ERICKSON FOUNDATION SOLUTIONS SITE PLAN

SP# 13-25 & SB# 08-25

STAFF REPORT

January 14, 2026

SITE: 14 & 18 Clement Road, Map 161/Lots 049 & 050

ZONING: Industrial (I)

PURPOSE OF PLAN:

To depict a lot line adjustment of Map 161/ Lots 049 & 050 (SB# 08-25), and the proposed parking expansion and associated improvements on lot 049, and to depict the proposed gravel laydown yard and associated improvements on lot 050 (SP# 13-25).

PLAN UNDER REVIEW:

Non-residential Site Plan Erickson Foundation Solutions, SP# 13-25 & SB# 08-25, Map 161/Lots 049 & 050, 14 & 18 Clement Road, Hudson, New Hampshire; prepared by: Keach-Nordstrom Associates, Inc., 10 Commerce Park North, Suite 3B, Bedford, NH 03110, for: Clement Warehouse LLC, 14 Clement Road, Hudson, NH 03051, and 18 Clement Road, LLC, 29 Boyd Road, Hudson, NH, 03051, Consisting of sheets 1-17, with general notes 1-34 on Sheet 1; Dated October 27, 2025.

ATTACHMENTS:

1) Lot Line Relocation & Site Plan Application w/Waivers – Attachment "**A**".
2) Project Narrative – Attachment "**B**"
3) Department Review Comments – Attachment "**C**."
4) Stormwater Management Report, prepared by KNA, dated October 15, 2025 Attachment "**D**". (Digital Only)
5) Peer Review memo, prepared by Fuss & O'Neill, dated December 19, 2025 – Attachment "**E**".
6) Site Plan dated October 27, 2025.

APPLICATION TRACKING:

- December 1, 2025 – Applications received.
- January 14, 2026 – Public hearing scheduled.

WAIVERS REQUESTED

§ 275-8.7.(C) Landscape- Shade Trees

§ 275-8.7.(D) Landscape- Shrubs
§ 276-11.l.(B).(24) Open Space
§ 276-11.l.(B).(22) Green Area
§ 276-11.l.(B).(12).(C) 100' Residential Buffer

COMMENTS & RECOMMENDATIONS:

BACKGROUND

The sites are approximately 2.63 and 2.74 acres and are located in the Industrial (I) zone. Lot 049 contains a 114,884 square-foot industrial warehouse building constructed in 1972, and Lot 050 contains a single-family home built in 1948. Lot 049 is serviced by town water and sewer, and Lot 050 is serviced by town water and a private septic system. No section of the property falls within FEMA designated flood zones. Lot 049 is a known asbestos disposal site that has been inactive. Lot 050 is home to wetlands along the rear of the property, and contains a 10,000 sqft easement for utility services. Both the wetlands and utility easement are outside the bounds of the proposed work areas, and impact is proposed.

DEPARTMENT COMMENTS

Engineering has provided the following comments:

1. Applicant shall provide easements related to the detention basin, in case the properties do change ownership.

2. Applicant shall add installation of conservation markers at 75-foot buffer at no less than 50 feet intervals.

Full Comments can be found in **Attachment "C."**

STORMWATER MANAGEMENT REPORT

The applicant has provided a Stormwater Management Report (Attachment "**D**") prepared by KNA, Dated October 15, 2025. The conclusion outlined is that during 2, 10, 25, and 50-year storm events, there will be no or lessened impact to drainage at the analyzed discharge points.

WAIVER REQUESTS

The applicant has submitted 5 waiver requests:

§ 275-8.7(C) Landscape- Shade Trees – the applicant states that the there is little undeveloped space, which is further limited by the existing topography. There is existing shade trees located at the entrance and additional landscape areas onsite. The Applicant has proposed shade trees where possible; no other locations are feasible.

§ 275-8.7(D) Landscape- Shrubs – the Applicant states they are restricted by the existing conditions on the parcel, most specifically the topography. There are existing landscaped areas

onsite that will be maintained. The Applicant has proposed additional shrubs where possible, no other locations are practical.

§ 276-11.l(B)(24) Open Space– the applicant states that the existing conditions provide approximately 39.6% of open space, which does not meet the 40% without a waiver required. Since the existing condition does not meet the requirement, the Applicant is unable to increase the impervious surfaces without a waiver. The Applicant has gained some land area, via the lot line adjustment, for the expansion however, in order to meet the parking demand, the project proposes 30.7% open space.

§ 276-11.l(B)(22) Green Area – the Applicant states that due to the existing locations of the access driveway and building as well as the orientation of the building relative to the property lines, they are unable to provide access to the proposed parking expansion without impacting the green area buffer. Additionally, a reduced green area is consistent with the character of the area and district.

§ 276-11.l(B)(12)(C) 100' Residential Buffer – the Applicant is restricted by the existing conditions of the site, and states that the property was previously developed with portions of the developed area located within 100-ft from the abutting residential use, including the existing access driveway. Based on the locations of the existing driveway and building, the Applicant would be unable to reasonably access the undeveloped portions of the property without impacting this buffer zone.

PEER REVIEW

A peer review of the project was completed by Fuss & O'Neill, for which the memo dated December 19, 2025 has been provided (Attachment "**E**"). A response letter has not been provided at this time by the applicant.

STAFF COMMENTS

This site is already developed, so no significant impacts to traffic or abutting uses are anticipated. The proposed improvements of extra parking, and a laydown yard, are for the existing use. Adjusting the lot line with the adjacent lot will better accommodate the proposed improvements. Staff also notes an additional stipulation listed regarding compliance with DES requirements due to the asbestos on site.

RECOMMENDATIONS

Staff recommends deliberation and consideration of the Lot Line Relocation and Site Plan and its associated waivers prior to consideration of approval.

DRAFT MOTIONS:

MOTION TO ACCEPT:

I move to accept the **Lot Line Relocation Application** for Erickson Foundation Solutions, SB# 08-25, Map 161; Lots 049 & 050, 14 & 18 Clement Road, Hudson, NH.

Motion by: _____Second: _____Carried/Failed: _____
I move to accept the **Site Plan Application** for Erickson Foundation Solutions, SP# 13-25, Map 161; Lots 049 & 050, 14 & 18 Clement Road, Hudson, NH.

Motion by: _____Second: _____Carried/Failed: _____

MOTION TO DEFER:

I move to defer the **Lot Line Relocation Application** for Erickson Foundation Solutions, SB# 08-25, Map 161; Lots 049 & 050, 14 & 18 Clement Road, Hudson, NH, to date certain _____, 2025.

Motion by: _____Second: _____Carried/Failed: _____

I move to defer the **Site Plan Application** for Erickson Foundation Solutions, SP# 13-25, Map 161; Lots 049 & 050, 14 & 18 Clement Road, Hudson, NH, to date certain _____, 2025.

Motion by: _____Second: _____Carried/Failed: _____

MOTION TO CONTINUE:

I move to continue the **Lot Line Relocation Application** for Erickson Foundation Solutions, SB# 08-25, Map 161; Lots 049 & 050, 14 & 18 Clement Road, Hudson, NH, to date certain _____, 2025.

Motion by: _____Second: _____Carried/Failed: _____

I move to continue the **Site Plan Application** for Erickson Foundation Solutions, SP# 13-25, Map 161; Lots 049 & 050, 14 & 18 Clement Road, Hudson, NH, to date certain _____, 2025.

Motion by: _____Second: _____Carried/Failed: _____

MOTION TO GRANT WAIVERS:

I move to grant a waiver from **§ 275-8.7.(C) – Landscaping Requirements – Shade Trees** to allow the existing trees and proposed landscaping to provide sufficient cooling for the property, based on the Board's discussion, the testimony of the Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: _____Second: _____Carried/Failed: _____

I move to grant a waiver from **§ 275-8.7.(D) – Landscaping Requirements - Shrubs** to allow for 34 shrubs where 83 would be required, based on the Board's discussion, the testimony of the

Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: _____Second: _____Carried/Failed: _____

I move to grant a waiver from **§ 276-11.1.(B).(24) – General Plan Requirements - Open Space** to allow 30.7% open space where 40% open space is required, based on the Board's discussion, the testimony of the Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: _____Second: _____Carried/Failed: _____

I move to grant a waiver from **§ 276-11.1.(B).(22) – General Plan Requirements – Green Space** to allow impact to the green space buffer in order to access the proposed parking expansion, based on the Board's discussion, the testimony of the Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: _____Second: _____Carried/Failed: _____

I move to grant a waiver from **§ 276-11.1.(B).(12).(C) – General Plan Requirements - 100' Residential Buffer** to allow access and improvements within one-hundred-feet of a residential property, based on the Board's discussion, the testimony of the Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: _____Second: _____Carried/Failed: _____

MOTION TO APPROVE:

I move to approve the **Non-residential Site Plan** for Erickson Foundation Solutions, SP# 13-25 Map 161; Lots 049 & 050, 14 & 18 Clement Road, Hudson, New Hampshire; prepared by: Keach-Nordstrom Associates, Inc., 10 Commerce Park North, Suite 3B, Bedford, NH 03110, for: Clement Warehouse LLC, 14 Clement Road, Hudson, NH 03051 and 18 Clement Road, LLC, 29 Boyd Road, Hudson, NH 03051, Consisting of sheets 1-17, with general notes 1-34 on Sheet 1; Dated October 27, 2025; and:

That the Planning Board finds that this application complies with the Zoning Ordinance, and with the Land Use Regulations and for the reasons set forth in the written submissions, together with the testimony and factual representations made by the applicant during the public hearing;

Subject to, and revised per, the following stipulations:

1. All stipulations of approval shall be incorporated into the Development Agreement, which shall be recorded at the HCRD along with the site plan.

2. Prior to Planning Board endorsement of the Plan, the easement depicted to the favor of the Town shall be subject to final administrative review by the Town Planner, and Town Engineer.
3. All improvements shown on the Plan, including notes 1-34, shall be completed in their entirety and at the expense of the Applicant or his/her assigns.
4. Prior to the Planning Board endorsement of the Plan, it shall be subject to final administrative review by Town Planner and Town Engineer.
5. Prior to the issuance of a final certificate of occupancy, a L.L.S. certified "As-Built" site plan shall be provided to the Town of Hudson Development Services Department, confirming that the site conforms with the Planning Board approved plan.
6. Construction activities involving the subject lot shall be limited to the hours between 7:00 A.M. and 7:00 P.M., Monday through Saturday. No exterior construction activities shall be allowed on Sundays.
7. Hours of refuse removal shall be exclusive to the hours between 7:00 A.M. and 7:00 P.M., Monday through Friday only.
8. The applicant shall comply with all NHDES requirements regarding work on known asbestos sites.
9. Prior to application for a building permit, the Applicant shall schedule a pre-construction meeting with the Town Engineer.

Motion by: _____Second: _____Carried/Failed: _____

MOTION TO APPROVE:

I move to approve the **Lot Line Relocation Application** for Erickson Foundation Solutions, SB# 08-25 Map 161; Lots 049 & 050, 14 & 18 Clement Road, Hudson, NH; prepared by: Keach-Nordstrom Associates, Inc., 10 Commerce Park North, Suite 3B, Bedford, NH 03110, for: Clement Warehouse LLC, 14 Clement Road, Hudson, NH 03051, and 18 Clement Road, LLC, 29 Boyd Road, Hudson, NH 03051, Consisting of sheets 1-17, with general notes 1-34 on Sheet 1; Dated October 27, 2025; and:

That the Planning Board finds that this application complies with the Zoning Ordinance, and with the Land Use Regulations and for the reasons set forth in the written submissions, together with the testimony and factual representations made by the applicant during the public hearing;

Subject to, and revised per, the following stipulations:

1. All stipulations of approval shall be incorporated into the Notice of Approval, which shall be recorded at the HCRD along with the site plan.

2. Prior to Planning Board endorsement of the Plan, the easement depicted to the favor of the Town shall be subject to final administrative review by the Town Planner, and Town Engineer.
3. Prior to the Planning Board endorsement of the Plan, it shall be subject to final administrative review by Town Planner and Town Engineer.

Motion by: _____Second: _____Carried/Failed: _____

Town of Hudson
12 School Street
Hudson, NH 03501

SITE PLAN APPLICATION

Revised September 2025

The following information must be filed with the Planning Department ***at the time of filing a site plan application***:

1. One (1) original completed application with original signatures.
2. One (1) full plan set *folded* (sheet size: 22" x 34").
3. One (1) original copy of the project narrative.
4. A list of direct abutters and a list of indirect abutters, and two (2) sets of mailing labels for abutter notifications.
5. Site Plan Review Checklist.
6. All of the above application materials, including plans, shall also be submitted in electronic form as a PDF.
7. ***All plans shall be folded*** and all pertinent data shall be attached to the plans with an elastic band or other enclosure.
8. ***Plans requiring third party consultant review*** – Complete submittal must be sent to:
   Fuss & O'Neill
   c/o Steve Reichert, PE
   50 Commercial Street Unit 2S
   Manchester, NH 03101

The following information is required to be filed with the Planning Department ***no later than 10:00 A.M., Tuesday ONE WEEK prior to the scheduled Planning meeting. The purpose of these materials is hardcopy distribution to Planning Board members, not review.***

Any plan revisions that require staff review must be submitted no later than 10:00A.M., Tuesday TWO WEEKS prior to the scheduled Planning meeting. Depending on the complexity of changes, more time may be required for review. Please contact the Town Planner if you have any questions on this matter.

1. Submission of fifteen (15) 11" X 17" plan sets *folded*, revised if applicable.
2. Submission of one (1) full plan set *folded* (sheet size: 22" x 34"), if revised.
3. All of the above application materials, including plans, shall also be submitted in electronic form as a PDF.

Note: Prior to filing an application, it is recommended to schedule an appointment with the Town Planner.

SITE PLAN APPLICATION

Date of Application: October 27, 2025 Tax Map #: 161 Lot #: 49 & 50

Site Address: 14 & 18 Clement Road, Hudson, NH 03051

Name of Project: Erickson Foundation Solutions

Zoning District: Industrial (I) General SP#: _____ (For Town Use Only)

Z.B.A. Action: N/A

PROPERTY OWNER LOT 49	PROPERTY OWNER LOT 50	APPLICANT
Name: Clement Warehouse LLC	18 Clement Road, LLC	Erickson Foundation Solutions
Address: 14 Clement Road	29 Boyd Road	14-18 Clement Road
Address: Hudson, NH 03051	Hudson, NH 03051	Hudson, NH 03051
Telephone # (603) 878-5552	(603) 878-5552	(603) 878-5552
Email: mattjr@erickson.co	mattjr@erickson.co	mattjr@erickson.co

PROJECT ENGINEER:	SURVEYOR:
Name: Peter Madsen, PE (KNA)	Anthony Basso, LLS (KNA)
Address: 10 Commerce Park North, Suite 3	10 Commerce Park North, Suite 3
Address: Bedford, NH 03110	Bedford, NH 03110
Telephone # (603) 627-2881	(603) 627-2881
Email: pmadsen@keachnordstrom.com	abasso@keachnordstrom.com

PURPOSE OF PLAN:
The purpose of the plan is to depict the proposed parking expansion project and associated improvements on Lot 49, and to depict the proposed gravel laydown yard and associated improvements on Lot 50.

(For Town Use Only)

Routing Date: _____ Deadline Date: _____ Meeting Date: _____

_____ I have no comments _____ I have comments (attach to form)

_____ Title: _____ Date: _____
(Initials)

Department:

Zoning: ___ Engineering: ___ Assessor: ___ Police: ___Fire: ___ DPW: ___ Consultant: ___

SITE DATA SHEET

PLAN NAME: Erickson Foundation Solutions

PLAN TYPE: SITE PLAN

LEGAL DESCRIPTION: MAP 161 LOT 49 & 50

DATE: October 27, 2025

Location by Street:	14 & 18 Clement Road		
Zoning:	Industrial (I)		
Proposed Land Use:	LOT 49: Industrial and LOT 50: Residential & Industrial		
Existing Use:	LOT 49: Industrial and LOT 50: Residential		
Surrounding Land Use(s):	Industrial, Commercial, Residential and Open Space		
Number of Lots Occupied:	Two (2)		
Existing Area Covered by Building:	LOT 49: 27,964 SF Warehouse and LOT 50: 1,330 SF House & 272 SF Shed		
Existing Buildings to be removed:	LOT 49: None and LOT 50: 272 SF Shed		
Proposed Area Covered by Building:	LOT 49: 27,964 SF (Existing) and LOT 50: 1,330 SF House (Existing)		
Open Space Proposed:	LOT 49: 30.7% and LOT 50: 85.3%		
Open Space Required:	40%		
Total Area:	LOT 49: 114,884 S.F.: / LOT 50: 119,530 S.F.	Acres: 2.637 / 2.744	
Area in Wetland:	LOT 49: 0 SF / LOT 50: 14,667 SF	Area Steep Slopes: 23,275 SF / 23,811 SF	
Required Lot Size:	30,000 SF w/Town Sewer & Water or 43,560 SF w/out Town Sewer or Water		
Existing Frontage:	LOT 49: 301.09 FT and LOT 50: 582.24 FT		
Required Frontage:	150 FT		

Building Setbacks:	Required*	Proposed LOT 49:	Proposed LOT 50:
Front:	50 FT	64.6 FT	36 FT (Existing)
Side:	15 FT	50.9 FT	16 FT
Rear:	15 FT	14.8 FT (Existing)	99 FT

SITE DATA SHEET
(Continued)

Flood Zone Reference: FIRM 33011C0519D Not in Flood Zone

Width of Driveways: LOT 49: 24 FT and LOT 50: 43 FT Paved Drive, 22 FT Gravel Drive & 12 FT Utility Access Drive

Number of Curb Cuts: LOT 49: One (1) Existing and LOT 50: Three (3) Existing

Proposed Parking Spaces: LOT 49: 78 Spaces and LOT 50: 2 Spaces

Required Parking Spaces: LOT 49: 47 Spaces and LOT 50: 2 Spaces

Basis of Required Parking (Use): Industrial: 1 Space/600 FT & Residential: 2 Spaces/Unit

Dates/Case #/Description/Stipulations of ZBA, Conservation Commission, NH Wetlands Board Actions: N/A
(Attach stipulations on separate sheet)

Waiver Requests

Town Code Reference:	*Regulation Description:*
275-8.7(C)	Landscaping - Shade Trees
275-8.7(D)	Landscaping - Shrubs
276-11.1(B)(24)	Open Space - 30.7%
276-11.1(B)(22)	Green Area
276-11.1(B)(12)(C)	100' Residential Buffer

(For Town Use Only)

Data Sheets Checked By: _____ Date: _____

SITE PLAN APPLICATION AUTHORIZATION

I hereby apply for *Site Plan* Review and acknowledge I will comply with all of the Ordinances of the Town of Hudson, New Hampshire State Laws, as well as any stipulations of the Planning Board, in development and construction of this project. I understand that if any of the items listed under the *Site Plan* specifications or application form are incomplete, the application will be considered rejected.

Pursuant to RSA 674:1-IV, the owner(s) by the filing of this application as indicated above, hereby given permission for any member of the Hudson Planning Board, the Town Planner, the Town Engineer, and such agents or employees of the Town or other persons as the Planning Board may authorize, to enter upon the property which is the subject of this application at all reasonable times for the purpose of such examinations, surveys, tests and inspections as may be appropriate. The owner(s) release(s) any claim to or right he/she (they) may now or hereafter possess against any of the above individuals as a result of any examinations, surveys, tests and/or inspections conducted on his/her (their) property in connection with this applications.

Signature of Owner: _____ Date: 10/30/25

Print Name of Owner: Matt Erickson

- If other than an individual, indicate name of organization and its principal owner, partners, or corporate officers.

Signature of Developer: _____ Date: _____

Print Name of Developer: _____

- The developer/individual in charge must have control over all project work and be available to the Code Enforcement Officer/Building Inspector during the construction phase of the project. The individual in charge of the project must notify the Code Enforcement Officer/Building Inspector within two (2) working days of any change.

WAIVER REQUEST FORM

Name of Subdivision/Site Plan: Erickson Foundation Solutions

Street Address: 14 Clement Road

I Matt Erickson hereby request that the Planning Board waive the requirements of item 275-8.7(C) of the Hudson Land Use Regulations in reference to a plan presented by Keach-Nordstrom Associates, Inc. (name of surveyor and engineer) dated October 27, 2025 for property tax map(s) 161 and lot(s) 49 in the Town of Hudson, NH.

As the aforementioned applicant, I, herein, acknowledge that this waiver is requested in accordance with the provisions set forth in RSA 674:36, II (n), i.e., without the Planning Board granting said waiver, it would pose an unnecessary hardship upon me (the applicant), and the granting of this waiver would not be contrary to the spirit and intent of the Land Use Regulations.

Hardship reason(s) for granting this waiver (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations: (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Signed: _____

Applicant or Authorized Agent

WAIVER REQUEST FORM

Name of Subdivision/Site Plan: Erickson Foundation Solutions

Street Address: 14 Clement Road

I Matt Erickson hereby request that the Planning Board waive the requirements of item 275-8.7(D) of the Hudson Land Use Regulations in reference to a plan presented by Keach-Nordstrom Associates, Inc. (name of surveyor and engineer) dated October 27, 2025 for property tax map(s) 161 and lot(s) 49 in the Town of Hudson, NH.

As the aforementioned applicant, I, herein, acknowledge that this waiver is requested in accordance with the provisions set forth in RSA 674:36, II (n), i.e., without the Planning Board granting said waiver, it would pose an unnecessary hardship upon me (the applicant), and the granting of this waiver would not be contrary to the spirit and intent of the Land Use Regulations.

Hardship reason(s) for granting this waiver (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations: (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Signed: _____

Applicant or Authorized Agent

WAIVER REQUEST FORM

Name of Subdivision/Site Plan: Erickson Foundation Solutions

Street Address: 14 Clement Road

I Matt Erickson hereby request that the Planning Board waive the requirements of item 276-11.1(B)(24) of the Hudson Land Use Regulations in reference to a plan presented by Keach-Nordstrom Associates, Inc. (name of surveyor and engineer) dated October 27, 2025 for property tax map(s) 161 and lot(s) 49 in the Town of Hudson, NH.

As the aforementioned applicant, I, herein, acknowledge that this waiver is requested in accordance with the provisions set forth in RSA 674:36, II (n), i.e., without the Planning Board granting said waiver, it would pose an unnecessary hardship upon me (the applicant), and the granting of this waiver would not be contrary to the spirit and intent of the Land Use Regulations.

Hardship reason(s) for granting this waiver (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations: (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Signed: _____

Applicant or Authorized Agent

WAIVER REQUEST FORM

Name of Subdivision/Site Plan: Erickson Foundation Solutions

Street Address: 14 Clement Road

I Matt Erickson hereby request that the Planning Board waive the requirements of item 276-11.1(B)(22) of the Hudson Land Use Regulations in reference to a plan presented by Keach-Nordstrom Associates, Inc. (name of surveyor and engineer) dated October 27, 2025 for property tax map(s) 161 and lot(s) 49 in the Town of Hudson, NH.

As the aforementioned applicant, I, herein, acknowledge that this waiver is requested in accordance with the provisions set forth in RSA 674:36, II (n), i.e., without the Planning Board granting said waiver, it would pose an unnecessary hardship upon me (the applicant), and the granting of this waiver would not be contrary to the spirit and intent of the Land Use Regulations.

Hardship reason(s) for granting this waiver (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations: (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Signed: _____

Applicant or Authorized Agent

WAIVER REQUEST FORM

Name of Subdivision/Site Plan: Erickson Foundation Solutions

Street Address: 14 Clement Road

I Matt Erickson hereby request that the Planning Board waive the requirements of item 276-11.1(B)(12)(C) of the Hudson Land Use Regulations in reference to a plan presented by Keach-Nordstrom Associates, Inc. (name of surveyor and engineer) dated October 27, 2025 for property tax map(s) 161 and lot(s) 49 in the Town of Hudson, NH.

As the aforementioned applicant, I, herein, acknowledge that this waiver is requested in accordance with the provisions set forth in RSA 674:36, II (n), i.e., without the Planning Board granting said waiver, it would pose an unnecessary hardship upon me (the applicant), and the granting of this waiver would not be contrary to the spirit and intent of the Land Use Regulations.

Hardship reason(s) for granting this waiver (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations: (if additional space is needed please attach the appropriate documentation hereto):

See Attached Waiver Request

Signed: _____

Applicant or Authorized Agent

SCHEDULE OF FEES

A. REVIEW FEES:

1. **Site Plan Use**	**Project Size/Fee**	
Multi-Family	$105.00/unit for 3-50 units $78.50/unit for each additional unit over 50	$_____
Commercial/Semi Public/Civic or Recreational	$157.00/1,000 sq. ft. for first 100,000 sq.ft. (bldg. area): $78.50/1,000 sq.ft. thereafter.	$_____
Industrial	$150.00/1,000 sq.ft for first 100,000 sq.ft. (bldg. area); $78.50/1,000 sq.ft thereafter.	$_____
(No Buildings)	$30.00 per 1,000 sq.ft. of proposed developed area	$ 1,494.00

LOT 49: @27,175 SF and LOT 50: @20,625 SF

CONSULTANT REVIEW FEE: (Separate Check)

Total LOT 49: 2.637 & LOT 50: 2.744 acres @ $600.00 per acre, or $1,250.00, whichever is greater. $ 3,228.60

This is an estimate for cost of consultant review. The fee is expected to cover the amount. A complex project may require additional funds. A simple project may result in a refund.

LEGAL FEE:

The applicant shall be charged attorney costs billed to the Town for the Town's attorney review of any application plan set documents.

B. POSTAGE:

11	Direct Abutters Applicant, Professionals, etc. as required by RSA 676:4.1.d @$6.08 **(or Current Certified Mail Rate)**	$ 66.88 *Included in LLA Fee
38	Indirect Abutters (property owners within 200 feet) @$0.78 **(or Current First Class Rate)**	$ 29.64 *Included in LLA Fee

C. TAX MAP UPDATING FEE: (FLAT FEE) $ 275.00

TOTAL $ 1,769.00 (Check #1)
$ 3,228.60 (Check #2)

SCHEDULE OF FEES
(Continued)

(For Town Use)			
AMOUNT RECEIVED: $_____		DATE RECEIVED:	_____
RECEIPT NO.:	_____	RECEIVED BY:	_____

NOTE: fees below apply only upon plan approval, not collected at time of application.

D. RECORDING:

*****The applicant shall be responsible for the recording of the approved plan, and all documents as required by an approval, at the Hillsborough County Registry of Deeds (HCRD), located at 19 Temple Street, Nashua, NH 03061. Additional fees associated with recording can be found at HCRD.*****

E. COST ALLOCATION PROCEDURE AMOUNT CONTRIBUTION AND OTHER IMPACT FEE PAYMENTS:

To be determined by the Planning Board at time of plan approval and shall be paid by the applicant at the time of submittal of the Certificate of Occupancy Permit requests.

*****The applicant shall be responsible for all fees incurred by the town for processing and review of the applicant's application, plan and related materials.*****

TOWN OF HUDSON
SITE PLAN REVIEW CHECKLIST

This checklist is intended to help the applicant and staff to ensure application completeness. Please refer to the regulations on the exact language of each requirement.

Key: Y=Yes P =Pending W=Waiver Request

Relevant Regulations:
§ 276-11.1 General Plan Requirements
§§ 275-8 – 275-9 Site Plan Requirements

	Y	P	W		Notes
1.	☒	☐	☐	- A list of the names and addresses of the owner(s) of the property, the applicant(s), and all abutters as indicated in the office of the Town Assessor records not more than five (5) days prior to the day of filing **[§ 276-11.1.A.]**	
2	☒	☐	☐	- Sets of plans and copies as indicated on application.	
3.	☒	☐	☐	- Scale no smaller than 50 feet to the inch (1" = 50') **[§ 276-11.1.B.(2)]**	
4.	☒	☐	☐	- Title block in the lower right-hand corner of the plan, containing: **[§ 276-11.1.B.(3)]**	
5.	☒	☐	☐	- Title, including the term "site plan" or "subdivision plan"	
6.	☒	☐	☐	- The name for whom the plan was prepared	
7.	☒	☐	☐	- Preparer of the plan	
8.	☒	☐	☐	- The scale(s) of the plan	
9.	☒	☐	☐	- Date of the plan	
10.	☒	☐	☐	- Appropriate revision block	
11.	☒	☐	☐	- Approval block (2"x6") located on the lower left corner of each sheet, with the required language and signature line **[§ 276-11.1.B.(4) & § 289-27.A]**	
12.	☒	☐	☐	- Owner's printed name and address and signature **[§ 276-11.1.B.(6)]**	
13.	☒	☐	☐	- Name and address of all abutting property owners **[§ 276-11.1.B.(7)]**	
14.	☒	☐	☐	- A locus plan at one inch equals 1,000 feet (1" = 1,000') **[§ 276-11.1.B.(8)]**	

(Continue next page)

15. [X] [ ] [ ] - Boundary of the entire parcel held in single ownership with boundary dimensions and bearings **[§ 276-11.1.B.(9)]**
16. [X] [ ] [ ] - Error of closure shown and certified by a licensed land surveyor
17. [X] [ ] [ ] - North point arrow
18. [X] [ ] [ ] - Zoning classification note of the tract and location of the zoning district boundaries if the property is located in two or more zoning district **[§ 276-11.1.B.(10)]**
19. [X] [ ] [ ] - The location of all buildings within 50 feet of the tract **[§ 276-11.1.B.(15)]**
20. [X] [ ] [ ] - The location of roadways, driveways, travel areas or parking areas within 200 feet of the tract, in accordance with **§ 276-11.1.B.(16)**
21. [X] [ ] [ ] - Existing topography at two-foot contour intervals of that portion of the tract being proposed for development from a topographic survey and contours on the remainder of the tract from a reliable plan source **[§ 276-11.1.B.(17)]**
22. [X] [ ] [ ] - Proposed topography at two-foot contour intervals **[§ 276-11.1.B.(18)]**
23. [X] [ ] [ ] - A note identifying the Tax Map and Lot Number of the tract **[§ 276-11.1.B.(19)]**
24. [X] [ ] [ ] - The location of all existing buildings (including size and height), driveways, sidewalks, parking spaces, loading area, open spaces, large trees, open drainage courses, signs, exterior lighting, service areas, easements landscaping and other pertinent items. **[§ 276-11.1.B.(20)]**
25. [X] [ ] [ ] - The location of all proposed construction, buildings, structures, pavement, etc. **[§ 276-11.1.B.(21)]**
26. [ ] [ ] [X] - A green area shown between the right-of-way line and any pavement, gravel or structure meeting the required minimum width **[§ 276-11.1.B.(22)]**
29. [X] [ ] [ ] - Note any pertinent highway projects. **[§ 276-11.1.B.(23)]**

(Continue next page)

TOWN OF HUDSON
SITE PLAN REVIEW CHECKLIST

This checklist is intended to help the applicant and staff to ensure application completeness. Please refer to the regulations on the exact language of each requirement.

Key: Y=Yes P =Pending W=Waiver Request NA=Not Applicable (please explain)

	Y	P	W	NA		Notes
30.	☒	☐	☐		- The location of all building setback lines as required by Chapter 334, Zoning, and setback lines as required by **§ 276-11.1.B.(12)**.	
31.	☒	☐	☐		- The location size and character of all signs or a note* stating "All signs are subject to approval by the Hudson Zoning Administrator prior to installation thereof." [**§ 276-11.1.B.(13)**] *The discrepancy on the note language is correct – reference to the Planning Board in the regulations is outdated.	
32.	☒	☐	☐		- The location, detail and character of all exterior lighting or a note stating: "There will be no exterior lighting." [**§ 276-11.1.B.(14)**]	
33.	☐	☐	☒	☐	- Required open space, including the calculation showing the requirement is met [**§ 276-11.1.B.(24)**]	
34.	☒	☐	☐	☐	- Parking space calculation showing and a statement stating the required parking spaces are provided [**§ 275-8.C.(2) & (3)**]	
35.	☒	☐	☐	☐	- Required dimensions for parking space [**§ 275-8.C.(4)**]	
36.	☒	☐	☐	☐	- Required dimensions for aisle/access drive [**§ 275-8.C.(5)**]	
37.	☒	☐	☐	☐	- Required off-street loading spaces [**§ 275-8.C.(6)**]	
38.	☐	☐	☒	☐	- Required landscaping for the parking lot, including calculation shown the planting requirement is met [**§ 275-8.C.(7)**]	
39.	☐	☐	☐	☒	- Required screening for visual separation of incompatible uses [**§ 275-8.C.(8)**]	
40.	☒	☐	☐	☐	- Handicap accessibility provided in accordance with the latest ADA Regulations [**§ 275-8.C.(11)**]	
41.	☒	☐	☐	☐	- Stormwater Management Plan [**§ 275-9.A**]	
42.	☐	☐	☐	☒	- Traffic Study, if required [**§ 275-9.B**]	
43.	☐	☐	☐	☒	- Noise Study, if required [**§ 275-9.C**]	

(Continue next page)

TOWN OF HUDSON
SITE PLAN REVIEW CHECKLIST

This checklist is intended to help the applicant and staff to ensure application completeness. Please refer to the regulations on the exact language of each requirement.

Key: Y=Yes P =Pending W=Waiver Request NA=Not Applicable (please explain)

	Y	*P*	*W*	*NA*		*Notes*
44.	☐	☐	☐	☒	- Fiscal Impact Study, if required [**§ 275-9.D**]	
45.	☐	☐	☐	☒	- Utility Study [**§ 275-9.E**]	
46.	☒	☐	☐	☐	- Copies of any proposed or existing easements, covenants, deed restrictions or any other similar document pertinent to the Site Plan [**§ 275-9.F**]	
47.	☐	☐	☐	☒	- A copy of all applicable Town, state, county or federal approvals or applications [**§ 275-9.G**]	
48.	☐	☐	☐	☒	- Environmental Impact Study, if required [**§ 275-9.I**]	

(End of checklist)

LOT LINE RELOCATION APPLICATION

Date of Application: October 27, 2025 Tax Map #: 161 Lot #: 49 & 50

Name of Project: Erickson Foundation Solutions

Zoning District: Industrial (I) General SB#: _____ (For Town Use Only)

Z.B.A. Action: N/A

PROPERTY OWNER:LOT 49	PROPERTY OWNER: LOT 50	APPLICANT:
Name: Clement Warehouse LLC	18 Clement Road, LLC	Erickson Foundation Solutions
Address: 14 Clement Road	29 Boyd Road	14-18 Clement Road
Address: Hudson, NH 03051	Hudson, NH 03051	Hudson, NH 03051
Telephone #: (603) 878-5552	(603) 878-5552	(603) 878-5552
Fax #: -	-	-
Email: mattjr@erickson.co	mattjr@erickson.co	mattjr@erickson.co

PROJECT ENGINEER:	SURVEYOR:
Name: Peter Madsen, PE (KNA)	Anthony Basso, LLS (KNA)
Address: 10 Commerce Park North, Suite 3	10 Commerce Park North, Suite 3
Address: Bedford, NH 03110	Bedford, NH 03110
Telephone #: (603) 627-2881	(603) 627-2881
Email: pmadsen@keachnordstrom.com	abasso@keachnordstrom.com

PURPOSE OF PLAN:

The purpose of the plan is to depict the lot line adjustment of Assessor's Map 161 Lots 49 & 50.

(For Town Use Only)

Routing Date: _____ Deadline Date: _____ Meeting Date: _____

_____ I have no comments _____ I have comments (attach to form)

_____ Title: _____ Date: _____
(Initials)

Department:

Zoning: ___ Engineering: ___ Assessor: ___ Police: ___ Fire: ___ DPW: ___ Consultant: ___

LOT LINE RELOCATION DATA SHEET

PLAN NAME: Erickson Foundation Solutions

PLAN TYPE: LOT LINE RELOCATION PLAN

LEGAL DESCRIPTION: Map 161 Lot 49

Map 161 Lot 50

DATE: October 27, 2025

Location:	14 & 18 Clement Road, Hudson, NH 03051
Total Area:	S.F. 234,414 Acres: 5.381
Area in Wetlands:	14,667 SF on Lot 50, No Wetlands on Lot 49
Zoning:	Industrial (I)
Lots Not Meeting Required Dimensions:	None
Required Area:	30,000 SF w/ Town Sewer & Water/43,560 SF w/out Town Sewer or Water
Required Frontage:	150 FT
Water and Waste System Proposed:	Municipal Water & Sewer (Existing Lot 49) Municipal Water & Private Septic System (Existing Lot 50)
Number of Lots With Existing Buildings:	Two (2)
Existing Buildings To Be Removed:	272-SF Shed on Lot 50
Flood Zone Reference:	FIRM 33011C0519D Not in Flood Zone
Proposed Linear Feet Of New Roadway:	None

LOT LINE RELOCATION DATA SHEET

Dates/Case #/Description/
Stipulations of ZBA,
Conservation Commission,
NH Wetlands Board Action:

(Attach Stipulations on
Separate Sheet)

List Permits Required:

*Waivers Requested:	Hudson Town Code Reference	Regulation Description
	1.	
	2.	
	3.	
	4.	
	5.	
	6.	
	7.	

(Left Column for Town Use)

(For Town Use Only)

Data Sheets Checked By: _____ Date: _____

LOT LINE RELOCATION APPLICATION AUTHORIZATION

I hereby apply for *Lot Line Relocation Plan* Review and acknowledge I will comply with all of the Ordinances of the Town of Hudson, New Hampshire State Laws, as well as any stipulations of the Planning Board, in development and construction of this project. I understand that if any of the items listed under the *Lot Line Relocation Plan* specifications or application form are incomplete, the application will be considered rejected.

Pursuant to RSA 674:1-IV, the owner(s), by the filing of this application as indicated above, hereby give permission for any member of the Hudson Planning Board, the Town Engineer, the Conservation Commission and such agents or employees of the Town or other persons as the Planning Board may authorize, to enter upon the property which is the subject of this application at all reasonable times for the purpose of such examinations, surveys, tests and inspections as may be appropriate. The owner(s) release(s) any claim or right he/she (they) may now or hereafter possess against any of the above individuals as a result of any examinations, surveys, tests and inspections conducted on his/her (their) property in connection with this applications.

Signature of Owner: _____ Date: 10/30/25

Print Name of Owner: Matt Erickson

- If other than an individual, indicate name of organization and its principal owner, partners, or corporate officers.

  Signature of Developer: _____ Date: _____

  Print Name of Developer: _____

- The developer/individual in charge must have control over all project work and be available to the Code Enforcement Officer/Building Inspector during the construction phase of the project. The individual in charge of the project must notify the Code Enforcement Officer/Building Inspector within two (2) working days of any change.

LOT LINE RELOCATION WAIVER REQUEST FORM

Name of the Lot Line Relocation Plan: _____

Street Address: _____

I _____ hereby request that the Planning Board waive the requirements of item _____ of the Lot Line Relocation Plan Checklist in reference to a plan presented by _____

_____ (name of surveyor and engineer) dated _____

for property tax map(s) _____ and lot(s) _____ in the Town of Hudson, NH.

As the aforementioned applicant, I, herein, acknowledge that this waiver is requested in accordance with the provisions set forth in RSA 674:36, II (n), i.e., without the Planning Board granting said waiver, it would pose an unnecessary hardship upon me (the applicant), and the granting of this waiver would not be contrary to the spirit and intent of the Subdivision/Site Plan regulations.

Hardship reason(s) for granting this waiver (if additional space is needed please attach the appropriate documentation hereto):

_____

_____

_____

_____

Reason(s) for granting this waiver, relative to not being contrary to the Spirit and Intent of the Subdivision/Site Plan regulations: (if additional space is needed please attach the appropriate documentation hereto):

_____

_____

_____

_____

Signed:

_____

Applicant or Authorized Agent

SCHEDULE OF FEES

A. REVIEW FEES:

1. $170.00 per lot @ 2 Lots $ 340.00

LEGAL FEES:

The applicant shall be charged attorney costs billed to the Town for Town's attorney review of any application plan set documents.

B. POSTAGE:

11 Direct Abutters Applicant, Professionals, etc. as required by RSA 676:4.1.d ~~@$5.58~~ **(or Current Certified Mail Rate)** $6.08 $ 66.88

38 Indirect Abutters (property owners w/in 200 feet) ~~@$0.73~~ each **(or Current First Class Rate)** $0.78 $ 29.64

C. TAX MAP UPDATE FEE:

2 to 7 lots (# of lots x $30.00) + $25.00 (min. $85.00) $ 85.00

8 lots or more (min. $325.00) $ -

TOTAL $ 521.52

SCHEDULE OF FEES
(Continued)

(For Town Use Only)			
AMOUNT DUE: $ _____		DATE RECEIVED:	_____
RECEIPT NO.:	_____	RECEIVED BY:	_____

NOTE: fees below apply only upon plan approval, not collected at time of application.

F. RECORDING:

*****The applicant shall be responsible for the recording of the approved plan, and all documents as required by an approval, at the Hillsborough County Registry of Deeds (HCRD), located at 19 Temple Street, Nashua, NH 03061. Additional fees associated with recording can be found at HCRD.*****

G. COST ALLOCATION PROCEDURE AMOUNT CONTRIBUTION AND OTHER IMPACT FEE PAYMENTS:

To be determined by the Planning Board at time of plan approval and shall be paid by the applicant at the time of submittal of the Certificate of Occupancy Permit requests.

*****The applicant shall be responsible for all fees incurred by the town for processing and review of the applicant's application, plan and related materials.*****

Abutters List
Erickson Foundation Solutions
Hudson, NH
KNA# 25-0717-1

Tax Map	Lot	Owner(s)
161	49	Clement Warehouse LLC 14 Clement Road Hudson, NH 03051
161	50	18 Clement Road, LLC 29 Boyd Road Hudson, NH 03051
		Applicant Erickson Foundation Solutions 14-18 Clement Road Hudson, NH 03051
Tax Map	**Lot**	**Direct Abutter(s)**
161	50-1	Northern N.E. Telephone LLC c/o Tax Dept. dba Consolidated Communications-NN 2116 South 17th Street Mattoon, IL 61938
161 170	40 30 & 44	Town of Hudson 12 School Street Hudson, NH 03051
161	44	Daniel Preston c/o New England Solid Surfaces PO Box 727 Hudson, NH 03051
161	51	Ernest T. Doucette 24 Clement Road Hudson, NH 03051
161	52	Alice M. Coakley, Trustee Coakley Living Trust 11 Clement Road Hudson, NH 03051

Attachment "A"

161	53	14 Clement Road LLC 1 Wall Street Hudson, NH 03051
Tax Map	**Lot**	**Indirect Abutter(s)**
161	31	RFL Properties, LLC 159 Robinson Road Hudson, NH 03051
161	32	19 Park Avenue, LLC 18 Park Avenue Hudson, NH 03051
161	33	Gildon Properties, LLC 1079 Mammoth Road Pelham, NH 03076
161	45	Randall J. Wingate 95 Kendall Pond Road Windham, NH 03087
170	4	Kimball Heights II – Open Space

Map 170/Lot 27
James Croteau
27 Bradford Circle
Hudson, NH 03051

Map 170/Lot 21
Karin Romano, Trustee
Karin Romano Living Trust
31 Bradford Circle
Hudson, NH 03051

Map 170/Lot 20
Joseph & Aline Caiado, Trustees
Joseph & Aline Caiado Family Trust
33 Bradford Circle
Hudson, NH 03051

Map 170/Lot 19
Elizabeth Jaeschke & Kyle Ahearn
19 Sheffield Street
Hudson, NH 03051

Attachment "A"

Map 170/Lot 18
Alya Kharrat & George Abboud, Tr
Alya A. Kharrat Revocable Trust
23 Sheffield Street
Hudson, NH 03051

Map 170/Lot 17
Jennifer Nangle & Sandra Britton
25 Sheffield Street
Hudson, NH 03051

Map 170/Lot 16
Jonathan & Megan Hone, Trustees
Hone Family Rev Trust of 2013
27 Sheffield Street
Hudson, NH 03051

Map 170/Lot 15
Dennis & Rena Rudy
29 Sheffield Street
Hudson, NH 03051

Map 170/Lot 14
Courtney Boulger
31 Sheffield Street
Hudson, NH 03051

Map 170/Lot 13
Marc & Darlene Bain, Trustees
Bain Family Revocable Trust
33 Sheffield Street
Hudson, NH 03051

Map 170/Lot 12
Jay & April Spooner
35 Sheffield Street
Hudson, NH 03051

Map 170/Lot 11
Sadakazu Tanabe & Wen Yan
37 Sheffield Street
Hudson, NH 03051

Attachment "A"

Map 170/Lot 10
Michael & Kristin Manoukian
36 Sheffield Street
Hudson, NH 03051

Map 170/Lot 9
Doris & Louis Rachlin
32 Sheffield Street
Hudson, NH 03051

Map 170/Lot 8
Matthew & Brenda Schofield
30 Sheffield Street
Hudson, NH 03051

Map 170/Lot 7
Paul & Deborah Cantrell, Trustees
Cantrell Family Rev Trust
28 Sheffield Street
Hudson, NH 03051

Map 170/Lot 6
Dante & Nancy Lanzillo
26 Sheffield Street
Hudson, NH 03051

Map 170/Lot 5
Douglas & Lee Mullett
24 Sheffield Street
Hudson, NH 03051

Map 170/Lot 3
John & Carolyn Sloboda, Trustees
Sloboda Revocable Trust
16 Sheffield Street
Hudson, NH 03051

Map 170/Lot 2
Ryan & Kimberly Thistle
12 Sheffield Street
Hudson, NH 03051

Map 170/Lot 1
Bruce Bigelow & Lu Ann Laquerre, Tr
Bigelow & Laquerre Family Rev Trust
10 Sheffield Street
Hudson, NH 03051

Attachment "A"

Map 171/Lot 3
Sharon Blanchette
8 Sheffield Street
Hudson, NH 03051

Map 171/Lot 2
Lori Rogers, Trustee
Lori C. Rogers Trust of 2022
6 Sheffield Street
Hudson, NH 03051

Map 171/Lot 1
James & Anida Murray, Trustees
Murray Living Trust
2 Sheffield Street
Hudson, NH 03051

Map 171/Lot 7
Thomas & Brenda Grant
3 Sheffield Street
Hudson, NH 03051

Map 171/Lot 8
Darryl Groom & Jaime Richmond
55 Clement Road
Hudson, NH 03051

Map 171/Lot 6
Stephanie Mandra & Marisa Stoehr
5 Sheffield Street
Hudson, NH 03051

Map 171/Lot 5
Peter & Christina Parziale
7 Sheffield Street
Hudson, NH 03051

Map 171/Lot 4
Kevin Hines
9 Sheffield Street
Hudson, NH 03051

Attachment "A"

Map 170/Lot 24
John & Colleen Winn, Trustees
Winn Family Rev Trust
11 Sheffield Street
Hudson, NH 03051

Map 170/Lot 23
Michael & Michelle Lawlor, Tr
M & M Lawlor Rev Trust
34 Bradford Circle
Hudson, NH 03051

Map 170/Lot 22
Michelle Ungaro, Trustee
RMG Realty Trust of 2005
32 Bradford Circle
Hudson, NH 03051

Map 170/Lot 25
Kuowei & Chyoung-Ling Huang
30 Bradford Circle
Hudson, NH 03051

Map 170/Lot 26
Joshua & Blake Mitchell
28 Bradford Circle
Hudson, NH 03051

Professionals to be notified:

Engineer/ Surveyor
Keach-Nordstrom Associates Inc.
10 Commerce Park North, Suite 3
Bedford, NH 03110

Wetland Scientist
Seekamp Environmental Consulting, Inc.
129 Route 125
Kingston, NH 03848

KNA KEACH-NORDSTROM ASSOCIATES, INC.

October 27, 2025

Town of Hudson
Planning Department
12 School Street
Hudson, New Hampshire 03051

Subject: **Lot Line Adjustment & Non-Residential Site Plan Applications**
Erickson Foundation Solutions
Tax Map 161; Lots 49 & 50
14 & 18 Clement Road – Hudson, New Hampshire
KNA Project No. 25-0717-1

PROJECT NARRATIVE

The subject properties, located at 14 & 18 Clement Road, are referenced on Hudson Tax Map 161 as Lots 49 & 50. The parcels, approximately 5.381-acres (234,414 SF) in combined area, are located entirely within Hudson's Industrial (I) Zoning District. Lot 49 is currently developed with a 27,964 SF warehouse, utilized by Erickson Foundation Solutions, and all associated site appurtenances. Lot 50 is currently developed with a single-family home and contains a utility building, within an easement, owned by Northern NE Telephone. Lot 49 is serviced by municipal water and sewer, and Lot 50 is serviced by municipal water and a private septic system. Surrounding land uses include industrial, commercial, and single-family residential.

The project proposes to first adjust the lot line between the two parcels to better accommodate the proposed improvements. Lot 49 will be adjusted from the existing 2.385-acres (103,882 SF) to a proposed area of 2.637-acres (114,884 SF), and Lot 50 will be adjusted from the existing 2.997-acres (130,532 SF) to a proposed area of 2.744-acres (119,530 SF). The existing shed, located within the building setbacks, will be removed.

Improvements to each parcel are also proposed. On Lot 49, the Applicant is proposing a parking expansion project. Forty-three (43) additional parking spaces will be provided to the existing thirty-five (35) spaces for a total of seventy-eight (78) spaces on the property. On Lot 50, the Applicant is proposing to construct an 8,064 SF gravel laydown yard. The properties will continue to utilize the existing curb cuts along Clement Road for site access. Other site improvements include landscaping, lighting, and stormwater management provisions. No impacts to the wetlands or 75-ft wetland buffer are proposed.

KNA KEACH-NORDSTROM ASSOCIATES, INC.

October 27, 2025

Town of Hudson
Planning Department
12 School Street
Hudson, New Hampshire 03051

Subject: **Waiver Requests – Erickson Foundation Solutions**
Tax Map 161; Lot 49
14 Clement Road – Hudson, New Hampshire
KNA Project No. 25-0717-1

The Applicant is requesting waivers from the following sections of the Town of Hudson Site Plan Regulations:

1. **Section 275-8.7(C) Landscape – Shade Trees**

   Hardship reason(s) for granting this waiver:
   The Applicant is restricted by the existing conditions of the parcel. The property is fully developed and comprised mainly of impervious surfaces from the existing warehouse and associated access, parking, and loading areas. There is little undeveloped space, which is further limited by the existing topography. The Applicant requires additional parking for the business, and in order to gain enough space for the proposed parking expansion, a lot line adjustment with the abutting parcel must be done. With the additional area, the Applicant is able to reasonably expand the parking areas however, they are still restricted by the topography. A 1.5:1 rip-rap slope is required just beyond the extents of the parking expansion due to the significant grade change between the parcels. Due to these factors, there is very limited space available for shade trees. There are existing shade trees located at the entrance and additional landscaped areas onsite. The Applicant has proposed shade trees where possible, no other locations are feasible.

   Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
   Shade trees are required in parking areas to help reduce the urban heat island effect by cooling down surfaces, providing shady areas for vehicles and people, and improving aesthetics. The number required is based on the size of the paved area or number of parking spaces. There are two (2) existing shade trees, two (2) proposed shade trees, and other landscaping provisions that enhance aesthetics. Additionally, the property is bounded by mature woodlands to the north and east that provide shade for the parcel. The combination of the existing trees and proposed landscaping is expected to provide sufficient cooling for the property. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

2. Section 275-8.7(D) Landscape – Shrubs

Hardship reason(s) for granting this waiver:
The Applicant is restricted by the existing conditions of the parcel, most specifically the topography. There is a significant drop in grade between the existing warehouse and abutting property (Lot 50) requiring a 1.5:1 rip-rap slope just beyond the extents of the entire length of the proposed parking expansion. This leaves little space available for site landscaping. There are existing landscaped areas onsite that will be maintained. The Applicant has proposed additional shrubs where possible, no other locations are practical.

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
Shrubs also help reduce urban heat island effect and improve aesthetics. The number required is based either on the size of the paved area, or the number of parking spaces. Based on the number of parking spaces, a total of twenty-seven (27) shrubs would be required, which is exceeded by the thirty-four (34) shrubs proposed. However, based on the total paved area, a total of eighty-three (83) shrubs are required. The property is fully developed and bounded by mature woodlands to the north and east. The combination of the existing trees and proposed landscaping is expected to provide adequate cooling and improve aesthetics of the property. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

3. Section 276-11.1(B)(24) Open Space

Hardship reason(s) for granting this waiver:
The property is fully developed and comprised mainly of impervious surfaces. The existing conditions provide approximately 39.6% of open space, which does not meet the 40% required. Since the existing condition does not meet the requirement, the Applicant is unable to increase the impervious surfaces without a waiver. The Applicant has gained some land area, via lot line adjustment, for the expansion however, in order to meet the parking demand, the project proposes 30.7% open space.

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
Open space requirements are typically required to limit impervious surfaces on a property for aesthetic purposes, and environmental considerations such as stormwater management solutions and erosion control measures. The Applicant has proposed landscaping provisions, permanent measures to prevent erosion such as the rip-rap slope, and stormwater management systems to control runoff. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

4. Section 276-11.1(B)(22) Green Area

Hardship reason(s) for granting this waiver:
The Applicant is restricted by the existing conditions of the parcel. The property is fully developed and comprised mainly of impervious surfaces from the existing warehouse and associated access, parking, and loading areas. Due to the existing locations of the access driveway and building as well as the orientation of the building relative to the property lines, the Applicant is unable to provide access to the proposed parking expansion without impacting the green area buffer. Additionally, a reduced green area is consistent with the character of the area and district. Other nearby properties, including but not limited to Map 161; Lots 44, 45 & 46, provide little to no green area with impervious surfaces extending from building to right-of-way.

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
The spirit and intent of this regulation is to provide a green buffer between the development and the right-of-way. However, this property was previously developed and is restricted by the existing site conditions. Based on the existing locations of the access driveway and building, and the orientation of the building relative to the property lines, there is limited space available between the building and right-of-way to access the proposed parking expansion. Improvements within this buffer are limited to the extent practicable. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

5. Section 276-11.1(B)(12)(C) 100' Residential Buffer

Hardship reason(s) for granting this waiver:
The Applicant is restricted by the existing conditions of the site. The property was previously developed with portions of the developed area located within 100-ft from the abutting residential use, including the existing access driveway. Based on the locations of the existing driveway and building, the Applicant would be unable to reasonably access the undeveloped portions of the property without impacting this buffer zone.

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
The spirit and intent of this regulation is to provide a 100-ft buffer between residential and non-residential uses. The majority of the developed areas fall outside this buffer zone however, the entrance driveway, access to the proposed parking expansion, and portions of the parking spaces are located within the buffer which extends almost the entirety of the frontage of Lot 49. Based on the location of the abutting residential use, any access to the site and improvements would be located within this buffer. Additionally, portions of the developed area within this buffer were previously developed and expected to remain. Furthermore, the subject property, as well as the abutting single-family house, are both located in the Industrial Zoning District where the uses are allowed by right. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

Attachment "A"

Return to:
Grantee

SLOPE AND DRAINAGE EASEMENT
18 Clement Road
Hudson, New Hampshire

18 Clement Road, LLC, a New Hampshire limited liability company with an address of 29 Boyd Road Hudson, New Hampshire 03051, for good and valuable consideration, grants to **Clement Warehouse, LLC**, a New Hampshire limited liability company with an address of 14 Clement Road, Hudson, New Hampshire 03051, a certain Slope and Drainage Easement upon a portion of Grantor's property located at 18 Clement Road, Town of Hudson, County of Hillsborough, State of New Hampshire, and described as follows:

A certain easement shown as **"Proposed Slope & Drainage Easement For The Benefit of Map 161 Lot 49 12, 254 SF"** on Map 161, Lot 50, on a plan entitled "Lot Line Adjustment Plan, Erickson Foundation Solutions, Map 161 Lots 49 & 50, 14 & 18 Clement Road, Hudson, New Hampshire, Hillsborough County;" prepared for Clement Warehouse , LLC and 18 Clement Road, LLC by Keach-Nordstrom Associates, Inc., dated September 8, 2025, last revised _____, and recorded at the Hillsborough County Registry of Deeds as Plan No. _____.

Said Slope and Drainage Easement is further described as follows:

Beginning at a granite bound on the north side of Clement Road, being the western corner of said Easement, then

1. North 48° 23' 08" East a distance of 111.03' to a point; then
2. North 60° 19' 47" East a distance of 133.96' to a point; then
3. North 76° 03' 23" East a distance of 100.45' to a point; then
4. North 76° 03' 23" East a distance of 20.76 to a point; then

5. North 85° 11' 05" East a distance of 11.38' to a point; then

6. South 4° 32' 16" West a distance of 129.62' to a point; then

7. South 73° 59' 14" West a distance of 40.00' to a point; then

8. North 16° 00' 46" West a distance of 111.25' to a point; then

9. South 76° 03' 23" West a distance of 34.00' to a point; then

10. South 52° 42' 04" West a distance of 56.51' to a point; then

11. South 70° 37' 19" West a distance of 87.11' to a point; then

12. South 48° 23' 08" West a distance of 105.64' to a point of curvature on the north side of Clement Road; then

13. Following a curve to the right, with a radius of 275.00' a distance of 10.90' along Clement Road to a granite bound, being the point of beginning (the "Easement Area").

The Grantor hereby grant to the Grantee, the perpetual right and easement under, on and above the Easement Area to construction, maintain, replace and repair aboveground and underground drainage systems and culverts, swales, headwalls, open drainage areas, riprap and related installations together with the right to excavate and refill trenches and ditches from time to time, regarding the location of said pipes, culverts, headwall and other installations and the right to grade and re-grade and install slopes and embankments in and about such installations and the areas adjacent thereto for the purposes of conveying storm and runoff water through said easement.

The Grantee agrees, by its acceptance of this conveyance, that construction, maintenance and repair or replacement of the drainage systems shall be conducted in such a manner so as not to unreasonably disrupt the area of the easement or interfere with the Grantor's and Grantor's successors and assigns use of the premises. The Grantee further agrees that it shall repair and replant or reseed any disruption caused by it which exercising its rights described in this drainage easement.

The Grantor reserves the right to use the above described Easement Area except for any such uses which would materially and adversely affect the Grantee's rights hereunder.

The Grantor reserves the right to convey easements over, under and through the Easement Area.

The Grantor and the Grantee may enforce their and its rights under this easement by any proceedings available at law or equity including by seeking the remedies of specific performance and mandatory injunction.

This easement shall be binding upon and inure to the benefit of the parties and their successors, successors-in-title and assigns.

Meaning and intending to describe a portion of the property conveyed by Deed dated July 24, 2024 and recorded in said Hillsborough County Registry of Deeds at Book 9792, Page 977.

Signature page follows.

Dated this _____ day of _____, 2026

18 CLEMENT ROAD, LLC

_____
Matthew Erickson, Jr., Member

STATE OF NEW HAMPSHIRE
COUNTY OF HILLSBOROUGH

On this the _____ day of _____, 2026, before me, the undersigned officer, personally appeared the above-named Matthew Erickson, Jr., Member of Clement Road, LLC, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purpose therein contained.

Before me:

_____
Justice of the Peace/Notary Public
My Commission Expires: _____

KNA KEACH-NORDSTROM ASSOCIATES, INC.

October 27, 2025

Town of Hudson
Planning Department
12 School Street
Hudson, New Hampshire 03051

Subject: **Waiver Requests – Erickson Foundation Solutions**
Tax Map 161; Lot 49
14 Clement Road – Hudson, New Hampshire
KNA Project No. 25-0717-1

The Applicant is requesting waivers from the following sections of the Town of Hudson Site Plan Regulations:

1. **Section 275-8.7(C) Landscape – Shade Trees**

   Hardship reason(s) for granting this waiver:
   The Applicant is restricted by the existing conditions of the parcel. The property is fully developed and comprised mainly of impervious surfaces from the existing warehouse and associated access, parking, and loading areas. There is little undeveloped space, which is further limited by the existing topography. The Applicant requires additional parking for the business, and in order to gain enough space for the proposed parking expansion, a lot line adjustment with the abutting parcel must be done. With the additional area, the Applicant is able to reasonably expand the parking areas however, they are still restricted by the topography. A 1.5:1 rip-rap slope is required just beyond the extents of the parking expansion due to the significant grade change between the parcels. Due to these factors, there is very limited space available for shade trees. There are existing shade trees located at the entrance and additional landscaped areas onsite. The Applicant has proposed shade trees where possible, no other locations are feasible.

   Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
   Shade trees are required in parking areas to help reduce the urban heat island effect by cooling down surfaces, providing shady areas for vehicles and people, and improving aesthetics. The number required is based on the size of the paved area or number of parking spaces. There are two (2) existing shade trees, two (2) proposed shade trees, and other landscaping provisions that enhance aesthetics. Additionally, the property is bounded by mature woodlands to the north and east that provide shade for the parcel. The combination of the existing trees and proposed landscaping is expected to provide sufficient cooling for the property. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

2. Section 275-8.7(D) Landscape – Shrubs

Hardship reason(s) for granting this waiver:
The Applicant is restricted by the existing conditions of the parcel, most specifically the topography. There is a significant drop in grade between the existing warehouse and abutting property (Lot 50) requiring a 1.5:1 rip-rap slope just beyond the extents of the entire length of the proposed parking expansion. This leaves little space available for site landscaping. There are existing landscaped areas onsite that will be maintained. The Applicant has proposed additional shrubs where possible, no other locations are practical.

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
Shrubs also help reduce urban heat island effect and improve aesthetics. The number required is based either on the size of the paved area, or the number of parking spaces. Based on the number of parking spaces, a total of twenty-seven (27) shrubs would be required, which is exceeded by the thirty-four (34) shrubs proposed. However, based on the total paved area, a total of eighty-three (83) shrubs are required. The property is fully developed and bounded by mature woodlands to the north and east. The combination of the existing trees and proposed landscaping is expected to provide adequate cooling and improve aesthetics of the property. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

3. Section 276-11.1(B)(24) Open Space

Hardship reason(s) for granting this waiver:
The property is fully developed and comprised mainly of impervious surfaces. The existing conditions provide approximately 39.6% of open space, which does not meet the 40% required. Since the existing condition does not meet the requirement, the Applicant is unable to increase the impervious surfaces without a waiver. The Applicant has gained some land area, via lot line adjustment, for the expansion however, in order to meet the parking demand, the project proposes 30.7% open space.

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
Open space requirements are typically required to limit impervious surfaces on a property for aesthetic purposes, and environmental considerations such as stormwater management solutions and erosion control measures. The Applicant has proposed landscaping provisions, permanent measures to prevent erosion such as the rip-rap slope, and stormwater management systems to control runoff. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

4. Section 276-11.1(B)(22) Green Area

Hardship reason(s) for granting this waiver:
The Applicant is restricted by the existing conditions of the parcel. The property is fully developed and comprised mainly of impervious surfaces from the existing warehouse and associated access, parking, and loading areas. Due to the existing locations of the access driveway and building as well as the orientation of the building relative to the property lines, the Applicant is unable to provide access to the proposed parking expansion without impacting the green area buffer. Additionally, a reduced green area is consistent with the character of the area and district. Other nearby properties, including but not limited to Map 161; Lots 44, 45 & 46, provide little to no green area with impervious surfaces extending from building to right-of-way.

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
The spirit and intent of this regulation is to provide a green buffer between the development and the right-of-way. However, this property was previously developed and is restricted by the existing site conditions. Based on the existing locations of the access driveway and building, and the orientation of the building relative to the property lines, there is limited space available between the building and right-of-way to access the proposed parking expansion. Improvements within this buffer are limited to the extent practicable. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

5. Section 276-11.1(B)(12)(C) 100' Residential Buffer

Hardship reason(s) for granting this waiver:
The Applicant is restricted by the existing conditions of the site. The property was previously developed with portions of the developed area located within 100-ft from the abutting residential use, including the existing access driveway. Based on the locations of the existing driveway and building, the Applicant would be unable to reasonably access the undeveloped portions of the property without impacting this buffer zone.

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:
The spirit and intent of this regulation is to provide a 100-ft buffer between residential and non-residential uses. The majority of the developed areas fall outside this buffer zone however, the entrance driveway, access to the proposed parking expansion, and portions of the parking spaces are located within the buffer which extends almost the entirety of the frontage of Lot 49. Based on the location of the abutting residential use, any access to the site and improvements would be located within this buffer. Additionally, portions of the developed area within this buffer were previously developed and expected to remain. Furthermore, the subject property, as well as the abutting single-family house, are both located in the Industrial Zoning District where the uses are allowed by right. Therefore, granting this waiver would not be contrary to the spirit and intent of the Town of Hudson Site Plan Regulations.

Attachment "A"

Return to:
Grantee

SLOPE AND DRAINAGE EASEMENT
18 Clement Road
Hudson, New Hampshire

18 Clement Road, LLC, a New Hampshire limited liability company with an address of 29 Boyd Road Hudson, New Hampshire 03051, for good and valuable consideration, grants to **Clement Warehouse, LLC**, a New Hampshire limited liability company with an address of 14 Clement Road, Hudson, New Hampshire 03051, a certain Slope and Drainage Easement upon a portion of Grantor's property located at 18 Clement Road, Town of Hudson, County of Hillsborough, State of New Hampshire, and described as follows:

A certain easement shown as **"Proposed Slope & Drainage Easement For The Benefit of Map 161 Lot 49 12, 254 SF"** on Map 161, Lot 50, on a plan entitled "Lot Line Adjustment Plan, Erickson Foundation Solutions, Map 161 Lots 49 & 50, 14 & 18 Clement Road, Hudson, New Hampshire, Hillsborough County;" prepared for Clement Warehouse , LLC and 18 Clement Road, LLC by Keach-Nordstrom Associates, Inc., dated September 8, 2025, last revised _____, and recorded at the Hillsborough County Registry of Deeds as Plan No. _____.

Said Slope and Drainage Easement is further described as follows:

Beginning at a granite bound on the north side of Clement Road, being the western corner of said Easement, then

1. North 48° 23' 08" East a distance of 111.03' to a point; then
2. North 60° 19' 47" East a distance of 133.96' to a point; then
3. North 76° 03' 23" East a distance of 100.45' to a point; then
4. North 76° 03' 23" East a distance of 20.76 to a point; then

5. North 85° 11' 05" East a distance of 11.38' to a point; then

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9. South 76° 03' 23" West a distance of 34.00' to a point; then

10. South 52° 42' 04" West a distance of 56.51' to a point; then

11. South 70° 37' 19" West a distance of 87.11' to a point; then

12. South 48° 23' 08" West a distance of 105.64' to a point of curvature on the north side of Clement Road; then

13. Following a curve to the right, with a radius of 275.00' a distance of 10.90' along Clement Road to a granite bound, being the point of beginning (the "Easement Area").

The Grantor hereby grant to the Grantee, the perpetual right and easement under, on and above the Easement Area to construction, maintain, replace and repair aboveground and underground drainage systems and culverts, swales, headwalls, open drainage areas, riprap and related installations together with the right to excavate and refill trenches and ditches from time to time, regarding the location of said pipes, culverts, headwall and other installations and the right to grade and re-grade and install slopes and embankments in and about such installations and the areas adjacent thereto for the purposes of conveying storm and runoff water through said easement.

The Grantee agrees, by its acceptance of this conveyance, that construction, maintenance and repair or replacement of the drainage systems shall be conducted in such a manner so as not to unreasonably disrupt the area of the easement or interfere with the Grantor's and Grantor's successors and assigns use of the premises. The Grantee further agrees that it shall repair and replant or reseed any disruption caused by it which exercising its rights described in this drainage easement.

The Grantor reserves the right to use the above described Easement Area except for any such uses which would materially and adversely affect the Grantee's rights hereunder.

The Grantor reserves the right to convey easements over, under and through the Easement Area.

The Grantor and the Grantee may enforce their and its rights under this easement by any proceedings available at law or equity including by seeking the remedies of specific performance and mandatory injunction.

This easement shall be binding upon and inure to the benefit of the parties and their successors, successors-in-title and assigns.

Meaning and intending to describe a portion of the property conveyed by Deed dated July 24, 2024 and recorded in said Hillsborough County Registry of Deeds at Book 9792, Page 977.

Signature page follows.

Dated this _____ day of _____, 2026

18 CLEMENT ROAD, LLC

_____
Matthew Erickson, Jr., Member

STATE OF NEW HAMPSHIRE
COUNTY OF HILLSBOROUGH

On this the _____ day of _____, 2026, before me, the undersigned officer, personally appeared the above-named Matthew Erickson, Jr., Member of Clement Road, LLC, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purpose therein contained.

Before me:

_____
Justice of the Peace/Notary Public
My Commission Expires: _____

KNA KEACH-NORDSTROM ASSOCIATES, INC.

October 27, 2025

Town of Hudson
Planning Department
12 School Street
Hudson, New Hampshire 03051

Subject: **Lot Line Adjustment & Non-Residential Site Plan Applications**
Erickson Foundation Solutions
Tax Map 161; Lots 49 & 50
14 & 18 Clement Road – Hudson, New Hampshire
KNA Project No. 25-0717-1

PROJECT NARRATIVE

The subject properties, located at 14 & 18 Clement Road, are referenced on Hudson Tax Map 161 as Lots 49 & 50. The parcels, approximately 5.381-acres (234,414 SF) in combined area, are located entirely within Hudson's Industrial (I) Zoning District. Lot 49 is currently developed with a 27,964 SF warehouse, utilized by Erickson Foundation Solutions, and all associated site appurtenances. Lot 50 is currently developed with a single-family home and contains a utility building, within an easement, owned by Northern NE Telephone. Lot 49 is serviced by municipal water and sewer, and Lot 50 is serviced by municipal water and a private septic system. Surrounding land uses include industrial, commercial, and single-family residential.

The project proposes to first adjust the lot line between the two parcels to better accommodate the proposed improvements. Lot 49 will be adjusted from the existing 2.385-acres (103,882 SF) to a proposed area of 2.637-acres (114,884 SF), and Lot 50 will be adjusted from the existing 2.997-acres (130,532 SF) to a proposed area of 2.744-acres (119,530 SF). The existing shed, located within the building setbacks, will be removed.

Improvements to each parcel are also proposed. On Lot 49, the Applicant is proposing a parking expansion project. Forty-three (43) additional parking spaces will be provided to the existing thirty-five (35) spaces for a total of seventy-eight (78) spaces on the property. On Lot 50, the Applicant is proposing to construct an 8,064 SF gravel laydown yard. The properties will continue to utilize the existing curb cuts along Clement Road for site access. Other site improvements include landscaping, lighting, and stormwater management provisions. No impacts to the wetlands or 75-ft wetland buffer are proposed.

Planning Board Sign-off

Project Name	SP# 13-25 Erickson Foundations	Map/Lot:	161-049/050
Site Address:	14 & 18 Clement Road	Zone:	Industrial
		Due by:	12/12/25

Project Status		**Ready for Approval**	**Awaiting Revisions**	**Approval with Stipulations**
DEPARTMENT	**INITIAL**			
FUSS & O'NEILL:				
ZONING:	CJS	✔		
ASSESSING:	jm	✔		
ENGINEERING:	EZD		✔	
PUBLIC WORKS:	JT	✔		
FIRE:	DRH	✔		
POLICE:	PMM	✔		

Comments:

ZONING:
ASSESSING:no comments
ENGINEERING: See below
PUBLIC WORKS:
FIRE:
POLICE:

Planning Board Sign-off

Project Name	SP# 13-25 Erickson Foundations	Map/Lot:	161-049/050
Site Address:	14 & 18 Clement Road	Zone:	Industrial
		Due by:	12/12/25

Extended Comments:

1. Applicant shall provide easements related to the detention basin , in case the properties does change ownership.
2. Applicant shall add installation of conservation markers at 75 foot buffer at no less than 50 feet intervals.

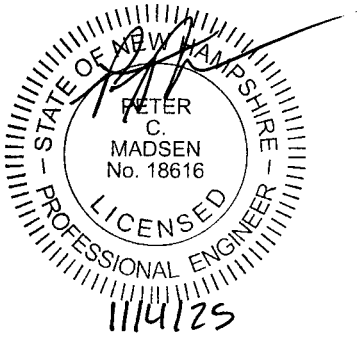
Attachment "D"

Stormwater Management Report

Erickson Foundation Solutions

Map 161; Lots 49 & 50
14 & 18 Clement Road
Hudson, New Hampshire

October 15, 2025



KNA Project No. 25-0717-1

Prepared For: Clement Warehouse LLC
14 Clement Road
Hudson, NH 03051

Prepared By: Keach-Nordstrom Associates, Inc.
10 Commerce Park North, Suite 3
Bedford, New Hampshire 03110
(603) 627-2881
(603) 627-2915 (fax)

KNA KEACH-NORDSTROM ASSOCIATES, INC.

Table of Contents

I. INTRODUCTION

A. Project Description

The project proposes a parking expansion on Map 161 Lot 49 and a new 8,000 SF gravel laydown yard on Map 161 Lot 50. The project includes construction of thirty-six (36) sparking spaces, drive aisles, 8,000 SF of gravel laydown area, and the associated stormwater management provisions. The total area of disturbance for construction is approximately 57,000 SF, which does not necessitate an Alteration of Terrain.

B. Existing Site Conditions

The subject properties, referenced on Hudson Tax Map 161 as Lots 49 and 50, are situated entirely within the Industrial (I) Zoning District. The combined area of both parcels is approximately 5.381 acres with frontage along Clement Road. There is an existing industrial building, single-family house, parking lot, and gravel lay down yard.

According to the Natural Resources Conservation Service (NRCS) web soil survey, the predominant soil type onsite are Canton fine sandy loam with slopes ranging from 8-25% and Scarboro stony mucky loamy sand. Canton soils are classified as Hydrologic Soil Group (HSG) 'A' and 'B'. Scarboro stony muck loamy sand is classified as HSG 'A/D'.

II. STORM DRAINAGE ANALYSIS & DESIGN

A. Methodology

In accordance with the Town of Hudson Site Plan Review Regulations and Standard Specifications for Road, Drain & Sewer Construction, 2-year, 2-year frozen, 10-year, 25-year & 50-year frequency storm have each been used in the various aspects of analysis and design of stormwater management considerations for the subject site.

KNA utilizes HydroCAD version 10.0 to analyze both pre and post-development watershed characteristics. This computer software system is based largely on hydrology techniques (TR-20) developed by the Soil Conservation Service (now the Natural Resources Conservation Service). In addition, the software derives Time of Concentration values using the methodology contained within USDA-S.C.S. publication Urban Hydrology for Small Watersheds Technical Release No. 55 (TR 55).

All design and analysis calculations performed using the referenced methodologies are attached to this report. The minimum time of concentrations used for the analysis is 6 minutes. These calculations document each catchment area, a breakdown of surface type, time of concentration, rainfall intensity, peak discharge volume, Manning's "n" value, peak velocity, and other descriptive design data for each watershed and pipe segment evaluated. In addition, the "Pre/Post Development Drainage Area Plans" graphically define and illustrate the extent of each watershed or catchment area investigated.

B. Pre-Development Drainage Conditions

In the pre-development scenario, three (3) points of analysis (POA) were identified as the appropriate points to compare pre vs. post development rates of stormwater discharge. These points of analysis reflect the main discharge points of the site and were analyzed to show the impact of the proposed improvements.

The pre-development drainage model's POA's are further described as follows:

- A Map 161 Lot 44
- B Map 161 Lot 40
- C Wetlands

In general, Map 161 Lot 50 slopes towards the existing wetlands located on site (Link C). Map 161 Lot 49 has an existing industrial building situated at a high point of the lot. Flow generated on the roof of the industrial building is directed in three directions. The largest portion of the roof is directed to the existing wetlands on Map 161 Lot 50 (Link C). Two (2) portions of the roof and a large portion of the parking lot are directed to Map 161 Lot 40 (Link B). The remainder of the roof as well as the parking lot are directed to Map 161 Lot 44 (Link A). The remaining grass areas located to the southeast of the industrial building are directed to the wetlands (Link C).

For a more visual description of the information presented in this section, please refer to the attached "Pre-Development Drainage Areas Plan" attached in the appendix of this report.

C. Post-Development Drainage Conditions:

The same POA's that were identified in the pre-development scenario have been analyzed in the post-development scenario.

The proposed stormwater management systems utilize both open and closed drainage practices for the collection, storage, treatment, and recharge of runoff. Stormwater runoff generated from most of the existing industrial building and all of the proposed pavement expansion will be directed towards a series of catch basins throughout the parking lot and drive aisles. Stormwater from this closed drainage network will be discharged to a Stormtech DC-780 Subsurface Detention System. Outfall from this detention system will discharge into an infiltration pond adjacent to the proposed gravel laydown yard. This pond will ultimately outlet treated stormwater downslope towards the wetlands. The remainder of the site will continue to drain as it does today.

The stormwater system utilizes a subsurface detention system and an infiltration pond as a means to implement Low-Impact-Development (LID) strategies. The infiltration pond, located downstream of the detention system, provides the required Water Quality Volume (WQV) and Groundwater Recharge Volume (GRV) for the proposed improvements. In tandem, these systems provide a reduction to peak runoff rates and stormwater volume leaving the site.

The peak stormwater runoff rates for the specific storm frequencies are presented and analyzed in the subsequent summary section of this report (Table 1). For a more visual description of the information presented in this section, please refer to the attached "Post-Development Drainage Areas Plan" attached in the appendix of this report.

D. Summary:

The subject site complies with the Town of Hudson Site Plan Review Regulations and Standard Specifications for Road, Drain & Sewer Construction regarding stormwater mitigation. Proposed stormwater best management practices (BMP) are designed in accordance with the New Hampshire Stormwater Manual Volume 2: Post-Construction Best Management Practices Selection and Design. Stormwater discharges, in terms of peak rate of runoff, are reported below in Table 1.

Table 1: Peak Flow Discharge Rate

Site Pre-Development vs. Post-Development (cfs)										
Description	**2-Year**		**2-Year Frozen**		**10-Year**		**25-Year**		**50-Year**	
24-hr Rainfall	2.96 in/hr		2.96 in/hr		4.48 in/hr		5.68 in/hr		6.79 in/hr	
	Pre	**Post**	Pre	**Post**	Pre	**Post**	Pre	**Post**	Pre	**Post**
A	1.27	**1.27**	1.98	**1.98**	2.34	**2.34**	3.20	**3.20**	4.00	**4.00**
B	2.28	**2.13**	2.90	**2.76**	3.85	**3.62**	5.10	**4.80**	6.25	**5.90**
C	1.71	**1.58**	9.87	**9.00**	5.41	**5.37**	8.91	**8.47**	12.41	**11.51**

III. EROSION & SEDIMENTATION CONTROL PROVISIONS

A. Temporary Erosion Control Measures

As an integral part of the engineering design of this site, an erosion and sedimentation control plan has been developed with the intent of limiting the potential for soil loss and associated receiving water quality degradation, both during and after the construction period. As the project plans indicate, traditional temporary erosion and sedimentation control devices and practices, such as siltation fencing and temporary block and sediment barriers at. In preparation of these provisions, reference was made to the New Hampshire Stormwater Manual; Volume 3: Erosion and Sediment Temporary Controls During Construction. Construction details for each temporary erosion control measure and practice specified have been added to the project plans. These plans also contain a number of erosion control notes, which are offered to the selected contractor in order to supplement the specified measures and practices to the extent practical.

B. Construction Sequence

A site-specific construction sequence sensitive to limiting soil loss due to erosion and associated water quality degradation was prepared specifically for this project and is shown on the project plans. As pointed out in the erosion control notes, it is important for the contractor to recognize that proper judgment in the implementation of work will be essential if erosion is to be limited and protection of completed work is to be realized. Moreover, any specific changes in sequence and/or field conditions affecting the ability of specific erosion control measures to adequately serve their intended purpose should be reported to this office by the contractor. Further, the contractor is encouraged to supplement specified erosion control measures during the construction period where and when in his/ her best judgment additional protection is warranted.

C. Permanent Erosion Control Measures

In the design of this site, consideration was given to limiting the potential for long-term erosion of completed improvements. As a result, several permanent erosion control measures were incorporated into the site design. These provisions include:

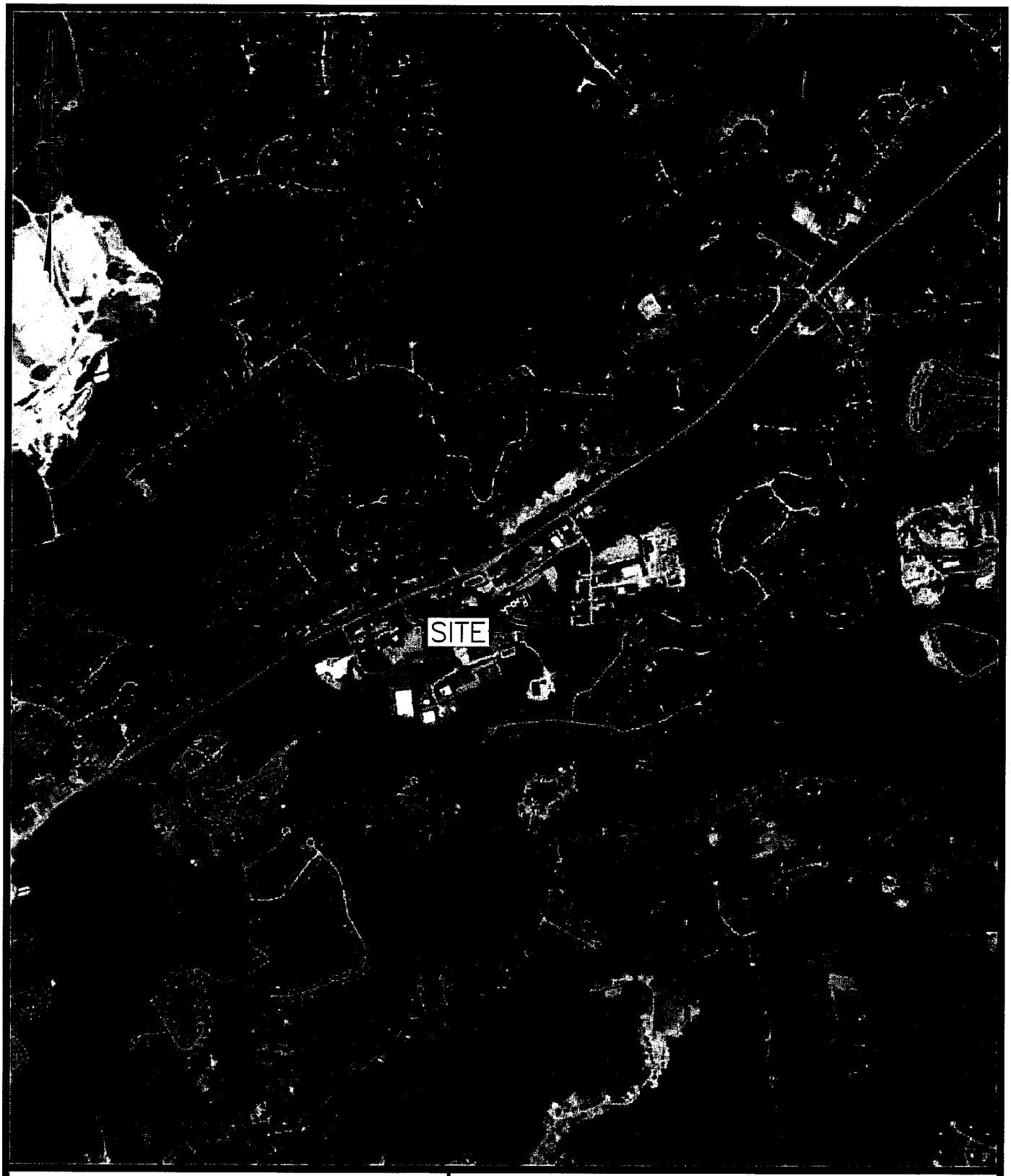
1) Specification of a turf establishment schedule and seed mixture, utilizing materials and workmanship recognized as appropriate for the site conditions at hand; and

2) The implementation of a proposed infiltration pond and subsurface detention system designed to reduce runoff and volume.

FIGURES AND SPREADSHEETS

FIGURE NO. 1 – AERIAL IMAGE
FIGURE NO. 2 – USGS IMAGE
FIGURE NO. 3 – SCS SOILS MAP
FIGURE NO. 4 – EXTREME PRECIPITATION TABLES
FIGURE NO. 5 – RIP RAP OUTLET PROTECTION APRON CALCULATIONS
FIGURE NO. 6 – BMP WORKSHEET

Attachment "D"

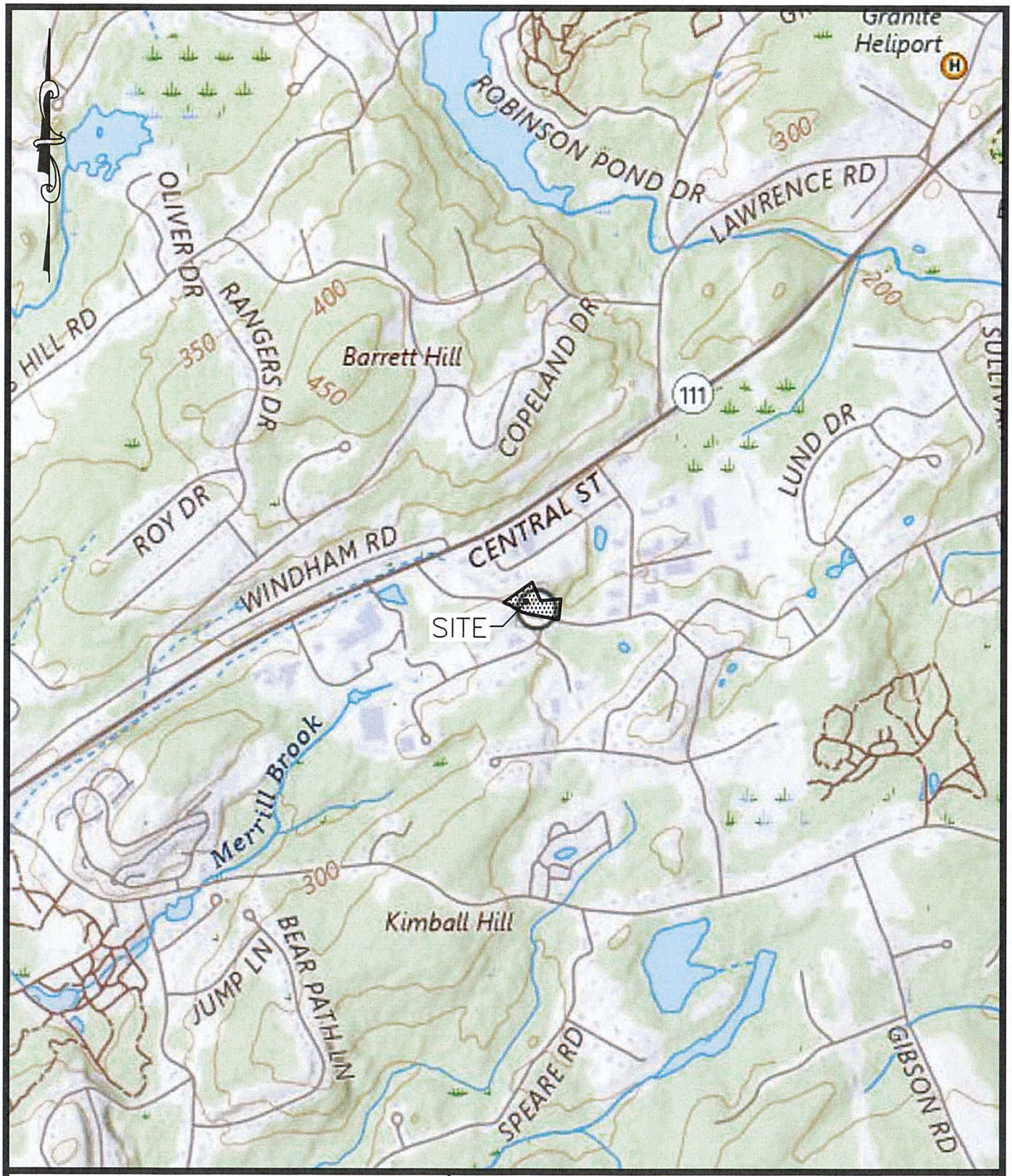


KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110
Phone (603) 627-2881

TITLE: AERIAL EXHIBIT PREPARED FOR:
ERICKSON FOUNDATION SOLUTIONS
MAP 161; LOTS 49 & 50 - 14 & 18 CLEMENT ROAD - HUDSON, NEW HAMPSHIRE

DATE: 9/08/2025	JOB. NO. 25-0717-1
SCALE: 1" = 2,000'	SHEET 1 OF 1

Attachment "D"



KEACH–NORDSTROM ASSOCIATES, INC.

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110
Phone (603) 627–2881

TITLE:

USGS EXHIBIT PREPARED FOR:

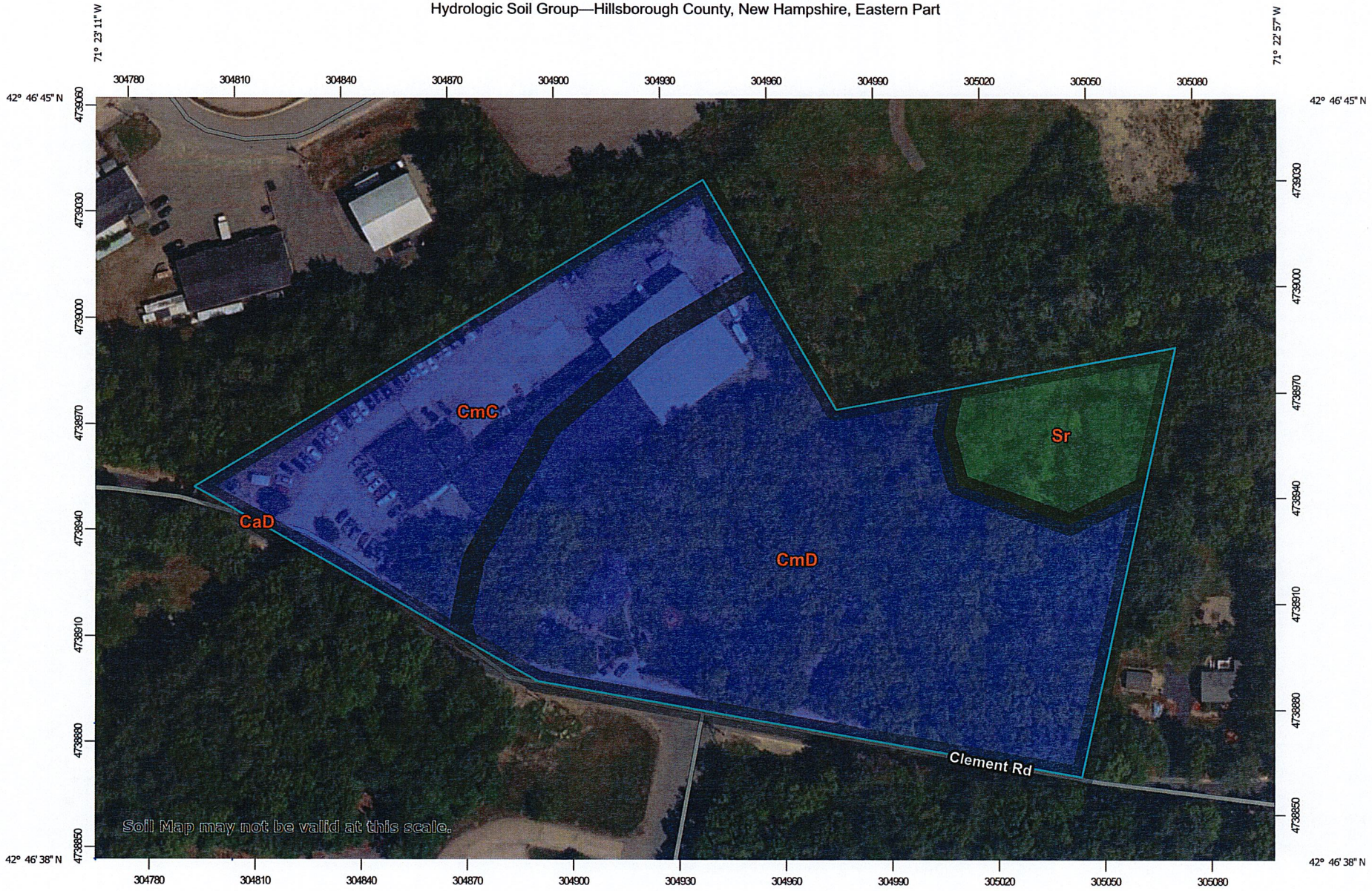
ERICKSON FOUNDATION SOLUTIUONS

MAP 161; LOTS 49 & 50 - 14 & 18 CLEMENT ROAD - HUDSON, NEW HAMPSHIRE

DATE: 9/08/2025	JOB. NO. 25-0717-1
SCALE: 1" = 2,000'	SHEET 1 OF 1

Attachment "D"

Hydrologic Soil Group—Hillsborough County, New Hampshire, Eastern Part



Attachment "D"

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 1:20,000.

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: Hillsborough County, New Hampshire, Eastern Part
Survey Area Data: Version 27, 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: May 22, 2022—Jun 5, 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
CaD	Canton fine sandy loam, 15 to 25 percent slopes	A	0.0	0.0%
CmC	Canton fine sandy loam, 8 to 15 percent slopes, very stony	B	1.7	27.1%
CmD	Canton fine sandy loam, 15 to 25 percent slopes, very stony	B	4.0	63.9%
Sr	Scarboro stony mucky loamy sand	A/D	0.6	9.0%
Totals for Area of Interest			**6.2**	**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

Attachment "D"

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point	
Smoothing	Yes
State	
Location	
Latitude	42.778 degrees North
Longitude	71.384 degrees West
Elevation	80 feet
Date/Time	Fri Sep 19 2025 09:48:58 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.27	0.42	0.52	0.68	0.85	1.07	**1yr**	0.73	1.01	1.24	1.55	1.96	2.48	2.71	**1yr**	2.19	2.60	3.03	3.71	4.33	**1yr**
2yr	0.33	0.51	0.64	0.84	1.05	1.32	**2yr**	0.91	1.21	1.53	1.91	2.38	2.96	3.29	**2yr**	2.62	3.16	3.67	4.38	4.98	**2yr**
5yr	0.39	0.61	0.77	1.03	1.31	1.67	**5yr**	1.13	1.51	1.93	2.42	3.01	3.75	4.18	**5yr**	3.32	4.02	4.65	5.51	6.24	**5yr**
10yr	0.44	0.69	0.88	1.19	1.55	1.99	**10yr**	1.34	1.79	2.31	2.90	3.61	4.48	5.03	**10yr**	3.97	4.83	5.57	6.55	7.39	**10yr**
25yr	0.52	0.83	1.06	1.46	1.94	2.50	**25yr**	1.67	2.24	2.92	3.68	4.59	5.68	6.41	**25yr**	5.02	6.17	7.07	8.24	9.26	**25yr**
50yr	0.59	0.94	1.21	1.70	2.30	3.00	**50yr**	1.98	2.66	3.52	4.43	5.52	6.79	7.71	**50yr**	6.01	7.41	8.48	9.81	10.99	**50yr**
100yr	0.68	1.10	1.41	2.00	2.72	3.58	**100yr**	2.35	3.16	4.20	5.31	6.61	8.14	9.28	**100yr**	7.20	8.92	10.17	11.68	13.04	**100yr**
200yr	0.77	1.26	1.63	2.34	3.23	4.28	**200yr**	2.79	3.74	5.04	6.37	7.93	9.75	11.17	**200yr**	8.63	10.74	12.19	13.90	15.48	**200yr**
500yr	0.93	1.52	1.99	2.89	4.05	5.41	**500yr**	3.50	4.70	6.39	8.10	10.08	12.38	14.28	**500yr**	10.96	13.73	15.52	17.52	19.43	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.35	0.43	0.58	0.71	0.81	1yr	0.61	0.79	1.07	1.31	1.67	2.22	2.54	1yr	1.97	2.44	2.70	3.02	3.83	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.20	2yr	0.86	1.17	1.37	1.79	2.30	2.85	3.17	2yr	2.53	3.05	3.55	4.25	4.83	2yr
5yr	0.36	0.55	0.69	0.94	1.20	1.42	5yr	1.03	1.39	1.62	2.11	2.69	3.51	3.81	5yr	3.11	3.66	4.24	5.07	5.75	5yr
10yr	0.39	0.61	0.75	1.05	1.35	1.61	10yr	1.17	1.57	1.83	2.38	3.03	4.06	4.36	10yr	3.59	4.19	4.85	5.80	6.53	10yr
25yr	0.45	0.68	0.85	1.21	1.59	1.89	25yr	1.37	1.85	2.16	2.80	3.52	4.91	5.22	25yr	4.35	5.02	5.80	6.94	7.67	25yr
50yr	0.49	0.74	0.93	1.33	1.79	2.15	50yr	1.55	2.10	2.45	3.18	3.96	5.69	6.00	50yr	5.04	5.77	6.68	7.96	8.64	50yr
100yr	0.54	0.81	1.02	1.47	2.01	2.43	100yr	1.74	2.37	2.78	3.59	4.45	5.95	6.92	100yr	5.26	6.65	7.70	9.14	9.73	100yr
200yr	0.59	0.89	1.13	1.63	2.28	2.76	200yr	1.97	2.70	3.13	4.09	5.04	6.76	7.99	200yr	5.98	7.68	8.89	10.52	10.96	200yr
500yr	0.68	1.00	1.29	1.88	2.67	3.28	500yr	2.30	3.21	3.71	4.86	5.95	8.01	9.74	500yr	7.09	9.36	10.79	12.70	12.82	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.31	0.47	0.58	0.78	0.95	1.11	1yr	0.82	1.09	1.26	1.64	2.09	2.70	2.87	1yr	2.39	2.76	3.41	4.15	4.81	1yr
2yr	0.35	0.54	0.67	0.90	1.11	1.31	2yr	0.96	1.28	1.49	1.92	2.47	3.10	3.46	2yr	2.75	3.32	3.82	4.56	5.23	2yr
5yr	0.44	0.67	0.83	1.14	1.45	1.66	5yr	1.26	1.62	1.89	2.43	3.05	4.03	4.62	5yr	3.57	4.44	5.07	6.00	6.75	5yr
10yr	0.53	0.81	1.00	1.40	1.81	2.02	10yr	1.56	1.98	2.28	2.91	3.62	5.00	5.78	10yr	4.42	5.56	6.30	7.39	8.28	10yr
25yr	0.68	1.04	1.29	1.84	2.43	2.62	25yr	2.09	2.56	2.95	3.69	4.52	6.63	7.79	25yr	5.87	7.50	8.40	9.74	10.90	25yr
50yr	0.83	1.26	1.57	2.26	3.04	3.19	50yr	2.62	3.12	3.58	4.42	5.35	8.22	9.78	50yr	7.28	9.40	10.41	11.98	13.42	50yr
100yr	1.01	1.53	1.92	2.77	3.80	3.90	100yr	3.28	3.81	4.35	5.31	6.33	11.06	12.24	100yr	9.79	11.77	12.91	14.77	16.54	100yr
200yr	1.24	1.86	2.36	3.41	4.76	4.74	200yr	4.11	4.64	5.27	6.36	7.50	13.89	15.31	200yr	12.30	14.72	15.99	18.19	20.40	200yr
500yr	1.62	2.41	3.10	4.50	6.41	6.15	500yr	5.53	6.01	6.81	8.08	9.39	18.81	20.58	500yr	16.65	19.79	21.24	23.95	26.91	500yr

Powered by ACIS Northeast Regional Climate Center

KEACH-NORDSTROM ASSOCIATES, INC.

RIP RAP OUTLET PROTECTION APRON CALCULATIONS

Erickson Foundation Solutions 10/27/2025
Project # 25-0717-1
The purpose of this spreadsheet is to calculate the dimensions of
rip rap required to help prevent soil loss for the 10 year storm event.

Required input to the spreadsheet is

Q	peak flow in CFS
Do	diameter in feet of outlet or width of channel
Tw	tail water at end of apron

Depending on the tail water conditions either column 1 or column 2 is used for calculations

Column One where Tw<1/2Do	Column One where Tw>1/2Do
Length of Apron	
La = (1.8Q/Do^3/2)+7Do	La = 3*Q/Do^3/2+7Do
Width of Apron at outfall	
W1=3*Do	W1=3*Do
W2 = 3Do + La	W2=3Do+0.4*La
If defined channel use channel width for W1 and W2	
Rock Rip Rap	
d50 = (0.02*Q^4/3)/(Tw*Do)	Same

Input to Chart					Calculated Output						RIRAP GRADATION ENVELOPE									
											d100		d85		d50		d15			
Description (Optional)		Q (cfs)	Do (ft)	Tw (ft)	La	W1	W2	d50, ft	d50 in	USE d50 in.	FROM in	TO in	FROM in	TO in	FROM in	TO in	FROM in	TO in	depth in	USE depth in.
HW#1	DC-780 Outlet	1.47	2.00	0.35	16	6	12	0.0	0.57	4	6	8	5	7	4	6	1	2	10	10

* Center Apron with Headwall and Outlet Pipe (All Cases)
* Line Apron with 6.0 oz. Geotextile Fabric (All Cases)

Attachment "D"

Attachment "D"

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **Infiltration Pond**

Enter the type of infiltration practice (such as basin, trench) and the node name in the drainage analysis, if applicable.

Yes		Have you reviewed Env-Wq 1508.07(a) to ensure that infiltration is allowed?	**← yes**
1.96	ac	A = Area draining to the practice	
0.88	ac	A_I = Impervious area draining to the practice	
0.45	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.45	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.89	ac-in	WQV= 1" x Rv x A	
3,239	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
810	cf	25% x WQV (check calc for sediment forebay volume)	
Sediment Forebay		Method of pretreatment? (not required for clean or roof runoff)	
831	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
3,348	cf	V = Volume[1] (attach a stage-storage table)	**≥ WQV**
565	sf	A_{SA} = Surface area of the bottom of the pond	
1.00	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
68.8	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
269.00	feet	E_{BTM} = Elevation of the bottom of the basin	
265.00	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
264.00	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
4.00	feet	D_{SHWT} = Separation from SHWT	**≥ *** [3]
5.0	feet	D_{ROCK} = Separation from bedrock	**≥ *** [3]
-	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	**≥ 24"**
-	ft	D_T = Depth of trench, if trench proposed	**4 - 10 ft**
N/A	Yes/No	If a trench or underground system is proposed, has observation well been provided?	**←yes**
N/A		If a trench is proposed, does material meet Env-Wq 1508.07(k)(2) requirements.[4]	**← yes**
Yes	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	**← yes**
3.0	:1	If a basin is proposed, pond side slopes.	**≥3:1**
271.75	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
271.88	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
272.00	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	**← yes**
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	**← yes**

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes:

Stage-Area-Storage for Pond 3P: INFILTRATION POND

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
269.00	713	0
269.05	754	29
269.10	795	59
269.15	836	91
269.20	877	124
269.25	918	159
269.30	959	194
269.35	1,001	232
269.40	1,042	270
269.45	1,083	310
269.50	1,124	352
269.55	1,165	395
269.60	1,206	439
269.65	1,247	484
269.70	1,288	531
269.75	1,329	580
269.80	1,370	629
269.85	1,411	680
269.90	1,452	733
269.95	1,493	787
270.00	1,535	842
270.05	1,579	899
270.10	1,623	957
270.15	1,667	1,017
270.20	1,711	1,078
270.25	1,755	1,141
270.30	1,799	1,205
270.35	1,843	1,271
270.40	1,887	1,339
270.45	1,931	1,408
270.50	1,975	1,478
270.55	2,019	1,550
270.60	2,063	1,624
270.65	2,107	1,699
270.70	2,152	1,776
270.75	2,196	1,854
270.80	2,240	1,934
270.85	2,284	2,015
270.90	2,328	2,098
270.95	2,372	2,182
271.00	2,416	2,268
271.05	2,502	2,357
271.10	2,587	2,450
271.15	2,673	2,547
271.20	2,758	2,649
271.25	2,844	2,755
271.30	2,929	2,865
271.35	3,015	2,979
271.40	3,100	3,098
271.45	3,186	3,221
271.50	3,272	3,348
271.55	3,357	3,480
271.60	3,443	3,616
271.65	3,528	3,756
271.70	3,614	3,900
271.75	3,699	4,049
271.80	3,785	4,202
271.85	3,870	4,359
271.90	3,956	4,521
271.95	4,041	4,686
272.00	**4,127**	**4,857**

WQV

Attachment "D"

GROUNDWATER RECHARGE VOLUME (GRV)

(Env-Wq 1504.12)

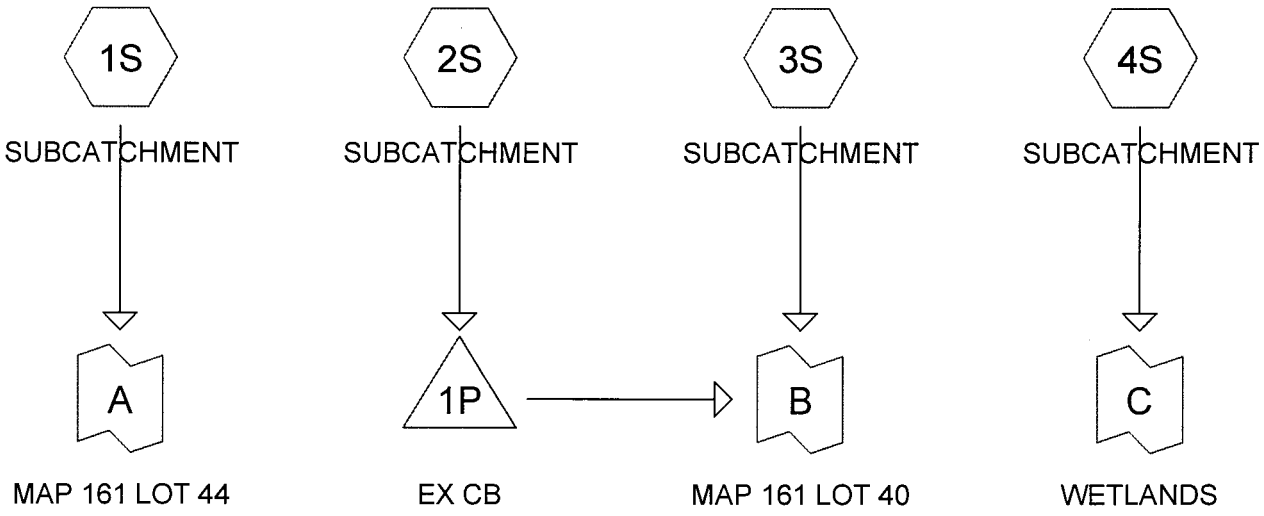
-	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
0.48	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
-	ac	Area of HSG C soil that was replaced by impervious cover	0.10"
-	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.25	inches	Rd = Weighted groundwater recharge depth	
0.119	ac-in	GRV = AI * Rd	
432	cf	GRV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
← Y/N		Is a stage-storage table attached showing that the GRV can be stored below the lowest invert of the outlet structure (if applicable)? Multiple stormwater control measures may be used to meet the GRV requirements.	

Provide calculations/discussion below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

The infiltration basin provides 3,348 cf of recharge.

HYDROCAD DRAINAGE ANALYSIS

I. 2, 2 (FROZEN), 10, 25 & 50-YEAR, PRE-DEVELOPMENT
II. 2, 2 (FROZEN), 10, 25 & 50-YEAR, POST-DEVELOPMENT



Subcat Reach Pond Link

Routing Diagram for 2507171-PRE DEVELOPMENT
Prepared by Keach-Nordstrom Associates, Inc, Printed 11/4/2025

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YEAR	Type III 24-hr		Default	24.00	1	2.96	2
2	2-YR Frozen	Type III 24-hr		Default	24.00	1	2.96	4
3	10-YEAR	Type III 24-hr		Default	24.00	1	4.48	2
4	25-YEAR	Type III 24-hr		Default	24.00	1	5.68	2
5	50-YEAR	Type III 24-hr		Default	24.00	1	6.79	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.858	61.0	>75% Grass cover, Good, HSG B (1S, 2S, 3S, 4S)
0.348	96.0	Gravel surface, HSG B (1S, 3S, 4S)
1.103	98.0	Paved parking, HSG B (1S, 2S, 3S, 4S)
0.663	98.0	Roofs, HSG B (1S, 2S, 3S, 4S)
1.589	55.0	Woods, Good, HSG B (1S, 3S, 4S)
5.561	**73.2**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
5.561	HSG B	1S, 2S, 3S, 4S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
5.561		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>1.56"
Tc=6.0 min CN=85.1 Runoff=1.27 cfs 0.09 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>2.47"
Tc=6.0 min CN=95.6 Runoff=1.03 cfs 0.08 af

Subcatchment3S: SUBCATCHMENT Runoff Area=27,577 sf 51.74% Impervious Runoff Depth>1.68"
Tc=6.0 min CN=86.7 Runoff=1.25 cfs 0.09 af

Subcatchment4S: SUBCATCHMENT Runoff Area=167,987 sf 16.64% Impervious Runoff Depth>0.55"
Flow Length=209' Tc=9.4 min CN=66.7 Runoff=1.71 cfs 0.18 af

Pond 1P: EX CB Inflow=1.03 cfs 0.08 af
Primary=1.03 cfs 0.08 af

Link A: MAP 161 LOT 44 Inflow=1.27 cfs 0.09 af
Primary=1.27 cfs 0.09 af

Link B: MAP 161 LOT 40 Inflow=2.28 cfs 0.17 af
Primary=2.28 cfs 0.17 af

Link C: WETLANDS Inflow=1.71 cfs 0.18 af
Primary=1.71 cfs 0.18 af

Total Runoff Area = 5.561 ac Runoff Volume = 0.43 af Average Runoff Depth = 0.94"
68.24% Pervious = 3.795 ac 31.76% Impervious = 1.766 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.09 af, Depth> 1.56"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
1,165	55.0	Woods, Good, HSG B
9,157	61.0	>75% Grass cover, Good, HSG B
560	96.0	Gravel surface, HSG B
4,136	98.0	Roofs, HSG B
15,129	98.0	Paved parking, HSG B
30,147	85.1	Weighted Average
10,882	62.2	36.10% Pervious Area
19,265	98.0	63.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 1.03 cfs @ 12.08 hrs, Volume= 0.08 af, Depth> 2.47"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
1,075	61.0	>75% Grass cover, Good, HSG B
4,049	98.0	Roofs, HSG B
11,381	98.0	Paved parking, HSG B
16,505	95.6	Weighted Average
1,075	61.0	6.51% Pervious Area
15,430	98.0	93.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 1.25 cfs @ 12.09 hrs, Volume= 0.09 af, Depth> 1.68"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
5,826	55.0	Woods, Good, HSG B
1,343	61.0	>75% Grass cover, Good, HSG B
6,139	96.0	Gravel surface, HSG B
8,059	98.0	Roofs, HSG B
6,210	98.0	Paved parking, HSG B
27,577	86.7	Weighted Average
13,308	74.5	48.26% Pervious Area
14,269	98.0	51.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 1.71 cfs @ 12.16 hrs, Volume= 0.18 af, Depth> 0.55"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
62,226	55.0	Woods, Good, HSG B
69,341	61.0	>75% Grass cover, Good, HSG B
8,467	96.0	Gravel surface, HSG B
12,629	98.0	Roofs, HSG B
15,324	98.0	Paved parking, HSG B
167,987	66.7	Weighted Average
140,034	60.5	83.36% Pervious Area
27,953	98.0	16.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 2.47" for 2-YEAR event
Inflow = 1.03 cfs @ 12.08 hrs, Volume= 0.08 af
Primary = 1.03 cfs @ 12.08 hrs, Volume= 0.08 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 1.56" for 2-YEAR event
Inflow = 1.27 cfs @ 12.09 hrs, Volume= 0.09 af
Primary = 1.27 cfs @ 12.09 hrs, Volume= 0.09 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 1.012 ac, 67.37% Impervious, Inflow Depth > 1.97" for 2-YEAR event
Inflow = 2.28 cfs @ 12.09 hrs, Volume= 0.17 af
Primary = 2.28 cfs @ 12.09 hrs, Volume= 0.17 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.856 ac, 16.64% Impervious, Inflow Depth > 0.55" for 2-YEAR event
Inflow = 1.71 cfs @ 12.16 hrs, Volume= 0.18 af
Primary = 1.71 cfs @ 12.16 hrs, Volume= 0.18 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=1.98 cfs 0.16 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=1.09 cfs 0.09 af

Subcatchment3S: SUBCATCHMENT Runoff Area=27,577 sf 51.74% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=1.82 cfs 0.14 af

Subcatchment4S: SUBCATCHMENT Runoff Area=167,987 sf 16.64% Impervious Runoff Depth>2.72"
Flow Length=209' Tc=9.4 min AMC Adjusted CN=98.0 Runoff=9.87 cfs 0.88 af

Pond 1P: EX CB Inflow=1.09 cfs 0.09 af
Primary=1.09 cfs 0.09 af

Link A: MAP 161 LOT 44 Inflow=1.98 cfs 0.16 af
Primary=1.98 cfs 0.16 af

Link B: MAP 161 LOT 40 Inflow=2.90 cfs 0.23 af
Primary=2.90 cfs 0.23 af

Link C: WETLANDS Inflow=9.87 cfs 0.88 af
Primary=9.87 cfs 0.88 af

Total Runoff Area = 5.561 ac Runoff Volume = 1.26 af Average Runoff Depth = 2.73"
68.24% Pervious = 3.795 ac 31.76% Impervious = 1.766 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 1.98 cfs @ 12.08 hrs, Volume= 0.16 af, Depth> 2.73"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
1,165	55.0		Woods, Good, HSG B
9,157	61.0		>75% Grass cover, Good, HSG B
560	96.0		Gravel surface, HSG B
4,136	98.0		Roofs, HSG B
15,129	98.0		Paved parking, HSG B
30,147	85.1	98.0	Weighted Average, AMC Adjusted
10,882	62.2	98.0	36.10% Pervious Area, AMC Adjusted
19,265	98.0	98.0	63.90% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 1.09 cfs @ 12.08 hrs, Volume= 0.09 af, Depth> 2.73"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
1,075	61.0		>75% Grass cover, Good, HSG B
4,049	98.0		Roofs, HSG B
11,381	98.0		Paved parking, HSG B
16,505	95.6	98.0	Weighted Average, AMC Adjusted
1,075	61.0	98.0	6.51% Pervious Area, AMC Adjusted
15,430	98.0	98.0	93.49% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 1.82 cfs @ 12.08 hrs, Volume= 0.14 af, Depth> 2.73"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
5,826	55.0		Woods, Good, HSG B
1,343	61.0		>75% Grass cover, Good, HSG B
6,139	96.0		Gravel surface, HSG B
8,059	98.0		Roofs, HSG B
6,210	98.0		Paved parking, HSG B
27,577	86.7	98.0	Weighted Average, AMC Adjusted
13,308	74.5	98.0	48.26% Pervious Area, AMC Adjusted
14,269	98.0	98.0	51.74% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 9.87 cfs @ 12.13 hrs, Volume= 0.88 af, Depth> 2.72"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
62,226	55.0		Woods, Good, HSG B
69,341	61.0		>75% Grass cover, Good, HSG B
8,467	96.0		Gravel surface, HSG B
12,629	98.0		Roofs, HSG B
15,324	98.0		Paved parking, HSG B
167,987	66.7	98.0	Weighted Average, AMC Adjusted
140,034	60.5	98.0	83.36% Pervious Area, AMC Adjusted
27,953	98.0	98.0	16.64% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 1.09 cfs @ 12.08 hrs, Volume= 0.09 af
Primary = 1.09 cfs @ 12.08 hrs, Volume= 0.09 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 1.98 cfs @ 12.08 hrs, Volume= 0.16 af
Primary = 1.98 cfs @ 12.08 hrs, Volume= 0.16 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 1.012 ac, 67.37% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 2.90 cfs @ 12.08 hrs, Volume= 0.23 af
Primary = 2.90 cfs @ 12.08 hrs, Volume= 0.23 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.856 ac, 16.64% Impervious, Inflow Depth > 2.72" for 2-YR Frozen event
Inflow = 9.87 cfs @ 12.13 hrs, Volume= 0.88 af
Primary = 9.87 cfs @ 12.13 hrs, Volume= 0.88 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>2.89"
Tc=6.0 min CN=85.1 Runoff=2.34 cfs 0.17 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>3.97"
Tc=6.0 min CN=95.6 Runoff=1.62 cfs 0.13 af

Subcatchment3S: SUBCATCHMENT Runoff Area=27,577 sf 51.74% Impervious Runoff Depth>3.05"
Tc=6.0 min CN=86.7 Runoff=2.24 cfs 0.16 af

Subcatchment4S: SUBCATCHMENT Runoff Area=167,987 sf 16.64% Impervious Runoff Depth>1.43"
Flow Length=209' Tc=9.4 min CN=66.7 Runoff=5.41 cfs 0.46 af

Pond 1P: EX CB Inflow=1.62 cfs 0.13 af
Primary=1.62 cfs 0.13 af

Link A: MAP 161 LOT 44 Inflow=2.34 cfs 0.17 af
Primary=2.34 cfs 0.17 af

Link B: MAP 161 LOT 40 Inflow=3.85 cfs 0.29 af
Primary=3.85 cfs 0.29 af

Link C: WETLANDS Inflow=5.41 cfs 0.46 af
Primary=5.41 cfs 0.46 af

Total Runoff Area = 5.561 ac Runoff Volume = 0.91 af Average Runoff Depth = 1.97"
68.24% Pervious = 3.795 ac 31.76% Impervious = 1.766 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 2.34 cfs @ 12.09 hrs, Volume= 0.17 af, Depth> 2.89"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
1,165	55.0	Woods, Good, HSG B
9,157	61.0	>75% Grass cover, Good, HSG B
560	96.0	Gravel surface, HSG B
4,136	98.0	Roofs, HSG B
15,129	98.0	Paved parking, HSG B
30,147	85.1	Weighted Average
10,882	62.2	36.10% Pervious Area
19,265	98.0	63.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 1.62 cfs @ 12.08 hrs, Volume= 0.13 af, Depth> 3.97"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
1,075	61.0	>75% Grass cover, Good, HSG B
4,049	98.0	Roofs, HSG B
11,381	98.0	Paved parking, HSG B
16,505	95.6	Weighted Average
1,075	61.0	6.51% Pervious Area
15,430	98.0	93.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 2.24 cfs @ 12.09 hrs, Volume= 0.16 af, Depth> 3.05"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
5,826	55.0	Woods, Good, HSG B
1,343	61.0	>75% Grass cover, Good, HSG B
6,139	96.0	Gravel surface, HSG B
8,059	98.0	Roofs, HSG B
6,210	98.0	Paved parking, HSG B
27,577	86.7	Weighted Average
13,308	74.5	48.26% Pervious Area
14,269	98.0	51.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 5.41 cfs @ 12.14 hrs, Volume= 0.46 af, Depth> 1.43"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
62,226	55.0	Woods, Good, HSG B
69,341	61.0	>75% Grass cover, Good, HSG B
8,467	96.0	Gravel surface, HSG B
12,629	98.0	Roofs, HSG B
15,324	98.0	Paved parking, HSG B
167,987	66.7	Weighted Average
140,034	60.5	83.36% Pervious Area
27,953	98.0	16.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 3.97" for 10-YEAR event
Inflow = 1.62 cfs @ 12.08 hrs, Volume= 0.13 af
Primary = 1.62 cfs @ 12.08 hrs, Volume= 0.13 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 2.89" for 10-YEAR event
Inflow = 2.34 cfs @ 12.09 hrs, Volume= 0.17 af
Primary = 2.34 cfs @ 12.09 hrs, Volume= 0.17 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 1.012 ac, 67.37% Impervious, Inflow Depth > 3.39" for 10-YEAR event
Inflow = 3.85 cfs @ 12.09 hrs, Volume= 0.29 af
Primary = 3.85 cfs @ 12.09 hrs, Volume= 0.29 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.856 ac, 16.64% Impervious, Inflow Depth > 1.43" for 10-YEAR event
Inflow = 5.41 cfs @ 12.14 hrs, Volume= 0.46 af
Primary = 5.41 cfs @ 12.14 hrs, Volume= 0.46 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>4.00"
Tc=6.0 min CN=85.1 Runoff=3.20 cfs 0.23 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>5.16"
Tc=6.0 min CN=95.6 Runoff=2.07 cfs 0.16 af

Subcatchment3S: SUBCATCHMENT Runoff Area=27,577 sf 51.74% Impervious Runoff Depth>4.17"
Tc=6.0 min CN=86.7 Runoff=3.03 cfs 0.22 af

Subcatchment4S: SUBCATCHMENT Runoff Area=167,987 sf 16.64% Impervious Runoff Depth>2.26"
Flow Length=209' Tc=9.4 min CN=66.7 Runoff=8.91 cfs 0.73 af

Pond 1P: EX CB Inflow=2.07 cfs 0.16 af
Primary=2.07 cfs 0.16 af

Link A: MAP 161 LOT 44 Inflow=3.20 cfs 0.23 af
Primary=3.20 cfs 0.23 af

Link B: MAP 161 LOT 40 Inflow=5.10 cfs 0.38 af
Primary=5.10 cfs 0.38 af

Link C: WETLANDS Inflow=8.91 cfs 0.73 af
Primary=8.91 cfs 0.73 af

Total Runoff Area = 5.561 ac Runoff Volume = 1.34 af Average Runoff Depth = 2.89"
68.24% Pervious = 3.795 ac 31.76% Impervious = 1.766 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 3.20 cfs @ 12.09 hrs, Volume= 0.23 af, Depth> 4.00"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
1,165	55.0	Woods, Good, HSG B
9,157	61.0	>75% Grass cover, Good, HSG B
560	96.0	Gravel surface, HSG B
4,136	98.0	Roofs, HSG B
15,129	98.0	Paved parking, HSG B
30,147	85.1	Weighted Average
10,882	62.2	36.10% Pervious Area
19,265	98.0	63.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 2.07 cfs @ 12.08 hrs, Volume= 0.16 af, Depth> 5.16"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
1,075	61.0	>75% Grass cover, Good, HSG B
4,049	98.0	Roofs, HSG B
11,381	98.0	Paved parking, HSG B
16,505	95.6	Weighted Average
1,075	61.0	6.51% Pervious Area
15,430	98.0	93.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 3.03 cfs @ 12.09 hrs, Volume= 0.22 af, Depth> 4.17"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
5,826	55.0	Woods, Good, HSG B
1,343	61.0	>75% Grass cover, Good, HSG B
6,139	96.0	Gravel surface, HSG B
8,059	98.0	Roofs, HSG B
6,210	98.0	Paved parking, HSG B
27,577	86.7	Weighted Average
13,308	74.5	48.26% Pervious Area
14,269	98.0	51.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 8.91 cfs @ 12.14 hrs, Volume= 0.73 af, Depth> 2.26"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
62,226	55.0	Woods, Good, HSG B
69,341	61.0	>75% Grass cover, Good, HSG B
8,467	96.0	Gravel surface, HSG B
12,629	98.0	Roofs, HSG B
15,324	98.0	Paved parking, HSG B
167,987	66.7	Weighted Average
140,034	60.5	83.36% Pervious Area
27,953	98.0	16.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 5.16" for 25-YEAR event
Inflow = 2.07 cfs @ 12.08 hrs, Volume= 0.16 af
Primary = 2.07 cfs @ 12.08 hrs, Volume= 0.16 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 4.00" for 25-YEAR event
Inflow = 3.20 cfs @ 12.09 hrs, Volume= 0.23 af
Primary = 3.20 cfs @ 12.09 hrs, Volume= 0.23 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 1.012 ac, 67.37% Impervious, Inflow Depth > 4.54" for 25-YEAR event
Inflow = 5.10 cfs @ 12.08 hrs, Volume= 0.38 af
Primary = 5.10 cfs @ 12.08 hrs, Volume= 0.38 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.856 ac, 16.64% Impervious, Inflow Depth > 2.26" for 25-YEAR event
Inflow = 8.91 cfs @ 12.14 hrs, Volume= 0.73 af
Primary = 8.91 cfs @ 12.14 hrs, Volume= 0.73 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>5.05"
Tc=6.0 min CN=85.1 Runoff=4.00 cfs 0.29 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>6.26"
Tc=6.0 min CN=95.6 Runoff=2.49 cfs 0.20 af

Subcatchment3S: SUBCATCHMENT Runoff Area=27,577 sf 51.74% Impervious Runoff Depth>5.23"
Tc=6.0 min CN=86.7 Runoff=3.76 cfs 0.28 af

Subcatchment4S: SUBCATCHMENT Runoff Area=167,987 sf 16.64% Impervious Runoff Depth>3.10"
Flow Length=209' Tc=9.4 min CN=66.7 Runoff=12.41 cfs 1.00 af

Pond 1P: EX CB Inflow=2.49 cfs 0.20 af
Primary=2.49 cfs 0.20 af

Link A: MAP 161 LOT 44 Inflow=4.00 cfs 0.29 af
Primary=4.00 cfs 0.29 af

Link B: MAP 161 LOT 40 Inflow=6.25 cfs 0.47 af
Primary=6.25 cfs 0.47 af

Link C: WETLANDS Inflow=12.41 cfs 1.00 af
Primary=12.41 cfs 1.00 af

Total Runoff Area = 5.561 ac Runoff Volume = 1.76 af Average Runoff Depth = 3.80"
68.24% Pervious = 3.795 ac 31.76% Impervious = 1.766 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 4.00 cfs @ 12.09 hrs, Volume= 0.29 af, Depth> 5.05"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
1,165	55.0	Woods, Good, HSG B
9,157	61.0	>75% Grass cover, Good, HSG B
560	96.0	Gravel surface, HSG B
4,136	98.0	Roofs, HSG B
15,129	98.0	Paved parking, HSG B
30,147	85.1	Weighted Average
10,882	62.2	36.10% Pervious Area
19,265	98.0	63.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 2.49 cfs @ 12.08 hrs, Volume= 0.20 af, Depth> 6.26"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
1,075	61.0	>75% Grass cover, Good, HSG B
4,049	98.0	Roofs, HSG B
11,381	98.0	Paved parking, HSG B
16,505	95.6	Weighted Average
1,075	61.0	6.51% Pervious Area
15,430	98.0	93.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 3.76 cfs @ 12.09 hrs, Volume= 0.28 af, Depth> 5.23"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
5,826	55.0	Woods, Good, HSG B
1,343	61.0	>75% Grass cover, Good, HSG B
6,139	96.0	Gravel surface, HSG B
8,059	98.0	Roofs, HSG B
6,210	98.0	Paved parking, HSG B
27,577	86.7	Weighted Average
13,308	74.5	48.26% Pervious Area
14,269	98.0	51.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 12.41 cfs @ 12.14 hrs, Volume= 1.00 af, Depth> 3.10"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
62,226	55.0	Woods, Good, HSG B
69,341	61.0	>75% Grass cover, Good, HSG B
8,467	96.0	Gravel surface, HSG B
12,629	98.0	Roofs, HSG B
15,324	98.0	Paved parking, HSG B
167,987	66.7	Weighted Average
140,034	60.5	83.36% Pervious Area
27,953	98.0	16.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 6.26" for 50-YEAR event
Inflow = 2.49 cfs @ 12.08 hrs, Volume= 0.20 af
Primary = 2.49 cfs @ 12.08 hrs, Volume= 0.20 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 5.05" for 50-YEAR event
Inflow = 4.00 cfs @ 12.09 hrs, Volume= 0.29 af
Primary = 4.00 cfs @ 12.09 hrs, Volume= 0.29 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 1.012 ac, 67.37% Impervious, Inflow Depth > 5.62" for 50-YEAR event
Inflow = 6.25 cfs @ 12.08 hrs, Volume= 0.47 af
Primary = 6.25 cfs @ 12.08 hrs, Volume= 0.47 af, Atten= 0%, Lag= 0.0 min

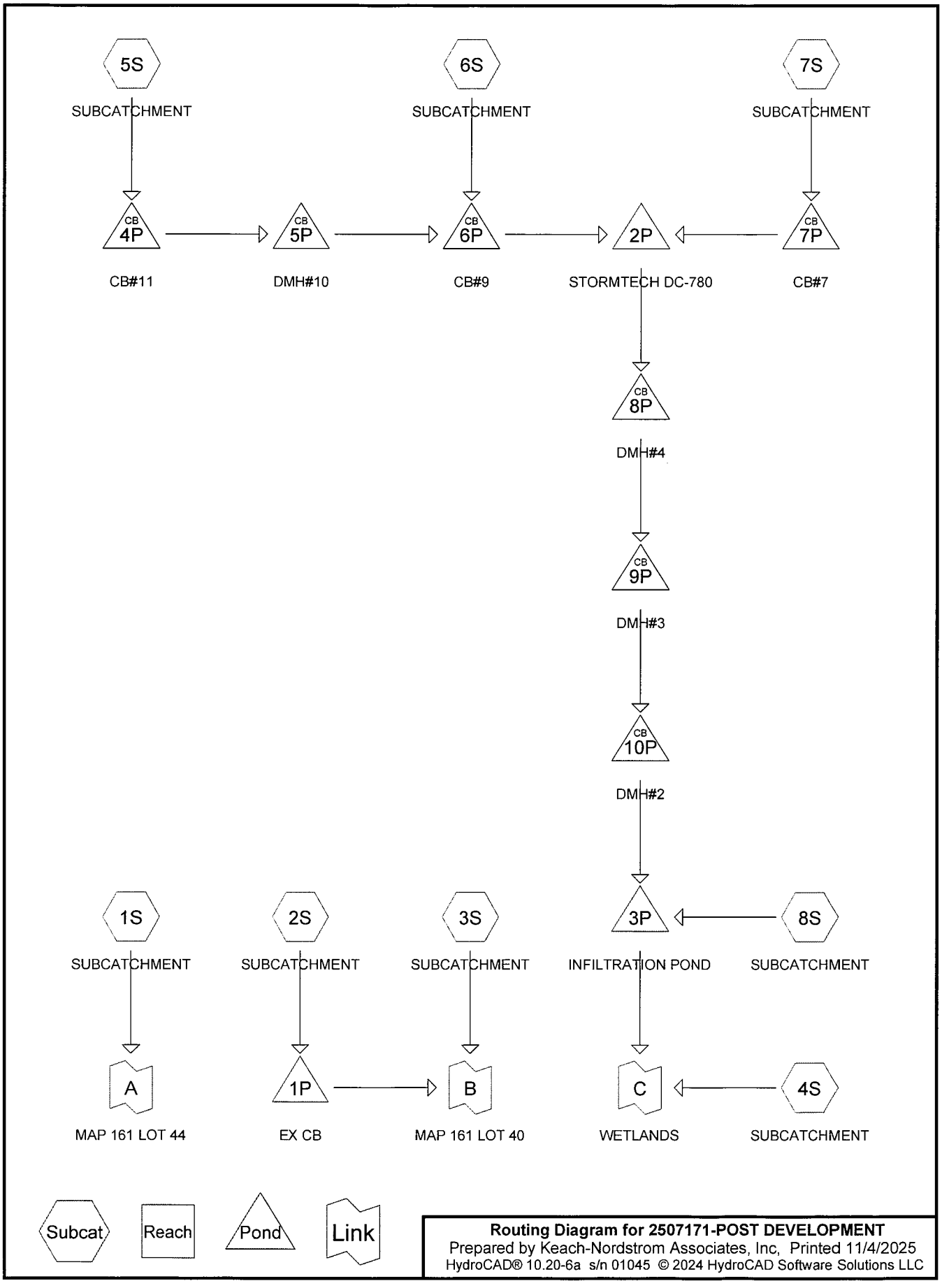
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.856 ac, 16.64% Impervious, Inflow Depth > 3.10" for 50-YEAR event
Inflow = 12.41 cfs @ 12.14 hrs, Volume= 1.00 af
Primary = 12.41 cfs @ 12.14 hrs, Volume= 1.00 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Attachment "D"



Routing Diagram for 2507171-POST DEVELOPMENT
Prepared by Keach-Nordstrom Associates, Inc, Printed 11/4/2025

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YEAR	Type III 24-hr		Default	24.00	1	2.96	2
2	2-YR Frozen	Type III 24-hr		Default	24.00	1	2.96	4
3	10-YEAR	Type III 24-hr		Default	24.00	1	4.48	2
4	25-YEAR	Type III 24-hr		Default	24.00	1	5.68	2
5	50-YEAR	Type III 24-hr		Default	24.00	1	6.79	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.476	61.0	>75% Grass cover, Good, HSG B (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S)
0.454	96.0	Gravel surface, HSG B (1S, 3S, 4S, 8S)
1.478	98.0	Paved parking, HSG B (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S)
0.657	98.0	Roofs, HSG B (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S)
1.495	55.0	Woods, Good, HSG B (1S, 3S, 4S, 8S)
5.561	**76.5**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
5.561	HSG B	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
5.561		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>1.56"
Tc=6.0 min CN=85.1 Runoff=1.27 cfs 0.09 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>2.47"
Tc=6.0 min CN=95.6 Runoff=1.03 cfs 0.08 af

Subcatchment3S: SUBCATCHMENT Runoff Area=25,371 sf 49.43% Impervious Runoff Depth>1.61"
Tc=6.0 min CN=85.7 Runoff=1.10 cfs 0.08 af

Subcatchment4S: SUBCATCHMENT Runoff Area=84,709 sf 8.63% Impervious Runoff Depth>0.38"
Flow Length=209' Tc=9.4 min CN=61.9 Runoff=0.44 cfs 0.06 af

Subcatchment5S: SUBCATCHMENT Runoff Area=14,854 sf 88.84% Impervious Runoff Depth>2.30"
Tc=6.0 min CN=93.9 Runoff=0.89 cfs 0.07 af

Subcatchment6S: SUBCATCHMENT Runoff Area=11,454 sf 95.42% Impervious Runoff Depth>2.54"
Tc=6.0 min CN=96.3 Runoff=0.73 cfs 0.06 af

Subcatchment7S: SUBCATCHMENT Runoff Area=7,469 sf 98.86% Impervious Runoff Depth>2.68"
Tc=6.0 min CN=97.6 Runoff=0.49 cfs 0.04 af

Subcatchment8S: SUBCATCHMENT Runoff Area=51,708 sf 13.42% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=72.2 Runoff=1.00 cfs 0.08 af

Pond 1P: EX CB Inflow=1.03 cfs 0.08 af
Primary=1.03 cfs 0.08 af

Pond 2P: STORMTECH DC-780 Peak Elev=298.99' Storage=972 cf Inflow=2.10 cfs 0.16 af
Outflow=1.09 cfs 0.16 af

Pond 3P: INFILTRATIONPOND Peak Elev=271.63' Storage=3,698 cf Inflow=1.99 cfs 0.24 af
Discarded=0.08 cfs 0.09 af Primary=1.25 cfs 0.08 af Outflow=1.33 cfs 0.17 af

Pond 4P: CB#11 Peak Elev=300.44' Inflow=0.89 cfs 0.07 af
12.0" Round Culvert n=0.013 L=30.3' S=0.0099 '/' Outflow=0.89 cfs 0.07 af

Pond 5P: DMH#10 Peak Elev=300.06' Inflow=0.89 cfs 0.07 af
12.0" Round Culvert n=0.013 L=65.4' S=0.0099 '/' Outflow=0.89 cfs 0.07 af

Pond 6P: CB#9 Peak Elev=299.54' Inflow=1.62 cfs 0.12 af
12.0" Round Culvert n=0.013 L=15.0' S=0.0100 '/' Outflow=1.62 cfs 0.12 af

Pond 7P: CB#7 Peak Elev=299.61' Inflow=0.49 cfs 0.04 af
12.0" Round Culvert n=0.013 L=65.0' S=0.0100 '/' Outflow=0.49 cfs 0.04 af

Pond 8P: DMH#4 Peak Elev=290.12' Inflow=1.09 cfs 0.16 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=1.09 cfs 0.16 af

Pond 9P: DMH#3 Peak Elev=281.12' Inflow=1.09 cfs 0.16 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=1.09 cfs 0.16 af

Pond 10P: DMH#2 Peak Elev=279.09' Inflow=1.09 cfs 0.16 af
24.0" Round Culvert n=0.013 L=10.0' S=0.0100 '/' Outflow=1.09 cfs 0.16 af

Link A: MAP 161 LOT 44 Inflow=1.27 cfs 0.09 af
Primary=1.27 cfs 0.09 af

Link B: MAP 161 LOT 40 Inflow=2.13 cfs 0.16 af
Primary=2.13 cfs 0.16 af

Link C: WETLANDS Inflow=1.58 cfs 0.14 af
Primary=1.58 cfs 0.14 af

Total Runoff Area = 5.561 ac Runoff Volume = 0.54 af Average Runoff Depth = 1.17"
61.61% Pervious = 3.426 ac 38.39% Impervious = 2.135 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.09 af, Depth> 1.56"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
1,165	55.0	Woods, Good, HSG B
9,157	61.0	>75% Grass cover, Good, HSG B
560	96.0	Gravel surface, HSG B
4,136	98.0	Roofs, HSG B
15,129	98.0	Paved parking, HSG B
30,147	85.1	Weighted Average
10,882	62.2	36.10% Pervious Area
19,265	98.0	63.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 1.03 cfs @ 12.08 hrs, Volume= 0.08 af, Depth> 2.47"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
1,075	61.0	>75% Grass cover, Good, HSG B
4,049	98.0	Roofs, HSG B
11,381	98.0	Paved parking, HSG B
16,505	95.6	Weighted Average
1,075	61.0	6.51% Pervious Area
15,430	98.0	93.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 1.10 cfs @ 12.09 hrs, Volume= 0.08 af, Depth> 1.61"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
5,826	55.0	Woods, Good, HSG B
1,343	61.0	>75% Grass cover, Good, HSG B
5,661	96.0	Gravel surface, HSG B
6,331	98.0	Roofs, HSG B
6,210	98.0	Paved parking, HSG B
25,371	85.7	Weighted Average
12,830	73.7	50.57% Pervious Area
12,541	98.0	49.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 0.44 cfs @ 12.19 hrs, Volume= 0.06 af, Depth> 0.38"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
56,962	55.0	Woods, Good, HSG B
16,244	61.0	>75% Grass cover, Good, HSG B
4,195	96.0	Gravel surface, HSG B
153	98.0	Roofs, HSG B
7,155	98.0	Paved parking, HSG B
84,709	61.9	Weighted Average
77,401	58.5	91.37% Pervious Area
7,308	98.0	8.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Subcatchment 5S: SUBCATCHMENT

Runoff = 0.89 cfs @ 12.09 hrs, Volume= 0.07 af, Depth> 2.30"
Routed to Pond 4P : CB#11

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
1,657	61.0	>75% Grass cover, Good, HSG B
2,287	98.0	Roofs, HSG B
10,910	98.0	Paved parking, HSG B
14,854	93.9	Weighted Average
1,657	61.0	11.16% Pervious Area
13,197	98.0	88.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6S: SUBCATCHMENT

Runoff = 0.73 cfs @ 12.08 hrs, Volume= 0.06 af, Depth> 2.54"
Routed to Pond 6P : CB#9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
525	61.0	>75% Grass cover, Good, HSG B
6,271	98.0	Roofs, HSG B
4,658	98.0	Paved parking, HSG B
11,454	96.3	Weighted Average
525	61.0	4.58% Pervious Area
10,929	98.0	95.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7S: SUBCATCHMENT

Runoff = 0.49 cfs @ 12.08 hrs, Volume= 0.04 af, Depth> 2.68"
Routed to Pond 7P : CB#7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
85	61.0	>75% Grass cover, Good, HSG B
4,046	98.0	Roofs, HSG B
3,338	98.0	Paved parking, HSG B
7,469	97.6	Weighted Average
85	61.0	1.14% Pervious Area
7,384	98.0	98.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 8S: SUBCATCHMENT

Runoff = 1.00 cfs @ 12.10 hrs, Volume= 0.08 af, Depth> 0.79"
Routed to Pond 3P : INFILTRATION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YEAR Rainfall=2.96"

Area (sf)	CN	Description
1,190	55.0	Woods, Good, HSG B
34,203	61.0	>75% Grass cover, Good, HSG B
9,376	96.0	Gravel surface, HSG B
1,330	98.0	Roofs, HSG B
5,609	98.0	Paved parking, HSG B
51,708	72.2	Weighted Average
44,769	68.2	86.58% Pervious Area
6,939	98.0	13.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 2.47" for 2-YEAR event
Inflow = 1.03 cfs @ 12.08 hrs, Volume= 0.08 af
Primary = 1.03 cfs @ 12.08 hrs, Volume= 0.08 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond 2P: STORMTECH DC-780

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 2.46" for 2-YEAR event
Inflow = 2.10 cfs @ 12.08 hrs, Volume= 0.16 af
Outflow = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af, Atten= 48%, Lag= 8.0 min
Primary = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af
Routed to Pond 8P : DMH#4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 298.99' @ 12.22 hrs Surf.Area= 1,388 sf Storage= 972 cf
Flood Elev= 301.50' Surf.Area= 1,388 sf Storage= 3,093 cf

Plug-Flow detention time= 16.5 min calculated for 0.16 af (99% of inflow)
Center-of-Mass det. time= 12.4 min (789.8 - 777.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	297.75'	1,407 cf	**20.50'W x 67.70'L x 3.75'H Field A** 5,204 cf Overall - 1,686 cf Embedded = 3,518 cf x 40.0% Voids
#2A	298.50'	1,686 cf	**ADS_StormTech DC-780 b +Cap**x 36 Inside #1 Effective Size= 45.4"W x 30.0"H => 6.49 sf x 7.12'L = 46.2 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 36 Chambers in 4 Rows Cap Storage= 2.7 cf x 2 x 4 rows = 21.2 cf
		3,093 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	297.68'	**12.0" Round Culvert** L= 18.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 297.68' / 297.50' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	297.75'	**6.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	301.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.09 cfs @ 12.22 hrs HW=298.99' TW=290.12' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.09 cfs of 3.16 cfs potential flow)
  ├─**2=Orifice** (Orifice Controls 1.09 cfs @ 4.75 fps)
  └─**3=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 3P: INFILTRATION POND

Inflow Area = 1.962 ac, 44.98% Impervious, Inflow Depth > 1.45" for 2-YEAR event
Inflow = 1.99 cfs @ 12.11 hrs, Volume= 0.24 af
Outflow = 1.33 cfs @ 12.46 hrs, Volume= 0.17 af, Atten= 33%, Lag= 20.5 min
Discarded = 0.08 cfs @ 12.46 hrs, Volume= 0.09 af
Primary = 1.25 cfs @ 12.46 hrs, Volume= 0.08 af
Routed to Link C : WETLANDS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 271.63' @ 12.46 hrs Surf.Area= 3,493 sf Storage= 3,698 cf
Flood Elev= 272.00' Surf.Area= 4,127 sf Storage= 4,857 cf

Plug-Flow detention time= 181.6 min calculated for 0.17 af (72% of inflow)
Center-of-Mass det. time= 85.5 min (902.7 - 817.2)

Volume	Invert	Avail.Storage	Storage Description
#1	269.00'	4,857 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	269.00'	0 cf	**Sediment Forebay (No Storage) (Prismatic)** Listed below (Recalc) 831 cf Overall x 0.0% Voids
		4,857 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	565	0	0
270.00	1,119	842	842
271.00	1,733	1,426	2,268
272.00	3,444	2,589	4,857

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	148	0	0
271.00	683	831	831

Device	Routing	Invert	Outlet Devices
#1	Primary	271.50'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#2	Discarded	269.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.08 cfs @ 12.46 hrs HW=271.63' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=1.25 cfs @ 12.46 hrs HW=271.63' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir**(Weir Controls 1.25 cfs @ 0.96 fps)

Summary for Pond 4P: CB#11

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 2.30" for 2-YEAR event
Inflow = 0.89 cfs @ 12.09 hrs, Volume= 0.07 af
Outflow = 0.89 cfs @ 12.09 hrs, Volume= 0.07 af, Atten= 0%, Lag= 0.0 min
Primary = 0.89 cfs @ 12.09 hrs, Volume= 0.07 af
Routed to Pond 5P : DMH#10

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.44' @ 12.09 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.91'	**12.0" Round Culvert** L= 30.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.91' / 299.61' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.88 cfs @ 12.09 hrs HW=300.44' TW=300.06' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.88 cfs @ 3.03 fps)

Summary for Pond 5P: DMH#10

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 2.30" for 2-YEAR event
Inflow = 0.89 cfs @ 12.09 hrs, Volume= 0.07 af
Outflow = 0.89 cfs @ 12.09 hrs, Volume= 0.07 af, Atten= 0%, Lag= 0.0 min
Primary = 0.89 cfs @ 12.09 hrs, Volume= 0.07 af
Routed to Pond 6P : CB#9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.06' @ 12.09 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.51'	**12.0" Round Culvert** L= 65.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.51' / 298.86' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.88 cfs @ 12.09 hrs HW=300.06' TW=299.54' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.88 cfs @ 2.91 fps)

Summary for Pond 6P: CB#9

Inflow Area = 0.604 ac, 91.71% Impervious, Inflow Depth > 2.40" for 2-YEAR event
Inflow = 1.62 cfs @ 12.08 hrs, Volume= 0.12 af
Outflow = 1.62 cfs @ 12.08 hrs, Volume= 0.12 af, Atten= 0%, Lag= 0.0 min
Primary = 1.62 cfs @ 12.08 hrs, Volume= 0.12 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 299.54' @ 12.08 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	298.76'	**12.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 298.76' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.61 cfs @ 12.08 hrs HW=299.54' TW=298.75' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 1.61 cfs @ 3.40 fps)

Summary for Pond 7P: CB#7

Inflow Area = 0.171 ac, 98.86% Impervious, Inflow Depth > 2.68" for 2-YEAR event
Inflow = 0.49 cfs @ 12.08 hrs, Volume= 0.04 af
Outflow = 0.49 cfs @ 12.08 hrs, Volume= 0.04 af, Atten= 0%, Lag= 0.0 min
Primary = 0.49 cfs @ 12.08 hrs, Volume= 0.04 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 299.61' @ 12.08 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.26'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.26' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.49 cfs @ 12.08 hrs HW=299.61' TW=298.75' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 0.49 cfs @ 2.96 fps)

Summary for Pond 8P: DMH#4

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 2.45" for 2-YEAR event
Inflow = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af
Outflow = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af, Atten= 0%, Lag= 0.0 min
Primary = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af
Routed to Pond 9P : DMH#3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 290.12' @ 12.22 hrs
Flood Elev= 301.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	289.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 289.58' / 288.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.09 cfs @ 12.22 hrs HW=290.12' TW=281.12' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.09 cfs @ 2.51 fps)

Summary for Pond 9P: DMH#3

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 2.45" for 2-YEAR event
Inflow = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af
Outflow = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af, Atten= 0%, Lag= 0.0 min
Primary = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af
Routed to Pond 10P : DMH#2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 281.12' @ 12.22 hrs
Flood Elev= 292.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.58' / 279.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.09 cfs @ 12.22 hrs HW=281.12' TW=279.09' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.09 cfs @ 2.51 fps)

Summary for Pond 10P: DMH#2

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 2.45" for 2-YEAR event
Inflow = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af
Outflow = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af, Atten= 0%, Lag= 0.0 min
Primary = 1.09 cfs @ 12.22 hrs, Volume= 0.16 af
Routed to Pond 3P : INFILTRATION POND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 279.09' @ 12.22 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.60'	**24.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.60' / 278.50' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.09 cfs @ 12.22 hrs HW=279.09' TW=271.35' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 1.09 cfs @ 2.77 fps)

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 1.56" for 2-YEAR event
Inflow = 1.27 cfs @ 12.09 hrs, Volume= 0.09 af
Primary = 1.27 cfs @ 12.09 hrs, Volume= 0.09 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 0.961 ac, 66.79% Impervious, Inflow Depth > 1.95" for 2-YEAR event
Inflow = 2.13 cfs @ 12.09 hrs, Volume= 0.16 af
Primary = 2.13 cfs @ 12.09 hrs, Volume= 0.16 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.907 ac, 26.89% Impervious, Inflow Depth > 0.44" for 2-YEAR event
Inflow = 1.58 cfs @ 12.44 hrs, Volume= 0.14 af
Primary = 1.58 cfs @ 12.44 hrs, Volume= 0.14 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=1.98 cfs 0.16 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=1.09 cfs 0.09 af

Subcatchment3S: SUBCATCHMENT Runoff Area=25,371 sf 49.43% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=1.67 cfs 0.13 af

Subcatchment4S: SUBCATCHMENT Runoff Area=84,709 sf 8.63% Impervious Runoff Depth>2.72"
Flow Length=209' Tc=9.4 min AMC Adjusted CN=98.0 Runoff=4.98 cfs 0.44 af

Subcatchment5S: SUBCATCHMENT Runoff Area=14,854 sf 88.84% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=0.98 cfs 0.08 af

Subcatchment6S: SUBCATCHMENT Runoff Area=11,454 sf 95.42% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=0.75 cfs 0.06 af

Subcatchment7S: SUBCATCHMENT Runoff Area=7,469 sf 98.86% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=0.49 cfs 0.04 af

Subcatchment8S: SUBCATCHMENT Runoff Area=51,708 sf 13.42% Impervious Runoff Depth>2.73"
Tc=6.0 min AMC Adjusted CN=98.0 Runoff=3.40 cfs 0.27 af

Pond 1P: EX CB Inflow=1.09 cfs 0.09 af
Primary=1.09 cfs 0.09 af

Pond 2P: STORMTECH DC-780 Peak Elev=299.07' Storage=1,053 cf Inflow=2.22 cfs 0.18 af
Outflow=1.13 cfs 0.18 af

Pond 3P: INFILTRATIONPOND Peak Elev=271.78' Storage=4,145 cf Inflow=4.39 cfs 0.44 af
Discarded=0.09 cfs 0.10 af Primary=4.02 cfs 0.27 af Outflow=4.10 cfs 0.37 af

Pond 4P: CB#11 Peak Elev=300.47' Inflow=0.98 cfs 0.08 af
12.0" Round Culvert n=0.013 L=30.3' S=0.0099 '/' Outflow=0.98 cfs 0.08 af

Pond 5P: DMH#10 Peak Elev=300.09' Inflow=0.98 cfs 0.08 af
12.0" Round Culvert n=0.013 L=65.4' S=0.0099 '/' Outflow=0.98 cfs 0.08 af

Pond 6P: CB#9 Peak Elev=299.57' Inflow=1.73 cfs 0.14 af
12.0" Round Culvert n=0.013 L=15.0' S=0.0100 '/' Outflow=1.73 cfs 0.14 af

Pond 7P: CB#7 Peak Elev=299.61' Inflow=0.49 cfs 0.04 af
12.0" Round Culvert n=0.013 L=65.0' S=0.0100 '/' Outflow=0.49 cfs 0.04 af

Pond 8P: DMH#4 Peak Elev=290.13' Inflow=1.13 cfs 0.18 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=1.13 cfs 0.18 af

Pond 9P: DMH#3 Peak Elev=281.13' Inflow=1.13 cfs 0.18 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=1.13 cfs 0.18 af

Pond 10P: DMH#2 Peak Elev=279.10' Inflow=1.13 cfs 0.18 af
24.0" Round Culvert n=0.013 L=10.0' S=0.0100 '/' Outflow=1.13 cfs 0.18 af

Link A: MAP 161 LOT 44 Inflow=1.98 cfs 0.16 af
Primary=1.98 cfs 0.16 af

Link B: MAP 161 LOT 40 Inflow=2.76 cfs 0.22 af
Primary=2.76 cfs 0.22 af

Link C: WETLANDS Inflow=9.00 cfs 0.71 af
Primary=9.00 cfs 0.71 af

Total Runoff Area = 5.561 ac Runoff Volume = 1.26 af Average Runoff Depth = 2.73"
61.61% Pervious = 3.426 ac 38.39% Impervious = 2.135 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 1.98 cfs @ 12.08 hrs, Volume= 0.16 af, Depth> 2.73"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
1,165	55.0		Woods, Good, HSG B
9,157	61.0		>75% Grass cover, Good, HSG B
560	96.0		Gravel surface, HSG B
4,136	98.0		Roofs, HSG B
15,129	98.0		Paved parking, HSG B
30,147	85.1	98.0	Weighted Average, AMC Adjusted
10,882	62.2	98.0	36.10% Pervious Area, AMC Adjusted
19,265	98.0	98.0	63.90% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 1.09 cfs @ 12.08 hrs, Volume= 0.09 af, Depth> 2.73"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
1,075	61.0		>75% Grass cover, Good, HSG B
4,049	98.0		Roofs, HSG B
11,381	98.0		Paved parking, HSG B
16,505	95.6	98.0	Weighted Average, AMC Adjusted
1,075	61.0	98.0	6.51% Pervious Area, AMC Adjusted
15,430	98.0	98.0	93.49% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 1.67 cfs @ 12.08 hrs, Volume= 0.13 af, Depth> 2.73"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
5,826	55.0		Woods, Good, HSG B
1,343	61.0		>75% Grass cover, Good, HSG B
5,661	96.0		Gravel surface, HSG B
6,331	98.0		Roofs, HSG B
6,210	98.0		Paved parking, HSG B
25,371	85.7	98.0	Weighted Average, AMC Adjusted
12,830	73.7	98.0	50.57% Pervious Area, AMC Adjusted
12,541	98.0	98.0	49.43% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 4.98 cfs @ 12.13 hrs, Volume= 0.44 af, Depth> 2.72"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
56,962	55.0		Woods, Good, HSG B
16,244	61.0		>75% Grass cover, Good, HSG B
4,195	96.0		Gravel surface, HSG B
153	98.0		Roofs, HSG B
7,155	98.0		Paved parking, HSG B
84,709	61.9	98.0	Weighted Average, AMC Adjusted
77,401	58.5	98.0	91.37% Pervious Area, AMC Adjusted
7,308	98.0	98.0	8.63% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Subcatchment 5S: SUBCATCHMENT

Runoff = 0.98 cfs @ 12.08 hrs, Volume= 0.08 af, Depth> 2.73"
Routed to Pond 4P : CB#11

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
1,657	61.0		>75% Grass cover, Good, HSG B
2,287	98.0		Roofs, HSG B
10,910	98.0		Paved parking, HSG B
14,854	93.9	98.0	Weighted Average, AMC Adjusted
1,657	61.0	98.0	11.16% Pervious Area, AMC Adjusted
13,197	98.0	98.0	88.84% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6S: SUBCATCHMENT

Runoff = 0.75 cfs @ 12.08 hrs, Volume= 0.06 af, Depth> 2.73"
Routed to Pond 6P : CB#9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
525	61.0		>75% Grass cover, Good, HSG B
6,271	98.0		Roofs, HSG B
4,658	98.0		Paved parking, HSG B
11,454	96.3	98.0	Weighted Average, AMC Adjusted
525	61.0	98.0	4.58% Pervious Area, AMC Adjusted
10,929	98.0	98.0	95.42% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7S: SUBCATCHMENT

Runoff = 0.49 cfs @ 12.08 hrs, Volume= 0.04 af, Depth> 2.73"
Routed to Pond 7P : CB#7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
85	61.0		>75% Grass cover, Good, HSG B
4,046	98.0		Roofs, HSG B
3,338	98.0		Paved parking, HSG B
7,469	97.6	98.0	Weighted Average, AMC Adjusted
85	61.0	98.0	1.14% Pervious Area, AMC Adjusted
7,384	98.0	98.0	98.86% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 8S: SUBCATCHMENT

Runoff = 3.40 cfs @ 12.08 hrs, Volume= 0.27 af, Depth> 2.73"
Routed to Pond 3P : INFILTRATION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Frozen Rainfall=2.96", AMC=4

Area (sf)	CN	Adj	Description
1,190	55.0		Woods, Good, HSG B
34,203	61.0		>75% Grass cover, Good, HSG B
9,376	96.0		Gravel surface, HSG B
1,330	98.0		Roofs, HSG B
5,609	98.0		Paved parking, HSG B
51,708	72.2	98.0	Weighted Average, AMC Adjusted
44,769	68.2	98.0	86.58% Pervious Area, AMC Adjusted
6,939	98.0	98.0	13.42% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 1.09 cfs @ 12.08 hrs, Volume= 0.09 af
Primary = 1.09 cfs @ 12.08 hrs, Volume= 0.09 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond 2P: STORMTECH DC-780

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 2.22 cfs @ 12.08 hrs, Volume= 0.18 af
Outflow = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af, Atten= 49%, Lag= 8.1 min
Primary = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af
Routed to Pond 8P : DMH#4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 299.07' @ 12.22 hrs Surf.Area= 1,388 sf Storage= 1,053 cf
Flood Elev= 301.50' Surf.Area= 1,388 sf Storage= 3,093 cf

Plug-Flow detention time= 16.5 min calculated for 0.18 af (99% of inflow)
Center-of-Mass det. time= 12.7 min (770.2 - 757.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	297.75'	1,407 cf	**20.50'W x 67.70'L x 3.75'H Field A** 5,204 cf Overall - 1,686 cf Embedded = 3,518 cf x 40.0% Voids
#2A	298.50'	1,686 cf	**ADS_StormTech DC-780 b +Cap**x 36 Inside #1 Effective Size= 45.4"W x 30.0"H => 6.49 sf x 7.12'L = 46.2 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 36 Chambers in 4 Rows Cap Storage= 2.7 cf x 2 x 4 rows = 21.2 cf
		3,093 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	297.68'	**12.0" Round Culvert** L= 18.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 297.68' / 297.50' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	297.75'	**6.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	301.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.13 cfs @ 12.22 hrs HW=299.07' TW=290.13' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.13 cfs of 3.29 cfs potential flow)
  ├─**2=Orifice** (Orifice Controls 1.13 cfs @ 4.92 fps)
  └─**3=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 3P: INFILTRATION POND

Inflow Area = 1.962 ac, 44.98% Impervious, Inflow Depth > 2.72" for 2-YR Frozen event
Inflow = 4.39 cfs @ 12.09 hrs, Volume= 0.44 af
Outflow = 4.10 cfs @ 12.12 hrs, Volume= 0.37 af, Atten= 7%, Lag= 2.2 min
Discarded = 0.09 cfs @ 12.12 hrs, Volume= 0.10 af
Primary = 4.02 cfs @ 12.12 hrs, Volume= 0.27 af
Routed to Link C : WETLANDS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 271.78' @ 12.12 hrs Surf.Area= 3,753 sf Storage= 4,145 cf
Flood Elev= 272.00' Surf.Area= 4,127 sf Storage= 4,857 cf

Plug-Flow detention time= 118.2 min calculated for 0.37 af (83% of inflow)
Center-of-Mass det. time= 50.8 min (813.3 - 762.5)

Volume	Invert	Avail.Storage	Storage Description
#1	269.00'	4,857 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	269.00'	0 cf	**Sediment Forebay (No Storage) (Prismatic)** Listed below (Recalc) 831 cf Overall x 0.0% Voids
		4,857 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	565	0	0
270.00	1,119	842	842
271.00	1,733	1,426	2,268
272.00	3,444	2,589	4,857

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	148	0	0
271.00	683	831	831

Device	Routing	Invert	Outlet Devices
#1	Primary	271.50'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#2	Discarded	269.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.09 cfs @ 12.12 hrs HW=271.78' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=4.01 cfs @ 12.12 hrs HW=271.78' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir**(Weir Controls 4.01 cfs @ 1.43 fps)

Summary for Pond 4P: CB#11

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 0.98 cfs @ 12.08 hrs, Volume= 0.08 af
Outflow = 0.98 cfs @ 12.08 hrs, Volume= 0.08 af, Atten= 0%, Lag= 0.0 min
Primary = 0.98 cfs @ 12.08 hrs, Volume= 0.08 af
Routed to Pond 5P : DMH#10

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.47' @ 12.09 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.91'	**12.0" Round Culvert** L= 30.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.91' / 299.61' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.97 cfs @ 12.08 hrs HW=300.47' TW=300.09' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.97 cfs @ 3.07 fps)

Summary for Pond 5P: DMH#10

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 0.98 cfs @ 12.08 hrs, Volume= 0.08 af
Outflow = 0.98 cfs @ 12.08 hrs, Volume= 0.08 af, Atten= 0%, Lag= 0.0 min
Primary = 0.98 cfs @ 12.08 hrs, Volume= 0.08 af
Routed to Pond 6P : CB#9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.09' @ 12.09 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.51'	**12.0" Round Culvert** L= 65.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.51' / 298.86' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.97 cfs @ 12.08 hrs HW=300.09' TW=299.57' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.97 cfs @ 2.96 fps)

Summary for Pond 6P: CB#9

Inflow Area = 0.604 ac, 91.71% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 1.73 cfs @ 12.08 hrs, Volume= 0.14 af
Outflow = 1.73 cfs @ 12.08 hrs, Volume= 0.14 af, Atten= 0%, Lag= 0.0 min
Primary = 1.73 cfs @ 12.08 hrs, Volume= 0.14 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 299.57' @ 12.08 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	298.76'	**12.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 298.76' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.73 cfs @ 12.08 hrs HW=299.57' TW=298.80' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 1.73 cfs @ 3.45 fps)

Summary for Pond 7P: CB#7

Inflow Area = 0.171 ac, 98.86% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 0.49 cfs @ 12.08 hrs, Volume= 0.04 af
Outflow = 0.49 cfs @ 12.08 hrs, Volume= 0.04 af, Atten= 0%, Lag= 0.0 min
Primary = 0.49 cfs @ 12.08 hrs, Volume= 0.04 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 299.61' @ 12.08 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.26'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.26' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.49 cfs @ 12.08 hrs HW=299.61' TW=298.80' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 0.49 cfs @ 2.96 fps)

Summary for Pond 8P: DMH#4

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 2.71" for 2-YR Frozen event
Inflow = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af
Outflow = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af, Atten= 0%, Lag= 0.0 min
Primary = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af
Routed to Pond 9P : DMH#3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 290.13' @ 12.22 hrs
Flood Elev= 301.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	289.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 289.58' / 288.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.13 cfs @ 12.22 hrs HW=290.13' TW=281.13' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.13 cfs @ 2.54 fps)

Summary for Pond 9P: DMH#3

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 2.71" for 2-YR Frozen event
Inflow = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af
Outflow = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af, Atten= 0%, Lag= 0.0 min
Primary = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af
Routed to Pond 10P : DMH#2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 281.13' @ 12.22 hrs
Flood Elev= 292.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.58' / 279.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.13 cfs @ 12.22 hrs HW=281.13' TW=279.10' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.13 cfs @ 2.54 fps)

Summary for Pond 10P: DMH#2

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 2.71" for 2-YR Frozen event
Inflow = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af
Outflow = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af, Atten= 0%, Lag= 0.0 min
Primary = 1.13 cfs @ 12.22 hrs, Volume= 0.18 af
Routed to Pond 3P : INFILTRATION POND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 279.10' @ 12.22 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.60'	**24.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.60' / 278.50' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.13 cfs @ 12.22 hrs HW=279.10' TW=271.74' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 1.13 cfs @ 2.79 fps)

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 1.98 cfs @ 12.08 hrs, Volume= 0.16 af
Primary = 1.98 cfs @ 12.08 hrs, Volume= 0.16 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 0.961 ac, 66.79% Impervious, Inflow Depth > 2.73" for 2-YR Frozen event
Inflow = 2.76 cfs @ 12.08 hrs, Volume= 0.22 af
Primary = 2.76 cfs @ 12.08 hrs, Volume= 0.22 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.907 ac, 26.89% Impervious, Inflow Depth > 2.18" for 2-YR Frozen event
Inflow = 9.00 cfs @ 12.12 hrs, Volume= 0.71 af
Primary = 9.00 cfs @ 12.12 hrs, Volume= 0.71 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>2.89"
Tc=6.0 min CN=85.1 Runoff=2.34 cfs 0.17 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>3.97"
Tc=6.0 min CN=95.6 Runoff=1.62 cfs 0.13 af

Subcatchment3S: SUBCATCHMENT Runoff Area=25,371 sf 49.43% Impervious Runoff Depth>2.96"
Tc=6.0 min CN=85.7 Runoff=2.00 cfs 0.14 af

Subcatchment4S: SUBCATCHMENT Runoff Area=84,709 sf 8.63% Impervious Runoff Depth>1.12"
Flow Length=209' Tc=9.4 min CN=61.9 Runoff=2.00 cfs 0.18 af

Subcatchment5S: SUBCATCHMENT Runoff Area=14,854 sf 88.84% Impervious Runoff Depth>3.78"
Tc=6.0 min CN=93.9 Runoff=1.42 cfs 0.11 af

Subcatchment6S: SUBCATCHMENT Runoff Area=11,454 sf 95.42% Impervious Runoff Depth>4.05"
Tc=6.0 min CN=96.3 Runoff=1.13 cfs 0.09 af

Subcatchment7S: SUBCATCHMENT Runoff Area=7,469 sf 98.86% Impervious Runoff Depth>4.19"
Tc=6.0 min CN=97.6 Runoff=0.75 cfs 0.06 af

Subcatchment8S: SUBCATCHMENT Runoff Area=51,708 sf 13.42% Impervious Runoff Depth>1.82"
Tc=6.0 min CN=72.2 Runoff=2.49 cfs 0.18 af

Pond 1P: EX CB Inflow=1.62 cfs 0.13 af
Primary=1.62 cfs 0.13 af

Pond 2P: STORMTECH DC-780 Peak Elev=299.78' Storage=1,811 cf Inflow=3.30 cfs 0.26 af
Outflow=1.47 cfs 0.25 af

Pond 3P: INFILTRATIONPOND Peak Elev=271.75' Storage=4,051 cf Inflow=3.76 cfs 0.43 af
Discarded=0.09 cfs 0.09 af Primary=3.37 cfs 0.26 af Outflow=3.46 cfs 0.36 af

Pond 4P: CB#11 Peak Elev=300.65' Inflow=1.42 cfs 0.11 af
12.0" Round Culvert n=0.013 L=30.3' S=0.0099 '/' Outflow=1.42 cfs 0.11 af

Pond 5P: DMH#10 Peak Elev=300.28' Inflow=1.42 cfs 0.11 af
12.0" Round Culvert n=0.013 L=65.4' S=0.0099 '/' Outflow=1.42 cfs 0.11 af

Pond 6P: CB#9 Peak Elev=299.88' Inflow=2.55 cfs 0.20 af
12.0" Round Culvert n=0.013 L=15.0' S=0.0100 '/' Outflow=2.55 cfs 0.20 af

Pond 7P: CB#7 Peak Elev=299.84' Inflow=0.75 cfs 0.06 af
12.0" Round Culvert n=0.013 L=65.0' S=0.0100 '/' Outflow=0.75 cfs 0.06 af

Pond 8P: DMH#4 Peak Elev=290.23' Inflow=1.47 cfs 0.25 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=1.47 cfs 0.25 af

Pond 9P: DMH#3 Peak Elev=281.23' Inflow=1.47 cfs 0.25 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=1.47 cfs 0.25 af

Pond 10P: DMH#2 Peak Elev=279.18' Inflow=1.47 cfs 0.25 af
24.0" Round Culvert n=0.013 L=10.0' S=0.0100 '/' Outflow=1.47 cfs 0.25 af

Link A: MAP 161 LOT 44 Inflow=2.34 cfs 0.17 af
Primary=2.34 cfs 0.17 af

Link B: MAP 161 LOT 40 Inflow=3.62 cfs 0.27 af
Primary=3.62 cfs 0.27 af

Link C: WETLANDS Inflow=5.37 cfs 0.44 af
Primary=5.37 cfs 0.44 af

Total Runoff Area = 5.561 ac Runoff Volume = 1.05 af Average Runoff Depth = 2.27"
61.61% Pervious = 3.426 ac 38.39% Impervious = 2.135 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 2.34 cfs @ 12.09 hrs, Volume= 0.17 af, Depth> 2.89"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
1,165	55.0	Woods, Good, HSG B
9,157	61.0	>75% Grass cover, Good, HSG B
560	96.0	Gravel surface, HSG B
4,136	98.0	Roofs, HSG B
15,129	98.0	Paved parking, HSG B
30,147	85.1	Weighted Average
10,882	62.2	36.10% Pervious Area
19,265	98.0	63.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 1.62 cfs @ 12.08 hrs, Volume= 0.13 af, Depth> 3.97"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
1,075	61.0	>75% Grass cover, Good, HSG B
4,049	98.0	Roofs, HSG B
11,381	98.0	Paved parking, HSG B
16,505	95.6	Weighted Average
1,075	61.0	6.51% Pervious Area
15,430	98.0	93.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 2.00 cfs @ 12.09 hrs, Volume= 0.14 af, Depth> 2.96"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
5,826	55.0	Woods, Good, HSG B
1,343	61.0	>75% Grass cover, Good, HSG B
5,661	96.0	Gravel surface, HSG B
6,331	98.0	Roofs, HSG B
6,210	98.0	Paved parking, HSG B
25,371	85.7	Weighted Average
12,830	73.7	50.57% Pervious Area
12,541	98.0	49.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 2.00 cfs @ 12.15 hrs, Volume= 0.18 af, Depth> 1.12"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
56,962	55.0	Woods, Good, HSG B
16,244	61.0	>75% Grass cover, Good, HSG B
4,195	96.0	Gravel surface, HSG B
153	98.0	Roofs, HSG B
7,155	98.0	Paved parking, HSG B
84,709	61.9	Weighted Average
77,401	58.5	91.37% Pervious Area
7,308	98.0	8.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Subcatchment 5S: SUBCATCHMENT

Runoff = 1.42 cfs @ 12.08 hrs, Volume= 0.11 af, Depth> 3.78"
Routed to Pond 4P : CB#11

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
1,657	61.0	>75% Grass cover, Good, HSG B
2,287	98.0	Roofs, HSG B
10,910	98.0	Paved parking, HSG B
14,854	93.9	Weighted Average
1,657	61.0	11.16% Pervious Area
13,197	98.0	88.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6S: SUBCATCHMENT

Runoff = 1.13 cfs @ 12.08 hrs, Volume= 0.09 af, Depth> 4.05"
Routed to Pond 6P : CB#9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
525	61.0	>75% Grass cover, Good, HSG B
6,271	98.0	Roofs, HSG B
4,658	98.0	Paved parking, HSG B
11,454	96.3	Weighted Average
525	61.0	4.58% Pervious Area
10,929	98.0	95.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7S: SUBCATCHMENT

Runoff = 0.75 cfs @ 12.08 hrs, Volume= 0.06 af, Depth> 4.19"
Routed to Pond 7P : CB#7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
85	61.0	>75% Grass cover, Good, HSG B
4,046	98.0	Roofs, HSG B
3,338	98.0	Paved parking, HSG B
7,469	97.6	Weighted Average
85	61.0	1.14% Pervious Area
7,384	98.0	98.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 8S: SUBCATCHMENT

Runoff = 2.49 cfs @ 12.09 hrs, Volume= 0.18 af, Depth> 1.82"
Routed to Pond 3P : INFILTRATION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YEAR Rainfall=4.48"

Area (sf)	CN	Description
1,190	55.0	Woods, Good, HSG B
34,203	61.0	>75% Grass cover, Good, HSG B
9,376	96.0	Gravel surface, HSG B
1,330	98.0	Roofs, HSG B
5,609	98.0	Paved parking, HSG B
51,708	72.2	Weighted Average
44,769	68.2	86.58% Pervious Area
6,939	98.0	13.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 3.97" for 10-YEAR event
Inflow = 1.62 cfs @ 12.08 hrs, Volume= 0.13 af
Primary = 1.62 cfs @ 12.08 hrs, Volume= 0.13 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond 2P: STORMTECH DC-780

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 3.96" for 10-YEAR event
Inflow = 3.30 cfs @ 12.08 hrs, Volume= 0.26 af
Outflow = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af, Atten= 55%, Lag= 10.5 min
Primary = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af
Routed to Pond 8P : DMH#4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 299.78' @ 12.26 hrs Surf.Area= 1,388 sf Storage= 1,811 cf
Flood Elev= 301.50' Surf.Area= 1,388 sf Storage= 3,093 cf

Plug-Flow detention time= 16.4 min calculated for 0.25 af (99% of inflow)
Center-of-Mass det. time= 13.1 min (779.4 - 766.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	297.75'	1,407 cf	**20.50'W x 67.70'L x 3.75'H Field A** 5,204 cf Overall - 1,686 cf Embedded = 3,518 cf x 40.0% Voids
#2A	298.50'	1,686 cf	**ADS_StormTech DC-780 b +Cap**x 36 Inside #1 Effective Size= 45.4"W x 30.0"H => 6.49 sf x 7.12'L = 46.2 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 36 Chambers in 4 Rows Cap Storage= 2.7 cf x 2 x 4 rows = 21.2 cf
		3,093 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	297.68'	**12.0" Round Culvert** L= 18.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 297.68' / 297.50' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	297.75'	**6.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	301.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.47 cfs @ 12.26 hrs HW=299.78' TW=290.23' (Dynamic Tailwater)
↑└─**1=Culvert** (Passes 1.47 cfs of 4.79 cfs potential flow)
↑ ├─**2=Orifice** (Orifice Controls 1.47 cfs @ 6.39 fps)
└─**3=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 3P: INFILTRATION POND

Inflow Area = 1.962 ac, 44.98% Impervious, Inflow Depth > 2.66" for 10-YEAR event
Inflow = 3.76 cfs @ 12.10 hrs, Volume= 0.43 af
Outflow = 3.46 cfs @ 12.15 hrs, Volume= 0.36 af, Atten= 8%, Lag= 2.8 min
Discarded = 0.09 cfs @ 12.15 hrs, Volume= 0.09 af
Primary = 3.37 cfs @ 12.15 hrs, Volume= 0.26 af
Routed to Link C : WETLANDS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 271.75' @ 12.15 hrs Surf.Area= 3,701 sf Storage= 4,051 cf
Flood Elev= 272.00' Surf.Area= 4,127 sf Storage= 4,857 cf

Plug-Flow detention time= 110.7 min calculated for 0.36 af (82% of inflow)
Center-of-Mass det. time= 39.0 min (846.3 - 807.4)

Volume	Invert	Avail.Storage	Storage Description
#1	269.00'	4,857 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
#2	269.00'	0 cf	**Sediment Forebay (No Storage) (Prismatic)**Listed below (Recalc) 831 cf Overall x 0.0% Voids
		4,857 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	565	0	0
270.00	1,119	842	842
271.00	1,733	1,426	2,268
272.00	3,444	2,589	4,857

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	148	0	0
271.00	683	831	831

Device	Routing	Invert	Outlet Devices
#1	Primary	271.50'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#2	Discarded	269.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.09 cfs @ 12.15 hrs HW=271.75' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=3.37 cfs @ 12.15 hrs HW=271.75' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir**(Weir Controls 3.37 cfs @ 1.34 fps)

Summary for Pond 4P: CB#11

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 3.78" for 10-YEAR event
Inflow = 1.42 cfs @ 12.08 hrs, Volume= 0.11 af
Outflow = 1.42 cfs @ 12.08 hrs, Volume= 0.11 af, Atten= 0%, Lag= 0.0 min
Primary = 1.42 cfs @ 12.08 hrs, Volume= 0.11 af
Routed to Pond 5P : DMH#10

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.65' @ 12.09 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.91'	**12.0" Round Culvert** L= 30.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.91' / 299.61' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.40 cfs @ 12.08 hrs HW=300.65' TW=300.28' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.40 cfs @ 3.14 fps)

Summary for Pond 5P: DMH#10

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 3.78" for 10-YEAR event
Inflow = 1.42 cfs @ 12.08 hrs, Volume= 0.11 af
Outflow = 1.42 cfs @ 12.08 hrs, Volume= 0.11 af, Atten= 0%, Lag= 0.0 min
Primary = 1.42 cfs @ 12.08 hrs, Volume= 0.11 af
Routed to Pond 6P : CB#9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.28' @ 12.09 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.51'	**12.0" Round Culvert** L= 65.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.51' / 298.86' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.41 cfs @ 12.08 hrs HW=300.28' TW=299.82' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.41 cfs @ 2.98 fps)

Summary for Pond 6P: CB#9

Inflow Area = 0.604 ac, 91.71% Impervious, Inflow Depth > 3.90" for 10-YEAR event
Inflow = 2.55 cfs @ 12.08 hrs, Volume= 0.20 af
Outflow = 2.55 cfs @ 12.08 hrs, Volume= 0.20 af, Atten= 0%, Lag= 0.0 min
Primary = 2.55 cfs @ 12.08 hrs, Volume= 0.20 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 299.88' @ 12.23 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	298.76'	**12.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 298.76' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.55 cfs @ 12.08 hrs HW=299.82' TW=299.25' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 2.55 cfs @ 3.79 fps)

Summary for Pond 7P: CB#7

Inflow Area = 0.171 ac, 98.86% Impervious, Inflow Depth > 4.19" for 10-YEAR event
Inflow = 0.75 cfs @ 12.08 hrs, Volume= 0.06 af
Outflow = 0.75 cfs @ 12.08 hrs, Volume= 0.06 af, Atten= 0%, Lag= 0.0 min
Primary = 0.75 cfs @ 12.08 hrs, Volume= 0.06 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 299.84' @ 12.25 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.26'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.26' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.70 cfs @ 12.08 hrs HW=299.74' TW=299.24' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.70 cfs @ 2.74 fps)

Summary for Pond 8P: DMH#4

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 3.94" for 10-YEAR event
Inflow = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af
Outflow = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af, Atten= 0%, Lag= 0.0 min
Primary = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af
Routed to Pond 9P : DMH#3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 290.23' @ 12.26 hrs
Flood Elev= 301.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	289.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 289.58' / 288.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.47 cfs @ 12.26 hrs HW=290.23' TW=281.23' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.47 cfs @ 2.74 fps)

Summary for Pond 9P: DMH#3

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 3.94" for 10-YEAR event
Inflow = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af
Outflow = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af, Atten= 0%, Lag= 0.0 min
Primary = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af
Routed to Pond 10P : DMH#2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 281.23' @ 12.26 hrs
Flood Elev= 292.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.58' / 279.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.47 cfs @ 12.26 hrs HW=281.23' TW=279.18' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.47 cfs @ 2.74 fps)

Summary for Pond 10P: DMH#2

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 3.94" for 10-YEAR event
Inflow = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af
Outflow = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af, Atten= 0%, Lag= 0.0 min
Primary = 1.47 cfs @ 12.26 hrs, Volume= 0.25 af
Routed to Pond 3P : INFILTRATION POND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 279.18' @ 12.26 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.60'	**24.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.60' / 278.50' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.47 cfs @ 12.26 hrs HW=279.18' TW=271.72' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 1.47 cfs @ 2.95 fps)

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 2.89" for 10-YEAR event
Inflow = 2.34 cfs @ 12.09 hrs, Volume= 0.17 af
Primary = 2.34 cfs @ 12.09 hrs, Volume= 0.17 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 0.961 ac, 66.79% Impervious, Inflow Depth > 3.35" for 10-YEAR event
Inflow = 3.62 cfs @ 12.09 hrs, Volume= 0.27 af
Primary = 3.62 cfs @ 12.09 hrs, Volume= 0.27 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.907 ac, 26.89% Impervious, Inflow Depth > 1.36" for 10-YEAR event
Inflow = 5.37 cfs @ 12.15 hrs, Volume= 0.44 af
Primary = 5.37 cfs @ 12.15 hrs, Volume= 0.44 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>4.00"
Tc=6.0 min CN=85.1 Runoff=3.20 cfs 0.23 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>5.16"
Tc=6.0 min CN=95.6 Runoff=2.07 cfs 0.16 af

Subcatchment3S: SUBCATCHMENT Runoff Area=25,371 sf 49.43% Impervious Runoff Depth>4.07"
Tc=6.0 min CN=85.7 Runoff=2.73 cfs 0.20 af

Subcatchment4S: SUBCATCHMENT Runoff Area=84,709 sf 8.63% Impervious Runoff Depth>1.86"
Flow Length=209' Tc=9.4 min CN=61.9 Runoff=3.58 cfs 0.30 af

Subcatchment5S: SUBCATCHMENT Runoff Area=14,854 sf 88.84% Impervious Runoff Depth>4.96"
Tc=6.0 min CN=93.9 Runoff=1.83 cfs 0.14 af

Subcatchment6S: SUBCATCHMENT Runoff Area=11,454 sf 95.42% Impervious Runoff Depth>5.24"
Tc=6.0 min CN=96.3 Runoff=1.45 cfs 0.11 af

Subcatchment7S: SUBCATCHMENT Runoff Area=7,469 sf 98.86% Impervious Runoff Depth>5.39"
Tc=6.0 min CN=97.6 Runoff=0.95 cfs 0.08 af

Subcatchment8S: SUBCATCHMENT Runoff Area=51,708 sf 13.42% Impervious Runoff Depth>2.75"
Tc=6.0 min CN=72.2 Runoff=3.82 cfs 0.27 af

Pond 1P: EX CB Inflow=2.07 cfs 0.16 af
Primary=2.07 cfs 0.16 af

Pond 2P: STORMTECH DC-780 Peak Elev=300.58' Storage=2,538 cf Inflow=4.23 cfs 0.33 af
Outflow=1.77 cfs 0.33 af

Pond 3P: INFILTRATIONPOND Peak Elev=271.82' Storage=4,267 cf Inflow=5.30 cfs 0.60 af
Discarded=0.09 cfs 0.10 af Primary=4.89 cfs 0.43 af Outflow=4.98 cfs 0.53 af

Pond 4P: CB#11 Peak Elev=300.97' Inflow=1.83 cfs 0.14 af
12.0" Round Culvert n=0.013 L=30.3' S=0.0099 '/' Outflow=1.83 cfs 0.14 af

Pond 5P: DMH#10 Peak Elev=300.80' Inflow=1.83 cfs 0.14 af
12.0" Round Culvert n=0.013 L=65.4' S=0.0099 '/' Outflow=1.83 cfs 0.14 af

Pond 6P: CB#9 Peak Elev=300.72' Inflow=3.28 cfs 0.26 af
12.0" Round Culvert n=0.013 L=15.0' S=0.0100 '/' Outflow=3.28 cfs 0.26 af

Pond 7P: CB#7 Peak Elev=300.59' Inflow=0.95 cfs 0.08 af
12.0" Round Culvert n=0.013 L=65.0' S=0.0100 '/' Outflow=0.95 cfs 0.08 af

Pond 8P: DMH#4 Peak Elev=290.31' Inflow=1.77 cfs 0.33 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=1.77 cfs 0.33 af

Pond 9P: DMH#3 Peak Elev=281.31' Inflow=1.77 cfs 0.33 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=1.77 cfs 0.33 af

Pond 10P: DMH#2 Peak Elev=279.24' Inflow=1.77 cfs 0.33 af
24.0" Round Culvert n=0.013 L=10.0' S=0.0100 '/' Outflow=1.77 cfs 0.33 af

Link A: MAP 161 LOT 44 Inflow=3.20 cfs 0.23 af
Primary=3.20 cfs 0.23 af

Link B: MAP 161 LOT 40 Inflow=4.80 cfs 0.36 af
Primary=4.80 cfs 0.36 af

Link C: WETLANDS Inflow=8.47 cfs 0.73 af
Primary=8.47 cfs 0.73 af

Total Runoff Area = 5.561 ac Runoff Volume = 1.50 af Average Runoff Depth = 3.23"
61.61% Pervious = 3.426 ac 38.39% Impervious = 2.135 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 3.20 cfs @ 12.09 hrs, Volume= 0.23 af, Depth> 4.00"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
1,165	55.0	Woods, Good, HSG B
9,157	61.0	>75% Grass cover, Good, HSG B
560	96.0	Gravel surface, HSG B
4,136	98.0	Roofs, HSG B
15,129	98.0	Paved parking, HSG B
30,147	85.1	Weighted Average
10,882	62.2	36.10% Pervious Area
19,265	98.0	63.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 2.07 cfs @ 12.08 hrs, Volume= 0.16 af, Depth> 5.16"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
1,075	61.0	>75% Grass cover, Good, HSG B
4,049	98.0	Roofs, HSG B
11,381	98.0	Paved parking, HSG B
16,505	95.6	Weighted Average
1,075	61.0	6.51% Pervious Area
15,430	98.0	93.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 2.73 cfs @ 12.09 hrs, Volume= 0.20 af, Depth> 4.07"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
5,826	55.0	Woods, Good, HSG B
1,343	61.0	>75% Grass cover, Good, HSG B
5,661	96.0	Gravel surface, HSG B
6,331	98.0	Roofs, HSG B
6,210	98.0	Paved parking, HSG B
25,371	85.7	Weighted Average
12,830	73.7	50.57% Pervious Area
12,541	98.0	49.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 3.58 cfs @ 12.14 hrs, Volume= 0.30 af, Depth> 1.86"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
56,962	55.0	Woods, Good, HSG B
16,244	61.0	>75% Grass cover, Good, HSG B
4,195	96.0	Gravel surface, HSG B
153	98.0	Roofs, HSG B
7,155	98.0	Paved parking, HSG B
84,709	61.9	Weighted Average
77,401	58.5	91.37% Pervious Area
7,308	98.0	8.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Subcatchment 5S: SUBCATCHMENT

Runoff = 1.83 cfs @ 12.08 hrs, Volume= 0.14 af, Depth> 4.96"
Routed to Pond 4P : CB#11

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
1,657	61.0	>75% Grass cover, Good, HSG B
2,287	98.0	Roofs, HSG B
10,910	98.0	Paved parking, HSG B
14,854	93.9	Weighted Average
1,657	61.0	11.16% Pervious Area
13,197	98.0	88.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6S: SUBCATCHMENT

Runoff = 1.45 cfs @ 12.08 hrs, Volume= 0.11 af, Depth> 5.24"
Routed to Pond 6P : CB#9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
525	61.0	>75% Grass cover, Good, HSG B
6,271	98.0	Roofs, HSG B
4,658	98.0	Paved parking, HSG B
11,454	96.3	Weighted Average
525	61.0	4.58% Pervious Area
10,929	98.0	95.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7S: SUBCATCHMENT

Runoff = 0.95 cfs @ 12.08 hrs, Volume= 0.08 af, Depth> 5.39"
Routed to Pond 7P : CB#7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
85	61.0	>75% Grass cover, Good, HSG B
4,046	98.0	Roofs, HSG B
3,338	98.0	Paved parking, HSG B
7,469	97.6	Weighted Average
85	61.0	1.14% Pervious Area
7,384	98.0	98.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 8S: SUBCATCHMENT

Runoff = 3.82 cfs @ 12.09 hrs, Volume= 0.27 af, Depth> 2.75"
Routed to Pond 3P : INFILTRATION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YEAR Rainfall=5.68"

Area (sf)	CN	Description
1,190	55.0	Woods, Good, HSG B
34,203	61.0	>75% Grass cover, Good, HSG B
9,376	96.0	Gravel surface, HSG B
1,330	98.0	Roofs, HSG B
5,609	98.0	Paved parking, HSG B
51,708	72.2	Weighted Average
44,769	68.2	86.58% Pervious Area
6,939	98.0	13.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 5.16" for 25-YEAR event
Inflow = 2.07 cfs @ 12.08 hrs, Volume= 0.16 af
Primary = 2.07 cfs @ 12.08 hrs, Volume= 0.16 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond 2P: STORMTECH DC-780

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 5.15" for 25-YEAR event
Inflow = 4.23 cfs @ 12.08 hrs, Volume= 0.33 af
Outflow = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af, Atten= 58%, Lag= 11.7 min
Primary = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af
Routed to Pond 8P : DMH#4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.58' @ 12.28 hrs Surf.Area= 1,388 sf Storage= 2,538 cf
Flood Elev= 301.50' Surf.Area= 1,388 sf Storage= 3,093 cf

Plug-Flow detention time= 16.8 min calculated for 0.33 af (100% of inflow)
Center-of-Mass det. time= 14.0 min (774.6 - 760.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	297.75'	1,407 cf	**20.50'W x 67.70'L x 3.75'H Field A** 5,204 cf Overall - 1,686 cf Embedded = 3,518 cf x 40.0% Voids
#2A	298.50'	1,686 cf	**ADS_StormTech DC-780 b +Cap**x 36 Inside #1 Effective Size= 45.4"W x 30.0"H => 6.49 sf x 7.12'L = 46.2 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 36 Chambers in 4 Rows Cap Storage= 2.7 cf x 2 x 4 rows = 21.2 cf
		3,093 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	297.68'	**12.0" Round Culvert** L= 18.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 297.68' / 297.50' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	297.75'	**6.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	301.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.77 cfs @ 12.28 hrs HW=300.58' TW=290.31' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.77 cfs of 5.86 cfs potential flow)
  ├─**2=Orifice** (Orifice Controls 1.77 cfs @ 7.70 fps)
  └─**3=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 3P: INFILTRATION POND

Inflow Area = 1.962 ac, 44.98% Impervious, Inflow Depth > 3.69" for 25-YEAR event
Inflow = 5.30 cfs @ 12.10 hrs, Volume= 0.60 af
Outflow = 4.98 cfs @ 12.13 hrs, Volume= 0.53 af, Atten= 6%, Lag= 2.2 min
Discarded = 0.09 cfs @ 12.13 hrs, Volume= 0.10 af
Primary = 4.89 cfs @ 12.13 hrs, Volume= 0.43 af
Routed to Link C : WETLANDS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 271.82' @ 12.13 hrs Surf.Area= 3,820 sf Storage= 4,267 cf
Flood Elev= 272.00' Surf.Area= 4,127 sf Storage= 4,857 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 32.5 min (834.2 - 801.8)

Volume	Invert	Avail.Storage	Storage Description
#1	269.00'	4,857 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	269.00'	0 cf	**Sediment Forebay (No Storage) (Prismatic)** Listed below (Recalc) 831 cf Overall x 0.0% Voids
		4,857 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	565	0	0
270.00	1,119	842	842
271.00	1,733	1,426	2,268
272.00	3,444	2,589	4,857

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	148	0	0
271.00	683	831	831

Device	Routing	Invert	Outlet Devices
#1	Primary	271.50'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#2	Discarded	269.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.09 cfs @ 12.13 hrs HW=271.82' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=4.89 cfs @ 12.13 hrs HW=271.82' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir**(Weir Controls 4.89 cfs @ 1.52 fps)

Summary for Pond 4P: CB#11

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 4.96" for 25-YEAR event
Inflow = 1.83 cfs @ 12.08 hrs, Volume= 0.14 af
Outflow = 1.83 cfs @ 12.08 hrs, Volume= 0.14 af, Atten= 0%, Lag= 0.0 min
Primary = 1.83 cfs @ 12.08 hrs, Volume= 0.14 af
Routed to Pond 5P : DMH#10

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.97' @ 12.13 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.91'	**12.0" Round Culvert** L= 30.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.91' / 299.61' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.63 cfs @ 12.08 hrs HW=300.86' TW=300.60' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.63 cfs @ 2.73 fps)

Summary for Pond 5P: DMH#10

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 4.96" for 25-YEAR event
Inflow = 1.83 cfs @ 12.08 hrs, Volume= 0.14 af
Outflow = 1.83 cfs @ 12.08 hrs, Volume= 0.14 af, Atten= 0%, Lag= 0.0 min
Primary = 1.83 cfs @ 12.08 hrs, Volume= 0.14 af
Routed to Pond 6P : CB#9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.80' @ 12.14 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.51'	**12.0" Round Culvert** L= 65.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.51' / 298.86' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.52 cfs @ 12.08 hrs HW=300.60' TW=300.36' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.52 cfs @ 2.23 fps)

Summary for Pond 6P: CB#9

Inflow Area = 0.604 ac, 91.71% Impervious, Inflow Depth > 5.08" for 25-YEAR event
Inflow = 3.28 cfs @ 12.08 hrs, Volume= 0.26 af
Outflow = 3.28 cfs @ 12.08 hrs, Volume= 0.26 af, Atten= 0%, Lag= 0.0 min
Primary = 3.28 cfs @ 12.08 hrs, Volume= 0.26 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 300.72' @ 12.25 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	298.76'	**12.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 298.76' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.05 cfs @ 12.08 hrs HW=300.36' TW=299.70' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 3.05 cfs @ 3.89 fps)

Summary for Pond 7P: CB#7

Inflow Area = 0.171 ac, 98.86% Impervious, Inflow Depth > 5.39" for 25-YEAR event
Inflow = 0.95 cfs @ 12.08 hrs, Volume= 0.08 af
Outflow = 0.95 cfs @ 12.08 hrs, Volume= 0.08 af, Atten= 0%, Lag= 0.0 min
Primary = 0.95 cfs @ 12.08 hrs, Volume= 0.08 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 300.59' @ 12.29 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.26'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.26' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.80 cfs @ 12.08 hrs HW=299.93' TW=299.70' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.80 cfs @ 2.03 fps)

Summary for Pond 8P: DMH#4

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 5.13" for 25-YEAR event
Inflow = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af
Outflow = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af
Routed to Pond 9P : DMH#3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 290.31' @ 12.28 hrs
Flood Elev= 301.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	289.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 289.58' / 288.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.77 cfs @ 12.28 hrs HW=290.31' TW=281.31' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.77 cfs @ 2.90 fps)

Summary for Pond 9P: DMH#3

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 5.13" for 25-YEAR event
Inflow = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af
Outflow = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af
Routed to Pond 10P : DMH#2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 281.31' @ 12.28 hrs
Flood Elev= 292.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.58' / 279.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.77 cfs @ 12.28 hrs HW=281.31' TW=279.24' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.77 cfs @ 2.90 fps)

Summary for Pond 10P: DMH#2

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 5.13" for 25-YEAR event
Inflow = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af
Outflow = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77 cfs @ 12.28 hrs, Volume= 0.33 af
Routed to Pond 3P : INFILTRATION POND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 279.24' @ 12.28 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.60'	**24.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.60' / 278.50' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.77 cfs @ 12.28 hrs HW=279.24' TW=271.77' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 1.77 cfs @ 3.08 fps)

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 4.00" for 25-YEAR event
Inflow = 3.20 cfs @ 12.09 hrs, Volume= 0.23 af
Primary = 3.20 cfs @ 12.09 hrs, Volume= 0.23 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 0.961 ac, 66.79% Impervious, Inflow Depth > 4.50" for 25-YEAR event
Inflow = 4.80 cfs @ 12.08 hrs, Volume= 0.36 af
Primary = 4.80 cfs @ 12.08 hrs, Volume= 0.36 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.907 ac, 26.89% Impervious, Inflow Depth > 2.23" for 25-YEAR event
Inflow = 8.47 cfs @ 12.14 hrs, Volume= 0.73 af
Primary = 8.47 cfs @ 12.14 hrs, Volume= 0.73 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: SUBCATCHMENT Runoff Area=30,147 sf 63.90% Impervious Runoff Depth>5.05"
Tc=6.0 min CN=85.1 Runoff=4.00 cfs 0.29 af

Subcatchment2S: SUBCATCHMENT Runoff Area=16,505 sf 93.49% Impervious Runoff Depth>6.26"
Tc=6.0 min CN=95.6 Runoff=2.49 cfs 0.20 af

Subcatchment3S: SUBCATCHMENT Runoff Area=25,371 sf 49.43% Impervious Runoff Depth>5.13"
Tc=6.0 min CN=85.7 Runoff=3.40 cfs 0.25 af

Subcatchment4S: SUBCATCHMENT Runoff Area=84,709 sf 8.63% Impervious Runoff Depth>2.63"
Flow Length=209' Tc=9.4 min CN=61.9 Runoff=5.21 cfs 0.43 af

Subcatchment5S: SUBCATCHMENT Runoff Area=14,854 sf 88.84% Impervious Runoff Depth>6.06"
Tc=6.0 min CN=93.9 Runoff=2.21 cfs 0.17 af

Subcatchment6S: SUBCATCHMENT Runoff Area=11,454 sf 95.42% Impervious Runoff Depth>6.35"
Tc=6.0 min CN=96.3 Runoff=1.74 cfs 0.14 af

Subcatchment7S: SUBCATCHMENT Runoff Area=7,469 sf 98.86% Impervious Runoff Depth>6.50"
Tc=6.0 min CN=97.6 Runoff=1.14 cfs 0.09 af

Subcatchment8S: SUBCATCHMENT Runoff Area=51,708 sf 13.42% Impervious Runoff Depth>3.66"
Tc=6.0 min CN=72.2 Runoff=5.11 cfs 0.36 af

Pond 1P: EX CB Inflow=2.49 cfs 0.20 af
Primary=2.49 cfs 0.20 af

Pond 2P: STORMTECH DC-780 Peak Elev=301.40' Storage=3,040 cf Inflow=5.09 cfs 0.40 af
Outflow=2.83 cfs 0.40 af

Pond 3P: INFILTRATIONPOND Peak Elev=271.88' Storage=4,455 cf Inflow=6.78 cfs 0.76 af
Discarded=0.09 cfs 0.10 af Primary=6.31 cfs 0.58 af Outflow=6.40 cfs 0.69 af

Pond 4P: CB#11 Peak Elev=302.01' Inflow=2.21 cfs 0.17 af
12.0" Round Culvert n=0.013 L=30.3' S=0.0099 '/' Outflow=2.21 cfs 0.17 af

Pond 5P: DMH#10 Peak Elev=301.89' Inflow=2.21 cfs 0.17 af
12.0" Round Culvert n=0.013 L=65.4' S=0.0099 '/' Outflow=2.21 cfs 0.17 af

Pond 6P: CB#9 Peak Elev=301.75' Inflow=3.95 cfs 0.31 af
12.0" Round Culvert n=0.013 L=15.0' S=0.0100 '/' Outflow=3.95 cfs 0.31 af

Pond 7P: CB#7 Peak Elev=301.44' Inflow=1.14 cfs 0.09 af
12.0" Round Culvert n=0.013 L=65.0' S=0.0100 '/' Outflow=1.14 cfs 0.09 af

Pond 8P: DMH#4 Peak Elev=290.64' Inflow=2.83 cfs 0.40 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=2.83 cfs 0.40 af

Pond 9P: DMH#3 Peak Elev=281.64' Inflow=2.83 cfs 0.40 af
12.0" Round Culvert n=0.013 L=13.5' S=0.0800 '/' Outflow=2.83 cfs 0.40 af

Pond 10P: DMH#2 Peak Elev=279.43' Inflow=2.83 cfs 0.40 af
24.0" Round Culvert n=0.013 L=10.0' S=0.0100 '/' Outflow=2.83 cfs 0.40 af

Link A: MAP 161 LOT 44 Inflow=4.00 cfs 0.29 af
Primary=4.00 cfs 0.29 af

Link B: MAP 161 LOT 40 Inflow=5.90 cfs 0.45 af
Primary=5.90 cfs 0.45 af

Link C: WETLANDS Inflow=11.51 cfs 1.01 af
Primary=11.51 cfs 1.01 af

Total Runoff Area = 5.561 ac Runoff Volume = 1.93 af Average Runoff Depth = 4.17"
61.61% Pervious = 3.426 ac 38.39% Impervious = 2.135 ac

Summary for Subcatchment 1S: SUBCATCHMENT

Runoff = 4.00 cfs @ 12.09 hrs, Volume= 0.29 af, Depth> 5.05"
Routed to Link A : MAP 161 LOT 44

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
1,165	55.0	Woods, Good, HSG B
9,157	61.0	>75% Grass cover, Good, HSG B
560	96.0	Gravel surface, HSG B
4,136	98.0	Roofs, HSG B
15,129	98.0	Paved parking, HSG B
30,147	85.1	Weighted Average
10,882	62.2	36.10% Pervious Area
19,265	98.0	63.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2S: SUBCATCHMENT

Runoff = 2.49 cfs @ 12.08 hrs, Volume= 0.20 af, Depth> 6.26"
Routed to Pond 1P : EX CB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
1,075	61.0	>75% Grass cover, Good, HSG B
4,049	98.0	Roofs, HSG B
11,381	98.0	Paved parking, HSG B
16,505	95.6	Weighted Average
1,075	61.0	6.51% Pervious Area
15,430	98.0	93.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3S: SUBCATCHMENT

Runoff = 3.40 cfs @ 12.09 hrs, Volume= 0.25 af, Depth> 5.13"
Routed to Link B : MAP 161 LOT 40

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
5,826	55.0	Woods, Good, HSG B
1,343	61.0	>75% Grass cover, Good, HSG B
5,661	96.0	Gravel surface, HSG B
6,331	98.0	Roofs, HSG B
6,210	98.0	Paved parking, HSG B
25,371	85.7	Weighted Average
12,830	73.7	50.57% Pervious Area
12,541	98.0	49.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4S: SUBCATCHMENT

Runoff = 5.21 cfs @ 12.14 hrs, Volume= 0.43 af, Depth> 2.63"
Routed to Link C : WETLANDS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
56,962	55.0	Woods, Good, HSG B
16,244	61.0	>75% Grass cover, Good, HSG B
4,195	96.0	Gravel surface, HSG B
153	98.0	Roofs, HSG B
7,155	98.0	Paved parking, HSG B
84,709	61.9	Weighted Average
77,401	58.5	91.37% Pervious Area
7,308	98.0	8.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0600	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.96"
1.2	159	0.2075	2.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	209	Total			

Summary for Subcatchment 5S: SUBCATCHMENT

Runoff = 2.21 cfs @ 12.08 hrs, Volume= 0.17 af, Depth> 6.06"
Routed to Pond 4P : CB#11

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
1,657	61.0	>75% Grass cover, Good, HSG B
2,287	98.0	Roofs, HSG B
10,910	98.0	Paved parking, HSG B
14,854	93.9	Weighted Average
1,657	61.0	11.16% Pervious Area
13,197	98.0	88.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6S: SUBCATCHMENT

Runoff = 1.74 cfs @ 12.08 hrs, Volume= 0.14 af, Depth> 6.35"
Routed to Pond 6P : CB#9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
525	61.0	>75% Grass cover, Good, HSG B
6,271	98.0	Roofs, HSG B
4,658	98.0	Paved parking, HSG B
11,454	96.3	Weighted Average
525	61.0	4.58% Pervious Area
10,929	98.0	95.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7S: SUBCATCHMENT

Runoff = 1.14 cfs @ 12.08 hrs, Volume= 0.09 af, Depth> 6.50"
Routed to Pond 7P : CB#7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
85	61.0	>75% Grass cover, Good, HSG B
4,046	98.0	Roofs, HSG B
3,338	98.0	Paved parking, HSG B
7,469	97.6	Weighted Average
85	61.0	1.14% Pervious Area
7,384	98.0	98.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 8S: SUBCATCHMENT

Runoff = 5.11 cfs @ 12.09 hrs, Volume= 0.36 af, Depth> 3.66"
Routed to Pond 3P : INFILTRATION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YEAR Rainfall=6.79"

Area (sf)	CN	Description
1,190	55.0	Woods, Good, HSG B
34,203	61.0	>75% Grass cover, Good, HSG B
9,376	96.0	Gravel surface, HSG B
1,330	98.0	Roofs, HSG B
5,609	98.0	Paved parking, HSG B
51,708	72.2	Weighted Average
44,769	68.2	86.58% Pervious Area
6,939	98.0	13.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Pond 1P: EX CB

Inflow Area = 0.379 ac, 93.49% Impervious, Inflow Depth > 6.26" for 50-YEAR event
Inflow = 2.49 cfs @ 12.08 hrs, Volume= 0.20 af
Primary = 2.49 cfs @ 12.08 hrs, Volume= 0.20 af, Atten= 0%, Lag= 0.0 min
Routed to Link B : MAP 161 LOT 40

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond 2P: STORMTECH DC-780

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 6.25" for 50-YEAR event
Inflow = 5.09 cfs @ 12.08 hrs, Volume= 0.40 af
Outflow = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af, Atten= 44%, Lag= 7.1 min
Primary = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af
Routed to Pond 8P : DMH#4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 301.40' @ 12.20 hrs Surf.Area= 1,388 sf Storage= 3,040 cf
Flood Elev= 301.50' Surf.Area= 1,388 sf Storage= 3,093 cf

Plug-Flow detention time= 16.7 min calculated for 0.40 af (100% of inflow)
Center-of-Mass det. time= 14.1 min (770.8 - 756.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	297.75'	1,407 cf	**20.50'W x 67.70'L x 3.75'H Field A** 5,204 cf Overall - 1,686 cf Embedded = 3,518 cf x 40.0% Voids
#2A	298.50'	1,686 cf	**ADS_StormTech DC-780 b +Cap**x 36 Inside #1 Effective Size= 45.4"W x 30.0"H => 6.49 sf x 7.12'L = 46.2 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 36 Chambers in 4 Rows Cap Storage= 2.7 cf x 2 x 4 rows = 21.2 cf
		3,093 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	297.68'	**12.0" Round Culvert** L= 18.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 297.68' / 297.50' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	297.75'	**6.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	301.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.82 cfs @ 12.20 hrs HW=301.40' TW=290.64' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.82 cfs of 6.79 cfs potential flow)
  ├─**2=Orifice** (Orifice Controls 2.04 cfs @ 8.86 fps)
  └─**3=Sharp-Crested Rectangular Weir**(Weir Controls 0.78 cfs @ 1.28 fps)

Summary for Pond 3P: INFILTRATION POND

Inflow Area = 1.962 ac, 44.98% Impervious, Inflow Depth > 4.68" for 50-YEAR event
Inflow = 6.78 cfs @ 12.10 hrs, Volume= 0.76 af
Outflow = 6.40 cfs @ 12.13 hrs, Volume= 0.69 af, Atten= 6%, Lag= 2.1 min
Discarded = 0.09 cfs @ 12.13 hrs, Volume= 0.10 af
Primary = 6.31 cfs @ 12.13 hrs, Volume= 0.58 af
Routed to Link C : WETLANDS

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 271.88' @ 12.13 hrs Surf.Area= 3,921 sf Storage= 4,455 cf
Flood Elev= 272.00' Surf.Area= 4,127 sf Storage= 4,857 cf

Plug-Flow detention time= 78.5 min calculated for 0.69 af (90% of inflow)
Center-of-Mass det. time= 29.5 min (826.7 - 797.3)

Volume	Invert	Avail.Storage	Storage Description
#1	269.00'	4,857 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	269.00'	0 cf	**Sediment Forebay (No Storage) (Prismatic)** Listed below (Recalc) 831 cf Overall x 0.0% Voids
		4,857 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	565	0	0
270.00	1,119	842	842
271.00	1,733	1,426	2,268
272.00	3,444	2,589	4,857

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	148	0	0
271.00	683	831	831

Device	Routing	Invert	Outlet Devices
#1	Primary	271.50'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#2	Discarded	269.00'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.09 cfs @ 12.13 hrs HW=271.88' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=6.31 cfs @ 12.13 hrs HW=271.88' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir**(Weir Controls 6.31 cfs @ 1.66 fps)

Summary for Pond 4P: CB#11

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 6.06" for 50-YEAR event
Inflow = 2.21 cfs @ 12.08 hrs, Volume= 0.17 af
Outflow = 2.21 cfs @ 12.08 hrs, Volume= 0.17 af, Atten= 0%, Lag= 0.0 min
Primary = 2.21 cfs @ 12.08 hrs, Volume= 0.17 af
Routed to Pond 5P : DMH#10

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 302.01' @ 12.13 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.91'	**12.0" Round Culvert** L= 30.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.91' / 299.61' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.54 cfs @ 12.08 hrs HW=301.60' TW=301.43' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.54 cfs @ 1.96 fps)

Summary for Pond 5P: DMH#10

Inflow Area = 0.341 ac, 88.84% Impervious, Inflow Depth > 6.06" for 50-YEAR event
Inflow = 2.21 cfs @ 12.08 hrs, Volume= 0.17 af
Outflow = 2.21 cfs @ 12.08 hrs, Volume= 0.17 af, Atten= 0%, Lag= 0.0 min
Primary = 2.21 cfs @ 12.08 hrs, Volume= 0.17 af
Routed to Pond 6P : CB#9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 301.89' @ 12.19 hrs
Flood Elev= 304.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.51'	**12.0" Round Culvert** L= 65.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.51' / 298.86' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.81 cfs @ 12.08 hrs HW=301.43' TW=301.14' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.81 cfs @ 2.31 fps)

Summary for Pond 6P: CB#9

Inflow Area = 0.604 ac, 91.71% Impervious, Inflow Depth > 6.18" for 50-YEAR event
Inflow = 3.95 cfs @ 12.08 hrs, Volume= 0.31 af
Outflow = 3.95 cfs @ 12.08 hrs, Volume= 0.31 af, Atten= 0%, Lag= 0.0 min
Primary = 3.95 cfs @ 12.08 hrs, Volume= 0.31 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 301.75' @ 12.19 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	298.76'	**12.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 298.76' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.70 cfs @ 12.08 hrs HW=301.14' TW=300.18' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 3.70 cfs @ 4.71 fps)

Summary for Pond 7P: CB#7

Inflow Area = 0.171 ac, 98.86% Impervious, Inflow Depth > 6.50" for 50-YEAR event
Inflow = 1.14 cfs @ 12.08 hrs, Volume= 0.09 af
Outflow = 1.14 cfs @ 12.08 hrs, Volume= 0.09 af, Atten= 0%, Lag= 0.0 min
Primary = 1.14 cfs @ 12.08 hrs, Volume= 0.09 af
Routed to Pond 2P : STORMTECH DC-780

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Peak Elev= 301.44' @ 12.21 hrs
Flood Elev= 304.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.26'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.26' / 298.61' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.55 cfs @ 12.08 hrs HW=300.22' TW=300.18' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.55 cfs @ 0.91 fps)

Summary for Pond 8P: DMH#4

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 6.23" for 50-YEAR event
Inflow = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af
Outflow = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af, Atten= 0%, Lag= 0.0 min
Primary = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af
Routed to Pond 9P : DMH#3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 290.64' @ 12.20 hrs
Flood Elev= 301.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	289.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 289.58' / 288.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.82 cfs @ 12.20 hrs HW=290.64' TW=281.64' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 2.82 cfs @ 3.59 fps)

Summary for Pond 9P: DMH#3

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 6.23" for 50-YEAR event
Inflow = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af
Outflow = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af, Atten= 0%, Lag= 0.0 min
Primary = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af
Routed to Pond 10P : DMH#2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 281.64' @ 12.20 hrs
Flood Elev= 292.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.58'	**12.0" Round Culvert** L= 13.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.58' / 279.50' S= 0.0800 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.82 cfs @ 12.20 hrs HW=281.64' TW=279.43' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 2.82 cfs @ 3.59 fps)

Summary for Pond 10P: DMH#2

Inflow Area = 0.775 ac, 93.29% Impervious, Inflow Depth > 6.23" for 50-YEAR event
Inflow = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af
Outflow = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af, Atten= 0%, Lag= 0.0 min
Primary = 2.83 cfs @ 12.20 hrs, Volume= 0.40 af
Routed to Pond 3P : INFILTRATION POND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 279.43' @ 12.20 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.60'	**24.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.60' / 278.50' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.82 cfs @ 12.20 hrs HW=279.43' TW=271.86' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 2.82 cfs @ 3.41 fps)

Summary for Link A: MAP 161 LOT 44

Inflow Area = 0.692 ac, 63.90% Impervious, Inflow Depth > 5.05" for 50-YEAR event
Inflow = 4.00 cfs @ 12.09 hrs, Volume= 0.29 af
Primary = 4.00 cfs @ 12.09 hrs, Volume= 0.29 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link B: MAP 161 LOT 40

Inflow Area = 0.961 ac, 66.79% Impervious, Inflow Depth > 5.57" for 50-YEAR event
Inflow = 5.90 cfs @ 12.08 hrs, Volume= 0.45 af
Primary = 5.90 cfs @ 12.08 hrs, Volume= 0.45 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link C: WETLANDS

Inflow Area = 3.907 ac, 26.89% Impervious, Inflow Depth > 3.10" for 50-YEAR event
Inflow = 11.51 cfs @ 12.14 hrs, Volume= 1.01 af
Primary = 11.51 cfs @ 12.14 hrs, Volume= 1.01 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

APPENDIX

*STORMWATER OPERATION & MAINTENANCE PLAN
*PRE-DEVELOPMENT DRAINAGE AREA PLAN
*POST-DEVELOPMENT DRAINAGE AREA PLAN

Attachment "D"

STORMWATER
OPERATION & MAINTENANCE PLAN

Erickson Foundation Solutions
14 & 18 Clement Road
Hudson, New Hampshire

Map 161; Lots 49 & 50

September 8, 2025

KEACH-NORDSTROM ASSOCIATES, INC.

TABLE OF CONTENTS:

I. General

Introduction

The project owner or their assigned heirs will maintain the stormwater treatment facilities after construction is completed. The applicant of the project is 18 Clement Road, LLC.

The subject property is referenced on Map 161; Lots 49 & 50 in Hudson, New Hampshire. Any transfer of responsibility for inspection and maintenance activities or transfer of ownership shall be documented to the New Hampshire Department of Environmental Services and Hudson in writing. The contract documents will require the contractor to designate a person responsible for maintenance of the sedimentation control features during construction. Long-term operation and maintenance for the stormwater management facilities are presented below.

Maintenance will be performed as described and required in the Alteration of Terrain Permit unless and until the system is formally accepted by a municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system.

Post Construction:

The following standards will be met after construction is complete:

Documentation:

A maintenance log will be kept summarizing inspections, maintenance, and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean out of any sediments or debris, the location where the sediment and debris was disposed after removal will be indicated. The log will be made accessible to department and/or Hudson staff and a copy provided upon request.

Maintenance Requirements

Infiltration Ponds:

- Systems should be inspected at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance or rehabilitation conducted as warranted by such inspection.
- Trash and debris should be removed at each inspection.
- Inspection of pre-treatment measures at least twice annually and removal of accumulated sediment as warranted by inspection, but no less than once annually.
- At least once annually, the system should be inspected for drawdown time. If the pond does not drain within 72-hours following a rainfall event, a qualified professional should assess the condition of the facility to determine measures required to restore filtration function or infiltration function (as applicable), including but not limited to the removal of accumulated sediments or reconstruction of the basin bottom.

Underground Detention Systems:

- Removal of accumulated sediment.
- Systems should be inspected at least twice annually with maintenance or rehabilitation conducted as warranted by such inspection.
- Trash and debris should be removed at each inspection.
- At least once annually, the system should be inspected for drawdown time. If the pond does not drain within 72-hours following a rainfall event, a qualified professional should assess the condition of the facility to determine measures required to restore filtration function or infiltration function (as applicable), including but not limited to the removal of accumulated sediments or reconstruction of the filter media.

Isolator Rows:

- Inspect Isolator Row for Sediment
  - A) Inspection ports (if present)
    - i. Remove lid from floor box frame.
    - ii. Remove cap from inspection riser.
    - iii. Using a flashlight and stadia rod, measure the depth of sediment and record results on maintenance log.
    - iv. If sediment is at, or above, 3 inch depth, clean out Isolator Row using the JetVac Process.
  - B) All Isolator Rows
    - i. Remove cover from manhole at upstream end of Isolator Row.
    - ii. Using a flashlight, inspect down Isolator Row through outlet pipe. (Mirrors on poles or cameras may be used to avoid confined space entry). Follow OSHA regulations for confined space entry if entering manhole.

iii. If sediment is at or above the lower row of sidewall holes (approximately 3 inches) clean out Isolator Row using the JetVac Process.

- Clean out Isolator Row using the JetVac Process
  A) A fixed culvert cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable
  B) Apply multiple passes of JetVac until backflush water is clean
  C) Vacuum manhole sump as required
- Replace all caps, lids and covers, record observations and actions
- Inspect & clean catch basins and manholes upstream of the StormTech system

Sediment Forebays:

- Forebays help reduce the sediment load to downstream BMP's, and will therefore require more frequent cleaning.
- Systems should be inspected at least annually.
- Conduct periodic mowing of embankments (generally two times per year) to control growth of woody vegetation.
- Trash and debris should be removed at each inspection.
- Accumulated sediment should be removed as warranted by such inspection.
- Install and maintain a staff gage or other measuring device, to indicate depth of sediment accumulation and level at which clean-out is required.

Catch Basins and Closed Drainage Network:

- Catch basins may require frequent maintenance. This may require several cleanings of the sumps each year. At a minimum, it is recommended that catch basins be inspected at least twice annually.
- Sediment should be removed when it approaches half of the sump depth.
- If floating hydrocarbons are observed during an inspection, the material should be removed immediately by skimming, absorbent materials, or other methods and disposed in conformance with the applicable state and federal regulations.

Outlet Protection:

- Inspect the outlet protection annually for damage and deterioration. Repair damages immediately.

General:

- If any invasive species begin to grow in the stormwater management practices the species shall be disposed of in an appropriate manner that will not allow the pest to survive or spread. The disposal of such species shall be witnessed or approved by a state inspector. Methods for disposal may include, but not be limited to:

- Encapsulating the plant(s) in plastic bags and disposing of the plant material in one of the following ways:
  - Trash pickup;
  - Discarding;
  - Open burning;
  - Incineration; or
  - Burial of infested nursery.

II. Supporting Documents

Attachment "D"

Annual Inspection and Maintenance Reporting Form
for
Erickson Foundation Solutions
Hudson, New Hampshire

Date: _____

To: 18 Clement Road, LLC

Re: Certification of Inspection and Maintenance; Submittal of Forms

Property Name: _____

Property Address: _____

Contact Name: _____

Contact Phone #: _____

Contact Email Address: _____

I verify that the required stormwater facility inspections and required maintenance have been completed in accordance with the Operation & Maintenance Plan associated with the above referenced property.

The required Long-Term Inspection & Maintenance Plan Checklist is attached to this form.

_____ _____
Name of Party Responsible for Inspection & Maintenance | Property Owner

_____ _____
Authorized Signature | Signature

Long-Term Inspection & Maintenance Plan Checklist
Erickson Foundation Solutions – Hudson, NH

Current Owner Name:	Date:
Business Address:	Inspector:
Weather:	
Date of Last Rainfall:	Amount: Inches:

Best Management Practice

Infiltration Ponds	Reason for Inspection		
	Spring ☐	Fall/Yearly ☐	After Major Storm ☐

Maintenance Required? Yes ☐ No ☐
Corrective Action Needed & Notes:

Visual Inspection of vegetation? Yes ☐ No ☐
Maintenance Required? Yes ☐ No ☐
Corrective Action Needed & Notes:

Visual inspection of drawdown time? Yes ☐ No ☐
Drawdown time less than 72 hours? Yes ☐ No ☐
(if no, call a qualified professional for inspection)

Underground Detention Systems	Reason for Inspection		
	Spring ☐	Fall/Yearly ☐	After Major Storm ☐

Maintenance Required? Yes ☐ No ☐
Corrective Action Needed & Notes:

Visual inspection of drawdown time? Yes ☐ No ☐
Drawdown time less than 72 hours? Yes ☐ No ☐
(if no, call a qualified professional for inspection)

Isolator Rows	Reason for Inspection		
	Spring ☐	Fall/Yearly ☐	After Major Storm ☐

Stadia Rod Readings:
Fixed Point to Chamber Bottom _____
Fixed Point to Top of Sediment - _____
Sediment Depth = _____

Observations/Actions:

Attachment "D"

Sediment Forebays	Reason for Inspection		
	Spring ☐	Fall/Yearly ☐	After Major Storm ☐
Maintenance Required? Yes ☐ No ☐ Corrective Action Needed & Notes:			
Catch Basins & Closed Drainage Network	Reason for Inspection		
	Spring ☐	Fall/Yearly ☐	After Major Storm ☐
Maintenance Required? Yes ☐ No ☐ Corrective Action Needed & Notes:			
Outlet Protection	Reason for Inspection		
	Spring ☐	Fall/Yearly ☐	After Major Storm ☐
Maintenance Required? Yes ☐ No ☐ Corrective Action Needed & Notes:			
General	Reason for Inspection		
	Spring ☐	Fall/Yearly ☐	After Major Storm ☐
Maintenance Required? Yes ☐ No ☐ Corrective Action Needed & Notes:			

Attachment "D"

Long-Term Inspection & Maintenance Log
Erickson Foundation Solutions – Hudson, NH

Date	Inspection (Yes or No)	Maintenance (Yes or No)	List BMPs Inspected and/or Provide Comments	Inspected By:

Attachment "D"

Anti-icing Route Data Form
Erickson Foundation Solutions – Hudson, NH

Truck Station:				
Date:				
Temperature:	Pavement Temperature:	Relative Humidity:	Dew Point:	Sky:
Reason For Applying:				
Route:				
Chemical:				
Application Time:				
Application Amount:				
Observation (first day):				
Observation (after event):				
Observation (before next application):				
Name:				

III. Control of Invasive Plants

Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some Exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and
- resisting control except by hazardous chemical.

During maintenance activities, check for the presence of invasive plants and suitably remove according to the methods provided in the table below. The following table, based on the "Control of Invasive Plants" published by the New Hampshire Department of Agriculture, describes the most common invasive plants in this region and proper methods of disposal.

Attachment "D"

Name	Description	Invasive Qualities	Control Methods
Invasive Trees			
Norway Maple	- Large leaves - Will exude milky white sap when leaves are broken - Leaves turn color in Late October (fall foliage is yellow)	- Suppresses growth of grass, garden plants, and forest understory -Wind-borne seeds can germinate and grow in deep shade	- Pull seedlings and small or shallow-rooted plants when soil is moist. Dig out plants, including the root systems. Use a forked spade or weed wrench. - Cut down the tree. Grind out the stump, or clip off re-growth. - Girdle[1] - Frill[2] - Cut stem/ cut stump with glyphosate. Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.* - Foliar spray with glyphosate [3]* (mid-October to early November).
Tree of Heaven	- Long compound leaves with 11-25 lance shaped leaflets - Smell like peanut butter or burnt coffee when crushed	- Tough, can grow in poor conditions - Produces large quantities of wind-borne seeds - Grows rapidly - Secretes a toxin that kills other plants - Cannot be removed by mechanical means alone	- Pull seedlings when soil is moist. - Frill[2] (no more than 1" gap between cuts). Use Garlon 3a herbicide. - Cut stem/ cut stump with Garlon 3a. Follow label directions for cut stump application. Clip off sucker sprouts or paint with Garlon 3a.* - Foliar spray[3]* (on regrowth) - Paint bottom 12" of bark with Garlon 4 Ultra (February/March). Use maximum strength specified on label for all herbicide applications.
Invasive Shrubs			
Autumn Olive	- Formerly recommended for erosion control and wildlife value	- Highly invasive, diminishes the overall quality of wildlife habitat	- Pull seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs (up to 4" diameter trunks). - Cut down the tree. Grind out the stump, or clip off re-growth. - Cut stem/ cut stump with glyphosate. Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.* - Bury stump - Do not mow

Invasive Shrubs (continued)			
Multiflora Rose	- Formerly recommended for erosion control, hedges, and wildlife habitat - Covered in white flowers in June - Very hard, curved thorns - Fringed edge to leaf stalk	- Huge shrub that chokes out all other vegetation - Too dense for most birds to nest in - Grows up trees like a vine in Shade	- Pull seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems (at least 6" from the crown and 6" down). Use a forked spade or weed wrench for trees or shrubs. - Controlled burning[4] (on extensive infestations) - Cut stem/ cut stump with glyphosate. Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.* - Foliar spray[3]* (mix Rodeo with extra sticker-spreader, or use Roundup Sure Shot Foam on small plants) - Herbicide may be applied in winter when other plants are dormant.
Bush Honeysuckles	- Includes Belle, Amur, Morrow's, and Tatarian Honeysuckle	- Creates dense shade reducing plant diversity and eliminating nest sites in forest interior spaces	- Deadhead to prevent spread of seeds (on ornamentals). Cut off seeds or fruits before they ripen. Bag and burn, or send to a landfill. - Pull seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs. - Mow or cutting at least 4 times a season to deplete plants' store of nutrients and carbohydrates, reduce seed formation, and kill or minimize spread of plants. If necessary, repeat each year (on shady sites only, brush cut in early spring and fall). - Controlled burning[4] (during growing season) - Cut down the tree. Grind out the stump, or clip off re-growth. - Cut stem/ cut stump with Glyphosate (late in the growing season). Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.*

Invasive Shrubs (continued)			
Blunt-Leaved Privet	- Medium sized shrub - Simple, oblong, dark green leaves 1-2" in length - Fragrant white flowers (spring) - Blackish-purple fruit (late summer)	- Toxic to mammals - Loss of valuable habitat	- Pull seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs. - Cut down the tree. Grind out the stump, or clip off re-growth. - Cut stem/ cut stump with Glyphosate. Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.* - Trim off all flowers - Do not cut back or mow
Burning Bush, Winged Euonymus	- Wide, corky wings on the Branches - Brilliant red autumn leaves - Fruit	- High seed production	- Pull seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs. - Cut down the tree. Grind out the stump, or clip off re-growth. - Cut stem/ cut stump with Glyphosate. Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.* - Trim off all flowers
Japanese Barberry	- Spiny deciduous shrub - Small leaves	- Very dense, displaces native plants - Can change chemistry of soil	- Pull seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs. - Cut down the tree. Grind out the stump, or clip off re-growth. - Cut stem/ cut stump with Glyphosate. Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.* - Trim off all flowers

Attachment "D"

Invasive Woody Vines			
Japanese Honeysuckle	- Gold and White flowers - Heavy scent and sweet nectar in June	- Shade shrubs and young trees of the forest understory, eventually killing them, and changing the open structure of the forest into a dense tangle - Rampant grower - Spirals around trees, often strangling them	- Pull seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs. - Mow or cutting at least 4 times a season to deplete plants' store of nutrients and carbohydrates, reduce seed formation, and kill or minimize spread of plants. If necessary, repeat each year. - Cut stem/ cut stump with Glyphosate. Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.* - Foliar spray[3]* (fall or early spring when native vegetation is dormant) Plan to re-treat repeatedly
Oriental Bittersweet	- Bright orange seed capsules in clusters all along the stem - Flowers	- Shade shrubs and young trees of the forest understory, eventually killing them, and changing the open structure of the forest into a dense tangle	- Pull seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs. - Keep ornamental plants cut back, remove all fruits as soon as they open, and bag or burn fruits. - Cut stem/ cut stump with Garlon 3a. Follow label directions for cut stump application. Clip off sucker sprouts or paint with Garlon 3a.*
Japanese Knotweed, Mexican Bamboo	- The stems have knotty joints, similar to bamboo - Grows 6-10' tall - Large, pointed oval or triangular leaves	- Shade shrubs and young trees of the forest understory, eventually killing them, and changing the open structure of the forest into a dense tangle - Can grow in shade	- Cut stem/ cut stump with Glyphosate (at least 3 times each during growing season). Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.* - Foliar spray[3]* - Treat with Rodeo - In gardens, heavy mulch or dense shade may kill it.

Attachment "D"

Invasive Herbaceous Plants			
Garlic Mustard	- White-flowered biennial - Rough scalloped leaves (kidney, heart, or arrow shaped) - Garlic smell, mustard taste when its leaves are crushed	- Shade shrubs and young trees of the forest understory, eventually killing them, and changing the open structure of the forest into a dense tangle - Rampant grower - Spirals around trees, often strangling them	- Pull seedlings and small or shallow-rooted plants when soil is moist (before it flowers in spring). Dig out larger plants, including the crown and root systems. Use a forked spade or weed wrench for trees or shrubs. Tamp down soil afterwards. - Deadhead to prevent spread of seeds. Cut off seeds or fruits before they ripen. Bag and burn or send to a landfill. - Foliar spray[3]* (may be appropriate in some settings)
Japanese Stilt Grass	- Lime green color - Line of silvery hairs down the middle of the 2-3" long blade	- Tolerates sun or dense shade -Quickly invades areas left bare or disturbed by tilling or flooding - Builds a large seed bank in the soil	- Pull seedlings and small or shallow-rooted plants when soil is moist (pulled easily in early to mid-summer).Dig out larger plants, including root systems. Use a forked spade or weed wrench for trees or shrubs. Be sure to pull before it goes to seed. If seeds have formed, bag and burn or send to a landfill. - Mow or cutting at least 4 times a season to deplete plants' store of nutrients and carbohydrates, reduce seed formation, and kill or minimize spread of plants. If necessary, repeat each year. Mowing weekly or when it has just begun to flower may prevent it from setting seed. - Foliar spray[3]* (use glyphosate or herbicidal soap on large infestations. - Use a corn-based pre-emergence herbicide on annual weeds (spring). This product is also an organic fertilizer, i.e., it can stimulate growth of existing plants, including weeds, so it is appropriate for lawns and gardens but may not be appropriate in woodlands.

Attachment "D"

Invasive Herbaceous Plants (continued)			
Mile-A-Minute Vine, Devil's Tail Tearthumb	- Triangular leaves - Barbed stems - Turquoise berries	- Rapid growth - Quickly covers and shades out herbaceous plants	- Pull seedlings and small or shallow-rooted plants when soil is moist (pulled easily in early to mid-summer).Dig out larger plants, including root systems. Use a forked spade or weed wrench for trees or shrubs. Be sure to pull before it goes to seed. If seeds have formed, bag and burn or send to a landfill. - Mow or cutting at least 4 times a season to deplete plants' store of nutrients and carbohydrates, reduce seed formation, and kill or minimize spread of plants. If necessary, repeat each year. Mowing weekly or when it has just begun to flower may prevent it from setting seed. - Foliar spray[3]* (use glyphosate or herbicidal soap on large infestations. - Use a corn-based pre-emergence herbicide on annual weeds (spring). This product is also an organic fertilizer, i.e., it can stimulate growth of existing plants, including weeds, so it is appropriate for lawns and gardens but may not be appropriate in woodlands.
Spotted Knapweed	- Thistle-like flowers	- Dense, crowds out native species	- Do not pull unless the plant is young and the ground is very soft. The root will break and produce several new plants. - Wear sturdy gloves - Deadhead to prevent spread of seeds. Cut off seeds or fruits before they ripen. Bag and burn, or send to a landfill. - In lawns, spot treat with broad-leaf weed killer. Good lawn care practices (test soil; use lime and fertilizer only when soil test shows a need; mow high and frequently; leave clippings on lawn) reduce weed infestations. - Cut stem/ cut stump with Glyphosate. Follow label directions for cut stump application. Clip off sucker sprouts or paint with glyphosate.* - Foliar spray[3]*

Attachment "D"

[1]Girdle: Cut through the bark and growing layer all around the trunk, about 6" above the ground. Girdling is most effective in spring (when the sap is rising) & middle-late summer (when the tree is sending food to the roots). Clip off sucker sprouts.

[2]Frill: Using a machete, hatchet, or similar device, hack scars (several holes in larger trees) downward into the growing layer, and squirt in glyphosate (or triclopyr if specified in table). Follow label directions for injection and frill applications. This is most effective from middle to late summer. Clip off any sucker sprouts or treat with glyphosate.

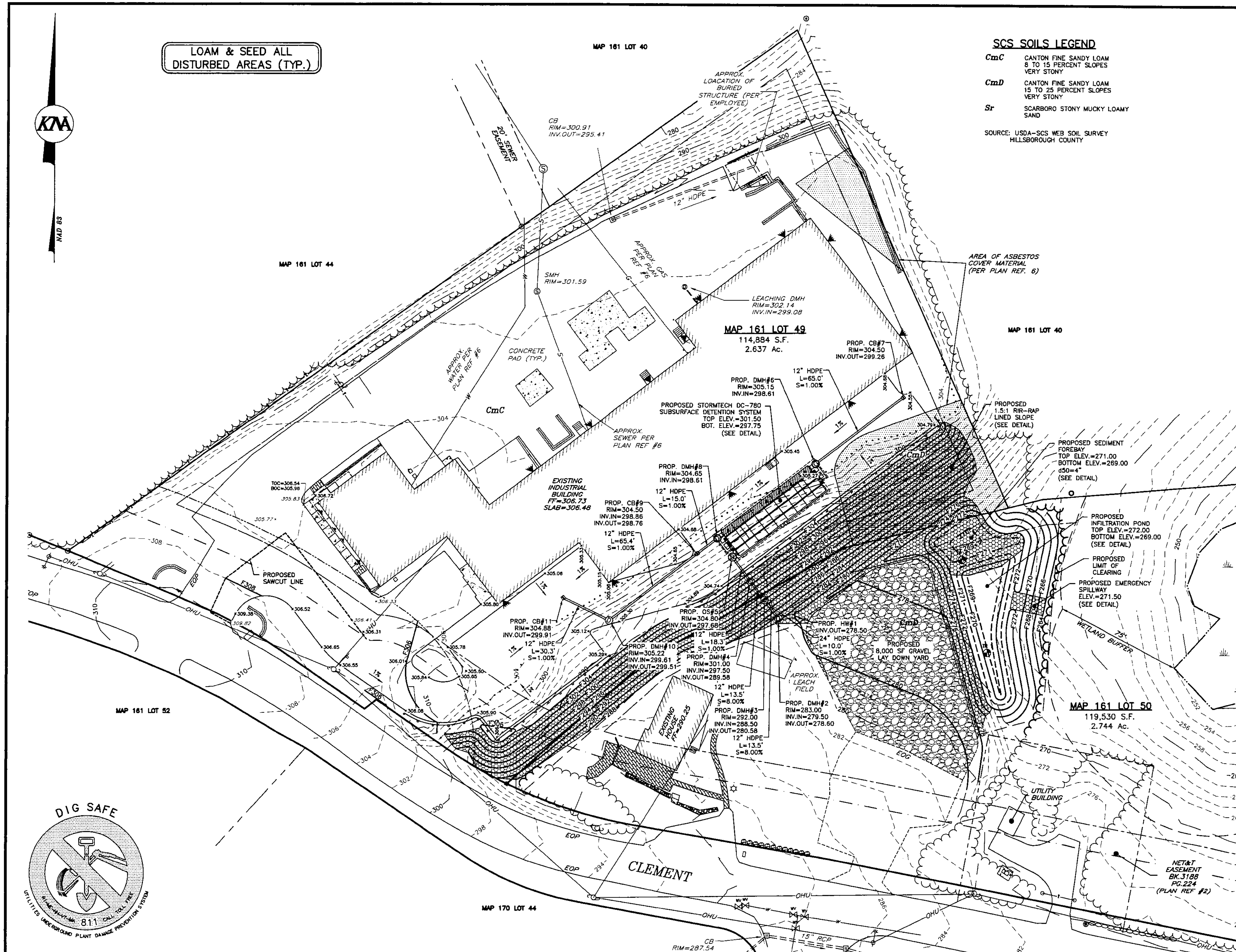
[3]Foliar Spray: Use a backpack or garden sprayer or mist blower, following label directions. Avoid overspray and/or dripping onto non-target plants, because glyphosate kills most plants except moss. If it rolls off waxy or grass-like foliage, use additional sticker-spreader. Deciduous trees, shrubs, and perennials move nutrients down to the roots in late summer. Glyphosate is particularly effective at this time and when plants have just gone out of flowering. Several invasive species retain their foliage after native plants have lost theirs, and resume growth earlier in spring than most natives. This allows you to treat them without harming the natives. However, the plant must be actively growing for the herbicide to work. Retreatments may be necessary the following year if suckering occurs or the plant hasn't been entirely killed.

[4]Controlled Burning: Burning during the spring (repeated over several years) will allow native vegetation to compete more effectively with the invasive species. This requires a permit. Spot treatment with glyphosate in late fall can be used to make this method more effective

*Herbicides: It is highly recommended that small populations try to be controlled using non-chemical methods where feasible. However, for large infestations, and for a few plants herbicide use is essential. Apply herbicides carefully to avoid non-target plants, glyphosate is the least environmentally damaging herbicide in most cases. Add food coloring for visibility, and a soap-based sticker such as Cide-Kick. Glyphosate is ineffective on some plants; for these, triclopyr or Garlon 3a may be indicated. When using herbicides read the entire label and observe all precautions listed, including proper disposal. If in doubt, call your local Cooperative Extension Service.

IV. Stormwater Practice Location Plan

Attachment "D"



SCS SOILS LEGEND

CmC	CANTON FINE SANDY LOAM 8 TO 15 PERCENT SLOPES VERY STONY
CmD	CANTON FINE SANDY LOAM 15 TO 25 PERCENT SLOPES VERY STONY
Sr	SCARBORO STONY MUCKY LOAMY SAND

SOURCE: USDA-SCS WEB SOIL SURVEY HILLSBOROUGH COUNTY

CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GRADING, DRAINAGE AND UTILITY SYSTEMS FOR THIS SITE.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF HUDSON, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
3. PARKING LOT CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS.
4. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED.
5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. SEE DETAILS FOR DRAINAGE SPECIFICATIONS.
7. ALL CATCH BASINS SHALL BE EQUIPPED WITH SNOUT DEBRIS AND OIL WATER SEPARATORS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.

LEGEND

IRF	IRON ROD FOUND
IRR	IRON ROD RECOVERED
IPF	IRON PIPE FOUND
GB-TBS	GRANITE BOUND TO BE SET
IPIN-TBS	IRON PIN TO BE SET
	UTILITY POLE
	WATER VALVE
	CATCH BASIN
	SIGN
	SEWER MANHOLE
	DRAINAGE MANHOLE
	OUTDOOR LIGHT
	STREET LIGHT
	ABUTTER LINE
	STONEWALL
OHU	OVERHEAD UTILITIES
	10' CONTOUR
	2' CONTOUR
	SOIL LINE
	DRAINAGE LINE
G	GAS LINE
W	WATER LINE
S	SEWER LINE
	TREELINE
	EDGE OF GRAVEL
EOP	EDGE OF PAVEMENT
	SETBACK
	RETAINING WALL
	WETLAND
	100' RESIDENTIAL BUFFER
	GREEN AREA SETBACK
	WETLAND BUFFER
	CHAIN LINK FENCE
	EASEMENT
	PROPOSED TREELINE
	GUARD RAIL
	PROPOSED EDGE OF PAVEMENT
	PROPOSED DRAINAGE LINE
	PROPOSED 2' CONTOUR
TP 1	TEST PIT

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

GRADING, DRAINAGE & UTILITY PLAN

ERICKSON FOUNDATION SOLUTIONS

MAP 161 LOTS 49 & 50
14 & 18 CLEMENT ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF LOT 49/APPLICANT:	OWNER LOT 50:
CLEMENT WAREHOUSE LLC 14 CLEMENT ROAD HUDSON, N.H. 03051 BK. 9014 PG. 1118	18 CLEMENT ROAD, LLC 29 BOYD ROAD HUDSON, N.H. 03051 BK. 9792 PG. 977

KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE – PETER C. MADSEN No. 18616 – LICENSED – PROFESSIONAL ENGINEER
11/4/25

REVISIONS

No.	DATE	DESCRIPTION	BY

DATE: OCTOBER 27, 2025	SCALE: 1" = 30'
PROJECT NO: 25-0717-1	SHEET 7 OF 17

NAD 83

MAP 161 LOT 40
TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, N.H. 03051
BK. 6105 PG. 398

MAP 161 LOT 44
DANIEL PRESTON
C/O NEW ENGLAND SOLID SURFACES
P.O. BOX 727
HUDSON, N.H. 03051
BK. 5942 PG. 1642

MAP 161
LOT 49

MAP 161 LOT 40
TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, N.H. 03051
BK. 6105 PG. 398

MAP 161
LOT 50

MAP 161 LOT 52
ALICE M. COAKLEY TR
COAKLEY LIVING TRUST
11 CLEMENT STREET
HUDSON, N.H. 03051
BK. 9024 PG. 2224

MAP 170 LOT 44
TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, N.H. 03051
BK. 6018 PG. 1610

MAP 161 LOT 51
ERNEST T. DOUCETTE
24 CLEMENT STREET
HUDSON, N.H. 03051
BK. 5418 PG. 268

MAP 170 LOT 30
TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, N.H. 03051
BK. 6018 PG. 1610

CLEMENT ROAD

CONSTITUTION DRIVE

SCS SOILS LEGEND

CmC	CANTON FINE SANDY LOAM 8 TO 15 PERCENT SLOPES VERY STONY
CmD	CANTON FINE SANDY LOAM 15 TO 25 PERCENT SLOPES VERY STONY
Sr	SCARBORO STONY MUCKY LOAMY SAND

SOURCE: USDA–SCS WEB SOIL SURVEY
HILLSBOROUGH COUNTY

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE VARIOUS STORMWATER SUBCATCHMENT AREAS, CORRESPONDING TIMES OF CONCENTRATION, PONDS, AND REACHES ASSOCIATED WITH THE SUBJECT PARCEL PRIOR TO DEVELOPMENT.
2. EXISTING FEATURES DEPICTED ON THIS PLAN WERE TAKEN FROM "EXISTING CONDITIONS PLAN, ERICKSON FOUNDATION SOLUTIONS, PREPARED BY KEACH–NORDSTROM ASSOCIATES, INC. DATED OCTOBER 27, 2025."

DRAINAGE LEGEND:

THE LEGEND BELOW REFLECTS THE HYDROCAD MODEL USED FOR DRAINAGE CALCULATIONS.

- SCS SOIL LINES
- SITE SPECIFIC SOIL LINES
- 400B — DENOTES SOIL TYPE
- P — DENOTES POND
- S — DENOTES SUBCATCHMENT AREA
- R — DENOTES REACH
- L — DENOTES POINT OF INTEREST
- LIMIT OF SUBCATCHMENT AREA
- TIME OF CONCENTRATION
- REACH

DIG SAFE
811
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRAPHIC SCALE

40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

PRE-DEVELOPMENT DRAIN AREA PLAN
ERICKSON FOUNDATION SOLUTIONS

MAP 161 LOTS 49 & 50
14 & 18 CLEMENT ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER LOT 49/APPLICANT:
CLEMENT WAREHOUSE LLC
14 CLEMENT ROAD
HUDSON, N.H. 03051
BK. 9014 PG. 1118

OWNER LOT 50:
18 CLEMENT ROAD, LLC
29 BOYD ROAD
HUDSON, N.H. 03051
BK. 9792 PG. 977

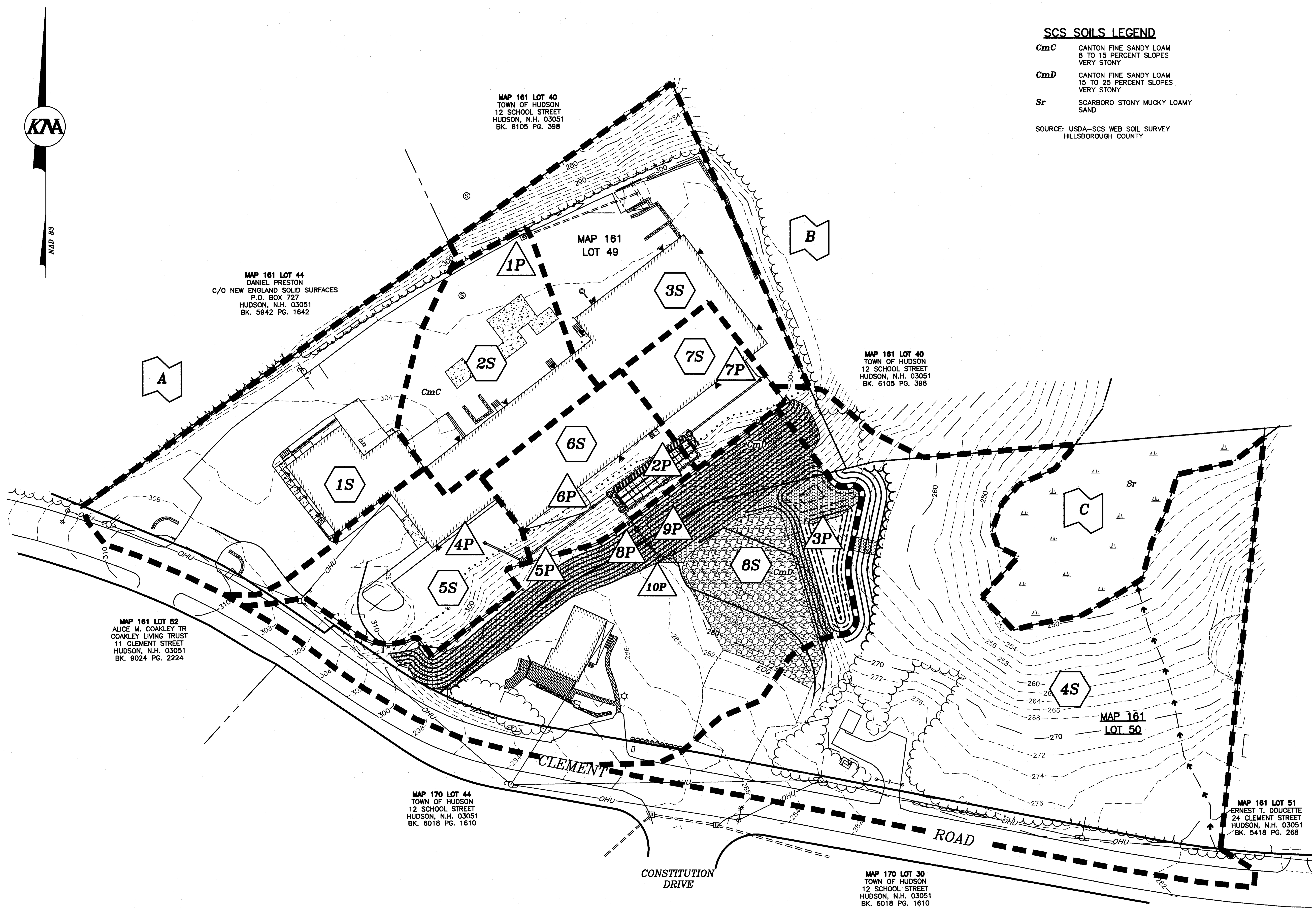
KNA KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

REVISIONS

No.	DATE	DESCRIPTION	BY

DATE: SEPTEMBER 8, 2025 | SCALE: 1" = 40'
PROJECT NO: 25–0717–1 | SHEET 1 OF 2

Attachment "D"



SCS SOILS LEGEND

- **CmC** CANTON FINE SANDY LOAM 8 TO 15 PERCENT SLOPES VERY STONY
- **CmD** CANTON FINE SANDY LOAM 15 TO 25 PERCENT SLOPES VERY STONY
- **Sr** SCARBORO STONY MUCKY LOAMY SAND

SOURCE: USDA–SCS WEB SOIL SURVEY HILLSBOROUGH COUNTY

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE VARIOUS STORMWATER SUBCATCHMENT AREAS, CORRESPONDING TIMES OF CONCENTRATION, PONDS, AND REACHES ASSOCIATED WITH THE SUBJECT PARCEL AFTER DEVELOPMENT.
2. EXISTING FEATURES DEPICTED ON THIS PLAN WERE TAKEN FROM "EXISTING CONDITIONS PLAN, ERICKSON FOUNDATION SOLUTIONS, PREPARED BY KEACH–NORDSTROM ASSOCIATES, INC. DATED OCTOBER 27, 2025."
2. PROPOSED FEATURES DEPICTED ON THIS PLAN WERE TAKEN FROM "GRADING, DRAINAGE & UTILITY PLAN, ERICKSON FOUNDATION SOLUTIONS, PREPARED BY KEACH–NORDSTROM ASSOCIATES, INC. DATED OCTOBER 27, 2025."

DRAINAGE LEGEND:

THE LEGEND BELOW REFLECTS THE HYDROCAD MODEL USED FOR DRAINAGE CALCULATIONS.

- SCS SOIL LINES
- SITE SPECIFIC SOIL LINES
- 400B DENOTES SOIL TYPE
- P DENOTES POND
- S DENOTES SUBCATCHMENT AREA
- R DENOTES REACH
- L DENOTES POINT OF INTEREST
- LIMIT OF SUBCATCHMENT AREA
- TIME OF CONCENTRATION
- REACH

DIG SAFE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
811 CALL TOLL FREE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

POST-DEVELOPMENT DRAIN AREA PLAN
ERICKSON FOUNDATION SOLUTIONS

MAP 161 LOTS 49 & 50
14 & 18 CLEMENT ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER LOT 49/APPLICANT:	OWNER LOT 50:
CLEMENT WAREHOUSE LLC 14 CLEMENT ROAD HUDSON, N.H. 03051 BK. 9014 PG. 1118	18 CLEMENT ROAD, LLC 29 BOYD ROAD HUDSON, N.H. 03051 BK. 9792 PG. 977

KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

REVISIONS

No.	DATE	DESCRIPTION	BY

DATE: SEPTEMBER 8, 2025	SCALE: 1" = 40'
PROJECT NO: 25–0717–1	SHEET 2 OF 2

Attachment "E"
FUSS & O'NEILL

MEMORANDUM

TO: File

FROM: Steven W. Reichert, PE

DATE: December 19, 2025

RE: Town of Hudson Planning Board Review
14 & 18 Clement Road Site Plan
Tax Map 161, Lots 49 & 50; Acct. #1350-736
Fuss & O'Neill Reference No. 20030249.257

The following list itemizes the set of documents reviewed related to the Site Plan project located at 14 & 18 Clement Road in Hudson, New Hampshire.

- Emails between the Town of Hudson and Fuss & O'Neill between November 5 and December 4, 2025.

- Copy of email from Keach-Nordstrom Associates, Inc., to The Town of Hudson, dated November 24, 2025, including the following:
  1. Copy of letter of transmittal from Keach-Nordstrom Associates, Inc., to the Town of Hudson, dated November 6, 2025.
  2. Copy of letter from Keach-Nordstrom Associates, Inc., to the Town of Hudson, dated November 6, 2025.
  3. Copy of *Town of Hudson Lot Line Relocation Application*, dated October 27, 2025.
  4. Copy of *Town of Hudson Site Plan Application*, Tax Map 161, Lot 49, dated October 27, 2025.
  5. Copy of *Waiver Request Forms*, not dated.
  6. Copy of *Town of Hudson Site Plan Review Checklist*, dated October 17, 2025.
  7. Copy of *Town of Hudson Site Plan Application*, Tax Map 161, Lot 50, dated October 27, 2025.
  8. Copy of *Town of Hudson Site Plan Review Checklist*, dated October 17, 2025.
  9. Copy of Abutters List, not dated.
  10. Copy of Project Narrative, prepared by Keach-Nordstrom Associates, Inc., dated October 27, 2025.
  11. Copy of *Waiver Requests* letter, prepared by Keach-Nordstrom Associates, Inc., dated October 27, 2025.
  12. Copy of *Slope and Drainage Easement*, not dated or signed.

- Letter of Transmittal from Keach-Nordstrom Associates, Inc., to Fuss & O'Neill, dated and received November 5, 2025, including the following:
  1. Copy of Project Narrative, prepared by Keach-Nordstrom Associates, Inc., dated October 27, 2025.
  2. Copy of *Stormwater Management Report*, prepared by Keach-Nordstrom Associates, Inc., dated October 15, 2025.
  3. Copy of *Non-Residential Site Plan, Erickson Foundation Solutions Map 161; Lots 49 & 50, 14 & 18 Clement Road, Hudson, New Hampshire*, prepared by Keach-Nordstrom Associates, Inc., dated October 27, 2025, unless otherwise noted, with no revisions noted, including the following:
     a. Title Sheet.
     b. *Overview Plan,* Sheet 1 of 17.

c. *Existing Conditions Plan,* Sheet 2 of 17, dated September 8, 2025.
d. *Lot Line Adjustment Plan*, Sheet 3 of 17.
e. *Topographic Lot Line Adjustment,* Sheet 4 of 17.
f. *Removals/Demolition Plan*, Sheet 5 of 17.
g. *Non-Residential Site Plan*, Sheet 6 of 17.
h. *Grading, Drainage & Utility Plan*, Sheet 7 of 17.
i. *Erosion Control Plan*, Sheet 8 of 17.
j. *Landscape Plan*, Sheet 9 of 17.
k. *Lighting Plan*, Sheet 10 of 17.
l. *Sight Distance Plan & Profile*, Sheets 11 & 12 of 17.
m. *Drainage Profiles*, Sheet 13 of 17.
n. *Construction Details*, Sheets 14 to 17 of 17.

SWR:elc

cc: Brooke Dubowik – Town of Hudson
Town of Hudson Engineering Division – File