Application	

Robbinsville
TOWNSHIP
BE AT THE CENTER OF IT ALL

GENERAL LAND USE APPLICATION

1. Applicant's Name:	Amazon.com Services LLC
Contact Person:	Nick Saucedo
Address:	410 Terry Avenue North
	Seattle, WA 98109
Telephone:	386-898-2749
Email:	saucebni@amazon.com
Relationship to Owner:	Tenant

2. Property Address:	50 New Canton Way Robbinsville, NJ 08691				
Development Name:	Amazon Fulfillment Center - EWR4				
Zoning District:	PCD				
Tax Map Page:	1112	Block:	41	Lot(s)	14.011; 36.01; 37.012

3. Property Owner:	KTR NJ Urban Renewal II, LLC - Prologis
Contact Person:	
Address:	60 State Street, Suite 2200
	Boston, MA 02109
Telephone:	
Email:	

4. Name of Attorney	Joseph Paparo, Esq.
Firm:	Porzio Bromberg & Newman
Address:	100 Southgate Parkway, PO Box 1997
	Morristown, NJ 07962
Telephone:	973-889-4042
Email:	japaparo@pbnlaw.com

5. Name of Engineer:	Tony W. Diggan, PE
Firm:	Kimley-Horn and Associates Inc.
Address:	301 Carnegie Center Boulevard, Suite 202
	Princeton, NJ 08540
Telephone:	609-681-2434
Email:	tony.diggan@kimley-horn.com

6. Name of Architect:	
Firm:	
Address:	
Telephone:	
Email:	

7. **Application Type:** (Check all applicable - a completed Checklist is required for each)	
☐	Appeal
☐	Certificate of Nonconformity Request
☐	Conceptual/Informal Review
☐	Extension of Prior Approvals
☐	Home Occupation Permit
☐	Interpretation of the Zoning Map or Ordinance
☐	Site Plan – Preliminary Major, Residential. No. of Units proposed:
☐	Site Plan – Final Major, Residential. No. of Units proposed:
☒	Site Plan – Preliminary Major, Non-Residential. Total GFA proposed: N/A
☒	Site Plan – Final Major, Non-Residential. Total GFA proposed: N/A
☐	Site Plan – Minor Site Plan
☐	Site Plan – Administrative Site Plan Review (☐ check if related to a pool or sports court)
☐	Site Plan – Waiver of Site Plan
☐	Subdivision – Preliminary Major. Total No. of Lots proposed:
☐	Subdivision – Final Major. Total No. of Lots proposed:
☐	Subdivision – Minor. Total No. of Lots proposed:
☐	Variances – Residential Bulk. No. of Bulk Variances:
☐	Variances – Residential 'D'. No. of 'D' Variances: No. of Units:
☐	Variances – Non-Residential 'D'. No. of 'D' Variances: Total GFA:
☐	Other

* Check all applicable and submit appropriate Checklist for each application type

8. Is the property served by public sewer or septic system?	public sewer

9. Is the property served by public water system or private well?	public water

10. Has there been a previous appeal or approval for this property?	yes
If so, please describe:	* see attached Application Rider

11. Provide a brief history of the site, its location and description of current use(s) of property:
* see attached Application Rider

12. Provide written narrative of proposal, be specific (include proposed development, use and/or description of operations:	* see attached Application Rider

Copies of any applicable Checklists and the required submission items, including administrative forms, fees and digital copies, must be provided as one comprehensive submission at time of filing.

I have reviewed the By-Laws of the Planning and Zoning Boards, the general instructions to applicants, the application and accompanying documentation and consent to filing of the same with the Township of Robbinsville Planning Board/Zoning Board. I certify that all statements contained herein, any documents and plans filed herewith are true and correct to the best of my knowledge, information and belief. By signing as the applicant, I also certify that I am an authorized signatory and have full authority this execute this application.

Applicant's Signature

12/10/25
Date

Adam Rust, Sr Precon. Leader
Applicant's Name & Title, printed

I do hereby accept the responsibilities as agent for this application (if different from applicant).

Agent's Signature

Date

Agent's Name & Title, printed

TOWNSHIP USE ONLY BELOW THIS LINE

Application No: _____ *Fees Paid:* _____

Date Received: _____ *Escrow Paid.* _____

Referred To: _____
(Planning Board or Zoning Board)

2. Applicant understands and agrees to pay all costs as set forth above from the date of initial application submission through the Township's signature of approved plans which shall include any costs for extensions and revalidations.

3. Applicant understands and agrees to deposit with the Township's Planning Office/Zoning Office an initial application filing fee in accordance with fees and permits section of the Ordinance upon submission of the application.

4. Applicant understands and agrees that the Township will draw down from said deposit to cover costs as set forth in Section 1 above.

5. Applicant understands and agrees to pay WITHIN TEN BUSINESS DAYS of receipt of the Township's statement/billing all additional costs as may be incurred and billed to the applicant by the township relative to the review and administration of the application even if the costs of said review and administration exceed the initial filing fee deposit.

6. Applicant understands and agrees that in the event Applicant fails to pay a billed amount, the Township may discontinue Planning Board/Zoning Board review and consideration on said application or if Planning Board/Zoning Board approval has been previously granted, the Township may deny issuance of a construction permit and/or certificate of occupancy or if permit has been previously issued Township may initiate a Stop Work Order.

7. Township agrees to refund to applicant any sum deposited with Township for review and administration of the application not spent nor needed by the Township.

8. Applicant agrees and understands that it is incumbent on the applicant to periodically monitor the status of said escrow account. Applicant should verify the escrow account balance one week prior to any public hearing. If an escrow account is deficient, the application may not be heard by the Board.

9. Applicant agrees and understands that it is the responsibility of the applicant to pay all escrow charges even if the applicant sells or conveys said property cited above to another party. An applicant may enter into an assignment agreement with any new developer, which would be reviewed by the Township Attorney for approvals.

10. Applicant will complete the attached Escrow Account Contact Information form. Applicant agrees and understands that if there is any change in Applicant/Developer or any change in the Applicant's/Developer's address or contact information, the Applicant is responsible to notify the Township of Robbinsville Finance Department and the Administrative Officer and will amend any necessary documents.

Adam Rust
Applicant's Name - Print

Adam Rust
Applicant's Signature

12/10/25
Date

Administrative Officer

Date

APPLICATION RIDER

PREVIOUS APPEAL/APPROVALS

1. Preliminary and Final Major Site Plan, Variance, and Design Waiver approvals for the construction of a 1,039,500 sf. warehouse/distribution facility (June 25, 2008)

2. Amended Preliminary and Final Major Site Plan and Subdivision approvals for auxiliary parking lot serving existing warehouse/distribution facility (November 7, 2012)

HISTORY OF SITE/CURRENT USE

The site in question is located at 50 New Canton Way, Block 41, Lots 14.011, 36.01, and 37.012 on the Tax Maps of Robbinsville Township, and is utilized as an Amazon fulfillment center (EWR4) which has been in operation for over a decade.

STATEMENT OF PRINCIPAL POINTS

The within Application involves a request for preliminary and final site plan approval to permit the Applicant to convert a portion of the existing employee parking into approximately 111 trailer parking spaces and modify associated drive aisles. The site is located within the PCD (Planned Commercial Development) Zone which permits the existing warehouse and distribution use. As will be discussed in greater detail during the hearing process, as part of the current operations, empty trailers are transported to an offsite location and this proposal will eliminate that process by providing additional trailer parking on site. As a result of the providing adequate trailer parking on site, overall truck traffic will be reduced by elimination the transport of the empty trailers to the remote parking site. All other aspects of the existing Amazon operations at this facility will remain unchanged. No new variances or design waivers have been identified in connection with this project.

For the reasons noted above, the Applicant respectfully requests that site plan approval be granted.

Robbinsville
TOWNSHIP
BE AT THE CENTER OF IT ALL
Planning and Zoning Office

WAIVER/VARIANCE REQUEST FORM

Applicant's Name: Amazon.com Services LLC

Address: 410 Terry Avenue North, Seattle, WA 98109

Development Name: Amazon Fulfillment Center - EWR4

Township of Robbinsville Tax Block(s): 41, Lot(s): 14.011; 36.01; 37.012

This form is an integral part of any development checklist submitted to the Township of Robbinsville wherein waivers from design standards, waivers from application checklist submission items or variances are requested. All requests should be specific and should reference the relief requested by Ordinance, Codebook Section or Checklist item. This form must be completed for all requested or required waivers/variances and submitted with the application in order for the application to be considered complete.

It is the applicant's or its professionals' responsibility to complete this form in order for proper consideration to be given to the request. Adequate documentation and support data shall be provided with each request in order for the Township to determine the appropriateness of the request. Where technical references or support data are given, the request form shall be signed and sealed by the appropriate professional.

DESIGN WAIVER/VARIANCE REQUEST FORM (CONTINUED)

Ordinance/Codebook or Checklist Reference	Explanation and Support Data for Submission Waiver, Design Waiver or Variance Request
Preliminary Site Plan Checklist #24/74	Community Impact Statement: The project's proposed improvements are within a previously disturbed portion of the site and match existing site operations.
Preliminary Site Plan Checklist #25/75	Environmental Impact Statement: The project's proposed improvements are within a previously disturbed portion of the site.
Preliminary Site Plan Checklist #26/76	Traffic Impact Statement: There is a decrease to the existing employee parking and anticipated decrease to total truck trip for the site. Refer to the Operations Narrative.
Preliminary Site Plan Checklist #32	There are no publicly mapped wetlands adjacent to the proposed improvements. The project's proposed improvements are within a previously disturbed portion of the site.
Preliminary Site Plan Checklist #33	There are no publicly mapped wetlands adjacent to the proposed improvements. The project's proposed improvements are within a previously disturbed portion of the site.

Robbinsville
TOWNSHIP
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Planning and Zoning Office
2298 Route 33, Robbinsville, NJ 08691
Phone (609) 259-3600 Fax (609) 259-2128

AFFIDAVIT OF OWNERSHIP

State of New Jersey, County of Mercer, SS.:

Owner's name: KTR NJ Urban Renewal II, LLC - Prologis of full age, being duly sworn according to law on oath depose(s) and say(s) that he/she/they reside(s) at _____ in the Township of _____ in the County of _____ and State of _____ that he/she/they is/are the owner in fee of all that certain lot, piece or parcel of land situated, lying and being in the Township of Robbinsville, New Jersey, and known and designated as:

Block(s) 41, Lot (s) 14.011, 36.01, 37.012, also known as (Address): 50 New Canton Way, Robbinsville, New Jersey.

Sworn and subscribed before me this 13th day of January 2026.

(Notary) AYISHA AHMED ZAKARIA
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES OCT. 4, 2029

(Owner's Signature)

JOHN AVILES, VICE PRESIDENT
(Owner's Name, Title)

AUTHORIZATION

(If anyone other than above owner is making this application, the following authorization must be executed.)

To the Planning/Zoning Board:

Amazon.com Services LLC is hereby authorized to make this application.

Applicant's relationship to Owner: Tenant

(Owner's Signature)

1/13/26
(Date)

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APPLICANT'S DISCLOSURE STATEMENT

(Corporation or Partnership)

A corporation or partnership applying to the Planning or Zoning Board for:

a. Subdivision with six (6) or more lots: or
b. Site Plan for commercial purpose; or
c. Variance to construct multiple dwelling of twenty-five (25) or more family units; or
d. Approval of a commercial use

must provide the names and addresses of all persons, stockholders or individual partners owning at least a ten (10) percent interest in the corporation, partnership are as follows:

NAME	ADDRESS
Amazon.com Services LLC is an indirect, wholly owned subsidiary of Amazon.com Inc., a publicly traded company and there is currently no individual stockholder having an ownership interest of 10% or more in the company.	

or, See attached ☐

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Phone (609) 259-3600 Fax (609) 259-2128

AFFIDAVIT OF OWNERSHIP

State of New Jersey, County of Mercer, SS.:

Owner's name: KTR NJ Urban Renewal II, LLC - Prologis of full age, being duly sworn according to law on oath depose(s) and say(s) that he/she/they reside(s) at _____ in the Township of _____ in the County of _____ and State of _____ that he/she/they is/are the owner in fee of all that certain lot, piece or parcel of land situated, lying and being in the Township of Robbinsville, New Jersey, and known and designated as:

Block(s) 41, Lot (s) 14.011; 36.01; 37.012, also known as (Address): 50 New Canton Way, Robbinsville, New Jersey.

Sworn and subscribed before me this _____ day of _____ 20_____.

_____ (Notary)

_____ (Owner's Signature)

_____ (Owner's Name, Title)

AUTHORIZATION

(If anyone other than above owner is making this application, the following authorization must be executed.)

To the Planning/Zoning Board:

Amazon.com Services LLC is hereby authorized to make this application.

Applicant's relationship to Owner: Tenant

_____ (Owner's Signature)

_____ (Date)

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CONSENT TO ENTRY

The undersigned hereby consents to the entry onto the property known as:

(Address) 50 New Canton Way, also known as:

Block 41, Lot(s) 14.011; 36.01; 37.012 on the Tax Map of the Township of Robbinsville, by the members of the Township of Robbinsville Planning Board or Zoning Board, consultants and professionals representing the Boards, members of the Township of Robbinsville Environmental Commission, and other officials of the Township pertaining to this application, to perform an inspection of the subject property in connection with the land use application which is submitted herewith for approval by the appropriate Township Land Use Board.

By signing this consent, I affirm that I have full authority to execute this consent.

[signature] 11/24/25
(Signature of Owner) (Date)

JOHN AVILES, VICE PRESIDENT
(Name, Title - printed)

60 STATE STREET, SUITE 2200 BOSTON, MA 02109
(Address of Owner)

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Phone (609) 259-3600 Fax (609) 259-2128

TAX & UTILITY ASSESSMENT CERTIFICATION

Taxes and Utility Assessments must be certified as current when filing a General Land Use application and at time of hearing.

Include all affected lots.

Block 41, Lot 14.011

Block 41, Lot 36.01

Block 41, Lot 37.012

Block _____, Lot _____

Property Address: 50 New Canton Way

Owner's Name: KTR NJ Urban Renewal, LLC - Prologis

Applicant's Name: Amazon.com Services LLC

FOR TAX OFFICE USE ONLY:

☒ Taxes are Current ☐ Taxes are Delinquent

☐ No Sewer Connection ☒ Sewer is Current ☐ Sewer is Delinquent

Taxes for the next quarter are due 5/1/2026 (Date).

CERTIFIED THAT TAXES AND UTILITY ASSESSMENTS HAVE BEEN PAID AND ARE CURRENT BY:

Kelly Ford — 4/20/2026

Office of the Tax Collector — Date

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Phone (609) 259-3600 Fax (609) 259-2128

ESCROW AGREEMENT

This agreement made this _____ day of _____ 20 25 between:

NAME: Amazon.com Services LLC

ADDRESS: 410 Terry Avenue North, Seattle, WA 98109

TYPE OF APPLICATION: Preliminary/Final Major Site Plan BLOCK 41 LOT 14.011; 36.01; 37.012

Hereinafter called "Applicant"

and:

The Township of Robbinsville, in the County of Mercer, a municipal corporation of the State of New Jersey; Hereinafter called "Township"

WITNESSETH:

THAT the Applicant has submitted a development application to the Township's Planning Board/Zoning Board for consideration in accordance with the New Jersey Municipal Land Use Law and the Township of Robbinsville Land Use and Development Ordinance and Applicant hereby covenants and agrees as follows:

1. Applicant agrees to pay all costs related to the Township's review and administration of the proposed application with said costs including but not limited to:

   A. Conceptual review by the Technical Review Committee (TRC), Planning Board Work session, which entails professional consultant services as may be required by the Township;

   B. Full application professional review by the Township's TRC and Planning Board/Zoning Board, which entails professional consultant costs for: Planner, Engineering, Legal and other extraordinary consultant services as may be required by the Township;

   C. In house application review of the application by the Township's Department of Health and any other extraordinary review by any other department, office or municipal employee as may be required by the Township.

   D. Administration and handling of the application by the Township's Planning Office/Zoning Office and/or Office of the Township Clerk with said costs including but not limited to: secretarial and clerical administrative handling, escrow account bookkeeping, accounts receivable and payable, TRC and Board meeting secretarial/recording services.

   E. All tax map plotting services required to reflect approved conditions on the official Tax Maps of Robbinsville.

2. Applicant understands and agrees to pay all costs as set forth above from the date of initial application submission through the Township's signature of approved plans which shall include any costs for extensions and revalidations.

3. Applicant understands and agrees to deposit with the Township's Planning Office/Zoning Office an initial application filing fee in accordance with fees and permits section of the Ordinance upon submission of the application.

4. Applicant understands and agrees that the Township will draw down from said deposit to cover costs as set forth in Section 1 above.

5. Applicant understands and agrees to pay WITHIN TEN BUSINESS DAYS of receipt of the Township's statement/billing all additional costs as may be incurred and billed to the applicant by the township relative to the review and administration of the application even if the costs of said review and administration exceed the initial filing fee deposit.

6. Applicant understands and agrees that in the event Applicant fails to pay a billed amount, the Township may discontinue Planning Board/Zoning Board review and consideration on said application or if Planning Board/Zoning Board approval has been previously granted, the Township may deny issuance of a construction permit and/or certificate of occupancy or if permit has been previously issued Township may initiate a Stop Work Order.

7. Township agrees to refund to applicant any sum deposited with Township for review and administration of the application not spent nor needed by the Township.

8. Applicant agrees and understands that it is incumbent on the applicant to periodically monitor the status of said escrow account. Applicant should verify the escrow account balance one week prior to any public hearing. If an escrow account is deficient, the application may not be heard by the Board.

9. Applicant agrees and understands that it is the responsibility of the applicant to pay all escrow charges even if the applicant sells or conveys said property cited above to another party. An applicant may enter into an assignment agreement with any new developer, which would be reviewed by the Township Attorney for approvals.

10. Applicant will complete the attached Escrow Account Contact Information form. Applicant agrees and understands that if there is any change in Applicant/Developer or any change in the Applicant's/Developer's address or contact information, the Applicant is responsible to notify the Township of Robbinsville Finance Department and the Administrative Officer and will amend any necessary documents.

Adam Rust
Applicant's Name - Print

Applicant's Signature

12/22/25
Date

Administrative Officer

Date

Application #: _____

Escrow Account #: _____

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Phone (609) 259-3600 Fax (609) 259-2128

ESCROW ACCOUNT CONTACT INFORMATION

Name of Applicant: Amazon.com Services LLC

Project Address: 50 New Canton Way

Project Block: 41 Lot(s): 14.011; 36.01; 37.012

Person or firm responsible for receiving and discussing financial/escrow account information (this would include receiving copies of any vouchers/invoices, account statements, requests to replenish the escrow account-per the escrow agreement, etc.):

Name: Joseph Paparo, Esq. (Applicant's Attorney)

E-mail address: japaparo@pbnlaw.com

Address: Porzio Bromberg & Newman, 100 Southgate Parkway, PO Box 1997, Morristown, NJ 07962

Phone number: 973-889-4042

Robbinsville Township will send all escrow documents via email and will request the Board's professionals do the same.

All correspondence concerning escrow accounts shall be directed to the Township of Robbinsville Finance Department. I understand that if there is any change in Applicant/Developer or any change in the Applicant's/Developer's address or contact information, I am responsible to notify the Township of Robbinsville Finance Department and the Administrative Officer and will amend any necessary documents.

By signing this form, I certify that I am an authorized signatory and have full authority to have/grant access to this Developer's escrow account information.

[signature] 1.8.26

SIGNATURE DATE

Joseph Paparo - Attorney for Applicant

NAME, TITLE

For Dept. Use:
- ☐ Save to Server
- ☐ Copy to Finance
- ☐ Add to Escrow Sheet

Application:	
Date Rcvd.:	
Received by:	

Robbinsville TOWNSHIP
BE AT THE CENTER OF IT ALL

PRELIMINARY SITE PLAN CHECKLIST

1. Applicant's Name:	Amazon.com Services LLC
Contact Person:	Nick Saucedo
Address:	410 Terry Avenue North
Telephone:	Seattle, WA 98109
Email:	389-898-2749
Relationship to Owner:	Tenant

2. Property Address:	50 New Canton Way, Robbinsville, NJ 08691
Development Name:	Amazon Fulfillment Center - EWR4
Zoning District:	PCD
Block(s):	41
Lot(s):	14.011; 36.01; 37.012

3. Property Owner:	KTR NJ Urban Renewall II, LLC - Prologis
Contact Person:	
Address:	60 State Street, Suite 2200, Boston, MA 02109
Telephone:	
Email:	

4. Name of Attorney:	Joseph Paparo Esq.
Firm:	Porzio Bromberg & Newman
Address:	100 Southgate Parkway, PO Box 1997, Morristown, NJ 07962
Telephone:	973-889-4042
Email:	japaparo@pbnlaw.com

5. Has this property ever been subject of a previous application to the Planning or Zoning Board?
If so, please describe (incl. Resolution #): N/A

6. Description of Property, brief history of the site, its location and description of current use(s) (may attach addendum):
* see attached Application Rider

7. Provide Detail of the Exact Nature of the Application (may attach addendum):
* see attached Application Rider

8. Description of Relief Requested, including Section(s) of Ordinance variance is requested (may attach addendum):
* Design Waiver/Variance Request Form

INSTRUCTIONS:

1. This checklist shall be completed by the applicant or its authorized representative and submitted with the application. This checklist shall be used in determining completeness or incompleteness of the application pursuant to Robbinsville Township's Land Use and Development Ordinance(s). The applicant is advised that failure to provide all data required on this checklist or failure to apply for the appropriated waivers will render the application incomplete. Applications will not be placed on an agenda until it has been deemed complete by the Administrative Officer.

2. Applicant to complete checklist column with an "X" in the appropriate column. A waiver should be requested for all checklist item you may consider "not applicable" ("n/a") and reason(s) you would consider it "not applicable." ****** All waivers requested should be explained in detail on the Waiver/Variance Request Form. Failure to provide a reason for the request will render the application incomplete.

3. The Technical Review Committee (TRC) will determine if any item where a waiver is requested shall be required to be provided and the application shall be considered incomplete if not provided.

4. The applicant shall submit three (3) collated copies of all correspondence (including cover and response letters) and administrative forms. The applicant shall submit three (3) signed and sealed copies of all maps, plans or reports and all additional submission item(s). All submissions must include a digital copy in pdf. format of all submission items (email to BoardSecretary@robbinsville.net, dropbox, thumb drive or disk). All re-submissions must include a point-by-point response letter addressing all comments from the Board's professionals or from the Technical Review Committee (TRC) Meeting. All submissions must be made as one comprehensive submission, not under separate cover.

I. ADMINISTRATIVE			
Township Use Only		**Provided per Checklist**	****Waiver Requested**
☐	1. Completed General Land Use Application Form.	✓	
☐	2. Completed Fee Schedule Form.	✓	
☐	3. Payment of Required Fees (two separate checks).	✓	
☐	4. Completed Escrow Agreement Form with Escrow Contact Sheet.	✓	
☐	5. Completed W-9 Form (for Escrow Account).	✓	
☐	6. Tax & Utility Assessment Certification Form (Applicant part complete).	✓	
☐	7. Completed Waiver/Variance Request Form.	✓	
☐	8. Completed Affidavit of Ownership Form (notarized).	✓	
☐	9. Completed Disclosure Statement Form.	✓	
☐	10. Completed Consent of Entry Form.	✓	
☐	11. Completed Checklist(s) for All Applicable Requests.	✓	
☐	12. "Zoning Permit Denial" or "Notice of Violation" (N.O.V.) from Zoning, Code or Construction Official.		✓
☐	13. Resolution(s) for all previous Planning/Zoning Board approvals.	✓	
☐	14. Proposed Operations Statement, including details of existing and proposed use(s), hours of operation, number of employees, provisions for maintenance, etc., signed by Applicant and notarized.		✓
☐	15. Certification by the Applicants Engineer that proposal is consistent with Wastewater Management Plan of the Township of Robbinsville.		✓
☐	16. Boundary and Topographic Survey of the total tract, certified to the Applicant, signed and sealed by the preparing N.J. Licensed Land Surveyor in accordance with current statute. Current-no greater than two (2) years old, to scale, accurately showing all existing conditions (including fencing, pavement, pools, all buildings and structures), with accurate distances from property lines shown.	✓	
☐	17. "Will Serve" letters for all Applicable Utilities		✓

☐	18. Preliminary Site Plan, designed, drawn, signed and sealed by N.J.P.E., L.S. or A.I.A. as appropriate, to scale, sheets numbered consecutively, folded, collated, bound, signed and sealed with a common preparation and/or revision date(s).	✔	
☐	19. Architectural Floor Plans and Elevations, signed and sealed by the preparing N.J. licensed Architect, sheets numbered consecutively, folded, collated, bound, with a common preparation and/or revision date(s) with the site plan, with the uses of each area clearly defined on plan.		✔
☐	20. Rendered Elevations for site.		✔
☐	21. Sign Inventory Plan and Details, sheets numbered consecutively, folded, collated, with a common preparation and/or revision date(s).		✔
☐	22. List of all necessary Outside Agency Approvals indicating status of approvals, including copies of each approval (NJDOT, NJDEP, etc.).		✔
☐	23. List of any anticipated developer contributions, fees, fair-share payments, anticipated payments in lieu for waivers requested, etc. to be paid to the Township, per current Codes or Ordinance.		✔
☐	24. Community Impact Statement/Study, signed.	✔	
☐	25. Environmental Impact Statement/Study, signed and sealed.	✔	
☐	26. Traffic Impact Assessment/Study, signed and sealed.		✔
☐	27. Soil Test Reports, collated, signed and sealed.	✔	
☐	28. Water Quality Test Reports by NJDEPE certified laboratory for existing on-site wells.		✔
☐	29. Stormwater management calculations collated, bound, signed and sealed with common preparation and/or revision dates.	✔	
☐	30. Stormwater Management Facility Operations & Maintenance Manual (if approved, shall be filed with the County Clerk's office).	✔	
☐	31. Sanitary Sewer Engineer's Report, signed and sealed, bearing a common date of issue or revision with the plans and specifications; projected flow calculations; specifications and details on any equipment or structure to be installed which may have an effect on the sanitary sewer flows.		✔
☐	32. Proof of submission of a request for a wetlands letter of interpretation to the New Jersey Department of Environmental Protection a minimum of 60 days prior to submitting this application. Proof shall include acknowledgement of receipt by the New Jersey Department of Environmental Protection.		✔
☐	33. Submission of a wetlands report and wetlands delineation.		✔
☐	34. Photographs of property views from street and all other off-site area(s) visible to proposed improvement(s), aerial photos of site.	✔	
☐	35. Complete application, filed as one submission, with quantities and digital copies as noted in the Instructions, #4.	✔	

II. HEALTH			
Township Use Only		**Provided per Checklist**	****Waiver Requested**
☐	36. Plan shall show location of all existing sewage disposal systems on the site in question and within 200 feet of the total tract boundary of the site plan pursuant to current Codes and Statutes.		✔
☐	37. Provide certification by a New Jersey Licensed Professional Engineer regarding adequacy of any and all existing on-site sewage disposal systems. Potential reserve areas for modification of existing systems shall be shown on the plan. Application will be declared incomplete		✔

	should failing or unsatisfactory conditions be noted, certified, or found to exist.		
☐	38. Submission of groundwater quality test report for all existing on-site wells or potable water supplies. Application will be declared incomplete should failing or unsatisfactory conditions be noted, certified, or found to exist.		✔
☐	39. Soils Tests shall be provided for primary and reserve septic areas. Test results submitted which are invalid because of expiration dates or do not comply with all provisions of the current Codes and Statutes shall render the application incomplete.		✔
☐	40. The Location and results of all complete, incomplete, unacceptable and unwitnessed profile pits, permeability tests, basin, floods and percolation tests. All results shall be shown on a separate plan(s) entitled "Sewage Disposal and Water Supply Plan". All dimensioned to all proposed and existing: lot lines, watercourses, easements, wetland limits, sewage disposal and water supply systems within 200 feet of the tests.		✔
☐	41. Submission of individual soil test reports by soil log or test number for each test location in numerical ascending order shall be provided. Each report shall be signed and sealed by a NJPE and coordinated with each lot number shown on the plan.		✔
☐	42. Submission of Treatment Works or NJPDES permits for sewage systems not in compliance with current Statutes.		✔

III. ENGINEERING/PLANNING			
Township Use Only		**Provided per Checklist**	****Waiver Requested**
☐	43. Site Plan designed, drawn, signed and sealed by N.J.P.E., L.S. or A.I.A., as appropriate.	✔	
☐	44. Site Plan shall show the proposed use and site improvements including but not limited to: existing topography; location of all proposed structures with dimensions to boundaries; location of all existing structures to remain or to be removed; proposed access aisles with curb-to-curb dimensions for width; curb radii dimensions; automobile parking stalls with dimensions for width and depth; truck loading and parking aisle and stall with dimensions for stall length and width; type of truck to use loading area; typical truck radii detail; loading dock locations; all sidewalk locations and dimensions; provisions for handicapped; location of trash enclosure or accessory structures; location of bench mark; flood hazard areas; wetlands boundaries; stream corridor areas; and easement areas; any other details deemed necessary by the Township/Board Engineer.	✔	
☐	45. All scales shall be written and graphically identified. Minimum scales for plan preparation shall be as follows: preparation shall be as follows: a. Key Maps: 1" = 1000' b. Boundary and Topographic Survey: 1" = 100' c. Environmental Inventory Maps: 1" = 200' d. Site Plan, Subdivision, Grading, and Drainage Plans: 1" = 50' e. Plans and Profiles: 1" = 50' – Horizontal; 1" = 50' – Vertical, Horizontal to Vertical portion of scales being no more than 10 f. Sewage Disposal and Water Supply Plan: 1" = 50' g. Landscaping Plan: 1' = 50' with individual unit, berm, island, or other detailed landscaping being provided at minimum 1" = 20'	✔	

☐	46. Site Plan shall be blackline reproduction on standard sized sheets: 30" x 42", 24" x 36", 11" x 17", 8 ½" x 13".	✔	
☐	47. Title block shall contain minimum data per current Statutes.	✔	
☐	48. A north arrow with reference meridian shall be provided.	✔	
☐	49. Signature lines for the Township Engineer, Board Chairperson for appropriate Board and Board Secretary on cover sheet.	✔	
☐	50. A legend identifying symbols and drafting techniques used. The standard Legend identified in the Robbinsville Township Site Improvement Standards is preferred.	✔	
☐	51. A key map showing the tract in question; north arrow; zoning; tax lot numbers, tax block numbers, tax sheet numbers, owners names as identified on certified list provided by Township for tract in question and all lots within 200 feet of tract; Municipal Boundaries; Existing or proposed "Master Plan" features or facilities on the site or within 500 feet of total tract; signature and seal of licensed professional; names and address of owner, applicant and professional preparing the map; owners certification, zoning data for each zone with all proposed data and deficiencies listed, number of proposed lots, and index of sheets (where applicable). All measurements specified herein shall be measured radially from the boundary and shall include all lots, zones, etc. on opposite sides of road and within other municipalities.	✔	
☐	52. Boundary and topographic survey of the total tract, certified to the Applicant, shall be signed and sealed by the preparing N.J. Licensed Land Surveyor in accordance with current Statutes. Topography within 200 feet from the property boundary shall be shown. All topography shall be based on NAVD 88 datum with two bench marks established within 500 feet of the subdivision boundary and shown with appropriate references.	✔	
☐	53. An environmental inventory plan identifying the following existing on-site features and offsite features within 50 feet of the site: a. Soils Classifications in accordance with Mercer County Soils Survey. b. Existing topography. c. Physical features including watercourses, stream corridors, culverts or bridges. d. Delineate wetlands along with notation identifying professionals who delineated the wetlands and include N.J.D.E.P. LOI data. e. Existing easements. f. Critical areas as defined in the Land Use & Development Ordinance. g. Gross density calc. pursuant to the current Land Use Ordinance. h. A summary to nearest one tenth of an acre of all critical areas, wetlands, easements, soil types and different zoning classifications.	✔	
☐	54. Bulk Requirements Schedule/Table indicating Zoning District shall be tabulated to show all bulk requirements of the zone or zones in which the site is located and the bulk data proposed by the application. This tabulation shall also identify compliance or noncompliance for all existing structures. All lot areas shown shall be identified as gross and net areas. Density shall be shown as defined by the Land Use and Development Ordinance. Bulk Requirements Schedule/Table shall identify permitted, existing and proposed improvement conditions. Any relief previously granted shall be indicated and referenced on the plan. All requested variances and waiver shall be noted on the plan.	✔	
☐	55. All existing and proposed utility service lines and laterals on site and along the frontage of the site. This shall include storm drainage, water mains, sanitary mains, sump pump connections, natural gas, and underground electric and phone service.		✔

☐	56. Drainage and grading plan duplicating all data shown on the site plan (dimensions not required to determine slopes should not be shown). Existing and proposed contours with intervals of one foot where slopes are less than two percent; with intervals of two feet where slopes are between two percent and ten percent; and with intervals of five feet where slopes exceed ten percent; spot elevations at bottom of curb for every point of curvature or tangency, breaks in grade, and handicapped ramps, elevations of drainage inlet grates or manhole rims; storm and sanitary sewer pipe invert elevations; elevations at corners of proposed structures; finished first floor elevations; and elevations at loading ramps. Contours must be based on NAVD 88 elevations and bench marks must be shown. Where drainage swales are proposed, the elevation, percent longitudinal slope and typical cross section of the swales shall be shown. Proposed grading should be designed to provide a balanced cut /fill condition, as much as practical.	✔	
☐	57. Storm drainage profiles for all diversion swales, waterways, storm sewer pipe and any other conduit not shown on roadway plan and profile sheets shall be provided. These profiles may be shown on a separate sheet entitled “Drainage Profiles”, the detention basin plan or construction detail plans and the following minimum details shall be shown: Existing elevations shall be shown at 100-foot intervals. Proposed elevations for appurtenances shall be shown at 100-foot intervals, concrete structure elevations shall be shown at 50-foot intervals; invert elevations; elevations at grade changes. Proposed slopes shall be written.	✔	
☐	58. A Detention/Retention basin plan showing; all existing and proposed grades and contours, outlet structure details, conduit outlet protection details; all inverts; low flow channel with proposed longitudinal slope(s) and typical cross section; trash rack details; emergency spillway cross sections and profiles to point of discharge; construction details. Slopes and items required by this section shall provide the minimums required by the Design Standards of Robbinsville Twp.		✔
☐	59. Hydraulic calculations for stormwater detention/retention showing no reduction in conformance with Mercer County Soil Conversation District and N.J.D.E.P. a. Pre-development conditions shall be considered as “good”. b. Post development conditions shall be considered as “poor” with maximum impervious coverages permitted by ordinance being used in developing post development curve numbers. c. Calculations shall include a drainage area map showing pre and post development conditions with soil types, soil uses and flow patterns, time of concentration flow paths and flow lengths and slopes. d. Routing of pre and post development flows through each basin using the mass storage equation and “Urban Hydrology for Small Watersheds TR-55”. e. Emergency spillways shall be provided. The cross sections shall be designed to pass the 100-year post development inflow plus 50%. The invert shall be set at the crest of the 100-year storage elevation in the basin. f. All detention basins shall be designed to serve as a sediment basin during and after construction in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey References. g. Computations showing Compliance with the Regulations of the Mercer County Planning Board and Mercer County Soil Conservation District.		✔

☐	60. Hydraulic calculations for stormwater runoff collection system shall be submitted. Calculations may use the rational method or Soil Conservation Service method.	✔	
☐	61. Plans and centerline profiles shall be provided for widening of all existing roadways.		✔
☐	62. Half cross sections, 50 feet on center, shall be provided along the side of all widened existing roadways. Each section shall include the location and NAVD 88 elevation of all existing and proposed physical centerline; right-of-way centerline; edge of pavements, right-of-way lines, sidewalk centerlines, sidewalk widths. In addition, the existing and proposed contours 25 feet from the proposed right-of -way line shall be shown.		✔
☐	63. Typical construction details shall be provided on drawings designated as "Construction Details". Details to be shown shall include: typical roadway cross section; storm/sanitary sewer inlets and manholes (each type); storm sewer headwalls, storm sewer trench; storm sewer flared-end section; underdrain; curb; curb end treatment, depressed curb; sidewalk, handicap ramp, street signs; warning and regulatory signs; sump pump/underdrain to storm sewer connection; any "poured in place" concrete details and reinforcing schedules; all retaining wall details; sanitary sewer trench details, sanitary cleanout details; and other details deemed appropriate by the Township/Board Engineer.	✔	
☐	64. Landscaping plan shall show the site, all existing and proposed topography, existing onsite tree groupings and offsite tree groupings within 200 feet; typical planting details; landscaping notations and details containing minimum data required in the "Site Improvement Standards"; detailed locations of proposed plant materials; enlarged details for individual multi-family units, landscaped islands, and landscaped berms; and all intermittent and perennial streams, lakes and other water bodies. All trees and tree groups shown shall be classified as to general size and species.		✔
☐	65. Location and details of all proposed outdoor lighting including site lighting stanchion locations including the 0.5 footcandle boundary limit in plan form, details showing type of light(s), height of light(s), style of light(s), typical footing detail; typical illumination pattern (to scale); color and wattage of lights; all lighting details may be included on the landscaping plan.	✔	
☐	66. Location and details of all proposed signage, including free-standing (show setbacks) and building mounted (façade) signage; details may be included on the landscaping plan.		✔
☐	67. Plan shall provide location and details of all proposed Electric Vehicle charging stations or "Make-Ready" parking spaces.		✔
☐	68. Architectural Floor Plans shall not conflict with the Site Plan.		✔
☐	69. All on-site wetlands shall be field identified by a qualified expert in accordance with NJDEPE standards, and surveyed, and located on the plan by the applicant's New Jersey licensed land surveyor. A wetland report identifying all observations and findings of the wetlands expert shall accompany the major subdivision application. If the lands remaining are 50 acres or larger and not to be built upon, wetlands will only be required to be identified within 150 feet of the proposed lots or any other on-site or off tract improvements. The applicant shall certify in writing that no construction shall occur upon the remaining lands until all on-site wetlands are identified. Any buffer areas shall be shown on the plan.		✔

☐	70. Plan shall provide cultural features, historic sites, and critical view sheds, as mapped by the Township.		✔
☐	71. Plan shall show location and construction details for pedestrian and bicycle circulation systems (including width and materials) and site furnishings.	✔	
☐	72. Site Plan shall provide location(s) and details of any proposed fence.	✔	
☐	73. Site Plan shall show location(s) and detail of loading areas and any screening provided.	✔	
☐	74. Community Impact Statement/Study shall be prepared in accordance with the current Code Requirements.	✔	
☐	75. Environmental Impact Statement/Study shall be prepared in accordance with the current Code requirements.	✔	
☐	76. Traffic Impact Analysis/Study shall include, but not limited to, existing and background peak hour traffic volumes and distribution patterns; peak hour on-site generated traffic volumes and distribution patterns; existing and proposed traffic composition; analysis of adequacy of proposed on-site circulation patterns including adequacy of truck and automobile turning radii; analysis of need for number of loading bays; existing and proposed levels of service and volume/capacity ratios; adequacy of proposed sight distances; analysis of need for acceleration/deceleration lanes; analysis of need for roadway striping, signage of reflectorization; need for signalization and a summary recommendation and conclusions for the analysis. The study area shall include the site as proposed by this application; the site as proposed by a master development plan; the existing and proposed roadway frontages of the site, and the nearest intersection of public roadways as measured away from the site in opposite directions. The roadways approaching the site shall be generally reviewed for adequacy to support site generated traffic. The capacity of off-street parking shall be provided and compared to the parking demands for the proposed use(s) for the overall site. Traffic and pedestrian safety shall be addressed. This report shall be prepared by a N.J. Licensed Professional Engineer qualified to make the analysis as required.		✔
☐	77. Plan shall provide a data table of existing, required and proposed parking spaces, Electric Vehicle charging stations and loading areas.		✔
☐	78. Compliance with all Design Standards of the Land Use and Development Ordinance, or a waiver/variance requested on Waiver/Variance Request Form.	✔	

IV. ARCHITECTURE & LANDSCAPING			
Township Use Only		**Provided per Checklist**	****Waiver Requested**
☐	79. Architectural Floor Plans and Elevations shall include title block, including Title, author of the drawing, drawing number and property reference. Sheets shall be scaled, numbered consecutively, folded, collated, bound, signed and sealed by a NJ licensed Architect with a common date of issue and revision date(s) with the Site Plan.		✔
☐	80. Architectural drawings shall be clearly labeled and shall include: a. Drawing Title. b. North arrow on plans. c. Floor Plans of each floor level. d. Room labels on plans to clearly define each use e. Overall dimensions on plans. f. Elevations of each façade of each building noting all façade		✔

	material types, colors, grills, storefronts, roof screens, building mounted lighting, signage, and any other appurtenances g. All building heights and dimensions. h. Clear and detailed reference to screening of ground mounted and/or roof mounted equipment. i. Clear indication of the requested variances and waivers.		
☐	81. Site Plan shall show location and detail of trash enclosures and any screening provided.		✔
☐	82. Site Plan shall provide clear reference or delineation of any sustainable design features.		✔
☐	83. Site Plan shall provide location(s) of all proposed lighting, and/or all relocation of existing lighting and specifications of all lighting type(s) proposed for the project, including details and design for site lighting and building mounted lighting.	✔	
☐	84. Rendered Elevations shall show elevations of each façade and include any building mounted or façade signage and lighting.		✔
☐	85. Sign Inventory Plan shall detail inventory and sign locations for all signage proposed on site and/or building mounted signage. Plans shall include proposed graphics, dimensions, colors, lighting and general construction and mounting details. Ground or free-standing signs must include dimensions, height and setbacks.		✔
☐	86. Tree Save/Tree Clear Plan indicating the area to be cleared, including trees with a trunk diameter of eight (8”) inches or greater, measured four and a half (4.5’) feet above ground level. Plan should include species, size and general health conditions of any trees to be cleared. Area of disturbance shall be indicated.		✔
☐	87. Aerial extent of forest and tree cover, which includes the outside perimeter of individual trees and with a depiction of trees to remain, be removed, or relocated.	✔	
☐	88. Plan shall show existing and proposed geography, screened.	✔	
☐	89. Surveyed location of all trees located within 25 feet of the limit of disturbance.	✔	
☐	90. Plan shall provide location of proposed landscaping, including trees, shrubs, groundcovers, vegetative plants with keys.	✔	
☐	91. Plan shall contain a chart showing the following: a. Proposed plant names, both common and scientific. b. Proposed plant sizes in caliper, height, and/or width at the time of installation. c. Type of nursery stock, i.e., balled and burlapped or container and size of container. d. Proposed plant spacing and other comments. e. Planting notes, including a specification that the plants must conform to the American Standard for Nursery Stock, latest edition. f. Delineation showing which areas to be irrigated. g. Maintenance specifications (including irrigation). h. Planting details conforming to current cultural horticultural practices.	✔	
☐	92. Outdoor pedestrian spaces with landscape architectural elements shall be labeled.		✔
☐	93. Plantings, buffer areas, re-forestation areas shown to meet the Township Code (contributions may apply to waivers granted).	✔	

	V. PRIOR TO PUBLIC HEARING	Acknowledged by Preparer (initial)
☐	94. The notice of publication and the notice of service on the affected owners must be accomplished at least ten (10) days prior to the hearing date scheduled by the Administrative Officer in accordance with the M.L.U.L and Township Ordinance. Proof of Service Package must be filed with the Administrative Officer before the application will be considered complete and the hearing can proceed.	TWD
☐	95. Witness/Exhibit List shall be provided five (5) days prior to hearing: Exhibit A-1: Complete Application Package (current version of all submission items). Exhibit A-2: Board's Professional's Review Memos. Exhibit A-3: Affidavit of Proof of Service Package. Exhibit A-4: (continue with any additional exhibits to be introduced, if any).	TWD
☐	96. Tax & Utility Assessment Certification Form, to be re-certified, if necessary.	N/A
☐	97. Escrow Account must be current prior to hearing.	TWD

Person Preparing Checklist:	Tony W. Diggan, P.E.
Firm:	Kimley-Horn and Associates Inc.
Address:	301 Carnegie Center Boulevard, Suite 202
Telephone:	609-681-2434
Email:	tony.diggan@kimley-horn.com

CERTIFICATION:

I have prepared this checklist and confirm that I have provided a response to all waivers being requested and listed all variance relief sought on the Waiver/Variance Form. I certify that the checklist is complete and accurate.

Signature/Certification of Person Preparing Checklist

03/25/2026
Date

TOWNSHIP USE ONLY BELOW THIS LINE

Application No: _____ *Fees Paid:* _____

Date(s) Received: _____ *Escrow Paid.* _____

Referred To (Planning Board or Zoning Board): _____

Application:	
Date Rcvd.:	
Received by:	

Robbinsville TOWNSHIP
BE AT THE CENTER OF IT ALL

FINAL SITE PLAN CHECKLIST

1. Applicant's Name:	Amazon.com Services LLC
Contact Person:	Nick Saucedo
Address:	410 Terry Avenue North
Telephone:	Seattle, WA 98109
Email:	389-898-2749
Relationship to Owner:	Tenant

2. Property Address:	50 New Canton Way, Robbinsville, NJ 08691
Development Name:	Amazon Fulfillment Center - EWR4
Zoning District:	PCD
Block(s):	41
Lot(s):	14.011; 36.01; 37.012

3. Property Owner:	KTR NJ Urban Renewall II, LLC - Prologis
Contact Person:	
Address:	60 State Street, Suite 2200, Boston, MA 02109
Telephone:	
Email:	

4. Name of Attorney:	Joseph Paparo Esq.
Firm:	Porzio Bromberg & Newman
Address:	100 Southgate Parkway, PO Box 1997, Morristown, NJ 07962
Telephone:	973-889-4042
Email:	japaparo@pbnlaw.com

5. Has this property ever been subject of a previous application to the Planning or Zoning Board?
If so, please describe (incl. Resolution #): N/A

6. Description of Property, brief history of the site, its location and description of current use(s) (may attach addendum):
* see attached Application Rider

7. Provide Detail of the Exact Nature of the Application (may attach addendum):
* see attached Application Rider

8. Description of Relief Requested, including Section(s) of Ordinance variance is requested (may attach addendum):
* Design Waiver/Variance Request Form

INSTRUCTIONS:

1. This checklist shall be completed by the applicant or its authorized representative and submitted with the application. This checklist shall be used in determining completeness or incompleteness of the application pursuant to Robbinsville Township's Land Use and Development Ordinance(s). The applicant is advised that failure to provide all data required on this checklist or failure to apply for the appropriated waivers will render the application incomplete. Applications will not be placed on an agenda until it has been deemed complete by the Administrative Officer.

2. Applicant to complete checklist column with an "X" in the appropriate column. A waiver should be requested for all checklist item you may consider "not applicable" ("n/a") and reason(s) you would consider it "not applicable." ****** All waivers requested should be explained in detail on the Waiver/Variance Request Form. Failure to provide a reason for the request will render the application incomplete.

3. The Technical Review Committee (TRC) will determine if any item where a waiver is requested shall be required to be provided and the application shall be considered incomplete if not provided.

4. The applicant shall submit three (3) collated copies of all correspondence (including cover and response letters) and administrative forms. The applicant shall submit three (3) signed and sealed copies of all maps, plans or reports and all additional submission item(s). All submissions must include a digital copy in pdf. format of all submission items (email to BoardSecretary@robbinsville.net, dropbox, thumb drive or disk). All re-submissions must include a point-by-point response letter addressing all comments from the Board's professionals or from the Technical Review Committee (TRC) Meeting. All submissions must be made as one comprehensive submission, not under separate cover.

I. ADMINISTRATIVE			
Township Use Only		**Provided per Checklist**	****Waiver Requested**
☐	1. Completed General Land Use Application Form.	✓	
☐	2. Completed Fee Schedule Form.	✓	
☐	3. Payment of Required Fees (two separate checks).	✓	
☐	4. Completed Escrow Agreement Form with Escrow Contact Sheet.	✓	
☐	5. Completed W-9 Form (for Escrow Account).	✓	
☐	6. Tax & Utility Assessment Certification Form (Applicant part complete)	✓	
☐	7. Completed Waiver/Variance Request Form.	✓	
☐	8. Completed Affidavit of Ownership Form (notarized).	✓	
☐	9. Completed Disclosure Statement Form.	✓	
☐	10. Completed Consent of Entry Form.	✓	
☐	11. Completed Checklist(s) for All Applicable Requests.	✓	
☐	12. "Zoning Permit Denial" or "Notice of Violation" (N.O.V.) from Zoning, Code or Construction Official.		✓
☐	13. Resolution(s) for Preliminary Site Plan and any other Approvals.		✓
☐	14. Copy of Signed Preliminary Site Plan and Affidavit that all Conditions of the Preliminary Site Plan Resolution of Approval have been met.		✓
☐	15. Proposed Operations Statement, including details of existing and proposed use(s), hours of operation, number of employees, provisions for maintenance, etc., signed by Applicant and notarized.		✓
☐	16. Final Site Plan, designed, drawn, signed and sealed by N.J.P.E., L.S. or A.I.A. as appropriate, to scale, sheets numbered consecutively, folded, collated, bound, signed and sealed with a common preparation and/or revision date(s).	✓	
☐	17. Architectural Floor Plans and Elevations, signed and sealed by the preparing N.J. licensed Architect, sheets numbered consecutively, folded, collated, bound, with a common preparation and/or revision date(s) with the site plan, with the uses of each area clearly defined.		✓

☐	18. Rendered Elevations for site.		✓
☐	19. Sign Inventory Plan and Details, sheets numbered consecutively, folded, collated, with a common preparation and/or revision date(s).		✓
☐	20. "Will Serve" letters for all Applicable Utilities		✓
☐	21. List of all necessary Outside Agency Approvals indicating status of approvals, including copies of each approval (NJDOT, NJDEP, etc.).		✓
☐	22. Photographs of property views from street and all other off-site area(s) visible to proposed improvement(s), aerial photos of site.	✓	
☐	23. Complete application, filed as one submission, with quantities and digital copies as noted in the Instructions, #4.	✓	

II. HEALTH			
Township Use Only		**Provided per Checklist**	****Waiver Requested**
☐	24. Compliance with any and all conditions of Preliminary Site Plan approval and the Preliminary Site Plan Checklist.	✓	
☐	25. Final septic system design criteria and grading shown on "Sewage Disposal and Water Supply Plan".		✓
☐	26. Copies of any NJDEPE permits for sewage disposal systems and water supplies not in conformance with current code and statutes.		✓

III. ENGINEERING/PLANNING			
Township Use Only		**Provided per Checklist**	****Waiver Requested**
☐	27. Final Site Plan designed, drawn, signed and sealed by N.J.P.E., L.S. or A.I.A. as appropriate, based on Preliminary Site Plan & Checklist.	✓	
☐	28. Compliance with any and all conditions of Preliminary Site Plan Approval and the Preliminary Site Plan Checklist. All documents submitted for Preliminary Site Plan Approval shall be appropriately revised, re-titled, dated, and submitted for Final Major Site Plan Approval. All documents submitted shall bear the same date.	✓	
☐	29. An estimate of all construction quantities for all on-site and off-tract improvements. This estimate shall include all construction quantities for all site improvements shown on the approved Preliminary Site Plan and shall be signed, sealed and dated by a New Jersey Professional Engineer.		✓
☐	30. List of any anticipated developer contributions, fees, Fair-Share payments, etc.		✓
☐	31. Metes and bounds descriptions for all right-of-way dedications, sight triangle easements; drainage; detention; or conservation easement; and common driveway easements.		✓
☐	32. Detailed project phasing plan including proposed construction sequences, routes to and from site, construction methods, hours of operations, construction traffic control plans, temporary construction office locations and any other construction-related plans.		✓
☐	33. A developer's agreement approved and executed by the Robbinsville Township Committee when improvements to public property or improvements shall be dedicated to the public or a Homeowners Association.		✓
☐	34. Compliance with all Design Standards of the Land Use and Development Ordinance, or a waiver/variance requested on Waiver/Variance Request Form.	✓	

IV. ARCHITECTURE & LANDSCAPING			
Township Use Only		**Provided per Checklist**	****Waiver Requested**
☐	35. Architectural Floor Plans and Elevations shall include title block, including Title, author of the drawing, drawing number and property reference. Sheets shall be scaled, numbered consecutively, folded, collated, bound, signed and sealed by a NJ licensed Architect with a common date of issue and revision date(s) with the Final Site Plan and based on the Preliminary Site Plan and Checklist.		✔
☐	36. Rendered Elevations shall show elevations of each façade and include any building mounted or façade signage and lighting.		✔
☐	37. Sign Inventory Plan shall detail inventory and sign locations for all signage proposed on site and/or building mounted signage. Plans shall include proposed graphics, dimensions, colors, lighting and general construction and mounting details. Ground or free-standing signs must include dimensions, height and setbacks.		✔
☐	38. Plantings, buffer areas, re-forestation areas shown to meet the Township Code (contributions may apply to waivers granted).	✔	

V. PRIOR TO PUBLIC HEARING		Acknowledged by Preparer (initial)
☐	39. If required, notice of publication and the notice of service on the affected owners must be accomplished at least ten (10) days prior to the hearing date scheduled by the Administrative Officer in accordance with M.L.U.L and Twp. Ordinance. Proof of Service Package must be filed with the Administrative Officer before the application will be considered complete and the hearing can proceed.	TWD
☐	40. Witness/Exhibit List shall be provided five (5) days prior to hearing: Exhibit A-1: Complete Application Package (current version of all submission items). Exhibit A-2: Board's Professional's Review Memos. Exhibit A-3: Affidavit of Proof of Service Package. Exhibit A-4: (continue with any additional exhibits to be introduced, if any).	TWD
☐	41. Tax & Utility Assessment Certification Form, to be re-certified, if necessary.	N/A
☐	42. Escrow Account must be current prior to hearing.	TWD

Person Preparing Checklist:	Tony W. Diggan, P.E.
Firm:	Kimley-Horn and Associates Inc.
Address:	301 Carnegie Center Boulevard, Suite 202
Telephone:	609-681-2434
Email:	tony.diggan@kimley-horn.com

CERTIFICATION:

I have prepared this checklist and confirm that I have provided a response to all waivers being requested and listed all variance relief sought on the Waiver/Variance Form. I certify that the checklist is complete and accurate.



Signature/Certification of Person Preparing Checklist

03/25/2026
Date

TOWNSHIP USE ONLY BELOW THIS LINE

Application No: _____ *Fees Paid:* _____

Date(s) Received: _____ *Escrow Paid.* _____

Referred To (Planning Board or Zoning Board): _____

Robbinsville TOWNSHIP
BE AT THE CENTER OF IT ALL
Planning and Zoning Office

WAIVER/VARIANCE REQUEST FORM

Applicant's Name: Amazon.com Services LLC

Address: 410 Terry Avenue North, Seattle, WA 98109

Development Name: Amazon Fulfillment Center - EWR4

Township of Robbinsville Tax Block(s): 41, Lot(s): 14.011; 36.01; 37.012

This form is an integral part of any development checklist submitted to the Township of Robbinsville wherein waivers from design standards, waivers from application checklist submission items or variances are requested. All requests should be specific and should reference the relief requested by Ordinance, Codebook Section or Checklist item. This form must be completed for all requested or required waivers/variances and submitted with the application in order for the application to be considered complete.

It is the applicant's or its professionals' responsibility to complete this form in order for proper consideration to be given to the request. Adequate documentation and support data shall be provided with each request in order for the Township to determine the appropriateness of the request. Where technical references or support data are given, the request form shall be signed and sealed by the appropriate professional.

DESIGN WAIVER/VARIANCE REQUEST FORM (CONTINUED)

Ordinance/Codebook or Checklist Reference	Explanation and Support Data for Submission Waiver, Design Waiver or Variance Request
Preliminary Site Plan Checklist #12	It is assumed a Zoning Permit Denial or Notice of Violation is not required based on discussions at the Technical Review Committee meeting on 3/19/2026.
Preliminary Site Plan Checklist #14	There are no changes to the existing operations. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #15	There are no changes to wasterwater utilities. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #17	There are no changes to public utility connections or demands. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #19-21	No changes to the existing building are proposed. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #22	All necessary Outstanding Agency Approvals will be provided upon receiving final approval.
Preliminary Site Plan Checklist #23	There are no changes to the site operations or developer contributions. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #26/76	Traffic Impact Statement: There is a decrease to the existing employee parking and anticipated decrease to total truck trip for the site.
Preliminary Site Plan Checklist #28	No existing wells are located on site. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #31	There are no changes to sanitary sewer. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #32-33/69	There are no publicly mapped wetlands adjacent to the proposed improvements. The project's proposed improvements are within a previously disturbed portion of the site.
Preliminary Site Plan Checklist #36-42	There are no changes to sanitary sewer. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #55	The development is proposed on only a portion of the site, and utilities within this project area are shown. All proposed reconfigurations have been denoted.
Preliminary Site Plan Checklist #58-59	No detention/retention basins are proposed on site. It is assumed these items is not applicable.
Preliminary Site Plan Checklist #61-62	There are no changes along the existing right-of-ways. It is assumed these items are not applicable.
Preliminary Site Plan Checklist #64	This application proposed improvements on only a portion of the site. Tree locations were obtained only within the project area.
Preliminary Site Plan Checklist #66	No changes to existing signage or new signage proposed. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #67/77	There is a decrease to the total standard parking count therefore no EV stalls have been proposed. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #68	No changes to the existing building are proposed. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #70	This application proposes improvements within an existing developed area on-site. It is assumed that this item is not applicable.
Preliminary Site Plan Checklist #79-81/84	No changes to the existing building are proposed. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #82	There are no changes to the proposed operations. It is assumed this items is not applicable based on the scope of the project.
Preliminary Site Plan Checklist #85	There are no changes to signage. It is assumed this item is not applicable.
Preliminary Site Plan Checklist #86	A Landscaping Plan for the proposed limit of work has been provided. A waiver has been requested for a Tree Save//Tree Clear Plan based on the scope of work.
Preliminary Site Plan Checklist #92	There are no changes to the proposed operations. It is assumed this items is not applicable.
Preliminary Site Plan Checklist #96	There are no changes to public utility connections or changes in tax information. It is assumed this item is not applicable.

DESIGN WAIVER/VARIANCE REQUEST FORM (CONTINUED)

Ordinance/Codebook or Checklist Reference	Explanation and Support Data for Submission Waiver, Design Waiver or Variance Request
Final Site Plan Checklist #12	It is assumed a Zoning Permit Denial or Notice of Violation is not applicable based on discussions at the Technical Review Committee.
Final Site Plan Checklist #13-14	Preliminary & Final Site Plan Applications are being submitted concurrently. It is assumed this item is not applicable.
Final Site Plan Checklist #15	There are no changes to the existing operations. It is assumed this item is not applicable.
Final Site Plan Checklist #17-18	No changes to the existing building are proposed. It is assumed this item is not applicable.
Final Site Plan Checklist #19/37	There are no changes to signage. It is assumed this item is not applicable.
Final Site Plan Checklist #20	There are no changes to public utility connections. It is assumed this item is not applicable.
Final Site Plan Checklist #21	All necessary Outstanding Agency Approvals will be provided upon receiving final approval.
Final Site Plan Checklist #25-26	There are no changes to sanitary sewer. It is assumed this item is not applicable.
Final Site Plan Checklist #29	There are no off-tract improvements. A waiver is requested for the estimate of all construction quantities for all on-site improvements.
Final Site Plan Checklist #30	There are no changes to the site operations or developer contributions. It is assumed this item is not applicable.
Final Site Plan Checklist #31	There are no proposed changes to dedications or easements. It is assumed this item is not applicable.
Final Site Plan Checklist #32	The application is limited to on-tract improvements. No construction phasing his currently proposed. It is assumed that this item is not applicable.
Final Site Plan Checklist #33	There are no improvements proposed to public property. It is assumed this item is not applicable.
Final Site Plan Checklist #35-36	No changes to the existing building are proposed. It is assumed this item is not applicable.
Final Site Plan Checklist #37	There are no changes to existing signage or new signage proposed. It is assumed this item is not applicable.
Ordinance 142-47.D.3	A design waiver is requested for the planting island dimensions. Landscape islands are proposed with throughout the parking area to more closely conform to the requirement. Additional shade trees have been placed along the backside of the parking stalls to more closely conform to the requirement.
Ordinance 142-47.G.3	A design waiver is requested for providing outdoor pedestrian spaces. The site operations remain unchanged, and the previously approved plan did not propose outdoor pedestrian spaces.

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Environmental Impact Assessment

50 New Canton Way
Block 41, Lots 14.011, 36.01, & 37.012
Township of Robbinsville
Mercer County, New Jersey

Prepared For:

Amazon.com Services, LLC.

Prepared By:

Envirotactics, LLC.

April 2026

Project No.: 26.00009437.00

1330 Laurel Ave.
Building 3
Sea Girt, NJ 08750

Phone 732.449.0077
www.envirotactics.com

Environmental Impact Assessment
50 New Canton Way
Block 41, Lots 14.011, 36.01, & 37.012
Township of Robbinsville
Mercer County, New Jersey

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Attachments

Attachment 1 – List of Preparers
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Environmental Impact Assessment
50 New Canton Way
Block 41, Lots 14.011, 36.01, & 37.012
Township of Robbinsville
Mercer County, New Jersey

1.0 EXECUTIVE SUMMARY

The applicant is submitting a Preliminary and Final Site Plan to Robbinsville Township to obtain approval for the reconfiguration of the existing parking area to provide more trailer parking within Block 41, Lot 14.011. The site has historically been developed since 2013 with an Amazon warehouse and associated parking areas. Portions of the site contain roads and stormwater management facilities. Indian Run Tributary is located to the northwest of the subject property and New Sharon Branch Tributary is to the north. The subject property is located on New Canton Way and is further identified as Block 41, Lots 14.011, 36.01, & 37.012 on the Robbinsville tax map. The site is approximately 84.68 acres in size and is accessed. The property is bordered by industrial buildings to west, Gordon Road is to the north, and Old York Road is to the east and New Canton Way to the south. The State Plane Coordinates for the approximate center of the site are Easting: 473,893 and Northing: 496,022.

Development consists of the reconfiguration of the existing parking areas to provide more trailer parking onsite. The proposed reconfiguration involves subgrade disturbance and regrading, with a reduction in the overall impervious area. Some previous landscaped islands will become impervious, however disturbance is limited to the overall developed area.

There are no principal impacts of the proposed development. The site is developed as a warehouse with associated parking lots. The applicant proposes to reconfigure the existing trailer parking area to allow for greater trailer parking with the existing infrastructure. There will be no long-term impacts to the site or the surrounding area as a result of development. Short-term impacts to the site and surrounding areas include increased noise pollution during construction activities. To prevent any adverse impact, the project has been designed to minimize or avoid unnecessary impacts to natural habitats to the maximum extent practicable. Temporary impacts may occur during the construction phase which include, but not limited to, increased noise levels and dust generation. All temporary impacts will be minimized through appropriate mitigation procedures and best management practices. All temporary disturbances will be restored to preconstruction conditions.

This Environmental Impact Assessment (EIA) has been prepared in accordance with Robbinsville Township's Land Use Code § 142-77B(26). The Community Impact Statement (CIS) has been prepared in accordance with Robbinsville Township's Land Use Code § 142-77B(27). Both reports are intended to support plans prepared by Kimley-Horn and Associates, Inc. for the development located at the above referenced property. The findings in this EIA and CIS represent Envirotactics' comprehensive evaluation of the effects of the implementation of the proposed development that may/will have on the subject property and the surrounding vicinity; and how the project meets the above referenced ordinances. The following chapters provide a project description, an inventory of existing environmental conditions, critical impacts, and documentation of resources.

2.0 PROJECT DESCRIPTION

The subject property is identified as Block 41, Lots 14.011, 36.01, & 37.012 as depicted on the Robbinsville tax map. The site has historically been developed since 2013 with an Amazon warehouse and associated parking areas. Portions of the site contain roads and stormwater management facilities. Indian Run Tributary is located to the northwest of the subject property and New Sharon Branch Tributary is to the north. The subject property is located on New Canton Way and is further identified as Block 41, Lots 14.011, 36.01, & 37.012 on the Robbinsville tax map. The site is approximately 84.68 acres in size and is accessed. The property is bordered by industrial buildings to west, Gordon Road is to the north, and Old York Road is to the east and New Canton Way to the south. The State Plane Coordinates for the approximate center of the site are Easting: 473,893 and Northing: 496,022.

Indian Run Tributary is located to the northwest of the subject property and New Sharon Branch Tributary is to the north. The subject property drains to a point with a drainage area less than 50 acres and is therefore not impacted by flood hazard areas of either tributary pursuant the Flood Hazard Area Control Act Rules N.J.A.C. 7:13.

The proposed development will not result in a change in land use. The site is developed as a warehouse with associated parking lots, and the applicant proposes to reconfigure the existing trailer parking area. The proposed development decreases overall impervious coverage and is within the limits of the previous developed area.



LEGEND

Subject Property

1 inch equals 100 Feet

0 50 100 200 Feet

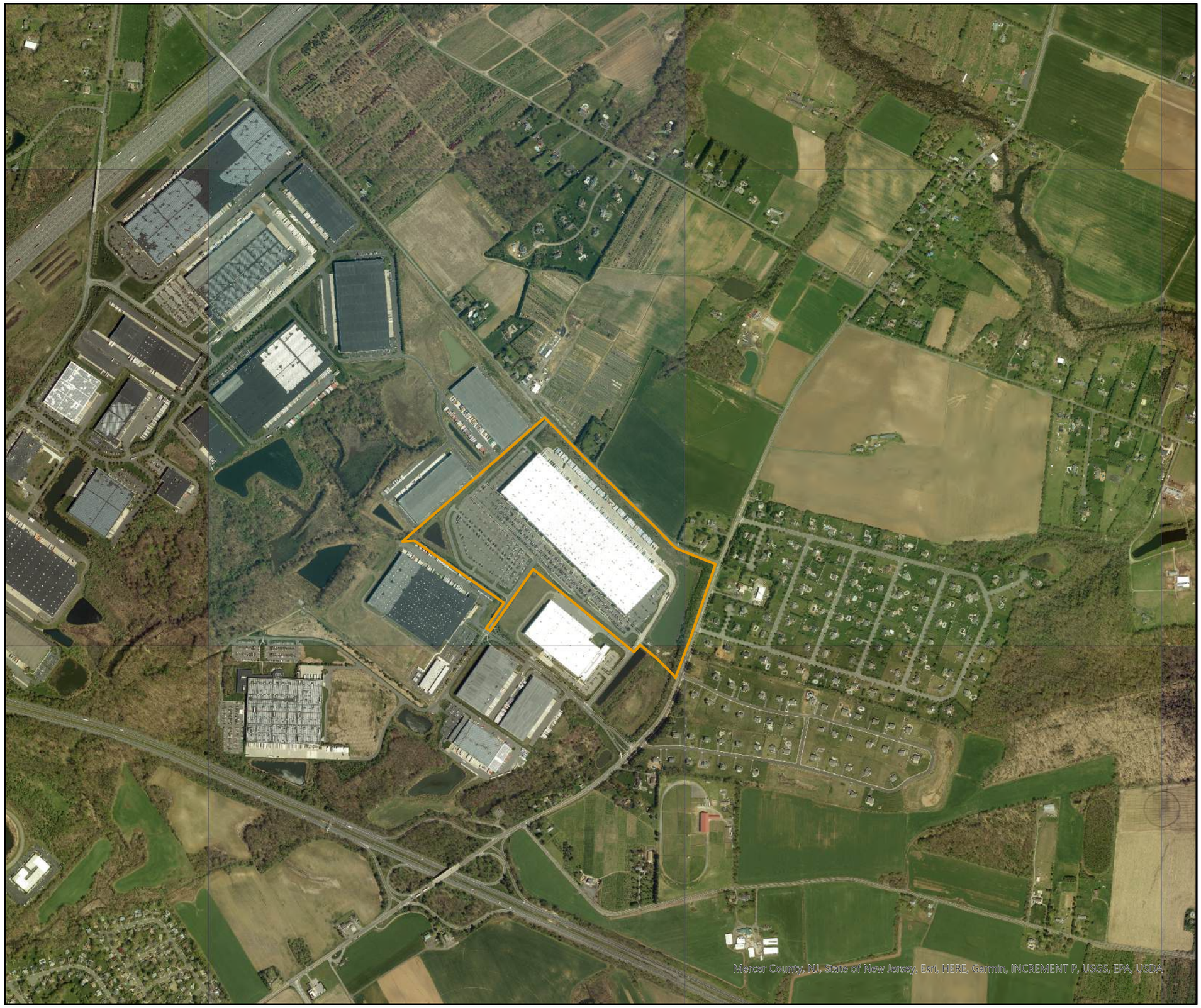
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1330 Laurel Avenue, Building #3, Sea Girt, NJ 08750
Phone: 732.449.0077 Fax: 732.449.5810
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Figure 1 - Site Location Map



LEGEND

Subject Property

1 inch equals 1,000 Feet

0 500 1,000 2,000 Feet

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Figure 2 - Site Location Map

2.0 SITE DESCRIPTION & INVENTORY

2.1 Topography

The topography of the site is relatively level to gently sloping throughout the subject property. Elevations range from 150 in the northwest corner to approximately 125 throughout the site.

No development on any steep slopes or severe elevation breaks are proposed. Please refer to Figure 3 – Topography Map for additional details. As no change in grade will result from the proposed development, a map depicting the proposed relief has not been provided.

2.2 Surface water bodies

No watercourses or water bodies are located partially or totally onsite. The reconfiguration of the parking area has been designed to not alter the natural drainage pattern and will utilize the existing stormwater basins. Please refer to Figure 4 – Stormwater Management Map for these locations.

Indian Run Tributary is located to the northwest of the subject property and New Sharon Branch Tributary is to the north. The subject property drains to a point with a drainage area less than 50 acres and is therefore not impacted by flood hazard areas of either tributary under the Flood Hazard Area Control Act Rules N.J.A.C. 7:13.

2.3 Energy

There will be no effect on energy sources for the proposed reconfiguration of the existing parking area. Energy consumption from the existing facility is not anticipated to change. Additionally, energy conservation methods are not associated with the proposed development.

2.4 Air quality

Existing air quality surrounding the site is typical of central New Jersey suburban settings. There are existing hazardous air pollutants (HAPs) which come from cars, heavy duty trucks, buses, and other highway vehicles associated with industrial development. These vehicles produce diesel particulate matter, diesel exhaust, and/or carbon monoxide. There are known health standards associated with these pollutants. There will be no increase in HAPs with the proposed development. More specifically, there will be no increase in trailers accessing the site through the reconfiguration of parking area. The development will allow for more parking with current volume of trailers that utilize the site.

2.5 Noise

The State of New Jersey has promulgated noise standards under N.J.A.C. 7:29, which set maximum sound levels of 65 decibels (dBA) during daytime (7:00 a.m. – 10:00 p.m.) and 50dBA at night (10:00 p.m. – 7:00 a.m.). These limits apply to stationary commercial and industrial sources; municipalities also regulate construction activity by ordinance. Noise sources associated with the project will occur during a temporary construction period. Noise sources during the post-construction operational period are expected to remain the same. The proposed project will restrict construction activity to the hours permitted by Robbinsville Township.

Construction noise during permitted hours may be higher for a limited duration than post-construction operational noise and is generally greatest during the early stages of construction. Construction noise is temporary and ends upon completion of the project. Post-construction noise sources associated with the proposed development will be typical and not increase above normal operations.

2.6 Surface water quality

There are no water courses or waterbodies located partially or totally onsite. The depth to water table onsite ranges from 2.5 feet to 6.5 feet. The water supply capacity onsite ranges from 0.11 centimeters per centimeter (cm/cm) to 0.15 cm/cm. The subject property is developed with a warehouse and associated parking lots. The proposed development involves the reconfiguration of the existing parking area. to provide more trailer parking with the current volume of vehicles at the site. . As there is no change in the use of the site and no subsurface disturbance is proposed, this provision is not applicable. Additionally, there will be no changes in stormwater as

a result of the project and it is anticipated that the existing stormwater systems will remain in good standing and handle all existing and proposed site conditions.

2.7 Subsurface water

The site is located within the Englishtown aquifer system. One public non-community supply well is located approximately 0.56 miles south of the site. The site is not located near any other public community supply wells. As such, there are no wells located within 500 feet of the site.

As the proposed development is for the reconfiguration of an existing parking area, the project will not have an impact on the groundwater of the site and adjacent areas. Additionally, there will be no changes in stormwater as a result of the project and it is anticipated that the existing stormwater systems will remain in good standing and handle all existing and proposed site conditions.

2.8 Aquatic biota

There are no watercourses or waterbodies located partially or totally onsite. As such, this provision is not applicable.

2.9 Soils

According to the Mercer County Soil Survey as prepared by the United States Department of Agriculture (USDA) Soil Conservation Services (SCS), five (5) soil units representing six (6) soil series occur on the site; Mattapex and Berties loams, 0 to 5 percent slopes (MBYB); Sassafras sandy loam, 2 to 5 percent slopes, Northern Coastal Plain (SacB); Sassafras sandy loam, 5 to 10 percent slopes, Northern Coastal Plain (SacC); Sassafras loam, 0 to 2 percent slopes (SafA); Sassafras sandy clay loam, 5 to 10 percent slopes, severely eroded (SagC3); and Woodstown-Fallsington sandy loams, 0 to 5 percent slopes (WomfB). A brief description of each soil per the SCS is provided as follows:

The MBYB soils are described as moderately well drained soils derived from silty eolian deposits over marine deposits and/or coarse fluviomarine deposits with a typical profile of A – 0 to 10 inches: loam; AB – 10 to 13 inches: loam; BA – 13 to 19 inches: loam; Bt – 19 to 33 inches: silt loam; 2C – 33 to 41 inches: sandy loam; 2C – 41 to 60 inches: stratified sand to silty clay. The available water capacity is moderately high to high with a depth to water table of about 18 to 42 inches.

The SacB soils are described as well drained soils derived from loamy fluviomarine deposits with a typical profile of Ap – 0 to 12 inches: sandy loam; Bt1 – 12 to 18 inches sandy loam; Bt2 – 18 to 28 inches: sandy clay loam; BC – 28 to 40 inches: loamy sand; C1 – 40 to 58 inches: sand; C2 – 58 to 80 inches: sand. The available water capacity is moderately high to high with a depth to water table of more than 80 inches.

The SacC soils are described as well drained soils derived from loamy fluviomarine deposits with a typical profile of Ap – 0 to 9 inches: sandy loam; Bt1 – 9 to 18 inches: sandy loam; Bt2 – 18 to 28 inches: sandy clay loam; BC – 28 to 40 inches: loamy sand; C1 – 40 to 58 inches: sand; C2 – 58 to 80 inches: sand. The available water capacity is moderately high to high with a depth to water table of more than 80 inches.

The SafA soils are described as well drained soils derived from loamy fluviomarine deposits with a typical profile of Ap – 0 to 12 inches: loam; Bt1 – 12 to 18 inches: sandy loam; Bt2 – 18 to 28 inches: sandy clay loam; BC – 28 to 40 inches: loamy sand; C1 – 40 to 58 inches: sand; C2 – 58 to 80 inches sand. The available water capacity is moderately high to high with a depth to water table of more than 80 inches.

The SagC3 soils are described as well drained soils derived from old alluvium and/or sandy marine deposits with a typical profile of Ap – 0 to 8 inches: sandy clay loam; Bt – 8 to 32 inches: sandy clay loam; C – 32 to 60 inches: stratified sand to gravelly sandy loam. The available water capacity is moderately high to high with a depth to water table of about 48 to 122 inches.

The WomfB soils are described as moderately well drained soils derived from old alluvium and/or sandy marine deposits with a typical profile of Ap – 0 to 11 inches: sandy loam; BA – 11 to 17 inches: sandy loam; Bt – 17 to 23 inches: sandy loam; BC – 23 to 30 inches: sandy loam; C - 30 to 48 inches: sandy loam; 2C – 48 to 60 inches: stratified loamy sand to sandy loam. The available water capacity is moderately high to high with a depth to water table of about 18 to 42 inches.

Please refer to Figure 5 – Mercer County Soils Map.

2.10 Geology

The Bedrock Geology of New Jersey GIS layer indicates that there is only one (1) formation located within the boundaries of the subject property. The site is situated within the Englishtown Formation. Englishtown Formation consists of quartz sand, fine- to coarse-grained, locally interbedded with thin- to thick beds of clay.

No dikes, faults, or folds are identified as being located on the site or in its close vicinity.

The Surficial Geology of New Jersey GIS layer indicates that there is one (1) formation located within the boundaries of the subject property. The site is situated within the Pensauken Formation (Tp). Pensauken Formation has a lithology of "sand, clayey sand, pebble gravel, minor silt, clay, and cobble gravel; yellow, reddish yellow, white. Sand typically includes weathered feldspar. Locally iron-cemented. As much as 140 feet thick."

2.11 Vegetation

Vegetation onsite can be divided into two (2) major vegetation groupings: maintained landscaping and woodland. The proposed development is for the reconfiguration of the existing parking area which will allow more trailer parking onsite at the current volume of vehicles utilizing the site. There will be no expansion of parking or asphalt area and as such, no disturbance to any onsite vegetation is proposed.

Please refer to Figure 6 – Vegetation Communities Map for the location of these areas.

2.12 Wildlife

A Natural Heritage Database (NHD) Report was requested for the site and has not yet been received. Based on a review of the NJDEP's available Landscape (Version 3.4) data, the subject property is mapped within the Piedmont Plains region. There are three (3) landscape patches of suitable habitat mapped onsite.

- Rank 1 habitat patch has no associated threatened and/or endangered species.
- Rank 2 habitat patch is located within the stormwater basins as a Bald Eagle nest and foraging habitat for Great Blue Heron.
- Rank 4 habitat patch is located along the woodland areas as breeding sighting of Vesper Sparrow and Savannah Sparrow.

An Information for Planning and Consulting (IPaC) resource list was generated for the site. The IPaC report lists the following species that might be present within the project area:

- Northern Long-eared Bat
- Bog Turtle
- Bald Eagle
- Black-billed Cuckoo
- Bobolink
- Canada Warbler
- Chimney Swift
- Grasshopper Sparrow
- Hudsonian Godwit
- King Rail
- Least Tern
- Lesser Yellowlegs
- Pectoral Sandpiper
- Prairie Warbler
- Prothonotary Warbler
- Ruddy Turnstone
- Rusty Blackbird
- Scarlet Tanager
- Semipalmated Sandpiper
- Short-billed Dowitcher
- Wood Thrush

Robbinsville is not listed on the NJDEP's list of municipalities known to contain Bog Turtle. Robbinsville is not listed on the U.S. Fish & Wildlife Bat Municipality list as containing known habitat for the Northern Long-eared Bat.

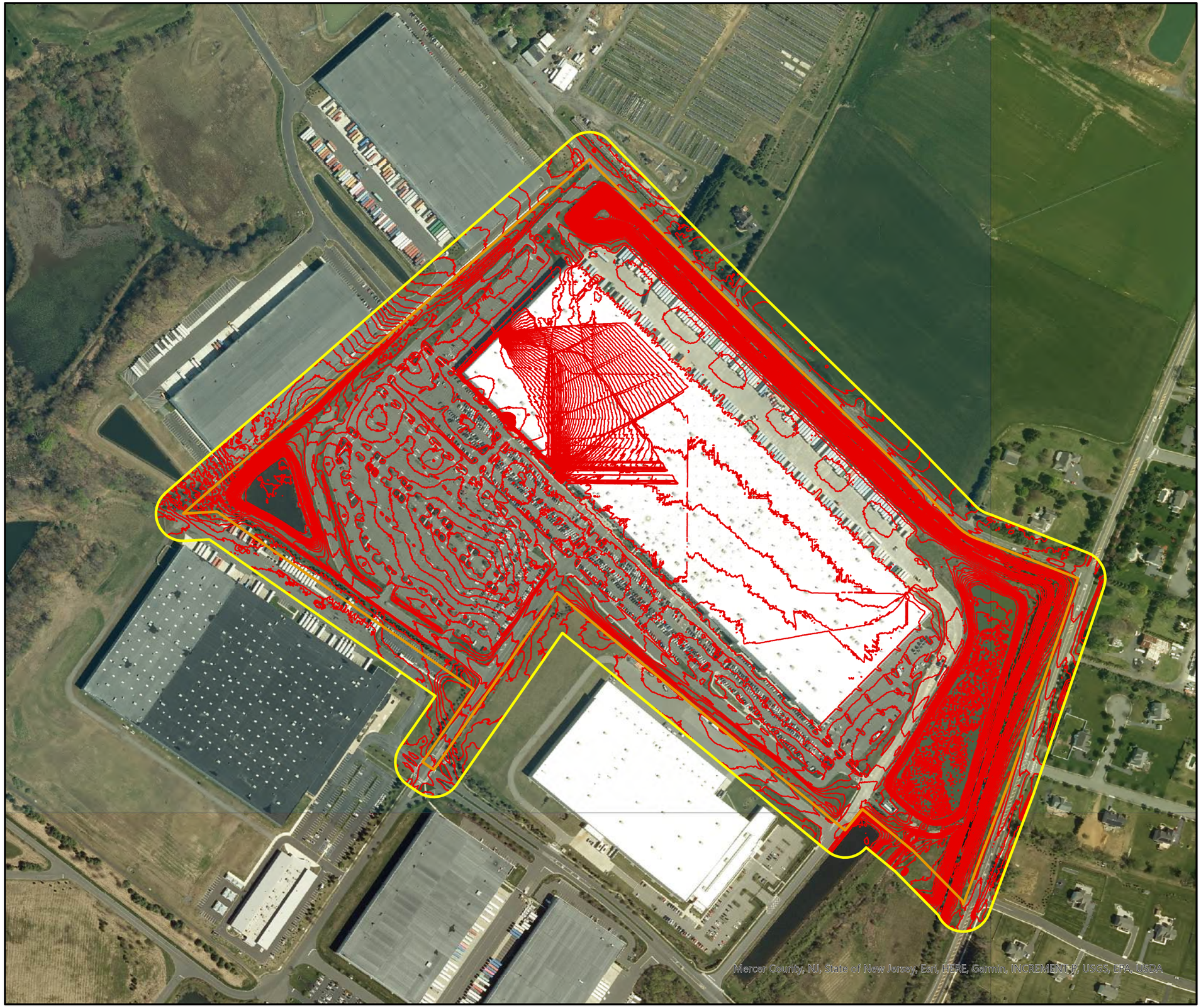
The site is not mapped by the NJDEP Division of Fish and Wildlife's Connecting Habitat across New Jersey (CHANJ) mapping. The CHANJ program "is an effort to make our landscape and roadways more permeable for terrestrial wildlife by identifying key areas and actions needed to achieve habitat connectivity across the state". This means that the site is not considered to have a "core" habitat or any "corridor" between core habitats. The lack of such a designation is an indication that the site is likely not utilized by regulated species.

Please refer to Attachment 2 – IpaC Resource List for additional details.

2.13 Scenic, historical, and archaeological features

The subject property is mapped within an NR Eligible Archaeological Site Grid. Identified historic properties are located to the east and northeast of the site.

Please refer to Figure 7 – Historic Properties Map for additional details.



LEGEND

Name

- Subject Property
- 100-Foot Buffer

1 inch equals 350 Feet

0 175 350 700 Feet

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Figure 3 - Topography Map



LEGEND

- Subject Property
- Stormwater Basin

1 inch equals 300 Feet

0 150 300 600 Feet

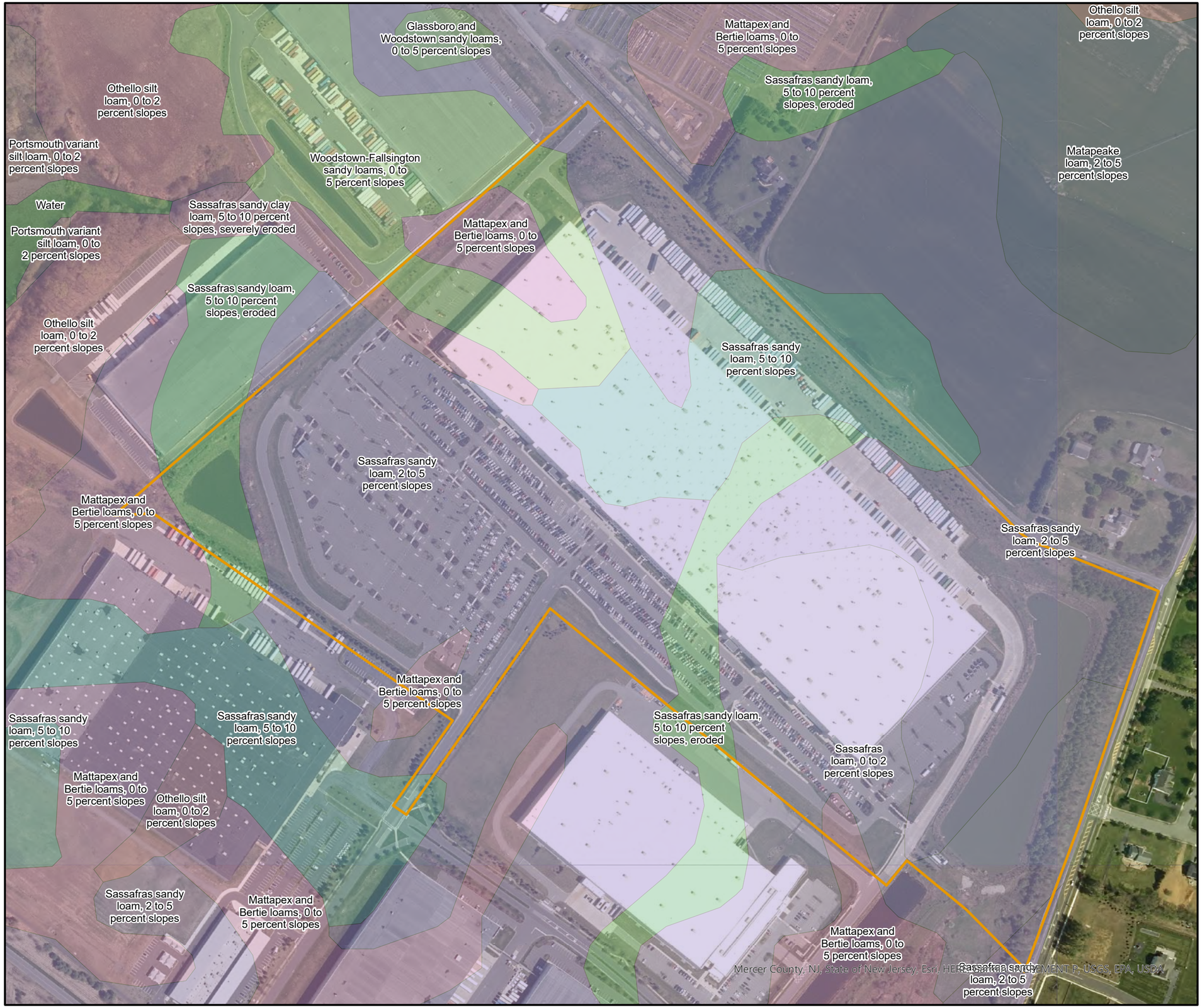
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Figure 4 - Stormwater Management Map



LEGEND

- Subject Property
- GKAWOB
- MBYB
- MbpA
- MbpB
- OthA
- PortA
- SacB
- SacC
- SacC2
- SafA
- SagC3
- WATER
- WomfB

1 inch equals 300 Feet

0 150 300 600 Feet

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Figure 5 - Mercer County Soils Map



LEGEND

- Subject Property
- Maintained Landscaping
- Woodland

1 inch equals 300 Feet

0 150 300 600 Feet

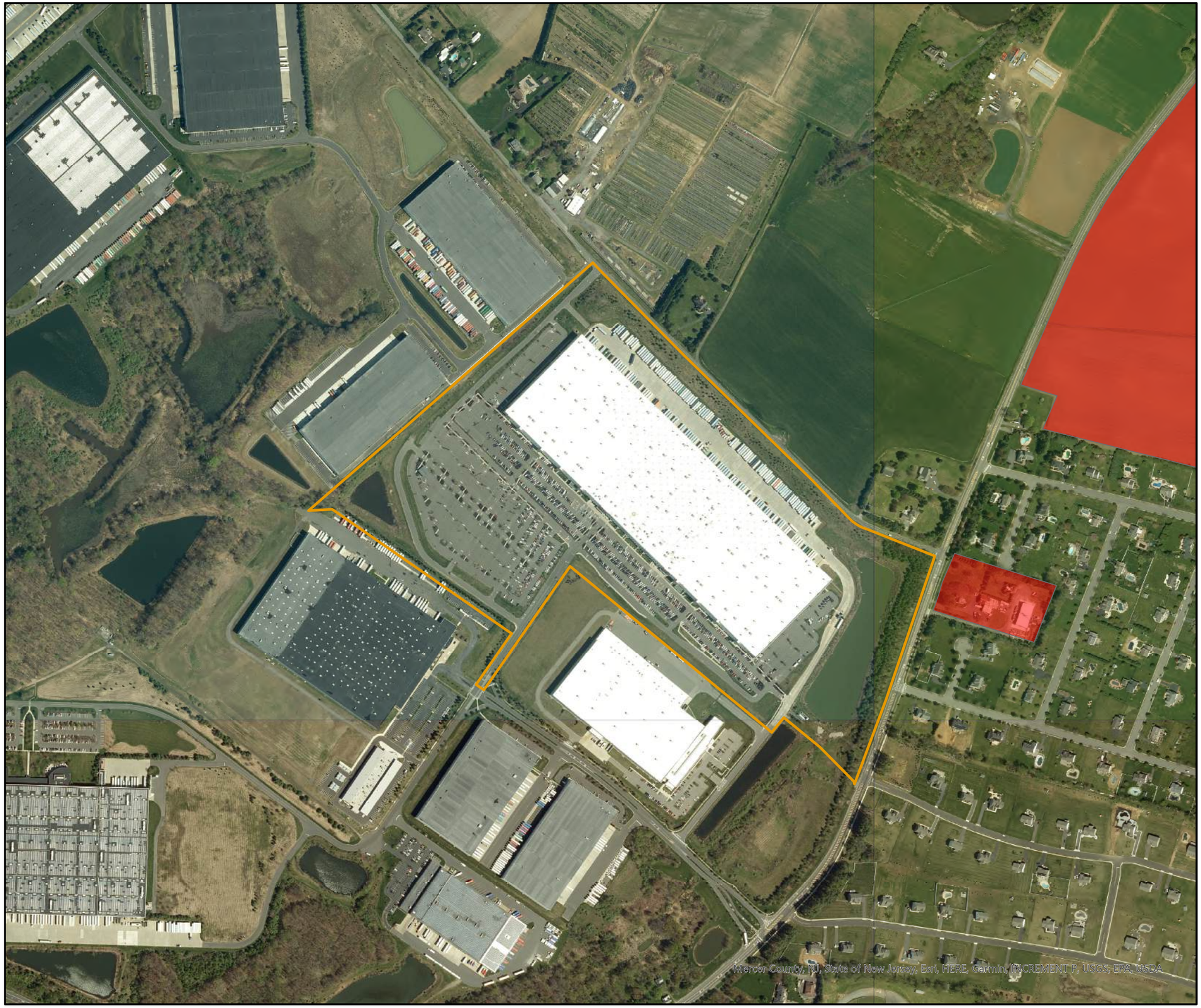
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Figure 6 - Vegetation Communities Map



LEGEND

- Subject Property
- Historic Properties of New Jersey

1 inch equals 500 Feet

0 250 500 1,000 Feet

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Figure 7 - Historic Properties Map

3.0 CRITICAL IMPACTS

3.1 Stream corridors

There are no watercourses or waterbodies located partially or totally onsite. As such, this provision is not applicable.

3.2 Wetlands

There are no areas identified as wetlands located partially or totally onsite. As such, this provision is not applicable.

3.3 Estuaries

There are no estuaries located partially or totally onsite. As such, this provision is not applicable.

3.4 Steep slopes

There are no areas of steep slopes located onsite. As such, this provision is not applicable.

3.5 Acidic or erodible soils

According to Mercer County Soil Survey as prepared by the USDA SCS, the soils located onsite have a pH ranging from 4.6 to 5.4 and have a slight to moderate risk of erosion and therefore do not meet the definition of a highly acidic or highly erodible soils.

3.6 High water table

According to Mercer County Soil Survey as prepared by the USDA SCS, the soils located onsite have a depth to water table ranging from 2.5 to 6.5 feet. Therefore, no areas of the site contain a high water table.

3.7 Native vegetation

The site was historically agricultural fields until it was developed in 2013 with the current warehouse. Areas surrounding the facility and stormwater basins were re-vegetated with native plantings. The proposed development involves the reconfiguration of an existing parking area to provide more trailer parking onsite. No disturbance to natural vegetation is proposed.

3.8 Aquifer recharge areas

The site is not listed as an aquifer recharge area. As such, this provision is not applicable.

3.9 Archaeologically sensitive areas

The site is not listed as an archaeologically sensitive area. As such, this provision is not applicable.

4.0 DOCUMENTATION

4.1 References

The following documentation was relied on for the preparation of this report:

- IPaC Resource List for Block 41, Lots 14.011, 36.01, & 37.012
- NJDEP Geoweb
- Robbinsville Land Use Ordinance
- USDA Web Soil Survey

4.2 Licenses, permits, and approvals required

- State
  - NJDEP
    - No NJDEP regulated areas are located onsite. As such, State permitting is not required.
- Regional
  - Robbinsville Soil Conservation District
    - As the development disturbs over 5,000 SF, a Soil Erosion and Sediment Control Plan Certification is required.
- County
  - Mercer County Planning Board
    - A Letter of No Interest has been obtained.
- Local
  - Robbinsville Township Planning Board
    - Preliminary and Final Site Plan Application will be required.

5.0 CONCLUSIONS

Based on the foregoing inventory and analysis, it is Envirotactics' professional opinion that the proposed development will not result in any significant adverse impacts on the environmental or cultural resources of Robbinsville Township. No adverse impacts to critical physical, social, or historic resources are anticipated to result from the proposed development. Additionally, the development will be completed in accordance with all applicable permit requirements and approvals.

Attachment 1 – List of Preparers

enviroTACTICS
Your Environmental Resource

GARRETT ESLER
Senior Project Manager

EDUCATION:
Bachelor of Arts, Environmental Science, Elon University, 2015
Minor, Geographic Information Systems

CERTIFICATIONS:
Wetlands Delineation Series Certificate – Rutgers Office of Continuing Professional Ed.
OSHA 40 Hour

EXPERIENCE:
Senior Project Manager • Envirotactics, Inc. • Sea Girt, New Jersey • May 2022 – Present
Mr. Esler is responsible for managing land use projects. These tasks include Land Use Assessments, Freshwater Wetlands investigations, delineations, and permit applications. His other work includes CAFRA, Waterfront Development, Flood Hazard Area, Tidelands, and Army Corps of Engineer permit applications. He has extensive experience with New Jersey State Law, Rules, and Regulations which include N.J.A.C. 7:7 Coastal Zone Management Rules, N.J.A.C. 7:7A Freshwater Wetlands Protection Act Rules, & N.J.A.C. 7:13 Flood Hazard Area Control Act Rules. Mr. Esler is fluent with GIS analysis which includes GPS surveying and field sampling, spatial analysis, and remote sensing.

Environmental Specialist II • NJDEP Coastal Permitting • Trenton, New Jersey • April 2017 – May 2022
Mr. Esler worked as a project manager for NJDEPs Coastal Permitting Program, Division of Land Resource Protection [Watershed and Land Management Program]. His responsibilities included permit application review for compliance with the Freshwater Wetlands Protection Act, Coastal Zone Management Rules, and Flood Hazard Control Act Rules of New Jersey. His other work included the evaluation and creation of environmental impact statements and assessments for these projects.

1330 Laurel Ave.
Building 3
Sea Girt, NJ 08750

Phone 732.449.0077
www.envirotactics.com

enviroTACTICS
Your Environmental Resource

AMANDA DUERKES
ENVIRONMENTAL SCIENTIST

EDUCATION:

Bachelor of Science, Biological Oceanography, Rutgers The State University of New Jersey, New Brunswick, NJ, 2017
Master of Science, Earth and Environmental Science, Montclair State University, Montclair, NJ, 2022

CERTIFICATIONS:

40 Hour OSHA HAZWOPER Training
Wetlands Delineation Series Certificate – Rutgers Office of Continuing Professional Ed
Certified Floodplain Manager

EXPERIENCE:

Environmental Scientist, Envirotactics, Inc. • Sea Girt, New Jersey • January 2024 - Present
Miss. Duerkes utilizes GIS mapping and assists in obtaining various land use permits for clients, for projects which may be regulated by CAFRA, Waterfront Development, Freshwater Wetlands, Coastal Wetlands and/or Flood Hazard Area regulations. Land Use Assessments include residential, commercial, and industrial properties. Miss. Duerkes also assists with site remediation projects and groundwater sampling.

Lab and Field Technician, Barnegat Bay Partnership • Ocean County, New Jersey • June 2019 – March 2023
Miss. Duerkes worked as a laboratory and field technician for a branch of one of the 28 National Estuary Programs throughout the United States administered by the United States Environmental Protection Agency and was responsible for field sampling and data analysis. Field sampling ranged from seining for juvenile fish species, coastal wetlands biodiversity and stabilization, stream assessments, water quality, and juvenile eel migration patterns. Miss. Duerkes was solely responsible for leading the juvenile eel surveys and analyzing water quality data to send to the New Jersey Department of Environmental Protection. Additionally, she assisted Stockton University with eelgrass studies every fall.

Independent Study • Barnegat Bay Partnership • Ocean County, New Jersey • January 2021 – April 2022
Miss. Duerkes utilized data from Barnegat Bay Partnership's water quality monitoring site located in Beach Haven, New Jersey for an independent study with Montclair State University. Data collected from the Pro Oceanus CO2-Pro Submersible pCO2 Sensor was used to determine risk of coastal acidification in Barnegat Bay.

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www.envirotactics.com

Attachment 2 – IpaC Resource List

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Mercer County, New Jersey



Local office

New Jersey Ecological Services Field Office

(609) 646-9310

4 E. Jimmie Leeds Road, Suite 4
Galloway, NJ 8205

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Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

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Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered

Reptiles

NAME	STATUS
Bog Turtle Glyptemys muhlenbergii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6962	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your

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Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

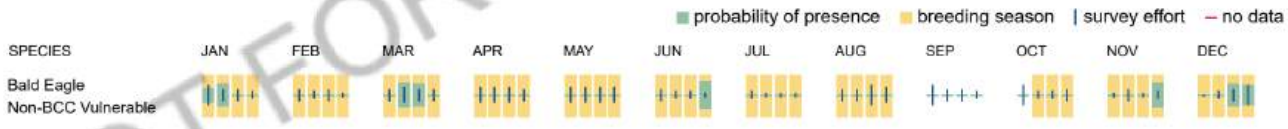
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

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Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Grasshopper Sparrow Ammodramus savannarum perpallidus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Hudsonian Godwit Limosa haemastica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
King Rail Rallus elegans This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Least Tern Sternula antillarum antillarum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 25 to Sep 5
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Pectoral Sandpiper Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Prairie Warbler Setophaga discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Ruddy Turnstone Arenaria interpres morinella This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Scarlet Tanager Piranga olivacea This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 10

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Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

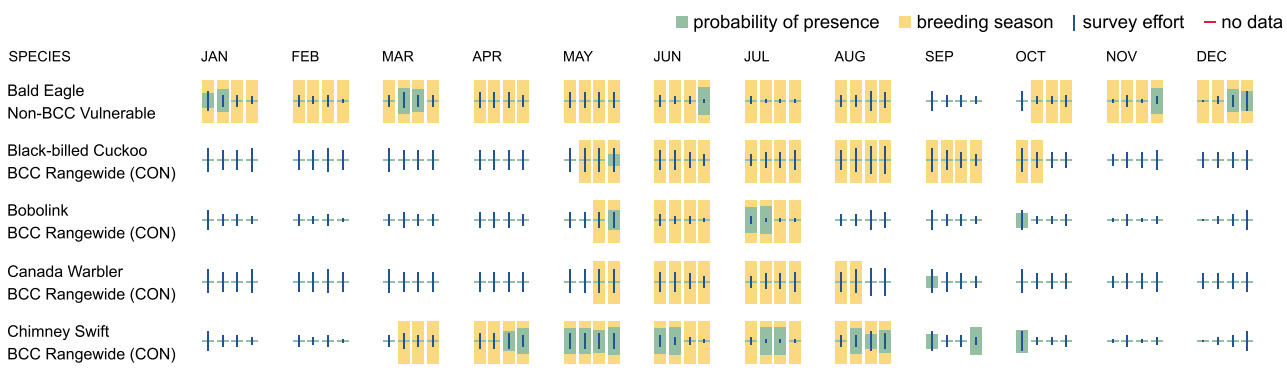
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

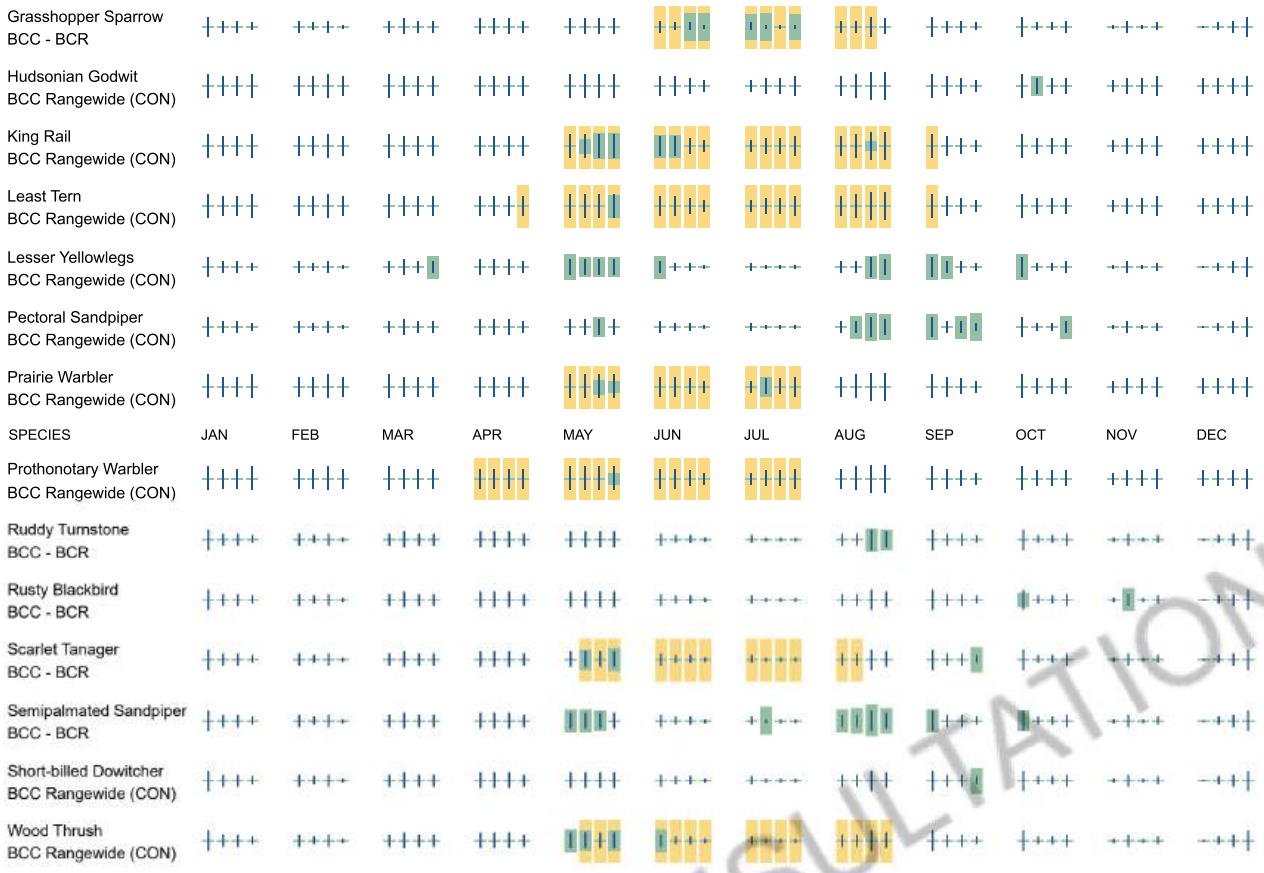
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Stormwater Management Report

For

AMAZON.COM SERVICES LLC
EWR4 TRAILER YARD EXPANSION

50 New Canton Way
Township of Robbinsville, Mercer County, State of New Jersey

Prepared for:

KTR NJ URBAN RENEWALL II, LLC - PROLOGIS

Prepared by:

Kimley»Horn

Dated: January 13, 2026

Last Revised: March 25, 2026



T. W. Diggan
NJ LICENCE NO. 44473

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1. EXECUTIVE SUMMARY

This Stormwater Management (SWM) report analyzes the existing and proposed drainage conditions of the project site located in the Town of Robbinsville, Mercer County, New Jersey.

The subject site is identified as 50 New Canton Way is a 82.72-acre parcel located in the Town of Robbinsville, Mercer County, New Jersey; hereafter, referred to as the "Site." Prologis USLV Subreit LLC ("The Client") is the owner of property having an address of 50 New Canton Way in the Redevelopment PCD-1 District. The Property has 1,836 feet of frontage on Gordon Road and 570 feet of frontage on Old York Road. Vehicle and truck access for the site is located along Old York Road (County Road 529) onto interior roads, Montgomery Way and John Henry Dr. The Site is improved with an existing warehouse containing 1,048,796 square feet and existing improvements including but not limited to loading areas, trailer parking areas, standard parking areas, and stormwater facilities. The present development application by the Client seeks Planning Board approval to reconfigure a portion of the existing facility's parking lot and access to drives to provide 111 additional trailer spaces. Inspection lanes are also proposed along the northern trailer parking spaces, and all inspection lanes are proposed as pervious pavers. The existing drainage pattern is proposed to be maintained to the maximum extent practicable, and no additional BMPs are proposed.

The total impervious coverage will be reduced by 0.25 AC, and the net motor vehicle surface will be reduced by 0.35 AC.

The proposed development disturbs greater than one (1) acre of land and therefore is classified as a major development. As such, the Site is subject to New Jersey Department of Environmental Protection (NJDEP) Rules and Regulations, specifically New Jersey Administrative Code (NJAC) Section 7:8 Stormwater Management, last revised July 2023. The proposed stormwater management system has been designed in accordance with these rules and regulations as well as the Town of Robbinsville Code of Ordinance – Chapter 38-18 Stormwater Management Control Regulations.

In existing conditions, the Site discharges to three (3) Point of Analysis's (POI). POI A is located at the outfall location of the existing basin along the Eastern property boundary, POI B is located at the inlet along the Southeastern limit of disturbance, and POI C is located on the East along the existing pipe run along the docking side of the building. The proposed grades are designed to maintain the existing drainage patterns while matching or reducing area of impervious surfaces.

2. HYDROLOGY REPORT

2.1 – STORMWATER MODELING

The assessment of stormwater runoff was modeled using USDA Soil Conservation Service (SCS) TR-55 Method. The Site area was divided into sub-watersheds using requirements set forth in the NJDEP Stormwater Management Regulations. The SCS method developed with TR-55 models the drainage watershed's response to rainfall in the form of a rainfall (runoff) hydrograph. A drainage shed's response is dependent upon the individual parameters which affect runoff. These parameters include:

1. Storm rainfall amount
2. Watershed size and shape
3. Hydrologic soils group
4. Land use and treatment classification
5. Time of concentration.

Times of Concentration for the analyzed area were based on SCS TR-55 methodology and Urban Hydrology for Small Watersheds. In accordance with the current New Jersey stormwater standards, no minimum Tc values were used in the calculations. Tc calculations were computed using AutoCAD 2024 with Civil 3D and HydroCAD v10.20. The time of concentration for channel flow was modeled based upon available site information, including surveyed topography and ground cover. The time of concentration for sheet flow was determined using the McCuen Spiess method.

For the Site Stormwater Management analysis, a HydroCAD v10.20 computer program developed by HydroCAD Software Solutions LLC was used. The program is modeled after the SCS, USDA TR-55 Program. The design storm depths were taken from the NOAA Atlas 14, 24-hour Rainfall Frequency Data by the NJDEP current and future adjustment factors for Mercer County, NJ. The NOAA Type C rainfall distribution was used because the Site is in the western portion of New Jersey. Combined with the rainfall distribution, this specifies the cumulative rainfall depth at all times during the storm (**Appendix A**).

Table 1: Rainfall Amounts for Site Location in Town of Robbinsville, Mercer County, NJ

Design Storm Event	Current Rainfall (in)	Future Rainfall (in)
2-YR	3.34	3.84
10-YR	5.11	5.86
100-YR	8.66	11.33

Per guidance in Chapter 7 – Hydrologic Soil Groups of the National Engineering Handbook, the onsite soils are anticipated to be primarily classified as HSG B and C soils. The runoff curve numbers (CN) used in the stormwater analyses were taken from NRCS TR-55 Tables 2-2a and 2-2c and incorporated into HydroCAD v10.20. The existing and proposed hydrologic conditions for the Site were modeled based upon the pre- and post-development surfaces and the corresponding hydrologic soil groups. Refer to **Appendix A**.

2.2 – EXISTING CONDITIONS

2.2.1 OVERVIEW

The project is analyzed based on the proposed limit of disturbance of 9.26 acres. The Property is improved with a warehouse containing 1,048,796 square feet and existing improvements including but not limited to loading areas, trailer parking areas, standard parking areas, and stormwater facilities.

The existing cover types were determined to be a mixture of Sassafras sandy loams (SacB, SacC, & SagC3), Woodstown-Fallsington sandy loams (WomfB), and Mattapex/Bertie loams (MBYB), and all runoff curve number/coefficient data was obtained via the NRCS TR-55 manual or directly from NJAC. USDA Web Soil Survey mapped the Site as an a combination of Hydrologic Soil Groups B & C as shown in the table below.

Table 2: Hydrologic Soil Types on Site

Soil Symbol	Soil Series	Hydrologic Group Rating
SacB	Sassafras sandy loam, 2 to 5 percent slopes, Northern Coastal Plain	B
SacC	Sassafras sandy loam, 5 to 10 percent slopes, Northern Coastal Plain	B
SagC3	Sassafras sandy clay loam, 5 to 10 percent slopes, severely eroded	B
WomfB	Woodstown-Fallsington sandy loams, 0 to 5 percent slopes	B
MBYB	Mattapex and Bertie loams, 0 to 5 percent slopes	C

A copy of the USDA Web Soil Survey Report is included in **Appendix A**.

2.2.2 EXISTING ONSITE DRAINAGE

A majority of the existing Site sheet flows to inlets and individual catch basins and ultimately discharge to the existing Stormwater Management BMPs that border the Site.

Reference **Exhibit 1** for Existing Drainage Area Map.

Reference **Appendix D** for Pre & Post Development HydroCAD Flow Calculations.

2.3 – POST-DEVELOPED CONDITIONS

2.3.1 OVERVIEW

The present development application by The Client seeks Planning Board approval to reconfigure a portion of the existing facility's parking lot and access to drives to provide 111 additional trailer spaces. Inspection lanes are also proposed along the northern trailer parking spaces, and all inspection lanes are proposed as pervious pavers. The existing drainage pattern is maintained to the maximum extent practicable, and no additional BMPs are proposed.

This analysis examines approximately 9.26 acres of drainage area within the project's limit of disturbance as follows:

- **Drainage Area A** – 6.44 acres of drainage area along the Western proposed limit of disturbance that flows to the existing stormwater basin located along the western property boundary via sheet and pipe channel flow. Post-developed conditions maintain existing drainage patterns and reduce impervious coverage area.

- **Drainage Area B** – 0.25 acres of drainage area along the Southern proposed limit of disturbance that flows to the existing inlet located along the outside of the limit of disturbance via sheet flow. Drainage ultimately discharges to the Southern stormwater basin located outside the limit of disturbance. Post-developed conditions maintain existing drainage patterns and reduce impervious coverage area.

- **Drainage Area C** – 2.57 acres of drainage area along the Eastern proposed limit of disturbance that flows to the existing inlet located along the existing trailer drive aisle outside of the limit of disturbance via sheet flow. Drainage ultimately discharges to the Southern stormwater basin located outside the limit of disturbance. Post-developed conditions maintain existing drainage patterns and reduce impervious coverage area.

2.3.2 STORMWATER MANAGEMENT APPROACH

The proposed stormwater management was designed to maintain the existing drainage areas and time of concentration paths while also reducing the existing impervious coverage. As such, the project is in compliance with N.J.A.C. 7:8 Stormwater Management last amended on July 17, 2023. No stormwater management BMP measures are proposed.

2.3.3 STORMWATER RUNOFF QUALITY

Per NJAC 7:8-5.5 - Stormwater runoff quality standards, last amended on July 17, 2023, 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. The project is proposing a reduction in motor vehicle surface area, so stormwater runoff quality standards are not applicable for the proposed development. Refer to the Motor Vehicle Surface Exhibit in **Exhibit 3.**

2.3.4 STORMWATER RUNOFF QUANTITY

Per NJAC 7:8-5.6 Stormwater runoff quantity standards, last amended on July 17, 2023, the Site shall comply with the minimum design and performance standards to control stormwater runoff quantity impacts of major development. NJAC 7:8-5-6(b) outlines four (4) methods to meet minimum design and performance standards to control stormwater runoff quality impacts and major development. Method #1 was utilized in design to demonstrate compliance with these standards. The requirements of this method are outlined below:

Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the current and projected two-, 10-, and 100-year storm events, as defined and determined pursuant to N.J.A.C. 7:8-5.7(c) and (d), respectively, do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;

Proposed Drainage Area Maps are provided in **Exhibit 2.**

A summary of the proposed HydroCAD analysis included in **Appendix C**. It is demonstrated through hydrologic and hydraulic analysis that for stormwater leaving the Site, post-construction runoff hydrographs for the 2-, 10-, and 100-year storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events. As such the project complies with the stormwater runoff quantity requirements. The pre-construction and post-construction runoff hydrographs are shown in **Appendix D – Pre & Post Development Flow Comparison**.

The summary of stormwater peak flows for the 2, 10, and 100-year frequency storm events is shown in **Table 3** below. Table 3 demonstrates that the post-developed condition will not exceed existing peak flows.

Table 3: Summary of Peak Flows

Design Year Storm	Existing $Q_{Pre\text{-}Dev}$ (ft^3/s)	Proposed $Q_{Post\text{-}Dev}$ (ft^3/s)	Compliance
Drainage Area A			
2-year Current	14.5	14.2	Yes
10-year Current	23.2	22.7	Yes
100-year Current	41.3	40.4	Yes
2-year Future	17.0	16.7	Yes
10-year Future	27.1	26.6	Yes
100-year Future	55.7	54.6	Yes
Drainage Area B			
2-year Current	0.9	0.5	Yes
10-year Current	1.4	0.9	Yes
100-year Current	2.3	1.7	Yes
2-year Future	1.0	0.6	Yes
10-year Future	1.6	1.1	Yes
100-year Future	3.1	2.3	Yes
Drainage Area C			
2-year Current	3.1	3.0	Yes
10-year Current	5.3	5.1	Yes
100-year Current	10.1	9.8	Yes
2-year Future	3.7	3.6	Yes
10-year Future	6.3	6.1	Yes
100-year Future	14.1	13.8	Yes

2.3.5 GROUNDWATER RECHARGE

The project area decreases impervious surface in the proposed condition. Per NJAC 7:8-5.4 **Groundwater recharge standards**, last amended on July 17, 2023, it must be demonstrated 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. Refer to the Groundwater Recharge Calculations in **Appendix E** which demonstrates that there is no recharge deficit in the proposed condition.

Refer to **Appendix E – Groundwater Recharge Calculations**.

2.3.6 STORM SEWER DESIGN METHODOLOGY

The proposed storm drain network is sized to convey the 25-year storm event without overtopping the structures. Drainage pipes were sized using Manning's Equation and the Rational Method. Rainfall intensities were obtained from NOAA Atlas 14 for the project location.

Overall flows to POI A, POI B, & POI C were reduced in all HydroCAD storm event conditions, therefore existing stormwater network will receive a reduced overall stormwater runoff volume, ensuring that existing capacity is maintained.

Refer to **Appendix F – Storm Sewer Conveyance**.

2.3.7 OFFSITE STABILITY

The present and proposed development have 3 primary points of discharge as stated in **Section 2.3.1 OVERVIEW**, Drainage Areas A, B, & C, discharging to Points of Analysis (POI) A, B , & C correspondingly.

Total impervious area was reduced within each drainage area to POI A, POI B, & POI C, and flows were reduced in all HydroCAD storm event conditions, thereby demonstrating improved proposed offsite stability conditions at all 3 POIs.

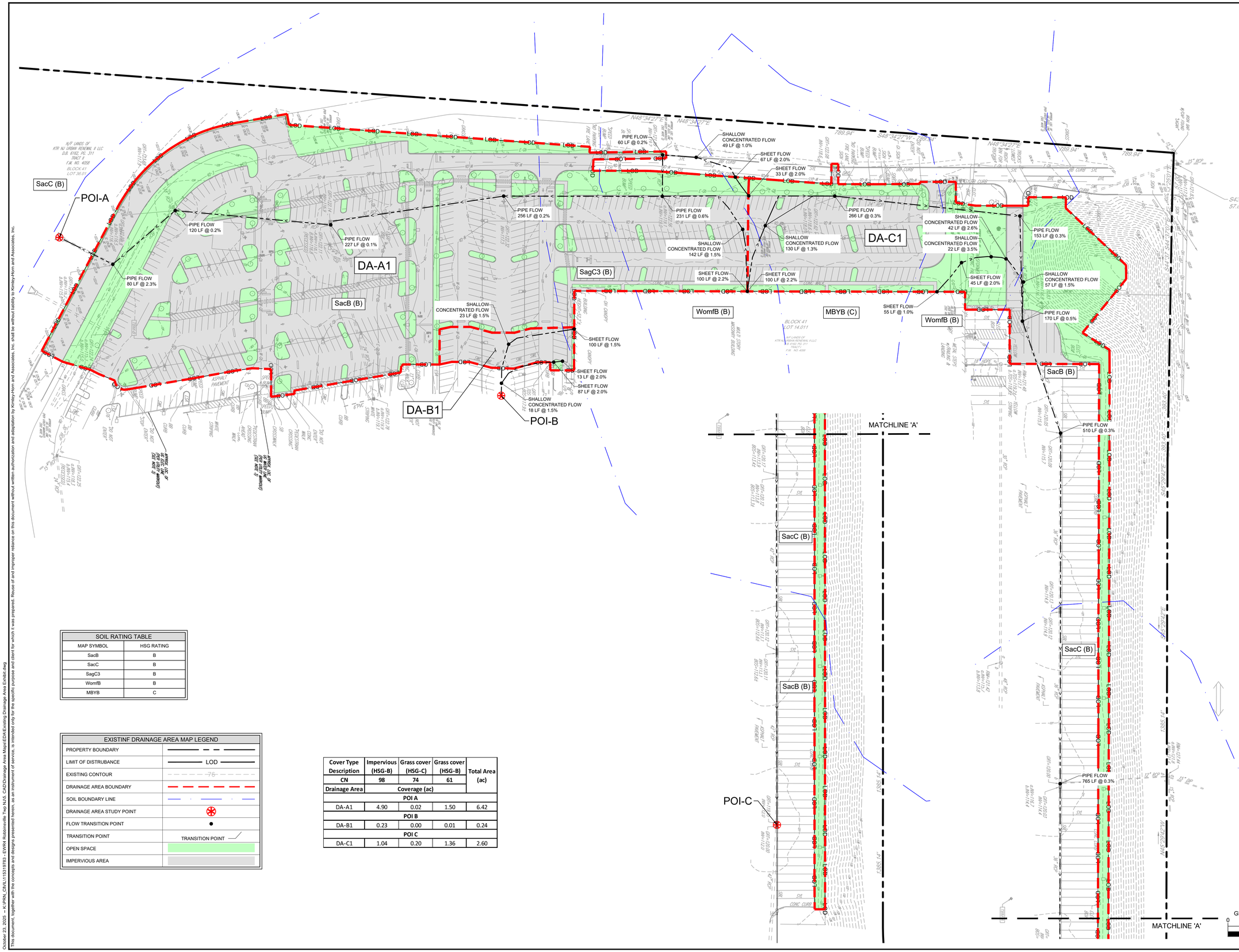
Rip rap aprons for the 2 points of discharge, toward POI A into the existing stormwater basin located along the western boundary of the site, #EX-1 & #EX-2, have been sized adequately based on the combined flows (cfs) towards the points of discharge, as seen on the Storm Sewer Summary Report in **Appendix F – Storm Sewer Conveyance**.

The flow used to determine Rip Rap pad #EX-1 is based on the 25-yr flow rate at inlet A0101 of 33.25 cfs (Line No. 6) in Storm Sewer Summary Report. The flow used to determine Rip Rap pad #EX-2 is based on the sum of the proposed 25-yr flow rate at inlet A0201 of 3.97 cfs (Line No. 16) in the Storm Sewer Summary Report and the allowable pipe capacity of 9.17 cfs from the existing off-site pipe run discharging to A0201 as calculated using the Manning's Equation.

Refer to **Appendix G – Conduit Outlet Protection Calculations** for riprap design supporting calculations at each of the two outfall locations as well as the pipe capacity calculations for the existing pipe to connecting to A0201.

3. EXHIBITS

EXHIBIT 1 - EXISTING CONDITION DRAINAGE MAP



SOIL RATING TABLE	
MAP SYMBOL	HSG RATING
SacB	B
SacC	B
WomfB	B
MBYB	C

EXISTINF DRAINAGE AREA MAP LEGEND	
PROPERTY BOUNDARY	
LIMIT OF DISTRUBANCE	LOD
EXISTING CONTOUR	76
DRAINAGE AREA BOUNDARY	
SOIL BOUNDARY LINE	
DRAINAGE AREA STUDY POINT	
FLOW TRANSITION POINT	
TRANSITION POINT	TRANSITION POINT
OPEN SPACE	
IMPERVIOUS AREA	

Cover Type Description	Impervious (HSG-B)	Grass cover (HSG-C)	Grass cover (HSG-B)	Total Area (ac)
CN	98	74	61	
Drainage Area	Coverage (ac)			
POI A				
DA-A1	4.90	0.02	1.50	6.42
POI B				
DA-B1	0.23	0.00	0.01	0.24
POI C				
DA-C1	1.04	0.20	1.36	2.60

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY

Kimley»Horn

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391 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA0035500

T. W. DIGGAN
PROFESSIONAL ENGINEER
NJ LICENSED ACCESS & MODE

KHA PROJECT
115319783
DATE
07/23/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

EXISTING
DRAINAGE AREA
MAP

811
Know what's below.
Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

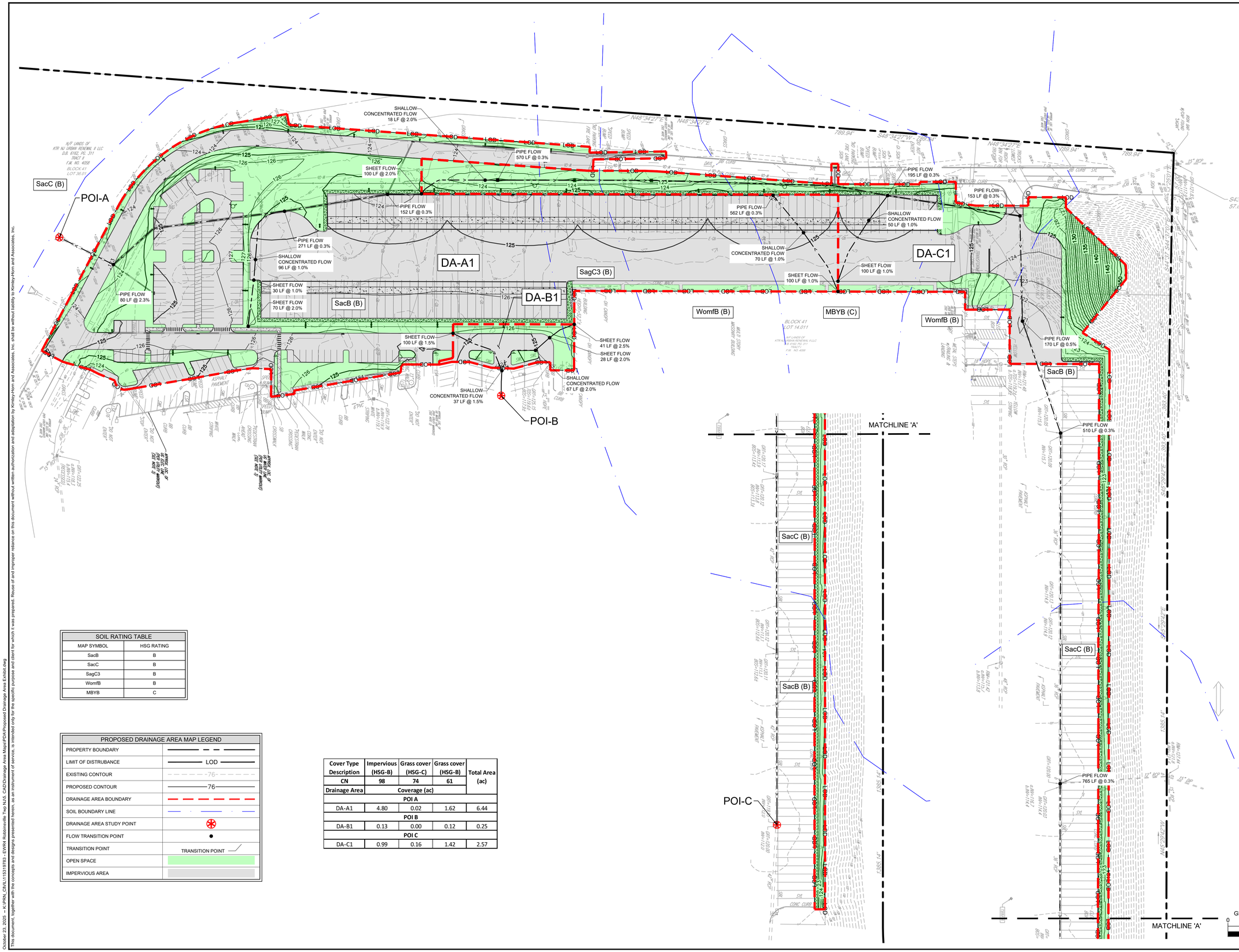
APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
EDA-1

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October 23, 2025 – K:\PRN_CIVIL\115319783 - EWR4 Robbinsville Twp NJ\5. CAD\Drainage Area Maps\EDA\Existing Drainage Area Exhibit.dwg

EXHIBIT 2 - PROPOSED CONDITION DRAINAGE MAP



SOIL RATING TABLE	
MAP SYMBOL	HSG RATING
SacB	B
SacC	B
SagC3	B
WomfB	B
MBYB	C

PROPOSED DRAINAGE AREA MAP LEGEND	
PROPERTY BOUNDARY	
LIMIT OF DISTRUBANCE	LOD
EXISTING CONTOUR	76
PROPOSED CONTOUR	76
DRAINAGE AREA BOUNDARY	
SOIL BOUNDARY LINE	
DRAINAGE AREA STUDY POINT	
FLOW TRANSITION POINT	
TRANSITION POINT	TRANSITION POINT
OPEN SPACE	
IMPERVIOUS AREA	

Cover Type Description	Impervious (HSG-B)	Grass cover (HSG-C)	Grass cover (HSG-B)	Total Area (ac)
CN	98	74	61	
Drainage Area	Coverage (ac)			
POI A				
DA-A1	4.80	0.02	1.62	6.44
POI B				
DA-B1	0.13	0.00	0.12	0.25
POI C				
DA-C1	0.99	0.16	1.42	2.57

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY

Kimley»Horn
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301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28093500

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000600

KHA PROJECT	115319783
DATE	07/23/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

PROPOSED DRAINAGE AREA MAP

Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
PDA-1

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

October 23, 2025 – K:\PRN_CIVIL\115319783 - EWR4 Robbinsville Twp NJ\5. CAD\Drainage Area Maps\PDA\Proposed Drainage Area Exhibit.dwg

EXHIBIT 3 - MOTOR VEHICLE SURFACE EXHIBIT

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



SHEET NUMBER
MVS-1

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

ENGINEER
KTR NJ IMPROVEMENTS I, II, LLC -
60 STATE STREET, SUITE 7200
BOSTON, MA 02109

PROLOGIS
NEW JERSEY ONE CALL CENTER
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

Know what's below. Call before you dig. (811)
PLEASE TOUCH YOUR STATE'S ONE CALL SYSTEM BEFORE YOU DIG ANYWHERE IN THE UNITED STATES

EXISTING VS. PROPOSED MOTOR VEHICLE SURFACE

KHA PROJECT	115319783
DATE	07/23/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

T. W. DIGGAN
STATE OF NEW JERSEY
PROFESSIONAL ENGINEER
NEW JERSEY LICENCE No. 44473/00

Kimley»Horn

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301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

No.	REVISIONS	DATE	BY

4. APPENDICES

APPENDIX A – PRECIPITATION DATA, FEMA MAP AND SOIL TYPES

NEW JERSEY DEPARTMENT OF AGRICULTURE
STATE SOIL CONSERVATION COMMITTEE
Chapter 251, PL 1975 as amended,
Engineering Policies- Technical Bulletin

Technical Bulletin: 2018-4 replaces 2004-2 (Delmarva)	**Effective Date:** September 2018
Subject: Usage of the Delmarva Unit Hydrograph	**From:** John E. Showler, P.E., State Erosion Control Engineer

1.01 PURPOSE

To provide current guidance on the proper use of the USDA-NRCS Delmarva unit hydrograph for runoff modeling using the USDA TR-55/TR-20 modeling methods.

1.02 SUMMARY

In 2004, the New Jersey Department of Agriculture (NJDA) issued Technical Bulletin 2004-2 which allowed the use of the Delmarva Unit Hydrograph (DUH) for the first time to model runoff for land disturbance activities governed by the New Jersey Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. The scope of usage was restricted at that time to conditions without urbanized areas due to limited experience using this unit hydrograph to model runoff for erosion control practices required by the New Jersey Soil Erosion and Sediment Control Standards.

Since that time, NJDA has gained much experience in the usage of the DUH and has conducted two separate watershed studies (the Wreck Pond Brook in lower Monmouth County, and the Upper Maurice River in Gloucester County) which included the development of specific, regional unit hydrographs reflective of the conditions of each watershed. One of the purposes of these studies was to evaluate the use of the DUH in varying degrees of urbanization in the coastal regions of New Jersey. Peak rate factors of 230 (Wreck Pond) and 214 (Upper Maurice River) were determined from those studies which compare favorably with that of the Delmarva with a factor of 285.

These results indicate that the degree of urbanization has limited influence on the overall distribution of flow, and hence the peak rate factor. NRCS sensitivity studies show no one characteristic of a watershed by itself has a strong correlation to the unit hydrograph shape (peak rate factor). NJDA study results appear to be consistent with NRCS data.

Based on these studies, continued guidance from NRCS and the ongoing experience by NJDA in the use of the DUH, the following guidance should be followed when modeling runoff in the coastal plain areas of New Jersey:

1. The DUH may be used in those portions of New Jersey generally contained within the regions identified by NRCS (see attachment):
    a. Watershed slope (not simply the general slope of the project site) should be 5% or less.
    b. Geology should be representative of New Jersey coastal plain physiography.
    c. Streams which exhibit a relatively flat longitudinal channel slope.
    d. Land use characterized as rural, agricultural or urban can be modeled effectively.
2. The DUH should be used for both pre and post development runoff modeling. Current NRCS research and guidance does not support changing unit hydrographs between pre and post-development runoff estimation.
3. Projects which lie on or near the boundary between the Standard and Delmarva regions identified by NRCS should be modeled with both the Standard (484) and Delmarva (285) unit hydrographs and results compared with actual field conditions to determine which unit hydrograph offers a best fit.

Dimensionless Unit Hydrograph

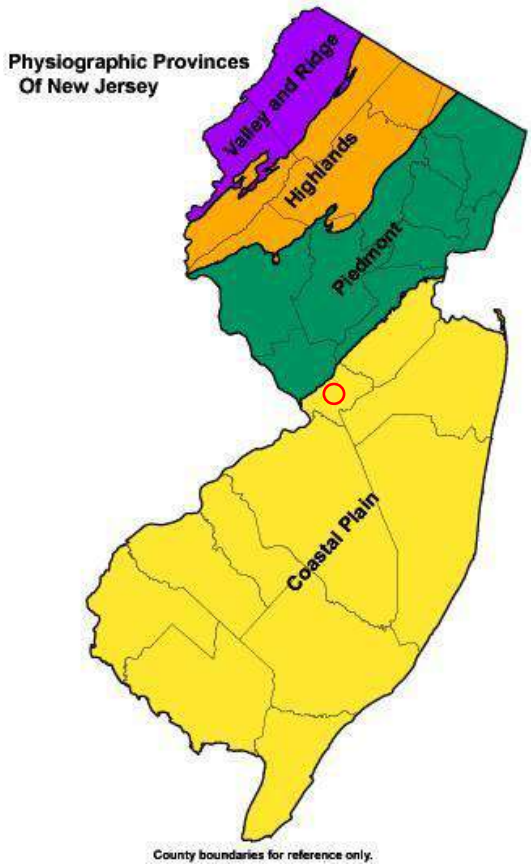
The dimensionless unit hydrograph is one of several watershed related parameters incorporated into NRCS hydrologic modeling procedures. The unit hydrograph influences the shape of the runoff hydrograph generated by the model, particularly the peak rate of discharge. It does not affect the volume of runoff, which is determined by curve number. Unit hydrographs vary by watershed based on many factors including watershed size, slope and length; geomorphic and geologic characteristics; amount of storage; and degree of urbanization. A standard unit hydrograph has typically been used that represents an average condition for much of the country. It has been felt to be sufficiently accurate for the hydrologic design of conservation practices.
Detailed studies, however, have been conducted in some watersheds or regions to develop more representative dimensionless unit hydrographs. With the enhancement of NRCS modeling tools, it is now easier to incorporate these unique unit hydrographs into more routine hydrologic analyses.

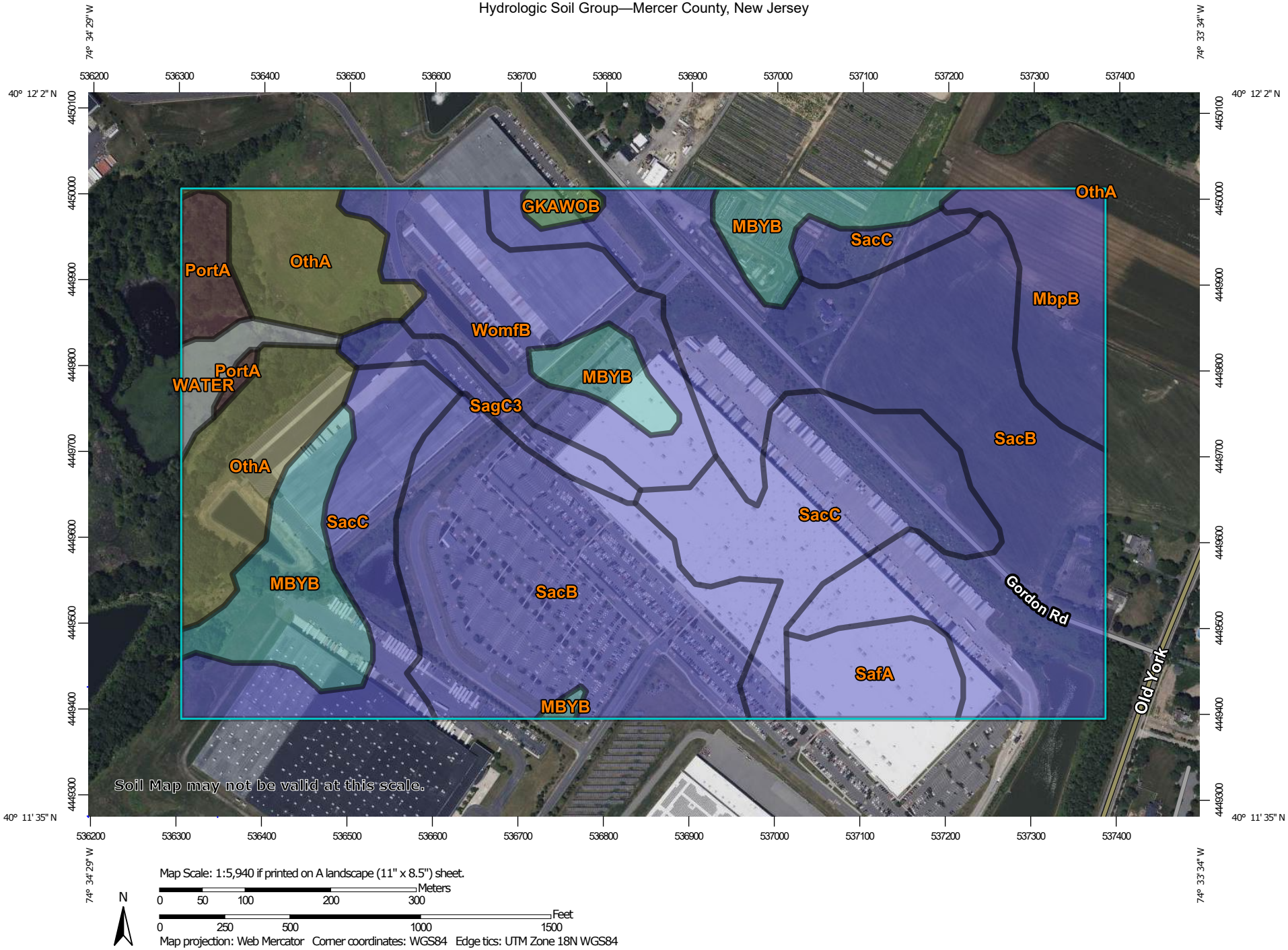
The following dimensionless unit hydrographs are applicable to New Jersey:

Delmarva Unit Hydrograph: Applies to watersheds in the Coastal Plain physiographic region that are characterized by flat topography (average watershed slope less than 5 percent), low relief, and significant surface storage in swales and depressions.

Standard Unit Hydrograph: Applies to watersheds in all other physiographic regions and to watersheds in the Coastal Plain that are not characterized by the Delmarva Unit Hydrograph.

When supported by detailed watershed studies, other unit hydrographs may be used. Study procedures are discussed in Chapter 16 of National Engineering Handbook Part 630, Hydrology.





Map Scale: 1:5,940 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mercer County, New Jersey
Survey Area Data: Version 20, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 4, 2022—Jul 22, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
GKAWOB	Glassboro and Woodstown sandy loams, 0 to 5 percent slopes	A/D	0.9	0.5%
MbpB	Matapeake loam, 2 to 5 percent slopes	B	7.6	4.6%
MBYB	Mattapex and Bertie loams, 0 to 5 percent slopes	C	15.5	9.3%
OthA	Othello silt loams, 0 to 2 percent slopes, northern coastal plain	C/D	15.4	9.3%
PortA	Portsmouth variant silt loam, 0 to 2 percent slopes	B/D	2.9	1.8%
SacB	Sassafras sandy loam, 2 to 5 percent slopes, Northern Coastal Plain	B	67.6	40.8%
SacC	Sassafras sandy loam, 5 to 10 percent slopes, Northern Coastal Plain	B	29.6	17.9%
SafA	Sassafras loam, 0 to 2 percent slopes	B	5.3	3.2%
SagC3	Sassafras sandy clay loam, 5 to 10 percent slopes, severely eroded	B	3.5	2.1%
WATER	Water		2.2	1.3%
WomfB	Woodstown-Fallsington sandy loams, 0 to 5 percent slopes	B	15.3	9.3%
Totals for Area of Interest			**165.7**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

NEW JERSEY 24 HOUR RAINFALL FREQUENCY DATA

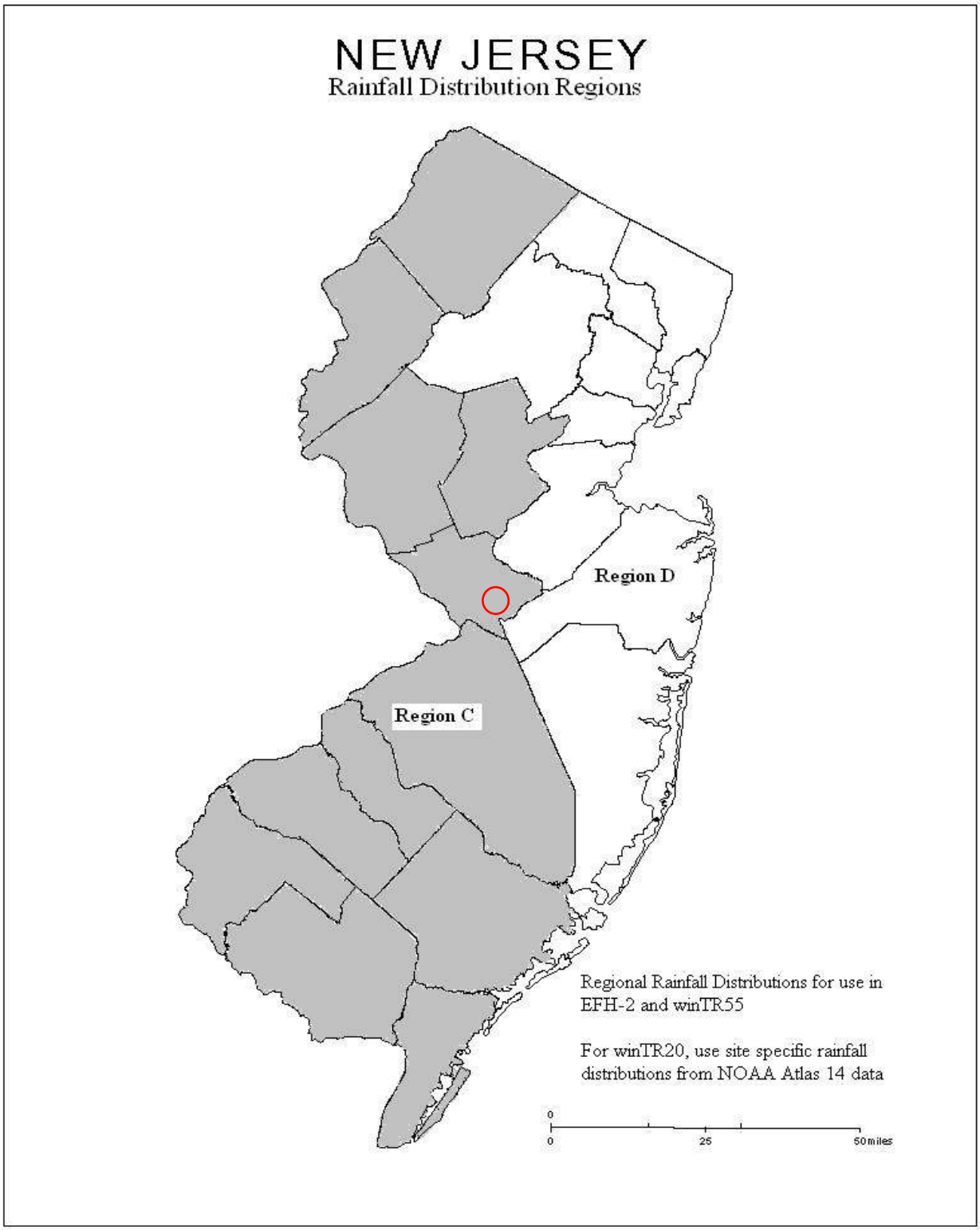
Rainfall amounts in Inches

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.


NEW JERSEY
Rainfall Distribution Regions
Region D
Region C
Regional Rainfall Distributions for use in EFH-2 and winTR55
For winTR20, use site specific rainfall distributions from NOAA Atlas 14 data
0
0
25
50 miles

NOAA Atlas 14, Volume 2, Version 3
Location name: Robbinsville, New Jersey, USA*
Latitude: 40.1956°, Longitude: -74.5652°
Elevation: 124 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.343 (0.310-0.379)	0.409 (0.371-0.454)	0.486 (0.440-0.538)	0.543 (0.490-0.600)	0.612 (0.550-0.677)	0.663 (0.593-0.733)	0.714 (0.635-0.791)	0.762 (0.674-0.846)	0.822 (0.719-0.919)	0.868 (0.753-0.975)
10-min	0.547 (0.495-0.606)	0.655 (0.593-0.726)	0.779 (0.704-0.861)	0.868 (0.784-0.960)	0.976 (0.877-1.08)	1.06 (0.944-1.17)	1.14 (1.01-1.26)	1.21 (1.07-1.34)	1.30 (1.14-1.45)	1.37 (1.19-1.54)
15-min	0.684 (0.618-0.758)	0.823 (0.746-0.912)	0.985 (0.890-1.09)	1.10 (0.991-1.21)	1.24 (1.11-1.37)	1.34 (1.20-1.48)	1.44 (1.28-1.59)	1.52 (1.35-1.69)	1.64 (1.43-1.83)	1.72 (1.49-1.93)
30-min	0.938 (0.848-1.04)	1.14 (1.03-1.26)	1.40 (1.26-1.55)	1.59 (1.44-1.76)	1.83 (1.65-2.02)	2.01 (1.80-2.23)	2.20 (1.95-2.43)	2.37 (2.10-2.64)	2.60 (2.28-2.91)	2.78 (2.41-3.12)
60-min	1.17 (1.06-1.30)	1.43 (1.29-1.58)	1.79 (1.62-1.98)	2.07 (1.87-2.29)	2.44 (2.19-2.70)	2.73 (2.44-3.02)	3.03 (2.69-3.35)	3.33 (2.94-3.70)	3.74 (3.27-4.18)	4.06 (3.52-4.56)
2-hr	1.42 (1.29-1.58)	1.74 (1.57-1.93)	2.20 (1.99-2.44)	2.56 (2.31-2.83)	3.05 (2.73-3.37)	3.45 (3.08-3.81)	3.86 (3.42-4.27)	4.29 (3.77-4.75)	4.88 (4.24-5.45)	5.35 (4.61-6.01)
3-hr	1.57 (1.41-1.75)	1.91 (1.72-2.13)	2.42 (2.18-2.70)	2.82 (2.53-3.15)	3.39 (3.02-3.77)	3.84 (3.41-4.28)	4.33 (3.80-4.82)	4.83 (4.21-5.39)	5.53 (4.76-6.21)	6.11 (5.18-6.89)
6-hr	1.98 (1.78-2.22)	2.40 (2.15-2.70)	3.04 (2.71-3.41)	3.56 (3.17-3.99)	4.32 (3.80-4.83)	4.94 (4.33-5.52)	5.62 (4.88-6.29)	6.35 (5.45-7.12)	7.41 (6.25-8.34)	8.29 (6.91-9.39)
12-hr	2.39 (2.13-2.73)	2.90 (2.58-3.30)	3.70 (3.28-4.20)	4.37 (3.86-4.96)	5.38 (4.71-6.08)	6.25 (5.44-7.07)	7.22 (6.19-8.15)	8.28 (7.00-9.39)	9.89 (8.19-11.3)	11.3 (9.16-12.9)
24-hr	2.75 (2.50-3.05)	3.33 (3.03-3.69)	4.28 (3.88-4.74)	5.08 (4.61-5.62)	6.31 (5.66-6.96)	7.38 (6.56-8.12)	8.57 (7.55-9.43)	9.89 (8.62-10.9)	11.9 (10.2-13.1)	13.7 (11.5-15.1)
2-day	3.17 (2.89-3.52)	3.85 (3.51-4.27)	4.96 (4.50-5.49)	5.88 (5.32-6.50)	7.26 (6.53-8.01)	8.45 (7.54-9.31)	9.76 (8.64-10.8)	11.2 (9.80-12.4)	13.4 (11.5-14.8)	15.3 (13.0-17.0)
3-day	3.37 (3.09-3.69)	4.08 (3.75-4.48)	5.22 (4.78-5.72)	6.17 (5.64-6.75)	7.57 (6.87-8.27)	8.76 (7.90-9.56)	10.1 (9.01-11.0)	11.5 (10.2-12.6)	13.6 (11.9-14.9)	15.4 (13.3-17.0)
4-day	3.56 (3.30-3.87)	4.31 (3.99-4.69)	5.48 (5.07-5.96)	6.45 (5.95-7.00)	7.87 (7.22-8.53)	9.06 (8.26-9.81)	10.4 (9.38-11.2)	11.8 (10.6-12.8)	13.9 (12.3-15.0)	15.6 (13.7-17.0)
7-day	4.17 (3.87-4.52)	5.02 (4.66-5.44)	6.27 (5.82-6.80)	7.32 (6.77-7.93)	8.85 (8.14-9.56)	10.1 (9.27-10.9)	11.5 (10.5-12.4)	13.0 (11.7-14.0)	15.2 (13.6-16.4)	17.0 (15.0-18.5)
10-day	4.74 (4.43-5.10)	5.68 (5.31-6.11)	6.99 (6.52-7.52)	8.07 (7.52-8.67)	9.60 (8.90-10.3)	10.9 (10.0-11.7)	12.2 (11.2-13.1)	13.6 (12.4-14.6)	15.6 (14.1-16.8)	17.4 (15.5-18.7)
20-day	6.41 (6.05-6.79)	7.61 (7.18-8.07)	9.14 (8.61-9.68)	10.4 (9.74-11.0)	12.0 (11.3-12.7)	13.3 (12.5-14.1)	14.7 (13.7-15.5)	16.1 (14.9-17.0)	18.0 (16.5-19.1)	19.4 (17.8-20.7)
30-day	7.96 (7.56-8.38)	9.40 (8.93-9.91)	11.1 (10.5-11.7)	12.4 (11.7-13.0)	14.1 (13.4-14.9)	15.5 (14.6-16.3)	16.8 (15.8-17.7)	18.2 (17.0-19.1)	19.9 (18.6-21.1)	21.3 (19.7-22.5)
45-day	10.2 (9.69-10.7)	12.0 (11.4-12.5)	13.9 (13.2-14.6)	15.3 (14.6-16.1)	17.2 (16.3-18.0)	18.6 (17.6-19.5)	20.0 (18.9-20.9)	21.3 (20.0-22.3)	22.9 (21.5-24.1)	24.2 (22.6-25.5)
60-day	12.2 (11.6-12.7)	14.3 (13.7-14.9)	16.4 (15.7-17.1)	18.0 (17.2-18.8)	20.0 (19.0-20.9)	21.4 (20.4-22.4)	22.8 (21.6-23.8)	24.1 (22.8-25.2)	25.7 (24.2-26.9)	26.8 (25.2-28.2)

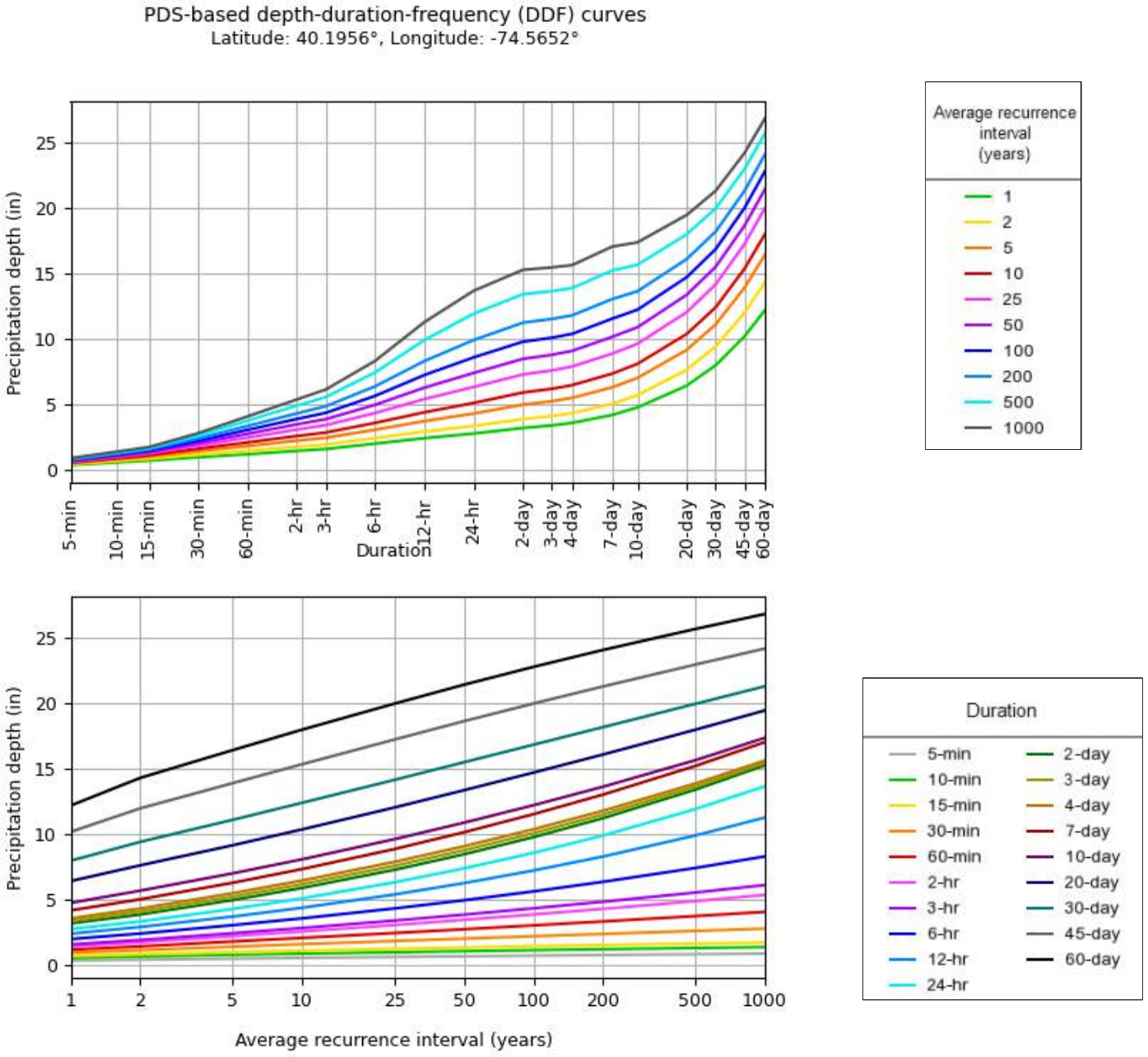
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical



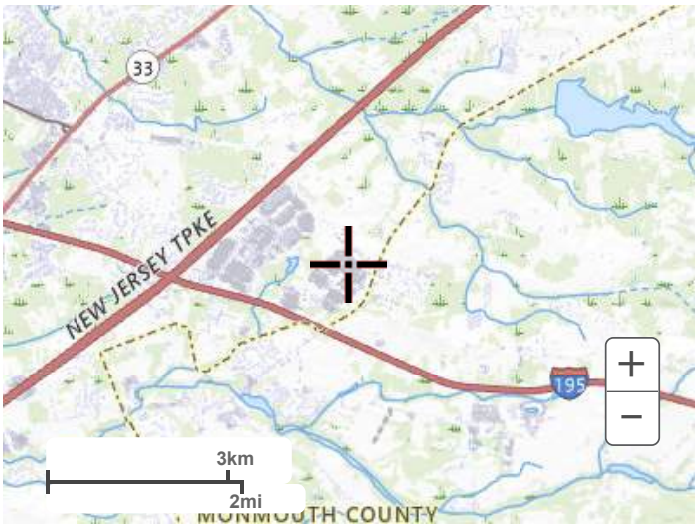
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Maps & aerials

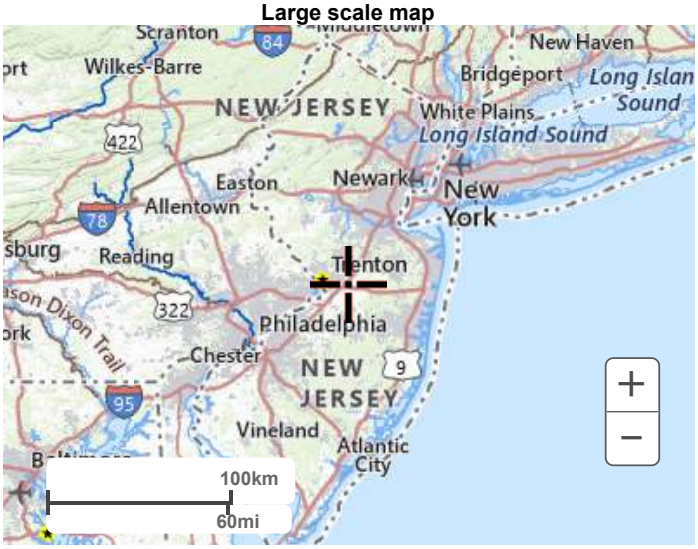
Small scale terrain



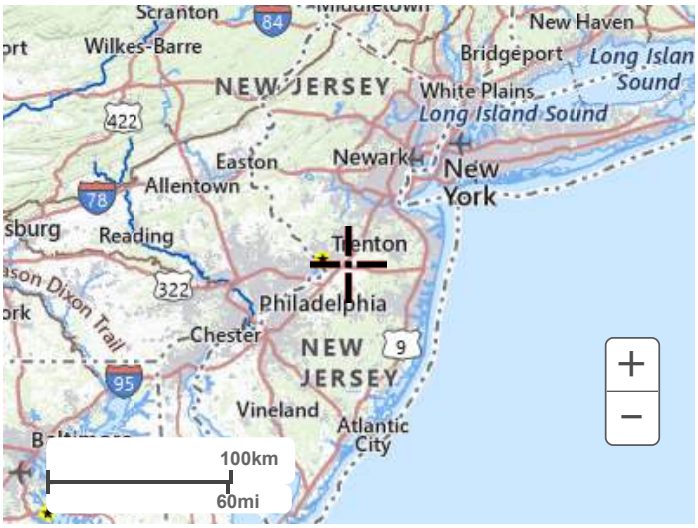
Large scale terrain



Large scale map



Large scale aerial



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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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NOAA Atlas 14, Volume 2, Version 3
Location name: Robbinsville, New Jersey, USA*
Latitude: 40.1956°, Longitude: -74.5652°
Elevation: 124 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**4.12** (3.72-4.55)	**4.91** (4.45-5.45)	**5.83** (5.28-6.46)	**6.52** (5.88-7.20)	**7.34** (6.60-8.12)	**7.96** (7.12-8.80)	**8.57** (7.62-9.49)	**9.14** (8.09-10.2)	**9.86** (8.63-11.0)	**10.4** (9.04-11.7)
10-min	**3.28** (2.97-3.64)	**3.93** (3.56-4.36)	**4.67** (4.22-5.17)	**5.21** (4.70-5.76)	**5.86** (5.26-6.47)	**6.34** (5.66-7.01)	**6.81** (6.05-7.54)	**7.25** (6.41-8.05)	**7.80** (6.83-8.72)	**8.21** (7.12-9.22)
15-min	**2.74** (2.47-3.03)	**3.29** (2.98-3.65)	**3.94** (3.56-4.36)	**4.39** (3.96-4.86)	**4.95** (4.44-5.47)	**5.35** (4.78-5.91)	**5.74** (5.10-6.35)	**6.10** (5.39-6.77)	**6.54** (5.73-7.32)	**6.87** (5.96-7.71)
30-min	**1.88** (1.70-2.08)	**2.27** (2.06-2.52)	**2.80** (2.53-3.10)	**3.18** (2.87-3.52)	**3.66** (3.29-4.05)	**4.03** (3.60-4.45)	**4.40** (3.91-4.87)	**4.75** (4.20-5.27)	**5.21** (4.56-5.82)	**5.56** (4.82-6.24)
60-min	**1.17** (1.06-1.30)	**1.43** (1.29-1.58)	**1.79** (1.62-1.98)	**2.07** (1.87-2.29)	**2.44** (2.19-2.70)	**2.73** (2.44-3.02)	**3.03** (2.69-3.35)	**3.33** (2.94-3.70)	**3.74** (3.27-4.18)	**4.06** (3.52-4.56)
2-hr	**0.712** (0.644-0.791)	**0.868** (0.785-0.963)	**1.10** (0.996-1.22)	**1.28** (1.15-1.42)	**1.53** (1.37-1.68)	**1.72** (1.54-1.90)	**1.93** (1.71-2.14)	**2.14** (1.88-2.38)	**2.44** (2.12-2.73)	**2.68** (2.30-3.00)
3-hr	**0.521** (0.468-0.581)	**0.635** (0.573-0.709)	**0.807** (0.725-0.900)	**0.940** (0.843-1.05)	**1.13** (1.01-1.26)	**1.28** (1.14-1.42)	**1.44** (1.27-1.61)	**1.61** (1.40-1.80)	**1.84** (1.58-2.07)	**2.03** (1.72-2.30)
6-hr	**0.330** (0.296-0.371)	**0.401** (0.358-0.450)	**0.507** (0.453-0.569)	**0.594** (0.528-0.665)	**0.720** (0.635-0.806)	**0.825** (0.723-0.922)	**0.938** (0.814-1.05)	**1.06** (0.910-1.19)	**1.24** (1.04-1.39)	**1.38** (1.15-1.57)
12-hr	**0.198** (0.177-0.226)	**0.240** (0.214-0.274)	**0.306** (0.272-0.348)	**0.362** (0.320-0.411)	**0.446** (0.391-0.504)	**0.518** (0.451-0.586)	**0.598** (0.513-0.676)	**0.687** (0.581-0.779)	**0.820** (0.679-0.934)	**0.934** (0.760-1.07)
24-hr	**0.114** (0.104-0.126)	**0.138** (0.126-0.153)	**0.178** (0.161-0.197)	**0.211** (0.191-0.234)	**0.262** (0.235-0.289)	**0.307** (0.273-0.338)	**0.356** (0.314-0.392)	**0.412** (0.359-0.454)	**0.496** (0.424-0.547)	**0.568** (0.479-0.629)
2-day	**0.066** (0.060-0.073)	**0.080** (0.073-0.088)	**0.103** (0.093-0.114)	**0.122** (0.110-0.135)	**0.151** (0.136-0.166)	**0.176** (0.156-0.193)	**0.203** (0.179-0.223)	**0.233** (0.204-0.257)	**0.278** (0.239-0.308)	**0.317** (0.269-0.353)
3-day	**0.046** (0.042-0.051)	**0.056** (0.052-0.062)	**0.072** (0.066-0.079)	**0.085** (0.078-0.093)	**0.105** (0.095-0.114)	**0.121** (0.109-0.132)	**0.139** (0.125-0.152)	**0.159** (0.141-0.174)	**0.189** (0.165-0.207)	**0.214** (0.185-0.235)
4-day	**0.037** (0.034-0.040)	**0.044** (0.041-0.048)	**0.057** (0.052-0.062)	**0.067** (0.061-0.072)	**0.081** (0.075-0.088)	**0.094** (0.086-0.102)	**0.107** (0.097-0.116)	**0.122** (0.110-0.132)	**0.144** (0.128-0.156)	**0.162** (0.142-0.176)
7-day	**0.024** (0.023-0.026)	**0.029** (0.027-0.032)	**0.037** (0.034-0.040)	**0.043** (0.040-0.047)	**0.052** (0.048-0.056)	**0.060** (0.055-0.065)	**0.068** (0.062-0.073)	**0.077** (0.069-0.083)	**0.090** (0.080-0.097)	**0.101** (0.089-0.109)
10-day	**0.019** (0.018-0.021)	**0.023** (0.022-0.025)	**0.029** (0.027-0.031)	**0.033** (0.031-0.036)	**0.040** (0.037-0.042)	**0.045** (0.041-0.048)	**0.050** (0.046-0.054)	**0.056** (0.051-0.060)	**0.065** (0.058-0.070)	**0.072** (0.064-0.078)
20-day	**0.013** (0.012-0.014)	**0.015** (0.014-0.016)	**0.019** (0.017-0.020)	**0.021** (0.020-0.022)	**0.025** (0.023-0.026)	**0.027** (0.026-0.029)	**0.030** (0.028-0.032)	**0.033** (0.031-0.035)	**0.037** (0.034-0.039)	**0.040** (0.037-0.043)
30-day	**0.011** (0.010-0.011)	**0.013** (0.012-0.013)	**0.015** (0.014-0.016)	**0.017** (0.016-0.018)	**0.019** (0.018-0.020)	**0.021** (0.020-0.022)	**0.023** (0.021-0.024)	**0.025** (0.023-0.026)	**0.027** (0.025-0.029)	**0.029** (0.027-0.031)
45-day	**0.009** (0.008-0.009)	**0.011** (0.010-0.011)	**0.012** (0.012-0.013)	**0.014** (0.013-0.014)	**0.015** (0.015-0.016)	**0.017** (0.016-0.018)	**0.018** (0.017-0.019)	**0.019** (0.018-0.020)	**0.021** (0.019-0.022)	**0.022** (0.020-0.023)
60-day	**0.008** (0.008-0.008)	**0.009** (0.009-0.010)	**0.011** (0.010-0.011)	**0.012** (0.011-0.013)	**0.013** (0.013-0.014)	**0.014** (0.014-0.015)	**0.015** (0.015-0.016)	**0.016** (0.015-0.017)	**0.017** (0.016-0.018)	**0.018** (0.017-0.019)

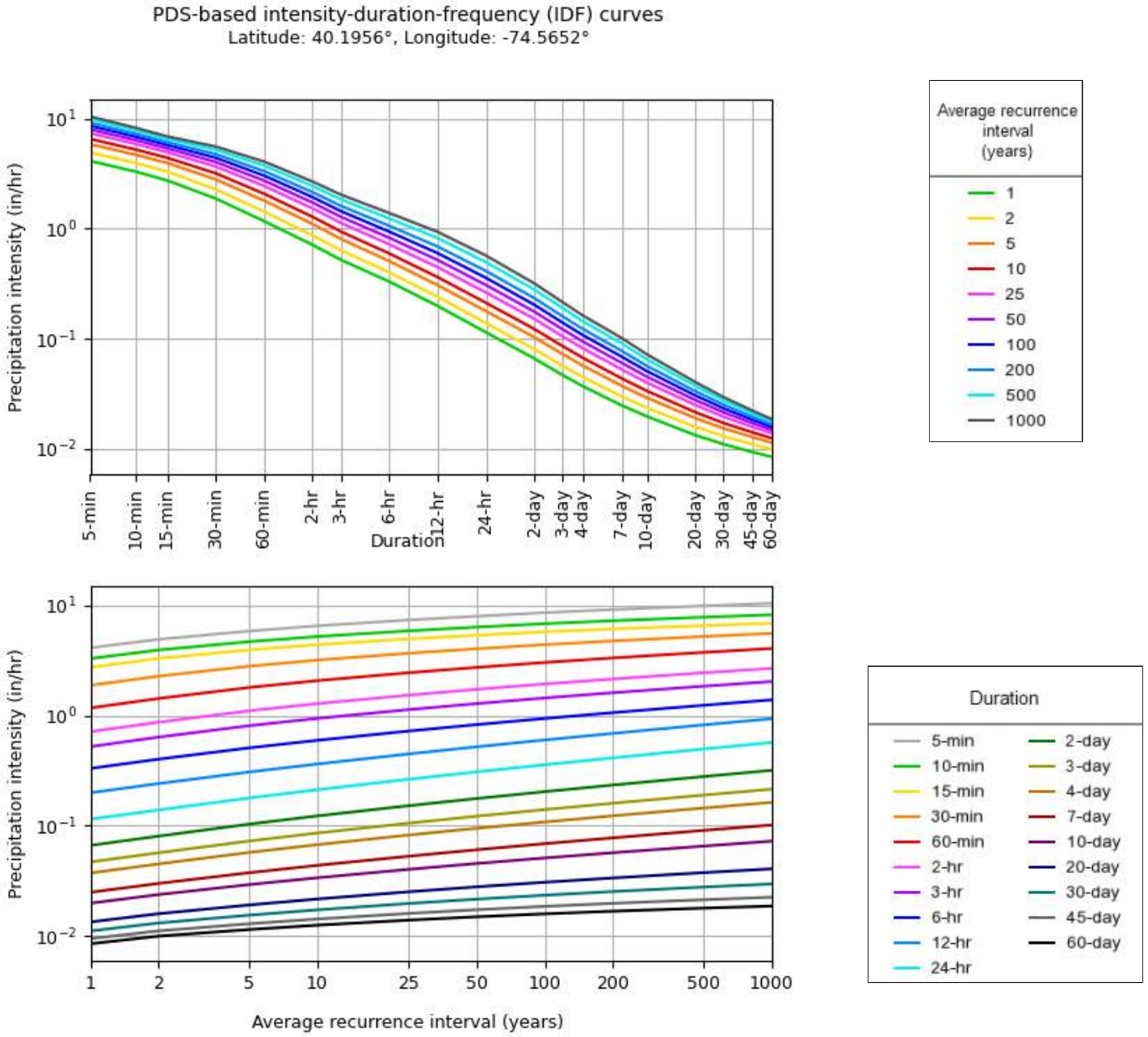
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical



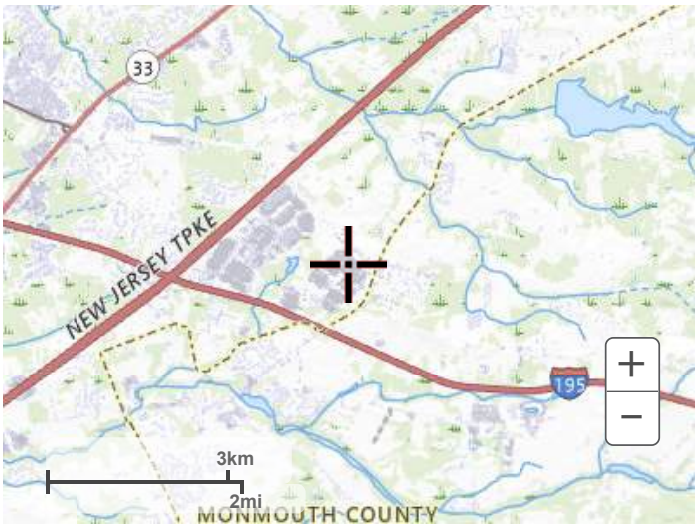
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Maps & aerials

Small scale terrain



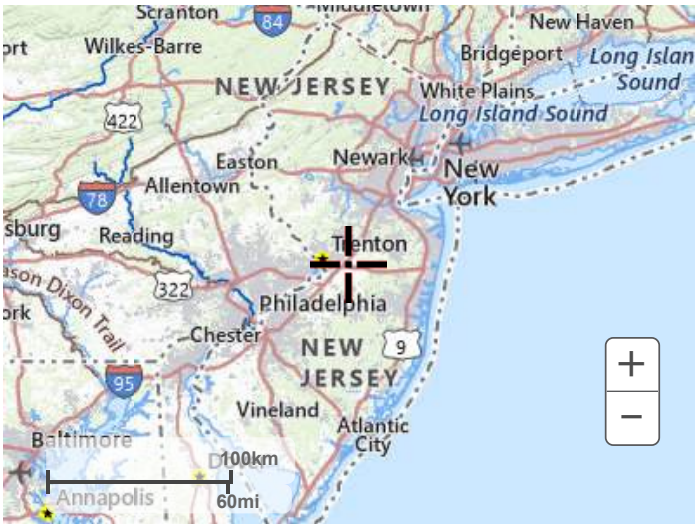
Large scale terrain



Large scale map



Large scale aerial



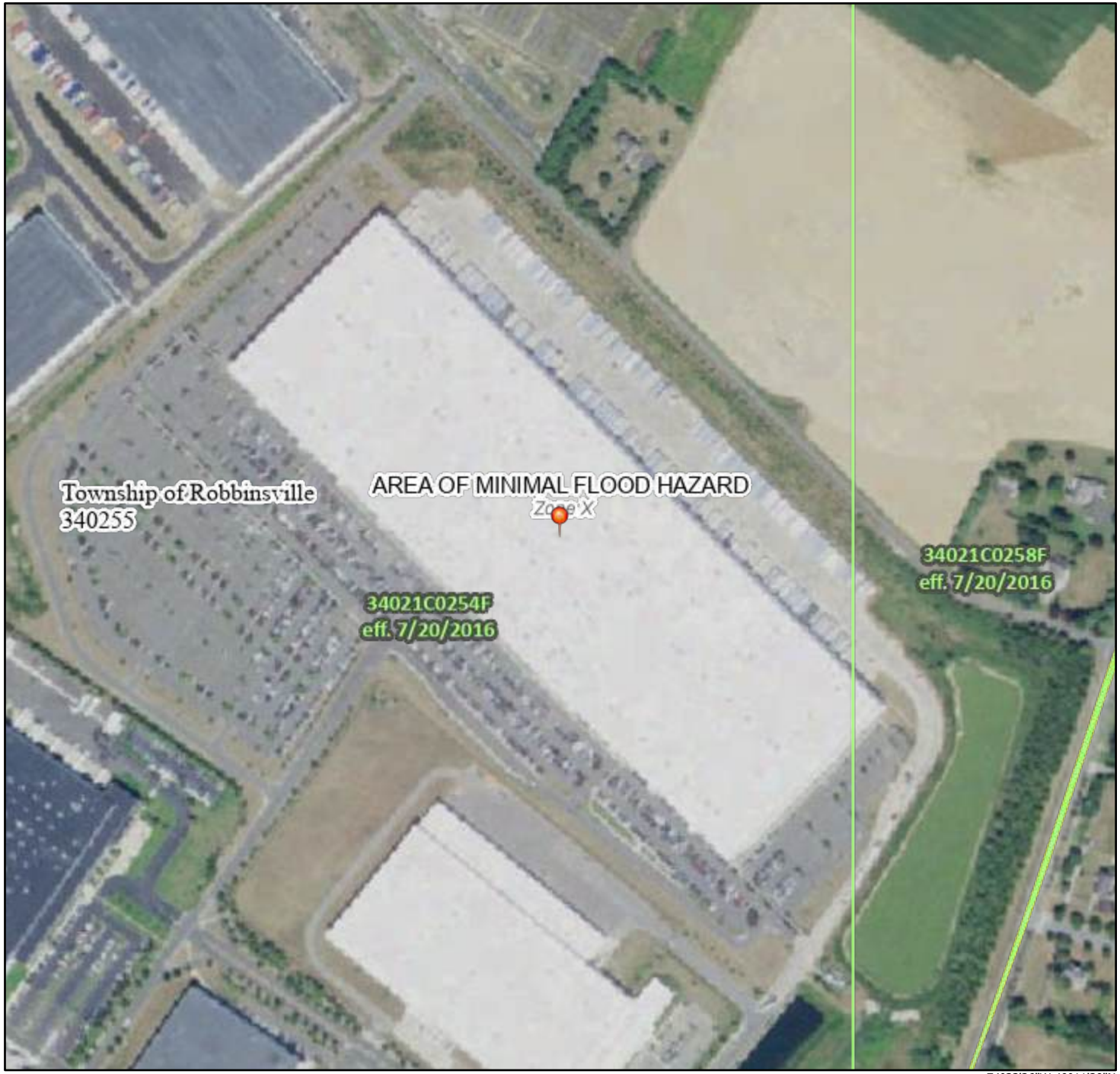
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National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

National Flood Hazard Layer FIRMette

74°34'14"W 40°11'58"N



74°33'36"W 40°11'30"N

Feet
0 250 500 1,000 1,500 2,000

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/5/2025 at 5:15 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

New Jersey Department of Environmental Protection

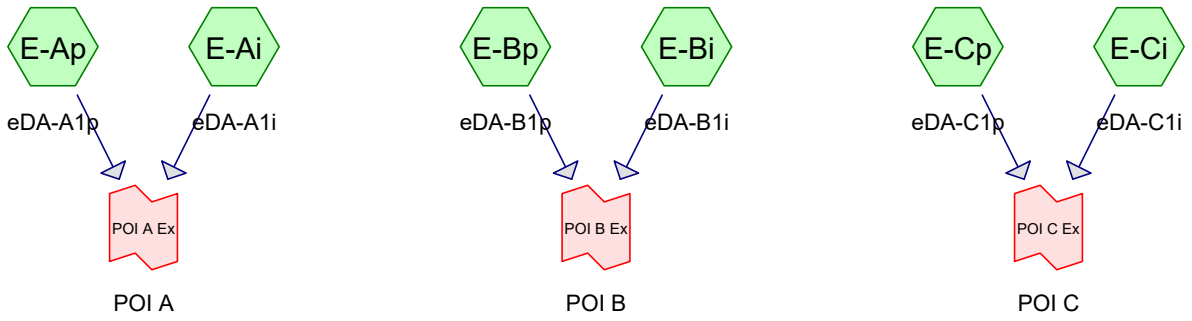
Adjustment of NOAA Atlas 14 Precipitation Depths
Reflecting Rainfall Data Records up to 2019

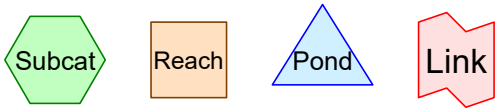
County	Adjustment Factors (1-Day)		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Atlantic	1.01	1.02	1.03
Bergen	1.01	1.03	1.06
Burlington	0.99	1.01	1.04
Camden	1.03	1.04	1.05
Cape May	1.03	1.03	1.04
Cumberland	1.03	1.03	1.01
Essex	1.01	1.03	1.06
Gloucester	1.05	1.06	1.06
Hudson	1.03	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

1. The adjustment factors for counties are derived from the 1-Day Atlas 14 Adjustments by station in Appendix A of *Changes in Hourly and Daily Extreme Rainfall Amounts in NJ since the Publication of NOAA Atlas 14 Volume*, October 2021, prepared by DeGaetano et al., Northeast Regional Climate Center, Cornell University, NY. (This information is available at https://www.nj.gov/dep/dsr/publications/nj-atlas-14.pdf).
2. The precipitation depth for a specific site is calculated by multiplying the adjustment factor for the county where the site is situated with the precipitation depth (partial duration) of the site obtained from the NOAA Atlas 14 Point Precipitation Frequency Estimates: NJ (https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=nj). If a site is situated in multiple counties, an area-weighted average of the adjustment factors shall be used.

APPENDIX B – HYDROCAD ANALYSIS - EXISTING

Existing





Routing Diagram for EWR 4 - SWM Design
Prepared by Kimley-Horn & Associates, Printed 3/25/2026
HydroCAD® 10.20-5c s/n 02344 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC	P2 (inches)
1	2-Year-2020	NOAA 24-hr	C	Default	24.00	1	3.34	2	3.34
2	10-Year-2020	NOAA 24-hr	C	Default	24.00	1	5.11	2	3.34
3	100-Year-2020	NOAA 24-hr	C	Default	24.00	1	8.66	2	3.34
4	2-Year-2050	NOAA 24-hr	C	Default	24.00	1	3.84	2	3.84
5	10-Year-2050	NOAA 24-hr	C	Default	24.00	1	5.86	2	3.84
6	100-Year-2050	NOAA 24-hr	C	Default	24.00	1	11.33	2	3.84

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-Ai: eDA-A1i Runoff Area=4.900 ac 100.00% Impervious Runoff Depth=3.11"
Flow Length=1,156' Tc=5.9 min CN=98 Runoff=14.2 cfs 1.269 af

SubcatchmentE-Ap: eDA-A1p Runoff Area=1.520 ac 0.00% Impervious Runoff Depth=0.50"
Flow Length=1,123' Tc=11.2 min CN=61 Runoff=0.4 cfs 0.064 af

SubcatchmentE-Bi: eDA-B1i Runoff Area=0.230 ac 100.00% Impervious Runoff Depth=3.11"
Flow Length=141' Tc=1.6 min CN=98 Runoff=0.9 cfs 0.060 af

SubcatchmentE-Bp: eDA-B1p Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=0.50"
Flow Length=118' Tc=3.9 min CN=61 Runoff=0.0 cfs 0.000 af

SubcatchmentE-Ci: eDA-C1i Runoff Area=1.040 ac 100.00% Impervious Runoff Depth=3.11"
Flow Length=1,329' Tc=5.8 min CN=98 Runoff=3.0 cfs 0.269 af

SubcatchmentE-Cp: eDA-C1p Runoff Area=1.560 ac 0.00% Impervious Runoff Depth=0.58"
Flow Length=901' Tc=21.5 min CN=63 Runoff=0.4 cfs 0.076 af

Link POI A Ex: POI A Inflow=14.5 cfs 1.332 af
Primary=14.5 cfs 1.332 af

Link POI B Ex: POI B Inflow=0.9 cfs 0.060 af
Primary=0.9 cfs 0.060 af

Link POI C Ex: POI C Inflow=3.1 cfs 0.345 af
Primary=3.1 cfs 0.345 af

Total Runoff Area = 9.260 ac Runoff Volume = 1.737 af Average Runoff Depth = 2.25"
33.37% Pervious = 3.090 ac 66.63% Impervious = 6.170 ac

Summary for Subcatchment E-Ai: eDA-A1i

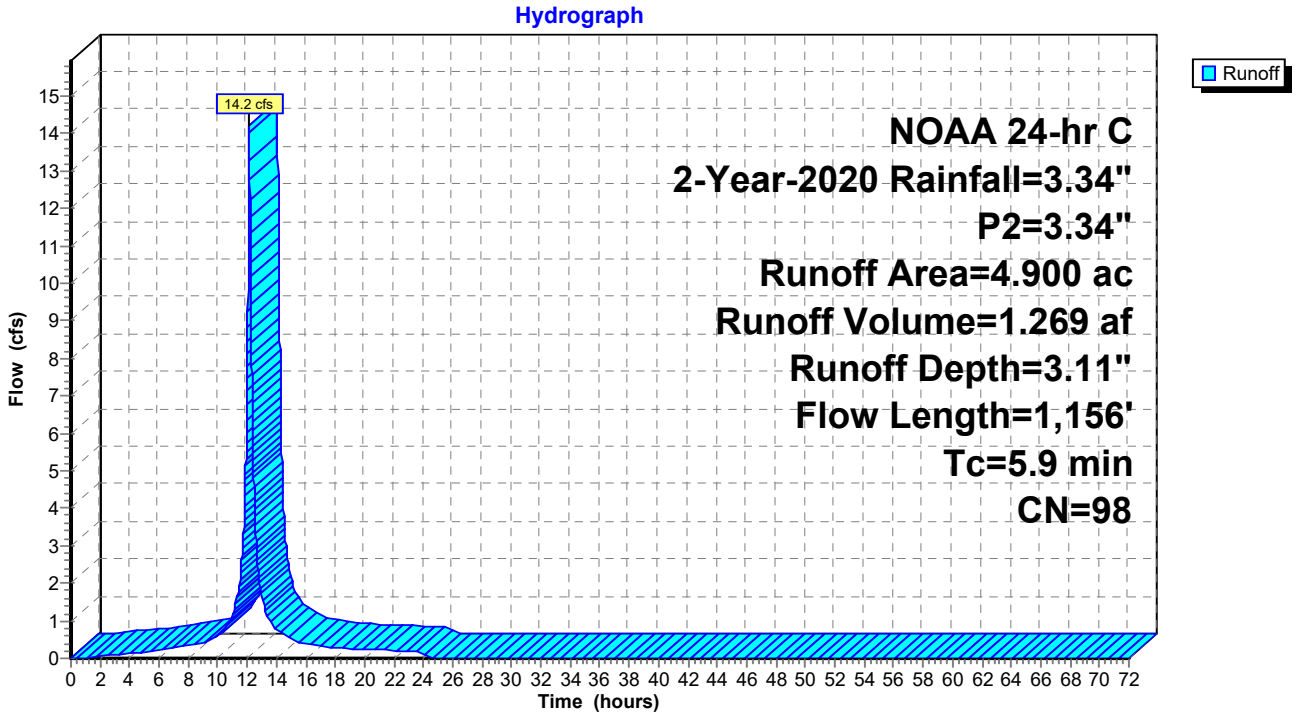
Runoff = 14.2 cfs @ 12.14 hrs, Volume= 1.269 af, Depth= 3.11"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
4.900	98	Paved parking, HSG A
4.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.41		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
1.0	142	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.9	1,156	Total			

Subcatchment E-Ai: eDA-A1i



Summary for Subcatchment E-Ap: eDA-A1p

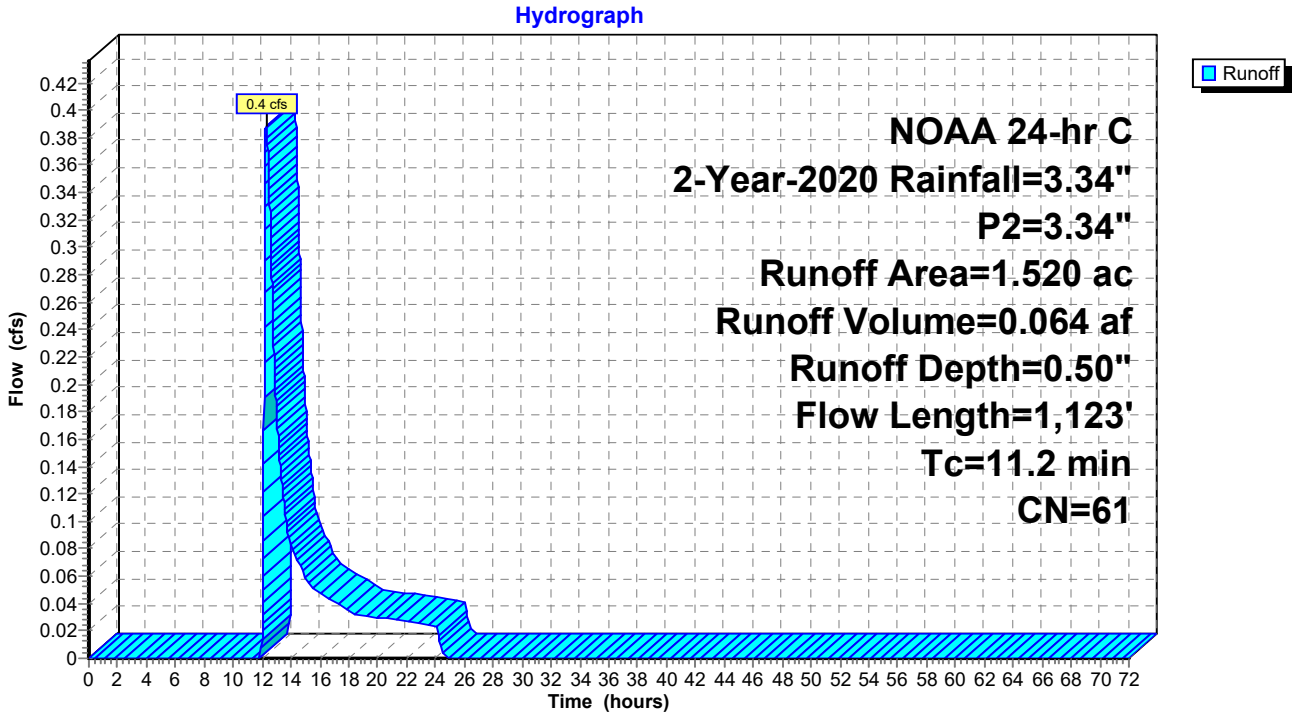
Runoff = 0.4 cfs @ 12.28 hrs, Volume= 0.064 af, Depth= 0.50"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.520	61	Weighted Average
1.520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	33	0.0200	0.10		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.9	67	0.0200	1.30		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.4	49	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	60	0.0020	2.66	4.70	**Pipe Channel, PIPE FLOW** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
11.2	1,123	Total			

Subcatchment E-Ap: eDA-A1p



Summary for Subcatchment E-Bi: eDA-B1i

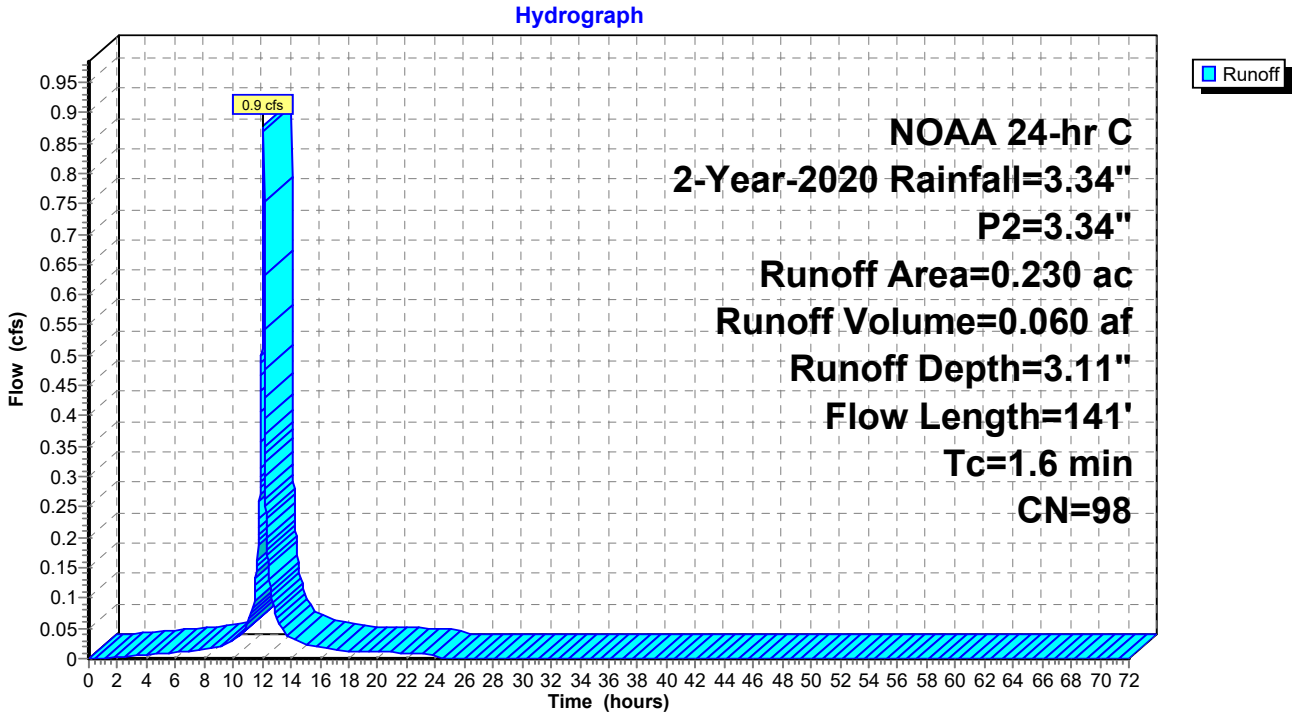
Runoff = 0.9 cfs @ 12.10 hrs, Volume= 0.060 af, Depth= 3.11"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
0.230	98	Paved parking, HSG A
0.230		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.25		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.2	23	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.1	18	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.6	141	Total			

Subcatchment E-Bi: eDA-B1i



Summary for Subcatchment E-Bp: eDA-B1p

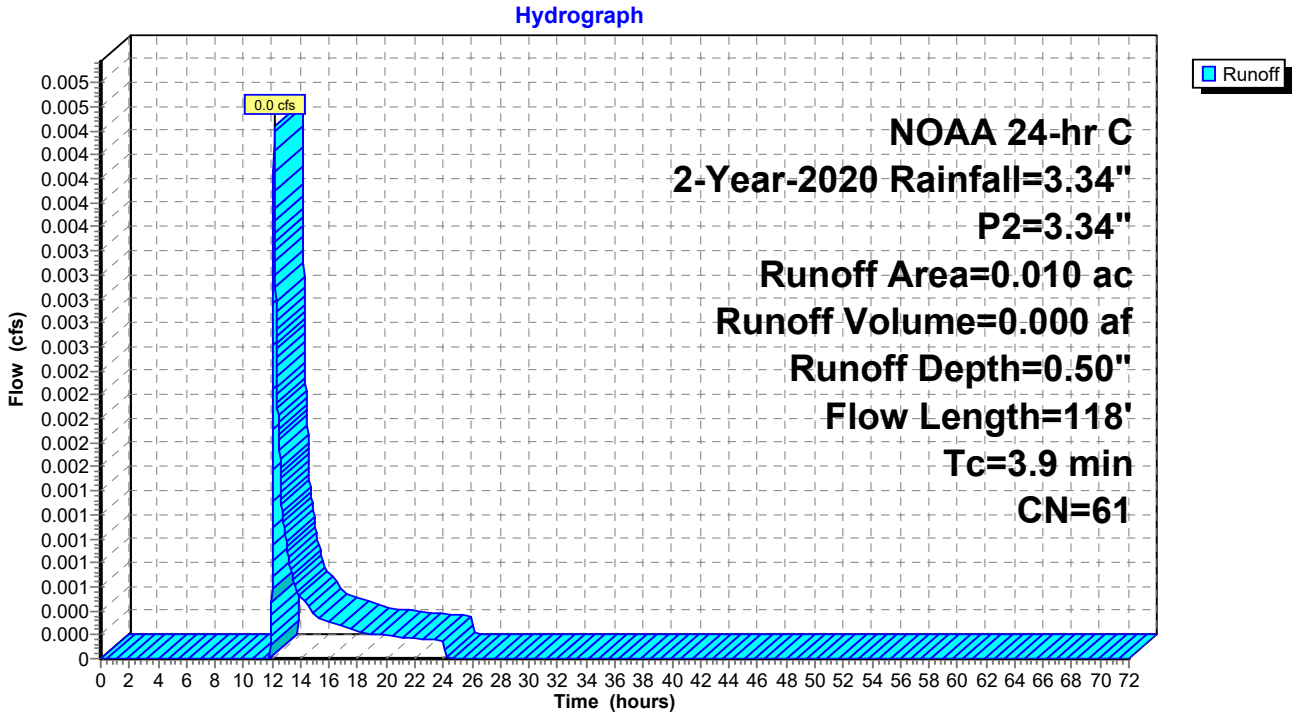
Runoff = 0.0 cfs @ 12.13 hrs, Volume= 0.000 af, Depth= 0.50"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
0.010	61	>75% Grass cover, Good, HSG B
0.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	13	0.0200	0.08		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
1.1	87	0.0200	1.37		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.1	18	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
3.9	118	Total			

Subcatchment E-Bp: eDA-B1p



Summary for Subcatchment E-Ci: eDA-C1i

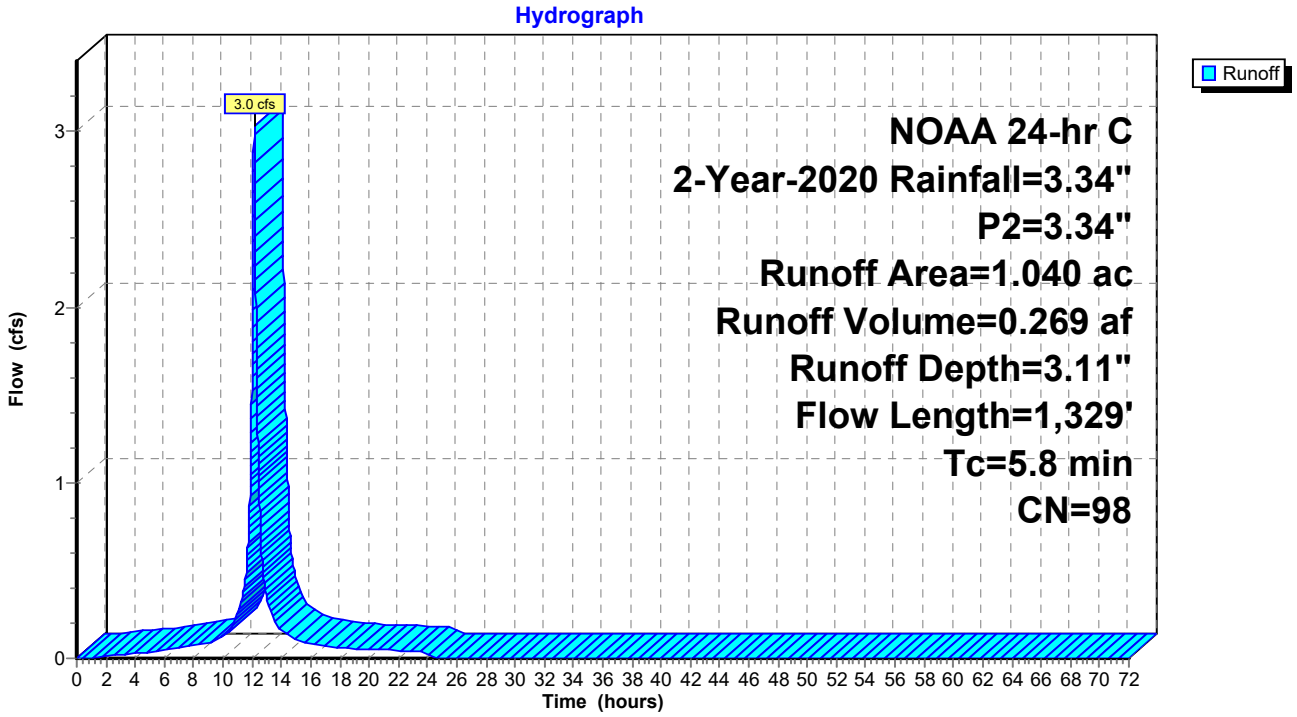
Runoff = 3.0 cfs @ 12.14 hrs, Volume= 0.269 af, Depth= 3.11"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
1.040	98	Paved parking, HSG A
1.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0220	1.46		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.9	130	0.0130	2.31		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.1	266	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,329	Total			

Subcatchment E-Ci: eDA-C1i



Summary for Subcatchment E-Cp: eDA-C1p

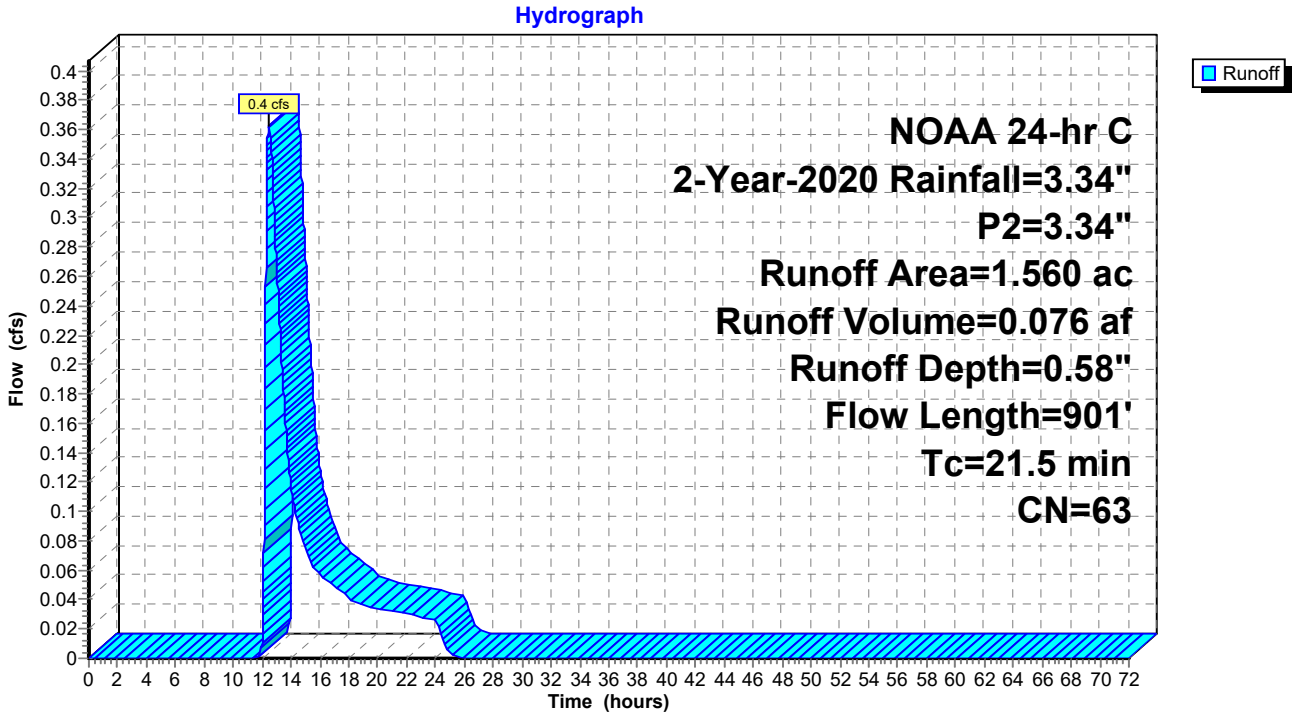
Runoff = 0.4 cfs @ 12.47 hrs, Volume= 0.076 af, Depth= 0.58"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
0.200	74	>75% Grass cover, Good, HSG C
1.360	61	>75% Grass cover, Good, HSG B
1.560	63	Weighted Average
1.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	55	0.0100	0.08		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
5.1	45	0.0200	0.15		**Sheet Flow, SHEET GRASS** Grass: Short n= 0.150 P2= 3.34"
2.3	22	0.0350	0.16		**Sheet Flow, SHALLOW GRASS** Grass: Short n= 0.150 P2= 3.34"
0.2	42	0.0260	3.27		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	57	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
21.5	901	Total			

Subcatchment E-Cp: eDA-C1p

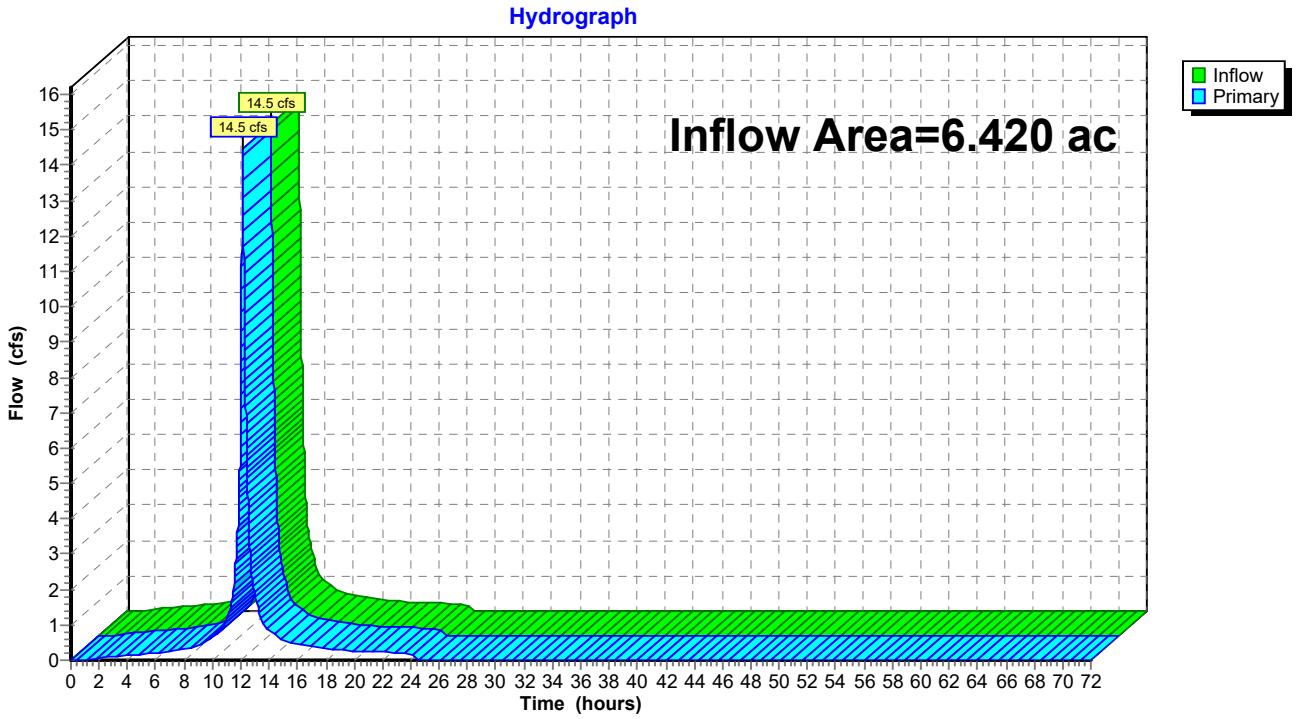


Summary for Link POI A Ex: POI A

Inflow Area = 6.420 ac, 76.32% Impervious, Inflow Depth = 2.49" for 2-Year-2020 event
Inflow = 14.5 cfs @ 12.14 hrs, Volume= 1.332 af
Primary = 14.5 cfs @ 12.14 hrs, Volume= 1.332 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Ex: POI A

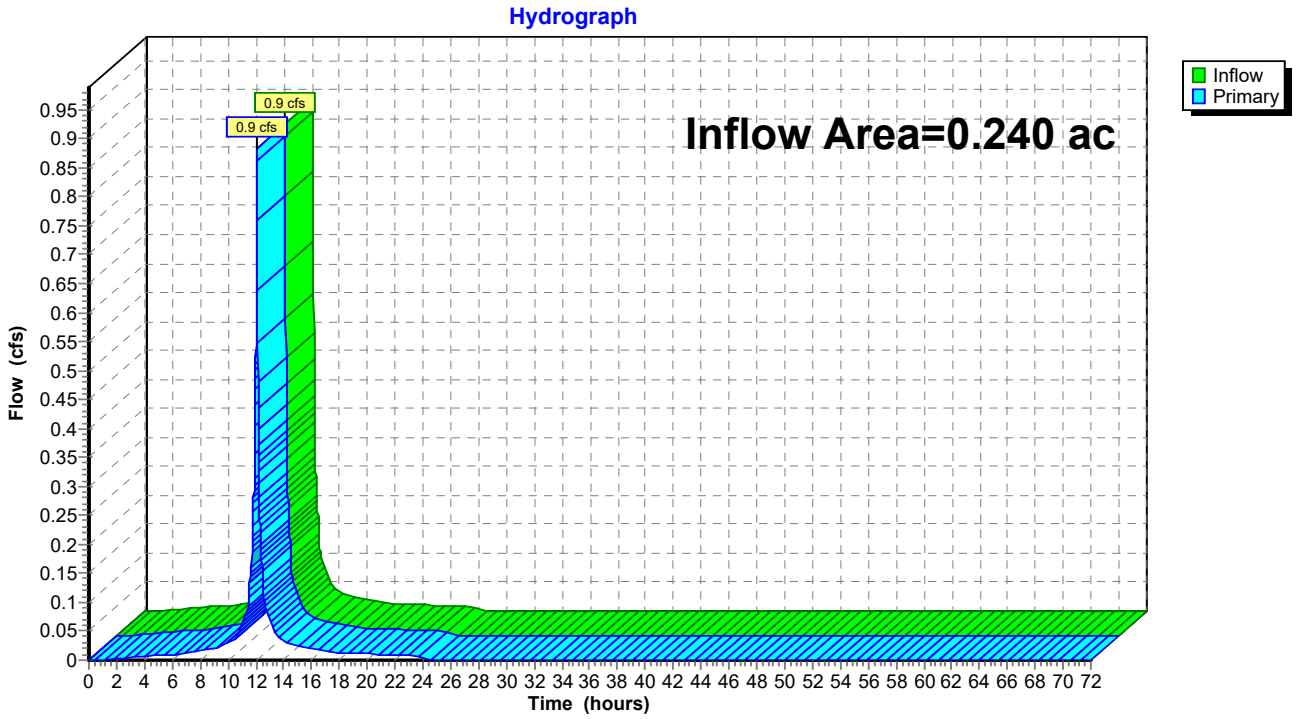


Summary for Link POI B Ex: POI B

Inflow Area = 0.240 ac, 95.83% Impervious, Inflow Depth = 3.00" for 2-Year-2020 event
Inflow = 0.9 cfs @ 12.10 hrs, Volume= 0.060 af
Primary = 0.9 cfs @ 12.10 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Ex: POI B

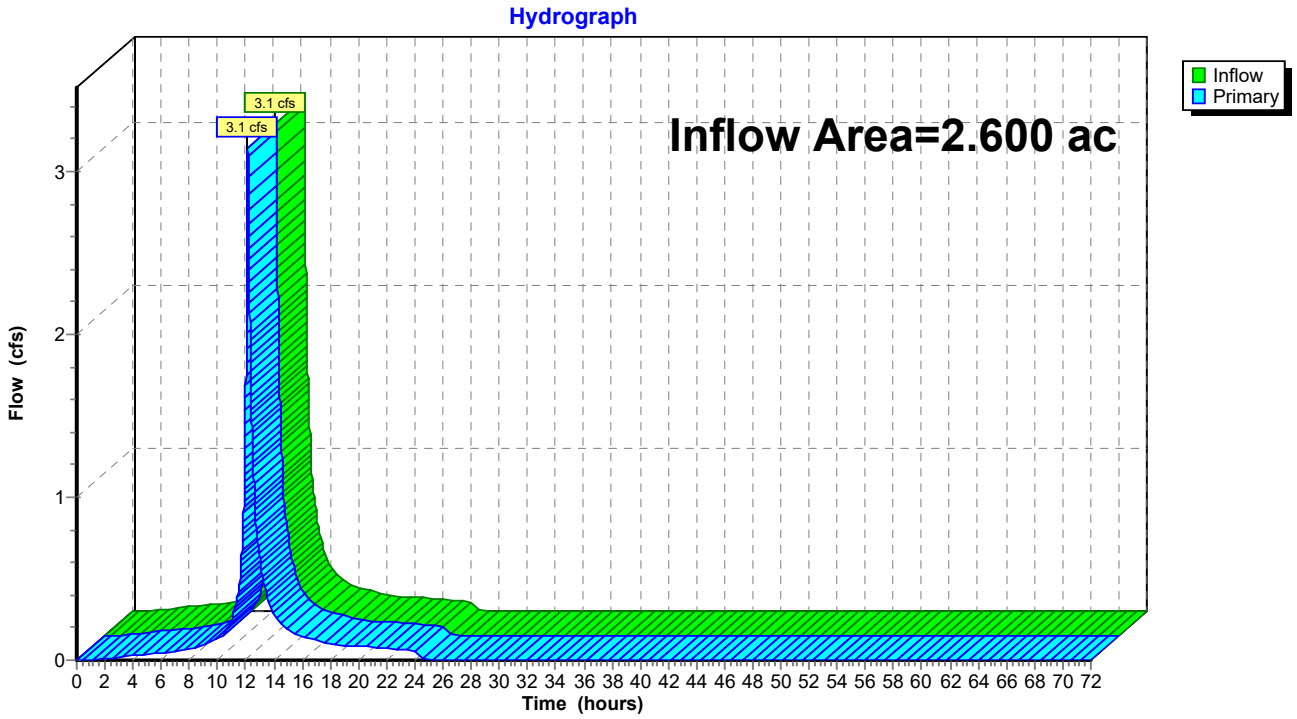


Summary for Link POI C Ex: POI C

Inflow Area = 2.600 ac, 40.00% Impervious, Inflow Depth = 1.59" for 2-Year-2020 event
Inflow = 3.1 cfs @ 12.14 hrs, Volume= 0.345 af
Primary = 3.1 cfs @ 12.14 hrs, Volume= 0.345 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Ex: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-Ai: eDA-A1i Runoff Area=4.900 ac 100.00% Impervious Runoff Depth=4.87"
Flow Length=1,156' Tc=5.9 min CN=98 Runoff=21.9 cfs 1.990 af

SubcatchmentE-Ap: eDA-A1p Runoff Area=1.520 ac 0.00% Impervious Runoff Depth=1.44"
Flow Length=1,123' Tc=11.2 min CN=61 Runoff=1.5 cfs 0.182 af

SubcatchmentE-Bi: eDA-B1i Runoff Area=0.230 ac 100.00% Impervious Runoff Depth=4.87"
Flow Length=141' Tc=1.6 min CN=98 Runoff=1.4 cfs 0.093 af

SubcatchmentE-Bp: eDA-B1p Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=1.44"
Flow Length=118' Tc=3.9 min CN=61 Runoff=0.0 cfs 0.001 af

SubcatchmentE-Ci: eDA-C1i Runoff Area=1.040 ac 100.00% Impervious Runoff Depth=4.87"
Flow Length=1,329' Tc=5.8 min CN=98 Runoff=4.7 cfs 0.422 af

SubcatchmentE-Cp: eDA-C1p Runoff Area=1.560 ac 0.00% Impervious Runoff Depth=1.58"
Flow Length=901' Tc=21.5 min CN=63 Runoff=1.2 cfs 0.205 af

Link POI A Ex: POI A Inflow=23.2 cfs 2.172 af
Primary=23.2 cfs 2.172 af

Link POI B Ex: POI B Inflow=1.4 cfs 0.095 af
Primary=1.4 cfs 0.095 af

Link POI C Ex: POI C Inflow=5.3 cfs 0.628 af
Primary=5.3 cfs 0.628 af

Total Runoff Area = 9.260 ac Runoff Volume = 2.894 af Average Runoff Depth = 3.75"
33.37% Pervious = 3.090 ac 66.63% Impervious = 6.170 ac

Summary for Subcatchment E-Ai: eDA-A1i

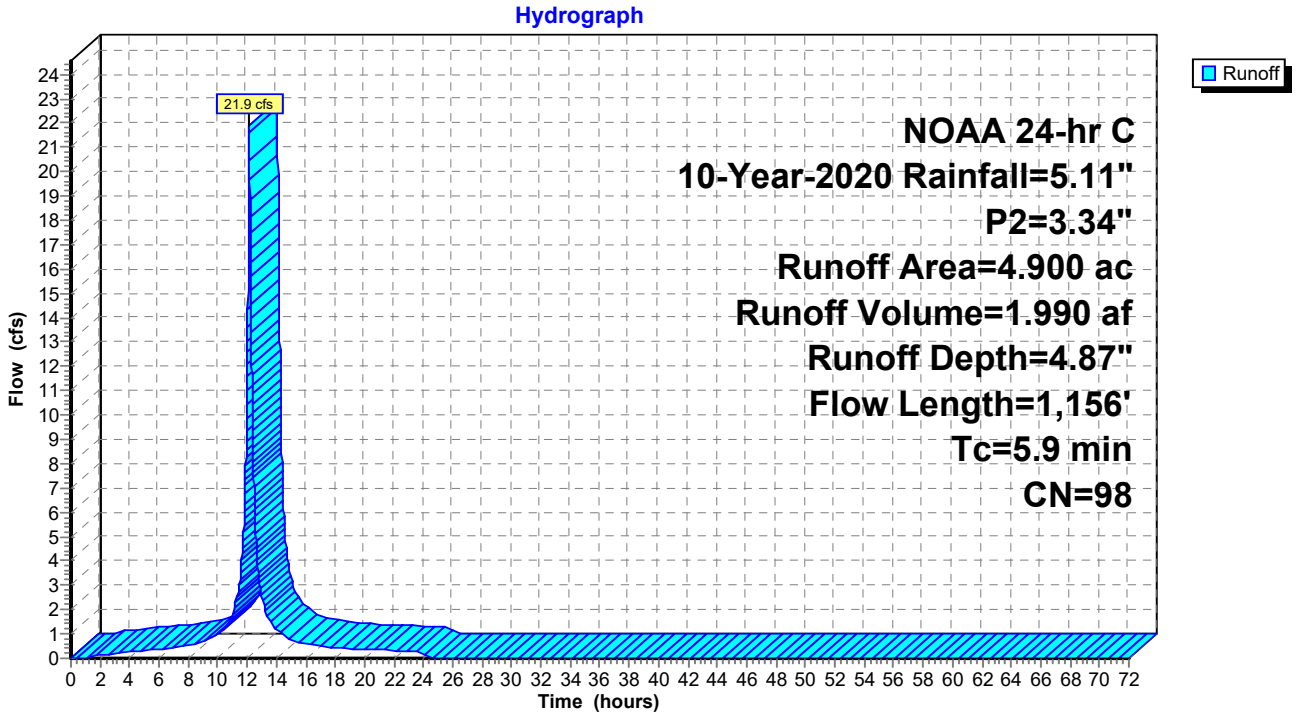
Runoff = 21.9 cfs @ 12.14 hrs, Volume= 1.990 af, Depth= 4.87"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
4.900	98	Paved parking, HSG A
4.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.41		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
1.0	142	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.9	1,156	Total			

Subcatchment E-Ai: eDA-A1i



Summary for Subcatchment E-Ap: eDA-A1p

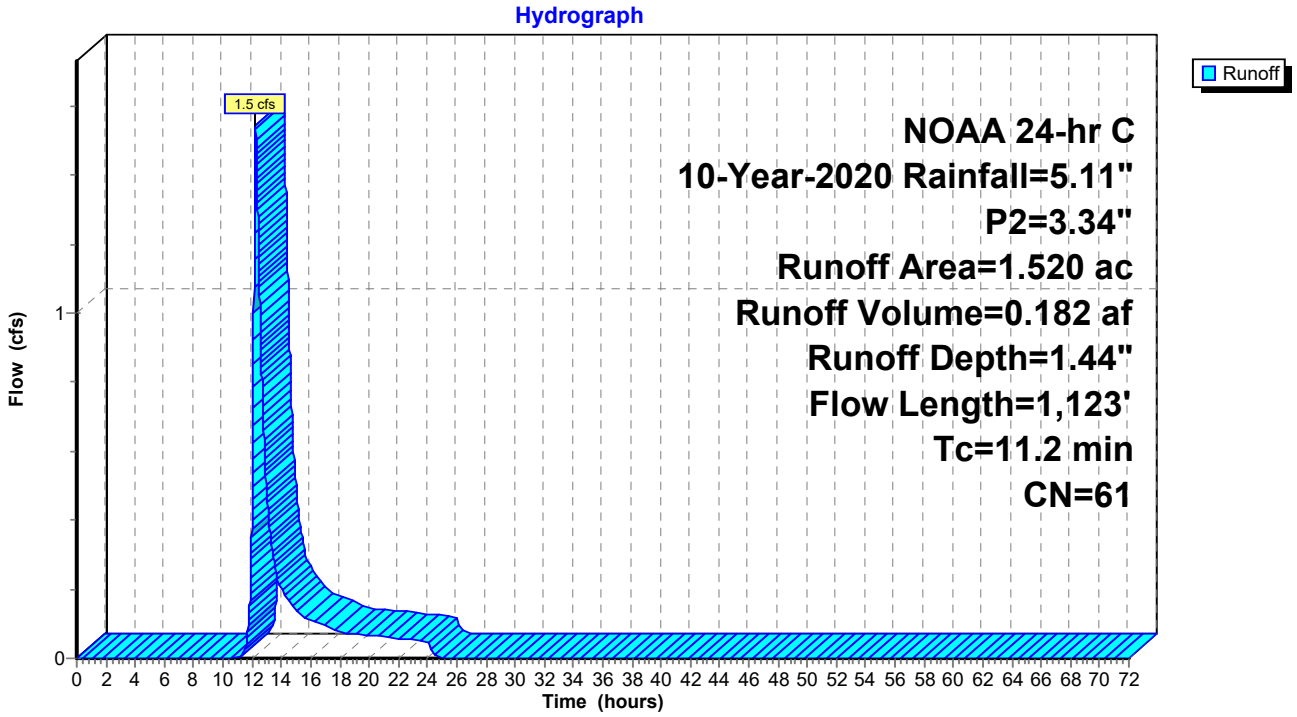
Runoff = 1.5 cfs @ 12.22 hrs, Volume= 0.182 af, Depth= 1.44"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.520	61	Weighted Average
1.520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	33	0.0200	0.10		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.9	67	0.0200	1.30		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.4	49	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	60	0.0020	2.66	4.70	**Pipe Channel, PIPE FLOW** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
11.2	1,123	Total			

Subcatchment E-Ap: eDA-A1p



Summary for Subcatchment E-Bi: eDA-B1i

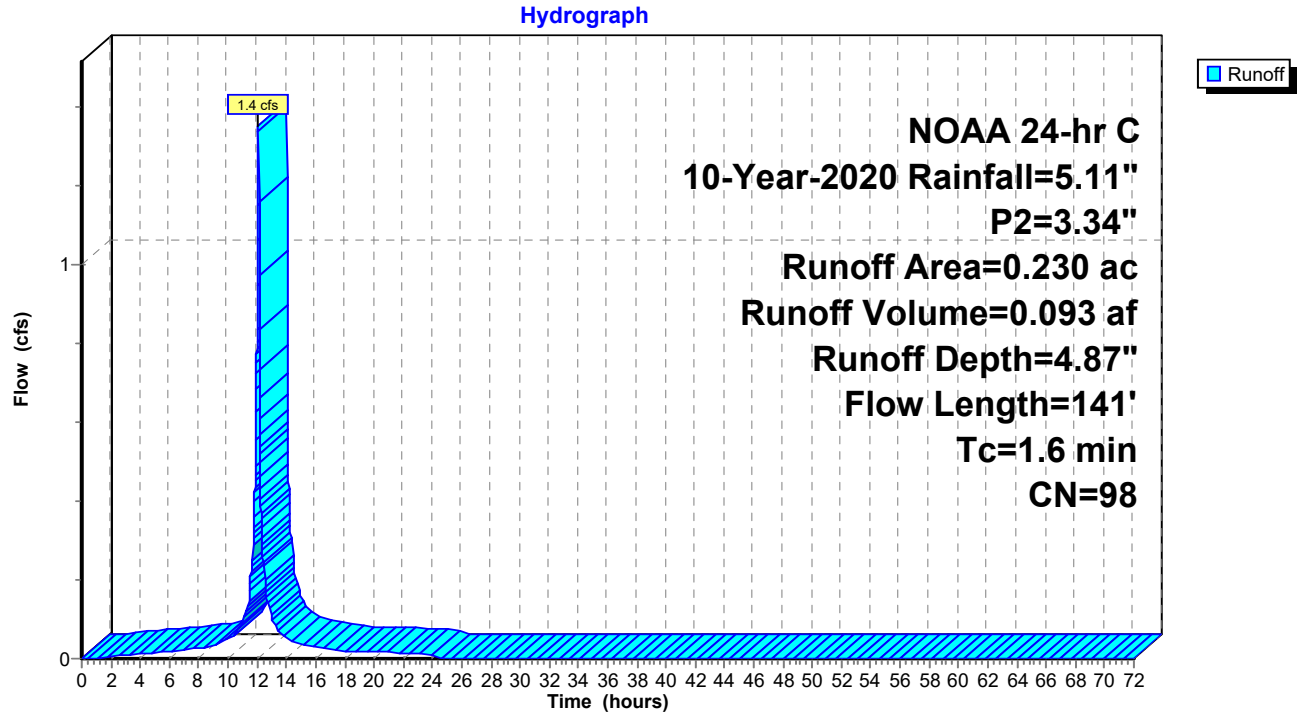
Runoff = 1.4 cfs @ 12.10 hrs, Volume= 0.093 af, Depth= 4.87"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
0.230	98	Paved parking, HSG A
0.230		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.25		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.2	23	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.1	18	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.6	141	Total			

Subcatchment E-Bi: eDA-B1i



Summary for Subcatchment E-Bp: eDA-B1p

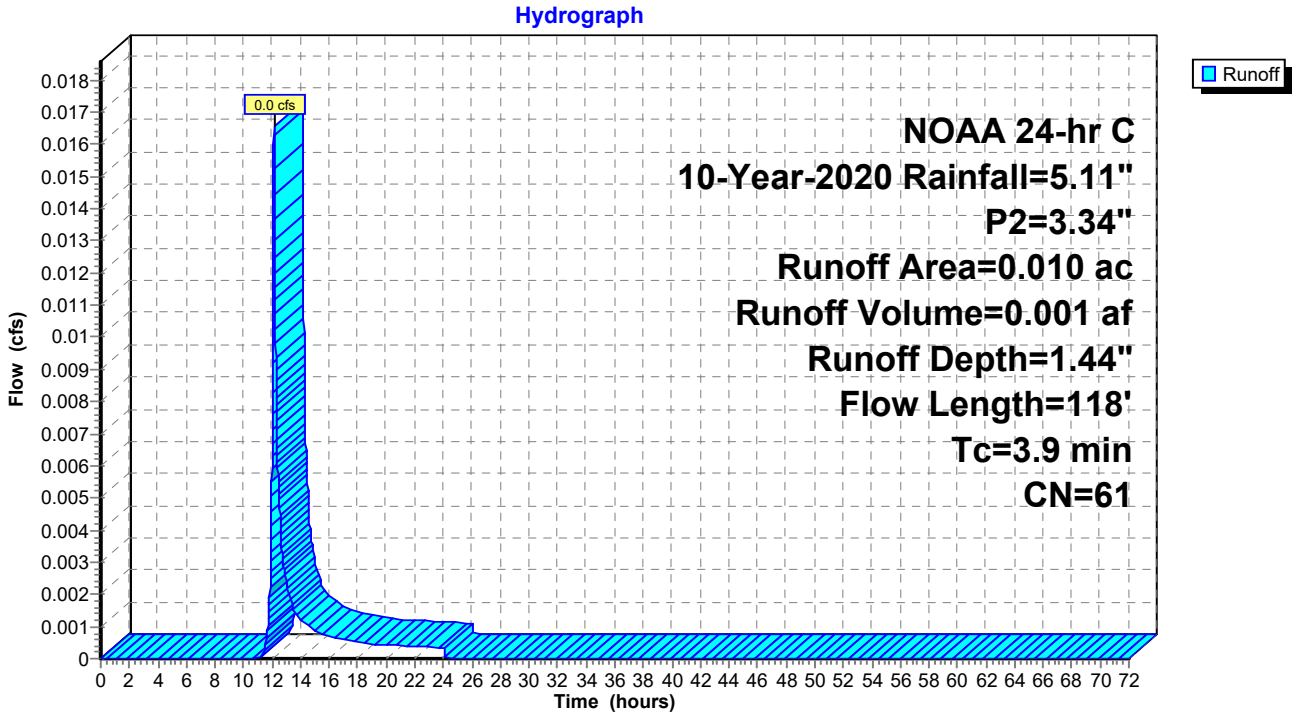
Runoff = 0.0 cfs @ 12.13 hrs, Volume= 0.001 af, Depth= 1.44"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
0.010	61	>75% Grass cover, Good, HSG B
0.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	13	0.0200	0.08		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
1.1	87	0.0200	1.37		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.1	18	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
3.9	118	Total			

Subcatchment E-Bp: eDA-B1p



Summary for Subcatchment E-Ci: eDA-C1i

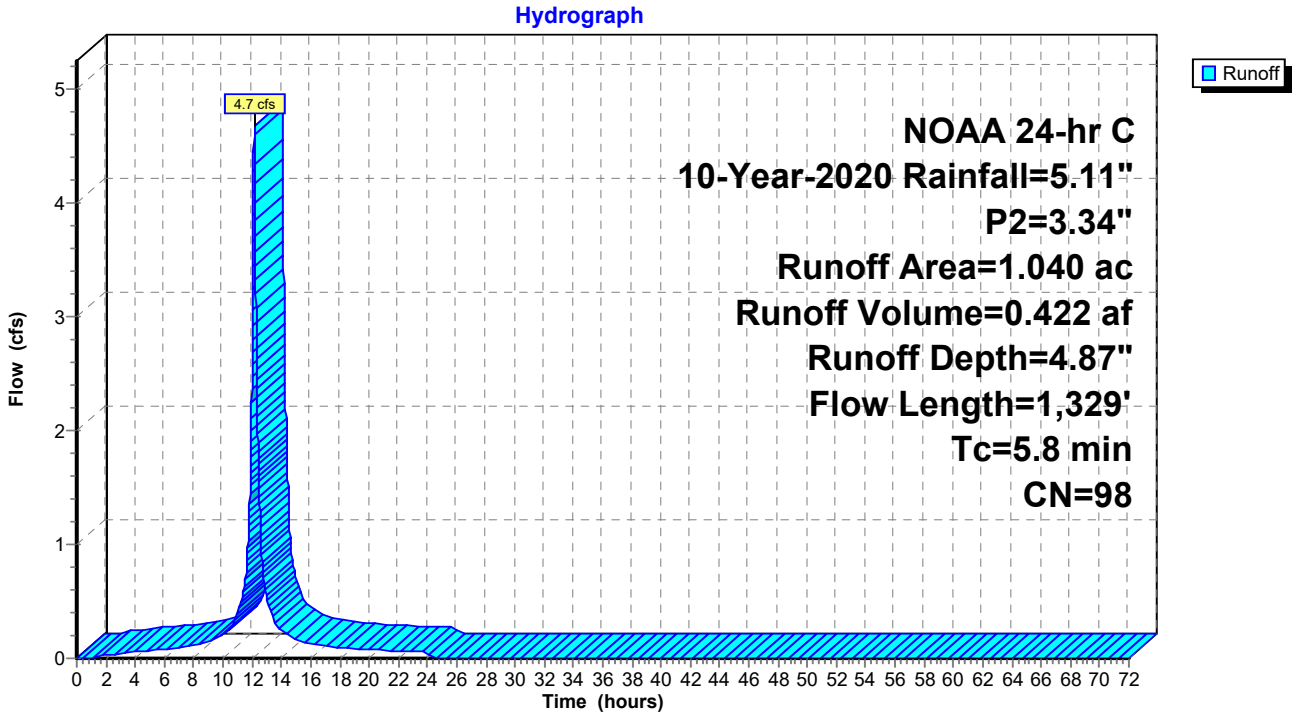
Runoff = 4.7 cfs @ 12.14 hrs, Volume= 0.422 af, Depth= 4.87"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
1.040	98	Paved parking, HSG A
1.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0220	1.46		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.9	130	0.0130	2.31		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.1	266	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,329	Total			

Subcatchment E-Ci: eDA-C1i



Summary for Subcatchment E-Cp: eDA-C1p

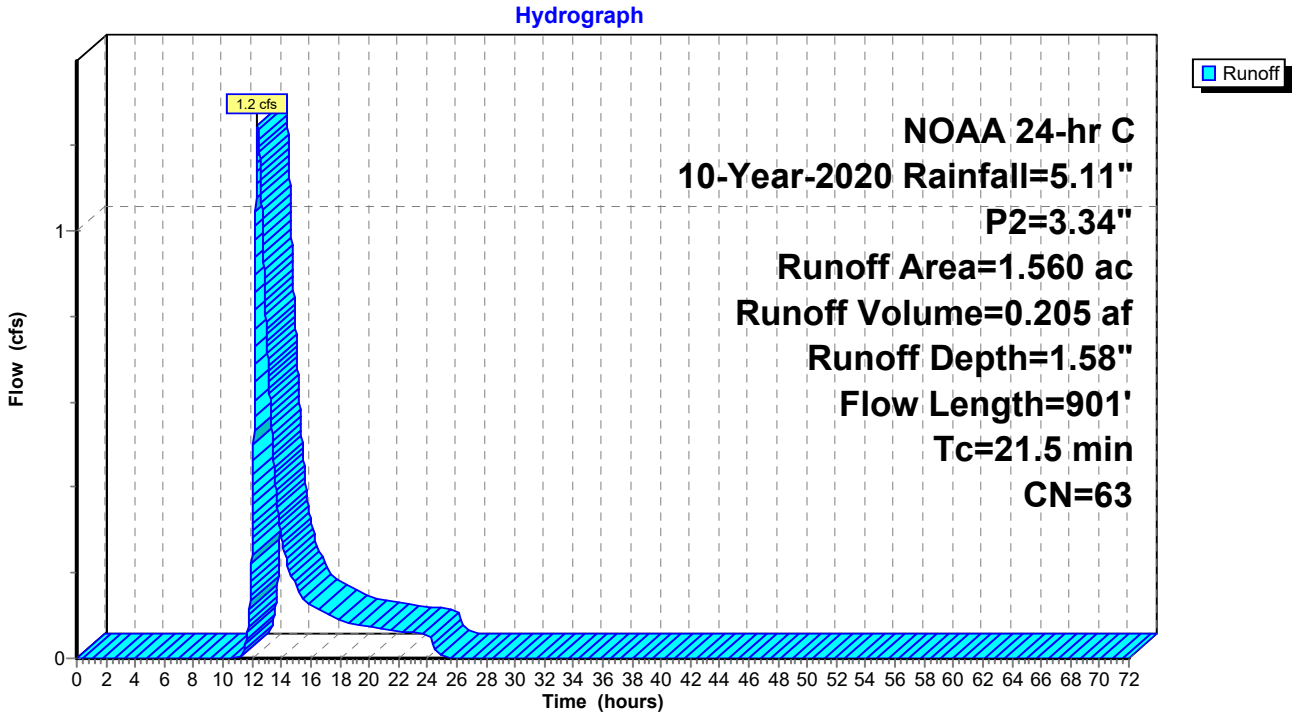
Runoff = 1.2 cfs @ 12.38 hrs, Volume= 0.205 af, Depth= 1.58"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
0.200	74	>75% Grass cover, Good, HSG C
1.360	61	>75% Grass cover, Good, HSG B
1.560	63	Weighted Average
1.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	55	0.0100	0.08		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
5.1	45	0.0200	0.15		**Sheet Flow, SHEET GRASS** Grass: Short n= 0.150 P2= 3.34"
2.3	22	0.0350	0.16		**Sheet Flow, SHALLOW GRASS** Grass: Short n= 0.150 P2= 3.34"
0.2	42	0.0260	3.27		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	57	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
21.5	901	Total			

Subcatchment E-Cp: eDA-C1p

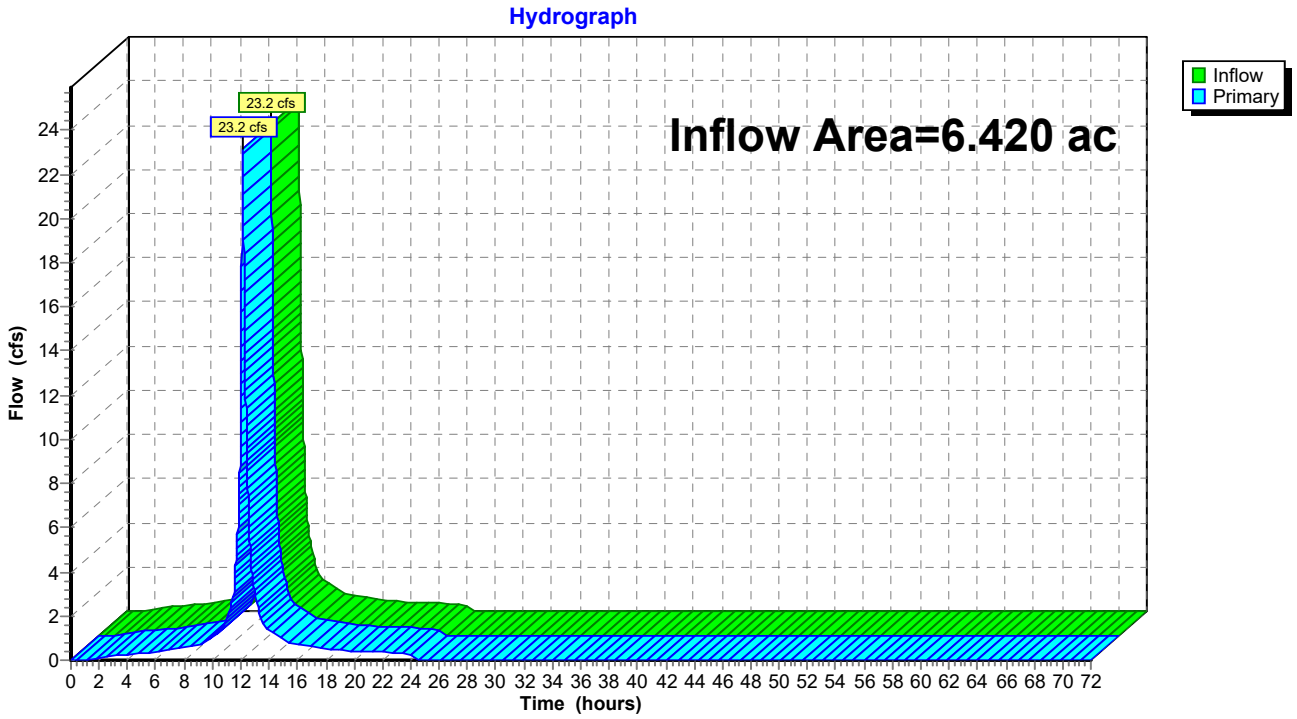


Summary for Link POI A Ex: POI A

Inflow Area = 6.420 ac, 76.32% Impervious, Inflow Depth = 4.06" for 10-Year-2020 event
Inflow = 23.2 cfs @ 12.14 hrs, Volume= 2.172 af
Primary = 23.2 cfs @ 12.14 hrs, Volume= 2.172 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Ex: POI A

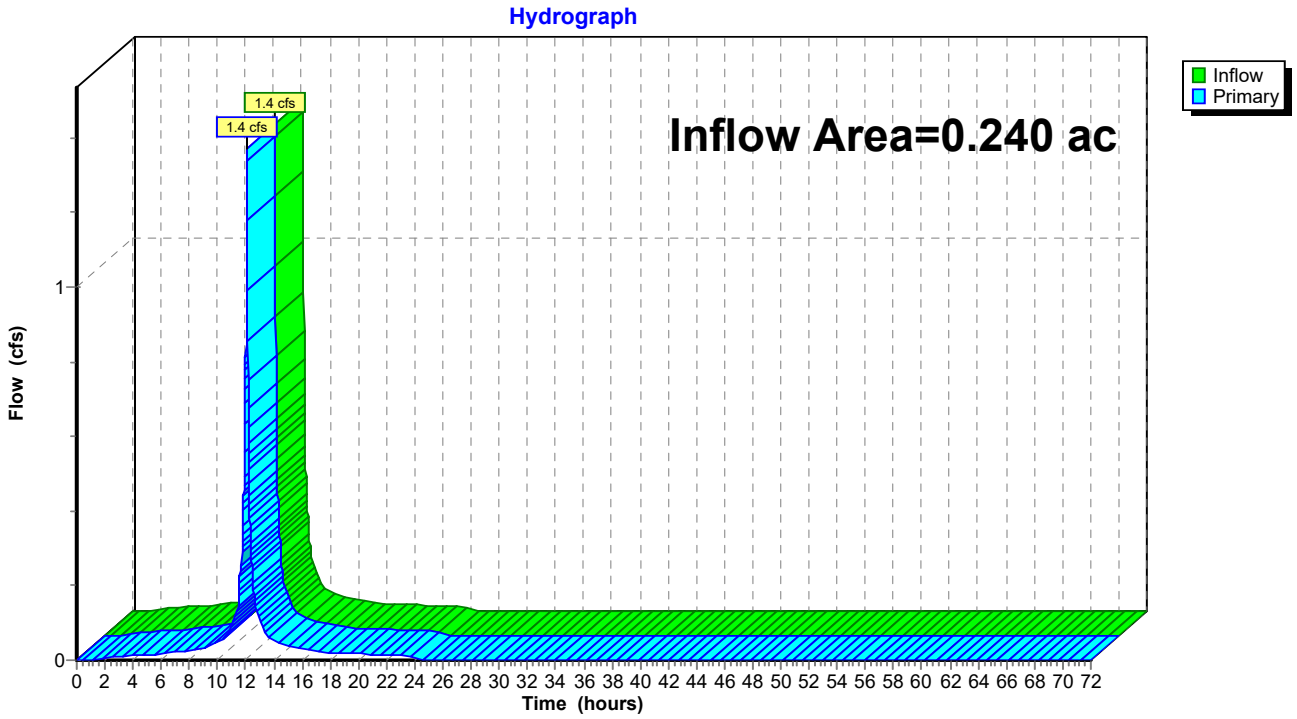


Summary for Link POI B Ex: POI B

Inflow Area = 0.240 ac, 95.83% Impervious, Inflow Depth = 4.73" for 10-Year-2020 event
Inflow = 1.4 cfs @ 12.10 hrs, Volume= 0.095 af
Primary = 1.4 cfs @ 12.10 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Ex: POI B

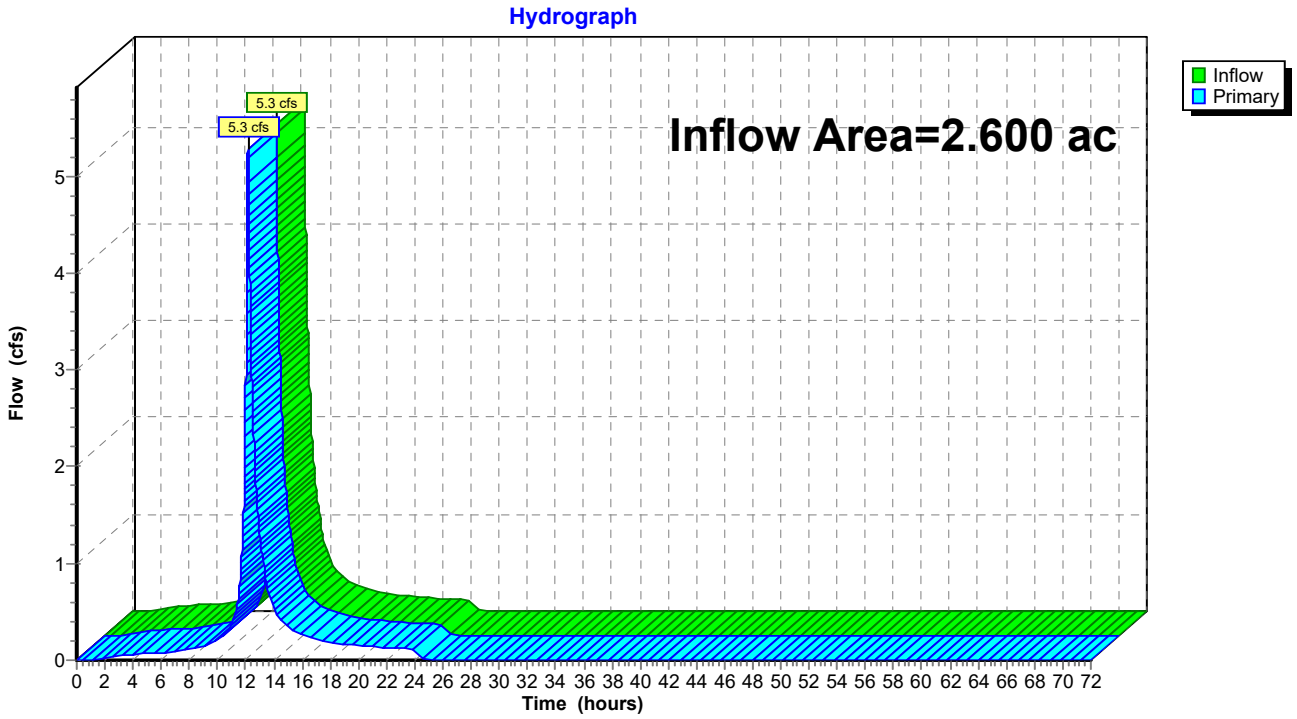


Summary for Link POI C Ex: POI C

Inflow Area = 2.600 ac, 40.00% Impervious, Inflow Depth = 2.90" for 10-Year-2020 event
Inflow = 5.3 cfs @ 12.14 hrs, Volume= 0.628 af
Primary = 5.3 cfs @ 12.14 hrs, Volume= 0.628 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Ex: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-Ai: eDA-A1i Runoff Area=4.900 ac 100.00% Impervious Runoff Depth=8.42"
Flow Length=1,156' Tc=5.9 min CN=98 Runoff=37.3 cfs 3.438 af

SubcatchmentE-Ap: eDA-A1p Runoff Area=1.520 ac 0.00% Impervious Runoff Depth=3.96"
Flow Length=1,123' Tc=11.2 min CN=61 Runoff=4.7 cfs 0.501 af

SubcatchmentE-Bi: eDA-B1i Runoff Area=0.230 ac 100.00% Impervious Runoff Depth=8.42"
Flow Length=141' Tc=1.6 min CN=98 Runoff=2.3 cfs 0.161 af

SubcatchmentE-Bp: eDA-B1p Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=3.96"
Flow Length=118' Tc=3.9 min CN=61 Runoff=0.0 cfs 0.003 af

SubcatchmentE-Ci: eDA-C1i Runoff Area=1.040 ac 100.00% Impervious Runoff Depth=8.42"
Flow Length=1,329' Tc=5.8 min CN=98 Runoff=8.0 cfs 0.730 af

SubcatchmentE-Cp: eDA-C1p Runoff Area=1.560 ac 0.00% Impervious Runoff Depth=4.19"
Flow Length=901' Tc=21.5 min CN=63 Runoff=3.6 cfs 0.545 af

Link POI A Ex: POI A Inflow=41.3 cfs 3.939 af
Primary=41.3 cfs 3.939 af

Link POI B Ex: POI B Inflow=2.3 cfs 0.165 af
Primary=2.3 cfs 0.165 af

Link POI C Ex: POI C Inflow=10.1 cfs 1.275 af
Primary=10.1 cfs 1.275 af

Total Runoff Area = 9.260 ac Runoff Volume = 5.379 af Average Runoff Depth = 6.97"
33.37% Pervious = 3.090 ac 66.63% Impervious = 6.170 ac

Summary for Subcatchment E-Ai: eDA-A1i

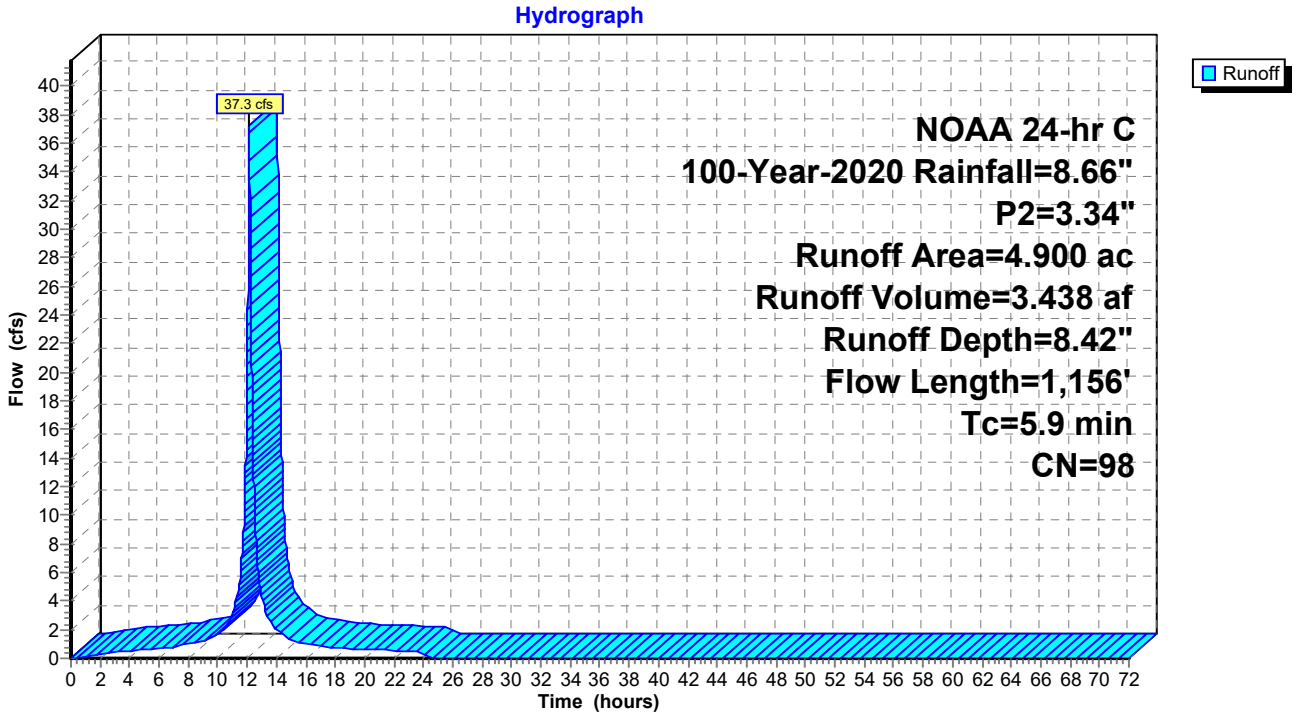
Runoff = 37.3 cfs @ 12.14 hrs, Volume= 3.438 af, Depth= 8.42"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
4.900	98	Paved parking, HSG A
4.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.41		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
1.0	142	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.9	1,156	Total			

Subcatchment E-Ai: eDA-A1i



Summary for Subcatchment E-Ap: eDA-A1p

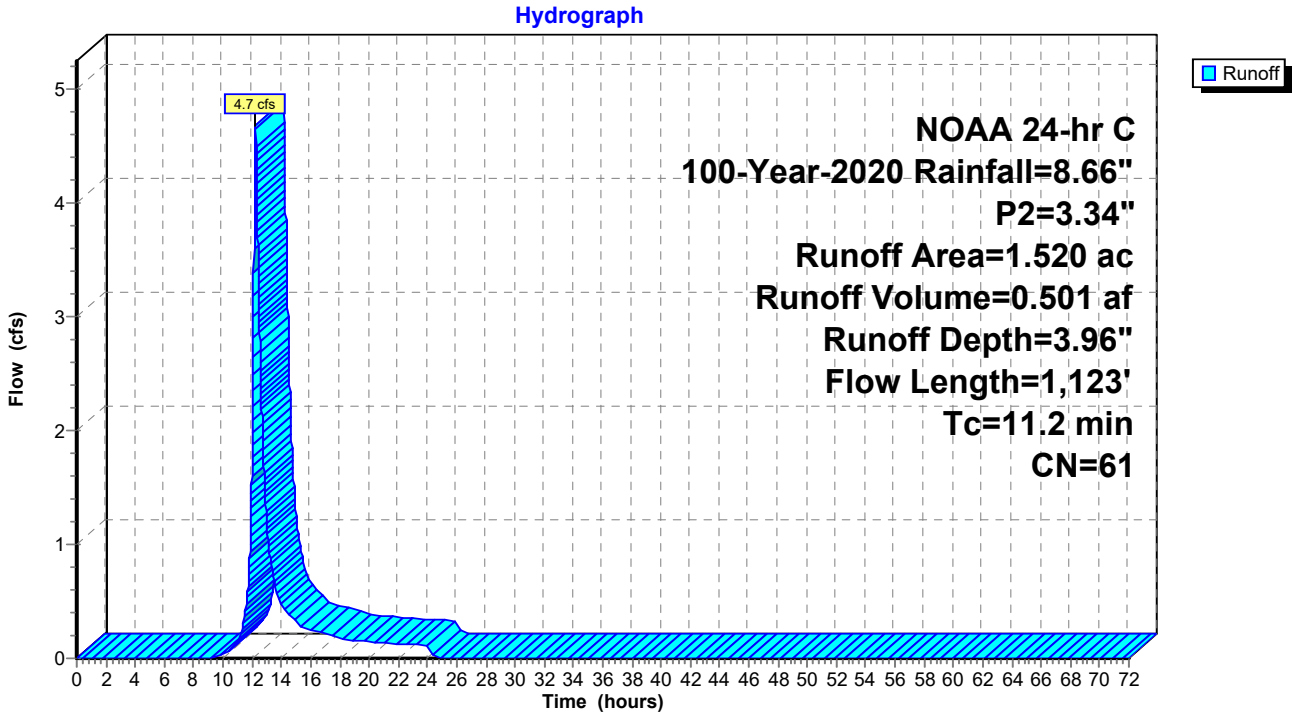
Runoff = 4.7 cfs @ 12.21 hrs, Volume= 0.501 af, Depth= 3.96"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.520	61	Weighted Average
1.520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	33	0.0200	0.10		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.9	67	0.0200	1.30		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.4	49	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	60	0.0020	2.66	4.70	**Pipe Channel, PIPE FLOW** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
11.2	1,123	Total			

Subcatchment E-Ap: eDA-A1p



Summary for Subcatchment E-Bi: eDA-B1i

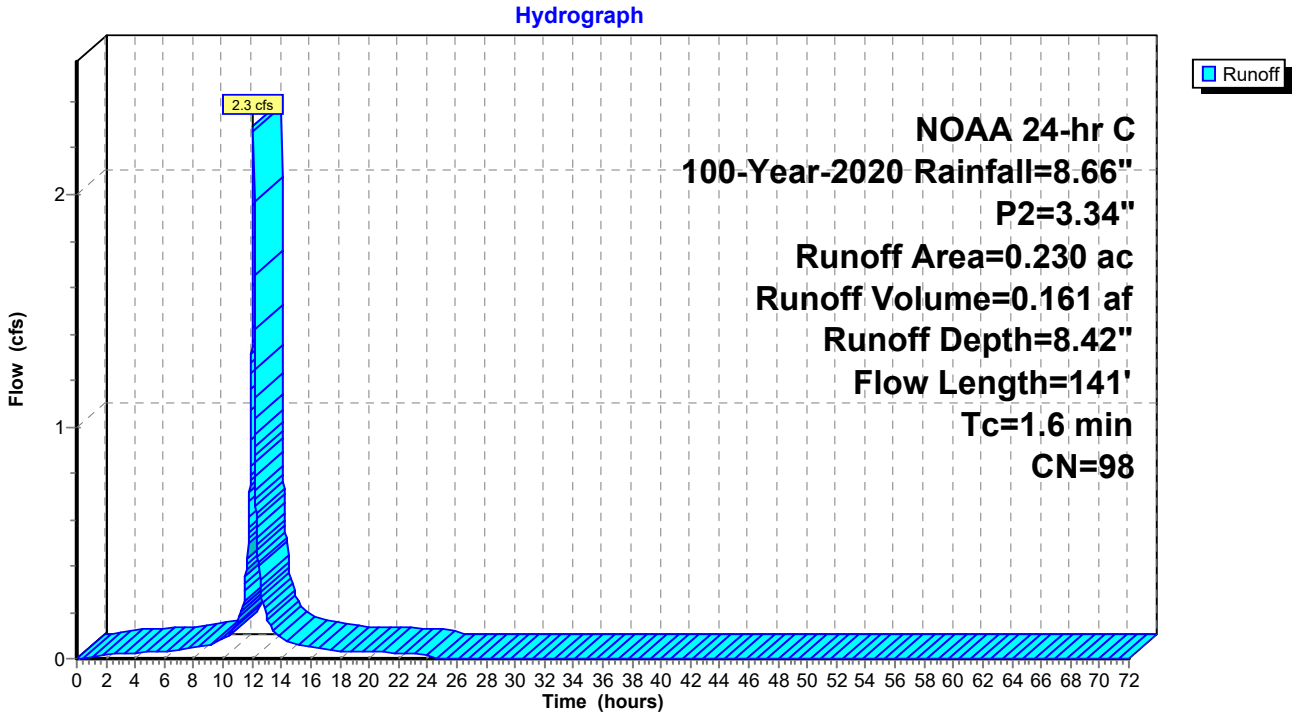
Runoff = 2.3 cfs @ 12.10 hrs, Volume= 0.161 af, Depth= 8.42"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
0.230	98	Paved parking, HSG A
0.230		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.25		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.2	23	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.1	18	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.6	141	Total			

Subcatchment E-Bi: eDA-B1i



Summary for Subcatchment E-Bp: eDA-B1p

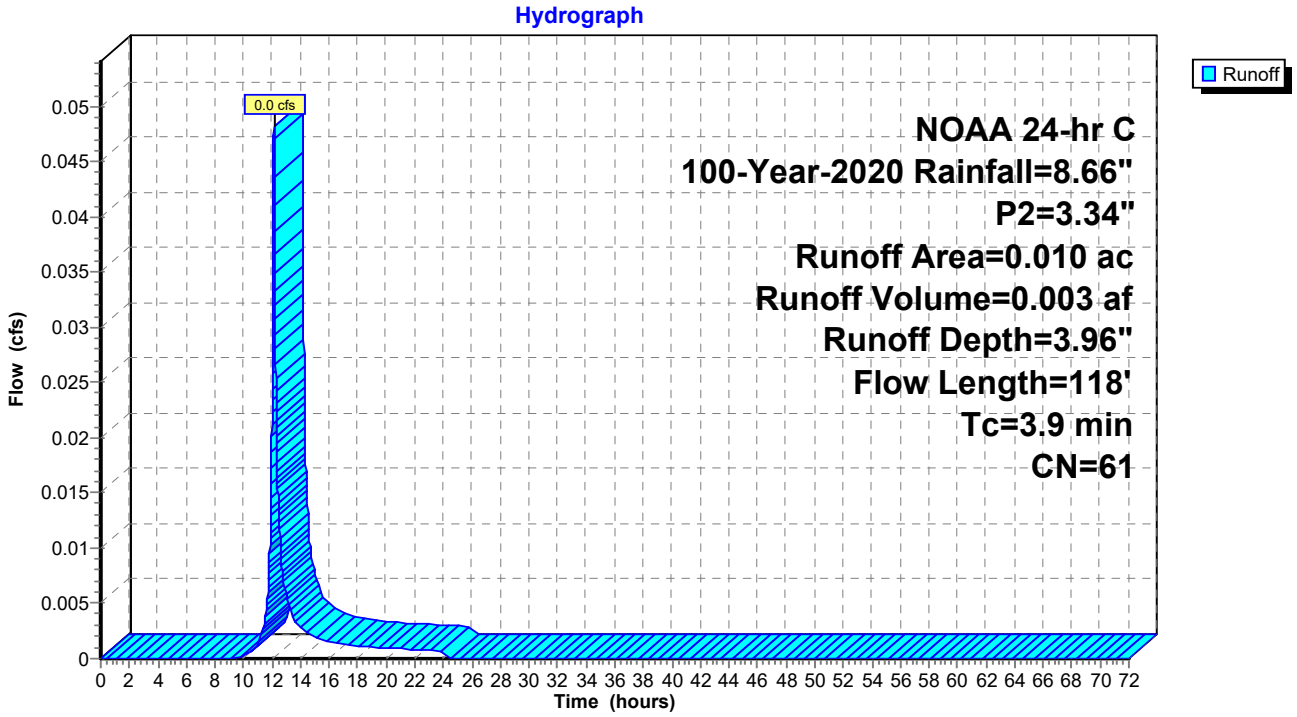
Runoff = 0.0 cfs @ 12.12 hrs, Volume= 0.003 af, Depth= 3.96"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
0.010	61	>75% Grass cover, Good, HSG B
0.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	13	0.0200	0.08		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
1.1	87	0.0200	1.37		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.1	18	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
3.9	118	Total			

Subcatchment E-Bp: eDA-B1p



Summary for Subcatchment E-Ci: eDA-C1i

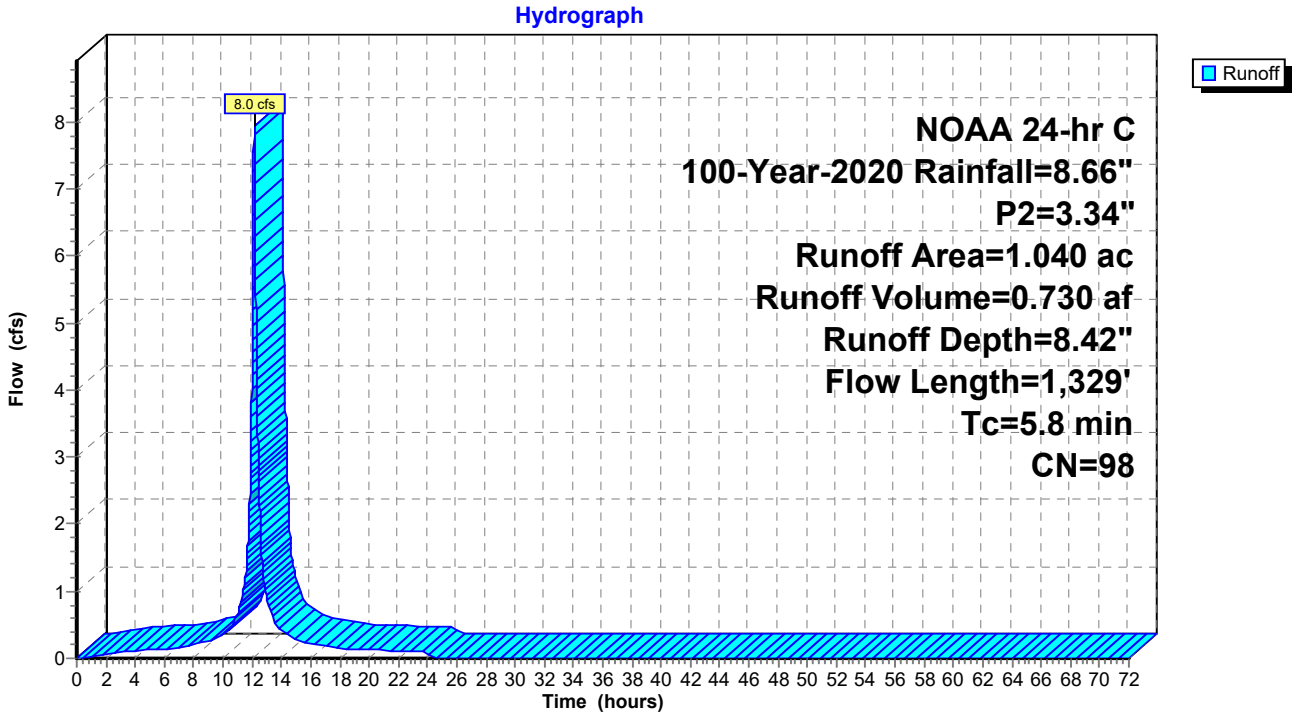
Runoff = 8.0 cfs @ 12.14 hrs, Volume= 0.730 af, Depth= 8.42"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
1.040	98	Paved parking, HSG A
1.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0220	1.46		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.9	130	0.0130	2.31		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.1	266	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,329	Total			

Subcatchment E-Ci: eDA-C1i



Summary for Subcatchment E-Cp: eDA-C1p

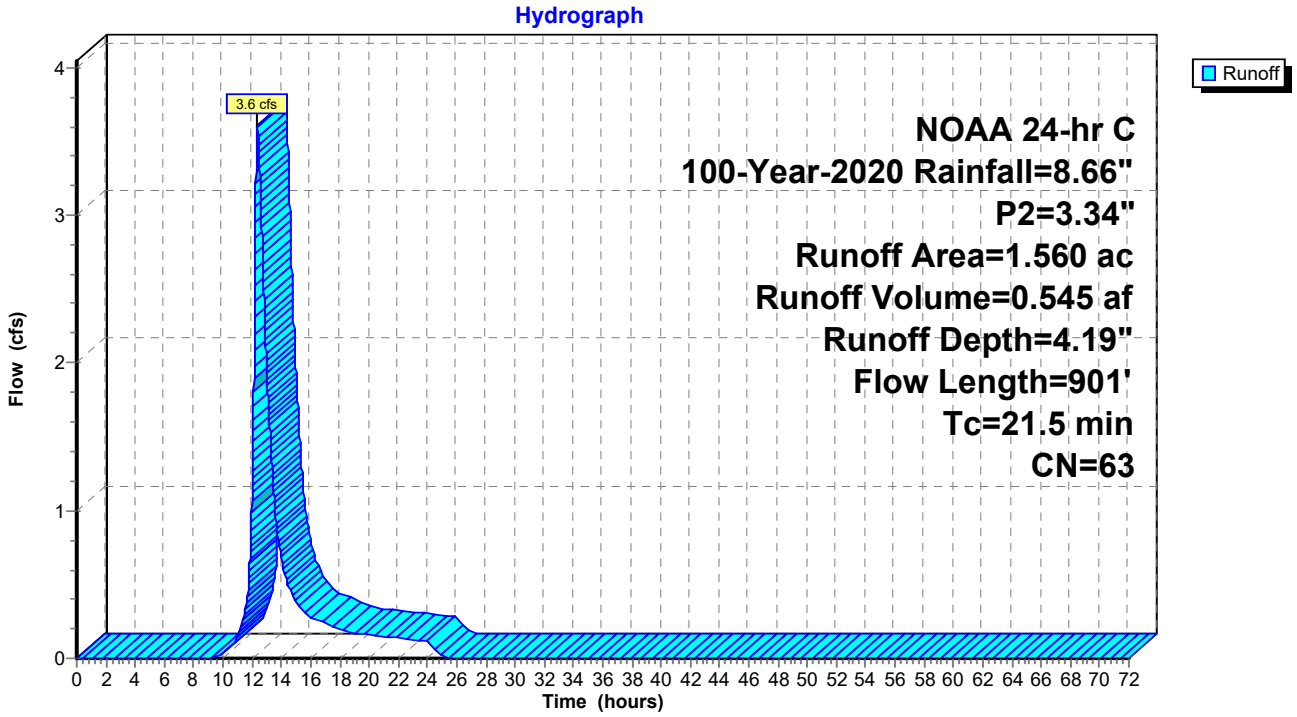
Runoff = 3.6 cfs @ 12.37 hrs, Volume= 0.545 af, Depth= 4.19"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
0.200	74	>75% Grass cover, Good, HSG C
1.360	61	>75% Grass cover, Good, HSG B
1.560	63	Weighted Average
1.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	55	0.0100	0.08		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
5.1	45	0.0200	0.15		**Sheet Flow, SHEET GRASS** Grass: Short n= 0.150 P2= 3.34"
2.3	22	0.0350	0.16		**Sheet Flow, SHALLOW GRASS** Grass: Short n= 0.150 P2= 3.34"
0.2	42	0.0260	3.27		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	57	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
21.5	901	Total			

Subcatchment E-Cp: eDA-C1p

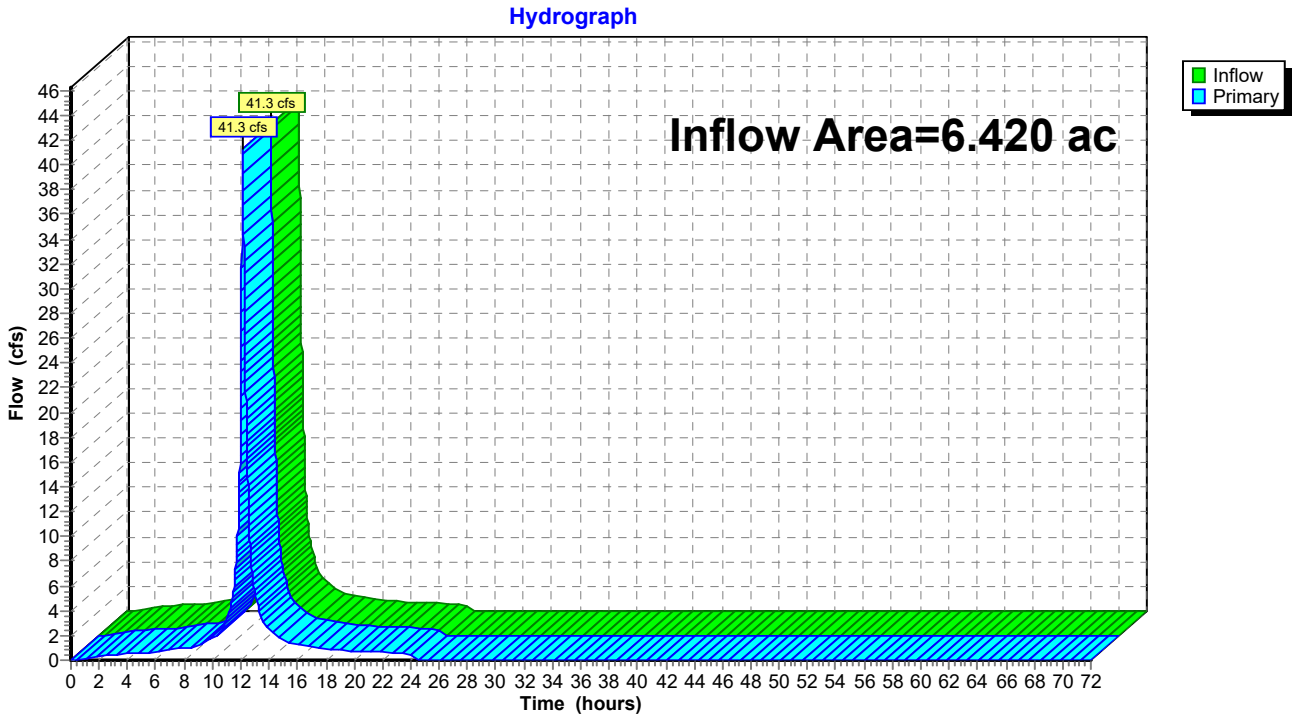


Summary for Link POI A Ex: POI A

Inflow Area = 6.420 ac, 76.32% Impervious, Inflow Depth = 7.36" for 100-Year-2020 event
Inflow = 41.3 cfs @ 12.14 hrs, Volume= 3.939 af
Primary = 41.3 cfs @ 12.14 hrs, Volume= 3.939 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Ex: POI A

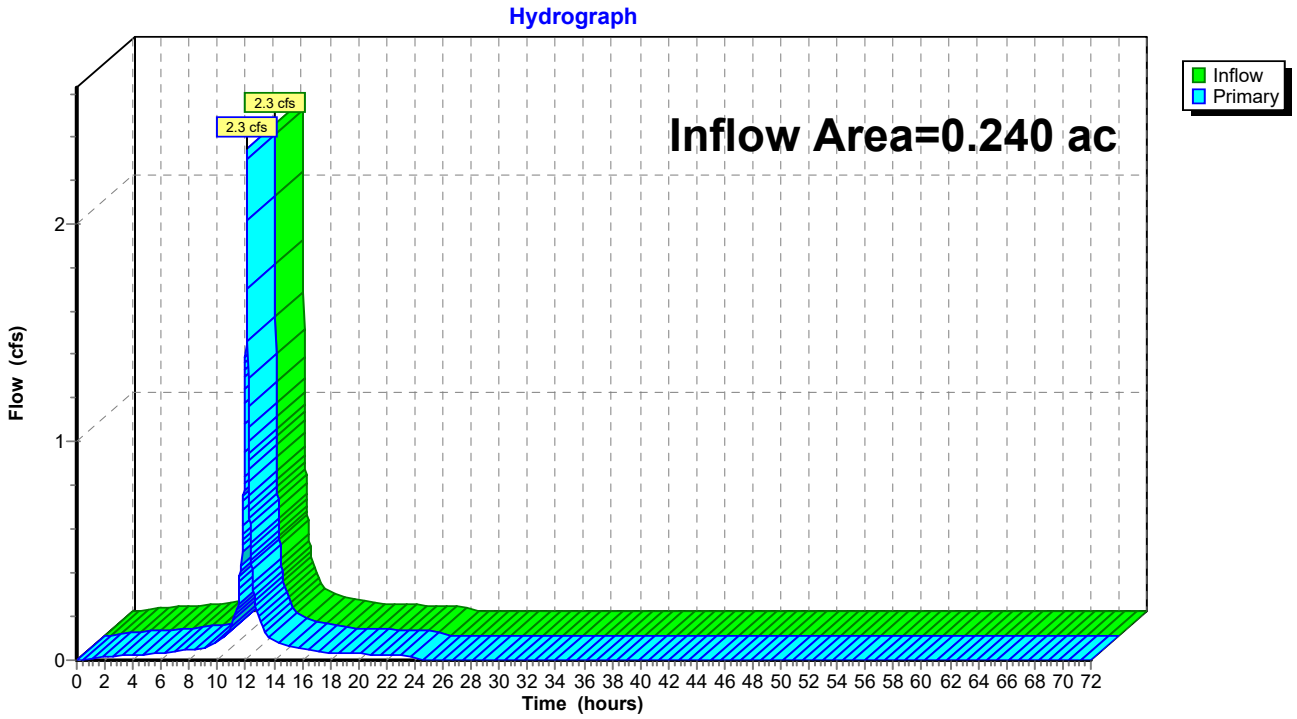


Summary for Link POI B Ex: POI B

Inflow Area = 0.240 ac, 95.83% Impervious, Inflow Depth = 8.23" for 100-Year-2020 event
Inflow = 2.3 cfs @ 12.10 hrs, Volume= 0.165 af
Primary = 2.3 cfs @ 12.10 hrs, Volume= 0.165 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Ex: POI B

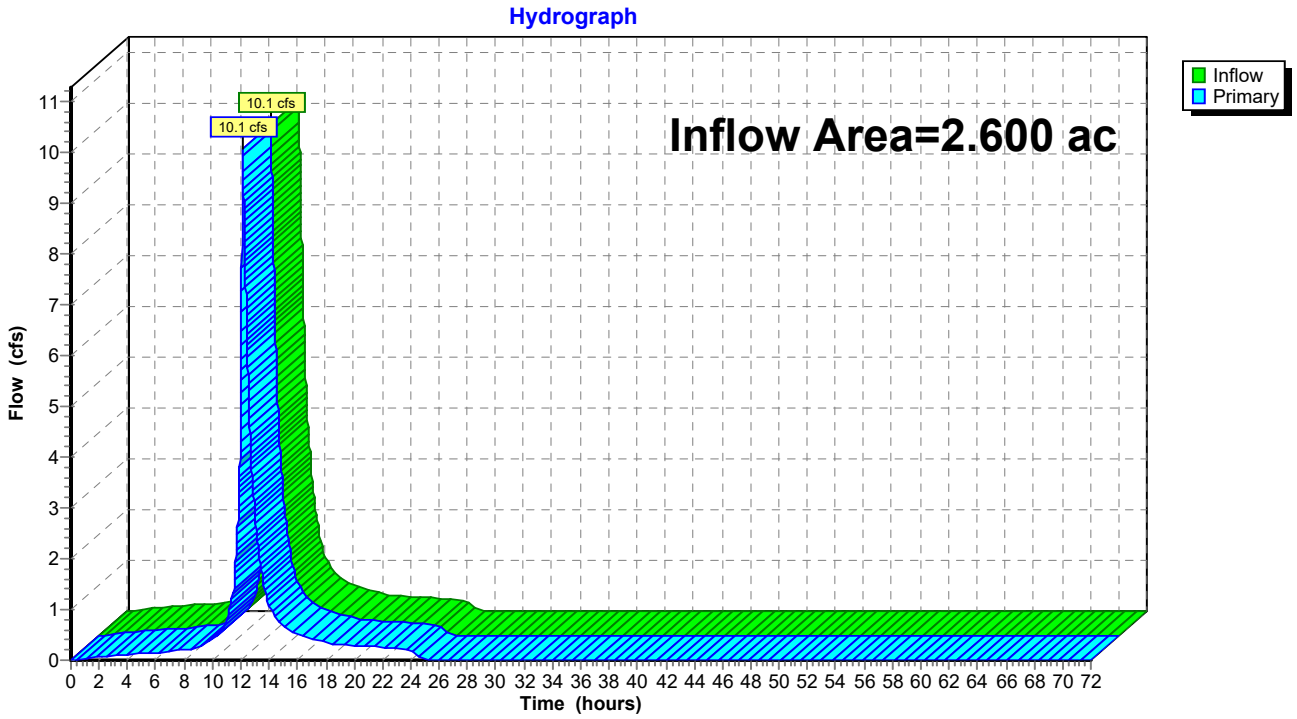


Summary for Link POI C Ex: POI C

Inflow Area = 2.600 ac, 40.00% Impervious, Inflow Depth = 5.88" for 100-Year-2020 event
Inflow = 10.1 cfs @ 12.15 hrs, Volume= 1.275 af
Primary = 10.1 cfs @ 12.15 hrs, Volume= 1.275 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Ex: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-Ai: eDA-A1i Runoff Area=4.900 ac 100.00% Impervious Runoff Depth=3.61"
Flow Length=1,156' Tc=5.8 min CN=98 Runoff=16.5 cfs 1.472 af

SubcatchmentE-Ap: eDA-A1p Runoff Area=1.520 ac 0.00% Impervious Runoff Depth=0.73"
Flow Length=1,123' Tc=10.7 min CN=61 Runoff=0.7 cfs 0.093 af

SubcatchmentE-Bi: eDA-B1i Runoff Area=0.230 ac 100.00% Impervious Runoff Depth=3.61"
Flow Length=141' Tc=1.5 min CN=98 Runoff=1.0 cfs 0.069 af

SubcatchmentE-Bp: eDA-B1p Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=0.73"
Flow Length=118' Tc=3.6 min CN=61 Runoff=0.0 cfs 0.001 af

SubcatchmentE-Ci: eDA-C1i Runoff Area=1.040 ac 100.00% Impervious Runoff Depth=3.61"
Flow Length=1,329' Tc=5.8 min CN=98 Runoff=3.5 cfs 0.312 af

SubcatchmentE-Cp: eDA-C1p Runoff Area=1.560 ac 0.00% Impervious Runoff Depth=0.83"
Flow Length=901' Tc=20.2 min CN=63 Runoff=0.6 cfs 0.108 af

Link POI A Ex: POI A Inflow=17.0 cfs 1.565 af
Primary=17.0 cfs 1.565 af

Link POI B Ex: POI B Inflow=1.0 cfs 0.070 af
Primary=1.0 cfs 0.070 af

Link POI C Ex: POI C Inflow=3.7 cfs 0.421 af
Primary=3.7 cfs 0.421 af

Total Runoff Area = 9.260 ac Runoff Volume = 2.055 af Average Runoff Depth = 2.66"
33.37% Pervious = 3.090 ac 66.63% Impervious = 6.170 ac

Summary for Subcatchment E-Ai: eDA-A1i

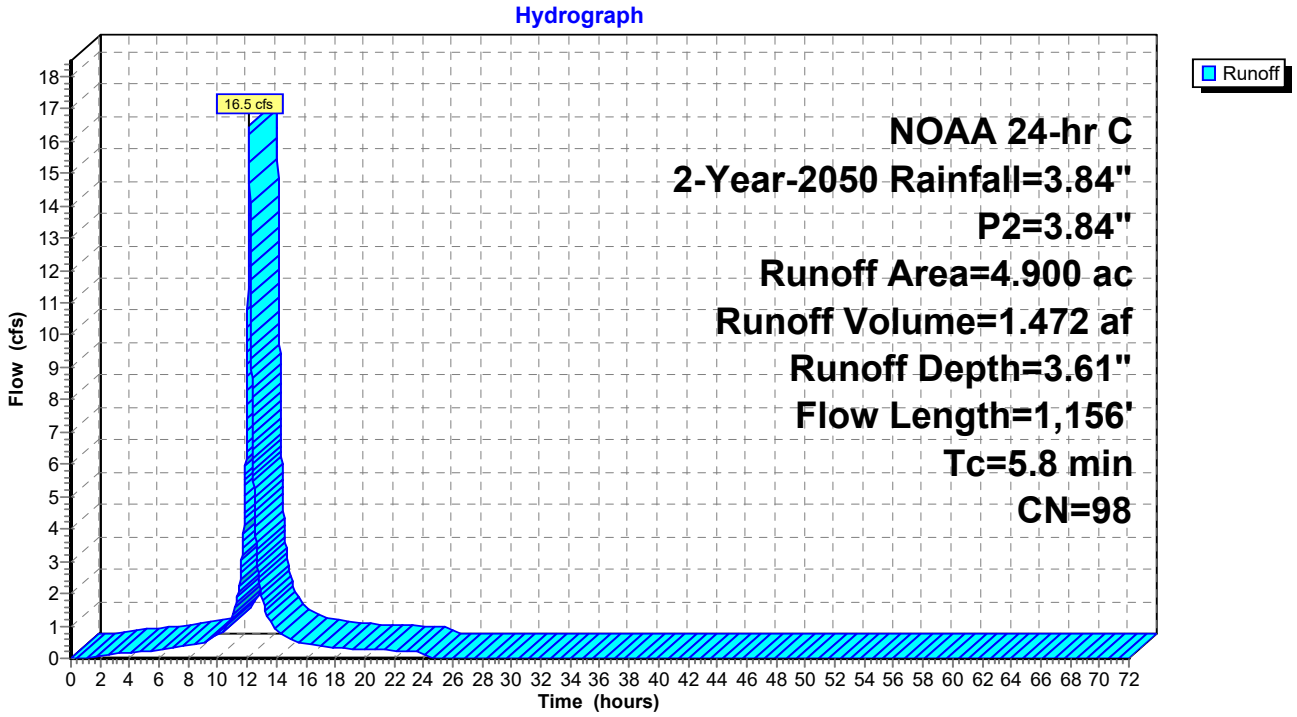
Runoff = 16.5 cfs @ 12.14 hrs, Volume= 1.472 af, Depth= 3.61"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
4.900	98	Paved parking, HSG A
4.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.51		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
1.0	142	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,156	Total			

Subcatchment E-Ai: eDA-A1i



Summary for Subcatchment E-Ap: eDA-A1p

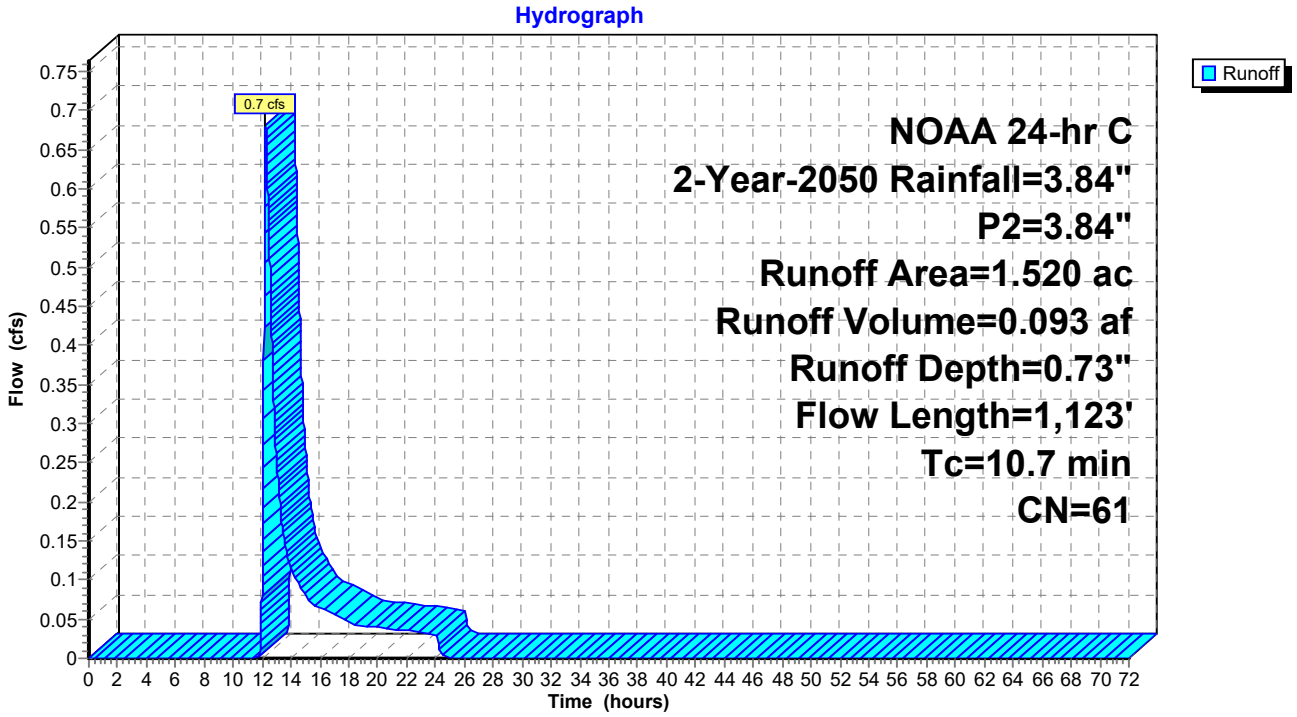
Runoff = 0.7 cfs @ 12.23 hrs, Volume= 0.093 af, Depth= 0.73"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.520	61	Weighted Average
1.520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	33	0.0200	0.10		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.8	67	0.0200	1.39		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.4	49	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	60	0.0020	2.66	4.70	**Pipe Channel, PIPE FLOW** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
10.7	1,123	Total			

Subcatchment E-Ap: eDA-A1p



Summary for Subcatchment E-Bi: eDA-B1i

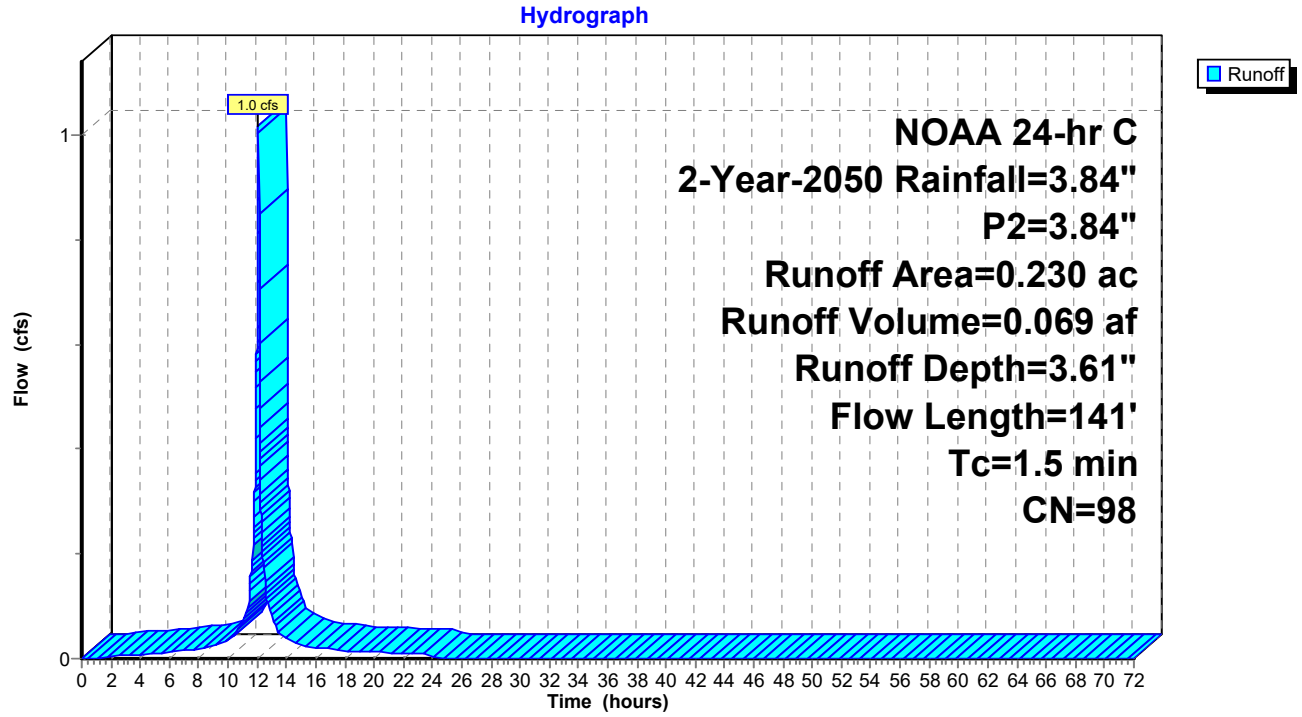
Runoff = 1.0 cfs @ 12.10 hrs, Volume= 0.069 af, Depth= 3.61"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
0.230	98	Paved parking, HSG A
0.230		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0150	1.34		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.2	23	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.1	18	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.5	141	Total			

Subcatchment E-Bi: eDA-B1i



Summary for Subcatchment E-Bp: eDA-B1p

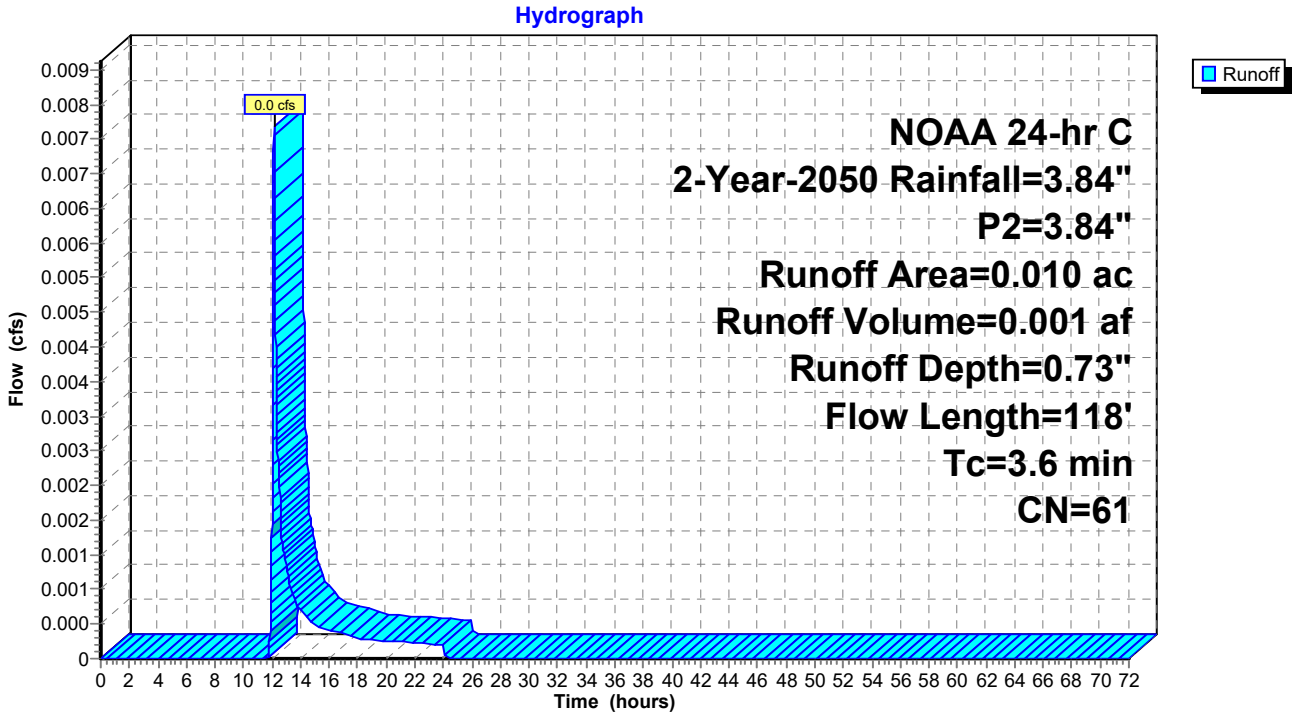
Runoff = 0.0 cfs @ 12.13 hrs, Volume= 0.001 af, Depth= 0.73"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
0.010	61	>75% Grass cover, Good, HSG B
0.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	13	0.0200	0.09		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
1.0	87	0.0200	1.47		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.1	18	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
3.6	118	Total			

Subcatchment E-Bp: eDA-B1p



Summary for Subcatchment E-Ci: eDA-C1i

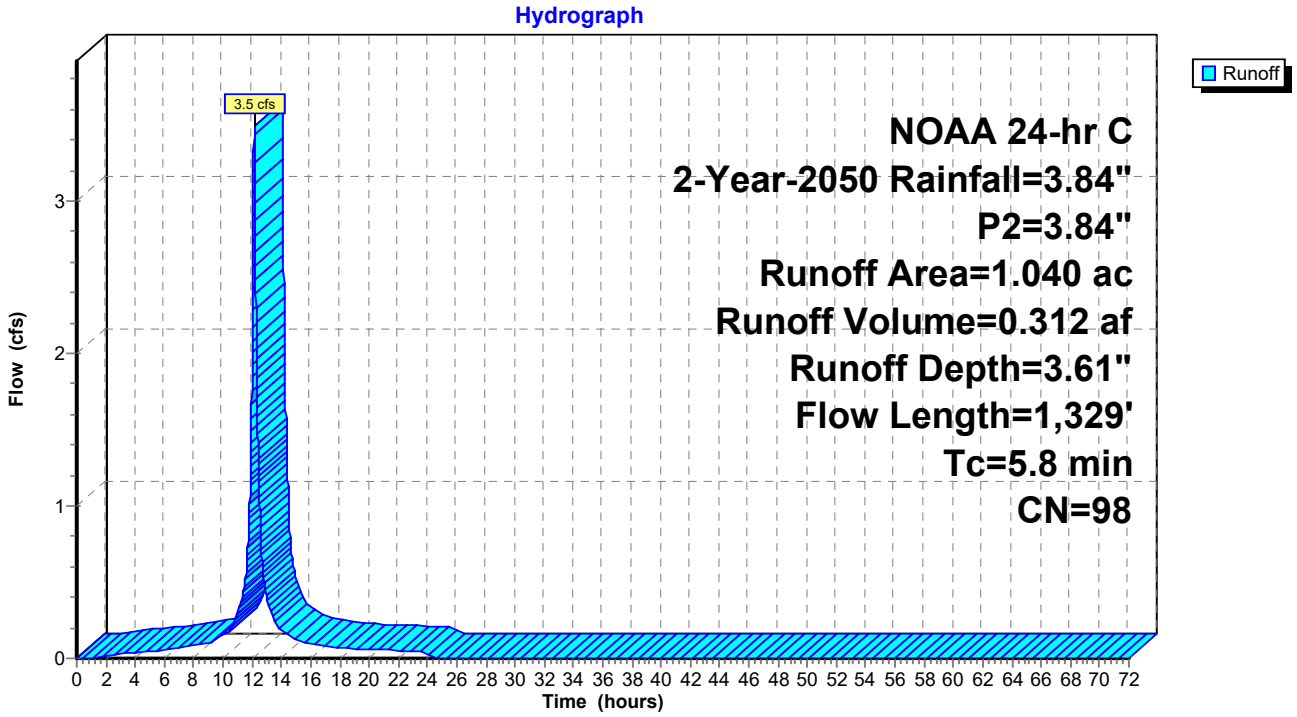
Runoff = 3.5 cfs @ 12.14 hrs, Volume= 0.312 af, Depth= 3.61"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
1.040	98	Paved parking, HSG A
1.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0220	1.57		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.9	130	0.0130	2.31		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.1	266	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,329	Total			

Subcatchment E-Ci: eDA-C1i



Summary for Subcatchment E-Cp: eDA-C1p

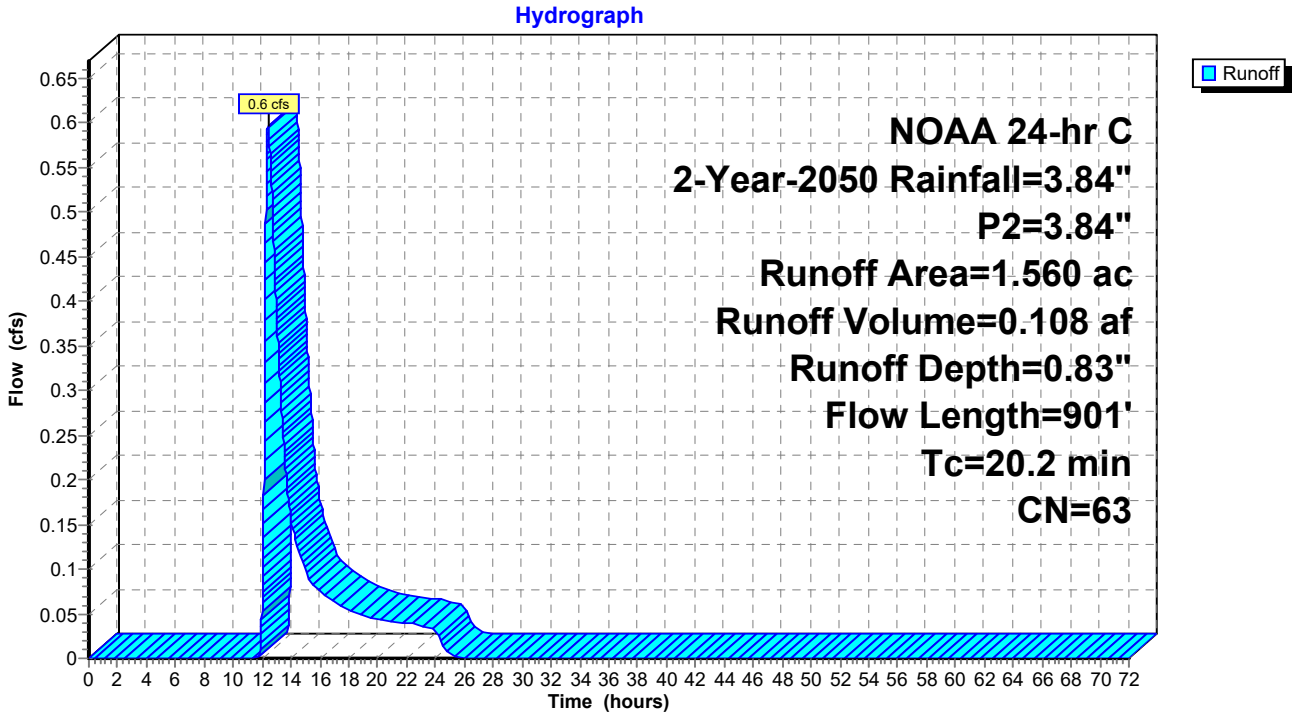
Runoff = 0.6 cfs @ 12.39 hrs, Volume= 0.108 af, Depth= 0.83"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
0.200	74	>75% Grass cover, Good, HSG C
1.360	61	>75% Grass cover, Good, HSG B
1.560	63	Weighted Average
1.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	55	0.0100	0.09		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
4.7	45	0.0200	0.16		**Sheet Flow, SHEET GRASS** Grass: Short n= 0.150 P2= 3.84"
2.1	22	0.0350	0.17		**Sheet Flow, SHALLOW GRASS** Grass: Short n= 0.150 P2= 3.84"
0.2	42	0.0260	3.27		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	57	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
20.2	901	Total			

Subcatchment E-Cp: eDA-C1p

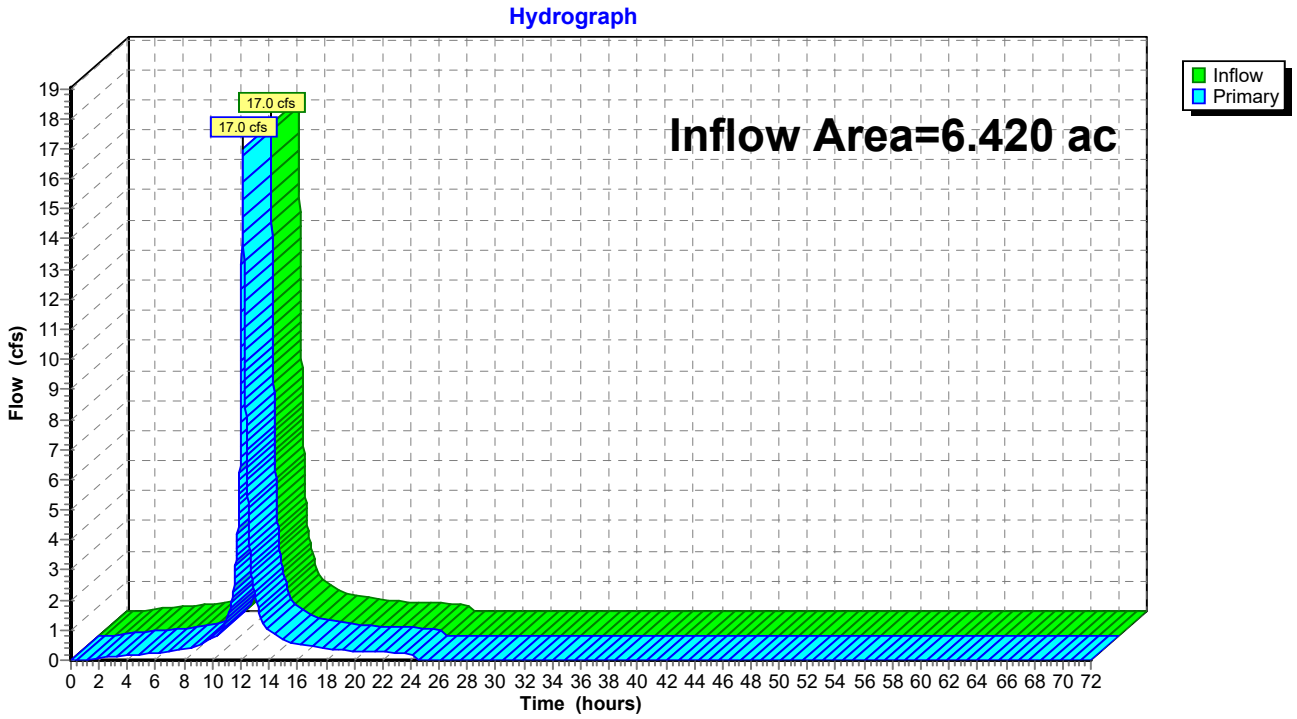


Summary for Link POI A Ex: POI A

Inflow Area = 6.420 ac, 76.32% Impervious, Inflow Depth = 2.93" for 2-Year-2050 event
Inflow = 17.0 cfs @ 12.14 hrs, Volume= 1.565 af
Primary = 17.0 cfs @ 12.14 hrs, Volume= 1.565 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Ex: POI A

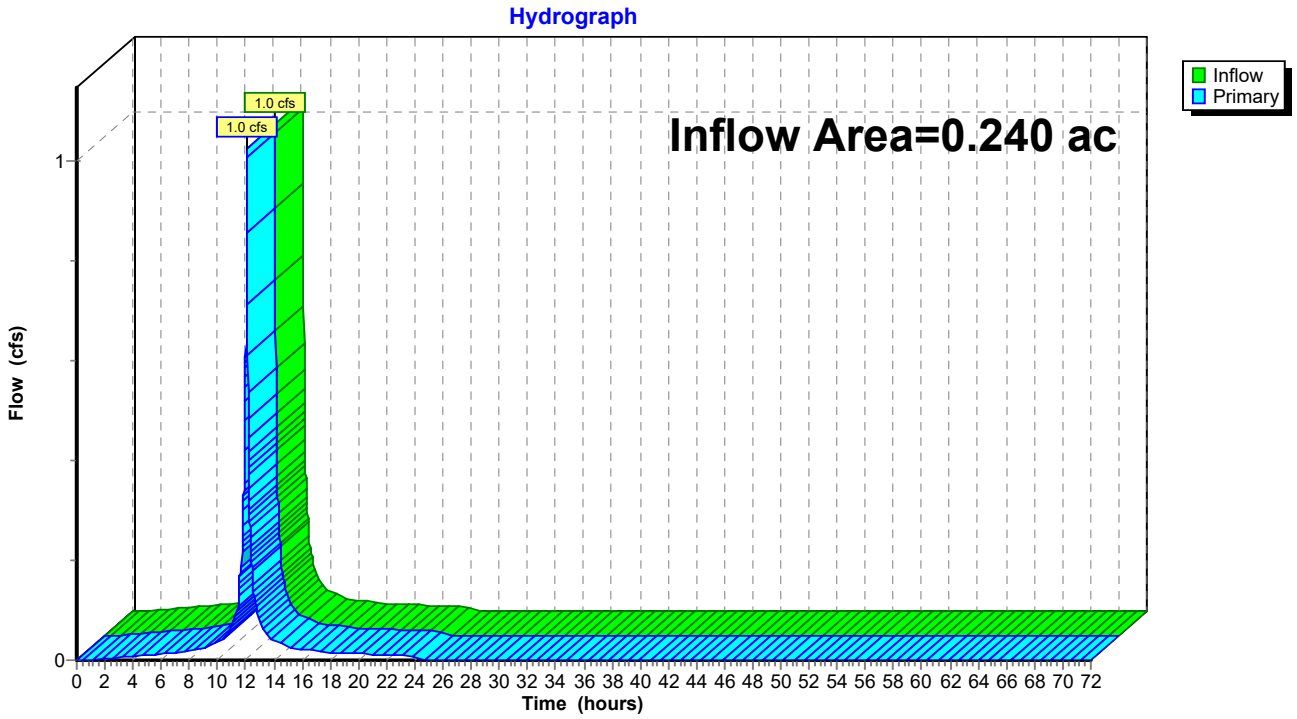


Summary for Link POI B Ex: POI B

Inflow Area = 0.240 ac, 95.83% Impervious, Inflow Depth = 3.49" for 2-Year-2050 event
Inflow = 1.0 cfs @ 12.10 hrs, Volume= 0.070 af
Primary = 1.0 cfs @ 12.10 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Ex: POI B

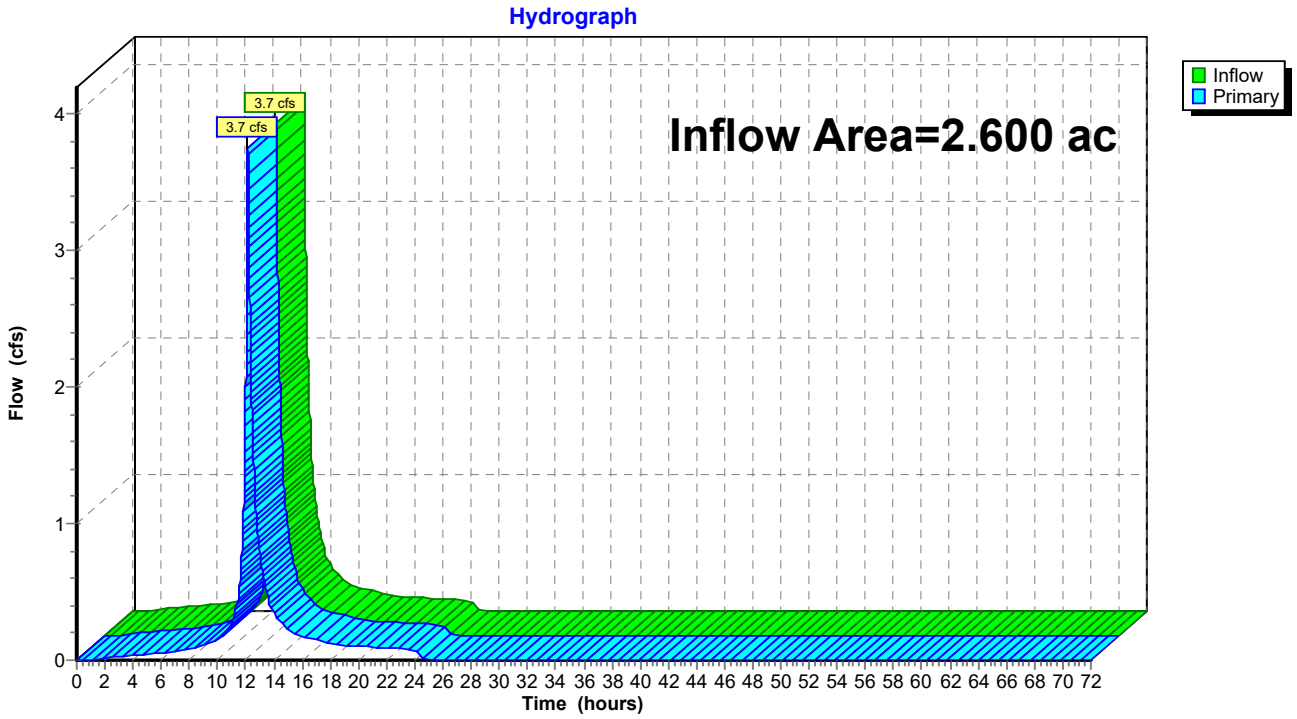


Summary for Link POI C Ex: POI C

Inflow Area = 2.600 ac, 40.00% Impervious, Inflow Depth = 1.94" for 2-Year-2050 event
Inflow = 3.7 cfs @ 12.14 hrs, Volume= 0.421 af
Primary = 3.7 cfs @ 12.14 hrs, Volume= 0.421 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Ex: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-Ai: eDA-A1i Runoff Area=4.900 ac 100.00% Impervious Runoff Depth=5.62"
Flow Length=1,156' Tc=5.8 min CN=98 Runoff=25.3 cfs 2.296 af

SubcatchmentE-Ap: eDA-A1p Runoff Area=1.520 ac 0.00% Impervious Runoff Depth=1.91"
Flow Length=1,123' Tc=10.7 min CN=61 Runoff=2.2 cfs 0.242 af

SubcatchmentE-Bi: eDA-B1i Runoff Area=0.230 ac 100.00% Impervious Runoff Depth=5.62"
Flow Length=141' Tc=1.5 min CN=98 Runoff=1.6 cfs 0.108 af

SubcatchmentE-Bp: eDA-B1p Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=1.91"
Flow Length=118' Tc=3.6 min CN=61 Runoff=0.0 cfs 0.002 af

SubcatchmentE-Ci: eDA-C1i Runoff Area=1.040 ac 100.00% Impervious Runoff Depth=5.62"
Flow Length=1,329' Tc=5.8 min CN=98 Runoff=5.4 cfs 0.487 af

SubcatchmentE-Cp: eDA-C1p Runoff Area=1.560 ac 0.00% Impervious Runoff Depth=2.08"
Flow Length=901' Tc=20.2 min CN=63 Runoff=1.8 cfs 0.270 af

Link POI A Ex: POI A Inflow=27.1 cfs 2.538 af
Primary=27.1 cfs 2.538 af

Link POI B Ex: POI B Inflow=1.6 cfs 0.109 af
Primary=1.6 cfs 0.109 af

Link POI C Ex: POI C Inflow=6.3 cfs 0.758 af
Primary=6.3 cfs 0.758 af

Total Runoff Area = 9.260 ac Runoff Volume = 3.405 af Average Runoff Depth = 4.41"
33.37% Pervious = 3.090 ac 66.63% Impervious = 6.170 ac

Summary for Subcatchment E-Ai: eDA-A1i

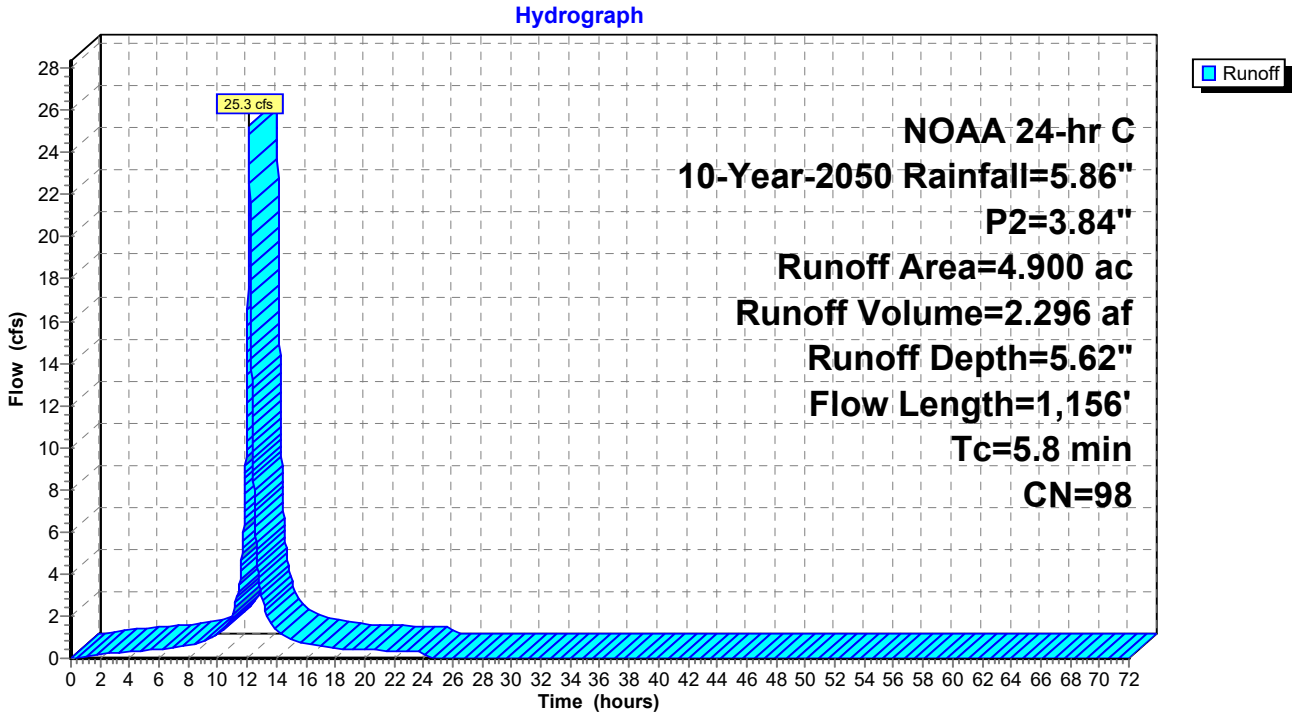
Runoff = 25.3 cfs @ 12.14 hrs, Volume= 2.296 af, Depth= 5.62"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
4.900	98	Paved parking, HSG A
4.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.51		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
1.0	142	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,156	Total			

Subcatchment E-Ai: eDA-A1i



Summary for Subcatchment E-Ap: eDA-A1p

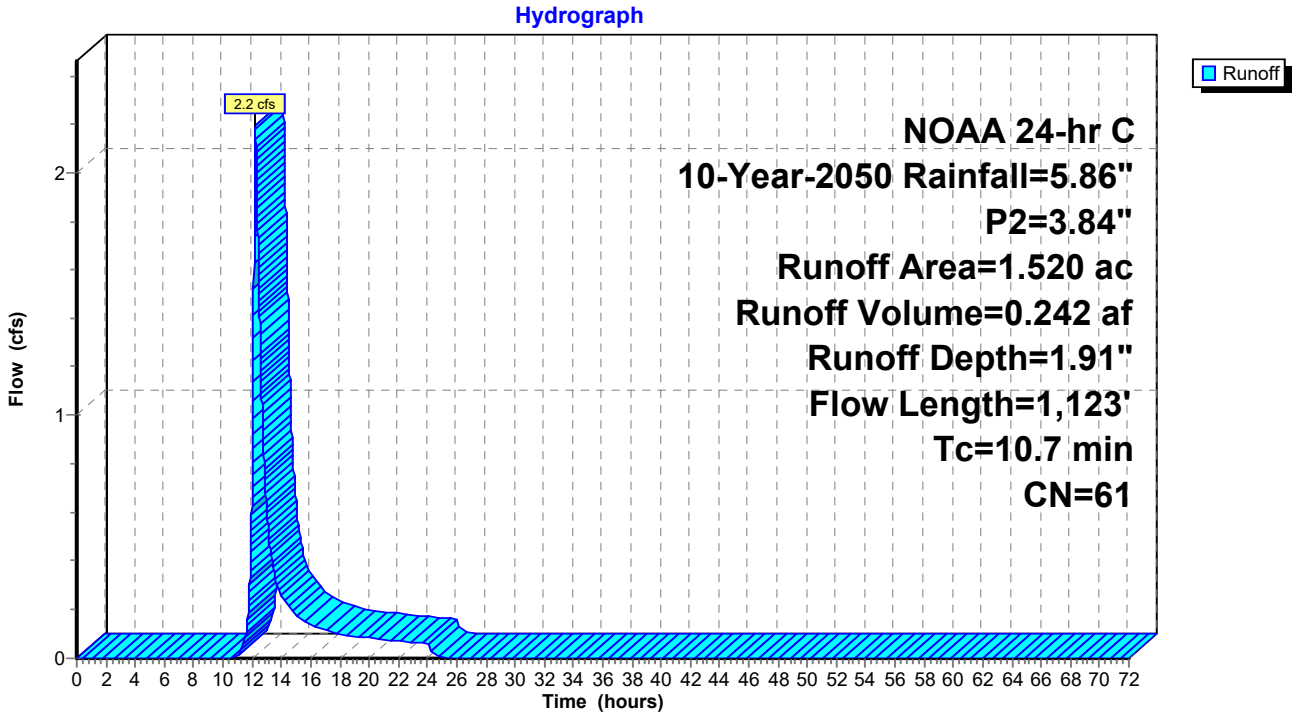
Runoff = 2.2 cfs @ 12.21 hrs, Volume= 0.242 af, Depth= 1.91"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.520	61	Weighted Average
1.520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	33	0.0200	0.10		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.8	67	0.0200	1.39		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.4	49	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	60	0.0020	2.66	4.70	**Pipe Channel, PIPE FLOW** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
10.7	1,123	Total			

Subcatchment E-Ap: eDA-A1p



Summary for Subcatchment E-Bi: eDA-B1i

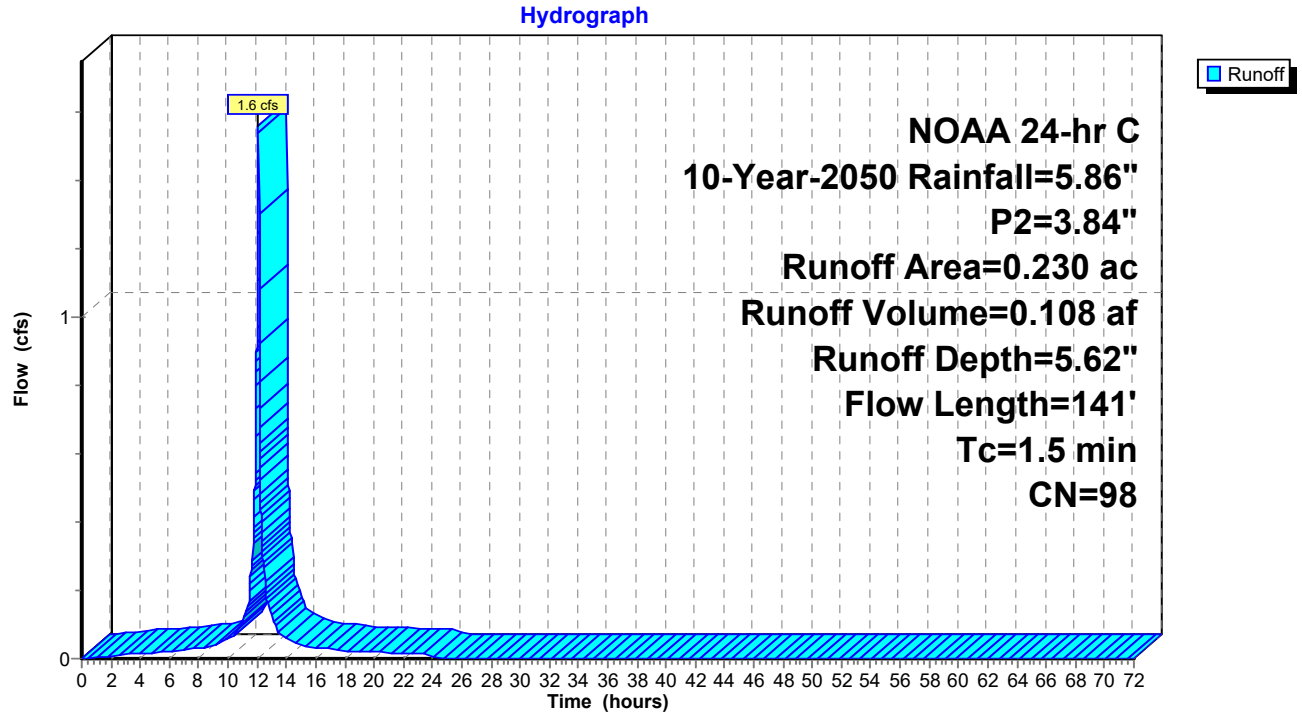
Runoff = 1.6 cfs @ 12.10 hrs, Volume= 0.108 af, Depth= 5.62"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
0.230	98	Paved parking, HSG A
0.230		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0150	1.34		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.2	23	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.1	18	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.5	141	Total			

Subcatchment E-Bi: eDA-B1i



Summary for Subcatchment E-Bp: eDA-B1p

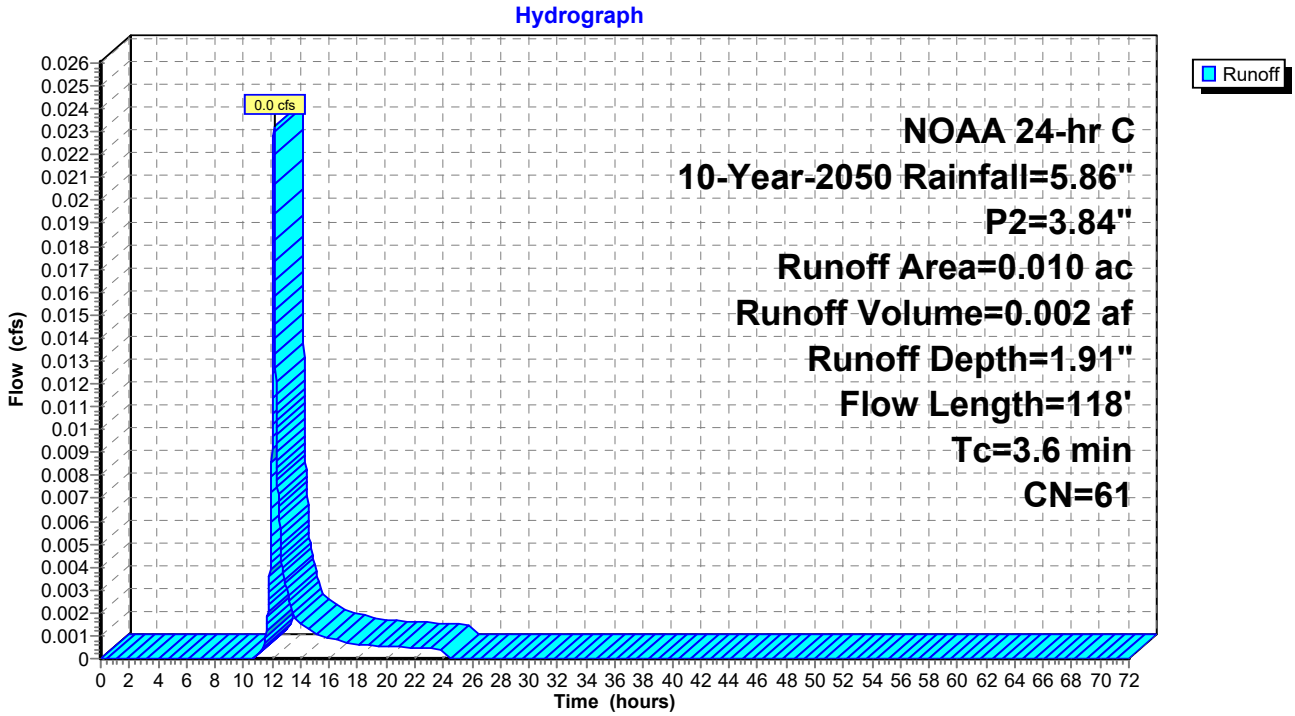
Runoff = 0.0 cfs @ 12.12 hrs, Volume= 0.002 af, Depth= 1.91"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
0.010	61	>75% Grass cover, Good, HSG B
0.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	13	0.0200	0.09		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
1.0	87	0.0200	1.47		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.1	18	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
3.6	118	Total			

Subcatchment E-Bp: eDA-B1p



Summary for Subcatchment E-Ci: eDA-C1i

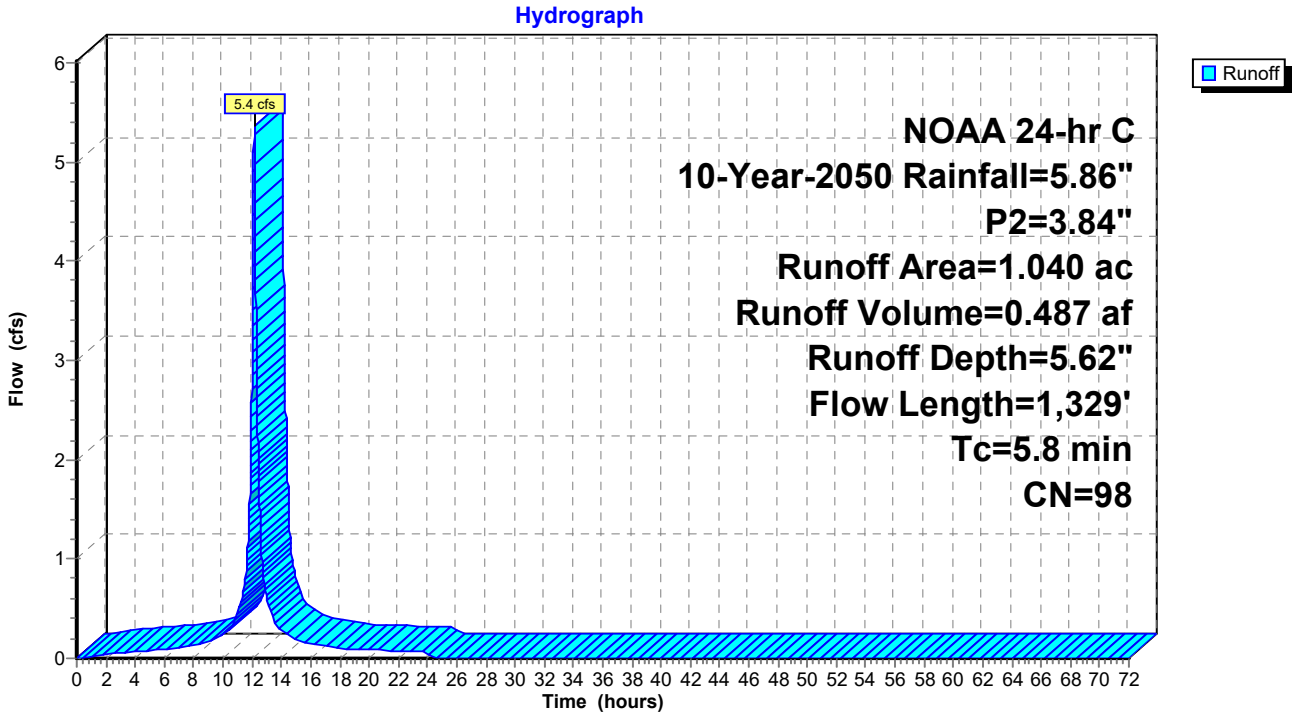
Runoff = 5.4 cfs @ 12.14 hrs, Volume= 0.487 af, Depth= 5.62"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
1.040	98	Paved parking, HSG A
1.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0220	1.57		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.9	130	0.0130	2.31		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.1	266	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,329	Total			

Subcatchment E-Ci: eDA-C1i



Summary for Subcatchment E-Cp: eDA-C1p

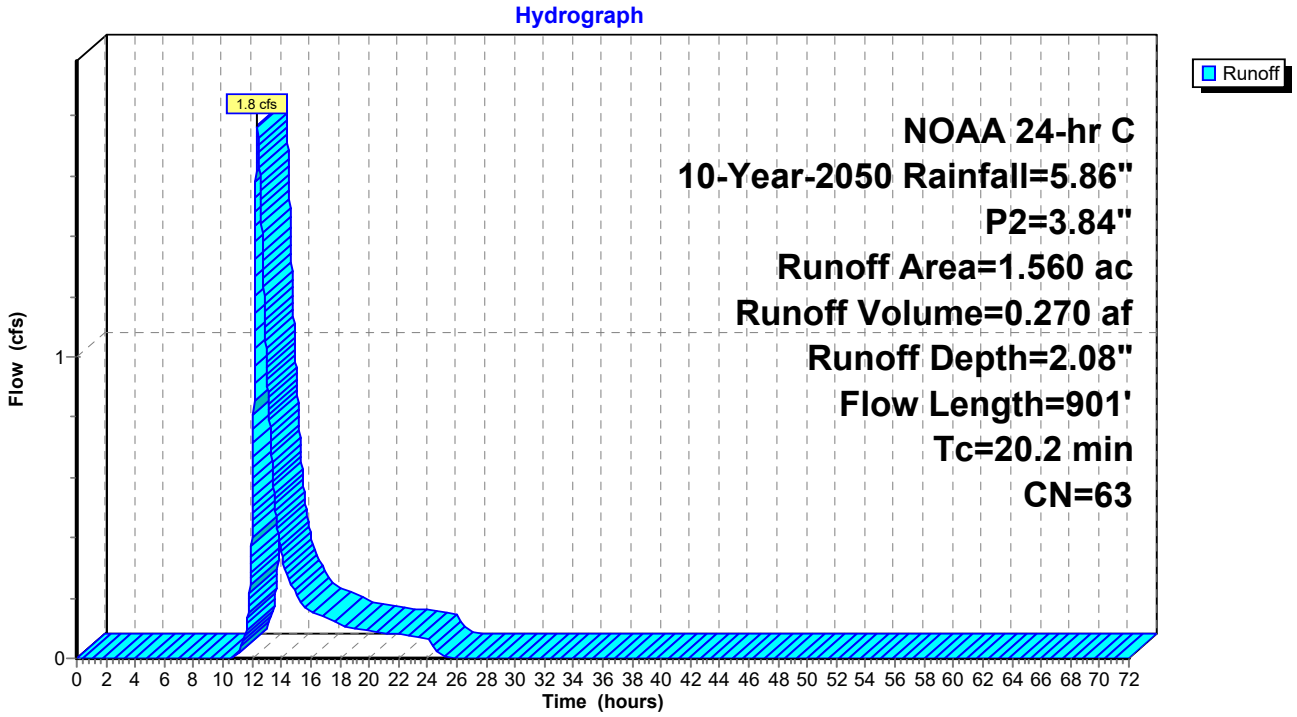
Runoff = 1.8 cfs @ 12.35 hrs, Volume= 0.270 af, Depth= 2.08"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
0.200	74	>75% Grass cover, Good, HSG C
1.360	61	>75% Grass cover, Good, HSG B
1.560	63	Weighted Average
1.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	55	0.0100	0.09		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
4.7	45	0.0200	0.16		**Sheet Flow, SHEET GRASS** Grass: Short n= 0.150 P2= 3.84"
2.1	22	0.0350	0.17		**Sheet Flow, SHALLOW GRASS** Grass: Short n= 0.150 P2= 3.84"
0.2	42	0.0260	3.27		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	57	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
20.2	901	Total			

Subcatchment E-Cp: eDA-C1p

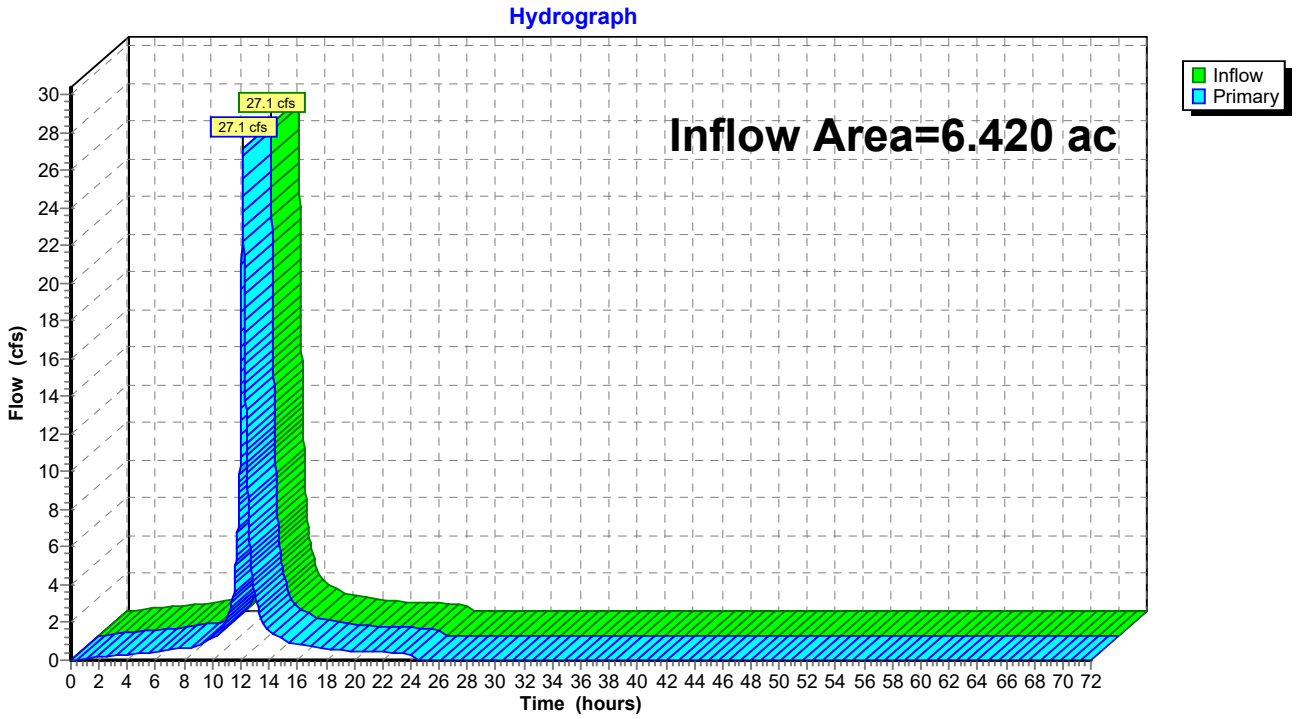


Summary for Link POI A Ex: POI A

Inflow Area = 6.420 ac, 76.32% Impervious, Inflow Depth = 4.74" for 10-Year-2050 event
Inflow = 27.1 cfs @ 12.14 hrs, Volume= 2.538 af
Primary = 27.1 cfs @ 12.14 hrs, Volume= 2.538 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Ex: POI A

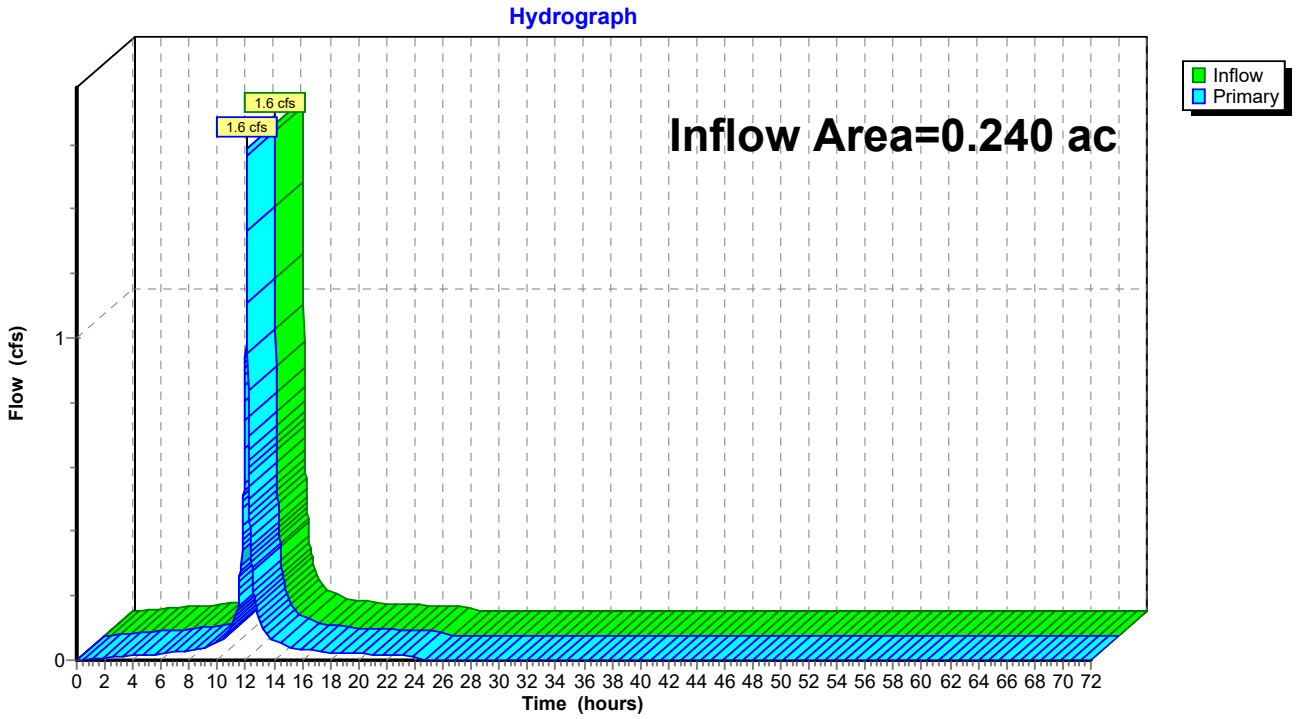


Summary for Link POI B Ex: POI B

Inflow Area = 0.240 ac, 95.83% Impervious, Inflow Depth = 5.47" for 10-Year-2050 event
Inflow = 1.6 cfs @ 12.10 hrs, Volume= 0.109 af
Primary = 1.6 cfs @ 12.10 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Ex: POI B

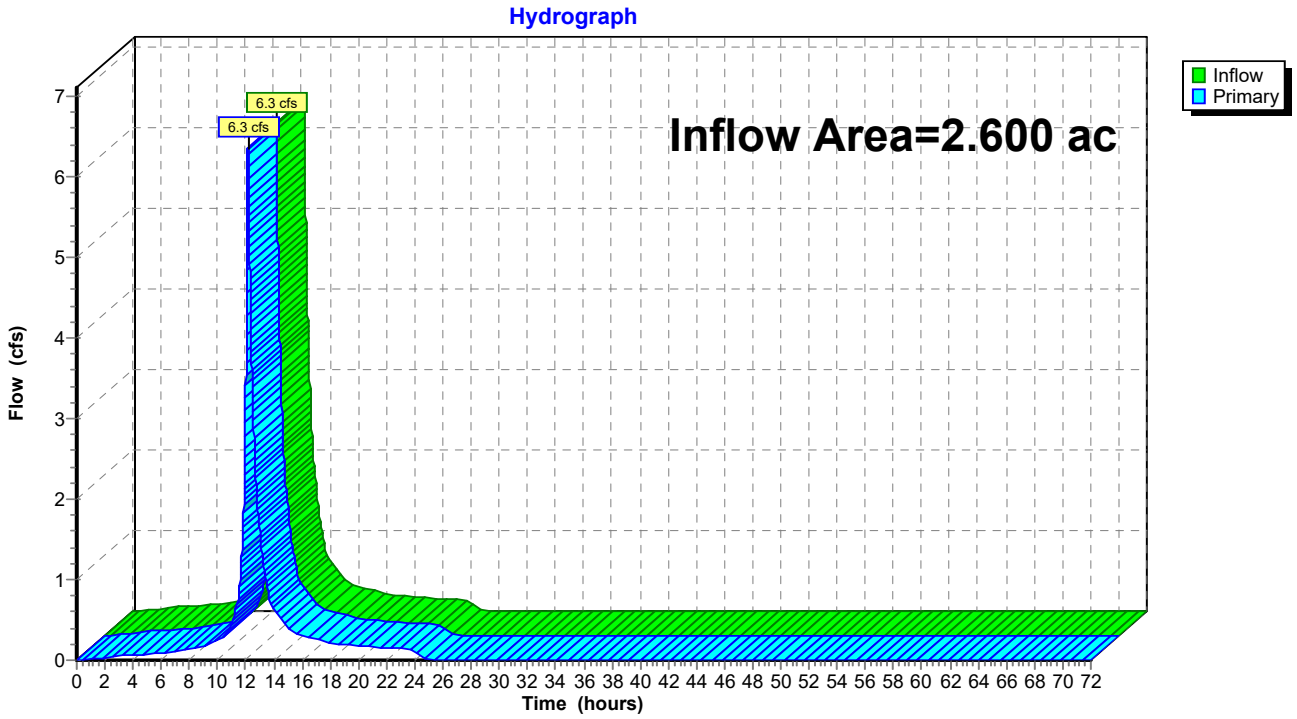


Summary for Link POI C Ex: POI C

Inflow Area = 2.600 ac, 40.00% Impervious, Inflow Depth = 3.50" for 10-Year-2050 event
Inflow = 6.3 cfs @ 12.14 hrs, Volume= 0.758 af
Primary = 6.3 cfs @ 12.14 hrs, Volume= 0.758 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Ex: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-Ai: eDA-A1i Runoff Area=4.900 ac 100.00% Impervious Runoff Depth=11.09"
Flow Length=1,156' Tc=5.8 min CN=98 Runoff=49.1 cfs 4.528 af

SubcatchmentE-Ap: eDA-A1p Runoff Area=1.520 ac 0.00% Impervious Runoff Depth=6.14"
Flow Length=1,123' Tc=10.7 min CN=61 Runoff=7.6 cfs 0.778 af

SubcatchmentE-Bi: eDA-B1i Runoff Area=0.230 ac 100.00% Impervious Runoff Depth=11.09"
Flow Length=141' Tc=1.5 min CN=98 Runoff=3.0 cfs 0.213 af

SubcatchmentE-Bp: eDA-B1p Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=6.14"
Flow Length=118' Tc=3.6 min CN=61 Runoff=0.1 cfs 0.005 af

SubcatchmentE-Ci: eDA-C1i Runoff Area=1.040 ac 100.00% Impervious Runoff Depth=11.09"
Flow Length=1,329' Tc=5.8 min CN=98 Runoff=10.4 cfs 0.961 af

SubcatchmentE-Cp: eDA-C1p Runoff Area=1.560 ac 0.00% Impervious Runoff Depth=6.43"
Flow Length=901' Tc=20.2 min CN=63 Runoff=5.8 cfs 0.836 af

Link POI A Ex: POI A Inflow=55.7 cfs 5.306 af
Primary=55.7 cfs 5.306 af

Link POI B Ex: POI B Inflow=3.1 cfs 0.218 af
Primary=3.1 cfs 0.218 af

Link POI C Ex: POI C Inflow=14.1 cfs 1.797 af
Primary=14.1 cfs 1.797 af

Total Runoff Area = 9.260 ac Runoff Volume = 7.321 af Average Runoff Depth = 9.49"
33.37% Pervious = 3.090 ac 66.63% Impervious = 6.170 ac

Summary for Subcatchment E-Ai: eDA-A1i

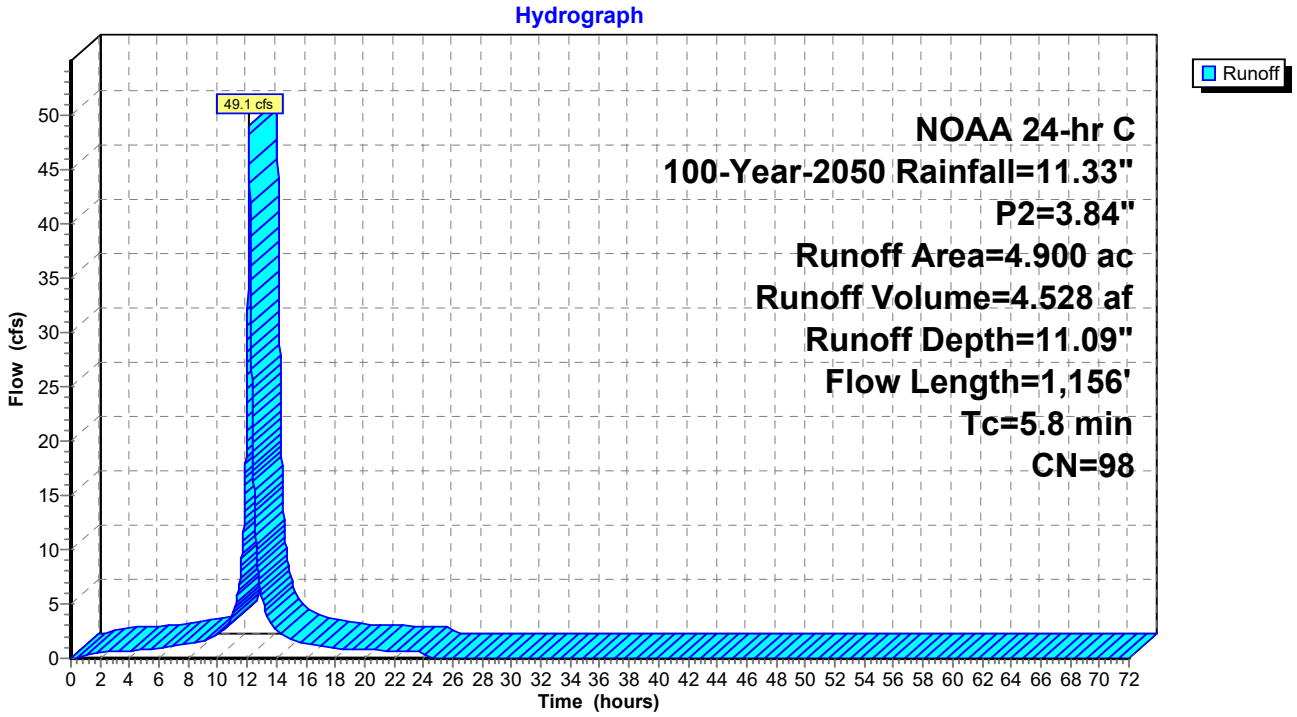
Runoff = 49.1 cfs @ 12.14 hrs, Volume= 4.528 af, Depth=11.09"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
4.900	98	Paved parking, HSG A
4.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.51		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
1.0	142	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,156	Total			

Subcatchment E-Ai: eDA-A1i



Summary for Subcatchment E-Ap: eDA-A1p

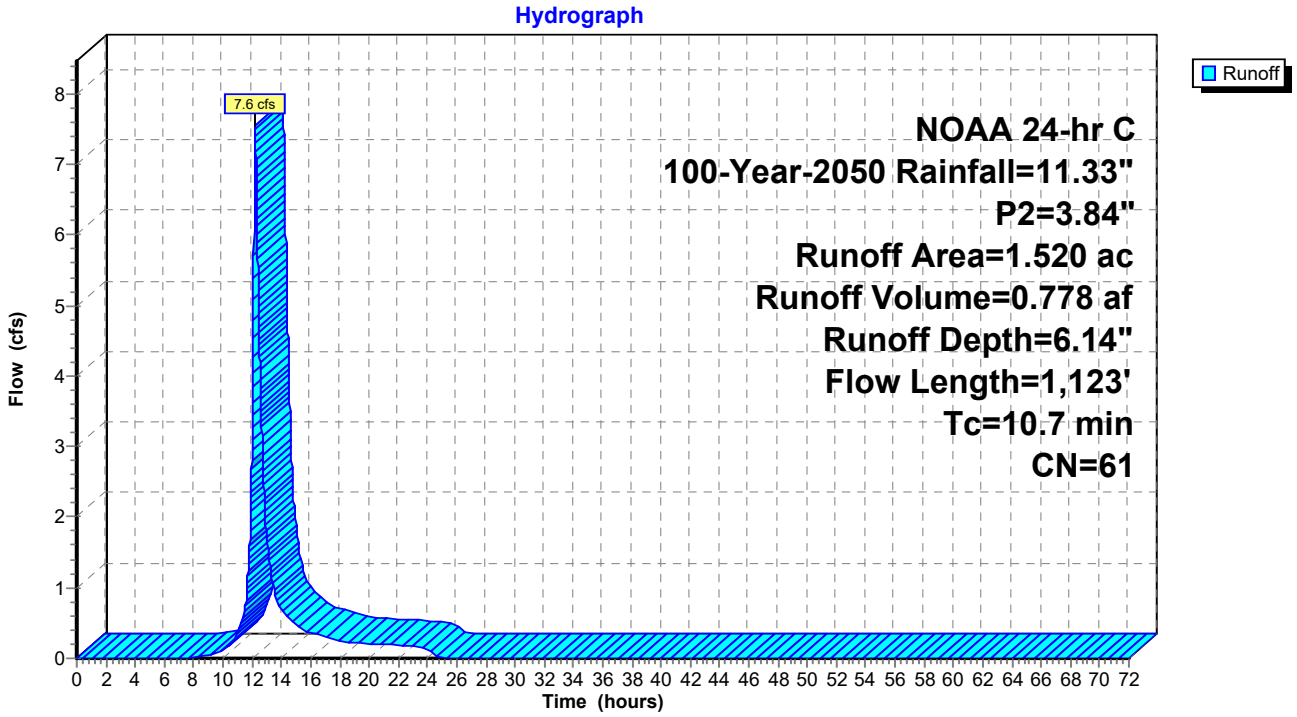
Runoff = 7.6 cfs @ 12.20 hrs, Volume= 0.778 af, Depth= 6.14"
Routed to Link POI A Ex : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.520	61	Weighted Average
1.520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	33	0.0200	0.10		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.8	67	0.0200	1.39		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.4	49	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	60	0.0020	2.66	4.70	**Pipe Channel, PIPE FLOW** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
0.7	231	0.0060	5.58	17.52	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
1.1	256	0.0020	3.74	18.34	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.3	227	0.0010	2.98	21.09	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.5	120	0.0020	4.22	29.83	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
10.7	1,123	Total			

Subcatchment E-Ap: eDA-A1p



Summary for Subcatchment E-Bi: eDA-B1i

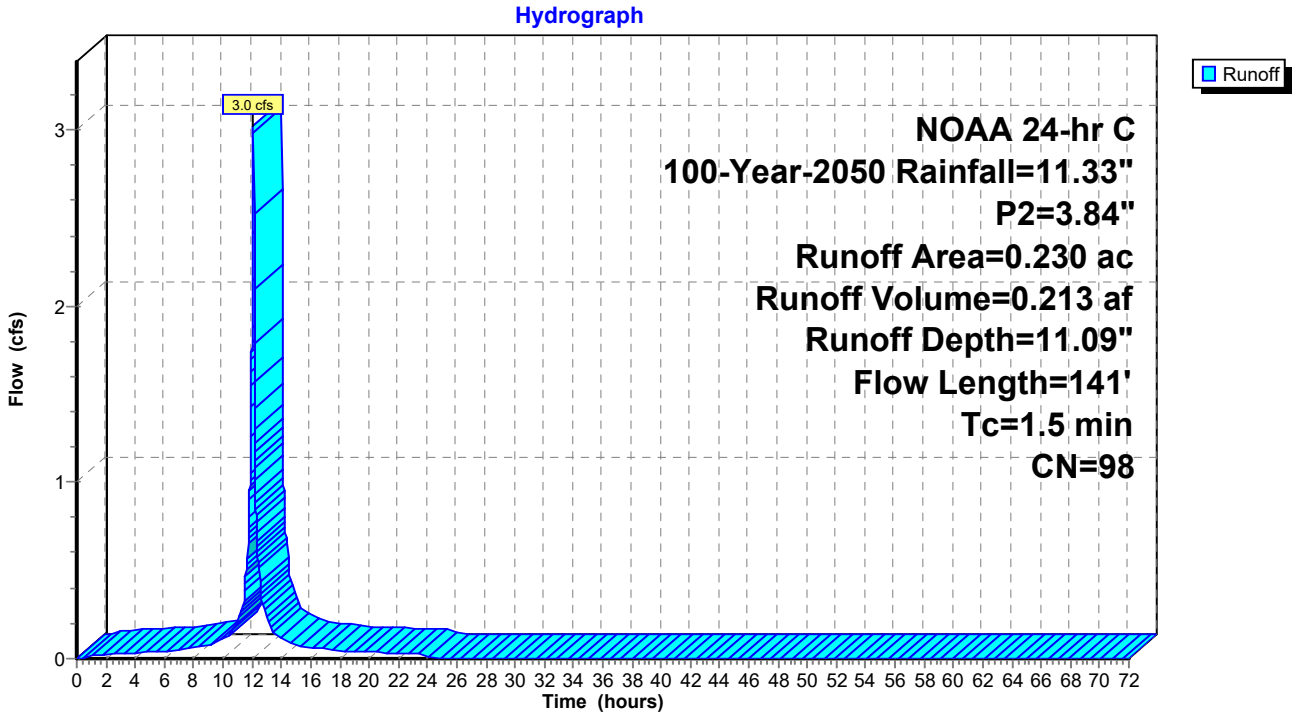
Runoff = 3.0 cfs @ 12.10 hrs, Volume= 0.213 af, Depth=11.09"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
0.230	98	Paved parking, HSG A
0.230		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0150	1.34		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.2	23	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.1	18	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.5	141	Total			

Subcatchment E-Bi: eDA-B1i



Summary for Subcatchment E-Bp: eDA-B1p

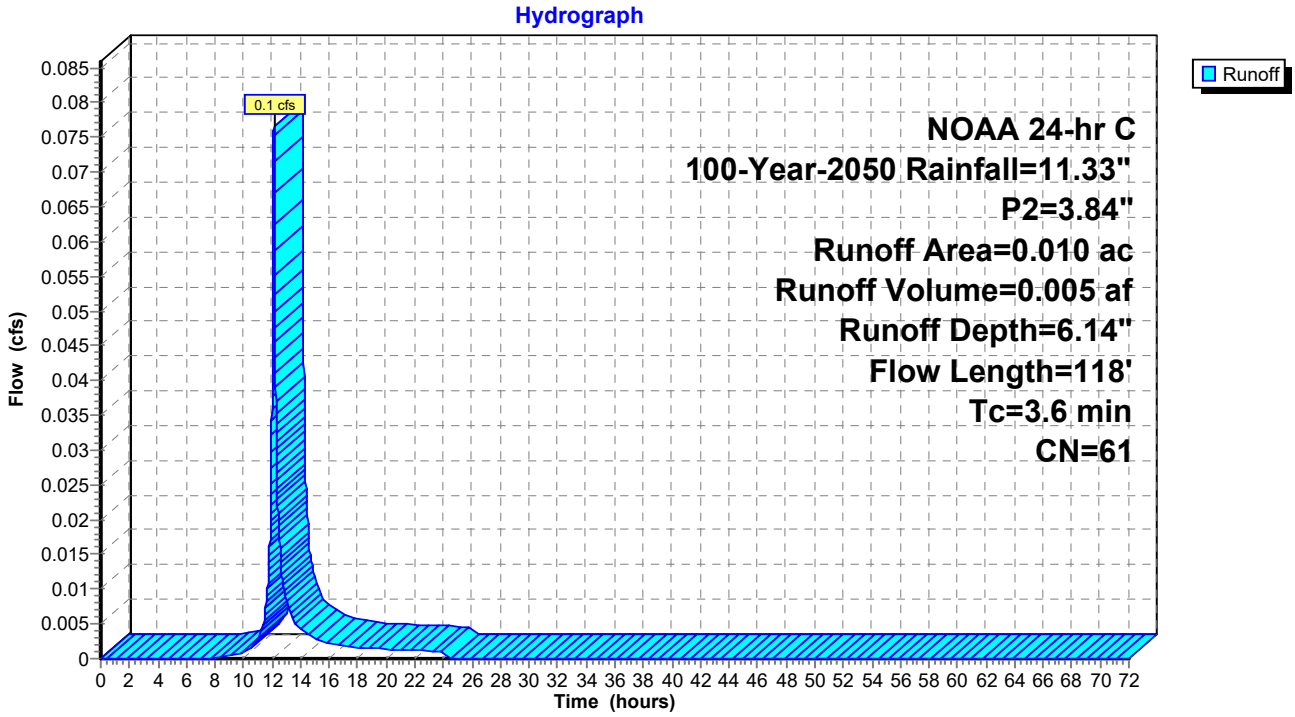
Runoff = 0.1 cfs @ 12.12 hrs, Volume= 0.005 af, Depth= 6.14"
Routed to Link POI B Ex : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
0.010	61	>75% Grass cover, Good, HSG B
0.010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	13	0.0200	0.09		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
1.0	87	0.0200	1.47		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.1	18	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
3.6	118	Total			

Subcatchment E-Bp: eDA-B1p



Summary for Subcatchment E-Ci: eDA-C1i

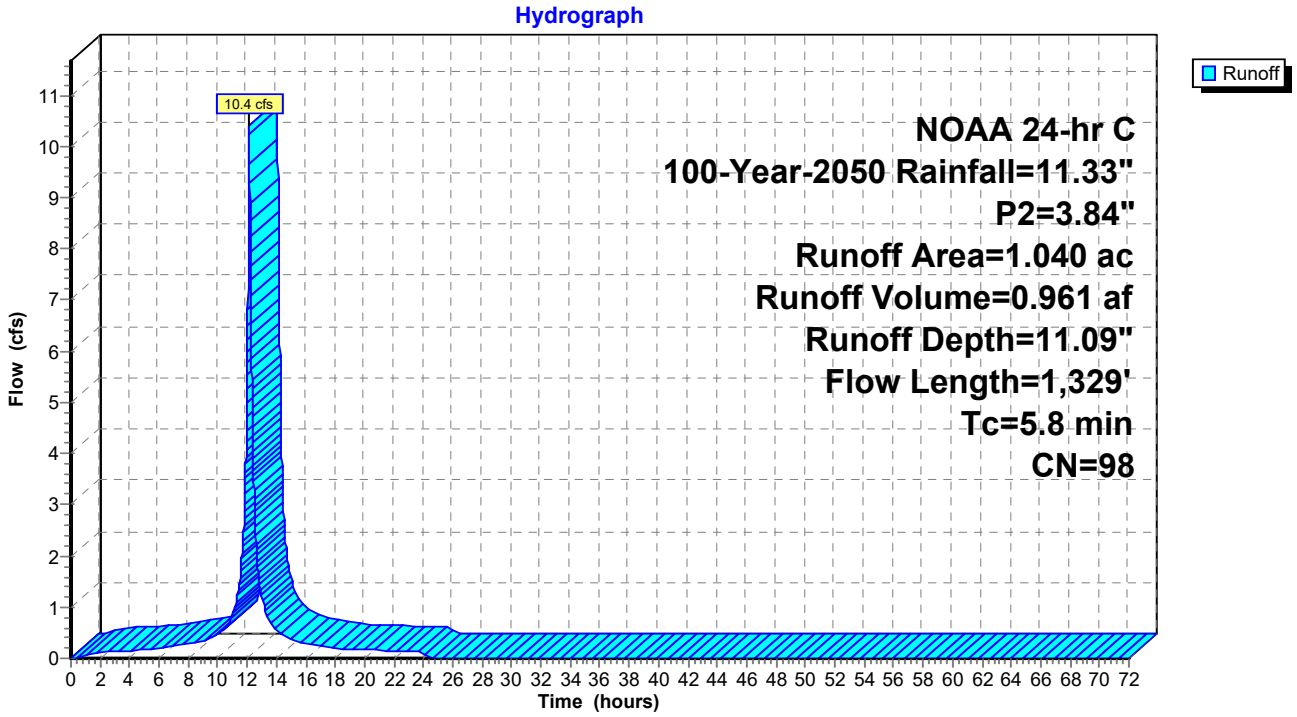
Runoff = 10.4 cfs @ 12.14 hrs, Volume= 0.961 af, Depth=11.09"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
1.040	98	Paved parking, HSG A
1.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0220	1.57		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.9	130	0.0130	2.31		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.1	266	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,329	Total			

Subcatchment E-Ci: eDA-C1i



Summary for Subcatchment E-Cp: eDA-C1p

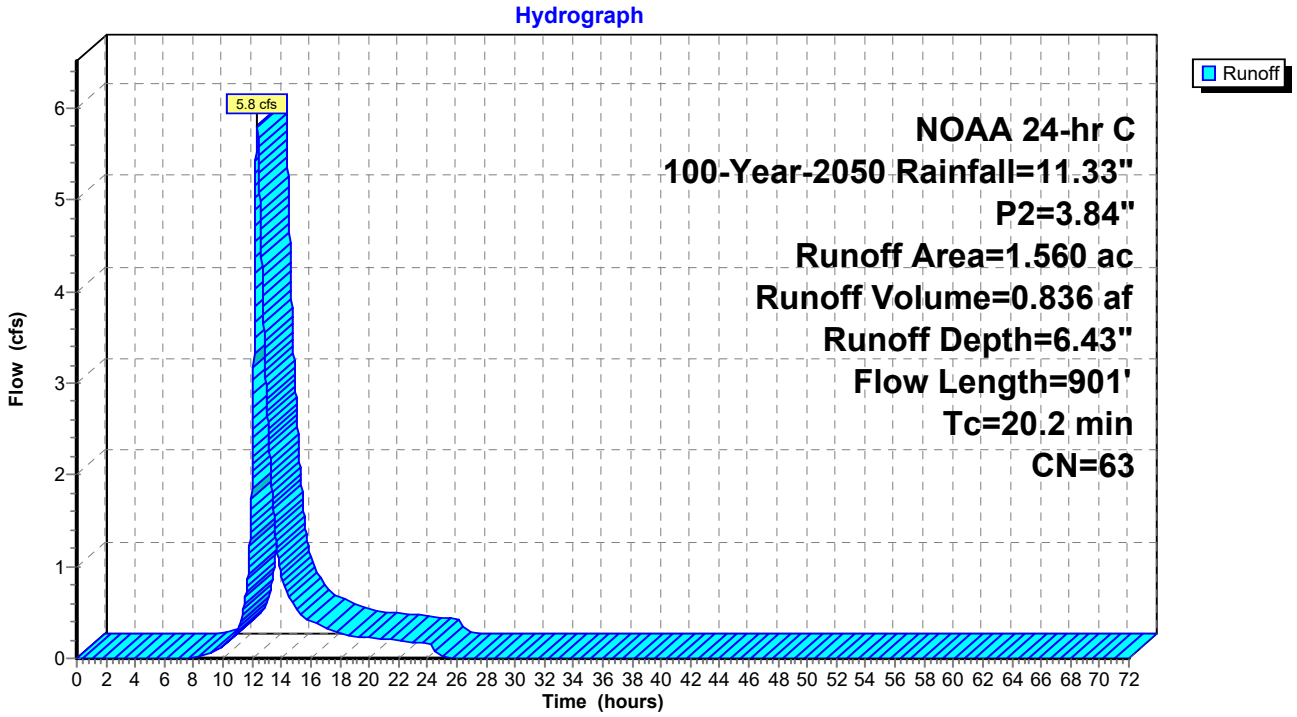
Runoff = 5.8 cfs @ 12.34 hrs, Volume= 0.836 af, Depth= 6.43"
Routed to Link POI C Ex : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
0.200	74	>75% Grass cover, Good, HSG C
1.360	61	>75% Grass cover, Good, HSG B
1.560	63	Weighted Average
1.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	55	0.0100	0.09		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
4.7	45	0.0200	0.16		**Sheet Flow, SHEET GRASS** Grass: Short n= 0.150 P2= 3.84"
2.1	22	0.0350	0.17		**Sheet Flow, SHALLOW GRASS** Grass: Short n= 0.150 P2= 3.84"
0.2	42	0.0260	3.27		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.4	57	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
20.2	901	Total			

Subcatchment E-Cp: eDA-C1p

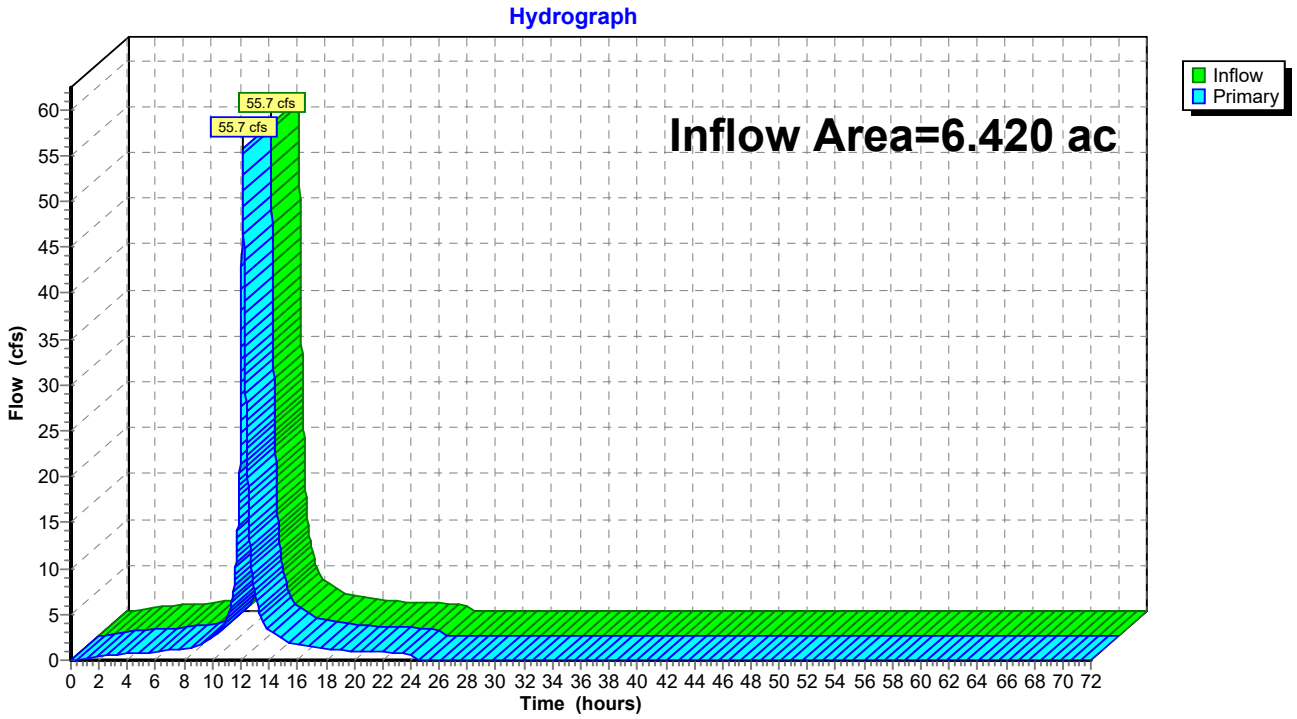


Summary for Link POI A Ex: POI A

Inflow Area = 6.420 ac, 76.32% Impervious, Inflow Depth = 9.92" for 100-Year-2050 event
Inflow = 55.7 cfs @ 12.14 hrs, Volume= 5.306 af
Primary = 55.7 cfs @ 12.14 hrs, Volume= 5.306 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Ex: POI A

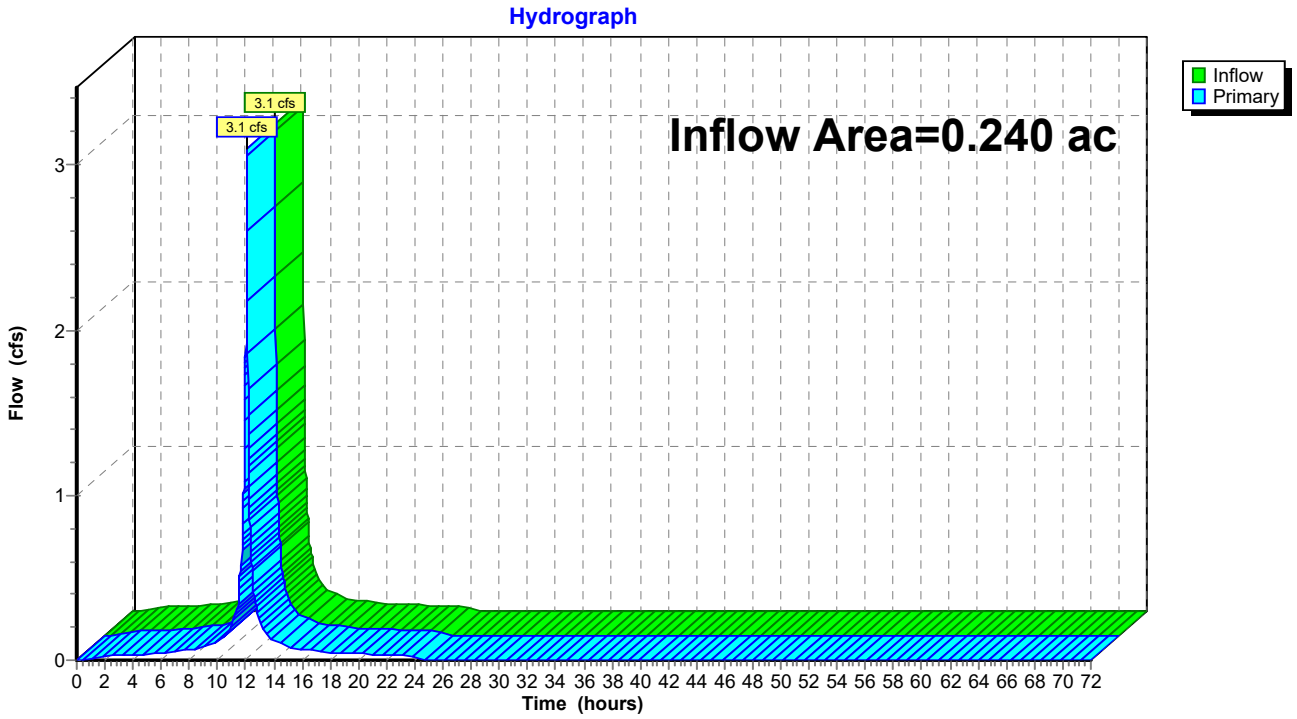


Summary for Link POI B Ex: POI B

Inflow Area = 0.240 ac, 95.83% Impervious, Inflow Depth = 10.88" for 100-Year-2050 event
Inflow = 3.1 cfs @ 12.10 hrs, Volume= 0.218 af
Primary = 3.1 cfs @ 12.10 hrs, Volume= 0.218 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Ex: POI B

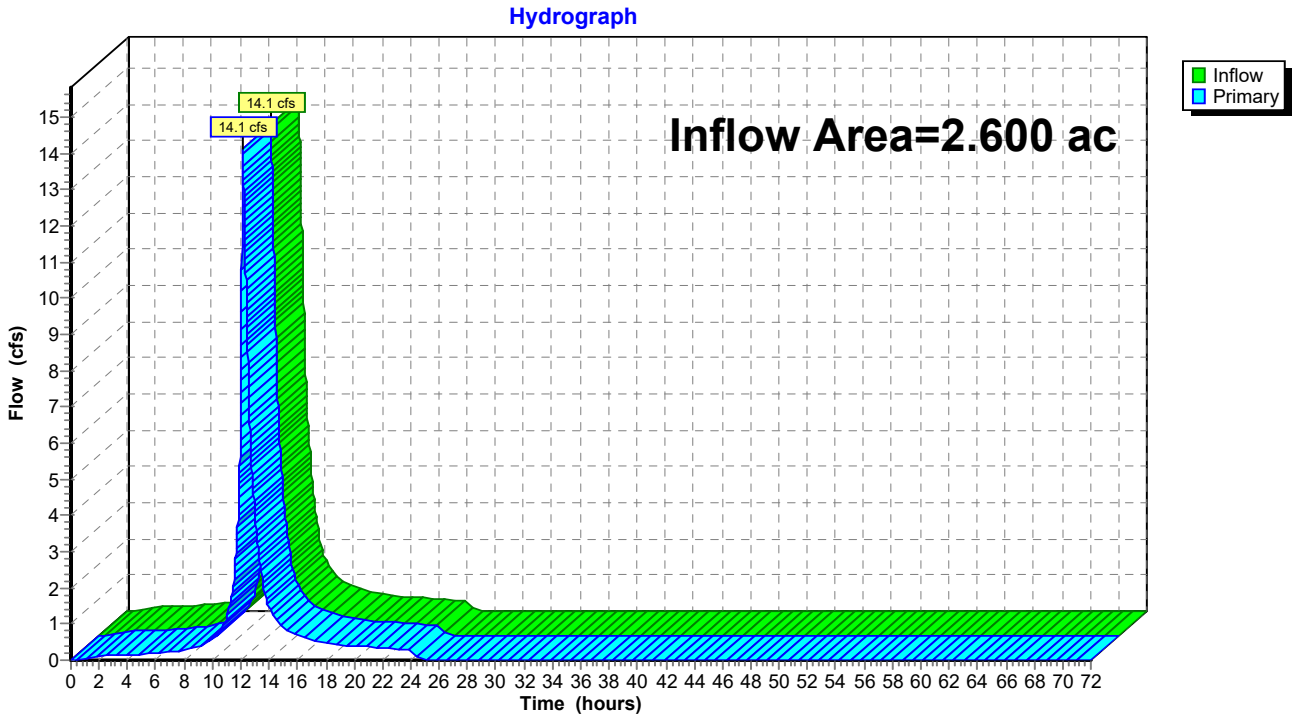


Summary for Link POI C Ex: POI C

Inflow Area = 2.600 ac, 40.00% Impervious, Inflow Depth = 8.30" for 100-Year-2050 event
Inflow = 14.1 cfs @ 12.15 hrs, Volume= 1.797 af
Primary = 14.1 cfs @ 12.15 hrs, Volume= 1.797 af, Atten= 0%, Lag= 0.0 min

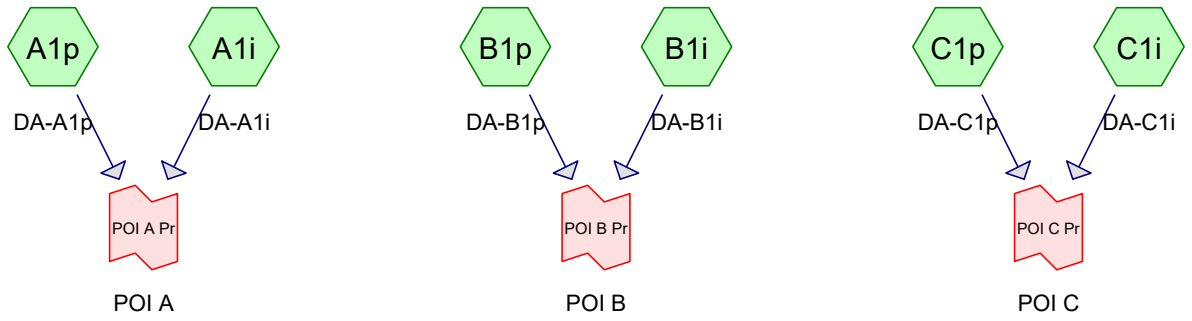
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Ex: POI C



APPENDIX C – HYDROCAD ANALYSIS - PROPOSED

Proposed



Subcat Reach Pond Link

Routing Diagram for EWR 4 - SWM Design
Prepared by Kimley-Horn & Associates, Printed 3/25/2026
HydroCAD® 10.20-5c s/n 02344 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC	P2 (inches)
1	2-Year-2020	NOAA 24-hr	C	Default	24.00	1	3.34	2	3.34
2	10-Year-2020	NOAA 24-hr	C	Default	24.00	1	5.11	2	3.34
3	100-Year-2020	NOAA 24-hr	C	Default	24.00	1	8.66	2	3.34
4	2-Year-2050	NOAA 24-hr	C	Default	24.00	1	3.84	2	3.84
5	10-Year-2050	NOAA 24-hr	C	Default	24.00	1	5.86	2	3.84
6	100-Year-2050	NOAA 24-hr	C	Default	24.00	1	11.33	2	3.84

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1i: DA-A1i Runoff Area=4.800 ac 100.00% Impervious Runoff Depth=3.11"
Flow Length=1,235' Tc=5.8 min CN=98 Runoff=14.0 cfs 1.243 af

SubcatchmentA1p: DA-A1p Runoff Area=1.640 ac 0.00% Impervious Runoff Depth=0.50"
Flow Length=547' Tc=12.9 min CN=61 Runoff=0.4 cfs 0.069 af

SubcatchmentB1i: DA-B1i Runoff Area=0.130 ac 100.00% Impervious Runoff Depth=3.11"
Flow Length=137' Slope=0.0150 '/' Tc=1.5 min CN=98 Runoff=0.5 cfs 0.034 af

SubcatchmentB1p: DA-B1p Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.50"
Flow Length=173' Tc=7.3 min CN=61 Runoff=0.0 cfs 0.005 af

SubcatchmentC1i: DA-C1i Runoff Area=0.990 ac 100.00% Impervious Runoff Depth=3.11"
Flow Length=1,178' Tc=5.5 min CN=98 Runoff=2.9 cfs 0.256 af

SubcatchmentC1p: DA-C1p Runoff Area=1.580 ac 0.00% Impervious Runoff Depth=0.54"
Flow Length=1,716' Tc=21.1 min CN=62 Runoff=0.3 cfs 0.071 af

Link POI A Pr: POI A Inflow=14.2 cfs 1.311 af
Primary=14.2 cfs 1.311 af

Link POI B Pr: POI B Inflow=0.5 cfs 0.039 af
Primary=0.5 cfs 0.039 af

Link POI C Pr: POI C Inflow=3.0 cfs 0.328 af
Primary=3.0 cfs 0.328 af

Total Runoff Area = 9.260 ac Runoff Volume = 1.678 af Average Runoff Depth = 2.17"
36.07% Pervious = 3.340 ac 63.93% Impervious = 5.920 ac

Summary for Subcatchment A1i: DA-A1i

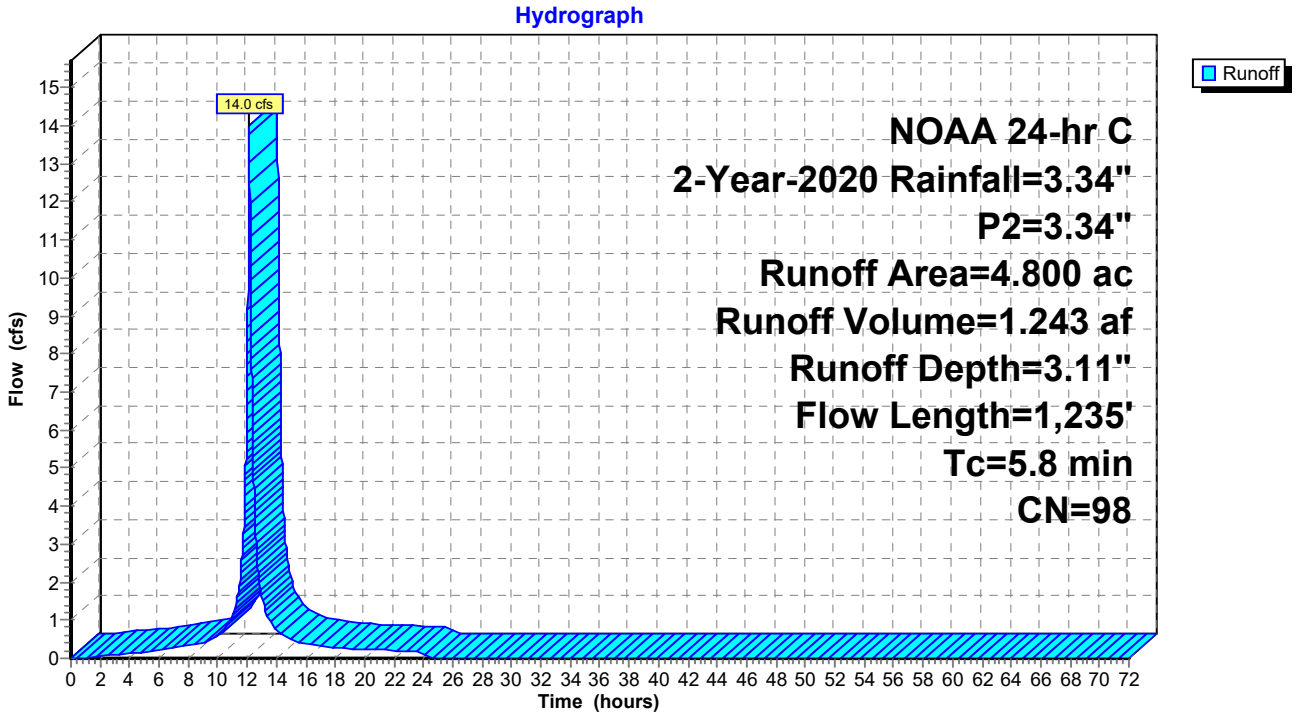
Runoff = 14.0 cfs @ 12.14 hrs, Volume= 1.243 af, Depth= 3.11"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
4.800	98	Paved parking, HSG A
4.800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.6	70	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
2.0	562	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.6	152	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,235	Total			

Subcatchment A1i: DA-A1i



Summary for Subcatchment A1p: DA-A1p

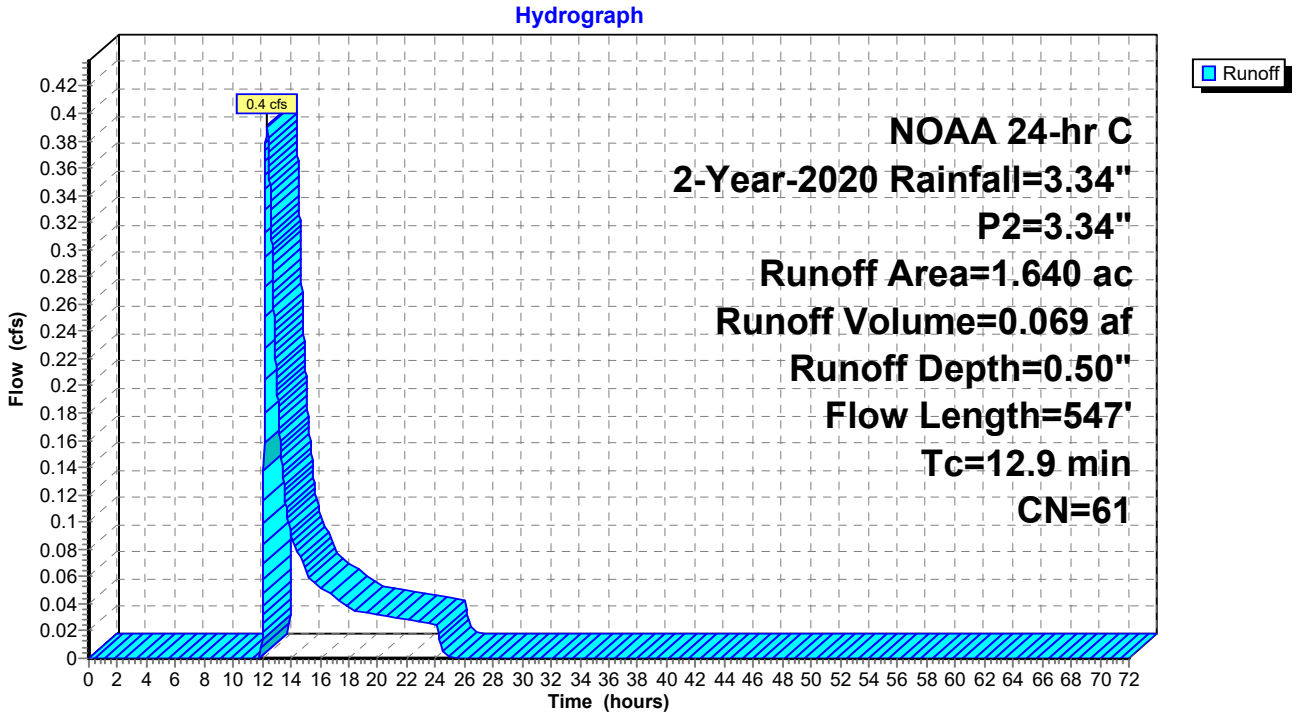
Runoff = 0.4 cfs @ 12.33 hrs, Volume= 0.069 af, Depth= 0.50"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
1.620	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.640	61	Weighted Average
1.640		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	70	0.0200	0.11		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.6	30	0.0100	0.84		**Sheet Flow, SHEET GRASS** Smooth surfaces n= 0.011 P2= 3.34"
0.8	96	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
12.9	547	Total			

Subcatchment A1p: DA-A1p



Summary for Subcatchment B1i: DA-B1i

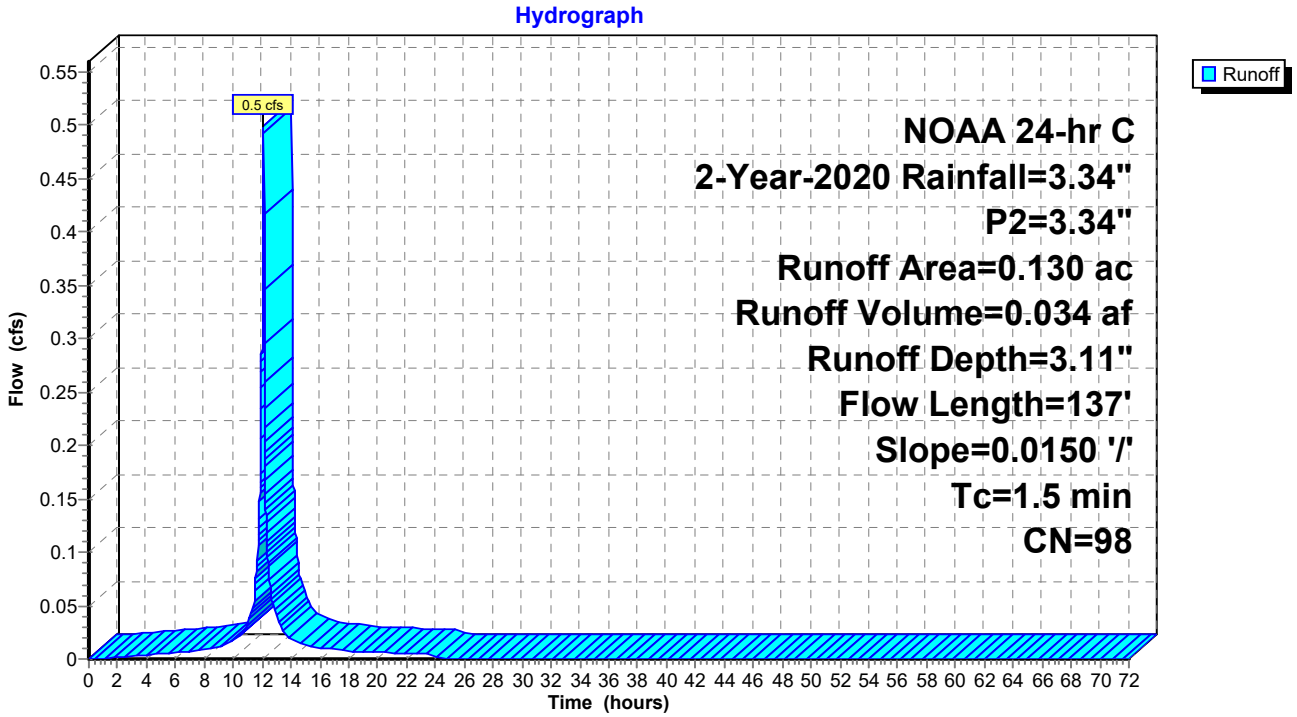
Runoff = 0.5 cfs @ 12.10 hrs, Volume= 0.034 af, Depth= 3.11"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
0.130	98	Paved parking, HSG A
0.130		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.25		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.5	137	Total			

Subcatchment B1i: DA-B1i



Summary for Subcatchment B1p: DA-B1p

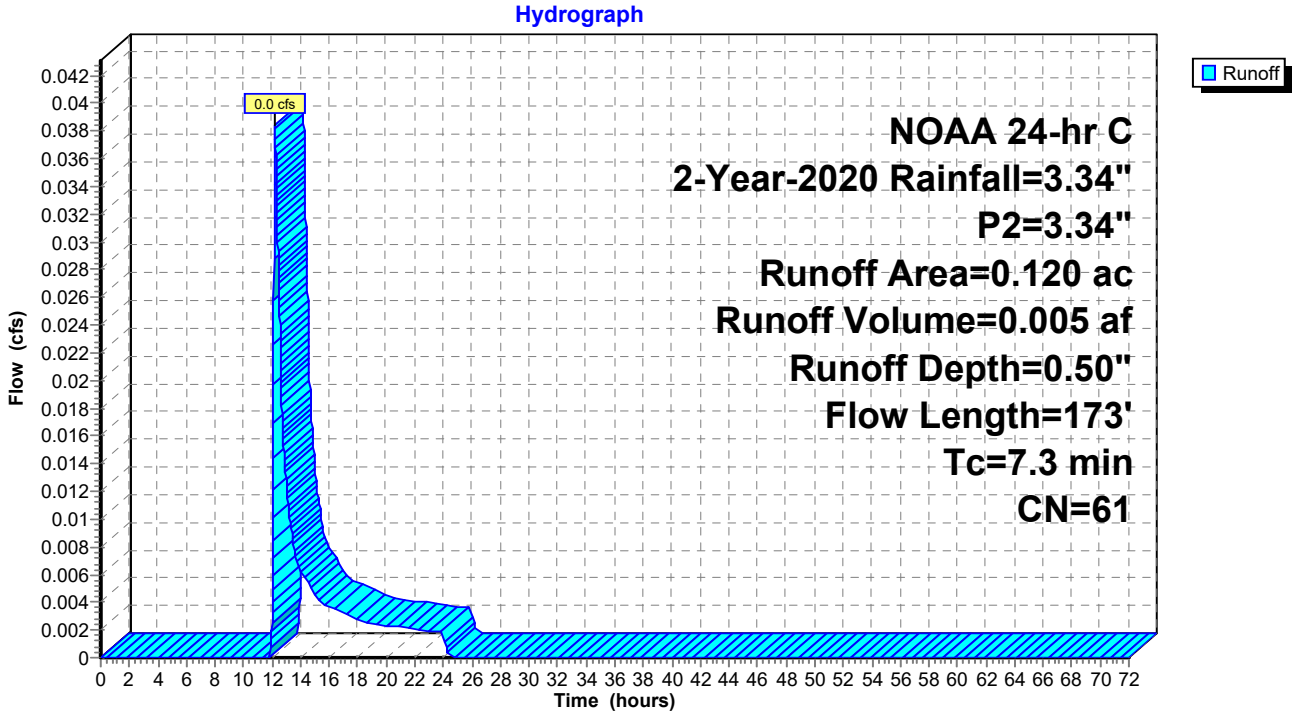
Runoff = 0.0 cfs @ 12.18 hrs, Volume= 0.005 af, Depth= 0.50"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
0.120	61	>75% Grass cover, Good, HSG B
0.120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	41	0.0250	0.11		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.4	28	0.0200	1.09		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.4	67	0.0200	2.87		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
7.3	173	Total			

Subcatchment B1p: DA-B1p



Summary for Subcatchment C1i: DA-C1i

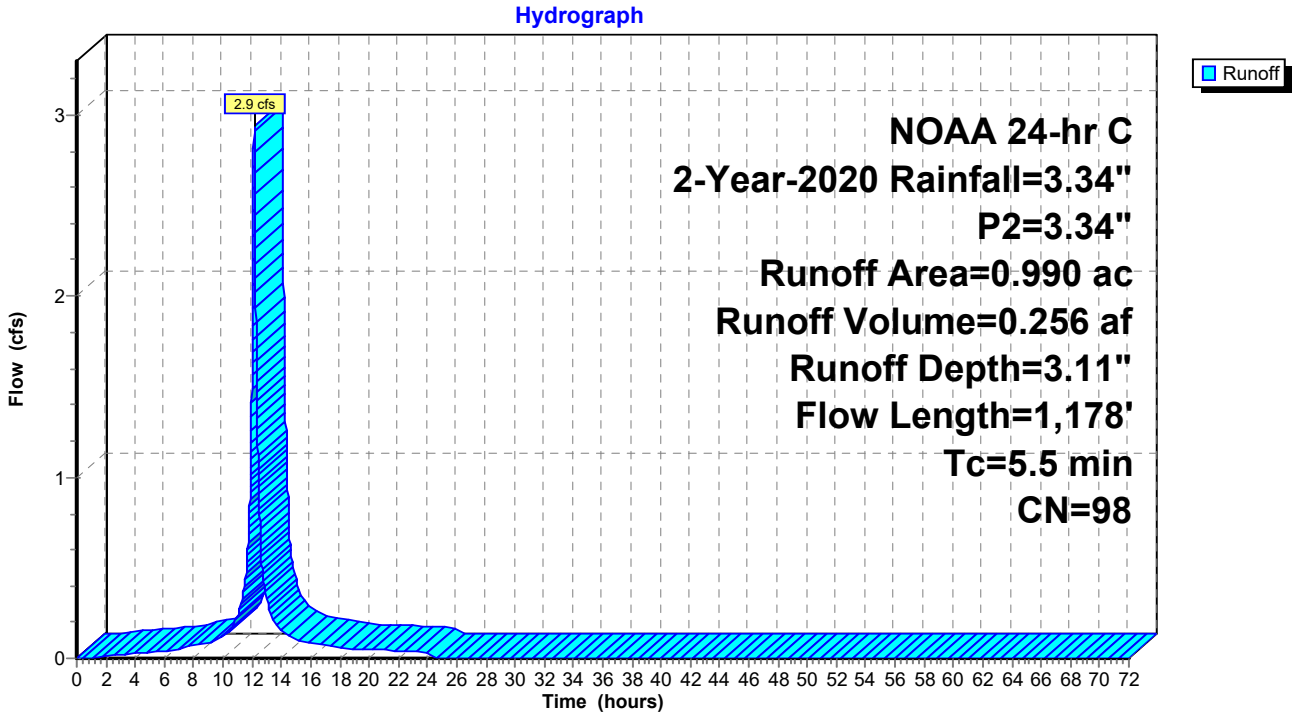
Runoff = 2.9 cfs @ 12.13 hrs, Volume= 0.256 af, Depth= 3.11"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
0.990	98	Paved parking, HSG A
0.990		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.4	50	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.5	1,178	Total			

Subcatchment C1i: DA-C1i



Summary for Subcatchment C1p: DA-C1p

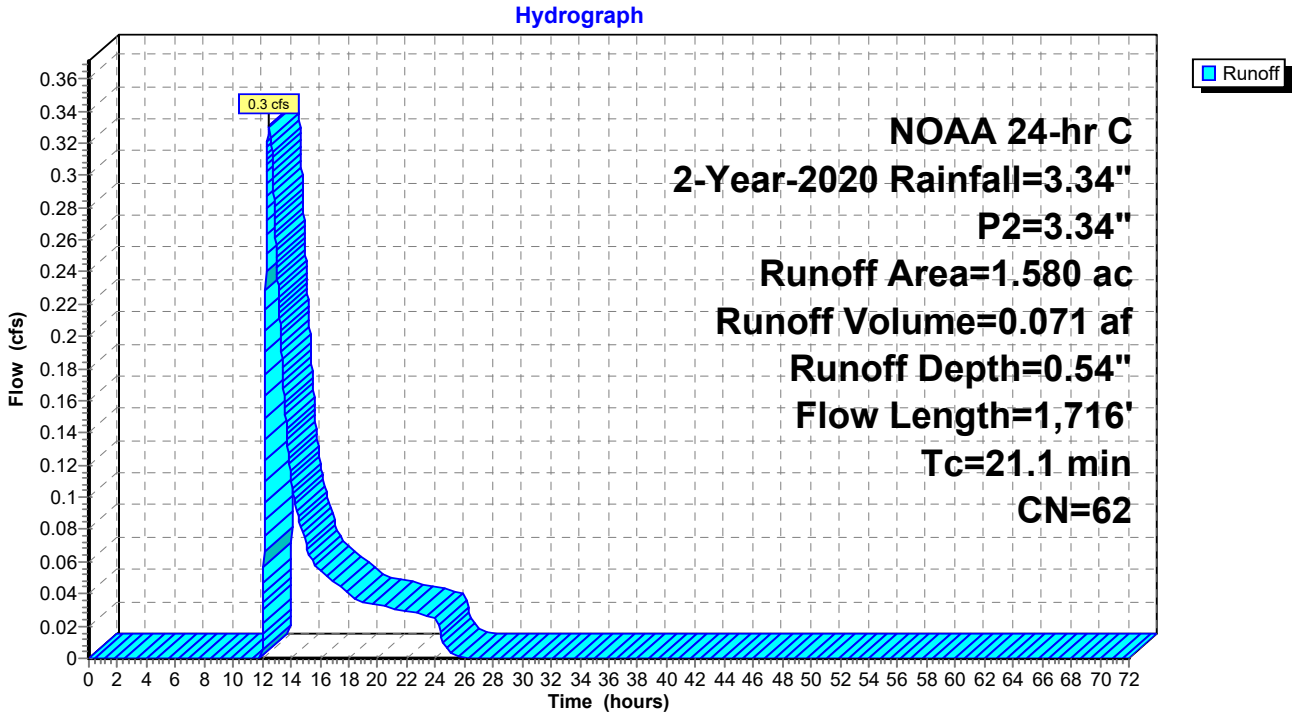
Runoff = 0.3 cfs @ 12.48 hrs, Volume= 0.071 af, Depth= 0.54"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2020 Rainfall=3.34", P2=3.34"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
0.160	74	>75% Grass cover, Good, HSG C
1.580	62	Weighted Average
1.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	100	0.0200	0.12		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.3	18	0.0200	0.99		**Shallow Concentrated Flow, SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
3.3	570	0.0030	2.88	3.54	**Pipe Channel, PIPE FLOW** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
21.1	1,716	Total			

Subcatchment C1p: DA-C1p

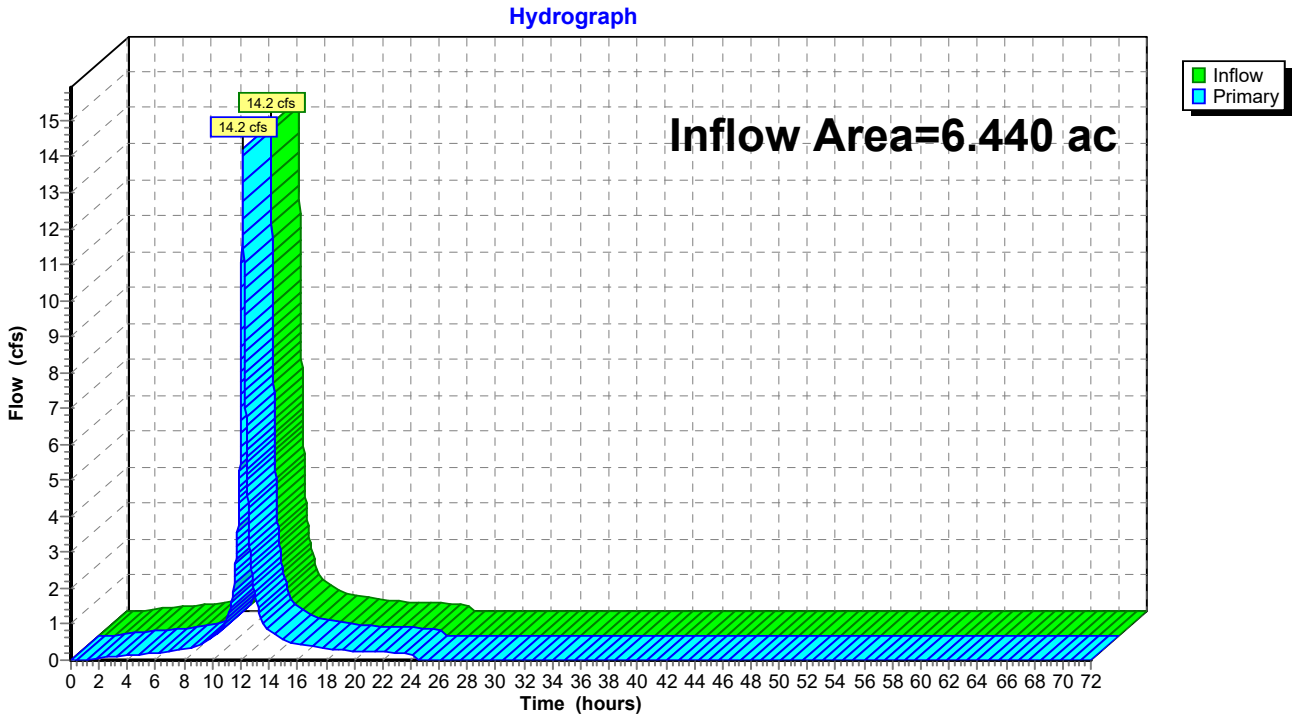


Summary for Link POI A Pr: POI A

Inflow Area = 6.440 ac, 74.53% Impervious, Inflow Depth = 2.44" for 2-Year-2020 event
Inflow = 14.2 cfs @ 12.14 hrs, Volume= 1.311 af
Primary = 14.2 cfs @ 12.14 hrs, Volume= 1.311 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Pr: POI A

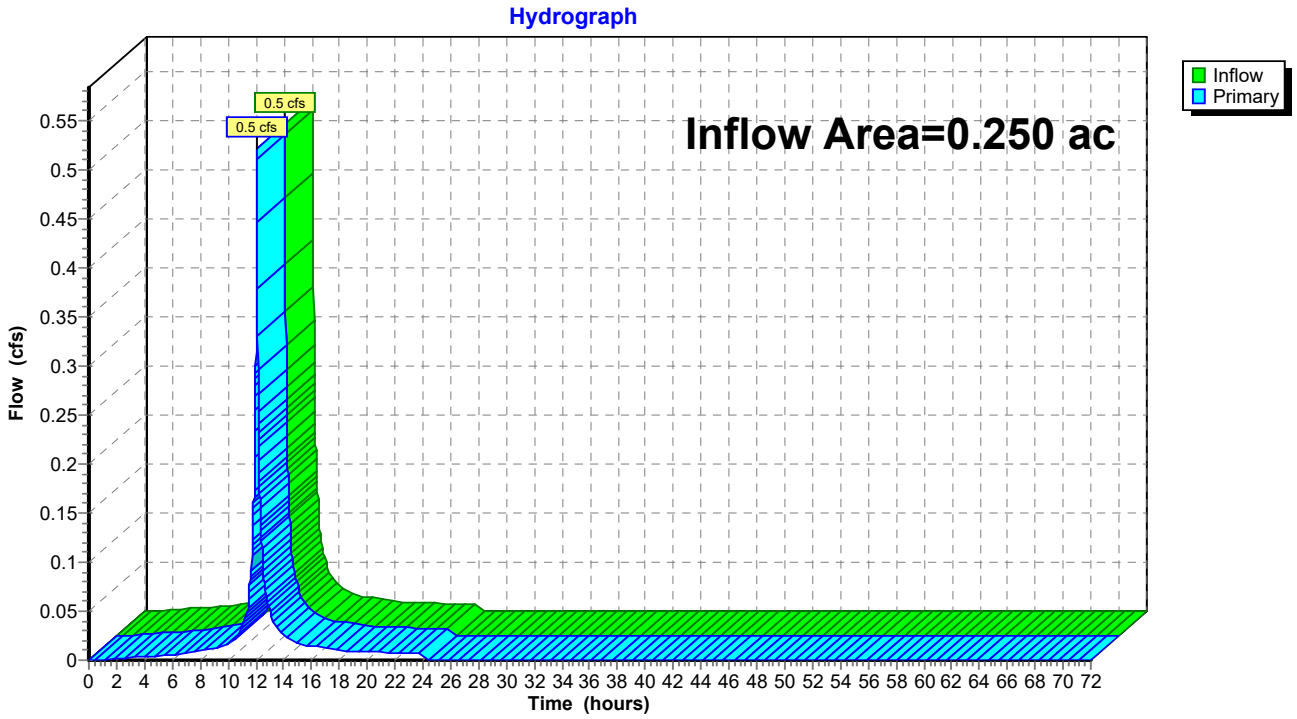


Summary for Link POI B Pr: POI B

Inflow Area = 0.250 ac, 52.00% Impervious, Inflow Depth = 1.86" for 2-Year-2020 event
Inflow = 0.5 cfs @ 12.10 hrs, Volume= 0.039 af
Primary = 0.5 cfs @ 12.10 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Pr: POI B

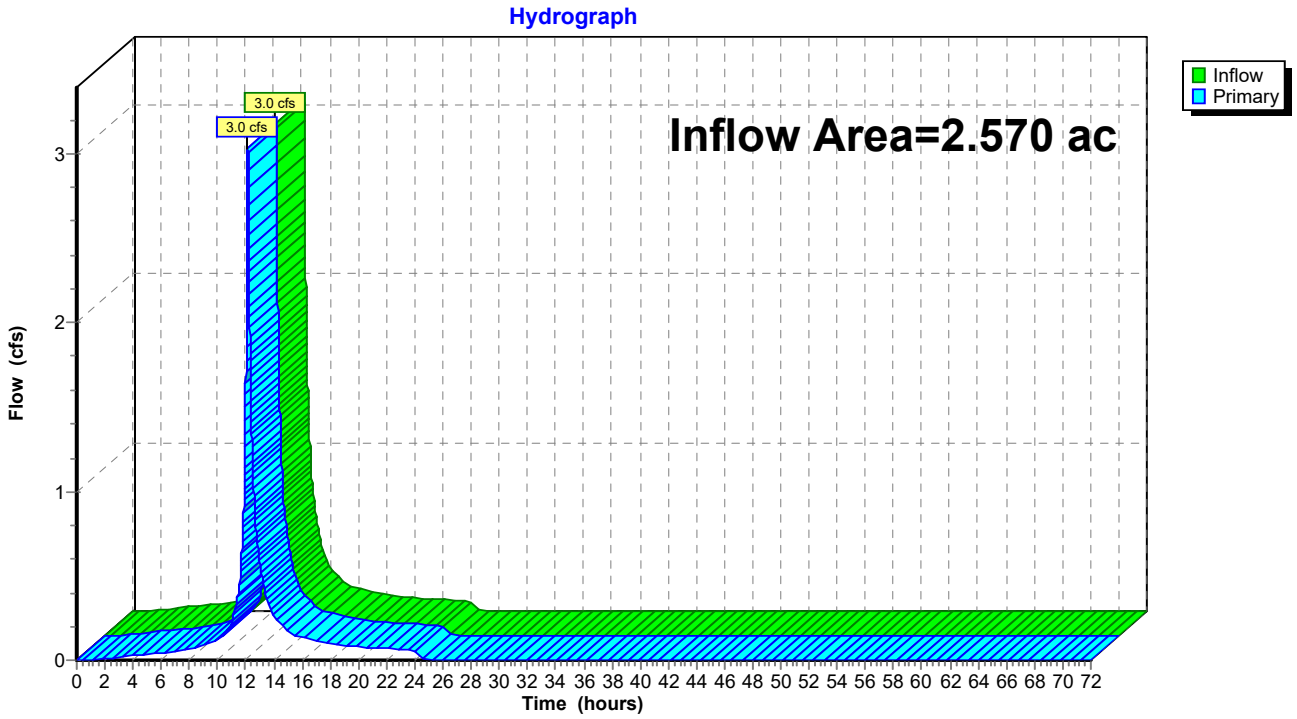


Summary for Link POI C Pr: POI C

Inflow Area = 2.570 ac, 38.52% Impervious, Inflow Depth = 1.53" for 2-Year-2020 event
Inflow = 3.0 cfs @ 12.14 hrs, Volume= 0.328 af
Primary = 3.0 cfs @ 12.14 hrs, Volume= 0.328 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Pr: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1i: DA-A1i Runoff Area=4.800 ac 100.00% Impervious Runoff Depth=4.87"
Flow Length=1,235' Tc=5.8 min CN=98 Runoff=21.6 cfs 1.949 af

SubcatchmentA1p: DA-A1p Runoff Area=1.640 ac 0.00% Impervious Runoff Depth=1.44"
Flow Length=547' Tc=12.9 min CN=61 Runoff=1.5 cfs 0.196 af

SubcatchmentB1i: DA-B1i Runoff Area=0.130 ac 100.00% Impervious Runoff Depth=4.87"
Flow Length=137' Slope=0.0150 '/' Tc=1.5 min CN=98 Runoff=0.8 cfs 0.053 af

SubcatchmentB1p: DA-B1p Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=1.44"
Flow Length=173' Tc=7.3 min CN=61 Runoff=0.2 cfs 0.014 af

SubcatchmentC1i: DA-C1i Runoff Area=0.990 ac 100.00% Impervious Runoff Depth=4.87"
Flow Length=1,178' Tc=5.5 min CN=98 Runoff=4.5 cfs 0.402 af

SubcatchmentC1p: DA-C1p Runoff Area=1.580 ac 0.00% Impervious Runoff Depth=1.51"
Flow Length=1,716' Tc=21.1 min CN=62 Runoff=1.2 cfs 0.198 af

Link POI A Pr: POI A Inflow=22.7 cfs 2.145 af
Primary=22.7 cfs 2.145 af

Link POI B Pr: POI B Inflow=0.9 cfs 0.067 af
Primary=0.9 cfs 0.067 af

Link POI C Pr: POI C Inflow=5.1 cfs 0.600 af
Primary=5.1 cfs 0.600 af

Total Runoff Area = 9.260 ac Runoff Volume = 2.813 af Average Runoff Depth = 3.65"
36.07% Pervious = 3.340 ac 63.93% Impervious = 5.920 ac

Summary for Subcatchment A1i: DA-A1i

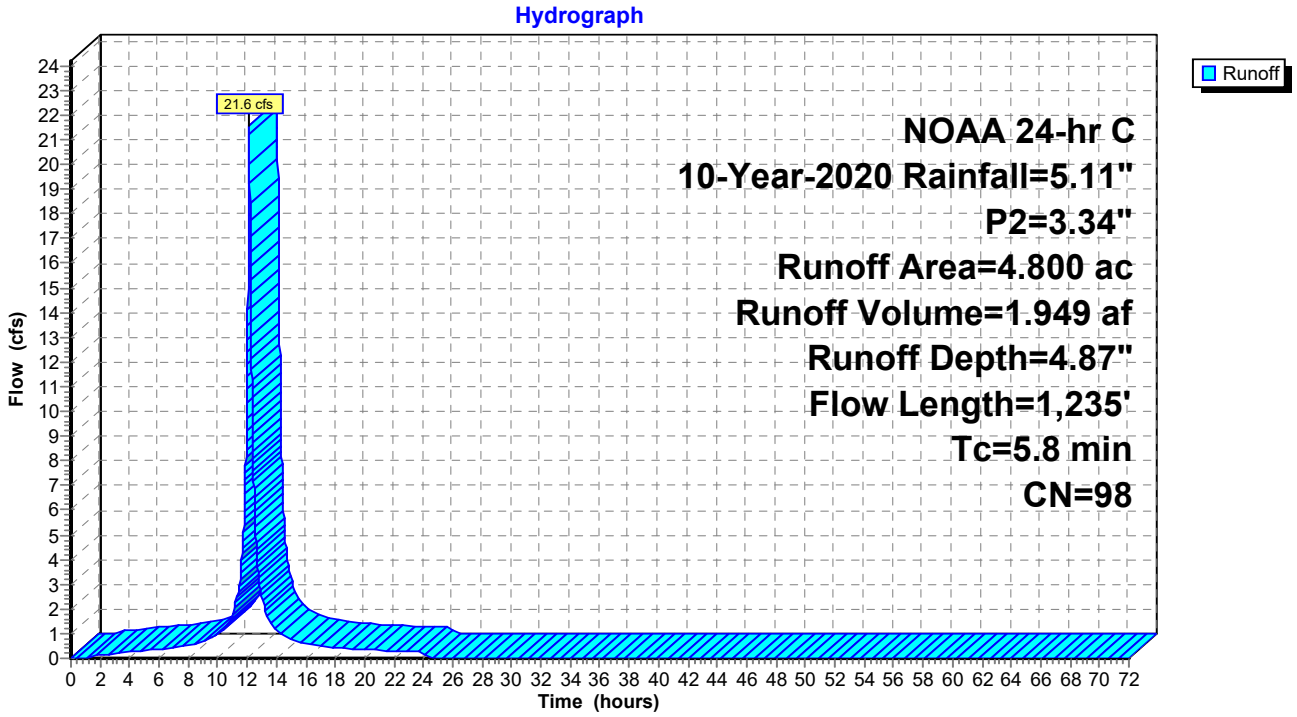
Runoff = 21.6 cfs @ 12.14 hrs, Volume= 1.949 af, Depth= 4.87"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
4.800	98	Paved parking, HSG A
4.800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.6	70	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
2.0	562	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.6	152	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,235	Total			

Subcatchment A1i: DA-A1i



Summary for Subcatchment A1p: DA-A1p

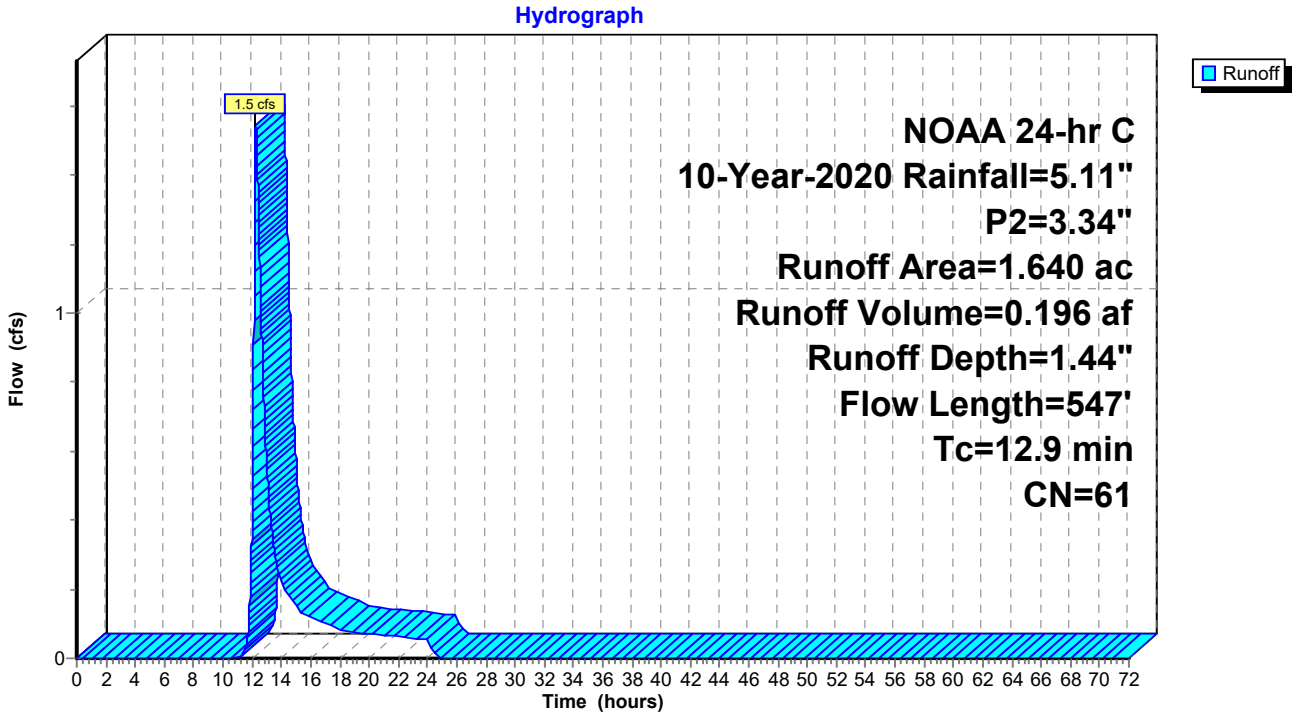
Runoff = 1.5 cfs @ 12.24 hrs, Volume= 0.196 af, Depth= 1.44"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
1.620	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.640	61	Weighted Average
1.640		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	70	0.0200	0.11		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.6	30	0.0100	0.84		**Sheet Flow, SHEET GRASS** Smooth surfaces n= 0.011 P2= 3.34"
0.8	96	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
12.9	547	Total			

Subcatchment A1p: DA-A1p



Summary for Subcatchment B1i: DA-B1i

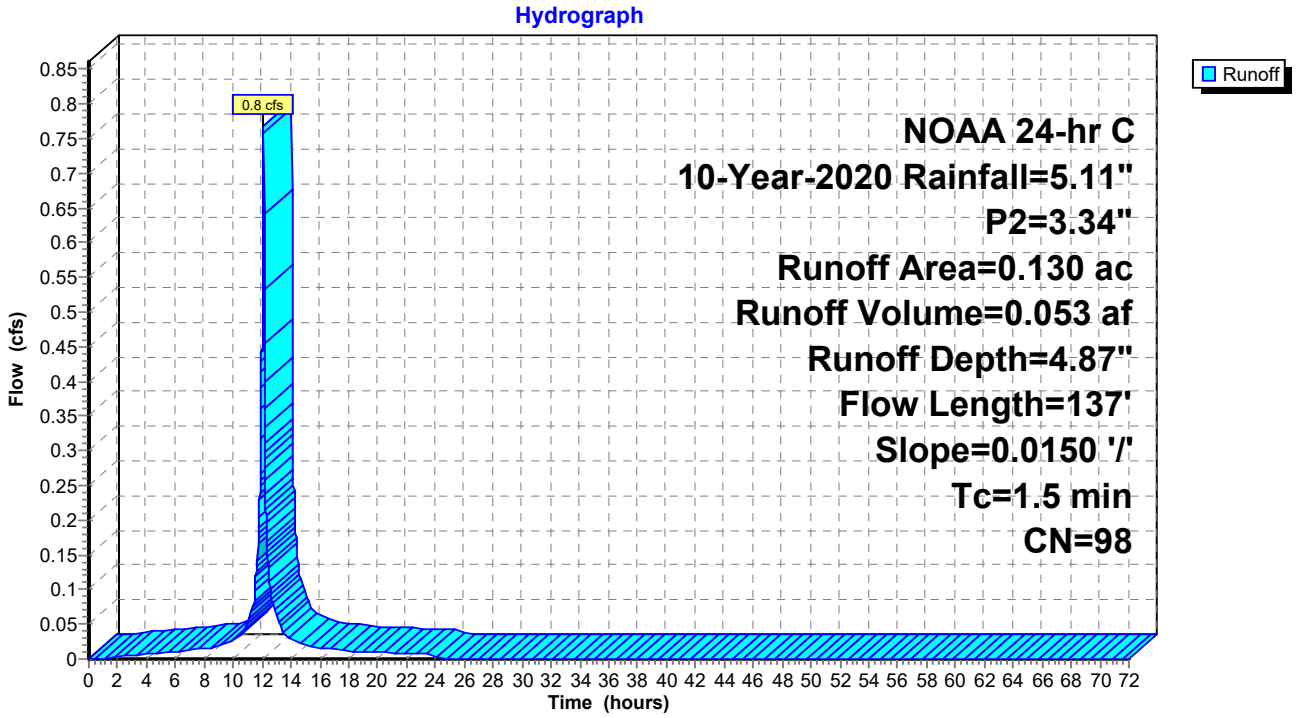
Runoff = 0.8 cfs @ 12.10 hrs, Volume= 0.053 af, Depth= 4.87"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
0.130	98	Paved parking, HSG A
0.130		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.25		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.5	137	Total			

Subcatchment B1i: DA-B1i



Summary for Subcatchment B1p: DA-B1p

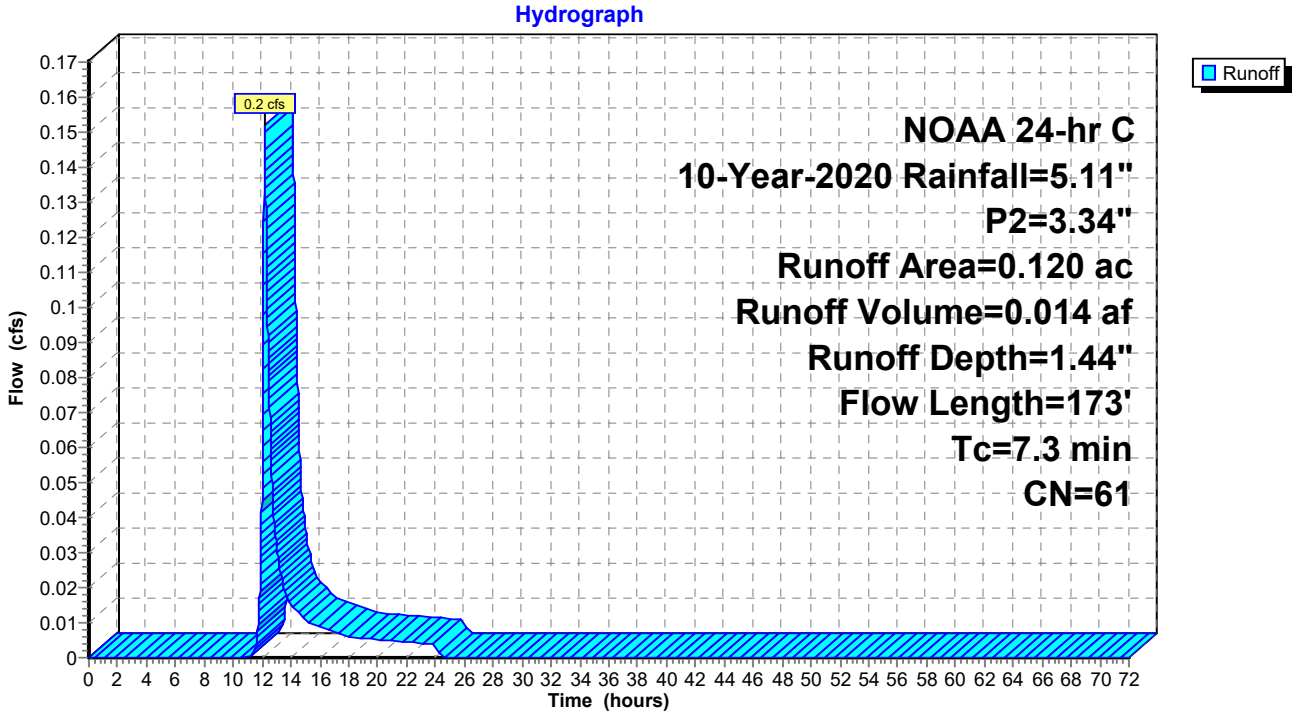
Runoff = 0.2 cfs @ 12.17 hrs, Volume= 0.014 af, Depth= 1.44"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
0.120	61	>75% Grass cover, Good, HSG B
0.120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	41	0.0250	0.11		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.4	28	0.0200	1.09		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.4	67	0.0200	2.87		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
7.3	173	Total			

Subcatchment B1p: DA-B1p



Summary for Subcatchment C1i: DA-C1i

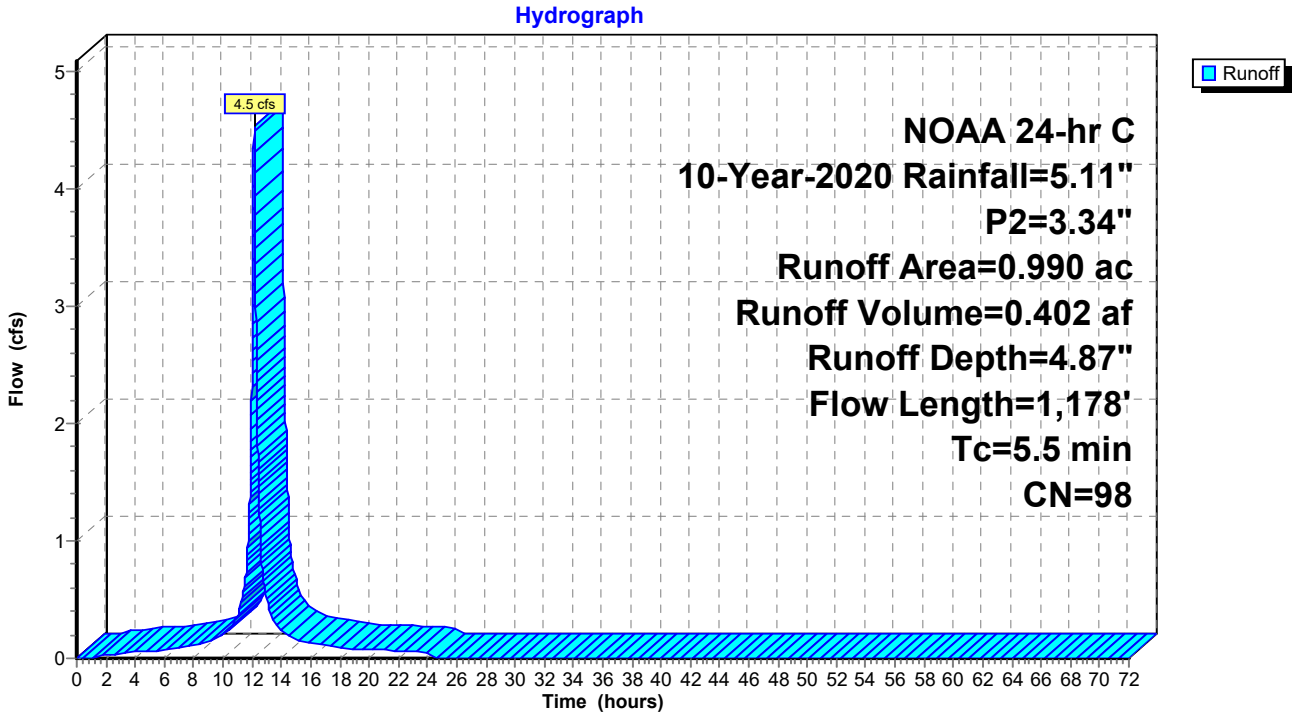
Runoff = 4.5 cfs @ 12.13 hrs, Volume= 0.402 af, Depth= 4.87"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
0.990	98	Paved parking, HSG A
0.990		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.4	50	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.5	1,178	Total			

Subcatchment C1i: DA-C1i



Summary for Subcatchment C1p: DA-C1p

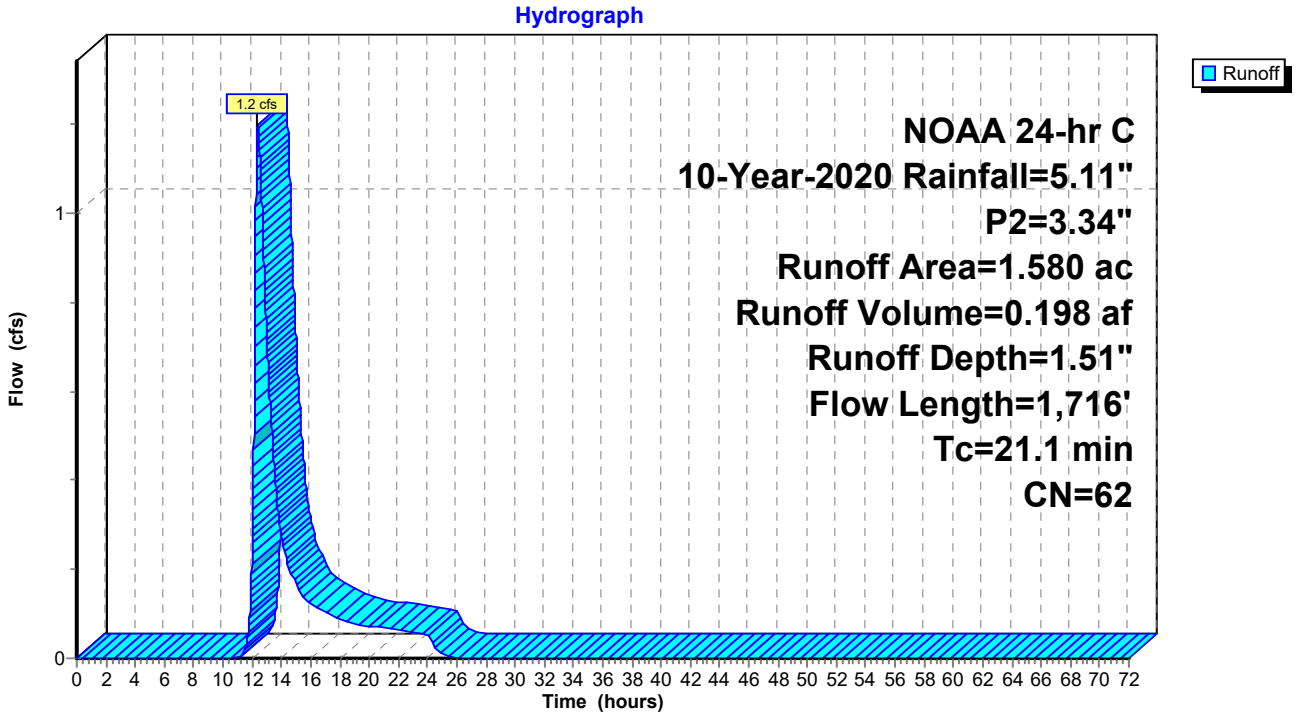
Runoff = 1.2 cfs @ 12.38 hrs, Volume= 0.198 af, Depth= 1.51"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2020 Rainfall=5.11", P2=3.34"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
0.160	74	>75% Grass cover, Good, HSG C
1.580	62	Weighted Average
1.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	100	0.0200	0.12		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.3	18	0.0200	0.99		**Shallow Concentrated Flow, SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
3.3	570	0.0030	2.88	3.54	**Pipe Channel, PIPE FLOW** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
21.1	1,716	Total			

Subcatchment C1p: DA-C1p

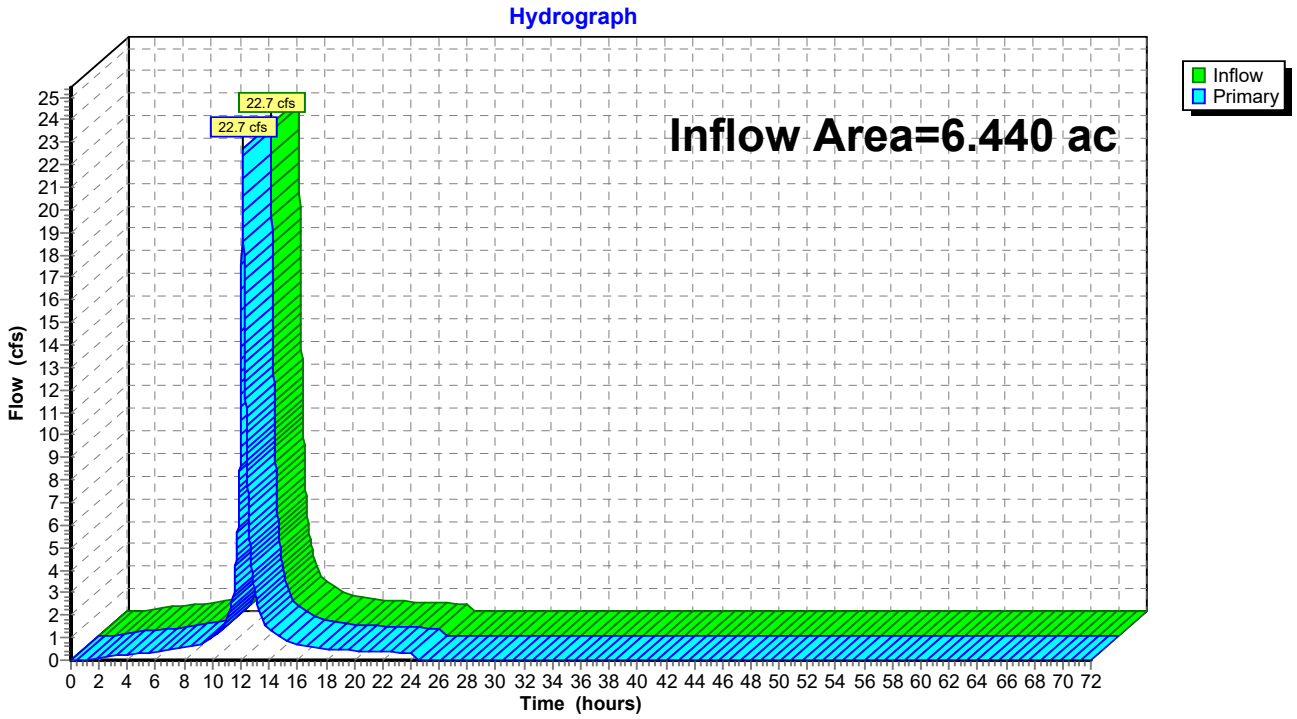


Summary for Link POI A Pr: POI A

Inflow Area = 6.440 ac, 74.53% Impervious, Inflow Depth = 4.00" for 10-Year-2020 event
Inflow = 22.7 cfs @ 12.14 hrs, Volume= 2.145 af
Primary = 22.7 cfs @ 12.14 hrs, Volume= 2.145 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Pr: POI A

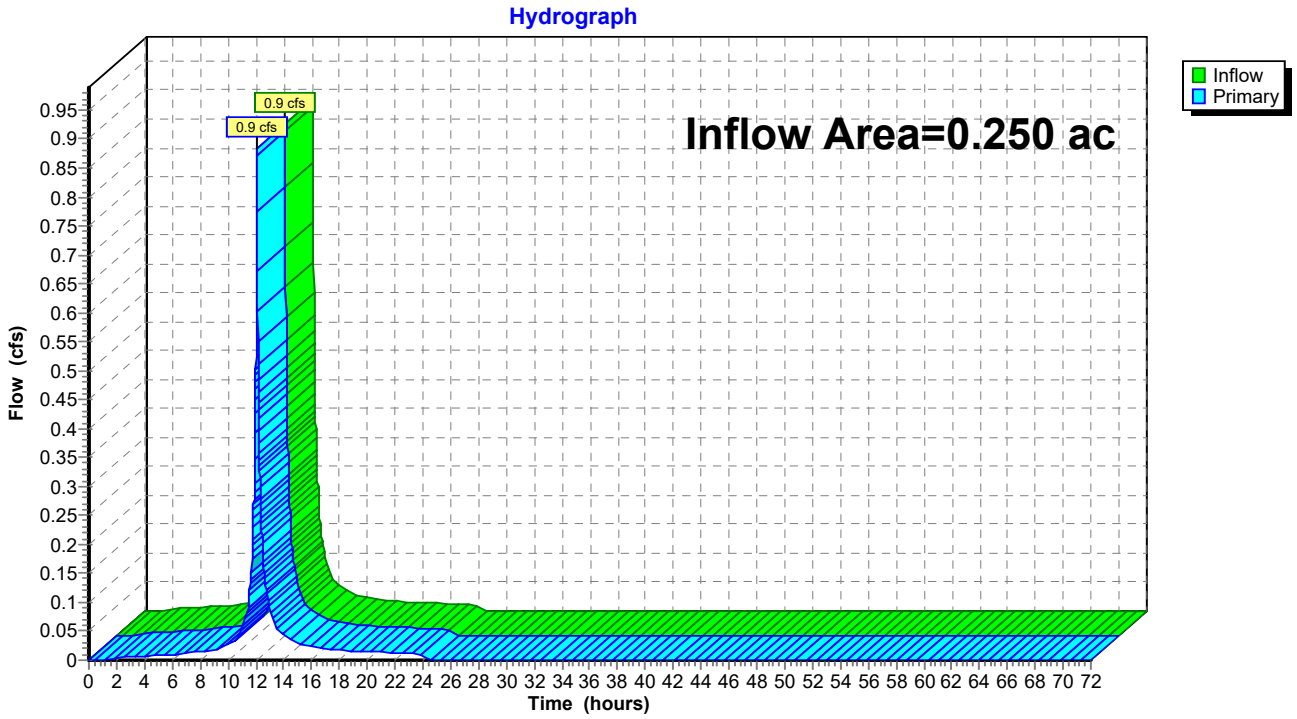


Summary for Link POI B Pr: POI B

Inflow Area = 0.250 ac, 52.00% Impervious, Inflow Depth = 3.22" for 10-Year-2020 event
Inflow = 0.9 cfs @ 12.10 hrs, Volume= 0.067 af
Primary = 0.9 cfs @ 12.10 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Pr: POI B

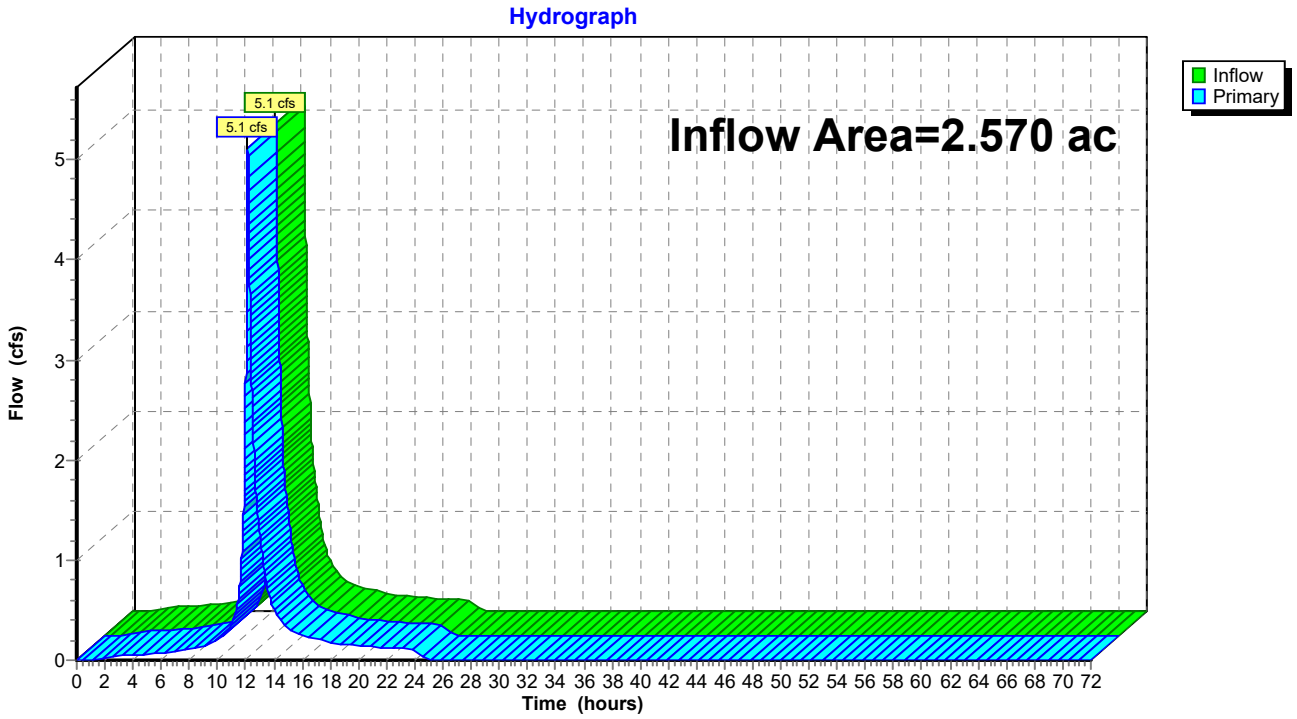


Summary for Link POI C Pr: POI C

Inflow Area = 2.570 ac, 38.52% Impervious, Inflow Depth = 2.80" for 10-Year-2020 event
Inflow = 5.1 cfs @ 12.14 hrs, Volume= 0.600 af
Primary = 5.1 cfs @ 12.14 hrs, Volume= 0.600 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Pr: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1i: DA-A1i Runoff Area=4.800 ac 100.00% Impervious Runoff Depth=8.42"
Flow Length=1,235' Tc=5.8 min CN=98 Runoff=36.7 cfs 3.368 af

SubcatchmentA1p: DA-A1p Runoff Area=1.640 ac 0.00% Impervious Runoff Depth=3.96"
Flow Length=547' Tc=12.9 min CN=61 Runoff=4.7 cfs 0.541 af

SubcatchmentB1i: DA-B1i Runoff Area=0.130 ac 100.00% Impervious Runoff Depth=8.42"
Flow Length=137' Slope=0.0150 '/' Tc=1.5 min CN=98 Runoff=1.3 cfs 0.091 af

SubcatchmentB1p: DA-B1p Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=3.96"
Flow Length=173' Tc=7.3 min CN=61 Runoff=0.5 cfs 0.040 af

SubcatchmentC1i: DA-C1i Runoff Area=0.990 ac 100.00% Impervious Runoff Depth=8.42"
Flow Length=1,178' Tc=5.5 min CN=98 Runoff=7.7 cfs 0.695 af

SubcatchmentC1p: DA-C1p Runoff Area=1.580 ac 0.00% Impervious Runoff Depth=4.07"
Flow Length=1,716' Tc=21.1 min CN=62 Runoff=3.6 cfs 0.537 af

Link POI A Pr: POI A Inflow=40.4 cfs 3.908 af
Primary=40.4 cfs 3.908 af

Link POI B Pr: POI B Inflow=1.7 cfs 0.131 af
Primary=1.7 cfs 0.131 af

Link POI C Pr: POI C Inflow=9.8 cfs 1.231 af
Primary=9.8 cfs 1.231 af

Total Runoff Area = 9.260 ac Runoff Volume = 5.270 af Average Runoff Depth = 6.83"
36.07% Pervious = 3.340 ac 63.93% Impervious = 5.920 ac

Summary for Subcatchment A1i: DA-A1i

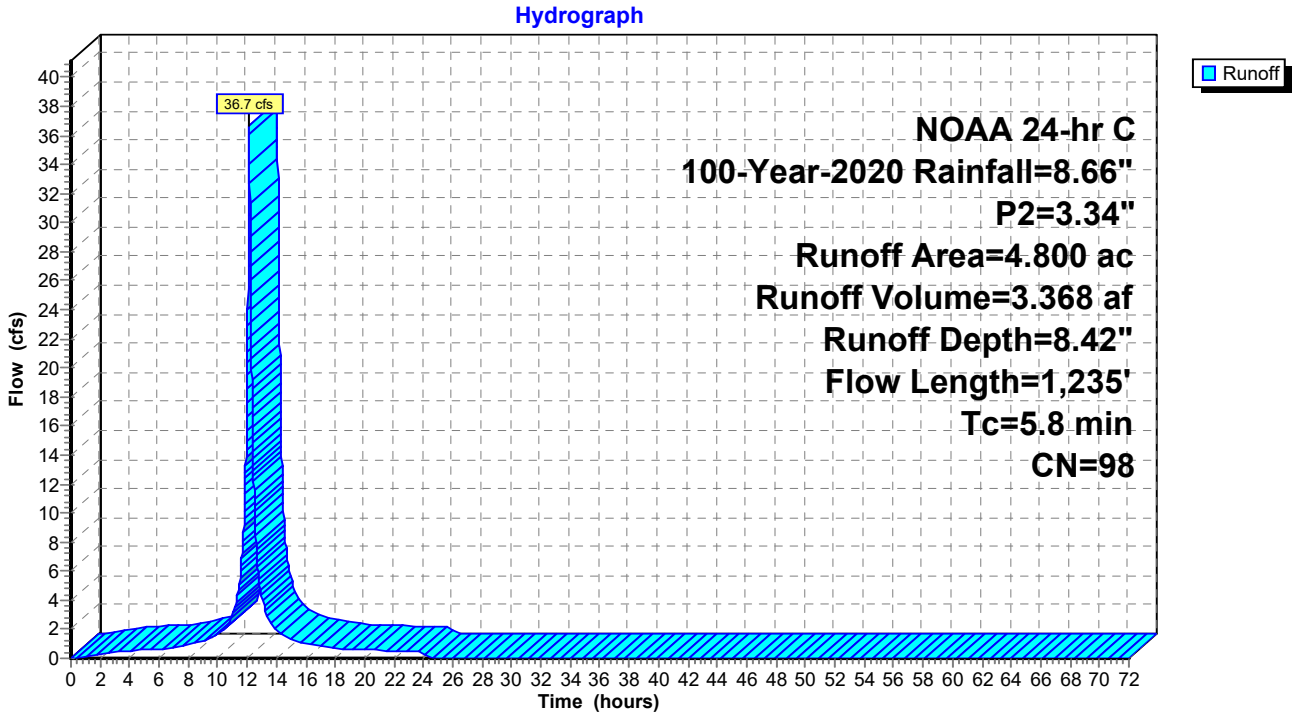
Runoff = 36.7 cfs @ 12.14 hrs, Volume= 3.368 af, Depth= 8.42"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
4.800	98	Paved parking, HSG A
4.800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.6	70	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
2.0	562	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.6	152	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.8	1,235	Total			

Subcatchment A1i: DA-A1i



Summary for Subcatchment A1p: DA-A1p

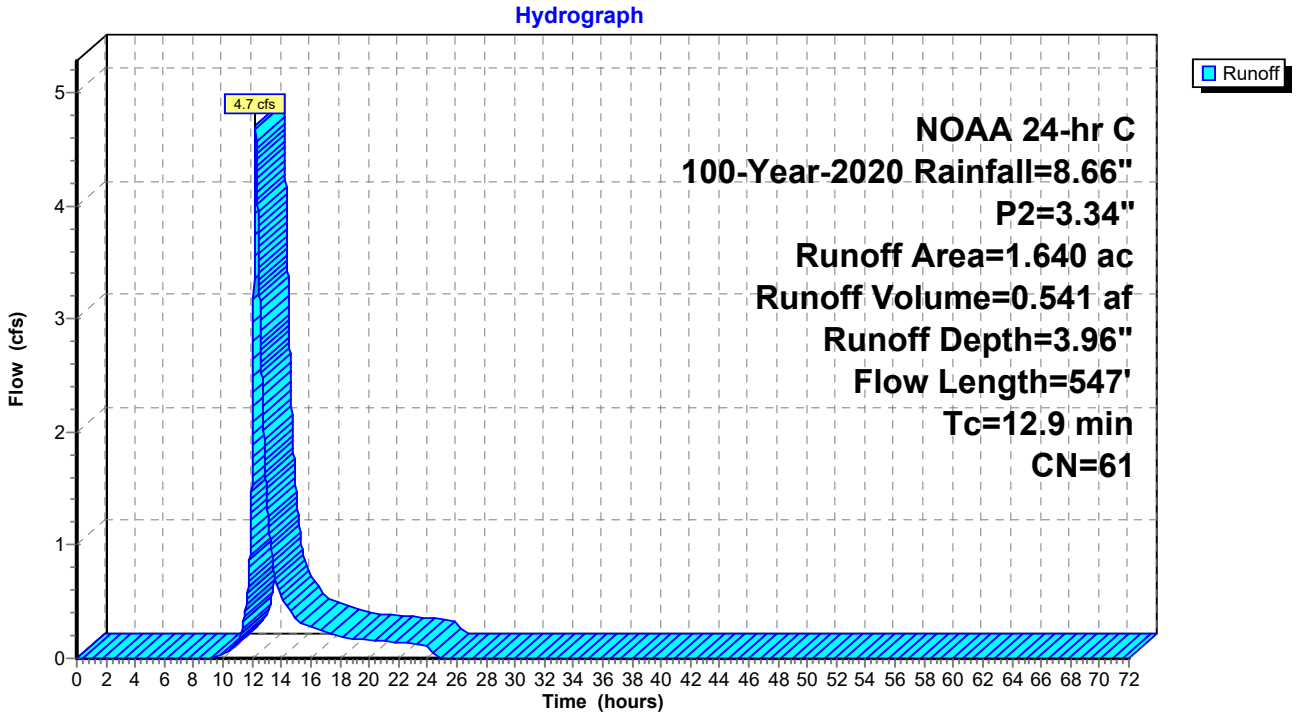
Runoff = 4.7 cfs @ 12.24 hrs, Volume= 0.541 af, Depth= 3.96"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
1.620	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.640	61	Weighted Average
1.640		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	70	0.0200	0.11		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.6	30	0.0100	0.84		**Sheet Flow, SHEET GRASS** Smooth surfaces n= 0.011 P2= 3.34"
0.8	96	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
12.9	547	Total			

Subcatchment A1p: DA-A1p



Summary for Subcatchment B1i: DA-B1i

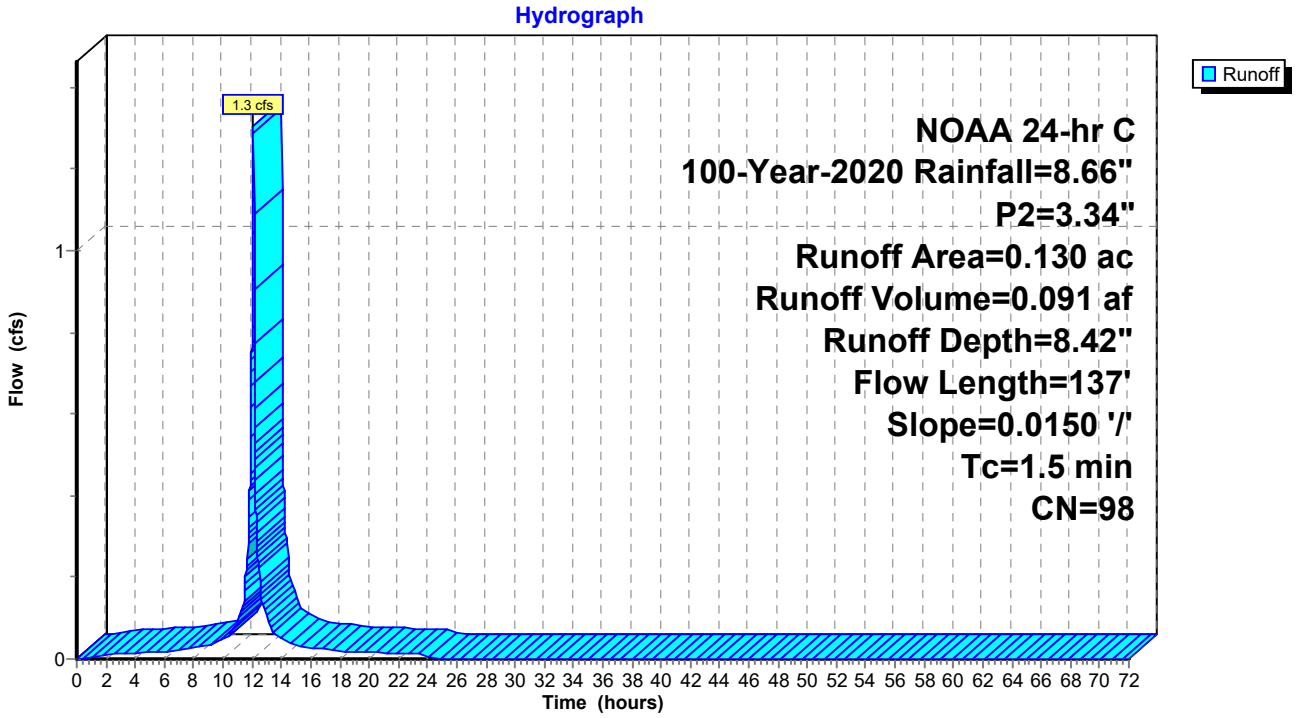
Runoff = 1.3 cfs @ 12.10 hrs, Volume= 0.091 af, Depth= 8.42"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
0.130	98	Paved parking, HSG A
0.130		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.25		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.5	137	Total			

Subcatchment B1i: DA-B1i



Summary for Subcatchment B1p: DA-B1p

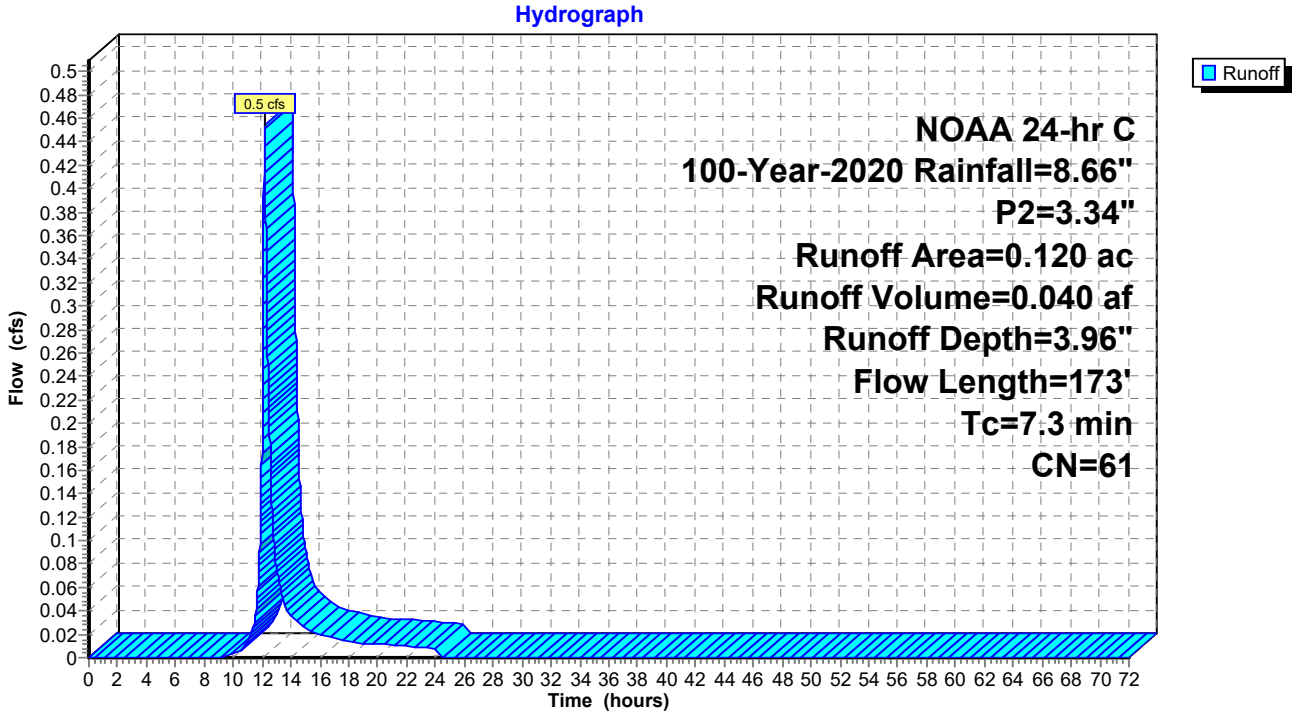
Runoff = 0.5 cfs @ 12.16 hrs, Volume= 0.040 af, Depth= 3.96"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
0.120	61	>75% Grass cover, Good, HSG B
0.120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	41	0.0250	0.11		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.4	28	0.0200	1.09		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.4	67	0.0200	2.87		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
7.3	173	Total			

Subcatchment B1p: DA-B1p



Summary for Subcatchment C1i: DA-C1i

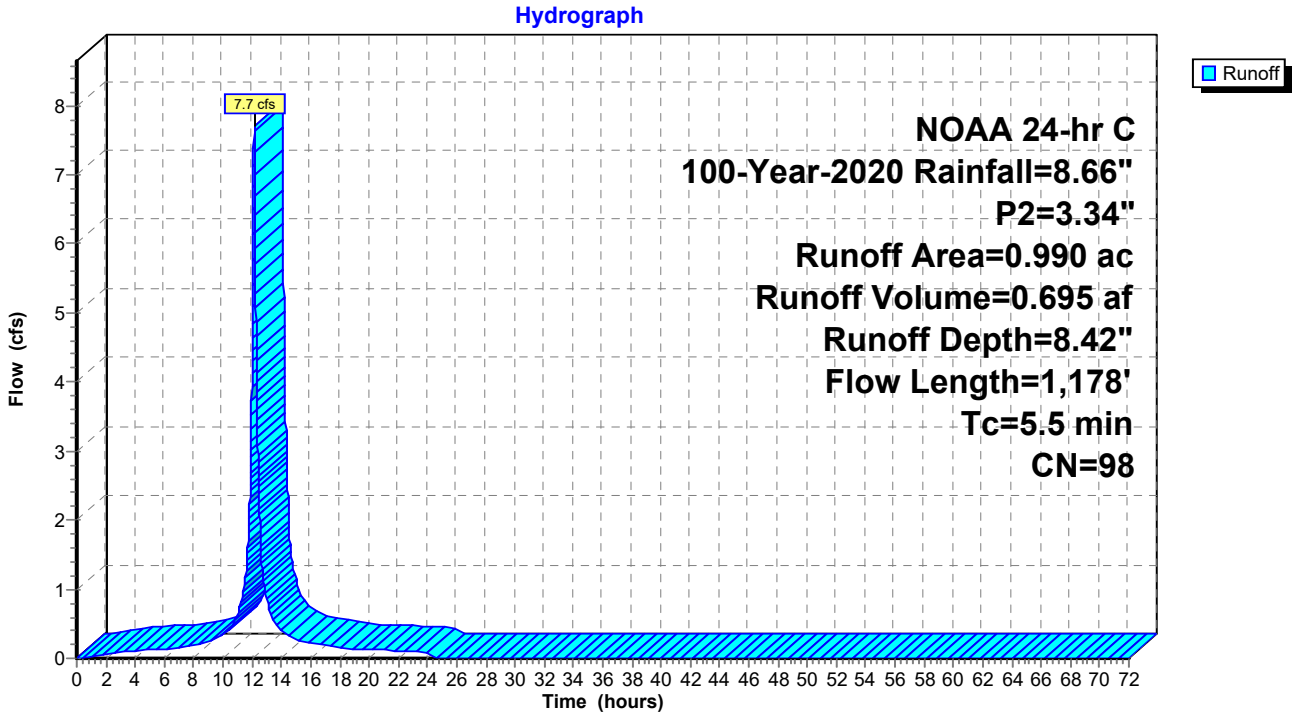
Runoff = 7.7 cfs @ 12.13 hrs, Volume= 0.695 af, Depth= 8.42"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
0.990	98	Paved parking, HSG A
0.990		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.34"
0.4	50	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.5	1,178	Total			

Subcatchment C1i: DA-C1i



Summary for Subcatchment C1p: DA-C1p

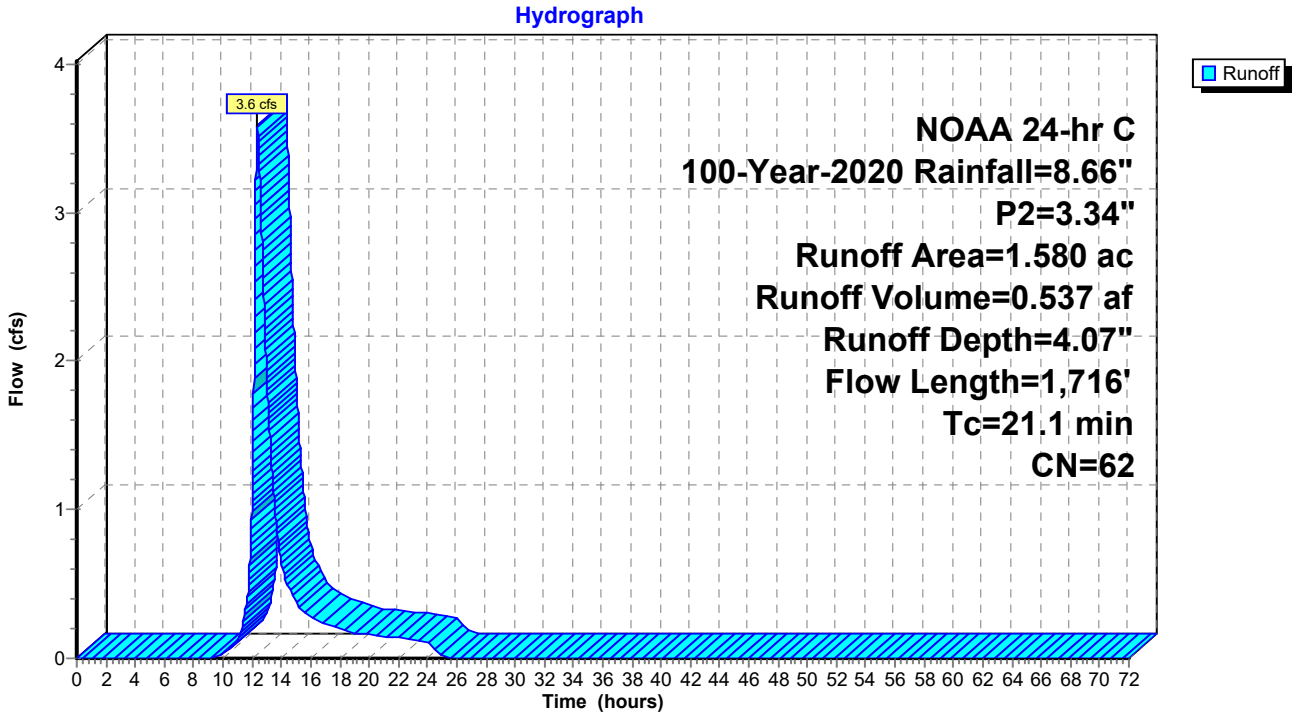
Runoff = 3.6 cfs @ 12.34 hrs, Volume= 0.537 af, Depth= 4.07"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2020 Rainfall=8.66", P2=3.34"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
0.160	74	>75% Grass cover, Good, HSG C
1.580	62	Weighted Average
1.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	100	0.0200	0.12		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.34"
0.3	18	0.0200	0.99		**Shallow Concentrated Flow, SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
3.3	570	0.0030	2.88	3.54	**Pipe Channel, PIPE FLOW** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
21.1	1,716	Total			

Subcatchment C1p: DA-C1p

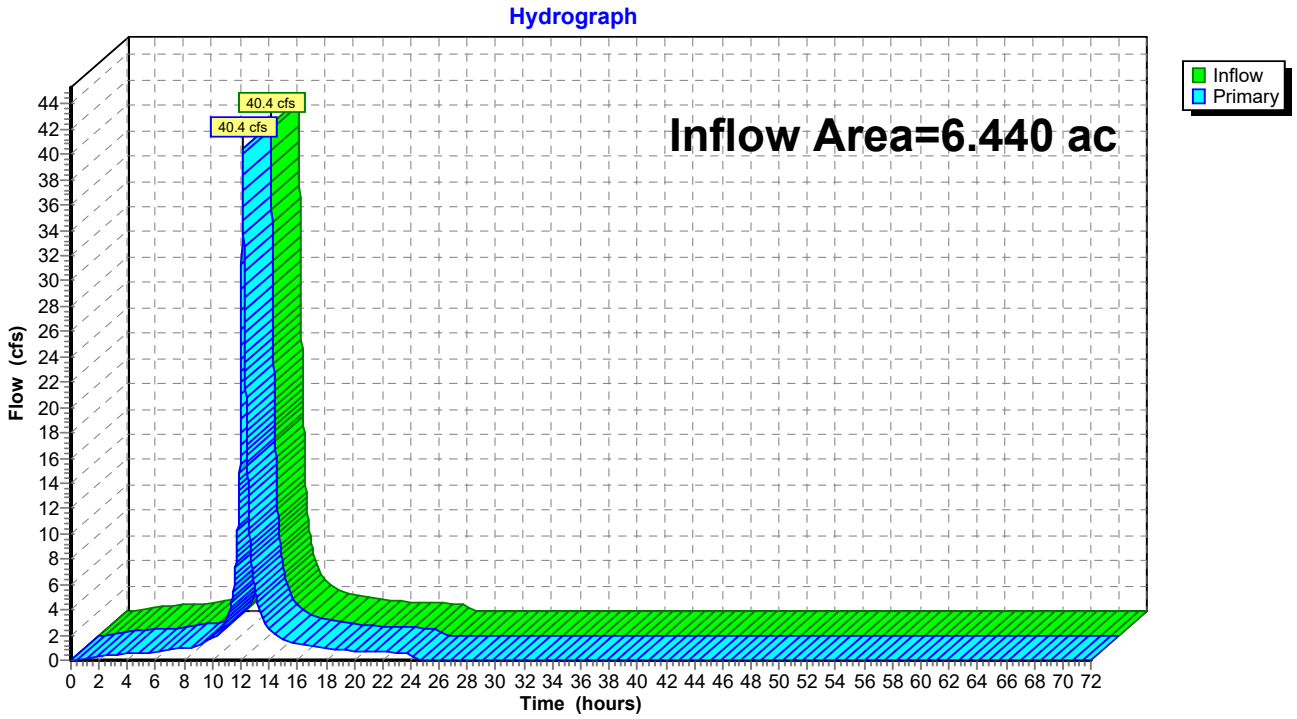


Summary for Link POI A Pr: POI A

Inflow Area = 6.440 ac, 74.53% Impervious, Inflow Depth = 7.28" for 100-Year-2020 event
Inflow = 40.4 cfs @ 12.14 hrs, Volume= 3.908 af
Primary = 40.4 cfs @ 12.14 hrs, Volume= 3.908 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Pr: POI A

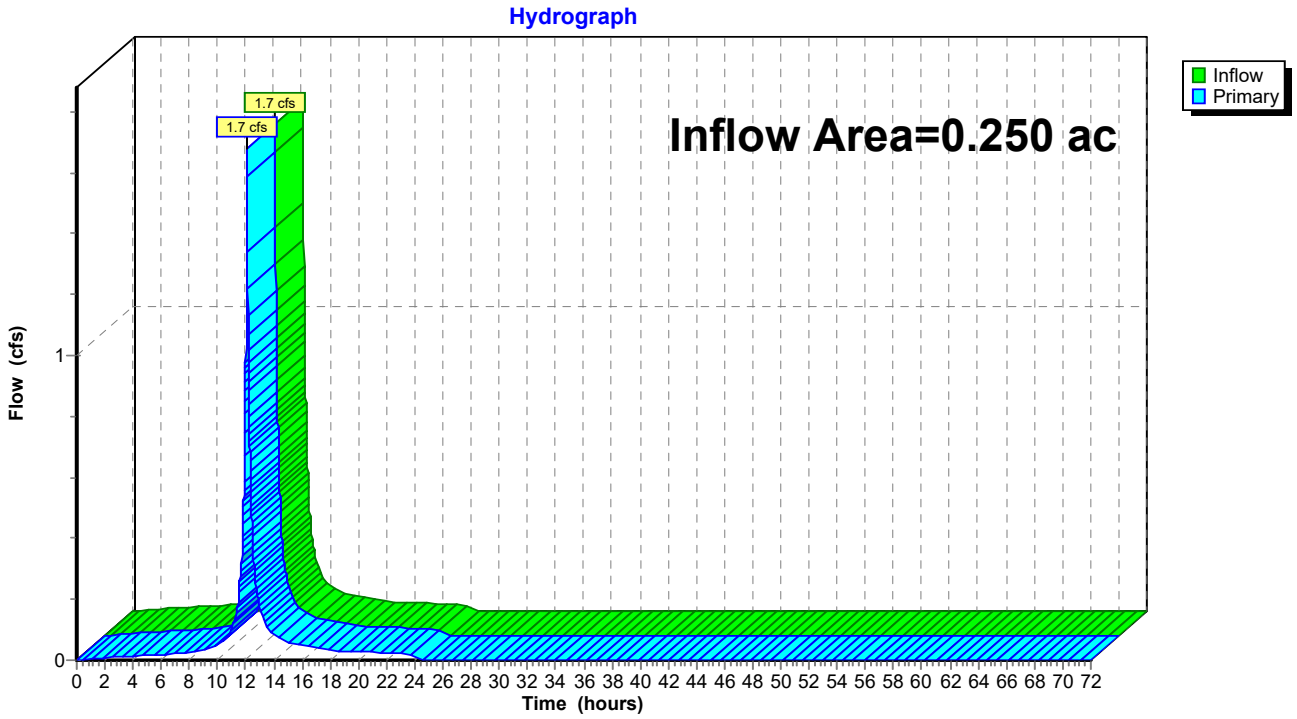


Summary for Link POI B Pr: POI B

Inflow Area = 0.250 ac, 52.00% Impervious, Inflow Depth = 6.28" for 100-Year-2020 event
Inflow = 1.7 cfs @ 12.10 hrs, Volume= 0.131 af
Primary = 1.7 cfs @ 12.10 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Pr: POI B

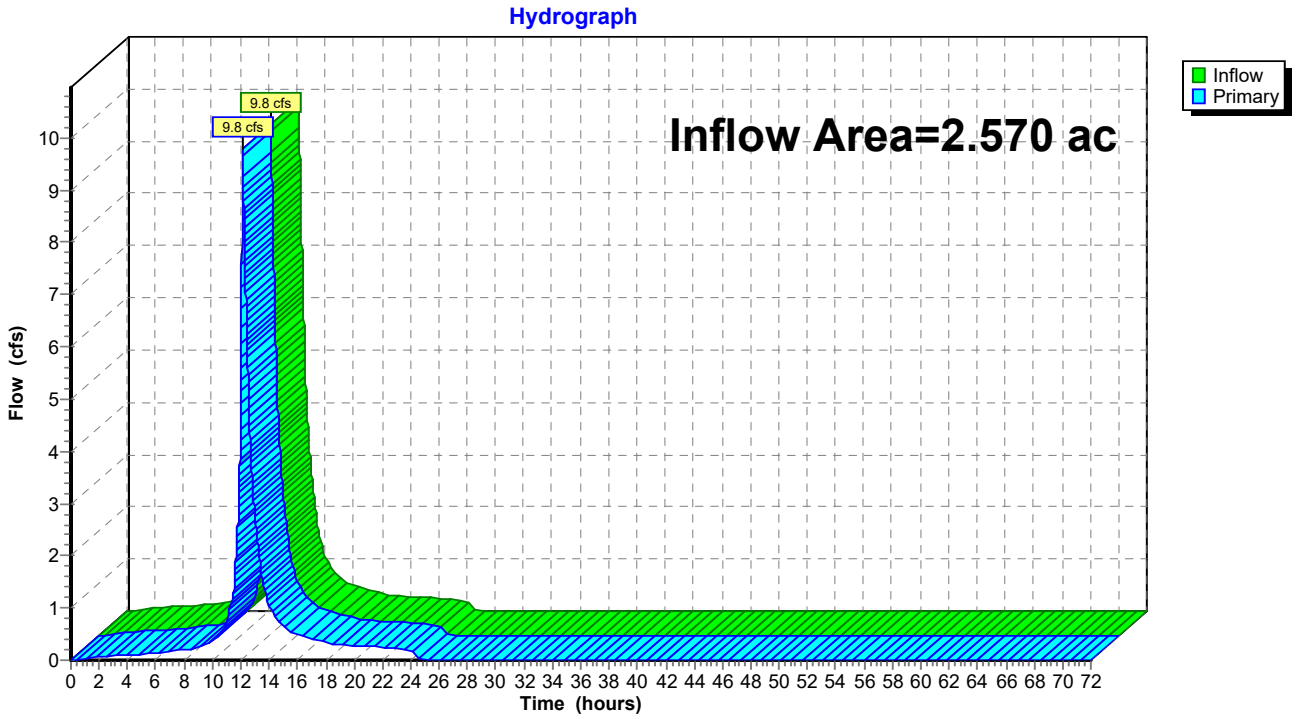


Summary for Link POI C Pr: POI C

Inflow Area = 2.570 ac, 38.52% Impervious, Inflow Depth = 5.75" for 100-Year-2020 event
Inflow = 9.8 cfs @ 12.14 hrs, Volume= 1.231 af
Primary = 9.8 cfs @ 12.14 hrs, Volume= 1.231 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Pr: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1i: DA-A1i Runoff Area=4.800 ac 100.00% Impervious Runoff Depth=3.61"
Flow Length=1,235' Tc=5.7 min CN=98 Runoff=16.2 cfs 1.442 af

SubcatchmentA1p: DA-A1p Runoff Area=1.640 ac 0.00% Impervious Runoff Depth=0.73"
Flow Length=547' Tc=12.2 min CN=61 Runoff=0.7 cfs 0.100 af

SubcatchmentB1i: DA-B1i Runoff Area=0.130 ac 100.00% Impervious Runoff Depth=3.61"
Flow Length=137' Slope=0.0150 '/' Tc=1.4 min CN=98 Runoff=0.6 cfs 0.039 af

SubcatchmentB1p: DA-B1p Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.73"
Flow Length=173' Tc=6.8 min CN=61 Runoff=0.1 cfs 0.007 af

SubcatchmentC1i: DA-C1i Runoff Area=0.990 ac 100.00% Impervious Runoff Depth=3.61"
Flow Length=1,178' Tc=5.4 min CN=98 Runoff=3.4 cfs 0.297 af

SubcatchmentC1p: DA-C1p Runoff Area=1.580 ac 0.00% Impervious Runoff Depth=0.78"
Flow Length=1,716' Tc=20.1 min CN=62 Runoff=0.6 cfs 0.103 af

Link POI A Pr: POI A Inflow=16.7 cfs 1.542 af
Primary=16.7 cfs 1.542 af

Link POI B Pr: POI B Inflow=0.6 cfs 0.046 af
Primary=0.6 cfs 0.046 af

Link POI C Pr: POI C Inflow=3.6 cfs 0.400 af
Primary=3.6 cfs 0.400 af

Total Runoff Area = 9.260 ac Runoff Volume = 1.989 af Average Runoff Depth = 2.58"
36.07% Pervious = 3.340 ac 63.93% Impervious = 5.920 ac

Summary for Subcatchment A1i: DA-A1i

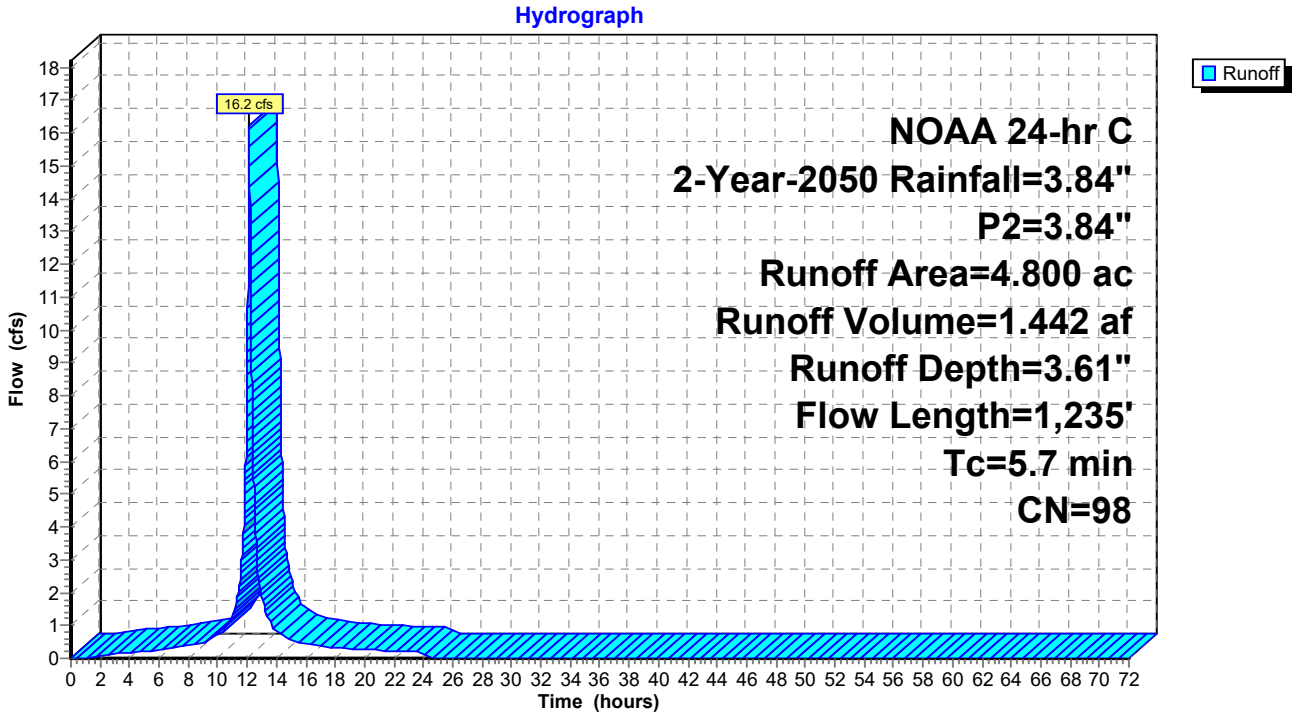
Runoff = 16.2 cfs @ 12.14 hrs, Volume= 1.442 af, Depth= 3.61"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
4.800	98	Paved parking, HSG A
4.800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	100	0.0100	1.14		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.6	70	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
2.0	562	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.6	152	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.7	1,235	Total			

Subcatchment A1i: DA-A1i



Summary for Subcatchment A1p: DA-A1p

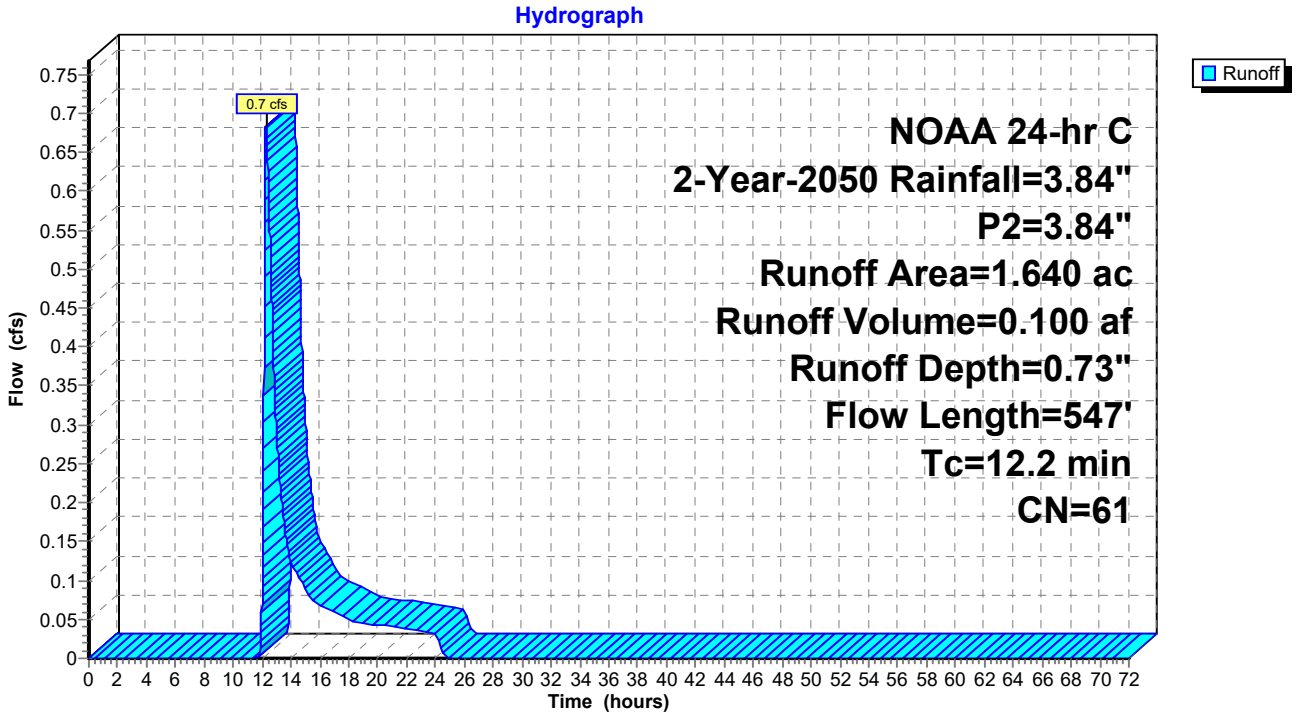
Runoff = 0.7 cfs @ 12.26 hrs, Volume= 0.100 af, Depth= 0.73"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
1.620	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.640	61	Weighted Average
1.640		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	70	0.0200	0.12		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.6	30	0.0100	0.90		**Sheet Flow, SHEET GRASS** Smooth surfaces n= 0.011 P2= 3.84"
0.8	96	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
12.2	547	Total			

Subcatchment A1p: DA-A1p



Summary for Subcatchment B1i: DA-B1i

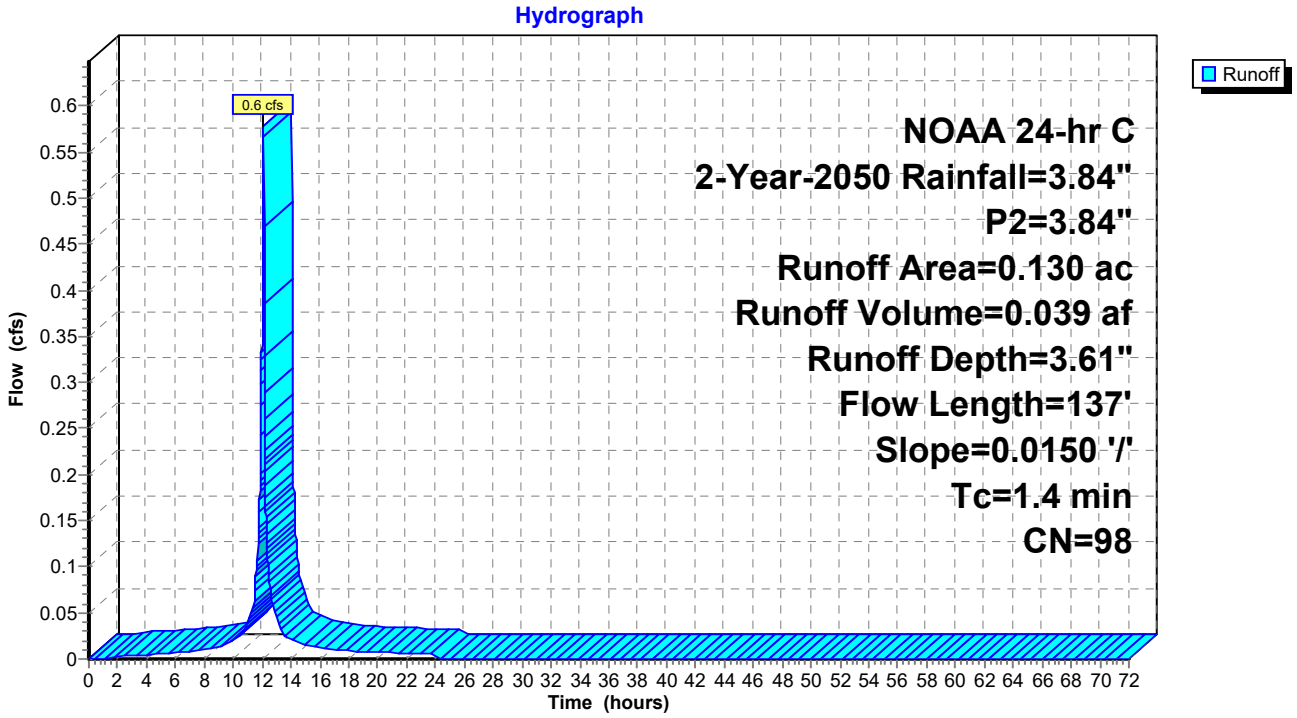
Runoff = 0.6 cfs @ 12.10 hrs, Volume= 0.039 af, Depth= 3.61"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
0.130	98	Paved parking, HSG A
0.130		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0150	1.34		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.4	137	Total			

Subcatchment B1i: DA-B1i



Summary for Subcatchment B1p: DA-B1p

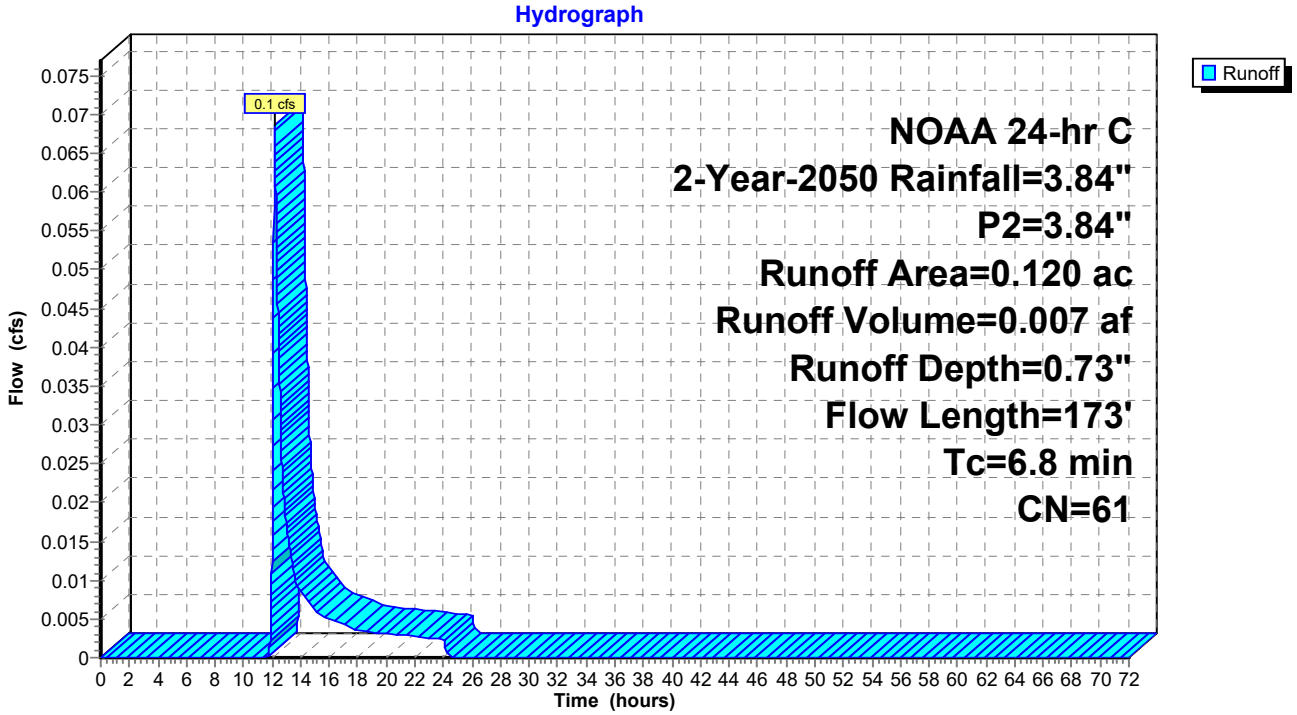
Runoff = 0.1 cfs @ 12.17 hrs, Volume= 0.007 af, Depth= 0.73"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
0.120	61	>75% Grass cover, Good, HSG B
0.120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	41	0.0250	0.12		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.4	28	0.0200	1.17		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.4	67	0.0200	2.87		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
6.8	173	Total			

Subcatchment B1p: DA-B1p



Summary for Subcatchment C1i: DA-C1i

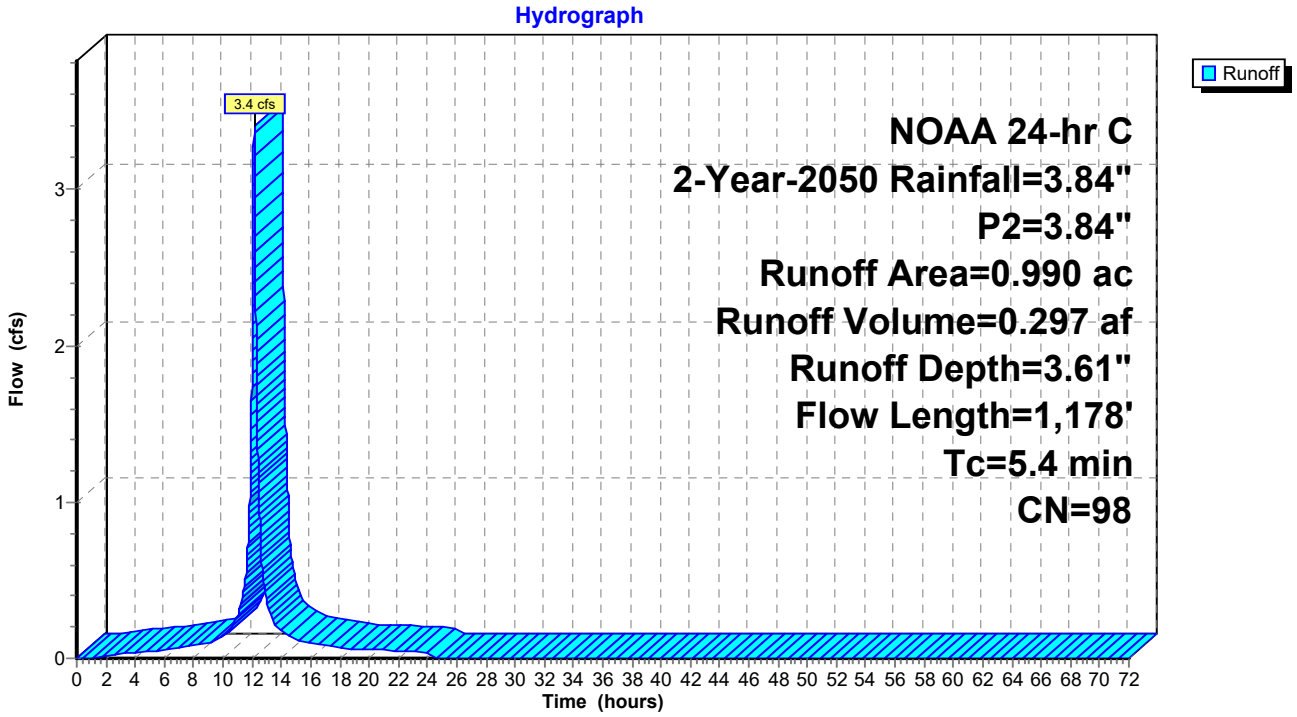
Runoff = 3.4 cfs @ 12.13 hrs, Volume= 0.297 af, Depth= 3.61"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
0.990	98	Paved parking, HSG A
0.990		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	100	0.0100	1.14		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.4	50	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.4	1,178	Total			

Subcatchment C1i: DA-C1i



Summary for Subcatchment C1p: DA-C1p

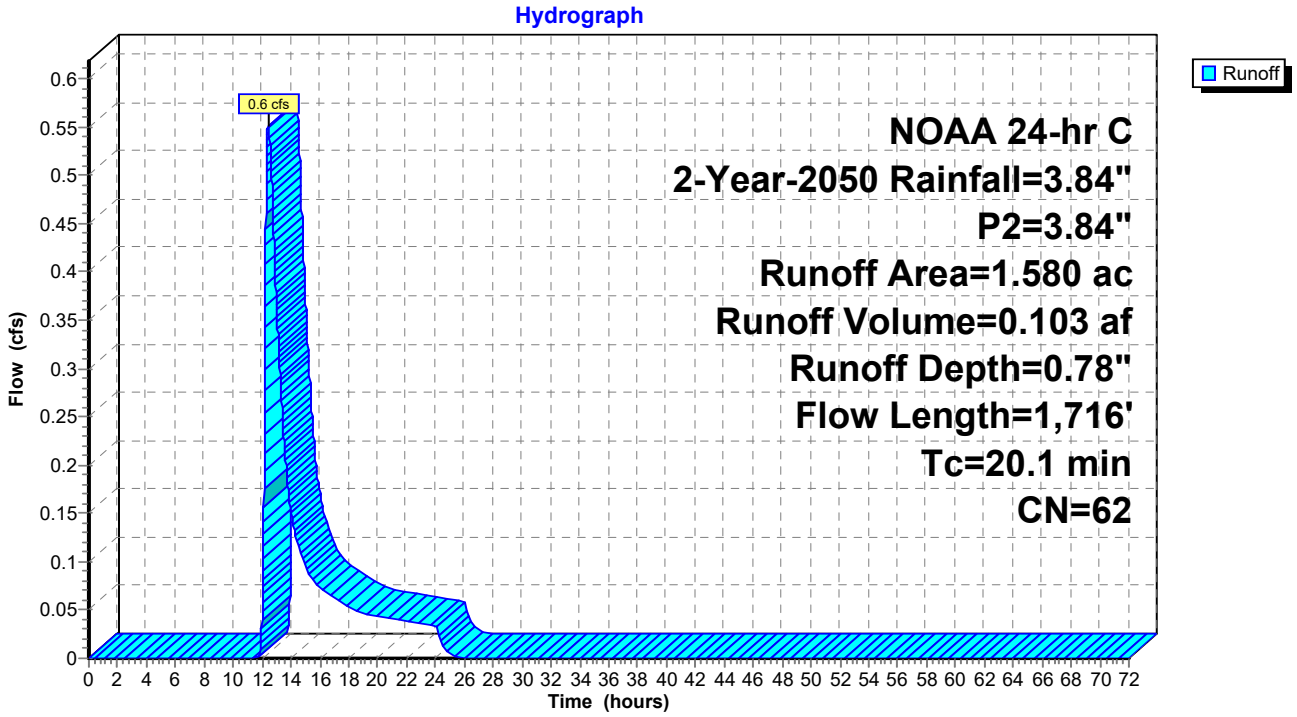
Runoff = 0.6 cfs @ 12.42 hrs, Volume= 0.103 af, Depth= 0.78"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=3.84", P2=3.84"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
0.160	74	>75% Grass cover, Good, HSG C
1.580	62	Weighted Average
1.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0200	0.13		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.3	18	0.0200	0.99		**Shallow Concentrated Flow, SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
3.3	570	0.0030	2.88	3.54	**Pipe Channel, PIPE FLOW** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
20.1	1,716	Total			

Subcatchment C1p: DA-C1p

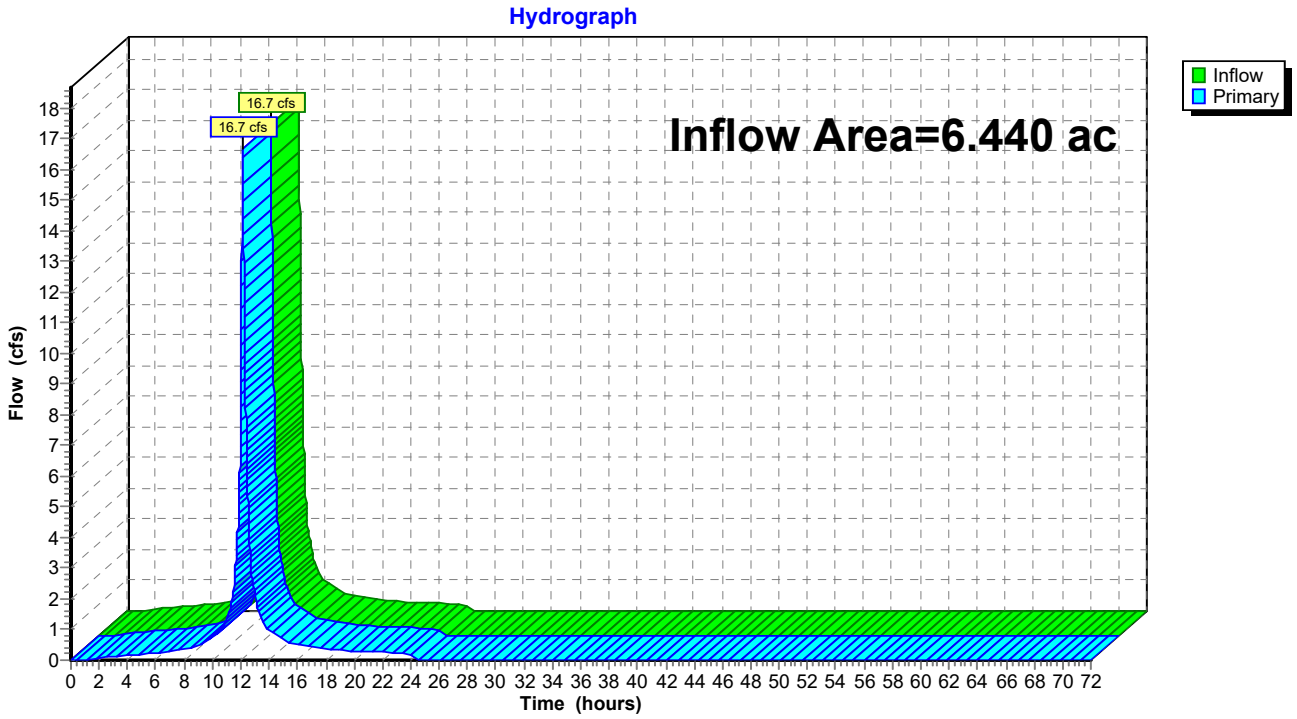


Summary for Link POI A Pr: POI A

Inflow Area = 6.440 ac, 74.53% Impervious, Inflow Depth = 2.87" for 2-Year-2050 event
Inflow = 16.7 cfs @ 12.14 hrs, Volume= 1.542 af
Primary = 16.7 cfs @ 12.14 hrs, Volume= 1.542 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Pr: POI A

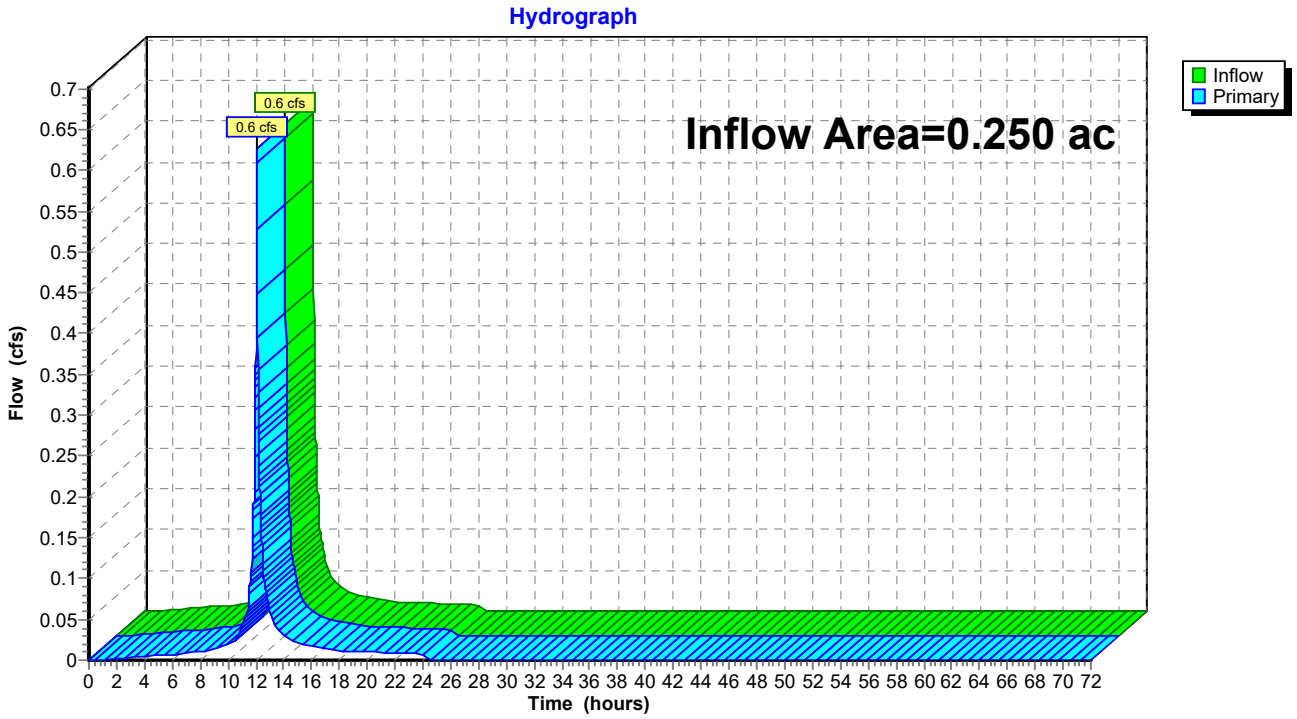


Summary for Link POI B Pr: POI B

Inflow Area = 0.250 ac, 52.00% Impervious, Inflow Depth = 2.23" for 2-Year-2050 event
Inflow = 0.6 cfs @ 12.10 hrs, Volume= 0.046 af
Primary = 0.6 cfs @ 12.10 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Pr: POI B

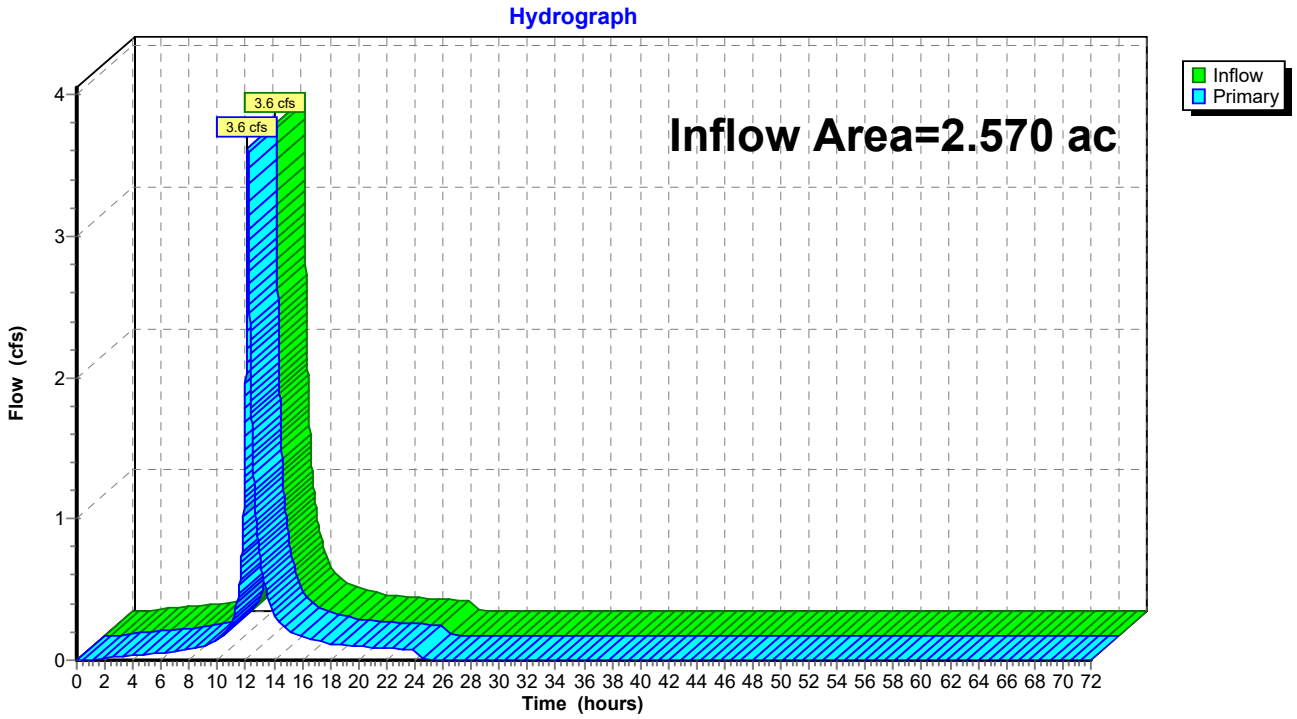


Summary for Link POI C Pr: POI C

Inflow Area = 2.570 ac, 38.52% Impervious, Inflow Depth = 1.87" for 2-Year-2050 event
Inflow = 3.6 cfs @ 12.14 hrs, Volume= 0.400 af
Primary = 3.6 cfs @ 12.14 hrs, Volume= 0.400 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Pr: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1i: DA-A1i Runoff Area=4.800 ac 100.00% Impervious Runoff Depth=5.62"
Flow Length=1,235' Tc=5.7 min CN=98 Runoff=24.9 cfs 2.249 af

SubcatchmentA1p: DA-A1p Runoff Area=1.640 ac 0.00% Impervious Runoff Depth=1.91"
Flow Length=547' Tc=12.2 min CN=61 Runoff=2.2 cfs 0.261 af

SubcatchmentB1i: DA-B1i Runoff Area=0.130 ac 100.00% Impervious Runoff Depth=5.62"
Flow Length=137' Slope=0.0150 '/' Tc=1.4 min CN=98 Runoff=0.9 cfs 0.061 af

SubcatchmentB1p: DA-B1p Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=1.91"
Flow Length=173' Tc=6.8 min CN=61 Runoff=0.2 cfs 0.019 af

SubcatchmentC1i: DA-C1i Runoff Area=0.990 ac 100.00% Impervious Runoff Depth=5.62"
Flow Length=1,178' Tc=5.4 min CN=98 Runoff=5.2 cfs 0.464 af

SubcatchmentC1p: DA-C1p Runoff Area=1.580 ac 0.00% Impervious Runoff Depth=2.00"
Flow Length=1,716' Tc=20.1 min CN=62 Runoff=1.7 cfs 0.263 af

Link POI A Pr: POI A Inflow=26.6 cfs 2.510 af
Primary=26.6 cfs 2.510 af

Link POI B Pr: POI B Inflow=1.1 cfs 0.080 af
Primary=1.1 cfs 0.080 af

Link POI C Pr: POI C Inflow=6.1 cfs 0.727 af
Primary=6.1 cfs 0.727 af

Total Runoff Area = 9.260 ac Runoff Volume = 3.317 af Average Runoff Depth = 4.30"
36.07% Pervious = 3.340 ac 63.93% Impervious = 5.920 ac

Summary for Subcatchment A1i: DA-A1i

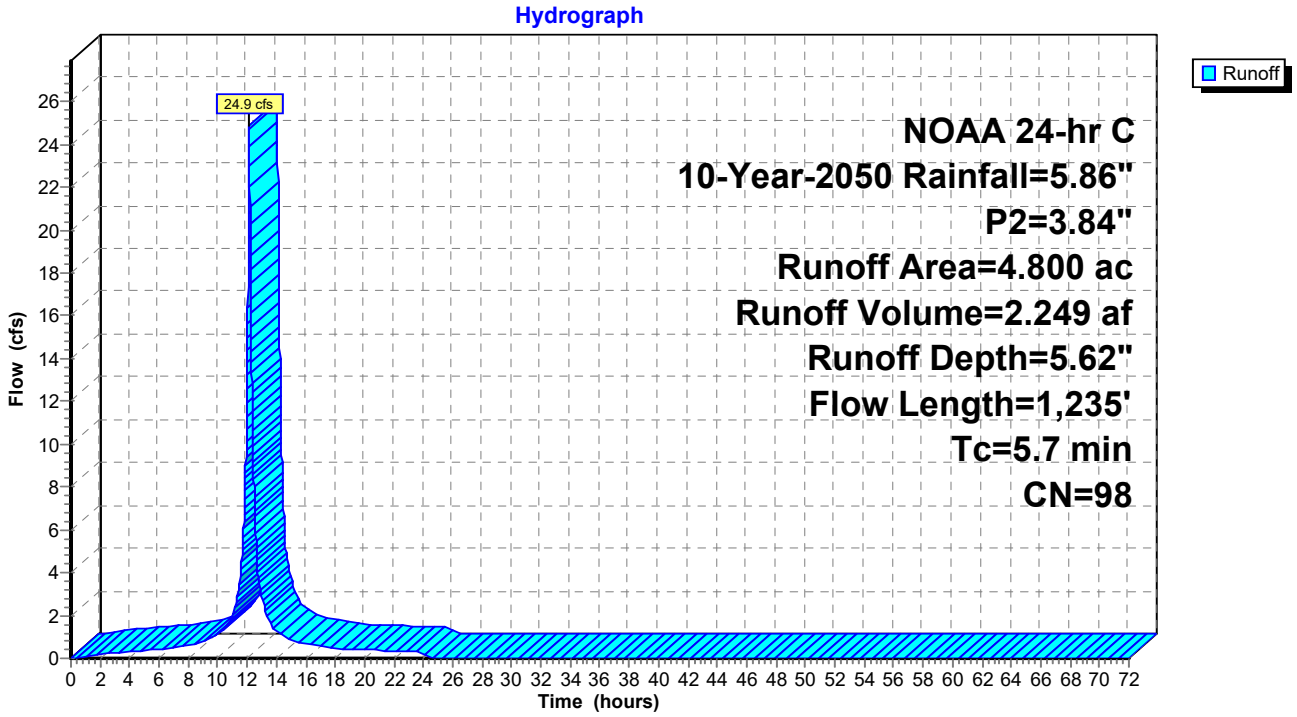
Runoff = 24.9 cfs @ 12.14 hrs, Volume= 2.249 af, Depth= 5.62"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
4.800	98	Paved parking, HSG A
4.800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	100	0.0100	1.14		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.6	70	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
2.0	562	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.6	152	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.7	1,235	Total			

Subcatchment A1i: DA-A1i



Summary for Subcatchment A1p: DA-A1p

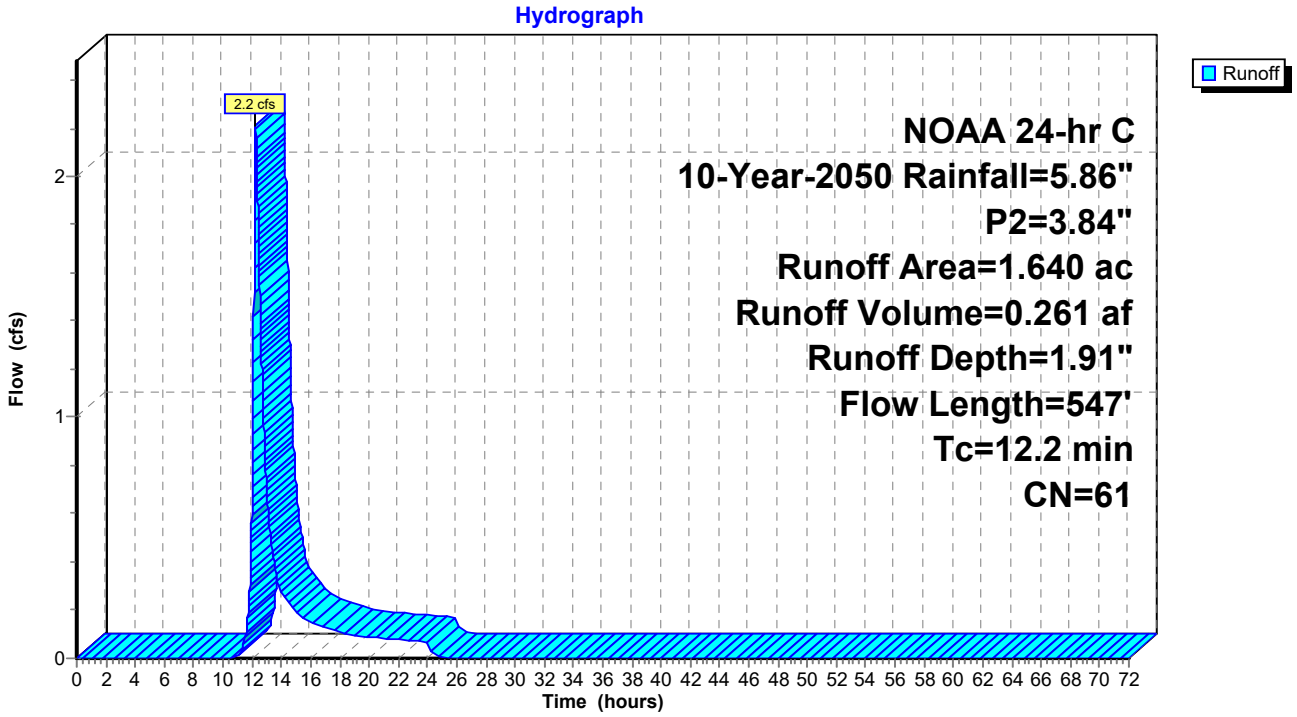
Runoff = 2.2 cfs @ 12.23 hrs, Volume= 0.261 af, Depth= 1.91"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
1.620	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.640	61	Weighted Average
1.640		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	70	0.0200	0.12		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.6	30	0.0100	0.90		**Sheet Flow, SHEET GRASS** Smooth surfaces n= 0.011 P2= 3.84"
0.8	96	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
12.2	547	Total			

Subcatchment A1p: DA-A1p



Summary for Subcatchment B1i: DA-B1i

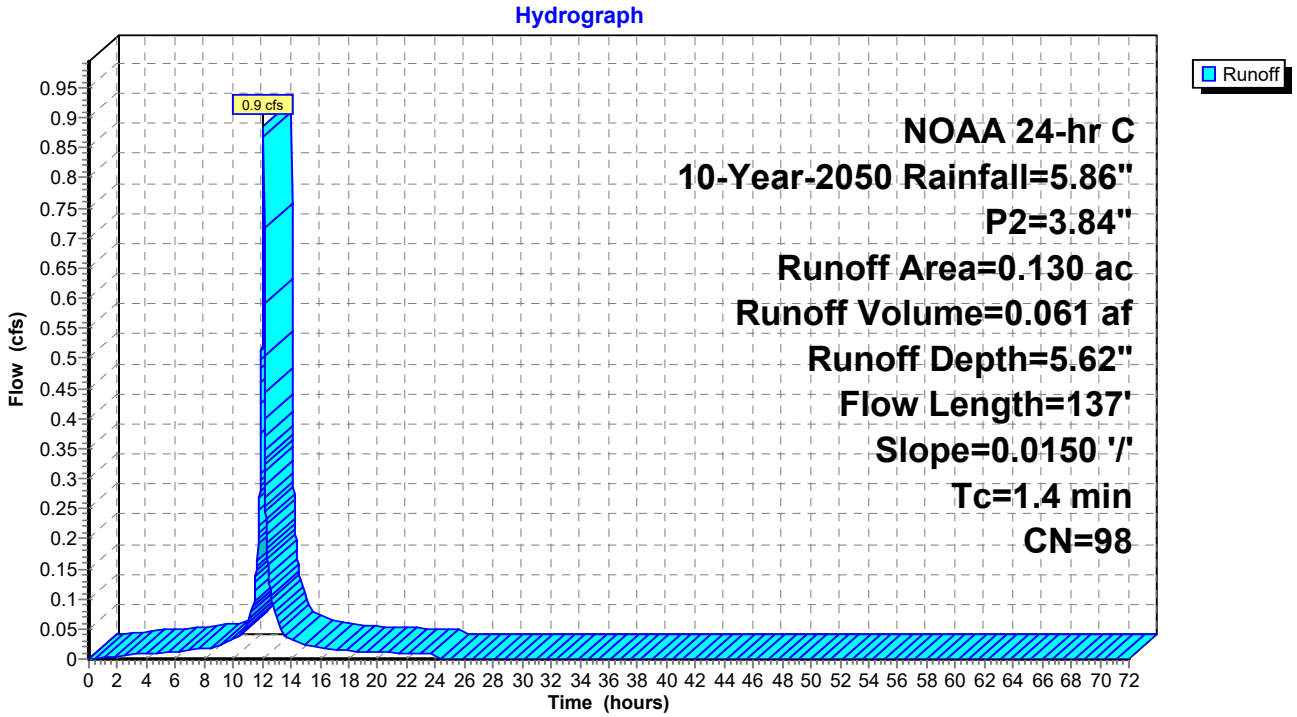
Runoff = 0.9 cfs @ 12.10 hrs, Volume= 0.061 af, Depth= 5.62"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
0.130	98	Paved parking, HSG A
0.130		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0150	1.34		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.4	137	Total			

Subcatchment B1i: DA-B1i



Summary for Subcatchment B1p: DA-B1p

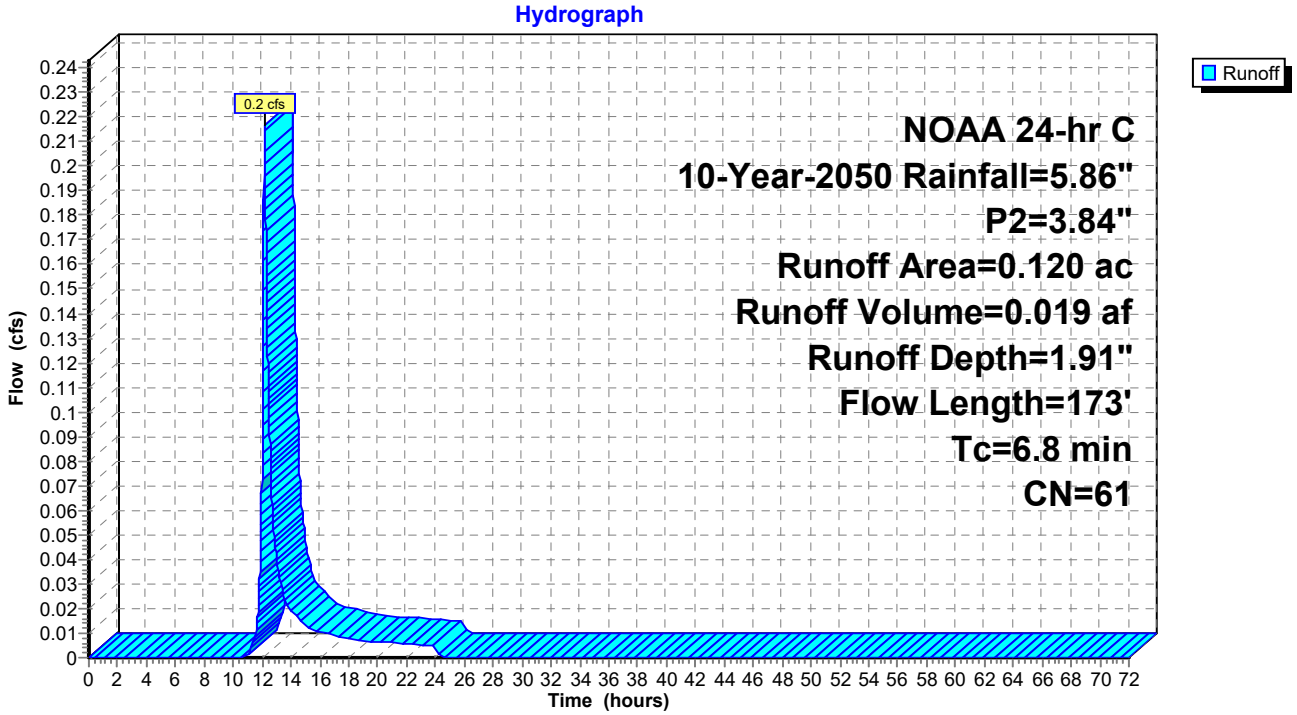
Runoff = 0.2 cfs @ 12.16 hrs, Volume= 0.019 af, Depth= 1.91"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
0.120	61	>75% Grass cover, Good, HSG B
0.120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	41	0.0250	0.12		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.4	28	0.0200	1.17		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.4	67	0.0200	2.87		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
6.8	173	Total			

Subcatchment B1p: DA-B1p



Summary for Subcatchment C1i: DA-C1i

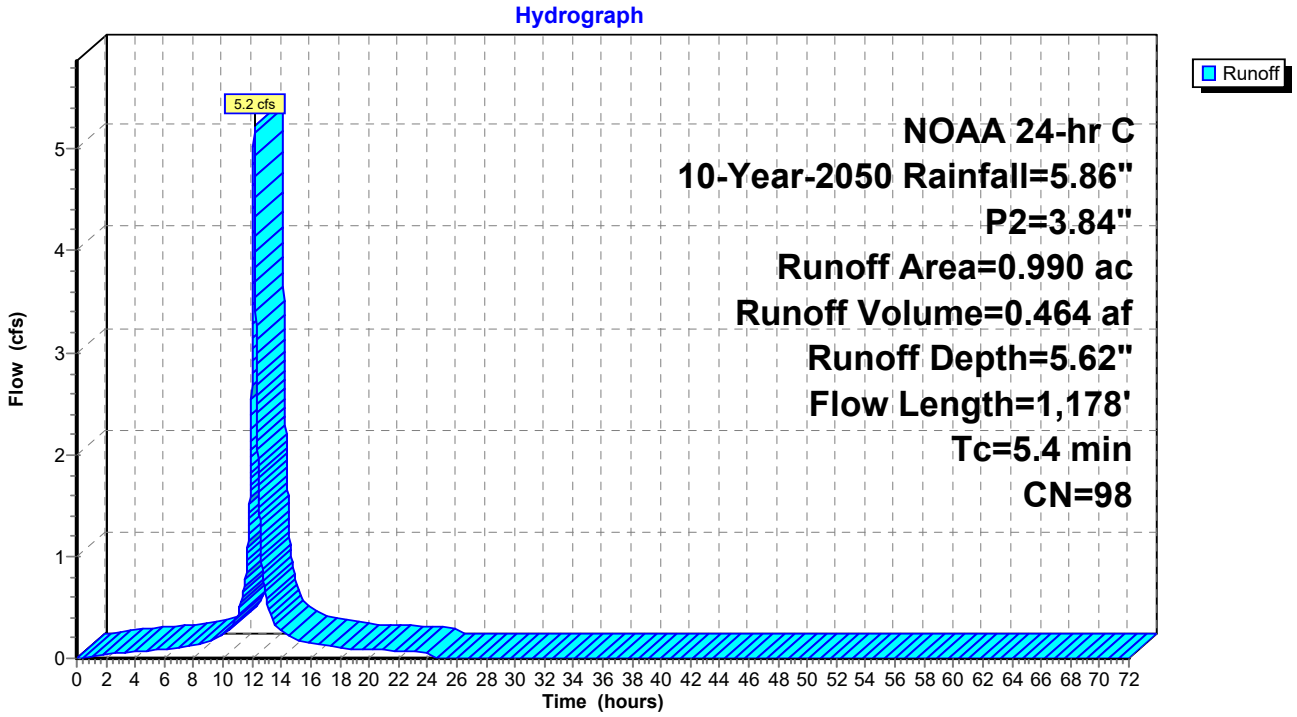
Runoff = 5.2 cfs @ 12.13 hrs, Volume= 0.464 af, Depth= 5.62"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
0.990	98	Paved parking, HSG A
0.990		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	100	0.0100	1.14		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.4	50	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.4	1,178	Total			

Subcatchment C1i: DA-C1i



Summary for Subcatchment C1p: DA-C1p

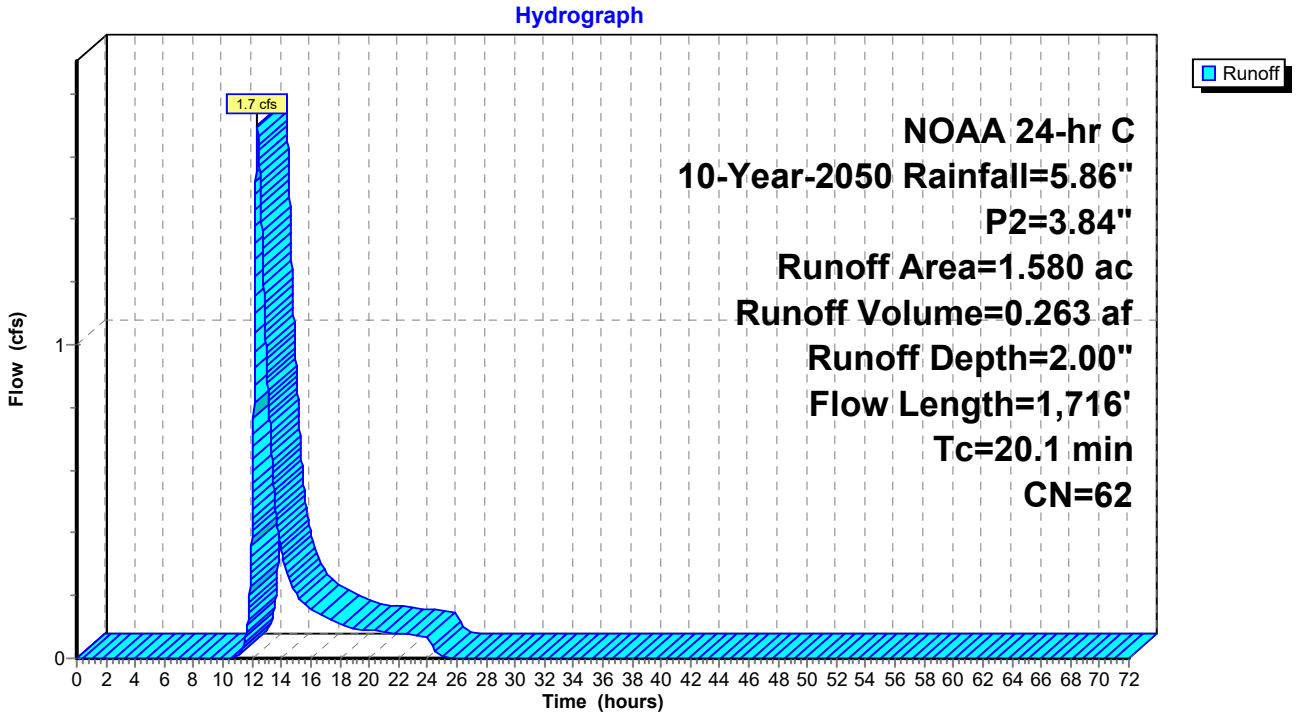
Runoff = 1.7 cfs @ 12.33 hrs, Volume= 0.263 af, Depth= 2.00"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=5.86", P2=3.84"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
0.160	74	>75% Grass cover, Good, HSG C
1.580	62	Weighted Average
1.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0200	0.13		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.3	18	0.0200	0.99		**Shallow Concentrated Flow, SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
3.3	570	0.0030	2.88	3.54	**Pipe Channel, PIPE FLOW** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
20.1	1,716	Total			

Subcatchment C1p: DA-C1p

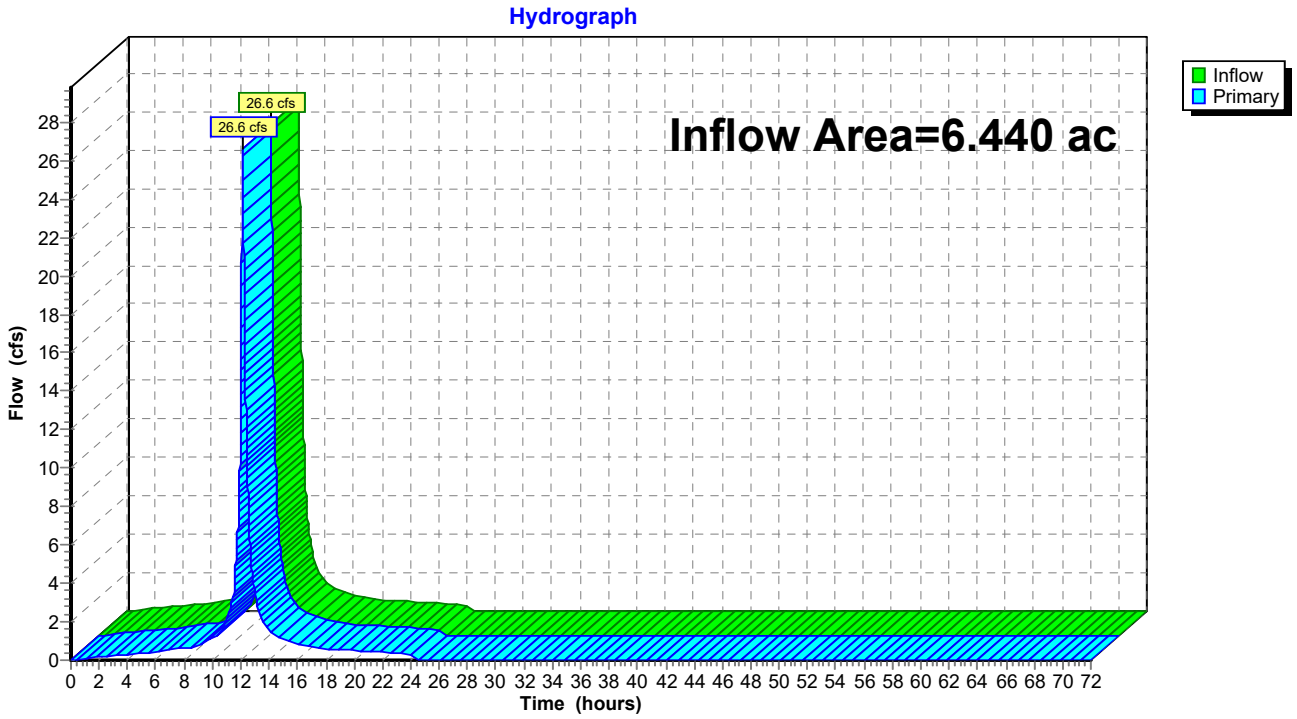


Summary for Link POI A Pr: POI A

Inflow Area = 6.440 ac, 74.53% Impervious, Inflow Depth = 4.68" for 10-Year-2050 event
Inflow = 26.6 cfs @ 12.14 hrs, Volume= 2.510 af
Primary = 26.6 cfs @ 12.14 hrs, Volume= 2.510 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Pr: POI A

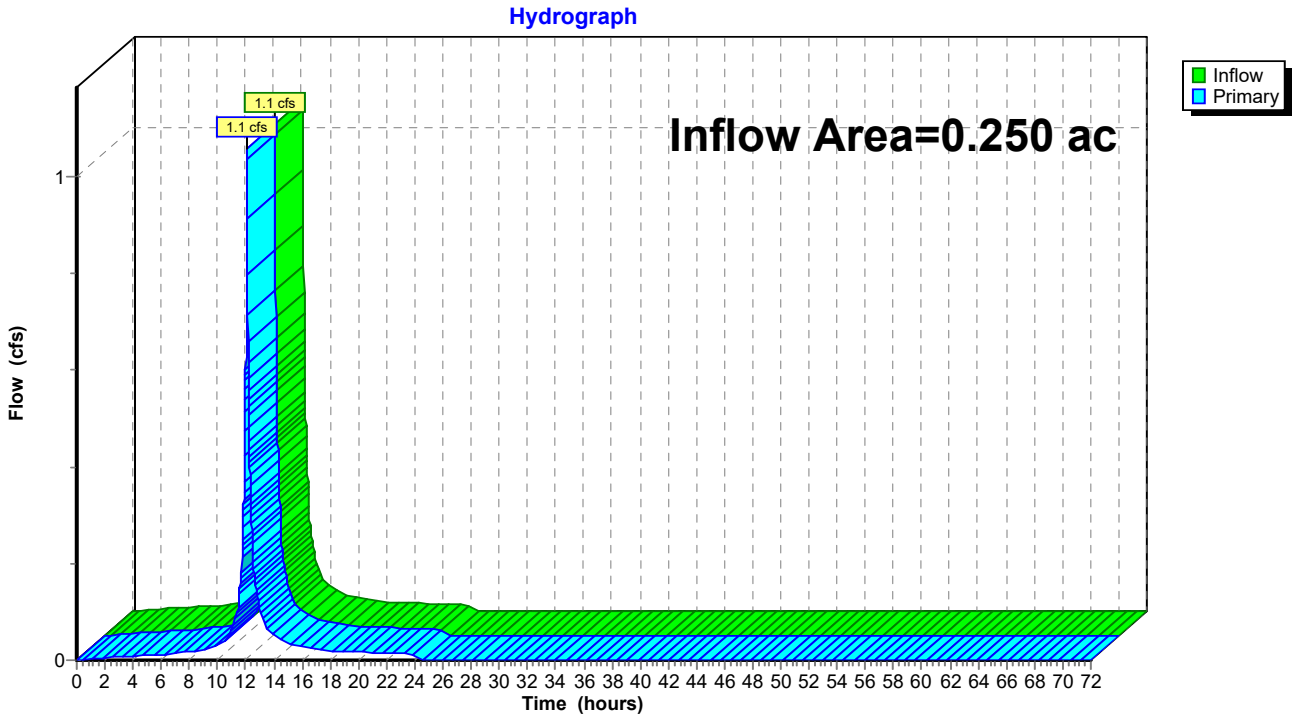


Summary for Link POI B Pr: POI B

Inflow Area = 0.250 ac, 52.00% Impervious, Inflow Depth = 3.84" for 10-Year-2050 event
Inflow = 1.1 cfs @ 12.10 hrs, Volume= 0.080 af
Primary = 1.1 cfs @ 12.10 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Pr: POI B

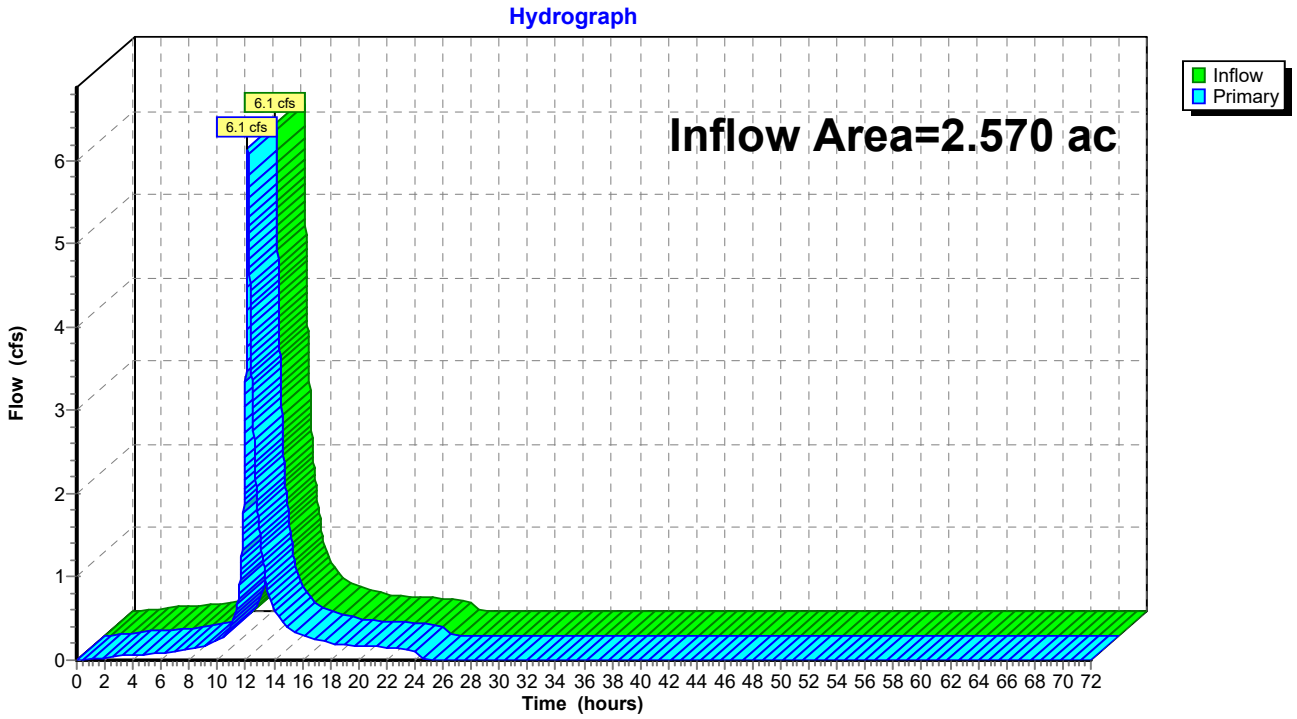


Summary for Link POI C Pr: POI C

Inflow Area = 2.570 ac, 38.52% Impervious, Inflow Depth = 3.39" for 10-Year-2050 event
Inflow = 6.1 cfs @ 12.14 hrs, Volume= 0.727 af
Primary = 6.1 cfs @ 12.14 hrs, Volume= 0.727 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Pr: POI C



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1i: DA-A1i Runoff Area=4.800 ac 100.00% Impervious Runoff Depth=11.09"
Flow Length=1,235' Tc=5.7 min CN=98 Runoff=48.3 cfs 4.435 af

SubcatchmentA1p: DA-A1p Runoff Area=1.640 ac 0.00% Impervious Runoff Depth=6.14"
Flow Length=547' Tc=12.2 min CN=61 Runoff=7.6 cfs 0.840 af

SubcatchmentB1i: DA-B1i Runoff Area=0.130 ac 100.00% Impervious Runoff Depth=11.09"
Flow Length=137' Slope=0.0150 '/' Tc=1.4 min CN=98 Runoff=1.7 cfs 0.120 af

SubcatchmentB1p: DA-B1p Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=6.14"
Flow Length=173' Tc=6.8 min CN=61 Runoff=0.7 cfs 0.061 af

SubcatchmentC1i: DA-C1i Runoff Area=0.990 ac 100.00% Impervious Runoff Depth=11.09"
Flow Length=1,178' Tc=5.4 min CN=98 Runoff=10.2 cfs 0.915 af

SubcatchmentC1p: DA-C1p Runoff Area=1.580 ac 0.00% Impervious Runoff Depth=6.29"
Flow Length=1,716' Tc=20.1 min CN=62 Runoff=5.8 cfs 0.828 af

Link POI A Pr: POI A Inflow=54.6 cfs 5.275 af
Primary=54.6 cfs 5.275 af

Link POI B Pr: POI B Inflow=2.3 cfs 0.182 af
Primary=2.3 cfs 0.182 af

Link POI C Pr: POI C Inflow=13.8 cfs 1.743 af
Primary=13.8 cfs 1.743 af

Total Runoff Area = 9.260 ac Runoff Volume = 7.200 af Average Runoff Depth = 9.33"
36.07% Pervious = 3.340 ac 63.93% Impervious = 5.920 ac

Summary for Subcatchment A1i: DA-A1i

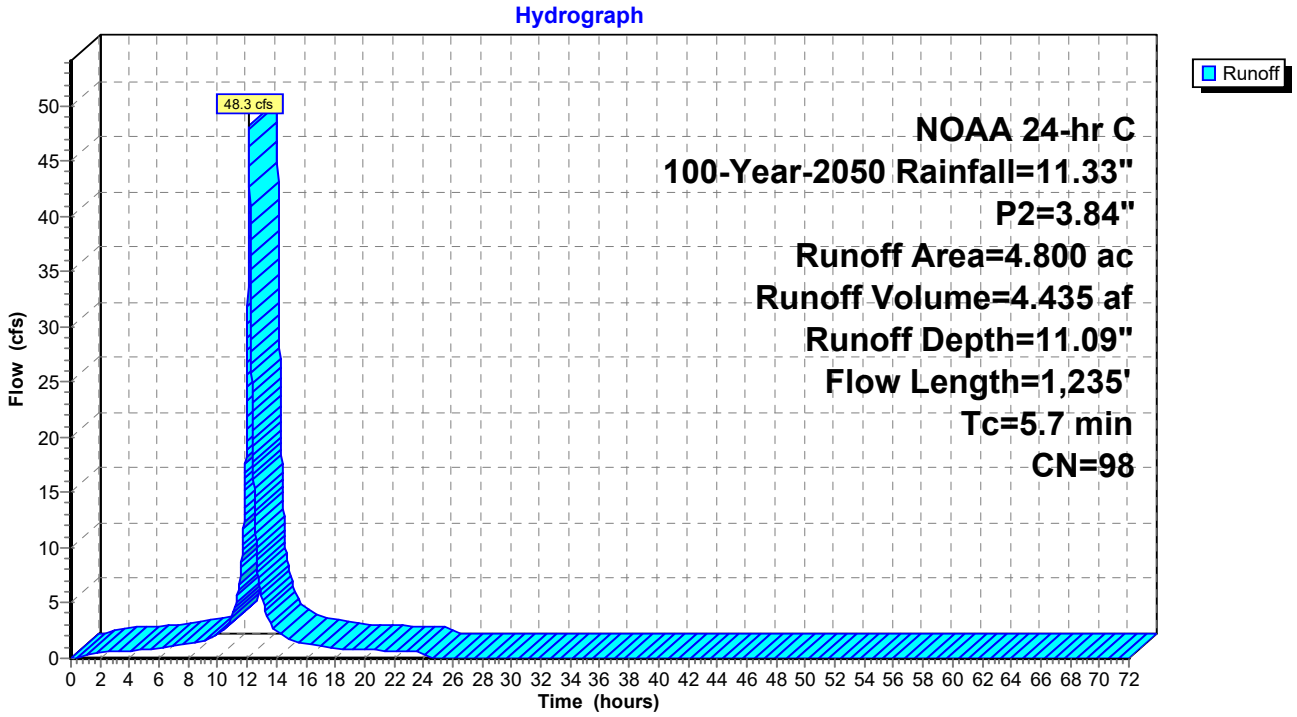
Runoff = 48.3 cfs @ 12.14 hrs, Volume= 4.435 af, Depth=11.09"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
4.800	98	Paved parking, HSG A
4.800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	100	0.0100	1.14		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.6	70	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
2.0	562	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.6	152	0.0030	4.58	22.47	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.7	1,235	Total			

Subcatchment A1i: DA-A1i



Summary for Subcatchment A1p: DA-A1p

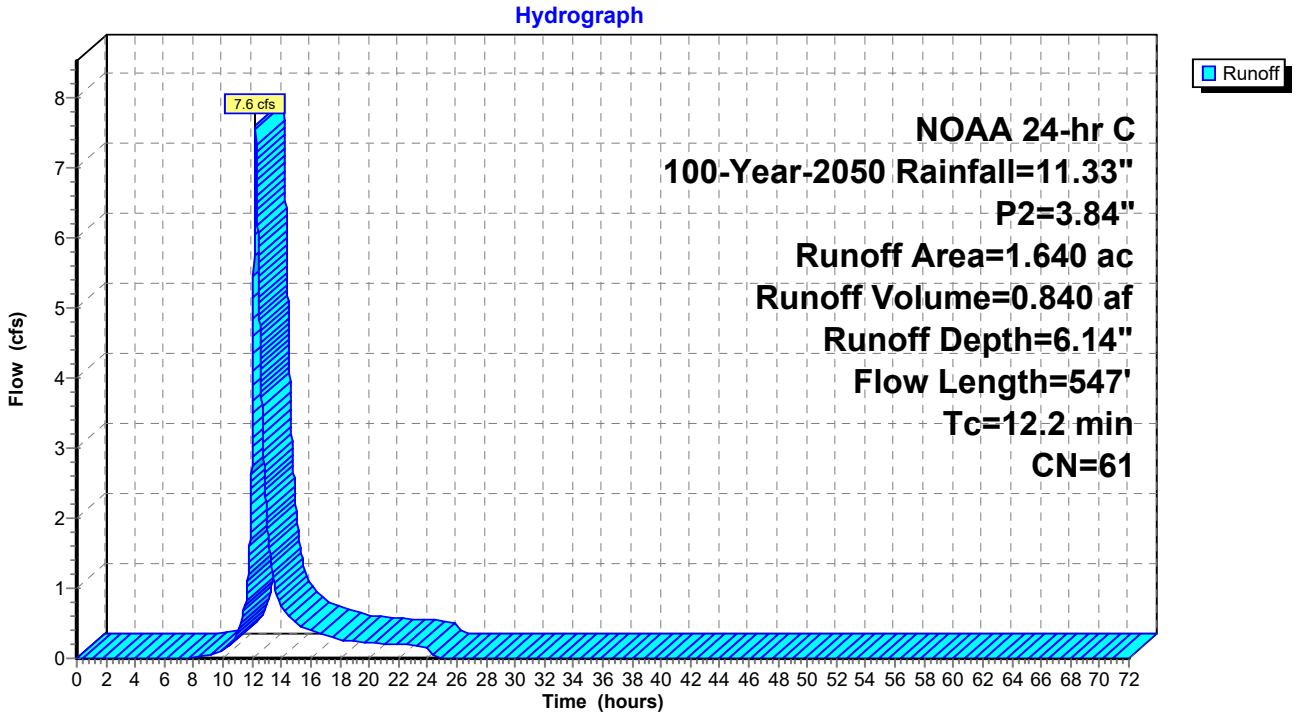
Runoff = 7.6 cfs @ 12.22 hrs, Volume= 0.840 af, Depth= 6.14"
Routed to Link POI A Pr : POI A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
1.620	61	>75% Grass cover, Good, HSG B
0.020	74	>75% Grass cover, Good, HSG C
1.640	61	Weighted Average
1.640		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	70	0.0200	0.12		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.6	30	0.0100	0.90		**Sheet Flow, SHEET GRASS** Smooth surfaces n= 0.011 P2= 3.84"
0.8	96	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.9	271	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
0.1	80	0.0230	14.31	101.15	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
12.2	547	Total			

Subcatchment A1p: DA-A1p



Summary for Subcatchment B1i: DA-B1i

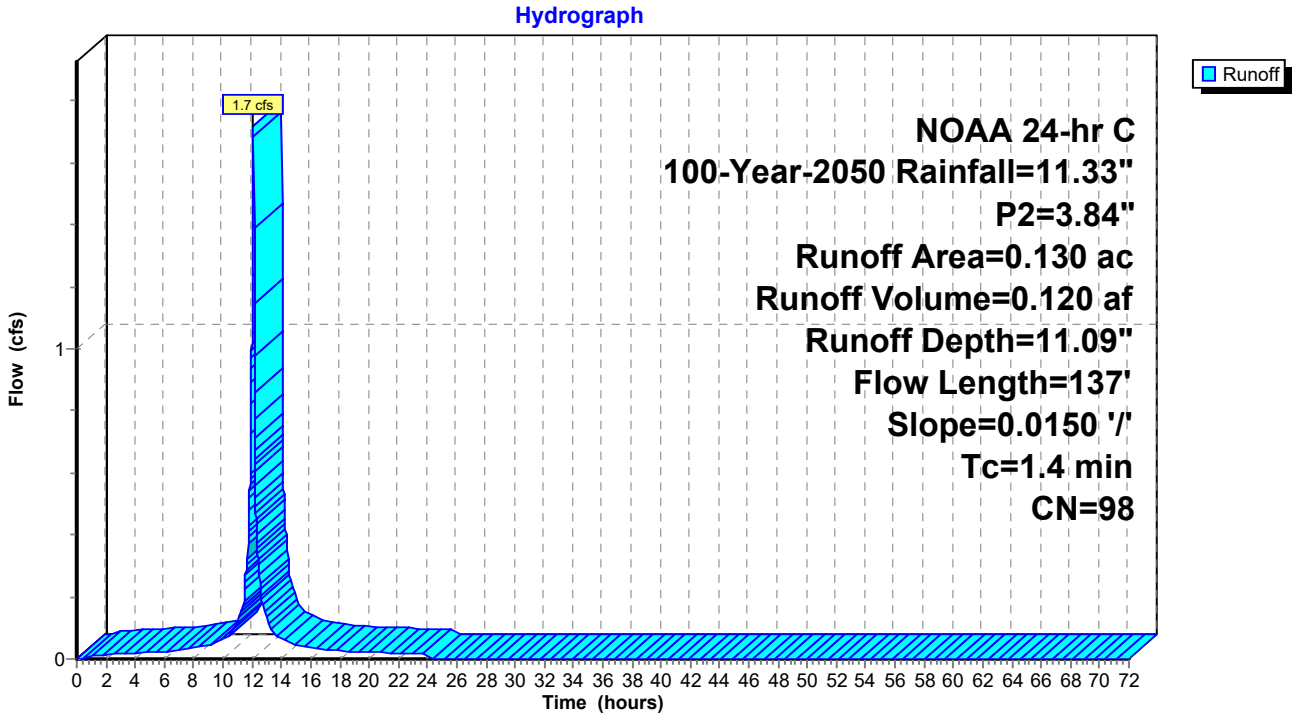
Runoff = 1.7 cfs @ 12.10 hrs, Volume= 0.120 af, Depth=11.09"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
0.130	98	Paved parking, HSG A
0.130		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0150	1.34		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
1.4	137	Total			

Subcatchment B1i: DA-B1i



Summary for Subcatchment B1p: DA-B1p

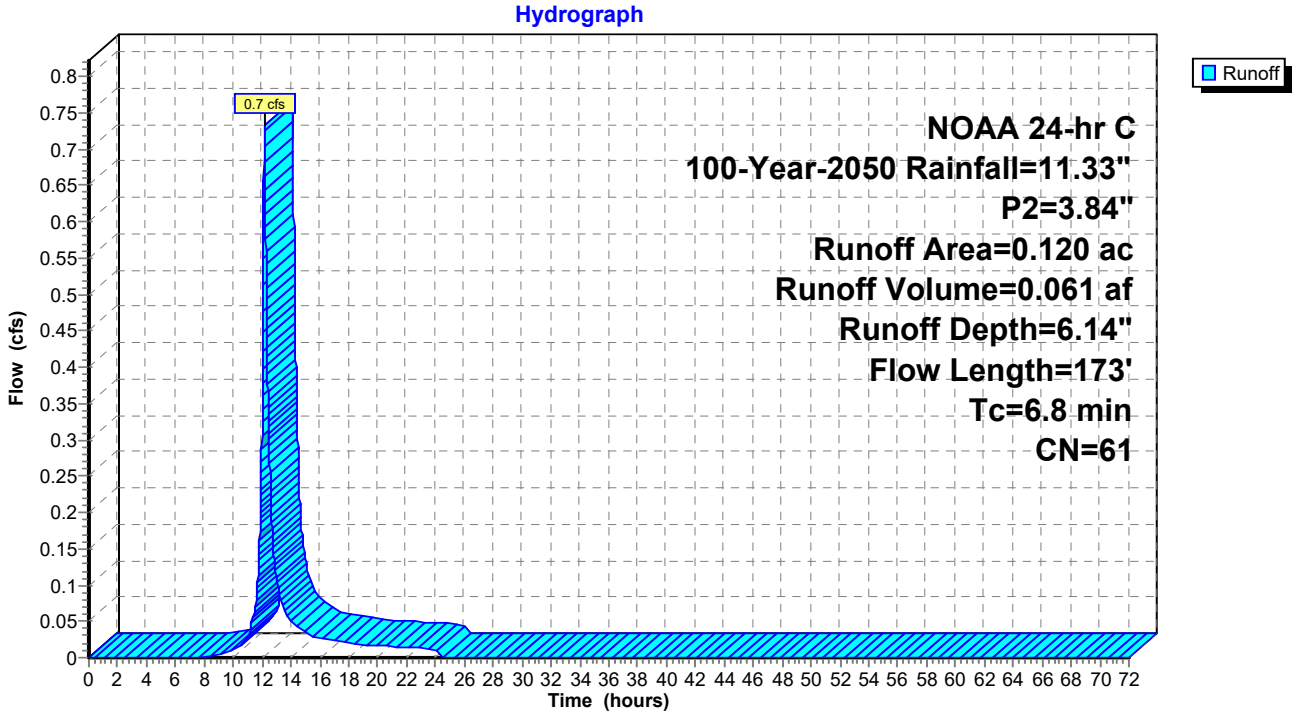
Runoff = 0.7 cfs @ 12.15 hrs, Volume= 0.061 af, Depth= 6.14"
Routed to Link POI B Pr : POI B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
0.120	61	>75% Grass cover, Good, HSG B
0.120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	41	0.0250	0.12		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.4	28	0.0200	1.17		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.4	67	0.0200	2.87		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.2	37	0.0150	2.49		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
6.8	173	Total			

Subcatchment B1p: DA-B1p



Summary for Subcatchment C1i: DA-C1i

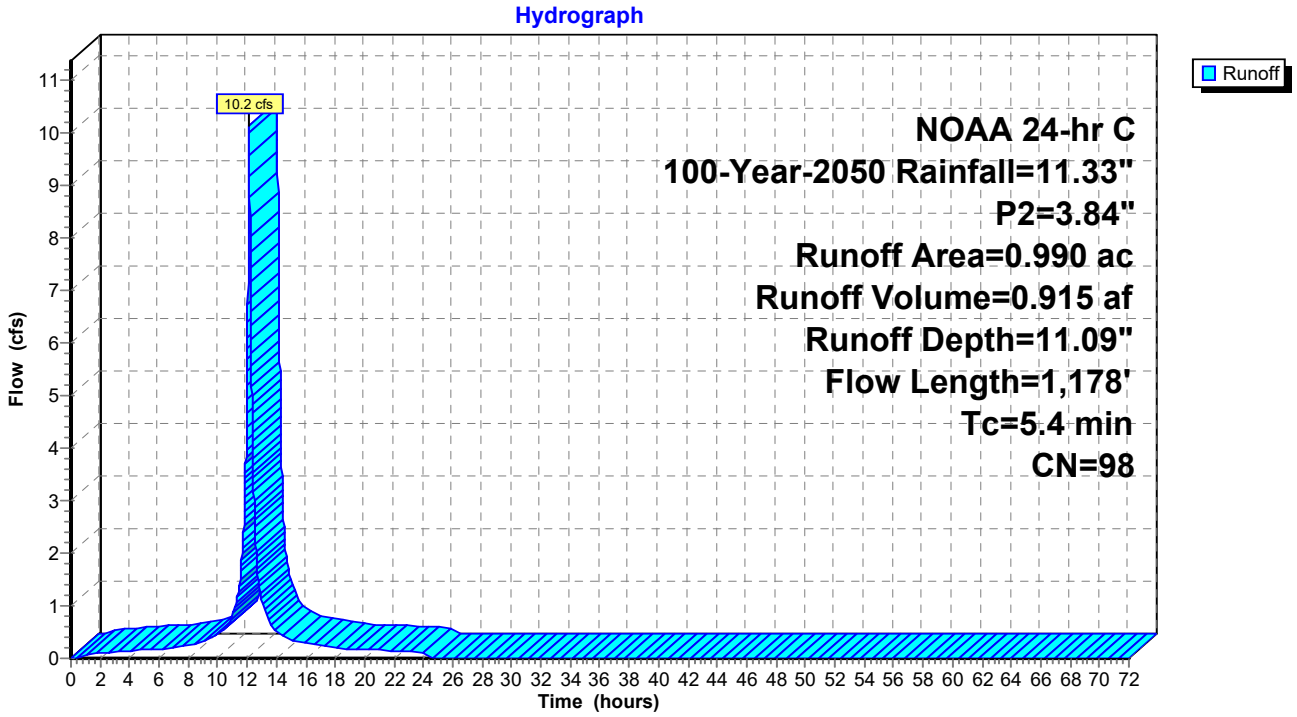
Runoff = 10.2 cfs @ 12.13 hrs, Volume= 0.915 af, Depth=11.09"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
0.990	98	Paved parking, HSG A
0.990		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	100	0.0100	1.14		**Sheet Flow, SHEET IMP** Smooth surfaces n= 0.011 P2= 3.84"
0.4	50	0.0100	2.03		**Shallow Concentrated Flow, SHALLOW IMP** Paved Kv= 20.3 fps
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
5.4	1,178	Total			

Subcatchment C1i: DA-C1i



Summary for Subcatchment C1p: DA-C1p

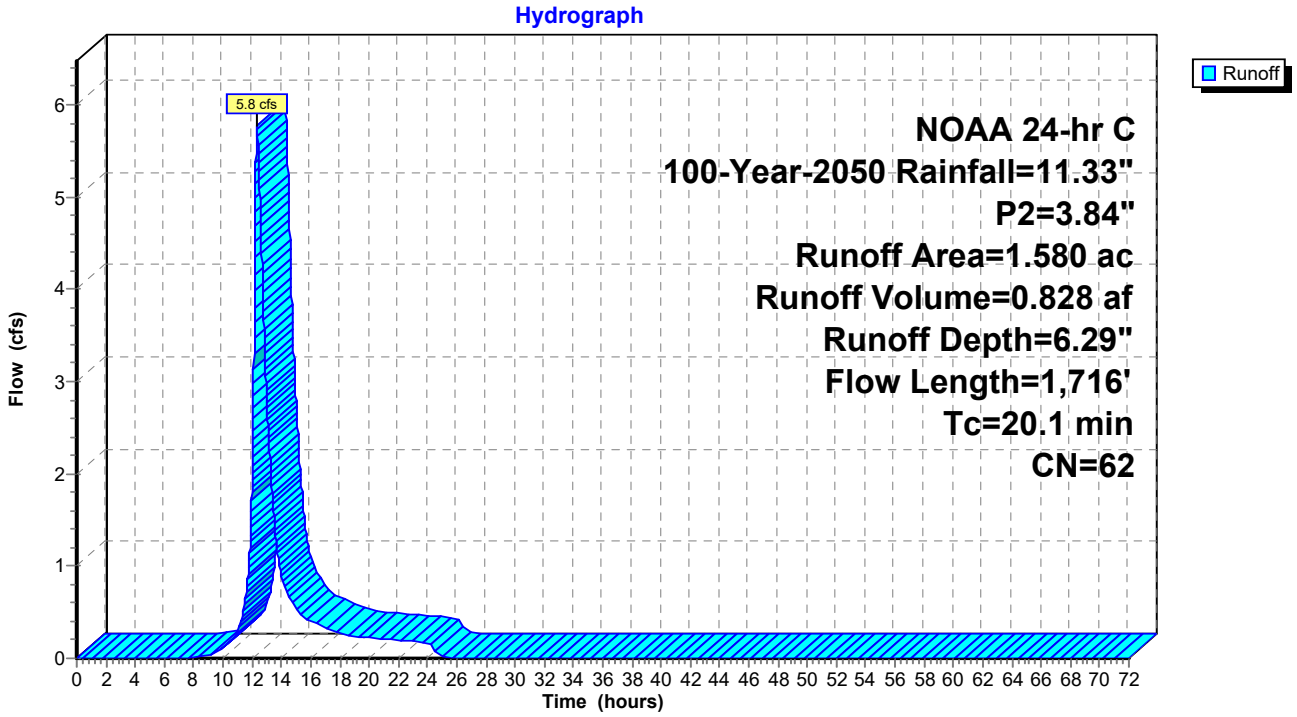
Runoff = 5.8 cfs @ 12.33 hrs, Volume= 0.828 af, Depth= 6.29"
Routed to Link POI C Pr : POI C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=11.33", P2=3.84"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
0.160	74	>75% Grass cover, Good, HSG C
1.580	62	Weighted Average
1.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0200	0.13		**Sheet Flow, SHEET GRASS** Grass: Dense n= 0.240 P2= 3.84"
0.3	18	0.0200	0.99		**Shallow Concentrated Flow, SHALLOW GRASS** Short Grass Pasture Kv= 7.0 fps
3.3	570	0.0030	2.88	3.54	**Pipe Channel, PIPE FLOW** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.8	195	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.6	153	0.0030	3.94	12.39	**Pipe Channel, PIPE FLOW** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013
0.5	170	0.0050	5.91	29.00	**Pipe Channel, PIPE FLOW** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.013
1.6	510	0.0030	5.17	36.53	**Pipe Channel, PIPE FLOW** 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013
20.1	1,716	Total			

Subcatchment C1p: DA-C1p

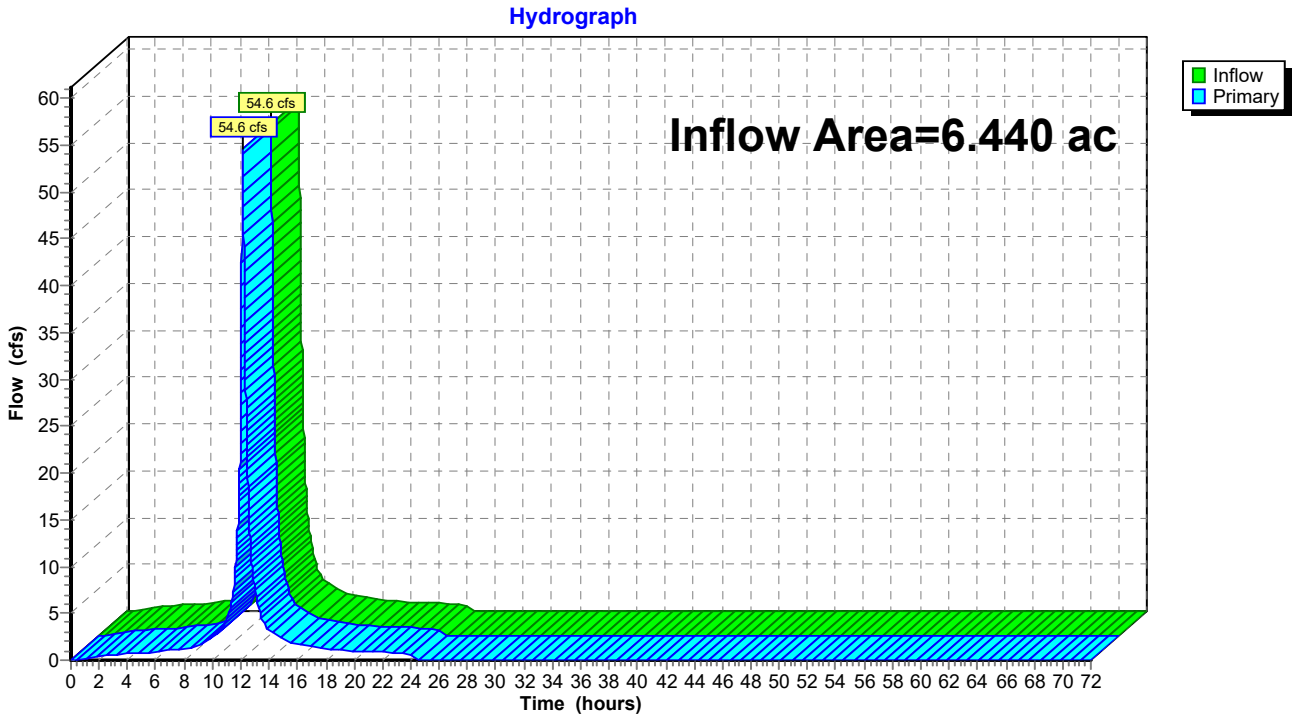


Summary for Link POI A Pr: POI A

Inflow Area = 6.440 ac, 74.53% Impervious, Inflow Depth = 9.83" for 100-Year-2050 event
Inflow = 54.6 cfs @ 12.14 hrs, Volume= 5.275 af
Primary = 54.6 cfs @ 12.14 hrs, Volume= 5.275 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI A Pr: POI A

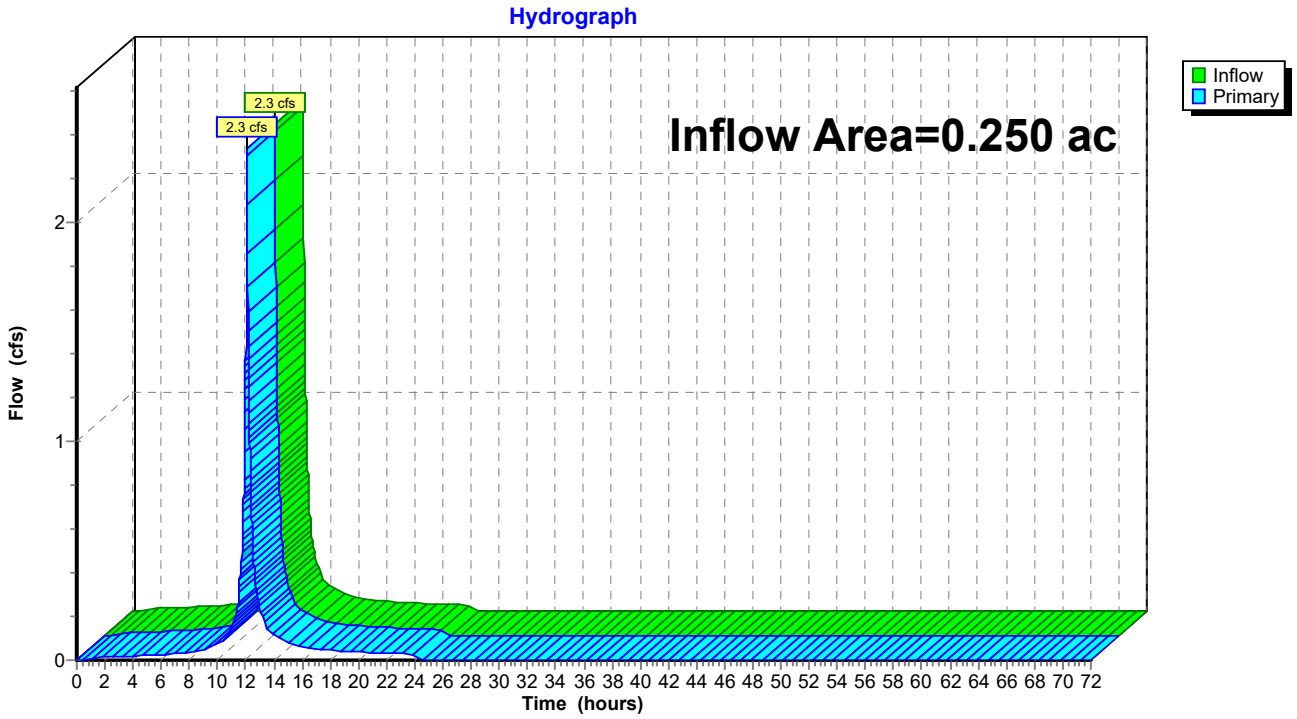


Summary for Link POI B Pr: POI B

Inflow Area = 0.250 ac, 52.00% Impervious, Inflow Depth = 8.72" for 100-Year-2050 event
Inflow = 2.3 cfs @ 12.10 hrs, Volume= 0.182 af
Primary = 2.3 cfs @ 12.10 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI B Pr: POI B

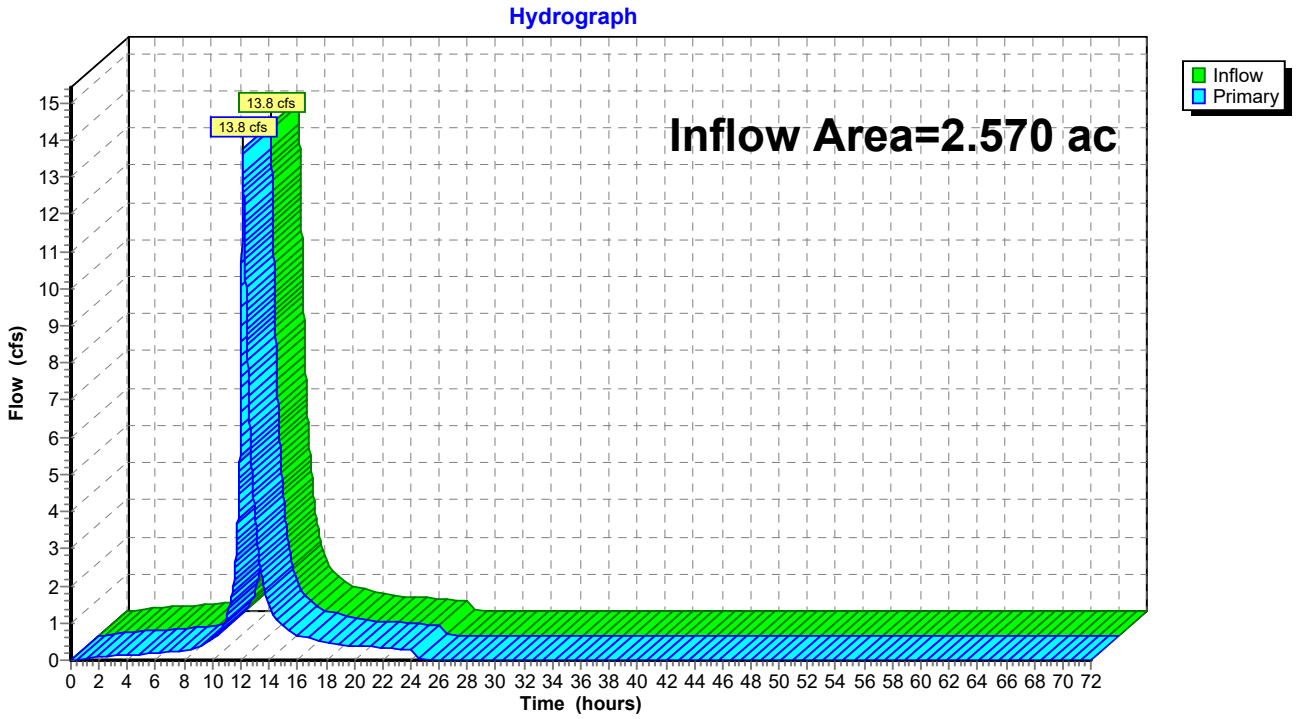


Summary for Link POI C Pr: POI C

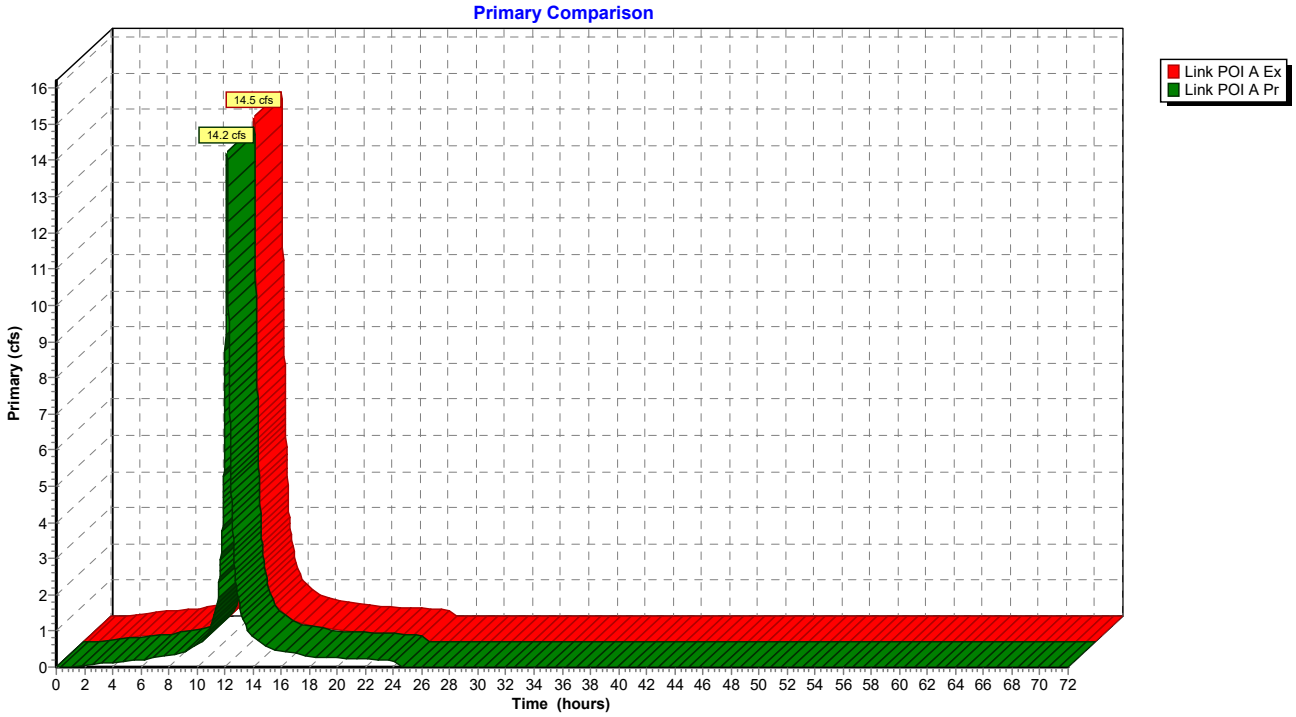
Inflow Area = 2.570 ac, 38.52% Impervious, Inflow Depth = 8.14" for 100-Year-2050 event
Inflow = 13.8 cfs @ 12.14 hrs, Volume= 1.743 af
Primary = 13.8 cfs @ 12.14 hrs, Volume= 1.743 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link POI C Pr: POI C

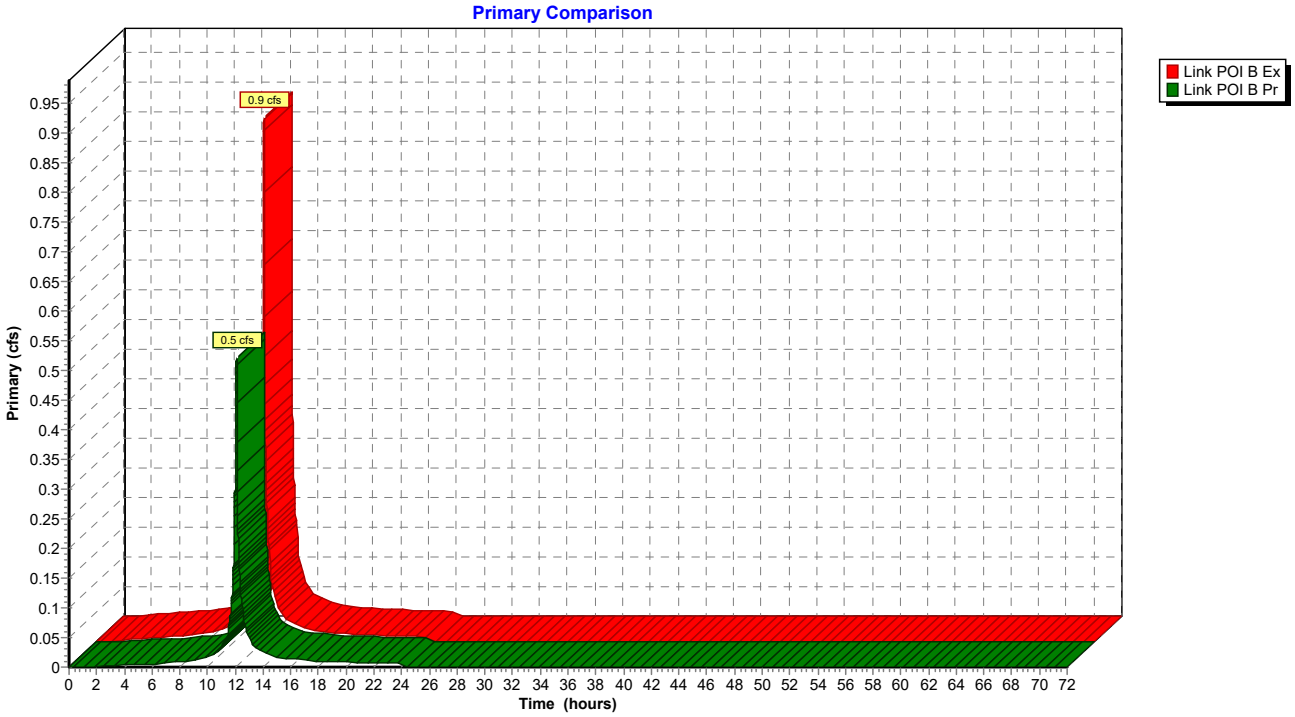


APPENDIX D – PRE & POST DEVELOPMENT FLOW COMPARISON


Primary Comparison
Link POI A Ex
Link POI A Pr
14.5 cfs
14.2 cfs
Primary (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

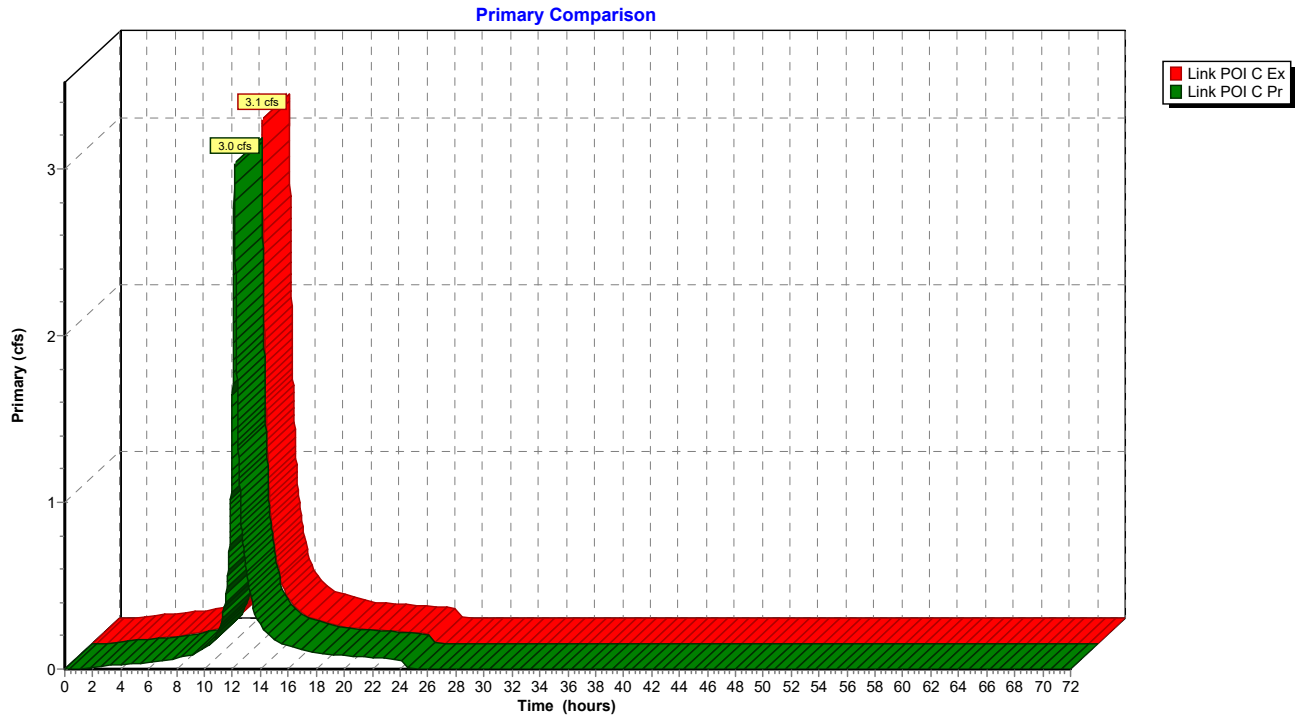
Primary Comparison

Time (hours)	Link POI A Ex (cfs)	Link POI A Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.1	0.1
4.00	0.1	0.1
5.00	0.2	0.2
6.00	0.2	0.2
7.00	0.3	0.3
8.00	0.3	0.3
9.00	0.4	0.4
10.00	0.6	0.6
11.00	1.2	1.1
12.00	**7.8**	**7.7**
13.00	**1.8**	**1.8**
14.00	0.8	0.8
15.00	0.6	0.6
16.00	0.5	0.5
17.00	0.4	0.4
18.00	0.3	0.3
19.00	0.3	0.3
20.00	0.3	0.3
21.00	0.2	0.2
22.00	0.2	0.2
23.00	0.2	0.2
24.00	0.2	0.2
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI B Ex
Link POI B Pr
0.9 cfs
0.5 cfs
Primary (cfs)
Time (hours)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

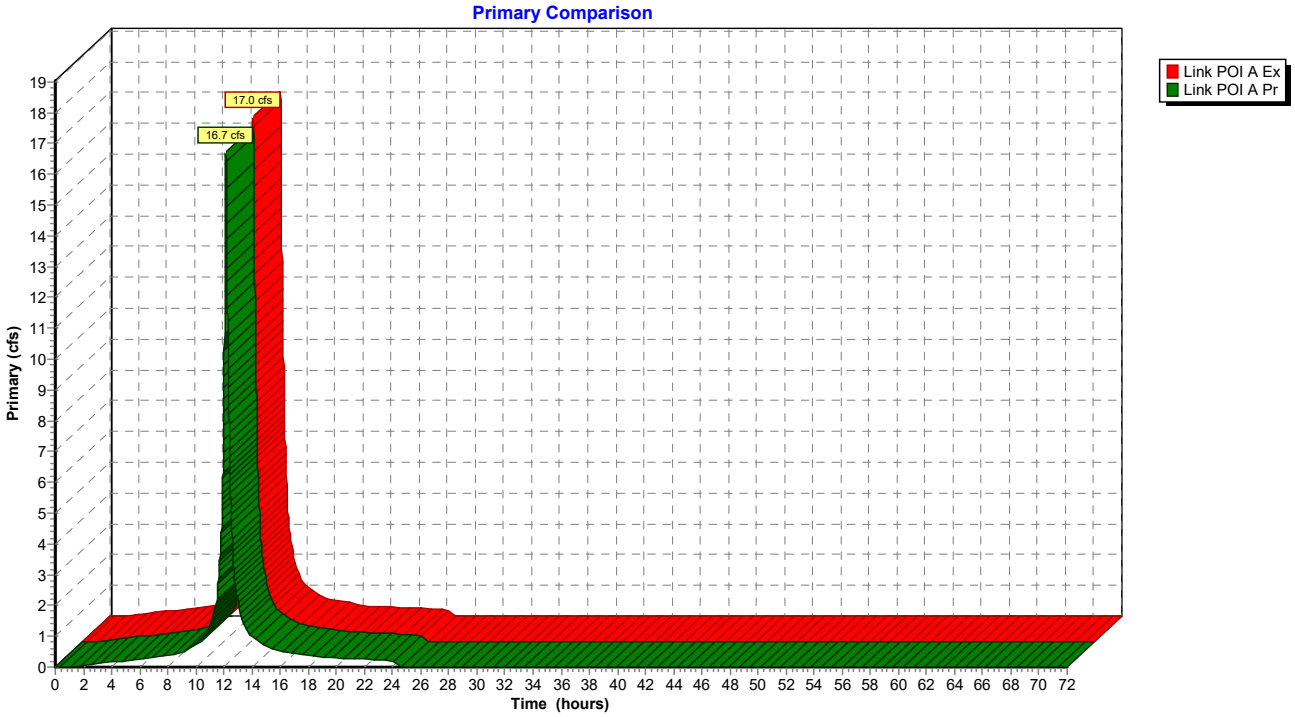
Primary Comparison

Time (hours)	Link POI B Ex (cfs)	Link POI B Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.0	0.0
4.00	0.0	0.0
5.00	0.0	0.0
6.00	0.0	0.0
7.00	0.0	0.0
8.00	0.0	0.0
9.00	0.0	0.0
10.00	0.0	0.0
11.00	0.1	0.0
12.00	**0.5**	**0.3**
13.00	**0.1**	**0.1**
14.00	0.0	0.0
15.00	0.0	0.0
16.00	0.0	0.0
17.00	0.0	0.0
18.00	0.0	0.0
19.00	0.0	0.0
20.00	0.0	0.0
21.00	0.0	0.0
22.00	0.0	0.0
23.00	0.0	0.0
24.00	0.0	0.0
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI C Ex
Link POI C Pr
3.1 cfs
3.0 cfs
Primary (cfs)
0
1
2
3
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

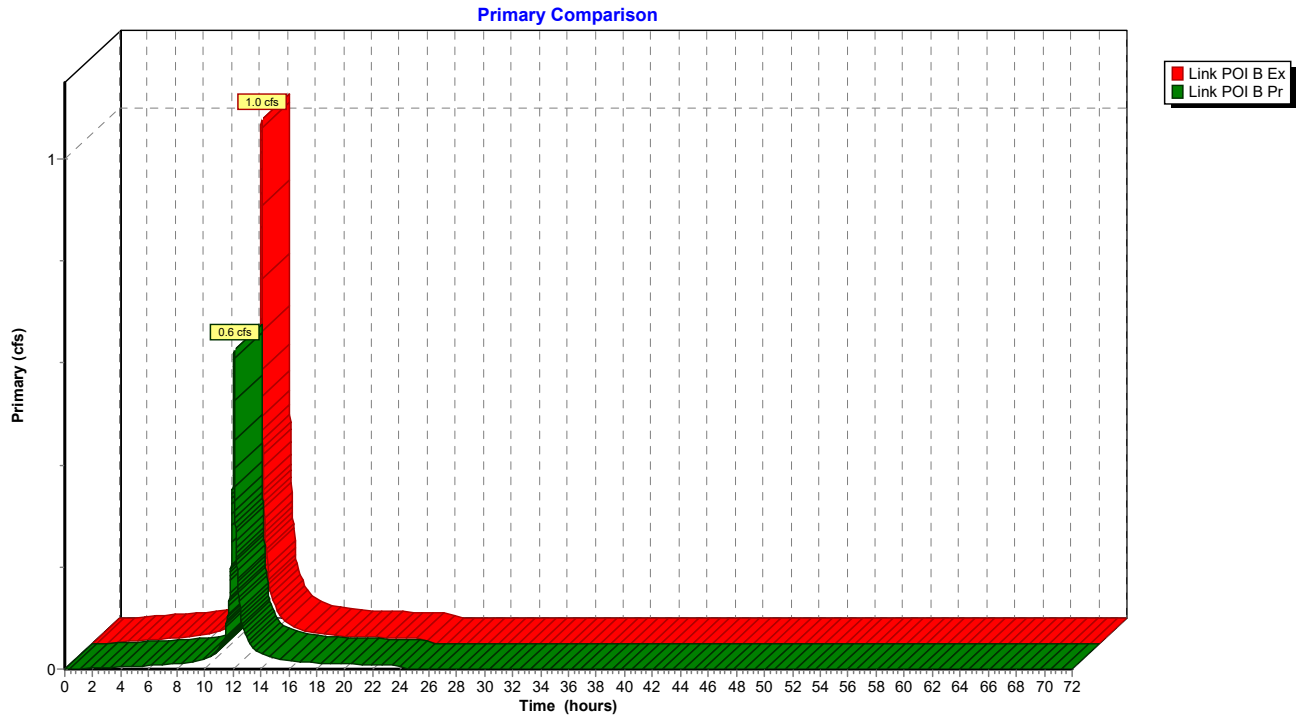
Primary Comparison

Time (hours)	Link POI C Ex (cfs)	Link POI C Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.0	0.0
4.00	0.0	0.0
5.00	0.0	0.0
6.00	0.0	0.0
7.00	0.1	0.1
8.00	0.1	0.1
9.00	0.1	0.1
10.00	0.1	0.1
11.00	0.2	0.2
12.00	**1.7**	**1.6**
13.00	**0.6**	**0.6**
14.00	0.3	0.3
15.00	0.2	0.2
16.00	0.1	0.1
17.00	0.1	0.1
18.00	0.1	0.1
19.00	0.1	0.1
20.00	0.1	0.1
21.00	0.1	0.1
22.00	0.1	0.1
23.00	0.1	0.1
24.00	0.1	0.1
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Primary (cfs)
Time (hours)
17.0 cfs
16.7 cfs
Link POI A Ex
Link POI A Pr

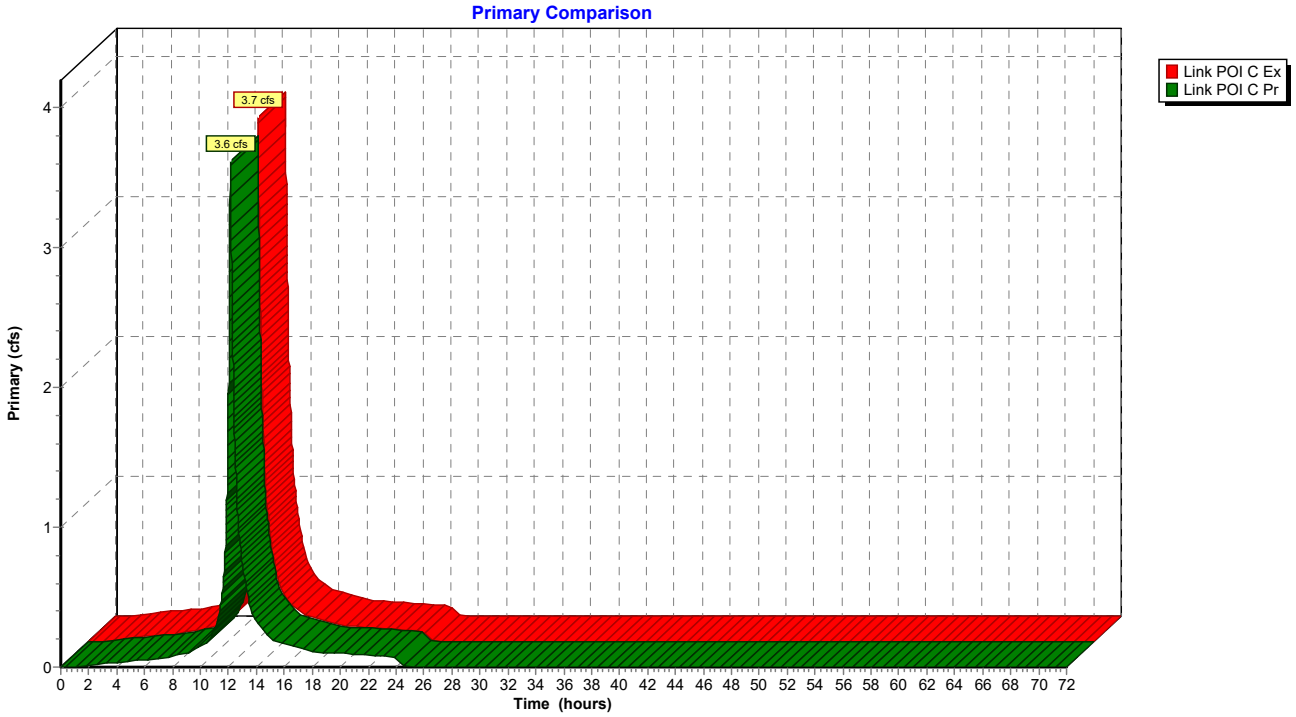
Primary Comparison

Time (hours)	Link POI A Ex (cfs)	Link POI A Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.1	0.1
3.00	0.1	0.1
4.00	0.2	0.2
5.00	0.2	0.2
6.00	0.2	0.2
7.00	0.3	0.3
8.00	0.4	0.4
9.00	0.5	0.5
10.00	0.7	0.7
11.00	1.3	1.3
12.00	**9.2**	**9.1**
13.00	**2.2**	**2.1**
14.00	1.0	1.0
15.00	0.7	0.7
16.00	0.5	0.5
17.00	0.5	0.4
18.00	0.4	0.4
19.00	0.3	0.3
20.00	0.3	0.3
21.00	0.3	0.3
22.00	0.3	0.3
23.00	0.2	0.2
24.00	0.2	0.2
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI B Ex
Link POI B Pr
1.0 cfs
0.6 cfs
Primary (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

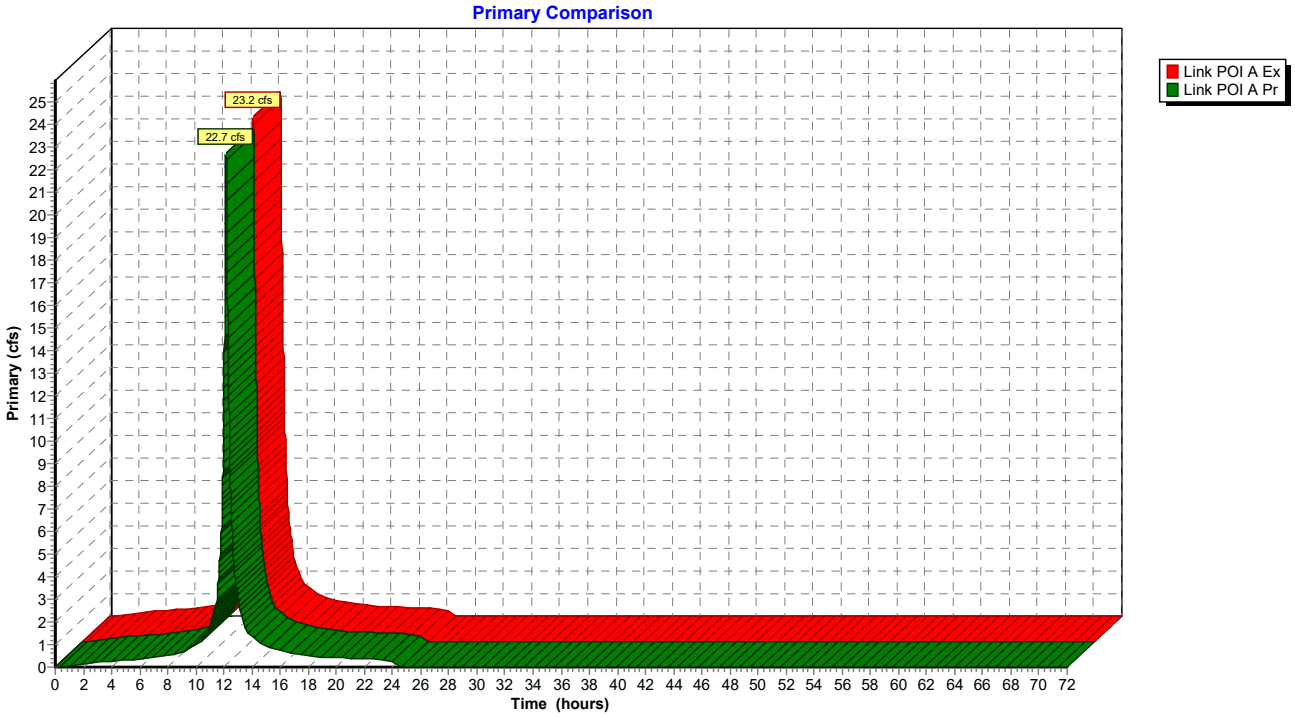
Primary Comparison

Time (hours)	Link POI B Ex (cfs)	Link POI B Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.0	0.0
4.00	0.0	0.0
5.00	0.0	0.0
6.00	0.0	0.0
7.00	0.0	0.0
8.00	0.0	0.0
9.00	0.0	0.0
10.00	0.0	0.0
11.00	0.1	0.0
12.00	**0.6**	**0.4**
13.00	**0.1**	**0.1**
14.00	0.0	0.0
15.00	0.0	0.0
16.00	0.0	0.0
17.00	0.0	0.0
18.00	0.0	0.0
19.00	0.0	0.0
20.00	0.0	0.0
21.00	0.0	0.0
22.00	0.0	0.0
23.00	0.0	0.0
24.00	0.0	0.0
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI C Ex
Link POI C Pr
3.7 cfs
3.6 cfs
Primary (cfs)
Time (hours)
0
1
2
3
4
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

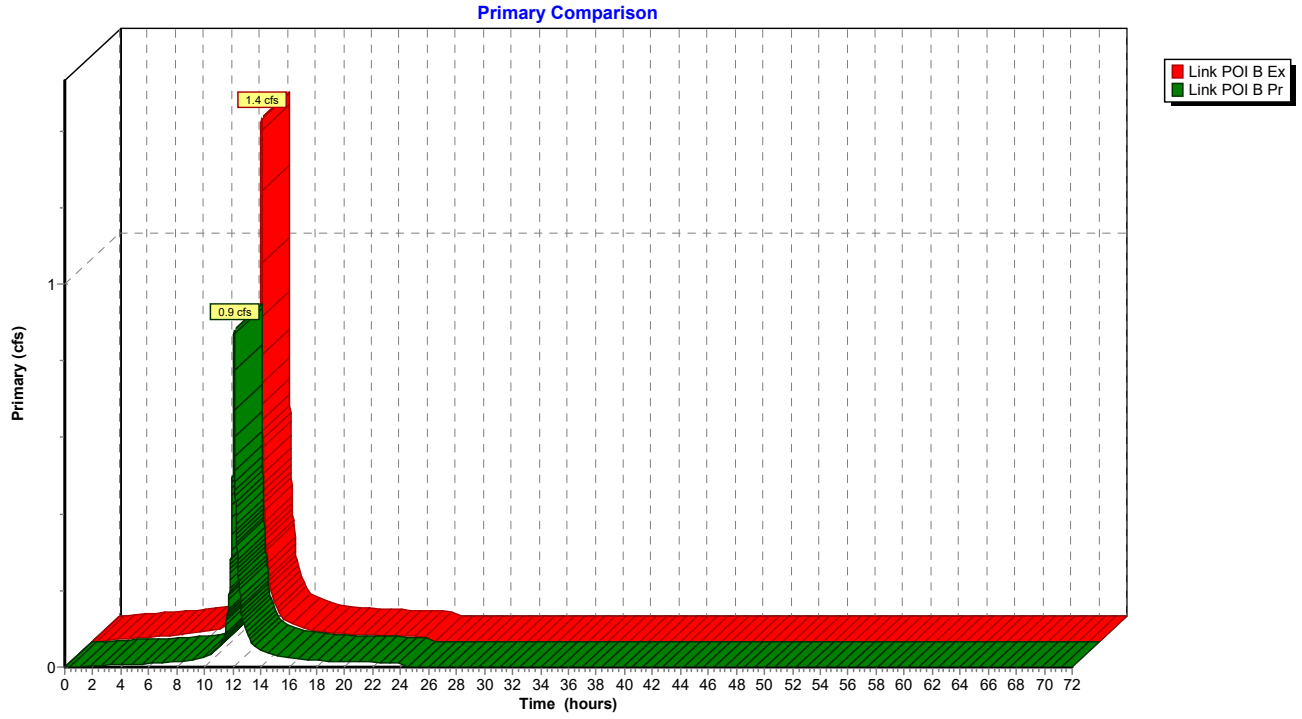
Primary Comparison

Time (hours)	Link POI C Ex (cfs)	Link POI C Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.0	0.0
4.00	0.0	0.0
5.00	0.0	0.0
6.00	0.1	0.0
7.00	0.1	0.1
8.00	0.1	0.1
9.00	0.1	0.1
10.00	0.2	0.2
11.00	0.3	0.3
12.00	**2.0**	**2.0**
13.00	**0.8**	**0.7**
14.00	0.3	0.3
15.00	0.2	0.2
16.00	0.2	0.2
17.00	0.1	0.1
18.00	0.1	0.1
19.00	0.1	0.1
20.00	0.1	0.1
21.00	0.1	0.1
22.00	0.1	0.1
23.00	0.1	0.1
24.00	0.1	0.1
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI A Ex
Link POI A Pr
23.2 cfs
22.7 cfs
Primary (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

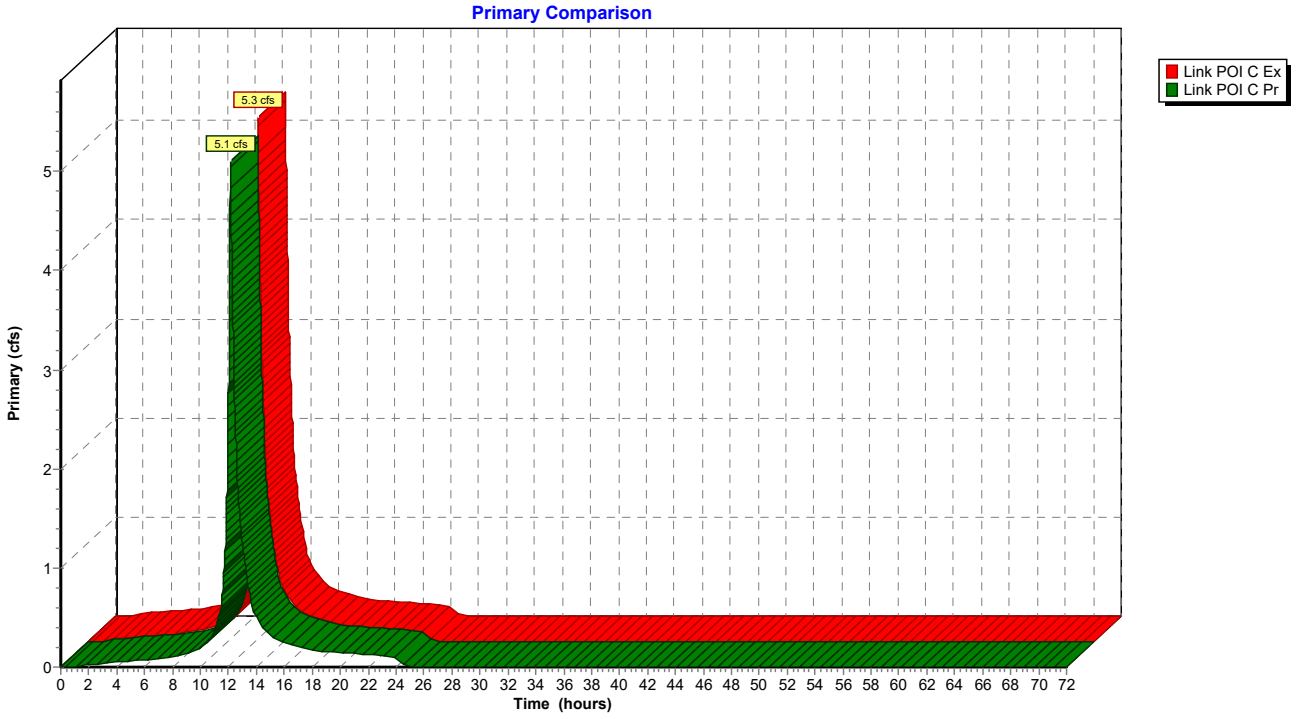
Primary Comparison

Time (hours)	Link POI A Ex (cfs)	Link POI A Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.1	0.1
3.00	0.2	0.2
4.00	0.3	0.3
5.00	0.3	0.3
6.00	0.3	0.3
7.00	0.4	0.4
8.00	0.6	0.5
9.00	0.7	0.6
10.00	1.0	1.0
11.00	1.8	1.8
12.00	**12.5**	**12.3**
13.00	**3.0**	**3.0**
14.00	1.4	1.4
15.00	0.9	0.9
16.00	0.7	0.7
17.00	0.6	0.6
18.00	0.5	0.5
19.00	0.5	0.5
20.00	0.4	0.4
21.00	0.4	0.4
22.00	0.4	0.4
23.00	0.3	0.3
24.00	0.3	0.3
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI B Ex
Link POI B Pr
1.4 cfs
0.9 cfs
Primary (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

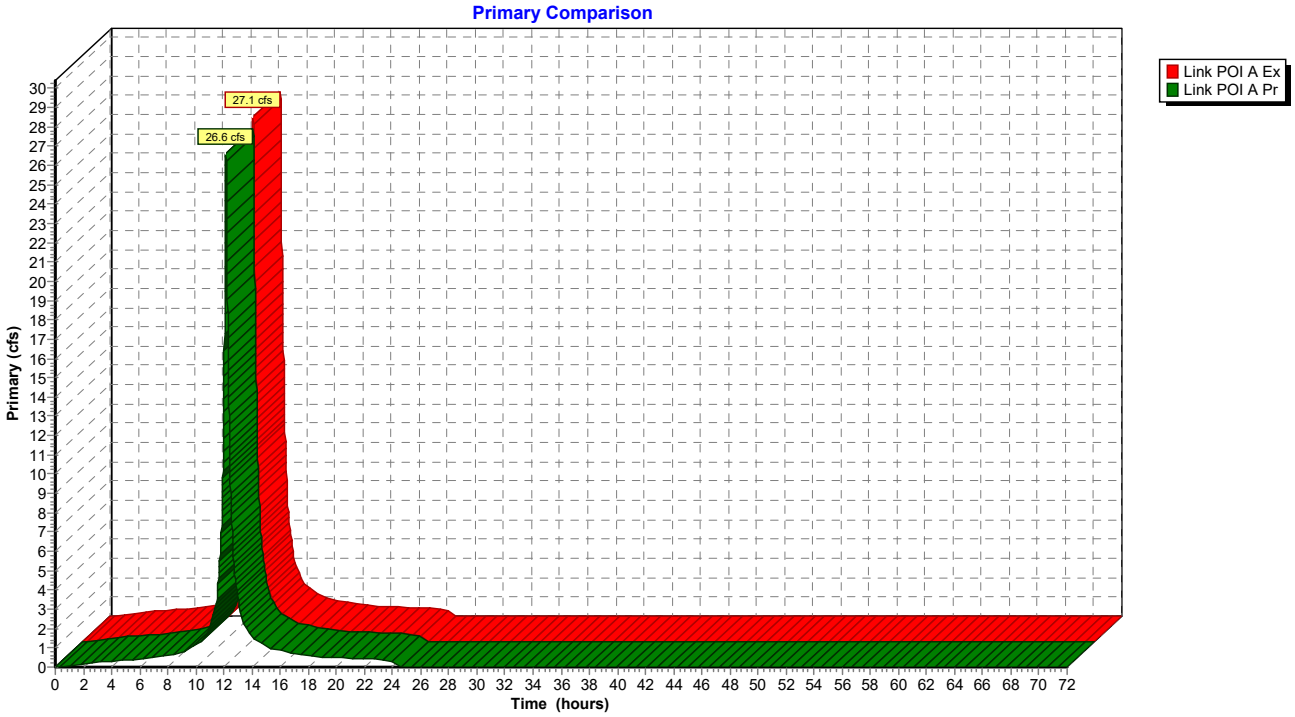
Primary Comparison

Time (hours)	Link POI B Ex (cfs)	Link POI B Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.0	0.0
4.00	0.0	0.0
5.00	0.0	0.0
6.00	0.0	0.0
7.00	0.0	0.0
8.00	0.0	0.0
9.00	0.0	0.0
10.00	0.0	0.0
11.00	0.1	0.1
12.00	**0.8**	**0.5**
13.00	**0.1**	**0.1**
14.00	0.1	0.0
15.00	0.0	0.0
16.00	0.0	0.0
17.00	0.0	0.0
18.00	0.0	0.0
19.00	0.0	0.0
20.00	0.0	0.0
21.00	0.0	0.0
22.00	0.0	0.0
23.00	0.0	0.0
24.00	0.0	0.0
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI C Ex
Link POI C Pr
5.3 cfs
5.1 cfs
Primary (cfs)
0
1
2
3
4
5
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

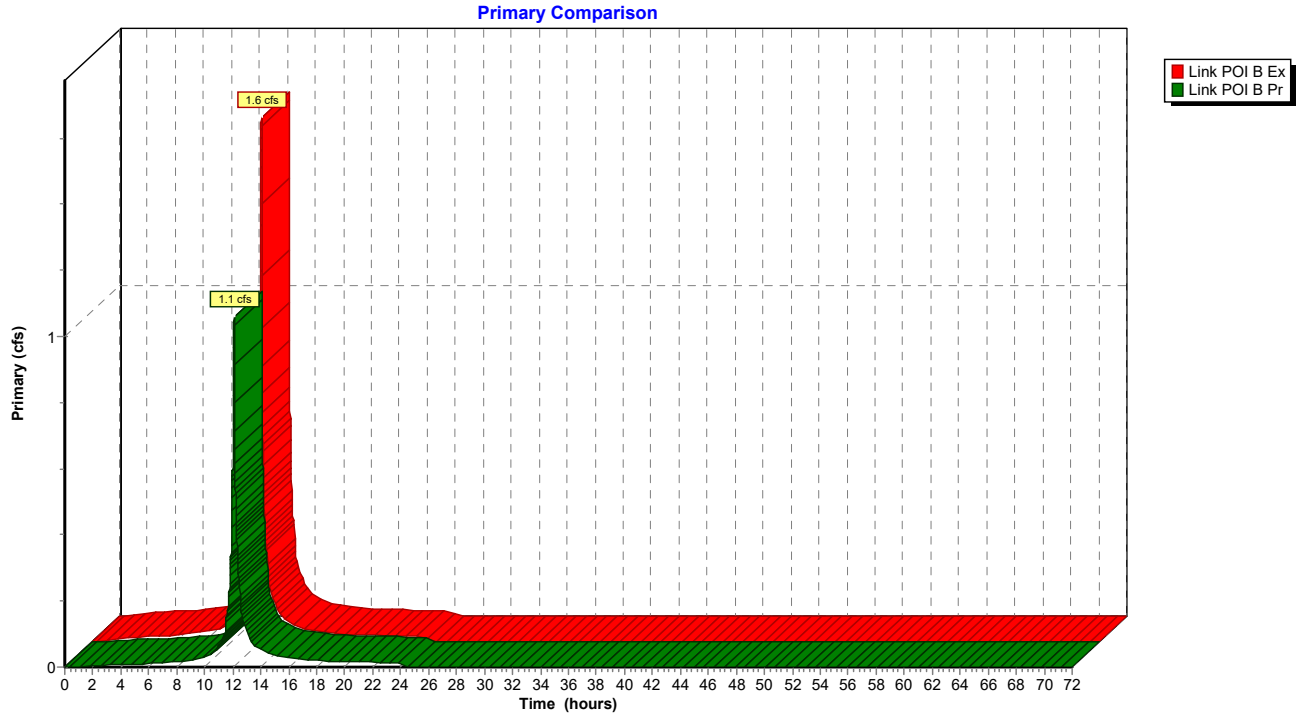
Primary Comparison

Time (hours)	Link POI C Ex (cfs)	Link POI C Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.0	0.0
4.00	0.1	0.1
5.00	0.1	0.1
6.00	0.1	0.1
7.00	0.1	0.1
8.00	0.1	0.1
9.00	0.1	0.1
10.00	0.2	0.2
11.00	0.4	0.4
12.00	**2.8**	**2.8**
13.00	**1.3**	**1.2**
14.00	0.5	0.5
15.00	0.3	0.3
16.00	0.3	0.3
17.00	0.2	0.2
18.00	0.2	0.2
19.00	0.2	0.2
20.00	0.1	0.1
21.00	0.1	0.1
22.00	0.1	0.1
23.00	0.1	0.1
24.00	0.1	0.1
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Primary (cfs)
Time (hours)
27.1 cfs
26.6 cfs
Link POI A Ex
Link POI A Pr

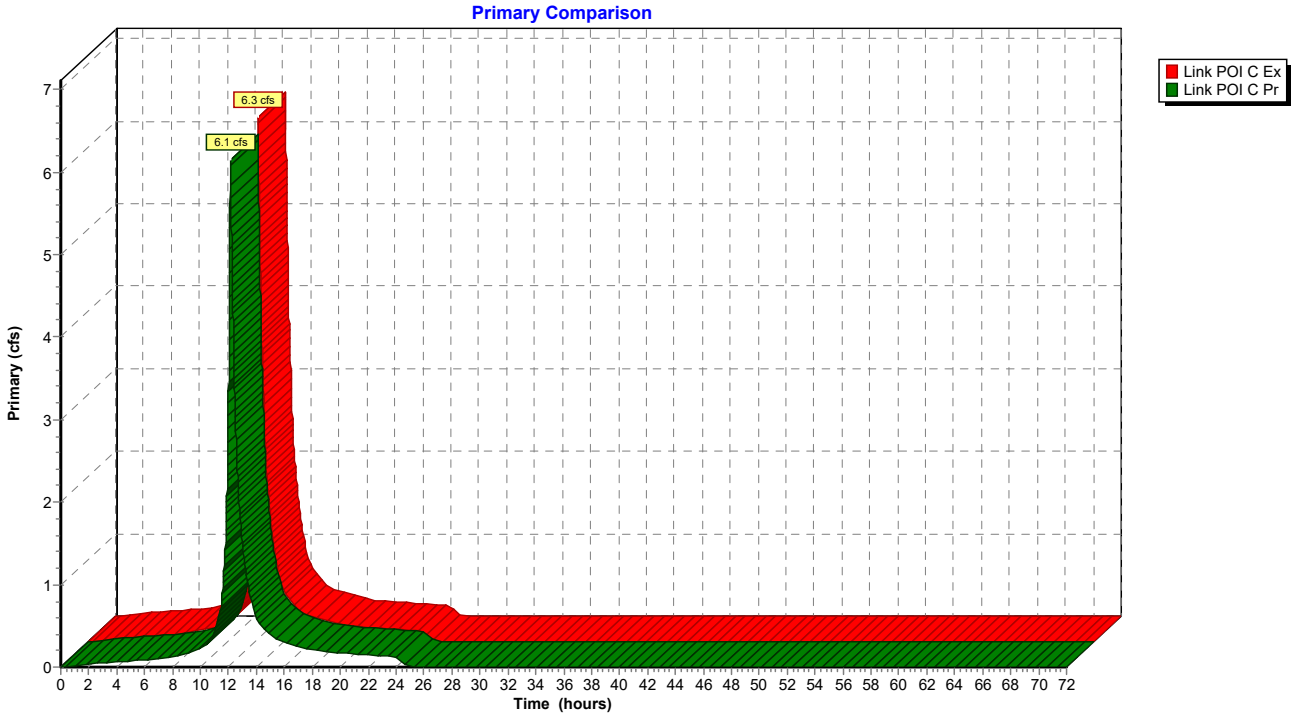
Primary Comparison

Time (hours)	Link POI A Ex (cfs)	Link POI A Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.2	0.2
3.00	0.3	0.2
4.00	0.3	0.3
5.00	0.4	0.4
6.00	0.4	0.4
7.00	0.5	0.5
8.00	0.6	0.6
9.00	0.8	0.8
10.00	1.2	1.1
11.00	2.1	2.1
12.00	**14.7**	**14.5**
13.00	**3.5**	**3.5**
14.00	1.6	1.6
15.00	1.1	1.1
16.00	0.9	0.9
17.00	0.7	0.7
18.00	0.6	0.6
19.00	0.5	0.5
20.00	0.5	0.5
21.00	0.5	0.5
22.00	0.4	0.4
23.00	0.4	0.4
24.00	0.4	0.4
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI B Ex
Link POI B Pr
1.6 cfs
1.1 cfs
Primary (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

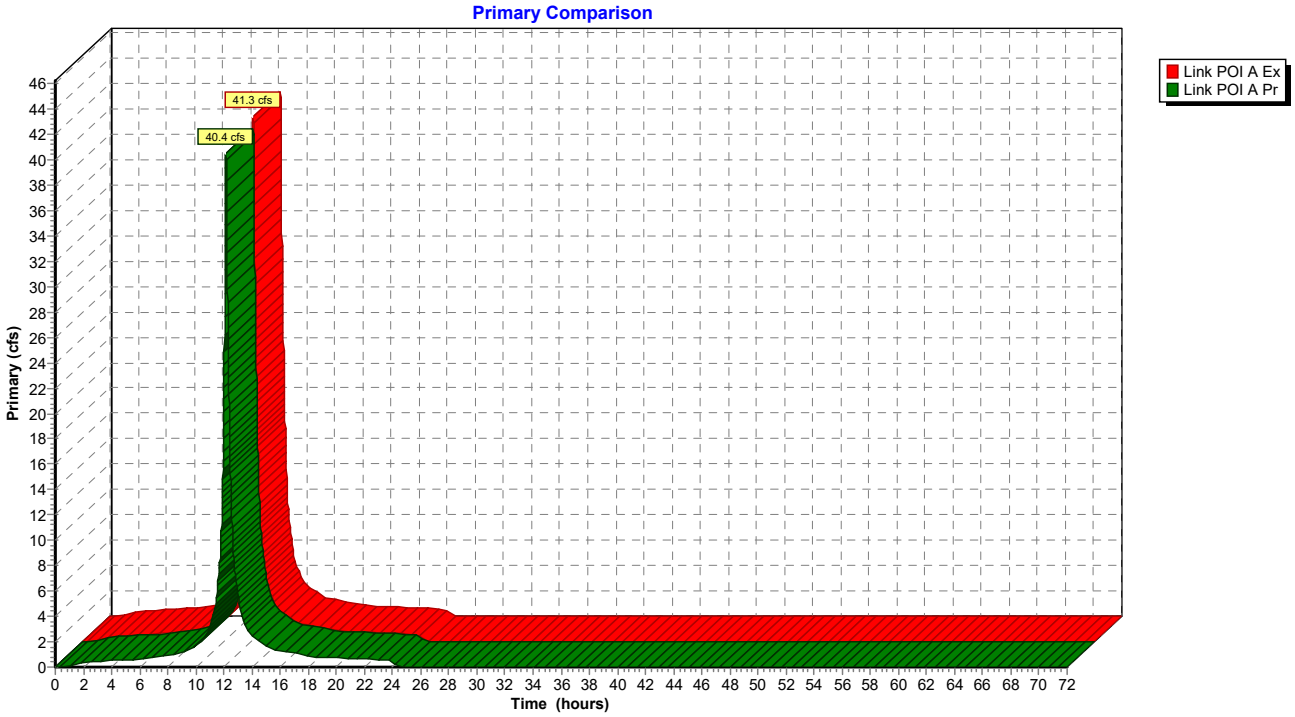
Primary Comparison

Time (hours)	Link POI B Ex (cfs)	Link POI B Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.0	0.0
4.00	0.0	0.0
5.00	0.0	0.0
6.00	0.0	0.0
7.00	0.0	0.0
8.00	0.0	0.0
9.00	0.0	0.0
10.00	0.1	0.0
11.00	0.1	0.1
12.00	**0.9**	**0.6**
13.00	**0.1**	**0.1**
14.00	0.1	0.1
15.00	0.0	0.0
16.00	0.0	0.0
17.00	0.0	0.0
18.00	0.0	0.0
19.00	0.0	0.0
20.00	0.0	0.0
21.00	0.0	0.0
22.00	0.0	0.0
23.00	0.0	0.0
24.00	0.0	0.0
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI C Ex
Link POI C Pr
6.3 cfs
6.1 cfs
Primary (cfs)
Time (hours)
0 1 2 3 4 5 6 7
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

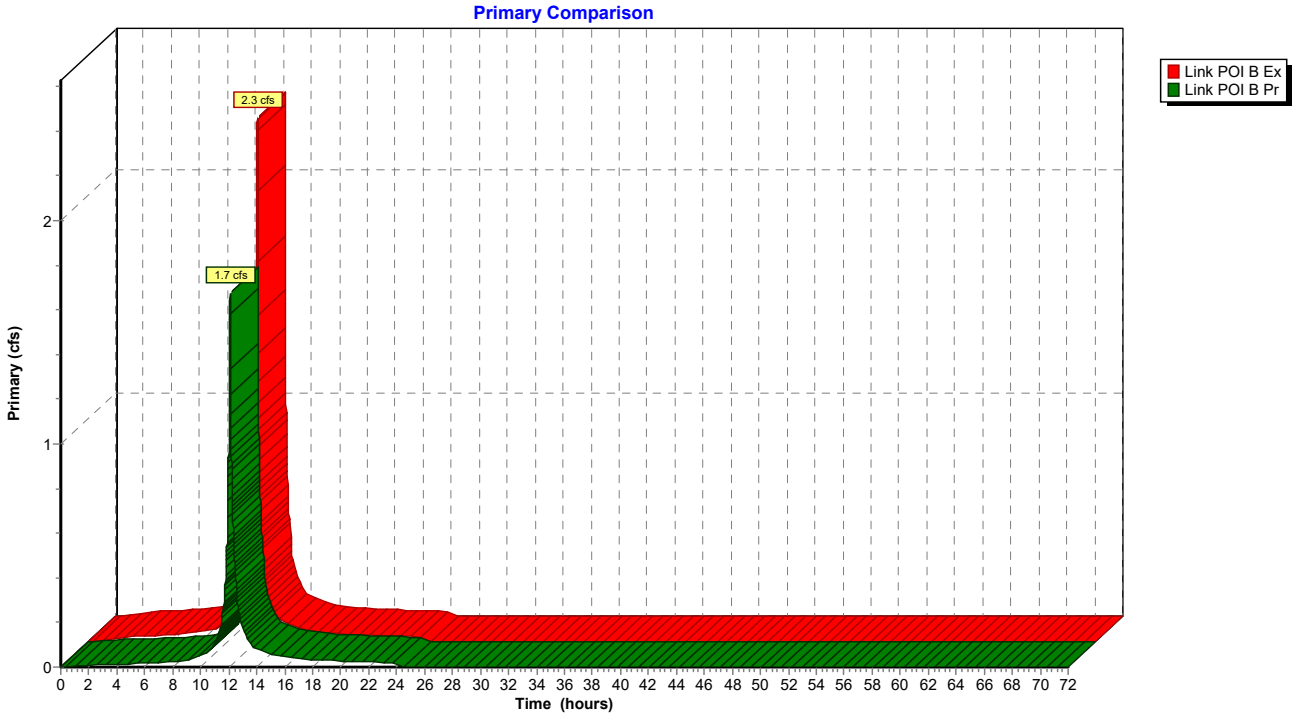
Primary Comparison

Time (hours)	Link POI C Ex (cfs)	Link POI C Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.1	0.1
4.00	0.1	0.1
5.00	0.1	0.1
6.00	0.1	0.1
7.00	0.1	0.1
8.00	0.1	0.1
9.00	0.2	0.2
10.00	0.2	0.2
11.00	0.5	0.4
12.00	**3.4**	**3.3**
13.00	**1.6**	**1.5**
14.00	0.6	0.6
15.00	0.4	0.4
16.00	0.3	0.3
17.00	0.3	0.3
18.00	0.2	0.2
19.00	0.2	0.2
20.00	0.2	0.2
21.00	0.2	0.2
22.00	0.2	0.2
23.00	0.1	0.1
24.00	0.1	0.1
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Primary (cfs)
Time (hours)
41.3 cfs
40.4 cfs
Link POI A Ex
Link POI A Pr

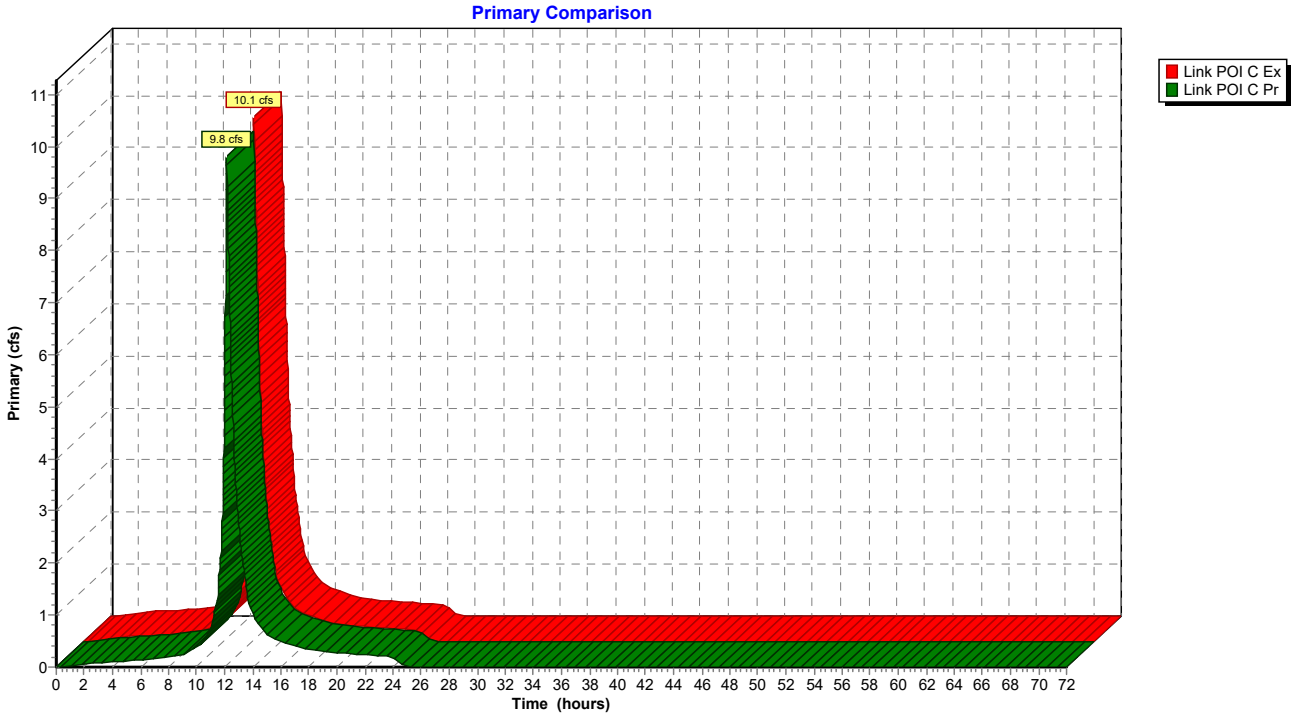
Primary Comparison

Time (hours)	Link POI A Ex (cfs)	Link POI A Pr (cfs)
0.00	0.0	0.0
1.00	0.1	0.1
2.00	0.3	0.3
3.00	0.4	0.4
4.00	0.5	0.5
5.00	0.6	0.6
6.00	0.6	0.6
7.00	0.8	0.8
8.00	1.0	1.0
9.00	1.2	1.1
10.00	1.8	1.7
11.00	3.3	3.2
12.00	**22.4**	**22.1**
13.00	**5.5**	**5.4**
14.00	2.4	2.4
15.00	1.6	1.6
16.00	1.3	1.3
17.00	1.1	1.1
18.00	0.9	0.9
19.00	0.8	0.8
20.00	0.8	0.8
21.00	0.7	0.7
22.00	0.7	0.7
23.00	0.6	0.6
24.00	0.6	0.6
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI B Ex
Link POI B Pr
2.3 cfs
1.7 cfs
Primary (cfs)
0
1
2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

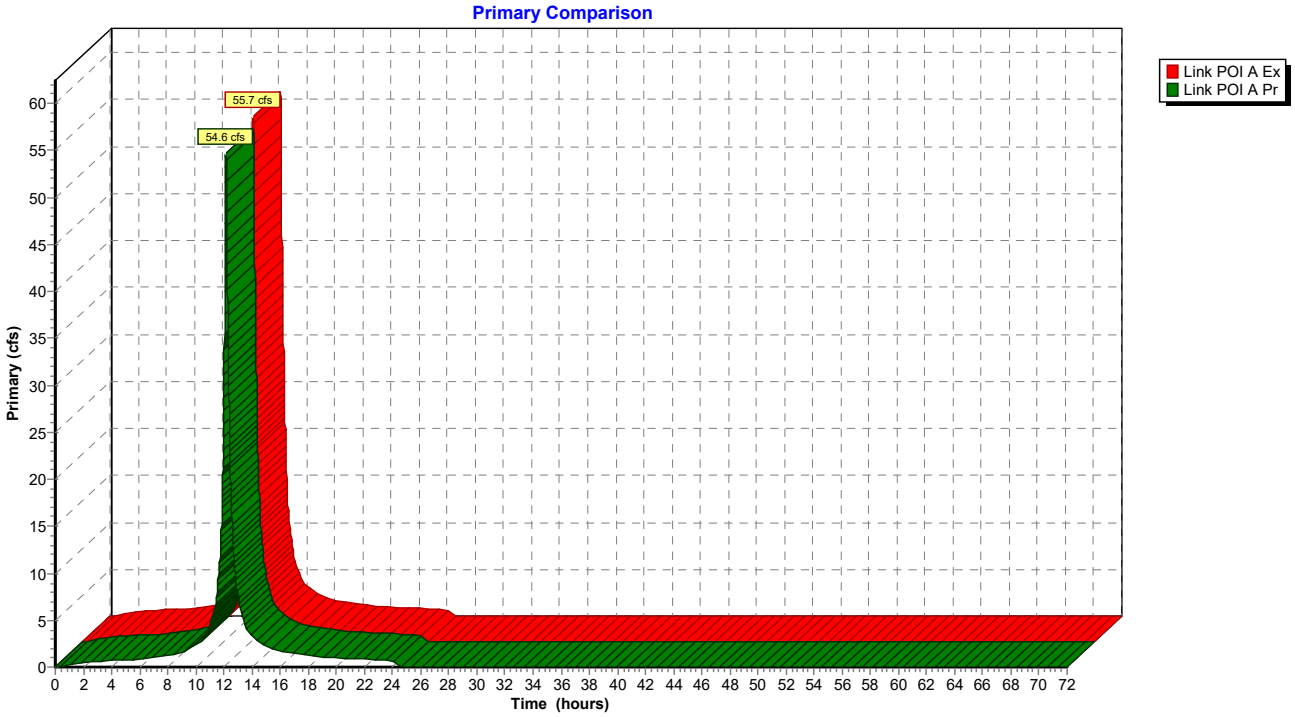
Primary Comparison

Time (hours)	Link POI B Ex (cfs)	Link POI B Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.0	0.0
4.00	0.0	0.0
5.00	0.0	0.0
6.00	0.0	0.0
7.00	0.0	0.0
8.00	0.0	0.0
9.00	0.1	0.0
10.00	0.1	0.1
11.00	0.2	0.1
12.00	**1.4**	**1.0**
13.00	**0.2**	**0.2**
14.00	0.1	0.1
15.00	0.1	0.1
16.00	0.1	0.0
17.00	0.0	0.0
18.00	0.0	0.0
19.00	0.0	0.0
20.00	0.0	0.0
21.00	0.0	0.0
22.00	0.0	0.0
23.00	0.0	0.0
24.00	0.0	0.0
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI C Ex
Link POI C Pr
10.1 cfs
9.8 cfs
Primary (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0 1 2 3 4 5 6 7 8 9 10 11

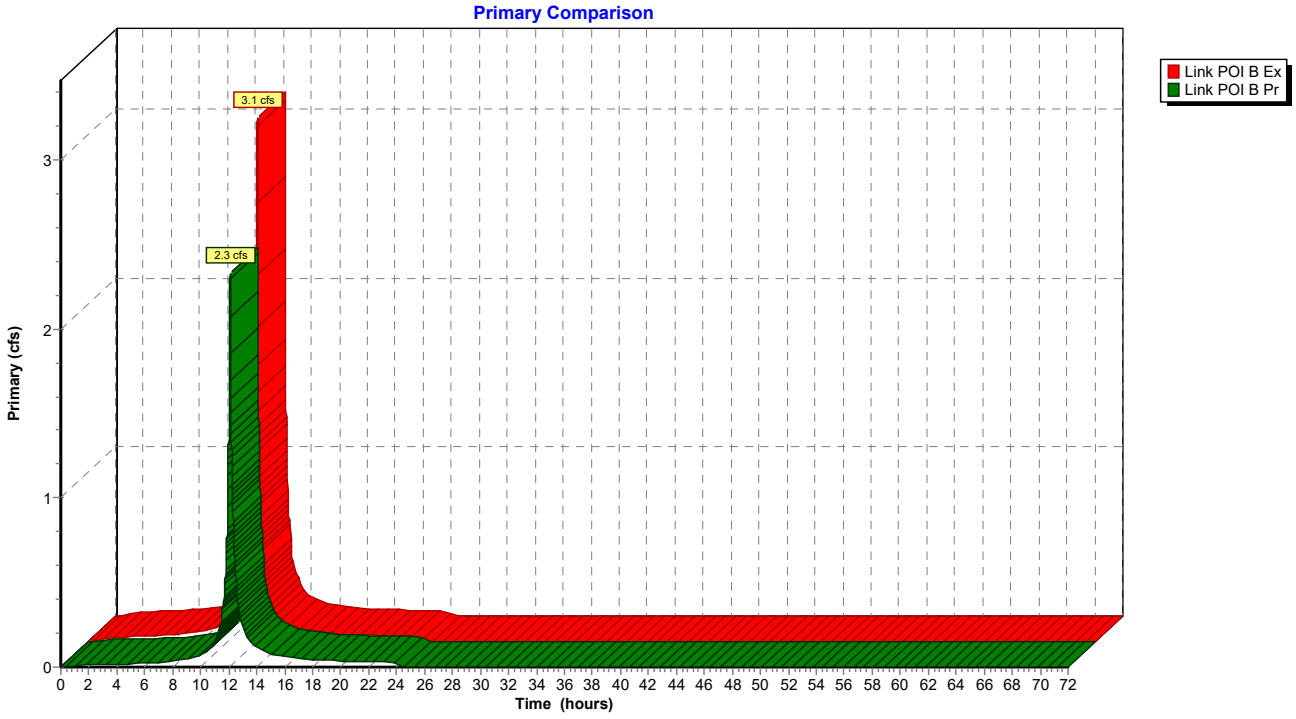
Primary Comparison

Time (hours)	Link POI C Ex (cfs)	Link POI C Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.1	0.1
3.00	0.1	0.1
4.00	0.1	0.1
5.00	0.1	0.1
6.00	0.1	0.1
7.00	0.2	0.2
8.00	0.2	0.2
9.00	0.2	0.2
10.00	0.4	0.4
11.00	0.8	0.8
12.00	**5.5**	**5.4**
13.00	**2.9**	**2.8**
14.00	1.1	1.0
15.00	0.7	0.6
16.00	0.5	0.5
17.00	0.4	0.4
18.00	0.4	0.3
19.00	0.3	0.3
20.00	0.3	0.3
21.00	0.3	0.3
22.00	0.3	0.2
23.00	0.2	0.2
24.00	0.2	0.2
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI A Ex
Link POI A Pr
55.7 cfs
54.6 cfs
Primary (cfs)
0
5
10
15
20
25
30
35
40
45
50
55
60
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

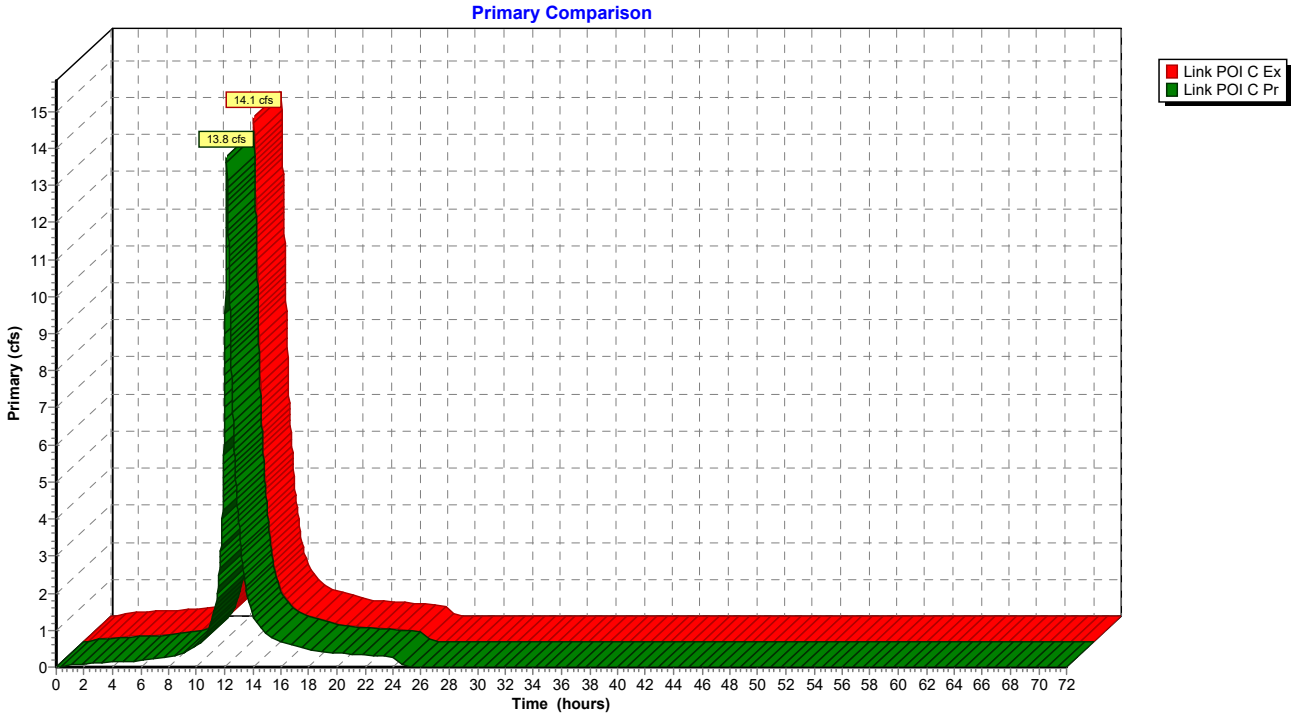
Primary Comparison

Time (hours)	Link POI A Ex (cfs)	Link POI A Pr (cfs)
0.00	0.0	0.0
1.00	0.3	0.3
2.00	0.5	0.5
3.00	0.6	0.6
4.00	0.7	0.7
5.00	0.8	0.8
6.00	0.9	0.8
7.00	1.1	1.1
8.00	1.3	1.3
9.00	1.6	1.5
10.00	2.4	2.4
11.00	4.5	4.4
12.00	**30.3**	**29.9**
13.00	**7.4**	**7.4**
14.00	3.3	3.3
15.00	2.2	2.2
16.00	1.7	1.8
17.00	1.5	1.5
18.00	1.2	1.2
19.00	1.1	1.1
20.00	1.0	1.0
21.00	0.9	0.9
22.00	0.9	0.9
23.00	0.8	0.8
24.00	0.8	0.8
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI B Ex
Link POI B Pr
3.1 cfs
2.3 cfs
Primary (cfs)
0
1
2
3
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Primary Comparison

Time (hours)	Link POI B Ex (cfs)	Link POI B Pr (cfs)
0.00	0.0	0.0
1.00	0.0	0.0
2.00	0.0	0.0
3.00	0.0	0.0
4.00	0.0	0.0
5.00	0.0	0.0
6.00	0.0	0.0
7.00	0.1	0.0
8.00	0.1	0.0
9.00	0.1	0.0
10.00	0.1	0.1
11.00	0.2	0.1
12.00	**1.8**	**1.4**
13.00	**0.2**	**0.2**
14.00	0.1	0.1
15.00	0.1	0.1
16.00	0.1	0.1
17.00	0.1	0.1
18.00	0.0	0.0
19.00	0.0	0.0
20.00	0.0	0.0
21.00	0.0	0.0
22.00	0.0	0.0
23.00	0.0	0.0
24.00	0.0	0.0
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0


Primary Comparison
Link POI C Ex
Link POI C Pr
14.1 cfs
13.8 cfs
Primary (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Primary Comparison

Time (hours)	Link POI C Ex (cfs)	Link POI C Pr (cfs)
0.00	0.0	0.0
1.00	0.1	0.1
2.00	0.1	0.1
3.00	0.1	0.1
4.00	0.2	0.1
5.00	0.2	0.2
6.00	0.2	0.2
7.00	0.2	0.2
8.00	0.3	0.3
9.00	0.4	0.3
10.00	0.6	0.6
11.00	1.2	1.1
12.00	**7.7**	**7.6**
13.00	**4.0**	**3.9**
14.00	1.5	1.4
15.00	0.9	0.9
16.00	0.7	0.7
17.00	0.6	0.6
18.00	0.5	0.5
19.00	0.4	0.4
20.00	0.4	0.4
21.00	0.4	0.4
22.00	0.3	0.3
23.00	0.3	0.3
24.00	0.3	0.3
25.00	0.0	0.0
26.00	0.0	0.0
27.00	0.0	0.0
28.00	0.0	0.0
29.00	0.0	0.0
30.00	0.0	0.0
31.00	0.0	0.0
32.00	0.0	0.0
33.00	0.0	0.0
34.00	0.0	0.0
35.00	0.0	0.0
36.00	0.0	0.0
37.00	0.0	0.0
38.00	0.0	0.0
39.00	0.0	0.0
40.00	0.0	0.0
41.00	0.0	0.0
42.00	0.0	0.0
43.00	0.0	0.0
44.00	0.0	0.0
45.00	0.0	0.0
46.00	0.0	0.0
47.00	0.0	0.0
48.00	0.0	0.0
49.00	0.0	0.0
50.00	0.0	0.0
51.00	0.0	0.0
52.00	0.0	0.0
53.00	0.0	0.0
54.00	0.0	0.0
55.00	0.0	0.0
56.00	0.0	0.0
57.00	0.0	0.0
58.00	0.0	0.0
59.00	0.0	0.0
60.00	0.0	0.0
61.00	0.0	0.0
62.00	0.0	0.0
63.00	0.0	0.0
64.00	0.0	0.0
65.00	0.0	0.0
66.00	0.0	0.0
67.00	0.0	0.0
68.00	0.0	0.0
69.00	0.0	0.0
70.00	0.0	0.0
71.00	0.0	0.0
72.00	0.0	0.0

APPENDIX E – GROUNDWATER RECHARGE CALCULATIONS

New Jersey Groundwater Recharge Spreadsheet Version 2.0 November 2003

Annual Groundwater Recharge Analysis (based on GSR-32)

Project Name:	EWR4 Yard Expansion Project
Description:	Groundwater Recharge
Analysis Date:	07/14/25

Select Township ↓	Average Annual P (in)	Climatic Factor
MERCER CO., HAMILTON TWP	44.9	1.43

Pre-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	6.17	Impervious areas	Woodstown	0.0	-
2	2.26	Open space	Sassafras	13.2	108,407
3	0.61	Open space	Woodstown	11.3	25,009
4	0.22	Open space	Mattapex	10.4	8,339
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	9.3			Total Annual Recharge (in)	Total Annual Recharge (cu-ft)
				4.2	141,755

Post-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	5.92	Impervious areas	Woodstown	0.0	-
2	2.76	Open space	Sassafras	13.2	132,391
3	0.4	Open space	Woodstown	11.3	16,399
4	0.18	Open space	Mattapex	10.4	6,823
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	9.3			Total Annual Recharge (in)	Total Annual Recharge (cu.ft)
				4.6	155,614

Annual Recharge Requirements Calculation ↓

% of Pre-Developed Annual Recharge to Preserve =	100%	Total Impervious Area (sq.ft)	257,875
Post-Development Annual Recharge Deficit=	***-13,858***	(cubic feet)	

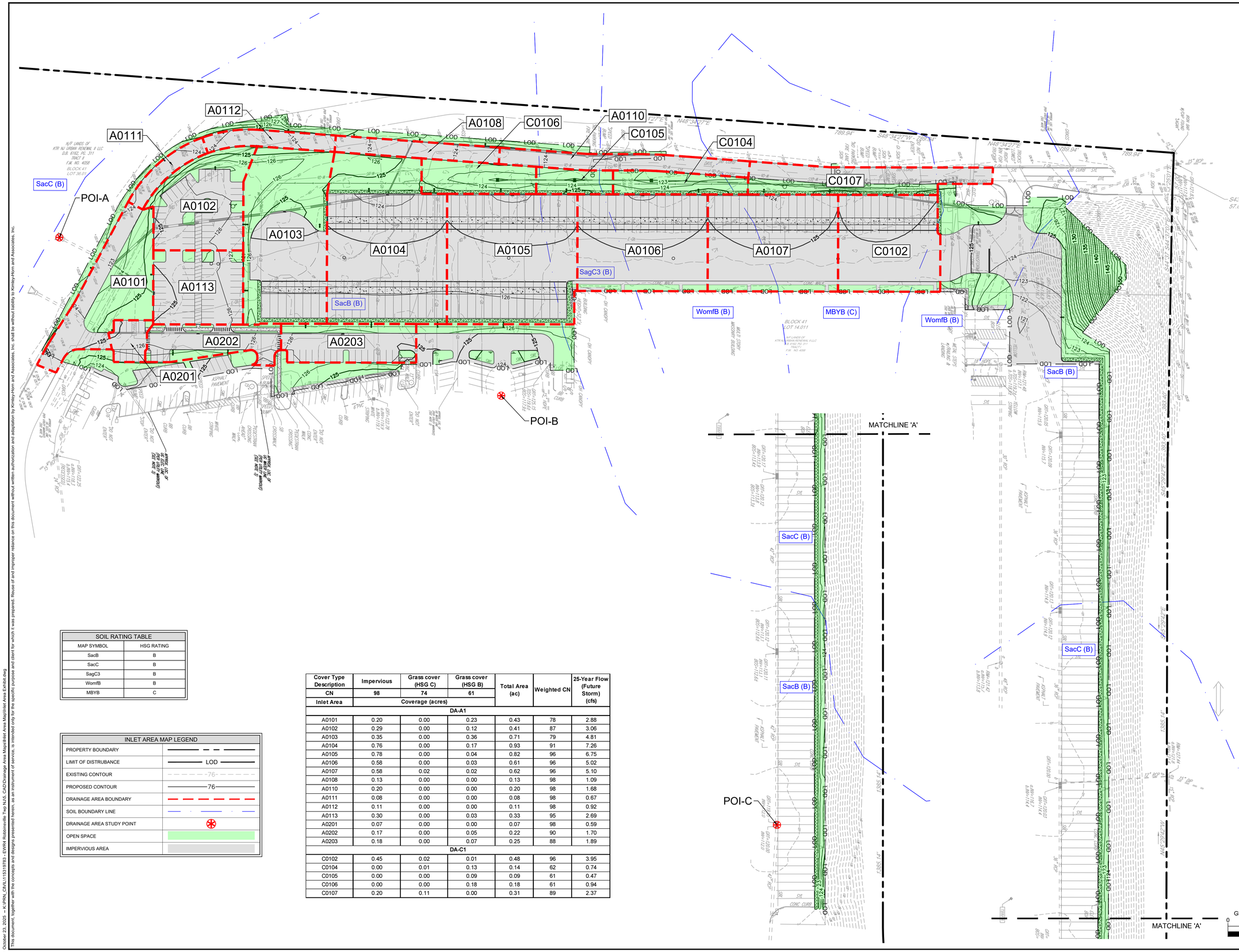
Recharge Efficiency Parameters Calculations (area averages)

RWC=	3.52	(in)	DRWC=	3.52	(in)
ERWC =	1.00	(in)	EDRWC=	1.00	(in)

Procedure to fill the Pre-Development and Post-Development Conditions Tables

For each land segment, first enter the area, then select TR-55 Land Cover, then select Soil. Start from the top of the table and proceed downward. Don't leave blank rows (with A=0) in between your segment entries. Rows with A=0 will not be displayed or used in calculations. For impervious areas outside of standard lots select "Impervious Areas" as the Land Cover. Soil type for impervious areas are only required if an infiltration facility will be built within these areas.

APPENDIX F – STORM SEWERS CONVEYANCE



SOIL RATING TABLE	
MAP SYMBOL	HSG RATING
SacB	B
SacC	B
SagC3	B
WomfB	B
MBYB	C

INLET AREA MAP LEGEND	
PROPERTY BOUNDARY	
LIMIT OF DISTRUBANCE	LOD
EXISTING CONTOUR	76
PROPOSED CONTOUR	76
DRAINAGE AREA BOUNDARY	
SOIL BOUNDARY LINE	
DRAINAGE AREA STUDY POINT	
OPEN SPACE	
IMPERVIOUS AREA	

Cover Type Description	Impervious	Grass cover (HSG C)	Grass cover (HSG B)	Total Area (ac)	Weighted CN	25-Year Flow (Future Storm) (cfs)
CN	98	74	61			
Inlet Area	Coverage (acres)					
DA-A1						
A0101	0.20	0.00	0.23	0.43	78	2.88
A0102	0.29	0.00	0.12	0.41	87	3.06
A0103	0.35	0.00	0.36	0.71	79	4.81
A0104	0.76	0.00	0.17	0.93	91	7.26
A0105	0.78	0.00	0.04	0.82	96	6.75
A0106	0.58	0.00	0.03	0.61	96	5.02
A0107	0.58	0.02	0.02	0.62	96	5.10
A0108	0.13	0.00	0.00	0.13	98	1.09
A0110	0.20	0.00	0.00	0.20	98	1.68
A0111	0.08	0.00	0.00	0.08	98	0.67
A0112	0.11	0.00	0.00	0.11	98	0.92
A0113	0.30	0.00	0.03	0.33	95	2.69
A0201	0.07	0.00	0.00	0.07	98	0.59
A0202	0.17	0.00	0.05	0.22	90	1.70
A0203	0.18	0.00	0.07	0.25	88	1.89
DA-C1						
C0102	0.45	0.02	0.01	0.48	96	3.95
C0104	0.00	0.01	0.13	0.14	62	0.74
C0105	0.00	0.00	0.09	0.09	61	0.47
C0106	0.00	0.00	0.18	0.18	61	0.94
C0107	0.20	0.11	0.00	0.31	89	2.37

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY

Kimley»Horn

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391 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM

CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000600

KHA PROJECT 115319783
DATE 07/23/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

INLET AREA MAP

Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

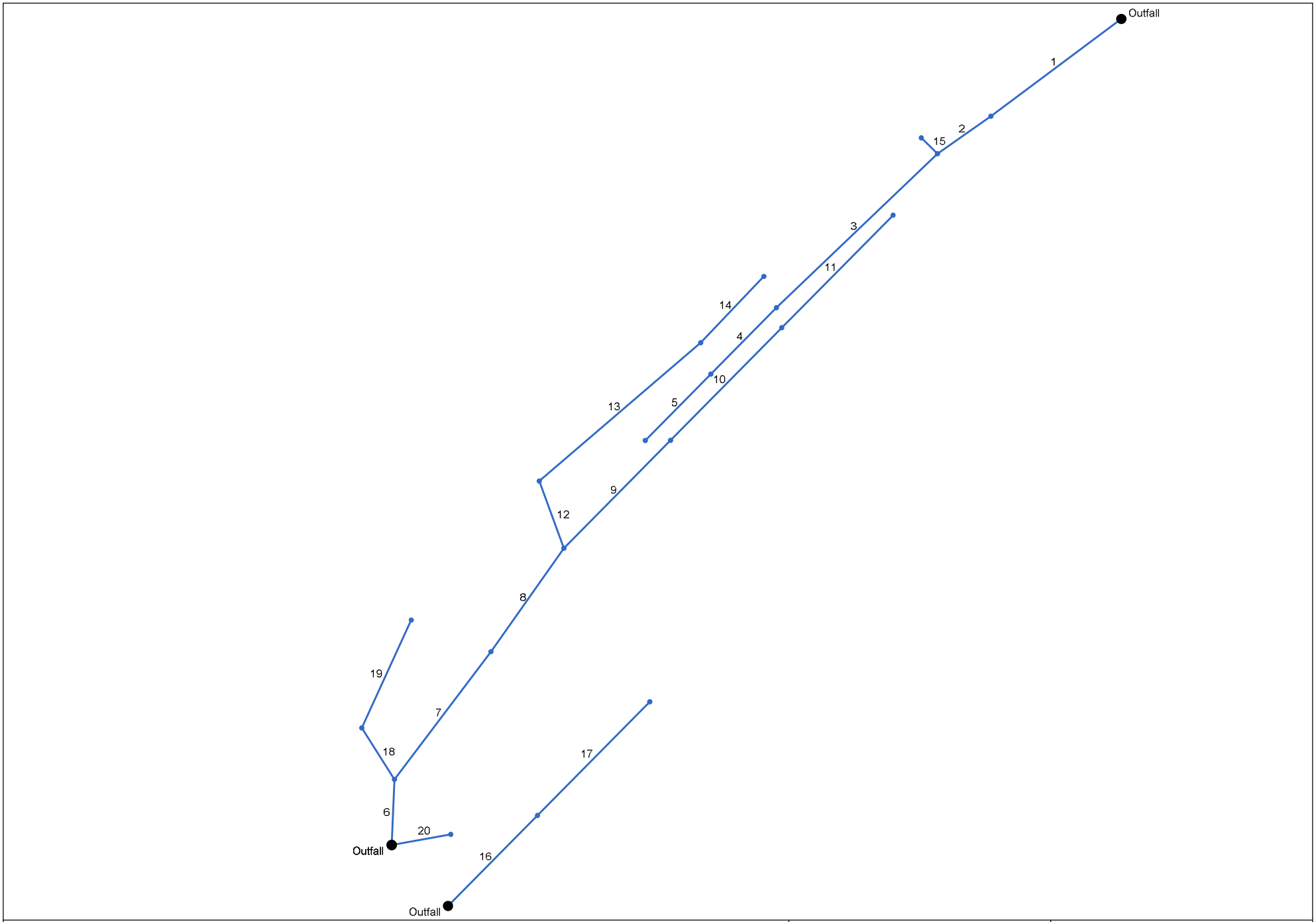
APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
INLET-1

October 23, 2025 – K:\PRN_CIVIL\115319783 - EWR4 Robbinsville Twp NJ\5. CAD\Drainage Area Maps\Inlet Area Maps\Inlet Area Exhibit.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: 2025.07.14 - EWR4 - Pipe Calculation.stm	Number of lines: 20	Date: 7/14/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	C0102 TO C0101 EXISTING	8.20	24	Cir	195.134	117.60	118.19	0.302	118.62	119.50	0.11	119.61	End	Combination
2	C0103 TO C0102	4.48	24	Cir	78.306	118.19	118.42	0.294	119.61	119.64	0.08	119.72	1	Manhole
3	C0104 TO C0103	2.33	18	Cir	267.336	118.42	119.22	0.299	119.72	119.97	0.05	120.02	2	Combination
4	C0105 TO C0104	1.58	15	Cir	112.000	119.22	119.56	0.304	120.02	120.17	0.05	120.23	3	Combination
5	C0106 TO C0105	1.10	15	Cir	112.000	119.56	119.89	0.295	120.23	120.38	0.09	120.47	4	Combination
6	A0102 TO A0101 EXISTING	33.25	36	Cir	79.071	116.20	116.44	0.304	118.07	118.62	0.53	119.15	End	Combination
7	A0103 TO A0102	29.68	36	Cir	192.179	116.44	117.01	0.297	119.15	119.45	0.18	119.63	6	Combination
8	A0104 TO A0103	25.72	36	Cir	152.121	117.01	117.47	0.302	119.63	119.81	0.37	120.18	7	Combination
9	A0105 TO A0104	17.58	30	Cir	182.000	117.47	118.02	0.302	120.18	120.50	0.10	120.60	8	Combination
10	A0106 TO A0105	10.95	24	Cir	190.000	118.02	118.59	0.300	120.60*	121.05*	0.09	121.14	9	Combination
11	A0107 TO A0106	5.94	24	Cir	190.000	118.59	119.16	0.300	121.14*	121.27*	0.06	121.33	10	Combination
12	A0108 TO A0104	2.74	18	Cir	85.977	117.47	117.73	0.302	120.18*	120.24*	0.05	120.29	8	Combination
13	A0109 TO A0108	1.86	15	Cir	254.958	117.73	118.49	0.298	120.29*	120.50*	0.01	120.51	12	Manhole
14	A0110 EXISTING TO A0109	1.96	15	Cir	109.960	118.49	118.82	0.300	120.51*	120.61*	0.04	120.65	13	Combination
15	C0107 EXISTING TO C0103	2.75	15	Cir	27.125	118.42	118.69	0.995	119.72	119.75	0.10	119.85	2	Combination
16	A0202 TO A0201 EXISTING	3.97	24	Cir	152.717	115.30	116.83	1.002	115.87	117.53	n/a	117.53	End	Combination
17	A0203 TO A0202	2.19	24	Cir	191.813	116.83	118.75	1.001	117.53	119.26	n/a	119.26 j	16	Combination
18	A0111 EXISTING TO A0102	1.70	15	Cir	73.178	116.44	117.17	0.998	119.15*	119.20*	0.04	119.24	6	Combination
19	A0112 TO A0111 EXISTING	1.08	15	Cir	142.694	117.17	118.60	1.002	119.24	119.29	0.04	119.33	18	Combination
20	A0113 TO A0101 EXISTING	3.13	15	Cir	71.912	116.20	116.92	1.001	116.81	117.63	0.29	117.63	End	Combination

Project File: 2025.07.14 - EWR4 - Pipe Calculation.stm | Number of lines: 20 | Run Date: 7/14/2025

NOTES: Return period = 25 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	195.134	0.48	1.20	0.96	0.46	0.99	5.0	9.5	8.3	8.20	12.44	4.42	24	0.30	117.60	118.19	118.62	119.50	124.19	124.02	C0102 TO C0101
2	1	78.306	0.00	0.72	0.00	0.00	0.53	5.0	8.9	8.5	4.48	12.26	2.05	24	0.29	118.19	118.42	119.61	119.64	124.02	123.43	C0103 TO C0102
3	2	267.336	0.14	0.41	0.62	0.09	0.25	5.0	6.7	9.2	2.33	5.74	2.04	18	0.30	118.42	119.22	119.72	119.97	123.43	122.50	C0104 TO C0103
4	3	112.000	0.09	0.27	0.61	0.05	0.16	5.0	5.9	9.6	1.58	3.56	2.27	15	0.30	119.22	119.56	120.02	120.17	122.50	122.78	C0105 TO C0104
5	4	112.000	0.18	0.18	0.61	0.11	0.11	5.0	5.0	10.0	1.10	3.51	2.05	15	0.29	119.56	119.89	120.23	120.38	122.78	122.78	C0106 TO C0105
6	End	79.071	0.41	4.62	0.87	0.36	4.24	5.0	11.2	7.8	33.25	36.74	6.60	36	0.30	116.20	116.44	118.07	118.62	122.92	124.83	A0102 TO A0101
7	6	192.179	0.71	4.02	0.79	0.56	3.70	5.0	10.5	8.0	29.68	36.32	4.61	36	0.30	116.44	117.01	119.15	119.45	124.83	123.99	A0103 TO A0102
8	7	152.121	0.93	3.31	0.91	0.85	3.14	5.0	9.9	8.2	25.72	36.67	4.14	36	0.30	117.01	117.47	119.63	119.81	123.99	123.47	A0104 TO A0103
9	8	182.000	0.82	2.05	0.96	0.79	1.97	5.0	7.6	8.9	17.58	22.55	3.58	30	0.30	117.47	118.02	120.18	120.50	123.47	123.69	A0105 TO A0104
10	9	190.000	0.61	1.23	0.96	0.59	1.18	5.0	6.7	9.3	10.95	12.39	3.48	24	0.30	118.02	118.59	120.60	121.05	123.69	123.78	A0106 TO A0105
11	10	190.000	0.62	0.62	0.96	0.60	0.60	5.0	5.0	10.0	5.94	12.39	1.89	24	0.30	118.59	119.16	121.14	121.27	123.78	123.88	A0107 TO A0106
12	8	85.977	0.13	0.33	0.98	0.13	0.32	5.0	9.0	8.5	2.74	5.77	1.55	18	0.30	117.47	117.73	120.18	120.24	123.47	123.08	A0108 TO A0104
13	12	254.958	0.00	0.20	0.00	0.00	0.20	5.0	6.2	9.5	1.86	3.53	1.51	15	0.30	117.73	118.49	120.29	120.50	123.08	123.28	A0109 TO A0108
14	13	109.960	0.20	0.20	0.98	0.20	0.20	5.0	5.0	10.0	1.96	3.54	1.59	15	0.30	118.49	118.82	120.51	120.61	123.28	122.04	A0110 EXISTING
15	2	27.125	0.31	0.31	0.89	0.28	0.28	5.0	5.0	10.0	2.75	6.44	2.36	15	1.00	118.42	118.69	119.72	119.75	123.43	122.09	C0107 EXISTING
16	End	152.717	0.22	0.47	0.90	0.20	0.42	5.0	6.1	9.5	3.97	22.64	4.72	24	1.00	115.30	116.83	115.87	117.53	124.68	125.69	A0202 TO A0201
17	16	191.813	0.25	0.25	0.88	0.22	0.22	5.0	5.0	10.0	2.19	22.63	2.84	24	1.00	116.83	118.75	117.53	119.26	125.69	125.03	A0203 TO A0202
18	6	73.178	0.08	0.19	0.98	0.08	0.19	5.0	7.0	9.2	1.70	6.45	1.39	15	1.00	116.44	117.17	119.15	119.20	124.83	123.28	A0111 EXISTING
19	18	142.694	0.11	0.11	0.98	0.11	0.11	5.0	5.0	10.0	1.08	6.46	1.21	15	1.00	117.17	118.60	119.24	119.29	123.28	123.28	A0112 TO A0111
20	End	71.912	0.33	0.33	0.95	0.31	0.31	5.0	5.0	10.0	3.13	6.46	4.78	15	1.00	116.20	116.92	116.81	117.63	122.92	124.58	A0113 TO A0101

Project File: 2025.07.14 - EWR4 - Pipe Calculation.stm

Number of lines: 20

Run Date: 7/14/2025

NOTES:Intensity = 77.29 / (Inlet time + 11.00) ^ 0.74; Return period =Yrs. 25 ; c = cir e = ellip b = box

APPENDIX G – CONDUIT OUTLET PROTECTION CALCULATIONS

Manning Formula Uniform Pipe Flow at Given Slope and Depth

EWR4 Robbinsville POI A

Pipe Capacity - Existing Pipe Run to A0201

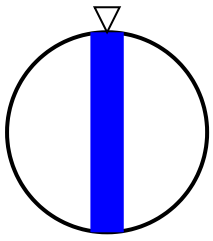
Inputs

Pipe diameter, d_0	30	in
Manning roughness, n	0.013	
Pressure slope (possibly ? equal to pipe slope), S_0	0.0005	rise/run
Relative flow depth, y/d_0	1	fraction

Existing Pipe Slope:
Invert 115.4' to Invert 115.3'
Rise = 0.1'
Length = 191'
Slope = 0.0005 (0.05%)

Results

Flow depth, y	30.0000	in
Flow area, a	706.8598	sq. in.
Pipe area, a0	706.8598	sq. in.
Relative area, a/a0	1.0000	fraction
Wetted perimeter, P_w	94.2478	in
Hydraulic radius, R_h	7.5000	in
Top width, T	0.0000	in
Velocity, v	1.8683	ft/sec
Velocity head, h_v	0.6510	in H2O
Froude number, F	0.00	
Average shear stress (tractive force), tau	0.0195	psf
Flow, Q (See notes)	9.1708	cfs
Full flow, Q0	9.1708	cfs
Ratio to full flow, Q/Q0	1.0000	fraction



Notes:

This is the flow and depth inside an *infinitely long* pipe.
Getting the flow into the pipe may require significantly higher headwater depth. Add at least 1.5 times the velocity head to get the headwater depth or see my 2-minute tutorial for standard culvert headwater calculations using HY-8.

Date: 2026.02.09
Project: EWR4 - Robbinsville
Project No: 115319783

Calculated By: JAR
Checked By: ONS

Conduit Outlet Protection Calculations

Rip Rap Pad # EX-1

Design Parameters:

Design Storm Flow for 25 Year, Q	33.25	cfs
Vertical Dimension of Outlet Pipe, D_o	36	in
Horizontal Dimension of Outlet Pipe, W_o	36	in
Tailwater Depth, TW[1]	0.60	ft

Apron Dimension Calculations:

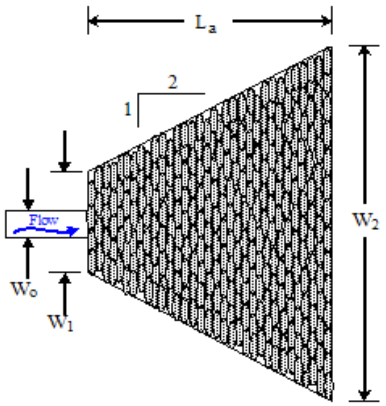
Unit Dicharge, $q = Q/D_o$ = 11.08 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = 32.52 ft or L_a : **33 ft**

Width, $W_1 = 3W_o$ = 9. ft or W_1 = **9 ft**

Width, $W_2 = 3W_o + L_a$ = 41.52 ft or W_2 = **42 ft**

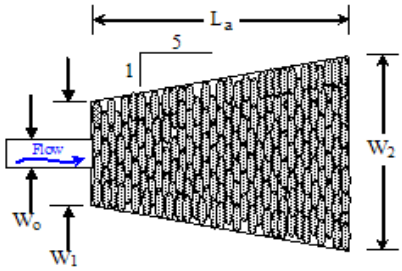


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = L_a :

Width, $W_1 = 3W_o$ = W_1 =

Width, $W_2 = 3W_o + 0.4L_a$ = W_2 =



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.016q^{1.33}}{TW}$ = 7.84 in d_{50} : **8 in**

Notes:

1. In case of a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2 year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

Date: 2026.02.09
Project: EWR4 - Robbinsville
Project No: 115319783

Calculated By: JAR
Checked By: ONS

Conduit Outlet Protection Calculations

Rip Rap Pad # EX-2

Design Parameters:

Design Storm Flow for 25 Year, Q	13.14	cfs
Vertical Dimension of Outlet Pipe, D_o	30	in
Horizontal Dimension of Outlet Pipe, W_o	30	in
Tailwater Depth, TW[1]	0.50	ft

Apron Dimension Calculations:

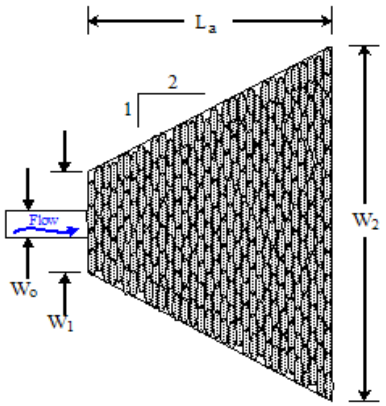
Unit Dicharge, $q = Q/D_o$ = 5.26 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = 23.48 ft or L_a : **24 ft**

Width, $W_1 = 3W_o$ = 7.5 ft or W_1 = **8 ft**

Width, $W_2 = 3W_o + L_a$ = 30.98 ft or W_2 = **31 ft**

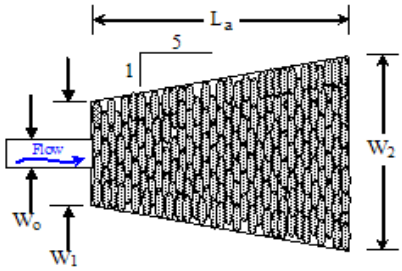


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = L_a :

Width, $W_1 = 3W_o$ = W_1 =

Width, $W_2 = 3W_o + 0.4L_a$ = W_2 =



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.016q^{1.33}}{TW}$ = 3.49 in d_{50} : **6 in**

Notes:

1. In case of a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2 year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

June 12, 2025

via e-mail: olivia.schailey@kimley-horn.com

Kimley-Horn
Attn: Olivia Schailey
301 Carnegie Center, Suite 202
Princeton, NJ 08540

RE: Geotechnical Engineering Report
50 New Canton Way
Block 41, Lot 14.011
Robbinsville, Mercer County, New Jersey
Envirotactics Project #6686

Ms. Schailey:

Envirotactics, LLC (Envirotactics) has completed subsurface exploration, geotechnical laboratory testing, and geotechnical engineering analyses in connection with trailer and passenger vehicle parking areas at the above-referenced site. Our services were performed in general accordance with the scope of services indicated in our price estimate dated April 16, 2025 (Envirotactics Price Estimate #6686), which was authorized by Kimley-Horn and Associates, Inc. (KH)on April 17, 2025 via Individual Project Order No. 1 for KH Project #115319783. This letter report presents our understanding of the geotechnical aspect of the project along with the findings of the field study and geotechnical laboratory testing completed. Additionally, we provide our geotechnical engineering recommendations for design and construction by others.

It has been our pleasure to be of service to KH during this phase of the project. Should you have any questions regarding the information presented or corresponding recommendations provided in our report, or if we can be of further assistance to you, please contact us.

Sincerely,
For Envirotactics, LLC

Kenneth Gene G. Mariano
Project Manager

STATE OF NEW JERSEY
ROBERT S. VALORIO
No. GE45284
LICENSED PROFESSIONAL ENGINEER

Robert S. Valorio, P.E.
Director of Geotechnical Services

1330 Laurel Ave.
Building 3
Sea Girt, NJ 08750

Phone 732.449.0077
www.envirotactics.com

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APPENDICES

Appendix A – Diagrams and Maps
Appendix B – Subsurface Data
Appendix C – Geotechnical Laboratory Testing Data
Appendix D – Supplemental Information

1.0 PROJECT UNDERSTANDING

The 79.7-acre site is comprised of Lot 14.011 of Block 41 as identified on Robbinsville Township tax maps based upon the Parcel Explorer feature of NJ Map (www.njmap2.com), as developed and maintained by Rowan University. It is bound to the north by Gordon Road, to the east by Old York Road (C.R. 539), and to the south and west by commercial/ industrial properties. The site is currently developed as an active distribution warehouse facility with points of ingress/egress from Gordon Road, John Henry Drive, and New Canton Way.

Our understanding of the proposed project is based upon the information conveyed via email correspondence with KH that included site location information and portable document format files containing the following items:

- Drawing titled, "Concept Site Plan," prepared by Kimley-Horn dated April 2025 (concept plan), which was also annotated with proposed light pole locations and height information;
- Drawing titled, "Boundary & Partial Topographic Survey," prepared by Control Point Associates, Inc. dated May 19, 2025 (survey plan); and,
- Document titled, "Amazon Pavement Design Guidelines," prepared by Langan Engineering & Environmental Services and Structural Services, Inc. (pavement guidelines), dated February 8, 2020.

Based on the concept plan, the proposed project entails modifying the current paved parking area and drive lanes at the west end of the facility (project area) to accommodate increased WB-67 truck trafficking and trailer parking. The proposed modifications will also reduce and relocate some existing employee parking within the project area. We also understand that foundations will be required for relocated or new light poles within the project area, and the applicable local ordinance limits the height and maximum spacing of the light poles:

> *"The light poles will have a maximum freestanding height of no greater than 24 feet, measured from the ground to the center line of the light source, and shall be spaced a distance not to exceed four times the mounting height."*

2.0 FIELD EXPLORATION

Prior to mobilizing to the site for intrusive activities, our exploration subcontractor requested public utility location services via New Jersey One Call. Additionally, all locations for intrusive exploration were scanned for the presence of buried private utilities, which resulted in the minor relocation of some exploration locations to avoid a potential conflict.

A truck-mounted drill rig equipped with a manual safety sampling hammer was used to complete twelve (12) soil test borings within the project area at the site, as authorized, in locations accessible to the exploration equipment based on the site conditions at the time of mobilization. Standard Penetration Testing to measure N-values and obtain samples of the encountered subsurface materials was performed continuously from ground surface through borehole termination in general accordance with ASTM D1586 – *Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils*. Our soil test borings were located using a hand-held Global Positioning System device having an accuracy to within a 16-foot radius under an open sky, and the approximate as-completed boring locations are shown on the Exploration Location Diagram in Appendix A. Ground surface elevations at the completed boring locations, as indicated on the Exploration Logs in Appendix B, were interpolated from the survey plan provided and are approximate. The boreholes were backfilled in compliance with New Jersey Department of Environmental Protection guidelines.

3.0 GEOTECHNICAL LABORATORY TESTING

Selected samples obtained from our field exploration were submitted for laboratory testing for index properties and compaction characteristics. Each laboratory test was completed in accordance with the applicable ASTM Standard Test Method as indicated below and on the laboratory testing sheets included in Appendix C.

- ASTM D2216: *Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock Mass*
- ASTM D6913: *Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis*
- ASTM D4318: *Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils*
- ASTM D1557: *Standard Test Methods for Laboratory Compaction Characteristics of Soil using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3))*
- ASTM D1883: *Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils*

4.0 SUBSURFACE CHARACTERIZATION

Soils encountered were visually classified during logging of the explorations based on texture and plasticity in general accordance with ASTM D2488 – *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)* and in general accordance with ASTM D2487 – *Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).* The Unified Soil Classification System (USCS) group symbols for each soil type are indicated in parenthesis along with soil descriptions on the Exploration Logs. Divisions between soil layers on the logs are approximate; in-situ, the transitions may be gradual.

The subsurface conditions encountered were generally consistent with the published geologic mapping available from the New Jersey Geological and Water Survey via NJ GeoWeb and the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) via Web Soil Survey for the general project site vicinity. Based upon this published information, the surficial geology underlying the project area consists of the Pensauken Formation, which is composed of sand, clayey sand, pebble gravel, minor silt, clay, and cobble gravel; yellow, reddish yellow, white; and the sand typically includes weathered feldspar. Generalized characterizations of the materials encountered within the completed explorations are tabulated below. Refer to the Exploration Logs in Appendix B for more detailed information.

LAYER	DESCRIPTION
Surface Cover	Surface cover encountered at the completed explorations varied across the project area: • ±6 inches of asphalt pavement and gravel subbase (Borings B-01 thru B-10) • ±6 inches of topsoil (Borings B-11 and B-12)
I	Generally, loose to dense SILTY SAND (USCS: SM), SILTY, CLAYEY SAND (USCS: SC-SM), and CLAYEY SAND (USCS: SC) with varying amounts of gravel and fines, varying yellow to brown coloring, moist to wet

Groundwater was observed in some explorations during advance at variable depths below surface grade (bsg) ranging from approximately 14.5 feet-bsg to 16.0 feet-bsg, corresponding to a range in elevation from about Elevation +109.5 feet to about Elevation +106.2 feet based upon our estimates of surface elevations interpolated from the survey plan. Additionally, groundwater was observed within the open exploration at Boring B-01 at a depth of about 4.5 feet-bsg, corresponding approximately to Elevation +117.2 feet, prior to backfilling. Variations in perched groundwater levels and

long-term water table may occur because of changes in precipitation, evaporation, surface water runoff, construction activities, and other factors. It is important to note that neither a stabilized groundwater level determination nor seasonal high water table determination were included in our authorized scope of services.

5.0 DESIGN RECOMMENDATIONS

5.1 Light Post Foundations

5.1.1 Drilled Pier

Based on the subsurface conditions encountered within the completed explorations, we believe it is technically feasible to support the proposed light poles with short, straight-sided, drilled, cast-in-place concrete piers (a.k.a., drilled shafts or drilled piers) extending to sufficient depths to support downward loads and resist lateral loads, uplift, and overturning. Below are our general design recommendations and recommended soil parameters, considering the subsurface conditions encountered within the completed explorations, for use in the design of the drilled pier foundations by others.

DESCRIPTION	RECOMMENDATION
Minimum Pier Embedment Depth [1] (below existing grade)	6 feet
Bearing Material	medium-dense (SPT N-value ≥ 10 bpf) silty sand (USCS: SM)
Frost Penetration Depth [2] (below existing grade)	36 inches

Notes:

(1) Represents the depth required to encounter suitable end bearing and does not represent the length of pier required to support/resist design loads. Design of the pier foundations is the responsibility of others, and the design engineer should note that the total length of each pier foundation may require field adjustment based on subsurface conditions encountered at each pier location during construction.

(2) Soils within the frost penetration depth consist primarily of sand with high fines content and are considered frost susceptible.

bpf = blows per foot

Our recommended soil parameters are tabulated below. For design, any lateral resistance and skin friction that could be contributed from the upper 3 feet of pier embedment should be neglected due to the potential effects of frost action. Additionally, buoyant unit weights of soil and concrete should be used in the calculations below the highest anticipated groundwater elevation.

RECOMMENDED SOIL PARAMETERS								
Depth Range (ft)	Description	Moist Unit Weight (pcf)	Saturated Unit Weight (pcf)	Internal Friction Angle (deg)	Cohesion (psf)	Skin Friction (psf)	Allowable End Bearing Pressure (psf)	Horizontal Modulus of Subgrade Reaction (pci)
0 – 3	Surface Cover, Fill & Natural Soil	NEGLECT						
3 – 16	Natural Soil N-value ≥ 10	120	125	30	0	600	2,500	5.5

The design engineer should determine the concrete compressive strength as well as the reinforcing steel throughout the entire length of the drilled pier necessary to resist the anticipated axial and lateral forces. It is recommended that foundation concrete meet the requirements of ASTM C150 – *Standard Specification for Portland Cement* for Type IIA, unless soil testing prior to construction demonstrates that Type IA would be suitable.

5.1.2 Spread Footing with Pedestal

Alternatively, and provided that subgrades are prepared as recommended in this report, the proposed light posts could each be supported by a shallow foundation consisting of a spread footing with pedestal. Below are our general design recommendations and recommended soil parameters, considering the subsurface conditions encountered within the completed explorations, for use in design of shallow foundations by others.

DESIGN PARAMETER	ISOLATED FOOTING RECOMMENDATION
Net Allowable Bearing Pressure (1)	2,500 psf
Acceptable Bearing Material	proofed Natural Soil with SPT N-value ≥ 10 bpf
Minimum Footing Embedment Depth (2)	36 inches
Estimated Settlement (3)	0.25-inch or less

Notes:

(1) Net allowable bearing pressure is the applied pressure in excess of the surrounding overburden soils above the base of the foundation.

(2) Minimum footing depth recommended for frost protection.

(3) Based on assumed light post loading: maximum dead load of 350 pounds, overturning moment of 9,500 ft-lbs, and lateral load of 400 pounds. Settlement could be differential (non-uniform) over the footprint of the footing, causing tilting, and the light pole could become noticeably out-of-plumb. Where tiling of light posts could be of concern, Envirotactics should be consulted to revise settlement calculations to consider project-specific design loads and revise our foundation recommendations where applicable.

bpf = blows per foot

For the design of the spread footings to resist uplift and overturning, the soil parameters tabulated below can be utilized. These parameters assume the spread footing is in contact with stable, undisturbed natural soil or engineered backfill meeting the placement and compaction requirements included herein. The structural designer must reduce the ultimate lateral resistance value through use of an appropriate design factor of safety and/or load factors. Additionally, we recommend that the upper 1-foot of passive resistance be neglected if finished grade will not be paved up to and sealed against the foundation.

SOIL PARAMETER	RECOMMENDATION
Moist Unit Weight (pounds per cubic foot)	120
Angle of Internal Friction (degrees)	30
Cohesion (pounds per square foot)	0
Active Lateral Earth Pressure Coefficient, K_a	0.33
At-Rest Lateral Earth Pressure Coefficient, K_o	0.50
Passive Lateral Earth Pressure Coefficient, K_p	3.00
Horizontal Modulus of Subgrade Reaction (pounds per cubic inch)	5.5
Interface Friction Angle, Concrete on Soil (degrees)	21
Sliding Friction Coefficient, Concrete on Soil	0.35

Minimum compressive strength and reinforcement conditions should be in accordance with 2021 International Building Code – New Jersey edition (2021 IBC-NJ) and structural engineering requirements. It is recommended that foundation concrete meet the requirements of ASTM C150 – *Standard Specification for Portland Cement* for Type IIA, unless soil testing prior to construction demonstrates that Type IA would be suitable.

5.2 Seismic Design Considerations

5.2.1 Seismic Site Class

The 2021 IBC-NJ, which references ASCE/SEI 7-16 – *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*, requires site classification for seismic design based on the upper 100 feet of a soil profile. Our authorized scope of services for the project did not include a site-specific seismic Site Class determination (e.g., 100-foot soil profile). Therefore, to determine the seismic Site Class, the March 2012 New Jersey Department of Transportation Final Report for Seismic Design Considerations was referenced. In consideration of the Soil Site Class Map for Mercer County of New Jersey, Figure II.16, of the Final Report, the site lies within an area indicated as seismic Site Class D. The seismic Site Class should not be confused with the Seismic Design Category, which the structural designer typically assesses.

5.2.2 Ground Motion Parameters

Design spectral response acceleration parameters were determined consistent with the methodology of the 2021 IBC-NJ, which references ASCE/SEI 7-16, using ASCE Hazard Tool (https://ascehazardtool.org). We have assumed a structure Risk Category I for the light poles. If the structural designer determines a different Risk Category is more appropriate, Envirotactics should be contacted so that we can review our recommendations and provide alternate recommendations. The design responses for the short (0.2 sec, S_{DS}) and 1-second period (S_{D1}) are noted in bold at the far-right end of the table below.

2021 IBC GROUND MOTION PARAMETERS – STRUCTURE RISK CATEGORY I								
Period (sec)	**Spectral Response Accelerations** (g)		**Site Coefficients for Site Class**		**Maximum Spectral Response Acceleration Adjusted for Site Class** (g)		**Design Spectral Response Accelerations** (g)	
0.2	S_S	0.218	F_a	1.6	$S_{MS}=F_aS_s$	0.349	$S_{DS}=2/3\,S_{MS}$	**0.233**
1.0	S_1	0.051	F_v	2.4	$S_{M1}=F_vS_1$	0.123	$S_{D1}=2/3\,S_{M1}$	**0.082**

5.2.3 Liquefaction

Based upon our assumed structure Risk Category of I, consideration of the Design Spectral Response Accelerations listed in the table above, and our interpretation of Chapter 11 of ASCE/SEI 7-16 as referenced by the 2021 IBC-NJ, we anticipate that Seismic Design Category B is appropriate. Section 1803 of the 2021 IBC-NJ does not require a liquefaction or other potential seismic ground-related hazard evaluation for structures assigned to Seismic Design Category B. If the structural designer determines a different Seismic Design Category is more appropriate, Envirotactics should be contacted so that we can review our recommendations and determine a path forward with KH to complete a site-specific evaluation of seismic ground-related hazards.

5.3 Pavements

5.3.1 Subgrade Characteristics

Based on the finding from the explorations and assumed pavement subgrade elevations, it appears that the pavement subgrades in cuts will consist of loose to medium dense, poorly graded SAND with varying amounts of silt and clay (USCS: SC, SM, SC/SM). Generally, these soils provide moderate pavement support due to poor drainage characteristics and frost susceptibility. Therefore, we recommend pavements constructed at the project site be underlain with a graded aggregate subbase placed and compacted over previously proof-rolled and compacted subgrade soils as specified herein. Our pavement recommendations below are predicated on use of a graded aggregate subbase.

Laboratory California Bearing Ratio (CBR) testing was performed on remolded samples of site soil obtained from the anticipated subgrade level, and a CBR value of 15.2-percent was determined from the testing based on subgrade compaction to 95-percent modified Proctor maximum dry density in accordance with Section 6.1.5 of this report. A CBR value of 50- to 75-percent of the laboratory determined value is typically recommended for design purposes. However, considering the soil texture and plasticity and our experience, we recommend flexible pavement design consider a resilient modulus (M_R) of 5,000 pounds per square-inch for proof-rolled and compacted subgrade soils. For rigid pavement, we recommend a modulus of subgrade reaction (k_1) of 150 pounds per cubic inch, based on a 1-foot by 1-foot plate load test, be used.

5.3.2 Design Assumptions and Criteria

We understand pavements for the project will consist of standard-duty (employee parking) and heavy-duty (drive lanes and trailer parking) flexible pavement sections and an extra heavy-duty rigid pavement section (dolly strips). Envirotactics was provided with Amazon's *Pavement Design Guidelines*, dated February 8, 2020, which contained relevant pavement design and performance criteria as well as minimum pavement section requirements. Refer to the pavement guidelines in Appendix D.

Based on the pavement guidelines provided, the average daily WB-67 truck traffic of 350 inbound and 350 outbound resolves into equivalent single-axle loads (ESALs) of about 10 million ESALs over a 20-year design life for the heavy-duty flexible pavement areas. The pavement guidelines do not contain an estimate of passenger vehicle traffic, so we have assumed a maximum daily traffic volume of 500 passenger vehicles for the standard duty pavement areas. If site-specific actual traffic volumes will exceed the pavement guidelines and/or our assumptions, Envirotactics should be contacted for revised pavement recommendations; otherwise, increased pavement maintenance and a shortened pavement life should be expected.

5.3.3 Minimum Recommend Pavement Sections

The recommended minimum pavement sections as listed in the table below are based upon the anticipated usage, design, and performance criteria discussed in Section 5.3.2 and consider the subgrade characteristics discussed in Section 5.3.1. Our recommendations also include consideration for minimum lift thickness predicated by the nominal maximum size of the aggregate in the design mix for flexible pavement courses. Further, the recommended minimum pavement sections are predicated upon proof-rolling and compaction of the existing subgrade soils in accordance with Sections 6.1.3 and 6.1.5 of this report. We do not recommend substitution of recycled aggregate, such as recycled concrete aggregate (RCA), in place of dense graded aggregate derived from crushed, naturally occurring rock.

The extra heavy-duty rigid pavement section must also be continuously reinforced and jointed in conformance with the pavement guidelines provided. Refer to Appendix D.

MINIMUM RECOMMENDED PAVEMENT SECTIONS			
MATERIAL	FLEXIBLE		RIGID
	Standard-Duty	Heavy-Duty	Extra Heavy-Duty
Superpave 9.5 mm Asphaltic Concrete Surface Course	1.5 in	1.5 in	-
Superpave 19.0 mm Asphaltic Concrete Binder Course	2.5 in	3.0 in	-
Superpave 25.0 mm Asphaltic Concrete Base Course	-	5.0 in	-
Fiber- Reinforced Portland Cement Concrete (f'_c = 4,500 psi)	-	-	9.0 in
Dense Graded Aggregate (DGA) Subbase	6.0 in	12.0 in	6.0 in

Notes:

(1) Material and installation shall conform to New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, 2019, unless otherwise indicated.

(2) Thicknesses indicated represent compacted material thicknesses.

(3) Per Amazon's *Pavement Design Guidelines*, dated February 8, 2020, fiber-reinforced concrete shall contain a minimum of 7.5 pounds per cubic yard of synthetic macrofibers.

The pavement sections provided above satisfy the provided pavement guidelines but may or may not comply with local jurisdictional minimums. Confirming compliance with jurisdictional requirements is the responsibility of the civil/site engineer

6.0 CONSTRUCTION RECOMMENDATIONS

6.1 Subgrade Preparation

6.1.1 Demolition

Prior to general earthwork and construction, demolition and off-site disposal of the existing structures; below-grade foundation elements, utilities, and other construction; curbs; and, pavements will be required. Below-grade foundation elements must be removed to a depth of at least 3 feet below the proposed subgrade elevation for new construction, and in their entirety where they conflict with proposed foundations and slabs. Hoe-rams or specialized demolition equipment may be required to dislodge and remove such buried obstructions. Existing utilities to be abandoned below proposed pavements may remain in-place, provided they remain at least 3 feet below the pavement subgrade and are permanently sealed or in-filled with grout or flowable fill. Existing utilities should be removed from, and relocated around, new structures. Demolition debris must be disposed of off-site in accordance with local, State, and Federal regulations. Backfill excavations to remove existing development features that extend below footprint for new structures or pavements with Structural Fill placed and compacted as recommended in this report.

6.1.2 Stripping and Grubbing

Remove all vegetation, tree, stumps, roots, topsoil, existing fill, debris, and any soft or unsuitable materials within the limits of planned construction. Based upon the observations within the completed explorations, removal of at least 6 inches of topsoil should be anticipated. Deeper topsoil or organic-rich soils may be present in wet, low-lying, and poorly drained areas as well as within existing landscape areas, aisles, and peninsulas within the project area. Envirotactics should be retained to verify that topsoil and unsuitable surficial materials have been stripped prior to excavation to construct subgrade elevations, placement of Structural Fill, and construction of new earthworks and foundations.

6.1.3 Proof-rolling

Prior to subgrade compaction, fill placement, or other construction on subgrades, the subgrades should be observed by Envirotactics to document soil conditions are as anticipated and consistent with our design recommendations. The exposed subgrade should be thoroughly proof-rolled with construction equipment having a minimum axle load of 10 tons (e.g., fully loaded tandem-axle dump truck) travelling at a maximum of 1.5 feet per second (approximately 1 mile per hour). Proof-rolling should be traversed in two perpendicular directions with overlapping passes of the construction equipment under the observation of Envirotactics. This procedure is intended to assist in identifying areas that are unstable, including those areas that exhibit "pumping," experience permanent deformation more than 1/2-inch, collapse, or otherwise fail to provide satisfactory performance. All unstable areas must be remediated prior to the subsequent placement of engineered fill or other construction materials. Unstable areas must be remediated prior to subsequent placement of engineered fill or other construction materials. Methods of remediation could include undercutting and replacement with compacted Structural Fill as described herein, moisture conditioning, or additive stabilization. The situation should be discussed with Envirotactics for remedial recommendations. Excavations of test pits to explore the shallow subsurface conditions within unstable areas could be required to support recommendations to remediate and stabilize the subgrade.

6.1.4 Potential Undercuts

Where observed or otherwise identified (e.g., proofrolling, subsurface exploration logs, dynamic cone penetrometer testing), unsuitable soils should be undercut and removed. To facilitate identification of unsuitable soils and compact soils disturbed by foundation excavation, the subgrade within all excavations for construction of these elements should be thoroughly compacted by use of a heavy-duty, walk-behind, vibratory plate compactor cable of imparting a force of at least 8,000 pounds. Some undercutting and replacement should be anticipated in connection with the construction.

Any required over-excavation to remove unsuitable material should be extended a horizontal distance of 1-foot for each foot of undercut at all sides of the footing. Any undercut should be backfilled with Structural Fill up to the original design subgrade elevation required for the footings. Open-graded gravel (e.g., AASHTO No. 57) should not be used to backfill foundation undercuts as this could result in a reservoir condition, allowing the accumulation of water and potential softening of the bearing soils. It is important to have Envirotactics observe the footing subgrade prior to placing foundation concrete to confirm the bearing soils are what was anticipated and the extent of undercutting necessary.

6.1.5 Subgrade Compaction

Due to the presence of loose soils and the possibility for soil disturbance from demolition and foundation excavation, we recommend that all subgrades be properly compacted prior to placement of engineered fill or other construction on subgrades. Moisture condition subgrade soils to a depth of at least 8 inches to within ±3 percentage points of optimum moisture content and then compact to a dry density equal to at least 95-percent of the modified Proctor maximum dry density as determined by ASTM D1557 – *Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3))* for the subgrade soils. Field testing in accordance with ASTM D6938 – *Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)* using the representative results from ASTM D1557 is recommended. We recommend testing at a frequency of not less than one (1) test per 5,000 square feet in pavement areas.

6.1.6 Moisture Sensitive Soils

The soils encountered at the project site are moisture sensitive meaning that that these soils soften and decrease in strength with increasing moisture content. After grading activities, the stability of the exposed moisture sensitive soils will be directly related to their moisture condition at the time of construction. These soils may require time to dry and regain strength during subgrade preparation activities. Drying can be accelerated by mechanical aeration such as

discing, use of soil drying equipment, or through use of appropriate drying agents (e.g., quicklime). Additionally, in areas where these soils are exposed, construction traffic should be limited to only that necessary for the earthwork to maintain a stable working platform. Performing earthwork and subbase placement activities during dry weather should be considered. Otherwise, exposed moisture sensitive soils that have been dried and prepared should be protected from precipitation and run-on prior to subbase placement.

6.1.7 Temporary Dewatering

We believe construction dewatering at this site for shallow foundation and utility construction will be mainly limited to removing accumulated rainwater, localized perched water, and some minor seepage into excavations. Nevertheless, the contractor must make its own assessment of temporary dewatering needs based upon the limited subsurface groundwater information presented in this report. Explorations and soil sampling represent conditions at discrete locations only, and soil and groundwater conditions may vary between exploration locations and soil sampling intervals. If the contractor believes additional subsurface information is needed to assess dewatering needs, they should obtain such information at their own expense. Envirotactics makes no warranties or guarantees regarding the adequacy of the provided information to determine dewatering requirements; such recommendations are beyond our scope of services.

Dewatering systems are a critical component of many construction projects. Dewatering systems must be selected, designed, and maintained by a qualified and experienced (specialty or other) contractor familiar with the succinct geotechnical and other aspects of the project. The failure to properly design and maintain a dewatering system for a given project can result in delayed construction, unnecessary foundation subgrade undercuts, detrimental phenomena such as running sand conditions, soil piping, migration of soil fines down-gradient towards the dewatering system, localized settlement of nearby infrastructure, foundations, slabs-on-grade and pavements, etc. Water discharged from any site dewatering system must be discharged in accordance with all local, State and Federal requirements.

We anticipate that effective, short-term dewatering operations could be managed by using trash pumps or conventional submersible pumps directly in open excavations for the construction of shallow foundations and utilities. However, considering the varying fines content that impacts the hydraulic conductivity of the natural soils, unpredictable, transient, perched water conditions could exist, particularly after precipitation events or if construction is performed during the wet period of the year (typically, January through April in New Jersey), and require more sophisticated dewatering techniques.

6.2 Drilled Pier Construction

Drilled piers should be constructed in accordance with the American Concrete Institute's ACI 336.1-24 – *Specification for the Construction of Drilled Piers*. Our design recommendations indicated above are contingent upon proper construction procedures, including maintaining a stable, vertical shaft excavation for straight-sided reinforced concrete pier foundations. Based upon subsurface conditions encountered, sloughing soils should be anticipated during shaft excavation and groundwater inflow is also possible, particularly after precipitation events or if construction is performed during the wet period of the year (typically, January through April in New Jersey). Temporary casing or stabilizing slurry may be necessary for proper drilled pier construction. Additionally, pier-drilling equipment should be capable of advancing a straight, plumb shaft through natural soils having variable texture that could contain oversized particles (i.e., gravel-to-cobble size) and be encountered in uniform layers or dispersed throughout the drilled depth interval.

Care should be taken to avoid creating an oversized cap or "mushroom" during construction of the drilled piers. Site soils are frost-susceptible and a mushroom at the top of the drilled pier exacerbates the effects of frost heave on the foundation. If the tops of the shafts are formed with cardboard or other circular forms equal to the diameter of the shaft, the forms should be extended to a depth below the frost line.

Drilled pier foundations should be constructed in a continuous manner, and uncased shaft excavations should not be allowed to remain open overnight before concrete placement. Reinforcing steel and concrete should be placed promptly within completed shaft excavations following confirmation of proper diameter, embedment depth within the recommended bearing stratum, plumbness, and cleanliness. Accumulated water and loose materials within the shaft excavations should be removed prior to the placement of reinforcing steel and concrete. Concrete placement for shaft excavations greater than 10 feet in depth should use a tremie, centralizing chute, or similar methods that prevent the concrete from striking or otherwise disturbing the reinforcing steel. Concrete placement in shaft excavations below groundwater or where drilled pier construction utilizes the slurry displacement method should follow the guidance of ACI 336.1-24. Regardless of the concrete placement method, we recommend that the upper portion of the drilled pier, extending from design top of pier height above grade to the frost penetration depth, be consolidated with a concrete vibrator.

The construction of drilled piers should be observed by an experienced geotechnical engineer from Envirotactics to confirm the ground conditions are what was anticipated in our design recommendations and to ensure drilled pier construction is in conformance with the design (by others) and ACI 336.1-24. While entry into shaft excavations is not envisioned for this project, we recommend a minimum 30-inch diameter, cased excavation where personnel entry into the open shaft is required. The construction contractor should also check for harmful gases and oxygen deficiency in accordance with all applicable OSHA requirements where personnel will enter shaft excavations.

6.3 Earthwork Operations

6.2.1 Structural Fill

Prior to import and any placement of Structural Fill, submit representative samples of the proposed off-site borrow to an accredited geotechnical testing laboratory to determine natural moisture content, particle-size distribution, Atterberg limits, and moisture-density relationships (i.e., Proctors) for compaction in accordance with applicable ASTM Standard Test Methods. Test results must be submitted for review and acceptance. Previously completed testing by an accredited geotechnical testing laboratory could be considered if testing results are not aged more than 90 days.

Materials satisfactory for use as Structural Fill must be free of deleterious materials such as construction debris, wood, glass, ash, trash, refuse, roots and other organic matter; and, conform to the engineering properties and compaction requirements tabulated below. Additionally, imported materials for use as Structural Fill must also meet the New Jersey Department of Environmental Protection's Requirements for Soil and Fill Materials.

STRUCTURAL FILL		
Parameter		**Recommendation**
Liquid Limit		< 40
Plasticity Index		< 20
Maximum Particle Size		3 inches
Fines Content (percent passing the No. 200)		15% maximum
Maximum Organic Content		5% by dry weight
Compaction Standard		Modified Proctor – ASTM D1557
Required Compaction		95% of Maximum Dry Density
Moisture Content		within -2% to +3% of optimum moisture content
Loose Lift Thickness		6 inches (maximum)
Field Testing Method		ASTM D6938 or approved equal
Field Testing Frequency	Structure Areas:	1 test per 1,500 SF or minimum of 2 tests per lift
	Pavement Areas:	1 test per 5,000 SF per lift

Fill materials should not be placed on frozen soil, on frost-heaved soil, and/or on excessively wet soil. Borrow fill materials should not contain frozen materials at the time of placement, and all frozen or frost-heaved soil should be removed prior to placement of fill soils and aggregates. Excessively wet soil should be scarified, aerated, and moisture conditioned.

6.2.2 Soil Re-use

Existing on-site, granular soils consisting of inorganic soils classified as USCS: SM, SC, SW, SP, GW, GP, GM and GC, or a combination of these group symbols, per ASTM D2487, resulting from excavations for foundations or other cuts may be re-used. Prior to re-use of on-site soils, representative samples should be submitted to an accredited geotechnical testing laboratory to determine natural moisture content, particle-size distribution, Atterberg limits, and moisture-density relationships (i.e., Proctors) for compaction in accordance with applicable ASTM Standard Test Methods.

Re-used soil must be suitably dry; free of organic matter, debris, and other deleterious material; contain no particle sizes greater than 4 inches in the largest dimension; and, conform to the placement requirements tabulated below.

PLACEMENT REQUIREMENTS FOR ON-SITE SOIL RE-USE		
Compaction Standard		Modified Proctor – ASTM D1557
Required Compaction		95% of Maximum Dry Density
Moisture Content		within -2% to +3% of optimum moisture content
Loose Lift Thickness		6 inches (maximum)
Field Testing Method		ASTM D6938 or approved equal
Field Testing Frequency	Structure Areas:	1 test per 1,500 SF or minimum of 2 tests per lift
	Pavement Areas:	1 test per 5,000 SF per lift

Fill materials should not be placed on frozen soil, on frost-heaved soil, and/or on excessively wet soil. Soil being re-used should not contain frozen materials at the time of placement, and all frozen or frost-heaved soil should be removed prior to placement of fill soils. Excessively wet soil should be scarified, aerated, and moisture conditioned.

6.2.3 Excavation Considerations

All excavations and slopes should be constructed and maintained in accordance with OSHA excavation safety standards. The contractor is solely responsible for designing, constructing, and maintaining stable temporary excavations (both sides and bottom of the excavations) and slopes. The contractor's responsible person, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, State, and Federal safety regulations. Envirotactics is providing this information solely as a service to our client. Envirotactics is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

6.3 Utility Installations

The soils encountered within the completed explorations are expected to be generally suitable for support of utility pipes and conduits. The subgrade for utility excavations should be observed and probed for stability by Envirotactics. Any loose or unsuitable materials encountered at the subgrade elevation should be removed and replaced with suitable compacted Structural Fill or bedding material. We recommend a minimum 4-inch compacted thickness of granular bedding material, but not less than that specified by the civil/site engineer's project drawings and specifications. We further recommend for pipe installations that the bedding material be placed up to the springline of the pipe. Fill placed for support of the utilities as well as backfill over the utilities should satisfy the requirements for Structural Fill herein.

Water is expected to be encountered within some utility excavations. It is anticipated that removal of water which seeps into excavations can be accomplished by pumping from sumps excavated into the trench bottom. Should water conditions beyond the capability of sump pumping be encountered, the contractor should prepare and submit a Dewatering Plan.

6.4 Construction Phase Testing and Observations

Field observations and quality assurance testing during earthwork and foundation construction are an extension of, and integral to, this geotechnical engineering report. As Geotechnical Engineer of Record, Envirotactics recommends that it be retained for these services. Observation and testing during site preparation and grading, proof-rolling, and subgrade compaction provide for documentation of the exposed soil conditions for consistency with our design parameters and recommendations. Envirotactics must also be called to the site to observe foundation excavations, prior to placement of reinforcing steel or concrete, to document soil conditions are as anticipated and compatible with our recommended foundation design parameters. Additionally, Envirotactics must also be called to the site to observe placement of foundation and slab concrete as well as for placement and compaction of aggregate sub-base and paving materials. These services provide for documenting that the construction is in general conformance with the geotechnical engineering recommendations detailed in this report.

If a firm other than Envirotactics is retained for these services during construction, that firm must prepare a letter stating that they will assume all responsibilities of Geotechnical Engineer of Record for the project and provide this letter to the project owner, designers, construction authorities and officials having jurisdiction, and Envirotactics. The letter must further acknowledge receipt and review of this report and any subsequent addenda, and that this firm either agrees with Envirotactics conclusions and recommendations or that it will provide independent recommendations.

7.0 QUALIFICATIONS

This report has been prepared to guide geotechnical-related design and construction consideration for the project. Envirotactics has performed these services in accordance with the standard of care expected of professionals in the industry performing similar services on projects of like size and complexity at this time in the region. We have prepared this report for the purpose intended by our Client, and reliance on its contents by anyone other than our Client is done at the sole risk of the user. No other representations expressed or implied, and no warranty or guarantee is included or intended by this report. This report is limited to the specific project and project location described. If any changes in the project design or function relative to those described in this report are planned or if our stated assumptions regarding your project are inaccurate, Envirotactics must be informed so that the changes can be reviewed and we can provide additional or alternate recommendations that reflect the planned construction. We recommend that Envirotactics be authorized to review the final project plans and specifications to confirm that the recommendations contained in this report have been interpreted in accordance with our intent. Without this review, Envirotactics will not be responsible for the misinterpretation of our findings, analyses, and/or recommendations, nor their incorporation into the final project design.

The analyses and recommendations contained in this report are based upon the data obtained from the exploration(s) performed at the location(s) indicated on the Exploration Location Diagram and other information as referenced in this report, where applicable. This report does not reflect variations that can occur between the explorations. In the performance of subsurface explorations, specific information is obtained at specific locations at specific times. Variations in subsurface conditions exist on most sites between exploration locations and can vary over time. Perched groundwater levels and long-term water table variations occur because of changes in precipitation, evaporation, surface water runoff, construction activities, and other factors. The nature and extent of such variations may not become evident until the time of construction, and reevaluation of the recommendations contained in this report could be necessary following on-site observations made during construction and related study of the characteristics of the variations.

APPENDIX A – DIAGRAMS AND MAPS



LEGEND

Site Location

Boring Location

1 inch equals 300 Feet

0 150 300 600 Feet

50 New Canton Way
Block 41, Lot 14.011
Robbinsville Twp., Mercer County, NJ

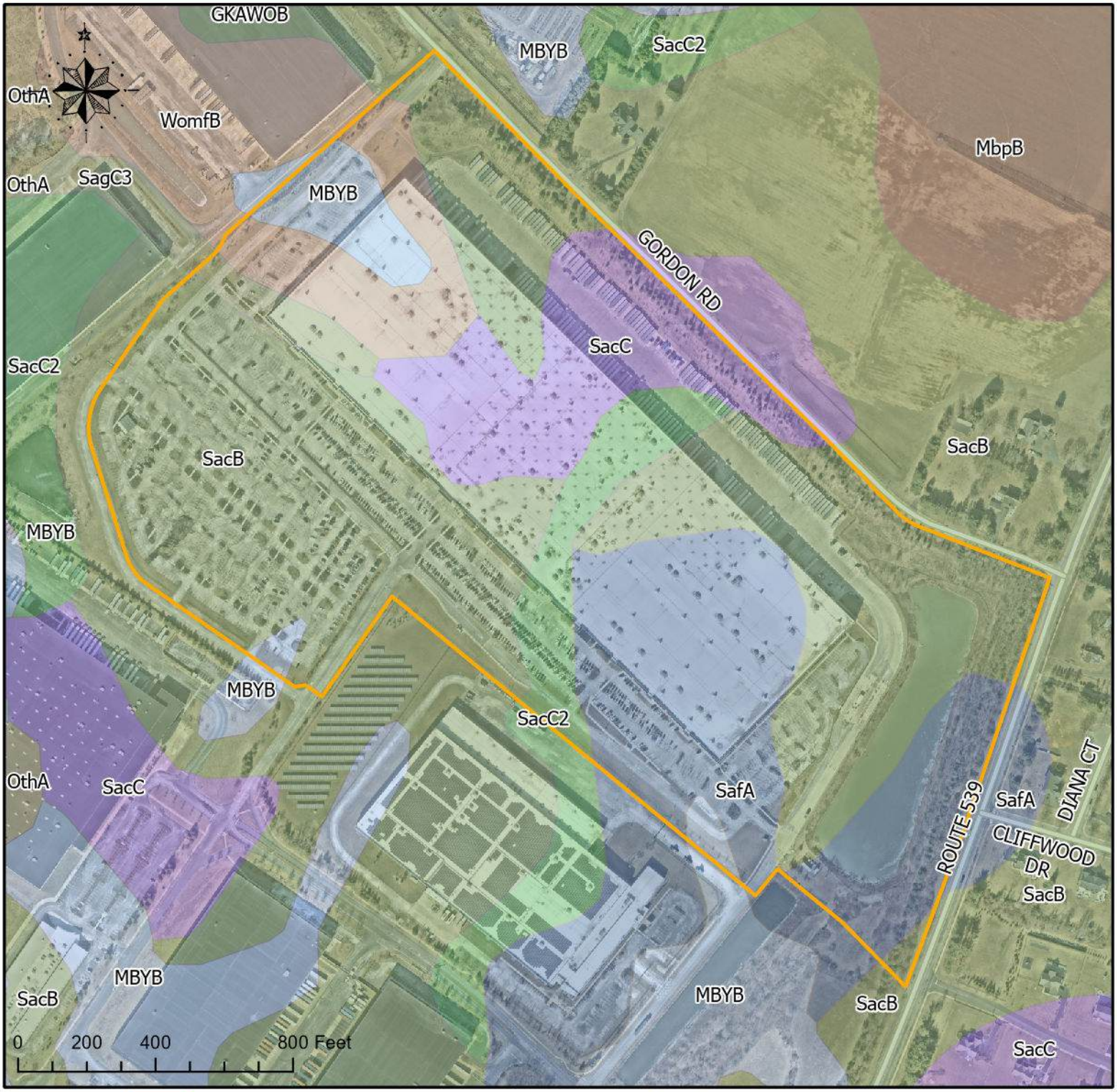
Project #: 6686 | **Date:** 5/22/2025

enviroTACTICS
Your Environmental Resource
1330 Laurel Avenue, Building #3, Sea Girt, NJ 08750
Phone: 732.449.0077 Fax: 732.449.5810
www.envirotactics.com

This map was developed using New Jersey Department of Environmental Protection Geographic Information System Digital Data, but this secondary product has not been verified by NJDEP and is not state Authorized.

Exploration Location Diagram

Soil Survey Map



LEGEND **Site Location**

Map Unit Symbol	Map Unit Name
MBYB	Mattapex and Bertie loams, 0 to 5 percent slopes
SacB	Sassafras sandy loam, 2 to 5 percent slopes
SacC	Sassafras sandy loam, 5 to 10 percent slopes
SacC2	Sassafras sandy loam, 5 to 10 percent slopes, eroded
SafA	Sassafras loam, 0 to 2 percent slopes
WomfB	Woodstown-Fallsington sandy loams, 0 to 5 percent slopes

Source: Web Soil Survey

1 inch equals 400 Feet

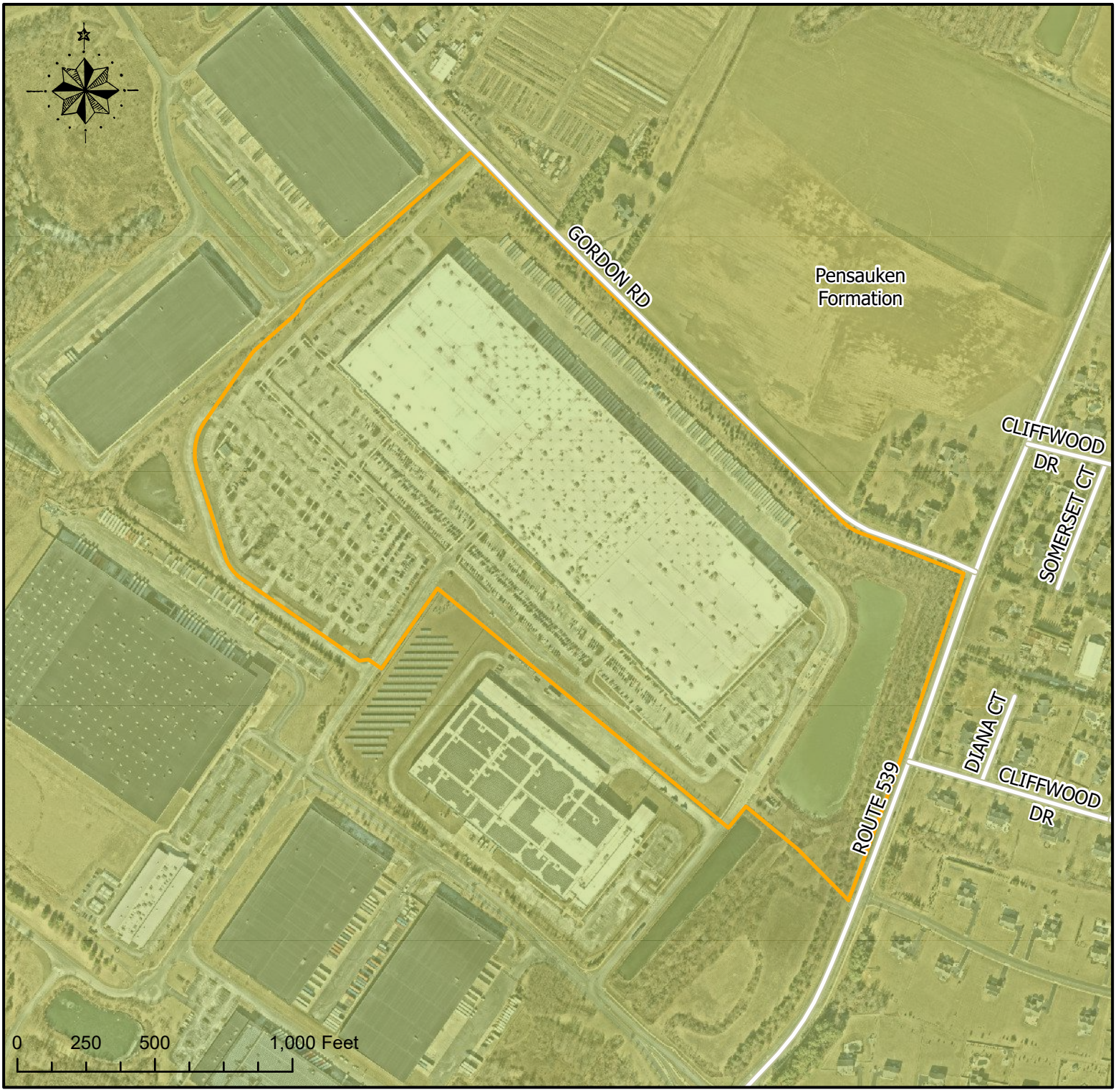
Project: 6686 Date: 05/27/25

50 New Canton Way
Block 41, Lot 14.011
Robbinsville Twp., Mercer County, NJ

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Surficial Geology Map



LEGEND

Site Location

Geological Formation Name (Abbreviation)	Lithology	Notes
Pensauken formation (Tp)	Sand, clayey sand, pebble gravel, minor silt, clay, and cobble gravel; yellow, reddish yellow, white. Sand typically includes weathered feldspar. Locally iron-cemented. As much as 140 feet thick.	In erosional remnants of a former river plain that occupied the broad valley between South Amboy and the Salem area. Elevation of the top of the deposit grades from 160 feet at South Amboy to 80 feet in the Salem area.

Source: NJ-Geoweb (Surficial Geology)

1 inch equals 500 Feet

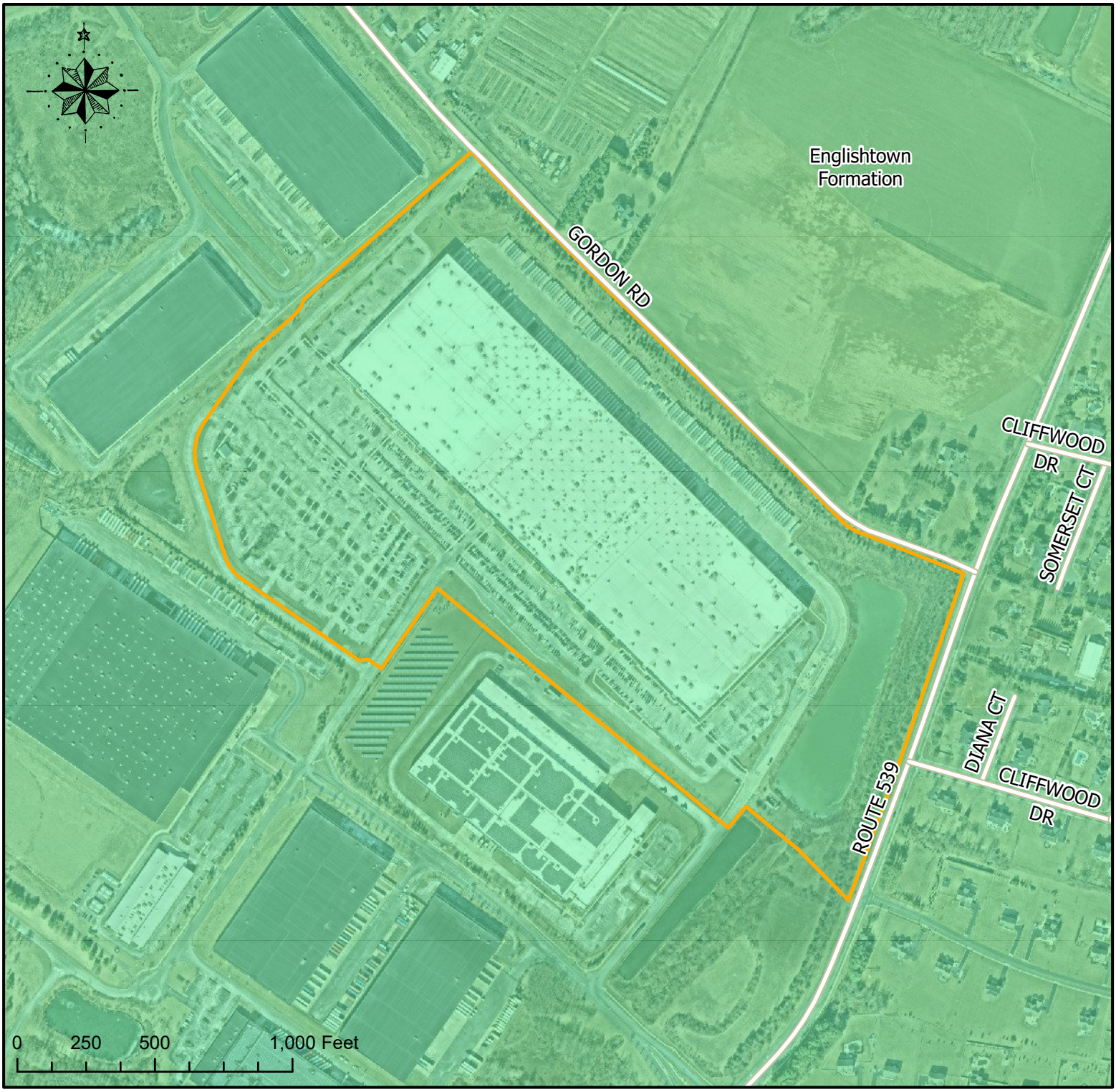
Project: 6686 Date: 05/27/25

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Regional Geology Map



LEGEND

Site Location

Bedrock Geology Name (Abbreviation)	Stratigraphic Unit Number	Lithology
Englishtown Formation (Ket)	2,500	quartz sand, fine- to coarse-grained, locally interbedded with thin- to thick beds of clay

Source: NJ-Geoweb (Bedrock Geology)

1 inch equals 500 Feet

Project: 6686 Date: 05/27/25

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APPENDIX B – SUBSURFACE DATA

Project: 6686 - Kimley-Horn - 50 New Canton Way **Project Location:** 50 New Canton Way Block 41, Lot 14.011 Robbinsville Twp., Mercery Co. NJ	Exploration ID: B-01 Sheet 1 of 1

Date(s) Drilled: **2025-05-05**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **15.5**	Total Depth (ft): **16**
Drilling Method: **2.25"HSA**	Water Level (At Completion): **4.5**	Approx. Surface Elevation (ft): **121.7**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.198016° / -74.567469°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			121.7	
	SS-01	12	(SC) CLAYEY SAND, trace gravel, medium plasticity, 10YR 3/6 dark yellowish brown, moist, medium dense		4/14/14 (18)		
	SS-02	13			8/8/7/6 (15)		
5	SS-03	13	(SM) SILTY SAND, trace gravel, low plasticity, 10YR 6/8 brownish yellow, dark orange lens, moist to wet, loose to medium dense		5/3/3/2 (6)	116.7	
	SS-04	24			5/7/10/9 (17)		
	SS-05	15			6/8/9/13 (17)		
10	SS-06	19			6/4/6/9 (10)	111.7	
	SS-07	13			8/9/11/11 (20)		
15	SS-08	118			7/8/8/9 (16)	106.7	
			End of boring at 16.0 feet-bgs				
20						101.7	
25						96.7	

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Project: 6686 - Kimley-Horn - 50 New Canton Way **Project Location:** 50 New Canton Way Block 41, Lot 14.011 Robbinsville Twp., Mercery Co. NJ	Exploration ID: B-02 Sheet 1 of 1

Date(s) Drilled: **2025-05-05**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **Not Encountered**	Total Depth (ft): **10**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **124.1**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.197438° / -74.567940°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			124.1	
	SS-01	12	(SM) SILTY SAND, trace gravel, trace clay, low plasticity, 10YR 6/8 brownish yellow, angular, moist, medium dense		11/15/15 (26)		
	SS-02	16	(SM) SILTY SAND, trace gravel, trace clay, low plasticity, 10YR 5/2 very pale brown, angular, moist		17/20/17/13 (37)		
5	SS-03	1	(SM) SILTY SAND, trace gravel, trace clay, low plasticity, 10YR 6/8 dark yellow brown, angular, moist, dense		7/11/25/46 (36)	119.1	
	SS-04	0			27/25/19/17 (44)		
	SS-05	0			15/16/15/17 (31)		
10			End of boring 10.0 feet-bgs			114.1	
15						109.1	
20						104.1	
25						99.1	

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Project: 6686 - Kimley-Horn - 50 New Canton Way
Project Location: 50 New Canton Way
Block 41, Lot 14.011
Robbinsville Twp., Mercery Co. NJ

Exploration ID:
B-03
Sheet 1 of 1

Date(s) Drilled: **2025-05-05**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **14.5**	Total Depth (ft): **16**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **122.9**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.197296° / -74.568377°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			122.9	
	SS-01	12	(SC) CLAYEY SAND, few gravel, medium plasticity, 10YR, 5/6 yellowish brown, angular rounded, moist, medium dense		4/11/18 (15)		
	SS-02	16			12/10/8/11 (18)		
5	SS-03	13			5/7/11/11 (18)	117.9	
	SS-04	11	(SM) SILTY SAND, trace gravel, trace clay, medium plasticity, 10YR 6/8 brownish yellow, angular, moist, medium dense to loose		10/11/11/10 (22)		
	SS-05	12			7/10/9/7 (19)		
10	SS-06	13			5/5/5/8 (10)	112.9	
	SS-07	12			5/7/8/9 (15)		
	SS-08	15			4/4/4/4 (8)	107.9	
15			End of boring 16.0 feet-bgs				
20						102.9	
25						97.9	

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Project: 6686 - Kimley-Horn - 50 New Canton Way **Project Location:** 50 New Canton Way Block 41, Lot 14.011 Robbinsville Twp., Mercery Co. NJ	Exploration ID: B-04 Sheet 1 of 1

Date(s) Drilled: **2025-05-05**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **Not Encountered**	Total Depth (ft): **10**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **123.9**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.196708° / -74.568890°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			123.9	
	SS-01	12	(SC) CLAYEY SAND, few gravel, medium plasticity, 10YR 5/6 yellowish brown, moist, loose to medium dense, gravel at end of spoon		3/3/6 (6)		
	SS-02	13			6/7/9/10 (16)		
5	SS-03	13			9/13/13/13 (26)	118.9	
	SS-04	13	(SM) SILTY SAND, trace gravel, trace clay, low plasticity, 10YR 7/6 yellow, moist, medium dense		5/9/7/8 (16)		
	SS-05	13			6/7/7/5 (14)		
10			End of boring 10.0 feet-bgs			113.9	
15						108.9	
20						103.9	
25						98.9	

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Project: 6686 - Kimley-Horn - 50 New Canton Way **Project Location:** 50 New Canton Way Block 41, Lot 14.011 Robbinsville Twp., Mercery Co. NJ	Exploration ID: B-05 Sheet 1 of 1

Date(s) Drilled: **2025-05-05**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **Not Encountered**	Total Depth (ft): **10**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **124.8**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.196713° / -74.568463°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			124.8	
	SS-01	10	(SC) CLAYEY SAND, trace gravel, medium plasticity, 10YR 4/4 dark yellowish brown, angular, moist, medium dense		5/7/7 (12)		
	SS-02	16			5/6/7/10 (13)		
5	SS-03	10	(SM) SILTY SAND, few gravel, trace clay, low plasticity, 10YR 3/2 very dark grayish brown, angular, moist, dense to medium dense		9/6/16/40 (22)	119.8	
	SS-04	0			21/30/15/12 (45)		
	SS-05	7			5/5/7/7 (12)		
10			End of boring 10.0 feet-bgs			114.8	
15						109.8	
20						104.8	
25						99.8	

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Project: 6686 - Kimley-Horn - 50 New Canton Way **Project Location:** 50 New Canton Way Block 41, Lot 14.011 Robbinsville Twp., Mercery Co. NJ	Exploration ID: B-06 Sheet 1 of 1

Date(s) Drilled: **2025-05-06**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **Not Encountered**	Total Depth (ft): **16**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **125**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.196414° / -74.568530°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			125	
	SS-01	8	(SC) CLAYEY SAND, trace gravel, low plasticity, 10YR 6/6 brownish yellow, moist, loose to medium dense		3/5/4 (8)		
	SS-02	10			9/14/15/22 (29)		
			(SM) SILTY SAND, trace gravel, trace clay, low plasticity, 10YR 7/6 yellow, moist, dense to medium dense				
5	SS-03	13			13/20/21/33 (41)	120	
	SS-04	11			25/19/23/18 (42)		
	SS-05	0			11/14/11/13 (25)		
10	SS-06	10			5/6/6/7 (12)	115	
	SS-07	15			10/8/11/10 (19)		
15	SS-08	13	(SC-SM) SILTY, CLAYEY SAND, trace gravel, few clay, low plasticity, 10YR 6/8 brownish yellow, moist, medium dense		10/9/11/12 (20)	110	
			End of boring 16.0 feet-bgs				
20						105	
25						100	

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Project: 6686 - Kimley-Horn - 50 New Canton Way
Project Location: 50 New Canton Way
Block 41, Lot 14.011
Robbinsville Twp., Mercery Co. NJ

Exploration ID:
B-07
Sheet 1 of 1

Date(s) Drilled: **2025-05-06**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **Not Encountered**	Total Depth (ft): **10**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **124.3**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.196032° / -74.569340°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			124.3	
	SS-01	12	(SC) CLAYEY SAND, trace gravel, medium plasticity, 10YR 4/4 dark yellowish brown, angular, coarse sand, medium dense		5/6/6 (11)		
	SS-02	14			3/6/9/11 (15)		
5	SS-03	10	(SM) SILTY SAND, trace gravel, trace clay, medium plasticity, 10YR 7/4 very pale yellow, moist, dense to medium dense		9/15/22/28 (37)	119.3	
	SS-04	13	same as above, orange lensing between 6-8 feet-bgs		19/14/18/15 (32)		
	SS-05	12			10/7/8/9 (15)		
10			End of boring 10.0 feet-bgs			114.3	
15						109.3	
20						104.3	
25						99.3	

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Project: 6686 - Kimley-Horn - 50 New Canton Way
Project Location: 50 New Canton Way
Block 41, Lot 14.011
Robbinsville Twp., Mercery Co. NJ

Exploration ID:
B-08
Sheet 1 of 1

Date(s) Drilled: **2025-05-06**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **16**	Total Depth (ft): **16**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **124.4**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.196281° / -74.569698°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			124.4	
	SS-01	7	(SC/SM) CLAYEY SAND / SILTY SAND, trace gravel, low plasticity, 10YR 5/6 yellowish brown, moist, medium dense		7/10/10 (17)		
	SS-02	16	(SM) SILTY SAND, trace gravel, trace clay, low plasticity, 10YR 6/8 brownish yellow, moist		9/12/17/28 (29)		
			(SC/SM) CLAYEY SAND / SILTY SAND, trace gravel, low plasticity, 10YR 4/4 dark yellowish brown, moist				
5	SS-03	7	(SM) SILTY SAND, trace gravel, trace clay, low plasticity, 10YR 8/4 very pale brown, moist, dense to medium dense		15/23/19/18 (42)	119.4	
	SS-04	13			13/15/11/13 (26)		
	SS-05	12			9/10/10/12 (20)		
10	SS-06	16			6/7/8/9 (15)	114.4	
	SS-07	15			12/17/10/11 (27)		
15	SS-08	15			11/11/12/20 (23)	109.4	
			same as above, wet				
			End of boring at 16.0 feet-bgs				
20						104.4	
25						99.4	

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Project: 6686 - Kimley-Horn - 50 New Canton Way
Project Location: 50 New Canton Way
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Exploration ID:
B-09
Sheet 1 of 1

Date(s) Drilled: **2025-05-06**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **Not Encountered**	Total Depth (ft): **10**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **124**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.196116° / -74.570020°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			124	
	SS-01	7	(SC) CLAYEY SAND, few gravel, low plasticity, 10YR 3/3 dark brown, angular, moist, medium dense to dense		12/15/19 (27)		
	SS-02	12			11/15/22/24 (37)		
5	SS-03	7	(SM) SILTY SAND, few clay, low plasticity, 10YR 7/6 yellow, angular, moist, medium dense, black & light orange lens throughout		15/12/11/11 (23)	119	
	SS-04	13			8/8/9/10 (17)		
	SS-05	11			9/9/11/13 (20)		
10			End of boring 10.0 feet-bgs			114	
15						109	
20						104	
25						99	

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Project: 6686 - Kimley-Horn - 50 New Canton Way
Project Location: 50 New Canton Way
Block 41, Lot 14.011
Robbinsville Twp., Mercery Co. NJ

Exploration ID:
B-10
Sheet 1 of 1

Date(s) Drilled: **2025-05-06**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **15.5**	Total Depth (ft): **16**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **125**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.195738° / -74.569979°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0			6 inches of asphalt and gravel subbase			125	
	SS-01	13	(SC) CLAYEY SAND, trace gravel, low plasticity, 10YR 6/8 brownish yellow, moist, medium dense		5/10/13 (15)		
	SS-02	12	(SM) SILTY SAND, trace gravel, trace clay,low plasticity, 10YR 6/8 brownish yellow, moist, medium dense		12/13/15/13 (28)		
5	SS-03	13			13/10/12/14 (22)	120	
	SS-04	6	same as above, orange lensing between 6-8 feet-bgs		16/12/15/14 (27)		
	SS-05	11			11/11/12/14 (23)		
10	SS-06	19			10/9/8/8 (17)	115	
	SS-07	15			13/14/13/16 (27)		
15	SS-08	16	(SP-SM) SAND WITH SILT, trace gravel, trace clay, low plasticity, 10YR 6/8 brownish yellow, moist to wet, medium dense		11/11/12/9 (23)	110	
			End of boring 16.0 feet-bgs				
20						105	
25						100	

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Project: 6686 - Kimley-Horn - 50 New Canton Way
Project Location: 50 New Canton Way
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Robbinsville Twp., Mercery Co. NJ

Exploration ID:
B-11
Sheet 1 of 1

Date(s) Drilled: **2025-05-06**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **Not Encountered**	Total Depth (ft): **10**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **124**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.198230° / -74.566797°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0	SS-01	13	(SC) CLAYEY SAND, few gravel, trace clay, medium plasticity, 10YR 3/6 dark yellowish brown, moist, medium dense		5/14/15/14 (29)	124	
	SS-02	13			8/10/10/11 (20)		
5	SS-03	8			5/10/11/12 (21)	119	
	SS-04	13	(SC-SM) SILTY, CLAYEY SAND, trace gravel, few clay, high plasticity, 10YR 3/3 dark brown, angular, moist, medium dense		9/12/14/12 (26)		
	SS-05	13			10/8/6/6 (14)		
10			End of boring at 10.0 feet-bgs			114	
15						109	
20						104	
25						99	

Y:\Projects\2025 #6579+\6686 - Kimley-Horn - 50 New Canton Way - Geotechnical Services - Robbinsville - NJ\Field Notes (Notes, Logs, Photo)\6686 - 50 New Canton Way - Boring Input_export.bg4[ET-Borings Template.tpl]

Envirotactics
1330 Laurel Avenue, Building 3
Sea Girt, NJ 08750
www.envirotactics.com

Project: 6686 - Kimley-Horn - 50 New Canton Way **Project Location:** 50 New Canton Way Block 41, Lot 14.011 Robbinsville Twp., Mercery Co. NJ	Exploration ID: B-12 Sheet 1 of 1

Date(s) Drilled: **2025-05-06**	Logged By: **DM**	Checked By: **KGM**
Machinery/Equipment: **B-40 L-22**	Water Level (First Encountered): **15.5**	Total Depth (ft): **16**
Drilling Method: **2.25"HSA**	Water Level (At Completion):	Approx. Surface Elevation (ft): **123.1**
Hammer Type: **Manual Safety Hammer**		
Subcontractor: **SK-002**	Latitude / Longitude **40.198172° / -74.566721°**	

Depth (feet)	Sample ID	Recovery (inches)	MATERIAL DESCRIPTION	Graphic Log	Blows per 6" (N-Value)	Elevation (feet)	REMARKS & OTHER TESTS
0						123.1	
	SS-01	16	(SC) CLAYEY SAND, trace gravel, medium plasticity, 10YR 6/8 brownish yellow, angular, moist, medium dense to dense, medium dense to dense		3/9/10/12 (19)		
	SS-02	13			9/15/22/22 (37)		
5	SS-03	13	(SM) SILTY SAND, trace gravel, trace clay, low plasticity, 10YR 6/8 brownish yellow, angular, moist to wet, medium dense to dense		9/11/13/16 (24)	118.1	
	SS-04	15			9/10/10/8 (20)		
	SS-05	13			9/9/12/13 (21)		
10	SS-06	19			14/14/16/10 (30)	113.1	
	SS-07	14			8/8/8/8 (16)		
15	SS-08	18			6/7/8/9 (15)	108.1	
			End of Boring at 16.0 feet-bgs				
20						103.1	
25						98.1	

Y:\Projects\2025 #6579+\6686 - Kimley-Horn - 50 New Canton Way - Geotechnical Services - Robbinsville - NJ\Field Notes (Notes, Logs, Photo)\6686 - 50 New Canton Way - Boring Input_export.bg4[ET-Borings Template.tpl]

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Project: 6686 - Kimley-Horn - 50 New Canton Way
Project Location: 50 New Canton Way
Block 41, Lot 14.011
Robbinsville Twp., Mercery Co. NJ

Reference to Exploration Logs

Sheet 1 of 1

1 Depth (feet)	2 Sample ID	3 Recovery (inches)	4 MATERIAL DESCRIPTION	5 Graphic Log	6 Blows per 6" (N-Value)	7 Elevation (feet)	8 REMARKS & OTHER TESTS

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample ID: Sample type and identification number.
3 Recovery (inches): Relative consistency of the subsurface material.
4 MATERIAL DESCRIPTION: Description of material encountered. May include relative density, consistency, moisture, color, and other descriptive text.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 Blows per 6" (N-Value): Number of blows to advance split-barrel sampler six inches (or distance shown) beyond seating interval using a 140 pound hammer per ASTM D1586.
7 Elevation (feet): Vertical height relative to mean sea level. Unless noted otherwise, elevations are approximate.
8 REMARKS & OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

MATERIAL GRAPHIC SYMBOLS

- Asphaltic Concrete (AC)
- Bentonite
- Bentonite chips
- Bentonite powder
- Bentonite plug
- Boulders
- Fat CLAY, CLAY w/SAND, SANDY CLAY (CH)
- Fat CLAY/SILT (CH-MH)
- Fat CLAY/PEAT (CH-OH)
- Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)
- Lean-Fat CLAY, CLAY w/SAND, SANDY CLAY (CL-CH)
- SILTY CLAY (CL-ML)
- Lean CLAY/PEAT (CL-OL)
- Claystone
- Portland Cement Concrete
- Cuttings
- Clayey GRAVEL (GC)
- Clayey GRAVEL to Gravelly CLAY (GC-CH)
- Clayey GRAVEL to Gravelly CLAY (GC-CL)
- Silty GRAVEL (GM)
- Silty GRAVEL to Clayey GRAVEL (GM-GC)
- Silty GRAVEL to Gravelly SILT (GM-MH)
- Silty GRAVEL to Gravelly SILT (GM-ML)
- Poorly graded GRAVEL (GP)
- Poorly graded GRAVEL with Silt (GP-GM)
- Granite
- Grass and/or topsoil
- Gravel
- Grout
- Well graded GRAVEL (GW)
- Well graded GRAVEL with Silt (GW-GM)
- Poorly to Well graded GRAVEL (GW-GP)
- Limestone
- Artificial Fill (AF)
- SILT, SILT w/SAND, SANDY SILT (MH)
- SILT, SILT w/SAND, SANDY SILT (ML)
- SILT, SILT with SAND, SANDY SILT (ML-MH)
- High plasticity PEAT (OH)
- Low plasticity PEAT (OL)
- Low to High plasticity PEAT (OL-OH)
- Sandstone
- Clayey SAND (SC)
- Clayey SAND to Sandy CLAY (SC-CH)
- Clayey SAND to Sandy CLAY (SC-CL)
- Shale
- Silt
- Siltstone
- Silty SAND (SM)
- Silty SAND to Sandy SILT (SM-MH)
- Silty SAND to Sandy SILT (SM-ML)
- Silty to Clayey SAND (SM-SC)
- Poorly graded SAND (SP)
- Poorly graded SAND with Clay (SP-SC)
- Poorly graded SAND with Silt (SP-SM)
- Well graded SAND (SW)
- Well graded SAND with Clay (SW-SC)
- Well graded SAND with Silt (SW-SM)

SAMPLE ABBREVIATIONS

- BG - Bag Sample
- ST - Shelby Tube
- RC - Rock Core
- SS - Split Spoon

GRAPHIC SYMBOLS

- Water level (First Encountered)
- Water level (At Completion)
- Minor change in material properties within a stratum
- Inferred/gradational contact between strata
- Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System per ASTM D2487. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Soil consistency and relative density descriptors in accordance with ASTM D1586, Appendix X2.
3: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.
4: Longitude / Latitude: Unless noted otherwise, exploration location are approximate.

Y:\Projects\2025 #6579+\6686 - Kimley-Horn - 50 New Canton Way - Geotechnical Services - Robbinsville - NJ\Field Notes (Notes, Logs, Photo)\6686 - 50 New Canton Way - Boring Input_export.bg4[ET-Borings Template.tpl]

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APPENDIX C – GEOTECHNICAL LABORATORY TESTING RESULTS

SUMMARY OF LABORATORY TEST DATA

Project Name: 6686 – 50 New Canton Way
Client Name: Envirotactics
TRC Project #: 673781

SAMPLE IDENTIFICATION			Soil Group (USCS System)	Moisture Content (%)	USCS GRAIN-SIZE DISTRIBUTION				PLASTICITY				COMPACTION CHARACTERISTICS			CBR	
Source Name	Sample Name	Sample Depth (ft)			Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Liquidity Index (%)	Type of Test	Maximum Density (PCF)	Optimum Moisture Content (%)	% Compaction	CBR % at 0.10 in.
B-03	SS-6	10.0-12.0	SM*	11.0	5.2	79.5	15.3		-	-	-	-	-	-	-	-	-
B-10	SS-8	14.0-16.0	SP-SM*	13.2	1.0	88.4	10.6		-	-	-	-	-	-	-	-	-
B-11	SS-5	8.0-12.0	SC-SM	14.4	9.3	44.9	45.8		21	14	7	0.1	-	-	-	-	-
B-12	SS-6	10.0-12.0	SM*	12.0	0.9	80.7	18.4		-	-	-	-	-	-	-	-	-
BS-01	BULK	2.0-4.0	SC	11.7	7.8	57.4	34.8		23	14	9	-0.3	D1557, C	133.2	8.6	98.1 94.8 89.4	19.8 14.9 7.6

*USCS Based on grain-size distribution and visual classification.

DRAWN BY: TBT 05/22/25

CHECKED BY: JPB 05/22/25

TRC ENGINEERS, INC
NATURAL MOISTURE CONTENT

Project Name: 6686 – New Canton Way
Client Name: Envirotactics
TRC Project #: 673781

Source #	Sample #	Depth (ft)	Natural Moisture Content			
			Wet Wt + Tare (g)	Dry Wt + Tare (g)	Tare (g)	% Moisture Content
B-03	SS-1	0.0-2.0	136.55	127.40	31.32	9.5
B-03	SS-2	2.0-4.0	105.43	96.71	30.92	13.3
B-03	SS-3	4.0-6.0	113.93	102.10	31.70	16.8
B-03	SS-4	6.0-8.0	86.66	82.05	30.99	9.0
B-03	SS-5	8.0-10.0	118.15	109.94	31.22	10.4
B-03	SS-6	10.0-12.0	477.46	445.74	156.83	11.0
B-03	SS-7	12.0-14.0	113.56	105.59	31.59	10.8
B-03	SS-8	14.0-16.0	119.66	105.26	31.53	19.5
B-10	SS-1	0.0-2.0	120.35	111.39	31.50	11.2
B-10	SS-2	2.0-4.0	137.68	128.61	30.95	9.3
B-10	SS-4	6.0-8.0	162.22	155.88	31.46	5.1
B-10	SS-5	8.0-10.0	107.70	99.34	30.92	12.2
B-10	SS-6	10.0-12.0	135.30	125.84	31.26	10.0
B-10	SS-7	12.0-14.0	99.98	94.11	31.79	9.4
B-10	SS-8	14.0-16.0	591.68	551.37	246.69	13.2
B-11	SS-5	8.0-12.0	482.73	453.05	246.84	14.4
B-12	SS-1	0.0-2.0	126.76	118.05	31.42	10.1
B-12	SS-2	2.0-4.0	158.73	146.31	31.88	10.9
B-12	SS-3	4.0-6.0	118.93	110.79	31.49	10.3
B-12	SS-4	6.0-8.0	85.57	79.59	31.49	12.4
B-12	SS-5	8.0-10.0	101.64	95.59	31.53	9.4

Drawn By: TBT 05/22/25 Checked By: JPB 05/22/25

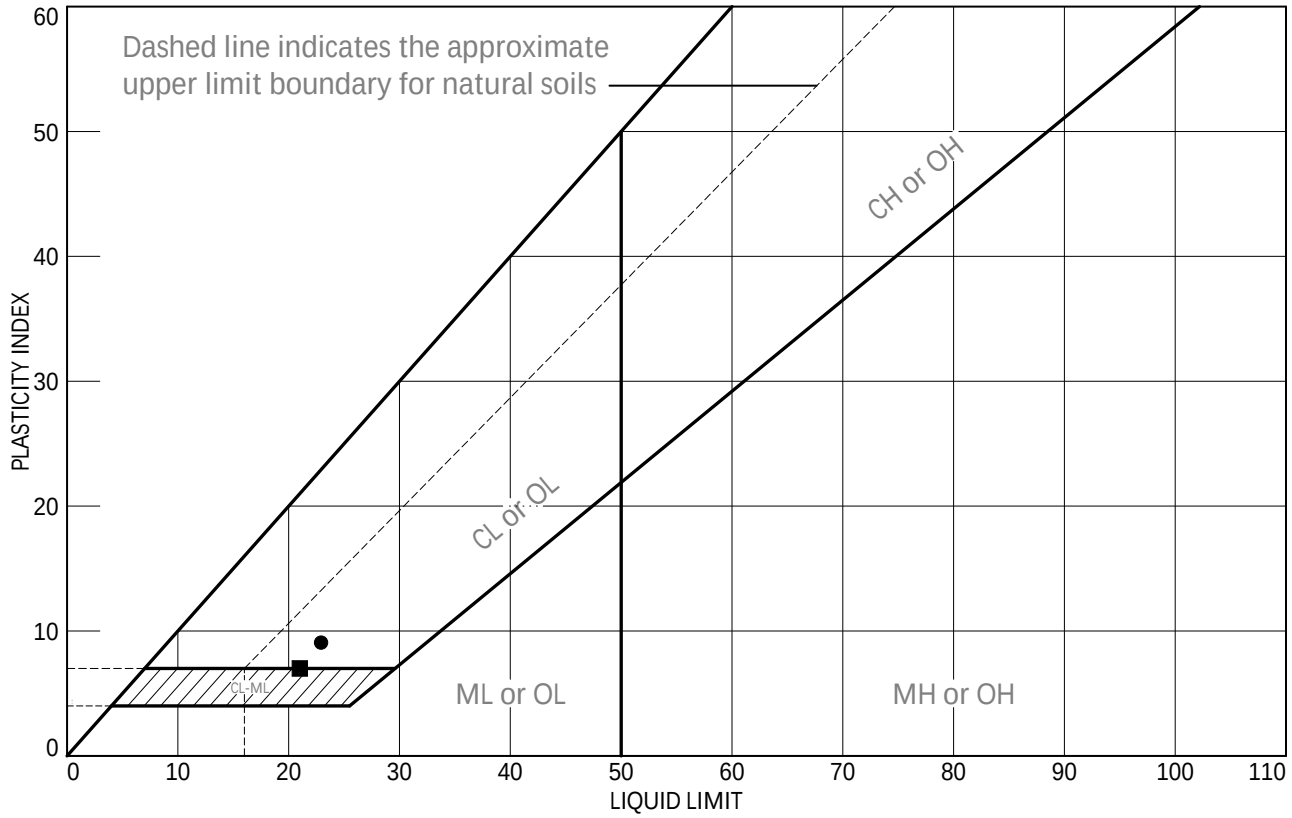
TRC ENGINEERS, INC
NATURAL MOISTURE CONTENT

Project Name: 6686 – New Canton Way
Client Name: Envirotactics
TRC Project #: 673781

Source #	Sample #	Depth (ft)	Natural Moisture Content			
			Wet Wt + Tare (g)	Dry Wt + Tare (g)	Tare (g)	% Moisture Content
B-12	SS-6	10.0-12.0	545.36	513.55	248.83	12.0
B-12	SS-7	12.0-14.0	118.40	108.11	31.37	13.4
B-12	SS-8	14.0-16.0	106.48	98.15	31.71	12.5

Drawn By: TBT 05/22/25 Checked By: JPB 05/22/25

Atterberg Limits and Moisture Content Report



SOIL DATA

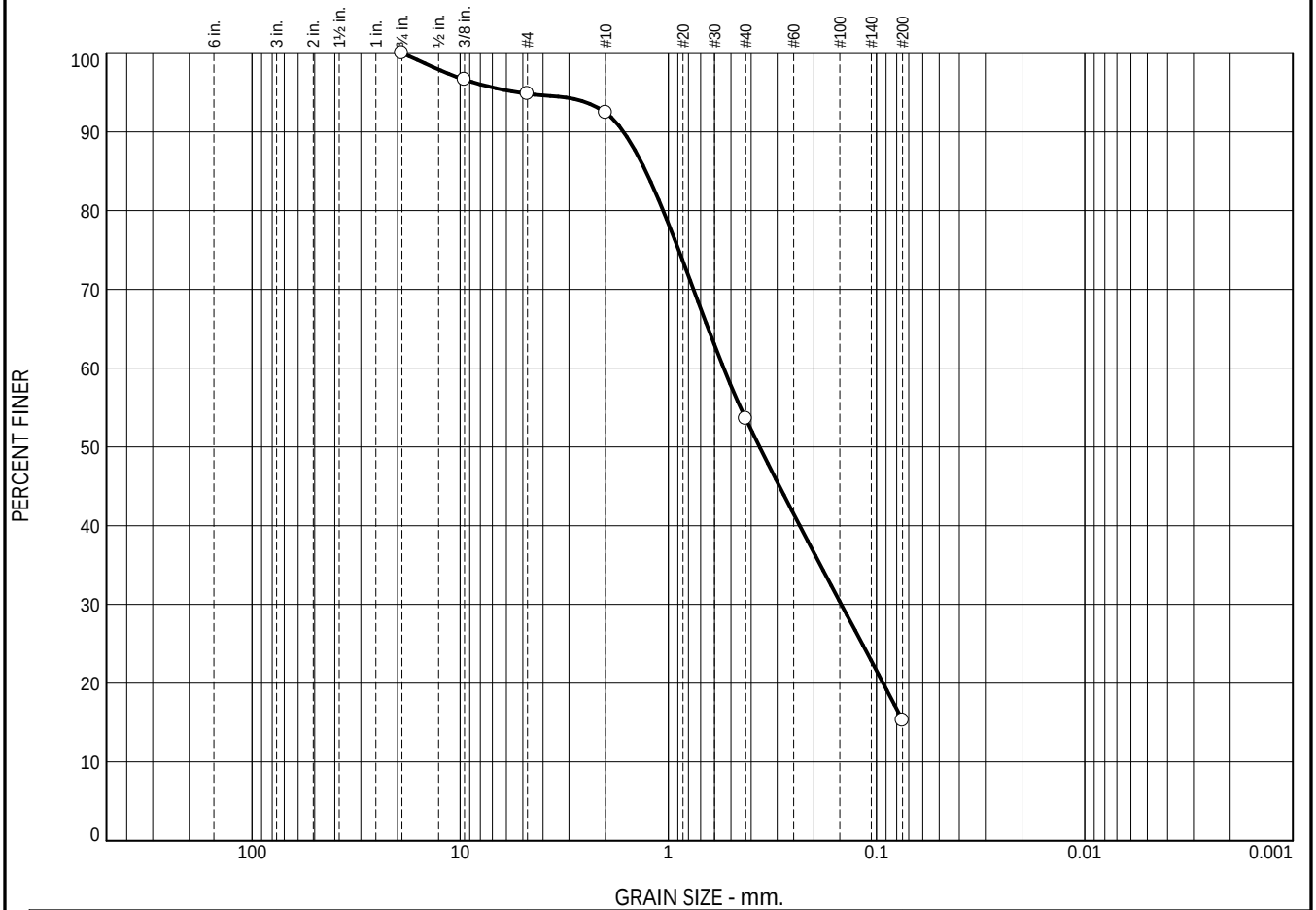
	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	LIQUIDITY INDEX	USCS
●	BS-01	SS-01	2.0-4.0 FT	11.7	14	23	9	-0.3	SC
■	B-11	SS-5	8.0-12.0 FT	14.4	14	21	7	0.1	SC-SM

TRC
Engineers, Inc.
Mt. Laurel, NJ

Client: ENVIROTACTICS
Project: 6686 - 50 NEW CANTON WAY

Project No.: 673781 Figure 1

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	5.2	2.4	38.8	38.3	15.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.2834	0.5425	0.3644	0.1477				

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ LIGHT BROWN/ORANGE-BROWN SILTY SAND	05/22/25	SM	11.0

Project No. 673781 Client: ENVIROTACTICS

Project: 6686 - 50 NEW CANTON WAY

○ Source of Sample: B-03 Depth: 10.0-12.0 FT Sample Number: SS-6

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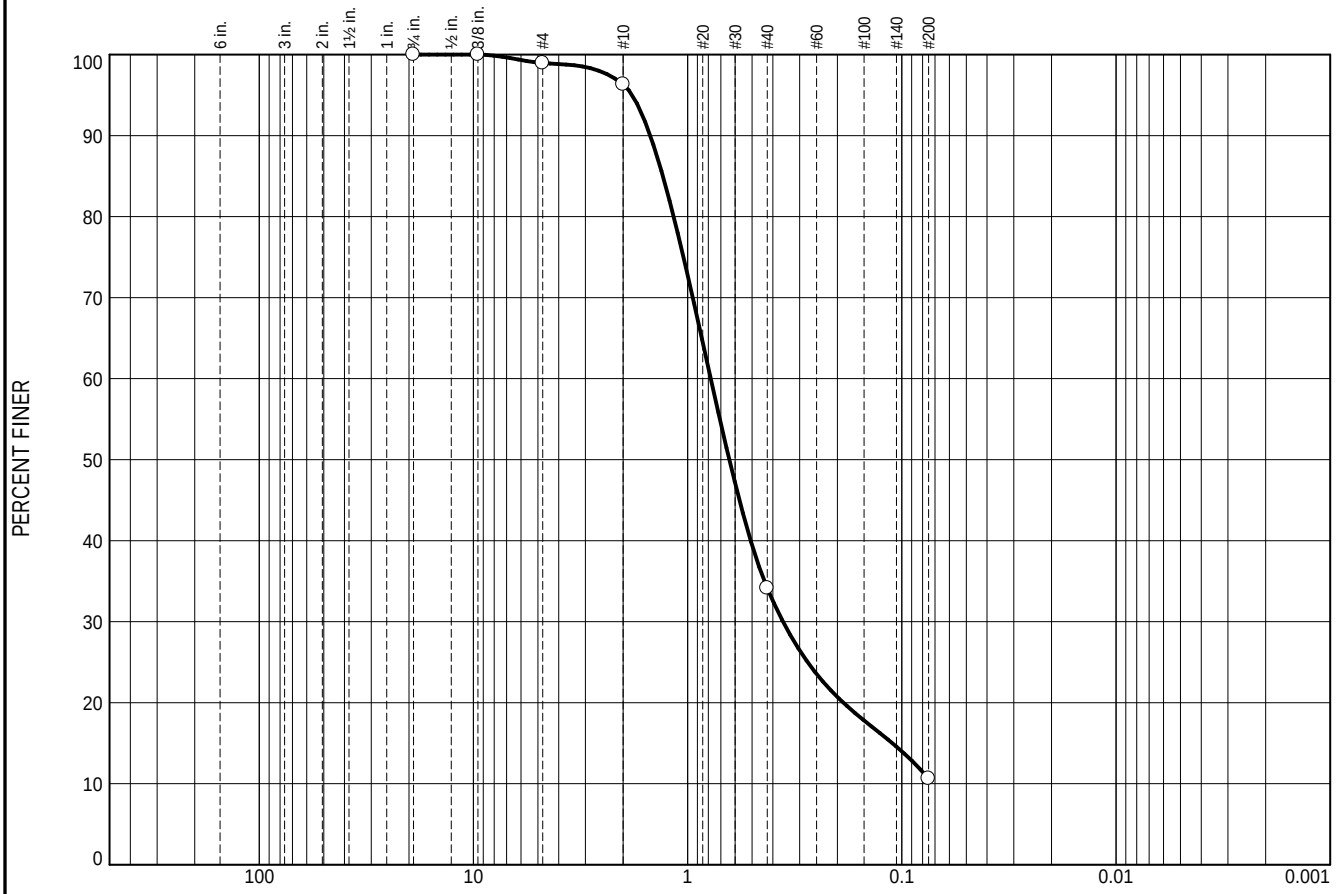
Remarks:

○SAMPLE DESCRIPTION BASED ON USCS GRAIN-SIZE DISTRIBUTION AND VISUAL CLASSIFICATION

Figure 2

Tested By: JC 05/22/25 Checked By: JPB 05/22/25

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.0	2.7	62.2	23.5	10.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.3047	0.7795	0.6386	0.3586	0.1107			

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ RED-BROWN/ORANGE-BROWN POORLY GRADED SAND WITH SILT	05/22/25	SP-SM	13.2

Project No. 673781 Client: ENVIROTACTICS

Project: 6686 - 50 NEW CANTON WAY

○ Source of Sample: B-10 Depth: 14.0-16.0 FT Sample Number: SS-8

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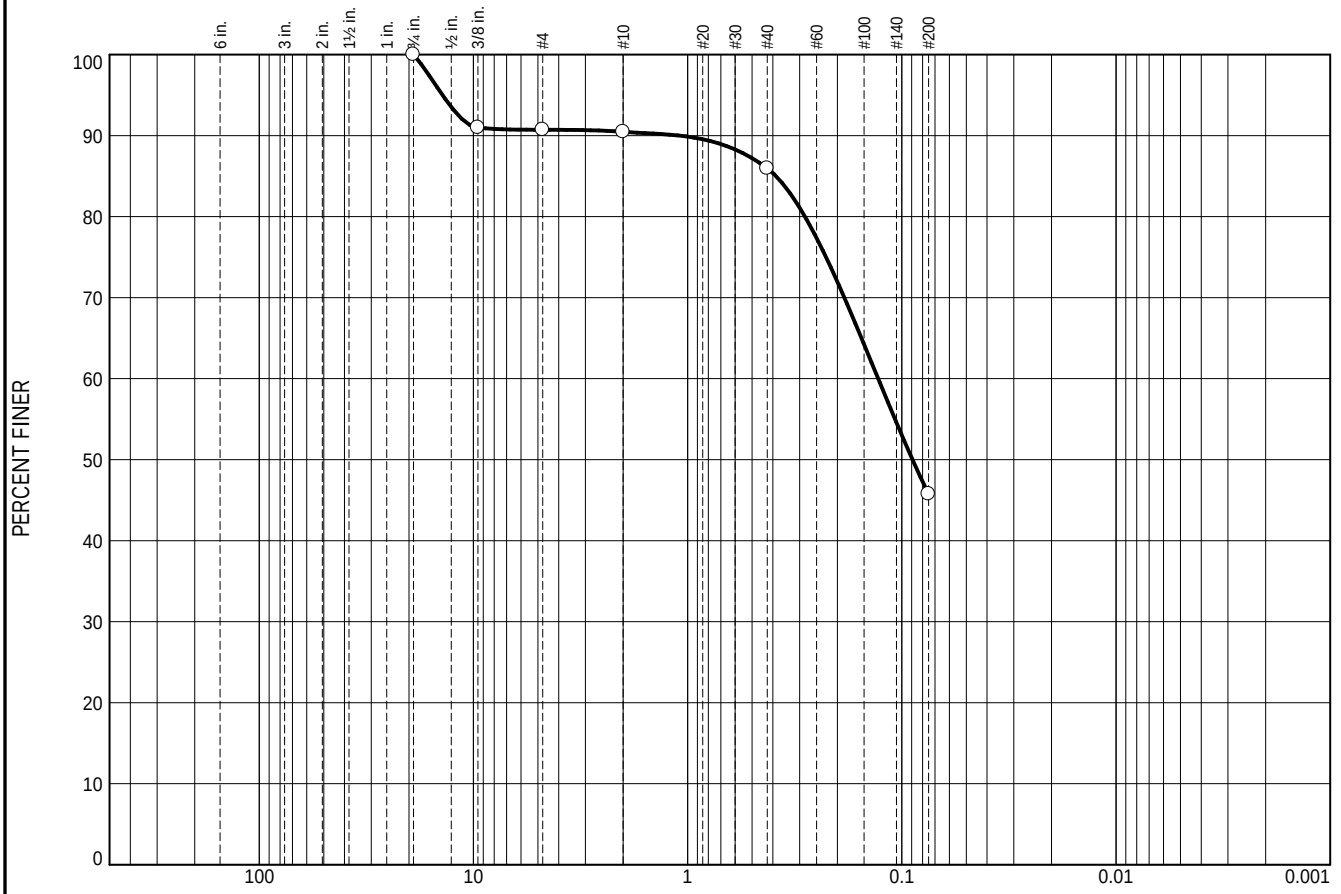
Remarks:

○SAMPLE DESCRIPTION BASED ON USCS GRAIN-SIZE DISTRIBUTION AND VISUAL CLASSIFICATION

Figure 3

Tested By: JC 05/22/25 Checked By: JPB 05/22/25

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	9.3	0.2	4.5	40.2	45.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	21	14	0.3870	0.1289	0.0892					

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ ORANGE-BROWN SILTY, CLAYEY SAND	05/22/25	SC-SM	14.4

Project No. 673781 Client: ENVIROTACTICS

Project: 6686 - 50 NEW CANTON WAY

○ Source of Sample: B-11 Depth: 8.0-12.0 FT Sample Number: SS-5

Remarks:

○SAMPLE DESCRIPTION BASED ON USCS

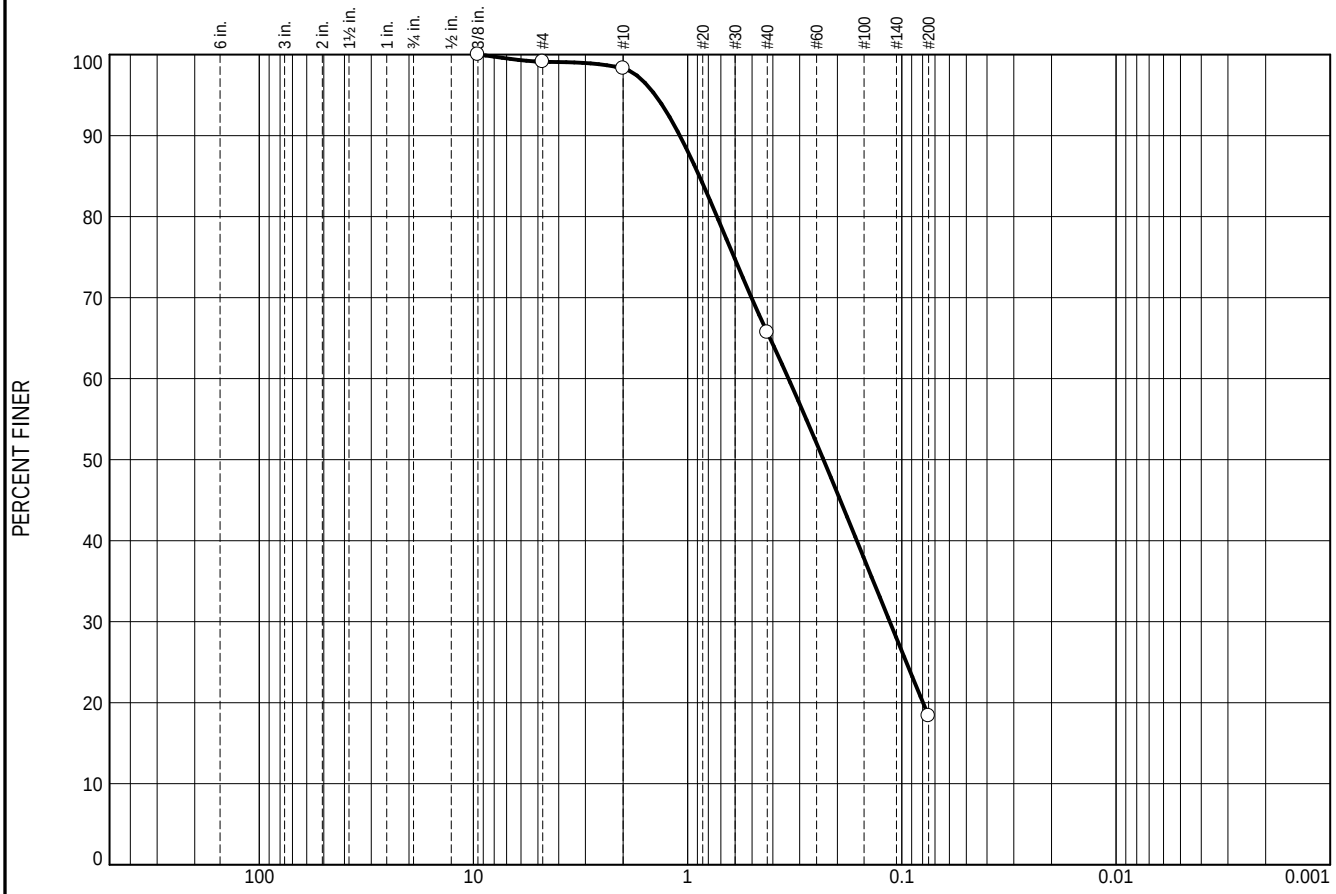
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Figure 4

Tested By: JC 05/22/25 Checked By: JPB 05/22/25

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.9	0.8	32.6	47.3	18.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.8816	0.3381	0.2321	0.1139				

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ BROWN SILTY SAND	05/22/25	SM	12.0

Project No. 673781 Client: ENVIROTACTICS

Project: 6686 - 50 NEW CANTON WAY

○ Source of Sample: B-12 Depth: 10.0-12.0 FT Sample Number: SS-6

Remarks:

○SAMPLE DESCRIPTION BASED ON USCS GRAIN-SIZE DISTRIBUTION AND VISUAL CLASSIFICATION

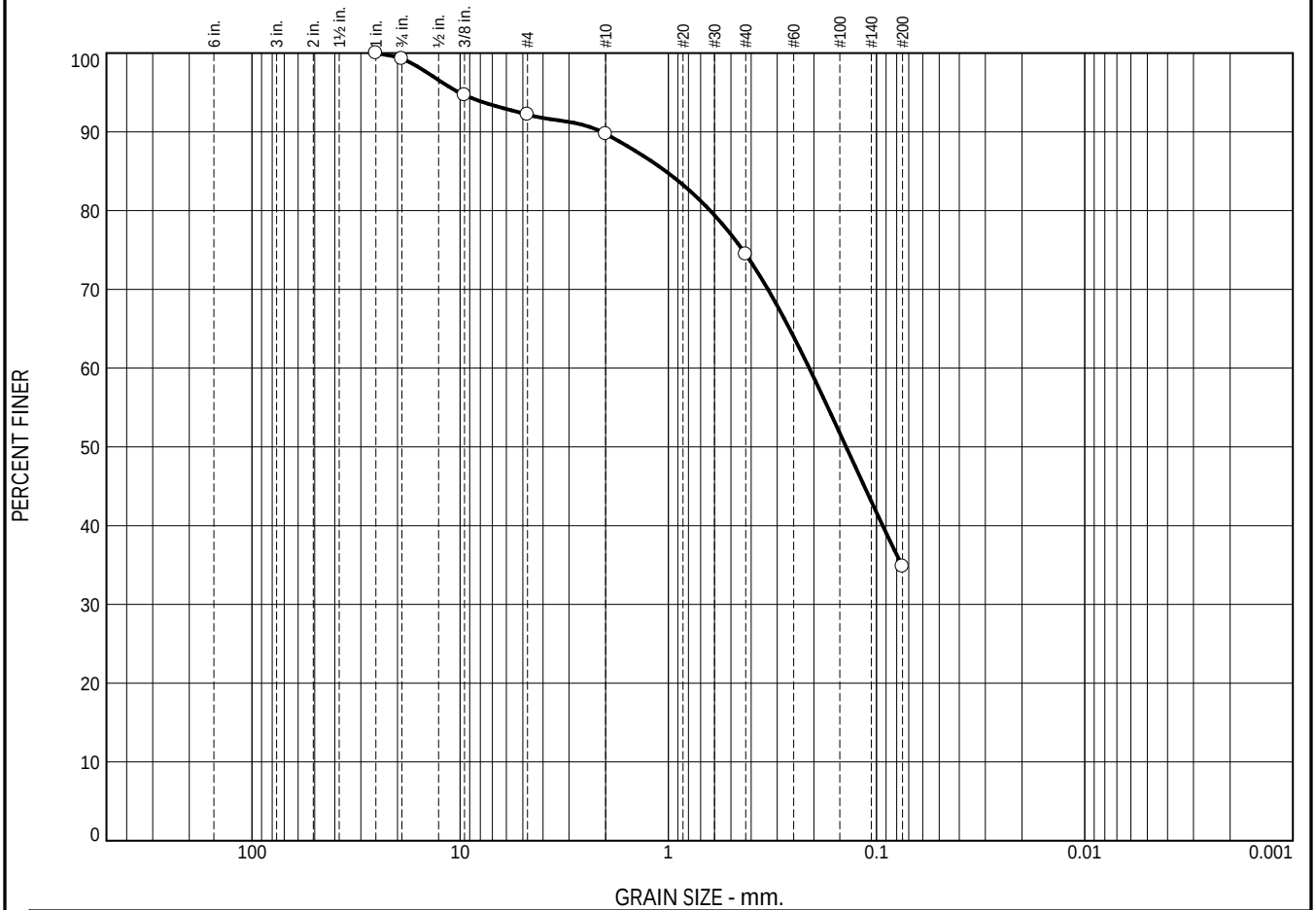
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Figure 5

Tested By: JC 05/22/25 Checked By: JPB 05/22/25

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.7	7.1	2.5	15.2	39.7	34.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	23	14	1.0285	0.2104	0.1399					

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ LIGHT BROWN/DARK BROWN CLAYEY SAND	05/12/25	SC	11.7

Project No. 673781 Client: ENVIROTACTICS

Project: 6686 - 50 NEW CANTON WAY

○ Source of Sample: BS-01 Depth: 2.0-4.0 FT Sample Number: SS-01

Remarks:

○SAMPLE DESCRIPTION BASED ON USCS

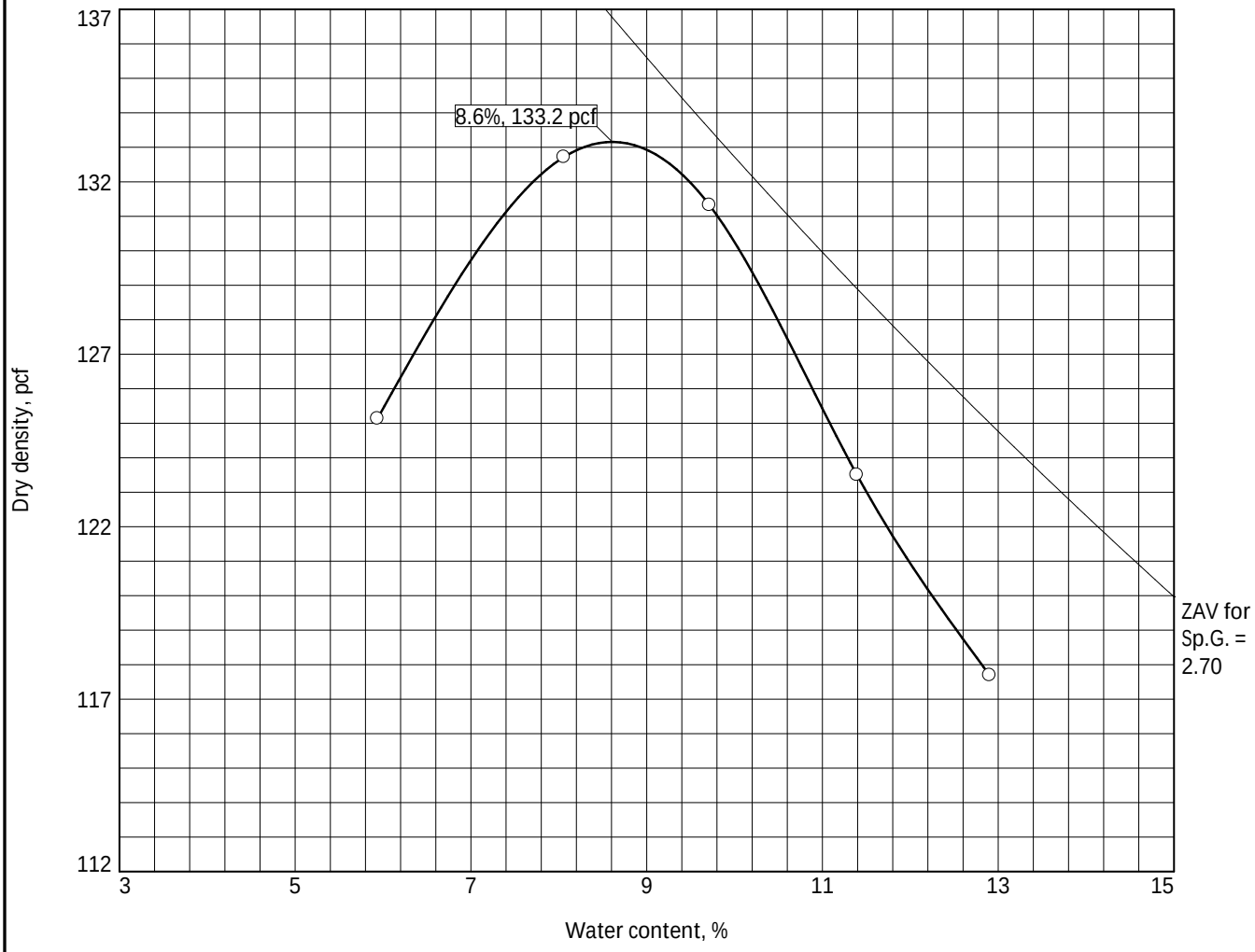
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Figure 6

Tested By: DA 05/12/25 Checked By: NA 05/20/25

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method C Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
2.0-4.0 FT	SC	A-2-4(0)	11.7		23	9	0.7	34.8

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 133.2 pcf Optimum moisture = 8.6 %	LIGHT BROWN/DARK BROWN CLAYEY SAND

Project No. 673781 Client: ENVIROTACTICS

Project: 6686 - 50 NEW CANTON WAY

Date:

○ Source of Sample: BS-01 Sample Number: SS-01

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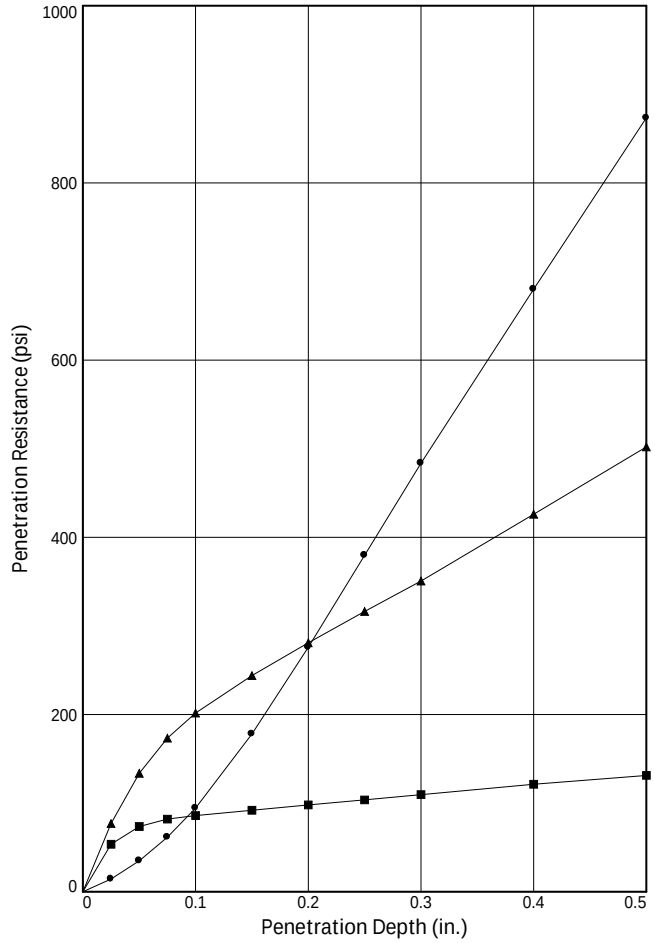
Remarks:

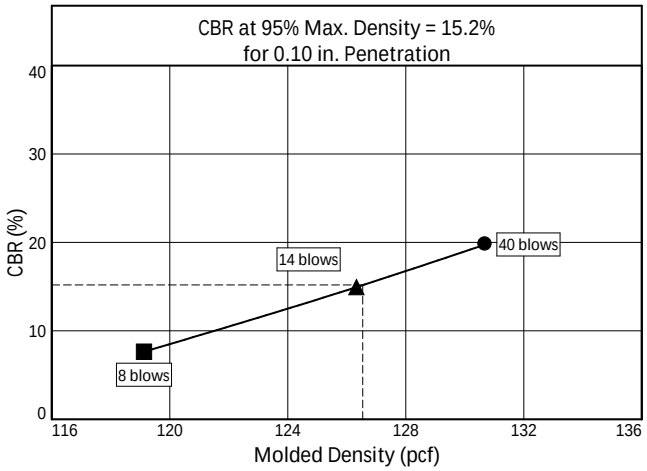
SAMPLE DESCRIPTION BASED ON USCS

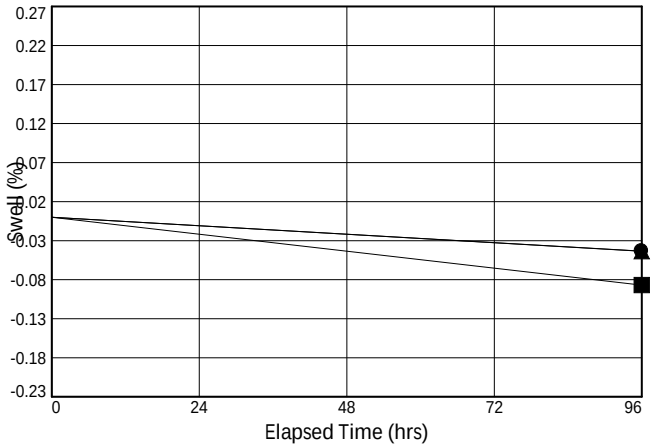
Figure 7

Tested By: DA 05/11/25 Checked By: NA 05/20/25

BEARING RATIO TEST REPORT
ASTM D1883-21







	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ●	130.7	98.1	8.6	130.8	98.2	9.6	19.8	26.7	0.060	10	0
2 ▲	126.3	94.8	8.6	126.4	94.9	10.4	14.9	16.8	-0.040	10	0
3 ■	119.1	89.4	8.6	119.2	89.5	12.2	7.6	6.2	-0.042	10	-0.1

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
LIGHT BROWN/DARK BROWN CLAYEY SAND	SC	133.2	8.6	23	9

Project No: 673781
Project: 6686 - 50 NEW CANTON WAY
Source of Sample: BS-01 Depth: 2.0-4.0 FT
Sample Number: SS-01
Date:

Test Description:
SAMPLE DESCRIPTION
BASED ON USCS

BEARING RATIO TEST REPORT
TRC Engineers, Inc.

Figure 8

Tested By: JC 05/19/25 Checked By: NA 05/20/25



Pavement Design Guidelines

2/08/2020

Prepared By:

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SSI
Structural Services, Inc.

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c. Sustainable Paving 8

d. Protection of New Pavements 8

1. Introduction

This document represents the general paving guidelines for Amazon Customer Fulfillment Facilities. Each project specific design team shall implement these guidelines, while respecting regional construction techniques and the requirements of local agencies having jurisdiction.

Each individual project shall identify deviations to these guidelines in writing to the Amazon pre-construction or construction manager in form of redline comment to this document. All deviations require written approval from Amazon.

It is anticipated that pavement design will be performed by the project specific Geotechnical Engineer, but will require coordination between the Site/Civil Engineer, Traffic Engineer, Structural Engineer, Developer, Contractor, and Amazon. Pavement design calculations shall be provided as part of the Geotechnical Report, and all input parameters shall be noted.

The pavement design shall be done early in the design phase to provide more reliable project costs during initial bidding.

The documents referenced herein shall be the latest editions adopted when the building is permitted for construction.

2. Pavement Types

Most Amazon facilities will be designed using a combination of hot mix asphalt (HMA) and portland cement concrete (PCC) pavements. HMA is typically used for all drive aisles and parking stalls, whereas PCC is typically used for loading aprons, dolly strips, around the guard house, bus stops, motorcycle parking, and truck turning areas.

All projects shall be designed and bid using both HMA and PCC pavements. Where regionally appropriate, an alternate pavement plan using only PCC may be proposed as an alternate bid. Costs for both the base bid (HMA and PCC) and the alternate bid (PCC) shall be provide to the appropriate Amazon representative for approval.

3. Typical Pavement Sections

Multiple pavements sections shall be provided based on the type of vehicles that will be using a particular facility. The number of pavement sections and extents of each section shall be determined by the Site/Civil Engineer and provided on a Pavement Plan to be included as part of the Site Plan Drawing Submission.

- Standard Duty Pavement: Use for passenger car and van drive aisles and parking stalls. Also use for car pickup/drop off areas. Increasing pavement thickness beyond that of standard duty pavement in fire lanes or drive aisles is not required and shall only be performed when required by a local authority having jurisdiction. Standard duty pavements can be provided for both HMA and PCC.
- Heavy Duty Pavement: Use for access drives, truck courts, bus pickup/drop off areas, loading dock aprons, dolly pads, and trailer parking stalls. Heavy duty pavements can be provided for both HMA and PCC.

- Extra Heavy Duty Pavement: Use for loading dock apron and dolly pads as a price alternate. Extra heavy duty pavement sections shall only be PCC.

4. Traffic Loading

Pavements shall be designed in accordance with project specific traffic data provided by the Traffic Engineer. To determine the average daily vehicle traffic for each vehicle type, use 115% of the non-peak season trips as presented in tenant's traffic projections.

Assume one-lane in each direction for the roadways.

The Amazon facilities shall be assumed to operate 365 days/year.

Typical vehicles to be considered for pavement design consist of passenger vehicles, sprinter delivery vans (gross vehicle weight of 12,000 lbs), and tractor trailers (gross vehicle weight of 75,000 lbs).

5. Asphalt Pavement Design Parameters

Hot mix asphalt shall be designed using the AASHTO flexible pavement design method (or other commonly accepted design method with prior approval by Amazon) using the following design parameters:

- Design life: 20-years

- Resilient Modulus: California bearing ratio (CBR) testing or other appropriate laboratory testing shall be performed by the Geotechnical Engineer as part of their geotechnical investigation and used to determine the soil subgrade resilient modulus. However, the specific soil types, density, and saturation levels shall be used to determine realistic subgrade input values. A maximum resilient modulus of 15,000 psi shall be used for pavement design.

Table – Typical Design Values for K Value, Resilient Modulus, and CBR.

Type of Soil	Subgrade Strength	K Value Range (pci) (Rigid Pavement)	Resilient Modulus MR, (psi) (Flexible Pavement	CBR
Silts and clays of high compressibility (liquid limit >= 50), natural density (not recommended for subgrades without treatment)	Very Low	50 - 100	1000 - 2700	3 or less
Fine grain soils in which silt and clay size particles predominate (low compressibility, liquid limit < 50)	Low	100 - 150	2700 - 4000	3 to 5.5
Poorly grades sands and soils that are predominately sandy with moderate amounts of silts and clays (well drained)	Medium	150 - 220	4000 - 5700	5.5 to 12
Gravely soils, well graded sands, and sand gravel mixtures relatively free of plastic fines	High	220 – 250+	>5700	>12

- Reliability Factor: 90%
- Overall Standard Deviation: 0.45
- Initial Serviceability: 4.2
- Terminal Serviceability: 2.5
- Design Serviceability Loss (ΔPSI): 1.7
- AASHTO Vehicle Factors:
  - Tractor Trailer = 1.97 (assuming 75K gross vehicle weight)
  - Delivery Van = 0.05
  - Passenger Car = 0.00209
- AASHTO Layer Coefficient for Pavement:
  - Surface and Binder Course = 0.44
  - Base Course = 0.4
  - Aggregate Base = 0.11

The thickness of each pavement course shall take into account recommended minimum and maximum lift thicknesses in accordance with local practice and Department of Transportation specifications, and shall be in ½ inch increments. The table presented below can be used as guidance:

Table – Limits on Permissible Lift Thicknesses

Maximum Nominal Aggregate (mm)	Minimum Lift Thickness (inches)	Maximum Lift Thickness (inches)
37.5	3	5
25	2.5	4
19	2	3
12.5	1.5	2

9.5	1.5	2

Due to the limited impact that passenger vehicle traffic has on pavement, it is anticipated that the standard duty pavements will often be governed by local required minimum pavement sections as determined by the local design engineer. Regardless of local standards, the provided standard duty pavement section shall not be less than 4-inches of asphalt over 6-inches of aggregate base.

6. Concrete Pavement Design Parameters

Portland cement concrete shall be designed per American Concrete Institute (ACI) 330R Guide for the Design and Construction of Concrete Parking Lots and ACI 330.2R Guide for the Design and Construction of Concrete Site Paving for Industrial and Trucking Facilities. To facilitate the design, www.pavementdesigner.org can be used selecting the "Parking" project type.

Concrete pavement shall be designed using the following design parameters:

- Design life: 30-years
- Spectrum Type: A (standard duty) and D (heavy duty)
- Reliability: 95%
- Percent of Slabs Cracked at End of Design Life: 5%

The standard duty concrete pavement section shall not be less than 5-inches of concrete over 4-inches of aggregate base. Standard duty concrete pavement shall be continuously reinforced with #3 bar @ 22" on-center each way.

The heavy duty concrete pavement section shall not be less than 8-inches of concrete over 6-inches of aggregate base. Heavy duty concrete pavement shall be continuously reinforced with #3 bar @ 16" on-center each way.

Special consideration shall be made for PCC pavements in the areas that will be subject to repeated impacts from trailer landing gear (i.e. dolly pads and dock loading/unloading aprons). These concrete pavements shall be considered extra heavy duty PCC. Extra heavy duty PCC should have a minimum concrete thickness of 8-inches and be enhanced with a minimum of 7.5-lbs/cy of synthetic macrofibers in conjunction with continuous reinforcement. The use of extra heavy duty PCC shall be considered an add alternate, with heavy duty PCC as the base bid. The locations for the extra heavy duty PCC are to be identified on the site plan. The Amazon pre-construction or construction manager will determine which pavement section will be used in this area after pricing is received.

7. Pavement Specifications and Detailing

a. Hot Mix Asphalt (HMA) Pavement

It is anticipated that project specific HMA specifications and details provided on the Site Plan Drawings shall include requirements for asphalt layers, compaction, aggregate base, preparation of subgrade, and use of tack coats.

- Asphalt Layers → HMA pavement sections shall contain multiple courses (i.e. surface, binder, and base) of asphalt utilizing Superpave mix designs in accordance with Department of Transportation specifications, and as specified by the project Geotechnical Engineer.

- Asphalt Compaction → Compaction of asphalt pavement shall be between 92% and 96% of the Theoretical Maximum Specific Gravity of the Superpave mix.

- Aggregate Base Course → Aggregate base course materials shall be locally available and consistent with Department of Transportation specifications, and as specified by project Geotechnical Engineer. The Geotechnical Engineer shall provide recommendations for the use of recycled concrete aggregate (RCA) and asphalt millings as aggregate base, if applicable.

- Subgrade Preparation → Subgrade preparation procedures shall be provided by project Geotechnical Engineer. Geotechnical Engineer shall specify need for subsurface drainage (underdrains, fingerdrains, etc.) or required subgrade improvements.

- Tack Coats → Tack coats shall applied between asphalt courses in accordance with Department of Transportation specifications.

b. Portland Cement Concrete (PCC) Pavement

Refer to attached drawings sheets for PCC pavement specifications and detailing. The drawing notes in blue are coordination notes between the prototypical details and the project Site/Civil Engineer's details.

8. Additional Considerations

a. Future Conduits

The project team should consider installing empty conduits for anticipated future improvements where appropriate. This requirement shall be discussed with the Amazon pre-construction manager.

b. Cold Weather Paving

Appropriate cold weather paving practices should be applied when installing pavements in cold climates.

c. Sustainable Paving

Sustainable paving methods, such as recycled or permeable pavements, may be submitted as a bid alternate. These alternates will be evaluated by Amazon on a case-by-case basis.

d. Protection of New Pavements

Contractors shall take all appropriate means to prevent all traffic from using freshly installed pavements for a minimum of forty-eight (48) hours after completion of work.

31 2510	Dust Control	Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
DIV 32	**EXTERIOR IMPROVEMENTS**	
32 1000	**Paving**	
32 1010	Pavement Design	Pavement design shall be as indicated on Template exhibit drawings, Tenants pavement design guidelines, and prototypical details provided. Truck pavement based upon 350 truck movements in and 350 truck movements out per day, with a typical loaded trailer weighing 75,000 lbs. Recommended pavement sections to be as directed by the project geotechnical engineer to meet the Tenants pavement design guidelines, subject to final approval by Tenant. Parking areas shall be designed to minimize ponding. Truck courts shall not be used for storm water detention.
32 1020	Truck Courts	Truck court depth to be a minimum of 140' without opposing trailer storage, and a minimum of 195' with opposing trailer storage. Concrete truck apron to be 60' deep, with a 1% slope away from the building. No warping of the apron will be permitted. No drainage structures are to be within the apron with exception of roof header system. When trailer parking is adjacent to the curb, stalls shall be 55-ft long with a 15-ft (min.) concrete dolly pads. The back edge of the dolly pad shall be located 30-ft from face of curb. Provide a 12-inch curb at the end of the trailer parking stall. Concrete wheel stops are not required. Provide a 12-ft wide concrete inspection lane behind trailers (1-ft wide curb + 11-ft wide sidewalk). All annular space between concrete and perimeter fence shall be gravel or other low maintenance groundcover. Trailer stall identification signs shall be hung on the perimeter fence. When back to back trailer parking is provided, stalls shall be 58-ft long with a truck wheel stop installed 3-ft from the back of the stall. Provide a 15-ft (min) concrete dolly pad with the back edge of dolly pad located 30-ft from face of wheel stop. Provide a 6-ft wide inspection aisle between back to back trailer parking. Trailer stall identification signs are not required for back to back trailer parking. Remainder of truck court and truck drives to be heavy duty asphalt or heavy-duty concrete paving (if soil conditions require or costs permit). Docks shall be 48" high. Truck wells are not allowed.
32 1200	Asphalt Paving	Asphalt paving and base sections shall be as indicated on Template exhibit drawings, Tenants pavement design guidelines, and prototypical details provided. Maximum and minimum slopes in asphalt paved areas are noted below: • Car Parking Areas: 1% min., 5% max. • ACC Parking Stalls: 1% min., 2% max. • Truck Court: 1% min., 3.5% max. • Entrance/Exit Lanes at Guardhouse: 1% min., 3.5% max. (measured 70-ft in either direction of guardhouse) • Driveways: 1% min., 8% max (or as deemed acceptable by engineer of record)

		Design engineers shall be cognizant of changes in slopes (“alpha” angle) in addition to maximum slopes. Changes in slopes shall be minimized for smooth transitions where possible.
32 1300	Concrete Paving	Concrete paving and base sections shall be as indicated on Template exhibit drawings, Tenants pavement design guidelines, and prototypical details provided. Required concrete paving slopes requirements shall match that of asphalt pavement. Concrete paving shall be 4,000 psi 28-day strength, 6% air-entrained, medium broom finish, and with aggregate grading to conform to same requirements of interior SOG.
32 1350	Concrete Walks	Concrete sidewalks shall be minimum 4” thick, 4,500 psi 28-day strength, 6% air-entrained, with a medium broom finish. Sidewalks will be included to the building entry and parking areas and shall include locally required accessibility ramps / access. Refer to section 32 1020 for requirement for walks behind trailer parking.
32 1400	Drive-In Ramps	Provide 2 concrete drive-in ramps. See Template exhibit drawings for locations.
32 1600	Curbs	Concrete curb shall be provided at the edge of all paving not abutting a wall. Provide 12” high heavy-duty concrete curb at the rear of all trailer parking spaces not abutting building. Curb shall be reinforced, 12” high x 12” wide. Provide non-reinforced 6" high curbs at all other areas. Integral concrete curb and gutter shall be provided if locally customary. Minimum gutter slope shall be 1% for curbs.
32 1700	Exterior Protection Posts and Rails	Provide 6” (or 8” where shown in Template exhibit drawings) diameter concrete filled steel pipe bollards, 7' long with 3' embedment into concrete footing (4’ bollard height above grade), at following locations: electrical transformers, gas meter, hydrants, PIV's, light poles (not meeting required setbacks), ramps and exterior stairs in truck court area, dock and grade level overhead doors, fence gates, exposed building corners, etc. as determined by the site specific architect or engineer for protection against truck or forklift damage. See Template exhibit drawings for gas piping protection location, layout and detailing.
32 1720	Pavement Markings	Provide all pavement markings per bid set of construction documents not limited to the following items. 1. Pavement markings shall be white on asphalt and yellow on concrete. 2. Pavement striping shall be long life epoxy resin. Use an epoxy resin that is a two component, 100 percent solids formulation. Ensure that the epoxy resin compound (without glass beads) has a minimum directional reflectance, relative to a magnesium oxide standard, of 80 percent for white and 50 percent for yellow when tested according to ASTM E 1347. Use glass beads for stop bars, crosswalks, pedestrian corridors, and lane striping (center lines, shoulders, gore areas, etc.). 3. Pavement graphics shall be pre-formed thermoplastic with a minimum thickness of 90 mils. Use glass beads for increased nighttime visibility. 4. All pavement stripes shall be 4-inches wide unless otherwise noted. 5. Each dock door shall have one white stripe 60’ long located on driver’s side.

GENERAL NOTES

1. REVIEW AND VERIFY ALL AS-BUILT CONDITIONS WHICH AFFECT NEW CONSTRUCTION PRIOR TO SUBMISSION OF SHOP DRAWINGS AND ANY FABRICATION.
2. INDUSTRY STANDARDS GOVERNING THIS WORK ARE OF THE LATEST ISSUE AT PROJECT BID DATE.
3. ENSURE STORAGE, HANDLING, PREPARATION, INSTALLATION, ETC. OF ALL MATERIALS ARE IN ACCORDANCE WITH MANUFACTURER'S / VENDOR'S PRINTED RECOMMENDATIONS AND INSTRUCTIONS UNLESS NOTED OTHERWISE ON THE DRAWINGS OR SPECIFICATIONS.

PAVEMENT SUBGRADE AND BASE NOTES

1. ENSURE TESTING AGENCY VERIFIES THE SUBGRADE IS COMPACTED TO THE SPECIFIED MAXIMUM DRY DENSITY AS DETERMINED BY THE GEOTECHNICAL ENGINEER. RECOMPACT SOFT AREAS AS DIRECTED BY THE GEOTECHNICAL ENGINEER. TESTING AGENCY TO PROVIDE A LETTER REPORT TO THE OWNER'S REPRESENTATIVE STATING THAT THE SUBGRADE HAS BEEN PROPERTY COMPACTED.
2. ENSURE TESTING AGENCY EVALUATES THE SUBGRADE BY PROOF-ROLLING. PROOF-ROLLING TO BE DONE BY A FULLY LOADED TANDEM-AXLE DUMP TRUCK OR OTHER EQUIVALENTLY WHEELED VEHICLE ACCEPTABLE TO THE TESTING AGENCY. REPAIR SOFT AREAS THAT DEPRESS DEEPER THAN 1/2 IN. AS DIRECTED BY THE TESTING AGENCY. TESTING AGENCY TO PROVIDE A LETTER REPORT TO THE OWNER'S REPRESENTATIVE STATING THE SUBGRADE HAS BEEN PROOF-ROLLED AND IS ACCEPTABLE.
3. AGGREGATE BASE MATERIAL:
   A. COARSE AGGREGATE BASE: Crusher run with rock fines. USE ASTM D 448, NO. 467, 57 OR 67 BLEND ONLY IF NOTED OR ALLOWED.
   B. FINE AGGREGATE BASE: CLEAN SCREENINGS ASTM D 448, NO. 10 with 6% to 12% passing No. 200 sieve. ENSURE MATERIAL PASSING #200 SIEVE HAS A PLASTICITY INDEX LESS THAN 2.
4. AGGREGATE BASE MATERIAL INSTALLATION
   A. COMPACT COARSE AGGREGATE BASE TO FINAL THICKNESS SHOWN IN LAYERS NOT EXCEEDING 6 INCHES, WITH MINIMUM OF 2 PASSES PER LAYER WITH A VIBRATORY COMPACTOR.
   B. COMPACT BASE TO THE SPECIFIED MAXIMUM DRY DENSITY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
   C. CHOKE-OFF TOP SURFACE OF COARSE AGGREGATE BASE WITH FINE AGGREGATE BASE MATERIAL DUE TO THE FOLLOWING:
      1. AS REQUIRED TO MEET FINE GRADE ELEVATION TOLERANCES SPECIFIED.
      2. WHERE COARSE AGGREGATE BASE MATERIAL DOES NOT HAVE SUFFICIENT FINE PARTICLES TO PRODUCE A SURFACE THAT IS FREE OF EXPOSED AGGREGATE OR SURFACE VOIDS IMMEDIATELY PRIOR TO PAVEMENT INSTALLATION.
   D. COMPACT FINE AGGREGATE BASE CHOKE-OFF LAYER WITH A MINIMUM OF 2 PASSES WITH A VIBRATORY COMPACTOR
   E. TOP SURFACE OF BASE MATERIAL TO BE DRY, SMOOTH, FLAT, DENSE SURFACE IMMEDIATELY BEFORE PLACING CONCRETE.
5. ENSURE TESTING AGENCY VERIFIES AGGREGATE BASE IS COMPACTED TO THE SPECIFIED MAXIMUM DRY DENSITY AS DETERMINED BY THE GEOTECHNICAL ENGINEER IMMEDIATELY PRIOR TO PLACING PAVEMENT. TESTING AGENCY TO PROVIDE LETTER REPORT TO OWNER'S REPRESENTATIVE STATING THE BASE IS ACCEPTABLE.
6. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY IF UNUSUAL SOIL CONDITIONS ARE FOUND.
7. PROTECT EXISTING STRUCTURES, UTILITIES, PROPERTY, ETC. RESTORE ALL ITEMS DAMAGED, AS REQUIRED BY OWNER, AT NO COST TO OWNER OR WITHOUT EXTENSION OF CONTRACT TIME.
8. DO NOT ALLOW STORED EXCAVATION MATERIAL TO DISRUPT PROPER DRAINAGE OF AREA, DAMAGE TO SURROUNDING AREAS, OR STAIN ADJACENT CONCRETE.
9. DISPOSE OF EXCAVATED MATERIAL AS REQUIRED BY OWNER'S REPRESENTATIVE.

PORTLAND CEMENT CONCRETE FOR EXTERIOR PAVEMENT

1. PAVEMENT USE IS FOR ONLY VEHICLE TRAFFIC AND IS NONSTRUCTURAL CONCRETE. CONFORM TO ACI 301, 318 AND 117 FOR THE DESIGN AND PLACEMENT OF CONCRETE, REINFORCING, AND RELATED ITEMS UNLESS OTHERWISE NOTED.
2. PROVIDE CONCRETE WITH COMPRESSIVE STRENGTH, AIR-ENTRAINMENT AND WATER/CEMENTITIOUS RATIO AS REQUIRED IN THE TABLE BELOW.
   A. FOR PAVEMENTS EXPOSED TO SULFATES IN WATER OR SOIL, AIR-ENTRAIN CONCRETE AS REQUIRED IN THE TABLE BELOW AND USE THE WORST CASE FOR COMPRESSIVE STRENGTH AND WATER/CEMENTITIOUS RATIO FROM THE TABLE BELOW OR ACI 318'S REQUIREMENTS AND CONFORM TO ACI 318'S CEMENTITIOUS MATERIAL REQUIREMENTS.
   B. PROVIDE A MINIMUM CEMENTITIOUS CONTENT IN ACCORDANCE WITH ACI 302.1R - MEASURE AND MIX CONCRETE IN ACCORDANCE WITH ACI 211.1. PROVIDE SLUMP OF FIVE INCHES (+/- 1 INCH) AT TRUCK DISCHARGE.

GEOGRAPHICAL WEATHER EXPOSURE CLASSIFICATION (NOTE 1)	TEMPERATURE REQUIREMENTS (NOTES 1 & 2)	COMPRESSIVE STRENGTH AT 28 DAYS	TARGET AIR-ENTRAINMENT CONTENT	WATER/ CEMENTITIOUS RATIO
SEVERE	EQUAL TO 32F OR BELOW	4,500 PSI	6.0% (+1.5%,-1.5%)	0.45
MODERATE	BETWEEN 32F AND 40F	4,000 PSI	4.5% (+1.5%,-1.0%)	0.50
NEGLIGIBLE	EQUAL TO 40F AND ABOVE	4,000 PSI	NOTE 3	0.50

NOTES:

1. PROVIDE CONCRETE FOR THE WORST CASE BASED ON THE GEOGRAPHICAL WEATHER EXPOSURE CLASSIFICATION LOCATION SHOWN IN THE FIGURE BELOW OR BASED ON THE TEMPERATURE REQUIREMENTS.
2. TEMPERATURE REQUIREMENT BASED ON THE LOCATION'S COLDEST MONTH'S AVERAGE DAILY LOW TEMPERATURE.
3. CONCRETE CAN BE EITHER AIR-ENTRAINED OR NOT AIR-ENTRAINED.

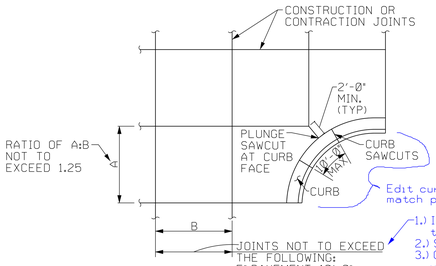


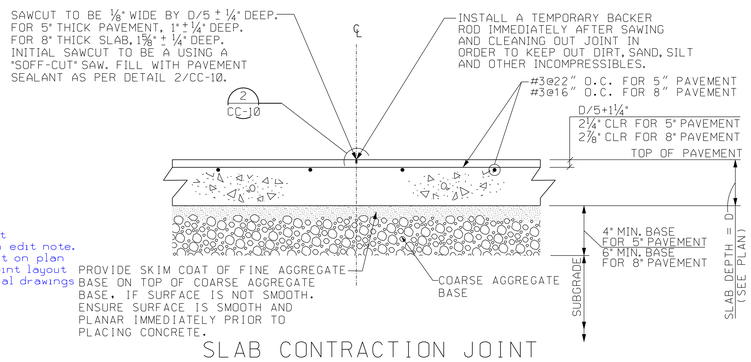
GEOGRAPHICAL WEATHER EXPOSURE CLASSIFICATION FIGURE

3. SUBMIT FOR REVIEW MIX DESIGNS AND TEST RESULTS FOR COMPRESSIVE STRENGTH, SLUMP, AND AIR CONTENT. INCLUDE STANDARD DEVIATIONS AND AVERAGE COMPRESSIVE STRENGTHS FOR FIELD DATA. INCLUDE BRAND NAME AND CHEMICAL COMPOSITION OF ALL ADMIXTURES. INCLUDE AGGREGATE TYPE AND SOURCE. SUBMIT RECENT RUNNING/ROLLING AVERAGE SIEVE ANALYSES, OR AT LEAST LAST 5 TESTS WITH PERCENT PASSING ON EACH SIEVE FOR EACH AGGREGATE SIZE GROUP, WITH NO SIEVES SKIPPED, AND TOTAL COMBINED RETAINED FOR ALL SIZE GROUPS. INCLUDE REPORTS OF POSSIBLE REACTIVITY OF AGGREGATE BASED ON PAST SERVICE AND TEST RESULTS FROM ASTM C1260, C1567, C1293 OR C295. SUBMIT 14 DAYS MINIMUM PRIOR TO USE.
4. MIX AND TRANSPORT READY-MIXED CONCRETE IN ACCORDANCE WITH ASTM C94, EXCEPT REDUCE MAXIMUM DISCHARGE TIME TO 75 AND 60 MINUTES FOR AIR TEMPERATURES OF 85-90 AND 90 F, RESPECTIVELY.
5. THE OWNER'S TESTING AGENCY WILL TEST SAMPLES OF CONCRETE FOR COMPRESSIVE STRENGTH, AIR CONTENT, SLUMP, DENSITY (UNIT WEIGHT) AND TEMPERATURE IN ACCORDANCE WITH ASTM C31, C39 AND C138 FROM THE FIRST TRUCK EACH DAY AND THEN EACH 100 CUBIC YARDS FOR EACH TYPE OF CONCRETE PLACED PER DAY, BUT NOT LESS THAN ONCE FOR EACH DAY OF CONCRETE PLACEMENT. WHEN ABOVE SCHEDULE PROVIDES LESS THAN FIVE TESTS PER TYPE OF CONCRETE, TEST FIVE RANDOM BATCHES. IF FEWER THAN 5 BATCHES ARE USED, TEST EACH BATCH. IF CONCRETE IS PUMPED, ENSURE TEST SAMPLES ARE TAKEN AT TRUCK DISCHARGE. EACH COMPRESSIVE TEST SHALL CONSIST OF SIX TEST CYLINDERS TO BE TESTED AS FOLLOWS: ONE AT SEVEN DAYS, TWO AT 28 DAYS, TWO AT 56 DAYS, ONE RESERVE.
6. CONFORM TO THE FOLLOWING:
   A. CEMENT: ASTM C 150.
      1. TYPE I, I-II, II OR TYPE II-V CEMENT UNLESS EXPOSURE TO SULFATES REQUIRE OTHER CEMENTITIOUS MATERIALS.
   B. AGGREGATES:
      1. ASTM C33, SUBJECT TO SEVERE WEATHERING AND ABRASION, SURFACE APPEARANCE IS IMPORTANT.
      2. OF TOTAL COMBINED COARSE AND FINE AGGREGATES PER MIX DESIGN, DO NOT ALLOW MATERIAL RETAINED ON ANY ONE SIEVE TO BE LESS THAN 8% NOR MORE THAN 18% OF TOTAL BY WEIGHT, EXCEPT:
         (1) LARGEST COARSE AGGREGATE SIZE TO BE #4 OR #57 STONE. RETAIN 1% TO 8% OF TOTAL COMBINED AGGREGATES PER MIX DESIGN ON LARGEST SIEVE WITH RETAINED AGGREGATE.
         (2) NO. 30 AND 50 SIEVES TO BE 6% TO 15%.
         (3) TOTAL OF NO. 100 & 200 SIEVES PLUS PAN TO BE 3% TO 8%.
      3. GRADATION REQUIREMENTS OF ASTM C33 MAY BE WAIVED, IF ALLOWED BY ENGINEER, IN ORDER TO MEET 6% - 24% & OTHER RANGES NOTED ABOVE.
   C. WATER: CLEAN AND POTABLE.
   D. AIR ENTRAINMENT: ASTM C260.
   E. WATER-REDUCER: ASTM C494, NON-CHLORIDE TYPE.
   F. RETARDER: ASTM C494, TYPE B OR D IF APPROVED.
   G. ACCELERATOR: ASTM C494, TYPE C OR E. NON-CHLORIDE AND NON-THIOCYANATE TYPE.
   H. FOAM PLANK: "EXPANSION-JOINT FILLER" BY SONNEBORN, "DECK-O-FOAM" BY W. R. MEADOWS, OR "CERAMAR" BY W. R. MEADOWS. USE FULL DEPTH OF CONCRETE.
   I. FLY ASH: ASTM C 618, CLASS C OR F, IF APPROVED, EXCEPT LOSS ON IGNITION NOT TO EXCEED 3%.
   J. SLAG: ASTM C989, IF APPROVED, GRADE 100 MINIMUM.
   K. JOINT BACK-UP MATERIAL: POLYETHYLENE FOAM, CLOSED CELL.
   L. EVAPORATION RETARDANT: "EUCO-BAR" BY EUCLID OR "CONFILM" BY BASF
   M. ROUND DOWELS: ASTM A36, INSTALLATION TOLERANCES PER ACI 117.
   N. PAVEMENT SEALANT: DOW 888 BY DOW CORNING.
   O. LIQUID CURING AND SEALING COMPOUND: ASTM C1315, TYPE I, CLASS A.
   P. REBAR SUPPORT DEVICES: CRSI MANUAL OF STANDARD PRACTICE.
   Q. WHEN REQUIRED BY DRAWINGS, HOT-DIP GALVANIZE FERROUS METAL ITEMS AFTER FABRICATION IN ACCORDANCE WITH ASTM A 123, A 384, AND A 385 AS APPROPRIATE. GALVANIZE AFTER FABRICATION, UNLESS NOT RECOMMENDED BY ASTM STANDARDS NOTED ABOVE. THOROUGHLY CLEAN ALL WELD SLAG, WELD SPLATTER, OIL, GREASE, DIRT AND OTHER FOREIGN MATTER FROM SURFACES TO BE GALVANIZED. REPAIR DAMAGED AND UNCOATED AREAS OF HOT-DIP GALVANIZED COATINGS IN ACCORDANCE WITH ASTM A 780.
7. DO NOT USE MANUFACTURED SAND EXCEPT AS A BLEND WITH AT LEAST 70% NATURAL SAND AND/OR AS APPROVED BY ENGINEER.
8. UNLESS OTHERWISE ALLOWED, DO NOT USE POZZOLAN UNLESS REQUIRED TO MITIGATE POTENTIAL AGGREGATE REACTIVITY OR SULFATE ATTACK. IF POZZOLAN IS ALLOWED, ENSURE WEIGHT OF POZZOLAN DIVIDED BY SUM OF CEMENT AND POZZOLAN WEIGHTS IS AT LEAST 15% AND DOES NOT EXCEED FOLLOWING, UNLESS HIGHER LEVELS ARE NEEDED TO MITIGATE REACTIVITY OR SULFATES:
   A. FLY ASH:
      CLASS C FLY ASH: 25%.
      CLASS F FLY ASH: 20%.
   B. SLAG: 30%
9. DO NOT USE CALCIUM CHLORIDE AS PART OF ADMIXTURE OR BY ITSELF.
10. ENSURE REINFORCING BARS CONFORM TO ASTM A615 GRADE 60, DEFORMED. ENSURE WELDED WIRE REINFORCEMENT (WWR) CONFORMS TO ASTM A1064.
11. PROVIDE CLASS B TENSION LAP SPLICES PER ACI 318, FOR CONCRETE STRENGTH AND BAR LOCATIONS NOTED.
12. MAINTAIN FULL THICKNESS FOR DEPRESSED OR SLOPED PAVEMENTS.
13. FOR TOLERANCES CONFORM TO ACI 117 AND ACI 347R, EXCEPT AS NOTED BELOW.
   A. PAVEMENT AGGREGATE BASE FINE GRADE: +0, -3/4 INCH.
   B. MINIMUM PAVEMENT THICKNESS TOLERANCE: -3/4 INCH.
   C. WHEN COMPUTING THE AVERAGE OF ALL SAMPLES, SAMPLES WITH A THICKNESS MORE THAN 3/4 IN. ABOVE THE SPECIFIED THICKNESS SHALL BE ASSUMED TO HAVE A THICKNESS 3/4 IN. MORE THAN THE SPECIFIED THICKNESS.
   D. AVERAGE PAVEMENT THICKNESS TOLERANCE: 0.0
   E. THICKNESS SAMPLES ARE TO BE RANDOMLY LOCATED FROM EACH PAVEMENT PLACEMENT AND NOT EXCEED 1000 SQUARE FEET OF PAVEMENT SURFACE AREA.
14. ENSURE SUBGRADE AND BASE WATER CONTENT AT TIME OF CONCRETE PLACEMENT DOES NOT EXCEED THE WATER CONTENT REQUIRED FOR THE SPECIFIED MAXIMUM DRY DENSITY COMPACTION. THE TOP 2" OF BASE MATERIAL IS TO BE SURFACE DRY AT TIME OF CONCRETE PLACEMENT. BASE MAY BE DAMPENED WHEN INSTALLING AND COMPACTING.
15. CONFORM TO ACI 306.1 FOR COLD WEATHER CONCRETING AND ACI 305.1 WHEN ANY COMBINATION OF HIGH TEMPERATURE, LOW RELATIVE HUMIDITY, AND WIND VELOCITY TEND TO IMPAIR THE QUALITY OF THE CONCRETE. PROTECT CONCRETE IF ITS TEMPERATURE AT TIME OF PLACEMENT IS 90 DEG. F OR ABOVE. PROTECT SURFACES OF EXPOSED CONCRETE FROM PRECIPITATION DAMAGE UNTIL ADEQUATE STRENGTH IS GAINED TO PREVENT DAMAGE.
16. CONFORM TO ACI 302.1R, 304R, 308, 309R AND 347R FOR CONCRETE, FORM WORK, CURING, AND RELATED ITEMS. CONFORM TO CRSI MANUAL OF STANDARD PRACTICE AND CRSI PLACING REINFORCING BARS FOR PLACING REINFORCING.
17. DO NOT ADD WATER OR PLAIN CEMENT TO ANY PAVEMENT SURFACE DURING FINISHING OPERATIONS.
18. PERFORM NO FINISHING OPERATION WHILE WATER IS PRESENT ON PAVEMENT SURFACE.
19. STRIKE OFF CONCRETE TO REQUIRED ELEVATIONS AND IMMEDIATELY START FINISHING/FLATTENING OPERATIONS. ENSURE FINISHING OPERATIONS ARE NO MORE THAN NECESSARY TO REMOVE IRREGULARITIES AND MEET SPECIFIED TOLERANCES. USE A HIGHWAY STRAIGHTEDGE 10 FT. WIDE MINIMUM, UNLESS OTHERWISE ALLOWED BY OWNER'S REPRESENTATIVE, IN ORDER TO CUT OFF HIGH SPOTS AND FILL IN LOW SPOTS. PERFORM FINISHING OPERATIONS AS NECESSARY TO ENSURE PAVEMENT WILL DRAIN WELL. UNIFORMLY FINISH SURFACE TO TEXTURE PREVIOUSLY APPROVED BY OWNER'S REPRESENTATIVE. DO NOT ALLOW SURFACE TO DRY DURING FINISHING OPERATIONS AND BEFORE CURING COMPOUND IS APPLIED; USE EVAPORATION RETARDANT AS NECESSARY TO PREVENT SURFACE DRYING AND PLASTIC SHRINKAGE CRACKS, PER MANUFACTURER'S RECOMMENDATIONS.
20. START SAWING PAVEMENT CONTRACTION JOINTS USING A "SOFF-CUT" SAW, BLADES AND SKID PLATES AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT RAVELING OR DISLODGING OF AGGREGATES. UNLESS RAVELING OR DISLODGING OCCURS, COMPLETE SAWING OF JOINTS WITHIN THE MAXIMUM ELAPSED TIME LIMIT NOTED BELOW, BUT PREFERABLY LESS. THE SPECIFIED TIME FOR ANY ONE LOCATION STARTS WHEN FINISHING OPERATIONS ARE COMPLETE FOR THAT LOCATION. THE SPECIFIED TEMPERATURE IS THE MAXIMUM AIR TEMPERATURE IN DEGREES FAHRENHEIT THAT OCCURS WITHIN THE SPECIFIED TIME LIMIT. THE ELAPSED TIME MAY NEED TO BE SHORTENED EVEN MORE IF DRY AND OR WINDY CONDITIONS ARE PRESENT. ENSURE JOINTS ARE CLEANED AFTER SAWING AND REMAIN CLEAN UNTIL SEALED.

MAX DEG F	MAX. ELAPSED HOURS
85 AND ABOVE	4
60 - 84	5
50 - 59	6
40 - 49	7

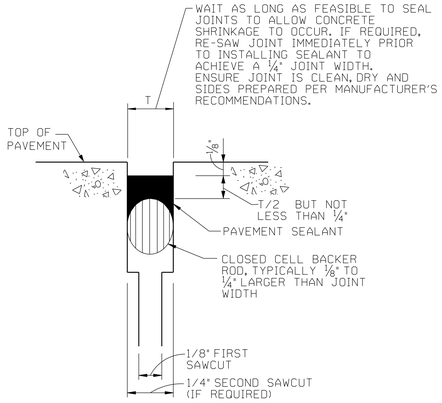
21. ENSURE PAVEMENT SURFACE IS PROTECTED FROM EQUIPMENT SCRAPES, IMPACT ABRASIONS, STAINS, ETC. REPAIR PAVEMENT SURFACE AS DIRECTED BY OWNER'S REPRESENTATIVE. VEHICLE AND EQUIPMENT TRAFFIC IS PROHIBITED UNTIL THE COMPLETION OF PAVEMENT CURING PERIOD. ENSURE VEHICLES AND EQUIPMENT ARE DIAPERED TO PREVENT OIL OR OTHER FLUID LEAKS FROM STAINING THE PAVEMENT.
22. START CURING AS SOON AS CONCRETE SURFACE WILL NOT BE DAMAGED BY CURING OPERATIONS. CURE CONCRETE CONTINUOUSLY FOR A MINIMUM OF SEVEN CONSECUTIVE DAYS. CURE CONCRETE SURFACE WITH LIQUID CURING COMPOUND AT A COVERAGE RATE OF 300 SQUARE FEET PER GALLON.
23. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PROCESS, CIVIL AND VENDOR'S DRAWINGS FOR EMBEDDED ITEMS NOT SHOWN. COORDINATE AND PLACE ALL EMBEDDED ITEMS SHOWN ON THE DRAWINGS OR REQUIRED BY ALL TRADES.
24. CONCRETE SAWCUTING AND DEMOLITION SEQUENCE PROCEDURE FOR PAVEMENT:
   A. OBTAIN OWNER'S APPROVAL BEFORE STARTING WORK, AND VERIFY THERE ARE NO EMBEDDED UTILITIES THAT MIGHT BE DAMAGED.
   B. SAWCUT PERIMETER OF DEMOLITION AREA FULL DEPTH OF PAVEMENT. DO NOT LET SAWCUTS CROSS. IF DEMOLITION CAN NOT BE DONE WITHOUT THE SAWCUTS CROSSING, THEN CORE DRILL CORNERS WITH A 6 INCH MINIMUM DIAMETER CORE FULL DEPTH OF THE PAVEMENT.
   C. PROTECT SAWCUT EDGE WITH A 1/8 INCH THICK MINIMUM BENT PLATE OR ANGLE AND CAREFULLY REMOVE PAVEMENT WITHOUT DAMAGING THE SURROUNDING AREAS.
   D. OBTAIN OWNER'S REPRESENTATIVE APPROVAL OF EDGE CONDITION BEFORE PROCEEDING WITH WORK. IF SAWCUT EDGE IS DAMAGED, REPAIR WITH MODIFIED URETHANE MORTAR AS REQUIRED BY OWNER'S REPRESENTATIVE.
25. PRE-CONSTRUCTION MEETINGS:
   A. ATTEND PRE-CONSTRUCTION MEETING TO BE SCHEDULED AT LEAST 7 DAYS BEFORE STARTING MAIN CONCRETE PAVEMENT.
   B. ATTENDANCE DESIGNATED BY THE OWNER'S REPRESENTATIVE AND THE FOLLOWING: STRUCTURAL SERVICES INC. REPRESENTATIVE, A/E, TESTING AGENCY, CONTRACTOR, CONCRETE SUPPLIER (INCLUDING QUALITY CONTROL PERSONNEL), AND SUBCONTRACTORS FOR SUBGRADE PREPARATION, REINFORCEMENT, PUMPING OR OTHER MEANS OF CONVEYING, PLACEMENT, FINISHING, SAWING, FORMWORK, AND OTHER PERTINENT PORTIONS OF WORK.
   C. REPRESENTATIVES ARE TO BE PERSONNEL WHO ARE DIRECTLY INVOLVED IN PROJECT AND WHO HAVE AUTHORITY TO CONTROL WORK.





SLAB CONTRACTION JOINT

SECTION 1 / NTS / CC-10



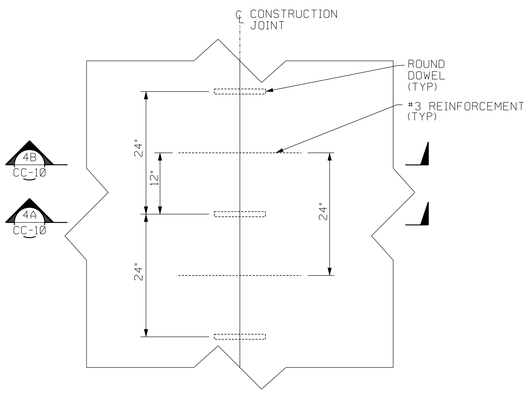
PCC JOINT DETAIL BLOW-UP

NTS

NOTES:

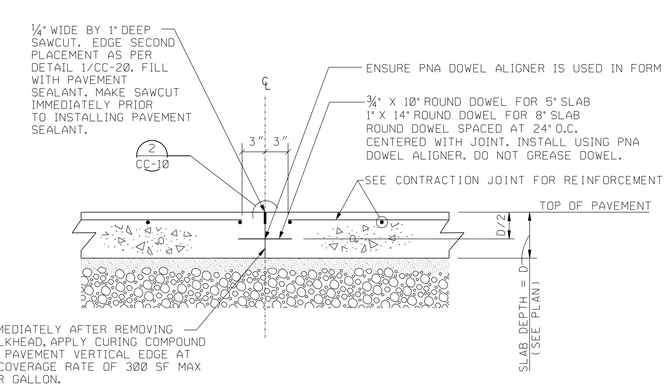
1. ENSURE JOINTS ARE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE JOINT SEALANT.
2. INSTALL CLOSED CELL BACKER ROD AFTER JOINTS HAVE BEEN CLEANED AND DRIED IN ACCORDANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS.
3. INSTALL BACKER ROD AT CONSISTENT AND UNIFORM DEPTH.
4. JOINT SEALANT APPLICATION SHALL BE IN STRICT COMPLIANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS.

DETAIL 2 / NTS / CC-10



CONSTRUCTION JOINT PARTIAL PLAN

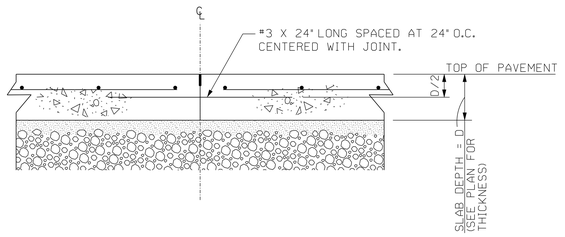
DETAIL 3 / NTS / CC-10



SLAB CONSTRUCTION JOINT

SEE CONTRACTION JOINT FOR INFO NOT SHOWN

SECTION 4A / NTS / CC-10



SLAB CONSTRUCTION JOINT

SEE CONTRACTION JOINT FOR INFO NOT SHOWN

SECTION 4B / NTS / CC-10

Note:

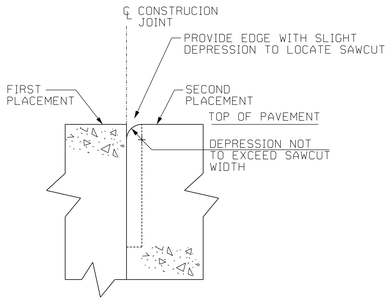
Notes in blue are coordination notes between these prototypical details and the project civil engineer's details

PROGRESS PRINT
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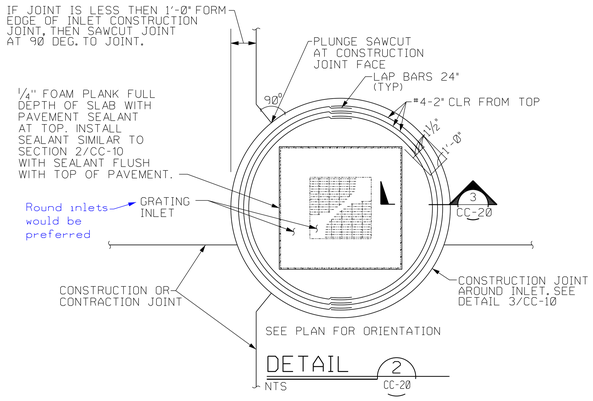
AMAZON PROTOTYPICAL PAVEMENT DETAILS

CC-10

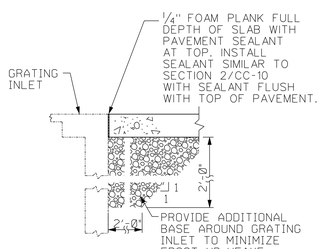
14JAN20



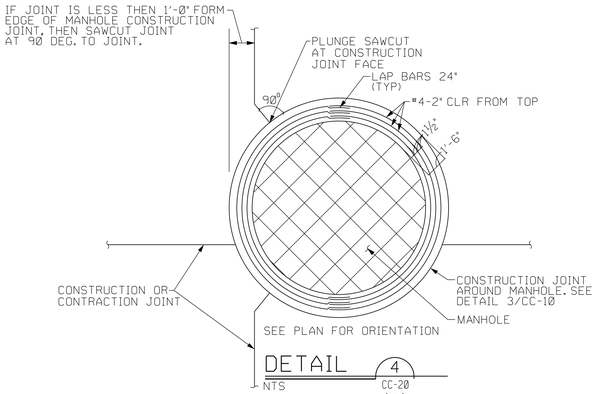
DETAIL 1 — NTS — CC-20



DETAIL 2 — NTS — CC-20

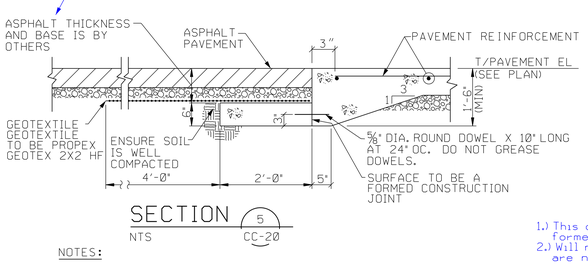


SECTION 3 — 3/4"=1'-0" — CC-20



DETAIL 4 — NTS — CC-20

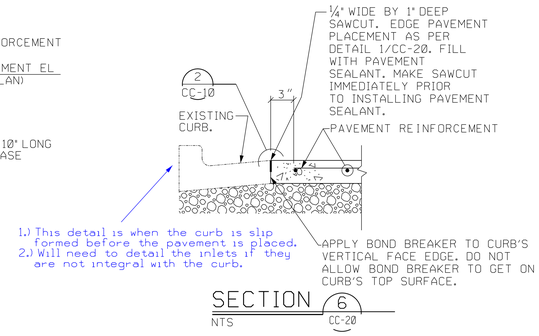
This detail is for when the city/state has designed the asphalt. If the detail is used on the project site, then edit the note accordingly.



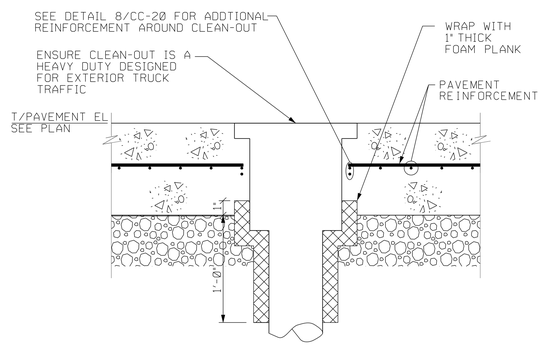
SECTION 5 — NTS — CC-20

NOTES:

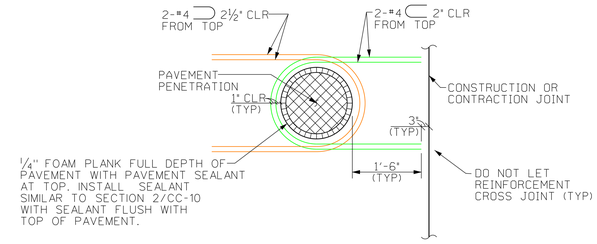
1.) SEE SECTION 1/CC-10 FOR INFORMATION NOT SHOWN
2.) REFER TO LOCAL JURISDICTION REQUIREMENTS FOR SPECIFIC CONNECTION DETAILS.



SECTION 6 — NTS — CC-20

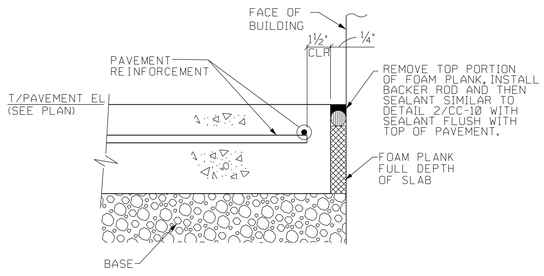


SECTION 7 — NTS — CC-20

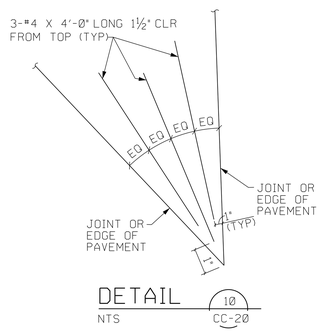


SLAB PENETRATIONS DETAIL USING CIRCULAR BARS

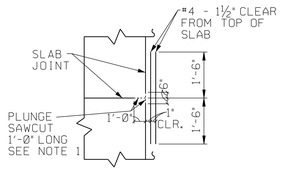
DETAIL 8 — NTS — CC-20



SECTION 9 — NTS — CC-20



DETAIL 10 — NTS — CC-20

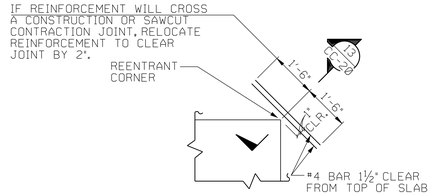


TYPICAL DETAIL FOR DISCONTINUOUS SLAB JOINT REINFORCEMENT

DETAIL 11 — NTS — CC-20

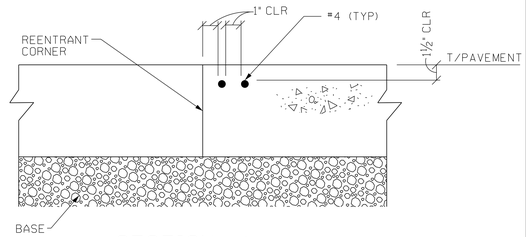
NOTES:

1. IMMEDIATELY AFTER MAKING THE SOFF-CUT SAWCUT AT A DISCONTINUOUS JOINT LOCATION PROVIDE PLUNGE CUTS TO WITHIN 1" OF THE BOTTOM OF THE SLAB TO ENSURE THE JOINTS WILL OPEN ALL THE WAY TO THE INTERSECTION TO MINIMIZE OUT-OF-JOINT CRACKS.

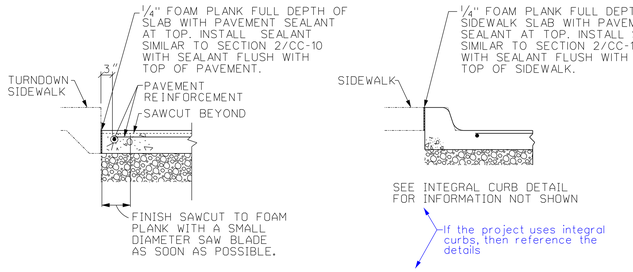


TYPICAL REENTRANT CORNER DETAIL

DETAIL 12 — NTS — CC-20



SECTION 13 — NTS — CC-20



SECTION 14 — NTS — CC-20

Other project details that may be needed:

1.) Bollards. Will they be cored or cast-in-place?
2.) Drainage trench details
4.) Light post details

Note:

Notes in blue are coordination notes between these prototypical details and the project civil engineer's details

PROGRESS PRINT
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AMAZON PROTOTYPICAL PAVEMENT DETAILS

CC-20

14JAN20

Community Impact Analysis

Block 41, Lots 14.011, 36.01 and 37.012
50 New Canton Way

Township of Robbinsville
Mercer County, New Jersey

March 31, 2026

Prepared by:

ricciplanning
177 Monmouth Avenue
Atlantic Highlands, New Jersey 07716

Paul N. Ricci, PP, AICP
New Jersey Professional Planner
License No.: LI005570

The original of this document was signed
and sealed in accordance with New Jersey Law

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1.0 Introduction

This report analyzes the anticipated community impacts that would result from the conversion of a portion of an existing employee parking lot at an existing Amazon fulfillment center into approximately 111 trailer parking spaces, as well as the modification of associated drive aisles.

The subject tract encompasses and area of approximately 84.7 acres and consists of Block 41, Lots 14.011, 36.01 and 37.012. It is located at 50 New Canton Way in the Township of Robbinsville and, as previously indicated, is currently developed with an Amazon fulfillment center, which would remain in operation. Surrounding land uses include a mix of commercial, residential and agricultural uses.

The following report has been prepared to address the requirements for community impact statements that are provided in Section 142-77B(27) of the Code of the Township of Robbinsville.

2.0 Statement of Public Interest

Section 142-77B(27)(b) of the Code of the Township of Robbinsville requires that community impact statements indicate why the proposal is in the public interest.

In consideration of this requirement, it is noted that the current proposal, which would result in the conversion of a portion of an existing employee parking lot at an existing Amazon fulfillment center into approximately 111 trailer parking spaces, as well as the modification of associated drive aisles, is in the public interest because it will result in reduced heavy truck traffic to/from the site.

Currently, empty trailers are transported to an off-site location. The current proposal would eliminate the need to transport empty trailers to an off-site location by providing additional trailer parking on-site. By eliminating the need to transport empty trailers to an off-site location, overall heavy truck traffic to/from the site would be reduced. This not only results in reduced traffic volumes and improved traffic flow but also reduced need for roadway maintenance services.

In addition to the above, it is noted adequate employee parking would still be provided with the proposed reconfiguration of the existing employee parking lot. Based on current parking

requirements of the Township of Robbinsville, the existing Amazon fulfillment center requires a total of 564 parking spaces, whereas a total of 2,264 spaces exist and a total of 1,783 spaces would remain after the proposed reconfiguration (n.b., parking calculations are provided on submitted site plans).

3.0 Population Impact

Section 142-77B(27)(b)[1] of the Code of the Township of Robbinsville requires that community impact statements include an analysis of the number of people expected to be added to the municipal population as a result of the proposal.

The current proposal relates to the reconfiguration of an existing employee parking lot to provide parking spaces for approximately 111 trailers. There are no existing or proposed residential uses on the subject tract. Thus, no population impact is associated with the current proposal.

4.0 School Impact

Section 142-77B(27)(b)[2] of the Code of the Township of Robbinsville requires that community impact statements include an analysis of the anticipated number of pupils who will be added to the student population in the municipality as a result of the current proposal, and the ability of the existing public school facilities to absorb the expected increase in the student population.

Because there is no population impact associated with the current proposal, there is also no school impact.

5.0 Facilities Impact

Section 142-77B(27)(b)[3] of the Code of the Township of Robbinsville requires that community impact statements include an analysis of the impact of the current proposal on existing facilities, including public water facilities; public sewerage facilities; recreational facilities; and library facilities. The anticipated impacts of the current proposal on existing facilities are discussed in the following subsections.

5.1 Public Water Facilities

As previously noted, the current proposal relates to the reconfiguration of an existing employee parking lot to provide parking spaces for approximately 111 trailers. There is no anticipated impact on public water facilities.

5.2 Public Sewerage Facilities

With no impact on public water facilities, there is also no anticipated impact on public sewerage facilities.

5.3 Recreational Facilities

There are no existing or proposed residential uses on the subject tract. Thus, there is no anticipated impact on recreational facilities.

5.4 Library Facilities

There are no existing or proposed residential uses on the subject tract. Thus, there is no anticipated impact on library facilities.

6.0 Services Impact

Section 142-77B(27)(b)[4] of the Code of the Township of Robbinsville requires that community impact statements include an analysis of the impact of the current proposal on existing services, including police protection; fire protection; solid waste disposal; and roadway maintenance services. The anticipated impacts of the current proposal on existing services are discussed in the following subsections.

6.1 Police Protection

The current proposal is expected to result in decreased heavy truck traffic to/from the site. With reduced traffic volumes and a commensurate reduction in the potential for motor vehicle crashes, it is anticipated that there will be a reduced demand for police protection services.

In addition to the above, it is noted that the existing employee parking lot that would be reconfigured as part of the current proposal includes security lighting, which would remain as

part of the current proposal. It is anticipated that the existing security lighting and other site improvements offer adequate protection for the proposed parking of trailers on-site.

6.2 Fire Protection

The current proposal relates solely to the reconfiguration of an existing employee parking lot to provide parking spaces for approximately 111 trailers. Thus, the current proposal will not result in an increased demand for fire protection services. In fact, with decreased heavy truck traffic to/from the site and a commensurate reduction in the potential for motor vehicle crashes, it is anticipated that there would be a decreased demand for service on local fire companies as related to rescue and extraction from vehicles involved in motor vehicle crashes.

6.3 Solid Waste Disposal

The current proposal relates solely to the reconfiguration of an existing employee parking lot to provide parking spaces for approximately 111 trailers. No impact on solid waste disposal is anticipated. Nonetheless, it is noted that the existing Amazon fulfillment center that is located on the subject tract is serviced by a private solid waste disposal contractor.

6.4 Roadway Maintenance Services

As previously noted, the current proposal is expected to result in decreased heavy truck traffic to/from the site. With reduced traffic volumes, a reduced need for roadway maintenance services can also be anticipated.

7.0 Traffic Impact

Section 142-77B(27)(b)[5] of the Code of the Township of Robbinsville requires that community impact statements include an analysis of the existing road network available to serve the proposed development, as well as the proposed road network within the development itself and the surrounding road network which will be affected by the proposed development, including the capacity of the existing and proposed roadways; the anticipated traffic volumes as a result of the proposed development; the physical structure of both road networks; and any problem areas in the road network affected by the development, including unsafe intersections, and vertical or horizontal alignments.

The subject tract contains an existing Amazon fulfillment center. There is no change in use proposed. The current proposal relates solely to the reconfiguration of an existing employee parking lot to provide parking spaces for approximately 111 trailers and will result in less heavy truck traffic to/from the site. Therefore, the applicant requests a waiver for further response to the requirements of municipal code Section 142-77B(27)(b)[5]. It is noted that the grant of such a waiver is authorized by municipal code Section 142-77B(27)(c).

8.0 Fiscal Impact

Section 142-77B(27)(b)[6] requires that community impact statements include an analysis of the revenues expected to be generated from the proposed development compared to the anticipated costs, which the proposed development is expected to generate.

As previously noted, the subject tract contains an existing Amazon fulfillment center. There is no change in use proposed. The current proposal relates solely to the reconfiguration of an existing employee parking lot to provide parking spaces for approximately 111 trailers, and no increased fiscal impact is anticipated. In fact, it is anticipated that the current proposal may result in reduced cost to the Township and county for roadway maintenance services as a result of the anticipated decreased in heavy truck traffic to/from the site. Based on the above, the applicant requests a waiver for further response to the requirements of municipal code Section 142-77B(27)(b)[6]. Such a waiver is authorized by municipal code Section 142-77B(27)(c).

MERCER COUNTY PLANNING BOARD

MCDADE ADMINISTRATION BUILDING
640 SOUTH BROAD STREET, ROOM 411
TRENTON, NJ 08611
Phone 609-989-6545

DAN BENSON
County Executive

SHARON SHINKLE-GARDNER
Chief of Staff

CHRISTOPHER R. MARION
County Administrator

March 18, 2026

Joseph Paparo, Esq.
Porzio Bromberg & Newman
100 Southgate Parkway, PO Box 1997
Morristown, NJ 07962

Email: saucebni@amazon.com; japaparo@pbnlaw.com; tony.diggan@kimley-horn.com; tiannat@robbinsville.net; jnunziato@robbinsville.net

Re: LONI Request
Amazon Fulfillment Center – EWR4
50 New Canton Way
Block 41, Lots 14.011, 36.01 & 37.012
Township of Robbinsville
Mercer County File No. MC#26-900

Dear Mr. Paparo:

We are in receipt of your LONI application and request for the above referenced project, prepared by Tony W. Diggan, P.E. of Kimley-Horn and Associates, dated January 13, 2025. The project is located within Block 41, Lota 14.011, 36.01, 37.012, along New Canton Way in the Township of Robbinsville. The subject property is improved with the EWR4 Fulfilment Center and existing improvements, including but not limited to loading areas, trailer parking areas, standard parking areas, and stormwater facilities.

According to your letter and submission documents, the subject property is currently a 3,603,283 SF site containing the 1,048,769 SF warehouse. The property is bounded on the north by Gordon Road, on the east by the Municipal boundary line abutting Upper Freehold Township, and by other warehouse buildings to the west and south of the property. The applicant seeks a Letter of No Impact to convert a portion of the existing employee parking into approximately 111 trailer parking spaces and modify associated drive aisles within the boundaries of the site. As a result of the adequate trailer parking provided on site, overall truck traffic will be reduced by eliminating the transport of the empty trailers to a remote parking site. All other aspects of the existing Amazon operations at this facility, including the existing driveway access and existing stormwater management facilities, will remain unchanged. The project will result in a total disturbance of 403,575 SF and will decrease the site's impervious surface by 10,890 SF. The subject property is within the Planned Commercial Development (PCD) Zoning District. Upon further review, **this project will not impact a County Road or County drainage structure and will not require a County site plan application or review.**

Future improvements may require County review and a formal submittal may be required at that time. I trust that this information is of assistance to you and if you have any questions or require additional information, please feel free to contact Matthew Zochowski of my staff at 609-989-6985 or at mzochowski@mercercounty.org .

Sincerely,

Maria Connolly *(by)*

Maria G. Connolly
Planning Director

MGC: MZ:by

cc: Robert Ridolfi, Esq.
Basit A. Muzaffar, PE, Mercer County Engineer
Mercer County Planning Board
David Fried, Mayor, Twp. of Robbinsville
John Nunziato, PE, Robbinsville Twp. Engineer

Tianna Thompson, Robbinsville Land Use Coordinator

Photographs of Property Views from Street & Visible Off-Site Areas

For

AMAZON.COM SERVICES LLC
EWR4 TRAILER YARD EXPANSION

50 New Canton Way
Township of Robbinsville, Mercer County, State of New Jersey

Prepared to Satisfy:

Preliminary Site Plan Application Checklist Item #34 &
Final Site Plan Checklist Item #22

Prepared by:

Kimley»Horn

Dated: April 1, 2026



Northern Building Corner within Existing Associate Parking Drive Aisle



Northern Emergency Access Aisle Facing Northeast



Northern Emergency Access Aisle Facing Southeast



Northern Building Corner & Associate Parking Area



Associate Parking Area Along Northwest Side of Building

EWR4 Rally Point Real-time Shift Counts

ID	Country	Sites	Start	On Site
10119d73-60dd-4ce4-aded-80a139a40ed3	United States of America	EWR4	20 Mar 2026 22:01:16 EDT	783
18e45a23-7986-456d-a09f-046ae82aa324	United States of America	EWR4	27 Feb 2026 11:00:11 EST	818
2ed4683b-04f4-4ad8-a18d-6b39c4b00551	United States of America	EWR4	21 Jul 2025 10:51:20 EDT	984
d67c4561-976a-403d-a11d-62e1068502ab	United States of America	EWR4	15 May 2025 15:48:46 EDT	970
a2129451-fe94-45e1-ad11-dab9089327c6	United States of America	EWR4	05 Mar 2025 17:03:38 EST	979
64ac0600-8d7d-415b-a5bd-da99ac32b4cf	United States of America	EWR4	26 Feb 2025 17:23:13 EST	880
7f4e5a49-0942-475f-88c3-5abe723c67dd	United States of America	EWR4	25 Feb 2025 09:49:22 EST	950
c34afdec-2b93-4faf-98c3-3b2a1ee9f56d	United States of America	EWR4	22 Feb 2025 02:00:03 EST	398
88421e7e-0973-42b0-b195-16155d362182	United States of America	EWR4	21 Feb 2025 09:45:00 EST	832
ccd14941-b5fb-4670-9183-09f764f4ffb0	United States of America	EWR4	21 Nov 2024 18:02:37 EST	953
539aa97f-48d1-4f3f-9223-fd3451d3df5a	United States of America	EWR4	13 Nov 2024 19:00:42 EST	943
ed64a442-d349-4395-9e41-90cf8aaf2283	United States of America	EWR4	13 Nov 2024 09:45:24 EST	1122
5d8c4069-d210-4037-aeca-0da44eea3a64	United States of America	EWR4	30 Oct 2024 20:59:54 EDT	942

Peak Shift Count

PRELIMINARY AND FINAL MAJOR SITE PLAN FOR EWR4 ROBBINSVILLE

BLOCK 41, LOTS 14.011, 36.01, & 37.012

50 NEW CANTON WAY

TOWNSHIP OF ROBBINSVILLE, MERCER COUNTY, NJ 08691

NOT FOR CONSTRUCTION

SITE
50 NEW CANTON WAY
BLOCK 41
LOTS 14.011, 36.01, & 37.012

ZONING DISTRICT
PCD - PLANNED COMMERCIAL DEVELOPMENT
REDEVELOPMENT PCD-1
PER ROBBINSVILLE ZONING MAP
DATED 05/19/2016

FEMA
FEMA ZONE X / AREA OF MINIMAL FLOOD HAZARD

OWNER AND APPLICANT:

OWNER:
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

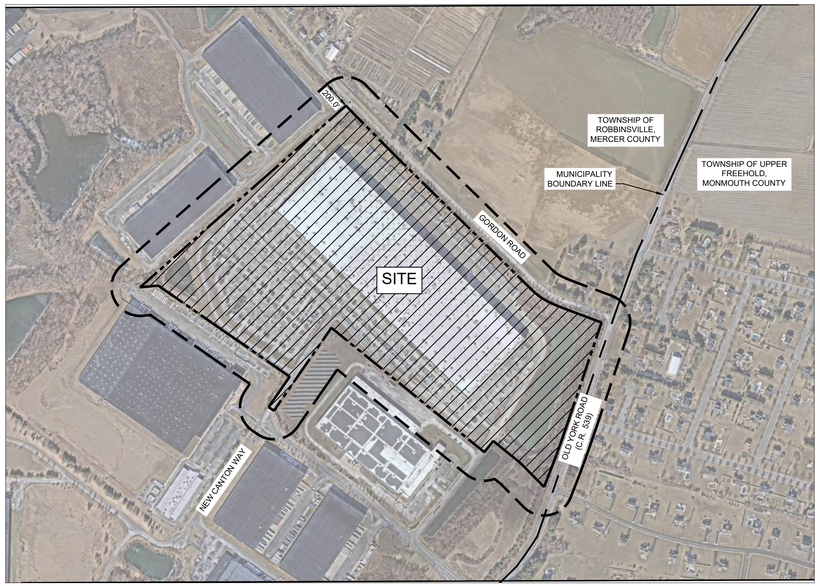
APPLICANT:
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109
PHONE: 386-898-2749

PROJECT TEAM MEMBERS:

CIVIL ENGINEER:
KIMLEY-HORN
TONY W. DIGGAN, P.E.
301 CARNEGIE CENTER BLVD., SUITE 202
PRINCETON, NJ 08540
PHONE: 609-681-2428

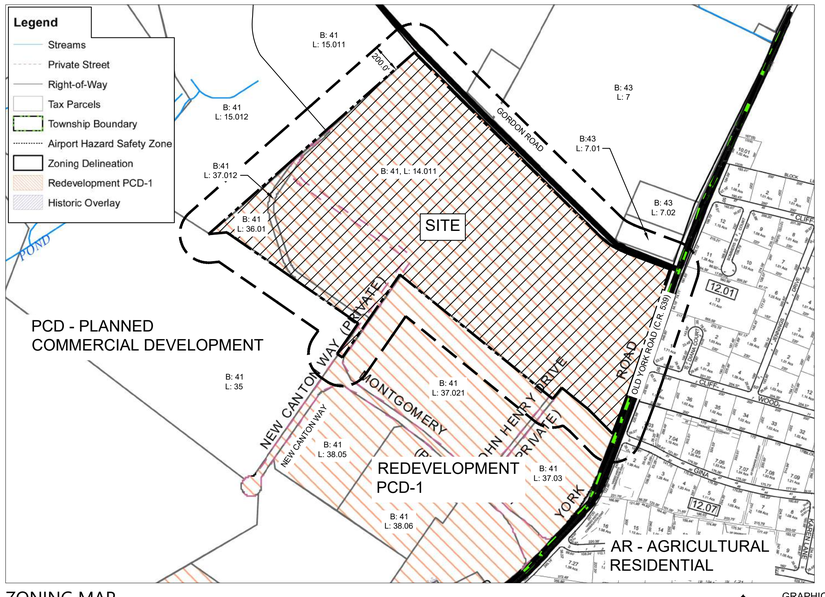
SURVEYOR:
CONTROL POINT ASSOCIATES, INC.
JAMES D. SENS
30 INDEPENDENCE BOULEVARD, SUITE 100
WARREN, NJ 07059
PHONE: 908-668-0099

GEOTECHNICAL:
ENVIROTACTICS
ROBERT S. VALORIO, P.E.
1330 LAUREL AVENUE, BUILDING #3
WALL TOWNSHIP, NJ 08750
PHONE: 848-888-2137



SITE LOCATION MAP
SOURCE | NEARMAP, AERIAL IMAGERY

GRAPHIC SCALE IN FEET
0 250 500 1000
N
SCALE: 1" = 500'



ZONING MAP
SOURCE | TOWNSHIP OF ROBBINSVILLE ZONING MAP, DATED 05/19/2016
SOURCE | UPPER FREEHOLD TOWNSHIP ZONING MAP, DATED 01/2016
REFERENCE SHEET C-010 FOR 200 FT PROPERTY OWNERS LIST

GRAPHIC SCALE IN FEET
0 250 500 1000
N
SCALE: 1" = 500'

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MUNICIPAL AND UTILITY CONTACT LIST:

SANITARY SEWER
TOWNSHIP OF ROBBINSVILLE SEWER UTILITY
2298 ROUTE 33
ROBBINSVILLE, NJ 08691

DIVISION OF UTILITIES
TOWNSHIP OF ROBBINSVILLE
56 ROBBINSVILLE-ALLENTOWN ROAD
ROBBINSVILLE, NJ 08691

WATER
AQUA WATER
10 BLACK FOREST ROAD
HAMILTON NJ 08691

CABLE
AT&T
ONE AT&T WAY, ROOM 3B216G
BEDMINSTER, NJ 07921

TELECOM
CABLEVISION
2137 HAMILTON AVENUE
HAMILTON, NJ 08619

ELECTRIC & GAS
PUBLIC SERVICES ELECTRIC & GAS
80 PARK PLAZA, T6B
NEWARK, NJ 07102

ELECTRIC
JERSEY CENTRAL POWER & LIGHT
300 MADISON AVENUE, PO BOX 1911
MORRISTOWN, NJ 07962

TOWNSHIP OF ROBBINSVILLE PLANNING BOARD
2298 ROUTE 33
ROBBINSVILLE, NJ 08691

MERCER COUNTY PLANNING BOARD
640 SOUTH BROAD STREET, ROOM 420
TRENTON, NJ 08650

NJDOT
PO BOX 600
TRENTON, NJ 08625

COUNTY PLANNING BOARD:
APPROVED BY:

CHAIRMAN _____ DATE _____

SECRETARY _____ DATE _____

ENGINEER _____ DATE _____

OWNER'S CERTIFICATION:
I CERTIFY THAT I AM THE OWNER OF BLOCK BLOCK 41, LOT LOTS 14.011, 36.01, & 37.012 AND CONSENT TO THE FILING OF THIS APPLICATION.

TITLE: _____ DATE: 01/14/26

APPLICANT'S CERTIFICATION:
I CERTIFY THAT I AM THE APPLICANT OF BLOCK BLOCK 41, LOT LOTS 14.011, 36.01, & 37.012 AND CONSENT TO THE FILING OF THIS APPLICATION.

TITLE _____ DATE _____

TOWNSHIP PLANNING BOARD:
APPROVED BY:

CHAIRMAN _____ DATE _____

SECRETARY _____ DATE _____

ENGINEER _____ DATE _____

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

Kimley»Horn

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301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000400

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

COVER SHEET

Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

SHEET NUMBER
C-000

March 31, 2026 - k:\prn_civil\115319783 - ewr4 robbinsville twp nj\tc cad\plansheets - 24x36\C-000 - COVER SHEET.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

LEGEND

Δ	DELTA
#	NUMBER
AB	AGGREGATE BASE COURSE
AC	ACRE or ASPHALTIC CONCRETE
ADT	AVERAGE DAILY TRAFFIC
ARCH	ARCHITECT OR ARCHITECTURAL
ARV	AIR RELEASE VALVE
ASPH	ASPHALT
BC	BACK OF CURB
BLDG	BUILDING
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICES
BOT	BOTTOM
BRG	BEARING
BW	BOTTOM OF WALL
CB	CATCH BASIN
CF	CUBIC FOOT
CI	CAST IRON
CIP	CAST IN PLACE
CL	CENTER LINE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
C/O	CLEAN OUT
CONC	CONCRETE
CONST	CONSTRUCTION
CP	CONCRETE PIPE
CSP	CORRUGATED STEEL PIPE
CTR	CENTER
CV	CHECK VALVE
CY	CUBIC YARDS
DE	DRAINAGE EASEMENT
DEPT	DEPARTMENT
DIA	DIAMETER
DIM	DIMENSION
DI	DUCTILE IRON
DIP	DUCTILE IRON PIPE
DWG	DRAWING
E	EAST
EC	EDGE OF CONCRETE
ELEC	ELECTRIC or ELECTRICAL
EL or ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX or EXIST	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
FF or FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FT	FOOT or FEET
A	GENERAL
GV	GATE VALVE
GW	GUY WIRE
HC	HANDICAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HT	HEIGHT
HORIZ	HORIZONTAL
HP	HIGH POINT
HWY	HIGHWAY
IN	INCH or INCHES
INV	INVERT
IP	IRON PIN or IRON PIPE
JCT	JUNCTION
JT	JOINT
LAT	LATERAL
LF	LINEAR FOOT
LONG	LONGITUDINAL
LP	LOW POINT
LSA	LANDSCAPED AREA
MAX	MAXIMUM
ME	MATCH EXISTING
MEP	MECHANICAL/ELECTRICAL/PLUMBING
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MPH	MILES PER HOUR
N	NORTH
NA	NOT APPLICABLE
NE	NORTHEAST
NGVD	NATIONAL GEODETIC VERTICAL DATUM
B.	NUMBER
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OH	OVERHEAD
PC	POINT OF CURVATURE
PED	PEDESTAL or PEDESTRIAN
PH	PHONE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
POC	POINT OF CONNECTION
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PROP	PROPOSED
PNT	POINT
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
QTY	QUANTITY
R	RIGHT or RADIUS
RCBC	REINFORCED CONCRETE BOX CULVERT
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REF	REFERENCE
REQ	REQUIRED
REV	REVISED
R/W or ROW	RIGHT-OF-WAY
S	SOUTH
SBL	SURVEY BASELINE
SD	STORM DRAIN
SE	SOUTHEAST
SEC	SECTION
SF	SQUARE FEET
SHT	SHEET
SI	SQUARE INCH
SL	SURVEY LINE or SECTION LINE
SM	SURVEY MONUMENT
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	SANITARY SEWER
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURE or STRUCTURAL
SW	SOUTHWEST
SY	SQUARE YARD
SYM	SYMMETRICAL
S/W	SIDEWALK
T	TOWNSHIP or TANGENT
T&B	TOP AND BOTTOM
TAN	TANGENT
TBA	TO BE ABANDONED
TC	TOP OF CURB
TEL	TELEPHONE or TELEGRAPH
TF	TOP OF FOOTING
TOPO	TOPOGRAPHIC
TP	TOP OF PAVEMENT
TOW	TOP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UG	UNDERGROUND
UPC	UNIFORM PLUMBING CODE
USC&GS	UNITED STATES COAST & GEODETIC SURVEY
UT or UTIL	UTILITY
VERT	VERTICAL
VOL	VOLUME
W	WEST or WATER
W/	WITH
W/O	WITH OUT
WL	WATER LEVEL
WM	WATER METER
WSE	WATER SURFACE ELEVATION
WV	WATER VALVE
YD	YARD
YR	YEAR

GENERAL NOTES

1. CONTRACTOR SHALL NOTIFY "NEW JERSEY ONE CALL" (1-800-272-1000) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. THE CONTRACTOR AND SUBCONTRACTORS SHOULD BE FAMILIAR WITH ALL STATE AND LOCAL REQUIREMENTS RELATED TO SITE CONSTRUCTION ACTIVITIES PRIOR TO COMMENCING WORK. ALL WORK SHALL CONFORM AS APPLICABLE TO THESE GOVERNING STANDARDS AND SPECIFICATIONS, AS WELL AS THE TENANT'S SPECIFICATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS.
4. EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE TOPOGRAPHIC SURVEY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE COMMENCING ANY WORK IN THE VICINITY. FURTHERMORE, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. NEITHER THE OWNER NOR THE ENGINEER WILL ASSUME LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE 72 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. AN APPROXIMATE LIST OF THE UTILITY COMPANIES WHICH THE CONTRACTOR MUST CALL BEFORE COMMENCING WORK IS PROVIDED ON THE COVER SHEET OF THESE CONSTRUCTION PLANS. THIS LIST SERVES AS A GUIDE ONLY AND IS NOT INTENDED TO LIMIT THE UTILITY COMPANIES WHICH THE CONTRACTOR MAY WISH TO NOTIFY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CONSTRUCTION PERMITS AND BONDS IF REQUIRED PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, GEOTECHNICAL REPORT, EROSION CONTROL DOCUMENTATION AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
8. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER AND NOTIFICATION TO THE ENGINEER.
9. ALL COPIES OF COMPACTION, CONCRETE AND OTHER REQUIRED TEST RESULTS ARE TO BE SENT TO THE OWNER AND DESIGN ENGINEER OF RECORD DIRECTLY FROM THE TESTING AGENCY.
10. ANY WELLS DISCOVERED ON SITE THAT WILL HAVE NO USE MUST BE PLUGGED BY A LICENSED WELL DRILLING CONTRACTOR IN A MANNER APPROVED BY THE APPROPRIATE JURISDICTIONAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY WELL ABANDONMENT PERMITS REQUIRED.
11. ANY WELL DISCOVERED DURING EARTH MOVING OR EXCAVATION SHALL BE REPORTED TO THE APPROPRIATE JURISDICTIONAL AGENCIES WITHIN 24 HOURS AFTER DISCOVERY IS MADE.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK THAT WOULD BE AFFECTED. FAILURE TO NOTIFY OWNER OF AN IDENTIFIABLE CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION RELIEVES OWNER OF ANY OBLIGATION TO PAY FOR A RELATED CHANGE ORDER.
13. HOURS OF CONSTRUCTION ACTIVITY MUST COMPLY WITH TOWNSHIP OF ROBBINSVILLE REGULATIONS.
14. PRIOR TO STARTING CONSTRUCTION, ALL ACTIVE UTILITIES SHOULD BE IDENTIFIED, MARKED OUT IN THE FIELD, AND SECURED AS NECESSARY.
15. CONDUCT A PRE-CONSTRUCTION CONFERENCE AT THE PROJECT SITE A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO COMMENCING ANY WORK OF THIS CONTRACT. THE MEETING WILL BE ARRANGED BY THE OWNER UPON NOTIFICATION OF THE CONTRACTOR AND IS TO BE ATTENDED BY REPRESENTATIVES OF THE CONTRACTOR, OWNER, CONSTRUCTION MANAGER, GEOTECHNICAL ENGINEER, SITE/CIVIL ENGINEER AND REPRESENTATIVES OF THE TOWNSHIP OF ROBBINSVILLE.
16. ADJOINING PROPERTY OWNERS WILL CONTINUE TO OCCUPY THEIR FACILITIES IMMEDIATELY ADJACENT TO THE PROJECT SITE AND DEMOLITION AREAS. THUS, THE CONTRACTOR MUST CONDUCT HIS OPERATIONS IN SUCH A MANNER AND MAKE ANY ARRANGEMENTS NECESSARY SO THAT THE ADJOINING PROPERTY OWNER'S USE OF THEIR FACILITIES WILL NOT BE DISRUPTED DURING THE COURSE OF THE WORK.
17. PROVIDE NOT LESS THAN SEVENTY-TWO (72) HOURS' NOTICE TO THE OWNER AND ADJACENT PROPERTY OWNERS OF ACTIVITIES THAT WILL AFFECT THEIR RESPECTIVE USE OF THEIR PROPERTY.
18. MAINTAIN ACCESS TO EXISTING WALKWAYS, EXITS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES.
19. DO NOT CLOSE OR OBSTRUCT WALKWAYS, EXITS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT WRITTEN PERMISSION FROM AUTHORITIES HAVING JURISDICTION OR THE AFFECTED PROPERTY OWNER.
20. IT IS NOT EXPECTED THAT HAZARDOUS MATERIALS WILL BE ENCOUNTERED IN THE CONDUCT OF THE WORK UNLESS OTHERWISE NOTED ON ENVIRONMENTAL DOCUMENTATION. HOWEVER, IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB THESE MATERIALS. AND IMMEDIATELY NOTIFY THE OWNER AND CONSTRUCTION MANAGER. HAZARDOUS MATERIALS WILL BE REMOVED BY THE OWNER AND/OR CONTRACTOR UNDER A SEPARATE CONTRACT.
21. CONTRACTOR SHALL REVIEW PROJECT RECORD DOCUMENTS OF EXISTING CONSTRUCTION PROVIDED BY OWNER. OWNER DOES NOT GUARANTEE THAT EXISTING CONDITIONS ARE SAME AS THOSE INDICATED IN PROJECT RECORD DOCUMENTS.
22. THE CONTRACTOR IS RESPONSIBLE FOR ENGAGING A PROFESSIONAL STRUCTURAL ENGINEER TO PERFORM AN ENGINEERING SURVEY OF THE CONDITION OF ANY REMAINING BUILDING STRUCTURE OR FOUNDATION SYSTEM TO DETERMINE WHETHER REMOVING ANY ELEMENT MIGHT RESULT IN A STRUCTURAL DEFICIENCY OR UNPLANNED COLLAPSE OF ANY PORTION OF THAT STRUCTURE OR ADJACENT STRUCTURES DURING DEMOLITION OPERATIONS.
23. EXISTING UTILITIES: MAINTAIN ACTIVE UTILITY SERVICES INDICATED TO REMAIN AND PROTECT THEM AGAINST DAMAGE DURING DEMOLITION OPERATIONS.
24. DO NOT INTERRUPT EXISTING UTILITIES SERVING BOTH ON SITE AND OFF SITE ADJACENT OCCUPIED OR OPERATING FACILITIES UNLESS AUTHORIZED IN WRITING BY OWNER AND AUTHORITIES HAVING JURISDICTION.
25. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES, AS ACCEPTABLE TO OWNER AND TO AUTHORITIES HAVING JURISDICTION.
26. PROVIDE AT LEAST SEVENTY-TWO (72) HOURS' NOTICE TO OWNER IF SHUTDOWN OF SERVICE IS REQUIRED DURING CHANGEOVER.
27. TEMPORARY PROTECTION: ERECT TEMPORARY PROTECTION, SUCH AS WALKS, FENCES, RAILINGS, CANOPIES, AND COVERED PASSAGEWAYS, WHERE REQUIRED BY AUTHORITIES HAVING JURISDICTION AND AS INDICATED.
28. PROTECT EXISTING SITE IMPROVEMENTS, APPURTENANCES, AND LANDSCAPING TO REMAIN.
29. PROVIDE TEMPORARY BARRICADES AND OTHER PROTECTION REQUIRED TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN.
30. PROVIDE PROTECTION TO ENSURE SAFE PASSAGE OF PEOPLE AROUND PROPOSED IMPROVEMENTS AND TO AND FROM OCCUPIED PORTIONS OF ADJACENT BUILDINGS AND STRUCTURES.
31. PROTECT WALLS, WINDOWS, ROOFS, AND OTHER ADJACENT EXTERIOR CONSTRUCTION THAT ARE TO REMAIN AND THAT ARE EXPOSED TO CONSTRUCTION ACTIVITY.
32. GENERAL: DEMOLISH ALL ITEMS, AS EITHER INDICATED ON THE PLANS OR ENCOUNTERED IN THE FIELD DURING THE WORK, COMPLETELY. USE METHODS REQUIRED TO COMPLETE THE WORK WITHIN LIMITATIONS OF GOVERNING REGULATIONS AND AS FOLLOWS:
33. LOCATE DEMOLITION EQUIPMENT AND REMOVE DEBRIS AND OTHER MATERIALS SO AS NOT TO IMPOSE EXCESSIVE LOADS ON SUPPORTING WALLS, FLOORS, OR FRAMING OF ADJOINING STRUCTURES.
34. SITE ACCESS AND TEMPORARY CONTROLS: CONDUCT DEMOLITION AND DEBRIS-REMOVAL OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, WALKWAYS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES.
35. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, WALKWAYS. OR OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM OWNER AND AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS IF REQUIRED BY AUTHORITIES HAVING JURISDICTION.
36. USE WATER MIST AND OTHER SUITABLE METHODS TO LIMIT SPREAD OF DUST AND DIRT, COMPLY WITH GOVERNING ENVIRONMENTAL-PROTECTION REGULATIONS. DO NOT USE WATER WHEN IT MAY DAMAGE ADJACENT CONSTRUCTION OR CREATE HAZARDOUS OR OBJECTIONABLE CONDITIONS, SUCH AS ICE, FLOODING, AND POLLUTION.
37. REMOVE STRUCTURES AND OTHER SITE IMPROVEMENTS INTACT WHEN PERMITTED BY AUTHORITIES HAVING JURISDICTION.
38. EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE RECYCLED, REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL.
39. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
40. BURNING: ON SITE BURNING OF RUBBISH AND OTHER DEMOLITION DEBRIS WILL NOT BE PERMITTED.
41. DISPOSAL: TRANSPORT DEMOLISHED MATERIALS OFF OWNER'S PROPERTY AND PROVIDE FOR THE LEGAL OFF SITE DISPOSAL OF THE MATERIAL.
42. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY BUILDING DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE BUILDING DEMOLITION OPERATIONS BEGAN.
43. THE CONTRACTOR IS TO NOTE THAT THE WORK OF THIS CONTRACT WILL INCLUDE WORK BY OTHERS AND THE CONTRACTOR SHALL COORDINATE HIS WORK AND MAKE EVERY REASONABLE EFFORT TO PERMIT THE EXECUTION OF SUCH WORK BY OTHERS WITHOUT DELAY.
44. IF TEMPORARY UTILITY SERVICES ARE REQUIRED THE CONTRACTOR SHALL PROVIDE SAME AT NO ADDITIONAL COST TO THE OWNER AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN SUCH TEMPORARY FACILITIES FOR THE DURATION OF THEIR WORK.
45. ALL WORK OF THIS CONTRACT SHALL CONFORM TO THESE CONTRACT DRAWINGS AND SPECIFICATIONS AS WELL AS TO THE APPLICABLE REQUIREMENTS OF THE MUNICIPAL BUILDING, PUBLIC WORKS, AND FIRE DEPARTMENTS, AS WELL AS THE APPLICABLE PUBLIC UTILITY COMPANIES.
46. ALL WORK SHALL COMPLY WITH THE BUILDING CODE OF THE STATE OF NEW JERSEY AND ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL RULES, LAWS, AND REGULATIONS.
47. ALL PROJECT RELATED LINES AND GRADES ARE TO BE ESTABLISHED BY A LICENSED SURVEYOR REGISTERED TO PRACTICE IN THE STATE OF NEW JERSEY.
48. THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE EXISTING DRAINAGE OR UTILITY SYSTEMS WITHIN OR ADJACENT TO THE WORK SHOWN ON THESE DRAWINGS. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL IMMEDIATELY BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE AND TO THE SATISFACTION OF THE OWNER OR UTILITY COMPANY INVOLVED.
49. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL TRADES REQUIRED BY THE CONTRACT WORK AND SHALL OBTAIN ALL REQUIRED BONDS, PERMITS, ETC. REQUIRED FOR THE EXECUTION OF THE WORK AND CONFIRM THE WORK MEETS ALL APPLICABLE CODES, RULES AND REGULATIONS OF THE GOVERNING AGENCIES.
50. SAFE AND ADEQUATE PEDESTRIAN AND VEHICULAR TRAFFIC FLOW SHALL BE MAINTAINED AT ALL TIMES TO THE ADJACENT BUILDINGS WHILE THE WORK IS PROGRESSING. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL OF THE OWNER A CONSTRUCTION SEQUENCE SCHEDULE AND PLAN FOR PEDESTRIAN AND VEHICULAR TRAFFIC FLOW.
51. ALL UNPAVED AREAS WITHIN THE WORK AREAS AND ALL AREAS DISTURBED DURING CONSTRUCTION ARE TO BE STABILIZED IN ACCORDANCE WITH THE APPROVED EROSION CONTROL MEAUSRES. UNLESS OTHERWISE DIRECTED BY THE OWNER, TURFED AREAS, DISTURBED BY REGRADING AND OTHER WORK OF CONTRACTOR, SHALL BE BROUGHT TO THE PROPER SUBGRADE ELEVATION, TOPSOIL TO A MINIMUM DEPTH OF 4 INCHES SHALL BE PLACED AND, LIMING, FERTILIZING AND SEEDING ACCOMPLISHED, AS SPECIFIED. THE CONTRACTOR SHALL WATER AND MAINTAIN THE SEEDED AREAS UNTIL THEY HAVE BECOME WELL ESTABLISHED.
52. EXISTING PAVEMENT WHICH IS TO REMAIN AND WHICH IS REMOVED OR DAMAGED DURING THE CONSTRUCTION WORK OF THIS CONTRACT IS TO BE RESTORED TO ITS ORIGINAL CONDITION.
53. AT NO TIME, SHALL ANY EXCAVATED AREAS BE LEFT UNATTENDED UNLESS APPROPRIATE MARKING AND BARRICADING IS EMPLOYED.
54. WITH REGARD TO EXISTING UTILITIES TO REMAIN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL EXISTING UTILITY VALVES, MANHOLE FRAMES, COVERS, RIMS, INVERTS AND HYDRANTS TO MEET NEW FINISH GRADE OR AS OTHERWISE REQUIRED TO FUNCTION PROPERLY.

PAVING, GRADING AND DRAINAGE NOTES

1. ALL PAVING, CONSTRUCTION, MATERIALS, AND WORKMANSHIP WITHIN STATE AND TOWN RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH LOCAL OR STATE SPECIFICATIONS AND STANDARDS.
2. ALL UNPAVED AREAS IN EXISTING RIGHTS-OF-WAY DISTURBED BY CONSTRUCTION SHALL BE REGRADED AND SEEDED.
3. TRAFFIC CONTROL ON ALL RIGHTS-OF-WAY SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
4. THE CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED AND SHALL REGRADE WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL UNTIL A GRASS STAND IS WELL ESTABLISHED OR ADEQUATE STABILIZATION OCCURS.
5. ALL OPEN AREAS WITHIN THE PROJECT SITE SHALL BE SEEDED UNLESS INDICATED OTHERWISE ON THE LANDSCAPE PLAN.
6. ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS.
7. WHERE EXISTING PAVEMENT IS INDICATED TO BE REMOVED AND REPLACED, THE CONTRACTOR SHALL SAW CUT A MINIMUM 2" DEEP FOR A SMOOTH AND STRAIGHT JOINT AND REPLACE THE PAVEMENT WITH THE SAME TYPE AND DEPTH OF MATERIAL AS EXISTING OR AS INDICATED.
8. WHERE NEW PAVEMENT MEETS THE EXISTING PAVEMENT, THE CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT A MINIMUM 2" DEEP FOR A SMOOTH AND STRAIGHT JOINT AND MATCH THE EXISTING PAVEMENT ELEVATION WITH THE PROPOSED PAVEMENT UNLESS OTHERWISE INDICATED.
9. THE CONTRACTOR SHALL INSTALL FILTER FABRIC OVER ALL DRAINAGE STRUCTURES FOR THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF THE PROJECT BY THE OWNER. ALL DRAINAGE STRUCTURES SHALL BE CLEANED OF DEBRIS AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE FLOWS.
10. IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE REQUIRED PERMITS. THE CONTRACTOR IS TO COORDINATE WITH THE OWNER AND THE DESIGN ENGINEER PRIOR TO ANY EXCAVATION.
11. STRIP TOPSOIL AND ORGANIC MATTER FROM ALL AREAS OF THE SITE AS REQUIRED. IN SOME CASES TOPSOIL MAY BE STOCKPILED ON SITE FOR PLACEMENT WITHIN LANDSCAPED AREAS BUT ONLY AS DIRECTED BY THE OWNER.
12. FIELD DENSITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL AGENCY. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
13. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED AS PER PLANS. THE AREAS SHALL THEN BE SODDED OR SEEDED AS SPECIFIED IN THE PLANS, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE JOB SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL EARTHEN AREAS WILL BE SODDED OR SEEDED AND MULCHED AS SHOWN ON THE LANDSCAPING PLAN.
14. ALL CUT OR FILL SLOPES SHALL BE 3 (HORIZONTAL) :1 (VERTICAL) OR FLATTER UNLESS OTHERWISE SHOWN.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
16. THE CONTRACTOR SHALL ENSURE THAT ISLAND PLANTING AREAS AND OTHER PLANTING AREAS ARE NOT COMPACTED AND DO NOT CONTAIN ROAD BASE MATERIALS. THE CONTRACTOR SHALL ALSO EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL AREAS ON THE SITE TO BE PLANTED AND PROPERLY DISPOSED OF IN A LEGAL MANNER.
17. ELEVATIONS SHOWN AT FACE OF CURB INDICATE THE BACK OF CURB HEIGHT IS 6" ABOVE GRADE.
18. ALL PIPE SHALL BE RCP CLASS III UNLESS OTHERWISE NOTED
19. ALL EXISTING BASINS ARE TO REMAIN IN PLACE.

PAVING, GRADING AND DRAINAGE NOTES

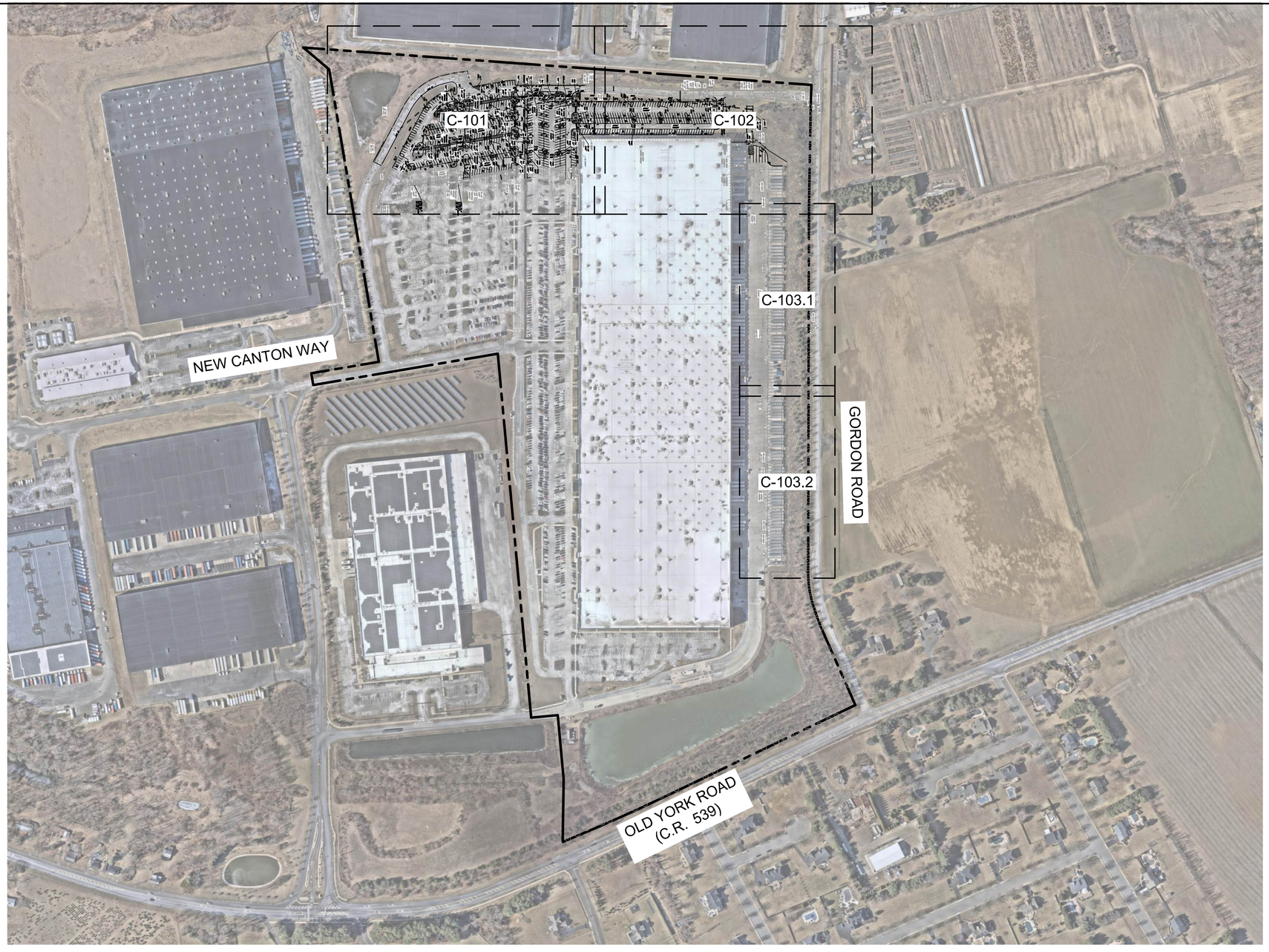
1. TRAFFIC CONTROL ON ALL NJDOT, LOCAL AND COUNTY RIGHTS-OF-WAY SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
2. ALL OPEN AREAS WITHIN THE PROJECT SITE SHALL BE COVERED WITH TOPSOIL AND SEED UNLESS INDICATED OTHERWISE ON THE LANDSCAPE PLAN.
3. THE CONTRACTOR SHALL INSTALL FILTER FABRIC OVER ALL DRAINAGE STRUCTURES FOR THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF THE PROJECT BY THE OWNER. ALL DRAINAGE STRUCTURES SHALL BE CLEANED OF DEBRIS AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE FLOWS.
4. IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE PERMITS. THE CONTRACTOR IS TO COORDINATE WITH THE OWNER AND THE DESIGN ENGINEER PRIOR TO ANY EXCAVATION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
6. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO CONTROL TURBIDITY, INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF TURBIDITY BARRIERS AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. TURBIDITY BARRIERS MUST BE MAINTAINED IN EFFECTIVE CONDITION AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THEREAFTER, THE CONTRACTOR MUST REMOVE THE BARRIERS. AT NO TIME SHALL THERE BE ANY OFF-SITE DISCHARGE WHICH VIOLATES THE WATER QUALITY STANDARDS OF THE GOVERNING CODE.
7. THE CONTRACTOR MUST REVIEW AND MAINTAIN A COPY OF THE REQUIRED PERMITS COMPLETE WITH ALL CONDITIONS, ATTACHMENTS, EXHIBITS, AND PERMIT MODIFICATIONS IN GOOD CONDITION AT THE CONSTRUCTION SITE. THE COMPLETE PERMIT MUST BE AVAILABLE FOR REVIEW UPON REQUEST BY GOVERNING JURISDICTIONS.
8. THE CONTRACTOR SHALL ENSURE THAT PARKING ISLAND PLANTING AREAS AND OTHER PLANTING AREAS ARE NOT COMPACTED AND DO NOT CONTAIN ROAD BASE MATERIALS. THE CONTRACTOR SHALL ALSO EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL AREAS ON THE SITE TO BE PLANTED AND PROPERLY DISPOSED OF IN A LEGAL MANNER.

BUILDING AND SAFETY DIVISION NOTES

1. APPROVAL OF THIS PLAN BY THE LOCAL AGENCY DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES WITHIN THE LIMITS OF THIS PROJECT.
2. THE DESIGN CIVIL ENGINEER SHALL BE CONSULTED DURING CONSTRUCTION IF THERE ARE QUESTIONS CONCERNING THE PLANS, SPECIFICATIONS, AND CODE WITHIN THIS PURVIEW.
3. DUST SHALL BE CONTROLLED BY WATERING.
4. SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE.
5. THE LOCATION AND PROTECTION OF ALL UTILITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

GENERAL DEMOLITION NOTES

1. ALL MATERIAL REMOVED FROM THIS SITE BY THE CONTRACTOR SHALL BE DISPOSED OF BY THE CONTRACTOR IN A LEGAL MANNER.
2. REFER TO THE TOPOGRAPHIC SURVEY FOR ADDITIONAL DETAILS OF EXISTING STRUCTURES, ETC., LOCATED WITHIN THE PROJECT SITE. SOME ITEMS TO BE REMOVED MAY NOT BE DEPICTED ON THE TOPOGRAPHIC SURVEY. REFER TO THE DEMOLITION PLAN FOR THE LIMITS



LEGEND

- PROPERTY LINE
- EXISTING LOT LINE
- LOD — PROPOSED LIMITS OF DISTURBANCE
- EXISTING EASEMENT LINE
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- W — EXISTING WATER LINE
- OH — EXISTING OVERHEAD WIRES
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- EXISTING FENCE
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- X — EXISTING TREE TO BE REMOVED

*OBJECTS IN BLACK ARE SET TO BE DEMOLISHED

DEMOLITION NOTES

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5. ALL ITEMS AND APPURTENANCES WITHIN THE RIGHT OF WAY SHALL REMAIN UNLESS OTHERWISE NOTED.
6. NO GRADED SLOPE SHALL EXCEED 3H:1V.
7. CONTRACTOR AND ENGINEER TO COORDINATE ALL IMPACTS TO ADJACENT PROPERTIES DURING DEMOLITION AND CONSTRUCTION ACTIVITIES.
8. ANY STREET SIGNS DAMAGED OR TEMPORARILY REMOVED DURING CONSTRUCTION ARE TO BE REPLACED IN KIND OR PER COUNTY, NJDOT, TOWNSHIP, AND MUTCD STANDARDS.
9. REMOVE VEGETATION, GRASS, AND ROOTMAT IN AREAS TO RECEIVE NEW ASPHALT AND CONCRETE PAVEMENTS, AND WITHIN 10 FEET OF THE BUILDING FOOTPRINT, OR AS OTHERWISE DIRECTED BY THE GEOTECHNICAL REPORT PROVIDED BY (ENTER IN GEOTECH INFO).
10. ALL PRIMARY UTILITIES DISCOVERED DURING DEMOLITION OPERATIONS THAT SERVE ACTIVITIES OTHER THAN THE SITE SHALL BE PROPERLY PRESERVED AND PROTECTED.
11. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE OWNER ANY UNFORESEEN OR ADVERSE CONDITIONS DISCOVERED DURING THE DEMOLITION OPERATIONS.
12. CONTRACTOR SHALL PROTECT EXISTING PLANT MATERIAL NOT DESIGNATED FOR REMOVAL OR RELOCATION FROM DAMAGE DURING CONSTRUCTION.
13. CONTRACTOR SHALL KEEP ALL SURROUNDING PUBLIC ROADWAYS AND DRAINAGE SYSTEMS FREE FROM DIRT, MUD, AND CONSTRUCTION DEBRIS AT ALL TIMES.
14. CONTRACTOR STAGING AREAS SHALL BE LIMITED TO THE PROPERTY BOUNDARY.
15. LIMITS OF DEMOLITION INDICATED ON THE PLAN ARE MINIMUM. CONTRACTOR SHALL REMOVE ASPHALT PAVEMENT, CONCRETE, AND MISCELLANEOUS ITEMS AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY ITEMS DAMAGED DURING THE CONSTRUCTION PROCESS.
17. NO HEAVY CONSTRUCTION EQUIPMENT SHALL OPERATE WITHIN THE LIMITS OF THE INFILTRATION AND BIO-RETENTION BASINS. SEE CONSTRUCTION REQUIREMENTS.
18. PRIOR TO CONSTRUCTION, CONTRACTOR TO FIELD VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES WITHIN THE PROPOSED LIMITS OF DISTURBANCE AND ENSURE PROTECTION. CONTRACTOR TO NOTIFY OWNER AND ENGINEER OF ANY DISCREPANCIES.
19. REFER TO SHEET THE EROSION AND SEDIMENT CONTROL PLAN FOR EROSION AND SEDIMENT CONTROL MEASURES THAT MUST BE IMPLEMENTED PRIOR TO THE COMMENCEMENT OF DEMOLITION ACTIVITIES.
20. REFER TO GENERAL NOTES FOR ADDITIONAL DEMOLITION NOTES.

NORTH

GRAPHIC SCALE IN FEET
0 100 200 400
1"=200'

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR

Kimley»Horn
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301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NOT ADDRESS ACCESS & MOBILITY

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

OVERALL EXISTING CONDITIONS & DEMOLITION PLAN

811 Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

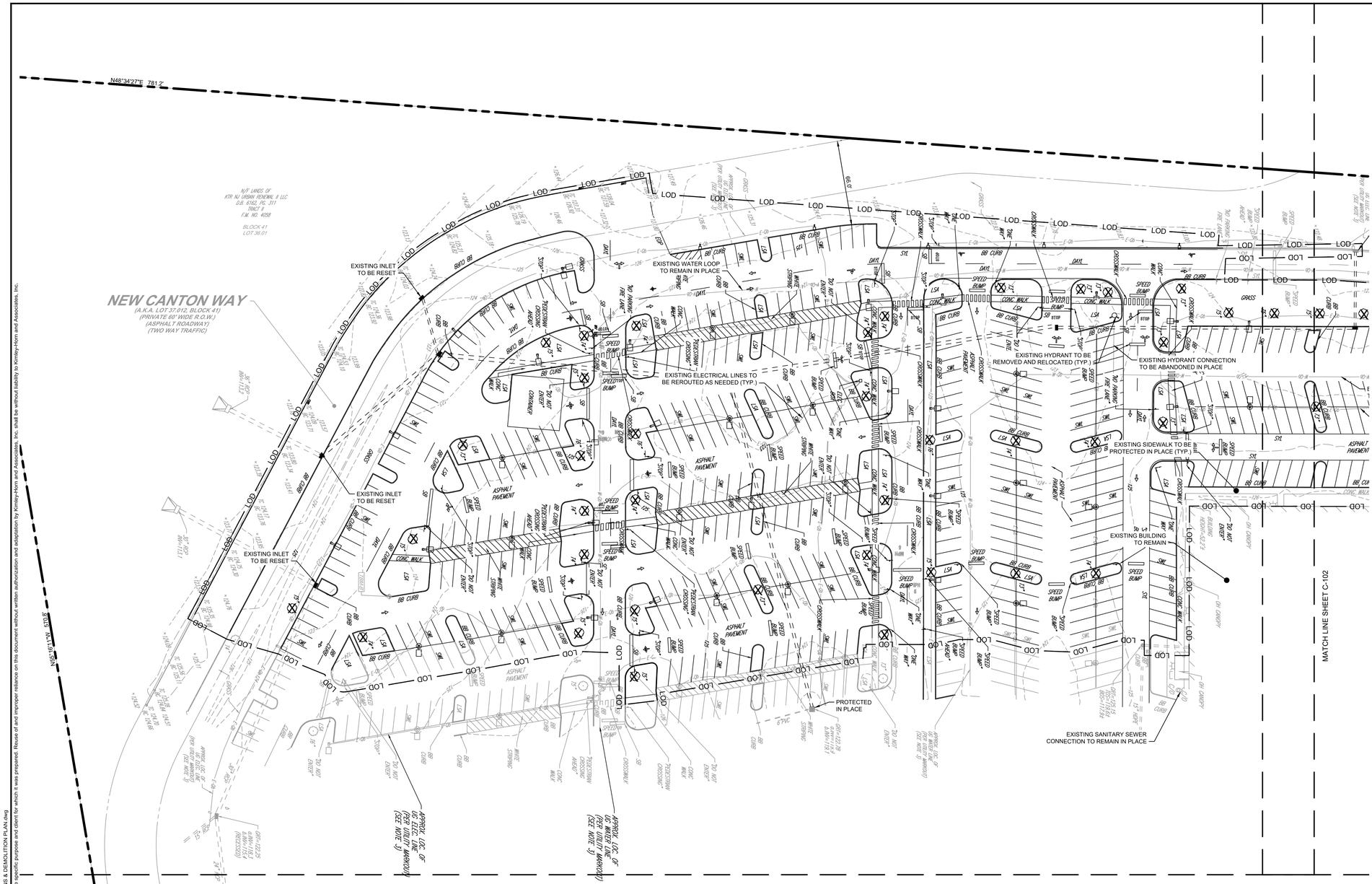
OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-100

March 25, 2026 - K:\prn_dvsh\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\C-100 - EXISTING CONDITIONS & DEMOLITION PLAN.dwg
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EXISTING CONDITIONS LEGEND

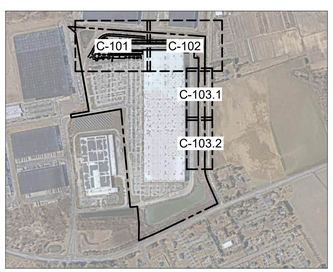
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KEY MAP
1"=1000'

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

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Kimley»Horn
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CERTIFICATE OF AUTHORIZATION No. 24GA28035500

T. W. DIGGAN
PROFESSIONAL ENGINEER
NOT ISSUED ACCORDING TO LAW

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

EXISTING CONDITIONS & DEMOLITION PLAN (1 OF 3)

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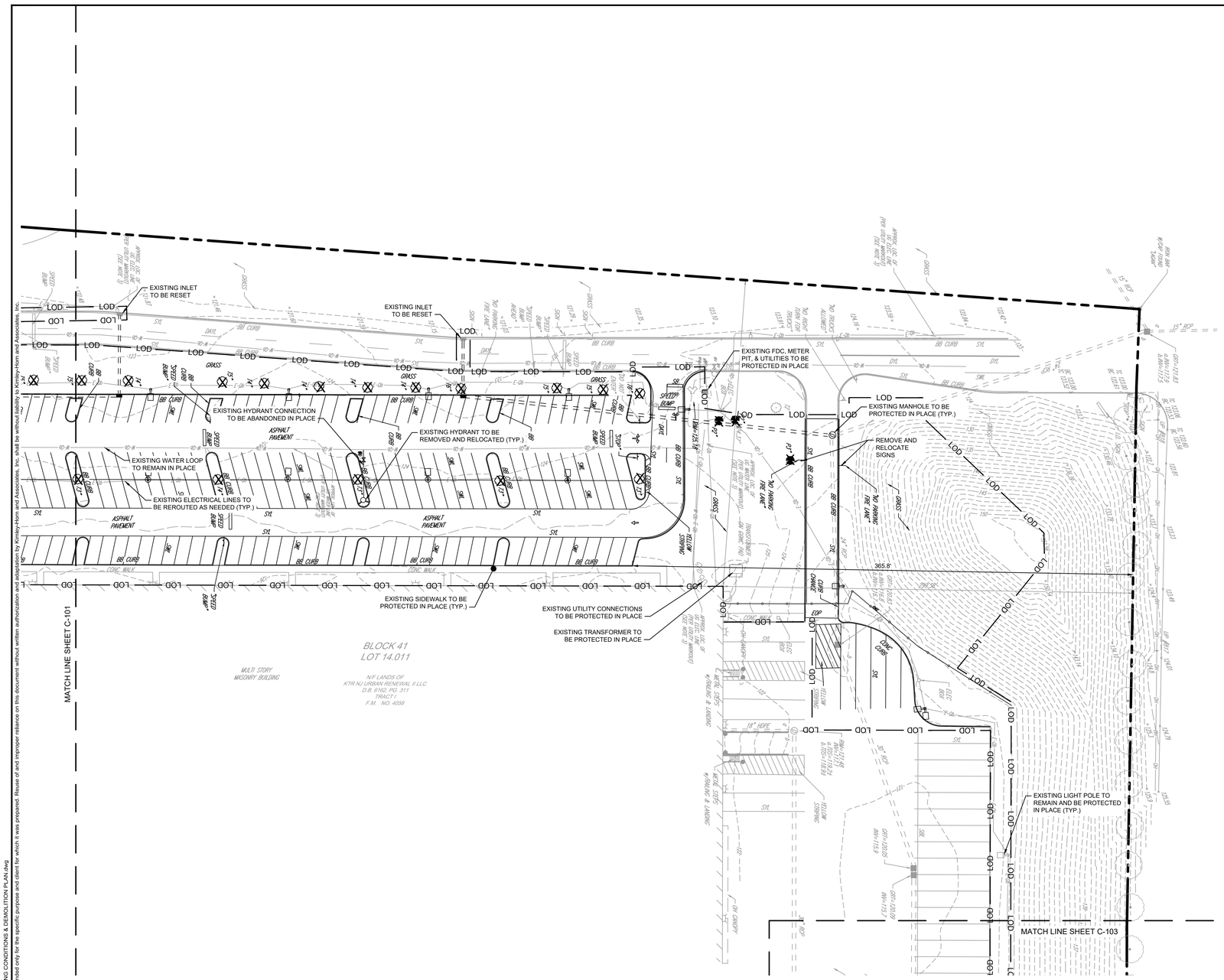
OWNER
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CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.01/2, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-101

March 25, 2026 – k:\prn_dot\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\C-100 - EXISTING CONDITIONS & DEMOLITION PLAN.dwg
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EXISTING CONDITIONS LEGEND

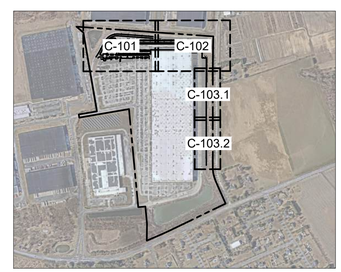
LEGEND

- PROPERTY LINE
- EXISTING LOT LINE
- LOD — PROPOSED LIMITS OF DISTURBANCE
- EXISTING EASEMENT LINE
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- OH — EXISTING OVERHEAD WIRES
- D — EXISTING STORMWATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING FENCE
- 55 — EXISTING CONTOURS
- TREE CLEARING LIMITS
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- EDP — EDGE OF PAVEMENT
- (TYP.) — TYPICAL
- SWL — EXISTING SOLID WHITE LINE
- DYL — EXISTING DOUBLE YELLOW LINE
- 123.45 — EXISTING SPOT ELEVATION
- X — EXISTING TREE TO BE REMOVED

*OBJECTS IN BLACK ARE SET TO BE DEMOLISHED

DEMOLITION NOTES

1. THESE PLANS WERE PREPARED UTILIZING INFORMATION FOUND IN THE FOLLOWING DOCUMENTS: BOUNDARY AND TOPOGRAPHICAL SURVEY PREPARED BY (ENTER IN SURVEY INFO), LAST REVISED (ENTER IN DATE).
2. CONTRACTOR SHALL NOTIFY "NEW JERSEY ONE CALL CENTER" (1-800-272-1000) AT LEAST 72 HOURS BEFORE EXCAVATING.
3. CONTRACTOR SHALL CONTROL DUST LEAVING THE SITE DURING DEMOLITION AND CONSTRUCTION.
4. ALL ITEMS AND APPURTENANCES WITHIN THE PROPERTY LINE SHALL REMAIN UNLESS OTHERWISE NOTED.
5. ALL ITEMS AND APPURTENANCES WITHIN THE RIGHT OF WAY SHALL REMAIN UNLESS OTHERWISE NOTED.
6. NO GRADED SLOPE SHALL EXCEED 3H:1V.
7. CONTRACTOR AND ENGINEER TO COORDINATE ALL IMPACTS TO ADJACENT PROPERTIES DURING DEMOLITION AND CONSTRUCTION ACTIVITIES.
8. ANY STREET SIGNS DAMAGED OR TEMPORARILY REMOVED DURING CONSTRUCTION ARE TO BE REPLACED IN KIND OR PER COUNTY, NJDOT, TOWNSHIP, AND MUTCD STANDARDS.
9. REMOVE VEGETATION, GRASS, AND ROOTMAT IN AREAS TO RECEIVE NEW ASPHALT AND CONCRETE PAVEMENTS, AND WITHIN 10 FEET OF THE BUILDING FOOTPRINT, OR AS OTHERWISE DIRECTED BY THE GEOTECHNICAL REPORT PROVIDED BY (ENTER IN GEOTECH INFO).
10. ALL PRIMARY UTILITIES DISCOVERED DURING DEMOLITION OPERATIONS THAT SERVE ACTIVITIES OTHER THAN THE SITE SHALL BE PROPERLY PRESERVED AND PROTECTED.
11. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE OWNER ANY UNFORESEEN OR ADVERSE CONDITIONS DISCOVERED DURING THE DEMOLITION OPERATIONS.
12. CONTRACTOR SHALL PROTECT EXISTING PLANT MATERIAL NOT DESIGNATED FOR REMOVAL OR RELOCATION FROM DAMAGE DURING CONSTRUCTION.
13. CONTRACTOR SHALL KEEP ALL SURROUNDING PUBLIC ROADWAYS AND DRAINAGE SYSTEMS FREE FROM DIRT, MUD, AND CONSTRUCTION DEBRIS AT ALL TIMES.
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16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY ITEMS DAMAGED DURING THE CONSTRUCTION PROCESS.
17. NO HEAVY CONSTRUCTION EQUIPMENT SHALL OPERATE WITHIN THE LIMITS OF THE INFILTRATION AND BIO-RETENTION BASINS. SEE CONSTRUCTION REQUIREMENTS.
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KEY MAP
1"=1000'

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

Kimley»Horn
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301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000400

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

EXISTING CONDITIONS & DEMOLITION PLAN (2 OF 3)

Know what's below. Call before you dig.
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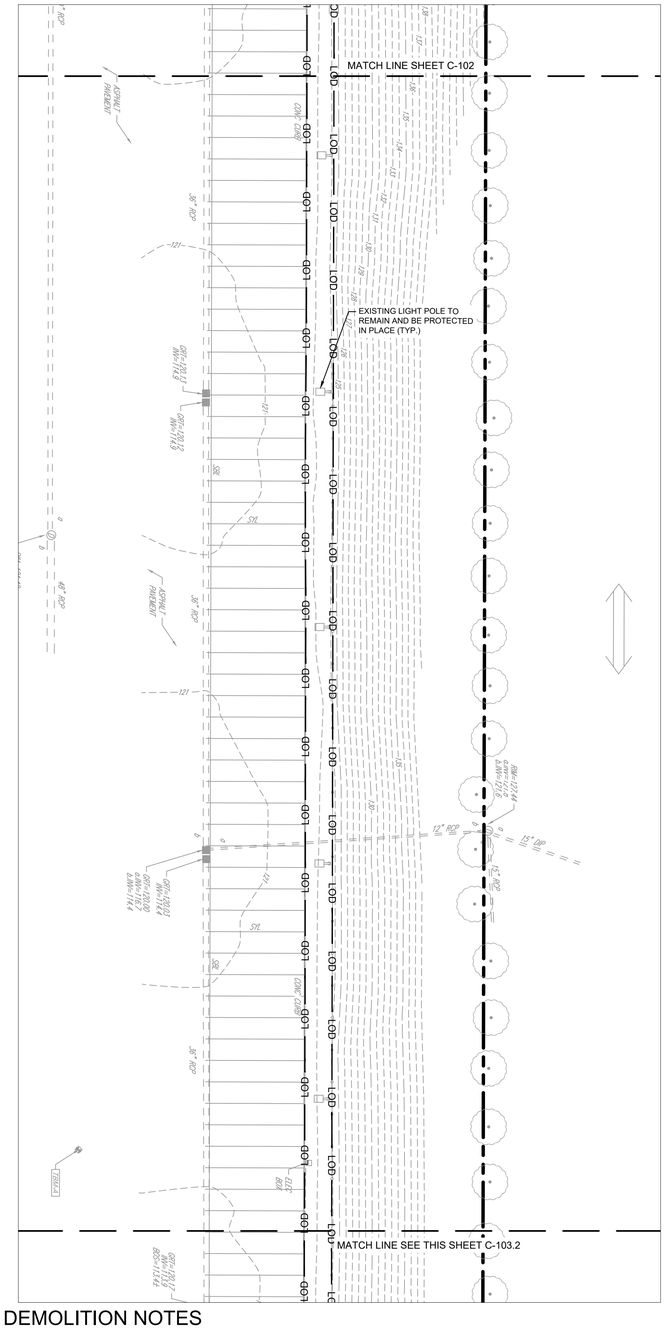
OWNER
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60 STATE STREET, SUITE 2200
BOSTON, MA 02109

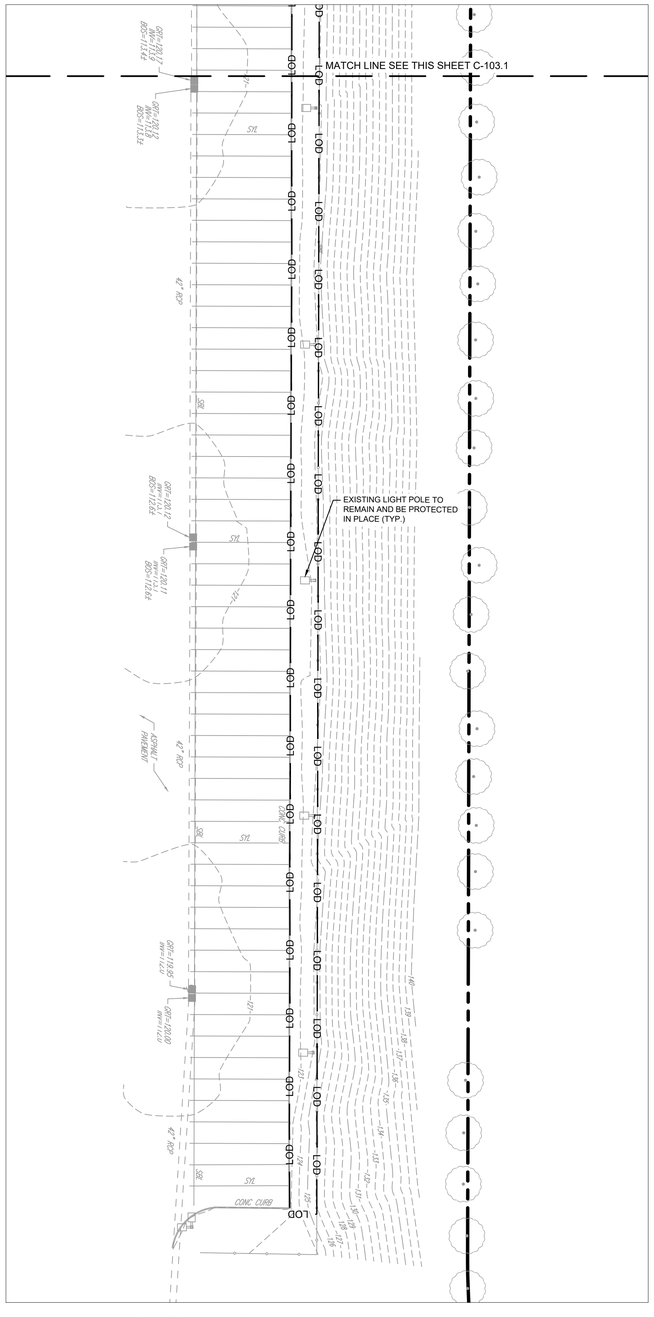
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March 25, 2026 - k:\prn_civil\115319783 - ewr4 robbinsville twp nj\5. cad\sheets - 24x36\C-100 - EXISTING CONDITIONS & DEMOLITION PLAN.dwg
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CONSTRUCTION NOTES

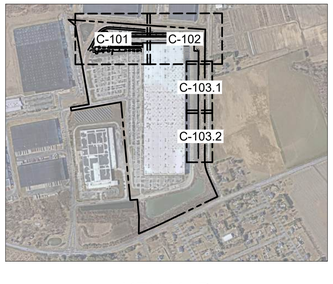
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2. EXISTING PAVEMENT STRIPING TO BE REMOVED
3. EXISTING UTILITIES TO BE RELOCATED
4. EXISTING UTILITY POLE TO BE RELOCATED
5. EXISTING TREE TO BE RELOCATED
6. EXISTING STORM STRUCTURES AND PIPES TO BE RELOCATED
7. EXISTING MISCELLANEOUS TO BE REMOVED
8. EXISTING FENCELINE TO BE REMOVED
9. EXISTING STORM STRUCTURE TO REMAIN

EXISTING CONDITIONS LEGEND

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KEY MAP
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0 20 40 80
1"=40'

NOT FOR CONSTRUCTION

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1	MERCER COUNTY SCD REVISION	02/10/2026	JAR
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR

Kimley»Horn
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CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000600

KHA PROJECT	115319783
DATE	01/13/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

EXISTING CONDITIONS & DEMOLITION PLAN (3 OF 3)

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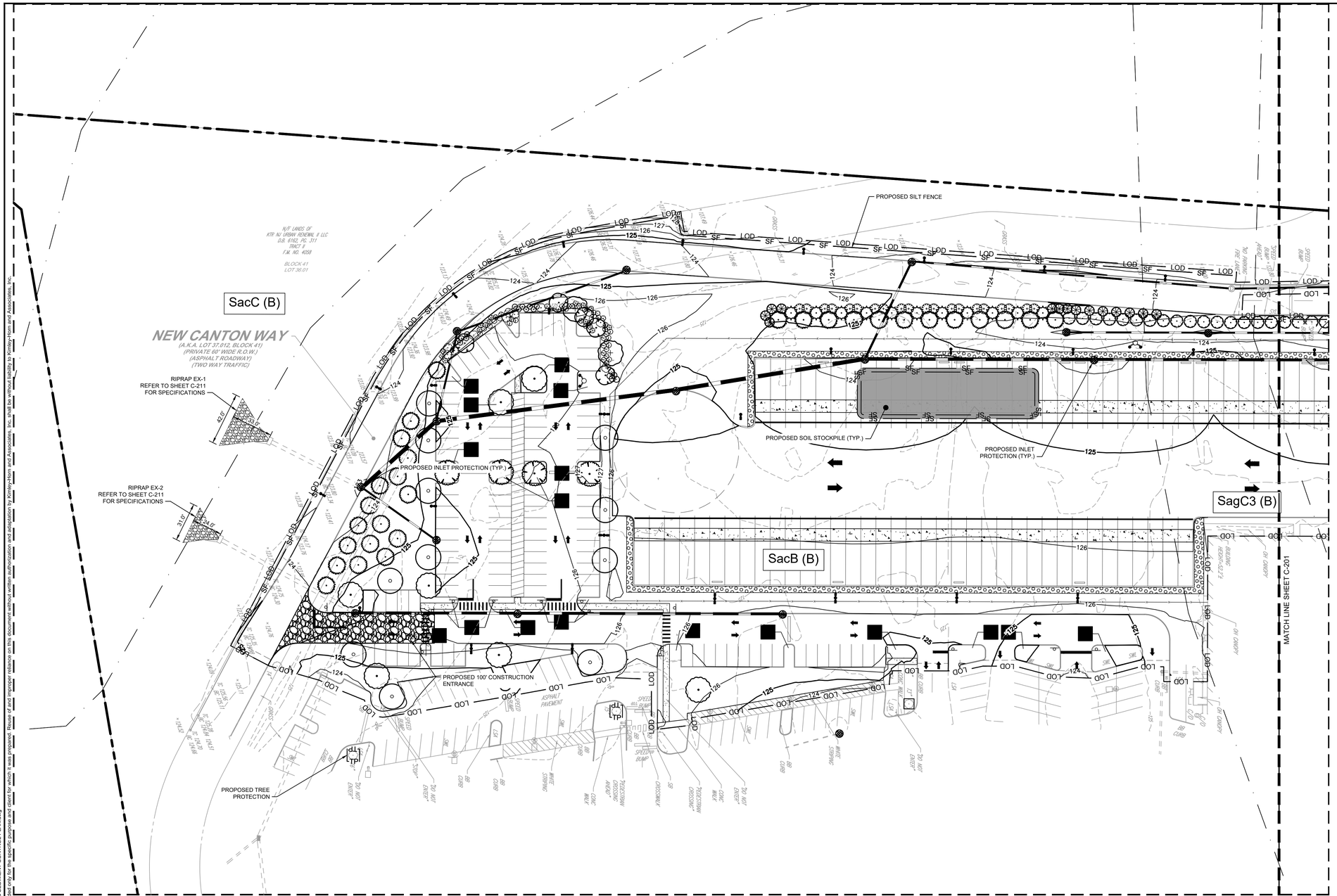
OWNER
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MERCER COUNTY NEW JERSEY

SHEET NUMBER
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March 25, 2026 - k:\prn_cvil\115319783 - ewr4 robbinsville lwp it\E cad\plan\sheets - 24x36\C-100 - EXISTING CONDITIONS & DEMOLITION PLAN.dwg
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NOTES

1. REFER TO GENERAL NOTES & SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS FOR SOIL EROSION & SEDIMENT CONTROL NOTES.
2. THIS PLAN IS FOR THE USE OF SOIL EROSION AND SEDIMENT CONTROL ONLY.
3. THIS PROJECT SHALL COMPLY WITH THE REQUIREMENTS OF THE NJ SOIL RESTORATION ACT. P.L. 2010, CHAPTER 113.
4. RIP RAP APRONS SHALL BE CONSTRUCTED TO THE MINIMUM SPECIFICATIONS REFERENCED ON SHEET C-211
5. 2 TONS/ACRE OF STRAW MULCH IS TO BE PLACED AFTER PERMANENT SEEDING HAS TAKEN PLACE. SALT HAY OR SMALL GRAIN STRAW APPLIED AT A RATE OF 70-90 POUNDS PER 1,000 SQUARE FEET. MULCH SHALL BE SECURED BY APPROVED METHODS (LIQUID MULCH BINDER, CRIMPING, PEG AND TWINE).
6. FERTILIZER AND LIME RATES SHALL BE DETERMINED AFTER SOIL SAMPLING, CONTRACTOR TO CONFIRM RATES WITH BURLINGTON COUNTY SOIL CONSERVATION DISTRICT PRIOR TO PLACING.
7. LIME AND FERTILIZER RATES FOR TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH SECTION 7 OF THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY"
8. LIME AND FERTILIZER RATES FOR PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH SECTION 4 OF THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY"

DUST CONTROL

1. LARGE AREAS OF SOIL THAT ARE DENUDED OF VEGETATION AND HAVE NO PROTECTION FROM PARTICLES BEING PICKED UP AND CARRIED BY WIND SHOULD BE PROTECTED WITH A TEMPORARY COVER OR KEPT UNDER CONTROL WITH WATER OR OTHER SOIL ADHERING PRODUCTS TO PREVENT SOIL PARTICLES FROM BECOMING AIRBORNE, AND FROM EXITING THE SITE PERIMETER.
2. ALL SOIL STOCKPILES MUST BE STABILIZED TO PREVENT EROSION AND FUGITIVE DUST.
3. WATER TRUCKS OR OTHER DUST CONTROL AGENTS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO MINIMIZE DUST GENERATED ON THE SITE. TACKIFIERS MAY BE USED TO HOLD SOIL IN PLACE AND PREVENT DUST. MANUFACTURER RECOMMENDATIONS FOR APPLICATION LOCATIONS AND RATES MUST BE USED FOR DUST CONTROL APPLICATIONS. ANY CHEMICAL APPLICATION MUST BE APPROVED, IN WRITING, BY THE ENGINEER.
4. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS IN COMPLIANCE WITH APPLICABLE FEDERAL, LOCAL AND STATE DUST CONTROL REGULATIONS.
5. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
6. IN ADDITION TO BMPS SHOWN IN THE PLAN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR EMPLOYING PRACTICES AND PROCEDURES WHICH MINIMIZE AND PREVENT AIRBORNE DUST OR OTHER PARTICLES FROM MOBILIZING.

SESC LEGEND

LEGEND

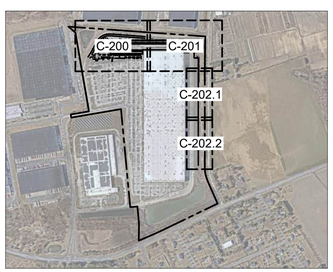
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- XXX — PROPOSED CONTOURS
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- SOIL STOCKPILE AREA
- APPROX. AREA OF EROSION CONTROL BLANKET IN AREAS OF SLOPE 3:1 OR GREATER
- PROPOSED PERMEABLE PAVER SIDEWALK

NOT FOR CONSTRUCTION

TOTAL DISTURBED AREA

9.26 AC (403,575 SF)

SOIL TYPE	
MAP SYMBOL	HSG RATING
SacB	B
SacC	B
SagC3	B
WomfB	B
MBYB	C



KEY MAP
1"=1000'

NORTH

GRAPHIC SCALE IN FEET
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CERTIFICATE OF AUTHORIZATION No. 24GA28039300

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PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000700

KHA PROJECT 115319783
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SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

EROSION & SEDIMENT CONTROL PLAN (1 OF 3)

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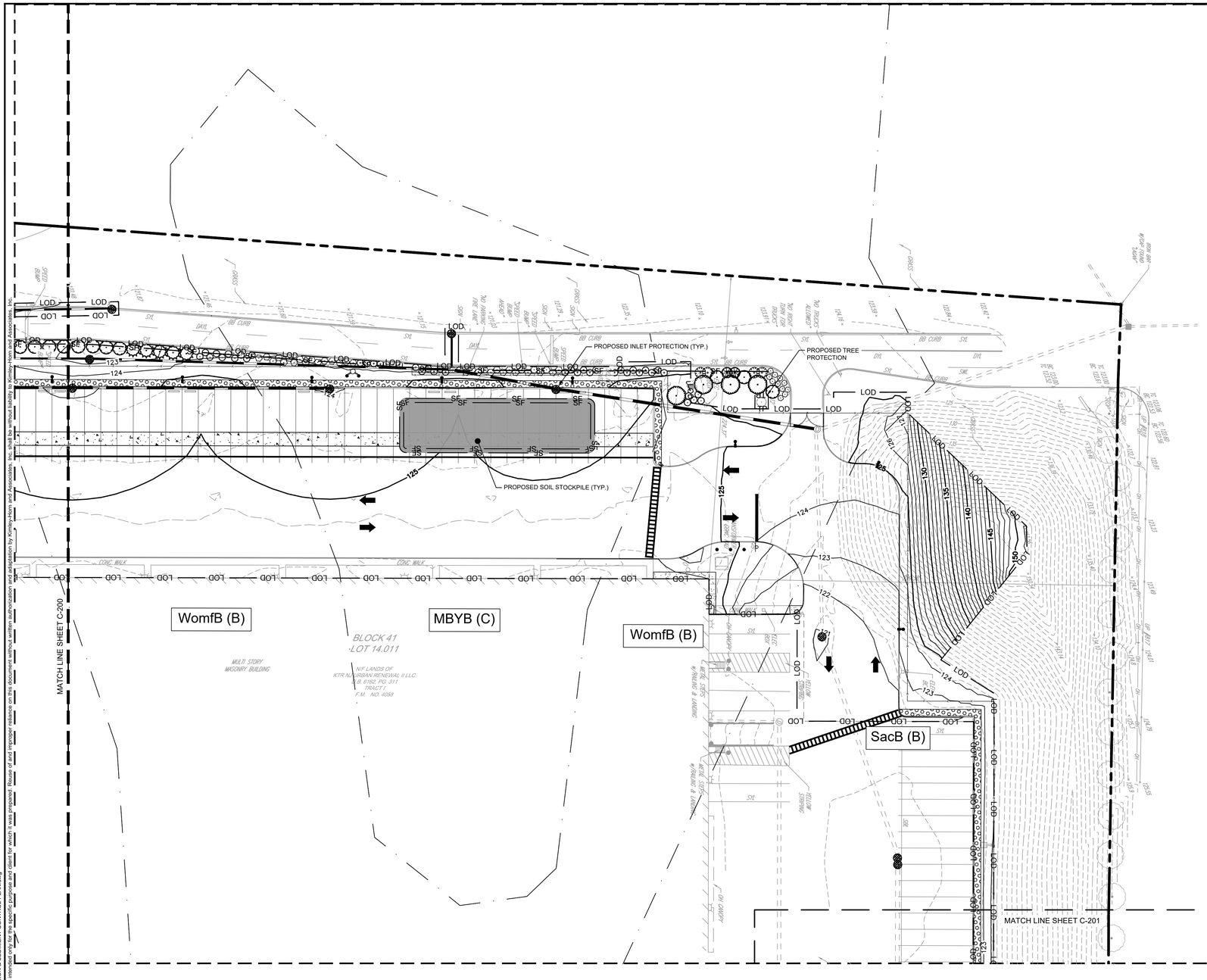
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SHEET NUMBER
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April 1, 2026 - k:\prn_civil\115319783 - ewr4 robbinsville two nj\5. cad\planesheets - 24x36\C-200 - EROSION & SEDIMENT CONTROL PLAN.dwg
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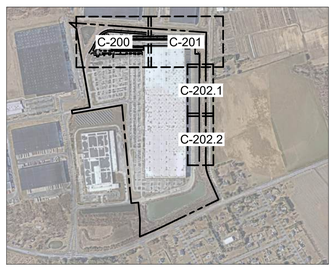
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3. WATER TRUCKS OR OTHER DUST CONTROL AGENTS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO MINIMIZE DUST GENERATED ON THE SITE. TACKIFIERS MAY BE USED TO HOLD SOIL IN PLACE AND PREVENT DUST. MANUFACTURER RECOMMENDATIONS FOR APPLICATION LOCATIONS AND RATES MUST BE USED FOR DUST CONTROL APPLICATIONS. ANY CHEMICAL APPLICATION MUST BE APPROVED, IN WRITING, BY THE ENGINEER.
4. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS IN COMPLIANCE WITH APPLICABLE FEDERAL, LOCAL AND STATE DUST CONTROL REGULATIONS.
5. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
6. IN ADDITION TO BMPS SHOWN IN THE PLAN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR EMPLOYING PRACTICES AND PROCEDURES WHICH MINIMIZE AND PREVENT AIRBORNE DUST OR OTHER PARTICLES FROM MOBILIZING.



KEY MAP
1"=1000'

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

Kimley»Horn
© 2026 KIMLEY-HORN AND ASSOCIATES, INC.
301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000400

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

EROSION & SEDIMENT CONTROL PLAN (2 OF 3)

Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

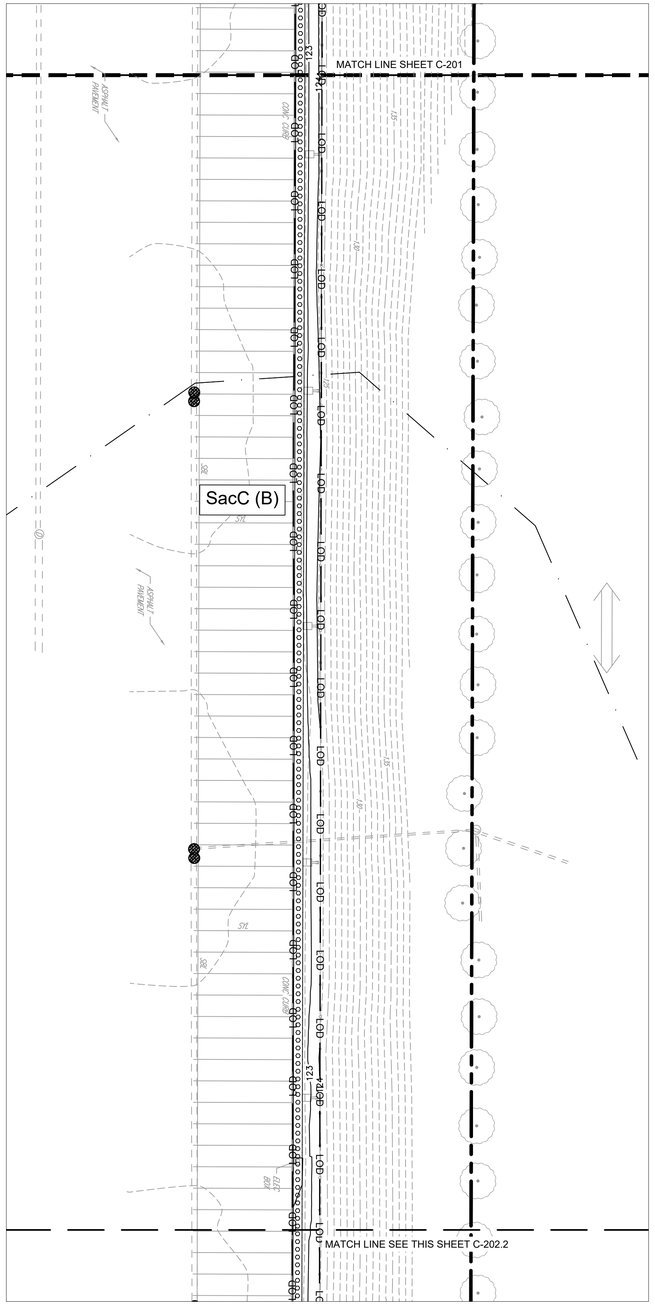
APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

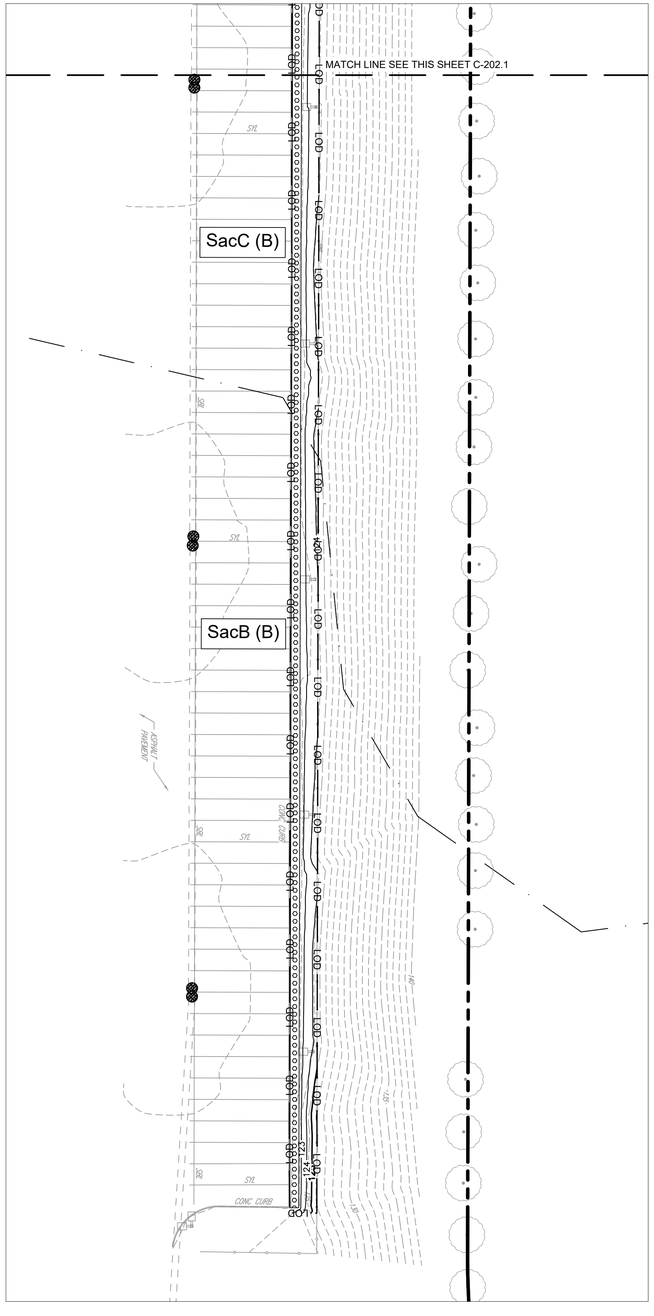
EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.01/2, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

SHEET NUMBER
C-201

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April 1, 2026 – k:\prv_civil\115319783 - ewr4 robbinsville twp nj\5. cad\sheets\ - 24x36\C-200 - EROSION & SEDIMENT CONTROL PLAN.dwg





NOTES

1. REFER TO GENERAL NOTES & SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS FOR SOIL EROSION & SEDIMENT CONTROL NOTES.
2. THIS PLAN IS FOR THE USE OF SOIL EROSION AND SEDIMENT CONTROL ONLY.
3. THIS PROJECT SHALL COMPLY WITH THE REQUIREMENTS OF THE NJ SOIL RESTORATION ACT. P.L. 2010, CHAPTER 113.
4. RIP RAP APRONS SHALL BE CONSTRUCTED TO THE MINIMUM SPECIFICATIONS REFERENCED ON SHEET C-211
5. 2 TONS/ACRE OF STRAW MULCH IS TO BE PLACED AFTER PERMANENT SEEDING HAS TAKEN PLACE. SALT HAY OR SMALL GRAIN STRAW APPLIED AT A RATE OF 70-90 POUNDS PER 1,000 SQUARE FEET. MULCH SHALL BE SECURED BY APPROVED METHODS (LIQUID MULCH BINDER, CRIMPING, PEG AND TWINE).
6. FERTILIZER AND LIME RATES SHALL BE DETERMINED AFTER SOIL SAMPLING, CONTRACTOR TO CONFIRM RATES WITH BURLINGTON COUNTY SOIL CONSERVATION DISTRICT PRIOR TO PLACING.
7. LIME AND FERTILIZER RATES FOR TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH SECTION 7 OF THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY"
8. LIME AND FERTILIZER RATES FOR PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH SECTION 4 OF THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY"

DUST CONTROL

1. LARGE AREAS OF SOIL THAT ARE DENUDED OF VEGETATION AND HAVE NO PROTECTION FROM PARTICLES BEING PICKED UP AND CARRIED BY WIND SHOULD BE PROTECTED WITH A TEMPORARY COVER OR KEPT UNDER CONTROL WITH WATER OR OTHER SOIL ADHERING PRODUCTS TO PREVENT SOIL PARTICLES FROM BECOMING AIRBORNE, AND FROM EXITING THE SITE PERIMETER.
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SESC LEGEND

LEGEND

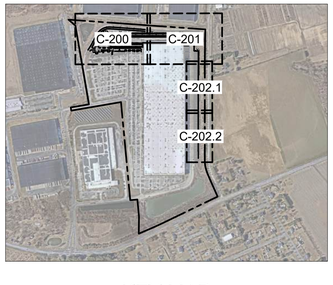
- PROPERTY LINE
- LOD — PROPOSED LIMITS OF DISTURBANCE
- TP — TREE PROTECTION FENCE
- SF — SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE/STAGING AREA/CONTRACTOR PARKING AREA
- INLET PROTECTION
- SOILS MAP DELINEATION LINE
- XXX — PROPOSED CONTOURS
- XXX — EXISTING CONTOURS
- SOIL STOCKPILE AREA
- APPROX. AREA OF EROSION CONTROL BLANKET IN AREAS OF SLOPE 3:1 OR GREATER
- PROPOSED PERMEABLE PAVER SIDEWALK

NOT FOR CONSTRUCTION

TOTAL DISTURBED AREA

9.26 AC (403,575 SF)

SOIL TYPE	
MAP SYMBOL	HSG RATING
SacB	B
SacC	B
SagC3	B
WomfB	B
MBYB	C



KEY MAP
1"=1000'

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

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T. W. DIGGAN
NEW JERSEY LICENSED PROFESSIONAL ENGINEER

KHA PROJECT	115319783
DATE	01/13/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

EROSION & SEDIMENT CONTROL PLAN (3 OF 3)

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EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
90 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

SHEET NUMBER
C-202

April 1, 2026 - k:\prn_civil\115319783 - ewr4 robbinsville nxo\d\5. cad\plansheets - 24x36\C-200 - EROSION & SEDIMENT CONTROL PLAN.dwg
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EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
4. N.J.S.A 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
7. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ACCESS CONSISTING OF ONE INCH TO TWO INCH (1" – 2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
10. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
11. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
12. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/1,000 SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.
13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
14. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
15. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL, THIS SHEET.
16. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
18. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

TEMPORARY AND PERMANENT SOIL STABILIZATION

A. TEMPORARY SEEDING AND MULCHING (SECTION 7-1 TO 7-5):
LIME: 90 LBS./1,000 SF GROUND LIMESTONE;
FERTILIZER: 11 LBS./1,000 SF, 10-20-10 OR EQUIVALENT WORKED INTO THE SOIL A MINIMUM OF 4".
SEED:

Type	Rate Lbs./Acre	Rate Lbs./1,000 Sq. Ft.
PERENNIAL RYE GRASS	100	1.0

PLANT BETWEEN MARCH 1 AND MAY 15 OR BETWEEN AUGUST 15 AND OCTOBER 1.

Type	Rate Lbs./Acre	Rate Lbs./1,000 Sq. Ft.
PEARL MILLET	20	0.5

PLANT BETWEEN MAY 15 AND AUGUST 15.
MULCH:
SMALL GRAIN STRAW AT A RATE OF 70 TO 90 LBS./1,000 SF TO BE APPLIED ACCORDING TO THE NJ STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, CRIMPER, OR LIQUID MULCH BINDER). STANDARDS FOR OTHER MULCHING MEASURES SUCH AS WOOD-FIBER OR PAPER-FIBER OR PELLETIZED CAB BE FOUND IN SECTION 7-4.

B. PERMANENT SEEDING AND MULCHING (SECTION 4-1 TO 4-17):
TOPSOIL: UNIFORM APPLICATION TO A DEPTH OF 5" (UNSETTLED).
LIME: 90 LBS./1,000 SF GROUND LIMESTONE;
FERTILIZER: 11 LBS./1,000 SF, 10-10-10 OR EQUIVALENT WORKED INTO THE SOIL A MINIMUM OF 4".
SEED:

Type	Rate Lbs./Acre	Rate Lbs./1,000 Sq. Ft.
PERENNIAL RYE GRASS	10	0.25
CHEWING FESCUE	45	1.00
STRONG CREEPING RED FESCUE	45	1.00
HARD FESCUE	130	3.00

PLANT BETWEEN MARCH 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND NOVEMBER 30.
MULCH:
SMALL GRAIN STRAW AT A RATE OF 70 TO 90 LBS./1,000 SF TO BE APPLIED ACCORDING TO THE NJ STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, CRIMPER, OR LIQUID MULCH BINDER). STANDARDS FOR OTHER MULCHING MEASURES SUCH AS WOOD-FIBER OR PAPER-FIBER OR PELLETIZED CAB BE FOUND IN SECTION 4-2.

C. STABILIZATION WITH MULCH ONLY (SECTION 5-1 TO 5-2):
MULCH ONLY STABILIZATION SHALL BE USED WHEN THE SEASON OR OTHER CONDITIONS MAY NOT BE SUITABLE FOR TEMPORARY OR PERMANENT SEEDING, OR WHERE STABILIZATION IS NEEDED FOR A SHORT PERIOD

MATERIALS:

SMALL GRAIN STRAW AT A RATE OF 90 TO 115 LBS./1,000 SF TO BE APPLIED ACCORDING TO THE NJ STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).

WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE APPLIED BY HYDROSEEDER

MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON OR PLASTIC

WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2 INCHES. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.

GRAVEL, CRUSHED STONE, OR SLAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQ. FT. APPLIED TO A MINIMUM OF 3", SIZE 2 OR 3 (ASTM C-33) IS RECOMMENDED.

NOTE: LIME APPLICATION RATES SHOULD BE DETERMINED BY SOIL TESTING. SOIL TEST RECOMMENDATIONS ARE OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES (http://njaes.rutgers.edu/county/).

INLET PROTECTION

1. STORM DRAIN INLET PROTECTION MEASURES SHALL PREVENT SOIL AND DEBRIS FROM ENTERING STORM DRAIN INLETS.
2. TEMPORARY CONTROLS SHALL BE CONSTRUCTED BEFORE THE SURROUNDING AREA IS DISTURBED.
3. TO PREVENT CLOGGING, STORM DRAIN CONTROL STRUCTURES MUST BE MAINTAINED FREQUENTLY.
4. CHECK ALL TEMPORARY CONTROL MEASURES DAILY, AND AFTER EACH STORM EVENT.
5. CONTROL MEASURES MUST BE BUILT PER DETAIL AND PLANS, AND MUST BE IN GOOD WORKING CONDITION AT ALL TIMES.

SEQUENCE OF CONSTRUCTION

A. PRE-CONSTRUCTION PHASE
1. PRIOR TO ANY LAND DISTURBANCE, PROVIDE 72 HOURS NOTICE TO MERCER COUNTY SOIL CONSERVATION DISTRICT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
3. PRIOR TO EARTHWORK OPERATIONS, INSTALL PERIMETER SILT FENCE.
4. THE STRIPPING AND STOCKPILING OF TOPSOIL SHALL BE SEPARATE FROM SUBSOIL, AND SHALL BE CONDUCTED FOLLOWING THE INSTALLATION OF TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES.
5. PROTECT EXISTING PIPING TO REMAIN IN PLACE MAINTAINING ELEVATIONS.

B. CONSTRUCTION PHASE
1. PROVIDE NECESSARY MEANS TO INSPECT AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED TO MINIMIZE THE EROSION AND UNSPECIFIED TRANSPORT OF SOIL AND SEDIMENT UNTIL THEIR REMOVAL AS SPECIFIED. INSPECT MEASURES DAILY AND WITHIN 24 HOURS OF THE END OF A 0.5 INCH OR GREATER STORM EVENT. STABILIZED AREAS WILL BE INSPECTED MONTHLY UNTIL THE ENTIRE SITE IS STABILIZED. MAINTENANCE SHOULD COMMENCE WITHIN 24 HOURS AND BE COMPLETED WITHIN 5 CALENDAR DAYS OF DETERMINING ITS NEED.
2. PROVIDE NECESSARY DUST CONTROL WITH WATER AND/OR WIND BARRIERS TO MINIMIZE FUGITIVE DUST.
3. TEMPORARILY STABILIZE EXISTING GRAVEL ACCESS ROADS AS SPECIFIED AND AS REQUIRED ALL INACTIVE AREAS TO REDUCE DISTURBED AREAS.
4. FOLLOWING ANY EARTHWORK ACTIVITIES INSTALL TEMPORARY OR PERMANENT STABILIZATION.
   1. ALL EROSION MEASURES PER SHEET C-210 TO BE CONDUCTED PRIOR TO PERMANENT STABILIZATION.
5. ESTABLISH THE REMAINING GRADING ON SITE, PER SHEET C-500.
6. ESTABLISH FINAL CONDITION. FOLLOW FINAL STABILIZATION CRITERIA ON SHEET C-500.
7. ENSURE THE APPLICATION OF FIVE (5) INCHES OF TOPSOIL AND PERMANENT STABILIZATION BE APPLIED.

C. POST-CONSTRUCTION PHASE
1. STABILIZE PROJECT AREA AND HAVE OWNER'S REPRESENTATIVE REVIEW AND ACCEPT.
2. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE TO REMAIN IN PLACE PENDING REVIEW OF STABILIZED AREAS BY A SOIL CONSERVATION DISTRICT INSPECTOR OR AS OTHERWISE DIRECTED BY EITHER THE OWNER'S REPRESENTATIVE AND TOWN ENGINEER.

NOTE:
THE SEQUENCE OF CONSTRUCTION SHOWN ABOVE IS A GENERAL OVERVIEW AND IS INTENDED TO CONVEY THE GENERAL CONCEPTS OF THE EROSION CONTROL DESIGN AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETAILED PHASING AND CONSTRUCTION SEQUENCING NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS INCLUDED IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IMMEDIATELY, PRIOR TO AND/OR DURING CONSTRUCTION, IF ANY ADDITIONAL INFORMATION IS REQUIRED TO BE ADDED TO THE SEQUENCE OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND ALL OTHER APPLICABLE LAWS.

TEMPORARY SEEDING NOTES

NOTE: REFER TO THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL FOR THE STATE OF NEW JERSEY, REVISED 2017 FOR FURTHER DETAILS REGARDING PREPARATION AND MAINTENANCE OF SITE CONDITIONS RELATING TO TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
   1.1. ALL GRADING SHOULD BE PERFORMED IN ACCORDANCE WITH THE STANDARDS FOR LAND GRADING 19-1.
   1.2. GRADING SHOULD BE PERFORMED SO THAT IT IS FEASIBLE TO COMPLETE SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
   1.3. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURE AS NECESSARY AND AS DETAILED BY STANDARDS 11 THROUGH 42
2. SEEDBED PREPARATION
   2.1. UNLESS SOIL TESTING INDICATES ALTERNATIVE FERTILIZING, APPLY THE FOLLOWING GROUND LIMESTONE AND FERTILIZER TO SEED BED.
      2.1.1. FERTILIZER
         2.1.1.1. 500 LBS PER ACRE OR 11 LBS PER 1,000 SQUARE FEET
         2.1.1.2. USE 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN.
      2.1.2. GROUND LIMESTONE
         2.1.2.1. 2 TONS PER ACRE
   2.2. WORK LIME AND FERTILIZER INTO SOIL AT AN APPROXIMATE 4 INCH DEPTH
   2.3. CONTINUE TILLAGE UNTIL SEED BED IS UNIFORM.
   2.4. IF SEED BED HAS BEEN COMPACTED BY TRAFFIC, RETILL SEED BED UNTIL DISTURBANCE OR COMPACTION IS REMOVED.
   2.5. SOILS HAVING A pH OVER 4 REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG 1-1.
3. SEEDING
   3.1. SELECT PERENNIAL RYE GRASS AS COVER CROP FOR TEMPORARY VEGETATIVE STABILIZATION
   3.2. SEEDING RATE
      3.2.1. 100 LBS PER ACRE
      3.2.2. 1 LB PER 1,000 SQUARE FEET
   3.3. SEEDING WINDOW - ZONE 6B
      3.3.1. MARCH 1ST - MAY 15TH
      3.3.2. AUGUST 15TH - OCTOBER 1ST
   3.4. SEED DEPTH
      3.4.1. 0.5 INCHES
      3.4.2. INCREASE DEPTH TO 1 INCH FOR SANDY SOILS
   3.5. CONVENTIONAL SEEDING
      3.5.1. APPLY SEED BY HAND, CENTRIFUGAL SEEDER, DROP SEEDER, DRILL, OR CULTIPACKER SEEDER
      3.5.2. EXCEPT FOR DRILLED, HYDROSEED, OR CULTIPACK, SEED SHALL BE INCORPORATED INTO THE SOIL AT A DEPTH OF 1/4 TO 1/2 INCH.
   3.6. HYDROSEEDING
      3.6.1. USE HYDROSEEDING METHODS FOR AREAS TOO STEEP FOR EQUIPMENT USED FOR CONVENTIONAL SEEDING METHODS OR OBSTRUCTED AREAS.
      3.6.2. DO NOT INCLUDE MULCH IN TANK WITH SEED. SEE MULCHING BELOW AND IN SECTION 4 OF THE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION IN THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY REV. 2017
4. MULCHING
   4.1. MULCHING IS REQUIRED FOR ALL SEEDING.
   4.2. WOOD-FIBER OR PAPER-FIBER MULCH
      4.2.1. APPLY AT A RATE OF 1,500 LBS PER ACRE OR AS RECOMMENDED BY MANUFACTURER
      4.2.2. APPLICATION MAY BE CONDUCTED WITH HYDROSEEDER. DO NOT COMBINE MULCH WITH SEED IN TANK
      4.2.3.

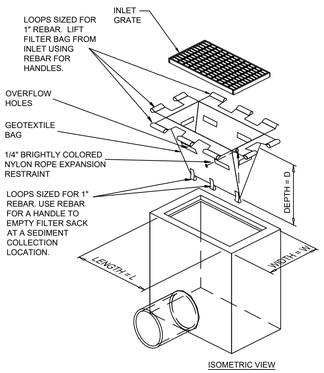
PERMANENT SEEDING NOTES

NOTE: REFER TO THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL FOR THE STATE OF NEW JERSEY, REVISED 2017 FOR FURTHER DETAILS REGARDING PREPARATION AND MAINTENANCE OF SITE CONDITIONS RELATING TO PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

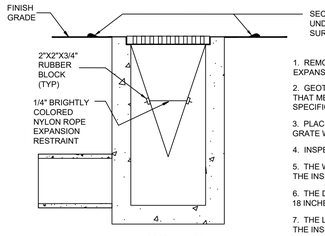
1. SITE PREPARATION
   1.1. ALL GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS FOR LAND GRADING 19-1.
   1.2. GRADING SHALL BE PERFORMED SO THAT IT IS FEASIBLE TO COMPLETE SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
   1.3. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURE AS NECESSARY AND AS DETAILED BY STANDARDS 11 THROUGH 42
   1.4. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING
   1.5. TOPSOIL SHALL BE APPLIED TO SEEDBED AT A DEPTH OF 5 INCHES MINIMUM. TOPSOIL SHALL BE AMENDED AS NECESSARY IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
2. SEEDBED PREPARATION
   2.1. UNLESS SOIL TESTING INDICATES ALTERNATIVE FERTILIZING, APPLY THE FOLLOWING GROUND LIMESTONE AND FERTILIZER TO SEED BED.
      2.1.1. FERTILIZER
         2.1.1.1. 500 LBS PER ACRE OR 11 LBS PER 1,000 SQUARE FEET
         2.1.1.2. USE 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE.
      2.1.2. GROUND LIMESTONE
         2.1.2.1. 2 TONS PER ACRE
   2.2. INCORPORATE LIME AND FERTILIZER INTO SOIL AT AN APPROXIMATE 4 INCH DEPTH
   2.3. CONTINUE TILLAGE UNTIL SEED BED IS UNIFORM.
   2.4. IF SEED BED HAS BEEN COMPACTED BY TRAFFIC, RETILL SEED BED UNTIL DISTURBANCE OR COMPACTION IS REMOVED.
   2.5. SOILS HAVING A pH OVER 4 REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG 1-1.
3. SEEDING
   3.1. SELECT ERNST SEED MIX 173 'EASTERN NATIVE HABITAT MIX' OR APPROVED EQUAL.
   3.2. SEED MIX SHALL BE EQUIVALENT TO RECOMMENDED SEED MIXTURES BY THE SOIL CONSERVATION DISTRICT
   3.3. SEEDING RATE
      3.3.1. 11 LBS PER ACRE
   3.4. SEEDING WINDOW - ZONE 6B
      3.4.1. MARCH 1ST - MAY 15TH
      3.4.2. AUGUST 15TH - OCTOBER 1ST
   3.5. SEED DEPTH
      3.5.1. 0.5 INCHES
      3.5.2. INCREASE DEPTH TO 1 INCH FOR SANDY SOILS
   3.6. CONVENTIONAL SEEDING
      3.6.1. APPLY SEED BY HAND, CENTRIFUGAL SEEDER, DROP SEEDER, DRILL, OR CULTIPACKER SEEDER
      3.6.2. SEED HALL BE INCORPORATED INTO THE SOIL AT A DEPTH OF 1/2 INCH MINIMUM.
      3.6.3. INCORPORATE SEED INTO SEEDBED WITHIN 24 HOURS OF PREPARATION OF SEED BED.
4. MULCHING
   4.1. MULCHING IS REQUIRED FOR ALL SEEDING.
   4.2. WOOD-FIBER OR PAPER-FIBER MULCH
      4.2.1. APPLY AT A RATE OF 1,500 LBS PER ACRE OR AS RECOMMENDED BY MANUFACTURER
      4.2.2. APPLICATION MAY BE CONDUCTED WITH HYDROSEEDER. DO NOT COMBINE MULCH WITH SEED IN TANK
5. ESTABLISHMENT
   5.1. ESTABLISHMENT OF THE PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER AND MOWED ONCE.
   5.2. MOWING OF THE VEGETATION DOES NOT GUARANTEE THE PERMANENCY OF THE VEGETATIVE COVER.

MERCER COUNTY SOIL CONSERVATION DISTRICT NOTES

1. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 48 HOURS PRIOR TO STARTING LAND DISTURBANCE ACTIVITY. NOTICE MAY BE MAILED, OR EMAILED TO:
   MCSCD, 590 HUGHES DRIVE, HAMILTON SQUARE, NJ 08690
   PHONE: 609-586-9603 EMAIL: PAULS1MERCER@AOL.COM
2. IF APPLICABLE TO THIS PROJECT, THE OWNER SHOULD BE AWARE OF HIS OR HER OBLIGATION TO FILE FOR A NJPDES CONSTRUCTION ACTIVITY STORMWATER 5G3 PERMIT (NJG0088323) VIA THE NJDEP ONLINE PERMITTING SYSTEM (WWW.NJ.GOV/DEP/ONLINE) AND TO MAINTAIN THE ASSOCIATED BEST MANAGEMENT PRACTICES AND STORMWATER POLLUTION PREVENTION PLAN SELF-INSPECTION LOGBOOK ONSITE AT ALL TIMES. THIS PERMIT MUST BE FILED PRIOR TO THE START OF SOIL DISTURBANCE. THE ONLINE APPLICATION PROCESS WILL REQUIRE ENTRY OF AN SCD CERTIFICATION CODE, WHICH IS PROVIDED BY THE SOIL CONSERVATION DISTRICT UPON CERTIFICATION OF THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
3. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, INCLUDING AN INCREASE IN THE LIMIT OF DISTURBANCE, WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION & SEDIMENT CONTROL STANDARDS.
5. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON SITE AT ALL TIMES.
6. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AS OUTLINED WITHIN THE SEQUENCE OF CONSTRUCTION ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NJ. IF LANGUAGE CONTAINED WITHIN ANY OTHER PERMIT FOR THIS PROJECT IS MORE RESTRICTIVE THAN (BUT NOT CONTRADICTORY TO) WHAT IS CONTAINED WITHIN THESE NOTES OR ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, THEN THE MORE RESTRICTIVE PERMIT REQUIREMENTS SHALL BE FOLLOWED.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A 1½" TO 2½" CLEAN STONE TRACKING PAD AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE, WHETHER IDENTIFIED ON THE CERTIFIED PLAN OR NOT. THE WIDTH SHALL SPAN THE FULL WIDTH OF EGRESS, AND LENGTH SHALL BE 50 FT. OR MORE, DEPENDING ON SITE CONDITIONS AND AS REQUIRED BY THE STANDARD. THIS SHALL INCLUDE INDIVIDUAL LOT ACCESS POINTS WITHIN RESIDENTIAL SUBDIVISIONS. IF THE EGRESS IS TO A COUNTY ROAD, THEN A 20 FT. LONG PAVED TRANSITION SHALL BE PROVIDED BETWEEN THE EDGE OF PAVEMENT AND THE STONE ACCESS PAD.
9. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING, PROVIDED THAT ALL OTHER REQUIREMENTS RELATED TO DETENTION BASINS, SWALES AND THE SEQUENCE OF CONSTRUCTION HAVE BEEN MET.
10. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 14 DAYS AND NOT SUBJECT TO CONSTRUCTION ACTIVITY WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER, OR IF THE AREA IS NOT TOPSOILED, THEN THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS. SLOPED AREAS IN EXCESS OF 3H:1V SHALL BE PROVIDED WITH EROSION CONTROL BLANKETS. CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS, ENVIRONMENTALLY SENSITIVE AREAS) WILL RECEIVE TEMPORARY STABILIZATION IMMEDIATELY AFTER AN INITIAL DISTURBANCE OR ROUGH GRADING
11. ANY STEEP SLOPES (I.E. SLOPES GREATER THAN 3:1) RECEIVING PIPELINE OR UTILITY INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS.
12. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING AND TOPSOILING. ALL AGRONOMIC REQUIREMENTS CONTAINED WITHIN THE STANDARDS AND ON THE CERTIFIED PLAN SHALL BE EMPLOYED. MULCH WITH A BINDER, IN ACCORDANCE WITH THE STANDARDS, SHALL BE USED ON ALL SEEDED AREAS. SAVE ALL TAGS AND/OR BAGS USED FOR SEED, LIME, AND FERTILIZER, AND PROVIDE THEM TO THE DISTRICT INSPECTOR TO VERIFY THAT MIXTURES AND RATES MEET THE STANDARDS.
13. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, THEN NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
14. DURING THE COURSE OF CONSTRUCTION, SOIL COMPACTION MAY OCCUR WITHIN HAUL ROUTES, STAGING AREAS, AND OTHER PROJECT AREAS. IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING, COMPACTED SURFACES SHOULD BE SCARIFIED 6" TO 12" IMMEDIATELY PRIOR TO TOPSOIL APPLICATION. THIS WILL HELP ENSURE A GOOD BOND BETWEEN THE TOPSOIL AND SUBSOIL. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
15. PRIOR TO SEEDING, TOPSOIL SHALL BE WORKED TO PREPARE A PROPER SEEDBED. THIS SHALL INCLUDE RAKING OF THE TOPSOIL AND REMOVAL OF DEBRIS AND STONES, ALONG WITH OTHER REQUIREMENTS OF THE STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION.
16. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE BURIED WITH LIMESTONE IN ACCORDANCE WITH THE STANDARD AND BE COVERED WITH A MINIMUM OF 12" OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO TOPSOIL APPLICATION AND SEEDBED PREPARATION. IF THE AREA IS TO RECEIVE TREE OR SHRUB PLANTINGS OR IS LOCATED ON A SLOPE, THEN THE AREA SHALL BE COVERED WITH A MINIMUM OF 24" OF SOIL HAVING A PH OF 5 OR MORE.
17. MULCHING TO THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONAL ROC'S ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING. PERMANENT STABILIZATION MUST THEN BE COMPLETED DURING THE OPTIMUM SEEDING SEASON IMMEDIATELY FOLLOWING THE CONDITIONAL ROC OR THE COMPLETION OF WORK IN A GIVEN AREA.
18. HYDROSEEDING IS A TWO-STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY, GOOD SEED-TO-SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDRO-MULCH SHOULD BE APPLIED AT A MINIMUM RATE OF 1500 LBS. PER ACRE IN THE SECOND STEP. THE USE OF HYDRO-MULCH, AS OPPOSED TO STRAW, IS LI



ISOMETRIC VIEW



SECTION VIEW
PROFILE VIEW OF INSTALLED FILTER SACK

1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.

2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.

3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.

4. INSPECT PER REGULATORY REQUIREMENTS.

5. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.

6. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.

7. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

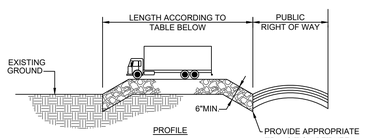
FILTER SACKS (GRATED INLETS) (IP10)

DO NOT USE IN PAVED AREAS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

N.T.S.

1 INLET PROTECTION DETAIL

N.T.S.



* Note:
INDIVIDUAL LOT ACCESS POINTS MAY REQUIRE STABILIZATION. THICKNESS SHOWN IS FOR STONE CONSTRUCTION ENTRANCE ONLY (TYP.).

DESIGN CRITERIA

STONE SIZE - USE ASTM C-33, SIZE No. 2 (2½ TO 1½ IN.) OR 3 (2 to 1 IN.). USE CLEAN CRUSHED ANGULAR STONE. CRUSHED CONCRETE OF SIMILAR SIZE MAY BE SUBSTITUTED BUT WILL REQUIRE MORE FREQUENT UPGRADING AND MAINTENANCE.

THICKNESS - NOT LESS THAN SIX (6) INCHES.

WIDTH - NOT LESS THAN FULL WIDTH OF POINTS OF INGRESS OR EGRESS.

LENGTH - 50 FEET MINIMUM WHERE THE SOILS ARE COURSE GRAINED (SANDS OR GRAVEL) OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE TRAVELED LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE. STORMWATER FROM UP-SLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD (SEE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NJ" FOR DIVERSIONS, PG. 15-1). WHERE DIVERSION IS NOT POSSIBLE, THE LENGTH OF THE STABILIZED PAD SHALL BE AS SHOWN IN TABLE 29-1. WHERE THE SLOPE OF THE ACCESS ROAD EXCEEDS 5%, A STABILIZED BASE COURSE OF FINE AGGREGATE BITUMINOUS CONCRETE (FABC) SHALL BE INSTALLED. THE TYPE AND THICKNESS OF THE FABC AND USE OF A DENSE GRADE AGGREGATE SUB-BASE SHALL BE AS PRESCRIBED BY LOCAL MUNICIPAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE.

TABLE 29-1. LENGTHS OF CONSTRUCTION EXITS ON SLOPING ROADBEDS

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 ft.	100 ft.
2 TO 5%	100 ft.	200 ft.
> 5%	ENTIRE SURFACE STABILIZED WITH FABC BASE COURSE1	

1. AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

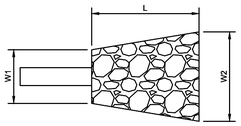
MAINTENANCE

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO ROADWAYS (PUBLIC OR PRIVATE) OR OTHER IMPERVIOUS SURFACES MUST BE REMOVED IMMEDIATELY.

WHERE ACCUMULATION OF DUST/SEDIMENT IS INADEQUATELY CLEANED OR REMOVED BY CONVENTIONAL METHODS, A POWER BROOM OR STREET SWEEPER WILL BE REQUIRED TO CLEAN PAVED OR IMPERVIOUS SURFACES. ALL OTHER ACCESS POINTS WHICH ARE NOT STABILIZED SHALL BE BLOCKED OFF.

4 STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.



RIP RAP APRON DIMENSIONS			
STRUCTURE	L	W1	W2
EX-1	33 FT	9 FT	42 FT
EX-2	24 FT	8 FT	31 FT

RIP RAP STANDARD LAYOUT
(NTS)

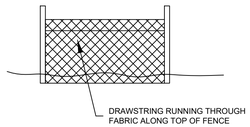
RIP RAP STANDARD NOTES

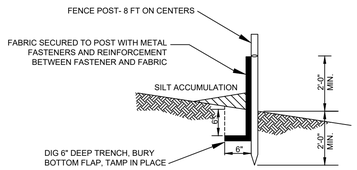
Notes:

1. In case of a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

6 RIP RAP STANDARD LAYOUT AND SIZING

NTS



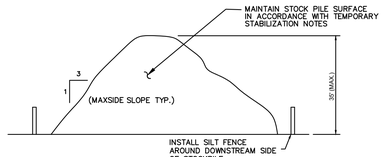


NOTES:

1. FENCE POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1½ INCHES.
2. FABRIC SHALL BE GEOTEXTILE FABRIC RECOMMENDED FOR SUCH USE BY MANUFACTURER.

2 SILT FENCE DETAIL

N.T.S.

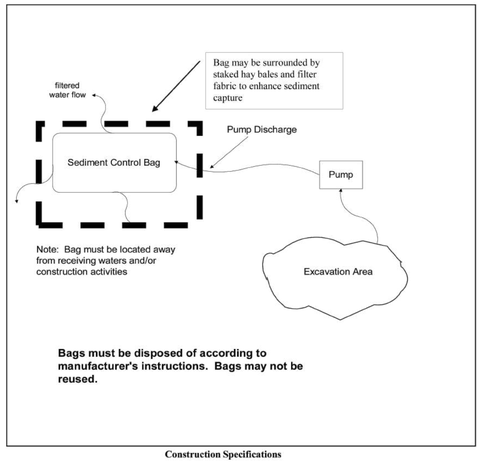


IMMEDIATELY APPLY TEMPORARY SEEDING TO ALL STOCKPILES WHICH WILL REMAIN IN PLACE 20 DAYS OR MORE.

5 TEMPORARY TOPSOIL STOCKPILE

N.T.S.

Detail 14-4 Sediment Control Bag for Dewatering



Construction Specifications

A. Location. Containers (tanks or bags) shall be located for ease of clean-out and disposal of the trapped sediment and to minimize interference with construction activities and pedestrian traffic. Bags shall not be place directly into receiving waters.

B. Tank size. The following formula should be used in determining the storage volume of the tank: 1 cubic foot of storage for each gallon per minute of pump discharge capacity. Typical tank configuration is shown on Detail 14-3. Tanks may be connected in series to increase effectiveness.

C. Tanks consist of two concentric circular pipes (CMP), attached to a watertight baseplate. The inner CMP is perforated with 1" holes on 6" centers and is wrapped with geotextile and hardware cloth. Pumped water is discharged into the inner CMP where it flows through the geotextile into the space between the two CMP=s. A discharge line is attached to the outer CMP and draws filtered water from the annulus between the two concentric CMP=s. The discharge line may be connected to another tank where it drains to the inner CMP of the second tank. This series connection may be continued indefinitely.

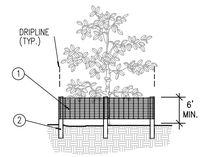
D. Sediment Control Bags must be located away from receiving waters and disposed of according to manufacturer's instructions. See Detail 14-4. Bags may be combined with temporary filters (item 4, following) for enhanced filtration.

7 SITE DEWATERING METHOD

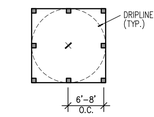
N.T.S.

DATE: 01/14

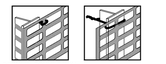
SOURCE: STANDARDS SESC NJ



ELEVATION



PLAN VIEW



CORNER CONNECTION CONNECTION

1. 6'H "PERIMETER PLUS" CONSTRUCTION FENCE BY CONWED PLASTICS OR OWNER'S REPRESENTATIVE APPROVED EQUAL. SUBMIT PRODUCT INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
2. 8' TALL METAL "T" POSTS OR 2" x 2" X 8' PRESSURE TREATED WOOD POSTS WITH 24" BURIAL BELOW GRADE.

INSTALLATION NOTES:

A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.

B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/4 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 8' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.

C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).

D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

3 TREE SHRUB PROTECTION

N.T.S.

STANDARD FOR DUST CONTROL

Definition

The control of dust on construction sites and roads.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduced on-site and off-site damage and health hazards and improve traffic safety.

Condition Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on-site and off-site damage is likely without treatment. Consult with local municipal ordinances on any restrictions.

Water Quality Enhancement

Sediments deposited as "dust" are often fine colloidal material which is extremely difficult to remove from water once it becomes suspended Use of this standard will help to control the generation of dust from construction sites and subsequent blowing and deposition into local surface water resources.

Planning Criteria

The following methods should be considered for controlling dust:

Mulches - See Standard of Stabilization with Mulches Only, pg. 5-1

Vegetative Cover - See Standard for: Temporary Vegetative Cover, pg. 7-1, Permanent Vegetative Cover for Soil Stabilization pg. 4-1 and Permanent Stabilization with Sod, pg. 6-1

Spray-On Adhesives - On mineral soils (not effective on muck soils). Keep traffic off these areas.

Table 16-1 Dust Control Materials

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACRE
Anionic asphalt emulsion	7:1	Coarse Spray	1200
Latex emulsion	12.5:1	Fine Spray	235
Resin in water	4:1	Fine Spray	300
Polyacrylamide (PAM) - spray on Polyacrylamide (PAM) - dry spread	Apply according to manufacturer's instructions. May also be used as an additive to sediment basins to flocculate and precipitate suspended colloids. See Sediment Basin standard, p. 26-1		
Acidulated Soy Bean Soap Stick	None	Coarse Spray	1200

Tillage - To roughen surface and bring clods to the surface. This is a temporary emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart and spring-toothed harrows are examples of equipment which may produce the desired effect.

Sprinkling - Site is sprinkled until the surface is wet.

Barriers - Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to control air currents and soil blowing.

Calcium Chloride - Shall be in the form of loose, dry granules or flakes fine enough to feed through commonly used spreaders at a rate that will keep surface moist but not cause pollution or plant damage. If used on steeper slopes, then use other practices to prevent washing into streams or accumulation around plants.

Stone - Cover surface with crushed stone or coarse gravel.

8 STANDARD FOR DUST CONTROL NOTES

N.T.S.

DATE: 01/14

SOURCE: STANDARDS SESC NJ

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

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PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA30035500

T. W. DIGGAN
PROFESSIONAL ENGINEER
NOT ISSUED ACCORDING TO ADDOD

KHA PROJECT	115319783
DATE	01/13/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

SESC NOTES AND DETAILS (2 OF 2)

811 Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

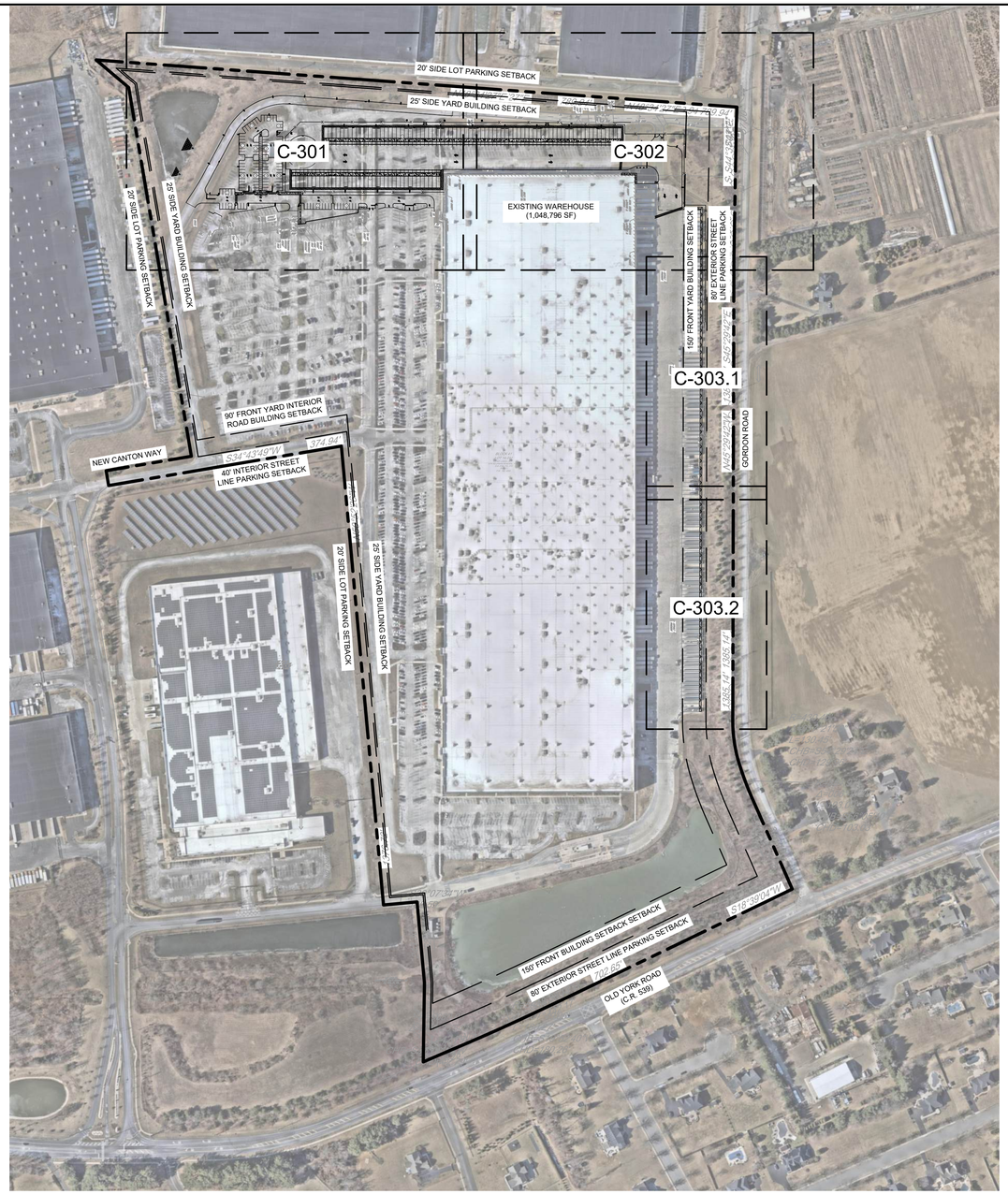
OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
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CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

SHEET NUMBER
C-211

March 27, 2026 — k:\prn_civil\115319783 - ewr4 robbinsville twp nj\5. cad\sheets\ - 24x36\C-220 - SESC NOTES AND DETAILS.dwg
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PROPOSED LEGEND

- PROPERTY BOUNDARY
- PROPOSED SETBACK
- PROPOSED LIGHT POLE
- PROPOSED TRAFFIC SIGN
- PROPOSED BLACK VINYL CHAIN LINK FENCE
- PROPOSED DOLLY PAD
- PROPOSED PERMEABLE PAVER SIDEWALK
- PROPOSED CONCRETE SIDEWALK

BULK TABLE					
ADDRESS	50 NEW CANTON WAY				
MUNICIPALITY	ROBBINSVILLE TOWNSHIP, NJ 08691				
COUNTY	MERCER COUNTY				
BLOCK, LOT	BLOCK 41, LOTS 14.011, 36.01, & 37.012				
ZONE	PCD - PLANNED COMMERCIAL DEVELOPMENT				
DISTRICT	REDEVELOPMENT PCD-1[1]				
PERMITTED USE	DISTRIBUTION/FULLFILMENT CENTER				
PROPOSED USE	DISTRIBUTION/FULLFILMENT CENTER				
DEVELOPMENT STANDARDS[1]					
	CODE	REQUIRED	EXISTING[2]	PROPOSED	COMPLIANCE
MIN. LOT AREA	§ 142-25.E	11 AC	84.68 AC	NO CHANGE	Y
MIN. WIDTH	§ 142-25.E	600 FT	2,074 FT	NO CHANGE	Y
MIN. DEPTH	§ 142-25.E	600 FT	1,665 FT	NO CHANGE	Y
BUILDING SETBACK (GORDON & OLD YORD RD)	§ 142-25.E	150 FT	224. 37 FT	NO CHANGE	Y
FRONT YARD SETBACK (INTERIOR ROAD)	§ 142-25.E	90 FT	295 FT	NO CHANGE	Y
SIDE YARD SETBACK	§ 142-25.E	25 FT	224 FT	NO CHANGE	Y
REAR YARD SETBACK	§ 142-25.E	25 FT	N/A	NO CHANGE	N/A
MAX. LOT COVERAGE	§ 142-25.E	70%	32.80%	32.79%	Y
DESIGN STANDARDS[1]					
	CODE	REQUIRED	EXISTING[2]	PROPOSED	COMPLIANCE
MAX. PARKING LOT AREA	§ 142-41.B	40%	< 40%	< 40%	Y
MIN. PARKIGN STALL DIM.	§ 142-25.F	9 FT x 18 FT	9 FT X 18 FT	NO CHANGE	Y
MIN TWO WAY AISLE (90 DEGREES)	§ 142-41.F	24 FT	24 FT	NO CHANGE	Y
MIN. OFF-STREET LOAING STALL DIM.	§ 142-41.G	14 FT x 60 FT	14 FT x 60 FT	NO CHANGE	Y
MIN. OFF-STREET TRAILER STALL DIM.	N/A	N/A	12 FT x 55 FT	NO CHANGE	N/A
MIN. REQUIRED LOADING DOCKS	§ 142-41.G	1 SPACE/FIRST 4,000 SF GFA PLUS 1 SPACE/10,000 SF GFA THEREAFTER: 1,044,796 GFA: 1 SPACE + 1,040,796/10,000 = 1 + 105 = 106 DOCKS	106 DOCKS	NO CHANGE	Y
MIN. OFF-STREET PARKING STALLS	§ 142-41.I	WAREHOUSE: 1 SPACE/EMPLOYEE PLUS 1 SPACE/4,000 SF 1,122 EMPLOYEE[3] = **1,122 SPACES** 968,761 SF / 4,000 = **243 SPACES** OFFICE: 1 SPACE/250 SF 80,035 SF / 250 = **321 SPACES** **TOTAL = 1,686 SPACES**	2,264 SPACES	1,783 SPACES	Y
MIN. OFF-STREET TRAILER PARKING STALLS	N/A	N/A	124 SPACES	235 SPACES	N/A
INTERIOR STREET LINE PARKING SETBACK	§ 142-25.F	40 FT	74.7 FT	NO CHANGE	Y
SIDE/REAR LOT LINE PARKING SETBACK	§ 142-25.F	20 FT	66.0 FT	91.6 FT	Y
EXTERIOR STREET LINE (GORDAN & OLD YORK RD) PARKING SETBACK	§ 142-25.F	80 FT	110.0 FT	NO CHANGE	Y

(1) PER THE "REDEVELOPMENT PLAN FOR BLOCK 41, LOTS 14, 36, 37.01, 37.02, 37.03, 38.02, 38.03, 38.04, AND 38.012" DATED OCTOBER 2011, PREPARED BY COFONE CONSULTING GROUP, LCC, ALL BULK REQUIREMENTS OF THE PCD ZONE SHALL APPLY TO THE REDEVELOPMENT PCD-1 DISTRICT.
(2) EXISTING CONDITIONS BASED ON PREVIOUSLY APPROVED 'PRELIMINARY & FINAL MAJOR SITE PLAN AND FINAL AMENDED SUBDIVISION PROJECT X' PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, DATED 09/26/2012, LAST REVISED 10/14/2013.
(3) EMPLOYEE COUNT BASED ON THE PEAK NUMBER OF EMPLOYEES ON THE BUSIEST SHIFT.

SITE NOTES:

1. ALL CONSTRUCTION SHALL CONFORM WITH APPLICABLE STATE AND LOCAL CONSTRUCTION STANDARDS AS IDENTIFIED IN THESE PLANS. THE CONTRACTOR SHALL MAINTAIN A CURRENT RELEASE OF THE STATE AND LOCAL LAND DEVELOPMENT STANDARDS MANUAL ON THE PROJECT SITE FOR REFERENCE DURING CONSTRUCTION OF THE PROJECT.
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5. THE CONTRACTOR SHALL VERIFY DIMENSIONS AT JOBSITE.
6. CONTRACTOR SHALL INSTALL ACCESSIBLE RAMPS PER NJDOT AND ADA STANDARDS AT ALL DRIVE AND BUILDING LOCATIONS AS REQUIRED.
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11. MUNICIPAL AND COUNTY OFFICIALS AND THEIR AGENTS OR EMPLOYEES HAVE THE RIGHT OF ACCESS FOR INSPECTION AND, IN CASES OF CONSTRUCTION DEFAULT, CONSTRUCTION OF THE STORM WATER MANAGEMENT FACILITIES.
12. LOCATIONS AND SIZING OF PROPOSED LIGHTING FIXTURES ARE SHOWN SCHEMATICALLY FOR REFERENCE ONLY. SEE SHEET LIGHTING PLAN AND DETAILS.



GRAPHIC SCALE IN FEET
0 100 200 400
1"=200'

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

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CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
ALL ADDED ADDRESS BLANKED

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

OVERALL SITE PLAN

Know what's below. Call before you dig.
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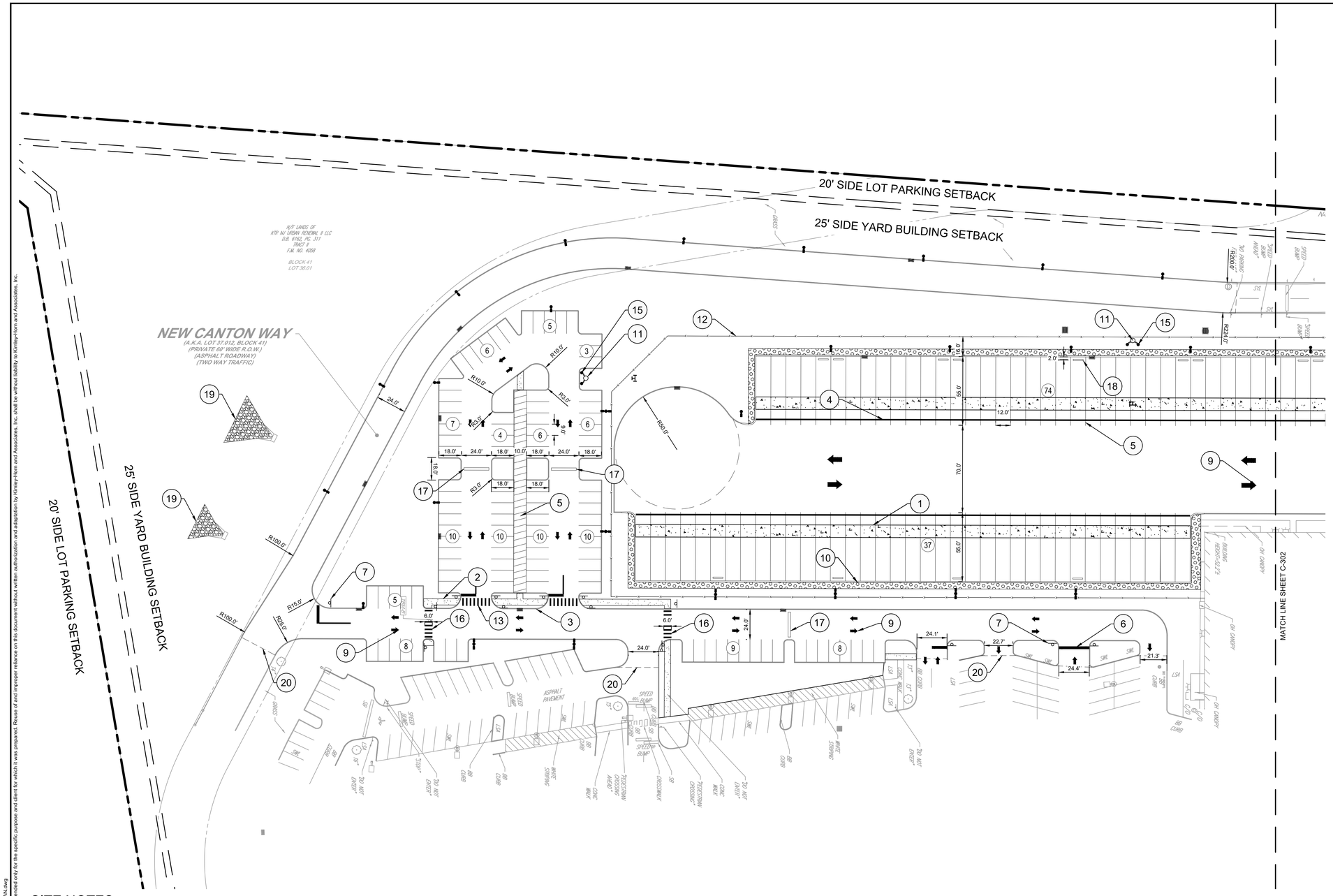
OWNER
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APPLICANT
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MERCER COUNTY
NEW JERSEY

SHEET NUMBER
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April 1, 2026 — k:\prn_civil\115319783 - ewr4 robbinsville twp nj\5. cad\sheets\ - 24x36\C-300 - SITE PLAN.dwg



PROPOSED LEGEND

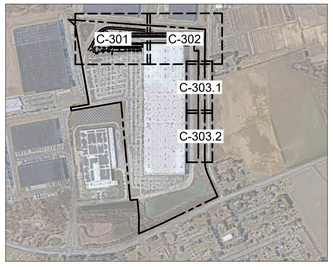
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- PROPOSED CONCRETE SIDEWALK

CONSTRUCTION NOTES

1. PROPOSED HEAVY DUTY CONCRETE DOLLY PAD
2. PROPOSED 5' CONCRETE SIDEWALK
3. PROPOSED 6" REVEAL X 6" WIDE CURB
4. PROPOSED LAND ON BLUE STRIPE. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
5. PROPOSED 4" PAVEMENT STRIPING. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
6. PROPOSED 24" STOP BAR. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
7. PROPOSED SIGN REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
8. PROPOSED 24' GATE WITH KNOX BOX PADLOCK REFER TO CONSTRUCTION DETAILS, SHEET C-700
9. PROPOSED DIRECTIONAL ARROW. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
10. INSPECTION LANE (5' PERMEABLE PAVER SIDEWALK + 1' CURB)
11. PROPOSED FIRE HYDRANT
12. PROPOSED 8' HIGH BLACK VINYL CHAIN LINK FENCE REFER TO CONSTRUCTION DETAILS, SHEET C-700 TO C-702
13. CROSSWALK STRIPING. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
14. PROPOSED DO NOT ENTER PAVEMENT MARKING REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
15. PROPOSED BOLLARD
16. PROPOSED RAISED PEDESTRIAN WALK PATH
17. PROPOSED DRIVE AISLE SPEED BUMP
18. PROPOSED TRAILER PARKING WHEEL STOP (8' FROM EDGE OF SLIP)
19. PROPOSED RIPRAP OUTLET PROTECTION REFER TO SHEET C-500
20. PROPOSED LIMITS OF PAVEMENT REFER TO SHEETS C-350 TO C-352
21. PROPOSED BELGIUM BLOCK CURBING REFER TO CONSTRUCTION DETAILS, SHEET C-700 TO C-702

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KEY MAP
1"=1000'

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

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PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000400

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

SITE PLAN (1 OF 3)

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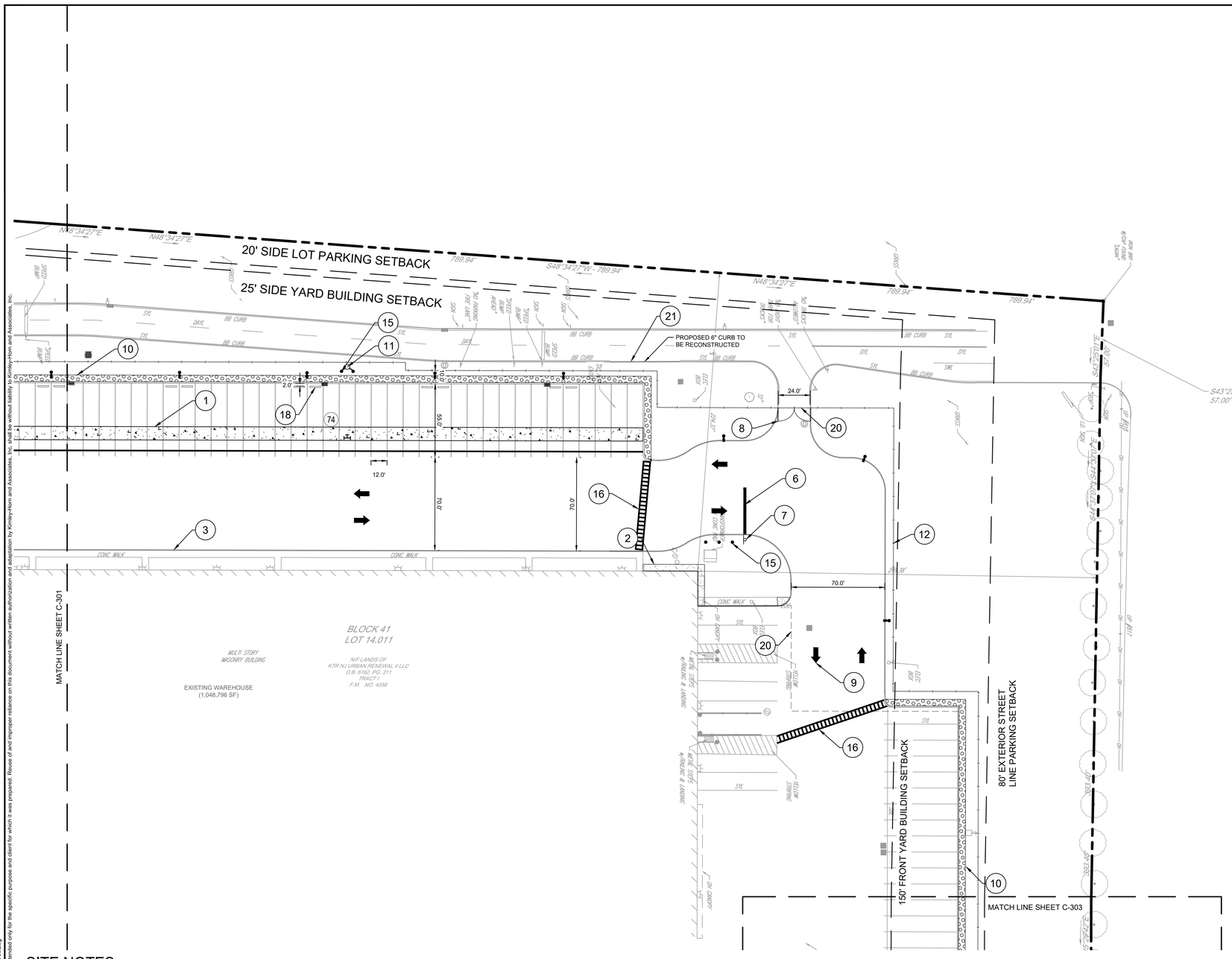
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MERCER COUNTY NEW JERSEY

SHEET NUMBER
C-301

April 1, 2026 - K:\prn_Civil\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\C-300 - SITE PLAN.dwg
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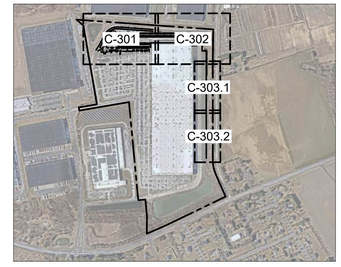
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17. PROPOSED DRIVE AISLE SPEED BUMP
18. PROPOSED TRAILER PARKING WHEEL STOP (8' FROM EDGE OF SLIP)
19. PROPOSED RIPRAP OUTLET PROTECTION REFER TO SHEET C-500
20. PROPOSED LIMITS OF PAVEMENT REFER TO SHEETS C-350 TO C-352
21. PROPOSED BELGIUM BLOCK CURBING REFER TO CONSTRUCTION DETAILS, SHEET C-700 TO C-702

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12. LOCATIONS AND SIZING OF PROPOSED LIGHTING FIXTURES ARE SHOWN SCHEMATICALLY FOR REFERENCE ONLY. SEE SHEET LIGHTING PLAN AND DETAILS.



KEY MAP
1"=1000'

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR

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PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NOT VALID UNLESS SEALED

KHA PROJECT			
DATE	01/13/2025	DESIGNED BY	TWD
SCALE	AS SHOWN	DRAWN BY	JAR
		CHECKED BY	ONS

SITE PLAN (2 OF 3)

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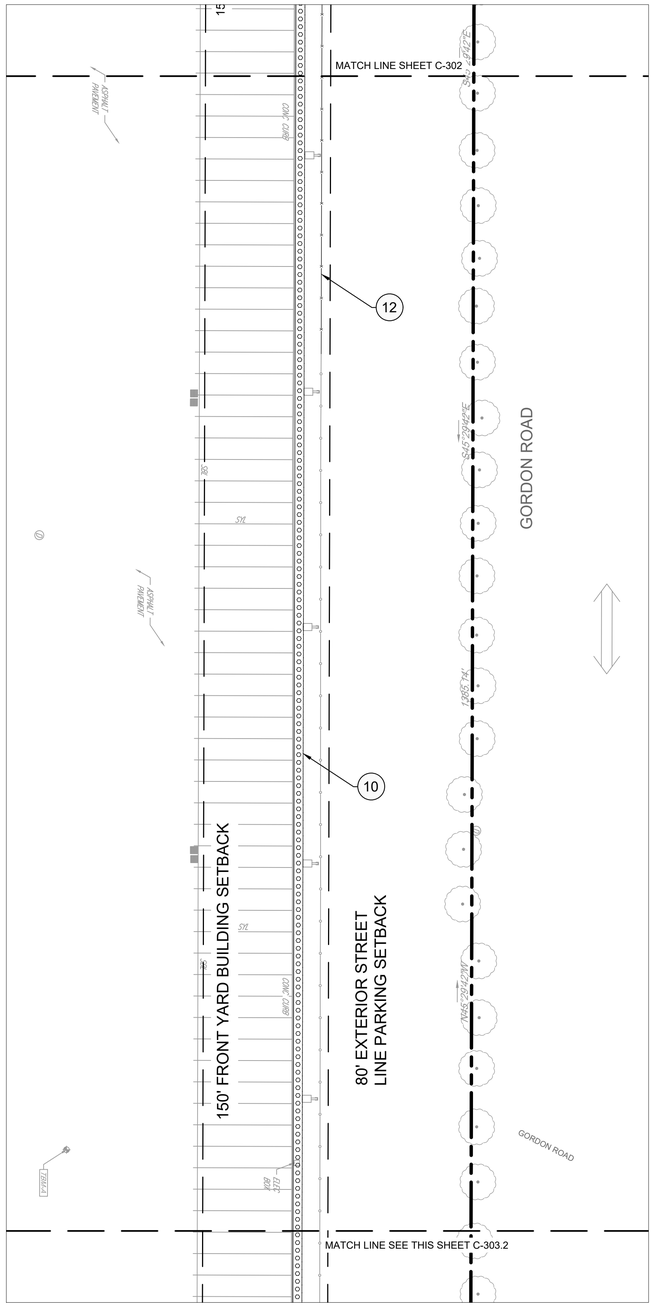
OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

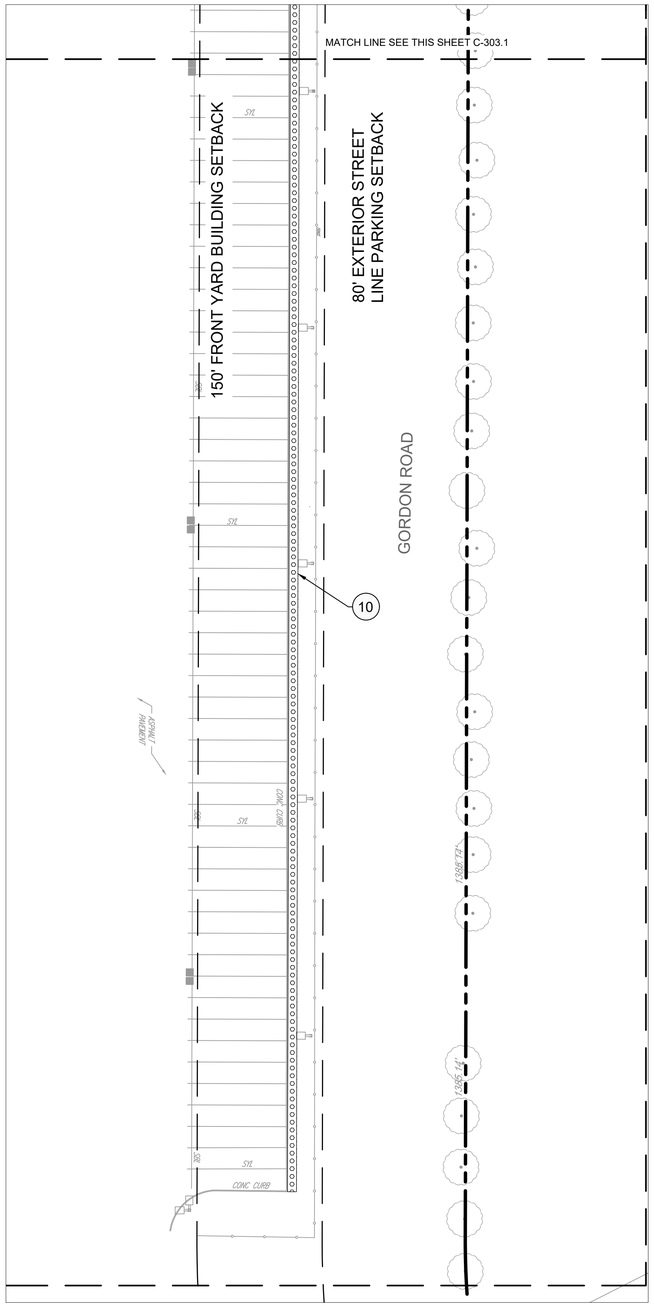
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410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.01, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-302

April 1, 2026 - k:\prn_cvil\115319783 - ewr4 robbinsville twp nj\5. cad\plans\sets - 24x36\C-300 - SITE PLAN.dwg
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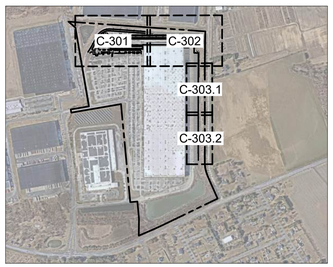
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- PROPOSED DOLLY PAD
- PROPOSED PERMEABLE PAVER SIDEWALK
- PROPOSED CONCRETE SIDEWALK

CONSTRUCTION NOTES

1. PROPOSED HEAVY DUTY CONCRETE DOLLY PAD
2. PROPOSED 5' CONCRETE SIDEWALK
3. PROPOSED 6" REVEAL X 6" WIDE CURB
4. PROPOSED LAND ON BLUE STRIPE. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
5. PROPOSED 4" PAVEMENT STRIPING. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
6. PROPOSED 24" STOP BAR. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
7. PROPOSED SIGN REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
8. PROPOSED 24' GATE WITH KNOX BOX PADLOCK REFER TO CONSTRUCTION DETAILS, SHEET C-700
9. PROPOSED DIRECTIONAL ARROW. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
10. INSPECTION LANE (5' PERMEABLE PAVER SIDEWALK + 1' CURB)
11. PROPOSED FIRE HYDRANT
12. PROPOSED 8' HIGH BLACK VINYL CHAIN LINK FENCE REFER TO CONSTRUCTION DETAILS, SHEET C-700 TO C-702
13. CROSSWALK STRIPING. REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
14. PROPOSED DO NOT ENTER PAVEMENT MARKING REFER TO SIGNAGE AND STRIPING PLAN, SHEETS C-350, 351 AND 352
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Kimley»Horn

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CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 44GE05...

KHA PROJECT			
DATE	01/13/2025	DESIGNED BY	ONS
SCALE	AS SHOWN	DRAWN BY	JAR
		CHECKED BY	TWD

SITE PLAN (3 OF 3)

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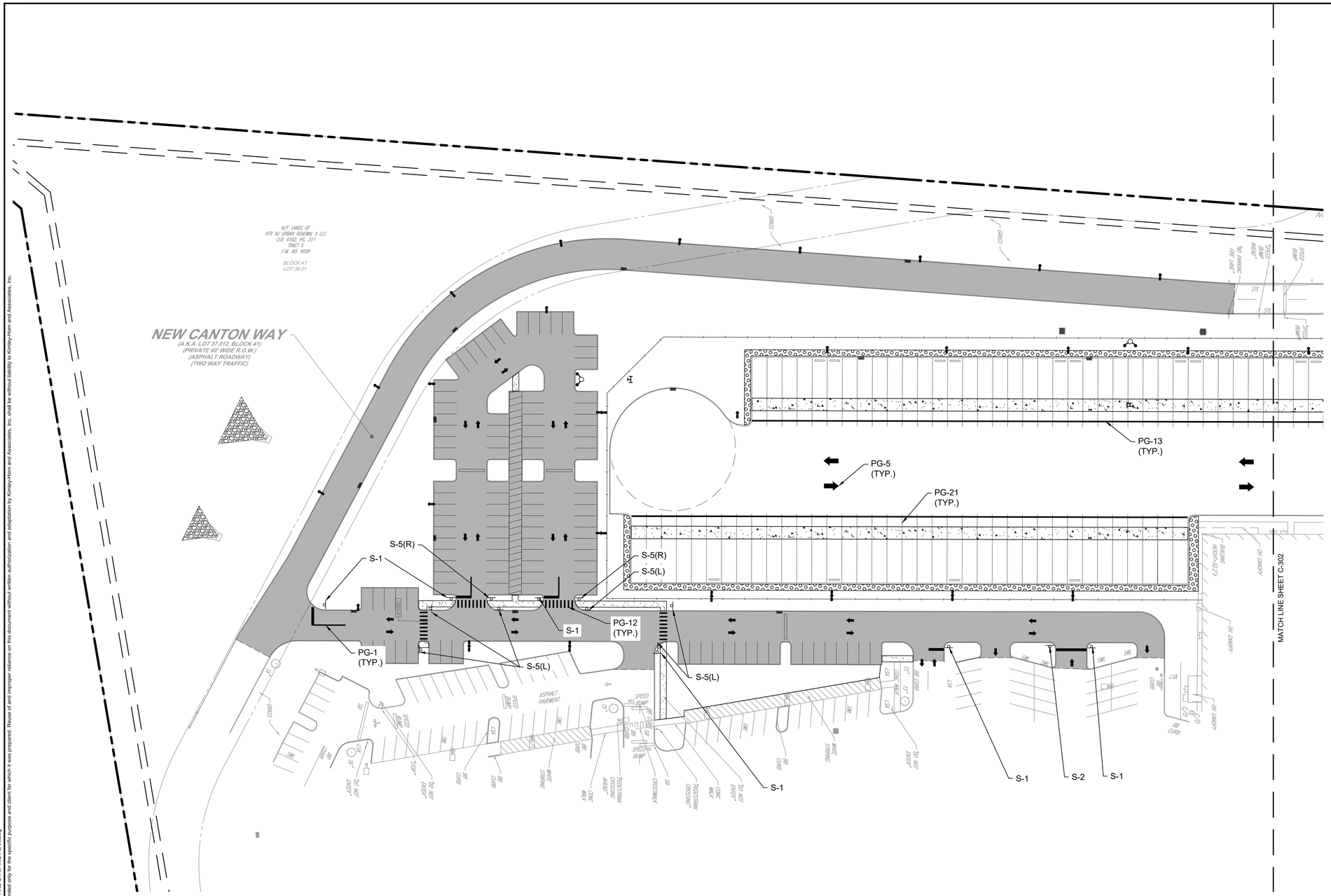
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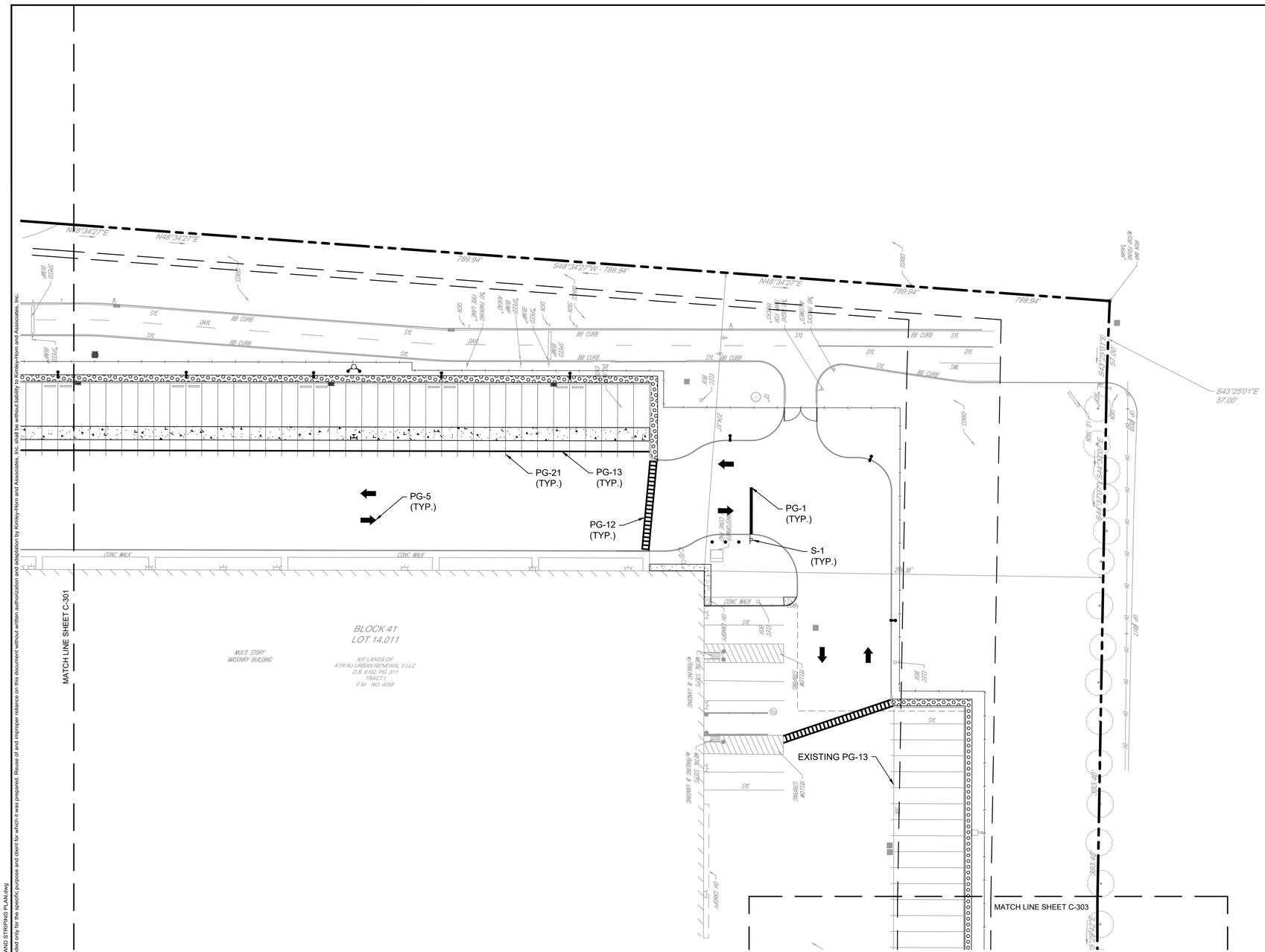
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SHEET NUMBER
C-303

April 1, 2026 – K:\prn_Cust\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\C-300 - SITE PLAN.dwg
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N/F LANDS OF
KTR NJ URBAN RENEWAL II LLC
DB. 6192, PG. 311
TRACT II
TAX MAP 41
BLOCK 41
LOT 36.01
NEW CANTON WAY
(A.K.A. LOT 37.012, BLOCK 41)
(PRIVATE 60' WIDE R.O.W.)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)
MATCH LINE SHEET C-302
PG-13 (TYP.)
PG-5 (TYP.)
PG-21 (TYP.)
PG-12 (TYP.)
PG-1 (TYP.)
S-1
S-5(R)
S-5(L)
S-2
ASPHALT PAVEMENT
SPEED HUMP
SPEED BUMP
CROSSWALK
ACCESS AISLE
CONCRETE WALK
CURB
SWALE
LANDSCAPE ISLAND
TRUCK PARKING
TRUCK PARKING
TRUCK PARKING



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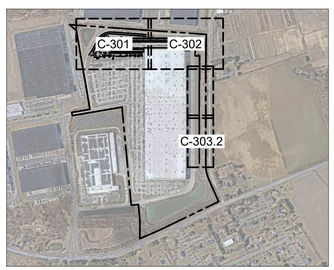
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SIGNAGE LEGEND

S-1	STOP SIGN
S-2	DO NOT ENTER

STRIPING (PAVEMENT GRAPHIC) LEGEND

PG-1	STOP BAR
PG-5	STRAIGHT ARROW
PG-12	CROSSWALK
PG-13	LAND ON BLUE
PG-21	EMPTY TRAILER SLIP



KEY MAP
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PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000400

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

PAVING, SIGNAGE, AND STRIPING PLAN (2 OF 3)

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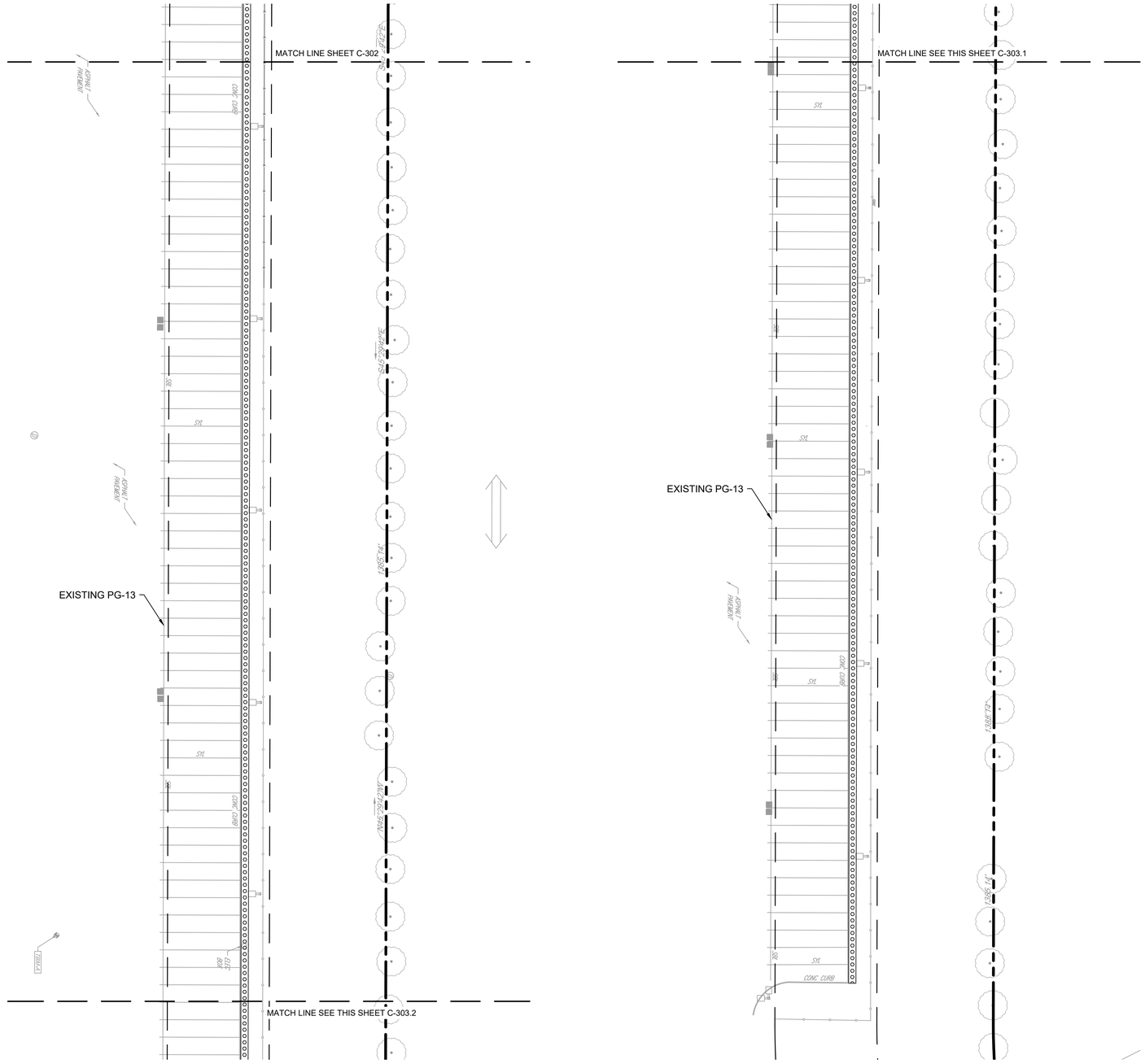
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SHEET NUMBER
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April 1, 2026 — k:\prn_dvl\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\C-300 - SIGNAGE AND STRIPING PLAN.dwg
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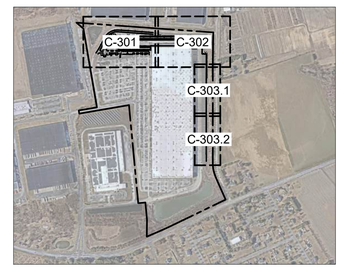
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T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000400

KHA PROJECT
115319783
DATE
01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

PAVING, SIGNAGE, AND STRIPING PLAN (3 OF 3)

811
Know what's below.
Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-352

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April 1, 2026 - x:\gm_civil\115319783 - ewr4 robbinsville twp nj\5. cad\sheets\ewr4 - 24x36C-260 - SIGNAGE AND STRIPING PLAN.dwg

April 1, 2026 - k:\prn_ushl\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\C-400 - VEHICLE MANEUVERING PLAN.dwg
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NOT FOR CONSTRUCTION

N/F LANDS OF
KTR NJ URBAN RENEWAL II LLC
DB. 6192, PG. 311
TRACT II
TAX MAP 41
BLOCK 41
LOT 36.01

NEW CANTON WAY
(A.K.A. LOT 37.012, BLOCK 41)
(PRIVATE 60' WIDE R.O.W.)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)

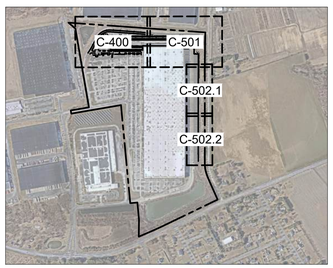
MATCH LINE SHEET C-401

WB-67

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

Smeal Aerial MM 100ft

	feet
Width	: 8.17
Track	: 7.75
Lock to Lock Time	: 6.0
Steering Angle	: 45.0



KEY MAP
1"=1000'

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

Kimley»Horn

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PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 44100

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

VEHICLE MANEUVERING PLAN (1 OF 2)

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DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

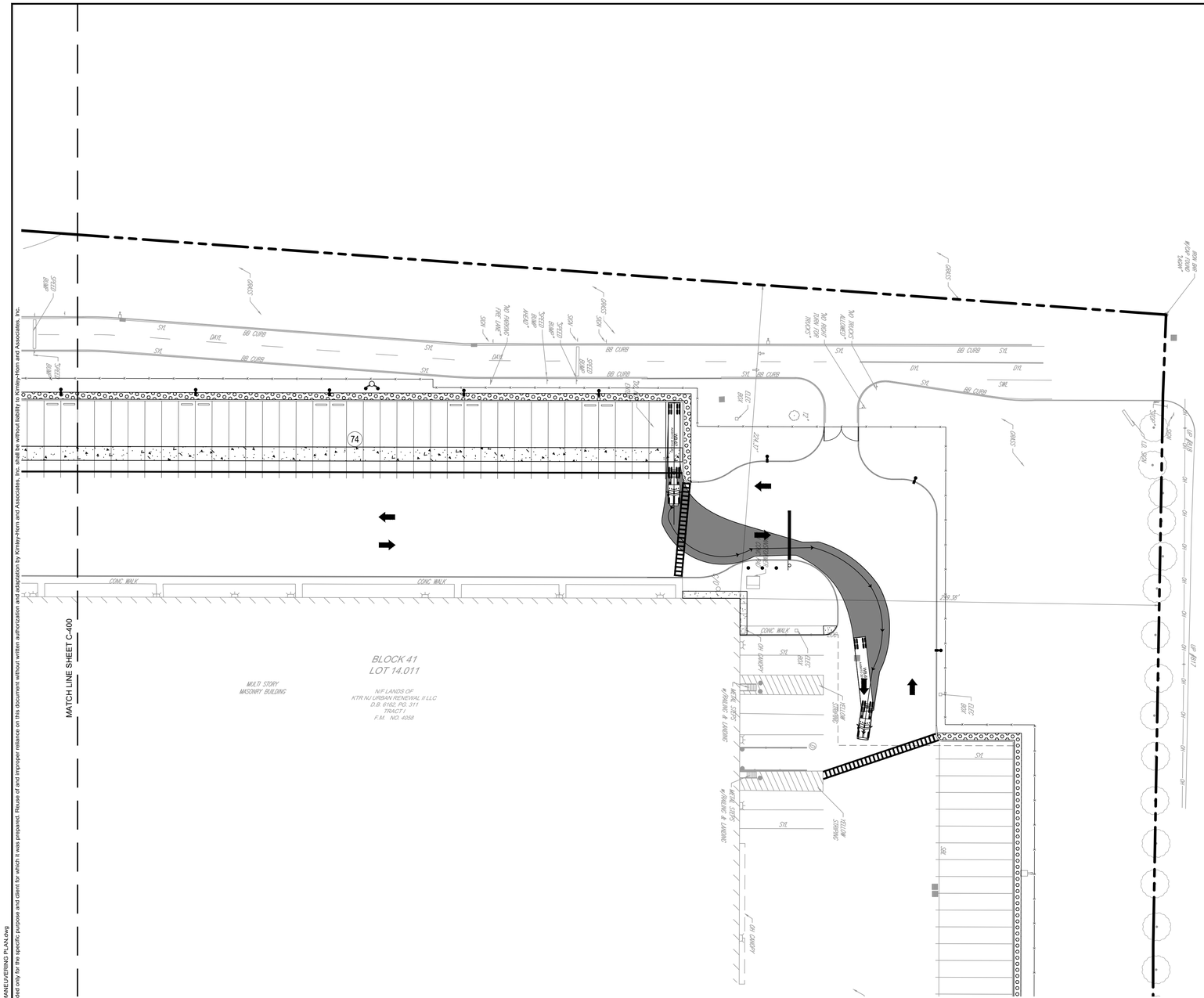
OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

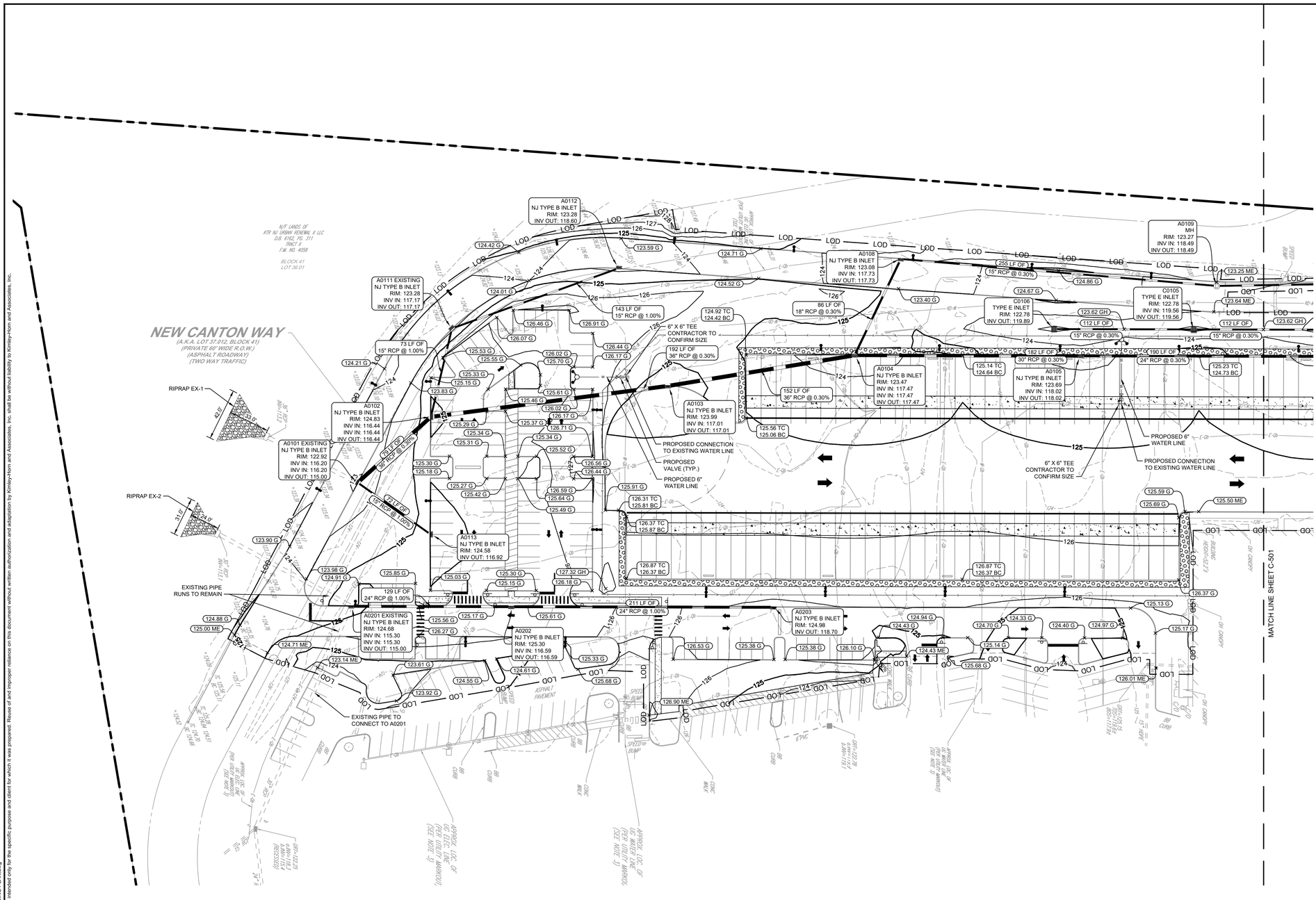
APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

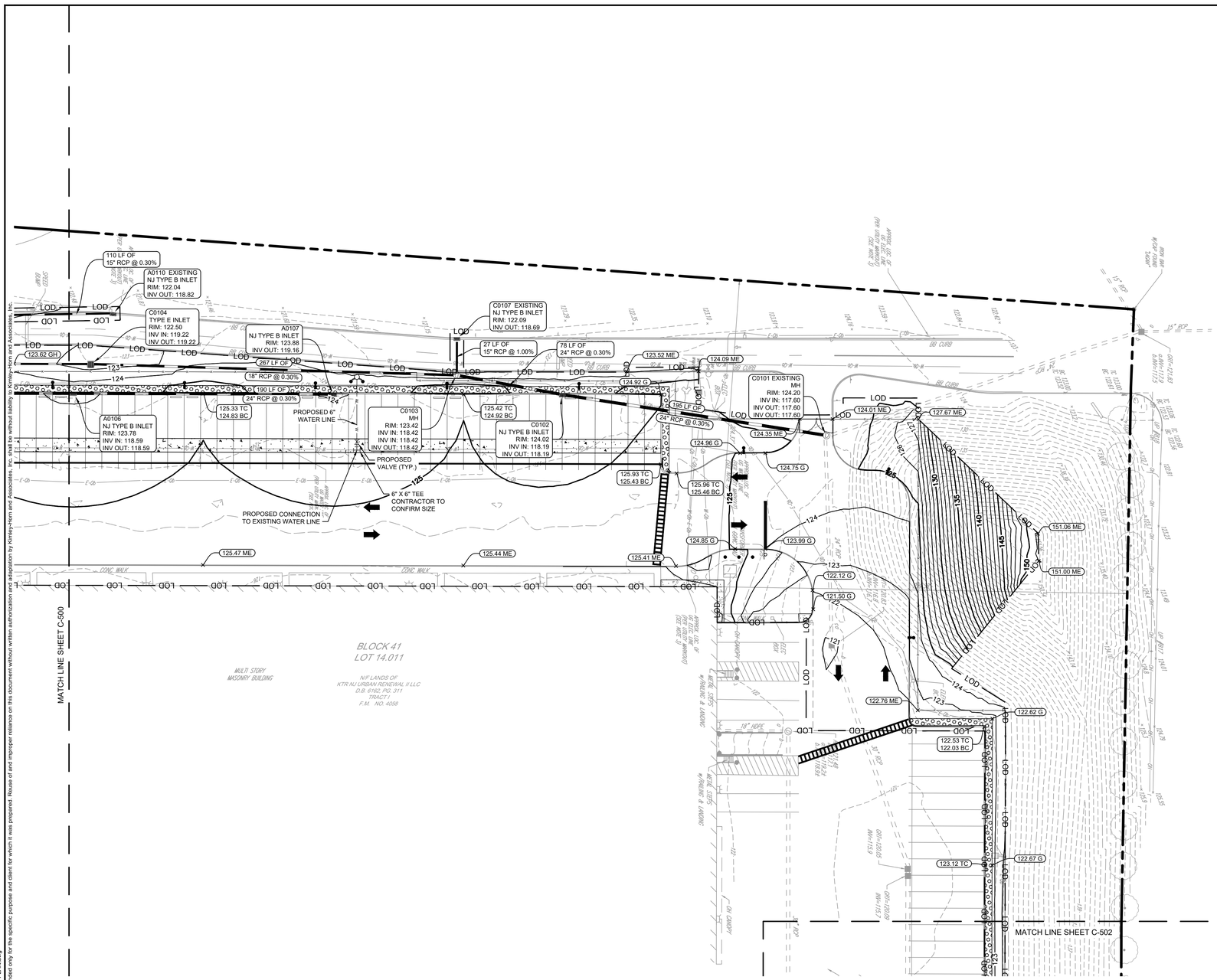
EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

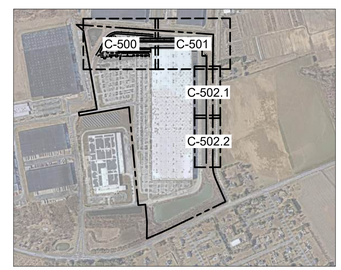
SHEET NUMBER
C-400

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MATCH LINE SHEET C-400
MULTI STORY MASONRY BUILDING
BLOCK 41
LOT 14.011
N/F LANDS OF:
KTR NJ URBAN RENEWAL II LLC
D.B. 6162, PG. 311
TRACT I
F.M. NO. 4058
CONC. WALK
BB CURB
SYL
DYL
SWL
74
299.38'
514'
514'
505'
NEW DRIVE # 1 WAY/ONE WAY
NEW DRIVE # 2 WAY/ONE WAY
SIGNAGE
#W11A
#W11B
#W16-7P
#R3-27
#R1-1
#R5-1
#R5-1a
#R7-8
#R7-8a
#R7-8P
#R8-3
#R8-3a
#R8-3P
#R3-7R
#R3-7L
#R3-7P
#R3-5
#R3-5a
#R3-5P
#R1-2
#R1-2P
#R1-1
#R1-1P
#R5-1
#R5-1a
#R5-1P
#R3-17
#R3-17a
#R3-17


NEW CANTON WAY
(A.K.A. LOT 37.012, BLOCK 41)
(PRIVATE 60' WIDE R.O.W.)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)
N/F LANDS OF
KTR NJ URBAN RENEWAL II LLC
D.B. 6192, PG. 311
TRACT II
FM. NO. 4058
BLOCK 41
LOT 36.01
A0112
NJ TYPE B INLET
RIM: 123.28
INV OUT: 118.60
A0111 EXISTING
NJ TYPE B INLET
RIM: 123.28
INV IN: 117.17
INV OUT: 117.17
A0102
NJ TYPE B INLET
RIM: 124.83
INV IN: 116.44
INV IN: 116.44
INV OUT: 116.44
A0101 EXISTING
NJ TYPE B INLET
RIM: 122.92
INV IN: 116.20
INV IN: 116.20
INV OUT: 115.00
A0113
NJ TYPE B INLET
RIM: 124.58
INV OUT: 116.92
A0201 EXISTING
NJ TYPE B INLET
RIM: 124.68
INV IN: 115.30
INV IN: 115.30
INV OUT: 115.00
A0202
NJ TYPE B INLET
RIM: 125.30
INV IN: 116.59
INV OUT: 116.59
A0108
NJ TYPE B INLET
RIM: 123.08
INV IN: 117.73
INV OUT: 117.73
A0109
MH
RIM: 123.27
INV IN: 118.49
INV OUT: 118.49
A0103
NJ TYPE B INLET
RIM: 123.99
INV IN: 117.01
INV OUT: 117.01
A0104
NJ TYPE B INLET
RIM: 123.47
INV IN: 117.47
INV IN: 117.47
INV OUT: 117.47
A0100
NJ TYPE B INLET
RIM: 123.69
INV IN: 118.02
INV OUT: 118.02
A0203
NJ TYPE B INLET
RIM: 124.98
INV OUT: 118.70
C0106
TYPE E INLET
RIM: 122.78
INV OUT: 119.89
C0105
TYPE E INLET
RIM: 122.78
INV IN: 119.56
INV OUT: 119.56
73 LF OF
15" RCP @ 1.00%
129 LF OF
24" RCP @ 1.00%
211 LF OF
24" RCP @ 1.00%
143 LF OF
15" RCP @ 1.00%
86 LF OF
18" RCP @ 0.30%
255 LF OF
15" RCP @ 0.30%
112 LF OF
15" RCP @ 0.30%
152 LF OF
36" RCP @ 0.30%
182 LF OF
30" RCP @ 0.30%
190 LF OF
24" RCP @ 0.30%
192 LF OF
36" RCP @ 0.30%
RIPRAP EX-1
RIPRAP EX-2
EXISTING PIPE
RUNS TO REMAIN
EXISTING PIPE TO
CONNECT TO A0201
PROPOSED CONNECTION
TO EXISTING WATER LINE
PROPOSED
VALVE (TYP.)
PROPOSED 6"
WATER LINE
6" X 6" TEE
CONTRACTOR TO
CONFIRM SIZE
MATCH LINE SHEET C-501
ASPHALT
PAVEMENT
SPEED
BUMP
CONC
WALK
CURB
SB
INV=117.17
INV=117.17
(RECEIVING)
INV=117.17
(RECEIVING)
INV=117.17
(RECEIVING)





KEY MAP
1"=1000'

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

NORTH

GRADING AND DRAINAGE LEGEND

LEGEND

- PROPERTY BOUNDARY
- XXX — PROPOSED MAJOR CONTOUR
- XXX — PROPOSED MINOR CONTOUR
- XXX — EXISTING CONTOURS
- LOD — PROPOSED LIMITS OF DISTURBANCE
- 600.00 ME — SPOT ELEVATION - MATCH EXISTING
- 600.00 FFE — SPOT ELEVATION - FINISHED FLOOR
- 600.00 TC / 600.00 BC — SPOT ELEVATION - TOP OF CURB/ BOTTOM OF CURB
- 600.00 G — SPOT ELEVATION - SPOT GRADE
- 600.00 TW / 600.00 GH — SPOT ELEVATION - TOP OF WALL/ GRADE HIGH
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PERMEABLE PAVER SIDEWALK
- D — PROPOSED STORM STRUCTURES
- PROPOSED STORM SEWER
- PROPOSED RIPRAP OUTLET PROTECTION
- W — PROPOSED WATER LINE
- PROPOSED GATE VALVE, TEE, BEND, AND HYDRANT

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

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PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NAME ADDRESS & NJ SEAL

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

GRADING, DRAINAGE, AND UTILITY PLAN (2 OF 3)

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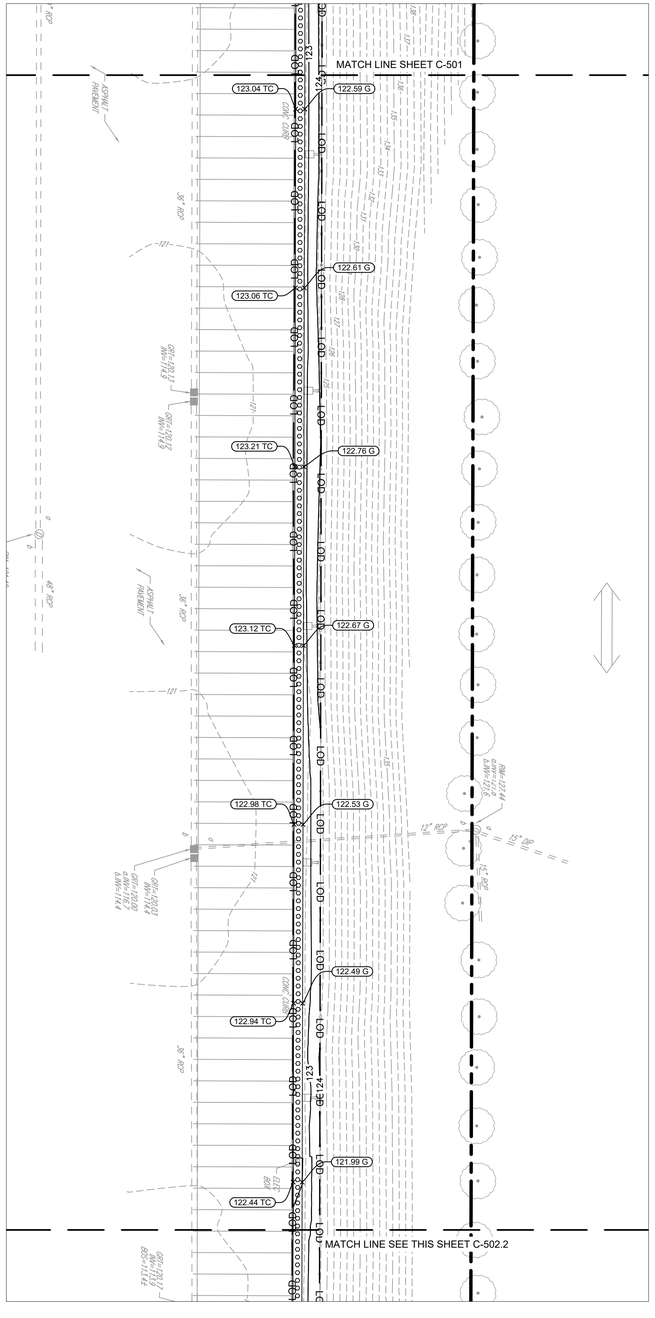
OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

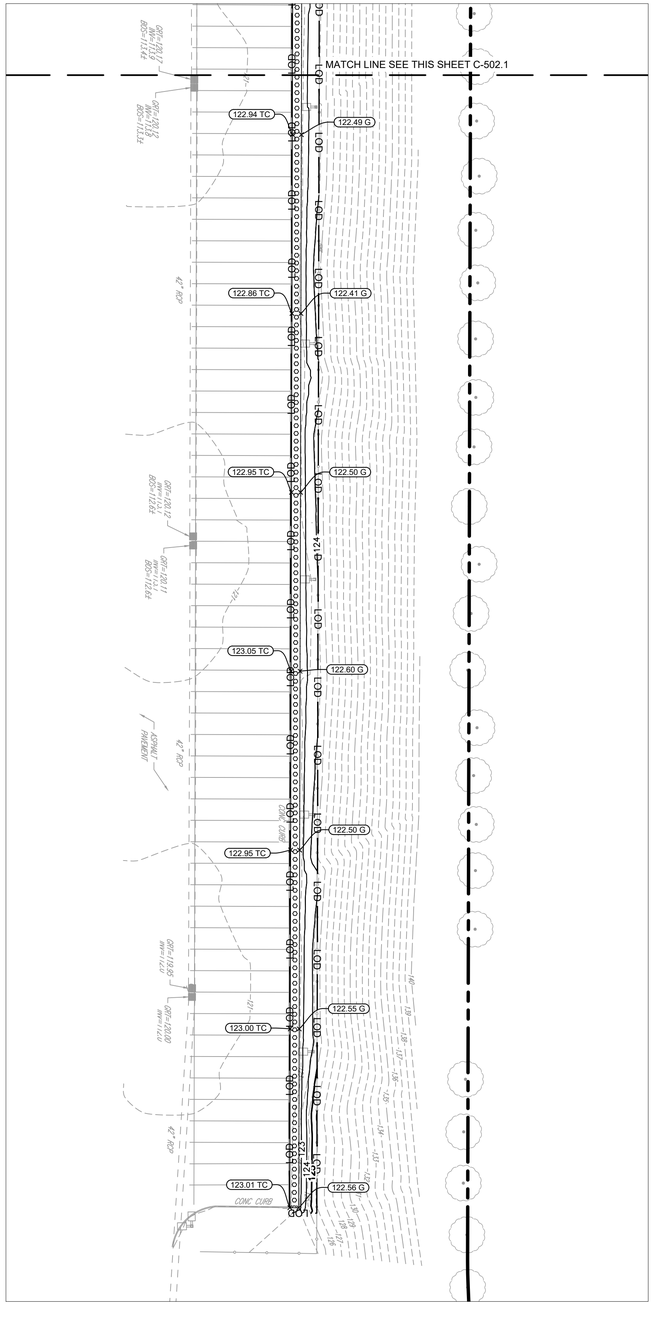
APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

SHEET NUMBER
C-501

April 1, 2026 — k:\prv_civil\115319783 - ewr4 robbinsville twp nj\5. cad\sheetsets - 24x36\C-500 - GRADING PLAN.dwg
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GRADING AND DRAINAGE LEGEND

LEGEND

- PROPERTY BOUNDARY
- XXX — PROPOSED MAJOR CONTOUR
- XXX — PROPOSED MINOR CONTOUR
- XXX — EXISTING CONTOURS
- LOD — PROPOSED LIMITS OF DISTURBANCE
- 600.00 ME — SPOT ELEVATION - MATCH EXISTING
- 600.00 FFE — SPOT ELEVATION - FINISHED FLOOR
- 600.00 TC / 600.00 BC — SPOT ELEVATION - TOP OF CURB/ BOTTOM OF CURB
- 600.00 G — SPOT ELEVATION - SPOT GRADE
- 600.00 TW / 600.00 GH — SPOT ELEVATION - TOP OF WALL/ GRADE HIGH
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PERMEABLE PAVER SIDEWALK
- (D) — PROPOSED STORM STRUCTURES
- PROPOSED STORM SEWER
- PROPOSED RIPRAP OUTLET PROTECTION
- W — PROPOSED WATER LINE
- PROPOSED GATE VALVE, TEE, BEND, AND HYDRANT

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

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PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05078600

KHA PROJECT	115319783
DATE	01/13/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

GRADING, DRAINAGE, AND UTILITY PLAN (3 OF 3)

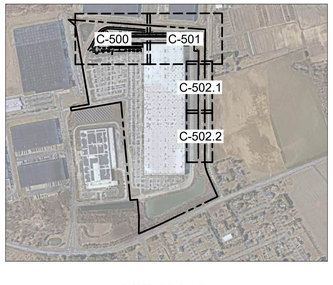
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STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
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60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

SHEET NUMBER
C-502

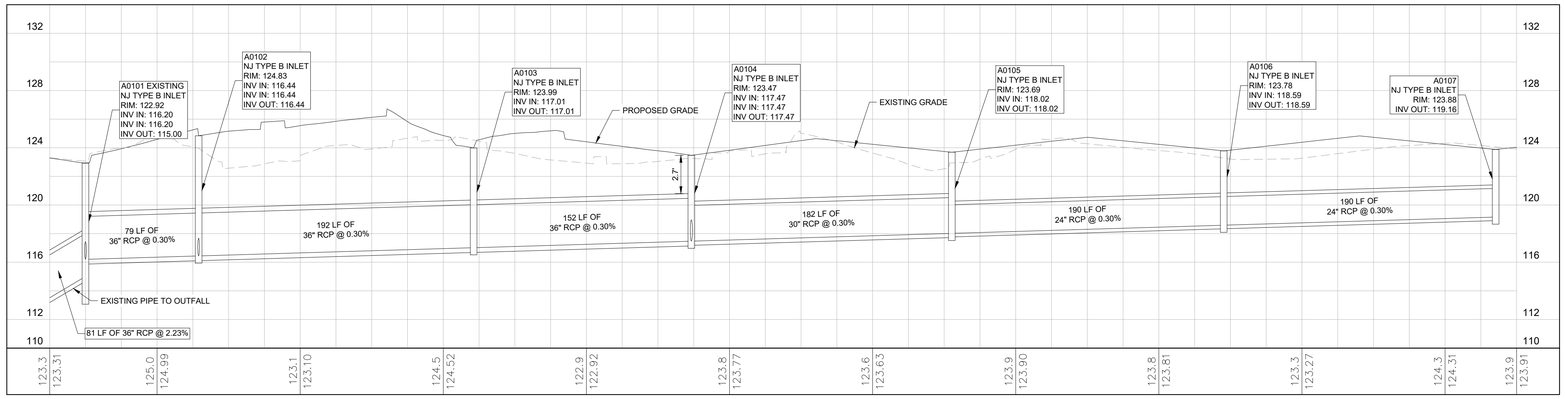


KEY MAP
1"=1000'

NORTH

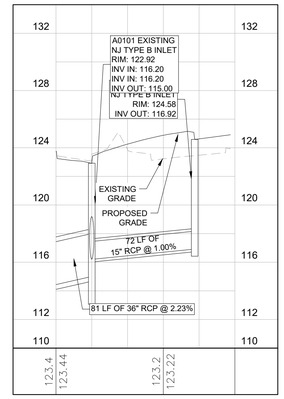
GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

April 1, 2026 — k:\prn_civil\115319783 - ewr4 robbinsville nwp nj\5. cad\sheets\ - 24x36\C-500 - GRADING PLAN.dwg
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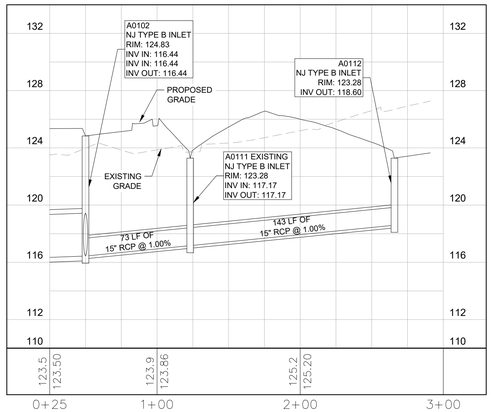
A0101 TO A0107

SCALE: 1" = 50' H
1" = 5' V



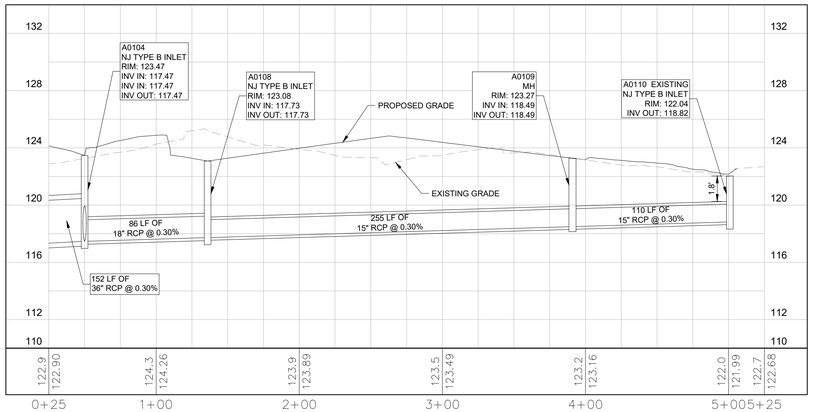
A0101 TO A0113

SCALE: 1" = 50' H
1" = 5' V



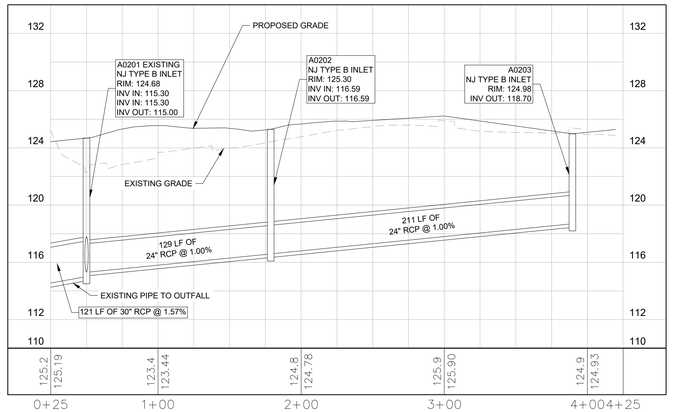
A0102 TO A0112

SCALE: 1" = 50' H
1" = 5' V



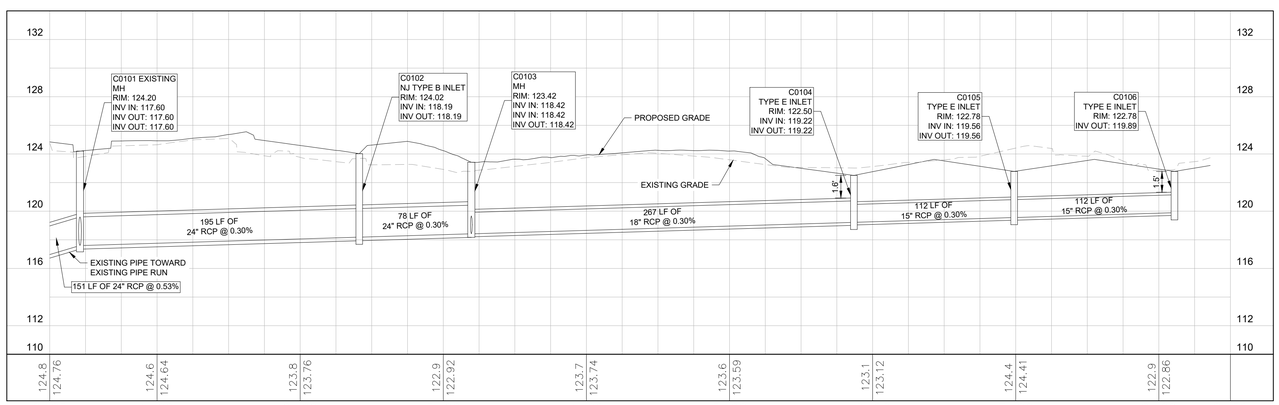
A0104 TO A0110

SCALE: 1" = 50' H
1" = 5' V



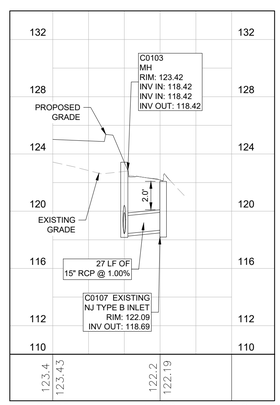
A0201 TO A0203

SCALE: 1" = 50' H
1" = 5' V



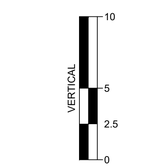
C0101 TO C0106

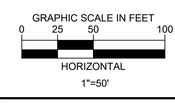
SCALE: 1" = 50' H
1" = 5' V



C0103 TO C0107

SCALE: 1" = 50' H
1" = 5' V





NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR

Kimley»Horn

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PHONE: 609-681-2428
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CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NJ LICENSED ACCESS NUMBER

KHA PROJECT
115319783

DATE
01/13/2025

SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

DRAINAGE PROFILES

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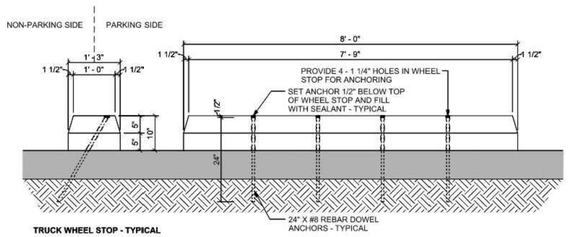
OWNER
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CITY OF SEATTLE, WA 98109

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PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.01, 36.01, & 37.012, BLOCK 41
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TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-550

June 9, 2025 — k:\prn_civil\115319783 - ewr4 robbinsville nwp nj\5. cad\plansheets - 24x36\C2-550 - DRAINAGE PROFILES.dwg
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TRUCK WHEEL STOP - TYPICAL

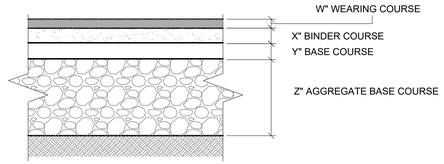
NOTES:
1) CONCRETE WHEEL STOPS TO BE PAINTED SAFETY YELLOW.
2) WHEEL STOPS ARE NOT REQUIRED AT DOCK DOOR LOCATIONS THAT HAVE DOCK SEAL/CUSHION SYSTEMS.
3) IF PARKING SLIP CURB IS 8-IN OR HIGHER WITH STANDOFF DISTANCE OF 6-FT OR MORE FROM OBJECTS SUCH AS FENCES THEN WHEEL STOPS ARE NOT REQUIRED.

TRUCK WHEEL STOP DETAIL
N.T.S

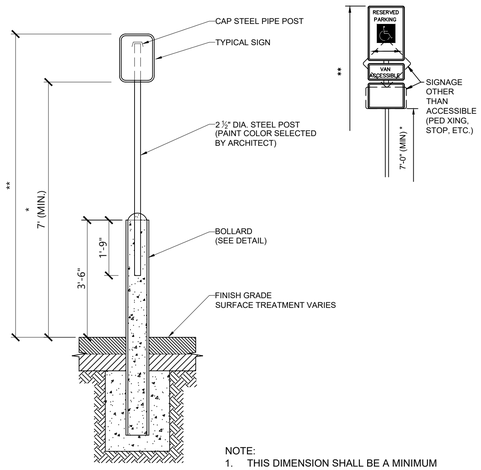
	STANDARD DUTY FLEXIBLE ASPHALT PAVEMENT SECTION	HEAVY DUTY FLEXIBLE ASPHALT PAVEMENT SECTION	STANDARD DUTY FLEXIBLE ASPHALT PAVEMENT SECTION	HEAVY DUTY RIGID CONCRETE PAVEMENT SECTION
X	SUPERPAVE 9.5 MM ASPHALTIC CONCRETE SURFACE COURSE **	1.5"	1.5"	-
X/Y	REINFORCED PORTLAND CEMENT CONCRETE (4,000 PSI)	-	-	9.0"
Y	SUPERPAVE 19.0 MM ASPHALTIC BASE COURSE **	3.0"	2.5"	-
Z	DENSE GRADED AGGREGATE (DGA) SUBBASE	12.0"	6.0"	6.0"

* THE OUTER EDGES OF CONCRETE PAVEMENTS ARE SUSCEPTIBLE TO DAMAGE AS TRUCKS MOVE FROM RIGID PAVEMENT TO ADJACENT FLEXIBLE PAVEMENT. THEREFORE, THE THICKNESS AT THE OUTER TWO FEET OF THE RIGID CONCRETE PAVEMENT SHOULD BE 12 INCHES

** MATERIAL AND INSTALLATION SHALL CONFORM TO NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2019, UNLESS OTHERWISE INDICATED.

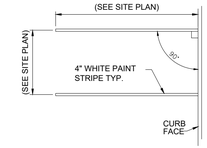


PAVEMENT SECTION
N.T.S

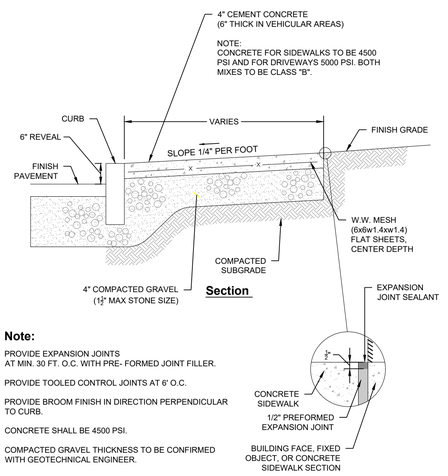


NOTE:
1. THIS DIMENSION SHALL BE A MINIMUM OF 5' FOR ACCESSIBLE SIGNAGE.
2. THIS DIMENSION SHALL BE A MAXIMUM OF 8' FOR ACCESSIBLE SIGNAGE.
3. CONCRETE SHALL BE 4500 PSI.

BOLLARD MOUNTED SIGN
N.T.S.



90° PARKING STALL STRIPING
N.T.S



Note:

PROVIDE EXPANSION JOINTS AT MIN. 30 FT. O.C. WITH PRE- FORMED JOINT FILLER.

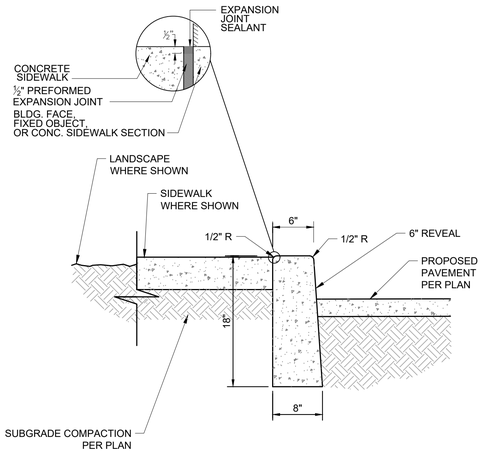
PROVIDE TOOLED CONTROL JOINTS AT 6' O.C.

PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.

CONCRETE SHALL BE 4500 PSI.

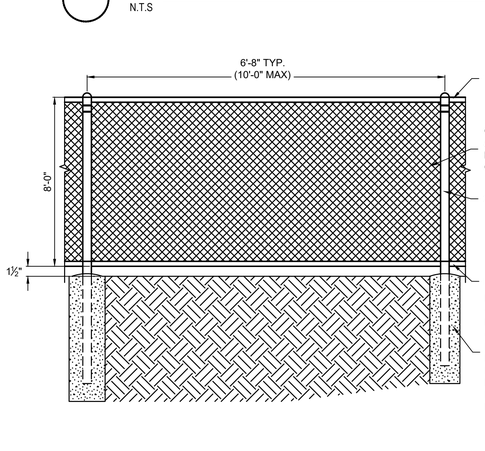
COMPACTED GRAVEL THICKNESS TO BE CONFIRMED WITH GEOTECHNICAL ENGINEER.

Concrete Sidewalk
NTS — DATE: 01/25 — SOURCE: KHA



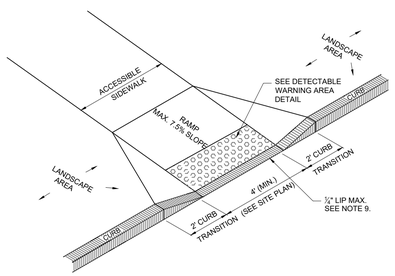
NOTES:
1. CONCRETE SHALL BE 4500 PSI AT 28 DAYS.
2. CONSTRUCTION JOINTS 10' O.C.
3. EXPANSION JOINTS CONSISTING OF 1" DEEP SCORES SHALL BE PLACED AT 20' INTERVALS O.C.
4. ½" PRE-MOLDED ASPHALT.
5. ½" RADIUS AT ALL JOINTS.

6" CONCRETE CURB DETAIL
N.T.S



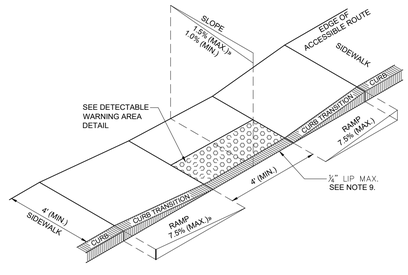
NOTES:
1. ALL FENCE ELEMENTS SHALL BE BLACK METALLIC COATED OR POLYMER COATED PER ASTM 2453 - 2453M.
2. POST CAPS SHALL BE DOME STYLE
3. FENCE TIES SHALL BE 9 GAUGE BLACK PVC COATED
4. FENCE DEPTHS MAY VARY PER LOCAL CODES
5. FENCE HEIGHT MAY REQUIRE PERMITTING BY LOCAL AUTHORITY HAVING JURISDICTION
6. TO BE INSTALLED TO SAFELY ROUTE PEDESTRIANS TO DESIGNATED CROSSWALKS AND TO PREVENT UNSAFE CROSSING OUTSIDE DESIGNATED AREAS
7. FENCE SETBACK FROM CURBING VARIES PER LOCAL REGULATORY REQUIREMENTS, SNOW CONDITIONS AND SIGHTLINES

BLACK VINYL CHAIN LINK FENCE
N.T.S



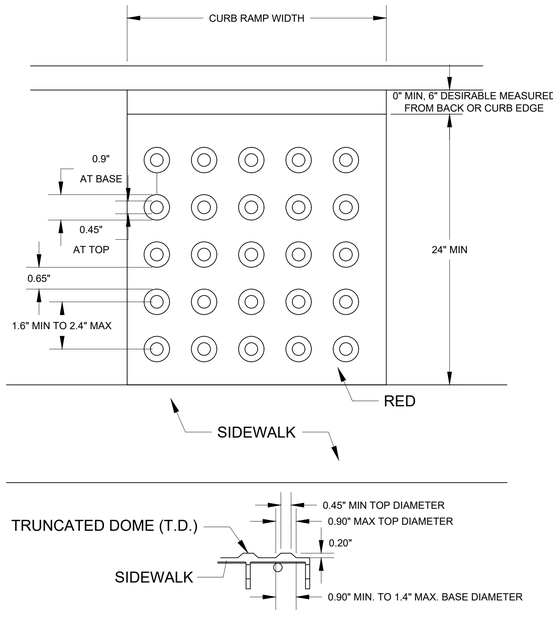
Notes:
1. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 1.5 (1% MIN.).
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE AT CURB RAMPS SHALL BE 7.5%.
4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. RAMP, CURB AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
7. TYPICAL SIDEWALK SECTION FOR RAMP SECTION CONSTRUCTION.
8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5' x 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
9. ELIMINATE CURBING (OTHER THAN VERTICAL CURBING, WHICH SHALL BE SET FLUSH) WHERE IT ABUTS ROADWAY.
10. CONCRETE SHALL BE 4500 PSI.

ACCESSIBLE CURB RAMP (ACR) TYPE 'B'
N.T.S

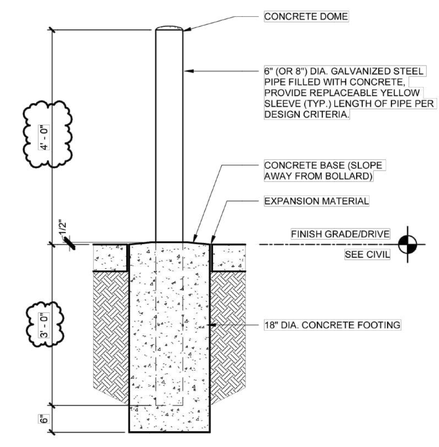


Notes:
1. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 1.5 (1% MIN.).
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE AT CURB RAMPS SHALL BE 7.5%.
4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. RAMP, CURB, AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5' x 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
9. ELIMINATE CURBING AT RAMP (OTHER THAN VERTICAL CURBING, WHICH SHALL BE SET FLUSH) WHERE IT ABUTS ROADWAY.
10. SEE 'DETECTABLE WARNING SURFACE' DETAIL.
11. CONCRETE SHALL BE 4500 PSI.

ACCESSIBLE CURB RAMP (ACR) TYPE 'A'
N.T.S



DETECTABLE SURFACE WARNING
N.T.S.



EXTERIOR BOLLARD
SCALE: 3/4" = 1'

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

Kimley»Horn
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301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN — PROFESSIONAL ENGINEER — NEW JERSEY LICENSE NO. 24GE05000400

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

CONSTRUCTION DETAILS (1 OF 3)

Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

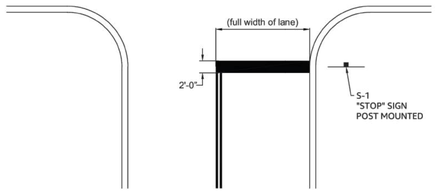
APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

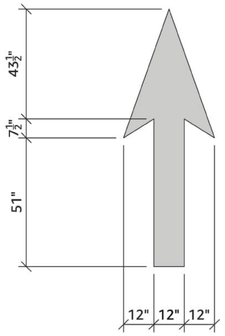
EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

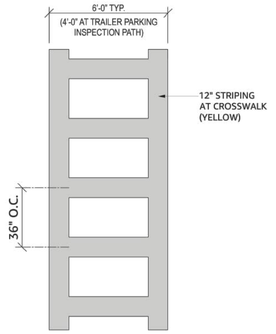
SHEET NUMBER
C-700

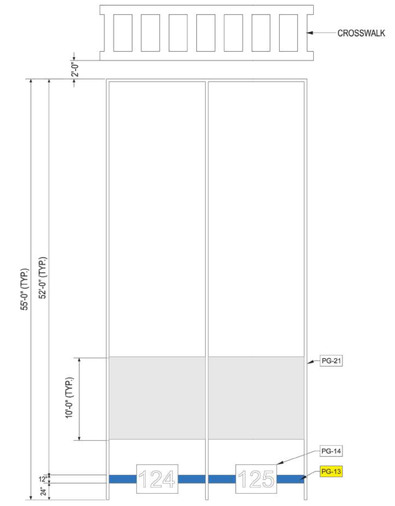
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April 1, 2026 - a:\prn_cvr#1\115319783 - ewr4 robbinsville twp nj\E. cad\plansheets - 24x36\C-000 - CONSTRUCTION DETAILS.dwg









INSTALLED BY CONSTRUCTION

Designation: PG-1	**Notes:** Used at all STOP sign (S-1 or S-1b) locations. Stop and yield lines should be placed a minimum of 4' in advance of and parallel to the nearest crosswalk line at controlled intersections. In the absence of a marked crosswalk, the stop line should be placed at the desired stopping point, but should be placed no more than 30' nor less than 4' from the nearest edge of the intersecting traveled way. Stop lines should be placed to allow sufficient sight distance to all other approaches to an intersection. Guidance for 'STOP' pavement graphic: MUTCD Section 3B.20 Pavement Word, Symbol, and Arrow Markings. (source: https://mutcd.fhwa.dot.gov/htm/2009/part3/part3b.htm#section3B20) Guidance: Letters and numerals should be 6 feet or more in height.	**Colors:** C1 WHITE
Description: Pavement Graphics Stop Bar		
Substrate: PAVEMENT		
Graphics: Premium Paint or Hot Applied Thermoplastic Graphic		

INSTALLED BY CONSTRUCTION

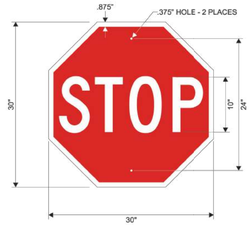
Designation: PG-5	**Notes:** Used to direct traffic at one-way drive aisles. Color shall be white on asphalt and yellow on concrete, unless otherwise noted.	**Colors:** C1 WHITE; SAFETY YELLOW PMS 109 C
Description: Pavement Graphics/Straight Arrow		
Substrate: PAVEMENT		
Graphics: Premium Paint or Hot Applied Thermoplastic Graphic		

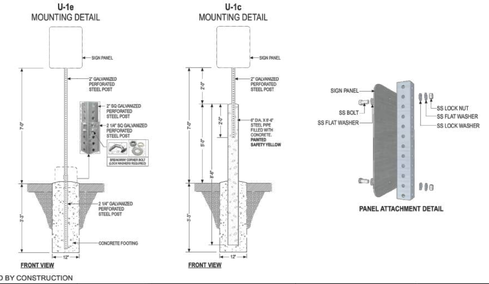
INSTALLED BY CONSTRUCTION

Designation: PG-12	**Notes:** Used to direct driver entrance in dock field. Position in truck court to correspond with the location of the truckers lounge and truckers entry points. Partner with WHS and TOM to find closest approved exit door to guard shack. Designate a parking area for the hostler vehicle(s). Provide walking space around the parking area for the pre-operational inspection. Partner with base building manager (if applicable) to mark a crosswalk from the building exit point to the guard shack and hostler parking areas using the shortest logical path. Associates will need to be inside this path to transit the yard without a spotter.	**Colors:** WHITE; SAFETY YELLOW PMS 109 C
Description: Pavement Graphics - Driver Entrance Pathway		
Substrate: PAVEMENT		
Graphics: Premium Paint or Hot Applied Thermoplastic Graphic		

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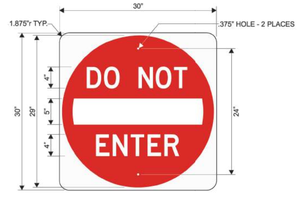
Designation: PG-13	**Notes:** Used to communicate and notify the drivers to rest the landing gear on the blue line withing the parking slip. Use in conjunction with AS-58 "ALIGN TO BLUE" informational sign. Coordinate with project team. Use glass beads for retro-reflective quality at stop bars, crosswalks, pedestrian corridors, and lane striping (center lines, shoulders, gore areas, etc.). Conform to AASHTO M 247 for the type specified. Treat glass beads with an adherence coating as recommended by manufacturer. Ensure that the paint without glass beads has a minimum directional reflectance, relative to a magnesium oxide standard, of 80 percent for white and 50% for yellow when tested according to ASTM E1347.	**Colors:** LAND ON BLUE AMAZON SW CUSTOM CCE * Colorant 02 32 64 128 L1-Blue 24 32 - -
Description: Pavement Graphics / Land on Blue Stripe		
Substrate: PAVEMENT		
Graphics: Premium Paint		

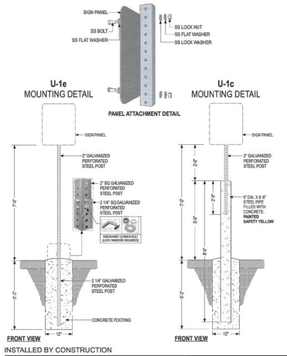


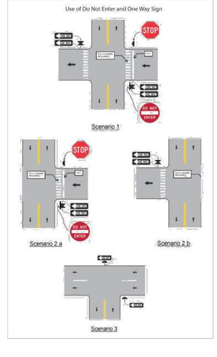


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Designation: S-1	**Notes:** For use at single lane intersections. (See S-1b for multiple lanes) Use at intersections in parking lot and drive aisles. Post and panel mount. No sign shall be mounted on the back of a stop sign that extends beyond the edges of the stop sign.	**Colors:** TRANSPRINENT RED; REFLECTIVE WHITE
Description: Stop Sign / MUTCD R1-1		
Substrate: .080" Alum.		
Graphics: Digitally printed graphics on high intensity reflective sheeting		

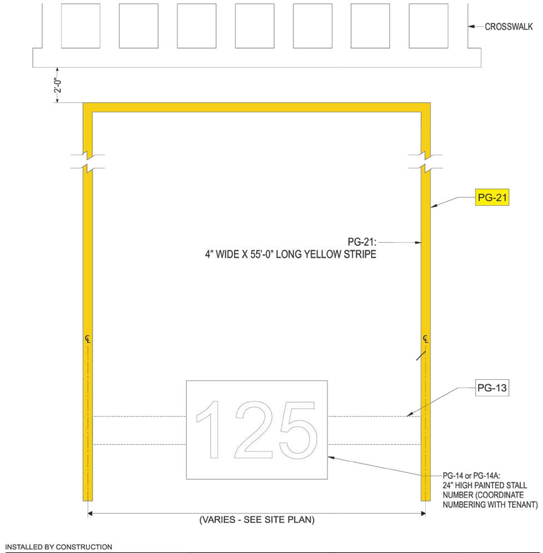






INSTALLED BY CONSTRUCTION

Designation: S-2	**Notes:** Use to prohibit travel in the wrong direction. Typical at one-way roads. Post and panel mount. **Designer's Note:** Do Not Enter sign shall not be mounted to the back of a stop sign.	**Colors:** TRANSPRINENT RED; REFLECTIVE WHITE
Description: Do Not Enter Sign (30") / MUTCD R5-1		
Substrate: .080" Alum.		
Graphics: Digitally printed graphics on high intensity reflective sheeting		



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Designation: PG-21	**Notes:** Used to mark empty trailer parking slips.	**Colors:** SAFETY YELLOW PMS 109 C
Description: Pavement Graphics / Trailer Parking Striping		
Substrate: PAVEMENT		
Graphics: Premium Paint		

SAFETY COLORS

Color Name	Color	Gloss Vinyl	Reflective Vinyl	Paint
Safety Red		PMS 186C		(PT-10)
Safety Orange		PMS 151C		
Safety Yellow		PMS 109C		(PT-9)
Safety Green		PMS 335C		

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

Kimley»Horn
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301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 44702

KHA PROJECT	115319783
DATE	01/13/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

CONSTRUCTION DETAILS (2 OF 3)

811 Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

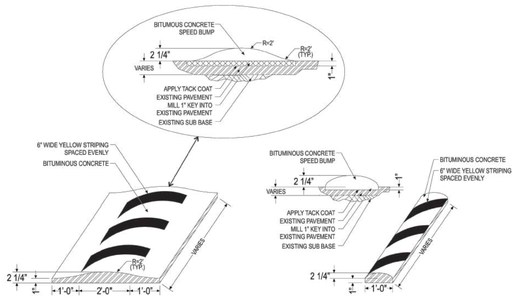
APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.01, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-701

Apr 1, 2026 - k:\krn_civil\115319783 - ewr4 robbinsville twp nj\5. cad\sheetsets - 24x36\C-900 - CONSTRUCTION DETAILS.dwg
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BITUMINOUS CONCRETE SPEED BUMP DETAIL ALTERNATE 1

BITUMINOUS CONCRETE SPEED BUMP DETAIL ALTERNATE 2

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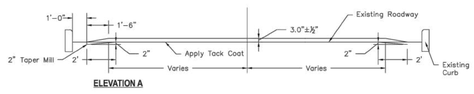
Designation:	**PG-16**
Description:	Pavement Graphics - Small Speed Bump
Substrate:	PAVEMENT
Graphics:	Premium Paint or Hot Applied Thermoplastic Graphic

Notes:
Use to control speed at interior drive aisles with 5 mph (10 kmph) speeds. Reflective yellow strips.

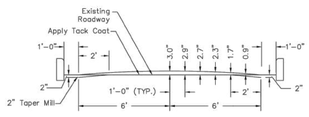
Designer's Note: All speed bumps shall be asphalt or concrete. Heavy duty rubber speed bumps are not permitted. The speed bump should be 2.25 to 2.5 inches high as measured from the road surface to the highest point on the speed bump and 1 foot wide (in the direction of travel) from the leading edge to the termination edge. The radius of curvature should be no more than 24 inches and no less than 36 inches. Speed bumps must be painted with yellow caution stripes oriented perpendicular or diagonal to the long axis of the bump to indicate it's presence and that there is a change in elevation. The stripes should be evenly spaced and a width ranging from 6 to 8 inches.

Colors: SAFETY YELLOW PMS 109 C

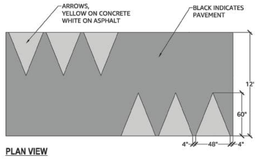
BU / Program / Type: All; Except AMZL: AVI, FSC; Pharmacy; Site Specific: Air 3P



ELEVATION A



ELEVATION B



PLAN VIEW

INSTALLED BY CONSTRUCTION

Designation:	**PG-15**
Description:	Pavement Graphics - Large Speed Hump
Substrate:	PAVEMENT
Graphics:	Premium Paint or Hot Applied Thermoplastic Graphic

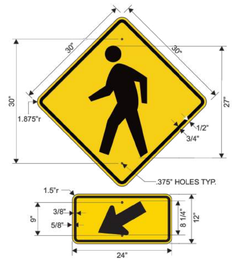
Notes:
Used to control speed at outlying drive aisles in 10+ mph (15+ kmph) zones.

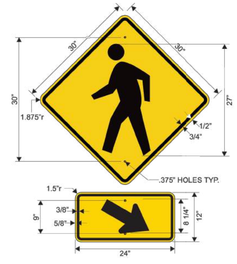
Ensure speed hump is properly integrated/keyed into surrounding surface.

Removable heavy duty rubber speed humps not allowed.

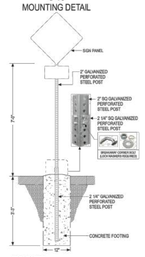
Designer's Note: Speed humps should be used instead of speed bumps in main roadways where a 10 to 15mph speed limit is acceptable (ring roads or circulation roads). In order to retain slower vehicle speeds over a longer distance, as series of humps is required. A speed hump is typically 3 inches in height and 12 feet in length along the vehicle travel path axis. All speed humps shall be asphalt or concrete.

Colors: SAFETY YELLOW PMS 109 C; C1 WHITE



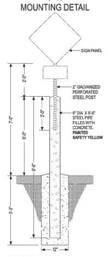


U-1e MOUNTING DETAIL

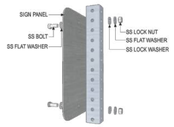


FRONT VIEW

U-1c MOUNTING DETAIL



FRONT VIEW



PANEL ATTACHMENT DETAIL

INSTALLED BY CONSTRUCTION

Designation:	**S-5(L)**
Description:	Pedestrian Walking Sign / MUTCD W11-2 and W16-7pL
Substrate:	.080" Alum.
Graphics:	Digitally printed graphics on high intensity reflective sheeting

Notes:
DOT standard PEDESTRIAN CROSSING sign with LEFT arrow.

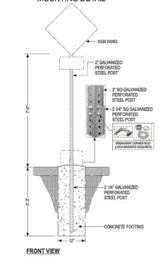
30" x 30" sign with 12" x 24" placard
DOT standard PEDESTRIAN CROSSING sign with arrow.
Use at mid-block pedestrian crossings.
Post and Panel mount.

Designer's Note: LED lights or Rectangular Rapid Flash Beacon may be added at high traffic intersections as determined by Civil Engineer / WHS

This sign shall not be used at stop controlled intersections.

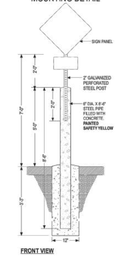
Colors: OPAQUE BLACK; REFLECTIVE YELLOW

U-1e MOUNTING DETAIL

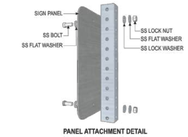


FRONT VIEW

U-1c MOUNTING DETAIL



FRONT VIEW



PANEL ATTACHMENT DETAIL

INSTALLED BY CONSTRUCTION

Designation:	**S-5(R)**
Description:	Pedestrian Walking Sign / MUTCD W11-2 and W16-7pR
Substrate:	.080" Alum.
Graphics:	Digitally printed graphics on high intensity reflective sheeting

Notes:
DOT standard PEDESTRIAN CROSSING sign with RIGHT arrow.

30" x 30" sign with 12" x 24" placard
DOT standard PEDESTRIAN CROSSING sign with arrow.
Use at mid-block pedestrian crossings.
Post and Panel mount.

Designer's Note: LED lights or Rectangular Rapid Flash Beacon may be added at high traffic intersections as determined by Civil Engineer / WHS

This sign shall not be used at stop controlled intersections.

Colors: OPAQUE BLACK; REFLECTIVE YELLOW

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

Kimley»Horn
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301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA30039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NOT VALID UNLESS SEALED

KHA PROJECT	115319783
DATE	01/13/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

CONSTRUCTION DETAILS (3 OF 3)

Know what's **below.** **Call** before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

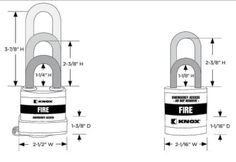
EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.01, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

SHEET NUMBER
C-702

KNOX®
When seconds matter™

KNOX PADLOCKS®

MODEL #	3781	3782	3783	3784	3771	3774
WHERE USED	Gates with wide hasps	Most standard applications and hasps	Hasps with limited space or clearance	Areas prone to attack or vandalism	Interior applications: restricted areas, supply cabinets, lockers	Interior applications: hasps with limited space or clearance
TOTAL HEIGHT	7"	5-1/2"	4-3/8"	4-3/8"	4-15/16"	3-11/16"
SHACKLE LENGTH	3-7/8"	2-3/8"	1-1/4"	1-1/8"	2-3/8"	1-1/8"
SHACKLE DIAMETER	7/16"				5/16"	
BODY DIMENSIONS	2-1/2" W x 1-3/8" D				2-1/16" W x 1-16" D	
MATERIAL	Solid brass lock body and cylinder with all-weather plastic cover and stainless steel ASTM Grade 6 shackle				Solid brass lock brass body and cylinder with stainless steel shackle	
PADLOCK	Heavy-duty UL Listed cylinder					
LOCK	Double-action rotating tumblers and hardened steel pins accessed by a biased cut key.					



KNOX BOX PADLOCK DETAIL
N.T.S.

TECHNICAL SPECIFICATION

AgTec

AGTEC HEAVY DUTY DRIVEWAY & PARKING GRID PAVERS

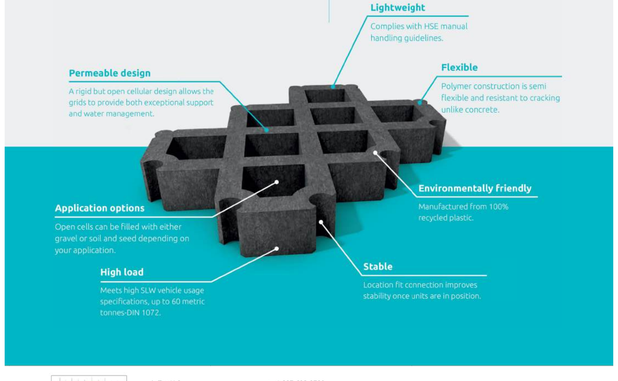
THE INTERLOCKING SOLUTION FOR TRUCK PARKING, REST AREAS & ACCESS ROUTES

SPECIFICATIONS

Length	23¾"
Width	15¾"
Height	3⅛"
Weight/piece	19.84 lbs
Coverage	2.58 ft²
Quantity/pallet	135 pieces
Area/pallet	348 ft²
Material	100% recycled plastic
Color	Gray

KEY FACTS

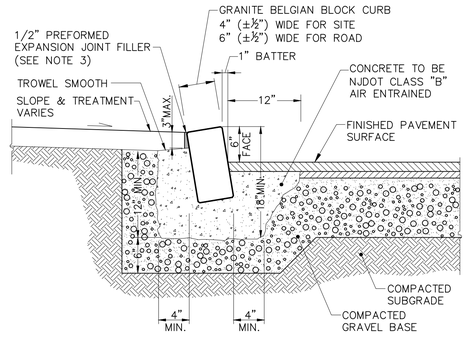
- High compressive strength
- Flexible and resistant to cracking
- Harmless to flora and fauna
- Meet SLW60 loading category (vehicle up to 60 metric tonnes / 66 tons gross weight)
- Within NIOSH manual handling guidelines

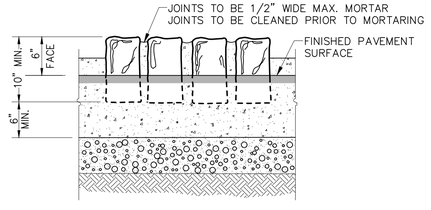


AgTec LLC
125 Mayo Road,
Hampden, Maine 04444
1-207-692-0700
sales@agtec.com
www.agtec.com

100% recycled
100% recyclable

PERMEABLE PAVER SIDEWALK
N.T.S.

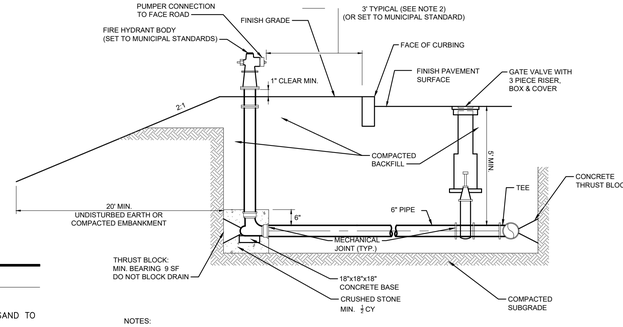




Notes:

1. 3/4" CLEAN STONE MAY BE REQUIRED FOR GRADE ADJUSTMENTS.
2. ALL JOINTS TO BE MORTARED USING 1 PART PORTLAND CEMENT TO 2 PARTS CLEAN MASON SAND TO 1 PART WATER (1:2:1).
3. PREFORMED EXPANSION JOINT FILLER 1/2" THICK, BITUMINOUS TYPE, TO BE INSTALLED BETWEEN CURB AND CONCRETE PAVEMENT OR CONCRETE BASE COURSE. DEPTH OF JOINT FILLER STRIP EQUAL TO THE THICKNESS OF THE PAVEMENT MINUS 1/2".

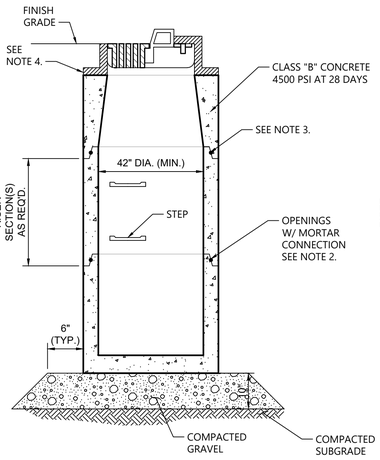
GRANITE BELGIUAN BLOCK CURB (GBC)
N.T.S.

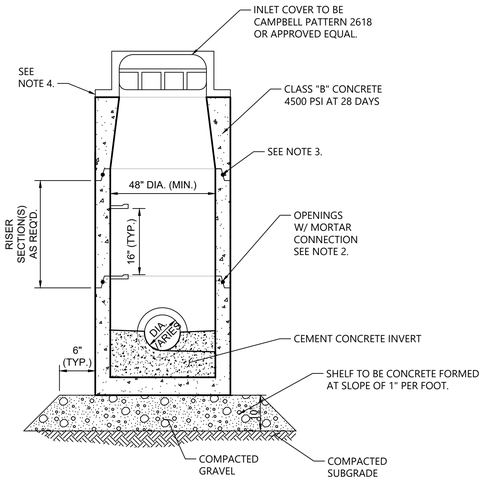


NOTES:

1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH AS SHOWN. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHODS OF JOINT RESTRAINTS WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS
2. HYDRANT IN SIDEWALK AREAS TO BE LOCATED TO PROVIDE MINIMUM CLEAR SIDEWALK PASSAGE WIDTH OF 3 FEET AT HYDRANT

HYDRANT CONNECTION
N.T.S.





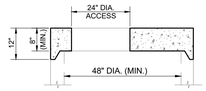
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

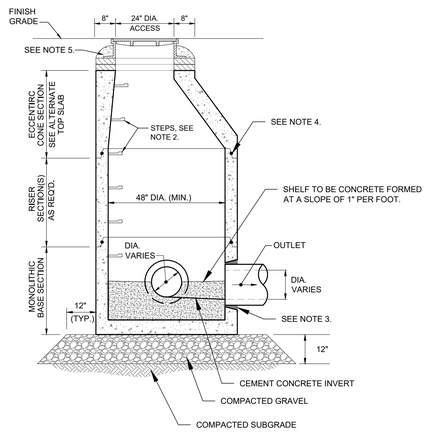
TYPE "B" INLET DETAIL
NTS

Notes:

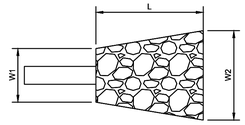
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).



Alternate Top Slab



DRAIN MANHOLE
NTS



RIP RAP APRON DIMENSIONS			
STRUCTURE	L	W1	W2
EX-1	33 FT	9 FT	42 FT
EX-2	24 FT	8 FT	31 FT

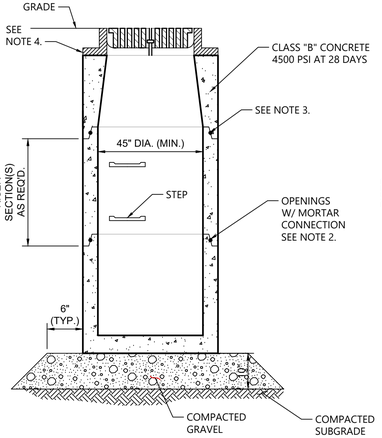
RIP RAP STANDARD LAYOUT
(NTS)

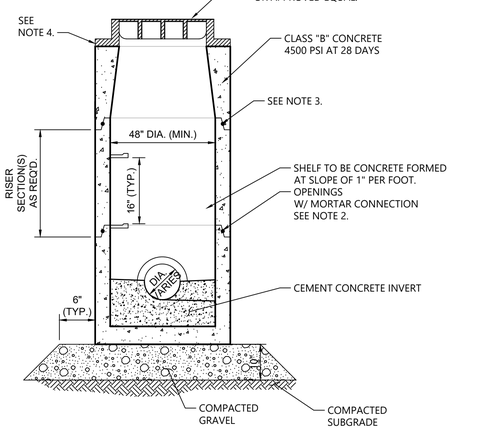
RIP RAP STANDARD NOTES

Notes:

1. In case of a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

RIP RAP STANDARD LAYOUT AND SIZING
NTS

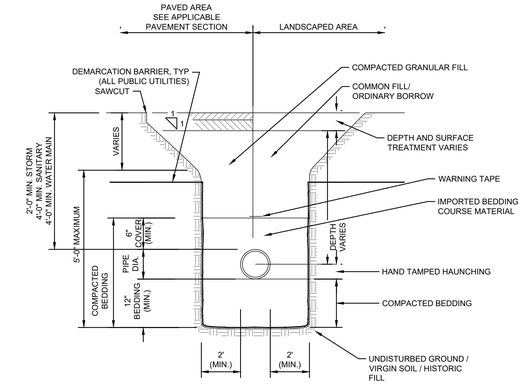




NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

TYPE "E" INLET DETAIL
NTS



NOTES

1. WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
2. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.
3. BACKFILL TO 95% RELATIVE MATERIAL COMPACTED DRY DENSITY AT OPTIMUM MOISTURE UNDER PAVED AND STRUCTURAL AREAS AND 90% UNDER LANDSCAPED AREAS.
4. BACKFILL WITH 90 PSI FLOWABLE CONCRETE IN VILLAGE R.O.W. (EXISTING PAVEMENT AREAS ONLY).
5. WHEN PIPES ARE TO BE INSTALLED IN FILL SECTIONS, THE CONTRACTOR SHALL INSTALL CRUSHED STONE, GRAVEL OR APPROVED STRUCTURAL FILL.

FOR 48" HDPE PIPE AND SMALLER MINIMUM GRAVEL DEPTH FROM THE TOP OF THE PIPE TO BOTTOM OF BITUMINOUS IS 12 INCHES.

UTILITY TRENCH DETAIL (STORM / SANITARY / WATER)
NTS

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

Kimley»Horn
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301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER
NJ LICENSED ACCESS NUMBER

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

DRAINAGE DETAILS (1 OF 1)

811 Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

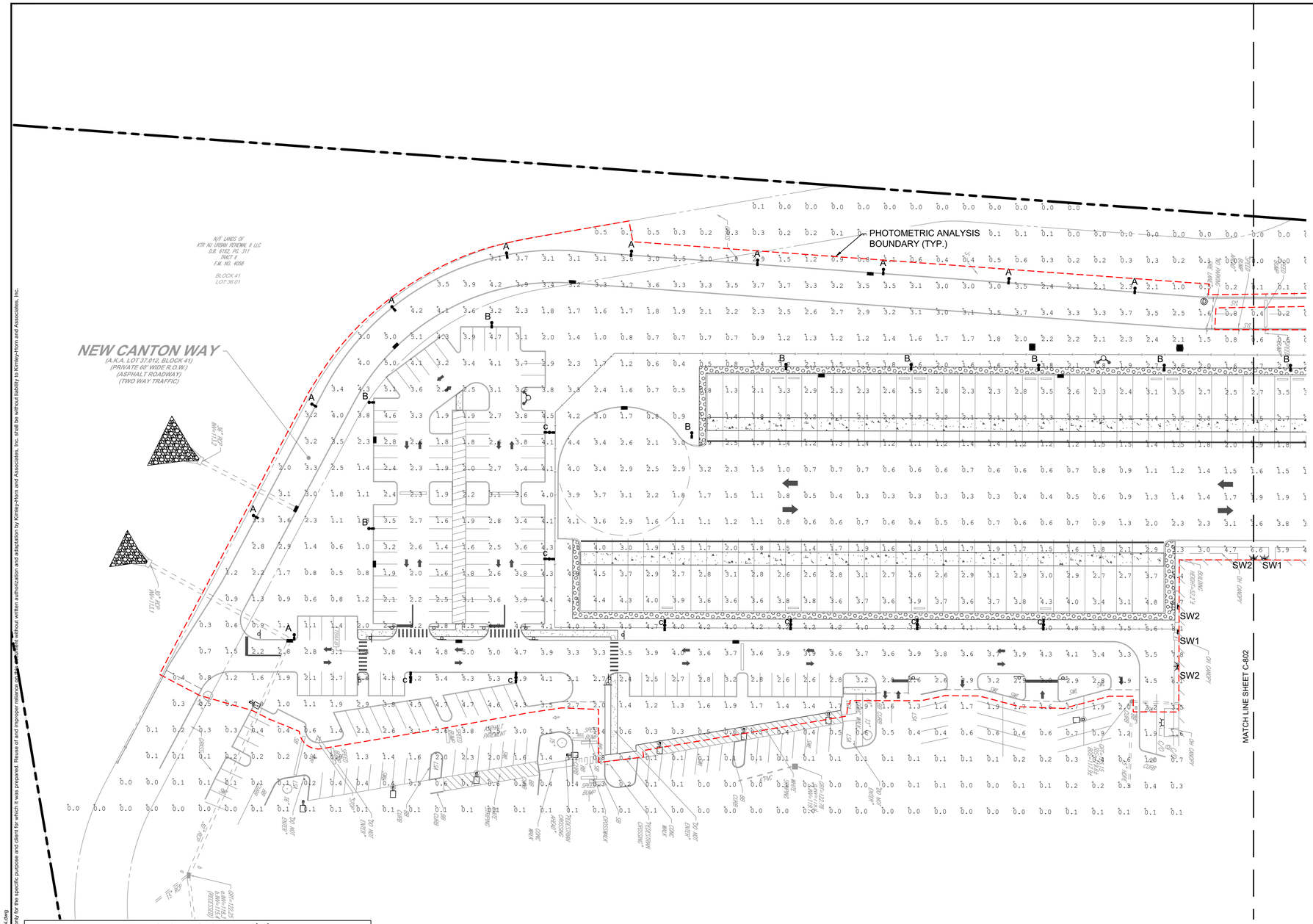
OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 26.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-703

April 1, 2026 - k:\prn_civil\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\C-900 - CONSTRUCTION DETAILS.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



SITE PLAN NOTES

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY/STATE REGULATION AND CODES.
2. ALL PHOTOMETRIC VALUES SHOWN ON SITE PLAN IN TABLES ARE IN FOOTCANDLES (FC). 1 FC = 10.76 LUX.
3. CALCULATED VALUES ARE DERIVED THROUGH A COMPUTER BASED MODEL WITH LIGHT FIXTURE DATA AS SUPPLIED BY MANUFACTURERS THROUGH IES FILES.
4. ANY DEVIATION FROM SPECIFIED FIXTURE MODELS AND MOUNTING HEIGHTS IN THIS EXHIBIT WILL DISCOUNT THE VALIDITY OF THESE CALCULATIONS.
5. THE PHOTOMETRIC ANALYSIS EXCLUDES ALL EXISTING PROPOSED OFF SITE STREET LIGHTING AND LANDSCAPE LIGHTING.
6. ALL LUMINAIRE SYMBOLS ARE DIAGRAMMATIC ONLY. CONTRACTOR TO FIELD COORDINATE EXACT LOCATIONS AND SETBACKS AGAINST UNDERGROUND UTILITY AND OTHER OBSTRUCTIONS.
7. ALL SITE LIGHTING POLES TO BE 21' AND MOUNTED ATOP A 3' CONCRETE BASE FOR A TOTAL MOUNTING HEIGHT OF 24'.
8. AT THE TIME OF THIS SUBMITTAL, THE EXISTING BUILDING MOUNTED LIGHTS ARE ASSUMED TO BE THE GARDCO MODELS AS LISTED IN THE SCHEDULE BELOW.
9. AT THE TIME OF THIS SUBMITTAL, EXISTING LIGHT FIXTURE MODEL IS ASSUMED TO BE THE LITHONIA DSX2 MODEL AS LISTED IN THE SCHEDULE BELOW. PROPOSED DESIGN IS BASED OFF LITHONIA DSX1 FIXTURES AS LISTED IN THE SCHEDULE BELOW. CONTRACTOR TO MATCH EXISTING COLOR TEMPERATURE AND MOUNTING HEIGHT OF EXISTING SITE LIGHTS.

LEGEND

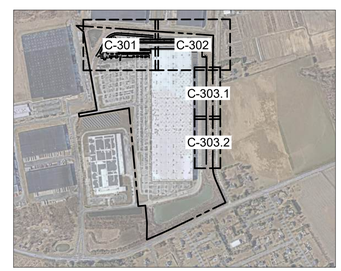
- PHOTOMETRIC ANALYSIS BOUNDARY
- POLE MOUNTED LIGHT FIXTURE
- EXISTING POLE MOUNTED LIGHT FIXTURE
- EXISTING BUILDING MOUNTED LIGHT FIXTURE
- X.X CALCULATION POINT
- 'X' FIXTURE TAG

EWR4 - CALCULATION SUMMARY (FC)

	AVERAGE	MAXIMUM	MINIMUM	AVG/MIN	MAX/MIN
Drive Aisle	3.62	5.05	2.20	1.64	2.30
Parking Lot	3.06	4.70	1.40	2.19	3.36
Truck Parking	2.31	4.40	0.75	3.07	5.87
Truck Parking Sidewalk	3.38	6.60	0.30	11.27	22.00

EWR4 - LIGHTING FIXTURE SCHEDULE

TAG	PRODUCT NUMBER	QUANTITY	MOUNTING STYLE	LAMPS	LLF	WATTS	LUMENS	DESCRIPTION	AHJ REQUIREMENTS
A	LITHONIA DSX1 LED P7 40K T2M HS	10	POLE MOUNTED 24FT	LED	0.9	184 W	19084 LM	WIDE THROW AREA LIGHT WITH HOUSE-SIDE SHEILD	THE MAXIMUM HEIGHT OF FREESTANDING LIGHTS SHALL NOT BE GREATER THAN 24 FEET, AND SPACING BETWEEN FREESTANDING LIGHTS SHALL NOT EXCEED FOUR TIMES THE MOUNTING HEIGHT.
B	LITHONIA DSX1 LED P7 40K T4M HS	16	POLE MOUNTED 24FT	LED	0.9	184 W	19390 LM	FORWARD THROW AREA LIGHT WITH HOUSE-SIDE SHEILD	
C	LITHONIA DSX1 LED P8 40K T5M	8	POLE MOUNTED 24FT	LED	0.9	184 W	23187 LM	BACK-TO-BACK FULL COVER AREA LIGHT	
D	LITHONIA DSX2 LED P5 40K T4M HS	11	POLE MOUNTED 24FT	LED	0.9	326 W	35084 LM	EXISTING FORWARD THROW AREA LIGHT WITH HOUSE-SIDE SHEILD	N/A
SW1	GARDCO GULLWING GL18-4-310LA	6	BUILDING MOUNTED 40FT	LED	0.9	309 W	32533 LM	EXISTING BUILDING MOUNTED FORWARD THROW AREA LIGHT	
SW2	GARDCO 101L-32L-1000	9	BUILDING MOUNTED 30FT	LED	0.9	106 W	12045 LM	EXISTING BUILDING MOUNTED WIDE THROW AREA LIGHT	



KEY MAP
1"=1000'

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

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PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28035300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000400

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

LIGHTING PLAN (1 OF 3)

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FOR LOCATION OF UNDERGROUND UTILITIES

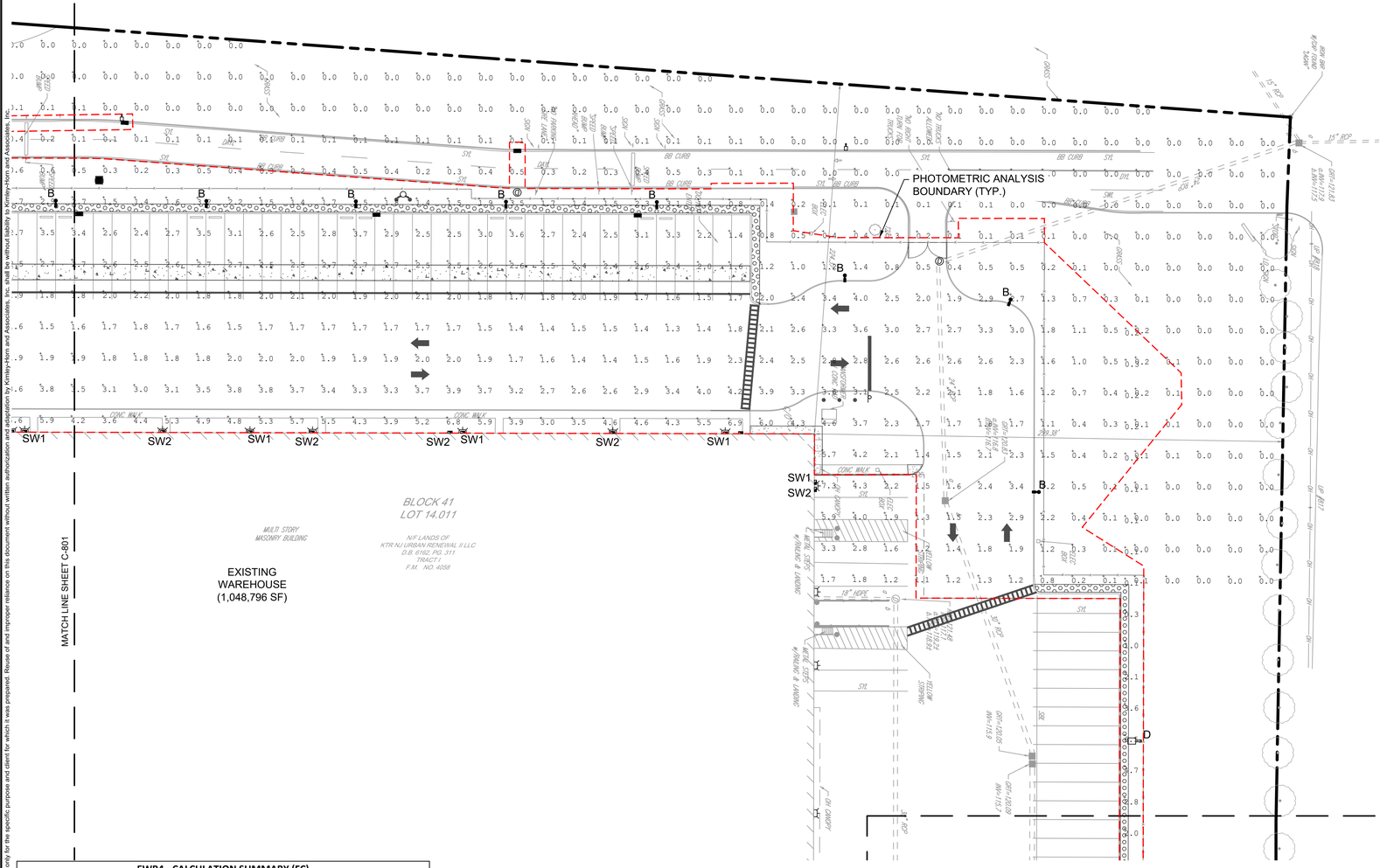
OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-801

April 1, 2026 — k:\prn_civil\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\C-800 - LIGHTING PLAN.dwg
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4. ANY DEVIATION FROM SPECIFIED FIXTURE MODELS AND MOUNTING HEIGHTS IN THIS EXHIBIT WILL DISCOUNT THE VALIDITY OF THESE CALCULATIONS.
5. THE PHOTOMETRIC ANALYSIS EXCLUDES ALL EXISTING PROPOSED OFF SITE STREET LIGHTING AND LANDSCAPE LIGHTING.
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LEGEND

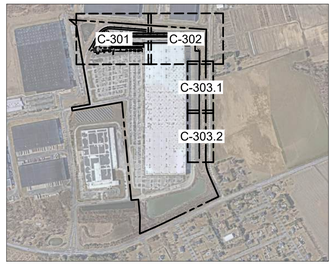
- PHOTOMETRIC ANALYSIS BOUNDARY
- POLE MOUNTED LIGHT FIXTURE
- EXISTING POLE MOUNTED LIGHT FIXTURE
- EXISTING BUILDING MOUNTED LIGHT FIXTURE
- X.X CALCULATION POINT
- 'X' FIXTURE TAG

EWR4 - CALCULATION SUMMARY (FC)

	AVERAGE	MAXIMUM	MINIMUM	AVG/MIN	MAX/MIN
Drive Aisle	3.62	5.05	2.20	1.64	2.30
Parking Lot	3.06	4.70	1.40	2.19	3.36
Truck Parking	2.31	4.40	0.75	3.07	5.87
Truck Parking Sidewalk	3.38	6.60	0.30	11.27	22.00

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KEY MAP
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CERTIFICATE OF AUTHORIZATION No. 24GA28039300

T. W. DIGGAN
PROFESSIONAL ENGINEER
NAC ADDED LICENSES & MODS

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
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LIGHTING PLAN (2 OF 3)

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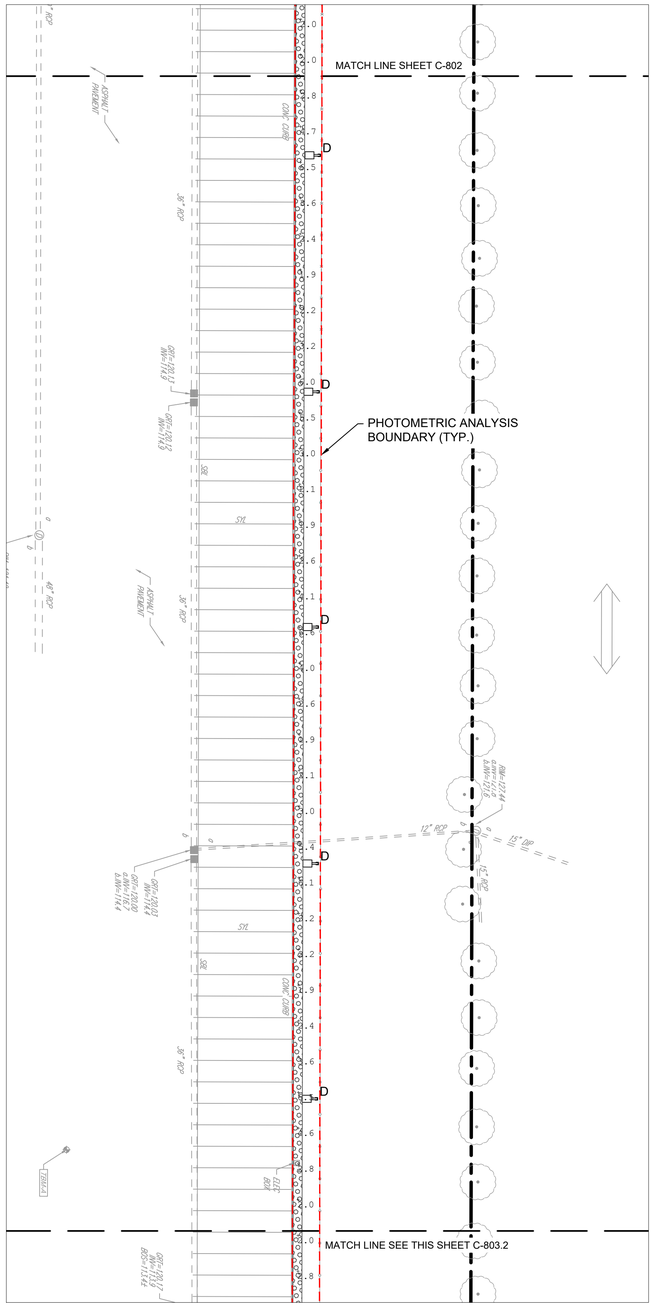
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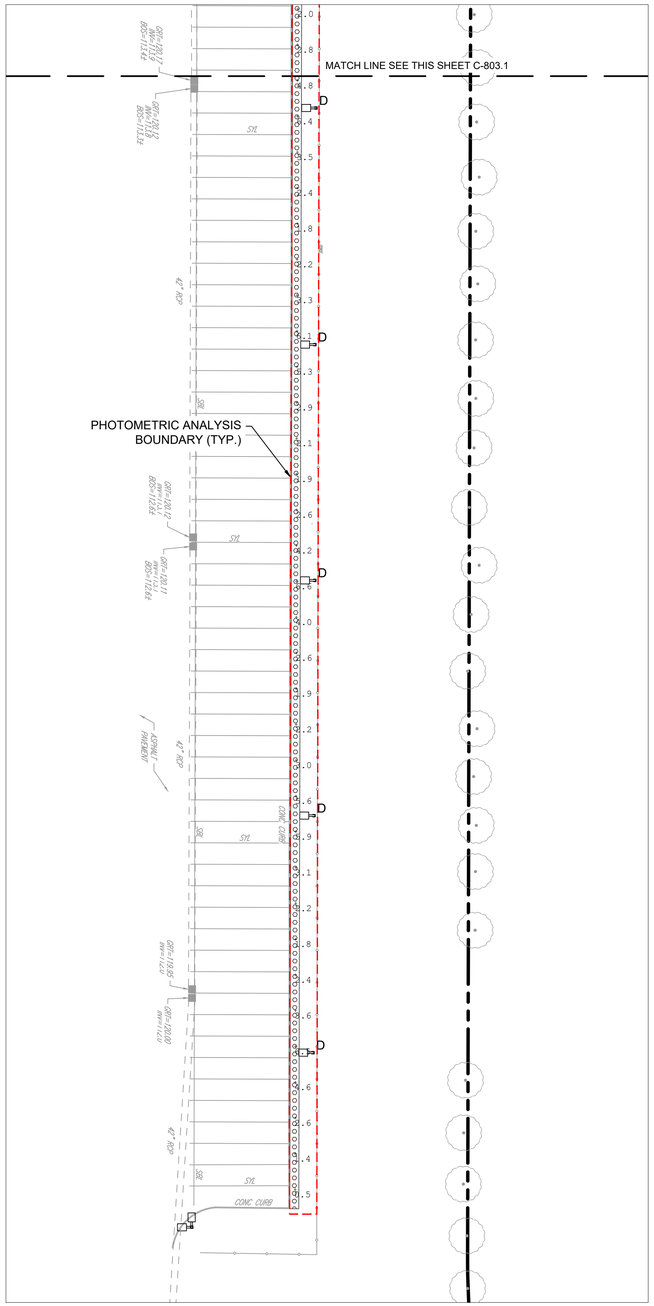
APPLICANT
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CITY OF SEATTLE, WA 98109

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MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-802

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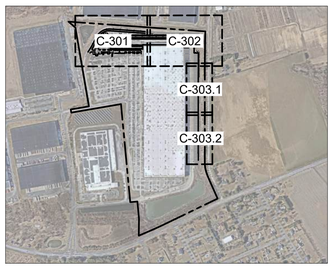
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1	MERCER COUNTY SCD REVISION	02/10/2026	JAR
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CERTIFICATE OF AUTHORIZATION No. 24GA28093500

T. W. DIGGAN
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05000400

KHA PROJECT	115319783
DATE	01/13/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

LIGHTING PLAN (3 OF 3)

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APPLICANT
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EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
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LOTS 14.011, 36.01, & 37.01/2, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
C-803

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D-Series Size 1
LED Area Luminaire

d-series

Catalog Number

Notes

Type

Hit the Tab key or mouse over this page to see all interactive elements.

Specifications

EPA: 0.69 ft² (0.06 m²)

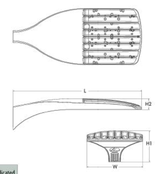
Length: 32.71" (83.1 cm)

Width: 14.26" (36.2 cm)

Height H1: 7.88" (20.0 cm)

Height H2: 2.73" (6.9 cm)

Weight: 34 lbs (15.4 kg)



Design Select options indicated by this color background.

Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

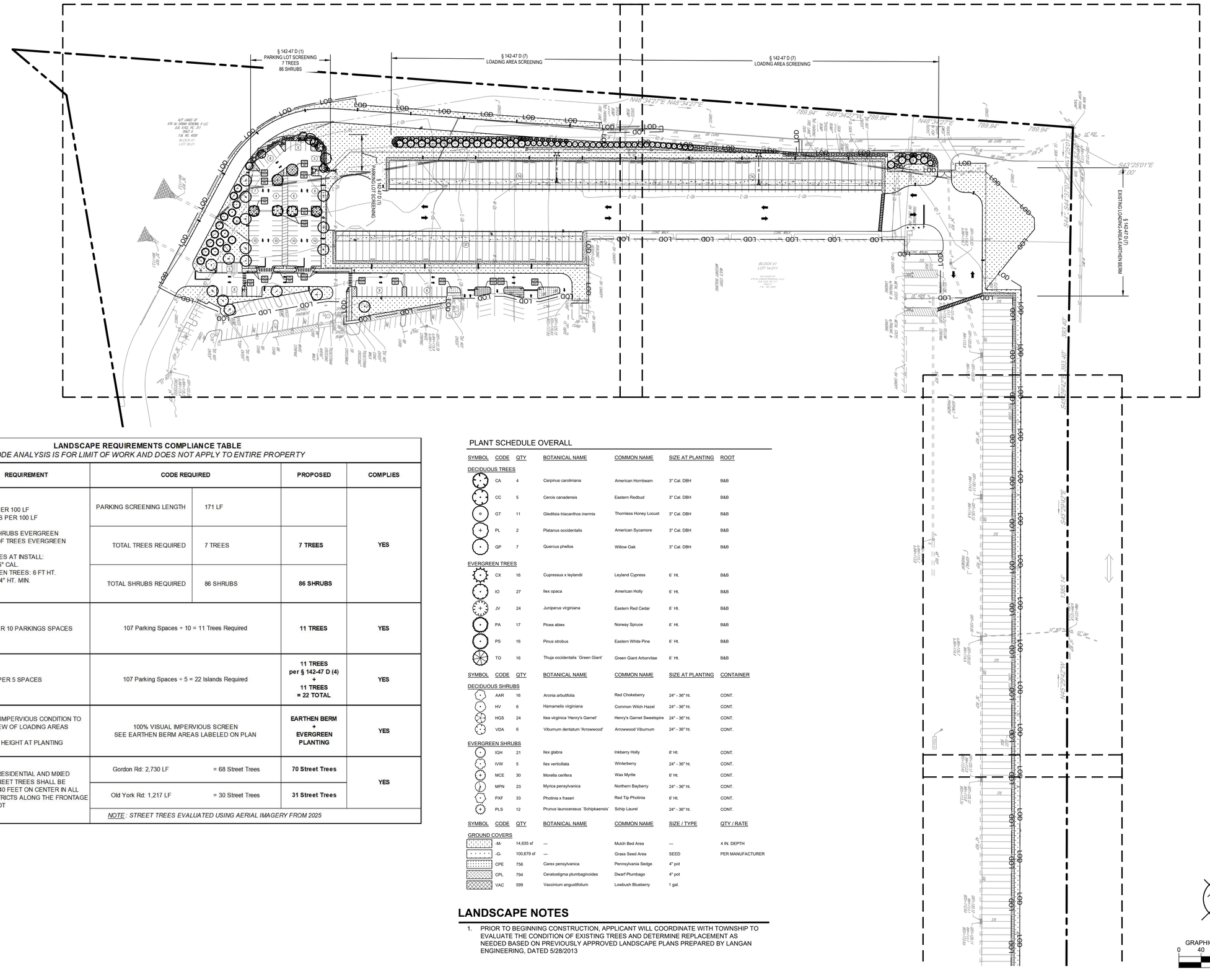
design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

Ordering Information

EXAMPLE: DSX1 LED P7 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

| DSX1 LED | | |



LANDSCAPE REQUIREMENTS COMPLIANCE TABLE
CODE ANALYSIS IS FOR LIMIT OF WORK AND DOES NOT APPLY TO ENTIRE PROPERTY

SECTION	REQUIREMENT	CODE REQUIRED		PROPOSED	COMPLIES
§ 142-47 D (1) ***Parking Lot Screening***	4 TREES PER 100 LF 50 SHRUBS PER 100 LF 50% OF SHRUBS EVERGREEN MAX. 1/3 OF TREES EVERGREEN PLANT SIZES AT INSTALL: TREES: 2.5" CAL. EVERGREEN TREES: 6 FT HT. SHRUBS 24" HT. MIN.	PARKING SCREENING LENGTH	171 LF		YES
		TOTAL TREES REQUIRED	7 TREES	**7 TREES**	
		TOTAL SHRUBS REQUIRED	86 SHRUBS	**86 SHRUBS**	
§ 142-47 D (4) ***Parking Lot Trees***	1 TREE PER 10 PARKINGS SPACES	107 Parking Spaces ÷ 10 = 11 Trees Required		**11 TREES**	YES
§ 142-47 D (2) ***Parking Lot Islands***	1 ISLAND PER 5 SPACES	107 Parking Spaces ÷ 5 = 22 Islands Required		**11 TREES per § 142-47 D (4) + 11 TREES = 22 TOTAL**	YES
§ 142-47 D (7) ***Loading Area Screening***	VISUALLY IMPERVIOUS CONDITION TO BLOCK VIEW OF LOADING AREAS 6 FT TREE HEIGHT AT PLANTING	100% VISUAL IMPERVIOUS SCREEN SEE EARTHEN BERM AREAS LABELED ON PLAN		**EARTHEN BERM + EVERGREEN PLANTING**	YES
§ 142-47 F (1)(b) ***Street Trees***	FOR NONRESIDENTIAL AND MIXED USES, STREET TREES SHALL BE PLANTED 40 FEET ON CENTER IN ALL ZONE DISTRICTS ALONG THE FRONTAGE OF ANY LOT	Gordon Rd: 2,730 LF	= 68 Street Trees	**70 Street Trees**	YES
		Old York Rd: 1,217 LF	= 30 Street Trees	**31 Street Trees**	
		NOTE : STREET TREES EVALUATED USING AERIAL IMAGERY FROM 2025			

PLANT SCHEDULE OVERALL

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE AT PLANTING	ROOT
DECIDUOUS TREES						
	CA	4	Carpinus caroliniana	American Hornbeam	3" Cal. DBH	B&B
	CC	5	Cercis canadensis	Eastern Redbud	3" Cal. DBH	B&B
	GT	11	Gleditsia triacanthos inermis	Thornless Honey Locust	3" Cal. DBH	B&B
	PL	2	Platanus occidentalis	American Sycamore	3" Cal. DBH	B&B
	QP	7	Quercus phellos	Willow Oak	3" Cal. DBH	B&B
EVERGREEN TREES						
	CX	16	Cupressus x leylandii	Leyland Cypress	6` Ht.	B&B
	IO	27	Ilex opaca	American Holly	6` Ht.	B&B
	JV	24	Juniperus virginiana	Eastern Red Cedar	6` Ht.	B&B
	PA	17	Picea abies	Norway Spruce	6` Ht.	B&B
	PS	16	Pinus strobus	Eastern White Pine	6` Ht.	B&B
	TO	16	Thuja occidentalis `Green Giant`	Green Giant Arborvitae	6` Ht.	B&B

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE AT PLANTING	CONTAINER
DECIDUOUS SHRUBS						
	AAR	16	Aronia arbutifolia	Red Chokeberry	24" - 36" ht.	CONT.
	HV	6	Hamamelis virginiana	Common Witch Hazel	24" - 36" ht.	CONT.
	HGS	24	Itea virginica 'Henry's Garnet'	Henry's Garnet Sweetspire	24" - 36" ht.	CONT.
	VDA	6	Viburnum dentatum 'Arrowwood'	Arrowwood Viburnum	24" - 36" ht.	CONT.
EVERGREEN SHRUBS						
	IGH	21	Ilex glabra	Inkberry Holly	6' Ht.	CONT.
	IVW	5	Ilex verticillata	Winterberry	24" - 36" ht.	CONT.
	MCE	30	Morella cerifera	Wax Myrtle	6' Ht.	CONT.
	MPN	23	Myrica pensylvanica	Northern Bayberry	24" - 36" ht.	CONT.
	PXF	33	Photinia x fraseri	Red Tip Photinia	6' Ht.	CONT.
	PLS	12	Prunus laurocerasus `Schipkaensis`	Schip Laurel	24" - 36" ht.	CONT.

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE / TYPE	QTY / RATE
GROUND COVERS						
	-M-	14,635 sf	---	Mulch Bed Area	---	4 IN. DEPTH
	-G-	100,679 sf	---	Grass Seed Area	SEED	PER MANUFACTURER
	CPE	756	Carex pensylvanica	Pennsylvania Sedge	4" pot	
	CPL	794	Ceratostigma plumbaginoides	Dwarf Plumbago	4" pot	
	VAC	599	Vaccinium angustifolium	Lowbush Blueberry	1 gal.	

LANDSCAPE NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, APPLICANT WILL COORDINATE WITH TOWNSHIP TO EVALUATE THE CONDITION OF EXISTING TREES AND DETERMINE REPLACEMENT AS NEEDED BASED ON PREVIOUSLY APPROVED LANDSCAPE PLANS PREPARED BY LANGAN ENGINEERING, DATED 5/28/2013

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1"=80'

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NEW JERSEY LICENSE NO. 21AS

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OVERALL LANDSCAPE PLAN

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FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

SHEET NUMBER
L-100

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April 1, 2026 - k:\crn_civil\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\L-100 - LANDSCAPE PLAN.dwg

§ 142-47 D (1)
PARKING LOT SCREENING
7 TREES
86 SHRUBS

§ 142-47 D (7)
LOADING AREA SCREENING

§ 142-47 D (1)
PARKING LOT SCREENING

N/F LANDS OF
KTR NJ URBAN RENEWAL II LLC
DB. 6192, PG. 151
TRACT II
FM. NO. 4058

BLOCK 41
LOT 36.01

NEW CANTON WAY
(A.K.A. LOT 37.012, BLOCK 41)
(PRIVATE 60' WIDE R.O.W.)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)

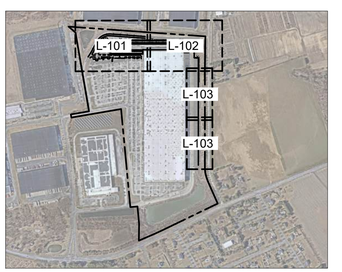
MATCH LINE SHEET L-102

MATCH LINE SHEET L-101

PLANT KEY

SEE SHEET L-100 - OVERALL LANDSCAPE PLAN FOR FULL PLANT SCHEDULE AND QUANTITIES

SYMBOL	CODE	BOTANICAL / COMMON NAME
DECIDUOUS TREES		
	CA	Carpinus caroliniana American Hornbeam
	CC	Cercis canadensis Eastern Redbud
	GT	Gleditsia triacanthos inermis Thornless Honey Locust
	PL	Platanus occidentalis American Sycamore
	QP	Quercus phellos Willow Oak
EVERGREEN TREES		
	CX	Cupressus x leylandii Leyland Cypress
	IO	Ilex opaca American Holly
	JV	Juniperus virginiana Eastern Red Cedar
	PA	Picea abies Norway Spruce
	PS	Pinus strobus Eastern White Pine
	TO	Thuja occidentalis `Green Giant` Green Giant Arborvitae
DECIDUOUS SHRUBS		
	AAR	Aronia arbutifolia Red Chokeberry
	HV	Hamamelis virginiana Common Witch Hazel
	HGS	Itea virginica 'Henry's Garnet' Henry's Garnet Sweetspire
	VDA	Viburnum dentatum 'Arrowwood' Arrowwood Viburnum
EVERGREEN SHRUBS		
	IGH	Ilex glabra Inkberry Holly
	IVW	Ilex verticillata Winterberry
	MCE	Morella cerifera Wax Myrtle
	MPN	Myrica pensylvanica Northern Bayberry
	PXF	Photinia x fraseri Red Tip Photinia
	PLS	Prunus laurocerasus `Schipkaensis` Schip Laurel
GROUND COVERS		
	-M-	--- Mulch Bed Area
	-G-	--- Grass Seed Area
	CPE	Carex pensylvanica Pennsylvania Sedge
	CPL	Ceratostigma plumbaginoides Dwarf Plumbago
	VAC	Vaccinium angustifolium Lowbush Blueberry



KEY MAP
1"=1000'

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80
1"=40'

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

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PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM

CERTIFICATE OF AUTHORIZATION No. 24GA30393500

W. D. WALKER
04/01/2026
PROFESSIONAL LANDSCAPE ARCHITECT
NEW JERSEY LICENSE NO. 21AS00044400

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

LANDSCAPE PLAN (1 OF 3)

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PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

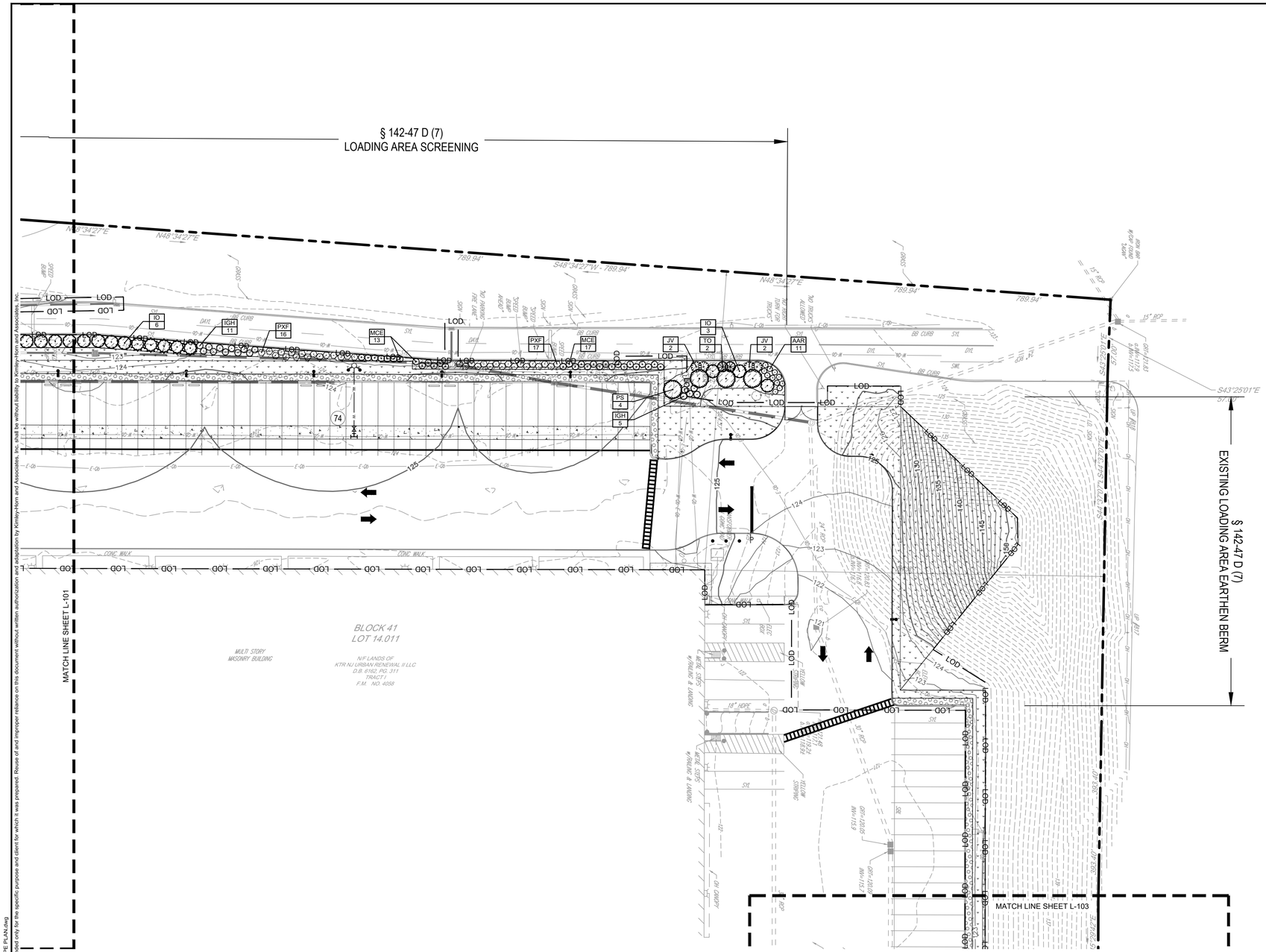
OWNER
KTR NJ URBAN RENEWAL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

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LOTS 14.011, 36.01, & 37.012, BLOCK 41
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MERCER COUNTY
NEW JERSEY

SHEET NUMBER
L-101

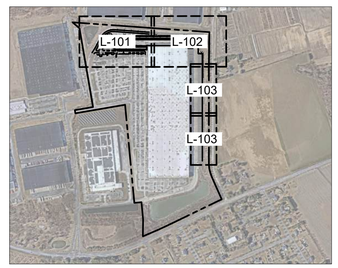
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SEE SHEET L-100 - OVERALL LANDSCAPE PLAN FOR FULL PLANT SCHEDULE AND QUANTITIES

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No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

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PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA28093500

W. D. WALKER
04/01/2026
PROFESSIONAL LANDSCAPE ARCHITECT
NEW JERSEY LICENSE NO. 21AS00133400

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

LANDSCAPE PLAN (2 OF 3)

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FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

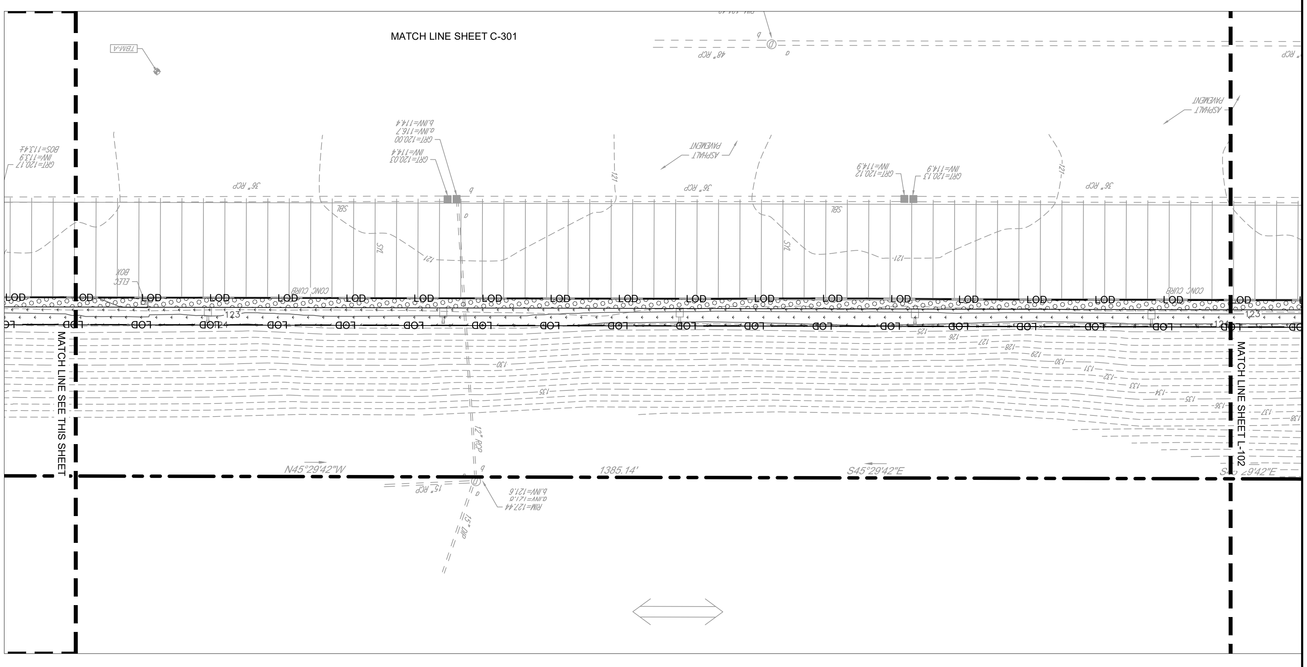
APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

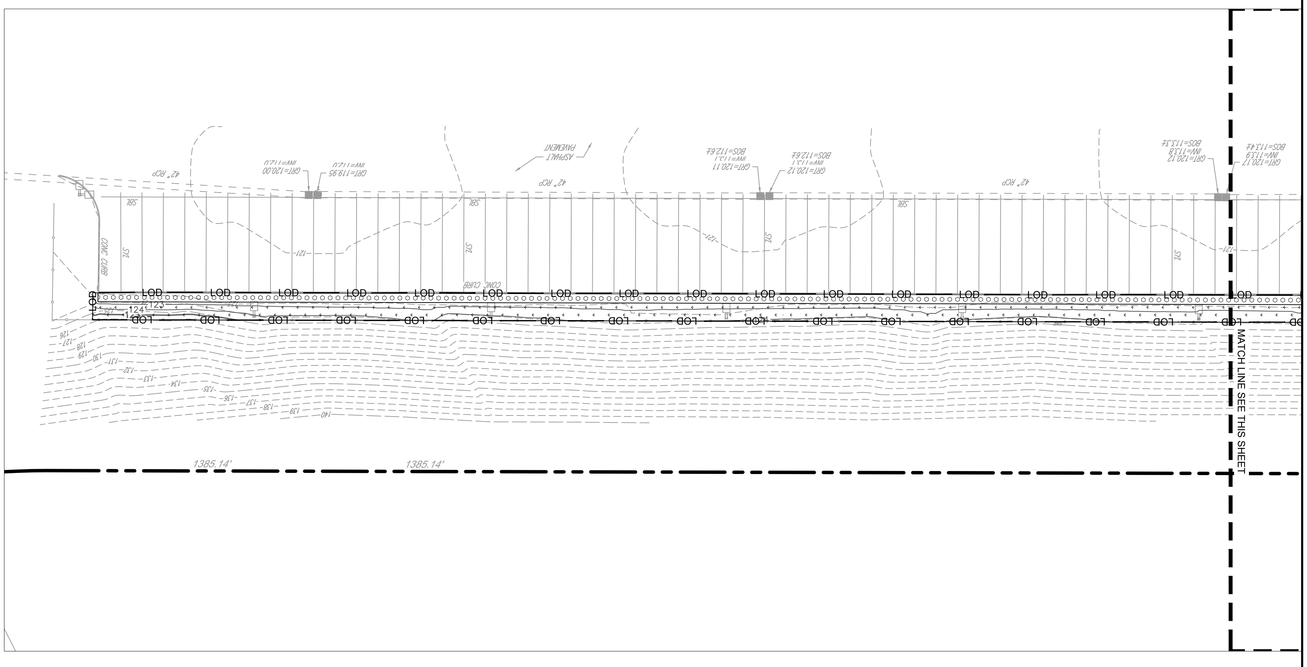
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PREPARED FOR
AMAZON.COM SERVICES LLC
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50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
L-102

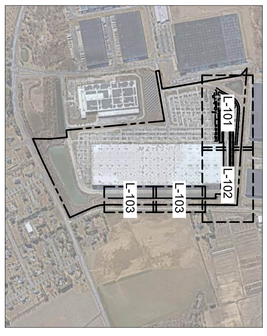
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NORTH

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0 20 40 80
1"=40'

NOT FOR CONSTRUCTION

SHEET NUMBER
L-103

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AMAZON.COM SERVICES LLC
LOTS 14.011, 36.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY NEW JERSEY

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE N.
CITY OF SEATTLE, WA 98109

KTR NJ URBAN REINVESTMENT-ROLL II, LLC -
60 STATE STREET, SUITE 7200
BOSTON, MA 02109

PROLOGIS
ONE MARKET STREET, SUITE 3100
SAN FRANCISCO, CA 94105

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NEW JERSEY ONE CALL CENTER
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

LANDSCAPE PLAN
(3 OF 3)

KHA PROJECT	115319783
DATE	01/13/2025
SCALE	AS SHOWN
DRAWN BY	JAR
DESIGNED BY	ONS
CHECKED BY	TWD

W. D. WALKER
04/01/2026
PROFESSIONAL LANDSCAPE ARCHITECT
NEW JERSEY LICENSE No. 21438

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CERTIFICATE OF AUTHORIZATION No. 24GA28039300

No.	REVISIONS	DATE	BY
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR

PERFORMANCE SPECIFICATION

I. PLANTS

A. General

1. Live healthy plants free of dead branches and parts
2. Free of disease, insect, injury and damage
3. Unbroken, intact, dense and solid rootballs and containers, without cracks, flat sides or previously repaired damage.
4. Free of girdling roots or rootbound/circling container conditions
5. Plants of consistent in growth habit and healthy character
6. Free of compromising growth conditions such as weak crotch connections, crossed branches, snags and scars
7. Point of origin growing location within 100 miles of project site
8. Graded, standards, caliper, sizes and stock consistent with *ANSI Z60.1, American Standard for Nursery Stock* most current edition
9. Species identified consistent with the most current editions of: *Hortus Third: Concise Dictionary of Plants Cultivated in the United States and Canada*, and *Manual of Woody Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses*
10. All disturbed areas shall be grass seed unless otherwise identified on landscape plans

B. Trees:

- The central leader of all deciduous trees shall not be cut and/or removed
- Trees shall be maintained in their normal growing habit and shall not be topped.
- The normal practice of raising the crown (removing lower limbs) will enable people to see under the trees and will not obstruct the view

1. Deciduous Single Trunk

a. Full, straight and upright with consistent symmetrical natural branching pattern throughout
b. Branching Height-seven (7) feet to lowest branch in two years unless otherwise required by local jurisdiction

2. Deciduous Multi-Trunk

a. Full and upright with straight consistent symmetrical natural branching pattern throughout
b. Canes evenly spaced and of similar growth habit
c. Free of suckers and extraneous branching

3. Evergreen Single-Trunk

a. Full and upright with continuous symmetrical dense natural habit
b. Clear branching height twelve (12) inches above top of rootball
c. Free of suckers and extraneous branching
d. Do not shear or otherwise prune to shape plantings

C. Evergreen and Deciduous Shrubs

1. Full, dense and naturally symmetrical.
2. Consistent with container and/or balled and burlapped size
3. Free of suckers and extraneous branching
4. Do not shear or otherwise prune or shape plantings

D. Evergreen and Deciduous Groundcover

1. Full and dense in pots or flats

E. Perennials and Seasonal Color

1. Full and dense in pots or flats

F. Turf Grass

1. Subgrade

a. Soil Mix-10% Compost, 90% topsoil by volume
b. Preparation-loosen subgrade to a minimum depth of four (4) inches. Remove all non-natural materials including litter, stones, sticks and all items greater than ¾ inch in any dimension
c. Preparation-spread soil mix at a depth of four (4) inches continuously to meet grade elevations shown on drawings. Allow for thickness of sod when applicable

2. Grass Sod

a. Install not longer than twenty-four (24) hours from harvest
b. Grass bed not less than two (2) inches in continuous thickness
c. 100% continuous live sod coverage after first growing season and at end of warranty period.
d. Of uniform non-varying density and continuous texture quality capable of growth and development immediately upon installation. Weed and noxious plant free
e. Stagger installation rows and place aligned parallel to contours
f. Fill joints solidly with planting bed preparation soil
g. Provide anchor pins at twenty-four (24) inches on center for slopes greater than 4:1

3. Grass Seed

a. Mix approved by the Landscape Architect
b. Provide first and new of year seed crops in mix free of weed seeds and deleterious matter
c. Provide seed mix not greater than 15% annual or perennial rye
d. Coverage 85% continuous coverage live stand after first growing season and at end of warranty
e. Replacement or overseeding mixes consistent with original application/installation
f. Provide erosion blankets or other slope retention methods as noted on drawings

II. Materials and Appurtenances

A. Testing

1. Materials testing information/certificates/dated labels shall be current to the project and performed/certified not greater than 120 calendar previous days from current date of submittal for review

B. Top Soil

1. Neutral Ph balance 5.5 -7.5. Friable and containing 2.0-5.0% organic matter by dry weight. Continuously free of non-soil items such as stones, debris, sticks, trash, and deleterious matter greater than ¾ inch in any direction. Clay content shall not exceed 25%.Gravel content shall not exceed 10%. Silt shall not exceed 25%

C. Use of Existing Topsoil

1. Existing topsoil on-site may be repurposed with prior Owner approval. Contractor shall provide soil testing and additive program that demonstrates consistent performance and characteristics and composition as identified herein. Owner shall approve soil testing and soil amendment/additive methods and procedures

D. Shredded Hardwood Mulch

1. 100% organic shredded first year hardwood free of deleterious matter, rock, gravel and weed seed. Neutral Ph balance 5.5-7.5

E. Compost Ph

1. Balanced 5.0-8.5 mature, stable and weed free produced by natural aerobic decomposition. Free of visible contaminants and toxic substances. Not greater than 5% sand, silt, clay or rock by dry weight. Consistent with US-EPA CFR Title 40 Part 503 Standards for Class A biosolids

G. Compost Testing

1. Prior to delivery on-site, the following items are required for approval by Owner: Feedstock percentage in final compost product; statement that the products meets federal, state and local health safety requirements
2. Provide copy of lab analysis less than 120 calendar days old verifying that the product meets described physical requirements; chemical contaminants; Ph; physical contaminants; biological contaminants (including a statement that fecal coliform and salmonella testing and results comply with requirements of the US Composting Council Seal of Testing approval programs

H. Planting Mix

1. 85% topsoil and 15% Compost

I. Fertilizer

1. Granular 10% nitrogen, 6% Phosphorous, 4% Potassium granular form with 50% Nitrogen in organic form. Product and Material Safety Data as approved by Owner

J. Herbicide

1. Product and Material Safety Data as approved by Owner

K. Water

1. Potable only unless otherwise approved by Owner

L. Hardwood Stakes

1. 2 x 2 x 48 inch square of sound hardwood, painted flat black on all sides

M. Tree Ties

1. Villa Non-Abrasive Rubber Tree Ties or approved equal

N. Filter Fabric

1. Mirafi 140-N or approved equal

O. Steel Edging

1. 1/8-inch x 4-inch in full sections. Ryerson, Timec or approved equal with integral stakes. No open corners. Corners shall be formed and trued to compliant angle or welded closed

P. River Stone

1. Locally sourced, river rounded, unfaceted river stone/cobbles.
2. Size shall not exceed 3 total inches in any dimension.
3. Color and texture approved by Owner
4. When placed in concrete or mortar setting bed, tamp to secure and brush clear joints.
5. Concrete or mortar as approved by owner.

III. Execution

A. Site Conditions

1. Inspect site and notify Owner in writing of acceptance with indication that project conditions are acceptable are suitable to proceed with work. Notify Owner of any existing damage and/or other conflicting conditions.
2. Do not proceed with work until unsatisfactory conditions have been satisfactorily remedied. Notify Owner of acceptance prior to commencement of work.
3. Notify Owner in writing of any conditions that may preclude successful completion of work including items such as coordination with other trades, incomplete work, drainage, soil temperature and/or composition, access to storage/work areas, damage to conditions, etc.
4. Notify Owner in writing immediately of any items that may influence work schedule, timing of tasks, materials delivery and/or installation and warranty responsibilities.
5. Coordinate and cooperate with other trades working in and adjacent to work areas. Examine drawings of other trades which show development of the entire project and become familiar with the scope of required work by others.

B. Planting Seasons

Recommended seasons are a general guide based on historical climatic data and typical performance of plantings, and which vary dependent on project-specific environmental conditions. Due to construction schedules, recommended planting seasons may/may not coincide with request(s) for certificate of occupancy for projects. Coordination of planting installation and seasons shall be reviewed with Owner on an individual project basis.

1. Deciduous and Evergreen Trees

Do not install/plant the following trees between September 15 and March 15

1. Oaks (Quercus Sp., Such as Q. rubra, Q. alba, Q. phellos, Q. coccinnea)
2. Dogwood (Cornus Sp.)
3. Sweetgum (Liquidambar Sp.)
4. All Conifers and Evergreens except White Pine (Pinus strobus Sp.)

2. Deciduous and Evergreen Shrubs

a. Install/plant between March 15 and June 15 and/or September 15 and November 30

3. Perennials

a. Install/plant between March 15 and June 15 and/or September 15 and November 30

4. Spring Flowering Bulbs

a. Install/plant between September 15 and December 15

5. Seasonal Annuals

a. Install/plant in season per approved schedule

6. Turf Grass

a. Install/plant between March 15 and May 15 and/or September 15 and November 30
b. Do not install/plant seed or sod turf grass areas when ambient air temperature is below forty (40) degrees Fahrenheit, or forecast for a twelve (12) hour period after completion of work

7. No Plant Installation

a. Do not install plantings or turf grass between June 15 and September 15, without approval by Owner

C. Positioning & Location of Plantings

1. Position plants to show the most-prominent and well-formed face to most-public view
2. Field locate plants and location/spacing/dimension of planting beds on project site prior to beginning installation
3. Verify location of individual plants and plant beds prior to beginning installation. Do not proceed without Owner approval

D. Implementation

1. Pursue work continuously without delay or interruption until completion unless notified otherwise by Owner
2. Provide project submittals ahead of commencement of work. Landscape Architect requires a minimum of ten (10) working days from date of receipt for review of submittals and response to Owner and Contractor. Plan accordingly for procurement of materials
3. Continuously update implementation schedule and notify Owner of progress. Delays related to material availability are not cause for non-completion of scheduled delivery of work
4. Report delays due to weather or site conditions immediately upon finding. Provide recommendation for remedy of schedule delays. Do not work, place or modify frozen soil
5. Report delays due to extraordinary natural or other conditions beyond control of Contractor

E. Clean Up

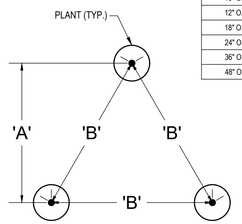
1. Remove trash, debris and work materials from site prior to request for substantial completion. Thoroughly clean surfaces impacted by work including building, parking areas, roadways, sidewalks, signs, lights, site furnishings, etc.
2. Repair any damage to existing conditions that occurred during execution of work.
3. All clean-up and demobilization procedures shall be performed to satisfaction of the Owner and Landscape Architect.

GENERAL NOTES

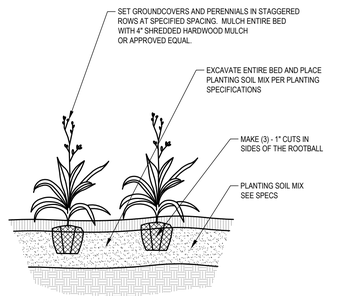
1. Plants shall be healthy, vigorous material, free of pests and diseases and are subject to approval/rejection of the Landscape Architect prior to, during and after installation.
2. Contractor shall identify all materials at growing location prior to purchase and submit digital photographs, and source list to the Landscape Architect for approval at a minimum of six (6) calendar weeks prior to installation. Plants not approved shall be resourced and resubmitted.
3. Planting beds and individual tree plantings shall be mulched continuously as specified.
4. Prior to construction the contractor shall be responsible for locating underground utilities and execute work in a manner that avoids damage to utilities during the course of work. Contractor shall be responsible or remedy of any damage to utilities, structures, site appurtenances that occur as a result of landscape related work.
5. Contractor is responsible for verifying quantities shown on documents. Field adjustments shall be approved by Landscape Architect prior to installation. Quantities indicated on drawings are for reference. It is the Contractor's responsibility to ensure full coverage of plants at the indicated spacing.
6. Contractor is responsible for maintenance of all plantings including, but not limited to watering, mowing, edging, spraying, mulching, fertilizing, of plantings and turf areas for two (2) calendar years from date of certificate of occupancy *(142-47.L.2)*. Contractor is responsible for warranty of all plant material for a period of one (1) calendar year from date of certificate of occupancy. Warranty replacement planting shall meet or exceed the original specification identified on drawings. Replacement planting shall extend the same warranty as originally installed materials. Plantings and grass areas shall be flourishing and fully thriving at end of warranty period.
7. Plants identified for replacement by Owner, Landscape Architect shall be replaced immediately by the Contractor unless otherwise agreed upon. Plantings (trees, shrubs, groundcover) subject to replacement by warranty shall exhibit characteristics of 30% dead-per individual plant, non-contributing or disease compromised. Grass areas suitable for acceptance shall demonstrate 85% sustained/consistent and continuous, densely established coverage. Contractor shall perform a site review at end of warranty period and provide the Owner with written documentation of the site, including plant health, warranty replacement items, and conditions that may be influencing plant health. Contractor shall remove from plants and site, all staking and guying material at end of warranty period.
8. Contractor shall comply with all local, state and federal requirements, codes and regulations related to the work undertaken.
9. Contractor is responsible for coordination among trades operating on site. Coordination and if necessary resulting modifications to schedules are responsibility of the Contractor.
10. No clearing, grading or land disturbance may begin until the tree fencing has been installed and inspected by the Township Engineer *(142-47.K.A)*
11. No construction, stockpiling storage, dumping, or heavy machinery may take place inside the fenced area *(142-47.K.B)*
12. Any and all proposed plant substitutions from the approved landscape plan shall require prior review and approval by the Township Landscape Architect

SPACING 'B'	ROW 'A'
8" O.C.	6.9" O.C.
10" O.C.	8.6" O.C.
12" O.C.	10.4" O.C.
18" O.C.	15.6" O.C.
24" O.C.	20.8" O.C.
36" O.C.	30.0" O.C.
48" O.C.	31.5" O.C.

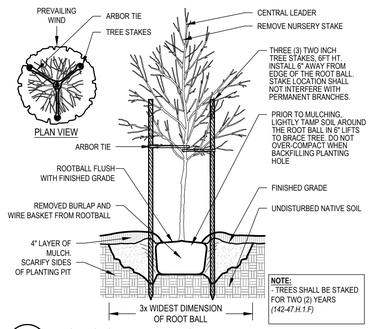
NOTE: GROUNDCOVERS AND PERENNIALS TO BE INSTALLED WITH TRIANGULAR SPACING



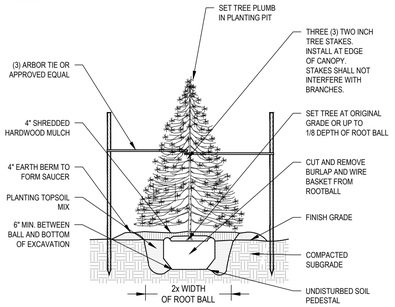
1 GROUNDCOVER SPACING
NOT TO SCALE



2 GROUNDCOVER PLANTING
NOT TO SCALE

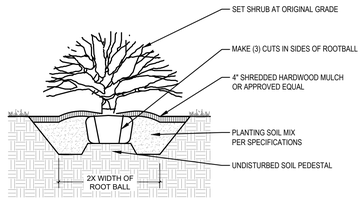


3 DECIDUOUS TREE PLANTING
NOT TO SCALE

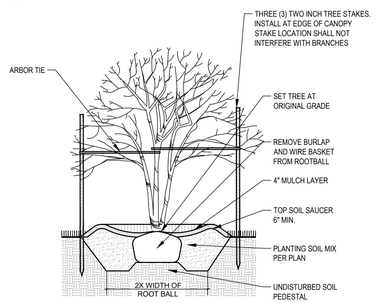


4 EVERGREEN TREE PLANTING
NOT TO SCALE

NOTE: SHRUBS INSTALLED IN CONTINUOUS SUCCESSION SHALL BE PLACED IN ONE CONTINUOUS BED



5 SHRUB PLANTING
NOT TO SCALE



6 MULTI TRUNK TREE PLANTING
NOT TO SCALE

April 1, 2026 - k:\prn_civil\115319783 - ewr4 robbinsville twp nj\5. cad\plansheets - 24x36\L-100 - LANDSCAPE PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

NOT FOR CONSTRUCTION

No.	REVISIONS	DATE	BY
1	MERCER COUNTY SCD REVISION	02/10/2026	JAR
2	ROBBINSVILLE TOWNSHIP REVISION	04/01/2026	JAR

Kimley»Horn
© 2026 KIMLEY-HORN AND ASSOCIATES, INC.
301 CARNEGIE CENTER, SUITE 202, PRINCETON, NJ 08540
PHONE: 609-681-2428
WWW.KIMLEY-HORN.COM
CERTIFICATE OF AUTHORIZATION No. 24GA30939300

W. D. WALKER
04/01/2026
PROFESSIONAL LANDSCAPE ARCHITECT
NEW JERSEY LICENSE NO. 21AS00044100

KHA PROJECT 115319783
DATE 01/13/2025
SCALE AS SHOWN
DRAWN BY JAR
DESIGNED BY ONS
CHECKED BY TWD

LANDSCAPE NOTES AND DETAILS

Know what's below. Call before you dig.
PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CALL
NEW JERSEY ONE CALL CENTER
STATE OF NEW JERSEY
DIAL 811 OR 1-800-272-1000
FOR LOCATION OF UNDERGROUND UTILITIES

OWNER
KTR NJ URBAN RENEWALL II, LLC - PROLOGIS
60 STATE STREET, SUITE 2200
BOSTON, MA 02109

APPLICANT
AMAZON.COM SERVICES LLC
410 TERRY AVENUE NORTH
CITY OF SEATTLE, WA 98109

EWR4 ROBBINSVILLE TWP NJ
PREPARED FOR
AMAZON.COM SERVICES LLC
LOTS 14.011, 26.01, & 37.012, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE
MERCER COUNTY
NEW JERSEY

SHEET NUMBER
L-110

Kimley»Horn

April 2, 2026

RE: Responses to Township of Robbinsville Technical Review Committee Comments

1. Roberts Engineering Group, LLC Sanitary Sewer Review Memo # 1, dated February 10, 2026
2. Design for Generations, LLC Landscape Plan Review Memo #1, dated March 3, 2026
3. ARH Associates, TRC Review Letter #1, dated March 5, 2026
4. Robbinsville Township Environmental Commission Review Memo #1, dated March 2, 2026
5. Robbinsville Township Board of Health Mercer County Review Memo #1, dated March 5, 2026
6. T&M Associates Traffic Engineering Review Letter #1, dated March 5, 2026
7. Van Cleef Engineering with Focus Review Memo #1, dated March 6, 2026
8. Robbinsville Township Affordable Housing Review Memo #1, dated February 5, 2026
9. Robbinsville Township Police Department Review Memo #1, dated February 4, 2026
10. Robbinsville Township Tax Assessor Review Memo #1, dated February 4, 2026
11. Robbinsville Township Construction Official Review Memo #1, dated February 27, 2026
12. Robbinsville Township Public Works Review Memo #1, dated March 3, 2026

Preliminary & Final Major Site Plans
Applicant: Amazon.com Services LLC
Project: EWR4 Robbinsville - Trailer Yard Expansion Location: 50 New Canton Way
Block 41, Lots 14.011, 36.01, & 37.012
Township of Robbinsville File No.: RTLU260101

To whom it may concern,

We received the above referenced review letters, prepared by the Township of Robbinsville's Technical Review Committee, regarding the above-referenced project. Our office offers the following responses (**in bold**) to the review comments:

1. ROBERTS ENGINEERING GROUP, LLC SANITARY SEWER REVIEW MEMO #1, DATED FEBRUARY 10, 2026

Site Plans and General Comments

1. Lots 14.011, 36.01, & 37.012, Block 41 are located entirely within an existing Sewer Service Area, as delineated on the current Robbinsville Township Sanitary Sewer System Plan.
   - **RESPONSE: Comment is informational.**

2. The subject property located at 50 New Canton Way has 1,836 feet of frontage on Gordon Road and 570 feet of frontage on Old York Road. Township records indicate the presence of an 8-inch diameter gravity sewer main running southwest along New Canton Way, southwest of the subject property.
   - **RESPONSE: Comment is informational.**

3. The existing sanitary sewer lateral exiting the building is currently unlabeled. Please confirm that it serves as the sanitary sewer and provides proper labeling on the drawings as necessary.
   - **RESPONSE: The existing sanitary sewer lateral is located beyond the Limit of Disturbance and has been labelled on sheet C-101.**

4. The existing sanitary sewer lateral exiting the building appears to cross beneath the area of proposed

concrete sidewalk and curb. The exact location of the lateral should be field verified prior to the start of construction to avoid any conflicts and ensure its protection.

- **RESPONSE: The existing sanitary sewer lateral is located beyond the Limit of Disturbance and has been labelled on sheet C-101.**

5. Construction of the proposed concrete sidewalk and curb should be performed with the appropriate caution to prevent damage to the existing sanitary sewer lateral.
   - **RESPONSE: The existing sanitary sewer lateral is located beyond the Limit of Disturbance and has been labelled on sheet C-101.**

2. DESIGN FOR GENERATIONS, LLC LANDSCAPE PLAN REVIEW MEMO #1, DATED MARCH 3, 2026

1. "A Landscape Plan is required to be submitted as part of all applications". "The plan shall be prepared by a licensed Landscape Architect" (142-47.C.1). The Landscape Plan shall be prepared and signed by a licensed Landscape Architect.
   - **RESPONSE: The Landscape Plans have been signed and sealed by a licensed Landscape Architect W. Davis Walker, Lic # 21AS00143800. See Sheets L-100 to L-110.**

2. The Landscape Plan shall contain a plant schedule; planting details and planting notes (142-47.C.1.a.b & c). The plan conforms, indicating the information on Sheets L-100 & L-110.
   - **RESPONSE: Comment is informational.**

3. The need for irrigation should be reduced by the use of native and drought-tolerant plantings (142-47.C.2). The plan conforms.
   - **RESPONSE: Comment is informational.**

4. "The use of native plant species and landscape forms indigenous to the area is encouraged" (142-47.A.3). The plan should be revised to indicate Basswood (Tilia americana) and Willow Oak (Quercus phellos) instead of the Liquidambar (Sweet Gum) trees.
   - **RESPONSE: The plans have been revised to remove Sweet Gum trees. See sheets L-100 to L-110**

5. "Parking areas shall be screened from public view. A screen planting consisting of four trees and 50 shrubs per 100 linear feet of parking perimeter shall be provided. No more than 1/3 of the trees shall be evergreen species. Evergreen trees must be a minimum of six feet at time of planting, and deciduous trees must be 2.5" in caliper at time of planting. Fifty percent of the shrubs must have a minimum mature height of three feet and a minimum of 24 inches at the time of planting. The screen planting shall not be located within the street right-of-way or any sight triangles" (142-47.D.1). The plan shall be revised to screen the parking areas along New Canton Way. There are two specific islands along the northwest and southwest corners of the site that should be planted.
   - **RESPONSE: Plans have been revised to provide additional evergreen trees / screening along the private road in the green space to the southeast of the proposed revised parking area as discussed during meeting with Jack Carmen 3/23/26. See sheets L-100 to L-110.**

6. Configuration of parking islands must accommodate the planting of large shade trees and shrubs with a minimum width of nine (9) feet where any shade tree is proposed (142-47.D.2). The plan conforms.
   - **RESPONSE: Comment is informational.**

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7. A minimum of one planting island equivalent to nine (9) feet wide by 18 feet deep is required per five (5) parking spaces (142-47.D.3). The plan does not conform. We recommend planting the shade trees behind the parking spaces to more closely conform to the requirement. A design waiver is required.
   - **RESPONSE: Plans have been revised to add additional shade tree's along the backside of the parking stalls to provide additional shading. 11 parking lot islands are required per the quantity of new parking spaces and 11 Thornless Honey Locust's have been provided in addition to interior parking trees proved per 142-47.D.4 (Comment #8 below). A design waiver has been requested for the planting island dimensions.**

8. A minimum of one (1) tree per 10 parking spaces shall be provided. The tree shall be a minimum of 2½ inches in caliper (B&B) at the time of planting (142-47.D.4). The plan indicates 107 parking spaces and 11 trees are provided. The plan conforms.
   - **RESPONSE: Comment is informational.**

9. All planting islands must be landscaped with shrubs and ground cover plantings with no more than 25% of all landscaped islands being covered by grass (142-47.D.5). The plan shall be revised accordingly.
   - **RESPONSE: The plans have been revised to include additional shrubs and groundcover in the parking islands to comply with standards. See sheets L-100 to L-110.**

10. "All loading areas shall be landscaped and screened to a 100% visually impervious condition to block the view of the parked vehicles and loading platforms from any public street, adjacent residential districts or uses and the front yards of adjacent commercial and industrial uses. Earth berms or screening by a fence, wall, or planting, or combination of the four, shall be not less than six feet in height and 100% visually impervious" (142-47.D.6). The plan indicates partial screening (northwest side) of the loading area. The remaining buffer planting area, which is narrow, should be planted with tall growing evergreen trees and shrubs, such as Prunus laurocerasus (Skip Laurel), Thuja Occidentalis (Green Giant Arborvitae) Cupressus x Leylandii (Leyland Cypress) or similar evergreen trees and shrubs. The plan shall be revised accordingly.
    - **RESPONSE: Additional evergreen trees and shrubs have been added along the northern side of the Trailer parking area to provide additional screening. See sheets L-100 to L-110.**

11. The Landscape Plan indicates planting a row of 40 Ilex Opaca (American Holly) within the buffer area. The number of hollies should be reduced to prevent monocultures and trees, mentioned in the comment above, should supplement the plantings.
    - **RESPONSE: Plans have been revised reducing the Ilex opaca and adding diversity. See sheets L-100 to L-110.**

12. Any parking and loading area, either single or in combination, contains more than 10 parking spaces shall have curbs, and shall have curbed landscaped islands or cutouts. The islands or cutouts shall contain at least one tree of 2 ½ inches or larger which shall be installed at one per 10 cars, located within the parking lot or along the perimeters of the surfaced area (142-47.D.7). The plan shall be revised to indicate conformance.
    - **RESPONSE: Plans have been revised to indicate at least one tree of 2 ½ inches or larger for every 10 cars. See tabulation on sheet L-100.**

13. "Street trees are required to be planted along all public streets. All street trees must be planted within the public right-of-way and, where possible, between the curb and sidewalk with a minimum planting strip of six (6) feet in width" (142-47.F.1). The Landscape Plan conforms.

- **RESPONSE: Comment is informational. These proposed plans do not propose any work along the public streets, however existing street trees along Gordon Rd & Old York Rd have been identified via aerial imagery. Existing street trees appear to be in compliance.**

14. "For nonresidential and mixed uses, street trees shall be planted 40 feet on center in all zone districts along the frontage of any lot" (142-47.F.1.b). The plan shall be revised to indicate conformance.
    - **RESPONSE: These proposed plans do not propose any work along the public streets, however existing street trees along Gordon Rd & Old York Rd have been identified via aerial imagery. Existing street trees appear to be in compliance.**

15. Street trees may be placed in clumps, rows or staggered subject to the discretion of the approving body (142-47.F.2).
    - **RESPONSE: Comment acknowledged.**

16. Outdoor pedestrian spaces shall be provided within each non-residential site, as appropriate (142-47.G.3). The locations and spacing of these outdoor pedestrian spaces should be indicated.
    - **RESPONSE: The operation of the building is not to change. The previously approved plans to not to indicate any outdoor pedestrian spacing and none are proposed. A design waiver is requested.**

17. "Each use requiring site plan approval shall provide and maintain attractively landscaped grounds and suitably landscaping in order to safeguard the character of the adjacent districts" (142-47.H.1.a). Many of the existing trees throughout the parking lot area are in need of replacement. The central leader has been cut on several trees. Other trees are not growing and need to be replaced. And other shade trees are missing. A list of all the trees to be replaced and an updated Landscape Plan, conforming to the originally approved Landscape Plan, should be prepared.
    - **RESPONSE: Prior to beginning construction, Applicant will coordinate with Township to evaluate the condition of existing trees and determine replacement as needed based on previously approved landscape plans prepared by Langan Engineering, dated 5/28/2013.**

18. "All plant materials shall be of a species common to the area, shall be of nursery stock and free of insects and disease (142-47.H.1.b). The plan should be revised to replace the proposed Liquidambar with either Quercus phellos or Tilia Americana. indicate shall indicate conformance. The plan indicates planting twelve (12) Rhododendron in the sun and another more sun tolerant species, such as Cherry Laurel or Skip Laurel, should be indicated.
    - **RESPONSE: Plant species have been revised. See sheets L-100 to L-110.**

19. "All plantings and planting areas shall be of a species common to the area, shall be of nursery stock and shall be free of insects free of insects and disease" (142-47.H.1.c). The plan conforms.
    - **RESPONSE: Comment is informational.**

20. Evergreen trees shall be at least six (6) feet high, balled and burlapped (B & B), and deciduous trees shall be at least 2.5 inches in caliper measured six (6) inches above ground, B & B, at the time of planting (142-47.H.1.e). The plan conforms.
    - **RESPONSE: Comment is informational.**

21. Trees shall be staked for two years (142-47.H.1.f). The plan should be revised to indicate conformance.
    - **RESPONSE: Plans have been revised, refer to detail 3 on sheet L-110.**

22. "No clearing, grading or land disturbance may begin until the tree fencing has been installed and inspected by the Township Engineer" (142-47.K.a). The applicant shall indicate if any areas of construction will affect the existing trees to remain and other plantings.
    - **RESPONSE: Applicant will ensure tree protection has been installed prior to beginning construction. Applicant will indicate if any areas of construction will affect existing trees and ensure protection. Additionally a note indicating such has been added to sheet L-110 (General Note #10).**

23. "No construction, stockpiling storage, dumping, or heavy machinery may take place inside the fenced area" (142-47.K.b). The Landscape Plan shall indicate conformance.
    - **RESPONSE: Refer to General Note #11 on sheet L-110.**

24. All landscape plantings shall be maintained for a period of two (2) years from the time of planting (142-47.L.2). The Landscape Plan shall indicate conformance.
    - **RESPONSE: Refer to General Note #6 on sheet L-110.**

25. The Landscape Plan shall indicate that plant substitutions shall be approved by the Township Landscape Architect.
    - **RESPONSE: notes added, Refer to General Note #12 on sheet L-110.**

26. The location of generators, if applicable, should be indicated on the plans and the appropriate screening provided (142-47.H.3.a). The plan should be revised accordingly.
    - **RESPONSE: No generators are proposed therefore no screening will be required.**

27. The Landscape Plan shall indicate that the central leader of all shade trees shall not be cut and/or removed; they shall be maintained in their normal growing habit and shall not be topped. The normal practice of raising the crown (removing lower limbs) will enable people to see under the trees and will not obstruct the view.
    - **RESPONSE: Notes have been added, refer to Performance Specification B Trees, the first 3 bullets.**

28. The Landscape Plan shall indicate that all dead, dying and/or trees in poor health, will be replaced.
    - **RESPONSE: Applicant will evaluate the condition of existing trees and determine replacement as needed based on previously approved landscape plans prior to beginning construction.**

3. ARH ASSOCIATES, TRC REVIEW LETTER #1, DATED MARCH 5, 2026

III. COMPLETENESS REVIEW

This office CANNOT recommend that this Application may be deemed Complete from a Planning Perspective. Applicant is asked to address bold, footnoted items below:

1. This office did not receive the Preliminary or Final Site Plan Checklists. We generated these checklists from the Variance / Waiver Request Form that was submitted. Applicant is asked to confirm our analysis and provide the Preliminary & Final Site Plan Checklists as required.
    - **RESPONSE: Kimley-Horn has provided revised application checklists and Waiver Request Memo with this resubmission.**

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2. Given the history / nature of this development / Application, this office assumes that this item is Not Applicable. If this assumption is correct, a submission waiver with written justification is required. Otherwise, submission is required.
   - **RESPONSE: Kimley-Horn has provided revised application checklists and Waiver Request Memo with this resubmission.**

3. This office has not received this item. Applicant is asked to provide or request a submission waiver with written justification.
   - **Kimley-Horn has requested submission waivers for these items with written justification attached with this resubmission in the Waiver Request Memo.**

4. Satisfaction is deferred to the Board Sanitary Sewer Engineer.
   - **Comment acknowledged. Based on the review letters received and TRC meeting, these items are satisfied.**
5. Satisfaction is deferred to the Board Architect.
   - **Comment acknowledged. Based on the review letters received and TRC meeting, these items are satisfied.**
6. Satisfaction is deferred to the Board's Land Use Coordinator.
   - **Comment acknowledged. Based on the review letters received and TRC meeting, these items are satisfied.**
7. Applicant requests a waiver, stating "The project's proposed improvements are within a previously disturbed portion of the site and match existing site operations". This office cannot support this waiver request. Applicant is asked to provide a Community Impact Statement that meets the requirements of §142-77(27).
   - **A Community Impact Statement has been provided with this resubmission.**
8. Applicant requests a waiver, stating "The project's proposed improvements are within a previously disturbed portion of the site and match existing site operations". This office cannot support this waiver request. Applicant is asked to provide an Environmental Impact Statement that meets the requirements of §142-77(26).
   - **An Environmental Impact Assessment has been provided with this resubmission.**
9. Applicant requests a waiver, stating "There is a decrease to the existing employee parking and anticipated decrease to total truck trip for the site". The grant of this request is deferred to the Board's Traffic Engineer.
   - **Comment acknowledged. Based on the review letters received and TRC meeting, these items are satisfied. A waiver has been supported by the Board's Traffic Engineer.**
10. Satisfaction is deferred to the Board Engineer.
    - **Comment acknowledged. Based on the review letters received and TRC meeting, these items are satisfied.**
11. Applicant requests a waiver, stating "There are no publicly mapped wetlands adjacent to the proposed improvements. The project's proposed improvements are within a previously disturbed portion of the site". The grant of this request is deferred to the Board Engineer.
    - **Comment acknowledged. Based on the review letters received and TRC meeting, the Board Engineer did not oppose supporting this waiver request.**
12. Applicant is asked to submit this item.
    - **Site photos have been provided with this resubmission.**
13. Satisfaction is deferred to the Board Landscape Architect.
    - **Comment acknowledged. Based on the review letters received and TRC meeting, these items are satisfied.**

14. Satisfaction is deferred to the Board's Traffic Engineer.
    - **Comment acknowledged. Based on the review letters received and TRC meeting, these items are satisfied.**
15. Applicant is asked to confirm that all Submission Waivers, Design Waivers and Variance requests are included on the appropriate form.
    - **Kimley-Horn has provided revised application checklists and Waiver Request Memo with this resubmission.**

IV. PLANNING ANALYSIS

Applicant is asked to clarify the regulatory regime under which the approval is being sought.

- **RESPONSE: The site is located within the PCD-1 Redevelopment Zone. Per the "REDEVELOPMENT PLAN FOR BLOCK 41, LOTS 14, 36, 37.01, 37.02, 37.03, 38.02, 38.03, 38.04, AND 38.012" dated October 2011 prepared by Cofone Consulting Group, LLC, all bulk requirements of the PCD Zone shall apply to the Redevelopment PCD-1 District. Therefore, bulk requirements for the Project shall be subject to the bulk requirements outlined in § 142-25 PCD Planned Commercial Development Zone.**

A. Use

Distribution/fulfillment centers are type 2 permitted principal uses within both the PDC Zone and the Redevelopment Plan.

- **RESPONSE: Comment is informational.**

B. Area & Bulk Standards (§142-25E, unless otherwise noted)

Pending the clarification requested above, the following review is undertaken based on PCD regulations.

- **RESPONSE: All bulk requirements of the PCD Zone shall apply to the Redevelopment PCD-1 District. The review undertaken based on PCD regulations is accurate.**

ITEM		REQUIREMENT	PROPOSED	CONFORMANCE STATUS
Lot				
Min. Lot Area		11 AC	82.72 AC	Conforms
Min. Lot Width		600'	2,074'	Conforms
Min. Lot Depth		600'	1,665'	Conforms
Max. Impervious Coverage		70%	32.79%	Conforms
Principal Building				
Min. Building Setback	Old York Rd	150'	>150'	Conforms
	Gordon Rd		224.37'	Conforms
Min. Front Yard Setback	Interior Rd	90'	295'	Conforms
Min. Side Yard Setback		25'	W: 224.0'	Conforms
			S: >25'	Conforms
Off Street Parking & Loading (§142-41) [17]				

C. Additional Planning Comments

1. Per §142-36(A): No fence shall be erected of barbed wire, electrified, topped with metal spikes or barbed wire, or constructed of any material or in any manner which may be dangerous to persons or animals, except that these provisions shall not apply to farms or industrial uses.

Applicant proposes an 8' chain-link fence with barbed wire. Pending resolution of the Chapter 142 / Redevelopment Plan issue, a Design Waiver may be required.

- **RESPONSE: The 8' Chain-link fence detail has been revised to remove the barbed wire. See sheet C-700.**

2. Per §142-47(C)[1]: A landscape plan is required to be submitted as part of all applications and permits as defined by Subsection B. The plan shall be prepared at a scale of no greater than 1"=30' for site plans and 1"=50' for landscape master plans and street tree plans. The plan shall be prepared by a licensed landscape architect. The seal of the landscape architect must be affixed to the landscape plan, along with the name, date and license number.

   Applicant is asked to provide landscape plans signed and sealed by a licensed landscape architect.

- **RESPONSE: Landscape Plans have been revised to be signed & sealed by a licensed landscape architect. See sheets L-100 to L-110.**

V. VARIANCES & DESIGN WAIVERS

- **RESPONSE: Comments is informational.**

VI. POST APPROVAL CONSIDERATIONS

Should the Board grant the desired approvals for this Application, Applicant, and/or its professionals must, to the extent applicable:

A. Make all appropriate plan revisions as directed by the Board.
   - **RESPONSE: Comment acknowledged.**

B. Contact the Board Secretary to reconcile any outstanding review escrow accounts prior to Final Plan Certification, Signature or the issuance of building permits, as applicable.
   - **RESPONSE: Comment acknowledged.**

C. Address all necessary bonds, inspection escrows and related items.
   - **RESPONSE: Comment acknowledged.**

D. Provide an estimate of cost for all onsite improvements prepared by a New Jersey Licensed Professional Engineer.
   - **RESPONSE: Comment acknowledged.**

E. Submit to the Township Zoning Department and this office evidence (if not already provided) of the following outside agency approvals prior to the Final Plan Certification or Signature:

   1. Mercer County Planning Board.
   2. Mercer County Soil Conservation District.
   3. Robbinsville Township.
   4. New Jersey Department of Environmental Protection (if required)
   5. Any other as may be necessary.

   - **RESPONSE: Comment acknowledged.**

F. Additionally, Applicant is advised that any damage caused to existing Township-owned facilities (i.e.,

roadways, utilities, etc.) during construction shall be repaired and/or replaced in kind to the satisfaction of the Township Engineer.

- **RESPONSE: Comment acknowledged.**

4. TOWNSHIP OF ROBBINSVILLE ENVIRONMENTAL COMMISSION REVIEW MEMO #1, DATED MARCH 2, 2026

Truck traffic – will it be less than it is now?

- **RESPONSE: As part of the current operations, empty trailers are transported to an offsite location, and this proposal will eliminate that process by providing additional trailer parking on site. As a result of the provided adequate trailer parking on site, overall truck traffic will be reduced by eliminating the transport of the empty trailers to the remote parking site. All other aspects of the existing Amazon operations at this facility will remain unchanged.**

5. ROBBINSVILLE TOWNSHIP BOARD OF HEALTH MERCER COUNTY REVIEW MEMO #1, DATED MARCH 5, 2026

The Robbinsville Health Department has reviewed the Site Plan application proposal for the above referenced site, and offers the following comments:

1. Since the application does not involve retail food, underground sewage disposal systems, or on-site wells, the Health Department does not oppose the waiver requests sought.

   These comments neither stated nor implied, guarantees the approval of this application and does not relieve the applicant from seeking or gaining any other necessary approvals from other Agencies, Departments or Boards

   - **RESPONSE: Comment is informational.**

6. T&M ASSOCIATES TRAFFIC ENGINEERING REVIEW LETTER#1, DATED MARCH 5, 2026

Traffic Impact

1. The rider to the land use application for the project states that the proposed increase in trailer parking spaces will reduce overall truck traffic related to the site as additional empty trailers will no longer be required to be transferred off site for storage however, a traffic impact study was not provided. The Applicant shall provide testimony be provided regarding the anticipated changes to traffic circulation with the proposed project, including where off-site trailers are currently stored and what time of day excess trailers are transported to/from the site.
   - **RESPONSE: Comment Acknowledged. Testimony will be provided.**

Parking and Loading

2. The existing site plan provides 2,264 parking spaces which will be reduced to 1,783 spaces with the proposed modification. Sheet C-300 of the site plan indicates that a total of 564 parking spaces are required, based on 1 space per 4,000 sf of warehouse space and 1 space per 250 sf of office space. However, Section 142-41.I(1)(L)[3] of the Municipal Ordinance requires "One space per employee on the largest shift, plus one space per 4,000 square feet of gross floor area" for warehouse uses. The

parking requirement for the warehouse component shall be recalculated to include one space per employee on the largest shift in addition to the building size calculation. Supporting parking space requirement calculations are provided below for reference:

Municipal Ordinance, Section 142-41.I(1)(L)[3] Requirements:
Warehouse: One space per employee on the largest shift, plus one space per 4,000 square feet of gross floor area.

Offices uses: One space per 250 square feet of gross floor area.

Warehouse:
1 space per employee on the largest shift = 1 * (___ employees) = ___ spaces Plus
1 space per 4,000 SF GFA = 2.79 * (968,761 SF / 4,000) = 243 spaces

Office uses:
1 space per 250 SF GFA = 1 * (80,035 SF / 250) = 321 spaces

Total Parking Required = ____ spaces

- **RESPONSE: Please refer to the revised parking requirement on sheet C-300.**

3. Information should be provided regarding the actual parking demand for the site through either parking demand counts or employee logs to determine if sufficient employee parking will remain with the proposed 481 parking space reduction. It is understood that site operations experience a significant influx of employees during the holiday season, thus information specific to that peak period should be provided.
   - **RESPONSE: Testimony will be provided. Employee logs have been provided within this resubmission to support the parking demand.**

Site Plans

4. W11-2 "PEDESTRIAN CROSSING" and W16-7P "DOWNWARD DIAGONAL ARROW" signs shall be installed at all uncontrolled crosswalk approaches along the new access aisle.
   - **RESPONSE: W11-2 & W16-7P signs have been added to all proposed uncontrolled pedestrian crosswalks. See sheet C-350 & Sheet C-702 for detail.**

5. Stop bars and stop signs should be provided at both access points to the ancillary parking lot located in the northwest corner of the site.
   - **RESPONSE: Stop bars & stop signs have been provided along both access points to the ancillary parking lot along the Northwestern corner of the site. See sheet C-350.**

6. To be consistent with parking aisles found throughout the site, two-way circulation arrows should be provided along the ancillary parking lot aisle located in the northwest corner of the site.
   - **RESPONSE: Two-way circulation arrows have been provided within the ancillary parking lot. See sheet C-350.**

7. Per Section 3C.03 of the MUTCD, the minimum clear width of a crosswalks shall be 6'. Crosswalk widths are currently dimensioned at 5' and shall be revised accordingly.

- **RESPONSE: Proposed crosswalk widths have been revised to meet the minimum 6' wide standard as set per Section 3C.03 of the MUTCD. See sheet C-301.**

8. The signing and striping plan includes pavement markings denoted as 'land on blue' to direct operators where to drop trailer landing gear. We recommend the Applicant consider adding these markings to the existing trailer parking spaces on the north side of the building as well.
   - **RESPONSE: The existing trailer parking currently has 'land on blue' striping. See sheets C-350 to C-352.**

9. The Applicant shall clarify the purpose of the "inspection lanes" located around the perimeter of the trailer storage spaces. If these lanes are intended to be used by employees/pedestrians, it is recommended that connectivity be improved between these areas and the greater internal sidewalk network.
   - **RESPONSE: Testimony will be provided. Site plan has been revised to add additional striping for designated crosswalk areas. See sheet C-351.**

Access and Circulation

10. Design Vehicle Circulation Plans for a Delivery Vehicle (WB-67) have been provided and are acceptable as shown. No further action is required.
    - **RESPONSE: Comment is informational.**

11. We defer to the local Fire Department for further comment on Fire Truck access and circulation requirements.
    - **RESPONSE: Comment acknowledged. Applicant will defer to the local Fire department for further Fire Truck access & circulation requirements.**

7. VAN CLEEF ENGINEERING WITH FOCUS REVIEW MEMO #1, DATED MARCH 6, 2026

2. GENERAL COMMENTS

2.1 These comments shall be considered additive to those of the other Land Use Board Professionals. We will endeavor to not duplicate commentary except as to where it may be necessary to provide additional comment.
   - **RESPONSE: Comment is informational.**

2.2 We recommend an "As-Built Plan" signed and sealed by a New Jersey Licensed Professional Land Surveyor be submitted prior to final acceptance. Survey plan shall include but is not limited to grading, utilities, stormwater management and site features.
   - **RESPONSE: Applicant will comply and provide an "As-Build Plan" signed and sealed Survey upon completion of construction prior to final acceptance.**

3. EXCEPTIONS, VARIANCES AND WAIVERS

This project received preliminary and final site plan approval and deviation waiver memorialized under Resolution No. PB2012-10. The following exceptions, variances and waivers were requested and/or are required for this project. We understand the Board Planner and Attorney will address variances in greater detail.

These comments shall be considered additive to those of the other Land Use Board Professionals.

Kimley»Horn

3.1 Preliminary Site Plan Check List – The Applicant submitted a rider to supplement the project application. We are in agreement with the Applicant's position indicated on the List of Waiver Requests and recommend they be granted.

- **RESPONSE: Comment is informational.**

4. REVIEW COMMENTS

4.1. DEMOLITION COMMENTS

4.1.1. Application to confirm limits of HMA milling and full depth pavement reconstruction.

- **RESPONSE: There are no areas of proposed mill & pave as all new motor vehicle surface will be full-deep paving reconstruction. Limits of paving have been denoted and revised to clarity on limits of proposed pavement. See sheets C-300 series.**

4.2. SITE COMMENTS

4.2.1. Under previously approved Resolution PB2012-10, the applicant was granted a deviation for a road connection to Gordon Road where Township Ordinance states vehicular access points to the surrounding road system are limited to West Manor Way and Old York Road (§142-25E(1)(h)). The current plans modify a portion of the access road from Gordon Road and maintain this connection. Applicant shall provide testimony regarding the continued use of this road and the need to maintain access to Gordon Road.

- **RESPONSE: Testimony will be provided.**

4.2.2. It is observed that entry to the truck loading area is obtained through the existing secured gate booth from John Henry Drive as well as a second entrance through a chain link gated driveway via the access road off Gordon Road. Applicant to testify regarding discuss the need for second entrance, if the gate will remain closed/locked and if additional security measures and/or signage should be taken for the northeasterly gated access road.

- **RESPONSE: Testimony will be provided.**

4.2.3. We recommend the 24' wide gate be installed with a KnoxBox fire department key box. We defer further comment to the Township Fire Official.

- **RESPONSE: Plans have been revised to indicate the installation of a Knox Box fire department padlock along the 24-foot-wide gate. See sheet C-302 for Site Plan revisions and sheet C-702 for Knox Box Padlock detail.**

4.2.4. Existing site was installed with Belgian Clock curb. Applicant to confirm the proposed material for all new curbing.

- **RESPONSE: Applicant is proposing standard 6" concrete curb.**

4.2.5. Applicant to provide testimony with respect to the site impact of reducing employee parking spaces.

- **RESPONSE: Testimony will be provided.**

4.2.6. The project proposes modifications to the existing parking lot. Applicant shall provide testimony regarding compliance with EV parking space requirements.

- **RESPONSE: Testimony will be provided. There is a net decrease in parking spaces. It is the Applicant's position that the EV Parking Standards do not apply therefore no EV stalls are proposed.**

4.3. STORMWATER MANAGEMENT COMMENTS

4.3.1. The proposed development will result in more than one (1) acre of land disturbance, the reduction in total impervious coverage by 0.25 AC and the reduction in net motor vehicle surface by 0.35 AC. As such, the project is classified as a 'Major Development' pursuant to the Amended Stormwater Rules (N.J.A.C. 7:8) and will be subject to design analysis for green infrastructure, groundwater recharge, stormwater runoff quality and stormwater runoff quantity standards.

Due to the reduction in impervious coverage and motor vehicle surface, stormwater runoff quality standards are met for the proposed development. Stormwater runoff quantity was satisfied by demonstrating the curve under curve method, groundwater recharge satisfied by a reduction in impervious coverage and creating a surplus of recharge.

- **RESPONSE: Comment is informational.**

4.3.2. The time of concentration calculation utilizes short grass in sheet flow. Applicant shall revise calculations utilizing dense grass when calculating sheet flow time of concentration.

- **RESPONSE: The Stormwater Management Report and calculations have been revised to utilize dense grass when calculating sheet flow. Refer to the Stormwater Management Report regrading changes.**

4.3.3. The site currently drains to existing stormwater management basins on site. Site improvements will continue to drain to the existing basins under proposed conditions. The Applicant shall provide testimony regarding the condition of the existing basin, a record of its maintenance and confirmation to handle the flow from these improvements.

- **RESPONSE: Testimony will be provided.**

4.3.4. Applicant shall provide proof that the annual site inspection/maintenance per the NJDEP MS4 requirements has been completed and the stormwater inspection report is current with the Township.

- **RESPONSE: Applicant will provide proof of annual inspections & maintenance as a condition of approval.**

4.3.5. Applicant to update site Stormwater O&M Manual to include additional stormwater infrastructure and confirm it has been filed with Mercer County.

- **REPONSE: Applicant will provide an updated O&M Manual based on the newly proposed stormwater infrastructure as a condition of approval**

4.4. UTILITY COMMENTS

4.4.1. Applicant to show proposed valve and water line for re-located hydrant within northeast trailer parking area on Plan Sheet C-501.

- **RESPONSE: Plans have been revised to show proposed valves and waterlines connecting to relocated fire hydrants. See sheets C-500 & C-501.**

4.4.2. Applicant to consider installing protective bollards in front of re-located fire hydrant on Plan Sheet C-501.

- **RESPONSE: Plans have been revised to show protective bollards in front of relocated fire hydrants. See sheets C-500 & C-501.**

4.5. LIGHTING

4.5.1. Applicant shall provide a concrete footer detail for all light poles.

- **RESPONSE: A concrete footer detail for all light poles has been added. See sheet C-804.**

5. OTHER AGENCY APPROVALS

It is the Applicant's responsibility to determine what, if any, approvals are required from outside agencies and internal municipal agencies and/or departments. We believe the following other agency approvals may be required and shall be conditions of any favorable resolution granted by the Board;

5.1. Mercer County Soil Conservation District (MCSCD) – Soil Erosion and Sediment Control (SESC) Plan Certification is required as the proposed limit of disturbance exceeds 5,000 square feet.

- **RESPONSE: Mercer County SCD approval will be provided upon receipt as a condition of approval.**

5.2. Mercer County Planning Board – Site plan approval or exemption to be provided as condition of final approval.

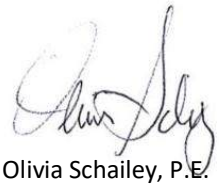
- **Mercer County Letter of No Impact has been obtained and is included with this resubmission.**

THE FOLLOWING AGENCIES HAVE NO COMMENTS AND WE CONFIRM RECEIPT:

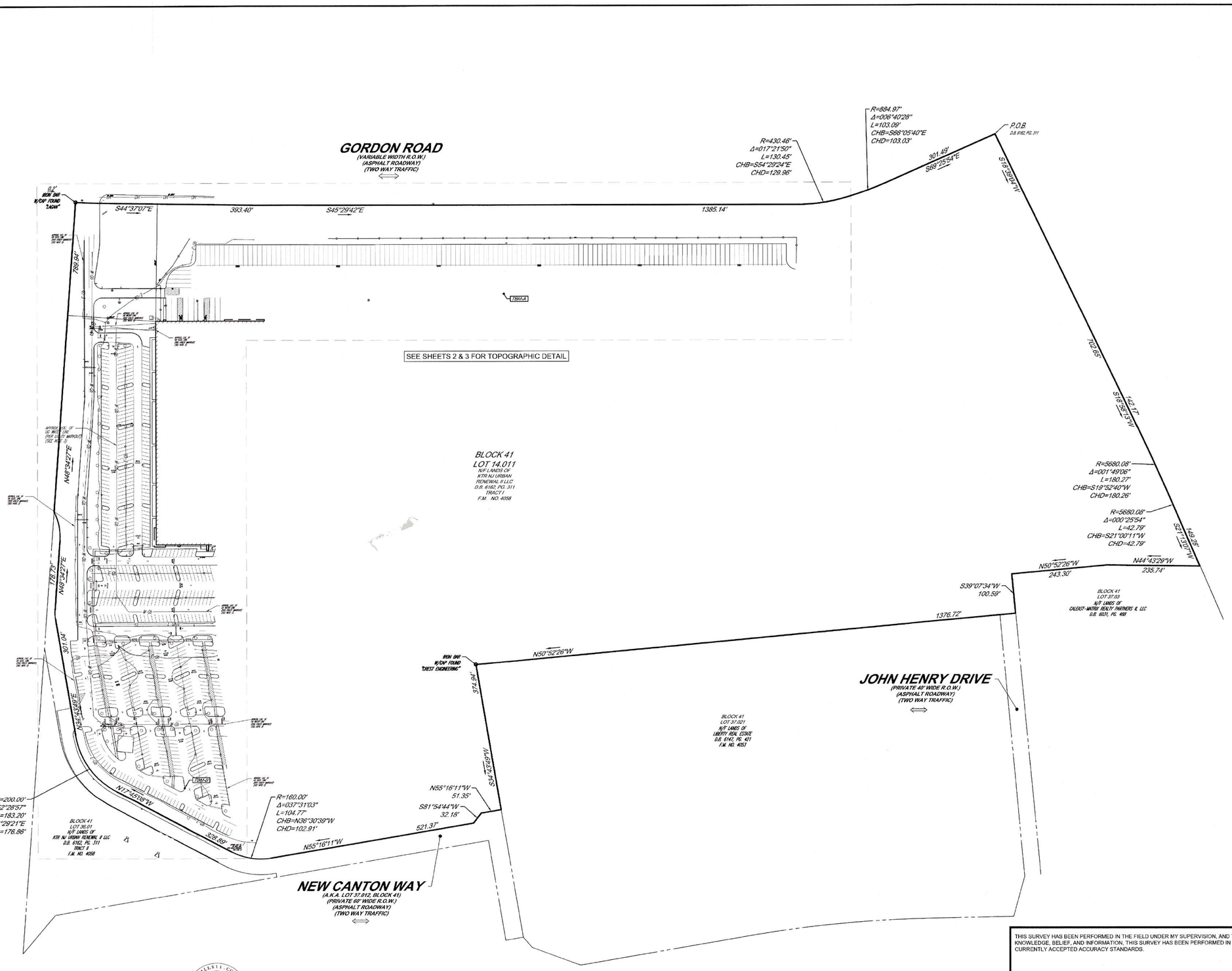
8. Robbinsville Township Affordable Housing Review Memo #1, dated February 5, 2026
9. Robbinsville Township Police Department Review Memo #1, dated February 4, 2026
10. Robbinsville Township Tax Assessor Review Memo #1, dated February 4, 2026
11. Robbinsville Township Construction Official Review Memo #1, dated February 27, 2026
12 Robbinsville Township Public Works Review Memo #1, dated March 3, 2026

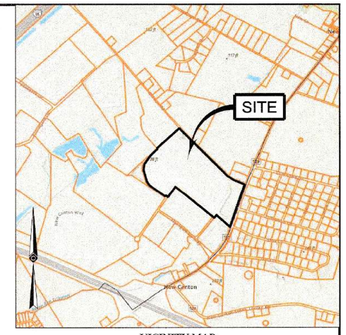
Thank you for your time and consideration of this matter. If any questions, concerns, or issues arise, please contact me via email olivia.schailey@kimley-horn.com or phone at or 609-594-5676.

Sincerely,



Olivia Schailey, P.E.
Civil Engineer
Kimley-Horn and Associates, Inc.





VICINITY MAP
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(NOT TO SCALE)

NOTES:

1. PROPERTY KNOWN AS LOT 14.011, BLOCK 41, AS SHOWN ON THE OFFICIAL TAX MAP OF CITY OF ROBBINSVILLE, MERCER COUNTY, NEW JERSEY.
2. AREA = 3,472,292 SQUARE FEET OR 79.713 ACRES.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ANY OR ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.

   A QUALITY LEVEL SYSTEM IS UTILIZED TO IDENTIFY THE SOURCE OF THE UNDERGROUND UTILITY INFORMATION. THE METHOD OF DETERMINATION IS BASED ON CONTRACTUAL AGREEMENT WITH THE CLIENT AND IS DEPICTED ON THE SURVEY BY THE LINE TYPES SHOWN IN THE DRAWING LEGEND. FOR REFERENCE, THE QUALITY LEVELS ARE AS FOLLOWS:

   - QUALITY LEVEL D - UTILITIES SHOWN BASED UPON REFERENCE MAPPING OR ORAL HISTORY. NOT FIELD VERIFIED.
   - QUALITY LEVEL C - LOCATION OF UTILITY SURFACE FEATURES SUPPLEMENTS REFERENCE MAPPING. INCLUDES MARKOUT BY OTHERS.
   - QUALITY LEVEL B - UTILITY LOCATION DATA IS COLLECTED THROUGH GEOPHYSICAL SENSING TECHNOLOGY TO SUPPLEMENT SURFACE FEATURES AND OR REFERENCE MAPPING. INCLUDES MARKOUT BY CONTROL POINT ASSOCIATES, INC.
   - QUALITY LEVEL A - HORIZONTAL AND VERTICAL LOCATION OF UTILITIES ARE OBTAINED USING VACUUM EQUIPMENT EXCAVATION OR OTHER METHODS TO EXPOSE THE UTILITY. LOCATION SHOWN AT SINGLE POINT WHERE EXCAVATION OCCURRED UNLESS UTILITY WAS LOCATED PRIOR TO FILLING.

   ALL FOUR TYPES MAY NOT BE PRESENT ON THIS SURVEY.
4. THIS PLAN IS BASED ON A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. (THE SURVEYOR). INFORMATION PROVIDED BY THE CLIENT AND OTHER REFERENCE MATERIAL AS LISTED HEREON. CHANGES TO THE PROPERTY AFTER THE FIELD DATE ARE NOT THE RESPONSIBILITY OF THE SURVEYOR.
5. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN. IT IS IMPORTANT A COMPLETE TITLE SEARCH BE PROVIDED TO THE SURVEYOR FOR REVIEW PRIOR TO CONVEYANCE AND THE PLACEMENT OF OR ALTERATION TO IMPROVEMENTS ON THE PROPERTY. BOUNDARY AND EASEMENT LINES ARE BASED UPON AVAILABLE DOCUMENTATION AT THE TIME OF SURVEY AND ARE SUBJECT TO SAID TITLE REPORT.
6. EXISTING FIRM: BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% CHANCE FLOODPLAIN) PER MAP REF #2.
7. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY. SURVEY DOES NOT ADDRESS ENVIRONMENTAL CONDITIONS OR LAND SUITABILITY.
8. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) (GEOID 18), BASED ON GPS/GNSS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNET).
   TEMPORARY BENCHMARKS SET:
   TBM-A: X-CUT SET IN ASPHALT PAVEMENT, ELEVATION= 121.48'
   TBM-B: X-CUT SET IN BB CURB, ELEVATION= 123.85'

   SEVEN (7) DAYS PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SURVEY HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED.
   ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION. SURVEYOR IS NOT RESPONSIBLE FOR CONTRACTOR'S FAILURE TO COMPLY.
9. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
10. ANY DISCREPANCIES FOUND ON THE SURVEY SHOULD BE REPORTED TO THE SURVEYOR IMMEDIATELY.
11. PARTIAL TOPOGRAPHY SHOWN HEREON PER CONTRACTUAL AGREEMENT WITH CLIENT.
12. A WRITTEN WAIVER AND DIRECTION NOT TO SET CORNER MARKERS HAS BEEN OBTAINED FROM THE ULTIMATE USER PURSUANT TO P.L. 2003, C. 14 (N.J.S.A. 45:8-36.3) AND N.J.A.C. 13:40-5.1 (d).

REFERENCES:

1. THE OFFICIAL TAX ASSESSOR'S MAP OF TOWNSHIP OF ROBBINSVILLE, MERCE COUNTY, NEW JERSEY, SHEET #13.01.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, MONMOUTH COUNTY, NEW JERSEY, (ALL JURISDICTIONS), PANELS 235 & 254 OF 457", MAP NUMBERS 34025C0235F & 34021C0254F, EFFECTIVE DATE: SEPTEMBER 25, 2009.
3. MAP ENTITLED "FINAL SUBDIVISON MAP, MATRIX BUSINESS PARK AT 7A, BLOCK 41- LOTS 14, 36 & 37", PREPARED BY SCHOOR DEPLMA, DATED 03-13-07 AS FILES IN THE MERCER COUNTY CLERKS OFFICE ON SEP 26-2008 AS F.M. 4015.
4. MAP ENTITLED "PRELIMINARY/FINAL MAJOR SUBDIVISION PLAN, LOTS 14, A PORTION OF LOT 37.01 & 37.02, BLOCK 41, MATRIX BUSINESS PARK AT 7A", PREPARED BY BIRDSALL SERVICES GROUP, DATED 11-28-2011 AS FILES IN THE MERCER COUNTY CLERKS OFFICE ON APRIL 13, 2012 AS F.M. 4053.
5. MAP ENTITLED "PRELIMINARY/FINAL MAJOR SUBDIVISION PLAN, LOTS 14.01. 36 & 37.011, BLOCK 41, MATRIX BUSINESS PARK AT 7A", PREPARED BY BIRDSALL SERVICES GROUP, DATED 10-09-2012 AS FILES IN THE MERCER COUNTY CLERKS OFFICE ON DECEMBER 28, 2012 AS F.M. 4058.

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05-19-2025
DATE

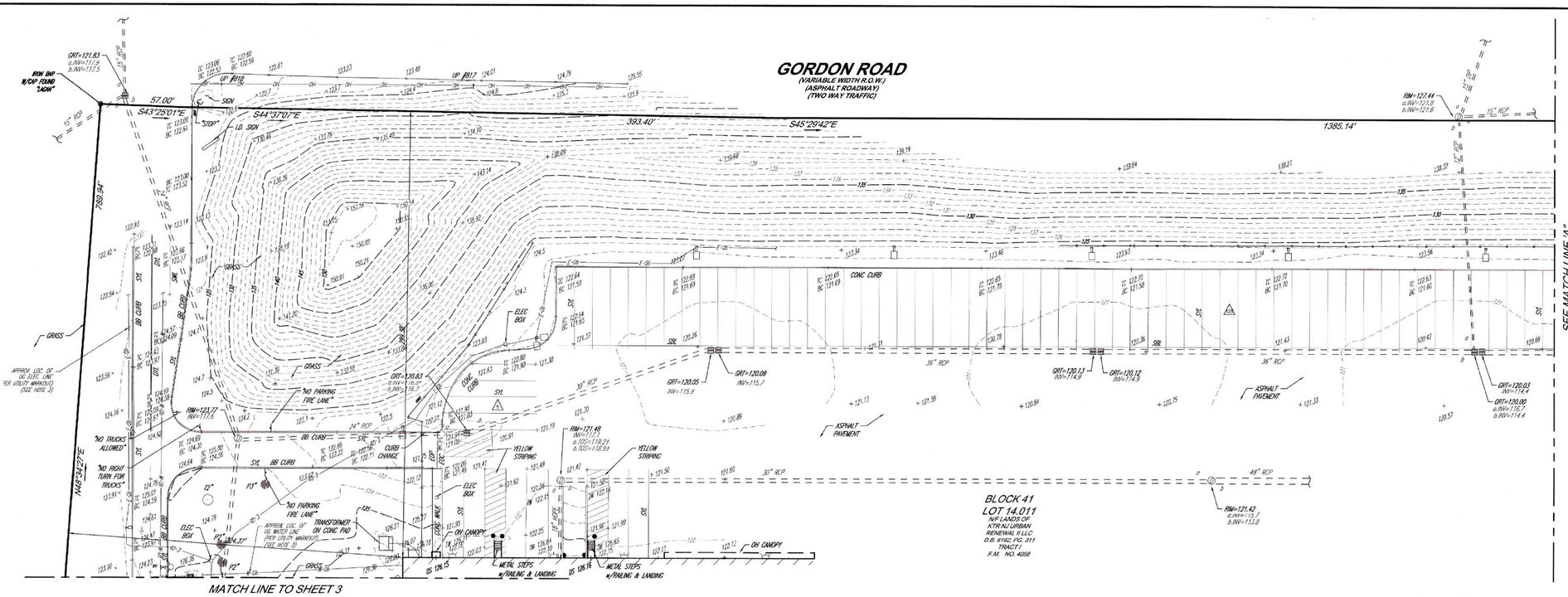
JAMES D. SENS
NEW JERSEY PROFESSIONAL LAND SURVEYOR #24GS04322600
NEW JERSEY CERTIFICATE OF AUTHORIZATION #24GA27938600

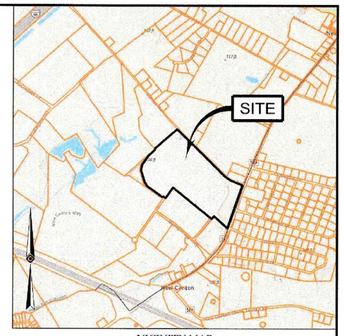
FIELD DATE	04-27-25
FIELD BOOK NO.	17
FIELD BOOK PG.	25-05
FIELD CREW	C.S./S.R.
DRAWN:	P.V.
REVIEWED:	K.V.G.

BOUNDARY & PARTIAL TOPOGRAPHIC SURVEY
LOT 14.011, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE, MERCER COUNTY
STATE OF NEW JERSEY

CONTROL POINT ASSOCIATES, INC.
30 INDEPENDENCE BOULEVARD, SUITE 100
WARREN, NJ 07059
908.668.0099
WWW.CPASURVEY.COM
COMMACK, NY 631.737.3900
MT. LAUREL, NJ 609.857.2899
MANHATTAN, NY 646.780.8411
LONG ISLAND, NY 631.240.2642
SOUTHBOROUGH, MA 508.480.9229
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APPROVED:	DATE	SCALE	FILE NO.	SHEET
J.D.S.	05-19-2025	1" = 120'	01-250117-00	1 OF 3





VICINITY MAP
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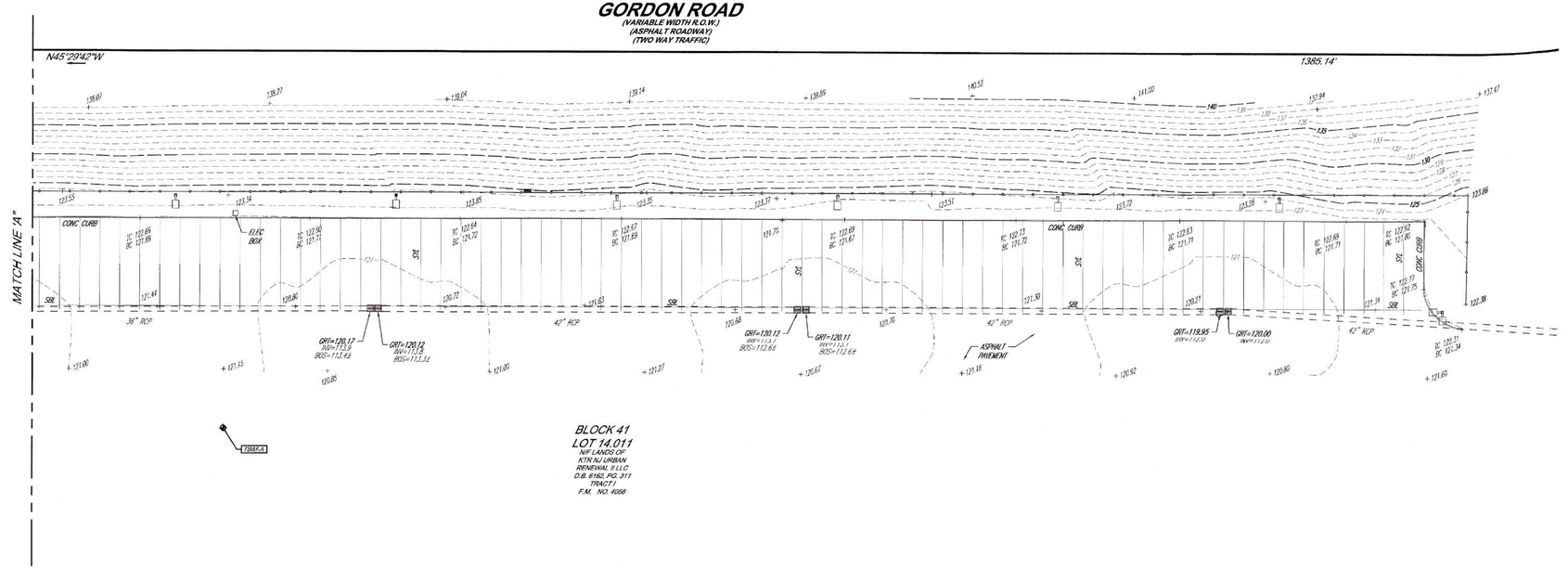
LEGEND

124 / 125	EXISTING CONTOUR		SIGN
× 123.45	EXISTING SPOT ELEVATION		DOUBLE SIGN
× TC 123.45	EXIST. TOP OF CURB ELEVATION		MAIL BOX
× BC 122.95	EXIST. BOTTOM OF CURB ELEVATION		BOLLARD
× TW 123.45	EXIST. TOP OF WALL ELEVATION		SECURITY CAMERA
× BW 120.95	EXIST. BOTTOM OF WALL ELEVATION		GATE POST
× FF 123.45	EXIST. FINISHED FLOOR ELEVATION		AREA LIGHT ON BUILDING
× DS 123.45	EXIST. DOOR SILL ELEVATION		AREA LIGHT
× GF 123.45	EXIST. GARAGE FLOOR ELEVATION		AREA LIGHT ON BUILDING
× 2.6	EXIST. SPOT ELEVATION PER AERIAL MAPPING		FLARED END SECTION
OH	OVERHEAD WIRES		DECIDUOUS TREE & TRUNK SIZE
	APPROX. LOC. UNDERGROUND SANITARY LINE		CONIFEROUS TREE & TRUNK SIZE
	APPROX. LOC. UNDERGROUND DRAINAGE LINE	10	PARKING SPACE COUNT
	DEPRESSED CURB	BB CURB	BELGIUM BLOCK CURB
	HYDRANT	BFTP	BUILDING FOOTPRINT AREA
	FIRE DEPARTMENT CONNECTION (F.D.C.)	BLDG	BUILDING
WV	WATER VALVE	CLF	CHAIN LINK FENCE
GV	GAS VALVE	DWE	DASHED WHITE LINE
IV	IRRIGATION VALVE	DYL	DASHED YELLOW LINE
D	DRAINAGE/STORM MANHOLE	DC	DEPRESSED CURB
U	UNKNOWN MANHOLE	DYL	DOUBLE YELLOW LINE
S	SANITARY/SEWER MANHOLE	EOC	EDGE OF CONC.
W	WATER MANHOLE	EOG	EDGE OF GRAVEL
	CATCH BASINS	EOP	EDGE OF PAVEMENT
CO	CLEAN OUT	MT	MASONRY BLOCK WALL
	POST	LSA	LANDSCAPED AREA
	PIPE	MSW	
	TRAFFIC SIGNAL	MC	METAL COVER
	PAINTED HANDICAPPED	SB	STOP BAR
	PAINTED ARROWS	SBE	SOLID BLUE LINE
	METAL COVERS	SWE	SOLID WHITE LINE
	EVIDENCE FOUND	SYE	SOLID YELLOW LINE
	UNKNOWN TERMINUS		

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GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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JAMES D. SENS — 05-19-2025 DATE
NEW JERSEY PROFESSIONAL LAND SURVEYOR #24GS04322600
NEW JERSEY CERTIFICATE OF AUTHORIZATION #24GA27938600

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WARREN, NJ 07059
908.668.0099
WWW.CPASURVEY.COM

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MANHATTAN, NY 646.783.0411
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APPROVED:	DATE	SCALE	FILE NO.	SHEET
J.D.S.	05-19-2025	1" = 40'	01-250117-00	2 OF 3

MATCH LINE TO SHEET 2

MATCH LINE 'B'

SEE MATCH LINE 'B'

LEGEND

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXIST. TOP OF CURB ELEVATION
- EXIST. BOTTOM OF CURB ELEVATION
- EXIST. TOP OF WALL ELEVATION
- EXIST. BOTTOM OF WALL ELEVATION
- EXIST. FINISHED FLOOR ELEVATION
- EXIST. DOOR SILL ELEVATION
- EXIST. GARAGE FLOOR ELEVATION
- EXIST. SPOT ELEVATION PER AERIAL MAPPING
- OVERHEAD WIRES
- APPROX. LOC. UNDERGROUND SANITARY LINE
- APPROX. LOC. UNDERGROUND DRAINAGE LINE
- DEPRESSED CURB
- HYDRANT
- FIRE DEPARTMENT CONNECTION (F.D.C.)
- WATER VALVE
- GAS VALVE
- IRRIGATION VALVE
- DRAINAGE/STORM MANHOLE
- UNKNOWN MANHOLE
- SANITARY/SEWER MANHOLE
- WATER MANHOLE
- CATCH BASINS
- CLEAN OUT
- POST
- PIPE
- TRAFFIC SIGNAL
- PAINTED HANDICAPPED
- PAINTED ARROWS
- METAL COVERS
- SIGN
- DOUBLE SIGN
- MAIL BOX
- BOLLARD
- SECURITY CAMERA
- GATE POST
- AIR CONDITIONING UNIT
- AREA LIGHT
- AREA LIGHT ON BUILDING
- FLARED END SECTION
- DECIDUOUS TREE & TRUNK SIZE
- CONIFEROUS TREE & TRUNK SIZE
- PARKING SPACE COUNT
- BELGIUM BLOCK CURB
- BUILDING FOOTPRINT AREA
- BUILDING
- CHAIN LINK FENCE
- DASHED WHITE LINE
- DASHED YELLOW LINE
- DEPRESSED CURB
- DOUBLE YELLOW LINE
- EDGE OF CONC.
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- HEIGHT
- LANDSCAPED AREA
- MASONRY BLOCK WALL
- METAL COVER
- STOP BAR
- SOLID BLUE LINE
- SOLID WHITE LINE
- SOLID YELLOW LINE
- EVIDENCE FOUND
- UNKNOWN TERMINUS

BLOCK 41
LOT 14.011
N/F LANDS OF
KTR NJ URBAN
RENEWAL II LLC
D.B. 6162, PG. 311
TRACT I
F.M. NO. 4058

MULTI STORY
MASONRY BUILDING

BLOCK 41
LOT 14.011
N/F LANDS OF
KTR NJ URBAN RENEWAL II LLC
D.B. 6162, PG. 311
TRACT I
F.M. NO. 4058

NEW CANTON WAY
(A.K.A. LOT 37.012, BLOCK 41)
(PRIVATE 60' WIDE R.O.W.)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)

NEW CANTON WAY
(A.K.A. LOT 37.012, BLOCK 41)
(PRIVATE 60' WIDE R.O.W.)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)

BLOCK 41
LOT 36.01
N/F LANDS OF
KTR NJ URBAN RENEWAL II LLC
D.B. 6162, PG. 311
TRACT II
F.M. NO. 4058

BLOCK 41
LOT 14.011
N/F LANDS OF
KTR NJ URBAN
RENEWAL II LLC
D.B. 6162, PG. 311
TRACT I
F.M. NO. 4058

VICINITY MAP
© 2022 ESRI WORLD LIGHT GRAY CANVAS
(NOT TO SCALE)

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

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JAMES D. SENS
NEW JERSEY PROFESSIONAL LAND SURVEYOR #24GS04322600
NEW JERSEY CERTIFICATE OF AUTHORIZATION #24GA27938600

05-19-2025
DATE

FIELD DATE:	04-27-25
FIELD BOOK NO.:	17
FIELD BOOK PG.:	25-05
FIELD CREW:	C.S./S.R.
DRAWN:	P.V.
REVIEWED:	K.V.G.

BOUNDARY & PARTIAL TOPOGRAPHIC SURVEY
LOT 14.011, BLOCK 41
50 NEW CANTON WAY
TOWNSHIP OF ROBBINSVILLE, MERCER COUNTY
STATE OF NEW JERSEY

CONTROL POINT ASSOCIATES, INC.
30 INDEPENDENCE BOULEVARD, SUITE 100
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PHILADELPHIA, PA 215.752.0868
HUDSON VALLEY, NY 845.653.7219
FT. LAUDERDALE, FL 954.793.7051

APPROVED:	DATE	SCALE	FILE NO.	SHEET
J.D.S.	05-19-2025	1" = 40'	01-250117-00	3 OF 3

Principals
Richard Rehmann, GISP
Richard Heggan, PLS, PP
Jeffery MacPhee, PLS
Carolyn A. Feigin, PE, PP, CME

April 20, 2026

Mrs. Tianna Thompson, Land Use Coordinator
Robbinsville Township Land Use
2298 Route 33
Robbinsville, New Jersey 08691

Subj: Board Report #1: Application No. LU26-01-01
Preliminary & Final Major Site Plan Approval
Amazon.com Services LLC
50 New Canton Way (Block 41, Lots 14.011, 36.01 & 37.012)
(ARH File: 1510035.01)

Dear Mrs. Thompson:

ARH ASSOCIATES has received the above-captioned Application for review. Applicant seeks approvals to convert a portion of the existing employee parking area into 111 trailer parking spaces and modify associated drive aisles, resulting in a net loss of 481 employee parking spaces.

The Amazon Warehouse / Distribution Center received Preliminary and Final Major Site Plan, Variance, and Design Waiver approvals in June 2008, and Amended Preliminary and Final Major Site Plan and Subdivision approvals for an auxiliary parking lot in November 2012.

Lots 14.011, 36.01, 37.012 are subject to the *Matrix Redevelopment Plan: Redevelopment Plan for Block 41, Lots 14, 36, 37.01, 37.02, 37.03, 38.02, 38.03, 38.04, and 38.012 Township of Robbinsville, Mercer County, New Jersey* (October 2011 ~ collectively referred to herein as "RDP").

This report consists of our review of the Subject Application for conformance with the RDP and the applicable sections of the Robbinsville Land Use Code (Chapter 142) and the RDP, and is limited to Planning issues. Engineering, Traffic, Architecture, Landscape Architecture, Sanitary Sewer, Legal and other issues shall be reviewed by the Board's other professionals.

Comments are limited to the information presented to date. Applicant may present additional information and testimony at the Board hearing.

I. OWNER & APPLICANT INFORMATION

OWNER	APPLICANT
KTR NJ Urban Renewal II, LLC – Prologis 60 State Street, Suite 2200 Boston, MA 02109	Amazon.com Services LLC 410 Terry Avenue North, Seattle, WA 98109

II. SUBMITTALS

TITLE / DESCRIPTION	PREPARED / SIGNED / SEALED BY	DATE	DATE LAST REVISED
Application Distribution Sheet	Tianna Tompson Land Use Coordinator	2/4/2026	4/13/2026
General Land Use Application	Adam Rust	12/10/2025	
Escrow Agreement		12/22/2025	
Escrow Account Contact Information	Joseph Paparo	1/8/2026	

TITLE / DESCRIPTION	PREPARED / SIGNED / SEALED BY	DATE	DATE LAST REVISED
Application Rider	Unsigned	Undated	
Waiver Variance Request Form			
Applicant Disclosure Statement			
Tax & Utility Assessment Certification			
Preliminary Site Plan Checklist		Undated	
Final Site Plan Checklist		Undated	
Waiver / Variance Request Form		Undated	
Affidavit of Ownership	John Aviles	1/13/2026	
Consent to Entry		11/24/2025	
Boundary & Partial Topographic Survey Lot 14.011, Block 41, 50 New Canton Way Township of Robbinsville, Mercer County, State of New Jersey (3 Sheets)	James D. Sens, PLS Control Point Associates, Inc.	4/27/2025	
Transmittal Letter	Michelle Ford Kimley Horn	1/21/2026	
Stormwater Management Report for Amazon.com Services LLC EWR4 Trailer Yard Expansion	T. W. Diggan, PE Kimley Horn	1/13/2026	
Preliminary and Final Major Site Plan for EWR4 Robbinsville Block 41, Lots 14.011, 36.01, & 37.012 50 New Canton Way Township of Robbinsville, Mercer County, NJ 08691	Kimley Horn & Associates		
Coversheet: C-000	T. W. Diggan, PE	1/13/2025	4/1/2026
General Notes: C-010		1/13/2025	4/1/2026
Overall Existing Conditions & Demolition Plan: C-100		1/13/2025	4/1/2026
Existing Conditions & Demolition Plan (1 of 3): C-101		1/13/2025	4/1/2026
Existing Conditions & Demolition Plan (2 of 3): C-102		1/13/2025	4/1/2026
Existing Conditions & Demolition Plan (3 of 3): C-103		1/13/2025	4/1/2026
Erosion & Sediment Control Plan (1 of 3): C-200		1/13/2025	4/1/2026
Erosion & Sediment Control Plan (2 of 3): C-201		1/13/2025	4/1/2026
Erosion & Sediment Control Plan (3 of 3): C-202		1/13/2025	4/1/2026
SESC Notes and Details (1 of 2): C-210		1/13/2025	4/1/2026
SESC Notes and Details (2 of 2): C-211		1/13/2025	4/1/2026
Overall Site Plan: C-300		1/13/2025	4/1/2026
Site Plan (1 of 3): C-301		1/13/2025	4/1/2026
Site Plan (2 of 3): C-302		1/13/2025	4/1/2026
Site Plan (3 of 3): C-303		1/13/2025	4/1/2026
Paving, Signage, and Striping Plan (1 of 3): C-350		1/13/2025	4/1/2026
Paving, Signage, and Striping Plan (2 of 3): C-351		1/13/2025	4/1/2026
Paving, Signage, and Striping Plan (3 of 3): C-352		1/13/2025	4/1/2026
Vehicle Maneuvering Plan (1 of 2): C-400		1/13/2025	4/1/2026
Vehicle Maneuvering Plan (2 of 2): C-401		1/13/2025	4/1/2026
Grading, Drainage, and Utility Plan (1 of 3): C-500		1/13/2025	4/1/2026
Grading, Drainage, and Utility Plan (2 of 3): C-501		1/13/2025	4/1/2026
Grading, Drainage, and Utility Plan (3 of 3): C-502		1/13/2025	4/1/2026

Title / Description	Prepared / Signed / Sealed By	Date	Date Last Revised
Drainage Profiles: C-550	T. W. Diggan, PE	1/13/2025	4/1/2026
Construction Details (1 of 3): C-700		1/13/2025	4/1/2026
Construction Details (2 of 3): C-701		1/13/2025	4/1/2026
Construction Details (3 of 3): C-702		1/13/2025	4/1/2026
Drainage Details (1 of 1): C-703		1/13/2025	4/1/2026
Lighting Plan (1 of 3): C-801		1/13/2025	4/1/2026
Lighting Plan (2 of 3): C-802		1/13/2025	4/1/2026
Lighting Plan (3 of 3): C-802		1/13/2025	4/1/2026
Overall Landscape Plan: L-100		1/13/2025	4/1/2026
Landscape Plan (1 of 3): L-101		1/13/2025	4/1/2026
Landscape Plan (2 of 3): L-102		1/13/2025	4/1/2026
Landscape Plan (3 of 3): L-103		1/13/2025	4/1/2026
Landscape Notes and Details: L-110		1/13/2025	4/1/2026
Response Letter	Olivia Schailey, PE Kimley Horn & Associates	4/2/2026	
Stormwater Management Report for Amazon.com Services LLC EWR4 Trailer Yard Expansion 50 New Canton Way Township of Robbinsville, Mercer County, State of New Jersey	T.W. Diggan Kimley Horn & Associates	1/13/2026	3/25/2026
Photographs of Property Views from Street (7) Visible Off-Site Areas	Kimley Horn & Associates	4/1/2026	
Environmental Impact Assessment 50 New Canton Way Block 41, lots 14.011, 36.01, 37.012 Township of Robbinsville, Mercer County, New Jersey	Envirotactics	4/2026	
Envirotactics Submittal	Robert S. Valorio, PE	6/12/2025	
Community Impact Analysis Block 41, Lots 14.011, 36.01, and 37.012 50 New Canton Way Township of Robbinsville Mercer County, New Jersey	Paul N. Ricci, PP, AICP	5/31/2026	
Emailed Correspondence	Joseph Paparo	4/2/2026	
Mercer County Planning Board	Maria G. Connolly	4/18/2026	
EWR4 Rally Point Real-time Shift Counts	Unsigned	Undated	

III. Completeness Review

The following addresses conformance with the Board's Checklist(s) only and does not reflect adequacy of submissions for review purposes. The correct number of copies (including the digital copy) and the correct Fees and Escrow Deposits are presumed to have been submitted.

Failure to provide all data required on this Checklist will render the Application INCOMPLETE.

Column entries reflect the Application as received by this office. Items which have been confirmed as having been submitted have been eliminated from this review for brevity. Similarly, items previously identified by this office which have since been addressed are eliminated from this review for brevity.

Applicant is entitled to request Submission Waivers from any of the required Checklist items based upon unique or particular conditions pertaining to the property or intended use.

A Submission Waiver is required for all Checklist items considered by Applicant to be "Not Applicable" ("N/A"). Applicant shall include written rationale for considering an item "Not Applicable" is required.

All Submission Waiver requests must be accompanied by a written justification for such request, submitted on the Waiver / Variance Request Form. Failure to apply for the appropriate Submission Waivers, or failure to provide such rationale, will render the Application INCOMPLETE.

All resubmissions must include a point-by-point response letter addressing all comments from the Board's professionals or from the Technical Review Committee meeting. All submissions must be made as one comprehensive submission, not under separate covers.

This office recommends that this Application may be deemed Complete from a Planning Perspective. Applicant is asked to address bold, footnoted items below:

	PRELIMINARY SITE PLAN CHECKLIST	WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
I.	ADMINISTRATIVE		
12.	"Zoning Permit Denial" or "Notice of Violation" (N.O.V.) from Zoning, Code or Construction Official.	[1]	
14.	Proposed Operations Statement, including details of existing and proposed use(s), hours of operation, number of employees, provisions for maintenance, etc., signed by Applicant and notarized.	[2]	
15.	Certification by the Applicants Engineer that proposal is consistent with Wastewater Management Plan of the Township of Robbinsville.	[3]	
17.	"Will Serve" letters for all Applicable Utilities	[4]	
19.	Architectural Floor Plans and Elevations, signed and sealed by the preparing N.J. licensed Architect, sheets numbered consecutively, folded, collated, bound, with a common preparation and/or revision date(s) with the site plan, with the uses of each area clearly defined on plan.	[5]	
20.	Rendered Elevations for site.	[5]	
21.	Sign Inventory Plan and Details, sheets numbered consecutively, folded, collated, with a common preparation and/or revision date(s).	[5]	
22.	List of all necessary Outside Agency Approvals indicating status of approvals, including copies of each approval (NJDOT, NJDEP, etc.).	[6]	

[1] Applicant requests a waiver, stating "It is assumed a Zoning Permit Denial or Notice of Violation is not required based on discussions at the Technical Committee meeting on 3/19/2026". This office has no objection to this request.

[2] Applicant requests a waiver, stating "There are no changes to the existing operations. It is assumed this item is not applicable". While this office generally has no objection to this request, Applicant is asked to address traffic and parking impacts (see FN 8).

[3] Applicant requests a waiver, stating "There are no changes to wastewater utilities. It is assumed this item is not applicable". ***Satisfaction of this request is deferred to the Board Sewer Engineer.***

[4] Applicant requests a waiver, stating "There are no changes to public utility connections or demands. It is assumed this item is not applicable". This office has no objection to this request.

[5] Applicant requests a waiver, stating "No changes to the existing building are proposed. It is assumed this item is not applicable". This office has no objection to this request.

[6] Applicant requests a waiver, stating "All necessary Outstanding Agency Approvals will be provided upon receiving final approval". This office has no objection to this request.

PRELIMINARY SITE PLAN CHECKLIST		WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
23.	List of any anticipated developer contributions, fees, fair-share payments, anticipated payments in lieu for waivers requested, etc. to be paid to the Township, per current Codes or Ordinance.	[7]	
26.	Traffic Impact Assessment/Study, signed and sealed.	[8]	
27.	Soil Test Reports, collated, signed and sealed.		[9]
28.	Water Quality Test Reports by NJDEP certified laboratory for existing on-site wells.	[10]	
29.	Stormwater management calculations collated, bound, signed and sealed with common preparation and/or revision dates.		[9]
30.	Stormwater Management Facility Operations & Maintenance Manual (if approved, shall be filed with the County Clerk's office).		[9]
31.	Sanitary Sewer Engineer's Report, signed and sealed, bearing a common date of issue or revision with the plans and specifications; projected flow calculations; specifications and details on any equipment or structure to be installed which may have an effect on the sanitary sewer flows.	[11]	
32.	Proof of submission of a request for a wetlands letter of interpretation to the NJDEP a minimum of 60 days prior to submitting this application. Proof shall include acknowledgement of receipt by NJDEP	[12]	
33.	Submission of a wetlands report and wetlands delineation.	[12]	
II. HEALTH			
36.	Plan shall show location of all existing sewage disposal systems on the site in question and within 200' of the total tract boundary of the site plan pursuant to current Codes and Statutes.	[11]	
37.	Provide certification by a New Jersey Licensed Professional Engineer regarding adequacy of any and all existing on-site sewage disposal systems. Potential reserve areas for modification of existing systems shall be shown on the plan. Application will be declared incomplete should failing or unsatisfactory conditions be noted, certified, or found to exist.	[11]	
38.	Submission of groundwater quality test report for all existing on-site wells or potable water supplies. Application will be declared incomplete should failing or unsatisfactory conditions be noted, certified, or found to exist.	[11]	

[7] Applicant requests a waiver, stating "There are no changes to the site operations or developer contributions. It is assumed this item is not applicable". This office has no objection to this request.

[8] Applicant requests a waiver, stating "Traffic Impact Statement: There is a decrease to the existing employee parking and anticipated decrease to total truck trip for the site". ***Satisfaction of this request is deferred to the Board Traffic Engineer.***

[9] ***Satisfaction of this request is deferred to the Board Engineer.***

[10] Applicant requests a waiver, stating "No existing wells are located on site. It is assumed this item is not applicable". ***Satisfaction of this request is deferred to the Board Sewer Engineer.***

[11] Applicant requests a waiver, stating "There are no changes to sanitary sewer. It is assumed this item is not applicable". ***Satisfaction of this request is deferred to the Board Sewer Engineer.***

[12] Applicant requests a waiver, stating "There are no publicly mapped wetlands adjacent to the proposed improvements. The project's proposed improvements are within a previously disturbed portion of the site". ***Satisfaction of this request is deferred to the Board Engineer.***

	PRELIMINARY SITE PLAN CHECKLIST		WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
39.	Soils Tests shall be provided for primary and reserve septic areas. Test results submitted which are invalid because of expiration dates or do not comply with all provisions of the current Codes and Statutes shall render the application incomplete.		11	
40.	The Location and results of all complete, incomplete, unacceptable and unwitnessed profile pits, permeability tests, basin, floods and percolation tests. All results shall be shown on a separate plan(s) entitled "Sewage Disposal and Water Supply Plan". All dimensioned to all proposed and existing: lot lines, watercourses, easements, wetland limits, sewage disposal and water supply systems within 200' of the tests.		11	
41.	Submission of individual soil test reports by soil log or test number for each test location in numerical ascending order shall be provided. Each report shall be signed and sealed by a NJPE and coordinated with each lot number shown on the plan.		11	
42.	Submission of Treatment Works or NJPDES permits for sewage systems not in compliance with current Statutes.		11	
III.	ENGINEERING / PLANNING			
44.	Site Plan shall show the proposed use and site improvements including but not limited to: existing topography; location of all proposed structures with dimensions to boundaries; location of all existing structures to remain or to be removed; proposed access aisles with curb-to-curb dimensions for width; curb radii dimensions; automobile parking stalls with dimensions for width and depth; truck loading and parking aisle and stall with dimensions for stall length and width; type of truck to use loading area; typical truck radii detail; loading dock locations; all sidewalk locations and dimensions; provisions for handicapped; location of trash enclosure or accessory structures; location of bench mark; flood hazard areas; wetlands boundaries; stream corridor areas; and easement areas; any other details deemed necessary by the Township/Board Engineer.			9
53.	An environmental inventory plan identifying the following existing on-site features and offsite features within 50' of the site:			
	a.	Soils Classifications in accordance with Mercer County Soils Survey.		9
	d.	Delineate wetlands along with notation identifying professionals who delineated the wetlands and include N.J.D.E.P. LOI data.		9
	g.	Gross density calc. pursuant to the current Land Use Ordinance.		9
	h.	A summary to nearest one tenth of an acre of all critical areas, wetlands, easements, soil types and different zoning classifications.		9
55.	All existing and proposed utility service lines and laterals on site and along the frontage of the site. This shall include storm drainage, water mains, sanitary mains, sump pump connections, natural gas, and underground electric and phone service.		13	
56.	Drainage and grading plan duplicating all data shown on the site plan (dimensions not required to determine slopes should not be shown). Existing and proposed contours with intervals of 1' where slopes are less than 2%; with intervals of 2' where slopes are between 2% and 10%; and with intervals of 5' where slopes exceed 10%; spot elevations at bottom			9

[13] Applicant requests a waiver, stating "The development is proposed on only a portion of the site, and utilities within this project area are shown. All proposed reconfigurations have been denoted". ***Satisfaction of this request is deferred to the Board Engineer.***

	PRELIMINARY SITE PLAN CHECKLIST		WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
	of curb for every point of curvature or tangency, breaks in grade, and handicapped ramps, elevations of drainage inlet grates or manhole rims; storm and sanitary sewer pipe invert elevations; elevations at corners of proposed structures; finished first floor elevations; and elevations at loading ramps. Contours must be based on NAVD 88 elevations and benchmarks must be shown. Where drainage swales are proposed, the elevation, percent longitudinal slope and typical cross section of the swales shall be shown. Proposed grading should be designed to provide a balanced cut /fill condition, as much as practical.			
57.	Storm drainage profiles for all diversion swales, waterways, storm sewer pipe and any other conduit not shown on roadway plan and profile sheets shall be provided. These profiles may be shown on a separate sheet entitled "Drainage Profiles", the detention basin plan or construction detail plans and the following minimum details shall be shown: Existing elevations shall be shown at 100' intervals. Proposed elevations for appurtenances shall be shown at 100' intervals, concrete structure elevations shall be shown at 50' intervals; invert elevations; elevations at grade changes. Proposed slopes shall be written.			9
58.	A Detention/Retention basin plan showing; all existing and proposed grades and contours, outlet structure details, conduit outlet protection details; all inverts; low flow channel with proposed longitudinal slope(s) and typical cross section; trash rack details; emergency spillway cross sections and profiles to point of discharge; construction details. Slopes and items required by this section shall provide the minimums required by the Design Standards of Robbinsville Twp.		14	
59.	Hydraulic calculations for stormwater detention/retention showing no reduction in conformance with Mercer County Soil Conv. District and NJDEP.			
	a.	Pre-development conditions shall be considered as "good".	14	
	b.	Post development conditions shall be considered as "poor" with maximum impervious coverages permitted by ordinance being used in developing post development curve numbers.	14	
	c.	Calculations shall include a drainage area map showing pre and post development conditions with soil types, soil uses and flow patterns, time of concentration flow paths and flow lengths and slopes.	14	
	d.	Routing of pre and post development flows through each basin using the mass storage equation and "Urban Hydrology for Small Watersheds TR-55".	14	
	e.	Emergency spillways shall be provided. The cross sections shall be designed to pass the 100-year post development inflow plus 50%. The invert shall be set at the crest of the 100-year storage elevation in the basin.	14	
	f.	All detention basins shall be designed to serve as a sediment basin during and after construction in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey References.	14	
	g.	Computations showing compliance with the regulations of the Mercer County Planning Board and the Mercer County Soil Conservation District.	14	

[14] Applicant requests a waiver, stating "No detention/retention basins are proposed on site. It is assumed these items is not applicable". ***Satisfaction of this request is deferred to the Board Engineer.***

	PRELIMINARY SITE PLAN CHECKLIST	WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
60.	Hydraulic calculations for stormwater runoff collection system. Calculations may use the rational method or Soil Conservation Service method.		9
61.	Plans & centerline profiles shall be provided for widening of all existing roadways.	15	
62.	Half cross sections, 50' on center, shall be provided along the side of all widened existing roadways. Each section shall include the location and NAVD 88 elevation of all existing and proposed physical centerline; right-of-way centerline; edge of pavements, right-of-way lines, sidewalk centerlines, sidewalk widths. In addition, the existing and proposed contours 25' from the proposed right-of -way line shall be shown.	15	
63.	Typical construction details shall be provided on drawings designated as "Construction Details". Details to be shown shall include: typical roadway cross section; storm/sanitary sewer inlets and manholes (each type); storm sewer headwalls, storm sewer trench; storm sewer flared-end section; underdrain; curb; curb end treatment, depressed curb; sidewalk, handicap ramp, street signs; warning and regulatory signs; sump pump/underdrain to storm sewer connection; any "poured in place" concrete details and reinforcing schedules; all retaining wall details; sanitary sewer trench details, sanitary cleanout details; and other details deemed appropriate by the Township/Board Engineer.		9
64.	Landscaping plan shall show the site, all existing and proposed topography, existing onsite tree groupings and offsite tree groupings within 200'; typical planting details; landscaping notations and details containing minimum data required in the "Site Improvement Standards"; detailed locations of proposed plant materials; enlarged details for individual multi-family units, landscaped islands, and landscaped berms; and all intermittent and perennial streams, lakes and other water bodies. All trees and tree groups shown shall be classified as to general size and species.	16	
65.	Location and details of all proposed outdoor lighting including site lighting stanchion locations including the 0.5 footcandle boundary limit in plan form, details showing type of light(s), height of light(s), style of light(s), typical footing detail; typical illumination pattern (to scale); color and wattage of lights; all lighting details may be included on the landscaping plan.		9
66.	Location and details of all proposed signage, including free-standing (show setbacks) and building mounted (façade) signage; details may be included on the landscaping plan.	17	
67.	Plan shall provide location and details of all proposed Electric Vehicle charging stations or "Make-Ready" parking spaces.	18	

[15] Applicant requests a waiver, stating "There are no changes along the existing rights-of-way. It is assumed these items are not applicable". ***Satisfaction is deferred to the Board Engineer.***

[16] Applicant requests a waiver, stating "This application proposed improvements on only a portion of the site. Tree locations were obtained only within the project area". ***Satisfaction is deferred to the Board Landscape Architect.***

[17] Applicant requests a waiver, stating "No changes to the existing signage or new signage proposed. It is assumed these items are not applicable". This office has no objection to this request.

[18] Applicant requests a waiver, stating "There is a decrease to the total standard parking count therefore no EV stalls have been proposed. It is assumed this item is not applicable". ***Satisfaction of this request is deferred to the Board Traffic Engineer.***

	PRELIMINARY SITE PLAN CHECKLIST	WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
68.	Architectural Floor Plans shall not conflict with the Site Plan.	5	
69.	All on-site wetlands shall be field identified by a qualified expert in accordance with NJDEP standards, and surveyed, and located on the plan by the applicant's New Jersey licensed land surveyor. A wetland report identifying all observations and findings of the wetlands expert shall accompany the major subdivision application. If the lands remaining are 50 acres or larger and not to be built upon, wetlands will only be required to be identified within 150' of the proposed lots or any other on-site or off tract improvements. The applicant shall certify in writing that no construction shall occur upon the remaining lands until all on-site wetlands are identified. Any buffer areas shall be shown on the plan.	12	
70.	Plan shall provide cultural features, historic sites, and critical view sheds, as mapped by the Township.	19	
73.	Site Plan shall show location(s) and detail of loading areas and any screening provided.		20
76.	Traffic Impact Analysis/Study shall include, but not limited to, existing and background peak hour traffic volumes and distribution patterns; peak hour on-site generated traffic volumes and distribution patterns; existing and proposed traffic composition; analysis of adequacy of proposed on-site circulation patterns including adequacy of truck and automobile turning radii; analysis of need for number of loading bays; existing and proposed levels of service and volume/capacity ratios; adequacy of proposed sight distances; analysis of need for acceleration/deceleration lanes; analysis of need for roadway striping, signage of reflectorization; need for signalization and a summary recommendation and conclusions for the analysis. The study area shall include the site as proposed by this application; the site as proposed by a master development plan; the existing and proposed roadway frontages of the site, and the nearest intersection of public roadways as measured away from the site in opposite directions. The roadways approaching the site shall be generally reviewed for adequacy to support site generated traffic. The capacity of off-street parking shall be provided and compared to the parking demands for the proposed use(s) for the overall site. Traffic and pedestrian safety shall be addressed. This report shall be prepared by a N.J. Licensed Professional Engineer qualified to make the analysis as required.	8	
77.	Plan shall provide a data table of existing, required and proposed parking spaces, Electric Vehicle charging stations and loading areas.	18	
IV. Architecture & Landscaping			
79.	Architectural Floor Plans and Elevations shall include title block, including Title, author of the drawing, drawing number and property reference. Sheets shall be scaled, numbered consecutively, folded, collated, bound, signed and sealed by a NJ licensed Architect with a common date of issue and revision date(s) with the Site Plan.	5	

[19] Applicant requests a waiver, stating "This application proposes improvements within an existing developed area on-site. It is assumed that this item is not applicable". This office has no objection to this request.

[20] ***Satisfaction of this request is deferred to the Board Landscape Architect.***

PRELIMINARY SITE PLAN CHECKLIST			WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
80.	Architectural drawings shall be clearly labeled and shall include:			
	a.	Drawing Title.	5	
	b.	North arrow on plans.	5	
	c.	Floor Plans of each floor level.	5	
	d.	Room labels on plans to clearly define each use	5	
	e.	Overall dimensions on plans.	5	
	f.	Elevations of each façade of each building noting all façade material types, colors, grills, storefronts, roof screens, building mounted lighting, signage, and any other appurtenances	5	
	g.	All building heights and dimensions.	5	
	h.	Clear and detailed reference to screening of ground mounted and/or roof mounted equipment.	5	
	i.	Clear indication of the requested variances and waivers.	5	
81.	Site Plan shall show location and detail of trash enclosures and any screening provided.		5	
82.	Site Plan shall provide clear reference or delineation of any sustainable design features.		21	
83.	Site Plan shall provide location(s) of all proposed lighting, and/or all relocation of existing lighting and specifications of all lighting type(s) proposed for the project, including details and design for site lighting and building mounted lighting.			9
84.	Rendered Elevations shall show elevations of each façade and include any building mounted or façade signage and lighting.		5	
85.	Sign Inventory Plan shall detail inventory and sign locations for all signage proposed on site and/or building mounted signage. Plans shall include proposed graphics, dimensions, colors, lighting and general construction and mounting details. Ground or free-standing signs must include dimensions, height and setbacks.		22	
86.	Tree Save/Tree Clear Plan indicating the area to be cleared, including trees with a trunk diameter of 8" or greater, measured 4.5' above ground level. Plan should include species, size and general health conditions of any trees to be cleared. Area of disturbance shall be indicated.		23	
87.	Aerial extent of forest and tree cover, which includes the outside perimeter of individual trees and with a depiction of trees to remain, be removed, or relocated.			20
88.	Plan shall show existing and proposed geography, screened.			20
89.	Surveyed location of all trees located within 25' of the limit of disturbance.			20

[21] Applicant requests a waiver, stating "There are no changes to the proposed operations. It is assumed this item is not applicable based on the scope of the project". ***Satisfaction of this request is deferred to the Board Architect.***

[22] Applicant requests a waiver, stating "There are no changes to signage. It is assumed this item is not applicable". This office has no objection to this request.

[23] Applicant requests a waiver, stating "A Landscaping Plan for the proposed limit of work has been provided. A waiver has been requested for a Tree Save/Tree Clear Plan based on the scope of work". ***Satisfaction of this request is deferred to the Board Landscape Architect.***

PRELIMINARY SITE PLAN CHECKLIST			WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
90.	Plan shall provide location of proposed landscaping, including trees, shrubs, groundcovers, vegetative plants with keys.			
91.	Plan shall contain a chart showing the following:			20
	a.	Proposed plant names, both common and scientific.		20
	b.	Proposed plant sizes in caliper, height, and/or width at installation.		20
	c.	Type of nursery stock, i.e., balled and burlapped or container and size of container.		20
	d.	Proposed plant spacing and other comments.		20
	e.	Planting notes, including a specification that the plants must conform to the American Standard for Nursery Stock, latest edition.		20
	f.	Delineation showing which areas to be irrigated.		20
	g.	Maintenance specifications (including irrigation).		20
	h.	Planting details conforming to current cultural horticultural practices.		20
92.	Outdoor pedestrian spaces with landscape architectural elements shall be labeled.		21	
93.	Plantings, buffer areas, re-forestation areas shown to meet the Township Code (contributions may apply to waivers granted).			20

FINAL SITE PLAN CHECKLIST		WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
SUBMISSION ITEMS ADDRESSED IN THE PRELIMINARY CHECKLIST ARE OMITTED FOR BREVITY.			
II. HEALTH			
25.	Final septic system design criteria and grading shown on "Sewage Disposal and Water Supply Plan".	11	
26.	Copies of any NJDEP permits for sewage disposal systems and water supplies not in conformance with current code and statutes.	11	
III. ENGINEERING / PLANNING			
29.	An estimate of all construction quantities for all on-site and off-tract improvements. This estimate shall include all construction quantities for all site improvements shown on the approved Preliminary Site Plan and shall be signed, sealed and dated by a New Jersey Professional Engineer.	24	
30.	List of any anticipated developer contributions, fees, Fair-Share payments, etc.	25	
31.	Metes and bounds descriptions for all right-of-way dedications, sight triangle easements; drainage; detention; or conservation easement; and common driveway easements.	26	

[24] Applicant requests a waiver, stating "There are no off-tract improvements. A waiver is requested for the estimate of all construction quantities for all on-site improvements". ***Satisfaction of this request is deferred to the Board Engineer.***

[25] Applicant requests a waiver, stating "There are no changes to the operations or developer contributions. It is assumed this item is not applicable". ***Satisfaction of this request is deferred to the Director of Community Development.***

[26] Applicant requests a waiver, stating "There are no proposed changes to dedications or easements. It is assumed this item is not applicable". ***Satisfaction is deferred to the Board Engineer.***

	FINAL SITE PLAN CHECKLIST	WAIVER REQUESTED	NOT SUBMITTED / WAIVER NOT REQUESTED
32.	Detailed project phasing plan, including proposed construction sequences, routes to and from site, construction methods, hours of operations, construction traffic control plans, temporary construction office locations and any other construction-related plans.	27	
33.	A developer's agreement approved and executed by the Robbinsville Township Committee when improvements to public property or improvements shall be dedicated to the public…	28	

IV. PLANNING ANALYSIS

A. Use

Distribution/fulfillment centers are type 2 permitted principal under the Redevelopment Plan.

B. Area & Bulk Standards (§142-25E, unless otherwise noted);

ITEM		REQUIREMENT	PROPOSED	CONFORMANCE STATUS
Lot				
Min. Lot Area		11 AC	82.72 AC	Conforms
Min. Lot Width		600'	2,074'	Conforms
Min. Lot Depth		600'	1,665'	Conforms
Max. Impervious Coverage		70%	32.79%	Conforms
Principal Building				
Min. Building Setback	Old York Rd	150'	>150'	Conforms
	Gordon Rd		224.37'	Conforms
Min. Front Yard Setback	Interior Rd	90'	295'	Conforms
Min. Side Yard Setback		25'	W: 224.0'	Conforms
			S: >25'	Conforms
Off Street Parking & Loading (§142-41) [29]				

V. VARIANCES & DESIGN WAIVERS

Pending clarification of the issues raised in this report, relief may be required.

While the law requires specific justifications for each of the several types of Variances permitted under N.J.S.A. 40:55D-70, the following general guidance is offered. The Board attorney will provide direction to Board members prior to its deliberations on this Application:

[27] Applicant requests a waiver, stating "The application is limited to on-tract improvements. No construction phasing his currently proposed. It is assumed that this item is not applicable". ***Satisfaction is deferred to the Board Engineer.***

[28] Applicant requests a waiver, stating "There are no improvements proposed to public property. It is assumed this item is not applicable". ***Satisfaction is deferred to the Land Use Board Secretary.***

[29] ***Analysis is deferred to the Board's Traffic Engineer.***

In order for a Board to grant a variance, an Applicant must demonstrate, to the Board's satisfaction, that: (1) such action will relieve peculiar and exceptional practical difficulties or exceptional and undue hardship upon the developer of the subject property resulting from the strict application of the zoning ordinance (typically known as a Hardship Variance); **OR** (2) that granting a variance to allow departure from the zoning ordinance would advance one of the purposes of the *Municipal Land Use Law* (N.J.S.A. 40:55D-1 et seq. [MLUL]) and that the benefits of the deviation would substantially outweigh any detriment (typically known as the Special Reasons). Collectively, these are known as the Positive Criteria.

An Applicant must also demonstrate, to the Board's satisfaction, that such variance can be granted without substantial detriment to the public good. This is known as the Negative Criteria.

Both the Positive Criteria and Negative Criteria must be satisfied in order for the Board to grant Variance relief. The grant of a 'c' Variance requires a majority vote of the members present.

The MLUL defines "peculiar and exceptional practical difficulties" and "exceptional and undue hardship" as:

> a. *[where] by reason of exceptional narrowness, shallowness or shape of a specific piece of property, or (b) by reason of exceptional topographic conditions or physical features uniquely affecting a specific piece of property, or (c) by reason of an extraordinary and exceptional situation uniquely affecting a specific piece of property or the structures lawfully existing thereon, the strict application of any regulation… would result in peculiar and exceptional practical difficulties to, or exceptional and undue hardship upon, the developer of such property…[N.J.S.A. 40:55D-70c(1)]*

Under N.J.S.A. 40:55D-2, the MLUL enumerates as its purposes:

> a. *To encourage municipal action to guide the appropriate use or development of all lands in this State, in a manner which will promote the public health, safety, morals, and general welfare;*
>
> b. *To secure safety from fire, flood, panic and other natural and man-made disasters;*
>
> c. *To provide adequate light, air and open space;*
>
> d. *To ensure that the development of individual municipalities does not conflict with the development and general welfare of neighboring municipalities, the County and the State as a whole;*
>
> e. *To promote the establishment of appropriate population densities and concentrations that will contribute to the wellbeing of persons, neighborhoods, communities and regions and preservation of the environment;*
>
> f. *To encourage the appropriate and efficient expenditure of public funds by the coordination of public development with land use policies;*
>
> g. *To provide sufficient space in appropriate locations for a variety of agricultural, residential, recreational, commercial and industrial uses and open space, both public and private, according to their respective environmental requirements in order to meet the needs of all New Jersey citizens;*

h. *To encourage the location and design of transportation routes which will promote the free flow of traffic while discouraging location of such facilities and routes which result in congestion or blight;*

i. *To promote a desirable visual environment through creative development techniques and good civic design and arrangement;*

j. *To promote the conservation of historic sites and districts, open space, energy resources and valuable natural resources in the State and to prevent urban sprawl and degradation of the environment through improper use of land;*

k. *To encourage planned unit developments which incorporate the best features of design and relate the type, design and layout of residential, commercial, industrial and recreational development to the particular site;*

l. *To encourage senior citizen community housing construction;*

m. *To encourage coordination of the various public and private procedures and activities shaping land development with a view of lessening the cost of such development and to the more efficient use of land;*

n. *To promote utilization of renewable energy resources;*

o. *To promote the maximum practicable recovery and recycling of recyclable materials from municipal solid waste through the use of planning practices designed to incorporate the State Recycling Plan goals and to complement municipal recycling programs.*

p. *To enable municipalities the flexibility to offer alternatives to traditional development, through the use of equitable and effective planning tools including clustering, transferring development rights, and lot-size averaging in order to concentrate development in areas where growth can best be accommodated and maximized while preserving agricultural lands, open space, and historic sites; and*

q. *To ensure that the development of individual municipalities does not unnecessarily encroach upon military facilities or negatively impact the operation of military facilities, and to those ends, to encourage municipalities to collaborate with military facility commanders in planning and implementing appropriate land use controls, thereby improving the vitality of military facilities and protecting against their loss through the Base Realignment and Closure process or mission loss.*

VI. Post Approval Considerations

Should the Board grant the desired approvals for this Application, Applicant, and/or its professionals must, to the extent applicable:

A. ***Make all appropriate plan revisions as directed by the Board.***

B. ***Contact the Board Secretary to reconcile any outstanding review escrow accounts prior to Final Plan Certification, Signature or the issuance of building permits, as applicable.***

C. ***Address all necessary bonds, inspection escrows and related items.***

D. ***Provide an estimate of cost for all onsite improvements prepared by a New Jersey Licensed Professional Engineer.***

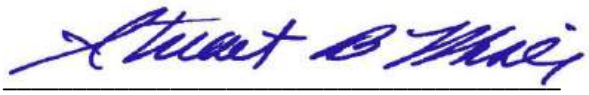
E. ***Submit to the Township Zoning Department and this office evidence (if not already provided) of the following outside agency approvals prior to the Final Plan Certification or Signature:***

1. ***Mercer County Planning Board.***
2. ***Mercer County Soil Conservation District.***
3. ***Robbinsville Township.***
4. ***New Jersey Department of Environmental Protection (if required)***
5. ***Any other as may be necessary.***

F. ***Additionally, Applicant is advised that any damage caused to existing Township-owned facilities (i.e., roadways, utilities, etc.) during construction shall be repaired and/or replaced in kind to the satisfaction of the Township Engineer.***

Any resubmissions in response to this report should be accompanied by a point-by-point response to all items. In order to facilitate the Board's decision-making process, Applicants are strongly encouraged to resolve as many items as possible prior to the hearing on this matter.

Respectfully Submitted,
ARH ASSOCIATES
by



Stuart B. Wiser, PP/AICP
Vice President of Planning & Environmental Services

SBW/LM

Roberts
ENGINEERING GROUP LLC

1670 Whitehorse-Hamilton Square Rd.
Hamilton, New Jersey 08690
609-586-1141 fax 609-586-1143
www.RobertsEngineeringGroup.com

April 16, 2026

Tianna Thompson, Land Use Coordinator
Planning/Zoning /Engineering Office
Robbinsville Township
2298 Route 33
Robbinsville, New Jersey 08691
Email: tthompson@robbinsville.net

Re: Sanitary Sewer Review No. 2
Preliminary & Final Major Site Plans
Applicant: Amazon.com Services LLC
Project: EWR4 Robbinsville - Trailer Yard Expansion
Location: 50 New Canton Way
Block 41, Lots 14.011, 36.01, & 37.012
Our File No.: RTLU260101

Dear Ms. Thompson:

As requested, Roberts Engineering Group, LLC, has reviewed the plans and documents regarding sanitary sewer construction for the above-referenced project. The subject property is located at 50 New Canton Way. The site is approximately 82.72 acres in size and is presently developed with an existing warehouse facility including loading areas, trailer parking areas, standard parking areas, and stormwater facilities.

The proposed project consists of reconfiguring a portion of the existing facility's parking lot and access to drives to provide 111 additional trailer spaces. Inspection lanes are also proposed along the northern trailer parking spaces. This application does not propose any sanitary improvements.

The following documents were utilized in our Sanitary Sewer Review:

1. Copy of a plan distribution memorandum from Tianna Thompson, Land Use Coordinator dated April 13, 2026.

2. Copy of a Point-by-Point Response letter, dated April 2, 2026, prepared by Olivia Schailey, P.E., Kimley-Horn and Associates, Inc.

3. Copy of Site Plans entitled, "Preliminary & Final Major Site Plan for EWR4 Robbinsville, Block 41, Lots 14.011, 36.01, & 37.012, 50 New Canton Way, Township of Robbinsville, Mercer County, NJ, 08691", prepared by Kimley-Horn and Associates, Inc., dated January 13, 2025, revised April 1, 2026, consisting of 37 sheets.

We find this submission COMPLETE for review.

We offer the following comments:

Site Plans and General Comments

1. Lots 14.011, 36.01, & 37.012, Block 41 are located entirely within an existing Sewer Service Area, as delineated on the current Robbinsville Township Sanitary Sewer System Plan.

2. The subject property located at 50 New Canton Way has 1,836 feet of frontage on Gordon Road and 570 feet of frontage on Old York Road. Township records indicate the presence of an 8-inch diameter gravity sewer main running southwest along New Canton Way, southwest of the subject property.

3. The existing sanitary sewer lateral is labeled on Sheet Number C-101, Existing Conditions & Demolition Plan. There are no changes proposed to the sanitary lateral piping. The sanitary lateral and cleanout are located outside of the limit of disturbance for the proposed project.

4. Construction of the proposed concrete sidewalk and curb should be performed with the appropriate caution to prevent damage to the existing sanitary sewer lateral and cleanout.

If you have any additional questions, please do not hesitate to contact me.

Very truly yours,



Cameron Corini, PE, CME, CPWM
Township Sewer Utility Engineer

cc: Chris English, Director of Community Development
John Nunziato, PE, PP, CME, Township Engineer
Justin Streleckis, PE, Roberts Engineering Group, LLC
Stephanie Katz, Roberts Engineering Group, LLC
Carmela Roberts, PE, CME, CPWM

YOUR GOALS. OUR MISSION.

ROBB-R0021

April 17, 2026
Via Email

Robbinsville Land Use Board
2298 Route 33
Robbinsville, New Jersey 08691

Re: Amazon.com Services, LLC (Application #LU26-01-01)
Proposed Parking Modifications to Existing Warehouse
Block 41, Lots 14.011, 36.01, & 37.012, 50 New Canton Way
Township of Robbinsville, Mercer County, NJ
Traffic Engineering Review No. 2

Dear Board Members,

T&M Associates has completed a traffic related review of the Land Use Application for the Proposed parking modifications to the existing Amazon fulfillment center located at 50 New Canton Way (Block 41, Lots 14.011, 36.01, & 37.012) in Robbinsville Township, New Jersey. The following documents were included as part of this review:

- Preliminary & Final Major Subdivision for EWR4 Robbinsville, **revised April 1, 2026**, prepared by Kimley-Horn and Associates, Inc.
- Application Rider, Robbinsville General Land Use Application, Amazon.com Services LLC
- **Comment response letter prepared by Kimley-Horn and Associates, Inc., dated April 2, 2026**
- **"EWR4 Rally Point Real-time Shift Counts' updated & unsigned**

Based on our review, we offer the following comments for consideration:

Site Description

The project site is located west of Old York Road (CR 539) and south of Gordon Road in Robbinsville Township, New Jersey, where the Applicant is proposing to convert a portion of the existing employee parking area to provide additional on-site trailer storage. Access to the site will remain via existing driveways to New Canton Way and John Henry Drive. The employee parking will be reduced from 2,264 spaces to 1,783 spaces for a net decrease of 481 spaces. Trailer storage will be increased from 124 spaces to 235 spaces for a net increase of 111 spaces.

To: Robbinsville Land Use Board
Re: Amazon.com Services, LLC (Application #LU26-01-01)
Proposed Parking Modifications to Existing Warehouse
Block 41, Lots 14.011, 36.01, & 37.012, 50 New Canton Way
Traffic Engineering Review No. 2

Traffic Impact

1. The rider to the land use application for the project states that the proposed increase in trailer parking spaces will reduce overall truck traffic related to the site as additional empty trailers will no longer be required to be transferred off site for storage however, a traffic impact study was not provided. The Applicant shall provide testimony regarding the anticipated changes to traffic circulation with the proposed project, including where off-site trailers are currently stored and what time of day excess trailers are transported to/from the site.

Continuing Comment. Testimony to be provided.

7. Per Section 3C.03 of the MUTCD, the minimum clear width of a crosswalks shall be 6'. Crosswalk widths are currently dimensioned at 5' and shall be revised accordingly.

   Partially addressed. The plans have been revised to indicate 6' wide crosswalks however detail PG-12 on Sheet C-701 shall be revised to indicate white pavement striping, consistent with the MUTCD.

9. The Applicant shall clarify the purpose of the "inspection lanes" located around the perimeter of the trailer storage spaces. If these lanes are intended to be used by employees/pedestrians, it is recommended that connectivity be improved between these areas and the greater internal sidewalk network.

   Partially addressed. The April 1st comment response letter indicates that testimony regarding the inspection lanes will be provided, and crosswalks between the building and the inspection lanes has been added to the plans. Sheet C-302 indicates the additional crosswalks to be "Proposed Raised Pedestrian Walk Path." If the crosswalks in question are to be raised, a detail for this feature should be provided any adverse effects on site drainage identified.

If you have any questions or require additional information, please do not hesitate to call.

Very truly yours,
T&M ASSOCIATES

BRUCE P. KLEIN, P.E., P.T.O.E.
ROBBINSVILLE L.U. BOARD TRAFFIC ENGINEER

BPK:jaf

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Van Cleef
ENGINEERING WITH FOCUS

4 AAA Drive
Hamilton, NJ 06891
Office: 609-689-1100
Fax: 609-689-1100

MEMORANDUM

TO: Robbinsville Township Land Use Board

FROM: Daniel F. Fryer P.E., Land Use Board Civil Engineer

CC: Nick Saucedo, Applicant

Tony W. Diggan, PE, Applicant's Engineer / John Paparo, ESQ, Applicant's Attorney

RE: LU26-01-01 – Amazon Trailer Yard Expansion
Preliminary and Final Major Site Plan
50 New Canton Way
Block 41, Lots 14.011, 36.01, 37.012
Robbinsville Township
VCEA Project No. 26-01-RBV

DATE: April 20, 2026

We are in receipt of the following information pertaining to the above-referenced application:

A. Township of Robbinsville Land Use Board Application and associated documents;
B. Robbinsville Township Preliminary Site Plan Checklist, prepared and signed by Tony W. Diggan NJPE, dated March 25, 2026;
C. Robbinsville Township Final Site Plan Checklist, prepared and signed by Tony W. Diggan NJPE, dated March 25, 2026;
D. Robbinsville Township Waiver/Variance Request Form;
E. Letter entitled "Responses to Township of Robbinsville Technical Review Committee Comments" signed by Olivia Schailey NJPE, dated April 2, 2026;
F. Civil Plan Set consisting of 37 sheets entitled "Preliminary & Final Major Site Plan for EWR4 Robbinsville, Block 41 - Lots 14.011, 36.01 and 37.012, 50, New Canton Way, Township of Robbinsville, Mercer County, NJ 08691", prepared by T.W. Diggan, NJPE, dated November 13, 2025, last revised April 1, 2026;
G. Stormwater Management Report entitled "Stormwater Management Report for Amazon.com Services LLC, EWR4 Trailer Yard Expansion, 50 New Canton Way, Township of Robbinsville, Mercer County, State of New Jersey), prepared by Kimley Korn (T. W. Diggan, NJPE), dated January 13, 2026, last revised March 25, 2026;

H. Environmental Impact Assessment entitled "Environmental Impact Assessment, 50 New Canton Way, Township of Robbinsville, Mercer County, New Jersey, Prepared For: Amazon.com Services, LLC" prepared by Envirotactics, LLC dated April 2026;

I. Geotechnical Report entitled "Geotechnical Engineering Report, 50 New Canton Way, Block 31, Lot 14.011, Robbinsville, Mercer County, New Jersey" signed and sealed by Kenneth Gene G. Mariano and Robert S Valorio (Envirotactics), dated June 12, 2025;

J. Community Impact Statement entitled "Community Impact Assessment, Block 31, Lots 14.011, 36.01, 37.012, 50 New Canton Way, Township of Robbinsville, Mercer County, New Jersey", prepared and signed by Paul N. Ricci PP, AICP (Ricci Planning) dated March 31, 2026;

K. Time Extension Email prepared by Joseph A. Paparo, dated April 2, 2026,

L. Letter of No Impact (LONI) from Mercer County Planning Board, signed by Maria G. Connoly, Planning Director, dated March 18, 2026;

M. Photographs of Property View from Street & Visible Off-Site Areas, prepared by Kimley Horn, dated April 1, 2026;

N. EWR4 Rally Point Real-Time Shift Counts;

Based on our review of the re-submitted documents, we have provided new comments as shown below. The status of the previous comments is shown in bold/italic font.

1. INTRODUCTION

The subject property consists of three lots totaling ±82.72 acres and is designated as Block 41, Lots 14.011, 36.01, 37.012 and commonly known as 50 New Canton Way. The property is bounded by Gordon Road to the North, an existing commercial warehouse to the West, existing commercial warehouses to the South and Old York Road to the East. The property is located within the Township's Planned Commercial Development (PCD) Zoning District.

The site is currently occupied and developed with a 1,048,796 square foot warehouse, a parking lot with 2,264 parking spaces, a loading area with 124 trailer parking stalls, stormwater infrastructure and associated site features. These improvements were constructed under Preliminary & Final Site Plan Approval on June 28, 2008, and under Amended Preliminary and Final Major Site Plan and Subdivision approval on November 7, 2012.

The Applicant now seeks Preliminary and Final Site Plan approval in order to reconfigure a portion of the existing employee parking lot and access road which will convert 481 parking stalls into 111 additional trailer parking spaces. The proposed construction also includes typical site improvements including landscaping, utility improvements, grading, lighting and new storm drainage infrastructure.

2. GENERAL COMMENTS

2.1. These comments shall be considered additive to those of the other Land Use Board Professionals. We will endeavor to not duplicate commentary except as to where it may be necessary to provide additional comment.

Addressed.

2.2. We recommend an "As-Built Plan" signed and sealed by a New Jersey Licensed Professional Land Surveyor be submitted prior to final acceptance. Survey plan shall include but is not limited to grading, utilities, stormwater management and site features.

Continuing Comment - Applicant states they will comply and provide an "As-Built Plan" upon completion of construction prior to final acceptance.

3. EXCEPTIONS, VARIANCES AND WAIVERS

This project received preliminary and final site plan approval and deviation waiver memorialized under Resolution No. PB2012-10. The following exceptions, variances and waivers were requested and/or are required for this project. We understand the Board Planner and Attorney will address variances in greater detail.

These comments shall be considered additive to those of the other Land Use Board Professionals.

3.1. Preliminary Site Plan Check List – The Applicant submitted a rider to supplement the project application. We are in agreement with the Applicant's position indicated on the List of Waiver Requests and recommend they be granted.

3.2. Final Site Plan Check List – The Applicant submitted a rider to supplement the project application. We are in agreement with the Applicant's position indicated on the List of Waiver Requests and recommend they be granted.

4. REVIEW COMMENTS

4.1. DEMOLITION COMMENTS

4.1.1. Application to confirm limits of HMA milling and full depth pavement reconstruction.

Addressed. Applicant has confirmed that there we no areas of proposed mill & pave as all new motor vehicle surface will be full depth paving reconstruction.

4.2. SITE COMMENTS

4.2.1. Under previously approved Resolution PB2012-10, the applicant was granted a deviation for a road connection to Gordon Road where Township Ordinance states

vehicular access points to the surrounding road system are limited to West Manor Way and Old York Road (§142-25E(1)(h)). The current plans modify a potion of the access road from Gordon Road and maintain this connection. Applicant shall provide testimony regarding the continued use of this road and the need to maintain access to Gordon Road.

Continuing Comment. Applicant states testimony will be provided.

4.2.2. It is observed that entry to the truck loading area is obtained through the existing secured gate booth from John Henry Drive as well as a second entrance through a chain link gated driveway via the access road off Gordon Road. Applicant to testify regarding discuss the need for second entrance, if the gate will remain closed/locked and if additional security measures and/or signage should be taken for the northeasterly gated access road.

Continuing Comment. Applicant states testimony will be provided.

4.2.3. We recommend the 24' wide gate be installed with a KnoxBox fire department key box. We defer further comment to the Township Fire Official.

Addressed. Plans have been revised to indicate the installation of a Knox Box fire department padlock.

4.2.4. Existing site was installed with Belgian Clock curb. Applicant to confirm the proposed material for all new curbing.

Addressed. Applicant states all proposed curb is standard 6" concrete curb.

4.2.5. Applicant to provide testimony with respect to the site impact of reducing employee parking spaces.

Continuing Comment. Applicant states testimony will be provided.

4.2.6. The project proposes modifications to the existing parking lot. Applicant shall provide testimony regarding compliance with EV parking space requirements.

Continuing Comment. Applicant states that testimony will be provided and that due to the decrease in parking spacing, the EV Parking Standards do not apply therefore no EV spaces are proposed.

Robbinsville ordinance section 142-57.1D(2)(a) states that each application involving a parking lot or garage is required to provide EV make-ready parking spaces as a condition of preliminary site plan approval.

4.3. STORMWATER MANAGEMENT COMMENTS

4.3.1. The proposed development will result in more than one (1) acre of land disturbance, the reduction in total impervious coverage by 0.25 AC and the reduction in net motor vehicle surface by 0.35 AC. As such, the project is classified as a 'Major Development' pursuant to the Amended Stormwater Rules (N.J.A.C. 7:8) and will be subject to design

analysis for green infrastructure, groundwater recharge, stormwater runoff quality and stormwater runoff quantity standards.
Due to the reduction in impervious coverage and motor vehicle surface, stormwater runoff quality standards are met for the proposed development. Stormwater runoff quantity was satisfied by demonstrating the curve under curve method, groundwater recharge satisfied by a reduction in impervious coverage and creating a surplus of recharge.

Addressed

4.3.2. The time of concentration calculation utilizes short grass in sheet flow. Applicant shall revise calculations utilizing dense grass when calculating sheet flow time of concentration.

Addressed

4.3.3. The site currently drains to existing stormwater management basins on site. Site improvements will continue to drain to the existing basins under proposed conditions. The Applicant shall provide testimony regarding the condition of the existing basin, a record of its maintenance and confirmation to handle the flow from these improvements.

Continuing Comment. Applicant states testimony will be provided.

4.3.4. Applicant shall provide proof that the annual site inspection/maintenance per the NJDEP MS4 requirements has been completed, and the stormwater inspection report is current with the Township.

Continuing Comment. Applicant states proof of annual inspections & maintenance will be provided as a condition of approval.

4.3.5. Applicant to update site Stormwater O&M Manual to include additional stormwater infrastructure and confirm it has been filed with Mercer County.

Continuing Comment. Applicant states an updated O&M Manual will be provided as a condition of approval.

4.4. UTILITY COMMENTS

4.4.1. Applicant to show proposed valve and water line for re-located hydrant within northeast trailer parking area on Plan Sheet C-501.

Addressed

4.4.2. Applicant to consider installing protective bollards in front of re-located fire hydrant on Plan Sheet C-501.

Addressed

4.5. LIGHTING

4.5.1. Applicant shall provide a concrete footer detail for all light poles.

Addressed

5. OTHER AGENCY APPROVALS

It is the Applicant's responsibility to determine what, if any, approvals are required from outside agencies and internal municipal agencies and/or departments. We believe the following other agency approvals may be required and shall be conditions of any favorable resolution granted by the Board;

5.1. Mercer County Soil Conservation District (MCSCD) – Soil Erosion and Sediment Control (SESC) Plan Certification is required as the proposed limit of disturbance exceeds 5,000 square feet.

Continuing Comment. Applicant states that MCSCD approval will be provided upon receipt as a condition of approval.

5.2. Mercer County Planning Board – Site plan approval or exemption to be provided as condition of final approval.

Addressed. Mercer County Letter of No Impact has been obtained and submitted.

This concludes our comments at this time. We reserve the right to make additional comments based on further documents submitted. Should there be any questions, please contact our office at your earliest convenience.

Very truly yours,



Daniel F. Fryer, PE, CME
For the Firm
(dfryer@vancleefengineering.com)

DESIGN FOR GENERATIONS LLC

April 20, 2026

Planning, Zoning, Engineering Office
Township of Robbinsville
2298 Route 33
Robbinsville, NJ 08691
Attn: Tianna Thompson
Land Use Coordinator

Re: Amazon.com Services, LLC
50 New Canton Way
Block 41. Lots 40.011, 36.01 & 37.012
Twp File – LU26-01-01
DFG File – PB-2026-11
Preliminary & Final Major Site Plan – 2nd Review

Dear Board Members:

This office has received a revised Preliminary & Final Major Site Plan for Amazon.com Services, LLC located at 50 Canton Way on 4-14-26. The application proposes the conversion of a section of the existing employee parking lot into approximately 111 tractor trailer parking spaces and the modification of the related drive aisles.

The Site Plans have been prepared by Tony W. Diggan, PE of Kimley Horn & Associates, Princeton, NJ and dated 1-13-25 and revised 4-1-26. The Landscape Plans have been prepared by W. Davis Walker, LLA of Kimley Horn & Associates, Princeton, NJ and dated 4-1-26.

Landscape Plan Review

1. "A Landscape Plan is required to be submitted as part of all applications". "The plan shall be prepared by a licensed Landscape Architect" (142-47.C.1).
   Response: The Landscape Plans have been revised to indicate that W. Davis Walker, LLA has prepared and signed the plans.

4. "The use of native plant species and landscape forms indigenous to the area is encouraged" (142-47.A.3). The plan should be revised to indicate Basswood (Tilia americana) and Willow Oak (Quercus phellos) instead of the Liquidambar (Sweet Gum) trees.
   Response: The Landscape Plan has been revised to indicate Basswood in place of the Sweet Gum trees.

5. “Parking areas shall be screened from public view. A screen planting consisting of four trees and 50 shrubs per 100 linear feet of parking perimeter shall be provided. No more than 1/3 of the trees shall be evergreen species. Evergreen trees must be a minimum of six feet at time of planting, and deciduous trees must be 2.5” in caliper at time of planting. Fifty percent of the shrubs must have a minimum mature height of three feet and a minimum of 24 inches at the time of planting. The screen planting shall not be located within the street right-of-way or any sight triangles” (142-47.D.1). The plan shall be revised to screen the parking areas along New Canton Way. There are two specific islands along the northwest and southwest corners of the site that should be planted.
   Response: The plans have been revised to provide additional evergreen trees and screening along the road (Sh. L-100-L-110)

7. A minimum of one planting island equivalent to nine (9) feet wide by 18 feet deep is required per five (5) parking spaces (142-47.D.3). The plan does not conform. We recommend planting the shade trees behind the parking spaces to more closely conform to the requirement. A design waiver is required.
   Response: The plans have been revised to add shade trees along the backside of the curb. Eleven parking lot islands are required and eleven shade trees are indicated. A design waiver has been requested.

9. All planting islands must be landscaped with shrubs and ground cover plantings with no more than 25% of all landscaped islands being covered by grass (142-47.D.5). The plan shall be revised accordingly.
   Response: The plans have been revised to indicate additional shrubs and ground cover in the parking lot islands (Sh. L-100 to L-110)

10. “All loading areas shall be landscaped and screened to a 100% visually impervious condition to block the view of the parked vehicles and loading platforms from any public street, adjacent residential districts or uses and the front yards of adjacent commercial and industrial uses. Earth berms or screening by a fence, wall, or planting, or combination of the four, shall be not less than six feet in height and 100% visually impervious” (142-47.D.6). The plan indicates partial screening (northwest side) of the loading area. The remaining buffer planting area, which is narrow, should be planted with tall growing evergreen trees and shrubs, such as Prunus laurocerasus (Skip Laurel), Thuja Occidentalis (Green Giant Arborvitae) Cupressus x Leylandii (Leyland Cypress) or similar evergreen trees and shrubs. The plan shall be revised accordingly
    Response: Additional evergreen trees & shrubs have been added along the northern side of the trailer parking area (Sh. L-100 to L-110).

11. The Landscape Plan indicates planting a row of 40 Ilex Opaca (American Holly) within the buffer area. The number of hollies should be reduced to prevent monocultures and trees, mentioned in the comment above, should supplement the plantings.
    Response: The plans have been revised to include additional plant species.

12. Any parking and loading area, either single or in combination, contains more than 10 parking spaces shall have curbs, and shall have curbed landscaped islands or cutouts. The islands or cutouts shall contain at least one tree of 2 ½ inches or larger which shall be installed at one per 10 cars, located within the parking lot or along the perimeters of the surfaced area (142-47.D.7). The plan shall be revised to indicate conformance.
    Response: The plans have been revised to indicate a minimum size of 2.5 inches or larger..

13. “Street trees are required to be planted along all public streets. All street trees must be planted within the public right-of-way and, where possible, between the curb and sidewalk with a minimum planting strip of six (6) feet in width” (142-47.F.1). The Landscape Plan conforms.
    Response: The applicant has indicated that the existing trees are in conformance

14. “For nonresidential and mixed uses, street trees shall be planted 40 feet on center in all zone districts along the frontage of any lot” (142-47.F.1.b). The plan shall be revised to indicate conformance.
    Response: The existing trees along Gordon and Old York Roads have been indicated on the revised Landscape Plans.

16. Outdoor pedestrian spaces shall be provided within each non-residential site, as appropriate (142-47.G.3). The locations and spacing of these outdoor pedestrian spaces should be indicated.
    Response: The previously approved plans do not indicate outdoor pedestrian spacing and none are proposed. The applicant should be prepared to testify.

17. “Each use requiring site plan approval shall provide and maintain attractively landscaped grounds and suitably landscaping in order to safeguard the character of the adjacent districts” (142-47.H.1.a). Many of the existing trees throughout the parking lot area are in need of replacement. The central leader has been cut on several trees. Other trees are not growing and need to be replaced. And other shade trees are missing. A list of all the trees to be replaced and an updated Landscape Plan, conforming to the originally approved Landscape Plan, should be prepared.
    Response: Prior to construction, the applicant will coordinate the condition of existing trees and determine replacement as needed based upon previously approved landscape plans (dated 5-28-13). <u>The current Landscape Plan shall be revised to note that all dead, missing and unacceptable shade trees and plantings should be replaced, conforming to the originally approved Landscape Plan, as prepared by Langan Engineering. This information should be coordinated with Township officials.</u>

18. “All plant materials shall be of a species common to the area, shall be of nursery stock and free of insects and disease (142-47.H.1.b). The plan should be revised to replace the proposed Liquidambar with either Quercus phellos or Tilia Americana. indicate shall indicate conformance. The plan indicates planting twelve (12) Rhododendron in the sun and another more sun tolerant species, such as Cherry Laurel or Skip Laurel, should be indicated.
    Response: The plan has been revised to provide an alternate species (Sh. L-100 to L0110).

21. Trees shall be staked for two years (142-47.H.1.f). The plan should be revised to indicate conformance.
    Response: The details have been revised (Sh. L-110)

22. “No clearing, grading or land disturbance may begin until the tree fencing has been installed and inspected by the Township Engineer” (142-47.K.a). The applicant shall indicate if any areas of construction will affect the existing trees to remain and other plantings.

Response: The applicant will ensure that tree protection has been installed prior to the beginning of construction. A not has been added to Sh. L-110 – note #10.

23. "No construction, stockpiling storage, dumping, or heavy machinery may take place inside the fenced area" (142-47.K.b). The Landscape Plan shall indicate conformance.
    Response: The plan conforms – General Note #11 on Sh. L-110.

24. All landscape plantings shall be maintained for a period of two (2) years from the time of planting (142-47.L.2). The Landscape Plan shall indicate conformance.
    Response: The plan conforms – General Note #6 on Sh. L-110.

25. The Landscape Plan shall indicate that plant substitutions shall be approved by the Township Landscape Architect.
    Response: The plan conforms – General Note #12 on Sh. L-110.

26. The location of generators, if applicable, should be indicated on the plans and the appropriate screening provided (142-47.H.3.a). The plan should be revised accordingly.
    Response: Generators are not proposed.

27. The Landscape Plan shall indicate that the central leader of all shade trees shall not be cut and/or removed; they shall be maintained in their normal growing habit and shall not be topped. The normal practice of raising the crown (removing lower limbs) will enable people to see under the trees and will not obstruct the view.
    Response: Performance Specification B trees indicates conformance

28. The Landscape Plan shall indicate that all dead, dying and/or trees in poor health, will be replaced.
    Response: The applicant will evaluate the condition of the existing trees and determine replacement as needed. <u>The Landscape Plan shall be revised to note that all dead, missing and unacceptable shade trees and plantings should be replaced, conforming to the originally approved Landscape Plan, as prepared by Langan Engineering.</u>

Please do not hesitate to inquire should there be any questions. Thank you.

Very truly yours,



Jack Carman, LLA, FASLA
NJ LLA - 21AS00065800

Robbinsville Township
Board of Health

Mercer County
2298 Route 33, Robbinsville, New Jersey 08691
Telephone (609) 936-8400, Fax (609) 799-2136

Memorandum

To: Tianna Thompson, Land Use Coordinator

From: Greg Guttadora, Senior REHS

RE:LU 26-01-01, Amazon.com Services, LLC 50 New Canton Way

Date: 3/5/26

The Robbinsville Health Department has reviewed the Site Plan application proposal for the above referenced site, and offers the following comments:

1. Since the application does not involve retail food, underground sewage disposal systems, or on-site wells, the Health Department does not oppose the waiver requests sought.

These comments neither stated nor implied, guarantees the approval of this application and does not relieve the applicant from seeking or gaining any other necessary approvals from other Agencies, Departments or Boards

Robbinsville
TOWNSHIP
BE AT THE CENTER OF IT ALL

Planning/Zoning/Engineering Office
2298 Route 33, Robbinsville, NJ 08691
Phone (609) 259-3600, ext. 1120 e-mail BoardSecretary@robbinsville.net

DISTRIBUTION OF PLANS

To:		REVIEWS RECEIVED
	Patrick Varga, **Esq.**	FYI Only
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	Nick Papasso, EIT, **Assistant Township Engineer**	FYI Only
	Stuart Wiser, AICP, PP, **Planning Consultant**	
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	Steven Leone, AIA, **Architectural Consultant**	
	Jack Carmen, LA, **Landcape Arch. Consultant**	
	Environmental Commission	
	Board of Health	
	Fire Company	
	Construction Official	
	Public Works	
	Police Department	
	Tax Assessor	
	Affordable Housing	

Date: February 4, 2026

From: Planning/Zoning Board Secretary

Re:
Application #: **LU26-01-01**
Application for: **Preliminary and Final Major Site Plan**
Applicant: **Kimley Horn & Associates, Ltd.**
Project: **Amazon.com services, LLC**
Block: **Block 41, Lot (s) 14.011, 36.01, 37.012** **50 New Canton Way**
Zone: **PCD**
REVIEW #1
Escrow Account: **R260101**

Description: The applicant is requesting prelimiary and final site plan approval to convert a portion of the existing employee parking into approximately 111 trailer parking spaces and modify associated drive aisles.

The Land Use Board has received the attached development proposal for its consideration. Please prepare a FULL TECHNICAL REVIEW and COMPLETENESS REVIEW for your discipline. Please submit your review letter no later than **March 6, 2026 as this application has been tentatively scheduled for TRC on 3/17/26.** You may provide your comments below or on a separate page. Thank you.

I have reviewed the above-referenced plans and have the following comments: No Comments for this Application at this Time

Signature: Brian F. Johnson Date: 2/26/26
Print name and Title: Brian F. Johnson Fire Official

Attachment(s)

Cc: Application File

Robbinsville TOWNSHIP
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I have reviewed the above-referenced plans and have the following comments:

None

Signature: Roger Fort Date: 2-27-26

Print name and Title: Roger Fort C/O

Attachment(s)

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Date: February 4, 2026

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I have reviewed the above-referenced plans and have the following comments:
No Comment

Signature: Chris Rupp Date: 3/3/26
Print name and Title: Chris Rupp Director of DPW

Attachment(s)

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Date: February 4, 2026

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I have reviewed the above-referenced plans and have the following comments: NO COMMENTS AT THIS TIME

Signature: S/T WH Date: 2-4-2026
Print name and Title: S/T Wayne Haugh

Attachment(s)

Cc: Application File

Robbinsville
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Affordable housing

Date: February 4, 2026

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I have reviewed the above-referenced plans and have the following comments:

No comments at this time

Signature: [signature] Date: 2/4/26
Print name and Title: Craig Peck - Assessor

Attachment(s)

Cc: Application File

Robbinsville
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I have reviewed the above-referenced plans and have the following comments:
There is no developer fee for this project.

Signature: _____ Date: 02/05/2026
Print name and Title: Cheressa DiNatale, MHL/AA

Attachment(s)

Cc: Application File