	1.62	1.62	1.58	1.50	1.33	-	1-36
PAL50	20	6.10	0.125	3.2	54	25	1.12	1.12	1.05	-	-	-	1-36
PAL52	20	6.10	0.247	6.3	96	44	1.12	1.12	1.05	-	-	-	1-36

EPAs Values Calculated Following AASHTO 2013 Standard

BASE COVERS
BS16 is shown with the pole.
For all models available, see "Base Cover" section on page 33.



BS16	BC15	BC17	BC42	BC46	BC50	BC57	BC59
12" [30cm]	16" [41cm]	16" [41cm]	19" [48cm]	16" [41cm]	17" [43cm]	16" [41cm]	16" [41cm]

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cyclone

ZEN ZC4 Light Column Approval – Specification

Type D Pole

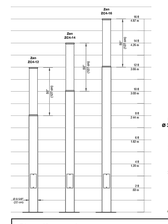
Project: Order:

Qty: Luminaire: Type:

Ordering Code

Model	Height	Performance Package	CCT	Volts	Surge Protector
ZC4 ZEN 50" (127cm) lens	**12** 146" (371cm) **14** 170" (432cm) **16** 194" (493cm)	**P40** (5500lm) **P60** (7800lm) **P70** (10000lm)	**30K** 3000K **40K** 4000K	**MVOLT** 120-277VAC **HVOLT** 347-480VAC **120** **208** **240** **277** **347** **480**	**10KV** 10 Kv **20KV** 20 Kv

Photocell	Dimming	Duplex Receptacle	Color	Texture	Pre Finish
PC Button type photocell	**DIM** 0-10 volts dimming **SD** Field adjustable 10% increment step-dimming switch Contact factory for wireless controls and more information regarding ISO option.	**GFIC1** Duplex receptacle, 1ground fault current Interrupter, 125 VAC (15A), complete with a lockable "in-use" weather proof cover **GFIC2** Duplex receptacle, ground fault current Interrupter, 125 VAC (20A), complete with a lockable "in-use" weather proof cover	**BK** Black RAL9005 **DG** Dark green RAL6012 **MA** Marine blue RAL5013 **SI** Metallic silver RAL9006 (smooth only) **BZ** Dark bronze RAL8019 **BG** Burgundy RAL3005 **GM** Moss green RAL6005 **PG** Pale grey RAL7040 **WH** White RAL9003 **BKH*** Black Holophane (smooth only) **BZH*** Dark bronze Holophane (smooth only) **GNH*** Green Holophane (smooth only) **GHH*** Graphite Holophane (smooth only) **GRH*** Gray Holophane (smooth only) **SLH*** Silver Holophane (smooth only) **WHH*** White Holophane (smooth only) * Holophane colors	**TX** Textured **SM** Smooth	**MG** Marine grade pre-finish



Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice. Please consult our web site for up-to-date product information and IES files.

Stamp/Approval:

Name: Date:

Name: Page 2 of 2

Date:

Cyclone Lighting: 2175 Des Entreprises Blvd, Terrebonne (QC) Canada J6Y 1W9 **www.cyclonelighting.com** **CYL_Zen_ZC4 Light Column Spec_1021**
Phone: 450.434.5000 - info@cyclonelighting.com © 2019-2021 Acuity Brands Lighting, Inc. All rights reserved. Rev. 20/10/19

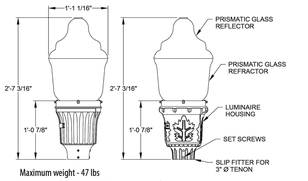
HOLOPHANE
LEADER IN LIGHTING SOLUTIONS

Catalog Number

Notes Type

Type E Fixture

* Shown with MS Housing



Maximum weight - 47 lbs
Maximum effective projected area - 1.38 sq. ft.

GVD3
Granville Classic Utility LED3

BAA DLC DLC PREMIUM DLC VALUE LEED

SPECIFICATIONS

General Description
The Granville Classic Utility LED3 is designed for ease of maintenance with the plug-in electrical module common to each of the luminaires in Holophane's Utility Luminaire Series. The traditional acorn-shaped luminaire, while reminiscent of the 1920's, contains a powerful, stalk-mounted Chip-On-Board LED platform with a precision optical system that maximizes post spacings while maintaining uniform illumination.

Mechanical Specifications
The luminaire housing shall:
- Be heavy grade A360 cast aluminum (aluminum with <1% copper)
- IP55 rated housing provides tool-less access with a spring-loaded latch
- Incorporate a hidden hinge door allowing the door to swing open and remain open
- Offer units with an EEI- NEMA twist lock photocontrol receptacle, the housing contains a tempered glass window to allow light to reach the cell
- Mount to slip-fitter that will accept 3" high by 2-7/8" to 3-1/8" O.D. pole tenon
- Provide four uniquely designed stainless steel spring clips, enclosed in a clear polyvinyl chloride sleeve and adjusted by 1/4-20 hex-head bolts that securely cradle the prismatic glass refractor. The same ¼-20 bolts also support the decorative rib and banding assembly.

The finish shall:
- Utilize a polyester power coat paint to ensure maximum durability
- Rigorous multi-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117) on standard and RAL finish options.
- RAL (RALxxxxSDCR) paint colors are Super Durable Corrosion Resistant, 80% gloss.

Electrical Specifications
The driver shall meet the following requirements:
- Certified by UL or CSA for wet locations
- A factory programmable electronic driver with 0-10V dimming control leads
- LEDs shall have a minimum of 70 CRI and available in 2700K, 3000K, 4000K, and 5000K CCT
- The electrical system shall be designed to meet ANSI/IEEE C62.41.2 and shall offer a 10kV/5kA surge protection, fail off, as standard with an upgradable 20kV/10kA surge protection, fail off with indicator light, option
- Lumen output can be customized prior to manufacturing by way of FPDtx Options
- The electrical components are mounted on an aluminum plate that is removeable with minimum use of tools. A matching five conductor plug connects to the receptacle in the luminaire housing to complete the wiring. For photoelectric operation, the electrical module is provided with an EEI-NEMA twist-lock photocell receptacle.

Optical Specifications
The optical system is IP66 rated and consists of a precisely molded thermal resistant borosilicate glass refractor and top reflector mounted within the decorative glass optic. The top reflector redirects over 50% of the upward light into the controlling refractor while allowing a soft up-light component to define the traditional acorn shape of the luminaire. The lower refractor uses precisely molded prisms to maximize the pole spacings while maintaining uniform illuminance. Two refractors are available, designed for IES type III and I/ distributions. Lunar Optics shielding is available for asymmetric and symmetric distributions.

Control Options
The control options shall include, but not limited to, the following:
- Field adjustable output to adjust output to luminaire - AO
- Long life photocontrol, 20 years – PCLL, P34 and P48 with DTL
- 7 pin receptacles internally in housing (PR7) or inside glass mounted (PR7E - not for use with photocontrols & nodes must have photocontrol disabled)
- nLight Air rSBOR6 outdoor fixture-mounted motion and photo-sensor, features a dual radio to communicate wirelessly to other nLight Air devices for group response to motion, on/off control in response to daylight and by switch – RSBOR6
- Fixture embedded nLight Air network interface for individual fixture control and dimming - NLTAIR2.

Certification and Standards
- Luminaire shall be UL or CSA listed.
- Suitable for operation in an ambient temperature up to 40°C / 105°F per UL or CSA certification
- LM79 compliant
- DesignLights Consortium™ (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check with the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN ACT
This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations.
Please refer to www.acuitybrands.com/resources/buyamerican for additional information.

Warranty
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

GVD3
Granville Classic Utility LED3

HOLOPHANE LEADER IN LIGHTING SOLUTIONS

ORDERING INFORMATION **Example:** GVD3 P30 30K MVOLT MS GL3 BK RB ST TBK AO

Series	LED Performance Package	LED Color temperature	Voltage	Housing Style
GVD3 Granville Classic Utility LED3	P10 3,300 nominal lumens P20 5,500 nominal lumens P30 8,400 nominal lumens P40 10,900 nominal lumens P50 13,200 nominal lumens	27K 2700K CCT 30K 3000K CCT 40K 4000K CCT 50K 5000K CCT	MVOLT AUTO-SENSING 120-277V 50/60HZ HVOLT AUTO-SENSING 347-480V 50/60HZ	MS Modern Style Swing Open Design LS Leaf Style Swing Open Design

Optics	Housing Color	Trim	Finial	Finial Color
GL3 Glass, Type III GL5 Glass, Type V GL3LU Glass, Type III Lunar Optics GL5LU Glass, Type V Lunar Optics	BK Black BZ Bronze GH Graphite GN Green GR Grey PP Prime Paint WH White CMC CustomMatchColor Finish XX STD Finish, TBD RALxxxxSDCR RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number.	[Blank] No Trim RB Ribs & Band SY Syracuse Style with Cover (MS Housing only)	[Blank] No Finial BL Ball CL Clear EG Eagle FL Flower PN Pawn CR Cross ST Standard RM Roman Cross	TBK Black TBZ Bronze TGL Gold TGH Graphite TGN Green TGR Grey TPP Prime Paint TWH White TCMC CustomMatchColor Finish TRALxxxxSDCR RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number. TXX STD FINISH, TBD

Options: *Option Compatibility Matrix on page 3 of 4*

CONTROLS OPTIONS	PREWIRED LEAD OPTIONS	COVER OPTIONS
AO Field Adjustable Output PR7 NEMA Twistlock dimming photocontrol receptacle – 7 pin PR7E NEMA Twistlock dimming photocontrol receptacle – 7 Pin (Under Glass) PCLL Long Life DTL Twistlock Photocontrol for Solid State, MVOLT P34 Long Life DTL Twistlock Photocontrol for Solid State, 347V P48 Long Life DTL Twistlock Photocontrol for Solid State, 480V SH Shorting Cap RSBOR6 nLight Motion Sensing Photocontrols NLTAIR2 nLight nLO 2.0 Antenna	L1H 1.5 ft prewired leads L03 3 ft prewired leads L10 10 ft prewired leads L20 20 ft prewired leads L25 25 ft prewired leads L30 30 ft prewired leads	FC Full Cover MC Mayfield Half Cover
DRIVER ELECTRICAL OPTIONS		**NEMA LABEL OPTIONS**
FPDtx Factory Programmed Driver 20KV Extreme surge protection 20KV/10kA, Fail off with Indicator light		NL1X1 1" X 1" ANSI Wattage Label NL2X2 2" X 2" ANSI Wattage Label

Accessories: *Order as separate catalog number.*

DECORATIVE BAND OPTIONS	HOUSE-SIDE SHIELD OPTIONS
GVBAND3E Decorative Band *NOTE:* *Field installed. For use with units without factory installed ribs and band.* *X = Band color, example GVBANDBK (black).*	GVDHVS090 House Side Shield Solid 90° GVDHVS512 House Side Shield Solid 120° GVDHVS518 House Side Shield Solid 180° GVDHVSL90 House Side Shield Solid 90° (Lunar) GVDHVS512 House Side Shield Solid 120° (Lunar) GVDHVSL18 House Side Shield Solid 180° (Lunar)

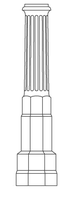
HOLOPHANE
LEADER IN LIGHTING SOLUTIONS

Catalog Number

Notes Type

Type E Pole

OSA
Oslow™ Aluminum Pole



SPECIFICATIONS

General Description
The lighting post shall be all aluminum, one-piece construction, with a octagonally stepped and fluted base design.

Materials
- The base shaft shall be heavy wall, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179 or ASTM B26
- The straight shafts shall be extruded from aluminum, ASTM 6063 alloy
- The tapered shaft shall be extruded from aluminum, ASTM 6063 alloy, spun to a tapered shape
- All hardware shall be tamper resistant stainless steel
- Anchor bolts to be completely hot dip galvanized
- Utilize a polyester powder coat paint to ensure maximum durability.
- Rigorous multi-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5,000 hours exposure to salt fog chamber (operated per ASTM B117) on standard and RAL finish options.
- RAL (RALxxxxSDCR) paint colors are Super Durable Corrosion Resistant, 80% gloss.

Construction
- The shaft shall be double welded to the base casting and shipped as one piece for maximum structural integrity
- The shaft shall be welded inside the base casting at the top of the access door, and externally where the shaft exits the base.
- All welding shall be per ANSI/AWS.

Dimensions
- The post height shall range from 8' to 16' with a 10" diameter base.
- At the top of the post, an integral tenon with a transitional donut shall be provided for luminaire mounting

Installation
- The post shall be provided with four, hot dip galvanized L-type anchor bolts
- A door shall be provided in the base for anchorage and wiring access
- A grounding screw shall be provided inside the base opposite the door

Warranty
1 Years Limited. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

IMPORTANT INSTALLATION NOTES:
- **Do not** erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Acuity Brands Lighting will not accept claims for incorrect anchorage placement due to failure to use factory template.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Acuity Brands Lighting is not responsible for the foundation design.

Note: Specifications subject to change without notice.

ORDERING INFORMATION **Example:** OSA 12 54C 10D C03 BK

Post	Height	Shaft Style	Base	Tenon		
OSA Oslow Aluminum Pole	08 8' 09 9' 10 10' 11 11' 12 12' 13 13' 14 14' 15 15' 16 16'	**Fluted Shaft** F4C 4" diameter, 125 Wall F4J 4" diameter, .25 Wall F5J 5" diameter, .25 Wall **Smooth Shaft** S4C 4" diameter, 125 Wall S4J 4" diameter, .25 Wall S5J 5" diameter, .25 Wall **Tapered Shaft** T4C 3" to 4" diameter, 125 Wall T5C 3" to 5" diameter, 125 Wall	10D 10" Hexagonal, Diamond Pattern Bolt Circle	C03 3" O.D. x 3" I.G. C04 3" O.D. x 4" I.G. C05 3" O.D. x 5" I.G. C06 3" O.D. x 6" I.G. C08 3" O.D. x 8" I.G. C09 3" O.D. x 9" I.G. C12 3" O.D. x 12" I.G. C14 3" O.D. x 14" I.G.	E08 3.5" O.D. X 8" I.G. G12 4.38" O.D. X 12" I.G. H10 4.50" O.D. X 10" I.G. PLN Plain pole cap - no tenon VGP VGC Plate	

Finish		Options		Welded Provisions[1]		Accessories: *Order as separate catalog number.*	
BK Black BZ Bronze DB Dark Blue GH Graphite GN Green GR Gray	PP Prime Painted SL Silver WH White CMC Customer matching color CTBS Standard color to be selected RALxxxxSDCR RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number.	GBD 1/2 Brass Grounding Lug DBB Factory Installed Direct Burial Base		EPXXXY Provision for eye bolt LPXXXY Large provision RPXXXY Receptacle provision SPXXXY Small provision SBOXXXOY Occupancy sensor provision NOTE 1 Replace XXX with height from grade (inches). Replace Y with orientation from hand hole (A=0, B=90, C=180, D=270). Add multiple provisions as necessary to cover each location. Must validate EPA restrictions for banners.		AB-31-4 3/4" Anchor bolt set, galvanized steel ADBB10 10" Galvanized steel direct burial base TMP-59 7" Bolt Circle (10D Base Option)	

1 LIGHTING DETAILS
NOT TO SCALE

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
P 856.661.0883
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

CONSTRUCTION DETAILS VI

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	REVISIONS	DATE	BY
1.	CITY PLANNING BOARD SUBMISSION	11/17/2025	BF

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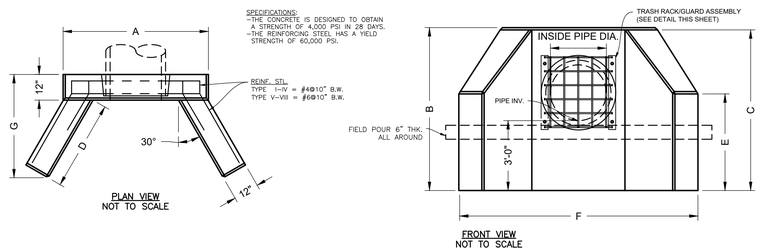
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6006

SHEET 33 OF 45

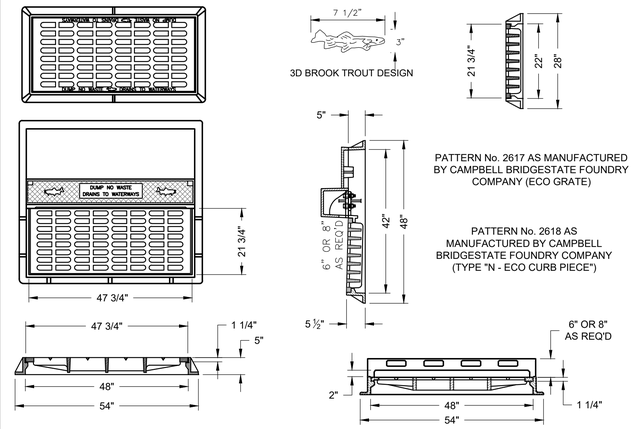
U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6001-CS6006.dwg PLOTTED: 11/13/2025 5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni MCS.ctb PROJECT STATUS: —



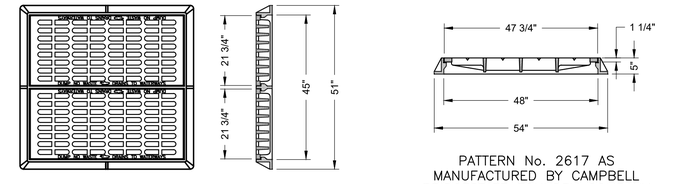
TYPE	INSIDE PIPE DIA. (IN.)	WEIGHT (LB.)	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	G (IN.)
I	12–15	6670	56	63	63	30	51	86	38
II	18–21	9350	64	69	69	42	57	106	49
III	24–27	12060	68	75	75	54	63	122	59
IV	30–36	17270	79	84	84	72	72	151	75
* V	42	29980	111	96	93	84	83	172	85
* VI	48	35320	118	103	99	96	89	192	95
* VII	54–60	47370	132	116	112	120	102	242	116
* VIII	72	61770	148	130	126	144	116	286	137

TYPE MARKED BY * INDICATES WALL MAY BE FABRICATED IN (3) PIECES

1 PRECAST CONCRETE HEADWALL DETAI
NOT TO SCALE



2 NJDOT TYPE "A" INLET WITH BICYCLE SAFE GRATES
NOT TO SCALE



3 NJDOT TYPE "E" INLET WITH BICYCLE SAFE GRATES
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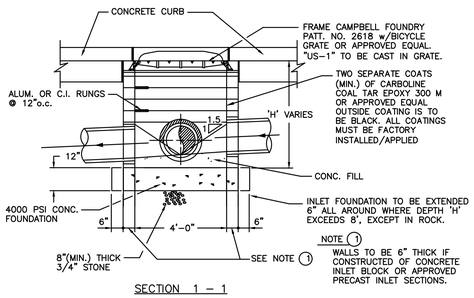
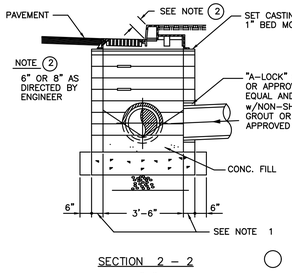
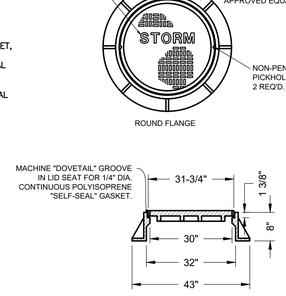


SECTION 1 – 1
TYPE "B" INLET



SECTION 2 – 2
TYPE "B" INLET

(BRIDGESTATE PATTERN No. 1012B)



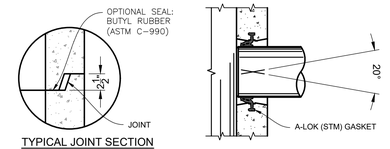
THE INLET AND MANHOLE ARE CAST WITH THE GASKET IN PLACE, SO THE GASKET BECOMES AN INTEGRAL PART OF THE WALL.

NOTES:
1. TERMINAL MANHOLES TO BE PROVIDED WITH VENTED COVERS CONSISTING OF 3/4" HOLES (4), EVENLY SPACED.

2. ALL PARTS OF CASTING SHALL BE THOROUGHLY COATED AT THE FACTORY WITH ONE COAT OF BLACK ASPHALTUM PAINT OR OTHER IMPERVIOUS PREPARATION APPROVED BY ENGINEER.

3. MANHOLE FRAMES AND COVERS ARE TO PROVIDE A MINIMUM OF THIRTY-INCH CLEAR OPENING AT THE COVER IN ORDER TO ALLOW EASY ACCESS UNDER CONFINED SPACE ENTRY REQUIREMENTS.

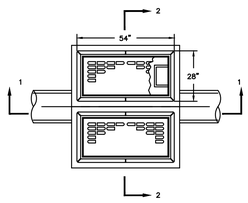
SPECIFICATIONS:
1. THE CONCRETE IS DESIGNED TO OBTAIN A STRENGTH OF 4,500 PSI IN 28 DAYS.
2. THE REINFORCING STEEL HAS A YIELD STRENGTH OF 60,000 PSI.
3. THE INLET SHALL BE DESIGNED TO MEET ASTM C-913, "PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES.
4. THE REINFORCED CONCRETE WALLS AND BASE SLAB ARE DESIGNED FOR A MAXIMUM DEPTH OF 10 FT (DEPTH = F.G. TO TOP OF BASE SLAB).
5. STRUCTURE IS DESIGNED TO MEET NJDOT SPECS.
6. THE A-LOK STORM GASKET OR APPROVED EQUAL IS DESIGNED TO MEET THE REQUIREMENTS OF ASTM C-1478, "STORM DRAIN RESILIENT CONNECTORS BETWEEN REINFORCED CONCRETE STORM SEWER STRUCTURES, PIPES, AND LATERALS."
7. INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. BOTTOMS SHALL BE DISHED AND SLOPED TOWARDS THE OUTLET PIPE AT A RATE OF GRADE OF 2 INCHES PER FOOT.



TYPICAL JOINT SECTION
NOT TO SCALE

A-LOK (STM) SECTION
NOT TO SCALE

4 HEAVY DUTY MANHOLE FRAME AND COVER DETAIL
NOT TO SCALE



TYPE "E" INLET – PLAN VIEW WITH TRAP
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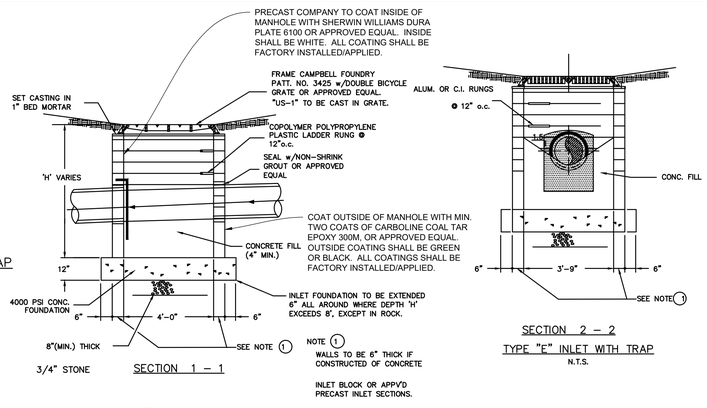
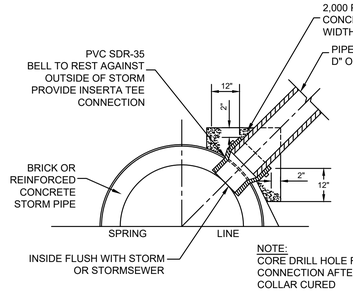


SECTION 1 – 1

SECTION 2 – 2
TYPE "E" INLET WITH TRAP
N.T.S.

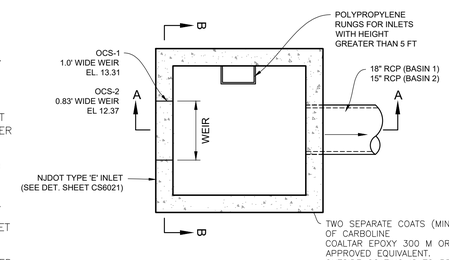
5 TYPE "E" INLET WITH TRAP
NOT TO SCALE



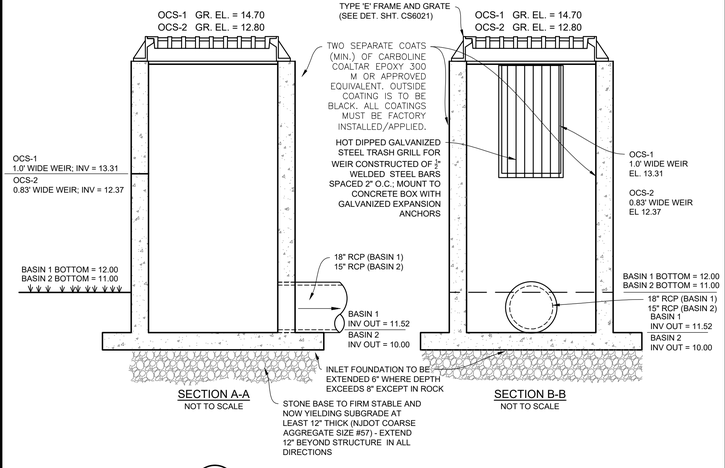
SADDLE CONNECTION TO BRICK OR

6 R.C. PIPE STORM DETAIL (IF REQUIRED)
NOT TO SCALE

SPECIFICATIONS:
1. THE CONCRETE SHALL BE DESIGNED TO OBTAIN A STRENGTH OF 4,000 PSI IN 28 DAYS.
2. THE REINFORCING STEEL HAS A YIELD STRENGTH OF 60,000 PSI.
3. THE INLET SHALL BE DESIGNED TO MEET ASTM C–913, "PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES.
4. THE REINFORCED CONCRETE WALLS AND BASE SLAB ARE DESIGNED FOR A MAXIMUM DEPTH OF 10 FT (DEPTH = F.G. TO TOP OF BASE SLAB).
5. STRUCTURE SHALL BE DESIGNED TO MEET NJDOT SPECS.
6. THE A–LOK STORM GASKET OR APPROVED EQUAL IS DESIGNED TO MEET THE REQUIREMENTS OF ASTM C–1478, "STORM DRAIN RESILIENT CONNECTORS BETWEEN REINFORCED CONCRETE STORM SEWER STRUCTURES, PIPES, AND LATERALS."



PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

7 OUTLET STRUCTURE OCS-1 AND OCS-2 (NJDOT TYPE "E" INLET)
NOT TO SCALE

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

Pennoni
PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
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NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768
11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

STORMWATER DETAILS I

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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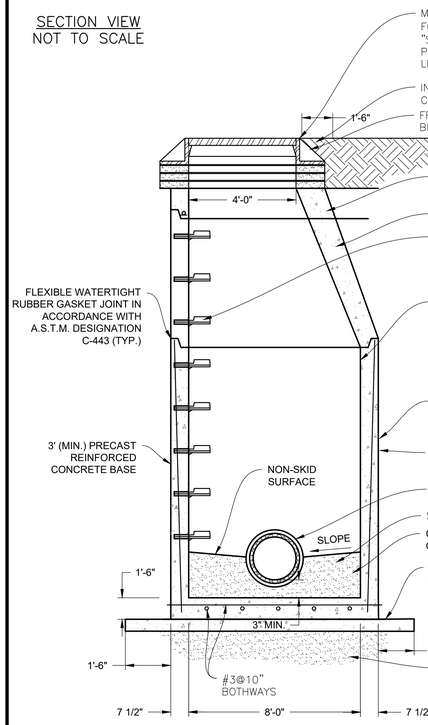
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6021

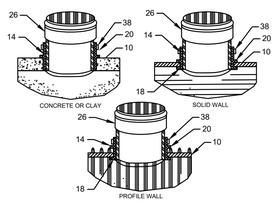
SHEET 34 OF 45

SECTION VIEW
NOT TO SCALE



1 STANDARD 4'-0" PRECAST MANHOLE
NOT TO SCALE

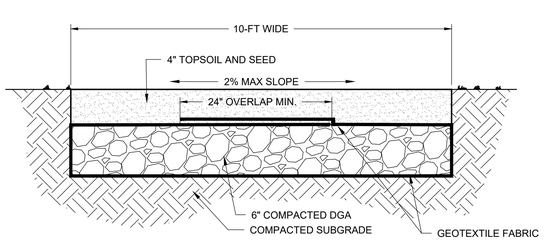
NOTES:
1. PRECAST MANHOLE IN ACCORDANCE WITH A.S.T.M DESIGNATION C-478, MINIMUM COMPRESSIVE STRENGTH 4000 P.S.I. (TYP.) MANHOLE TO BE MANUFACTURED BY ATLANTIC CONCRETE, OR APPROVED EQUAL.
2. ALL MANHOLES NOT LOCATED IN CROWN OF ROAD SHALL BE CONSTRUCTED WATERTIGHT WITHOUT THE USE OF A RUBBER GASKET. WATERTIGHTNESS MAY BE ACHIEVED BY DISH SHAPED INSERTS, WATERTIGHT CASTING, OR APPROVED EQUAL. DISH SHAPED WATERTIGHT INSERT SHALL BE SUPPLIED, TWO PER MANHOLE.
3. SMOOTH CONCRETE CHANNEL WITH DEPTH EQUAL TO 0.80 TIMES THE DIA. OF THE MAIN SEWER FOR SIZES 8" TO 15" AND 0.50 TIMES THE DIA. FOR SIZES 16" AND ABOVE. (USE CLASS C CONCRETE).
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING ADEQUATE BALLAST TO OFFSET FLOATATION FORCES ACTING ON MANHOLES INSTALLED IN WET AREAS. PROVIDE CALCULATIONS WITH SUBMITTAL SIGNED AND SEALED BY N.J.P.E.
5. POLYPROPYLENE RUNGS, WITH GRADE 60 STEEL REINFORCEMENT AND TEETH AND SIDE CLEATS, AS MANUFACTURED BY MA INDUSTRIES. STEEL RUNGS NOT ALLOWED, FOR MANHOLES GREATER THAN 15'-0" DEEP. APPLICANT SHALL CONTACT CCMUA FOR SPECIFIC MANHOLE REQUIREMENTS. ALL OSHA REQUIREMENTS MUST BE MET.
6. ANY MANHOLE REQUIRING LINING SHALL HAVE MANHOLE RUNGS REMOVED AND HAVE A COMPOSITE LADDER INSTALLED.
7. PROVIDE WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM, AS MANUFACTURED BY CANUSA-CPS, AROUND FRAME AND GRADE RINGS FOR ALL MANHOLES AND AROUND ALL RISER JOINTS. INSTALLATION SHALL BE PROVIDED IN ACCORDANCE WITH ALL OF MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
8. MANHOLE FRAME SHALL BE LAID IN 1-INCH OF MORTAR AND HAVE 1-INCH MORTAR AROUND THE RIM.
9. THERE SHALL BE NO CHANGE IN FLOW DIRECTION GREATER THAN 90 DEGREES.



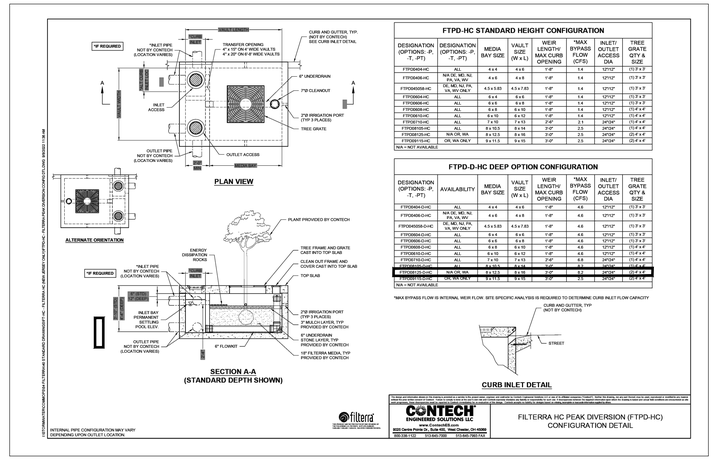
NOTE: AIR TIGHT SEAL IS ACCOMPLISHED WHEN PVC HUB (NO. 26) IS DRIVEN INTO RUBBER SLEEVE (NO. 14) CAUSING THE RUBBER SLEEVE TO COMPRESS BETWEEN PIPE WALL (NO. 10) AND PVC HUB (NO. 26).

FIG. 10 MAINLINE PIPE ALL WHERE BRANCH LINE IS CONNECTED.
FIG. 14 COMPLETE RUBBER SLEEVE CONSISTING OF C-443 SPECIFICATIONS.
FIG. 18 RUBBER SEGMENT WHICH IS MOLDED INTO THE RUBBER SLEEVE. THIS PREVENTS SNAP OUT ON THE INSIDE OF THE DRILLED HOLE (PLASTIC PIPE ONLY) AND HELPS HOLD THE FITTING IN PLACE, NOT CREATING THE SEAL.
FIG. 20 RUBBER SEGMENT WHICH IS MOLDED INTO THE RUBBER SLEEVE. THIS PREVENTS THE RUBBER SLEEVE FROM GOING THROUGH THE DRILLED HOLE WHEN PVC HUB IS BEING DRIVEN INTO THE RUBBER SLEEVE.
FIG. 26 SDR-35 PVC HUB (ASTM D-3034 SEWER PIPE) WHICH IS DRIVEN INTO THE CENTER OF THE RUBBER SLEEVE AFTER THE RUBBER SLEEVE IS IN THE HOLE.
FIG. 38 STAINLESS STEEL BAND, PUT ON ABOVE FIG. 20 IS AN ADDED PRECAUTION.

4 INSERTA TEE CONNECTION DETAILS
NOT TO SCALE



6 BASIN ACCESS RAMP DETAIL
NOT TO SCALE



FTPD-HC STANDARD HEIGHT CONFIGURATION

DESIGNATION (OPTIONS: -P, -T, -PT)	DESIGNATION (OPTIONS: -P, -T, -PT)	MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX CURB OPENING	*MAX BYPASS FLOW (CFS)	INLET/ OUTLET ACCESS DIA	TREE GRATE QTY & SIZE
FTPD0404-HC	ALL	4 x 4	4 x 8	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0404S-HC	NH, DC, MD, NJ, PA, VA, WV	4 x 4	4 x 8	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0405S8-HC	DE, MD, NJ, PA, VA, WV ONLY	4.5 x 5.83	4.5 x 7.83	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0604-HC	ALL	6 x 4	6 x 8	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0606-HC	ALL	6 x 6	6 x 8	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0608-HC	ALL	6 x 8	6 x 10	1'-8"	1.4	12"/12"	(1) 4' x 4'
FTPD0610-HC	ALL	6 x 10	6 x 12	1'-8"	1.4	12"/12"	(1) 4' x 4'
FTPD0710-HC	ALL	7 x 10	7 x 13	2'-6"	2.1	24"/24"	(1) 4' x 4'
FTPD0810-HC	ALL	8 x 10	8 x 14	2'-6"	2.5	24"/24"	(1) 4' x 4'
FTPD0812-HC	NH, DE, MA	8 x 12	8 x 16	2'-6"	2.5	24"/24"	(2) 4' x 4'
FTPD0815-HC	DR, MA ONLY	8 x 11.5	9 x 15	2'-6"	2.5	24"/24"	(2) 4' x 4'

N/A = NOT AVAILABLE

FTPD-D-HC DEEP OPTION CONFIGURATION

DESIGNATION (OPTIONS: -P, -T, -PT)	AVAILABILITY	MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX CURB OPENING	*MAX BYPASS FLOW (CFS)	INLET/ OUTLET ACCESS DIA	TREE GRATE QTY & SIZE
FTPD0404-D-HC	ALL	4 x 4	4 x 8	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0404S-D-HC	NH, DC, MD, NJ, PA, VA, WV	4 x 4	4 x 8	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0405S8-D-HC	DE, MD, NJ, PA, VA, WV ONLY	4.5 x 5.83	4.5 x 7.83	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0604-D-HC	ALL	6 x 4	6 x 8	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0606-D-HC	ALL	6 x 6	6 x 8	1'-8"	1.4	12"/12"	(1) 3' x 3'
FTPD0608-D-HC	ALL	6 x 8	6 x 10	1'-8"	1.4	12"/12"	(1) 4' x 4'
FTPD0610-D-HC	ALL	6 x 10	6 x 12	1'-8"	1.4	12"/12"	(1) 4' x 4'
FTPD0710-D-HC	ALL	7 x 10	7 x 13	2'-6"	2.1	24"/24"	(1) 4' x 4'
FTPD0810-D-HC	ALL	8 x 10	8 x 14	2'-6"	2.5	24"/24"	(1) 4' x 4'
FTPD0812-D-HC	NH, DE, MA	8 x 12	8 x 16	2'-6"	2.5	24"/24"	(2) 4' x 4'
FTPD0815-D-HC	DR, MA ONLY	8 x 11.5	9 x 15	2'-6"	2.5	24"/24"	(2) 4' x 4'

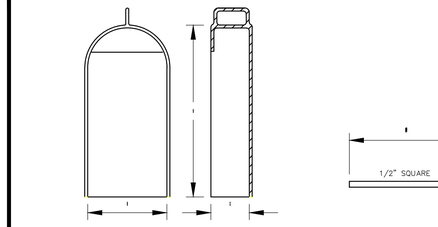
N/A = NOT AVAILABLE

*MAX BYPASS FLOW IS INTERNAL WEIR FLOW. SITE SPECIFIC ANALYSIS IS REQUIRED TO DETERMINE CURB INLET FLOW CAPACITY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
800-338-1122 513-645-7000 513-645-7993 FAX

FILTERRA HC PEAK DIVERSION (FTPD-HC) CONFIGURATION DETAIL

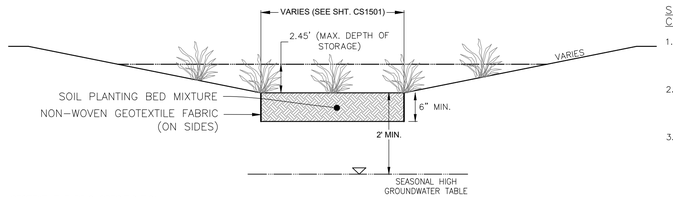
2 FTPD DETAIL
NOT TO SCALE



PATTERN NUMBER	DIMENSIONS IN INCHES A	B	C	PIPE SIZE
2560	9 1/2	16	4 3/4	6
2561	11 1/2	20 1/2	5 1/2	8
2562	13 1/4	23 1/2	6 1/2	10
2563	15 3/4	26	7 1/2	12
2564	18	27	9	15
2565	20	27	10	18
2566	25 1/4	30	11 1/4	21

NOTE: COST FOR TRAP TO BE INCLUDED IN THE BID ITEM COST FOR THE MANHOLE AND/OR INLET.

3 STANDARD CATCH BASIN TRAP DETAIL
NOT TO SCALE



GEOTEXTILE FABRIC SPECIFICATION:
NEEDLED NON-WOVEN POLYPROPYLENE FIBERS MEETING THE FOLLOWING PROPERTIES:
A. GRAB TENSILE STRENGTH (ASTM-D4632) ≥ 120 LBS
B. MULLEN BURST STRENGTH (ASTM-D3786) ≥ 225 PSI
C. FLOW RATE (ASTM-D4491) ≥ 95 GAL/MIN/FT2
D. UV RESISTANCE AFTER 500 HRS (ASTM-D4355) ≥ 70%
E. HEAT-SET OR HEAT-CALENDARED FABRICS ARE NOT PERMITTED

RAINGARDEN SOIL PLANTING BED MIX
A. 80% TO 95% SAND (WITH NO MORE THAN 25% OF THE SANDS AS FINE OR VERY FINE SAND)
B. 15% SILT
C. 2% TO 5% CLAY CONTENT
D. 3-7% ORGANIC CONTENT
E. pH RANGE FROM 5.5 TO 6.5

THE MATERIAL SHALL BE PLACED IN 6 TO 12 INCH LIFTS.

RAINGARDEN SYSTEM NOTES:

1. IN RAINGARDEN AREA DO NOT MOUND MULCH AROUND PLANTS.
2. FOR REQUIRED PLANTINGS IN EACH RAINGARDEN AREA, SEE PLANTING SCHEDULE ON SHEET CS2001.

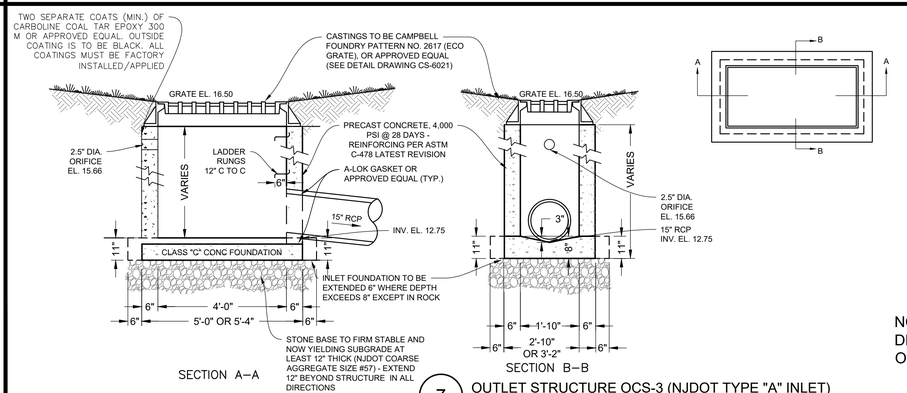
SEQUENCE OF RAINGARDEN SYSTEM CONSTRUCTION:

1. CLEARLY DELINEATE THE PROPOSED RAINGARDEN AREAS BEFORE BEGINNING ANY EARTH MOVING ACTIVITIES TO AVOID COMPACTION. AREAS SHALL BE SURROUNDED BY FABRIC FILTER FENCING TO AVOID ANY SEDIMENT FROM BUILDING UP.
2. COMPLETE THE SITE ROUGH GRADING AND STABILIZE THE DISTURBED AREAS. DO NOT FINALIZE RAINGARDEN EXCAVATION AND CONSTRUCTION UNTIL THE DRAINAGE AREA IS FULLY STABILIZED.
3. EXCAVATE RAINGARDEN AREAS TO SPECIFIED DEPTH AND MANUALLY SCARIFY THE EXISTING SOIL SURFACES. DO NOT COMPACT IN-SITU SOILS. HEAVY EQUIPMENT SHALL NOT BE USED WITHIN THE RAINGARDEN FOOTPRINT. ALL EQUIPMENT SHALL BE KEPT OUT OF THE EXCAVATED AREA TO THE MAXIMUM EXTENT POSSIBLE.
4. INSTALL NON-WOVEN GEOTEXTILE FABRIC OVER STONE AND SUBGRADE AS SHOWN.
5. BACKFILL EXCAVATED AREA AS SOON AS THE SUBGRADE PREPARATION IS COMPLETE TO AVOID ACCUMULATION OF DEBRIS. PLACE PLANTING BED SOIL IN 6-12 INCHES LIFTS AND TAMP LIGHTLY. SLIGHT OVERFILLING MIGHT BE NECESSARY TO ACCOUNT FOR SETTLEMENT.
6. AFTER ALLOWING FOR SETTLEMENT, COMPLETE FINAL GRADING WITHIN ABOUT 2 INCHES OF THE PROPOSED DESIGN ELEVATIONS, LEAVING SPACE FOR THE TOP DRESSING OF MULCH.
7. SEED AND PLANT VEGETATION AS INDICATED ON THE LANDSCAPE DRAWINGS AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
8. PLACE MULCH AND HAND GRADE TO FINAL ELEVATIONS.
9. WATER VEGETATION AT THE END OF EACH AND EVERY WORK DAY FOR TWO WEEKS AFTER PLANTING IS COMPLETED.

RAIN GARDEN AREA	EXISTING GROUND ELEVATION	PROPOSED TOP OF BANK ELEVATION	PROPOSED BOTTOM ELEVATION	ESTIMATED SEASON HIGH ELEVATION*	SIDE SLOPE	GRATE ELEVATION	INVERT ELEVATION OUTFLOW PIPE	CURRENT 2 YR. EL.	CURRENT 10 YR. EL.	CURRENT 100 YR. EL.	PROJECTED 2 YR. EL.	PROJECTED 10 YR. EL.	PROJECTED 100 YR. EL.	WQ EL.
1	37.0	15.75	12.0	8.3	3:1	14.70	11.52	13.95	14.25	14.75	14.03	14.37	14.87	13.31
2	35.0	13.90	11.0	7.2	3:1	12.80	10.00	12.80	12.89	12.96	12.84	12.92	13.01	12.19
3	35.0	17.50	14.5	8.5	3:1	16.50	12.75	16.41	16.57	16.63	16.52	16.59	16.66	15.70

* NOT ENCOUNTERED TO ELEVATION

5 TYPICAL RAINGARDEN SECTION DETAIL
NOT TO SCALE



7 OUTLET STRUCTURE OCS-3 (NJDOT TYPE "A" INLET)
NOT TO SCALE

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NOT FOR CONSTRUCTION

Pennoni
PENNONI ASSOCIATES INC.
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NJ. COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768
11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

STORMWATER DETAILS II

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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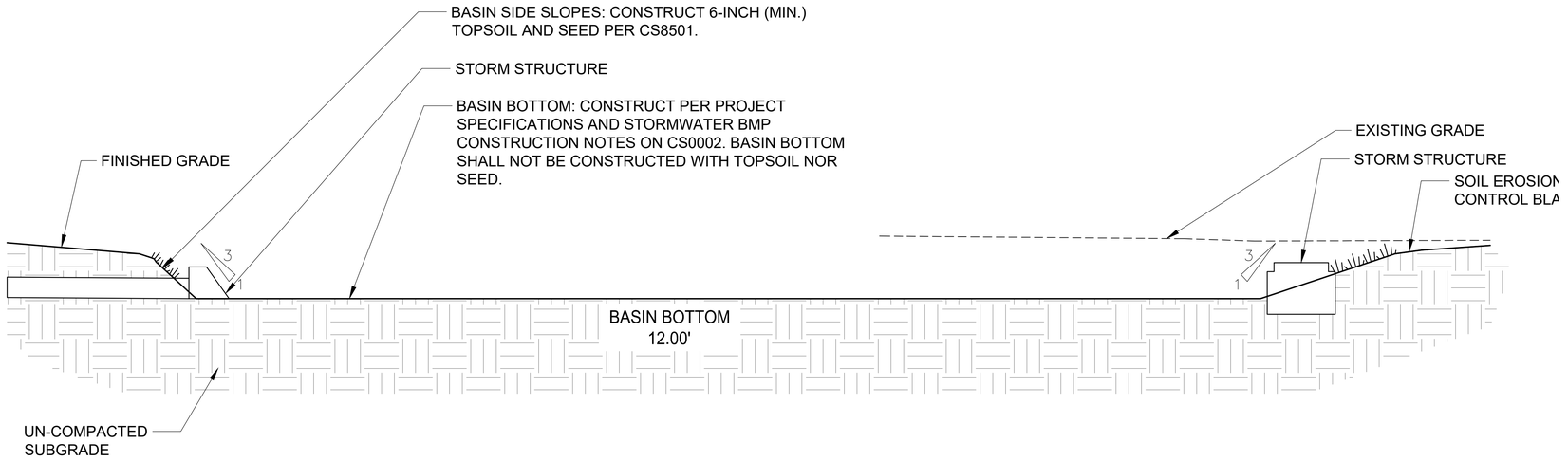
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

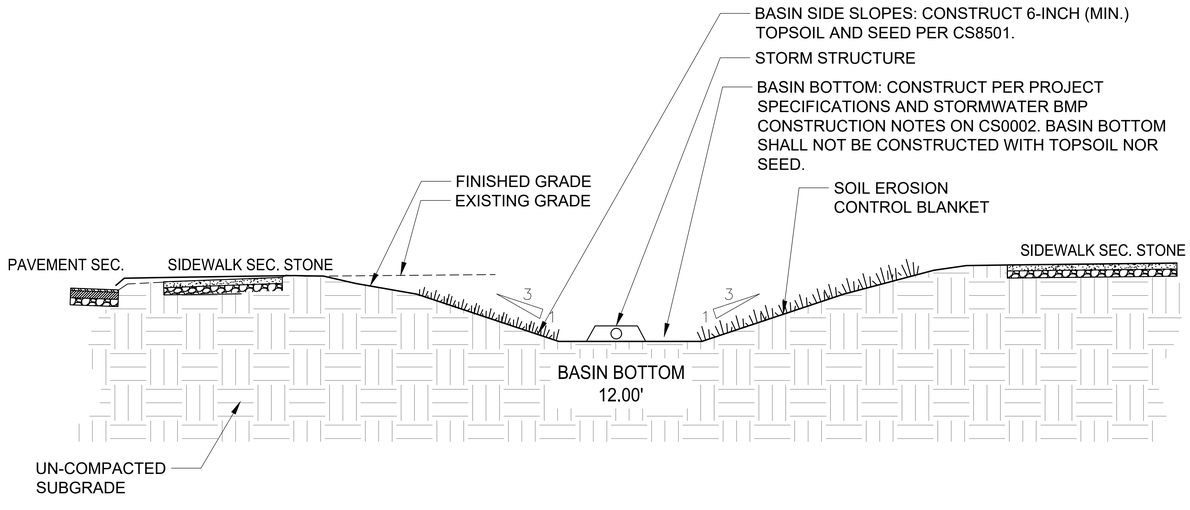
CS6022

SHEET 35 OF 45

U:\Accounts\SCHER\SCHER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS6022-CS6023.dwg PLOTTED: 11/13/2025 5:41 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



1 RAINGRADEN NO. 1 SECTION 'A'-'A' DETAIL
NOT TO SCALE



2 RAINGRADEN NO. 1 SECTION 'B'-'B' DETAIL
NOT TO SCALE

NOTE:

1. SEE SHEET CS1501 FOR LOCATION OF CROSS-SECTION

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
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NJ COA NO. GA28033300

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NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY
1300 WALNUT STREET

STORMWATER DETAILS III

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6023

SHEET 36 OF 45

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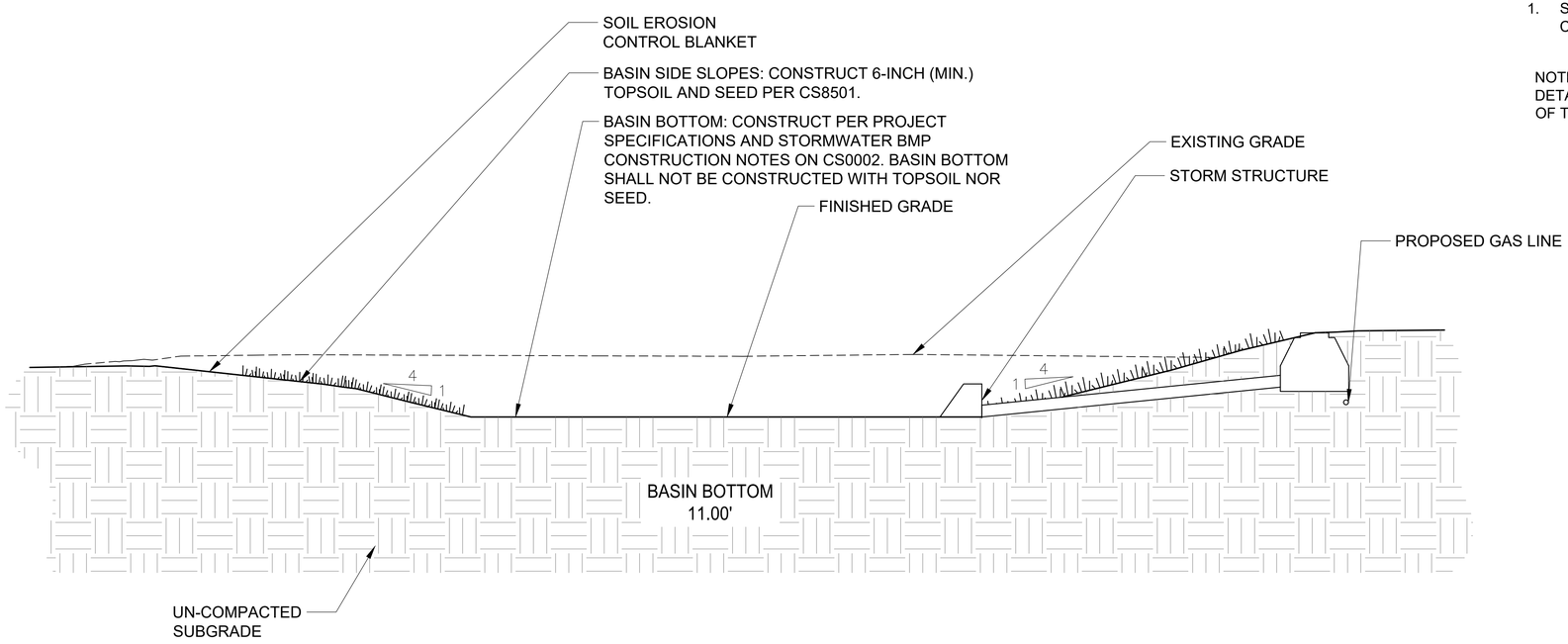
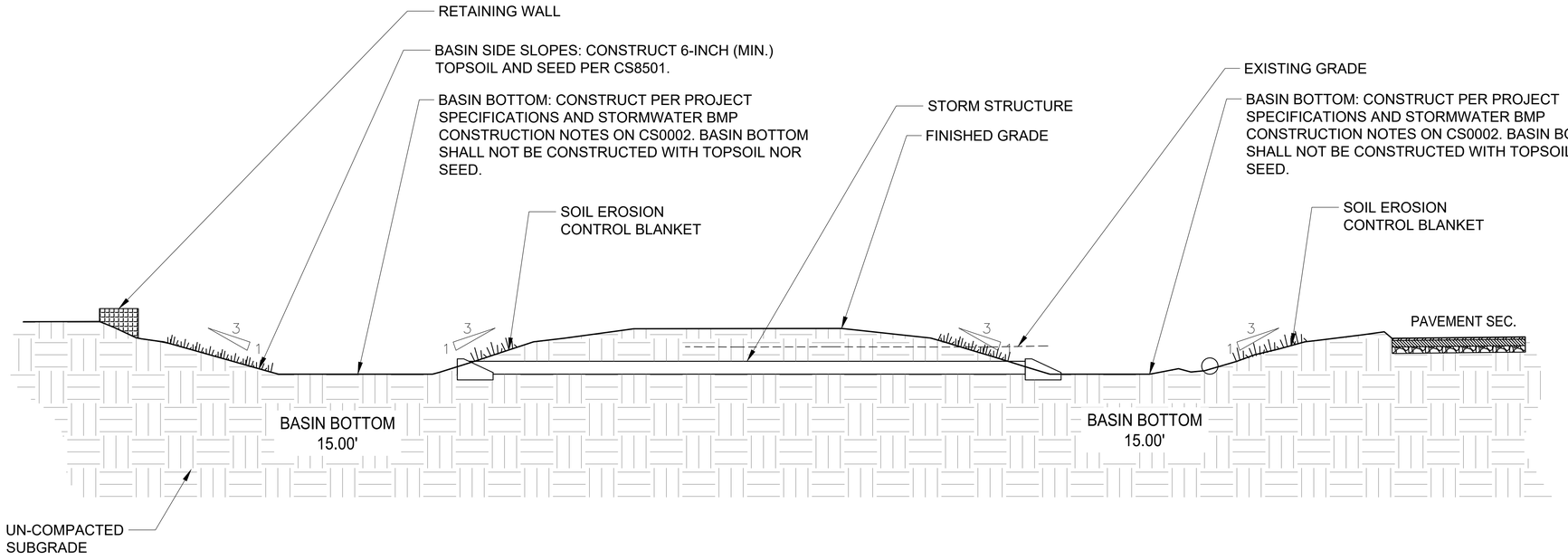
NOTE:

1. SEE SHEET CS1501 FOR LOCATION OF CROSS-SECTION

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN



1 RAINGRADEN NO. 2 SECTION 'C'-'C' DETAIL
NOT TO SCALE



2 RAINGRADEN NO. 3 SECTION 'D'-'D' DETAIL
21

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
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NJ COA NO. GA28033300

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CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

STORMWATER DETAILS IV

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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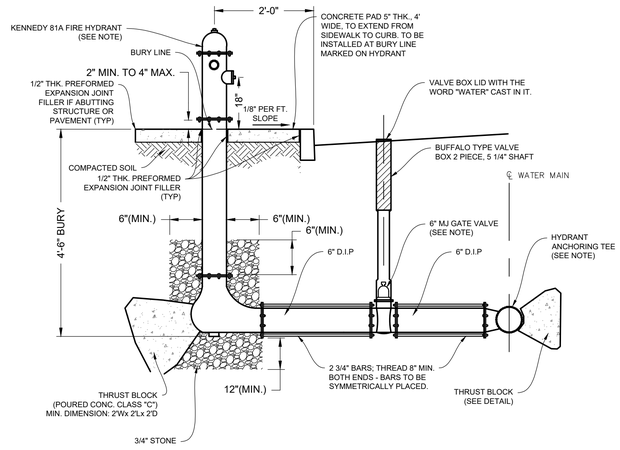
PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6024

SHEET 37 OF 45

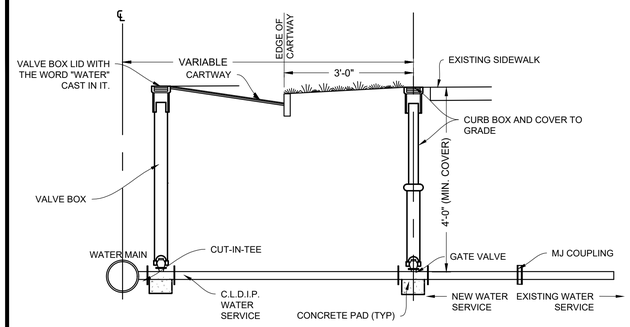
U:\Accounts\SCHER\SCHER25001 - Cornell Institute Additional Services\05SRVL_SHEETS\CS6021-CS6023.dwg PLOTTED: 11/13/2025 5:42 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —



FIRE HYDRANT NOTES:

1. THE INLET HUB, GATE VALVE AND HYDRANT TEE SHALL BE RODDED TOGETHER WITH CONTINUOUS THREADED RODS (ALL THREAD - M.J.), SOCKET CLAMPS, WASHERS AND CORPORATION EYE BOLTS TO PREVENT HYDRANT FROM BLOWING OFF.
2. CONTRACTOR SHALL INSURE THAT THE FIRE HYDRANT THREADS CONFORM TO LOCAL FIRE COMPANY'S STANDARDS.
3. ALL FIRE HYDRANTS SHALL OPEN BY TURNING LEFT (COUNTERCLOCKWISE). THE OPERATING NUT AND OUTLET NOZZLE CAP NUTS SHALL BE PENTAGON, MEASURING 1 $\frac{1}{2}$" FROM POINT TO FLAT AT BASE. HYDRANTS SHALL BE PRIME COATED AND PAINTED IN ACCORDANCE WITH ANSI/SWWA STANDARD SPECIFICATIONS, FINISH PAINTED CONFORMING TO THE STANDARDS OF THE CITY OF CAMDEN.

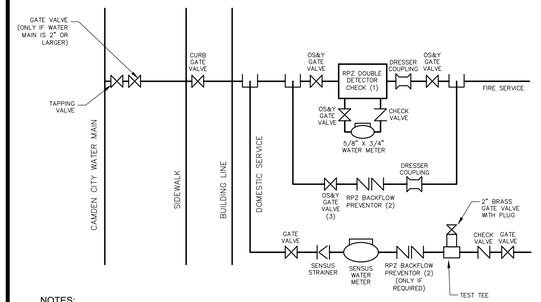
1 FIRE HYDRANT ASSEMBLY
NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL PROVIDE ALL NECESSARY PIPING, FITTINGS, ADAPTERS, ETC. TO MAKE CONNECTION TO NEW WATER SERVICE LINES. ALL TAPPING SLEEVES 2" AND LARGER SHALL BE SOLID DUCTILE IRON SUCH AS MUELLER H-615 TAPPING SLEEVE OR APPROVED EQUAL. THE TAPPING SLEEVE SHALL PASS PRESSURE TESTING BASED ON AWWA STANDARDS BEFORE TAP IS MADE.
2. CONTRACTOR SHALL PROVIDE CUT-IN-TEE AND GATE VALVES FOR WATER SERVICE CONNECTION.
3. ALL PIPE AND FITTINGS ABOVE GRADE SHALL BE FLANGE ENDS.
4. EXISTING WATER SERVICES TO BE ABANDONED IN PLACE SHALL BE CUT, PLUGGED AS CLOSE TO THE WATER MAIN AS POSSIBLE AND FREE OF LEAKS.
5. VALVES TO BE DOUBLE DISK GATE VALVES PER AWWA STANDARDS.

2 TYPICAL WATER SERVICE CONNECTION LARGER THAN 2-INCH DIAMETER
NOT TO SCALE



NOTES:

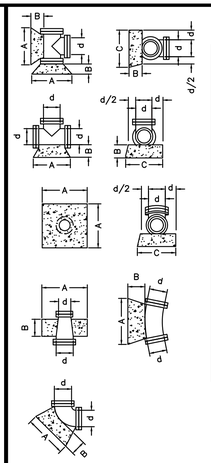
1. A BACKFLOW PREVENTER MUST BE PROVIDED FOR ALL PROPOSED FIRE SERVICE LINES. FOR A REGULAR FIRE SUPPRESSION SYSTEM (COMBINED SERVICE LINE LARGER THAN 2"), A COMBINED REDUCED PRESSUYRE DETECTOR ASSEMBLY (AMES 5000 SS, AMES 5000 RPDA OR WATT 9098 RPDA*) SHALL BE INSTALLED ON THE MAIN FIRE SERVICE LINE AND A REDUCED PRESSURE BACKFLOW PREVENTER ON THE BYPASS (AMES 4000 SS OR WATT 909*). ON THE LIMITED FIRE SUPPRESSION SYSTEM (COMBINED SERVICE LINE 1.5" OR 2"), A FIRE LINE DETECTOR CHECK WITH A SINGLE CHECK VALVE (AMES 1000 DCV*) SHALL BE INSTALLED ON THE MAIN FIRE LINE AND A REDUCED PRESSURE BACKFLOW PREVENTER (AMES 4000 SS OR WATT 909*) SGALL BE INSTALLED DOWNSTREA OF THE BYPASS. ALL REGULAR FIRE SUPPRESSION SYSTEMS MUST HAVE OS&Y VALVES, HOWEVER, LIMITED FIRE SUPPRESSION SYSTEMS MAY USE BALL VALVES (VICTAULIC SERIES 728 FIRELOCK*) INSTED OF OS&Y VALVES. THE FIRE UNIT SHALL BE FURNISHED WITHA $\frac{5}{8}$ INCH X $\frac{3}{4}$ INCH METERED BYPASS. THE APPLICANT SHALL APPLY FOR AND REGISTER ALL RPZ WITH NJDEP.

2. ALL METER SIZE 2 INCHES THROUGH 6 INCHES SHALL BE SINGLE COMPOUND METERS AND ALL METERS 8 INCHES AND LARGER SHALL BE DUPLEX COMPOUND MANIFOLD METERS.

3. ALL METERS SHALL BE ADEQUATELY RESTRAINED WITH METAL BRACKETS FASTENED TO THE FLOOR OR WALL OR OTHER APPROVED MEANS SUCH AS UNIFLANGES WHERE INTERNAL PIPE PRESSURE AND FLOW WARRANT SUCH RESTRAINTS. METERS, DETECTOR CHECKS, AND VALVES MAY BE SEATED ON CONCRETE BLOCK AND TAPERED SHIMS TO PROVIDE ADEQUATE SUPPORT. METERS SHALL BE INSTALLED APPROXIMATELY 36" ABOVE FLOOR GRADE.

4. REFER TO CITY OF CAMDEN DETAILS.

CAMDEN CITY REQUIREMENTS FOR FIRE AND DOMESTIC WATER LINE AND METER INSTALLATIONS
3 NOT TO SCALE

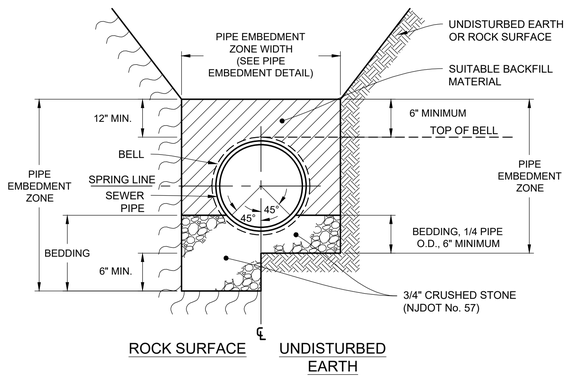


MINIMUM SIZE OF CONCRETE THRUST BLOCKS				
d	6"	8"	10"	12"
TEES & CROSSES				
A	2'-0"	2'-6"	3'-0"	3'-6"
B	8"	8"	10"	10"
C	1'-3"	1'-6"	2'-0"	2'-6"
90° BENDS				
A	2'-6"	3'-0"	3'-6"	3'-9"
B	8"	8"	10"	10"
C	1'-3"	1'-6"	2'-0"	2'-9"
45° BENDS				
A	1'-6"	1'-6"	2'-3"	2'-3"
B	8"	8"	10"	10"
C	1'-3"	1'-9"	2'-0"	2'-6"
22.5° & 11.25° BENDS				
A	1'-6"	1'-6"	1'-6"	1'-6"
B	8"	8"	10"	10"
C	1'-3"	1'-9"	2'-0"	2'-6"
REDUCERS				
dxd	6"X4"	8"X4"	10"X6"	10"X8"
A	1'-6"	2'-0"	2'-4"	2'-6"
B	1'-0"	1'-0"	1'-3"	1'-6"

NOTE:

ALL CONCRETE TO BE CLASS "C" (3,200 PSI @ 28 DAYS)

4 THRUST BLOCK DETAILS
NOT TO SCALE



5 DIP PIPE BEDDING DETAIL
NOT TO SCALE

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.662.0800
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

WATER DETAILS

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS6041

SHEET 38 OF 45

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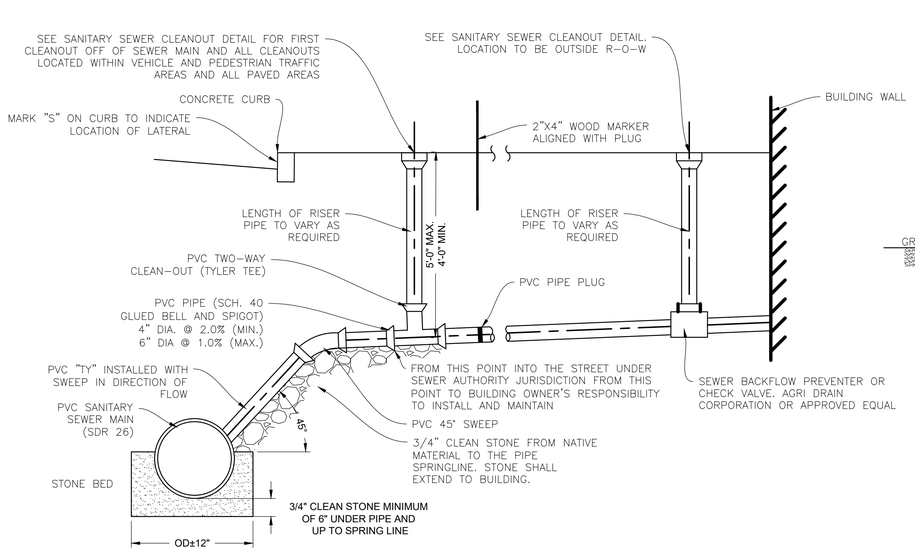
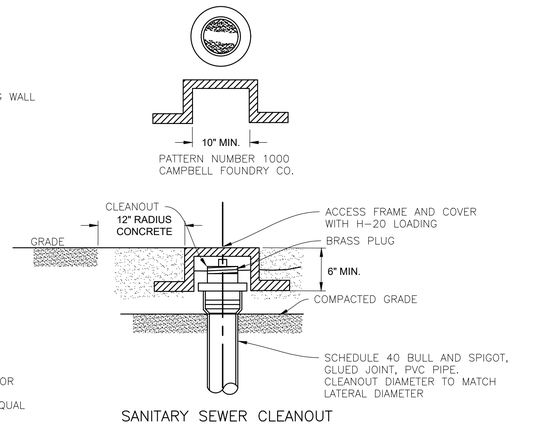


NOTES:
1. TRENCH BOTTOM TO BE VIRGIN SOIL. 0.75" STONE OR MECHANICALLY TAMPED AND TESTED BACKFILL

TYPICAL LATERAL WITH BACKFLOW PREVENTER



SANITARY SEWER CLEANOUT

NOTES:
1. REQUIRED FOR FIRST CLEANOUT OFF OF SEWER MAIN AND ALL CLEANOUTS LOCATED WITHIN VEHICULAR AND PEDESTRIAN TRAFFIC AREAS AND ALL PAVED AREAS.

NOTES:
1. INSERT A TEE USED FOR CONNECTION TO EXISTING MAIN MUST BE APPROVED BY CITY PRIOR TO INSTALLATION.
2. CONNECTION TO CITY SEWER MAIN MUST BE MADE WITH A HOLE SAW. CONNECTION WITH A HAMMER AND CHISEL OR ANY OTHER MAINS WILL NOT BE PERMITTED.
3. CLEANOUT SHALL BE LOCATED BETWEEN CURB AND SIDEWALK, OR A MAXIMUM OF 2' FROM CURB. ELEVATION OF TOP OF CLEANOUT SHALL BE LEVEL WITH THE HIGHER OF CURB OR GRADE. NO CELANOUTS LOCATED IN PAVED AREAS.
4. 3' MIN. COVER FROM FINISHED GRADE TO TOP OF SERVICE DUCTILE IRON PIPE. IN AREAS NOT SUBJECT TO VEHICULAR TRAFFIC IS REQUIRED IN AREAS WITH 3' COVER.
5. ALL CLEANOUTS ALONG LATERAL TO HAVE BRASS PLUGS OF SAME SIZE AS LATERALS.
6. ALL LATERALS MUST BE STRAIGHT RUNS.
7. LATERAL SIZE MUST BE 4" MINIMUM.

1 TYPICAL LATERAL DETAIL WITH BACKFLOW PREVENTER AND SANITARY SEWER CLEANOUT DETAIL
NOT TO SCALE

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.8600
NJ COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SANITARY DETAILS

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
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PROJECT	SCHER25001
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DRAWN BY	BF
APPROVED BY	JJR

CS6051

SHEET 39 OF 45

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LANDSCAPE NOTES:

1. ALL PROPOSED PLANT MATERIAL NOT SURVIVING FOR A PERIOD OF TWO (2) YEARS FROM THE DATE OF FINAL INSPECTION SHALL BE REPLACE WITH THE EQUIVALENT SIZE AND SPECIE AND AT NO ADDITIONAL COST TO THE OWNER, MAINTENANCE SHALL BE PERFORMED TO INSURE THE PROPOSED PLANTS HAVE A HEALTHY/VIGOROUS GROWTH PERIOD. IF THE PROPOSED PLANT HAS A BROKEN AND/OR DAMAGE LEADER WILL CONSTITUTE EITHER A FULL REPLACEMENT OF THE TREE OR GIVEN AN EXTENDED ONE (1) YEAR GUARANTEE PENDING ON THE CITY'S REPRESENTATIVES DECISION. ANY PROPOSED PLANT THAT IS 25% DEAD OR MORE SHALL BE REPLACED IF THE TWO (2) YEAR MAINTENANCE PERIOD AND GIVEN AN EXTENDED TIME PERIOD OF ANOTHER TWO (2) YEAR MAINTENANCE PERIOD.WHERE IT IS NECESSARY TO REPLACE PLANT MATERIAL, THE LANDSCAPE ARCHITECT/ENGINEER OR OWNER SHALL INFORM THE CONTRACTOR THEREOF BEFORE SUCH REPLACEMENTS MADE. THE CONTRACTOR SHALL PERIODICALLY VISIT THE SITE AT HIS DISCRETION DURING THE TWO YEAR GUARANTEE PERIOD AND ADVISE THE OWNER, IN WRITING, OF ANY CONDITIONS WHICH APPEAR TO IMPACT. THE CONTRACTOR SHALL MAINTAIN ALL PLANTING BY WATERING, FERTILIZING. DISEASE CONTROL. PRUNING, WEEDING, ETC. SO AS TO KEEP THE COMPLETED WORK AND/OR INCOMPLETE WORK IN A CLEAN AND NEAT CONDITION AT ALL TIMES.

2. THE CONTRACTOR SHALL NOTIFY OWNER AND LANDSCAPE ARCHITECT /ENGINEER UPON COMPLETION OF GUARANTEE PERIOD AND REQUEST A FINAL REVIEW PRIOR TO ACCEPTANCE OF WORK SHOULD ANY PORTION OF THE WORK BE UNACCEPTABLE, CONTRACTOR SHALL MAKE ALL WORK ACCEPTABLE AND REQUEST RE-REVIEW BY OWNER AND LANDSCAPE ARCHITECT/ENGINEER. CONTRACTOR WILL BE NOTIFIED BY LETTER OF ACCEPTANCE WITHIN FIVE (5) DAYS AFTER INSPECTION OR FIVE (5) DAYS AFTER RE-REVIEW SHOULD THE LATTER BE NECESSARY.

3. THE GATOR BAGS ARE TO BE INSTALLED ON EACH NEW TREE AND GUARANTEE FOR ONE YEAR. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO CHECK THE GATOR BAG FOR WATER AND /OR IF PERCOLATION IS OCCURRING AROUND THE TREE. PERCOLATION IS NOT OCCURRING, THEN THE CONTRACTOR IS TO CLEAN THE GATOR BAGS OR REPLACE IT WITH A NEW ONE. IF ANY TREE INSTALLED LOOKS STRESSED OUT AND/OR IS A REPLACEMENT TREE, THE GATOR BAG MUST RECEIVE ANOTHER YEAR FROM THE TIME OF INSTALLATION WITH THE ORIGINAL GUARANTEE STILL IN PLACE ANY GATOR BAGS FOUND DEFICIENT AND/OR LOST/STOLEN MUST BE REPLACED/PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND/OR CITY. CONTRACTOR IS TO REMOVE THE GATOR BAGS EVERY SIXTY (60) DAYS AND PLACE BACK ON EVERY SEVEN (7) DAYS. THE CONTRACTOR CAN REMOVE THE GATOR BAGS DURING THE WINTER MONTHS UNLESS THE TEMPERATURE GOES ABOVE 55 DEGREES FAHRENHEIT FOR A PERIOD OF THREE STRAIGHT DAYS OR MORE.

4. ALL DISTURBED AREAS TO BE GRASS ARE TO RECEIVE SCREENED CLEAN TOPSOIL, FINE GRADED, SEEDED, AND MULCHED PRIOR TO INSTALLATION, THE CONTRACTOR. MUST SUBMIT SHOP DRAWINGS FOR BOTH EROSION CONTROL MULCH BLANKET AND SEED MIX TO THE LANDSCAPE ARCHITECT/ENGINEER FOR APPROVAL. REFER TO PROJECT SPECIFICATIONS FOR FURTHER INFORMATION REGARDING EACH ITEM.

5. ALL PLANT LOCATIONS SHALL BE STAKED IN THE FIELD AND LOCATIONS APPROVED BY LANDSCAPE ARCHITECT/OR ENGINEER PRIOR TO PLANTING.

6. TOPSOIL WITH A QUALITY ORGANIC SOIL AMENDMENT SHALL BE USED FOR ALL PLANTING AND SEEDING OPERATIONS.

7. INSTALL 24" MINIMUM TOPSOIL MIXTURE IN THREE BEDS; 12" MINIMUM TOPSOIL MIXTURE IN PERENNIAL, GROUNDCOVER, SHRUB AND EVERGREEN BEDS. 6" OF TOPSOIL MIXTURE ARE TO REMAIN ON ALL DISTURBED AREAS TO RECEIVE SEED.

8. NOTIFY ALL UTILITY COMPANIES AND LOCATE ALL UTILITIES PRIOR TO EXCAVATING PLANT PITS. PLANT LOCATIONS MAY BE ADJUSTED IN THE FIELD TO AVOID INTERFERENCE WITH UNDERGROUND UTILITIES.

9. SHOULD ANY DISCREPANCY ARISE BETWEEN THE PLANTING PLAN AND THE PLANTING SCHEDULE, THE CONTRACTOR IS RESPONSIBLE FOR THE QUANTITIES SHOWN ON THE LANDSCAPE PLAN.

10. ALL PLANT MATERIAL SHALL BE OF NURSERY STOCK QUALITY AS DEFINED BY THE AMERICAN ASSOCIATION OF NURSERYMAN STANDARDS AND SHALL BE FIRST QUALITY NURSERY GROWN STOCK FREE OF DISEASE AND OBJECTIONABLE DISFIGUREMENTS AND PLANTED IN CONFORMANCE WITH SOUND NURSERY PRACTICE AND APPLICABLE CITY STANDARDS.

11. ALL NON-BIODEGRADABLE ROOT WRAPPING TO BE REMOVED COMPLETELY BEFORE PLANTING.

12. ALL TREES SHALL BE BALLED AND BULLAPED, NURSERY GROWN STOCK.

13. ALL PLANT MATERIAL AND LAWNS SHALL BE PLANTED WITHIN THE RECOMMENDED SEASONAL TIME PERIODS AS PRESCRIBED BY ACCEPTED HORTICULTURAL PRACTICE. REFER TO CONSTRUCTION SPECIFICATIONS FOR RECOMMENDED PLANTING TIMES. FALL DIGGING AND TRANSPLANT HAZARD TREE SPECIES (OAKS,ETC.) SHALL ONLY BE DUG AND PLANTED IN SPRING.

14. ALL PLANT MATERIAL SHALL BE APPROVED UPON ARRIVAL TO THE SITE BY LANDSCAPE ARCHITECT OR ENGINEER, UNLESS OTHERWISE NOTIFIED.

15. PROPOSED PLANT MATERIAL MAY BE SUBSTITUTED BY SIMILAR PLANTS PRIOR TO INSTALLATION, SUBJECT TO APPROVAL BY THE ENGINEER.

16. A TEMPORARY FENCE, SUCH AS SNOW FENCE, SHALL BE ERECTED AT THE PERIMETER OF THE DRIPLINE OF ALL EXISTING VEGETATION INDICATED TO REMAIN. PRIOR TO EXCAVATION, CONSTRUCTION OR SITE WORK. THIS FENCE SHALL BE REMOVED ONLY AT THE TIME OF COMPLETION OF ALL CONSTRUCTION AND FINAL GRADING. COST TO BE INCLUDED IN ASSOCIATED BID ITEMS.

17. EXISTING TREES TO BE RELOCATED SHALL BE HANDLED ACCORDING TO ACCEPTABLE HORTICULTURE PRACTICE.

18. ALL DISTURBED AREAS NOT SHOWN AS PLANTED OR LAWN SHALL BE TOPSOILED AND SEEDED OR RETURNED TO THEIR ORIGINAL STATE BEFORE DISTURBANCE AS DIRECTED BY THE ENGINEER.

19. ALL AREAS NOT RELATED TO THE PROPOSED DEVELOPMENT SHALL REMAIN IN THEIR NATURAL STATE. DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO WORK AREA AND AS DEFINED ON DWGS.

20. ADDITIONAL LANDSCAPING APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE APPLICANT TO REPLACE ANY VEGETATION IN ADVERTENTLY REMOVED OUTSIDE THE LIMIT OF DISTURBANCE LINE AS SHOWN ON THE APPROVED GRADING PLAN DURING CONSTRUCTION.

21. PROPOSED TREES SHALL NOT BE PLANTED WITHIN EASEMENTS, DRIVEWAYS AND SITE TRIANGLES. THEREFORE, THE TREE LOCATIONS SHALL BE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD AS REQUIRED.

22. ALL SHADE TREES IN PEDESTRIAN WALKS AREAS SHALL HAVE AN INITIAL LIMBS PRUNED STARTING AT A MINIMUM OF 7 FT. ABOVE FINISHED GRADE.

23. MULCH THICKNESS MUST BE SHREDDED HARDWOOD BARK AND TO FOLLOW VARIOUS PLANTING DETAILS ON SHEET CS6062. NO DYE MULCH IS ACCEPTABLE. SEE CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.

24. PLANTS ARRANGED IN CONTINUOUS GROUPINGS SHALL BE SET IN MULCHED BEDS. THIS INCLUDES ANY PLANTS SPACED 7 FT O.C. OR CLOSER. ANY STREET TREES MUST FOLLOW TREE PIT DETAIL FOR STREET TREE PIT REQUIREMENTS.

25. ALL PLANTING DEBRIS SHALL BE REMOVED FROM THE PROPERTY.

26. ANY LIVE TREE WHICH IS SUBSTANTIALLY DAMAGED AS A RESULT OF GRADING OR GENERAL CONSTRUCTION MUST BE REMOVED AND REPLACED WITH ANOTHER TREE OR TREES AS APPROVED BY THE ENGINEER.

27. TREE REMOVAL FROM ANY SLOPE OR ENVIRONMENTALLY SENSITIVE AREA IS PROHIBITED IF IT WILL CONTRIBUTE, IN THE OPINION OF THE ENGINEER, TO EXTRA RUNOFF OF SURFACE WATER ONTO ADJOINING PROPERTY AND EROSION AND SILTING, UNLESS OTHER MEANS APPROVED BY THE ENGINEER ARE PROVIDED TO PREVENT RUNOFF AND EROSION.

28. NO HEALTHY TREE THAT IS SPECIAL BY VIRTUE OF HISTORY, UNUSUAL SIZE, OR AGE OR OF RARE SPECIES, SHALL BE REMOVED EXCEPT AS MAY BE REQUIRED FOR PROTECTION OF PUBLIC HEALTH, SAFETY AND WELFARE.

29. SELECTED EXISTING HEALTHY TREES SIX (6) INCHES IN CALIPER OR LESS MEASURED FOUR (4) FEET ABOVE THE GROUND SHALL BE RELOCATED ON-SITE UNDER THE DIRECTION AND APPROVAL OF THE ENGINEER.

30. NEWLY INSTALLED PLANT MATERIAL SHALL BE WATERED AT THE TIME OF PLANTING. REGULAR WATERING SHALL BE PROVIDED TO ENSURE THE ESTABLISHMENT AND REGULAR GROWTH OF PLANTS. CONTRACTOR TO REFER TO CONSTRUCTION SPECIFICATIONS.

31. SEED ALL DISTURBED AREAS WITH REQUIRED SEED MIX (CONTRACTOR TO REFER TO CONSTRUCTION SPECIFICATIONS).

32. TREES SHOULD BE PLANTED A MIN. OF FIVE (5) FEET FROM SIDEWALKS UNLESS IN TREE PITS.

33. GUY WIRES AND STAKES WILL ONLY BE UTILIZED IF CONDITIONS MERIT AND WILL BE REMOVED BY THE CONTRACTOR AT THE END OF THE GUARANTEE PERIOD.

34. CONTRACTOR MUST REVIEW CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION ON PLANTING PLANTS.

LANDSCAPE MAINTENANCE NOTES:

THE OWNERS OF THE COMPANY AND THEIR AGENTS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE INSTALLATION, PRESERVATION AND MAINTENANCE OF ALL PLANTING AND PHYSICAL FEATURES SHOWN ON THE PLANS. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF TWO(2) YEARS FROM DATE OF SUBSTANTIAL COMPLETION. ANY AND ALL PLANT MATERIAL THAT DIES OR FAILS TO THRIVE SHALL BE IMMEDIATELY REPLACED WITH LIKE SPECIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF SITE VEGETATION DURING GUARANTEED PERIOD TO INCLUDE BUT NOT BE LIMITED TO:

1. FERTILIZER: MOW LAWN - FERTILIZE TWICE PER YEAR.
   RAIN GARDEN - DO NOT FERTILIZE THE AREAS

2. PRUNING: PRUNING SHALL BE LIMITED OR REMOVAL OF DEAD WOOD OR BRANCHES FOR TREES OR FOR SIGHT DIFFERENCES/SAFETY REASONS. PRUNING OF SHRUBS AND TREES SHALL BE LIMITED TO THE PRUNING NECESSARY TO MAINTAIN THE NATURAL SHAPE OF THE PLANT EXCEPT FOR SHEARED HEDGES.

3. PEST CONTROL: PRE-EMERGENT WEED CONTROL FOR MOWN LAWNS AND SHRUB BEDS MAY BE APPLIED IN FEBRUARY. CHEMICAL TREATMENT FOR INSECT INFESTATION AND DISEASE MAY BE APPLIED AND SHALL BE SPECIFIC TO THE PROBLEM.

4. MULCHING: MULCHING SHALL BE MAINTAINED AT A DEPTH OF 3" IN PLANT BEDS AND AROUND BASE OF TREES.

5. MOWING: MOWN LAWN SEED MIX SHALL BE MOWN AT REGULAR INTERVALS THROUGHOUT THE GROWING SEASON. GRASS HEIGHT SHOULD NOT EXCEED 3 INCHES. MOWER BLADES SHALL BE SET AT 2–1/2 INCHES UNLESS OTHERWISE DIRECTED.
   MEADOW SEED MIX AREAS FIRST YEAR MAINTENANCE CONSISTS OF OBSERVATION OF THE DESIRED SPECIES GROWTH AND WEED COMPETITION WHEN MAKING MAINTENANCE DECISIONS. WHEN UNDESIRABLE VEGETATION REACHES 12"–18" TALL, MOW TO NO LESS THAN 6" HIGH (WITH A MOWER OR WEED EATER) TO PREVENT THE WEEDS FROM DEVELOPING SEED. GENERALLY, NATIVE PLANTS WILL GROW MORE EXTENSIVE ROOT SYSTEMS THAN TOPS IN THE FIRST YEAR; THEREFORE, MOWING TO 6"–8" HIGH WILL NOT CAUSE HARM. THIS PRACTICE ALLOWS SUNLIGHT TO REACH DESIRED SPECIES. DO NOT MOW WITH A LAWN MOWER, AS MOWING TOO CLOSE ENCOURAGES WEEDY GRASS SPECIES. PROVIDE IRRIGATION DURING PERIODS OF DRY WEATHER IS NEEDED FOR PROPER GERMINATION. MAINTAIN 1" OF WATER PER WEEK THROUGHOUT THE GROWING SEASON. SECOND YEAR MAINTENANCE OF THESE AREAS CONSISTS OF REMOVING UNDESIRED VEGETATION AND MOWING ONCE, CLOSE TO THE GROUND, IN EARLY SPRING. THIS ALLOWS YOUNG NATIVE PLANTS TO EMERGE AND RAPID WARMING OF THE SOIL. YEAR THREE AND BEYOND FOR THE AREAS, CONSISTS OF REMOVING UNDESIRABLE VEGETATION AND PREVENTING A BUILD–UP OF DEAD VEGETATION KNOWN AS 'THATCH'. THATCH WILL KEEP THE MEADOW AREAS FROM BEING HEALTHY AND DIVERSE. DEPENDING ON THE RATE OF THATCH BUILD–UP, MOW TO THE GROUND AND RAKE OFF THE RESIDUAL VEGETATION BEFORE SPRING GREEN–UP (APRIL), EVERY THREE TO FIVE YEARS.

6. PLANT PROTECTION: AVOID EXCESS INTRUSION INTO THE ROOT ZONE AREA OF ESTABLISHED PLANTINGS.

7. WATERING: UNLESS STATED OTHERWISE IN THESE DOCUMENTS, PROVIDE APPROXIMATELY 1–INCH OF RAINFALL/WATER PER WEEK THROUGHOUT THE GROWING SEASON FOR THE FIRST YEAR.

PERENNIAL AND GROUNDCOVER MAINTENANCE

1. WEED CONTROL CAN BE A PROBLEM UNTIL THE GROUNDCOVERS/ PERENNIALS HAVE SPREAD AND FILLED IN THE AREA. CONTROL OF PERSISTENT, PERENNIAL WEEDS, SUCH AS BERMUDAGRASS AND NUTGRASS SHOULD BE ACHIEVED BEFORE PLANTING. USE A NONSELECTIVE HERBICIDE, SUCH AS ROUNDUP. A MULCH APPLIED AFTER PLANTING AND REPLENISHED AS NEEDED TO MAINTAIN A DEPTH OF 2 INCHES WILL REDUCE THE NEED TO WEED BY HAND. PRE–EMERGENCE HERBICIDES CAN BE USED ON MANY TYPES OF GROUNDCOVER TO AID WEED CONTROL; READ THE LABEL CAREFULLY BEFORE APPLYING. AS THE GROUNDCOVER FILLS IN WEEDS WILL BECOME LESS OF A PROBLEM BECAUSE OF THE SHADED SOIL. SOME HAND WEEDING WILL MOST LIKELY BE NEEDED.

2. FOR BIORETANTION/RAINGARDEN PEST CONTROL:
   ONLY USE NJDEP APPROVED WEED CONTROL CHEMICALS, CHEMICAL TREATMENT FOR INSECTS INFESTATION AND DISEASE CAN BE USED IN THE BIORETANTION/RAINGARDENS PRIOR TO INSTALLING ANY CHEMICALS, CONTRACTOR MUST GET APPROVAL FROM CITY. GENERALLY, CONTRACTOR IS REQUIRED TO PULL WEEDS/INVASIVE WEED SPECIES (INCLUDING ROOTS) BY HAND FOR THREE (3) GROWING SEASONS / YEARS. AFTER YEAR THREE (3) PULLING WEEDS IS TO CONTINUE AS REQUIRED UNDER MAINTENACE CONTRACT WITH OWNER.

3. FERTILIZER – MOST GROUND COVERS WILL BENEFIT FROM AN APPLICATION OF FERTILIZER IN LATE WINTER TO EARLY SPRING. USE 2 TO 4 POUNDS OF A COMPLETE FERTILIZER PER 1,000 SQUARE FEET. WATER OR BRUSH FERTILIZER OFF THE FOLIAGE AFTER BROADCASTING.

4. AFTER CONTRACTOR'S GUARANTEE PERIOD IS COMPLETED, OWNERS OF THE COMPANY SHALL BE RESPONSIBLE FOR MAINTENANCE OF SITE VEGETATION AS SPECIFIED ABOVE (LANDSCAPE, PERENNIALS AND GROUNDCOVER MAINTENANCE)

SEEDING NOTES:

1. SEED ALL AREAS DISTURBED BY CONSTRUCTION NOT OTHERWISE CONTAINING PLANTING BEDS, SIDEWALKS, BUILDINGS, ETC.

2. BEFORE SEEDING, CONTRACTOR SHALL PROVIDE SOIL TESTS AND INCORPORATE NECESSARY SOIL AMENDMENTS PER SOIL TEST RECOMMENDATIONS.

3. PERFORM ALL FINISH GRADING, WITHIN AREAS OF DISTURBANCE, NECESSARY TO BRING SITE TO REQUIRED FINISHED ELEVATIONS. FINISH GRADING SHALL CONSIST OF PREPARING SUBGRADE AND SPREADING TOPSOIL READY FOR SEEDING OPERATIONS.

4. TOPSOIL SHALL BE UNIFORMLY SPREAD IN DISTURBED AREAS WITH BLADE GRADER, OR BY ANY OTHER APPROVED METHOD, TO A MINIMUM DEPTH OF 6 INCHES TO PERMIT 1 INCH OF SETTLEMENT. CORRECT ANY SURFACE IRREGULARITIES TO PREVENT FORMATION OF LOW SPOTS AND POCKETS THAT WOULD RETAIN WATER. PRIOR TO FINE GRADING, REMOVE ALL EXISTING ANNUAL TYPE VEGETATION.

5. SOW SEED AT THE RECOMMENDED SEEDING RATE AS SHOWN IN THE SEEDING MIX SCHEDULE AS NOTED ON EROSION CONTROL NOTES AND CONSTRUCTION SPECIFICATIONS.

6. SEED SHALL BE APPLIED APRIL 15TH THRU MAY 31ST OR AUGUST 17TH THRU OCTOBER 15TH.

7. AFTER SEEDING APPLICATION, WOOD CELLULOSE FIBER SHALL BE APPLIED HYDRAULICALLY AT A NET RATE DRY WEIGHT OF 1,500 LBS PER ACRE OR AT RATES RECOMMENDED BY THE MANUFACTURER. MULCH ALL SEEDED AREAS WITH CLEAN STRAW.

8. ON ALL SLOPES 3:1 OR GREATER, USE AN ORGANIC SOIL STABILIZER SUCH AS 'CON-TACK' OR EQUAL AT THE RATE OF 25 LBS PER 1,000 GALLONS OR AT RATES RECOMMENDED BY THE MANUFACTURER.

9. KEEP NEWLY SEEDED GRASS AREAS MOISTENED DURING SEED GERMINATION AND UNTIL THE GRASS COVERS AT LEAST 75% OF THE SEEDED AREAS TO A HEIGHT OF 2 TO 3 INCHES.

10. ALL AREAS AND SPOTS, WHICH DO NOT SHOW A PROMPT CATCH OF GRASS, SHALL THEN BE RE-SEEDED, AND THE OPERATION REPEATED UNTIL COMPLETE COVERAGE IS OBTAINED.

LANDSCAPING SCHEDULE - BASE BID

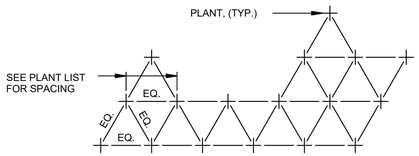
QTY	ITEM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS
BASE BID							
TREE							
3	ACQ	ACER CAMPESTRE 'QUEEN ELIZABETH'	QUEEN ELIZABETH HEDGE MAPLE	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
2	AR	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
6	ARO	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
5	CB	CARPINUS BETULUS 'FASTIGIATA'	COLUMNAR HORNBEAM	3" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
4	CCC	CERCIS CANADENSIS 'CLUMP'	CLUMP EASTERN REDBUD	8-10' HT	AS SHOWN	B&B	CLUMP, MIN. 3 SYMMETRICAL TRUNKS, FULL HEAD
1	CC	CERCIS CANADENSIS	EASTERN REDBUD	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
9	PA	PLATINUS X ACERFOLIA 'COLUMBIA'	COLUMBIA PLANETREE	3" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
5	SR	SYRINGA RETICULATA 'IVORY SILK'	IVORY SILK LILAC	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
3	ZS	ZELKOVA SERRATA ' VILLAGE GREEN'	VILLAGE GREEN ZELKOVA	2.5" CAL	AS SHOWN	B&B	STRAIGHT TRUNK, FULL HEAD
EVERGREEN							
17	CL	X CUPRESSOCYPARIS LEYLANDII	Leyland Cypress	6'	10' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
5	INS	ILEX 'NELLIE R STEVENS'	NELLIE R STEVENS HOLLY	4-5'	5' O.C	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
6	IN	ILEX 'NELLIE R STEVENS'	NELLIE R STEVENS HOLLY	6'	10' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
33	JCH	JUNIPERUS CHINENSIS 'HETZII COLUMNARIS'	COLUMNAR HETZI JUNIPER	4-5'	3' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
18	JV	JUNIPERUS VIRGINANA	EASTERN RED CEDAR	6'	4' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
26	JVI	JUNIPERUS VIRGINANA	EASTERN RED CEDAR	4-5'	4' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
14	TON	THUJA OCCIDENTALIS 'NIGRA'	NIGRA ARBORVITAE	6'	4' O.C.	B&B	SINGLE TRUNKM FULL HEAD, BRANCHES START @ GROUND
SHRUB							
10	BGM	BUXUS 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	24-30" HT	3' O.C.	B&B	FULL FORM HEAD, BRANCHES START AT GROUND
11	CO	CLEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
19	FG	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
24	HQ	HYDRANGEA QUERCIFOLIA	OAKLEAF HYDRANGEA	18-24" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
74	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD, BRANCHES START AT GROUND
55	PL	PRUNUS LAUROCERASSUS 'OTTO LUYKENS'	OTTO LUYKENS CHERRYLAUREL	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD, BRANCHES START AT GROUND
8	PO	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE'	SUMMER WINE NINEBARK	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
66	SJ	SPIREA JAPONICA ' LITTLE PRINCESS'	LITTLE PRINCESS JAPANESE SPIREA	18-24" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
36	TC	TAXUS CUSPIDATA 'DENSA'	DENSA JAPANESE YEW	24-30" HT	3' O.C.	B&B	FULL FORM HEAD, BRANCHES START AT GROUND
PERENNIAL AND ORNAMENTAL GRASS							
200	HSD	HEMEROCALIS 'STELLA D'ORO'	STELLA D'ORO DAYLILY	-	15" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
450	LM	LIRIOPE MUSCARI 'VARIEGATA'	VARIEGATED LILY TURF	-	15" O.C.	4" POT	FULL FORM HEAD IN CONTAINER
99	PVH	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCHGRASS	-	18" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
130	PAL	PENNISETUM ALOPECUROIDES 'LITTLE BUNNY'	LITTLE BUNNY FOUNTAIN GRASS	-	18" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
24	POA	POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN	-	18" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
35	OC	OSMUNDASTRUM CINNAMOMEUM	CINNAMON FERN	-	18" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
BIORETENTION/RAIN GARDEN							
58	AA	ACORNUS AMERICANUS	SWEETFLAG	-	24" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER
29	AI	ASCLEPIAS INCARNATA	SWAMP MILKWEED	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
54	AT	ASCLEPIAS TUBEROSA	BUTTERFLYWEED	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
59	CV	CAREX VULPINOIDEA	FOX SEDGE	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
44	EF	EUPATORIUM FISTULOSUM	JOE PYE WEED	-	24" O.C.	QUART	FULL FORM HEAD IN CONTAINER
143	IVE	IRIS VERSICOLOR	IRIS BLUE FLAG	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
140	JE	JUNCUS EFFUSUS	SOFT RUSH	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
138	PV	PANICUM VIRGATUM	SWITCHGRASS	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER
99	SN	SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	-	18" O.C.	QUART	FULL FORM HEAD IN CONTAINER

LANDSCAPING SCHEDULE - BID ALTERNATE

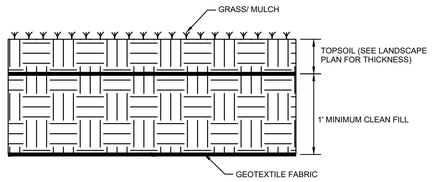
QTY	ITEM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS
ALTERNATE BID							
TREE							
8	GTS	GLEDITSIA TRIACANTHOS VAR. INERMIS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	2.5" CAL	AS SHOWN	B&B	STRIAGHT TRUNK, FULL HEAD
SHRUB							
4	FGD	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
13	IGS	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
6	PLO	PRUNUS LAUROCERASSUS 'OTTO LUYKENS'	OTTO LUYKENS CHERRYLAUREL	24-30" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
12	SJLP	SPIREA JAPONICA ' LITTLE PRINCESS'	LITTLE PRINCESS JAPANESE SPIREA	18-24" HT	3' O.C.	#5 CONT.	FULL FORM HEAD
PERENNIAL AND ORNAMENTAL GRASS							
77	HSDO	HEMEROCALIS 'STELLA D'ORO'	STELLA D'ORO DAYLILY	-	15" O.C.	#1 CONT	FULL FORM HEAD IN CONTAINER

EXISTING TREE WORK NOTES:

1. TREE REMOVAL: CONTRACTOR IS TO REMOVE THE EXISTING TREE (I.E.: TRUNK, BRANCHES, STUMP, ROOTS, ETC. (IN THEIR ENTIRETY)). IF A STUMP GRINDER IS USED TO REMOVE STUMP AND ROOTS; CONTRACTOR WILL BE REQUIRED TO REMOVE ALL GRINDING DEBRIS OFF-SITE AND IT IS NOT TO BE MIXED INTO THE TOPSOIL AND/OR EXISTING SOIL. ALL TREE MATERIAL/DEBRIS IS TO REMOVED OFF-SITE IN ACCORDANCE TO LOCAL, COUNTY, AND/OR STATE REQUIREMENTS. ALL WORK TO BE COORDINATED WITH ENGINEER AND LSRP.
2. REMOVE DEAD BRANCHES: CONTRACTOR TO USE EQUIPMENT (I.E.: CHAIN/PRUNING SAW, PRUNERS, LOPPING SHEARS, ETC.) TO REMOVE ANY DEAD BRANCHES.THE CHOICE OF WHICH TOOL TO USE DEPENDS LARGELY ON THE BRANCH SIZE AND AMOUNT OF PRUING TO BE DONE. CONTRACTOR MUST DISCUSS OPTIONS WITH ENGINEER PRIOR TO START OF WORK. ALL TREE MATERIAL/DEBRIS IS TO REMOVED OFF-SITE IN ACCORDANCE TO LOCAL, COUNTY, AND/OR STATE REQUIREMENTS.
3. CROWN RAISING: CONTRACTOR TO REMOVE BRANCHES FROM THE BOTTOM OF THE CROWN OF TREE 10' FROM FINISH GRADE. THE CHOICE OF EQUIPMENT (I.E.: CHAIN/PRUNING SAW, PRUNERS, LOPPING SHEARS, ETC.) TO USE DEPENDS LARGELY ON THE BRANCH SIZE AND AMOUNT OF PRUNING TO BE DONE. CONTRACTOR MUST DISCUSS OPTIONS WITH ENGINEER PRIOR TO START OF WORK. ALL TREE MATERIAL/DEBRIS IS TO REMOVED OFF-SITE IN ACCORDANCE TO LOCAL, COUNTY, AND/OR STATE REQUIREMENTS.
4. CROWN THINNING/SHAPING TREE HEAD: NO MORE THEN ¼ OF LIVING CROWN SHALL BE REMOVED AT A TIME. CONTRACTOR SHALL KEEP BRANCHES WITH U-SHAPED ANGLES AND REMOVE ANY V-SHAPE ANGLES AND AVOID PRODUCING "LION'S TAIL", (TUFTS OF BRANCHES AND FOLIAGE AT THE END OF BRANCHES). BRANCHES THAT RUB/CROSS ANOTHER BRANCH SHALL BE REMOVED. THE CHOICE OF EQUIPMENT (I.E.: CHAIN/PRUNING SAW, PRUNERS, LOPPING SHEARS, ETC.) TO USE DEPENDS LARGELY ON THE BRANCH SIZE AND AMOUNT OF PRUNING TO BE DONE. CONTRACTOR MUST DISCUSS OPTIONS WITH ENGINEER PRIOR TO START OF WORK. ALL TREE MATERIAL/DEBRIS IS TO REMOVED OFF-SITE IN ACCORDANCE TO LOCAL, COUNTY, AND/OR STATE REQUIREMENTS.
5. ALL TREE WORK IS TO BE DONE IN ACCORDANCE TO ANSI A300 "TREE CARE STANDARDS".
6. PRIOR TO PERFORMING TREE WORK/REMOVAL, CONTRACTOR MUST COORDINATE WORK WITH ENGINEER. PRIOR TO REMOVING ANY TREE ROOTS/STUMPS, CONTRACTOR SHALL PERFORM TEST PITS TO DETERMINE IF ANY POSSIBLE UTILITY CONFLICTS ARE LOCATED WITHIN THE WORK AREA. THIS INCLUDES DENOTING TREES WITH RIBBON/MARKING PAINT THAT ARE NECESSARY TO BE REMOVED FOR CONSTRUCTION OF NEW IMPROVEMENTS AND REMOVING DYING/NON-HEALTHY/DEAD TREES. ENGINEER WILL REVIEW AND APPROVE TREES DENOTED TO BE REMOVED WITH THE CONTRACTOR IN THE FIELD. UPON APPROVAL, DENOTED TREES, STUBS, SHRUBS, ETC. SHALL BE REMOVED.
7. ANY TREES, OTHER THAN THE ENGINEER APPROVED DENOTED TREES, THAT ARE DAMAGED OR REMOVED BY CONTRACTOR SHALL BE REPLACED IN-



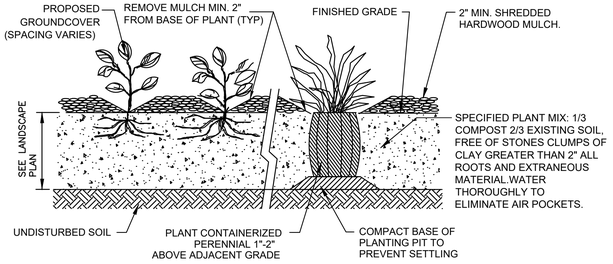
1 PLANT SPACING DIAGRAM
NOT TO SCALE



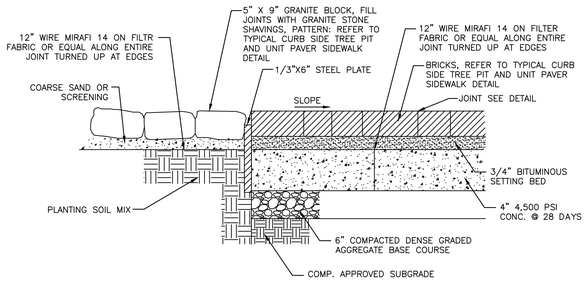
NOTE:

1. CONTRACTOR MAY BE REQUIRED TO INSTALL MORE THAN 1' MINIMUM CLEAN FILL TO ACCOMPLISH REQUIRED POST GRADING AND TO BE IN ACCORDANCE WITH PLANS AND CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR TO REFER TO ENVIRONMENTAL NOTES ON GENERAL NOTES I (CS0002)

2 VEGETATED AREA REQUIREMENTS
NOT TO SCALE



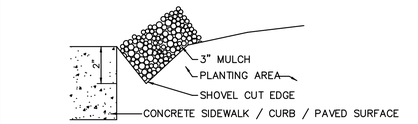
3 PERENNIAL/GROUNDCOVER/ORN. GRASS PLANTING
NOT TO SCALE



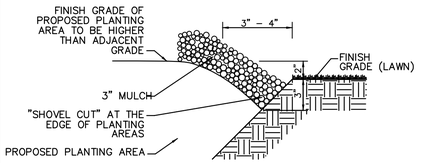
NOTE:

1. 1/3" X 6" STEEL PLATE NOT REQUIRED ALONG ANY CONCRETE SIDEWALK EDGE.
2. PAVER/GRANITE BLOCK/BRICK COLORS AND PATTERNS TO MATCH EXISTING.
3. CONTRACTOR TO SUBMIT COLOR SAMPLES TO ENGINEER, ARCHITECT, AND OWNER FOR APPROVAL PRIOR TO PROCURING PAVER, GRANITE BLOCK, & BRICK MATERIALS.

4 EDGE AT TREE PIT FOR BRICK SIDEWALK DETAIL
NOT TO SCALE



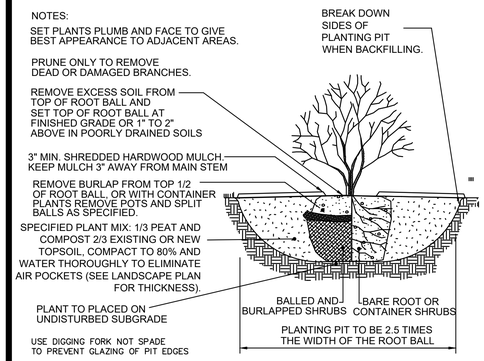
TYPICAL EDGING DETAIL AT PAVING



NOTE: PROPOSED TURF AREA TO MATCH GRADE OF SURROUNDING TURF AREA

TYPICAL EDGING DETAIL AT LAWN

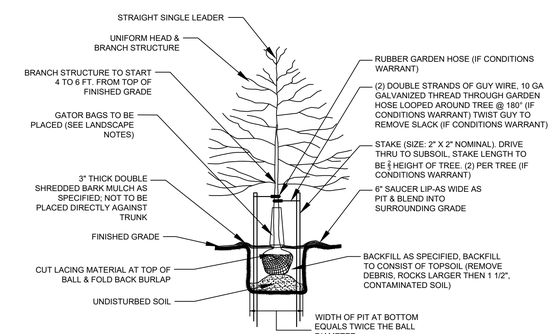
5 MULCH EDGING
NOT TO SCALE



NOTE:

1. GROUND LINE TO BE THE SAME AS EXISTING AT NURSERY.
2. CONTRACTOR TO REFER TO LANDSCAPE NOTES AND PLANS FOR TOPSOIL THICKNESS.
3. CONTRACTOR TO PROVIDE TOPSOIL/PLANTING SOIL CUT SHEET TO ENGINEER FOR APPROVAL PRIOR TO INSTALLING IT ON–SITE.

6 SHRUB PLANTING
NOT TO SCALE



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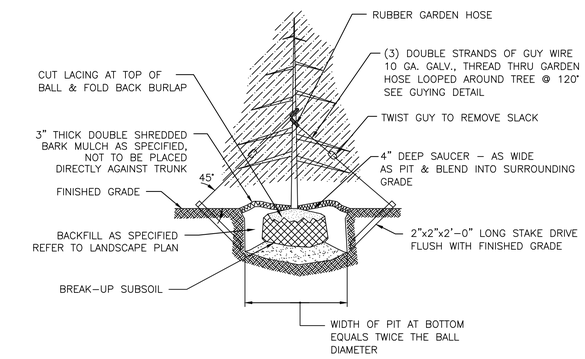
7 TREE PLANTNG DETAIL
NOT TO SCALE



NOTE:

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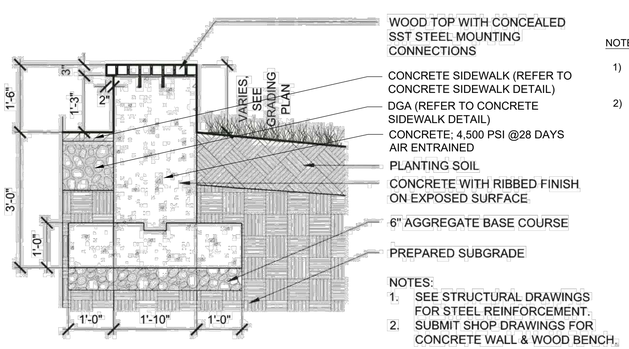
8 TYPICAL PLANTING-EVERGREEN TREE
NOT TO SCALE



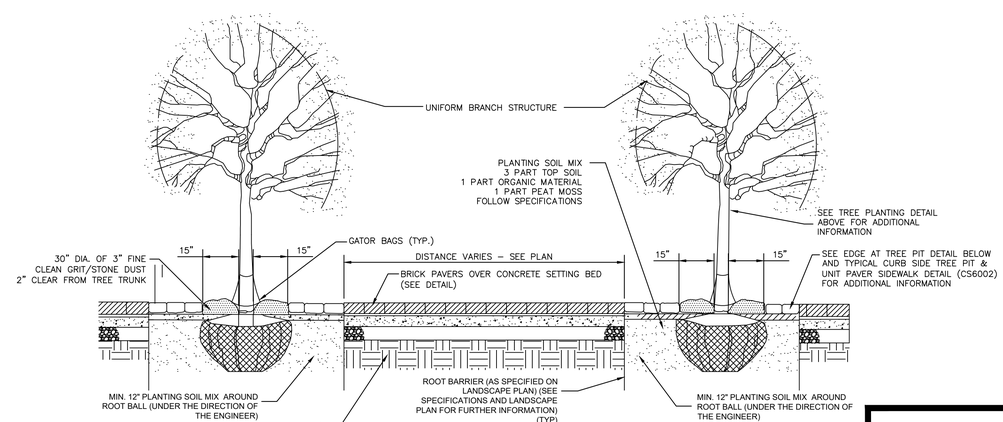
NOTES:

1. SEE STRUCTURAL DRAWINGS FOR STEEL REINFORCEMENT.
2. SUBMIT SHOP DRAWINGS FOR CONCRETE WALL & WOOD BENCH.

NOTES:

1) CONTRACTOR TO REFER TO LANDSCAPE PLAN FOR PLANTING SOIL THICKNESS.
2) CONTRACTOR TO REFER TO SITE PLAN AND CONSTRUCTION DETAILS FOR CONCRETE SIDEWALK.

9 CONCRETE SEATWALL WITH BENCH TYPE B
NOT TO SCALE



10 TREE PIT DETAIL(CROSS SECTION VIEW)
NOT TO SCALE

NOTE: ALL SITE WORK CONSTRUCTION AND DETAILS MUST CONFORM TO THE STANDARDS OF THE CITY OF CAMDEN

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T: 856.669.5100
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

LANDSCAPE DETAILS

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	AS NOTED
DRAWN BY	BF
APPROVED BY	JJR

CS6062

SHEET 41 OF 45

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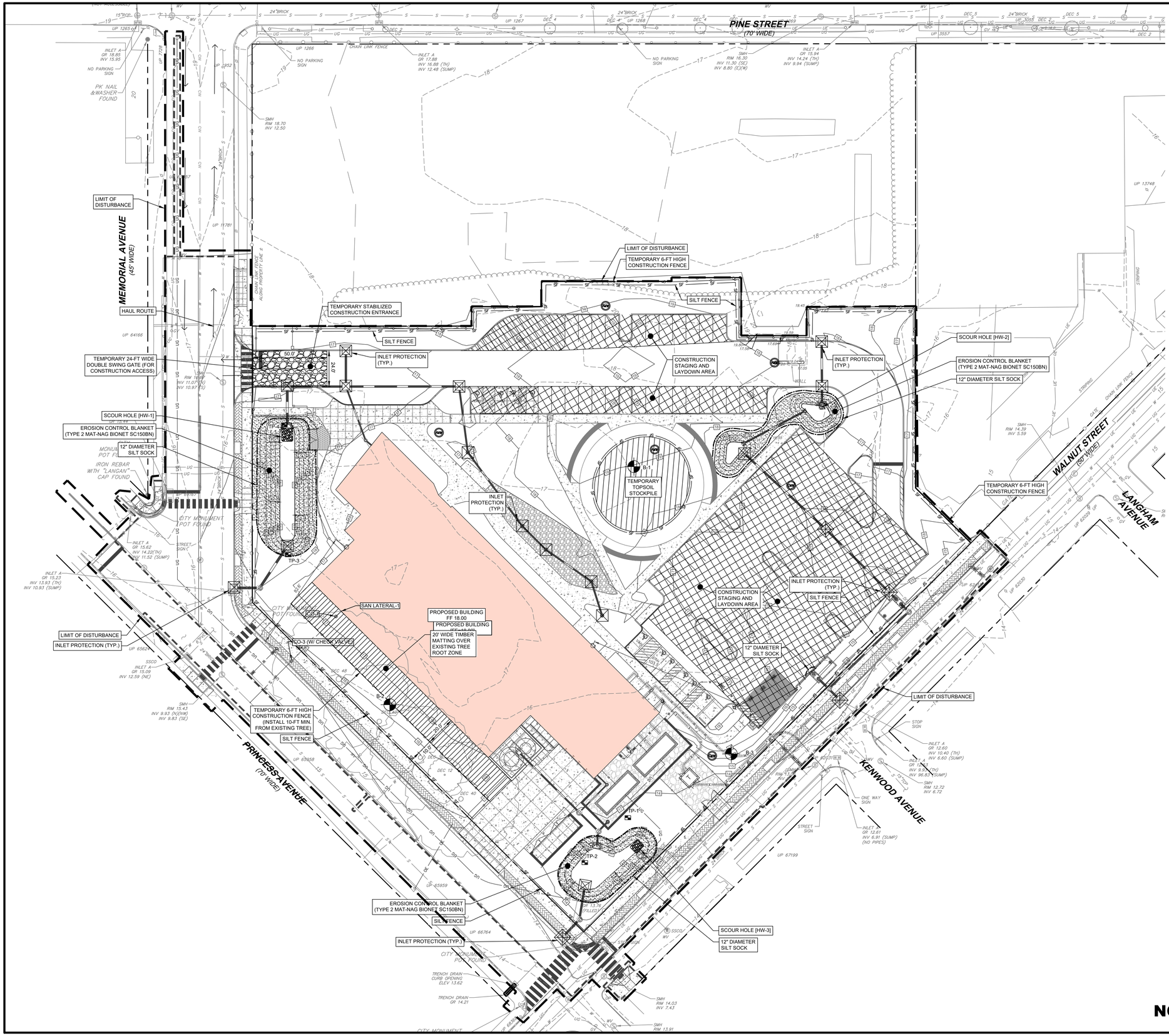

SOIL EROSION AND SEDIMENT CONTROL LEGEND:

- LIMIT OF DISTURBANCE
- SILT FENCE
- SILT SOCK
- TEMPORARY CONSTRUCTION FENCE
- TEMPORARY CONSTRUCTION FENCE GA
- PROPERTY LINE
- TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET
- TEMPORARY TOPSOIL STOCKPILE
- INLET PROTECTION
- CONSTRUCTION STAGING AREA
- HAULING ROUTE
- APPROXIMATE TEST PIT
- RECOMMENDED SOIL COMPACTION TEST LOCATION (APPROX. 1 PER 0.5 ACRE)
- ANTICIPATED MONITORING WELL
- CURRENT MONITORING WELL

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SOIL EROSION AND SEDIMENT CONTROL PLAN
(PHASE 1 + PHASE 2)

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=30;
DRAWN BY	BF
APPROVED BY	JJR

CS8001

SHEET 42 OF 45

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SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

1. ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY GRADING OPERATION AND/OR INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
2. SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
3. APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED.
4. THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND PREVENT EXCESSIVE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE.
5. ANY DISTURBED AREA THAT IS TO BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION IN ACCORDANCE WITH THE NEW JERSEY STANDARDS AND THEIR RATES SHOULD BE INCLUDED IN THE NARRATIVE. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
6. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION AND RATES OF APPLICATION AT THE REQUEST OF THE CAMDEN SOIL CONSERVATION DISTRICT.
7. ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE ACCORDING TO THE NEW JERSEY STANDARDS IMMEDIATELY FOLLOWING ROUGH GRADING.
8. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
9. ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
10. A CRUSHED STONE, TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS EXISTS. THE STABILIZED PAD WILL BE INSTALLED ACCORDING TO THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS.
11. ALL DRIVEWAYS MUST BE STABILIZED WITH 2-½" CRUSHED STONE OR SUBBASE PRIOR TO INDIVIDUAL LOT CONSTRUCTION.
12. PAVED AREAS MUST BE KEPT CLEAN AT ALL TIMES.
13. ALL CATCH BASIN INLETS WILL BE PROTECTED ACCORDING TO THE CERTIFIED PLAN.
14. ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED, AS REQUIRED BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
15. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA. THE SEDIMENT FILTER SHOULD BE COMPOSED OF A SUITABLE SEDIMENT FILTER FABRIC. (SEE DETAIL). THE BASIN MUST BE DEWATERED TO NORMAL POOL WITHIN 10 DAYS OF THE DESIGN STORM.
16. NJSA 4:24-39, ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE ALL PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR THE PROJECT MUST BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE A PREREQUISITE TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
17. MULCHING IS REQUIRED ON ALL SEEDED AREAS TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED TO PROMOTE EARLIER VEGETATION COVER.
18. OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE EROSION CONTROL INSPECTOR.
19. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
20. THE CAMDEN SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 72 HOURS PRIOR TO ANY LAND DISTURBANCE.
21. ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CERTIFIED PLAN TO ANY SUBSEQUENT OWNERS.
22. IMMEDIATELY AFTER THE COMPLETION OF STRIPPING AND STOCKPILING OF TOPSOIL, THE STOCKPILE MUST BE STABILIZED ACCORDING TO THE STANDARD FOR TEMPORARY VEGETATIVE COVER. STABILIZE TOPSOIL STOCKPILE WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE APPLICATION AND ESTABLISHMENT OF TEMPORARY SEEDING. ALL SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY AND THE BASE MUST BE PROTECTED WITH A SEDIMENT BARRIER.
23. ANY CHANGES TO THE SITE PLAN WILL REQUIRE THE SUBMISSION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE CAMDEN SOIL CONSERVATION DISTRICT. THE REVISED PLAN MUST BE IN ACCORDANCE WITH THE CURRENT NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL.
24. METHODS FOR THE MANAGEMENT OF HIGH ACID PRODUCING SOILS SHALL BE IN ACCORDANCE WITH THE STANDARDS. HIGH ACID PRODUCING SOILS ARE THOSE FOUND TO CONTAIN IRON SULFIDES OR HAVE A PH OF 4 OR LESS.
25. TEMPORARY AND PERMANENT SEEDING MEASURES MUST BE APPLIED ACCORDING TO THE NEW JERSEY STANDARDS, AND MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
26. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
27. DUST IS TO BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO THE NEW JERSEY STANDARDS AND MAY INCLUDE WATERING WITH A SOLUTION OF CALCIUM CHLORIDE AND WATER.
28. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
29. USE STAGED CONSTRUCTION METHODS TO MINIMIZE EXPOSED SURFACES, WHERE APPLICABLE.
30. ALL VEGETATIVE MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH AMERICAN STANDARDS FOR NURSERY STOCK OF THE AMERICAN ASSOCIATION OF THE NURSERYMAN AND IN ACCORDANCE WITH THE NEW JERSEY STANDARDS.
31. NATURAL VEGETATION AND SPECIES SHALL BE RETAINED WHERE SPECIFIED ON THE LANDSCAPING PLAN.
32. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.
33. CONTRACTOR SHALL REMOVE ALL WASHED, TRACKED OR SPILLED SEDIMENTS ON PAVED ROADWAY SURFACES IMMEDIATELY.

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION:

DEFINITION
ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON SOILS EXPOSED FOR PERIODS OF TWO TO 6 MONTHS WHICH ARE NOT BEING GRADED, NOT UNDER ACTIVE CONSTRUCTION OR NOT SCHEDULED FOR PERMANENT SEEDING WITHIN 60 DAYS.

PURPOSE
TO TEMPORARILY STABILIZE THE SOIL AND REDUCE DAMAGE FROM WIND AND WATER EROSION UNTIL PERMANENT STABILIZATION IS ACCOMPLISHED.

WATER QUALITY ENHANCEMENT
PROVIDES TEMPORARY PROTECTION AGAINST THE IMPACTS OF WIND AND RAIN, SLOWS THE OVERLAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE
ON EXPOSED SOILS THAT HAVE THE POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

1. SITE PREPARATION
A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, P. 19-1.

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

2. SEEDBED PREPARATION
A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 PONDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRE UNLESS SOIL TEST INDICATES OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. TABLE BELOW IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION.

SOIL TEXTURE	TONS/ACRE	LBS./1,000 S.F.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.

C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AS ABOVE.

D. SOILS HIGH ON SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1-1 OF THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

3. SEEDING
A. SELECT SEED FROM RECOMMENDATIONS IN TABLE.

SEED TYPES	SEEDING RATES 1* (POUNDS)		OPTIMUM SEEDING DATE 2* BASED ON PLANT HARDINESS ZONE 3*			OPTIMUM SEED DEPTH 4* (INCHES)
	PER ACRE	PER 1,000 SQ. FT.	ZONE 5	ZONE 6	ZONE 7	
COOL SEASON GRASSES						
PERENNIAL RYEGRASS	170	4.0	3/15 - 6/1 & 8/1 - 9/15	3/1 - 5/15 & 8/15 - 10/1	2/15 - 5/1 & 8/15 - 10/15	0.5
SPRING OATS	86	2.0	3/15 - 6/1 & 8/1 - 9/15	3/1 - 5/15 & 8/15 - 10/1	2/15 - 5/1 & 8/15 - 10/15	1.0
WINTER BARLEY	96	2.2	8/1 - 9/15	8/15 - 10/1	8/15 - 10/15	1.0
WINTER CEREAL RYE	112	2.8	8/1 - 11/1	8/1 - 11/15	8/1 - 12/15	1.0
WARM SEASON GRASSES						
PEARL MILLET	20	0.5	6/1 - 8/1	5/15 - 8/15	5/1 - 9/1	1.0
MILLET (GERMAN OR HUNGARIAN	30	0.7	6/1 - 8/1	5/15 - 8/15	5/1 - 9/1	1.0
WEEPING LOVEGRASS	5	0.2	6/1 - 8/1	5/15 - 8/15	5/1 - 9/1	0.25

1* SEEDING RATE FOR WARM SEASON GRASS, SHALL BE ADJUSTED TO REFLECT THE AMOUNT OF PURE LINE SEED (PLS) AS DETERMINED BY A GERMINATION TEST RESULT. NO ADJUSTMENT IS REQUIRED FOR COOL SEASON GRASSES.
2* MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR CAN BE IRRIGATED.
3* PLANT HARDINESS ZONE (SEE BELOW)
4* TWICE THE DEPTH FOR SANDY SOILS

ZONE 5B (-10 TO -15)
PORTIONS OF SUSSEX AND WARREN COUNTIES

ZONE 6A (-5 TO -10)
PORTIONS OF SUSSEX, WARREN, PASSAIC, MORRIS, SOMERSET AND HUNTERDON COUNTIES.

ZONE 6B (0 TO -5)
PORTIONS OR BERGEN, CAMDEN, ESSEX AND GLOUCESTER, HUNTERDON, MERCER, MIDDLESEX, HUDSON,MONMOUTH, OCEAN, BURLINGTON, MORRIS, PASSAIC, SOMERSET, UNION, ATLANTIC, CUMBERLAND, AND CAPE MAY COUNTIES.

ZONE 7A (5 TO 0)
PORTIONS OF CAMDEN, GLOUCESTER, SALEM, CUMBERLAND, CAPE MAY, ATLANTIC, BURLINGTON, OCEAN, AND MONMOUTH COUNTIES. ZONE 7B (10 TO 5) PORTIONS OF CAPEMAY, ATLANTIC, OCEAN AND MONMOUTH COUNTIES.

B. CONVENTIONAL SEEDING - APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.

D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. MULCHING
MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. (THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

APPLICATION
SPREAD UNIFORMLY BY HAND MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.

ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

1. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER (MULCH ANCHORING TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC-HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
4. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT HAY OR STRAW MULCHES.
   a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
   b. USE ONE OF THE FOLLOWING:
      (1) EMULSIFIED ASPHALT - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, AND CRS-2). APPLY 0.04 GAL./SQ. YD. OR 194 GAL./ACRE ON FLAT SLOPES LESS THAN 8 FEET HIGH. ON SLOPES 8 FEET OR MORE HIGH, USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE. THESE MATERIALS MAY BE DIFFICULT TO APPLY UNIFORMLY AND WILL DISCOLOR SURFACES.
      (2) ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
      (3) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

B. WOOD-FIBER OR PAPER-FIBER MULCH. SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH THE SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

C. PELLETIZED MULCH. COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZE MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION:

DEFINITION
ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON EXPOSED SOILS WHERE PERENNIAL VEGETATION IS NEEDED FOR LONG TERM PROTECTION.

PURPOSE
TO PERMANENTLY STABILIZE THE SOIL, ASSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.

WATER QUALITY ENHANCEMENT
SLOWS THE OVERLAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE
ON EXPOSED SOILS THAT HAVE A POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

1. SITE PREPARATION
A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, P. 19-1.

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

2. SEED BED PREPARATION
A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 PONDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE IN ACCORDANCE WITH THE TABLE BELOW AND THE RESULTS OF SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. TABLE BELOW IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION RATES.

SOIL TEXTURE	TONS/ACRE	LBS./1,000 S.F.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

D. HIGH ACID PRODUCING SOIL.
SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS.

3. SEEDING
A. SEED MIX SHALL BE AS FOLLOWS

TYPE 'A-3' SEED MIXTURE - TO BE PLANTED FROM 2/1 - 4/30 AND FROM 8/15 - 10/30.

KIND OF SEED	MINIMUM PURITY-%	MINIMUM GERMINATION-%	% OF TOTAL WEIGHT MIXTURE	PLANTING RATE POUNDS/ACRE
TALL FESCUE (REBEL OR FALCON)	95	80	70	120
KENTUCKY BLUEGRASS (KENBLUE, SOUTH DAKOTA OR PARK)	85	75	10	20
CHEWINGS FESCUE (HIGHLIGHT OR JAMESTOWN)	95	85	10	40
PERENNIAL RYEGRASS (LINN)	98	85	10	20

B. CONVENTIONAL SEEDING - APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.

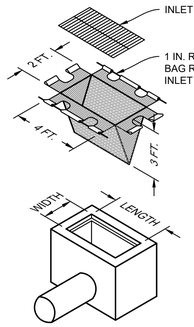
D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. MULCHING
FOLLOW SAME STANDARDS AS LISTED UNDER TEMPORARY VEGETATIVE COVER FOR STABILIZATION.

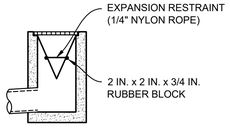
5. IRRIGATION (WHERE FEASIBLE)
IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF ½ INCH TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

6.TOPDRESSING
SINCE SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE IS PRESCRIBED IN SECTION II.A. SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GRASS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 400 POUNDS PER 1,000 SQ. FT.

7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION
THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATE IS REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT



ISOMETRIC VIEW



INSTALLATION DETAIL

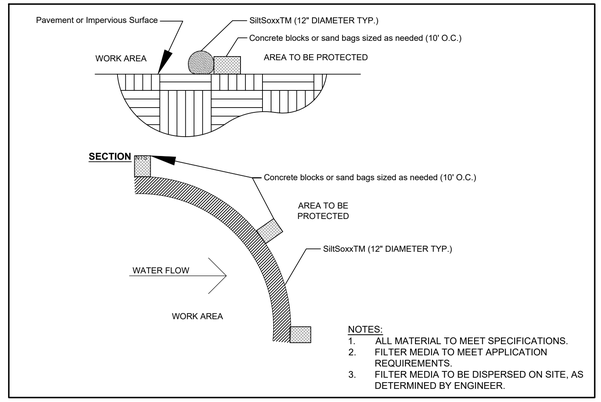
NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

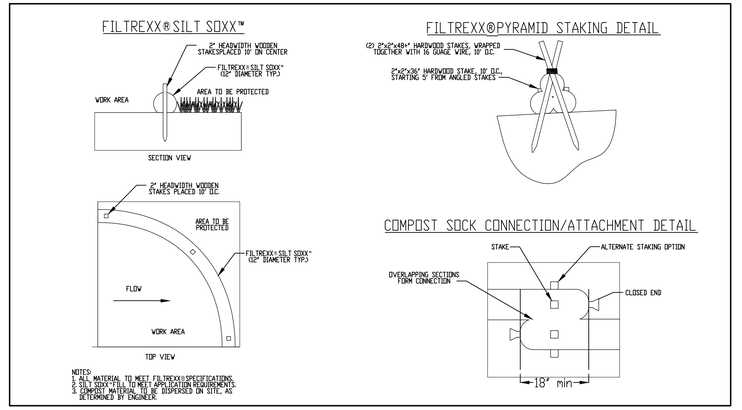
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

1 INLET FILTER BAG PROTECTION DETAIL
NOT TO SCALE



NOTES:
1. ALL MATERIAL TO MEET SPECIFICATIONS.
2. FILTER MEDIA TO MEET APPLICATION REQUIREMENTS.
3. FILTER MEDIA TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

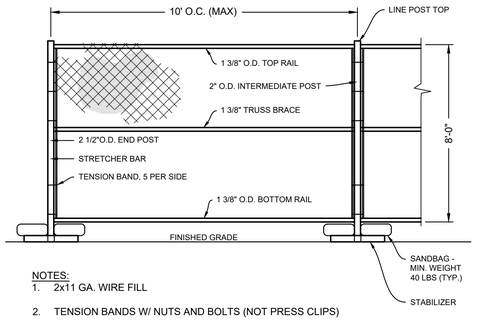
ON PAVEMENT



NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. SILT SOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

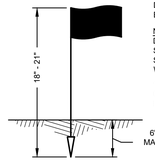
ON LAWN

2 SILT SOCK DETAIL
NOT TO SCALE



NOTES:
1. 2x11 GA. WIRE FILL
2. TENSION BANDS W/ NUTS AND BOLTS (NOT PRESS CLIPS)
3. WIRE TIES EVERY 12"
4. ALL PIPE AND WIRE TO BE HAND DIPPED GALVANIZED

3 TEMPORARY CONSTRUCTION FENCE DETAIL
NOT TO SCALE



PROBING WIRE TEST
15.5 GA. STEEL WIRE (SURVEY FLAG)
N.T.S.

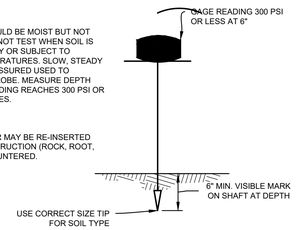
RECORD DEPTH OF PENETRATION WHEN WIRE DEFORMS; MINIMUM DEPTH OF 6" TO PASS TEST. EITHER PREMEDITATE OR PERFORM THE NEXT TEST.

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURED USED TO ADVANCE WIRE.

* WIRE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURED USED TO ADVANCE THE PROBE. MEASURE DEPTH WHEN GAGE READING REACHES 300 PSI OR DEPTH OF 6 INCHES.

* PENETROMETER MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.



SOIL DE-COMPACTION AND TESTING REQUIREMENTS

SOIL COMPACTION TESTING REQUIREMENTS

1. SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.
3. COMPACTION TESTING LOCATIONS ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION REMEDIATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
4. IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

COMPACTION TESTING METHODS

A. PROBING WIRE TEST (SEE DETAIL)
B. HAND-HELD PENETROMETER TEST (SEE DETAIL)
C. TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)
D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

FURTHER INFORMATION REGARDING SOIL TESTING METHOD OPTIONS ARE LOCATED IN THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, CHAPTER 19,
OR THE WWW.NJ.GOV/AGRICULTURE/DIVISIONS/ANR/NRCNJEROSION.HTML

SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

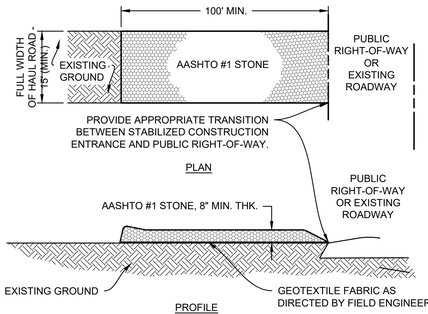
PROCEDURES FOR SOIL COMPACTION MITIGATION
PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAYBE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION MITIGATION VERIFICATION FORM

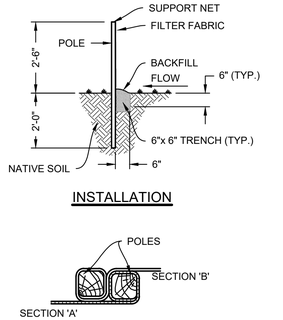
1. THE CONTRACTOR MUST COMPLETE AND SUBMIT A SOIL RESTORATION SELF-CERTIFICATION FORM TO THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT (CCSCD) FOR REVIEW AND APPROVAL. CONTRACTOR SHALL PROVIDE A COPY OF CCSCD APPROVAL TO ENGINEER FOR RECORDS.

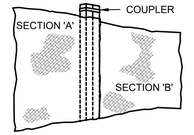
4 HANDHELD SOIL PENETROMETER TEST
NOT TO SCALE



MAINTENANCE :
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

5 ROCK CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE





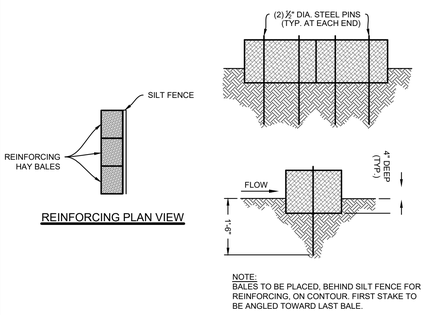
JOINING SECTION - ELEVATION

THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC.

SILT FENCE TO BE USED ON SITE SHALL BE "ENVIROFENCE" PRECONSTRUCTED SILT FENCE OR EQUAL.

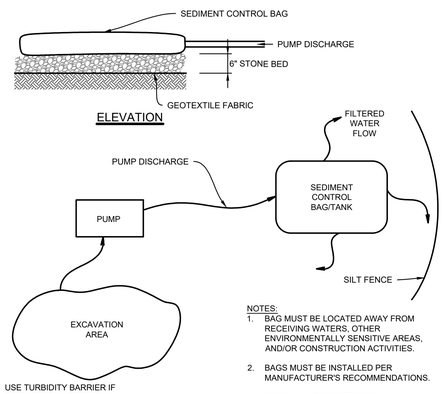
SPECIFICATIONS ARE:
LENGTH: 100 FT.
FABRIC WIDTH: 3 FT.
POLE LENGTH: 4.5 FT.
POLE SPACING: 7.7 FT.
INSTALLED HEIGHT: 2.5 FT.
SEDIMENT FABRIC: MIRAFI 100.

6 SILT FENCE DETAIL
NOT TO SCALE



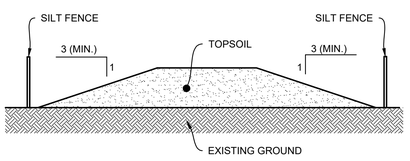
NOTE:
BALES TO BE PLACED, BEHIND SILT FENCE FOR REINFORCING, ON CONTOUR. FIRST STAKE TO BE ANGLED TOWARD LAST BALE.

7 HAY BALE SEDIMENT BARRIER DETAIL (IF & WHERE DIRECTED)
NOT TO SCALE



NOTES:
1. BAG MUST BE LOCATED AWAY FROM RECEIVING WATERS, OTHER ENVIRONMENTALLY SENSITIVE AREAS, AND/OR CONSTRUCTION ACTIVITIES.
2. BAGS MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. BAGS MAY NOT BE REUSED.
4. BAGS MUST BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

8 SEDIMENT CONTROL BAG
NOT TO SCALE



NOTES:
1. TOPSOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE.
2. STOCKPILE SHALL RECEIVE TEMPORARY VEGETATIVE STABILIZATION IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY IMMEDIATELY AFTER COMPLETION OF STOCKPILE.

9 TOPSOIL STOCKPILE DETAIL
NOT TO SCALE

ACID-PRODUCING SOIL NOTES

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID-PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID-PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF THE SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID-PRODUCING SOIL.
5. HIGH ACID-PRODUCING SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A PH OF 5.0 OR MORE EXCEPT AS FOLLOWS:
   a. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A PH OR 5 OR MORE.
   b. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES, AND OTHERS, TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

THIS PLAN IS FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
856.662.8620
NJ. COA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768
11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

SOIL EROSION & SEDIMENT CONTROL DETAILS

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	N.T.S.
DRAWN BY	BF
APPROVED BY	JJR

CS8502

SHEET 44 OF 45

PROJECT STATUS: —
PLOTSTYLE: Pennoni-NCS.stb
PLOTTED: 11/13/2025 5:43 PM, BY: Blake Fitzgerald
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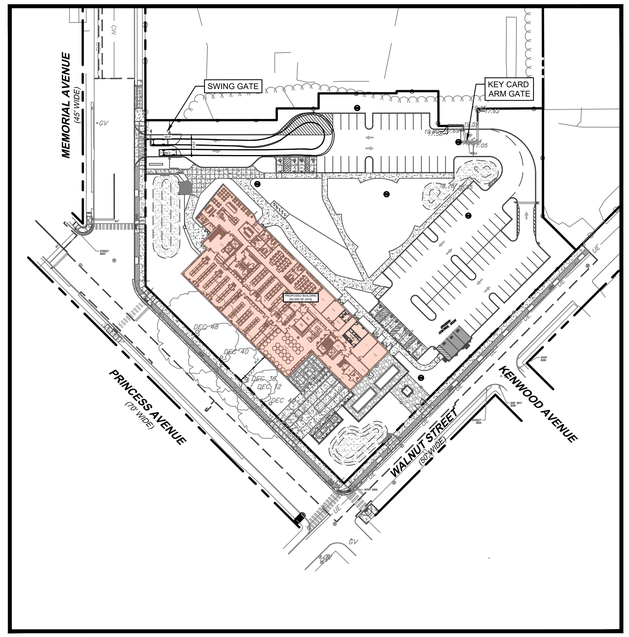
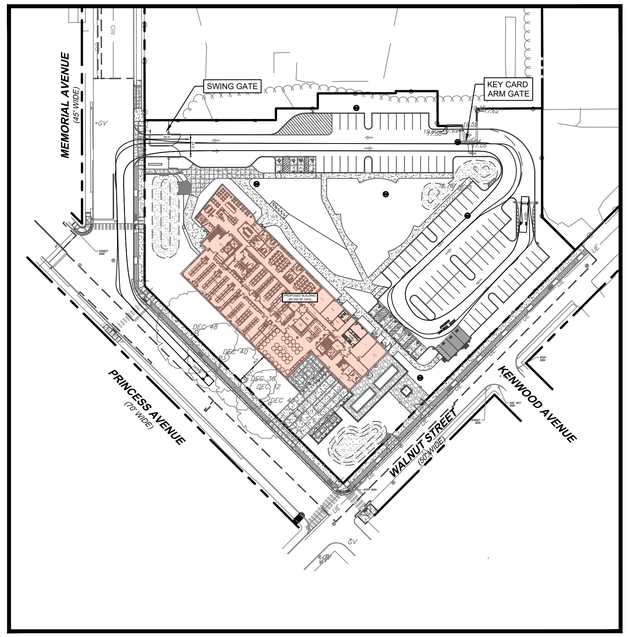
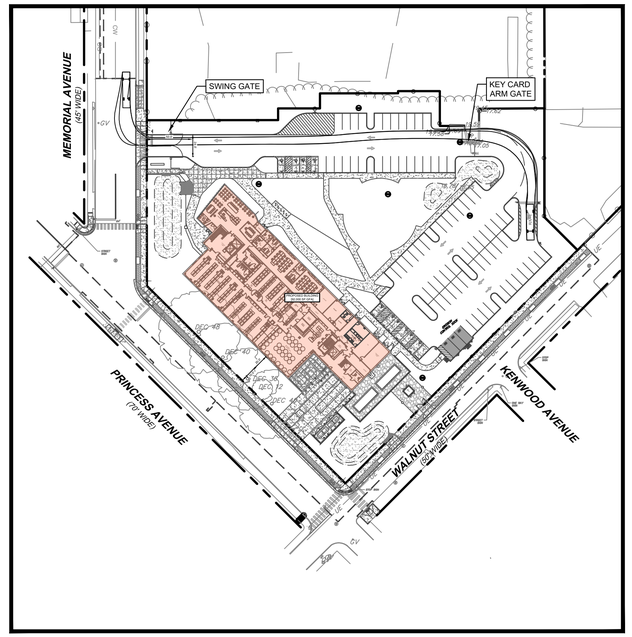


PASSENGER CAR TURN AROUND



CAMDEN FIRE TRUCK-ENTERING



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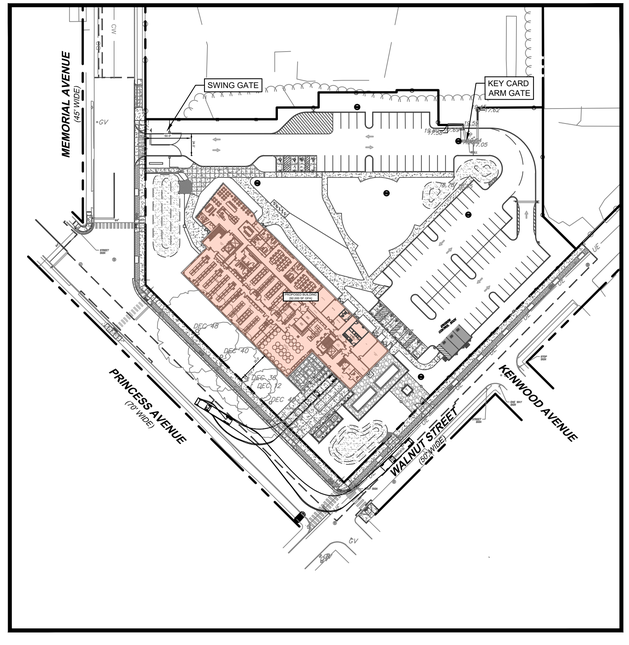
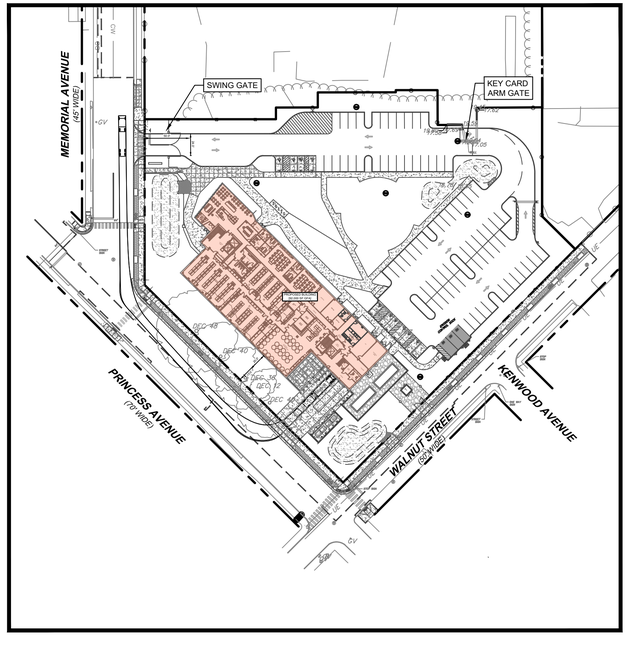


WB-40 TRUCK-ENTERING



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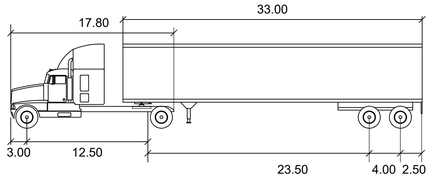
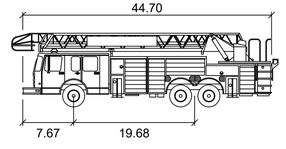


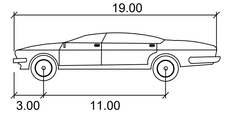
WB-40

	feet		
Overall Length	: 45.50	Lock to Lock Time	: 4.00
Overall Width	: 8.00	Steering Angle	: 20.30
Overall Body height	: 13.50		
Track Width	: 8.00		



CAMDEN FIRE TRUCK

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3



PASSENGER CAR

	feet
Width	: 7.00
Lock to Lock Time	: 4.00
Steering Angle	: 31.60

0 80' 160'

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Pennoni

PENNONI ASSOCIATES INC.
2 Aquarium Drive, Suite 320
Camden, NJ 08103
T 856.669.5100
NJ. CA NO. GA28033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300

JOSEPH RADAY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE043768

11/17/25

CORIELL INSTITUTE CAMDEN
BLOCK 367 LOTS 1 & 6
1300 WALNUT STREET
CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

VEHICULAR CIRCULATION PLAN

WALNUT PROPERTY ACQUISITION, LLC.
403 HADDON AVENUE
CAMDEN, NEW JERSEY 08103

NO.	DATE	REVISIONS	BY
1.	11/17/2025	CITY PLANNING BOARD SUBMISSION	BF

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PROJECT	SCHER25001
DATE	NOVEMBER 17, 2025
DRAWING SCALE	1"=80'
DRAWN BY	BF
APPROVED BY	JJR

CS9801

SHEET 45 OF 45

U:\Accounts\SCHER\SC-HER25001 - Coriell Institute Additional Services\DESIGN_SHEETS\CS9801.dwg PLOTTED: 11/13/2025 5:45 PM, BY: Blake Fitzgerald PLOTSTYLE: Pennoni NCS.ctb PROJECT STATUS: —

1 LEVEL 1
A-101 SCALE: 1" = 10'-0"

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FIFTEEN
ARCHITECTURE + DESIGN

31 N 2nd Street, 2F
Philadelphia, PA 19106
267.903.1815
www.xvadesign.com

Project Team

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Concord Engineering
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BEAM
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Glenside, PA 19038
215.508.0900

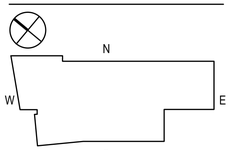
Seal

Client

CORIELL INSTITUTE HQ

1300 WALNUT ST, CAMDEN NJ 08103, USA

Key Plan



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Revisions

No	Description	YYYY/MM/DD
	PLANNING BOARD SUBMISSION	2025/11/14

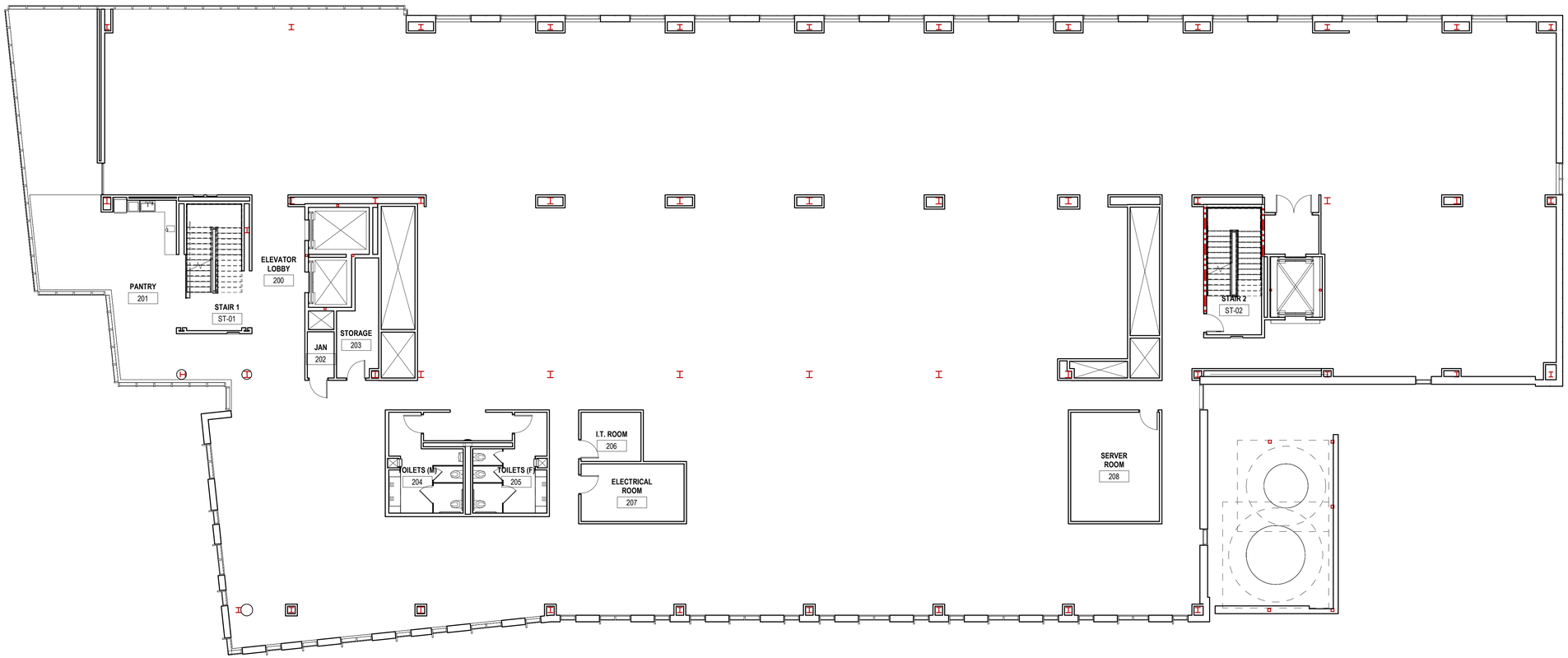
Project No: 251205COR
Client Project No:
Project ID: CORIELL INSTITUTE HQ

Sheet Title

FLOOR PLAN - LEVEL 1

Original drawing is 42 x 30 Do not scale contents of this drawing

A-101



1 LEVEL 2
A-102 SCALE: 1" = 10'-0"

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ARCHITECTURE + DESIGN

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Client

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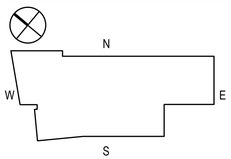
Key Plan



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Revisions

No	Description	YYYY/MM/DD
	PLANNING BOARD SUBMISSION	2025/11/14

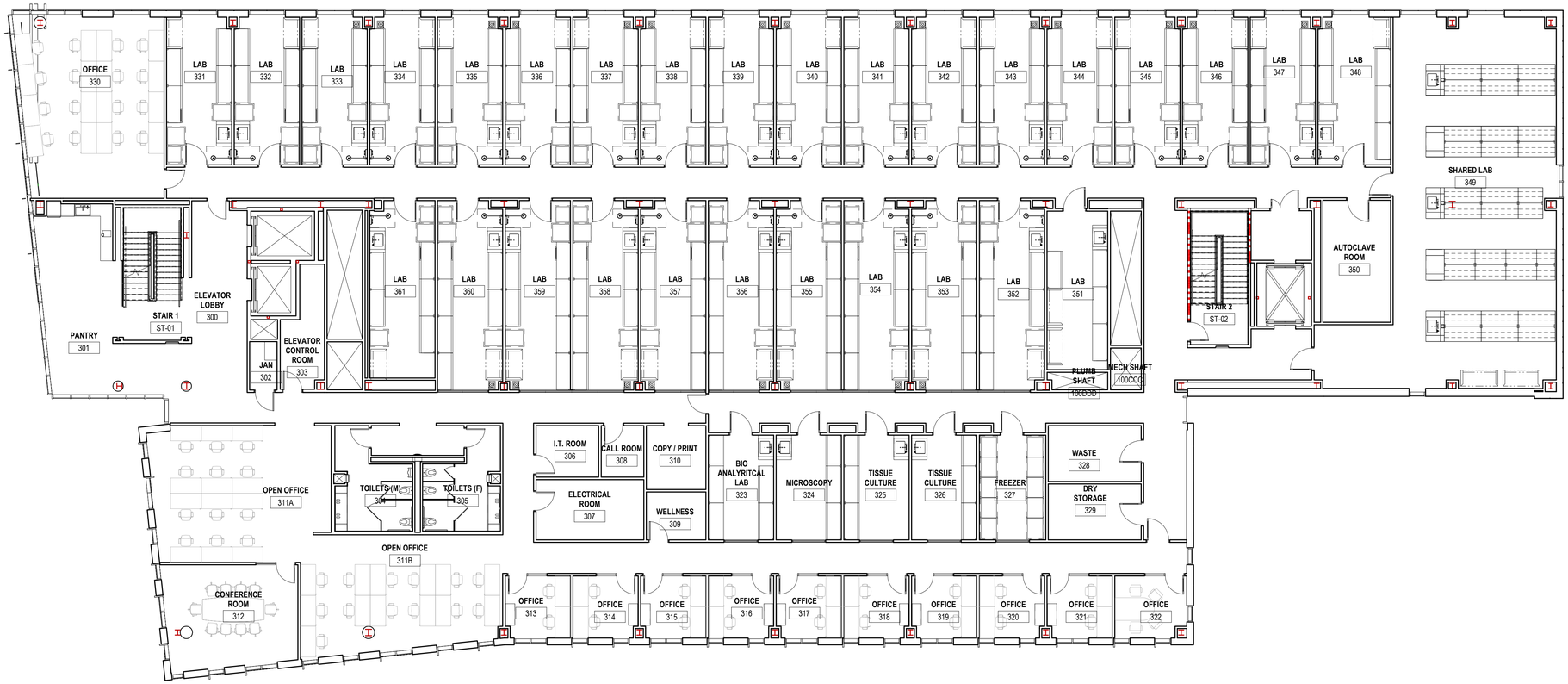
Project No: 251205COR
Client Project No:
Project ID: CORIELL INSTITUTE HQ

Sheet Title

FLOOR PLAN - LEVEL 2

Original drawing is 42 x 30 Do not scale contents of this drawing

A-102



1 LEVEL 3
A-103 SCALE: 1" = 10'-0"

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Client

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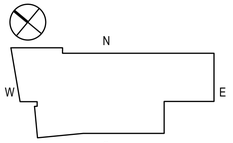
Key Plan



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Revisions

No	Description	YYYY/MM/DD
	PLANNING BOARD SUBMISSION	2025/11/14

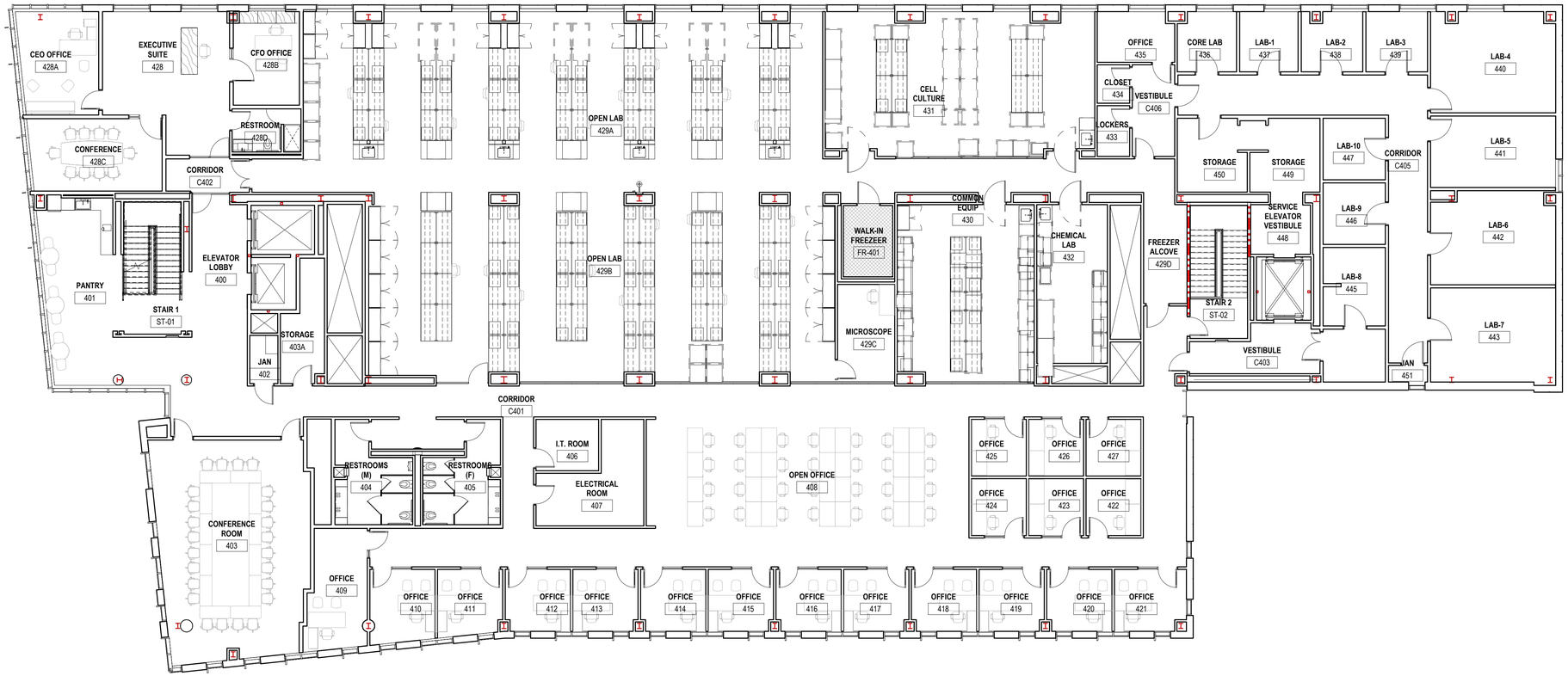
Project No: 251205COR
Client Project No:
Project ID: CORIELL INSTITUTE HQ

Sheet Title

FLOOR PLAN - LEVEL 3

Original drawing is 42 x 30 Do not scale contents of this drawing.

A-103



1 LEVEL 4

A-104 SCALE: 1" = 10'-0"

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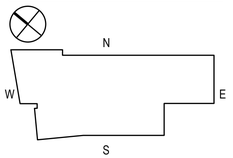
Key Plan



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Revisions

No	Description	YYYY/MM/DD
	PLANNING BOARD SUBMISSION	2025/11/14

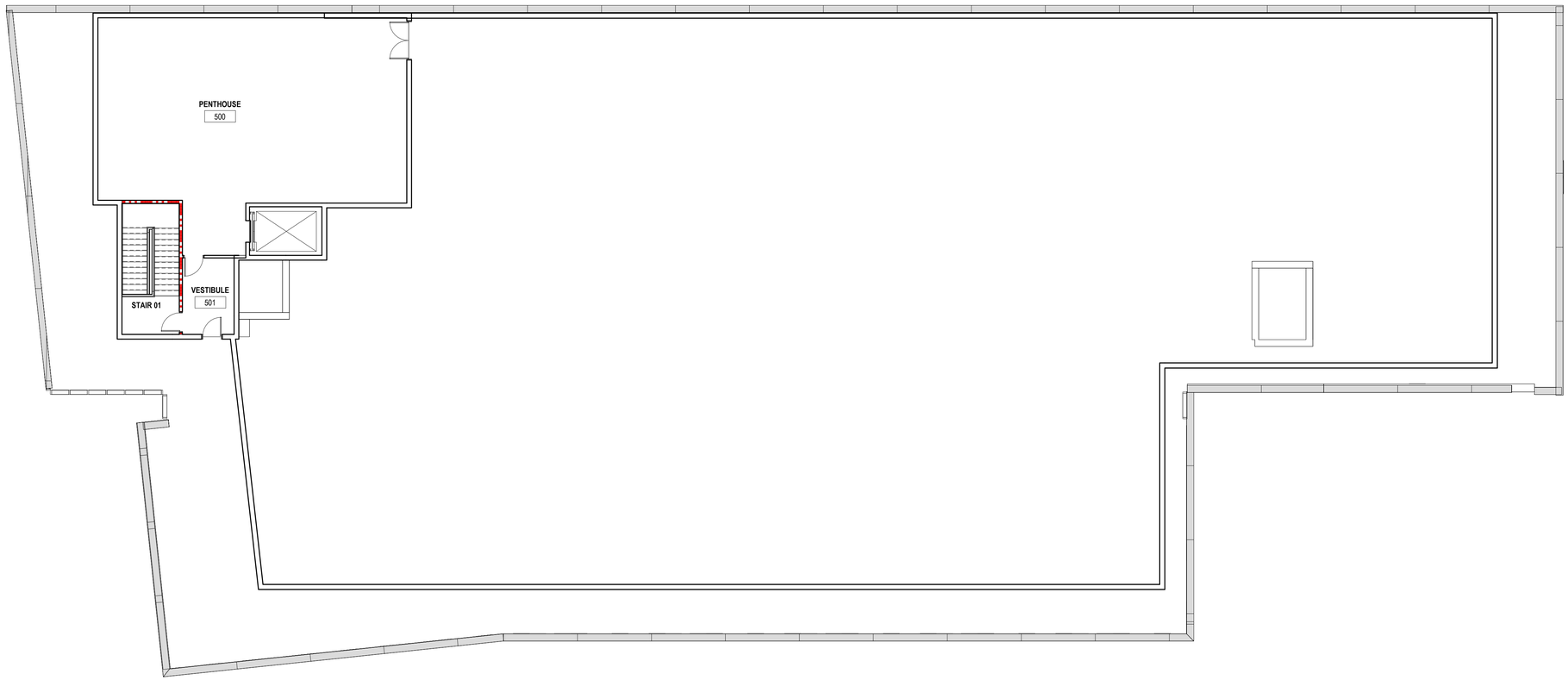
Project No: 251205COR
Client Project No:
Project ID: CORIELL INSTITUTE HQ

Sheet Title

FLOOR PLAN - LEVEL 4

Original drawing is 42 x 30. Do not scale contents of this drawing.

A-104



1 ROOF PLAN
A-105 SCALE: 1" = 10'-0"

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ARCHITECTURE + DESIGN

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Glenside, PA 19038
215.508.0900

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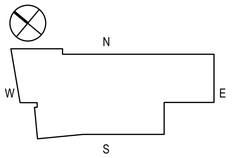
Client

CORIELL INSTITUTE HQ

1300 WALNUT ST, CAMDEN NJ 08103, USA

Key Plan



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Revisions

No	Description	YYYY/MM/DD
	PLANNING BOARD SUBMISSION	2025/11/14

Project No: 251205COR
Client Project No:
Project ID: CORIELL INSTITUTE HQ

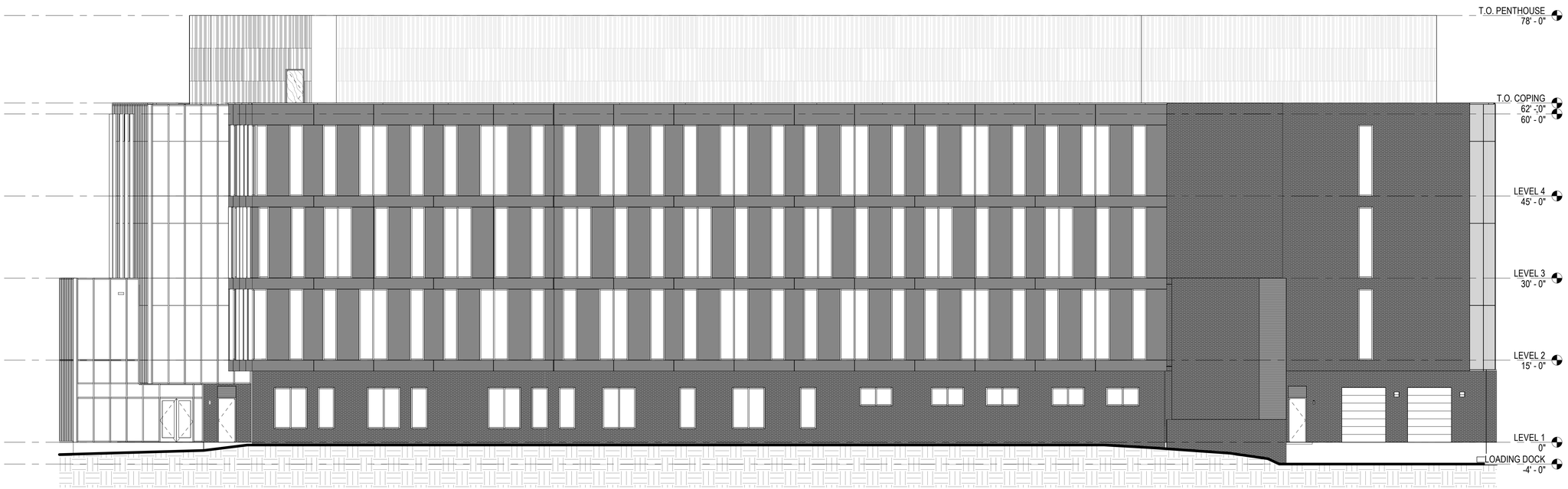
Sheet Title

ROOF PLAN

Original drawing is 42 x 30. Do not scale contents of this drawing.

A-105

2 WEST ELEVATION
A-300 SCALE: 1" = 10'-0"



1 SOUTH ELEVATION
A-300 SCALE: 1" = 10'-0"

EXTERIOR ENCLOSURE KEY:

1. REFER TO SHEET 300 FOR ENCLOSURE GENERAL NOTES
2. REFER TO SHEET 301 FOR EXTERIOR ASSEMBLY DIAGRAMS
3. REFER TO SHEET 105 FOR ROOFING GENERAL NOTES

- M1 - MASONRY CLADDING ON METAL STUD WALL
- M2 - ALUM COMPOSITE METAL PANEL WALL ASSEMBLY
- M3 - ALUM COMPOSITE METAL PANEL WALL ASSEMBLY
- M4 - ROOF SCREEN WALL ASSEMBLY
- M5 - ROOF PENTHOUSE WALL ASSEMBLY
- M6 - LOUVER SCREEN ASSEMBLY
- CW1 - CURTAIN WALL , TYPE 1
- CW2 - CURTAIN WALL , TYPE 2
- CW3 - CURTAIN WALL , TYPE 3
- SF1 - STOREFRONT
- IGU-1 VISION GLASS
- IGU-2 SPANDREL GLASS

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FIFTEEN
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Seal

Client

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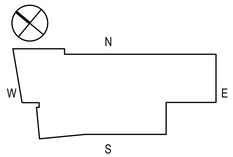
1300 WALNUT ST, CAMDEN NJ 08103, USA

Key Plan



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Revisions

No	Description	YYYY/MM/DD
	PLANNING BOARD SUBMISSION	2025/11/14

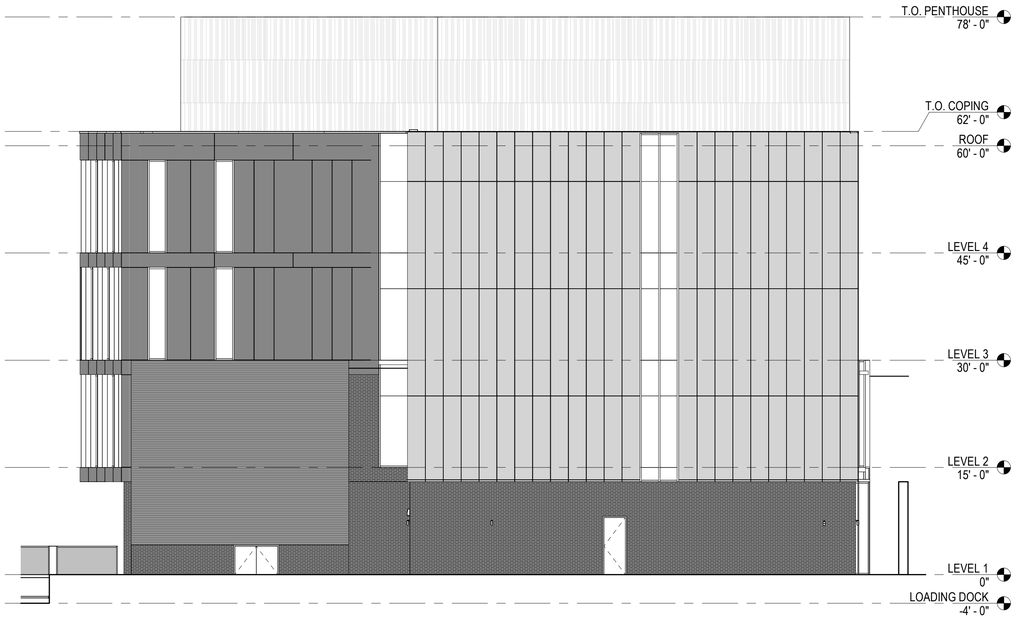
Project No: 251205COR
Client Project No:
Project ID: CORIELL INSTITUTE HQ

Sheet Title

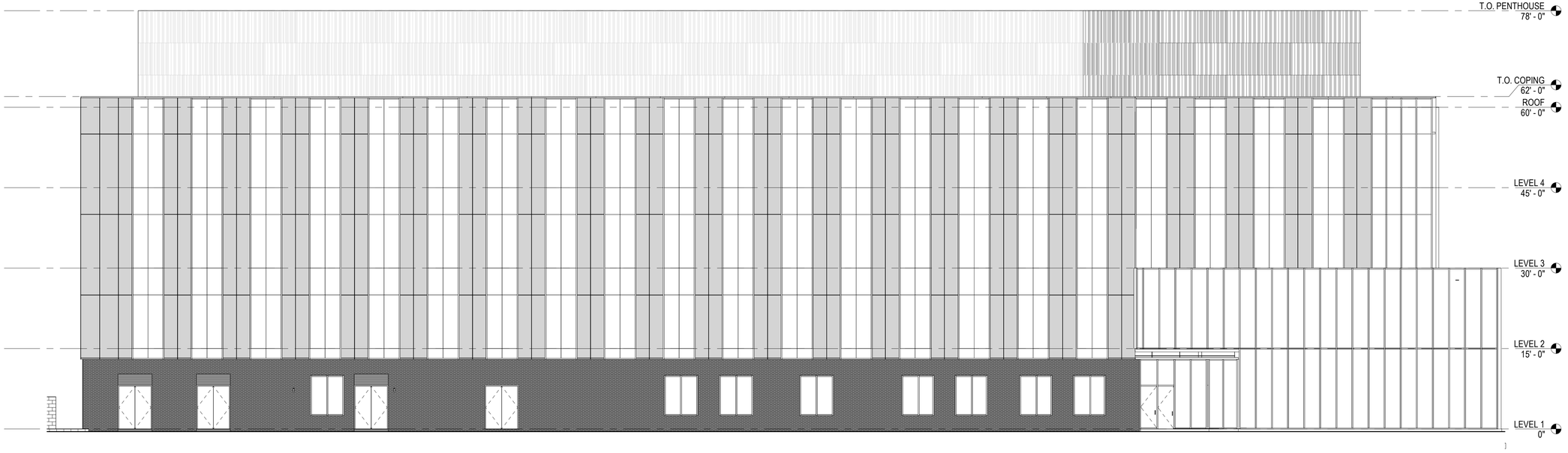
EXTERIOR ELEVATIONS

Original drawing is 42 x 30 Do not scale contents of this drawing

A-300



2 EAST ELEVATION
A-301 SCALE: 1" = 10'-0"



1 NORTH ELEVATION
A-301 SCALE: 1" = 10'-0"

EXTERIOR ENCLOSURE KEY:

1. REFER TO SHEET 300 FOR ENCLOSURE GENERAL NOTES
2. REFER TO SHEET 301 FOR EXTERIOR ASSEMBLY DIAGRAMS
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- M5 - ROOF PENTHOUSE WALL ASSEMBLY
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- IGU-2 SPANDREL GLASS

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FIFTEEN
ARCHITECTURE + DESIGN

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302.252.9200

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BEAM
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Glenside, PA 19038
215.508.0900

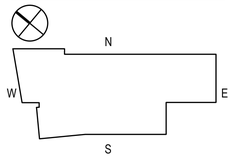
Seal

Client

CORIELL INSTITUTE HQ

1300 WALNUT ST, CAMDEN NJ 08103, USA

Key Plan



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Revisions

No	Description	YYYY/MM/DD
	PLANNING BOARD SUBMISSION	2025/11/14

Project No: 251205COR
Client Project No:
Project ID: CORIELL INSTITUTE HQ

Sheet Title

EXTERIOR ELEVATIONS

Original drawing is 42 x 30 Do not scale contents of this drawing

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