TOWN OF NEWBURGH
PLANNING BOARD
TECHNICAL REVIEW COMMENTS

PROJECT NAME:	**NORTHEAST BUSINESS CENTER**
PROJECT NO.:	**2021-28**
PROJECT LOCATION:	**SECTION 95, BLOCK 1, LOT 1.22**
REVIEW DATE:	**29 OCTOBER 2021**
MEETING DATE:	**4 NOVEMBER 2021**
PROJECT REPRESENTATIVE:	**COLLIERS ENGINEERING**

1. The proposed structure is identified as flex use building. This use does not appear in the Town of Newburgh Code. Use that is consistent with the Town Code should be identified for the structure.

2. A City of Newburgh Flow Acceptance Letter will be required.

3. The Applicants have submitted a Full Environmental Assessment Form for the project. Project is a Type I Action for SEQRA Review. The Environmental Assessment Form identifies potential habitat for Threatened and Endangered Species, Indiana Bat, Upland Sandpiper. The EAF identifies the presence of National Historic Site within the vicinity of the project. The National Historic Site listing should be coordinated with Office of Parks, Recreation Historic Preservation. Planning Board may decide its intent for Lead Agency.

4. The project is located in the City of Newburgh Watershed. Additional stormwater controls must be implemented in compliance with Town of Newburgh policy.

5. An SWPPP has been submitted and is under review by this office.

6. The SWPPP identifies that an existing Stormwater SPDES Permit issued in 2007 continues coverage on the site. The Stormwater Permit identified was for an office space use. The current proposal contains warehousing/ loading docks which are considered a stormwater "hotspot", which must be addressed on the site. In addition modifications to the previously proposed proprietary stormwater treatment devices are identified.

7. The Applicant should identify if an existing Stormwater Facilities Control Maintenance Agreement exists on the project. If no such agreement exists a Stormwater Facilities Control Maintenance Agreement should be provided.

8. The entity on the esisting Stormwater Permit should be identified. If change in ownership has occurred, modification to the Stormwater Permit would be required.

9. The Planning Board may wish to declare its intent for Lead Agency for the project.

10. Stormwater piping should be 15 inch on the plans.

11. The Applicants representative are requested to evaluate the 12 inch discharge from the proprietary stormwater treatment manhole. Several larger pipes are tributary to that device.

Respectfully submitted,

MHE Engineering, D.P.C.

Patrick J. Hines
Principal

PJH/kbw

555 Hudson Valley Avenue
Suite 101
New Windsor New York 12553
Main: 845 564 4495

Colliers
Engineering
& Design

Narrative Summary

To:	Town of Newburgh Planning Board
From:	Colliers Engineering & Design
Parcel Info:	Tax Lot: 95-1-1.22, Town of Newburgh, Orange County New York
Date:	October 18, 2021
Project No.:	10000245B – Northeast Business Center

Colliers Engineering & Design, has developed the attached Planning Board Application, Full EAF Part 1, Preliminary Site plans, Traffic Analysis Memo and Stormwater Pollution Prevention Plan for the above referenced parcel.

The subject parcel is ±14.86 acres is size and located within the IB (Interchange Business) zoning district. The site is located on the west side of Corporate Boulevard, approximately 550' north of the intersection of NYS Route 17K and Corporate Boulevard. The two existing buildings on-site consists of a ±72,000 sq. ft. mixed office and warehouse use, also called a "flex use".

Additional site improvements include, associated parking & loading, stormwater management areas, utilities, site landscaping and lighting. The existing site is accessed through two driveways located on the east side of the site. The parcel is not located within the 100-year floodplain. The adjacent parcels to the south, east, and north are zoned "IB", the parcels to the west and northwest are zoned "B" and "R-1" respectively. Lastly, the existing and proposed use(s) of "Warehouse, Storage and transportation facilities, included trucks and bus terminals, not within 500' of route 17K" and "Office for business, research and professional use and banks" are permitted uses subject to site plan review by the Planning Board within the IB zoning district.

The included application proposes to amend the plans entitled "Amended Final Site Plan" prepared for High Tech Park at Northeast Business Center, situated in The Town of Newburgh, Orange County New York, dated 9/18/2006, prepared by Van Cleef Engineering Associates. The Van Cleef plans were approved by the Board and signed by the Chairman on 2/2/2007. These approved plans were never constructed. However, a New York State DEC SPDES Stormwater permit was filed for this project and remains open (SPDES# NYR 10M084). The principal change from the approved plans is the change in use of the proposed building from "Office" use to "Flex" use.

The applicant, JKC 700, LLC, proposes a 50,000 sq. ft. "flex use" building, consisting of approximately 90% warehouse use and 10% office use. The proposed site improvements will

Colliers
Engineering
& Design

also include 12 trailer loading docks, a total of 273 parking spaces, new stormwater management areas, updated lighting and landscaping and other associated improvements. The project is in compliance with the IB zoning bulk requirements for the proposed use.

The site is located in the Town of Newburgh Consolidated Water District and the Crossroads Sewer District. The proposed building will connect to the existing services located within the site.

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TOWN OF NEWBURGH PLANNING BOARD

APPLICATION PACKAGE
for
SUBDIVISIONS,
SITE PLANS,
LOT LINE CHANGES
And
SPECIAL EXCEPTION USE PERMITS

Procedures and Requirements

July 2013

TOWN OF NEWBURGH PLANNING BOARD
308 GARDNERTOWN ROAD
NEWBURGH, NEW YORK 12550
(845) 564-7804
fax: (845) 564-7802
planningboard@hvc.rr.com

JULY 2013

TO WHOM IT MAY CONCERN:

This package of information and forms is provided at assist the applicant in the preparation of a submission of a site plan, subdivision, lot line change or special exception use permit to the Town of Newburgh Planning Board. In most cases the application will be prepared initially by a licensed professional engineer, architect, surveyor or land planner. Since in almost every case such professional will be required for the process, they should be retained as early as possible.

Procedurally, the applicant should contact the Planning Board to discuss the potential project and obtain the necessary forms and regulations.

The Zoning and Subdivision Regulations of the Town of Newburgh require that the applicant must present plans to the Secretary of the Planning Board. When your application is complete, it will be placed on the next **AVAILABLE** agenda. Submittals must be handed in to the Planning Board Secretary at least 10 days prior to the next meeting, but the date of the appearance at a meeting will be determined by the next available time slot, not necessarily the next meeting. You will be notified of the date, time and place of your meeting.

A minimum of **FOURTEEN (14)** sets of **FOLDED PLANS** for a major or minor subdivision or a site plan must be submitted with a **COMPLETED** application, and **FIFTEEN (15)** sets of plans must be submitted if plans need to be submitted to the Town of Newburgh Traffic Consultant. This completed application must include a **LONG FORM OR FULL EAF** for every project except lot line changes, 2 lot subdivisions under 3 acres or site plans impacting less than one acre, along with a **NARRATIVE** of the proposed project. The narrative should include the action being taken, the size of the parcel, what zone the parcel is in, the water and sewer information, any Zoning Board of Appeals relief needed, and whether the parcel is on a private or town road. Complex or unusual projects should be discussed in greater detail.

Following the first meeting before the Planning Board the applicant is required to send an Adjoiner Notice to property owners within 500 feet of the parcels in question (please see final page of the package for full instructions).

Upon initial review of a Short Form, the Planning Board may require specific additional environmental information or the preparation of a Long Form. Long Form part 1 should be completed by the applicant. The Board will review and may modify Part 2 prior to making a decision on the SEQRA aspect of the project.

All fees for consulting and professional services that the Planning Board incurs during the review of the applications will be the responsibility of the applicant. An advance deposit for these fees will be required and will be placed in an escrow account with the Town. If the escrow account falls below the 40% of the initial deposit, the applicant will be required to immediately make an additional deposit to the escrow account prior to any further review of the project application by the Planning Board.

Very truly yours,

JOHN P. EWASUTYN, Chairman
Town of Newburgh Planning Board

TOWN OF NEWBURGH
APPLICATION FOR
SUBDIVISION/SITE PLAN REVIEW

RETURN TO: Town of Newburgh Planning Board
308 Gardnertown Road
Newburgh, New York 12550

DATE RECEIVED: _____ **TOWN FILE NO:** _____
(Application fee returnable with this application)

1. **Title of Subdivision/Site Plan (Project name):**
   North East Business Center

2. **Owner of Lands to be reviewed:**
   Name JKC 700, LLC
   Address 4 West Red Oak Lane, Suite 200
   White Plains, New York 10604
   Phone (914) 641-4305

3. **Applicant Information (If different than owner):**
   Name
   Address
   Representative Steve McColloch
   Phone (914) 641-4305
   Fax (914) 694-4040
   Email smcculloch@houlihanparnes.com

4. **Subdivision/Site Plan prepared by:**
   Name Colliers Engineering & Design, CT, PC.
   Address 555 Hudson Valley Avenue, Suite 101
   New Windsor, New York 12553
   Phone/Fax P: (845) 564-4495

5. **Location of lands to be reviewed:**
   500, 700 & 900 Corporate Boulevard, Newburgh, New York 12550

6. **Zone** IB **Fire District** Orange Lake Fire Department
   Acreage ± 14.86 **School District** Newburgh

7. **Tax Map: Section** 95 **Block** 1 **Lot** 1.22

8. **Project Description and Purpose of Review:**
   Number of existing lots 1 **Number of proposed lots** 1
   Lot line change N/A
   Site plan review Yes (Amended Site Plan)
   Clearing and grading Yes
   Other N/A

PROVIDE A WRITTEN SINGLE PAGE DESCRIPTION OR NARRATIVE OF THE PROJECT – (Attached)

9. **Easements or other restrictions on property:**
   (Describe generally) Existing 30' wide utility easement along the property frontage.

10. **The undersigned hereby requests approval by the Planning Board of the above identified application and scheduling for an appearance on an agenda:**

Signature Stephen J. Edwards Jr **Title** Partner

Date: 8/26/21

NOTE: **If property abuts and has its access to a County or State Highway or road, the following information must be placed on the subdivision map or site plan: entrance location, entrance profile, sizing of pipe (minimum length of pipe to be 24 feet).**

The applicant will also be required to submit an additional set of plans, narrative letter and EAF if referral to the Orange County Planning Department is required under General Municipal Law Section 239.

TOWN OF NEWBURGH PLANNING BOARD

North East Business Center

PROJECT NAME

CHECKLIST FOR MAJOR/MINOR SUBDIVISION AND/OR SITE PLAN

I. The following items shall be submitted with a COMPLETED Planning Board Application Form.

1. X **Environmental Assessment Form As Required**

2. X **Proxy Statement**

3. X **Application Fees**

4. X **Completed Checklist (Automatic rejection of application without checklist)**

II. The following checklist items shall be incorporated on the Subdivision Plat or Site Plan prior to consideration of being placed on the Planning Board Agenda. Non-submittal of the checklist will result in application rejection.

1. X **Name and address of applicant**

2. X **Name and address of owner (if different from applicant)**

3. X **Subdivision or Site Plan and Location**

4. X **Tax Map Data (Section-Block-Lot)**

5. X **Location map at a scale of 1" = 2,000 ft. or less on a tax map or USCGS map base only with property outlined**

6. X **Zoning table showing what is required in the particular zone and what applicant is proposing. A table is to be provided for each proposed lot**

7. X **Show zoning boundary if any portion of proposed site is within or adjacent to a different zone**

8. X **Date of plan preparation and/or plan revisions**

9. X **Scale the plan is drawn to (Max 1" = 100')**

10. X **North Arrow pointing generally up**

11. N/A **Surveyor,s Certification**

12. N/A **Surveyor's seal and signature**

13. X **Name of adjoining owners**

14. N/A **Wetlands and 100 ft. buffer zone with an appropriate note regarding D.E.C. or A.C.O.E. requirements**

15. N/A **Flood plain boundaries** No Flood plan per FEMA firm Panel # 1390F630

16. N/A **Certified sewerage system design and placement by a Licensed Professional Engineer must be shown on plans in accordance with Local Law #1 1989**

17. X **Metes and bounds of all lots**

18. X **Name and width of adjacent streets; the road boundary is to be a minimum of 25 ft. from the physical center line of the street**

19. X **Show existing or proposed easements (note restrictions)**

20. X **Right-of-way width and Rights of Access and Utility Placement**

21. N/A **Road profile and typical section (minimum traveled surface, excluding shoulders, is to be 18 ft. wide)**

22. X **Lot area (in sq. ft. for each lot less than 2 acres)**

23. X **Number of lots including residual lot**

24. X **Show any existing waterways**

25. X **A note stating a road maintenance agreement is to be filed in the County Clerk's Office where applicable**

26. N/A **Applicable note pertaining to owners review and concurrence with plat together with owner's signature** No Plat

27. X **Show any improvements, i.e. drainage systems, water lines, sewer lines, etc.** No sub-division

28. N/A **Show all existing houses, accessory structures, wells and septic systems on and within 200 ft. of the parcel to be subdivided**

29. X **Show topographical data with 2 or 5 ft. contours on initial submission**

30. X Indicate any reference to a previous subdivision, i.e. filed map number, date and previous lot number

31. N/A If a private road, Town Board approval of name is required, and notes on the plan that no town services will be provided and a street sign (per town specs) is to be furnished and installed

32. X Number of acres to be cleared or timber harvested

33. X Estimated or known cubic yards of material to be excavated and removed from the site

34. X Estimated or known cubic yards of fill required

35. X The amount of grading expected or known to be required to bring the site to readiness

36. N/A Type and amount of site preparation which falls within the 100 ft. buffer strip of wetlands or within the Critical Environmental Area. Please explain in sq. ft. or cubic yards.

No 100' buffer disturbance.

37. N/A Any amount of site preparation within a 100 year floodplain or any water course on the site. Please explain in sq. ft. or cubic yards.

38. X List of property owners within 500 feet of all parcels to be developed (see attached statement).

The plan for the proposed subdivision or site has been prepared in accordance with this checklist.

By: _____
Licensed Professional

Date: 10/18/21

This list is designed to be a guide ONLY. The Town of Newburgh Planning Board may require additional notes or revisions prior to granting approval.

Prepared (insert date):

STATEMENT TO APPLICANTS

RE: TOWN OF NEWBURGH CLEARING AND GRADING LAW

The Town of Newburgh Clearing and Grading Control Law requires a separate permit for most site preparation activities, including clearing, grading, tree cutting, excavating and filling. Site preparation activities performed following site plan or subdivision approval by the Planning Board may by exempt from the permit application, public hearing, fee and bonding requirements of the law provided the subdivision or site plan application has been reviewed for conformance with the clearing and grading law and the approval conditioned on compliance with the standards set forth in the law. Completion of the attached form will enable the Planning Board to review your application for conformance with the law's requirements. In the event it is not completed you many be required to apply for a separated permit for your site preparation activities. A sediment and erosion control plan and a plan showing the areas to be cleared, filled, graded or subjected to tree cutting, the types of vegetation affected and the proposed disposition of the destroyed vegetation must accompany the form. A SEQRA long form or full EAF should be utilized to discuss any environmental impacts and must accompany the application.

FEE LAW SUMMARY

PENDING APPLICATIONS

All applicants with matters pending before the Planning Board as of the effective date of this local law shall be required to post as escrow in the manner and upon the terms and conditions set forth below:

(a) The Planning Board, in consultation with the applicant, shall compute the amount of the escrow to be posted with the Town. Such amount shall be reasonably related to the costs attendant to the Town's review of the application as of the effective date of this local law. Under no circumstances shall the escrow include amounts attributable to any costs incurred by the Town prior to the effective date of this local law.

(b) Once computed and established by Resolution of the Planning Board, the applicant shall, within fifteen (15) days of said resolution, post escrow fees with the Secretary of the Planning Board. Failure to deliver the said escrow fees may result in delay of the further processing of the application.

SEVERABILITY

In the event a court of law determined that any provision of this chapter is unenforceable, then only that provision shall be affected and all other provisions shall be fully enforceable.

EFFECTIVE DATE:

This local law shall take effect immediately upon filing in the Office of the Secretary of State.

FEE ACKNOWLEDGEMENT

The town of Newburgh Municipal Code sets forth the schedule of fees for applications to the Planning Board. The signing of this application indicates your acknowledgement of responsibility for payment of these fees to the Planning Board for review of this application, including, but not limited to escrow fees for professional services (planner/consultant, engineering, legal), public hearing and site inspection. Applicant's submissions and resubmissions are not complete and will not be considered by the planning board or placed upon its agenda unless all outstanding fees have been paid. Fees incurred after the stamping of plans will remain the responsibility of the applicant prior to approval of a building permit or certificate of occupancy. Fee schedules are available from the Planning Board Secretary and are on the Town's website.

JKC 700 LLC Stephen J McCulloch As Agent for JKC 700 LLC Partner

APPLICANT'S NAME (printed)

Stephen J McCulloch Jr As Agent for JKC 700 LLC Partner

APPLICANTS SIGNATURE

8/26/21

DATE

Note: if the property abuts and has access to a County or State Highway or road, the following information must be place on the subdivision map: entrance location, entrance profile, sizing of drainage pipe (minimum length of pipe to be twenty-four (24) feet).

PROXY

(OWNER) JKC 700, LLC **, DEPOSES AND SAYS THAT HE/SHE**

RESIDES AT 4 West Red Oak Lane, Suite 200, White Plains

IN THE COUNTY OF Westchester

AND STATE OF New York

AND THAT HE/SHE IS THE OWNER IN FEE OF Town of Newburgh Tax Lot 95-1-1.22

WHICH IS THE PREMISES DESCRIBED IN THE FOREGOING APPLICATION AS DESCRIBED THEREIN TO THE TOWN OF NEWBURGH PLANNING BOARD AND Colliers Engineering & Design, CT, PC. **IS AUTHORIZED TO REPRESENT THEM AT MEETINGS OF SAID BOARD.**

DATED: 8/26/21

Stephen J McCullough Jr As Agent for JKC 700 LLC Partner

OWNERS SIGNATURE

Stephen J McCullough Jr

OWNERS NAME (printed)

WITNESS' SIGNATURE

William R. Morris

WITNESS' NAME (printed)

NAMES OF ADDITIONAL REPRESENTATIVES

PLANNING BOARD DISCLAIMER STATEMENT
TO APPLICANTS

The applicant is advised that the Town of Newburgh Municipal Code, which contains the Town's Zoning Law, is subject to amendment. Submission of an application to this Board does not grant the applicant any right to continued review under the Code's current standards and requirements. It is possible that the applicant will be required to meet changed standards or new Code requirements made while the application is pending.

An approval by this Board does not constitute permission, nor grant any right to connect to or use municipal services such as sewer, water or roads. It is the applicant's responsibility to apply for and obtain the Town of Newburgh and other agency approvals not within this Board's authority to grant.

The applicant hereby acknowledges, consents, and agrees to the above.

8/26/21
DATED

JKC 700, LLC
APPLICANT'S NAME (printed)

Stephen J. Kearney Jr As Agent for JKC 700 LLC Partner
APPLICANT'S SIGNATURE

DISCLOSURE ADDENDUM STATEMENT TO APPLICATION, PETITION AND REQUEST

Mindful of the provisions of Section 809 of the General Municipal Law of the State of New York, and of the Penal provisions thereof as well, the undersigned applicant states that no State Officer, Officer or Employee of the Town of Newburgh, or Orange County, has any interest, financial or otherwise, in this application or with, or in the applicant as defined in said Statute, except the following person or persons who is or are represented to have only the following type of interest, in the nature and to the extent hereinafter indicated:

__X__ **NONE**

_____ **NAME, ADDRESS, RELATIONSHIP OR INTEREST**
(financial or otherwise)

_____

_____

_____

This disclosure addendum statement is annexed to and made a part of the petition, application and request made by the undersigned applicant to the following Board or Officer of the Town of Newburgh.

_____ **TOWN BOARD**
__X__ **PLANNING BOARD**
_____ **ZONING BOARD OF APPEALS**
_____ **ZONING ENFORCEMENT OFFICER**
_____ **BUILDING INSPECTOR**
_____ **OTHER**

8/26/21
DATED

_____
INDIVIDUAL APPLICANT

JKC 700, LLC
CORPORATE OR PARTNERSHIP APPLICANT

BY: [signature] As Agent for JEC 7(LLC Partner
(Pres.) (Partner) (Vice-Pres.)
(Sec.) (Treas.)

LIST OF ADJACENT PROPERTY OWNERS

Within ten business days following the applicant's first appearance before the Planning Board, the applicant shall forward a letter prepared by the Planning Board or an authorized agent of the Planning Board to all property owners within 500 feet of the land involved in the application, as the names of such owners appear on the last completed assessment roll of the Town, notifying the property owners of the receipt of the plat and application, by first class mail. **The list of property owners shall be provided to the applicant from the Planning Board, through the Town Assessor's office.** The applicant shall thereafter submit a duly executed, notarized affidavit of mailing to the Planning Board. Further appearances before the Planning Board shall be prohibited until an affidavit meeting the requirements has been delivered. In the event a modification to an application proposes an increase in the number of lots or the relocation of a proposed road or drainage basin to a location adjacent to an adjoining property, then a supplementary letter shall be required to be forwarded in the same manner advising of the modification.

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Northeast Business Center		
Project Location (describe, and attach a general location map): 500, 700 & 900 Corporate Boulevard, Newburgh NY 12550		
Brief Description of Proposed Action (include purpose or need): Amended Site plan for a proposed 50,000 SF "Flex Use" building, on a partially developed site. (see attached narrative for a more detailed description)		
Name of Applicant/Sponsor: 700 JKC, LLC	Telephone: 914 641-4305 E-Mail: smcculloch@houlihanparnes.com	
Address: 4 West Red Oak Lane, Suite 200		
City/PO: White Plains	State: NY	Zip Code: 10604
Project Contact (if not same as sponsor; give name and title/role): Steve McColloch (Representative)	Telephone: 914 641-4305 E-Mail: smcculloch@houlihanparnes.com	
Address: 4 West Red Oak Lane, Suite 200		
City/PO: White Plains	State: NY	Zip Code: 10604
Property Owner (if not same as sponsor):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	**If Yes: Identify Agency and Approval(s) Required**	**Application Date (Actual or projected)**
a. City Counsel, Town Board, or Village Board of Trustees ☐Yes☑No		
b. City, Town or Village Planning Board or Commission ☑Yes☐No	Town of Newburgh Planning Board (Site Plan Approval)	10/22/21
c. City, Town or Village Zoning Board of Appeals ☐Yes☑No		
d. Other local agencies ☐Yes☑No		TBD
e. County agencies ☑Yes☐No	Orange County Planning Dept. - GML 239 Referral	TBD
f. Regional agencies ☐Yes☑No		
g. State agencies ☑Yes☐No	NYSDEC Stormwater Permit	TBD
h. Federal agencies ☐Yes☑No		

i. Coastal Resources.
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☐Yes☑No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes☑No

If Yes, identify the plan(s):

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes☑No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
"IB" - Interchange Business

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Newburgh

b. What police or other public protection forces serve the project site?
Newburgh Police Department

c. Which fire protection and emergency medical services serve the project site?
Orange Lake Fire District

d. What parks serve the project site?
N/a - No Adjacent Parks

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Mixed - Office and Warehouse uses

b. a. Total acreage of the site of the proposed action? 14.86 acres
b. Total acreage to be physically disturbed? 3.75 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 14.86 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % 169% 50,000 additional SF

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 12 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐Yes ☑No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☑Yes ☐No

If Yes,

i. Total number of structures 1

ii. Dimensions (in feet) of largest proposed structure: <40' height; 125' width; and 400' length

iii. Approximate extent of building space to be heated or cooled: 50,000 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑Yes ☐No

If Yes,

i. Purpose of the impoundment: stormwater management facility

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑Other specify: building roof stormwater runoff

iii. If other than water, identify the type of impounded/contained liquids and their source.

N/A

iv. Approximate size of the proposed impoundment. Volume: 0.04 million gallons; surface area: 0.063 acres

v. Dimensions of the proposed dam or impounding structure: 3' height; 200' length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

Earth Fill

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐Yes ☑No

If Yes:

i. What is the purpose of the excavation or dredging?

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards):
- Over what duration of time?

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No

If yes, describe.

v. What is the total area to be dredged or excavated? acres

vi. What is the maximum area to be worked at any one time? acres

vii. What would be the maximum depth of excavation or dredging? feet

viii. Will the excavation require blasting? ☐Yes ☐No

ix. Summarize site reclamation goals and plan:

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description):

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐Yes ☐No
If Yes, describe:

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes ☐No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☑Yes ☐No
If Yes:

i. Total anticipated water usage/demand per day: +/-750 (+/- 50 employees) gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑Yes ☐No
If Yes:

- Name of district or service area: Town of Newburgh Consolidated Water District
- Does the existing public water supply have capacity to serve the proposal? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No
- Do existing lines serve the project site? ☑Yes ☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes ☑No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☑No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑Yes ☐No
If Yes:

i. Total anticipated liquid waste generation per day: +/-750 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary Wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑Yes ☐No
If Yes:

- Name of wastewater treatment plant to be used: City of Newburgh Wastewater Plant
- Name of district: Crossroads Sewer District.
- Does the existing wastewater treatment plant have capacity to serve the project? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No

- Do existing sewer lines serve the project site? ☑Yes ☐No
- Will a line extension within an existing district be necessary to serve the project? ☐Yes ☑No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☑No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 2.18 acres (impervious surface)

_____ Square feet or 14.86 acres (parcel size)

ii. Describe types of new point sources. No new point sources are proposed. The proposed drainage system will connect to existing on-site drainage, and maintain existing point discharge locations.

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

On-site stormwater management facility

- If to surface waters, identify receiving water bodies or wetlands: Existing on-site stormwater management facility
- Will stormwater runoff flow to adjacent properties? ☑Yes ☐No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑Yes ☐No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

Delivery vehicles/ trucks

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

Emergency power generators.

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

HVAC

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☑Yes ☐No

Morning for peak entry, evening for peak exit (evening,exit is greater)

If Yes:

i. When is the peak traffic expected (Check all that apply): ☑ Morning ☑ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): semi trailers 110 trips

iii. Parking spaces: Existing 264 Proposed 273 Net increase/decrease 9

iv. Does the proposed action include any shared use parking? (shared between the three buildings) ☑Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: Site Access locations are to be maintained

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☑Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☑No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☑Yes ☐No

on-site sidewalks are proposed

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: TBD - will vary depending on the end user

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): Local Utility Provider

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7am-7pm
- Saturday: 7am-7pm
- Sunday: N/A
- Holidays: N/A

ii. During Operations:

- Monday - Friday: TBD - depending on the end user
- Saturday: TBD - depending on the end user
- Sunday: TBD - depending on the end user
- Holidays: TBD - depending on the end user

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

equipment during construction is expected to exceed existing ambient noise levels through construction, existing ambient noise levels includes airplanes from Stewart Airport and on-site & adjacent lot warehouse trailers.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☑ Yes ☐ No

Describe: Site is mostly cleared from large trees and natural barriers, a small area of trees will be removed at the western property line. The majority of the existing western vegetated buffer is to remain.

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

(16) Wall and pole mounted LED fixtures. see lighting plan for detail.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☑ Yes ☐ No

Describe: clearing of existing vegetation within the developed area.

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities:

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☑ Yes ☐ No

If Yes:

i. Describe proposed treatment(s):

An Integrated Pest Management (IPM) plan will be implemented as necessary to manage potential pests

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: +/- 7.2 tons per Month (unit of time) TBD - depending on the end user
- Operation : +/- 6.68 tons per Month (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: recycle excess or scrap construction materials
- Operation: recycle glass, plastics and cardboard that is generated

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: Local hauling company and solid waste landfill
- Operation: Local hauling company and solid waste landfill

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☐ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	5.10	7.28	2.18
• Forested	2.46	2.44	-0.02
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	6.29	4.13	-2.16
• Agricultural (includes active orchards, field, greenhouse etc.)	-		
• Surface water features (lakes, ponds, streams, rivers, etc.)	1.01	1.01	0
• Wetlands (freshwater or tidal)	-		
• Non-vegetated (bare rock, earth or fill)	-		
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes ☑No

If Yes,

i. Identify Facilities:

_____

_____

e. Does the project site contain an existing dam? ☐Yes ☑No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No

If Yes:

i. Has the facility been formally closed? ☐Yes ☑ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes ☑No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐Yes ☐No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑Yes ☐No

If yes, provide DEC ID number(s): 336088, 336089

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

(336088) Stewart Air Nation Guard Base , (336089) Stewart Air Nation Guard Base, -Lake Washington contamination

_____

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? +/-2' (per NRCS) feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:

Alden silt loam	4.7 %
Erie gracelly silt loam	72.7 %
Mardin gravelly silt loam	22.6 %

d. What is the average depth to the water table on the project site? Average: 1' (NRCS) feet

e. Drainage status of project site soils:

☐ Well Drained:	% of site
☐ Moderately Well Drained:	% of site
☑ Poorly Drained	100 % of site

f. Approximate proportion of proposed action site with slopes:

☐ 0-10%:	77 % of site
☐ 10-15%:	3 % of site
☐ 15% or greater:	20 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 862-223 Classification A
- Lakes or Ponds: Name 862-223 Classification A
- Wetlands: Name Federal Waters, Federal Waters, Federal Waters Approximate Size 1.06
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
typical suburban wildlife

n. Does the project site contain a designated significant natural community? ☐Yes ☑No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐No
If Yes:
i. Species and listing (endangered or threatened):
Indiana Bat, Upland Sandpiper

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No
If Yes:
i. Species and listing:

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No
If yes, give a brief description of how the proposed action may affect that use:

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No
If Yes, provide county plus district name/number:

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No
If Yes:
i. CEA name:
ii. Basis for designation:
iii. Designating agency and date:

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☑ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☑ Historic Building or District

ii. Name: Belknap Stone House

iii. Brief description of attributes on which listing is based:

second oldest house in newburgh, home built in 1760

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☐ Yes ☑ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

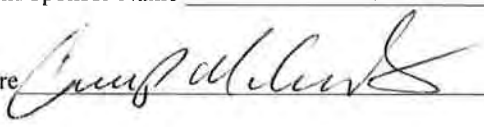
Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Connor McCormack, P.E. Date 10/14/2021

Signature  Title Senior Project Engineer

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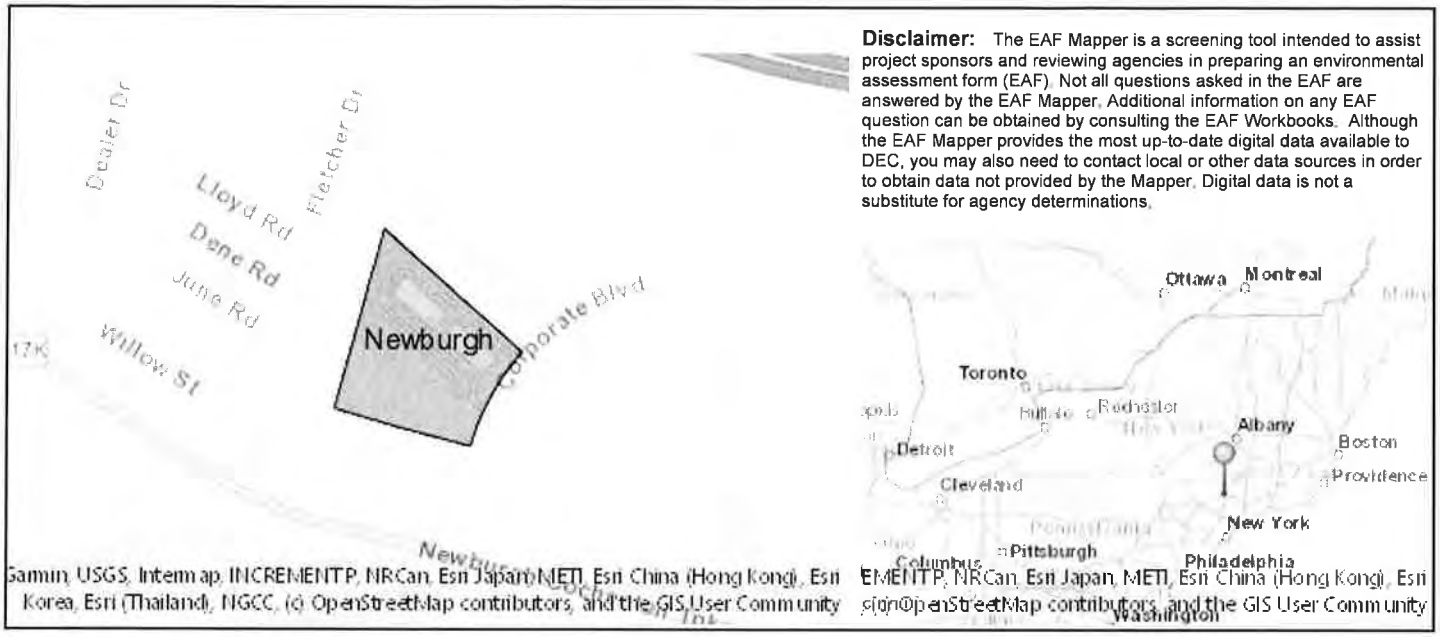
EAF Mapper Summary Report

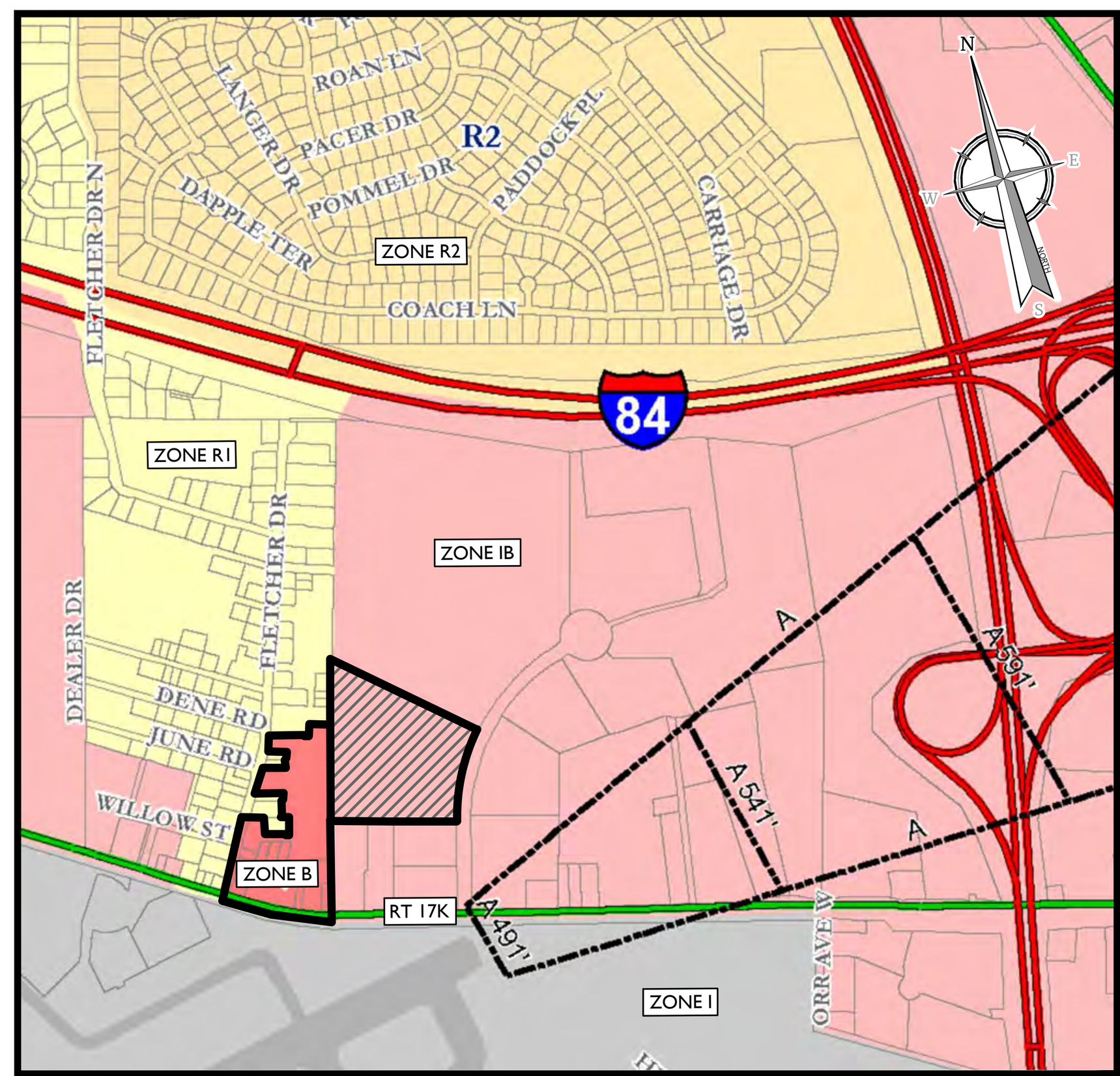
Tuesday, October 5, 2021 3:58 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	336088, 336089
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	862-223
E.2.h.iv [Surface Water Features - Stream Classification]	A
E.2.h.iv [Surface Water Features - Lake/Pond Name]	862-223
E.2.h.iv [Surface Water Features - Lake/Pond Classification]	A

E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Indiana Bat, Upland Sandpiper
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	Belknap Stone House
E.3.f. [Archeological Sites]	No
E.3.i. [Designated River Corridor]	No



TOWN OF NEWBURGH ZONING MAP
SCALE: 1" = 500'
SOURCE: TOWN OF NEWBURGH ZONING MAP

PRELIMINARY AMENDED SITE PLANS

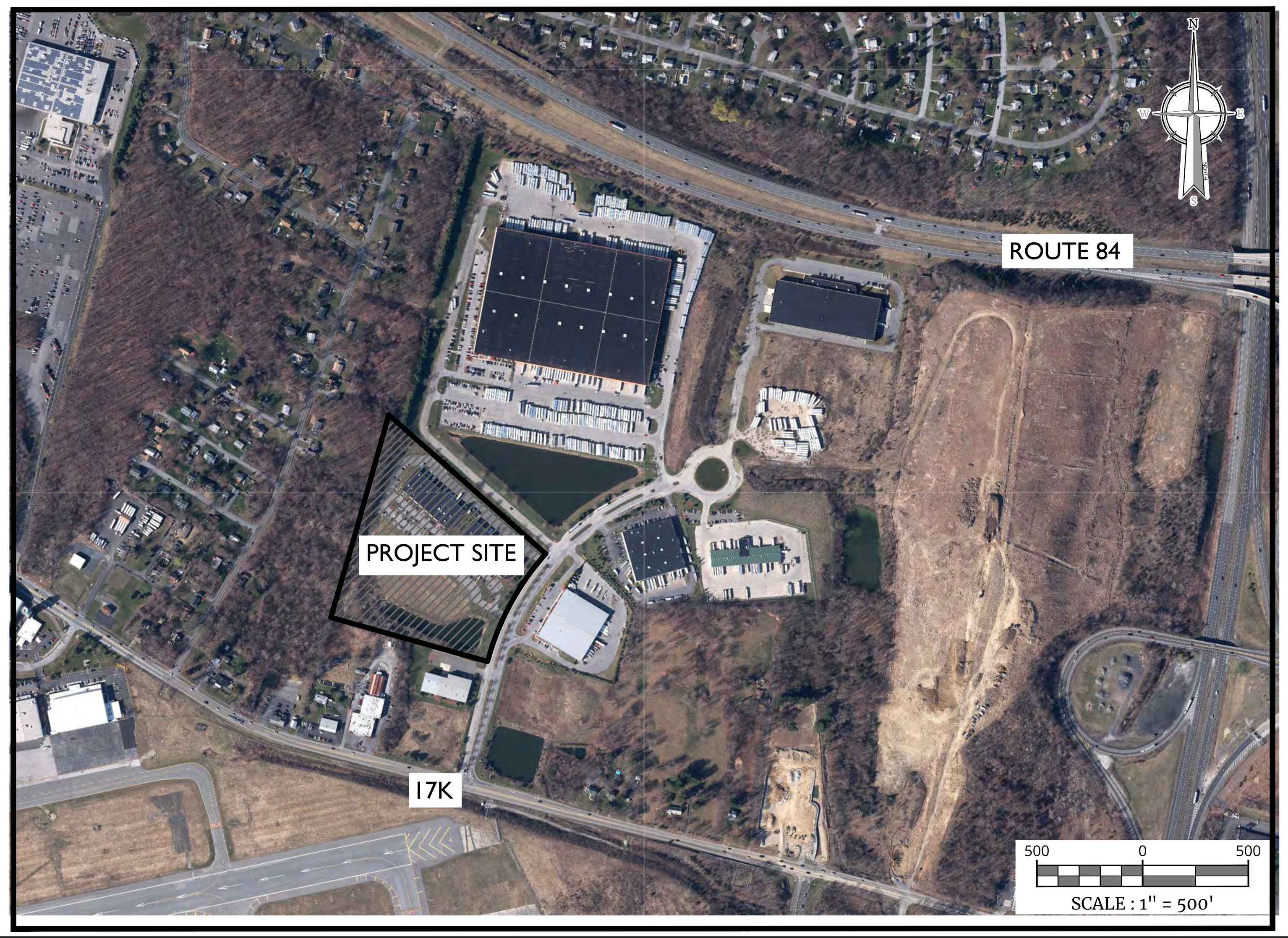
FOR

NORTHEAST BUSINESS CENTER

SECTION 95, BLOCK 1, LOT 1.22

TOWN OF NEWBURGH

ORANGE COUNTY, NEW YORK STATE



KEY & ZONING MAP
SOURCE: NEW YORK STATE CLEARINGHOUSE

INDEX OF SHEETS

SHT. No.	DESCRIPTION	LATEST REVISION
1	COVER SHEET	9/10/2021
2	EXISTING CONDITIONS & DEMOLITION PLAN	9/10/2021
3	DIMENSION PLAN	9/10/2021
4	GRADING, DRAINAGE & UTILITY PLAN	9/10/2021
5	SOIL EROSION & SEDIMENT CONTROL PLAN	9/10/2021
6	SOIL EROSION & SEDIMENT CONTROL DETAILS	9/10/2021
7	LANDSCAPE PLAN	9/10/2021
8	LIGHTING PLAN	9/10/2021
9-11	CONSTRUCTION DETAILS	9/10/2021

2010\10000245B\Engineering\Site Plans\C-COVER.dwg\C-01-COVER By: CMCCORMACK

GENERAL INFORMATION

1. PROPERTY DESCRIPTION
   - TAX LOT: 95-1-1.22
   - LOT SIZE: 14.86 ACRES (647,156 SQFT)
   - ZONE: IB (INTERCHANGE BUSINESS)
   - PROPERTY ADDRESS: 500, 700, 900 & CORPORATE BOULEVARD, NEWBURGH NY 12550
   - OWNER & APPLICANT :
     JKC 700, LLC.
     4 WEST RED OAK LANE, SUITE 200
     WHITE PLAINS, NEW YORK 10604
2. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS TAKEN FROM A PLAN ENTITLED "BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY FOR LANDS NOW OR FORMALLY 700-900, LLC & JKC 700, LLC", DATED 7/7/2021, PREPARED BY COLLIERS ENGINEERING & DESIGN.
3. THE HORIZONTAL DATUM IS RELATIVE TO THE NEW YORK STATE PLANE COORDINATE SYSTEM EAST ZONE AND ADJUSTED TO NAD 1983. THE VERTICAL DATUM IS RELATIVE TO N.A.V.D. 1988.
4. NO 100 YEAR FLOOD PLAINS ARE KNOWN TO EXIST ON THE SITE PER THE FLOOD INSURANCE RATE MAP 36071C0139E, DATED AUGUST 3, 2009 PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
5. MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR THE SITE IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH:
   A. NEW YORK STATE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", LATEST EDITION; AS SUPPLEMENTED.
   B. CURRENT PREVAILING MUNICIPAL, COUNTY, AND/OR STATE AGENCY SPECIFICATIONS, STANDARDS, CONDITIONS, AND REQUIREMENTS.
   C. CURRENT PREVAILING UTILITY COMPANY/AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
   D. CURRENT MANUFACTURER SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
6. WATER SERVICE TO BE PROVIDED FROM THE EXISTING WATER MAIN LOCATED ON SITE AND IN CORPORATE BOULEVARD. WATERMAIN SIZE AND LOCATION IS REFERENCED FROM BEST AVAILABLE MAPPING.
7. SANITARY SEWER SERVICE SHALL BE PROVIDED BY A GRAVITY CONNECTION TO EXISTING SEWER MAINS LOCATED ON SITE. MANHOLE LOCATIONS ARE SUBJECT TO MUNICIPAL REVIEW AND APPROVAL, ACCORDING TO MUNICIPAL AND ORANGE COUNTY HEALTH DEPARTMENT REGULATIONS. PIPE MATERIALS SHALL BE PVC SDR-35, EXCEPT AS NOTED OTHERWISE ON THE PLANS. EXCEPT WHERE SHALLOWER DEPTHS ARE PERMITTED BY THE MUNICIPALITY OR UTILITY AUTHORITY, SEWER LINES, INCLUDING FORCE MAINS AND LATERALS, SHALL BE INSTALLED TO PROVIDE A MINIMUM 4 FEET OF COVER FROM THE TOP OF PIPE TO PROPOSED GRADE.
8. SANITARY SEWERS SHALL BE SEPARATED FROM WATER MAINS BY AT LEAST 10 FEET HORIZONTALLY. IF SUCH SEPARATION IS NOT POSSIBLE, THE PIPES SHALL BE IN SEPARATE TRENCHES WITH THE SANITARY SEWER AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. WHERE APPROPRIATE SEPARATION IS NOT POSSIBLE, THE SEWER SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE-IRON-PIPE USING MECHANICAL OR SLIP ON JOINTS, FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS ARE AS FAR AWAY AS POSSIBLE FROM THE WATER LINE.
9. GAS, ELECTRIC, LIGHTING, COMMUNICATIONS, AND ELECTRICAL SERVICE PLANS, IF REQUIRED, SHALL BE PREPARED BY THE RESPECTIVE UTILITY COMPANIES THAT SERVICE THE AREA PRIOR TO SITE CONSTRUCTION AND SHALL BE INSTALLED PER ORDINANCE REQUIREMENTS.
10. ELECTRIC, COMMUNICATIONS, AND GAS LINES WILL BE INSTALLED UNDERGROUND. CROSSINGS OF PROPOSED PAVEMENTS WILL BE INSTALLED PRIOR TO THE CONSTRUCTION OF PAVEMENT BASE COURSE.
11. UTILITY RELOCATIONS SHOWN HEREON, IF ANY, ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT REPRESENT ALL REQUIRED UTILITY RELOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING AND/OR COORDINATING ALL REQUIRED UTILITY RELOCATIONS IN COOPERATION WITH THE RESPECTIVE UTILITY COMPANY/AUTHORITIES.
12. STORM SEWERS SHALL BE CLASS III (OR HIGHER IF NOTED) REINFORCED CONCRETE PIPE (RCP) WITH "O" RING GASKETS, HIGH DENSITY POLYEHTYLENE PIPE (HDPE) OR APPROVED EQUAL AS NOTED. PROPER PIPE COVERAGE SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION. PIPE LENGTHS SHOWN HEREON ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
13. REFUSE AND RECYCLABLES PICKUP SHALL BE AS SHOWN OF THE PLAN AND AS DEEMED ACCEPTABLE BY THE TOWN FIRE INSPECTORS OFFICE.
14. TRAFFIC SIGNAGE AND STRIPING SHALL CORRESPOND TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
15. THIS IS A SITE DEVELOPMENT PLAN AND UNLESS SPECIFICALLY NOTED ELSEWHERE HEREON, IS NOT A SURVEY.
16. BUILDING FOOTPRINT DIMENSIONS SHOWN HERON ARE APPROXIMATE. FINAL BUILDING FOOTPRINT DIMENSIONS FOR THE BUILDING SHALL BE FURNISHED ON THE ARCHITECTURAL PLANS AT THE TIME OF APPLICATION FOR A BUILDING PERMIT. ALL STRUCTURES SHALL CONFORM TO THE APPROVED BULK ZONING REQUIREMENTS.
17. DO NOT SCALE DRAWINGS AS THEY PERTAIN TO ADJACENT AND SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC. THEY ARE SCHEMATIC ONLY, EXCEPT WHERE DIMENSIONS ARE SHOWN THERETO.
18. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL APPROVALS REQUIRED HAVE BEEN OBTAINED, ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED AND THE DRAWINGS HAVE BEEN STAMPED "ISSUED FOR CONSTRUCTION". THIS SHALL INCLUDE APPROVAL OF ALL CATALOG CUTS, SHOP DRAWINGS AND/OR DESIGN CALCULATIONS AS REQUIRED BY THE PROJECT OWNER AND/OR MUNICIPALITY. CONSTRUCTION ON SITE SHALL BE IN COMPLIANCE WITH SITE PLANS APPROVED BY THE TOWN PLANNING BOARD.
19. EXISTING UNDERGROUND UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO THEIR SATISFACTION PRIOR TO EXCAVATION. WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTIONS, TEST PITS SHALL BE DUG BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO ASCERTAIN EXISTING INVERTS, MATERIALS, AND SIZES. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENTS AS REQUIRED TO AVOID CONFLICTS. THE CONTRACTOR SHALL NOTIFY THE UNDER SIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON. SUCH CONDITIONS COULD RENDER THE DESIGNS HEREON INAPPROPRIATE OR INEFFECTIVE.
20. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY, INCLUDING PROVISION OF ALL APPROPRIATE SAFETY DEVICES AND TRAINING REQUIRED.
21. INFORMATION SHOWN HEREON IS INCORPORATED WITH THE CONTENTS OF THE FOLLOWING REPORTS:
    - STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED BY COLLIERS ENGINEERING & DESIGN DATED, OCTOBER 2021.
    - TRAFFIC IMPACT STUDY PREPARED BY COLLIERS ENGINEERING & DESIGN, DATED 06/28/2021

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REV	DATE	DRAWN BY	DESCRIPTION

REV	DATE	DRAWN BY	DESCRIPTION

Connor Patrick McCormack
NEW YORK LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 103756
COLLIERS ENGINEERING & DESIGN CT, P.C.
N.Y. C.O.A #: 0017609

PRELIMINARY AMENDED SITE PLAN

FOR

NORTHEAST BUSINESS CENTER

SECTION 95
BLOCK 1
LOT 1.22

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

Colliers Engineering & Design
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555 Hudson Valley Avenue
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Phone: 845.564.4495
COLLIERS ENGINEERING & DESIGN CT, P.C.
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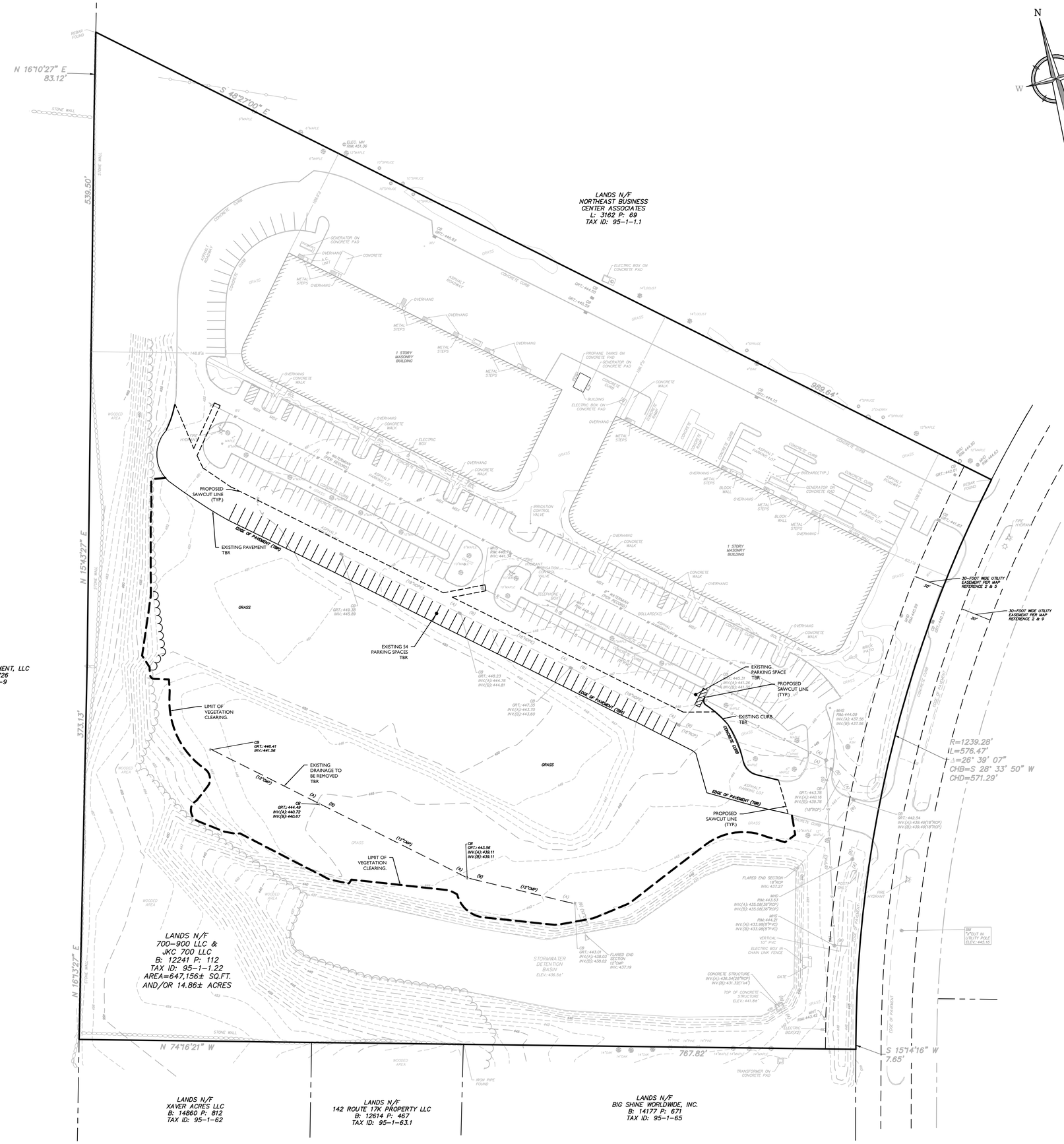
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	CPM	JED

PROJECT NUMBER:	DRAWING NAME:
10000245B	C-COVER

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
01 of 11

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



DEMOLITION NOTES:

1. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR SHALL BE REQUIRED TO CALL THE BOARD OF PUBLIC UTILITIES ONE CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARK OUT IN ADVANCE OF ANY EXCAVATION. DIG SAFELY. NEW YORK. 1-800-962-7962 OR 811. A PRE-DEMOLITION CONFERENCE WILL NEED TO BE ARRANGED WITH DIG SAFELY, NEW YORK AND MUST BE HELD A MINIMUM OF 7 DAYS BEFORE THE START OF ANY DEMOLITION.
2. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE IMPROVEMENTS AND UTILITIES. ALL DISCREPANCIES SHALL BE IDENTIFIED TO THE ENGINEER IN WRITING.
3. ALL DEMOLITION DEBRIS TO BE REMOVED BY CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
4. ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN ACCORDANCE WITH THESE PLANS, AS WELL AS ALL FEDERAL, STATE AND LOCAL REGULATIONS. ANY DISCREPANCIES OR DEVIATIONS SHALL BE IDENTIFIED BY THE CONTRACTOR TO COLLIERS ENGINEERING & DESIGN IN WRITING FOR RESOLUTION PRIOR TO INITIATION OF SITE ACTIVITY.
5. PRIOR TO STARTING ANY DEMOLITION CONTRACTOR IS RESPONSIBLE FOR/TO:
   - A. ENSURING COPIES OF ALL PERMITS AND APPROVALS MUST BE MAINTAINED ON SITE AND AVAILABLE FOR REVIEW.
   - B. INSTALLING THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE (SEE "EROSION AND SEDIMENT CONTROL PLAN," THIS DRAWING SET).
   - C. ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.
   - D. PROTECTING AND MAINTAINING IN OPERATION, ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.
   - E. FAMILIARIZING THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING PROVIDER AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.
   - F. CLEAN THE EXISTING UTILITY STRUCTURES ON-SITE PRIOR TO CONSTRUCTION AND VERIFY THE INVERTS FOR CONNECTION.
6. COLLIER ENGINEERING & DESIGN, CT, PC, IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR IS TO PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE O.S.H.A. REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY.
7. THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES. ALL REPAIRS SHALL USE NEW MATERIAL. THE REPAIRS SHALL RESTORE THE ITEM TO THE PRE-DEMOLITION CONDITION.
8. ROCK EXCAVATIONS (AS APPLICABLE) WILL BE PERFORMED BY MECHANICAL MEANS ONLY. USE OF EXPLOSIVES IS PROHIBITED. ALL THE REQUIRED PERMITS AND CONTROL MEASURES THAT ARE REQUIRED BY THE FEDERAL, STATE, AND LOCAL GOVERNMENTS SHALL BE IN PLACE PRIOR TO STARTING. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES, AS APPLICABLE.
9. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL", AS WELL AS FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHTS-OF-WAY.
10. CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY.
11. DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED PROPERTY LINE WITHOUT WRITTEN PERMISSION OF THE OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.
12. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL O.S.H.A. AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.
13. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL TOWN, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES.
14. DEMOLITION SHALL NOT PROCEED UNTIL THE APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE MARKED IN THE FIELD AND ALL UTILITY CONNECTIONS ARE SUITABLY SHUT OFF AND DISCONNECTED AND PROPER DEMOLITION PERMITS ARE IN PLACE WITH THE APPROPRIATE JURISDICTION.
15. CONTRACTOR IS RESPONSIBLE TO RESTORE ALL DISTURBED SITE AREAS TO ORIGINAL CONDITION AS DIRECTED BY THE OWNER.
16. PROTECT ALL EXISTING UTILITIES TO REMAIN (INCLUDING DRAINAGE STRUCTURES, HYDRANTS, VALVES, SEWER MANHOLES, ETC.) DURING DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIMSELF OR SUB-CONTRACTORS.
17. CONTRACTOR TO RESET ALL UTILITY CASTINGS, WITHIN THE LIMIT OF DISTURBANCE TO FINISHED GRADE.
18. NO TREE REMOVAL SHALL OCCUR FROM APRIL 1 TO OCTOBER 31, TO MITIGATE POTENTIAL IMPACTS TO THE INDIANA BAT .
19. THIS SET OF PLANS IS NOT DEPICTING ENVIRONMENTAL CONDITIONS OR A CERTIFICATION/WARRANTY REGARDING THE PRESENCE OR ABSENCE OF ENVIRONMENTALLY IMPACTED SITE CONDITIONS.COLLIERS ENGINEERING& DESIGN HAS PERFORMED NO EXPLORATORY OR TESTING SERVICE, INTERPRETATIONS, CONCLUSIONS OR OTHER SITE ENVIRONMENTAL SERVICES RELATED TO THE DETERMINATION OF POTENTIAL FOR CHEMICAL, TOXIC, OR RADIOACTIVE OR OTHER TYPE OF CONTAMINANTS AFFECTING THE PROPERTY AND THE UNDERSIGNED PROFESSIONAL IS NOT QUALIFIED TO DETERMINE THE EXISTENCE OF SAME. SHOULD ENVIRONMENTAL CONTAMINATION OR WASTE BE DISCOVERED, THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LAW AND REGULATIONS.

DRAWING LEGEND

- PROPERTY BOUNDARY
- EXISTING CURB
- DEPRESSED CURB
- PAVEMENT STRIPING
- OVERHEAD WIRES (OHW)
- WATERLINE MARKOUT (W)
- EASEMENTS
- MAJOR CONTOUR
- MINOR CONTOUR
- SANITARY PIPES
- STORMWATER PIPES
- TREEROW / HEDGE
- TREELINE
- BOUNDARY EVIDENCE
- SIGN
- POST / BOLLARD
- UTILITY POLE
- GUY WIRE
- LIGHT POLE
- ROOF LEADER / OPEN ROOF DRAIN (R / RL / ORD)
- TREE PROTECTION FENCING
- SANITARY MANHOLE
- SANITARY CLEANOUT
- DRAINAGE MANHOLE
- CATCH BASIN

TBR = TO BE REMOVED
UTP = UTILITY POLE
DI = DRAIN INLET
CB = CATCH BASIN
GR = GRATE
CO = CLEANOUT

- SAWCUT LINE

SCALE : 1" = 40'

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REV	DATE	DRAWN BY	DESCRIPTION

Digitally signed by Connor Patrick McCormack
Date: 2021.10.18 08:00:51 -04'00'

Connor Patrick McCormack
NEW YORK LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 103756
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N.Y. C.O.A #: 0017609

PRELIMINARY
AMENDED SITE PLAN

FOR

NORTHEAST
BUSINESS CENTER

SECTION 95
BLOCK 1
LOT 1.22

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ORANGE COUNTY
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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	CPM	JED

PROJECT NUMBER:	DRAWING NAME:
100002458	C-DEMO

SHEET TITLE:
EXISTING CONDITION & DEMOLITION PLAN

SHEET NUMBER:
02 of 11

BULK TABLE:

ZONING DISTRICT: IB ; (INTERCHANGE BUSINESS) DISTRICT
USE SUBJECT TO SITE PLAN REVIEW BY THE PLANNING BOARD ; WAREHOUSE, STORAGE AND TRANSPORTATION FACILITIES, INCLUDING TRUCK AND BUS TERMINALS, NOT WITHIN 500 FEET OF ROUTE 17K

MINIMUM	REQUIRED	PROVIDED	REMARKS
LOT AREA	40,000 SQ. FT.	647,158 SQ. FT.	OK
FRONT YARD SETBACK	50 FEET	62.1 FEET	OK
REAR YARD SETBACK	60 FEET	120.9FEET	OK
SIDE YARD SETBACK			
ONE	30 FEET	109.7 FEET	OK
BOTH	80 FEET	308.9 FEET	OK
LOT WIDTH	150 FEET	+/-790 FEET	OK
LOT DEPTH	150 FEET	+/-879 FEET	OK
MAXIMUM			
BUILDING HEIGHT	40'	<40 FEET	OK
LOT BUILDING COVERAGE	40%	+/- 18.9%	OK
LOT SURFACE COVERAGE	80%	+/- 48.5%	OK

TAX LOT:
95-1-1.22
±647,158 SQ. FT.
±14.86 ACRES

OWNER:
JKC 700, LLC
4 WEST RED OAK LANE, SUITE 200
WHITE PLAINS NY 10604

APPLICANT:
JKC 700, LLC
4 WEST RED OAK LANE, SUITE 200
WHITE PLAINS NY 10604

PARKING REGULATIONS:

REQUIRED
MANUFACTURING OR INDUSTRIAL ESTABLISHMENT, RESEARCH INSTITUTE OR LABORATORY
PARKING AREA RESERVATION EQUIVALENT TO THE TOTAL GROUND COVERAGE OF THE BUILDING, WITH A MINIMUM OF 2 IMPROVIDED SPACES PER 3 EMPLOYEES ON THE PREMISES AT ANY 1 PERIOD OF TIME, WITH A MINIMUM OF 2 SPACES.

EXISTING BUILDINGS: 72,000 SF = 50% OFFICE & 50% WAREHOUSE (AS PER PRIOR APPROVAL)
36,000 SF OFFICE
36,000 SF WAREHOUSE (LIGHT INDUSTRIAL PARK)

PROPOSED 50,000SF "FLEX" BUILDING = 10% OFFICE & 90% WAREHOUSE
5,000 SF OFFICE
45,000 SF WAREHOUSE (LIGHT INDUSTRIAL PARK)

TOTAL REQUIRED PARKING PER I.T.E. 5TH ADDITION:
41,000 SF OFFICE * 2.39 SPACES /1,000 GFA = 98 SPACES
81,000 SF WAREHOUSE (LIGHT INDUSTRIAL PARK) * 1.2 SPACES/1,000 GFA = 98 SPACES

TOTAL REQUIRED SPACES = 196 SPACES

EXISTING SPACES = 264 SPACES
EXISTING SPACES REMOVED = 55 SPACES
PROPOSED SPACES = 64 SPACES

NET SPACE PROPOSED: = 273 SPACES

LANDSCAPED ISLAND REQUIREMENTS FOR CONSOLIDATED TAX LOT:

PROPOSED PARKING AREA: = 91,908 SQ. FT.
5% INTERIOR ISLAND REQUIREMENT: 0.05 * 91,908 = 4,595 SQ. FT.
INTERIOR ISLAND AREA PROVIDED: = >10,599 SQ. FT.

SIGN LEGEND:

STOP — S
ACCESSIBLE PARKING — AP
NO PARKING — NP

LEGEND

EXISTING		PROPOSED
12+00 PVI 13+00	TRAVERSE LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)	12+00 13+00
	RIGHT OF WAY LINE	
	PROPERTY LINE	
	EDGE OF PAVEMENT	
FACE / BACK	CURB	FACE / BACK
	DEPRESSED CURB	
	SIDEWALK	
X X	FENCES	X X
	TREELINE	
	ROADWAY SIGNS	
	WETLAND LINE	
	MUNICIPAL BOUNDARY LINE	
	STALL COUNT	10
	ADA ACCESSIBLE STALL	P / HC / V
	DEPRESSED CURB AND ADA RAMP	
	DIRECTION OF TRAFFIC FLOW	

REFERENCE NOTE:

1. EXISTING SITE INFORMATION TAKEN FROM MAP REFERENCE "BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY LANDS NOW OR FORMERLY" PREPARED BY COLLIERS ENGINEERING & DESIGN DATED 07/07/2021.

SCALE : 1" = 40'

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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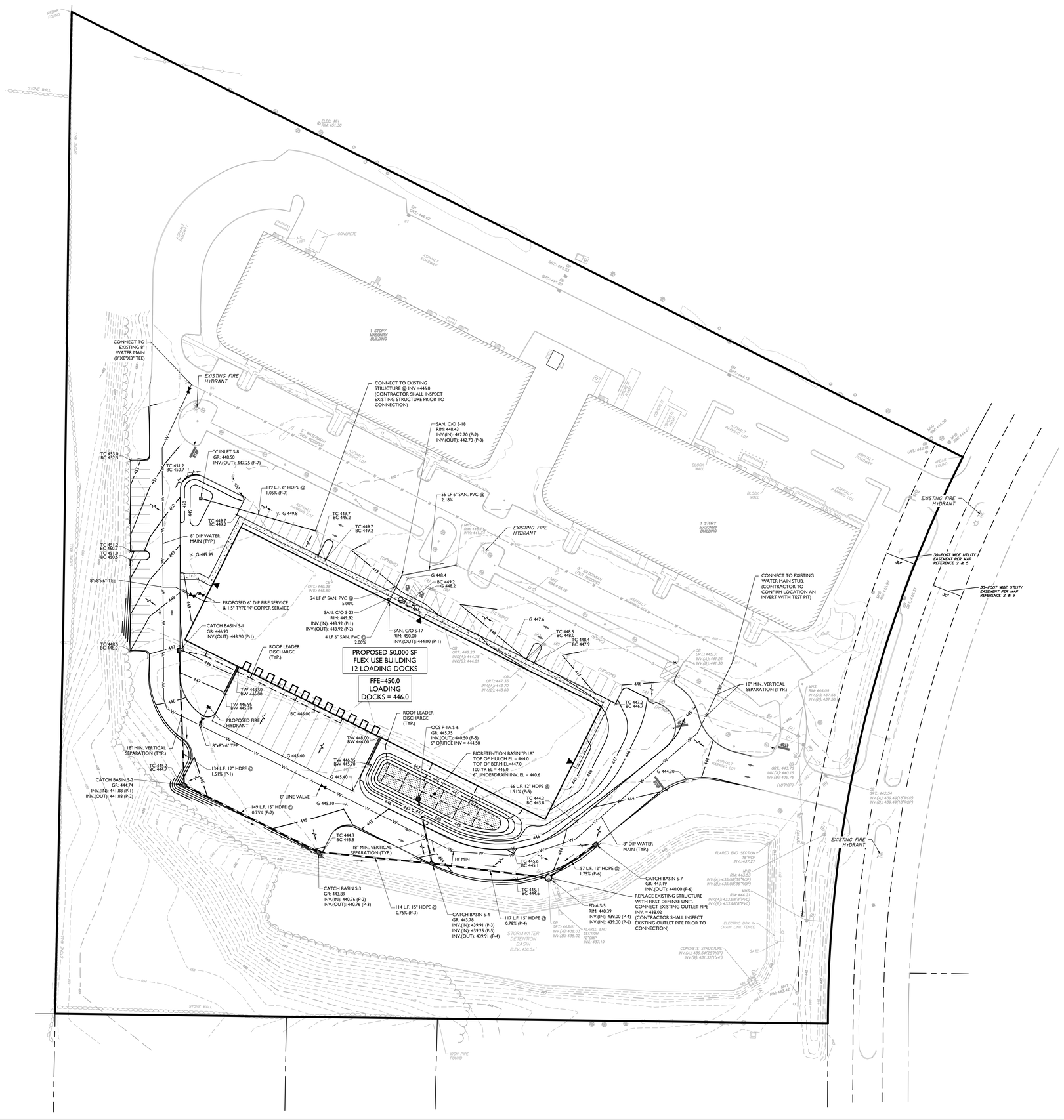
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	CPM	JED

PROJECT NUMBER: 100002458
DRAWING NAME: C-LAYT

SHEET TITLE: DIMENSION PLAN

SHEET NUMBER: 03 of 11



TOWN OF NEWBURGH WATER & SEWER NOTES:

1. CONSTRUCTION OF SANITARY SEWER FACILITIES AND CONNECTION TO THE TOWN OF NEWBURGH SANITARY SEWER SYSTEM REQUIRES A PERMIT FROM THE TOWN OF NEWBURGH SEWER DEPARTMENT. ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE NYSDEC AND THE TOWN OF NEWBURGH.
2. ALL SEWER PIPE INSTALLATION SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF NEWBURGH SEWER DEPARTMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS AS REQUIRED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
3. ALL GRAVITY SANITARY SEWER SERVICE LINES SHALL BE 4 INCHES IN DIAMETER OR LARGER AND SHALL BE SDR-35 PVC PIPE CONFORMING TO ASTM D-3034-89. JOINTS SHALL BE PUSH-ON WITH ELASTOMERIC RING GASKET CONFORMING ASTM D-3212. FITTINGS SHALL BE AS MANUFACTURED BY THE PIPE SUPPLIER OR EQUAL AND SHALL HAVE A BELL AND SPIGOT CONFIGURATION COMPATIBLE WITH THE PIPE.
4. THE SEWER MAIN SHALL BE TESTED IN ACCORDANCE WITH TOWN OF NEWBURGH REQUIREMENTS. ALL TESTING SHALL BE COORDINATED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
5. THE FINAL LAYOUT OF THE PROPOSED WATER AND/OR SEWER CONNECTION, INCLUDING ALL MATERIALS, SIZE AND LOCATION OF SERVICE AND ALL APPURTENANCES, IS SUBJECT TO THE REVIEW AND APPROVAL OF THE TOWN OF NEWBURGH WATER AND/OR SEWER DEPARTMENT. NO PERMITS SHALL BE ISSUED FOR A WATER AND/OR SEWER CONNECTION UNTIL A FINAL LAYOUT IS APPROVED BY THE RESPECTIVE DEPARTMENT.

ADA INSTRUCTIONS TO CONTRACTOR:

1. CONTRACTOR SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA ACCESSIBLE COMPONENTS FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE LATEST ADA STANDARDS FOR ACCESSIBLE DESIGN. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EGRESS, SHALL COMPLY WITH THESE ADA CODE REQUIREMENTS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

   (NOTE: THIS LIST IS NOT INTENDED TO CAPTURE EVERY APPLICABLE FEDERAL, STATE AND LOCAL RULE AND REGULATION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE LAW, WHETHER OR NOT STATED SPECIFICALLY HEREIN):

   A. PARKING SPACES AND PARKING AISLES - SLOPE SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

   B. CURB RAMPS- SLOPES SHALL NOT EXCEED 1:12 (8.3%).

   C. LANDINGS SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL PROVIDE POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

   D. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE - SHALL PROVIDE A 36 INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL, (CAR OVERHANGS CANNOT REDUCE THIS MINIMUM WIDTH), THE SLOPE SHALL BE NO GREATER THAN 1 :20 (5.0%) IN THE DIRECTION OF TRAVEL, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN CROSS SLOPE.

   E. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), AN ADA RAMP WITH A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM DISTANCE OF 30 FEET, SHALL BE PROVIDED. THE RAMP SHALL HAVE ADA HAND RAILS AND "LEVEL" LANDINGS ON EACH END THAT ARE SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE.

   F. DOORWAYS - SHALL HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA SHALL BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHER WISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS (SEE APPLICABLE CODE SECTIONS).

2. IT IS RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE OFFICIAL PRIOR TO COMMENCING WORK.

SITE GRADING NOTES:

1. THE PROPOSED SITE GRADING WILL PRODUCE +/- 88 CY OF EXCESS MATERIAL.

LEGEND

EXISTING		PROPOSED
124+00	TRAVERSE LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)	12+00 13+00
	RIGHT OF WAY LINE	
	PROPERTY LINE	
	EDGE OF PAVEMENT	
FACE / BACK	CURB	FACE / BACK
	DEPRESSED CURB	
	SIDEWALK	
X X	FENCES	X X
	TREELINE	
	ROADWAY SIGNS	
	WETLAND LINE	
	MUNICIPAL BOUNDARY LINE	
	CATCH BASIN	
	DRAIN INLET	
D	STORM MANHOLE	D
S	SANITARY MANHOLE	S
	FLARED END SECTION	
	HEADWALL	
	HYDRANT	
	POLE MOUNTED LIGHT	
75 74	CONTOURS	75 74
× G 29.0	SPOT ELEVATION	× G 29.0
	DIRECTION OF OVERLAND FLOW	
× TC 29.0	TOP OF CURB ELEVATION	× TC 29.0
× BC 29.0	BOTTOM OF CURB ELEVATION	× BC 29.0
	TOP OF DEPRESSED CURB ELEVATION	× TDC 29.0
CATV	CABLE TV CONDUIT	CATV
W	WATER MAIN	W
G	GAS MAIN	G
T	TELEPHONE CONDUIT	T
E	ELECTRIC CONDUIT	E
	SANITARY PIPE	
	STORM PIPE	

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Date: 2021.10.19 08:00:52-04'00'

Connor Patrick McCormack
NEW YORK LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 103756
COLLIERS ENGINEERING & DESIGN CT, P.C.
N.Y. C.O.A #: 0017609

PRELIMINARY AMENDED SITE PLAN

FOR

NORTHEAST BUSINESS CENTER

SECTION 95
BLOCK 1
LOT 1.22

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

Colliers Engineering & Design
NEWBURGH
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
COLLIERS ENGINEERING & DESIGN CT, P.C.
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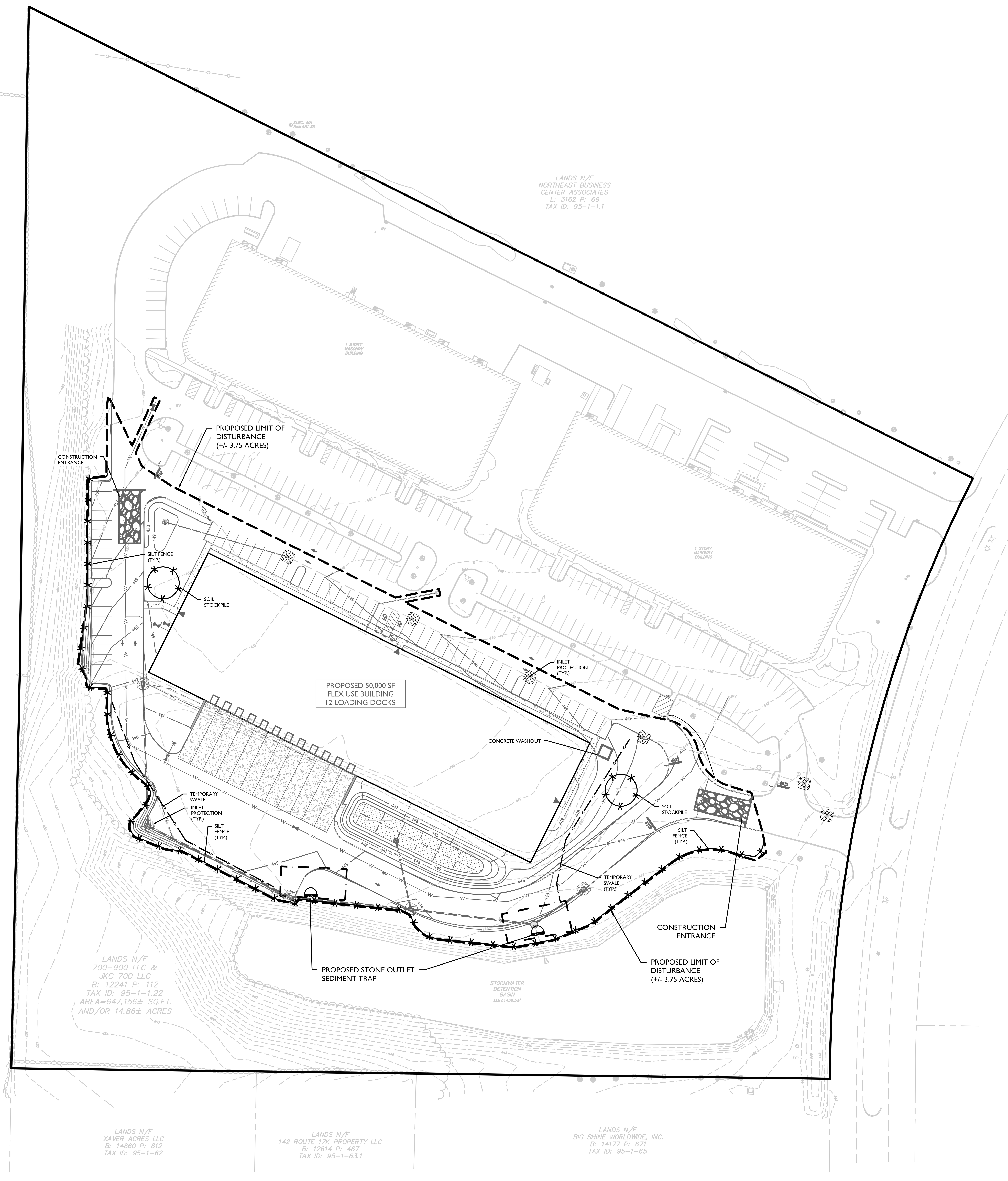
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	CPM	JED

PROJECT NUMBER: 10000245B
DRAWING NAME: C-GRAD

SHEET TITLE:
GRADING, DRAINAGE AND UTILITY PLAN

SHEET NUMBER:
04 of 11

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



GENERAL CONSTRUCTION SEQUENCE:

1. INSTALL CONSTRUCTION ENTRANCE.
2. STAKE LIMITS OF DISTURBANCE.
3. INSTALL PERIMETER SILT FENCING ON DOWNHILL AREAS AS SHOWN ON PLAN.
4. ROUGH GRADE PROPOSED DRIVEWAY/ROADS AND BUILDING PAD.
5. INSTALL SEDIMENT PONDS. INSTALL TEMPORARY SWALES TO DIRECT ALL OPEN SOIL AREA DISTURBANCE TO SEDIMENT PONDS AS NECESSARY. LOCATIONS AND SIZE OF THE EROSIONS AND SEDIMENT CONTROL PRACTICES ARE NOTED ON THE PLAN. THESE MAY VARY DEPENDING ON THE CONTRACTOR'S SCHEDULE AND APPROACH BUT 3,600 CF OF STORAGE MUST BE PROVIDED AT A MINIMUM PER ACRE OF UPSTREAM DISTURBANCE. SEDIMENT TRAPS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS AND DETAILS. SEDIMENT TRAPS AND BASINS SHALL BE SIZED IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL MANUAL.
6. DISTURBED SOILS SHALL BE TEMPORARILY STABILIZED AS SOON AS PRACTICAL. MATERIALS STORED IN STOCK PILES SHALL BE CORDONED OFF WITH SILT FENCE PER THE APPROPRIATE SPECIFICATIONS AND DETAILS. THE OPERATOR SHALL INITIATE STABILIZATION MEASURES AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
7. CONSTRUCT ROADS, DRIVES, BUILDINGS, AND PARKING AREA INSTALL DRIANAGE SYSTEM.
8. TOPSOIL/HAY/SEED LAWN AREAS.
9. THE PROJECT SITE MUST MEET FINAL STABILIZATION CRITERIA PRIOR TO REMOVING ALL EROSION AND SEDIMENT CONTROL DEVICES AND CLOSING OUT THE PROJECT. LITTER AND CONSTRUCTION DEBRIS SHALL BE REMOVED AS PRACTICAL THROUGHOUT THE LIFE OF THE PROJECT.
   - FINAL STABILIZATION MEANS THAT ALL SOIL DISTURBANCE ACTIVITIES HAVE CEASED AND A UNIFORM, PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY (80) PERCENT OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ESTABLISHED; OR OTHER EQUIVALENT STABILIZATION MEASURES, SUCH AS PERMANENT LANDSCAPE MULCHES, ROCK RIP-RAP OR WASHED/CRUSHED STONE HAVE BEEN APPLIED ON ALL DISTURBED AREAS THAT ARE NOT COVERED BY PERMANENT STRUCTURES, CONCRETE OR PAVEMENT.

12. UPON FINAL STABILIZATION BEING MET, CONTRACTOR SHALL CLEAR DRAINAGE PIPES AND STRUCTURES OF ANY SEDIMENT WHICH MAY HAVE ACCUMULATED.
13. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED, AS MAY BE NECESSARY, REQUIRED AND/OR REQUESTED BY AUTHORITIES, TO PREVENT THE INCIDENTAL DISCHARGE OF SILT LADEN RUNOFF FROM ENTERING A WATER COURSE OR A DRAINAGE SYSTEM. THE GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES STATES THAT IT IS UNLAWFUL FOR ANY PERSON TO CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS.

NOTE: A MORE DETAILED, SITE SPECIFIC CONSTRUCTION SEQUENCING WILL BE IMPLEMENTED UPON COMPLETION OF FINAL SITE PLANS AND THE CORROSPONDING STORMWATER POLLUTION PREVENTION PLAN

LEGEND FOR EROSION CONTROL DURING CONSTRUCTION

- CONSTRUCTION LIMIT LINE
- SILT FENCE
- SILT SOCK
- ORANGE CONSTRUCTION FENCE
- STORM INLET SEDIMENT TRAP
- STABILIZED CONSTRUCTION ENTRANCE
- STONE OUTLET SEDIMENT TRAP
- TEMPORARY SWALE
- TEMPORARY SEDIMENT BASIN
- MATERIAL STOCKPILE
- CHECK DAM

40 0 40 80
SCALE : 1" = 40'

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FOR
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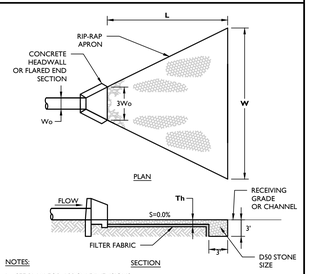
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	CPM	JED
PROJECT NUMBER: 10000245B	DRAWING NAME: C-SESC		

SHEET TITLE:
SOIL EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER:
05 of 11

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

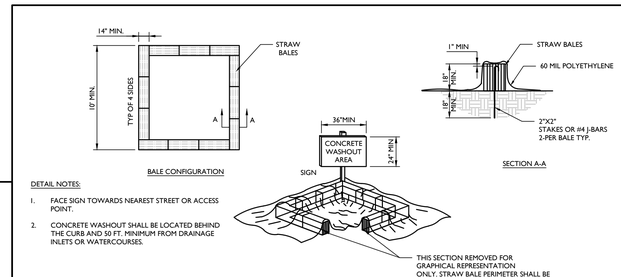


NOTES:

1. SEE PLAN FOR APRON DIMENSIONS.
2. SIDE SLOPE SHALL BE 2:1 OR FLATTER. THE BOTTOM GRADE SHALL BE LEVEL (0% SLOPE). THERE SHALL BE NO FALL AT THE END OF APRON TO THE RECEIVING SURFACE.

CONDUIT OUTLET PROTECTION DETAIL

NOT TO SCALE MCNY-SOIL-EROS-1600 07/01/19



DETAIL NOTES:

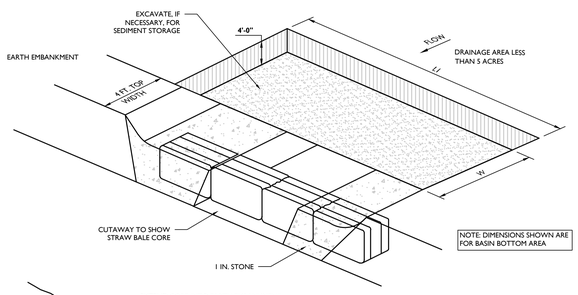
1. FACE SIGN TOWARDS NEAREST STREET OR ACCESS POINT.
2. CONCRETE WASHOUT SHALL BE LOCATED BEHIND THE CURB AND 50 FT. MINIMUM FROM DRAINAGE INLETS OR WATERCOURSES.

NOTES:

1. CONCRETE WASHOUTS ARE REQUIRED ON ALL CONSTRUCTION SITES INVOLVING CONCRETE AND STUCCO USE.
2. THE CONTRACTOR SHALL REQUIRE ALL CONCRETE DRIVERS TO UTILIZE THE CONCRETE WASHOUTS ONSITE.
3. WASHOUT FACILITIES SHALL BE LOCATED AT LEAST 50 FEET AWAY FROM STORM SEWER DRAIN INLETS, GUTTERS, OPEN DITCHES, AND WATER COURSES.
4. APPROPRIATE STONE SHOULD COVER PATHS TO CONCRETE WASHOUT.
5. THE NUMBER OF CONCRETE WASHOUTS DEPENDS ON THE EXPECTED DEMAND FOR STORAGE CAPACITY. LARGE SITES WITH EXTENSIVE CONCRETE WORK SHALL BE PLACED AT MULTIPLE LOCATIONS FOR USE BY CONCRETE TRUCK DRIVERS.
6. CONCRETE WASHOUT AREAS SHALL BE IDENTIFIED BY POSTING SIGNS ONSITE.
7. CONCRETE WASHOUTS ARE TO BE INSPECTED DAILY BY THE CONTRACTOR FOR LEAKS OR TEARS IN PLASTIC LINER.
8. REMOVE AND DISPOSE OF ALL MATERIAL WHEN THE WASHOUT HAS BEEN FILLED TO 75% CAPACITY.
9. PRIOR TO ANY RAINFALL, ALL CONCRETE WASHOUTS ARE TO BE CLEANED OUT OR COVERED.
10. ONCE THE MATERIAL HAS BEEN CLEANED OUT OF THE CONCRETE WASHOUT FACILITY, THE FACILITY MUST BE INSPECTED FOR REPAIR, RECONSTRUCTION OR REPLACEMENT. ALL PLASTIC LINING SHALL BE REMOVED AND REPLACED.
11. PRE-FABRICATED OR ONSITE FABRICATED CONCRETE WASHOUTS MAY BE USED.
12. OPTIONS FOR ONSITE CONCRETE WASHOUTS:
    A. DIG A PIT AND LINE WITH 10 MIL PLASTIC SHEETING.
    B. CREATE AN ABOVE-GROUND STRUCTURE FROM STRAW BALES OR SANDBAGS WITH 10 MIL PLASTIC LINING.

CONCRETE WASHOUT DETAIL

NOT TO SCALE MCNY-SOIL-EROS-1700 07/01/19



TO BE INSTALLED PRIOR TO GRADING OR FILLING IN THE DRAINAGE AREA THEY ARE TO PROTECT. TRAPS THAT ARE TO FUNCTION DURING BUILDING CONSTRUCTION MUST NOT BE LOCATED WITHIN 20 FEET OF A PROPOSED BUILDING FOUNDATION. WHILE TRAPS SHOULD BE SITED TO MAXIMIZE STORAGE BENEFIT, THEY SHOULD NOT BE LOCATED IN WETLANDS OR WETLAND BUFFER AREAS, OR IN EXISTING WATERCOURSES.

SEE EROSION AND SEDIMENT CONTROL PLAN FOR LOCATIONS.

INSTALLATION NOTES:

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED AS WELL.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER SIZED STONES, ROCKS, ORGANIC MATERIAL AND OTHER QUESTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
6. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
7. ALL CUT AND FILL SLOPES SHALL BE I : 2 OR FLATTER.
8. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1' THICKNESS OF 2" AGGREGATE PLACED ON THE UP GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.

SIZING CALCULATIONS

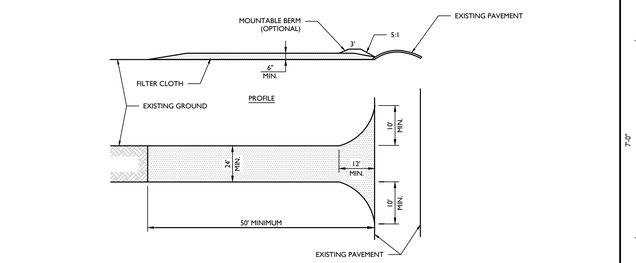
NOTE:

1. 3,600 CUBIC FEET OF STORAGE REQUIRED PER ACRE OF DISTURBANCE.

*THIS IS THE MINIMUM AMOUNT OF SEDIMENT TRAPS, ADDITIONAL MAY BE REQUIRED BASED UPON OTHER ON-SITE CONDITIONS AND CONTRACTOR SCHEDULE AND PHASING ACTIVITIES.

STONE OUTLET SEDIMENT TRAP DETAIL

NOT TO SCALE MCNY-SOIL-EROS-1601 MOD: 10/07/21 07/01/19



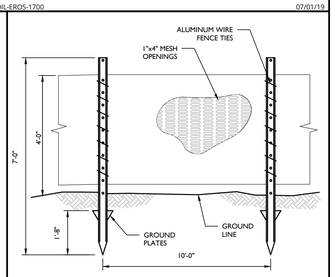
PLAN VIEW

NOTES:

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT. LENGTH: NOT LESS THAN 50 FEET. THICKNESS: NOT LESS THAN (6) INCHES.
2. WIDTH - 24'
3. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
4. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTING BERM WITH 5:1 SLOPES WILL BE PERMITTED.
5. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
6. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE MCNY-SOIL-EROS-1000 07/01/19



ORANGE CONSTRUCTION FENCE DETAIL

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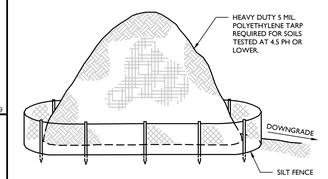
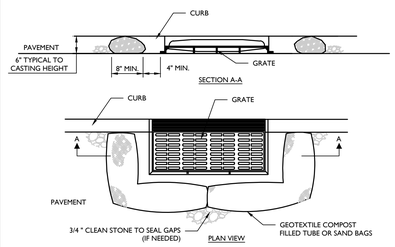


NOTES:

1. ALL STOCKPILES SHALL NOT TO BE LOCATED WITHIN 50 FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY.

TOPSOIL STOCKPILE DETAIL

NOT TO SCALE MCNY-SOIL-EROS-2500 07/01/19

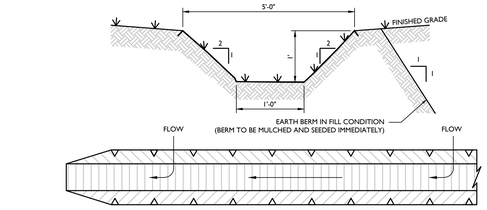


NOTES:

1. GEOTEXTILE TO BE WOVEN POLYPROPYLENE PRODUCT, OR APPROVED EQUAL.
2. FILLER CORE MAY BE SAND, COMPOST, OR PEA GRAVEL COMPLETELY CONTAINED WITHIN GEOTEXTILE. SEAMS, CLOSED BY SUITABLE MECHANICAL MEANS TO PREVENT LEAKAGE OF FILLER.
3. WHERE NO CURB IS PRESENT, BARRIER SHALL COMPLETELY ENCLOSE THE DRAIN INLET.
4. INLET GRATE OPENING IS TO BE KEPT CLEAR OF OBSTRUCTIONS AT ALL TIMES.
5. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR/ 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.
6. OTHER METHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET PROTECTION MAY BE USED IF APPROVED BY THE PROJECT ENGINEER.
7. INSPECTIONS SHALL BE FREQUENT, MAINTENANCE, REPAIR, AND REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED. THE BARRIER SHALL BE REMOVED WHEN THE AREA DRAINING TOWARDS THE INLET HAS REACHED FINAL STABILIZATION.

INLET PROTECTION (FILTER BARRIER) DETAIL

NOT TO SCALE MCNY-SOIL-EROS-1500 07/01/19



PLAN

TO BE INSTALLED ABOVE DISTURBED AREAS, TO DIVERT RUNOFF OFF-SITE WITHOUT INCREASING EROSION; INTERMITTENTLY ACROSS DISTURBED AREAS, TO SHORTEN OVERLAND FLOW DISTANCES; BELOW DISTURBED AREAS, TO DIVERT SEDIMENT-LADEN WATER TO A SEDIMENT TRAPPING DEVICE; AND TO SAFELY TRANSPORT RUNOFF ALONG ROADWAYS.

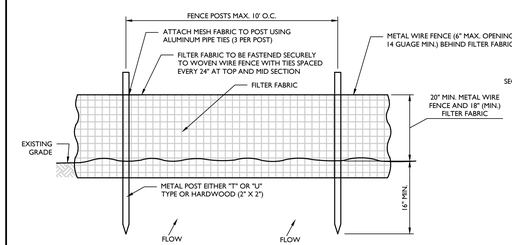
* WHERE SWALE TRAVERSES CONSTRUCTION VEHICLE PATH, DEPTH TO BE 6". SEE PLAN FOR LOCATION

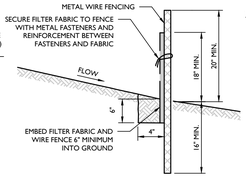
INSTALLATION NOTES:

1. ALL SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. INSPECTION AND MAINTENANCE MUST BE PROVIDED BY THE CONTRACTOR AS REQUIRED
9. STABILIZATION SHALL BE SEED AND STRAW MULCH.

TEMPORARY SWALE & EARTH BERM DETAIL

NOT TO SCALE MCNY-SOIL-EROS-2302 07/01/19





NOTES:

1. GEOTEXTILE TO BE FASTENED SECURELY TO FENCE POST BY USING WIRE TIES OR HOG RINGS. USE 3 FASTENERS PER POST.
2. SPLICING OF INDIVIDUAL ROLLS SHALL NOT OCCUR AT LOW POINTS.
3. ALL SILT FENCE TO BE INSPECTED AND REMEDIAL MAINTENANCE PERFORMED BY THE CONTRACTOR AS REQUIRED, MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
4. WHEN TWO SECTIONS OF FILTER FABRIC ARE JOINED, THEY SHALL BE OVER-WRAPPED BY SIX INCHES AND FOLDED.
5. FILTER FABRIC TO BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
6. PREFABRICATED UNITS SHALL MEET THE MINIMUM REQUIREMENTS SHOWN.
7. IF SPACE PERMITTED, LOCATE SILT FENCE 10' AWAY FROM TOE OF SLOPE IF THE SLOPE IS STEEPER THAN 1:1.

REINFORCED SILT FENCE (WITH WIRE FENCE) DETAIL

NOT TO SCALE MCNY-SOIL-EROS-1101 07/01/19

GENERAL SOIL EROSION AND SEDIMENT CONTROL NOTES

MCNY-SOIL-NOTE-1000 07/01/19

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN FOURTEEN (14) DAYS FOR DISTURBANCES LESS THAN FIVE (5) ACRES AND SEVEN (7) DAYS FOR DISTURBANCES GREATER THAN FIVE (5) ACRES, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
3. PERMANENT VEGETATION TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN FIVE (5) DAYS AFTER FINAL GRADING. MULCHING IS REQUIRED ON ALL SEEDING. WHEN HYDROSEEDING, MULCH SHALL NOT BE INCLUDED IN THE TANK WITH THE SEED.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE 2016 NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL OR AS AMENDED.
5. A SUBBASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUBBASE SHALL BE INSTALLED WITHIN FIVE (5) DAYS OF THE PRELIMINARY GRADING.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
7. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION CONTINUES (I.E. SLOPES GREATER THAN 3:1).
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A STONE PAD, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
9. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF TWENTY-FOUR (24) INCHES OF SOIL HAVING A PH OF 5 OR MORE.
10. AT THE TIME THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
11. CONDUIT OUTLET PROTECTION MUST BE REVIEWED & SUPPLEMENTED AT ALL OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
12. UNFILTERED DEWATERING IS NOT PERMITTED. TAKE ALL NECESSARY PRECAUTIONS DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH STATE STANDARDS.
13. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED IN ACCORDANCE WITH STATE STANDARDS FOR EROSION CONTROL.
14. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAY WILL BE REMOVED IMMEDIATELY.
15. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION AND SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.
16. STOCKPILE AND STAGING LOCATIONS DETERMINED IN THE FIELD, SHALL BE PLACED WITHIN THE LIMITS OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN.
17. CONCRETE WASHOUT, DUMPSTER, & STAGING AREA LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED AT THE PRE-CONSTRUCTION MEETING. THEY SHALL BE PLACED IN THE PROXIMITY OF THE CONSTRUCTION ENTRANCE AND STAGING AREAS AND SHALL BE USED PRIOR TO EXITING THE PROJECT SITE. THE LOCATION SHALL BE IN A PRACTICAL, CLEARLY DELINEATED, AREA AND BE MAINTAINED THROUGHOUT CONSTRUCTION.
18. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
19. ALL PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED BY THE PROPERTY OWNER, AND SHALL BECOME THEIR RESPONSIBILITY.
20. PAVEMENT AREAS ARE TO BE KEPT CLEAN AT ALL TIMES.
21. DURING CONSTRUCTION, ANY ADDITIONAL CONTROL MEASURES AS DEEMED NECESSARY TO PREVENT EROSION OR CONTROL SEDIMENT BEYOND THOSE MEASURES SHOWN ON THE APPROVED PLAN SHALL BE INSTALLED OR EMPLOYED AT THE DIRECTION OF THE MUNICIPAL ENGINEER.
22. ALL TEMPORARY, STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED, WHEN ALL CONSTRUCTION ACTIVITY IDENTIFIED IN THE SWPPP HAS BEEN COMPLETED, ALL AREAS OF DISTURBANCE HAVE ACHIEVED FINAL STABILIZATION** AND ALL POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE SWPPP AND ARE OPERATIONAL.

**FINAL STABILIZATION - MEANS THAT ALL SOIL DISTURBANCE ACTIVITIES HAVE CEASED AND A UNIFORM, PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY (80) PERCENT OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ESTABLISHED, OR OTHER EQUIVALENT STABILIZATION MEASURES, SUCH AS PERMANENT LANDSCAPE MULCHES, ROCK RIP-RAP OR WASHED/CRUSHED STONE HAVE BEEN APPLIED ON ALL DISTURBED AREAS THAT ARE NOT COVERED BY PERMANENT STRUCTURES, CONCRETE OR PAVEMENT.

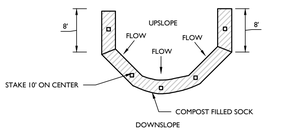
MAINTENANCE PLAN DURING CONSTRUCTION:

INSPECTION AND MAINTENANCE SHALL BE PERFORMED IN CONFORMANCE WITH GP-0-15-002 OR AS AMENDED. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED AND INSTALLED FOR THE PROJECT. THE SEDIMENT TRAPS WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT REACHES 25% OF ITS' CAPACITY. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES APPROXIMATELY 6" DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. ALL SEEDED AREAS WILL BE FERTILIZED, RE-SEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE LANDSCAPE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

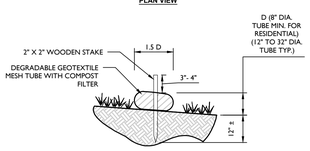
NOTE: DURING THE CONSTRUCTION OF A PHASE, EACH SUBSEQUENT PHASE WILL HAVE REACHED FINAL STABILIZATION BEFORE INITIATING THE NEXT PHASE.

MAINTENANCE AGREEMENT NOTE:

THE OWNER/APPLICANT SHALL ENTER INTO AN ENFORCEABLE MAINTENANCE AGREEMENT WITH THE MUNICIPALITY (IF AN MS4 COMMUNITY) RELATED TO MAINTENANCE OF STORMWATER FACILITIES. THE OWNER/APPLICANT IS RESPONSIBLE TO PERFORM ALL REQUIRED MAINTENANCE BOTH DURING CONSTRUCTION AND LONG-TERM. THE NATURE OF THE AGREEMENT IS TO ALLOW THE MUNICIPALITY TO PERFORM MAINTENANCE AT THEIR OPTION SHOULD THE OWNER/APPLICANT FAIL TO ADEQUATELY MAINTAIN THE SYSTEM AS DETERMINED BY THE MUNICIPAL ENGINEER. MAINTENANCE OF THE STORMWATER SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED SWPPP AND DETAIL SHEETS.



PLAN VIEW



SECTION

DIA. (in.)	SLOPE%						
	2	5	10	20	25	33	50
8	225*	200	100	50	20	–	–
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50

*Length in feet

NOTES:

1. ALL MATERIAL TO MEET **FILTREXX SILTSOX** SPECIFICATIONS OR APPROVED EQUAL.
2. COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

COMPOST FILTER SOCK DETAIL

NOT TO SCALE MCNY-SOIL-EROS-1200 05/01/17

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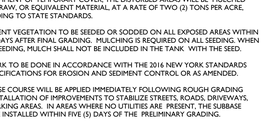

Connor Patrick McCormack
NEW YORK LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 103756
COLLIERS ENGINEERING & DESIGN CT, P.C.
N.Y. C.O.A #: 0017609

PRELIMINARY AMENDED SITE PLAN

FOR

NORTHEAST BUSINESS CENTER

SECTION 95
BLOCK 1
LOT 1.22

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

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555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4496
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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	CPM	JED

PROJECT NUMBER: 100002458
DRAWING NAME: C-SESC

SHEET TITLE:
SOIL EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER:
06 of 11

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

GENERAL SEEDING NOTES:

1. TEMPORARY SEEDING: REFER TO SOIL EROSION AND SEDIMENT CONTROL PLANS.
2. PERMANENT SEEDING SHALL CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL. OPTIMUM SEEDING DATES ARE BETWEEN APRIL 1 AND MAY 31; AND AUGUST 16 AND OCTOBER 15.

   TURF MIX (7-10 LBS./1,000 S.F. MINIMUM)
   TALL FESCUE, 'STINGRAY (34%)
   TALL FESCUE, RAPTOR III (33%)
   HARD FESCUE, 'RIDU' (33%)

   SEEDING OUTSIDE OF THE OPTIMUM DATES SHALL NOT BE CONDUCTED WITH OUT PRIOR APPROVAL.
3. PERMANENT SEEDING TO BE APPLIED BY RAKING OR DRILLING INTO THE SOILS AT THE RATE GIVEN ABOVE.
4. FERTILIZER FOR THE ESTABLISHMENT OF TEMPORARY AND PERMANENT VEGETATIVE COVER SHALL BE IN COMPLIANCE WITH THE LATEST NYSDEC REGULATIONS. THIS INCLUDES, BUT LIMITED TO:
   1. NO FERTILIZER SHALL BE APPLIED BETWEEN DEC. 1 AND APRIL 1 IN ANY YEAR.
   2. SHALL NOT BE APPLIED WITHIN 20 FEET OF A WATER BODY.
   3. ONLY LAWN FERTILIZER WITH LESS THAN 0.67% BY WEIGHT PHOSPHATE CONTENT MAY BE APPLIED.
   (A SOIL TEST PRIOR TO FERTILIZER APPLICATION IS RECOMMENDED.)
5. IF SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY OR PERMANENT SEEDING, EXPOSED AREA TO BE STABILIZED WITH MULCH AS INDICATED IN NOTE 6.
6. MULCH TO CONSIST OF SMALL GRAIN STRAW OR SALT HAY ANCHORED WITH A WOOD AND FIBER MULCH BINDER OR AN APPROVED EQUAL. MULCH WILL BE SPREAD AT RATES PER NYSDEC STANDARDS AND ANCHORED WITH A MULCH ANCHORING TOOL OR LIQUID MULCH BINDER, AND SHALL BE PROVIDED ON ALL SEEDINGS. HYDROMULCH SHALL ONLY BE USED DURING OPTIMUM GROWING SEASONS.
7. AS NEEDED, WORK LIME AND FERTILIZER INTO SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
8. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.
9. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.

PLANT DETAIL NOTES:

1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT. MULCH SHALL NOT TOUCH THE TREE TRUNK.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.
3. WIRE BASKETS AND NON-JUTE BURLAP MUST BE ENTIRELY REMOVED FROM THE ROOT BALL. JUTE BURLAP MUST BE REMOVED FROM THE TOP 1/3 OF THE ROOT BALL.
4. DEPTH OF PLANT PIT SHALL BE INCREASED BY 12" WHEREVER POOR SOIL CONDITIONS OCCUR, WITH THE ADDITION OF LOOSE AGGREGATE.
5. CONTRACTOR SHALL PARTIALLY FILL WITH WATER A REPRESENTATIVE NUMBER OF PITS IN EACH AREA OF THE PROJECT PRIOR TO PLANTING TO DETERMINE IF THERE IS ADEQUATE PERCOLATION. IF PIT DOESN'T PERCOLATE, MEASURES MUST BE TAKEN TO ASSURE PROPER DRAINAGE BEFORE PLANTING.
6. PLANTING MUST BE GUARANTEED FOR TWO FULL GROWING SEASONS FROM THE TIME OF FINAL ACCEPTANCE BY THE LANDSCAPE CONSULTANT. CONTRACTOR SHALL REMOVE ALL WRAPPING AT THE END OF GUARANTEE PERIOD OR SOONER PER PROJECT LANDSCAPE ARCHITECT.
7. BACKFILL MIXTURE TO BE SPECIFIED BASED UPON SOIL TEST AND CULTURAL EQUIREMENTS OF PLANT.
8. PRUNE DAMAGED AND CONFLICTING BRANCHES MAINTAINING NORMAL TREE SHAPE, NEVER CUT CENTRAL TRUNK OR LEADER.

GENERAL PLANTING NOTES:

1. THIS PLAN SHALL BE USED FOR LANDSCAPE PLANTING PURPOSES ONLY. EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES AND STRUCTURES AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR LOCATION CONFLICTS PRIOR TO PLANTING INSTALLATION.
2. THE CONTRACTOR IS RESPONSIBLE TO LOCATE AND VERIFY LOCATION OF ALL UTILITIES ON SITE PRIOR TO CONSTRUCTION.
3. ALL PLANT MATERIAL SHALL CONFORM TO GUIDELINES AS SET FORTH IN THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMENS STANDARD FOR NURSERY STOCK. OR THE PLANT MATERIAL WILL BE UNACCEPTABLE. ALL PLANT MATERIAL SHALL BE TRUE TO SPECIES, VARIETY, SIZE AND BE CERTIFIED DISEASE AND INSECT FREE. THE OWNER AND/OR THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO APPROVE ALL PLANT MATERIAL ON SITE PRIOR TO INSTALLATION.
4. NO PLANT SUBSTITUTIONS SHALL BE PERMITTED WITH REGARD TO SIZE, SPECIES, OR VARIETY WITHOUT WRITTEN PERMISSION OF THE LANDSCAPE CONSULTANT. WRITTEN PROOF OF PLANT MATERIAL UNAVAILABILITY MUST BE DOCUMENTED.
5. THE LOCATION OF ALL PLANT MATERIAL INDICATED ON THE LANDSCAPE PLANS ARE APPROXIMATE. THE FINAL LOCATION OF ALL PLANT MATERIAL AND PLANTING BED LINES SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE LANDSCAPE ARCHITECT.
6. ALL STREET TREES AND SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESS SHOULD NOT BE BRANCHED LOWER THAN 7'-0" ABOVE GRADE. ALL PLANT MATERIAL LOCATED WITHIN SIGHT TRIANGLE EASEMENTS SHALL NOT EXCEED A MATURE HEIGHT OF 30" ABOVE THE ELEVATION OF THE ADJACENT CURB. ALL STREET TREES PLANTED IN SIGHT TRIANGLE EASEMENTS SHALL BE PRUNED TO NOT HAVE BRANCHES BELOW 10'-0".
7. THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT SCHEDULE SHOULD ANY PLANT QUANTITY DISCREPANCIES OCCUR.
8. ALL PLANT MATERIAL SHALL BE PROPERLY INSTALLED IN CONFORMANCE WITH THE TYPICAL PLANTING DETAILS. INSTALL ALL PLANT MATERIAL ON UNDISTURBED GRADE. CUT AND REMOVE JUTE BURLAP FROM TOP ONE-THIRD OF THE ROOT BALL. WIRE BASKETS AND NOT JUTE BURLAP SHALL BE COMPLETELY REMOVED PRIOR TO BACKFILLING THE PLANT PIT.
9. BRANCHES OF DECIDUOUS TREES SHALL BE PRUNED BACK BY NO MORE THAN ONE QUARTER (1/4) TO BALANCE THE TOP GROWTH WITH ROOTS AND TO PRESERVE THEIR CHARACTER AND SHAPE. THE CENTRAL LEADER OF TREE SHALL NOT BE PRUNED.
10. PROVIDE PLANTING PITS AS INDICATED ON PLANTING DETAILS. BACKFILL PLANTING PITS WITH ONE PART EACH OF TOPSOIL, PEAT MOSS AND PARENT MATERIAL. IF WET SOIL CONDITIONS EXIST THEN PLANTING PITS SHALL BE EXCAVATED AN ADDITIONAL 12" AND FILLED WITH CRUSHED STONE OR UNTIL FREE DRAINING.
11. ALL PLANT MATERIAL SHALL BEAR THE SAME RELATION TO FINISHED GRADE AS IT BORE TO EXISTING GRADE AT NURSERY.
12. OPTIMUM PLANTING TIME:
    DECIDUOUS - APRIL 1 TO JUNE 1 & OCTOBER 15 TO NOVEMBER 30.
    CONIFEROUS - APRIL 1 TO JUNE 1 & SEPTEMBER 1 TO NOVEMBER 1.

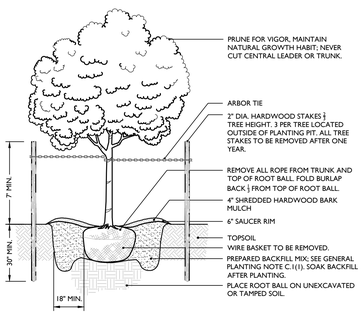
    PLANTING OUTSIDE OF THE OPTIMUM DATES SHALL NOT BE CONDUCTED WITH OUT PRIOR APPROVAL FROM THE LANDSCAPE CONSULTANT.
13. NEWLY INSTALLED PLANT MATERIAL SHALL BE WATERED AT THE TIME OF INSTALLATION. REGULAR WATERING SHALL BE PROVIDED TO ENSURE THE ESTABLISHMENT, GROWTH AND SURVIVAL OF ALL PLANTS. WATERING AMOUNTS SHOULD BE ADJUSTED AS RAIN EVENTS OCCUR. WATERING AFTER THE INITIAL 4 WEEKS SHALL BE ADJUSTED BASED ON SEASONAL CONDITIONS. WATERING SHALL NOT TAKE PACE DURING THE HOTTEST POINT OF THE DAY.
14. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR TWO YEARS AFTER THE DATE OF FINAL ACCEPTANCE. ANY PLANT MATERIAL THAT DIES WITHIN THAT TIME PERIOD SHALL BE REMOVED, INCLUDING THE STUMP, AND REPLACED BY A TREE OF SIMILAR SIZE AND SPECIES AT NO EXPENSE TO THE OWNER.
15. THE LANDSCAPE CONTRACTOR SHALL PROVIDE A MINIMUM 4" LAYER OF TOPSOIL IN ALL LAWN AREAS AND A MINIMUM OF 12" OF TOPSOIL IN ALL PLANTING AREAS. A FULL SOIL ANALYSIS SHALL BE CONDUCTED AFTER CONSTRUCTION AND PRIOR TO PLANTING TO DETERMINE THE EXTENT OF SOIL AMENDMENT REQUIRED. SOIL PH SHOULD BE 5.5-6.5.
16. ALL DISTURBED LAWN AREAS SHALL BE STABILIZED WITH SEED AS INDICATED ON THE LANDSCAPE PLANS. TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH THE GENERAL SEEDING NOTES ON THIS SHEET. ALL DISTURBED LAWN AREAS SHALL BE TOPSOILED, LIMED, FERTILIZED AND FINE GRADED PRIOR TO LAWN INSTALLATION.
17. ALL PLANTING BEDS SHALL RECEIVE 3" OF SHREDDED HARDWOOD BARK MULCH.
18. ALL SHRUB MASSES SHALL BE PLANTED IN CONTINUOUS MULCHED BEDS.
19. ALL PLANTING DEBRIS (WIRE, TWINE, RUBBER HOSE, BACKFILL ETC.) SHALL BE REMOVED FROM THE SITE AFTER PLANTING IS COMPLETE. PROPERTY IS TO BE LEFT IN A NEAT ORDERLY CONDITION IN ACCORDANCE WITH ACCEPTED PLANTING PRACTICES.

BIORETENTION AREA PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER	SPREAD	ROOT	REMARKS
SHRUBS							
AA	ARONIA ARBUTIFOLIA	RED CHOKEBERRY	24"-30"			CONT.	TYPICAL SPECIES HABIT
AL	AMELANCHIER LEAVIS	SERVICEBERRY	6' - 8'			CONT.	TYPICAL SPECIES HABIT
CA	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SUMMERSWEET	18"-24"			CONT.	TYPICAL SPECIES HABIT
CM	CORNUS AMOMUM	SILKY DOGWOOD	30"-36"			CONT.	TYPICAL SPECIES HABIT
IG	ILEX GLABRA	INKBERRY	18"-24"			CONT.	TYPICAL SPECIES HABIT
IV	ILEX VERTICILLATA	WINTERBERRY	18"-24"			CONT.	TYPICAL SPECIES HABIT
LB	LINDERA BENZION	SPICEBUSH	18"-24"			CONT.	TYPICAL SPECIES HABIT
SC	SAMBUCUS CANADENSIS	ELDERBERRY	18"-24"			CONT.	TYPICAL SPECIES HABIT
VD	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	18"-24"			CONT.	TYPICAL SPECIES HABIT
PERENNIALS							
ANA	ASTER NOVAE ANGLIAE	NEW ENGLAND ASTER				1 GAL CONT.	CLUMPS, 36" O.C.
DC	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS				#SP4 CONT.	CLUMPS, 30" O.C.
EF	EUPATORIUM FISTULOSUM	JOE PYE WEED				1 GAL CONT.	CLUMPS, 36" O.C.
EP	ECHINACEA PURPUREA	CONEFLOWER				1 GAL CONT.	CLUMPS, 36" O.C.
JE	JUNCUS EFFUSUS	COMMON RUSH				#SP4 CONT.	CLUMPS, 24" O.C.

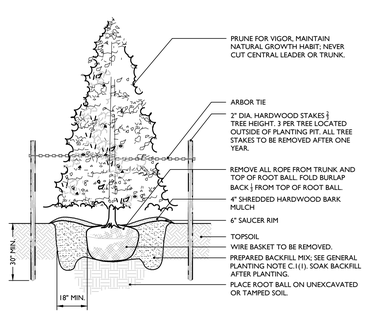
SITE PLANTING SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	CALIPER	SPREAD	ROOT	REMARKS
SHADE/STREET TREES								
AROG	9	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE		2" - 2-1/2"		B & B	STRAIGHT LEADER/SYM. BRANCHING
GTFS	5	GLEDITSIA TRIACANTHOS F. INERMIS 'SKYLINE'	SKYLINE HONEY LOCUST		2" - 2-1/2"		B & B	STRAIGHT LEADER/SYM. BRANCHING
EVERGREEN TREES								
PA	9	PICEA ABIES	NORWAY SPRUCE	6' - 7'			B & B	STRAIGHT LEADER/TYP. SPECIES HABIT
PS	11	PINUS STROBUS	EASTERN WHITE PINE	8' - 10'			B & B	STRAIGHT LEADER/TYP. SPECIES HABIT
ORNAMENTAL TREES								
BN	3	BETULA NIGRA	RIVER BIRCH		8' - 10'		CONT.	MULTI-STEM
SHRUBS								
BMWG	16	BUXUS MICROPHYLLA 'WINTER GEM'	WINTER GEM BOXWOOD	24"-30"			CONT.	TYPICAL SPECIES HABIT
HPL	12	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA	24"-30"			CONT.	TYPICAL SPECIES HABIT
JCSG	3	JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	24"-30"			CONT.	TYPICAL SPECIES HABIT
JHBH	9	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR JUNIPER	24"-30"			CONT.	TYPICAL SPECIES HABIT
SBAW	12	SPIRAEA X BUMALDA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	18"-24"			CONT.	TYPICAL SPECIES HABIT
SJG	20	SPIRAEA JAPONICA 'GOLD MOUND'	GOLD MOUND SPIREA	18"-24"			CONT.	TYPICAL SPECIES HABIT
PERENNIALS								
HSD	22	HEMEROCALLIS 'STELLA DE ORO'	STELLA DE ORO DAYLILY				1 GAL. CONT.	CLUMPS @ 24" O.C.



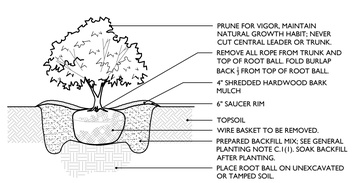
NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

DECIDUOUS TREE PLANTING DETAIL



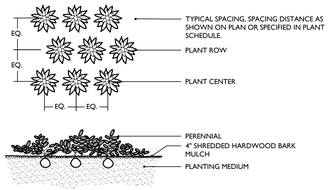
NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

EVERGREEN TREE PLANTING DETAIL



NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

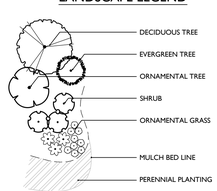
SHRUB PLANTING DETAIL

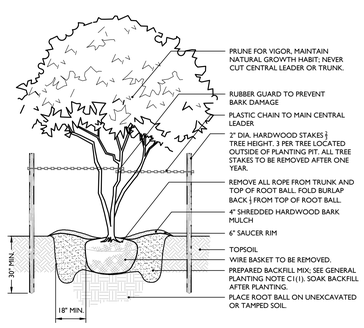


NOTES:
1. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

PERENNIAL PLANTING DETAIL

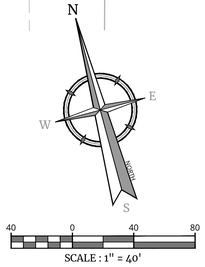
LANDSCAPE LEGEND





NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

MULTI-LEADER TREE PLANTING DETAIL



SCALE : 1" = 40'

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REV	DATE	DRAWN BY	DESCRIPTION

Justin Eric Dates
NEW YORK REGISTERED LANDSCAPE ARCHITECT
LICENSE NUMBER: 001964-01
COLLIERS ENGINEERING & DESIGN CT, P.C.

PRELIMINARY AMENDED SITE PLAN

FOR

NORTHEAST BUSINESS CENTER

SECTION 95
BLOCK 1
LOT 1.22

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

Colliers Engineering & Design
NEWBURGH
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
COLLIERS ENGINEERING & DESIGN CT, P.C.
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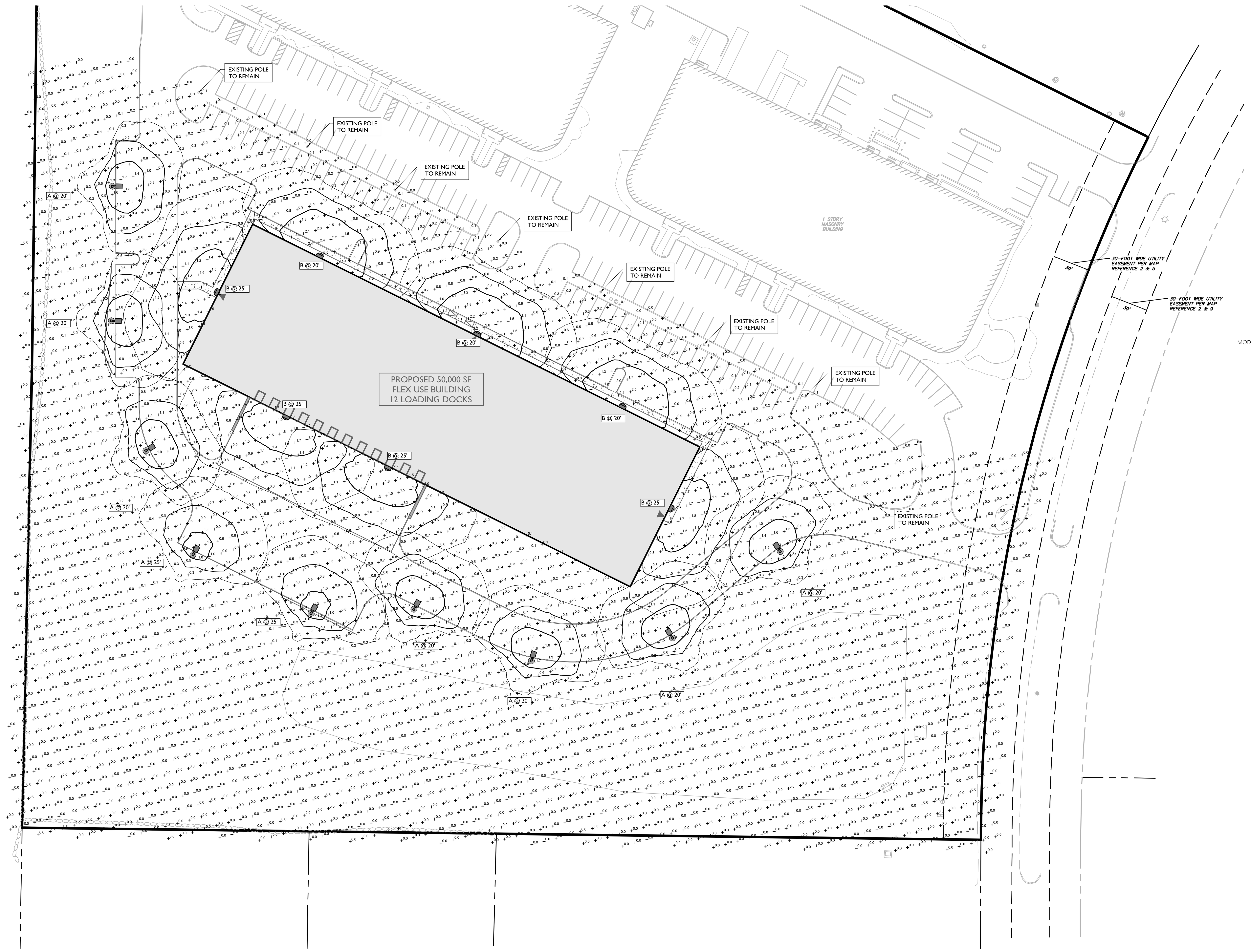
ENGINEERING & LAND SURVEYING

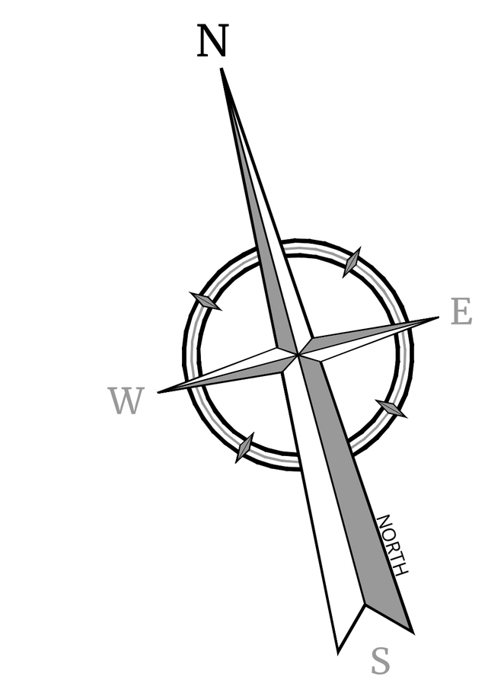
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	SMB	JED

PROJECT NUMBER: 100002458
DRAWING NAME: C-LAND

SHEET TITLE: LANDSCAPE PLAN

SHEET NUMBER: 07 of 11

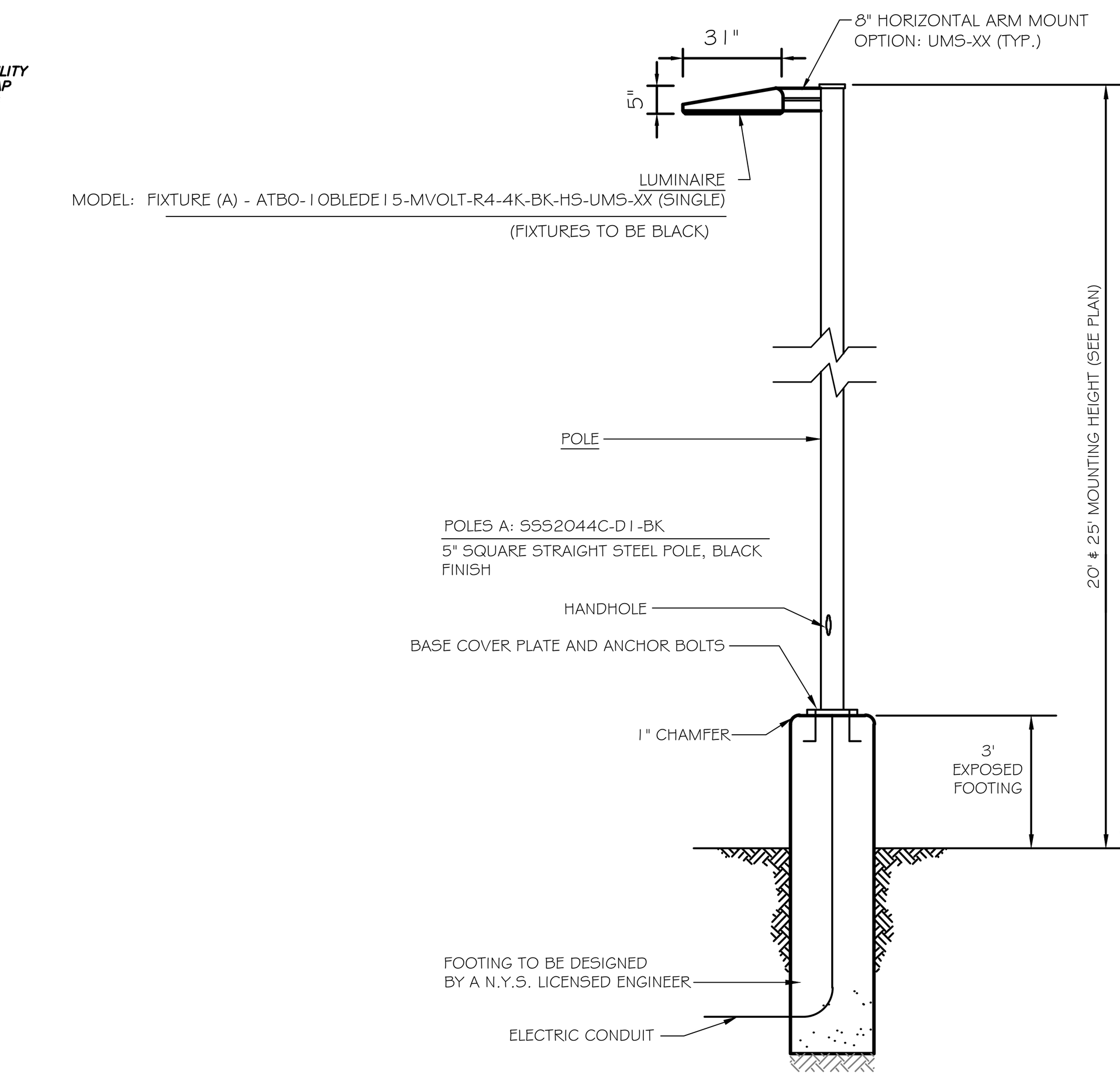




LUMINAIRE SCHEDULE							
KEY	QTY.	DESCRIPTION	ARRANGEMENT	MTG. HT.	LUMENS/LAMP	LLF	CATALOG #
A	9	AMERICAN ELECTRIC LIGHTING ATB0 SERIES LED	SINGLE	20' / 25'	5,383	0.97	ATB0-10BLEDE15-MVOLT-R4-4K-BK-UMS-XX
B	7	HOLOPHANE WALL PACK FULL CUTOFF LED	SINGLE	20' / 25'	9,883	0.95	HLWPC2-P40-40K-MVOLT-T4M-BKSDP-P3

1. LIGHT FIXTURE VOLTAGE REQUIREMENTS TO BE CONFIRMED BY CONTRACTOR PRIOR TO ORDERING.

CALCULATION SUMMARY						
DESCRIPTION	CALC. TYPE	UNITS	AVG.	MAX.	MIN.	AVG. / MIN.
PARKING & LOADING AREA SUMMARY	ILLUMINANCE	FC	1.0	2.3	0.4	2.5:1



POLE MOUNTED FIXTURE DETAIL

NOT TO SCALE

NOTES:

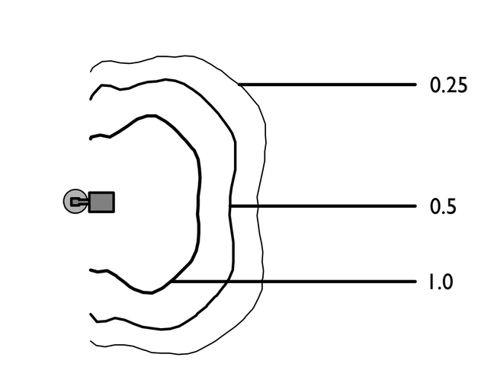
1. LUMINAIRES TO BE MANUFACTURED BY AMERICAN ELECTRIC LIGHTING AND POLES BY HOLOPHANE (MANUFACTURER TO CONFIRM POLE SIZE) OR APPROVED EQUAL.
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF LIGHT FIXTURES FOR REVIEW AND APPROVAL BY THE OWNER OR PROJECT LANDSCAPE ARCHITECT.
3. FOOTING TO BE DESIGNED, SIGNED, AND SEALED BY A N.Y.S. LICENSED ENGINEER.
4. *VOLTAGE TO BE CONFIRMED BY ELECTRICIAN CONTRACTOR.
5. PROPOSED POLES HEIGHT TO BE MODIFIED IN FIELD TO MEET DESIGN.

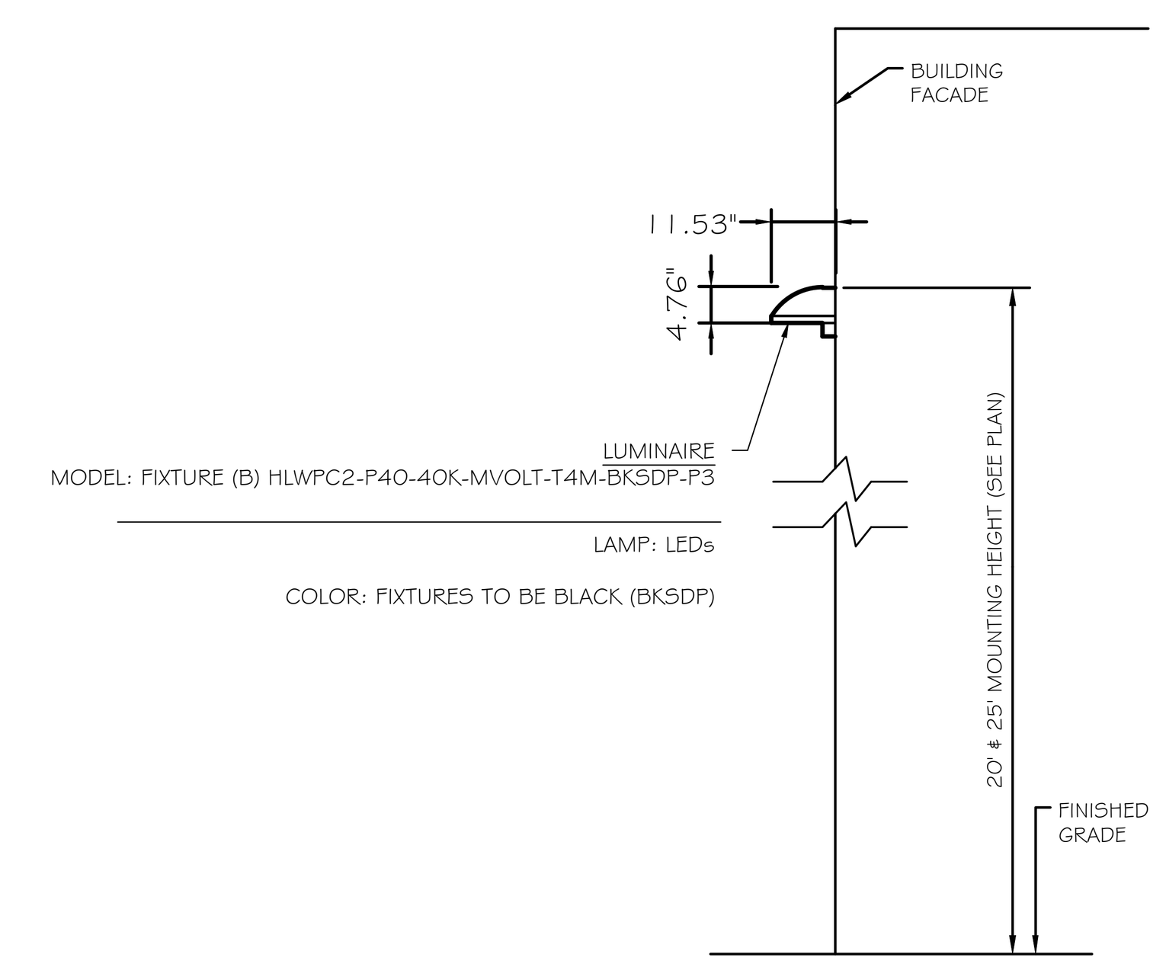
LIGHTING LEGEND:

SINGLE FIXTURE POLE LIGHT

WALLPACK

0.0 LIGHT LEVEL AT GRADE (IN FOOTCANDLES)





WALL MOUNTED FIXTURE DETAIL

NOTES:

1. LUMINAIRES TO BE MANUFACTURED BY HOLOPHANE LIGHTING OR APPROVED EQUAL.
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF LIGHT FIXTURES FOR REVIEW AND APPROVAL BY THE OWNER OR PROJECT LANDSCAPE ARCHITECT.
3. *VOLTAGE TO BE CONFIRMED BY ELECTRICIAN CONTRACTOR.

LIGHTING NOTES:

1. THIS PLAN IS TO BE USED FOR LIGHTING PURPOSES ONLY.
2. POLES AND FIXTURES AS SUPPLIED BY:
   POLES & WALL FIXTURES - HOLOPHANE
   POLE FIXTURES - AMERICAN ELECTRIC LIGHTING
3. LAMPS ARE TO BE LEDs. A LIGHT LOSS FACTOR (LLF) WAS USED AS SHOWN IN THE LUMINARIES SCHEDULE.
4. FIXTURES AND POLES ARE TO BE BLACK.
5. POLE MOUNTED FIXTURES SHALL BE PLACED A MINIMUM OF TWO (2) FEET BEHIND CURBS, EDGE OF PAVEMNT OR RETAINING WALLS IN CAR PARKING AREAS.
6. PROPOSED LIGHT FIXTURE LOCATIONS ARE CRITICAL TO PROVIDE THE LIGHTING LEVELS DEPICTED ON THIS PLAN. THE LIGHTING CONTRACTOR SHALL FIELD VERIFY FIXTURE LOCATIONS PRIOR TO INSTALLATION. IF ADJUSTMENT TO ANY LIGHT FIXTURE LOCATION IS REQUIRED DUE TO FINAL CONSTRUCTION OF UTILITIES AND SITE IMPROVEMENTS, THE LIGHTING CONTRACTOR SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO INSTALLATION.
7. LIGHTING SHOWN ON PLAN DEPICTS AVERAGE MAINTAINED FOOTCANDLE LEVELS AT GRADE.
8. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF LIGHT FIXTURES FOR REVIEW AND APPROVAL BY THE OWNER OR PROJECT LANDSCAPE ARCHITECT.
9. ELECTRICAL PLANS FOR WIRING LAYOUT BY OTHERS.
10. POLE BASE INSTALLATION SHALL INCLUDE A SUPPLEMENTARY GROUND ROD AND WIRE LEAD TO BASE FOR POWER CONNECTION. DETAILS PER PROJECT ELECTRICAL ENGINEER.

40 0 40 80

SCALE : 1" = 40'

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REV	DATE	DRAWN BY	DESCRIPTION

REV	DATE	DRAWN BY	DESCRIPTION

REGISTERED LANDSCAPE ARCHITECT · JUSTIN E. DATES · 001964 · STATE OF NEW YORK

Justin Eric Dates
NEW YORK REGISTERED LANDSCAPE ARCHITECT
LICENSE NUMBER: 001964-01
COLLIERS ENGINEERING & DESIGN CT, P.C.

PRELIMINARY
AMENDED SITE PLAN
FOR
NORTHEAST
BUSINESS CENTER

SECTION 95
BLOCK 1
LOT 1.22

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

Colliers Engineering & Design
NEWBURGH
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
COLLIERS ENGINEERING & DESIGN CT, P.C.
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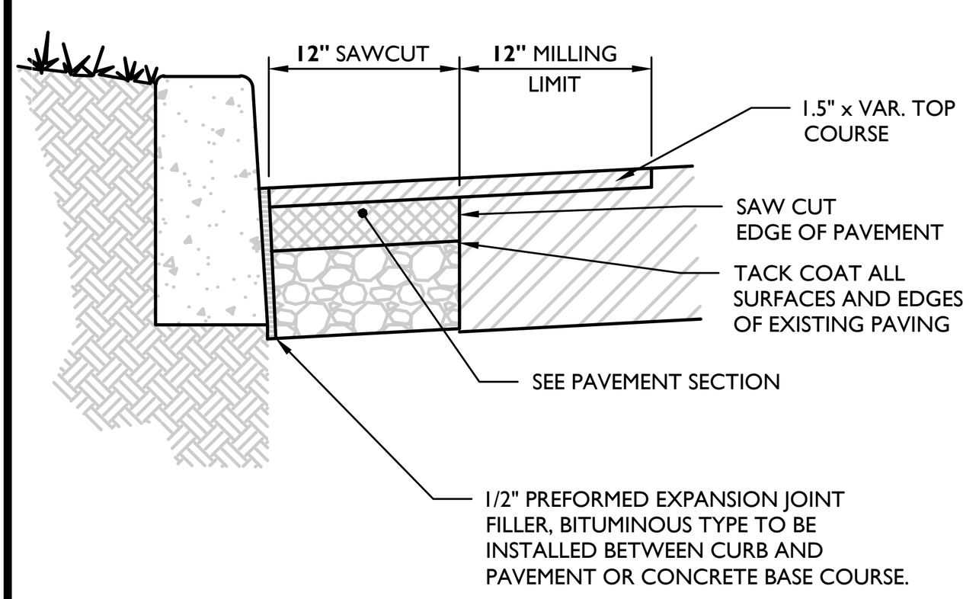
ENGINEERING & LAND SURVEYING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	SMB	JED
PROJECT NUMBER: 10000245B	DRAWING NAME: C-LGHT		

SHEET TITLE:
LIGHTING PLAN

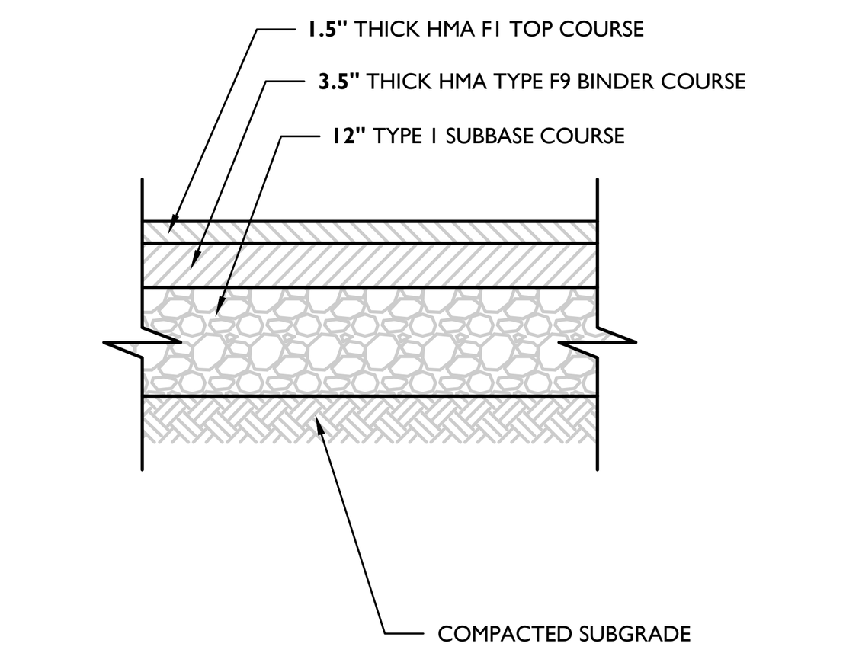
SHEET NUMBER:
08 of 11

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



SAWCUT AND PAVEMENT RESTORATION DETAIL

NOT TO SCALE MCNY-SITE-PVMT-2800 07/01/19

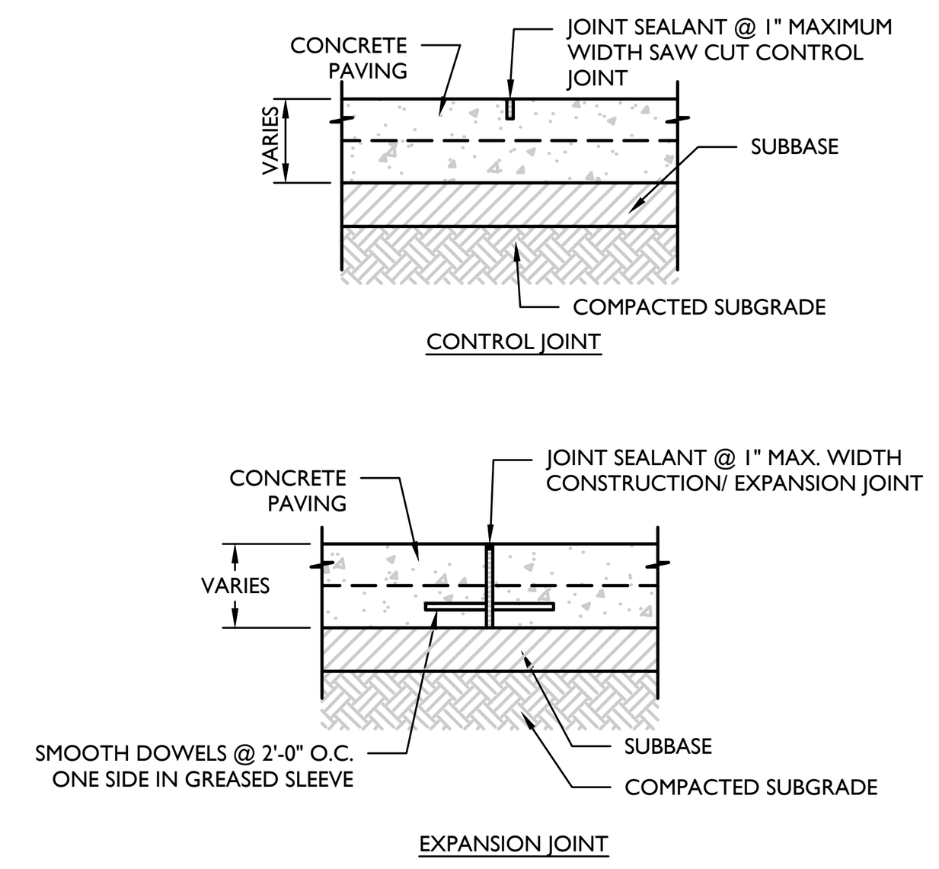


NOTES:

1. PAVEMENT TYPES TO BE IN ACCORDANCE WITH CURRENT NYSDOT STANDARDS AND SPECIFICATIONS.

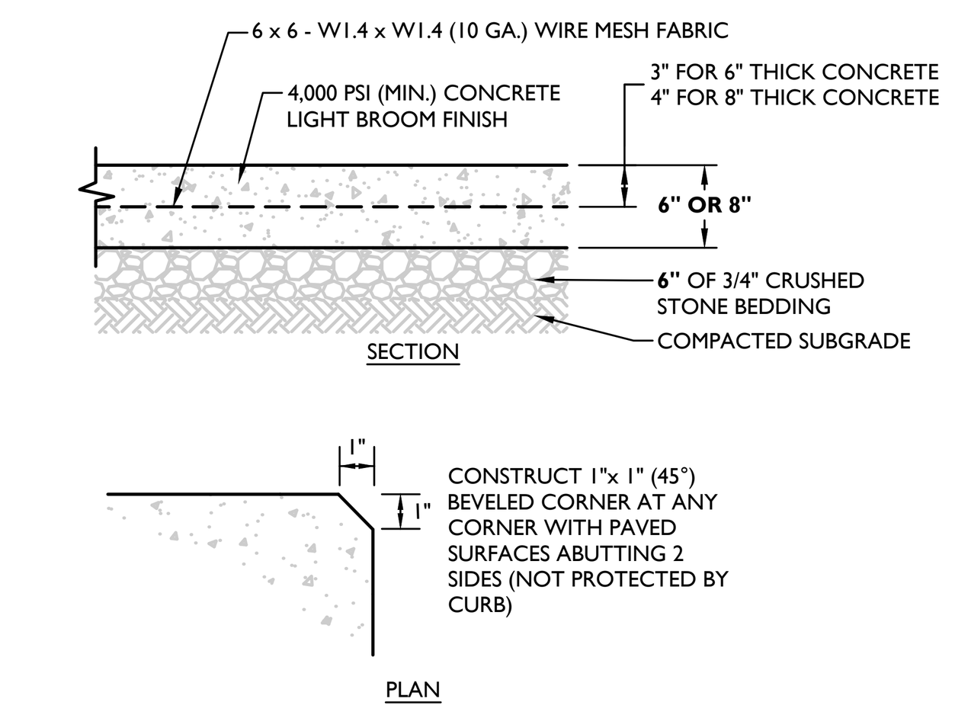
HEAVY-DUTY ASPHALT PAVEMENT DETAIL

NOT TO SCALE MCNY-SITE-PVMT-1100 07/01/19



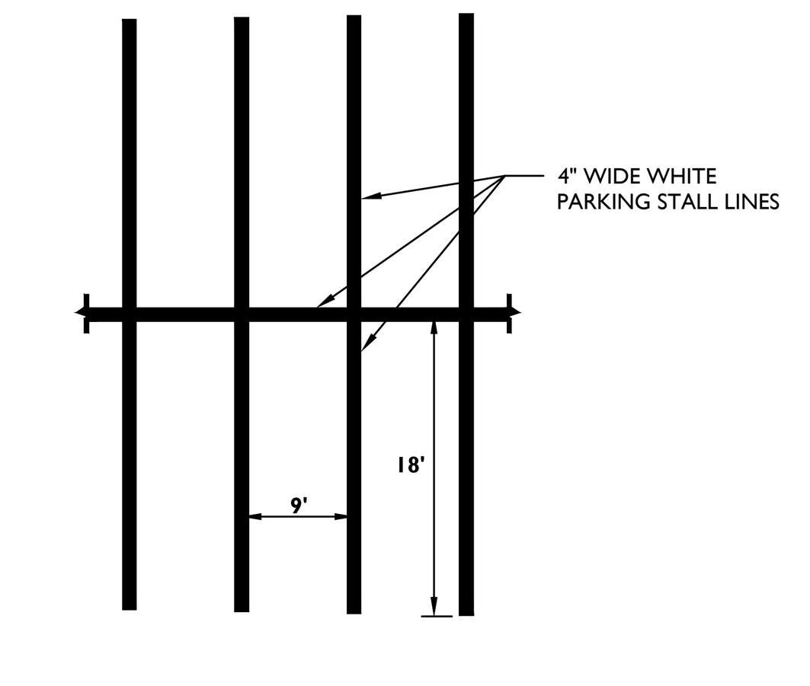
CONCRETE PAVING JOINTS DETAIL

NOT TO SCALE MCNY-SITE-PVMT-1700 07/01/19



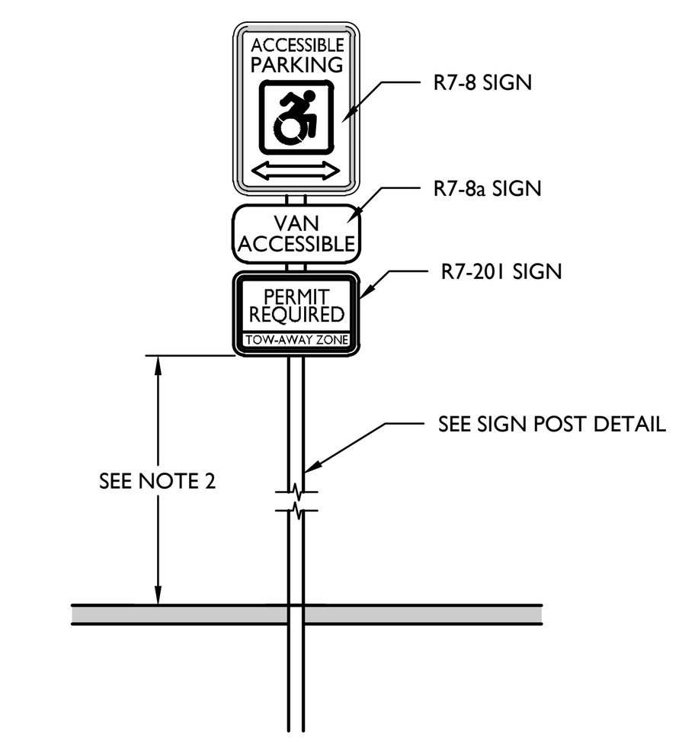
CONCRETE LOADING PAD DETAIL

NOT TO SCALE MCNY-SITE-PVMT-1600 07/01/19



TYPICAL PARKING STALL STRIPING DETAIL

NOT TO SCALE MCNY-SITE-MRKG-1000 07/01/19

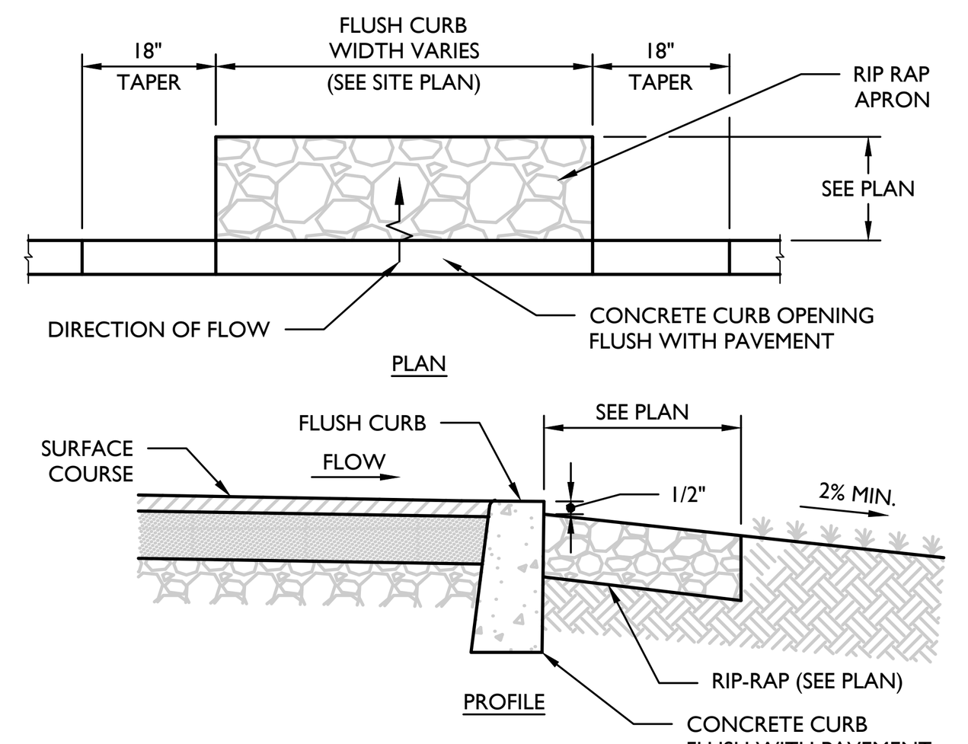


NOTES:

1. INSTALL SIGN WHERE NOTED ON PLAN.
2. THE BOTTOM OF THE LOWEST SIGN SHALL BE MOUNTED 60" ABOVE THE PARKING LOT OR SIDEWALK SURFACE WHEN THE SIGN IS PARALLEL TO THE SIDEWALK AND 72" ABOVE THE PARKING LOT OR SIDEWALK WHEN THE SIGN IS PERPENDICULAR TO THE SIDEWALK.

ACCESSIBLE PARKING SIGN DETAIL

NOT TO SCALE MCNY-SITE-MRKG-2200 07/01/19

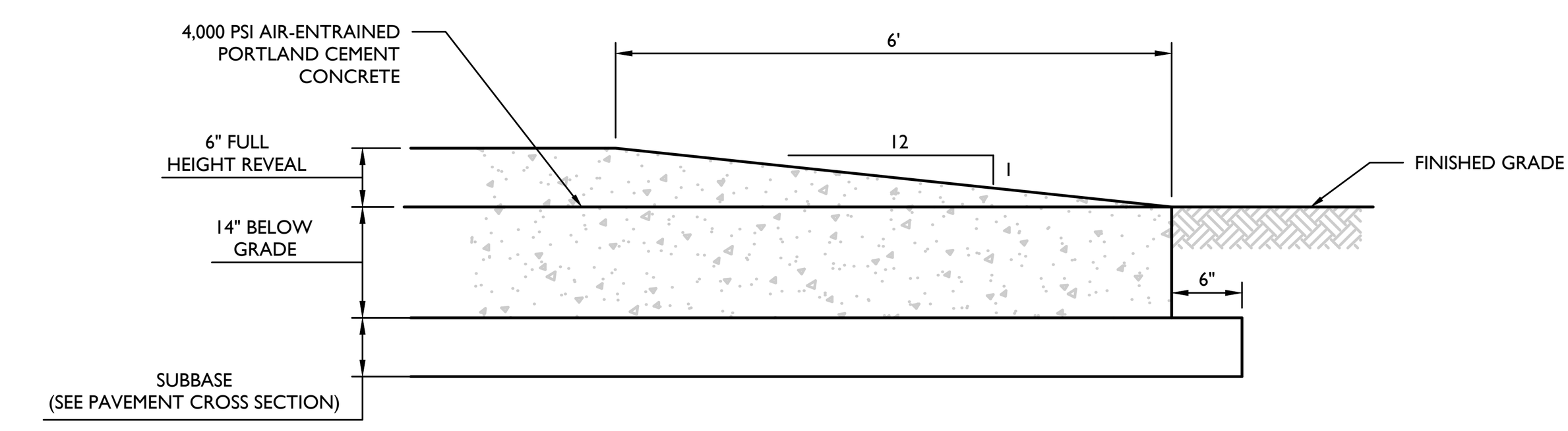


NOTES:

1. FLUSH CURB FOR OVERLAND FLOW TO BE USED AT DESIGNATED LOCATIONS ONLY AS SHOWN ON SITE PLANS.
2. CONTRACTOR SHALL ENSURE THAT THERE IS POSITIVE DRAINAGE FROM THE PAVEMENT TO THE GRASSED AREA.

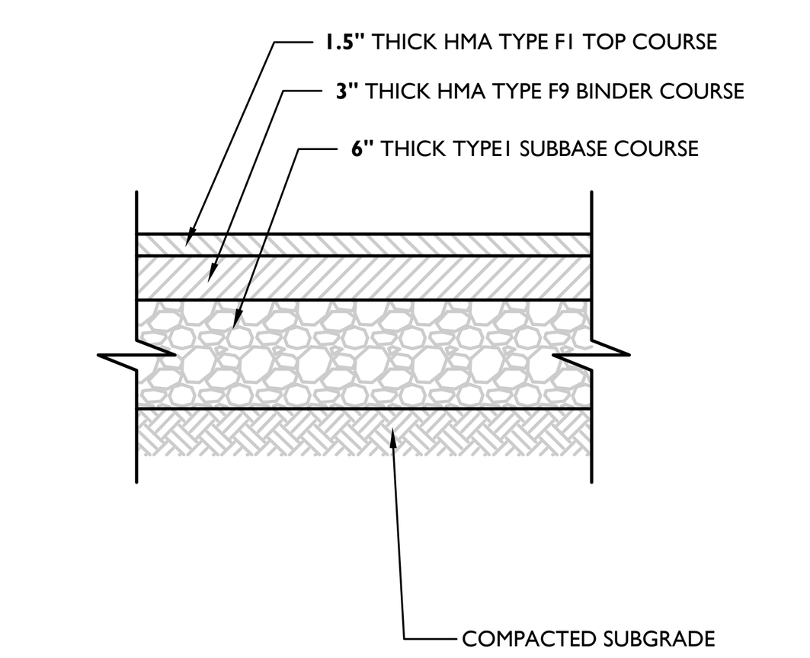
FLUSH CURB FOR DRAINAGE DETAIL

NOT TO SCALE MCNY-SITE-CURB-1400 07/01/19



TERMINAL CURB DETAIL

NOT TO SCALE MCNY-SITE-CURB-2400 07/01/19

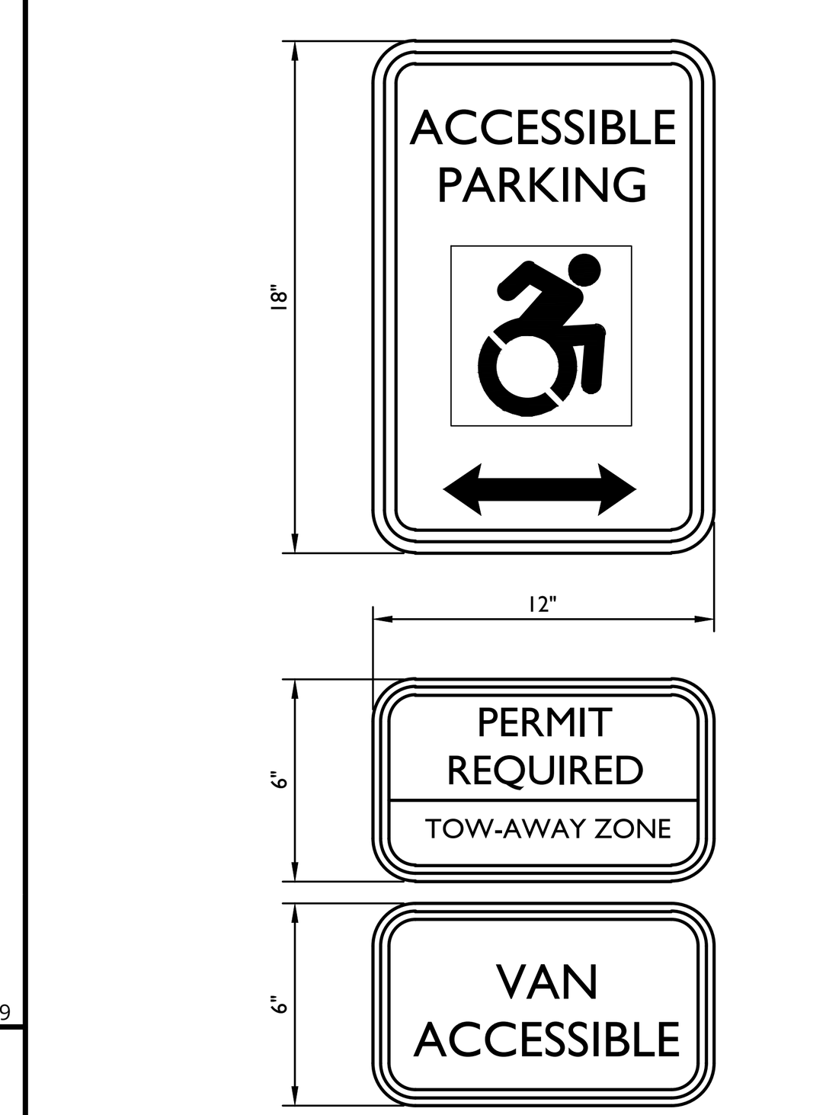


NOTES:

1. PAVEMENT TYPES TO BE IN ACCORDANCE WITH CURRENT NYSDOT STANDARDS AND SPECIFICATIONS.

STANDARD ASPHALT PAVEMENT DETAIL

NOT TO SCALE MCNY-SITE-PVMT-1000 07/01/19

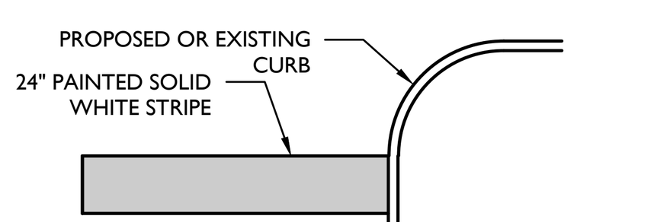


NOTES:

1. SIGN COLORS TO BE IN ACCORDANCE WITH CURRENT ADA STANDARDS.
2. ONE VAN ACCESSIBLE SIGN TO BE INCLUDED AT EACH ADA PARKING AREA.

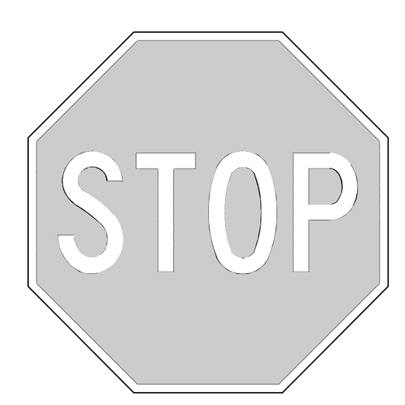
SIGN FOR ACCESSIBLE PARKING SPACE DETAIL

NOT TO SCALE MCNY-SITE-HADA-2400 07/01/19



TYPICAL STOP BAR DETAIL

NOT TO SCALE MCNY-SITE-MRKG-1100 07/01/19

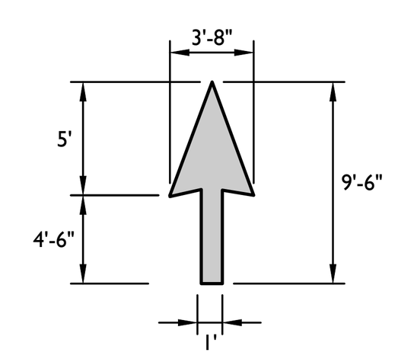


30" x 30"

COLORS:
LEGEND = WHITE (RETROREFLECTIVE)
BACKGROUND = RED (RETROREFLECTIVE)

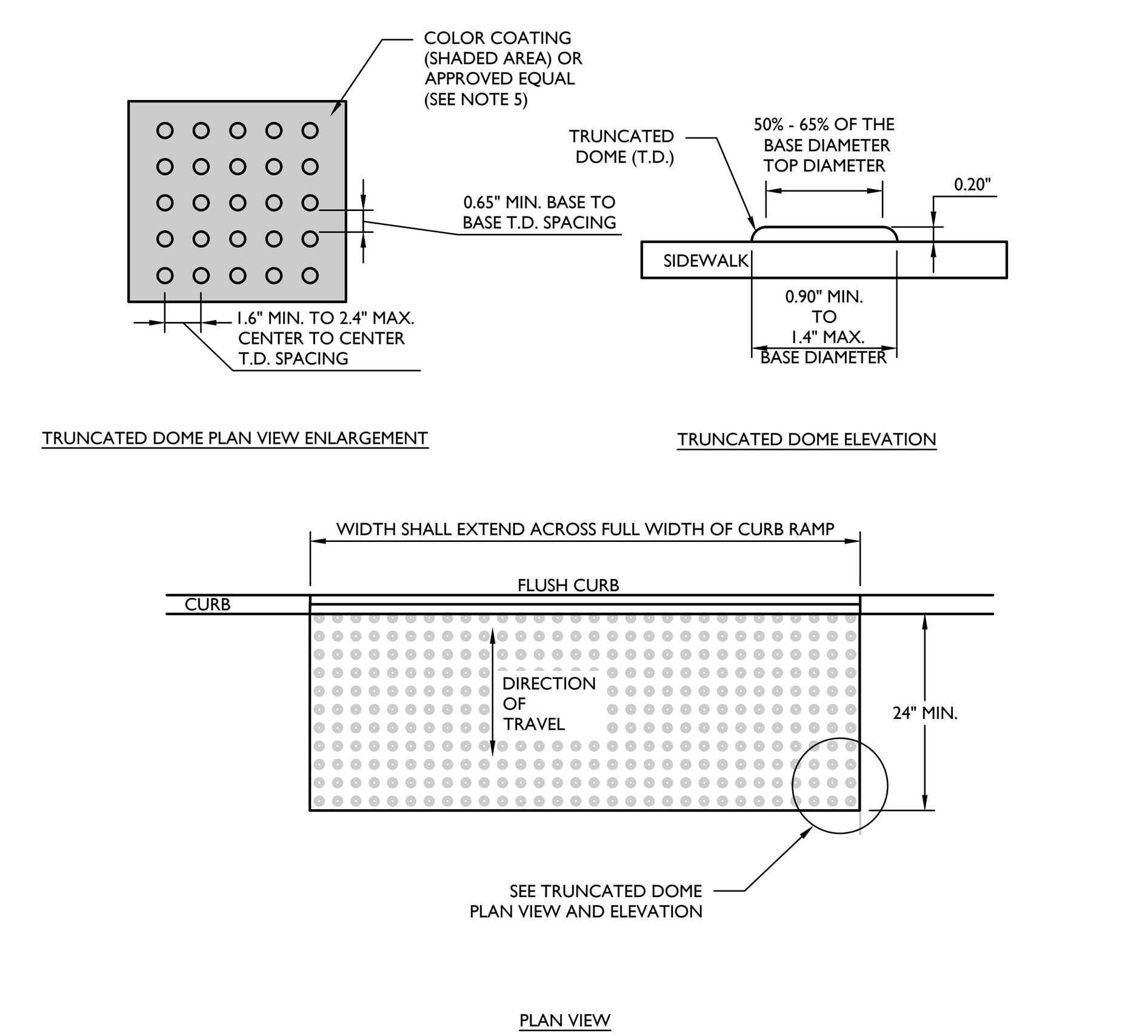
R1-1 SIGN DETAIL

MCCM-SIGN-REGU-R1-1 12/01/20



STRAIGHT PAVEMENT ARROW DETAIL

NOT TO SCALE MCNY-SITE-MRKG-1200 07/01/19



NOTES:

1. THE DETECTABLE WARNING SURFACE SHALL BE MANUFACTURED MATS THAT ARE EMBEDDED AND CAST-IN-PLACE IN THE CONCRETE.
2. IN LIEU OF A CAST IN PLACE DETECTABLE WARNING SURFACE, THE CONTRACTOR MAY UTILIZE A SURFACE APPLIED DETECTABLE WARNING SURFACE WITH PRIOR APPROVAL OF THE UNDERSIGNED ENGINEER AND PRIOR TO POURING OF THE CONCRETE RAMP.
3. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A SHOP DRAWING OF THE DETECTABLE WARNING SURFACE PRIOR TO CONSTRUCTION FOR APPROVAL.
4. THE CONTRACTOR SHALL PROVIDE A MANUFACTURER CERTIFICATION THAT THE DETECTABLE WARNING SURFACE COMPLIES WITH THE CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE DEPARTMENT OF JUSTICE AND THE ADA STANDARDS AS SUPPORTED BY THE UNITED STATES ACCESS BOARD, AND THE STATE AND/OR LOCAL ADA STANDARDS.
5. **SAFETY RED** SHALL BE APPROVED BY THE LOCAL JURISDICTION PRIOR TO INSTALLATION. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. ALTERNATIVE COLOR MAY BE USED PROVIDED SUCH COLOR COMPLIES WITH CURRENT ADA STANDARDS.
6. DETECTABLE WARNINGS SHALL CONSIST OF A SURFACE OF TRUNCATED DOMES.
7. TRUNCATED DOMES IN A DETECTABLE WARNING SURFACE SHALL HAVE A BASE DIAMETER OF 0.9 INCH (23 mm) MINIMUM AND 1.4 INCHES (36 mm) MAXIMUM, A TOP DIAMETER OF 50 PERCENT OF THE BASE DIAMETER MINIMUM TO 65 PERCENT OF THE BASE DIAMETER MAXIMUM, AND A HEIGHT OF 0.2 INCH (5.1 mm).
8. TRUNCATED DOMES IN DETECTABLE WARNING SURFACE SHALL HAVE A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41 mm) MINIMUM AND 2.4 INCHES (61 mm) MAXIMUM, AND A BASE-TO-BASE SPACING OF 0.65 INCH (17 mm) MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES ON A SQUARE GRID.
9. SOME DETECTABLE WARNING PRODUCTS REQUIRE A CONCRETE BORDER FOR PROPER INSTALLATION. WHERE REQUIRED BY THE MANUFACTURER, THE CONCRETE BORDER SHALL NOT EXCEED 2 INCHES (51 mm).
10. DETECTABLE WARNING SURFACES SHOULD NOT BE PLACED ON PAVING OR EXPANSION JOINTS AT CURB RAMPS. THE ROWS OF TRUNCATED DOMES IN DETECTABLE WARNING SURFACES SHOULD BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET SO PEDESTRIANS WHO USE WHEELCHAIRS CAN "TRACK" BETWEEN THE DOMES.
11. ON PERPENDICULAR CURB RAMPS, DETECTABLE WARNING SURFACES SHALL BE PLACED AS FOLLOWS:
    a. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE IN FRONT OF THE BACK OF CURB, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE BACK OF CURB.
    b. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB AND THE DISTANCE FROM EITHER END OF THE BOTTOM GRADE BREAK TO THE BACK OF CURB IS 5.0 FT OR LESS, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE RAMP RUN WITHIN ONE DOME SPACING OF THE BOTTOM GRADE BREAK.
    c. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB AND THE DISTANCE FROM EITHER END OF THE BOTTOM GRADE BREAK TO THE BACK OF CURB IS MORE THAN 5.0 FT, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE LOWER LANDING AT THE BACK OF CURB.
12. ON PARALLEL CURB RAMPS, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE TURNING SPACE AT THE FLUSH TRANSITION BETWEEN THE STREET AND SIDEWALKS.
13. ON BLENDED TRANSITIONS, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE BACK OF CURB.

DETECTABLE WARNING SURFACE DETAIL

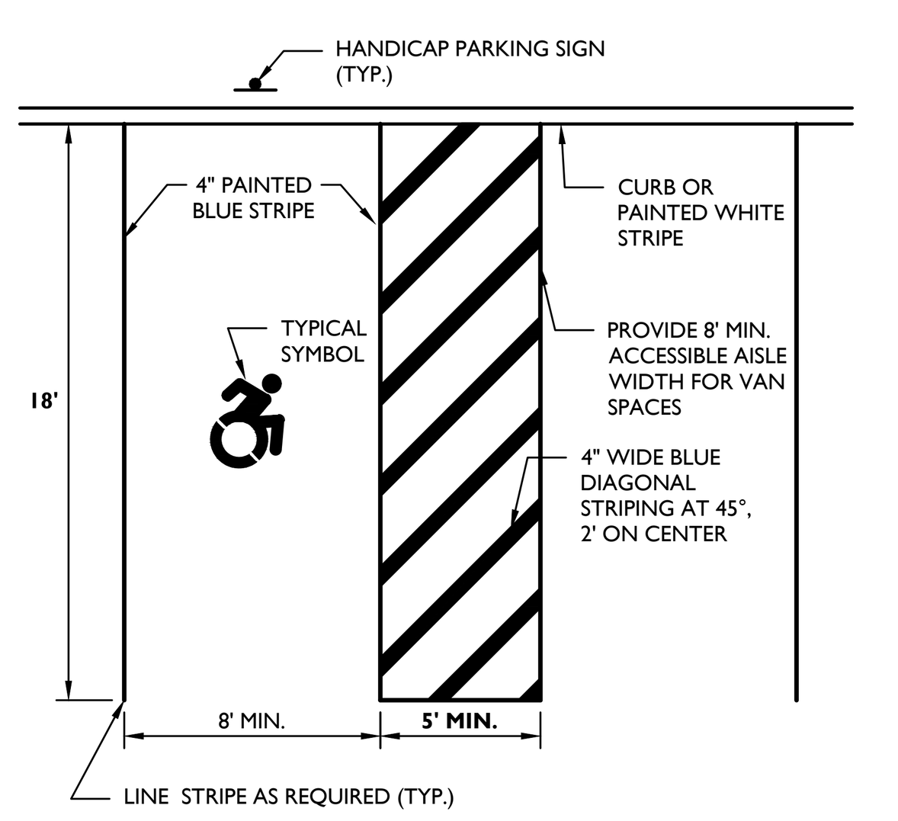
NOT TO SCALE MCNY-SITE-HADA-2100 07/01/19

NOTES:

1. CONTRACTOR SHALL PREPARE SHOP DRAWINGS OF EACH CURB RAMP FOR SUBMISSION AND APPROVAL OF THE UNDERSIGNED PROFESSIONAL AND THE MUNICIPAL, COUNTY, STATE OR OTHER AGENCY'S ENGINEER HAVING JURISDICTION.
2. LANDING AREA, APPROACH SIDEWALK TRANSITIONS AND CURB RAMP SHALL BE KEPT CLEAR OF OBSTRUCTIONS.
3. CURB AT RAMP OPENING (FLUSH CURB) TO BE FLUSH WITH ROADWAY PAVEMENT.
4. CROSSWALKS AND PAVEMENT MARKINGS TO BE INSTALLED AS DENOTED ON SITE PLAN.
5. MAXIMUM RAMP SLOPE MAY BE 12H:1V UPON APPROVAL OF ENGINEER. RAMP SLOPES SHOWN ARE THE PREFERRED SLOPE. SIDE FLARE SLOPES MAY BE 10H:1V UPON APPROVAL OF THE ENGINEER.
6. MINIMUM RAMP CROSS-SLOPE SHALL BE 0.50%. THE MAXIMUM RAMP CROSS-SLOPE MAY BE 2.00% UPON APPROVAL OF THE ENGINEER. CROSS-SLOPES SHOWN IN THE DETAILS ARE THE PREFERRED SLOPES TO MAINTAIN A LEVEL OF CONSTRUCTION TOLERANCE.
7. ACCESSIBLE RAMPS SHALL BE INSTALLED PURSUANT WITH THE CURRENT UNITED STATES ACCESS BOARD ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES AND THE ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE AND OTHER APPLICABLE LOCAL AND STATE STANDARDS IN EFFECT AT THE DATE OF CONSTRUCTION.
8. DEVIATIONS FROM THE CURB RAMP DETAILS REQUIRE WRITTEN APPROVAL OF THE UNDERSIGNED PROFESSIONAL AND THE MUNICIPAL, COUNTY, STATE OR OTHER AGENCY'S ENGINEER HAVING JURISDICTION.
9. THE RAMP SURFACE SHALL HAVE A NON-SLIP, HAND BROOMED FINISH.
10. CONCRETE EXPANSION JOINTS SHALL HAVE A FIRM SURFACE WITH 1/4" BEVELED CONCRETE EDGES. THE JOINT SURFACE SHALL NOT BE MORE THAN 1/4" BELOW THE ADJOINING CONCRETE SURFACE.
11. CURB RAMP MUST BE WHOLLY CONTAINED WITHIN THE CROSSWALK CROSSING.
12. THE CLEAR SPACE SHALL BE INCREASED TO 5 FEET WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF THE SIDEWALK.
13. THE MAXIMUM SEPARATION BETWEEN THE BACK OF CURB AND DETECTABLE WARNING SURFACE SHALL NOT EXCEED 5 FEET. THE MAXIMUM SEPARATION AREA MAY BE WITHIN THE 4' X 4' CLEAR SPACE.
14. SEE SEPARATE DETAILS FOR "DETECTABLE WARNING SURFACE" AND "CURB RAMP SECTIONS".
15. WHERE SIDE FLARES ARE NOT REQUIRED, PROVIDE AN 18" CURB TAPER TO THE FLUSH CURB.
16. ALL CURB RAMP FLUSH CURB SHALL BE MADE WITH CONCRETE CURB CRADLE, REGARDLESS OF THE CURB MATERIAL USED THROUGHOUT THE SITE.

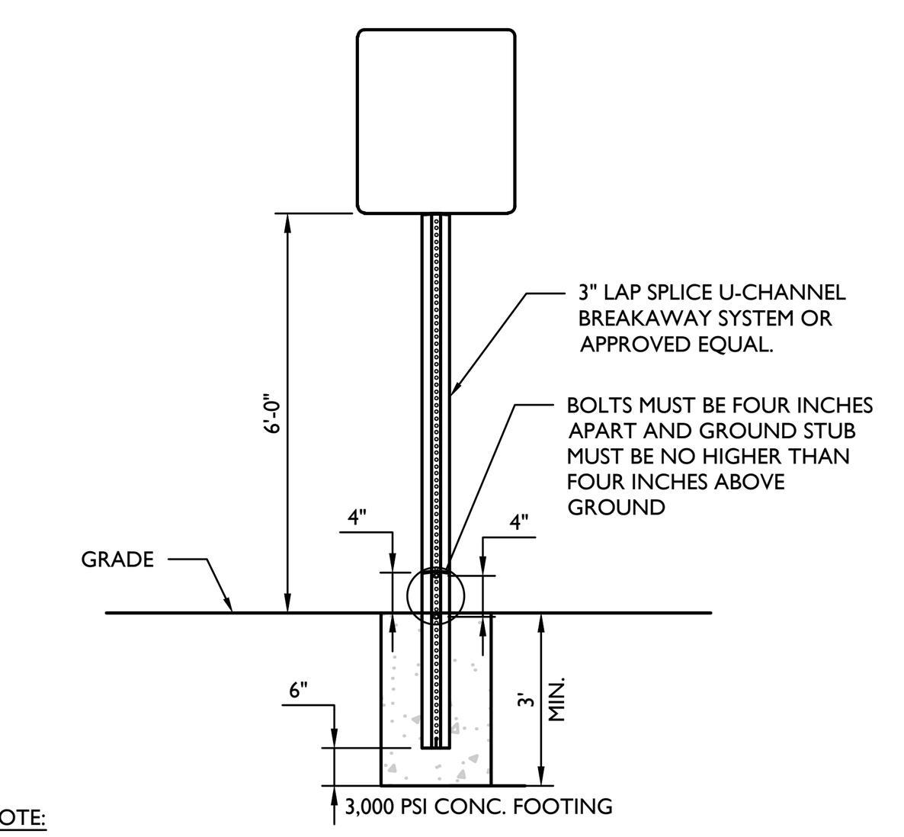
CURB RAMP NOTES

MCNY-SITE-HADA-2500 07/01/19



ACCESSIBLE PARKING LINE STRIPE STALL DETAIL

NOT TO SCALE MCNY-SITE-MRKG-1801 07/01/19

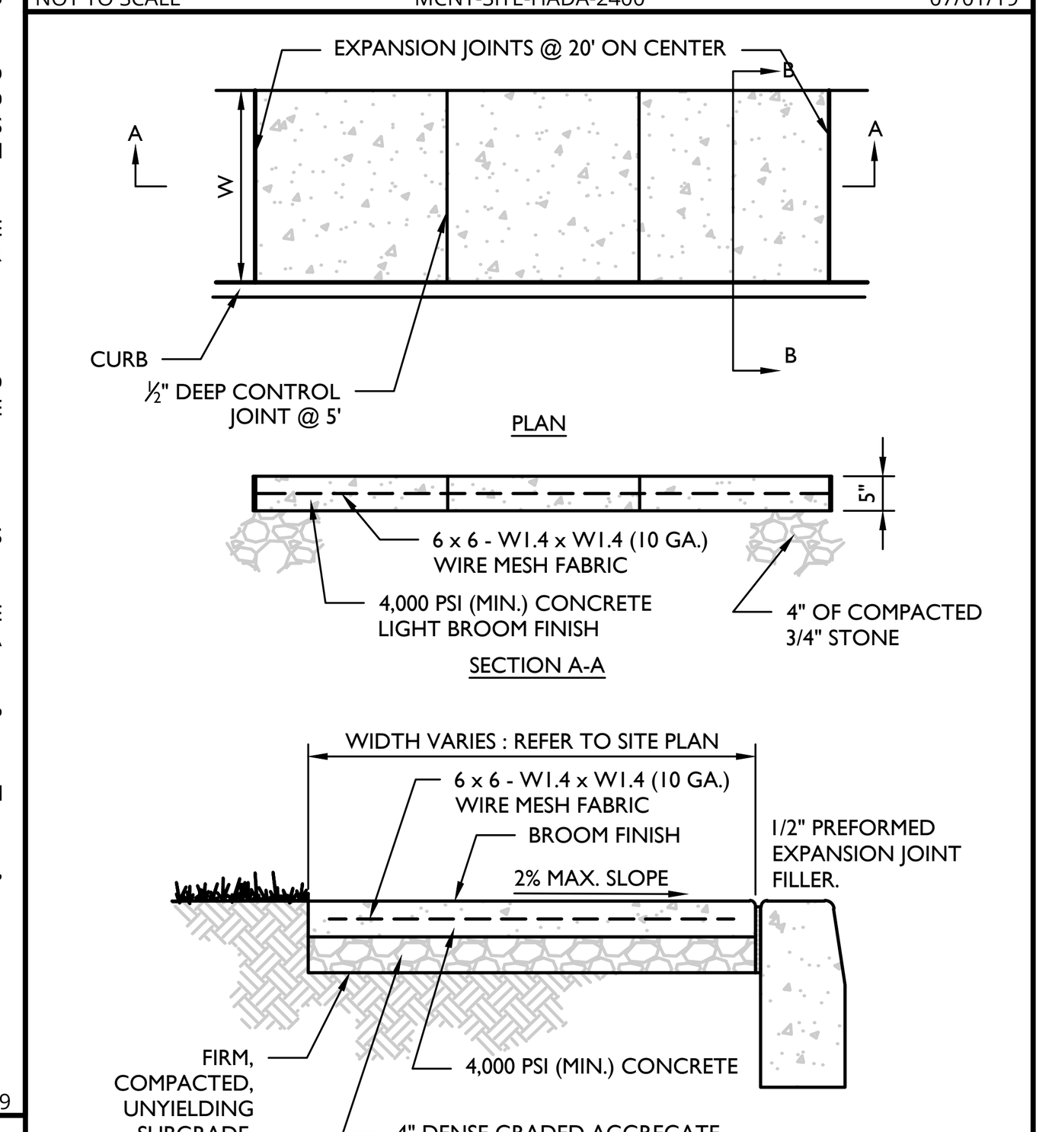


NOTE:

1. ALL SIGNS SHALL CONFORM TO THE CURRENT MANUAL ON "UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS AND CURRENT MUNICIPAL SPECIFICATIONS FOR COLOR, DESIGN AND EXACT WORDING.

BREAKAWAY SIGN POST DETAIL

NOT TO SCALE MCCM-SIGN-GENL-6102 07/01/19

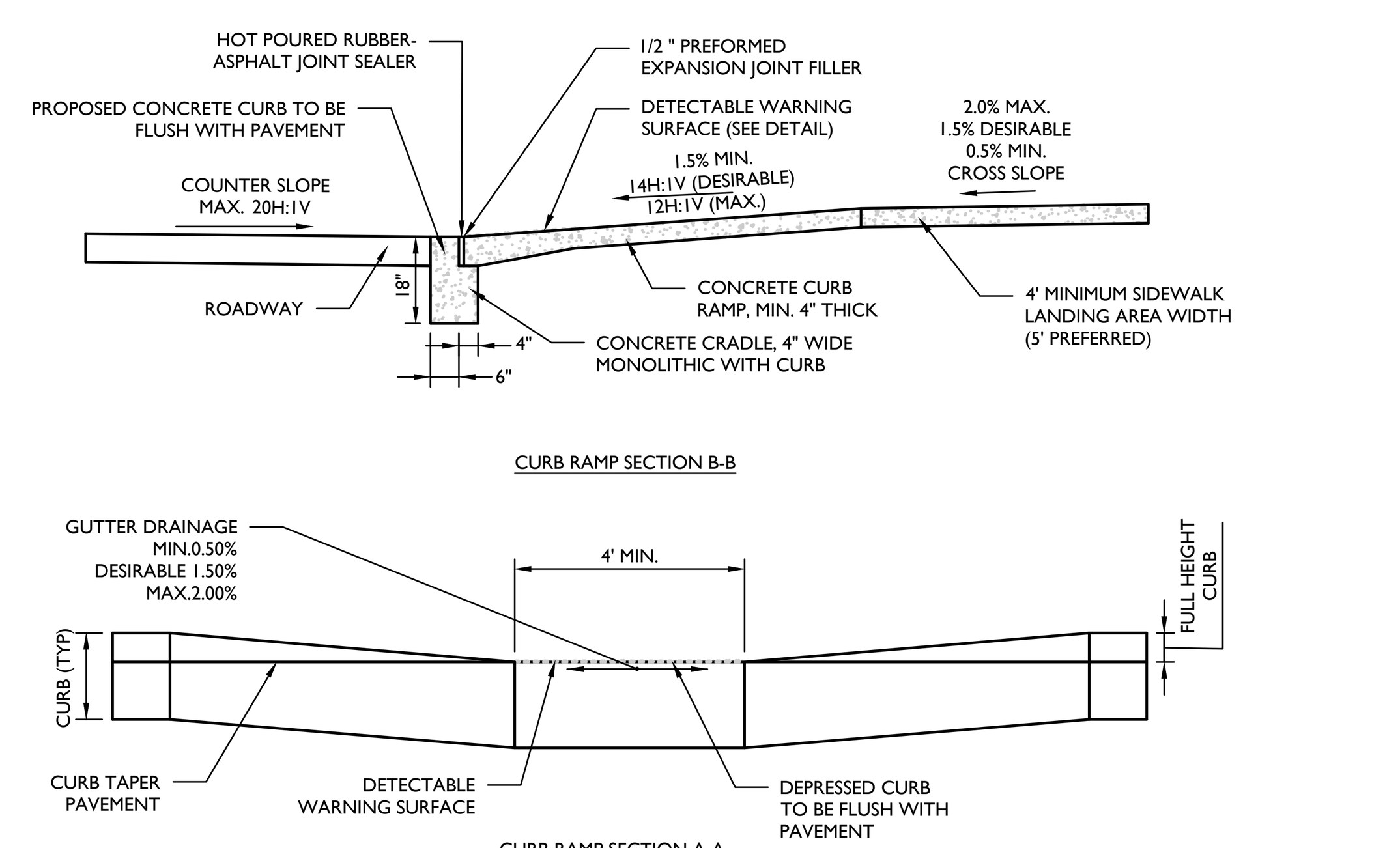


NOTES:

1. A PREFORMED, BITUMINOUS EXPANSION JOINT 1/2" THICK, 4" WIDE AND EXTENDING THE FULL WIDTH OF THE SIDEWALK (UNBROKEN) SHALL BE INSTALLED.
2. ½" DEEP CONTROL JOINTS INSTALLED AT AN INTERVAL OF EVERY 5'.
3. JOINT FILLER SHALL CONFORM TO AASHTO M-33. SURFACE OF CONCRETE SHALL BE BROOM FINISH. ROUND EDGES USING AN EDGING TOOL WITH A 1/4" RADIUS.
4. CONCRETE SIDEWALK SHALL BE CONSTRUCTED PER THE LATEST ADA REQUIREMENTS.

REINFORCED CONCRETE SIDEWALK (NEXT TO CURB) DETAIL

NOT TO SCALE MCNY-SITE-PVMT-1800 07/01/19

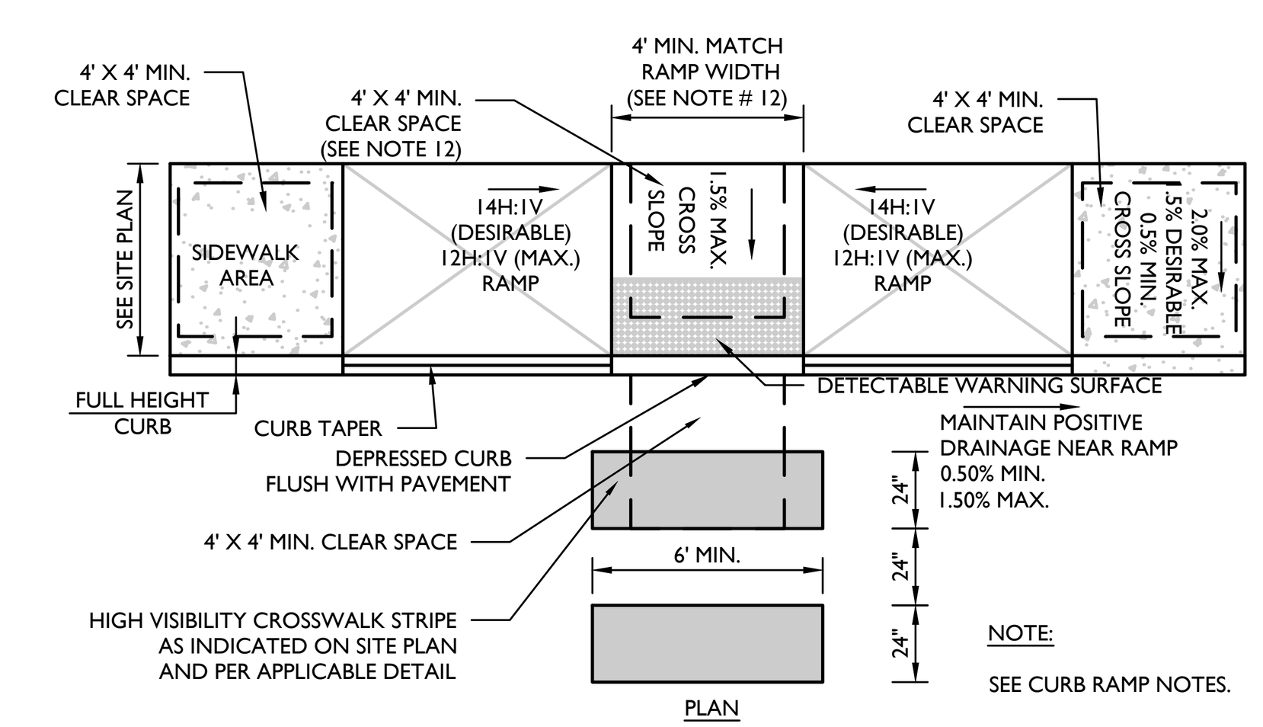


NOTES:

1. DEPRESSED CURB AT DETECTABLE WARNING SHALL BE A SMOOTH LEVEL SURFACE THAT IS FLUSH WITH THE ADJOINING PAVEMENT. NO BUMPS OR ROUGH SURFACE ARE ALLOWED. SUCH UNEVENNESS SHALL BE MILLED OR GRINDED SMOOTH.
2. POSITIVE DRAINAGE SHALL BE MAINTAINED AT RAMP. RAMP SHALL SLOPE TOWARDS PAVEMENT NO PONDING OF WATER IS PERMITTED AT CURB RAMP. PAVEMENT GRADES TO BE ADJUSTED AS NECESSARY TO PROVIDE POSITIVE GUTTER DRAINAGE.
3. CURB (DROPPED CURB) GUTTER-LINE TO BE FLUSH WITH ROADWAY PAVEMENT.
4. MAXIMUM GUTTER DRAINAGE GRADE MAY BE INCREASED TO 2.00% UPON THE WRITTEN APPROVAL OF THE UNDERSIGNED PROFESSIONAL.
5. DEVIATION FROM THIS DETAIL REQUIRES THE WRITTEN APPROVAL OF THE UNDERSIGNED PROFESSIONAL.

CURB RAMP SECTIONS DETAIL

MCNY-SITE-HADA-2000 07/01/19

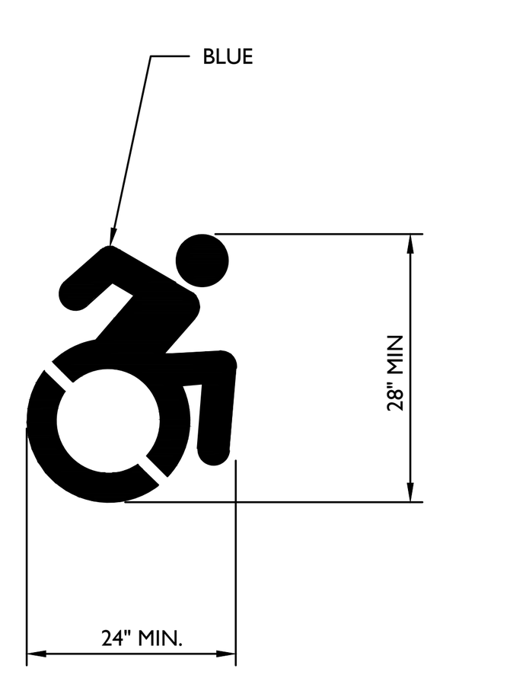


NOTE:

SEE CURB RAMP NOTES.

CURB RAMP TYPE 7 DETAIL

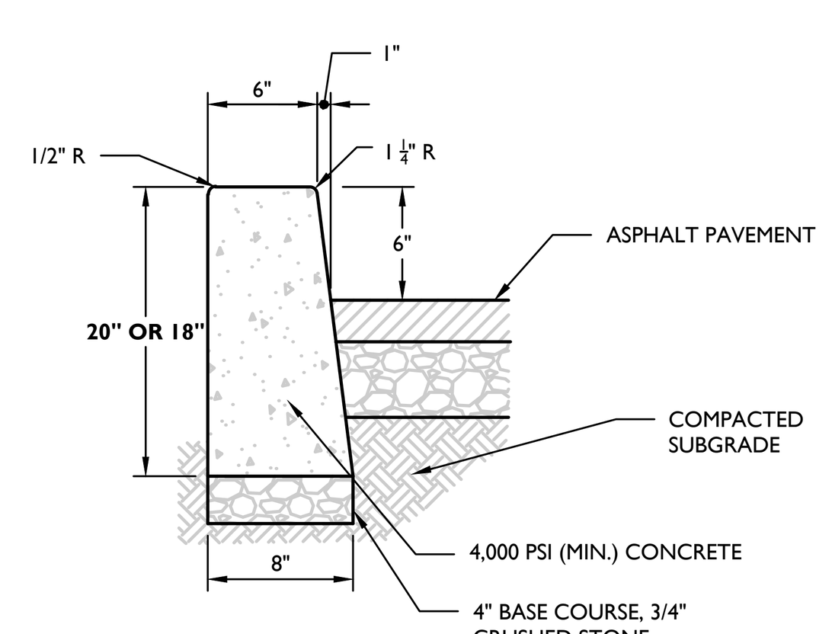
NOT TO SCALE MCNY-SITE-HADA-1600 07/01/19



STROKE WIDTH: MINIMUM/STANDARD = 3"

ACCESSIBLE SYMBOL DETAIL

NOT TO SCALE MCNY-SITE-MRKG-2000 07/01/19



NOTES:

1. PREFORMED BITUMINOUS FIBER EXPANSION JOINTS, 1/2" THICK AT 20' MAX. INTERVALS ALONG THE CURB. PROVIDE CONTROL JOINTS @ 10 FEET MAX. BETWEEN EXPANSION JOINTS.

CONCRETE CURB (ASPHALT PAVEMENT) DETAIL

NOT TO SCALE MCNY-SITE-CURB-1000 07/01/19

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Date: 2021.10.19 08:00:54-04'00'

Connor Patrick McCormack
NEW YORK LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 103756
COLLIERS ENGINEERING & DESIGN CT, P.C.
N.Y. C.O.A #: 0017609

PRELIMINARY AMENDED SITE PLAN

FOR

NORTHEAST BUSINESS CENTER

SECTION 95
BLOCK 1
LOT 1.22

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

Colliers Engineering & Design
NEWBURGH
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
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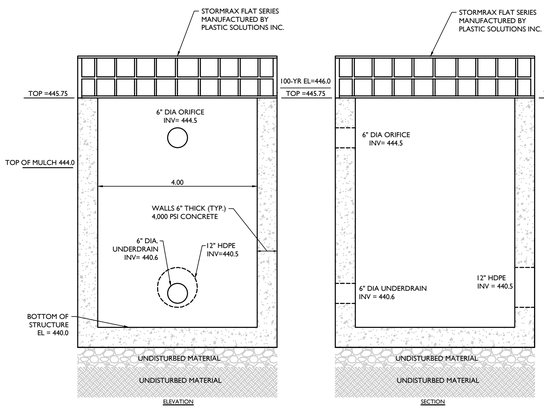
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	CPM	JED
PROJECT NUMBER: 10000245B	DRAWING NAME: C-DTLS		

SHEET TITLE:

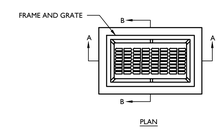
CONSTRUCTION DETAILS

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



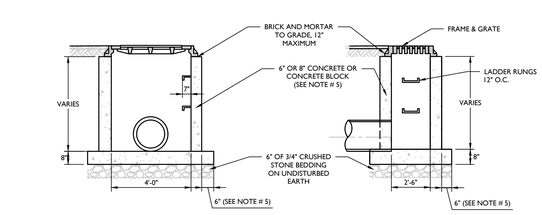
BIORETENTION BASIN POND P-1A OUTLET CONTROL STRUCTURE (OCS P-1A) DETAIL

NOT TO SCALE — MCNY-UTIL-STRM-2501 — MOD: 10/7/21, 07/01/19



NOTES:

1. INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. MINIMUM DIFFERENCE IN INVERTS TO BE 0.1 FEET
2. THIS INLET SHALL BE CONSTRUCTED OF PRECAST CONCRETE OR SOLID CONCRETE BLOCK. IF CONCRETE BLOCK IS USED, THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE & THE OUTSIDE OF THE WALLS SHALL BE PLASTERED WITH 1/2" COAT OF 1:2 CEMENT SAND MORTAR. THE INSIDE WALLS JOINTS SHALL BE STRUCK AND POINTED.
3. PROVIDE 7/8" DIA. X 7" X 12", 12" O.C. COPOLYMER POLYPROPYLENE PLASTIC STEPS WITH 1/2" DIA. GRADE 60 STEEL REINFORCEMENT BY M.A. INDUSTRIES, PS2-PF OR PS2-B WITH PRECAST PRESS FIT INSERTS, 12" O.C.
4. INLET FRAME AND GRATES TO BE CAMPBELL FOUNDRY **# 3408** OR APPROVED EQUAL.
5. WHEN DEPTH IS GREATER THEN 12' THE WALLS SHOULD BE EITHER 8" THICK CONCRETE OR 8" SOLID CONCRETE BLOCK AND THE FOOTING SHALL BE EXTENDED TO 12" BEYOND THE OUTSIDE WALLS.
6. ALL CONCRETE TO BE 4,000 PSI.
7. IN ACID SOILS, TWO COATS OF BITUMASTIC WATER PROOFING SHALL BE APPLIED PER MANUFACTURER'S SPECIFICATION.
8. INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH H-20 LOADING REQUIREMENTS.

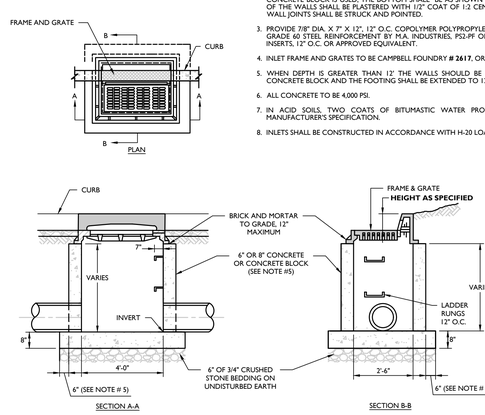


SINGLE DRAIN INLET DETAIL

NOT TO SCALE — MCNY-UTIL-STRM-1000 — 07/01/19

NOTES:

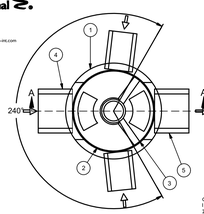
1. INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. MINIMUM DIFFERENCE IN INVERTS TO BE 0.1 FEET.
2. THIS INLET SHALL BE CONSTRUCTED OF PRECAST CONCRETE OR SOLID CONCRETE BLOCK. IF CONCRETE BLOCK IS USED, THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE & THE OUTSIDE OF THE WALLS SHALL BE PLASTERED WITH 1/2" COAT OF 1:2 CEMENT SAND MORTAR. THE INSIDE WALL JOINTS SHALL BE STRUCK AND POINTED.
3. PROVIDE 7/8" DIA. X 7" X 13", 12" O.C. COPOLYMER POLYPROPYLENE PLASTIC STEPS WITH 1/2" DIA. GRADE 60 STEEL REINFORCEMENT BY M.A. INDUSTRIES, PS2-PF OR PS2-B WITH PRECAST PRESS FIT INSERTS, 12" O.C. OR APPROVED EQUIVALENT.
4. INLET FRAME AND GRATES TO BE CAMPBELL FOUNDRY **# 2617**, OR APPROVED EQUAL.
5. WHEN DEPTH IS GREATER THAN 12' THE WALLS SHOULD BE 8" THICK CONCRETE OR SOLID CONCRETE BLOCK AND THE FOOTING SHALL BE EXTENDED TO 12" BEYOND THE OUTSIDE WALLS.
6. ALL CONCRETE TO BE 4,000 PSI.
7. IN ACID SOILS, TWO COATS OF BITUMASTIC WATER PROOFING SHALL BE APPLIED PER MANUFACTURER'S SPECIFICATION.
8. INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH H-20 LOADING REQUIREMENTS.



SINGLE CATCH BASIN DETAIL

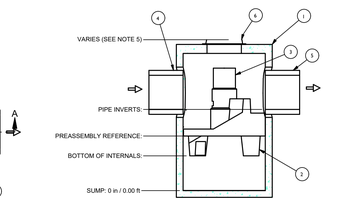
NOT TO SCALE — MCNY-UTIL-STRM-1100 — 07/01/19

Hydro International
Corporate Headquarters
94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
stormwaterquery@hydro-int.com



Inlet pipe(s) can enter anywhere within 240° arc.

Parts List		
ITEM	SIZE (in)	DESCRIPTION
1	72	I.D. PRECAST MANHOLE
2		LEDGER SUPPORT
3		SEPARATION MODULE
4	15	INLET PIPE
5	15	OUTLET PIPE
6	30	FRAME AND COVER (OR GRATE) (ROUND)



GENERAL NOTES:
1. GENERAL ARRANGEMENT DRAWINGS ONLY. CONTACT HYDRO INTERNATIONAL FOR SITE SPECIFIC FABRICATION DRAWINGS.
2. THE DIAMETER OF THE INLET & OUTLET PIPES MAY BE NO MORE THAN 36".
3. MULTIPLE INLET PIPES POSSIBLE (REFER TO PROJECT PLANS).
4. INLET/OUTLET PIPE ANGLE CAN VARY TO ALIGN WITH DRAINAGE NETWORK (REFER TO PROJECT PLANS).
5. PEAK FLOW RATE AND MINIMUM HEIGHT LIMITED BY AVAILABLE COVER AND PIPE DIAMETER.
6. ADDITIONAL STORAGE OR PEAK FLOW CAPACITY MAY BE PROVIDED WITH A DEEPER SUMP DEPTH.

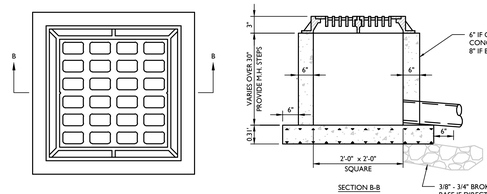
PRODUCT SPECIFICATIONS:
A. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.
B. THE TREATMENT SYSTEM SHALL FIT WITHIN THE LIMITS OF EXCAVATION (AREA AND DEPTH) AS SHOWN IN THE PROJECT PLANS AND WILL NOT EXCEED THE DIMENSIONS FOR THE DESIGN FLOW RATES SPECIFIED HEREIN.
C. THE TREATMENT SYSTEM SHALL ACHIEVE 80% AND 50% REMOVAL OF TSS BASED ON THE TARGET PARTICLE SIZE (TPS) OF 106 MICRONS AND/OR 85% OF TSS BASED ON THE TPS OF 330 MICRONS AT 2.5 CFS AND 3.8 CFS, RESPECTIVELY.
D. THE TREATMENT SYSTEM SHALL CONVEY THE PEAK ONLINE FLOW RATES OF UP TO 32 CFS WITHOUT CAUSING UPSTREAM SURCHARGE CONDITIONS. FULL-SCALE INDEPENDENT LABORATORY SCOUR TESTING SHALL DEMONSTRATE EFFLUENT CONTROL OF LESS THAN OR EQUAL TO 5 MG/L FOR ALL FLOWS UP TO 200% OF NTPR=106.
E. THE TREATMENT SYSTEM SHALL BE CAPABLE OF CAPTURING AND RETAINING FINE SILT AND SAND SIZE PARTICLES. ANALYSIS OF CAPTURED SEDIMENT FROM FULL-SCALE FIELD INSTALLATIONS SHALL DEMONSTRATE PARTICLE SIZES PREDOMINATELY IN THE 26-MICRON RANGE.

MANUFACTURER NOTES:
1. [ ] INDICATES WALL AND SLAB THICKNESSES ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.
3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

	HEIGHT OF COMPONENT		
Model	BOTTOM OF INTERNALS	PREASSEMBLY REFERENCE	PIPE INVERTS
6' DIAMETER FIRST DEFENSE	30 - 9/16"	47 - 3/4"	71"

HYDRO INTERNATIONAL 6' FIRST DEFENSE DETAIL

NOT TO SCALE — MCNY-UTIL-STRM-2501 — MOD: 05/26/21

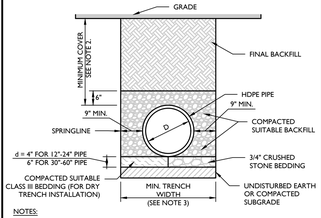


GENERAL CONSTRUCTION NOTES:

1. FOOTER TO BE CONCRETE.
2. INVERT TO BE 4000 PSI CONCRETE.
3. IF WALL CONSTRUCTION IS OTHER THAN CONCRETE, THE WALLS SHALL BE PLASTERED BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER.
4. FRAME AND GRATE TO BE **#3193** AS MANUFACTURED BY CAMPBELL FOUNDRY CO., OR APPROVED EQUAL.
5. PROVIDE 3/4" DIAMETER W.I. LADDER RUNGS, 12" O.C. (IF OVER 30" DEEP)
6. EXTERIOR OF ALL CONCRETE SHALL HAVE 2 COATS OF KOPPERS BITUMASTIC #5, OR EQUAL.
7. ALL WORK SHALL BE WATERTIGHT. NOT FOR USE IN PAVED AREAS.

YARD INLET DETAIL

NOT TO SCALE — MCNY-UTIL-STRM-1400 — 07/01/19

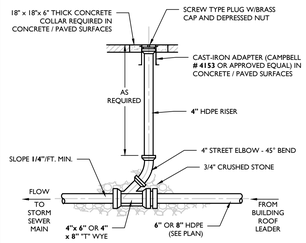


NOTES:

1. ALL PIPE SYSTEMS AND BACKFILL SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.
2. MINIMUM COVER FOR HDPE PIPES IS 12" UP TO 48" DIAMETER PIPE AND 24" OR COVER FOR UP TO 60" DIAMETER PIPE. PIPE COVER IS MEASURED FROM TOP OF PIPE TO THE BOTTOM OF FLEXIBLE PAVEMENT, OR TO THE TOP OF RIGID PAVEMENT, OR TO THE GROUND SURFACE.
3. MINIMUM TRENCH WIDTH PER MANUFACTURER'S RECOMMENDATIONS.

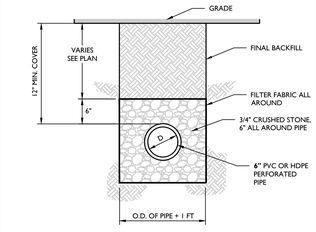
HDPE STORM PIPE BEDDING DETAIL

NOT TO SCALE — MCNY-UTIL-STRM-2302 — 07/01/19



ROOF LEADER CLEANOUT DETAIL

NOT TO SCALE — MCNY-UTIL-STRM-1900 — 07/01/19



UNDERDRAIN DETAIL

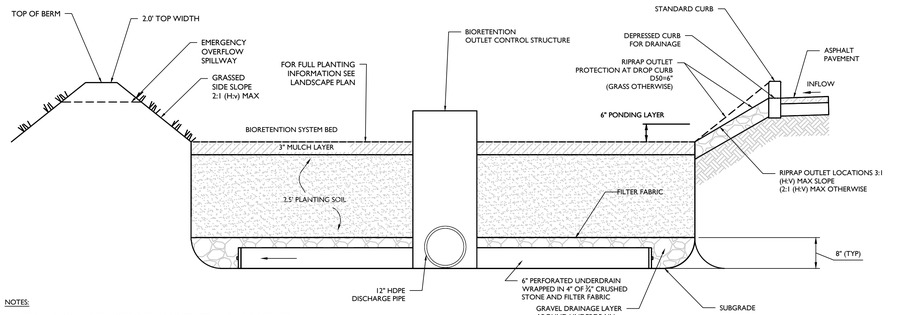
NOT TO SCALE — MCNY-UTIL-STRM-2400 — 07/01/19

BIORETENTION ELEVATIONS						
SYSTEM	OUTLET NAME	OUTLET SIZE	BED ELEVATION	100 YR PEAK ELEVATION	TOP OF BERM ELEVATION	EMERGENCY OVERFLOW SPILLWAY EL.
POND-1A	OCS-1A	4'X4'	444.0	446.0	447.0	446.5

PLANTING SOIL NOTE:

THE PLANTING SOIL MUST BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (MUST CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS MUST BE LESS THAN 25% BY VOLUME. SOILS MUST FALL WITHIN THE SM, OR ML CLASSIFICATIONS O/D THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.5"/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL MUST BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODDY MATERIAL OVER 1" IN DIAMETER, AND BRUSH OR SEED FROM NOXIOUS WEEDS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12" TO 18", LOOSELY COMPACTED (TAMPED LIGHTLY WITH A DOZER OR BACKHOE BUCKET). THE SPECIFIC CHARACTERISTICS ARE AS FOLLOWS:

PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	1.5 TO 4.0%
MAGNESIUM	35 LBS. PER ACRE, MINIMUM
PHOSPHORUS (P_2O_5)	75 LBS. PER ACRE, MINIMUM
POTASSIUM (K_2O)	85 LBS. PER ACRE, MINIMUM
SOLUBLE SALTS	500 ppm
CLAY	10 TO 25%
SILT	30 TO 55%
SAND	35 TO 60%



NOTES:

1. SEE PLAN FOR DROP CURB LOCATIONS AND BIORETENTION AREA CONFIGURATION.
2. PLANTING SOIL TO BE IN ACCORDANCE WITH NEW YORK STATE STANDARDS AND SPECIFICATIONS FOUND WITHIN THE PROJECT SWPPP.
3. BIO RETENTION BASIN SHALL HAVE A MINIMUM 2' SEPARATION BETWEEN FILTER BOTTOM AND GROUNDWATER OR BEDROCK.
4. THE CONTRACTOR SHALL SUBMIT A SPECIFICATION AND/OR SHOP DRAWING OF THE PROPOSED PLANTING TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

BIORETENTION SYSTEM CROSS SECTION DETAIL

NOT TO SCALE — MCNY-UTIL-STMW-2400 — MOD: 03/23/21, 07/01/19

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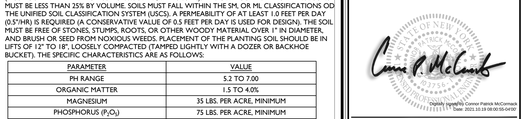

Connor Patrick McCormack
NEW YORK LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 103756
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N.Y. C.O.A #: 0017609

PRELIMINARY AMENDED SITE PLAN

FOR

NORTHEAST BUSINESS CENTER

SECTION 95
BLOCK 1
LOT 1.22

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

Colliers Engineering & Design
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555 Hudson Valley Avenue
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Phone: 845.564.4495
COLLIERS ENGINEERING & DESIGN CT, P.C. DOING BUSINESS AS MASER CONSULTING ENGINEERING & LAND SURVEYING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/18/2021	CPM	JED

PROJECT NUMBER:	DRAWING NAME:
100002458	C-DTL5

SHEET TITLE:

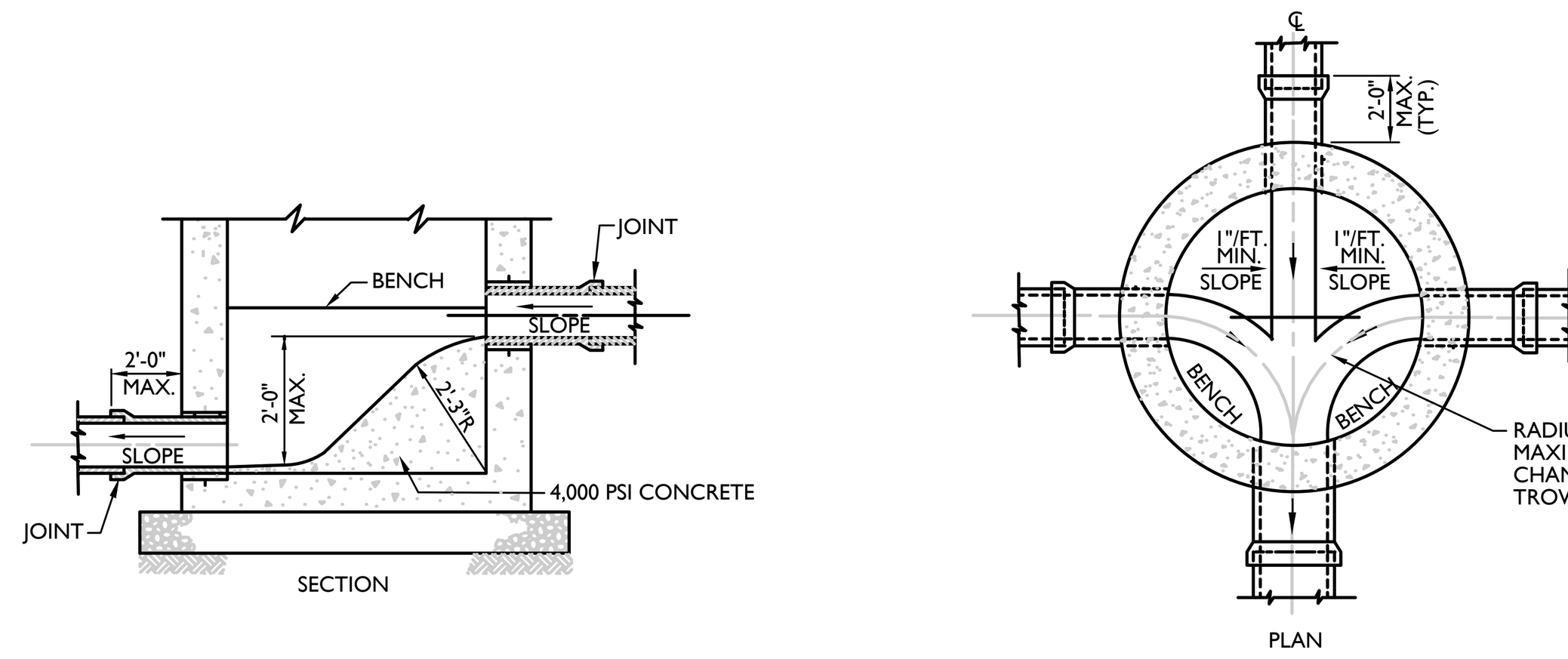
CONSTRUCTION DETAILS

SHEET NUMBER:

10 of 11

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

MANHOLE CHUTE DETAIL

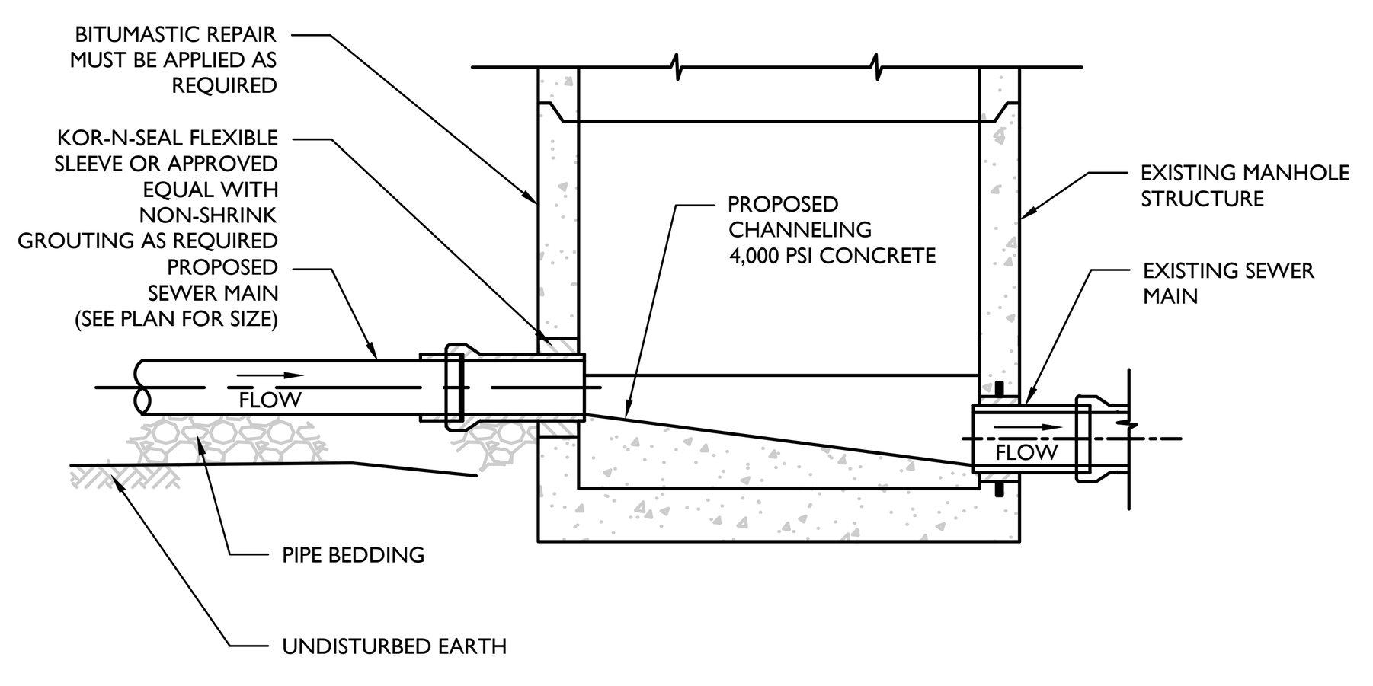


NOTE:

1. MANHOLE CHUTE IS TO BE USED WHERE DIFFERENCE IN INVERT ELEVATIONS BETWEEN INCOMING PIPE AND OUTGOING PIPE IS LESS THAN 2'-0".
2. IF THE DIFFERENCE 2'-0" OR GREATER, THEN EXTERNAL DROP CONNECTION SHALL BE MADE. CHANNELING SHALL BE AS SHOWN ABOVE.

NOT TO SCALE MCNY-UTIL-SSWR-3000 07/01/19

CONNECTION TO EXISTING MANHOLE DETAIL

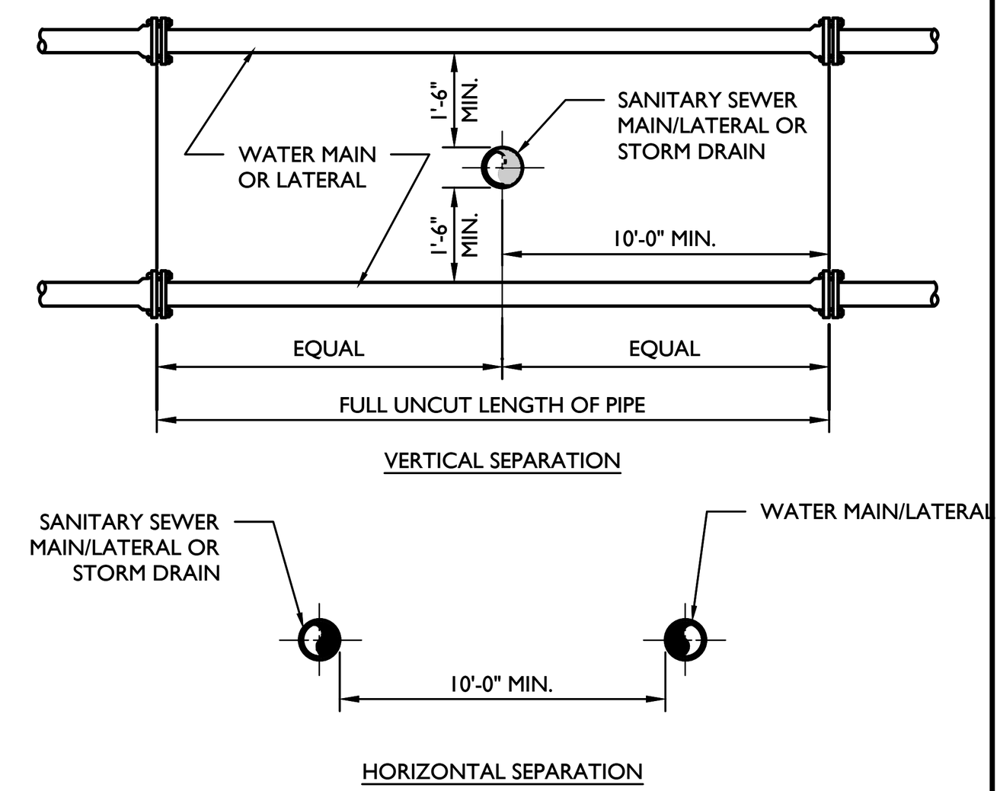


NOTES:

1. CONSTRUCTION OF THE NEW SEWER MAIN SHALL NOT IMPEDE THE OPERATION OF THE EXISTING SEWER.
2. WHERE NEW PIPE IS TO BE CONNECTED INTO AN EXISTING MANHOLE, THE CONTRACTOR SHALL CORE DRILL ALL HOLES INTO MANHOLE AND SHALL PERFORM ALL CUTTING AND PATCHING NECESSARY FOR CHANNEL AND BENCH RECONSTRUCTION TO CHANNEL FLOW INTO EXISTING SEWER.
3. PIPE SHALL BE SEALED USING KOR-N-SEAL MANHOLE ADAPTERS OR APPROVED EQUAL, AND NON-SHRINK GROUT.
4. EXISTING BENCH SHALL BE CHIPPED AND CUT AWAY TO ALLOW FOR NEW CHANNEL TO BE CONSTRUCTED AND TO PROVIDE GOOD, SOUND SURFACE FOR BONDING WITH NEW CONCRETE CHANNEL AND BENCH. REMOVE ALL LOOSE MATERIALS AND CLEAN INSIDE OF THE STRUCTURE.
5. THE CONCRETE USED TO CONSTRUCT BENCHES AND CHANNELS SHALL BE 4,000 PSI CONCRETE APPLY EPOXY BONDING AGENT PRIOR TO POURING CONCRETE.
6. ANY DAMAGE TO THE EXISTING MANHOLE CAUSED BY THE CONSTRUCTION OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR.

NOT TO SCALE MCNY-UTIL-SSWR-2000 07/01/19

SANITARY/STORM SEWER-WATER MAIN SEPARATION DETAIL

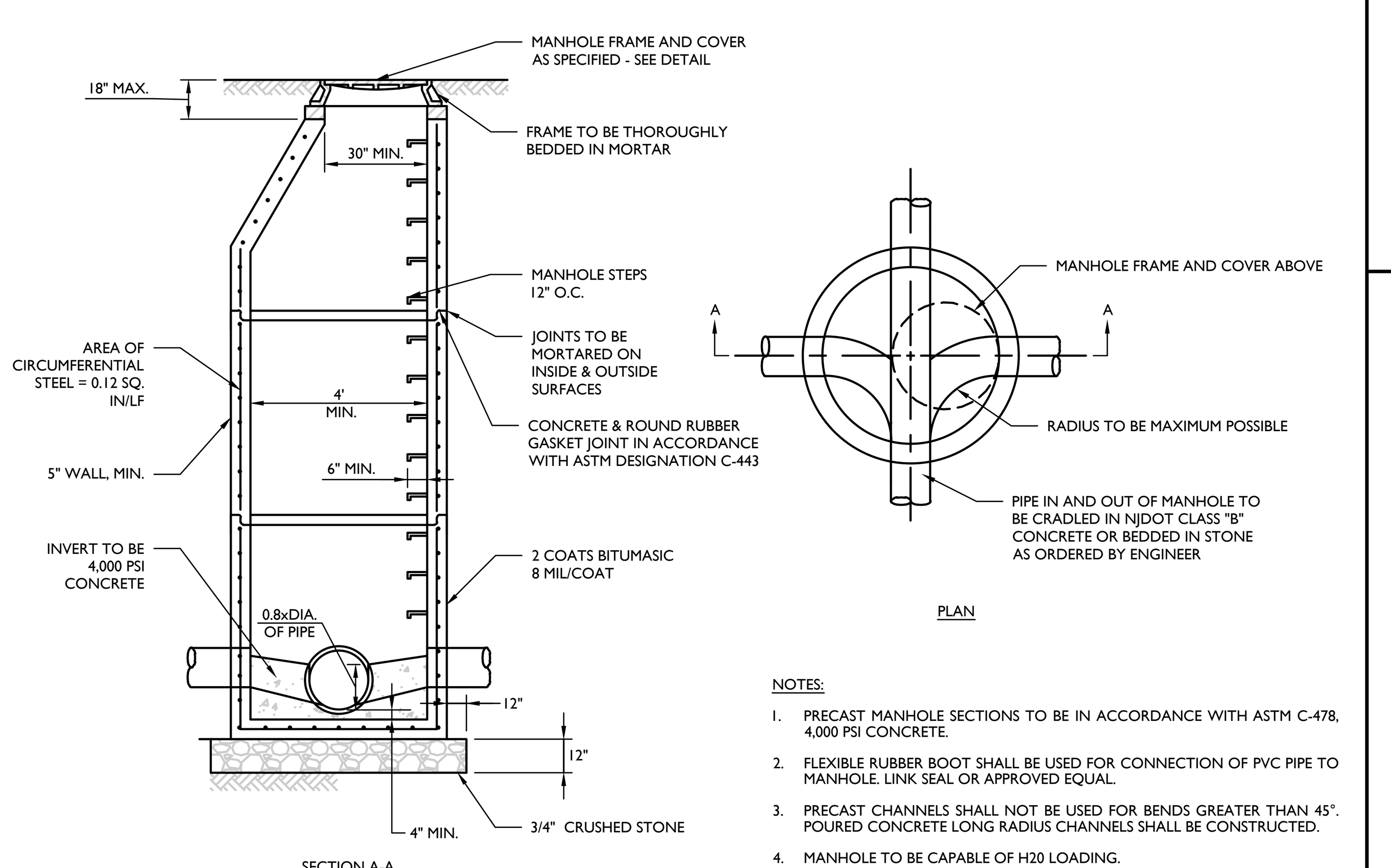


NOTE :

1. NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE DEPARTMENT OF HEALTH

NOT TO SCALE MCNY-UTIL-SSWR-2400 07/01/19

SANITARY PRECAST MANHOLE DETAIL

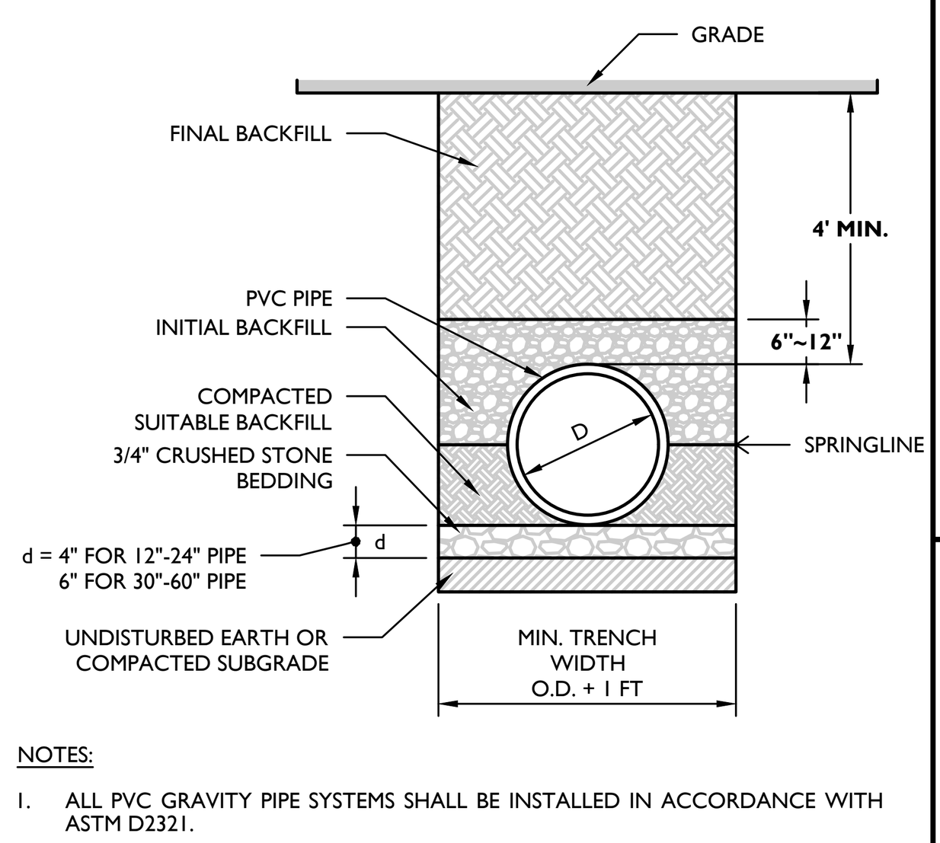


NOTES:

1. PRECAST MANHOLE SECTIONS TO BE IN ACCORDANCE WITH ASTM C-478, 4,000 PSI CONCRETE.
2. FLEXIBLE RUBBER BOOT SHALL BE USED FOR CONNECTION OF PVC PIPE TO MANHOLE. LINK SEAL OR APPROVED EQUAL.
3. PRECAST CHANNELS SHALL NOT BE USED FOR BENDS GREATER THAN 45°. POURED CONCRETE LONG RADIUS CHANNELS SHALL BE CONSTRUCTED.
4. MANHOLE TO BE CAPABLE OF H20 LOADING.

NOT TO SCALE MCNY-UTIL-SSWR-1000 07/01/19

PVC SANITARY PIPE BEDDING (GRAVITY) DETAIL

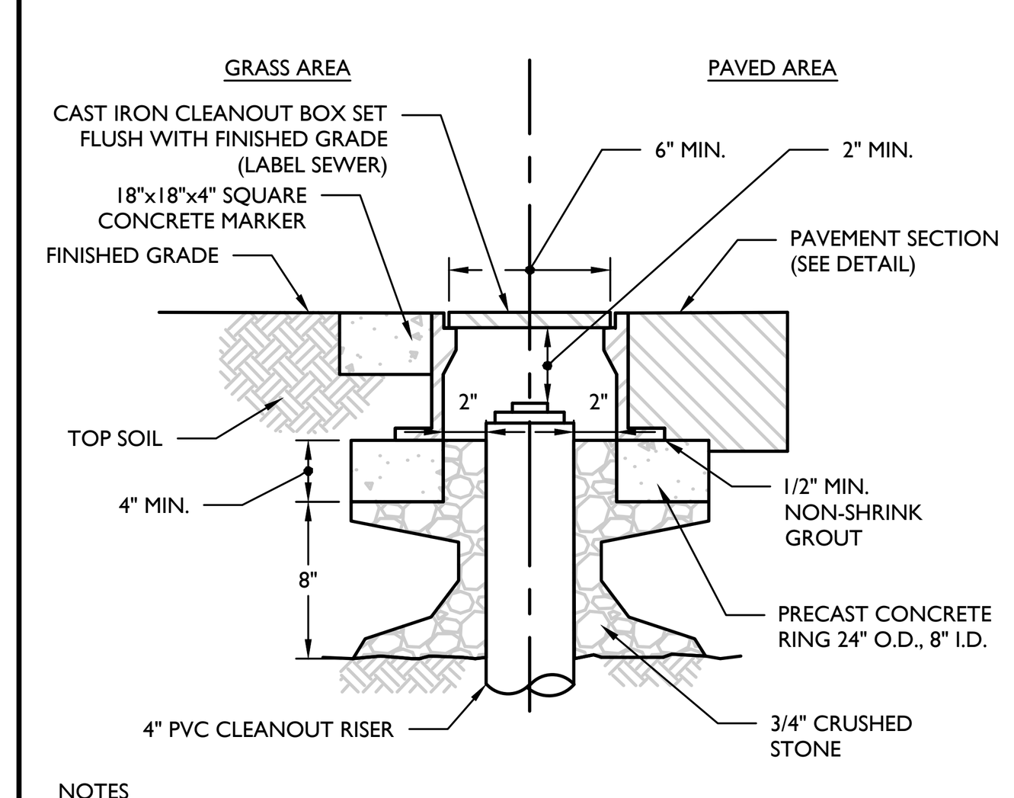


NOTES:

1. ALL PVC GRAVITY PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.
2. GRAVITY SANITARY PIPE SHALL BE PVC SDR 35 PER ASTM D3034 OR AS REQUIRED BY THE GOVERNING AUTHORITY.

NOT TO SCALE MCNY-UTIL-SSWR-2803 07/01/19

CLEANOUT PROTECTION BOX DETAIL



NOTES

1. ALL PVC CLEANOUTS TO HAVE CAST IRON FRAME AND COVER PROTECTION BOX. DESIGN FOR H20 LOADING.

NOT TO SCALE MCNY-UTIL-SSWR-1600 07/01/19

SANITARY SEWER NOTES

1. SANITARY SEWERS ARE TO BE OF SDR 35 PVC (OR HEAVIER IF REQUIRED BY THE MUNICIPALITIES ENGINEER DUE TO LOADING CONDITIONS).
2. ALL LATERALS TO BE INSTALLED BY PLUMBERS, LICENSED IN THE MUNICIPALITY AND ALL WORK SHALL BE INSPECTED BEFORE BACKFILLING.
3. ALL PIPE SHALL BE BEDDED (CUSHIONED) ON MINIMUM OF 6" THICK LAYER OF 3/4" CRUSHED STONE. ADDITIONALLY, THE 3/4" CRUSHED STONES SHALL BE PLACED 1/4 THE HEIGHT OF THE PIPE ZONE.
4. SANITARY SEWER CONSTRUCTION SHALL MEET ALL SEWER CONSTRUCTION SPECIFICATIONS FOR THE TOWN OF NEWBURGH.
5. A REPRESENTATIVE FROM THE TOWN MUST BE PRESENT FOR ALL TESTING OF THE SANITARY SEWERS.
6. TEST RESULTS FOR THE FOLLOWING TESTS MUST BE SUBMITTED AND ACCEPTED BY THE TOWN PRIOR TO USE.

TV INSPECTION SHALL BE PERFORMED ON SANITARY SEWERS AS REQUIRED BY THE TOWN.

VACUUM TEST
THE VACUUM TEST SHALL MEET THE REQUIREMENTS OF C1244-02 STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE AIR PRESSURE (VACUUM) TEST PRIOR TO BACKFILL.

LEAKAGE TESTS
LEAKAGE TESTS SHALL BE SPECIFIED. THIS MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER.

WATER (HYDROSTATIC) TEST
THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY (0.02 M3/MM OF PIPE DIA./KM/DAY) FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET (600 MM).

DEFLECTION TEST
DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM. NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT. IF DEFLECTION EXCEEDS 5 PERCENT, REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH REQUIREMENTS IN THE APPROVED SPECIFICATIONS. THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

LAMP ALIGNMENT TEST
INFILTRATION, EXFILTRATION AND VISUAL TESTS BY MEANS OF LIGHT FLASHING BETWEEN MANHOLES SHALL BE AS PER REQUIREMENTS OF TOWN ENGINEER. NO TESTS SHALL BE MADE UNTIL TWO (2) WEEKS BACKFILLING OF SANITARY SEWERS OR LONGER IF CONDITIONS, IN THE AFTER OPINION OF THE TOWN ENGINEER, WARRANT IT.

7. THE SANITARY SEWER MAIN INSTALLATION SHALL BE INSPECTED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK AND SHALL BE CERTIFIED TO THE MUNICIPALITY BULDING INSPECTOR THAT THE IMPROVEMENTS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DESIGN PLANS AND CODE REQUIREMENTS.
8. IF GROUNDWATER IS ENCOUNTERED DURING TRENCH EXCAVATION, THE CONTRACTOR SHALL DEWATER THE TRENCH PRIOR TO INSALLATION. ALL DEWATERING OPERATIONS SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
9. CONTRACTOR TO VERIFY INVERT ELEVATIONS OF EXISTING SEWER MAIN PRIOR TO COMMENCEMENT OF CONSTRUCTION.
10. CONTRACTOR SHALL CALL THE MUNICIPALITY SEWER DEPARTMENT AT LEAST TWO DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF SEWERS.
11. CONTRACTORS SHALL CALL UNDERGROUND MARKOUT AT 1-800-245-2828 AT LEAST TWO DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF SEWERS FOR COMPLETE UTILITY MARKOUT.

SEWER NOTES

NOT TO SCALE GNRL-DTLS-STND-GRID 10/7/2021

JOINT RESTRAINT SCHEDULE DETAIL

NUMBER AND SIZE OF RODS REQUIRED AND PIPE LENGTH IN FEET TO BE RESTRAINED

PIPE SIZE IN INCHES	90° TEE OR DEAD END PLUG			45° BEND			22½° BEND		
	No.	SIZE	L*	No.	SIZE	L*	No.	SIZE	L*
4	2	¾"	30'	2	¾"	10'	2	¾"	5'
6	2	¾"	40'	2	¾"	10'	2	¾"	5'
8	4 or 2	¾" or ⅞"	50'	2	¾"	15'	2	¾"	5'
10	4 or 2	¾" or 1"	60'	2	¾"	20'	2	¾"	5'
12	4	⅞"	70'	2	¾"	20'	2	¾"	5'
14	4	1"	80'	2	¾"	25'	2	¾"	5'
16	4	1"	80'	2	¾"	25'	2	¾"	5'

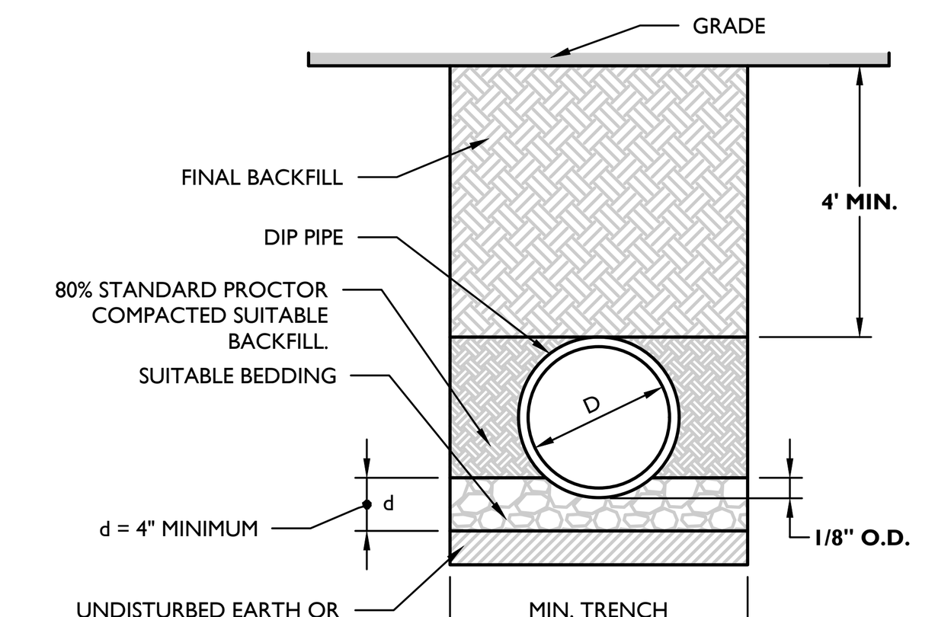
L* = LENGTH OF PIPE TO BE RESTRAINED IS FOR EACH SIDE OF BEND

NOTES:

1. USE OF MECHANICAL JOINT RETAINER GLANDS SHALL PROVIDE A THRUST RESTRAINT SYSTEM EQUIVALENT TO THAT LISTED IN THE TABLE FOR CLAMPS AND RODS.
2. LENGTHS ARE BASED ON THE FOLLOWING CRITERIA: 150 PSI MAXIMUM PRESSURE AND 3'-6" 0F COVER. TABLE IS FOR USE WITH CAST IRON PIPE OR DUCTILE IRON PIPE ONLY. IF TEST CONDITIONS ARE MORE SEVERE OR LARGER PIPES ARE PROPOSED, THEN SPECIAL COMPUTATIONS MUST BE PROVIDED BY LICENSED PROFESSIONAL ENGINEER.

NOT TO SCALE MCNY-UTIL-WATR-1500 07/01/19

DIP WATER PIPE BEDDING DETAIL

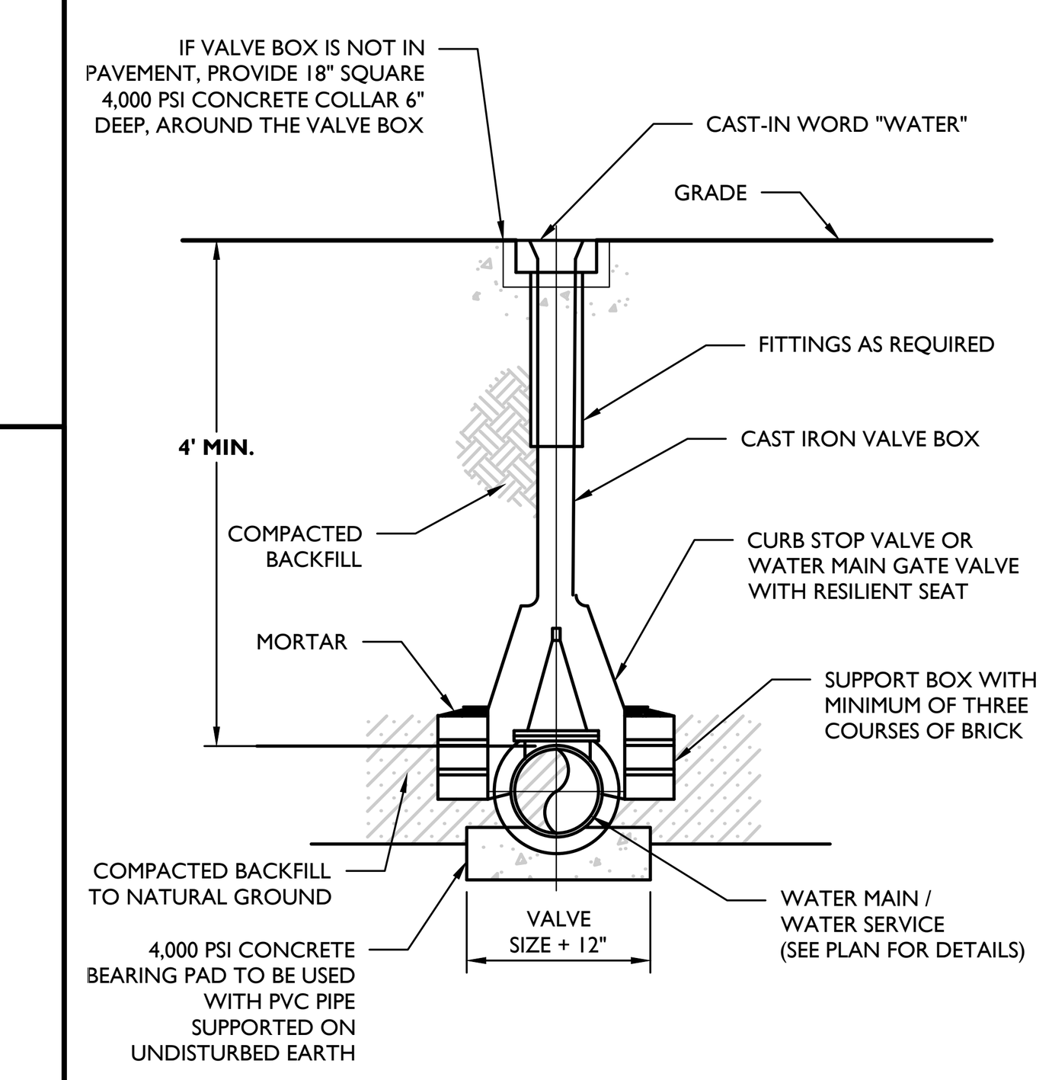


NOTES:

1. ALL PIPE SYSTEMS AND BACKFILL SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C600.
2. WATER MAIN PIPE SHALL BE CEMENT LINED DUCTILE IRON PIPE (DIP) PRESSURE **CLASS 150**, THICKNESS **CLASS 52** WITH ASPHALTIC EPOXY TYPE COATING.
3. SUITABLE BACKFILL MATERIAL SHALL BE SAND, GRAVEL, OR 3/4" CRUSHED STONE.

NOT TO SCALE MCNY-UTIL-WATR-1900 07/01/19

WATER VALVE BOX DETAIL

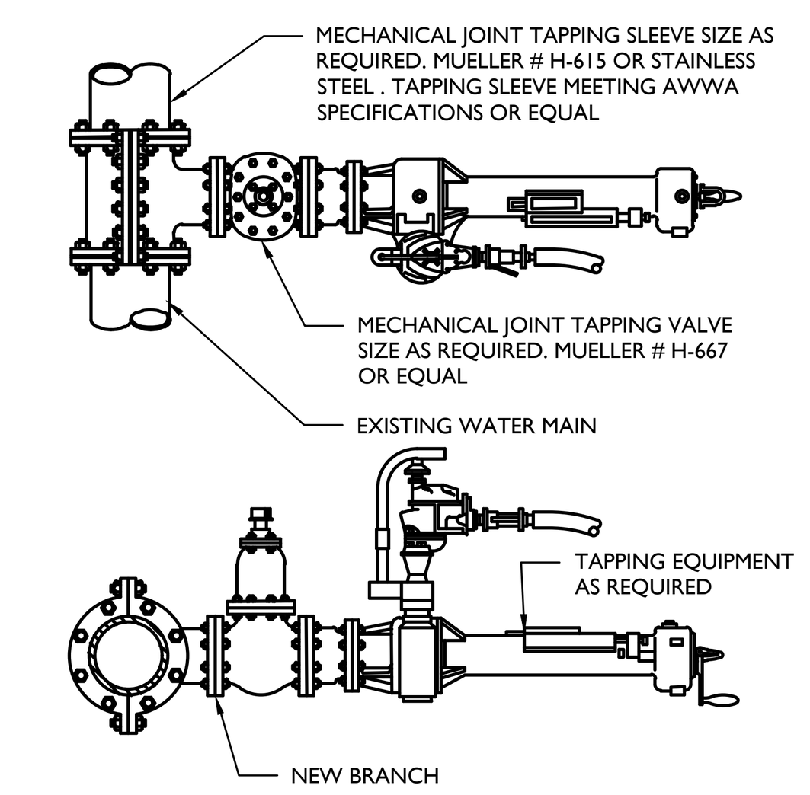


NOTES:

1. VALVE BOX SHOULD HAVE EXTENSION IF WATER MAIN OR SERVICE IS PLACED DEEPER THAN 5 FEET.
2. CURB STOP VALVE BOX SHALL BE MUELLER EXTENSION TYPE WITH ARCH PATTERN BASE, OR APPROVED EQUAL.
3. WATER MAIN VALVE BOX SHALL BE SCREW TYPE ADJUSTABLE MODE, **FIGURE # 4905-22 AS MANUFACTURED BY BINGHAM & TAYLOR OR APPROVED EQUAL.**

NOT TO SCALE MCNY-UTIL-WATR-1600 07/01/19

WET TAP DETAIL

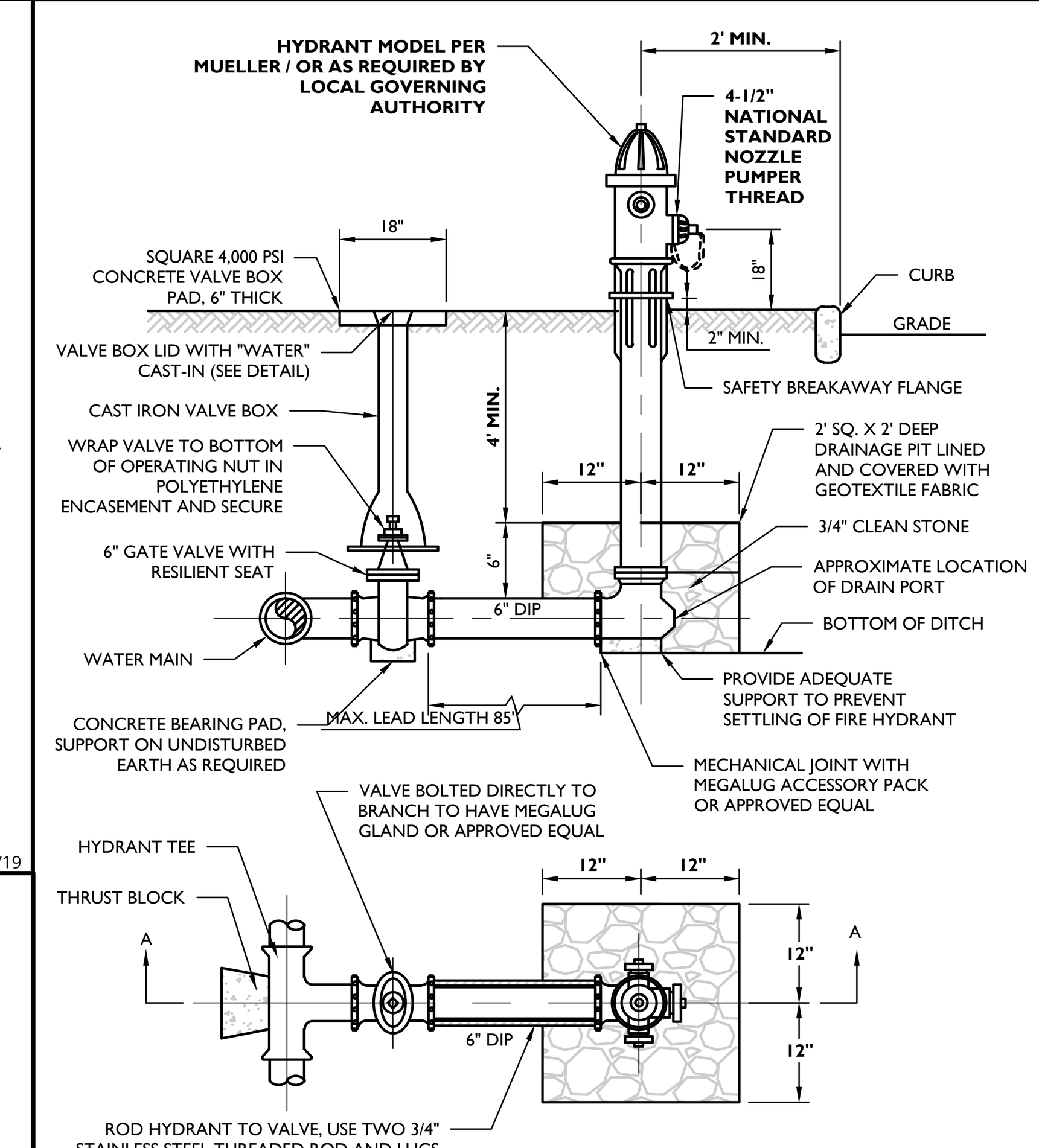


NOTES:

1. WET TAP VALVE CAN BE INSTALLED IN EITHER VERTICAL OR HORIZONTAL POSITION.
2. CONTRACTOR SHALL VERIFY DEPTH OF BURY, MATERIAL, DIAMETER (O.D.) AND OPERATING PRESSURE OF EXISTING WATER MAIN PRIOR TO ORDERING OF WET TAP UNIT.

NOT TO SCALE MCNY-UTIL-WATR-1200 07/01/19

FIRE HYDRANT (VALVE IN GRASS) DETAIL



NOTES:

1. HYDRANT SHALL BE **T.W.W. STANDARD U.S. PIPE METROPOLITAN 250 DRY-BARREL** TRAFFIC MODEL DESIGN WITH THE FOLLOWING SPECIFICATION.
   A. SAFETY COUPLED STANDPIPE.
   B. 6" MECHANICAL JOINT INLET CONNECTION
   C. TWO 2-1/2" NATIONAL STANDARD THREAD HOSE NOZZLES.
   D. ONE 4-1/2" NATIONAL STANDARD THREAD STEAMER NOZZLE, FACING THE ROAD.
   E. HYDRANT OPERATORS AND HYDRANT NOZZLE CAP NUTS SHALL BE IN ACCORDANCE WITH AWWA/ANSI STANDARD C502.
   F. HYDRANT HOSE CAPS SHALL BE ATTACHED BY MEANS OF CHAINS.
   G. HYDRANT BARRELS SHALL BE PAINTED - **RED**, BONNETS - **YELLOW**, AND NOZZLE CAPS - **BLACK** TO INDICATE THE AVAILABLE FIRE FLOW OR AS IN ACCORDANCE WITH THE LOCAL REQUIREMENTS.
   H. HYDRANTS SHALL OPEN COUNTER CLOCKWISE.
2. STANDPIPE (BREAK-AWAY) COUPLING SHALL NOT EXCEED A MAXIMUM OF 5 INCHES FROM THE TOP OF THE CURB TO THE BOTTOM OF COUPLING.
3. THE DRAIN VALVE SHALL BE CLEAR OF ANY OBSTRUCTIONS, AND 3/4" CLEAN GRAVEL BE PLACED FROM THE BOTTOM OF THE HYDRANT TO A POINT 6" ABOVE THE HYDRANT LATERAL PIPE.
4. THRUST BLOCKS SHALL BE MADE OF 4,000 PSI CONCRETE, PROVIDED BEHIND THE HYDRANT SHOE.
5. BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE LOCAL JURISDICTION.
6. GATE VALVE SHALL BE **T.W.W. 6" U.S. PIPE METROSEAL. 250 R/S** (RESILIENT SEALED) MECHANICAL JOINT END (RIGHT HAND).
7. WATER LATERAL SHALL BE 6" DUCTILE IRON CEMENT LINED CLASS 52 PIPE.
8. TIE ROD SHALL BE 3/4" DIAMETER TIE ROD WITH EYE BOLTS - TWO REQUIRED (SIDE VIEW SHOWN). RESTRAIN ALL JOINTS ON HYDRANT TEE, VALVE, AND HYDRANT LEAD.
9. HYDRANT TEE SHALL BE U.S. PIPE CATALOG #U-592 TRIM-TYTE DUCTILE IRON, MECHANICAL JOINT OR AN T.W.W. APPROVED SUBSTITUTE.

NOT TO SCALE MCNY-UTIL-WATR-1000 07/01/19

WATER NOTES:

1. ALL METHODS, MATERIALS, FITTINGS, DEVICES, DIMENSIONAL REQUIREMENTS AND PROCEDURES NECESSARY TO COMPLETE THE WORK SHOWN HEREON SHALL MEET THE APPROPRIATE CURRENT AWWA SPECIFICATIONS IN EFFECT AS WELL AS ALL REQUIREMENTS DEEMED APPLICABLE BY THE MUNICIPALITY OR ANY OTHER GOVERNMENTAL BODY HAVING JURISDICTION OVER SAID WORK.
2. ALL WATER MAIN PIPE SHALL BE AWWA C151/A21.51-02 THICKNESS CLASS FIFTY-TWO (52) CEMENT LINED DUCTILE IRON PUSH-ON (RUBBER GASKET) TYPE; AND INSTALLED WITH TWO (2) BRONZE WEDGES PER JOINT. JOINT INSTALLATION SHALL BE "TYPE 2" AS PRESCRIBED IN THE LATEST REVISION OF AWWA C600. MECHANICAL JOINTS SHALL HAVE RETAINER GLANDS.
3. ALL PIPE FITTINGS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE AWWA SPECIFICATION C153/A21.53-00.
4. ALL GATE VALVES SHALL BE "MUELLER" OR APPROVED EQUAL, RESILIANT-SEATED GATE VALVES WITH MECHANICAL JOINT CONNECTIONS. OPENING SHALL BE LEFT (CCW) AND OPERATION SHALL BE BY 2" SQUARE WRENCH NUT. MINIMUM WORKING PRESSURE SHALL BE 250 PSI. GATE VALVES ARE TO BE IN ACCORDANCE WITH LATEST REVISION OF AWWA SPECIFICATION C509.
5. ALL VALVE BOXES SHALL BE TWO-PIECE SLIDING BUFFALO TYPE SET ON CONCRETE OR BLOCK POSITIONED PERPENDICULAR TO THE PIPE AND ON COMPACTED BACKFILL.
6. ALL CHANGES IN PIPE LINE DIRECTION, BOTH HORIZONTAL AND VERTICAL SHALL BE TIE-RODDED AS DIRECTED BY THE ENGINEER.
7. FLUSH OUT ALL WATER MAINS AND APPURTENANCES AS DIRECTED BY THE MUNICIPALITY UNTIL THE WATER RUNS CLEAN AND FREE OF RUST AND DIRT. PRESSURIZE ALL LINES AND APPURTENANCES FOR FORTY-EIGHT (48) HOURS, OR AS DIRECTED BY THE MUNICIPALITY, TO REVEAL ANY LEAKS OR BROKEN PIPE. THIS SHALL ALL BE DONE EITHER AS A TOTAL PROJECT OR BETWEEN VALVED SECTIONS AS DIRECTED BY THE TOWN. IF PRESSURE TESTING REVEALS ANY LEAKS OR DIFFICULTIES THE CONTRACTOR SHALL PROMPTLY UNCOVER THE LEAK OR BROKEN PIPE AND IMMEDIATELY REPAIR AND RETEST SAME. THIS SHALL BE REPEATED AS MANY TIMES AS MAY BE REQUIRED TO DEMONSTRATE A TIGHT LINE TO THE SATISFACTION OF THE TOWN. THE NEW WATER MAIN AND APPURTENANCES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C-600. RESULTS OF TESTS ARE TO BE SUBMITTED AND ACCEPTED BY THE MUNICIPALITY.
8. THE MUNICIPAL ENGINEER MUST BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO PRESSURE TESTING.
9. ALL WATER LINES AND APPURTENANCES SHALL BE DISINFECTED TO THE SATISFACTION OF THE MUNICIPALITY, AND IN ACCORDANCE WITH THE STANDARDS OF THE DEPT. OF HEALTH. THIS SHALL ALSO BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C651-14 (SECTION 5).
10. WATER SERVICE CROSSING SEWER OR STORM SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER OR STORM. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER OR STORM AS POSSIBLE. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER MAY BE REQUIRED.
11. WATER SERVICE SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER MAIN OR SERVICE.
12. WATER TIGHT PLUGS ARE TO BE INSTALLED IN THE ENDS OF PIPES WHEN WORK IS NOT IN PROGRESS.
13. LEAKAGE AND HYDROSTATIC PRESSURE TESTING SHALL BE PERFORMED AT 1.5 TIMES THE WORKING PRESSURE OF THE MAIN, BUT IN NO CASE SHALL IT BE LESS THAN 150 PSI.
14. THE MAXIMUM DEFLECTION ALLOWED AT PIPE JOINTS SHALL BE LIMITED TO 80% OF THAT ALLOWED BY AWWA OR IN ACCORDANCE WITH THE MUNICIPALITY. FOR AWWA ALLOWABLE JOINT DEFLECTIONS SEE LATEST REVISION OF AWWA SPECIFICATION C600.
15. CONSTRUCTION MUST CONFORM TO ALL ORDINANCES.
16. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING WATER AND OTHER UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
17. CONTRACTOR TO CALL UNDERGROUND MARK-OUT PRIOR TO COMMENCEMENT OF CONSTRUCTION AT 1-800-962-7962 FOR COMPLETE UTILITIES MARK-OUT.
18. CONTRACTOR TO CONTACT EACH MUNICIPALITYS WATER DEPARTMENT AT LEAST 2 DAYS PRIOR TO CONSTRUCTION.
19. ALL IMPROVEMENTS SHALL BE INSPECTED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK AND CERTIFICATION SHALL BE PROVIDED TO THE MUNICIPALITY THAT THE SUBJECT IMPROVEMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS.
20. CONTRACTOR TO NOTIFY ENGINEER OF ANY DEVIATION FROM THE HORIZONTAL OR VERTICAL ALIGNMENTS WITH REGARDS TO EXISTING UTILITIES.
21. A CERTIFIED AS BUILT MAP OF THE WATER SYSTEM IMPROVEMENTS SHALL BE PROVIDED TO THE MUNICIPALITY'S WATER DEPARTMENT BY A LICENSED DESIGN PROFESSIONAL.
22. ONLY DETAILS AND NOTES ASSOCIATED WITH THE INSTALLATION OF THE PROPOSED BACKFLOW PREVENTER ARE SUBJECT TO THE REVIEW AND APPROVAL OF THE OCDOH. ALL OTHER DETAILS AND NOTES ARE FOR INFORMATIONAL PURPOSES ONLY.

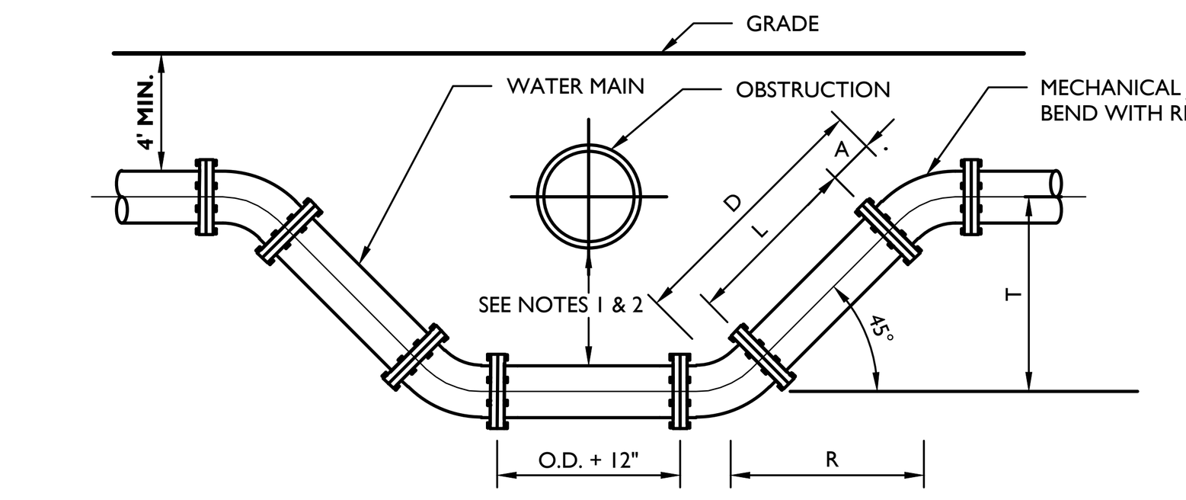
TOWN OF NEWBURGH WATER & SEWER NOTES:

1. CONSTRUCTION OF SANITARY SEWER FACILITIES AND CONNECTION TO THE TOWN OF NEWBURGH SANITARY SEWER SYSTEM REQUIRES A PERMIT FROM THE TOWN OF NEWBURGH SEWER DEPARTMENT. ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE NYSDEC AND THE TOWN OF NEWBURGH.
2. ALL SEWER PIPE INSTALLATION SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF NEWBURGH SEWER DEPARTMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS AS REQUIRED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
3. ALL GRAVITY SANITARY SEWER SERVICE LINES SHALL BE 4 INCHES IN DIAMETER OR LARGER AND SHALL BE SDR-35 PVC PIPE CONFORMING TO ASTM D-3034-89. JOINTS SHALL BE PUSH-ON WITH ELASTOMERIC RING GASKET CONFORMING ASTM D-3212. FITTINGS SHALL BE AS MANUFACTURED BY THE PIPE SUPPLIER OR EQUAL AND SHALL HAVE A BELL AND SPIGOT CONFIGURATION COMPATIBLE WITH THE PIPE.
4. THE SEWER MAIN SHALL BE TESTED IN ACCORDANCE WITH TOWN OF NEWBURGH REQUIREMENTS. ALL TESTING SHALL BE COORDINATED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
5. THE FINAL LAYOUT OF THE PROPOSED WATER AND/OR SEWER CONNECTION, INCLUDING ALL MATERIALS, SIZE AND LOCATION OF SERVICE AND ALL APPURTENANCES, IS SUBJECT TO THE REVIEW AND APPROVAL OF THE TOWN OF NEWBURGH WATER AND/OR SEWER DEPARTMENT. NO PERMITS SHALL BE ISSUED FOR A WATER AND/OR SEWER CONNECTION UNTIL A FINAL LAYOUT IS APPROVED BY THE RESPECTIVE DEPARTMENT.

WATER NOTES

NOT TO SCALE GNRL-DTLS-STND-GRID 10/7/2021

WATER CROSSING UNDER UTILITY DETAIL



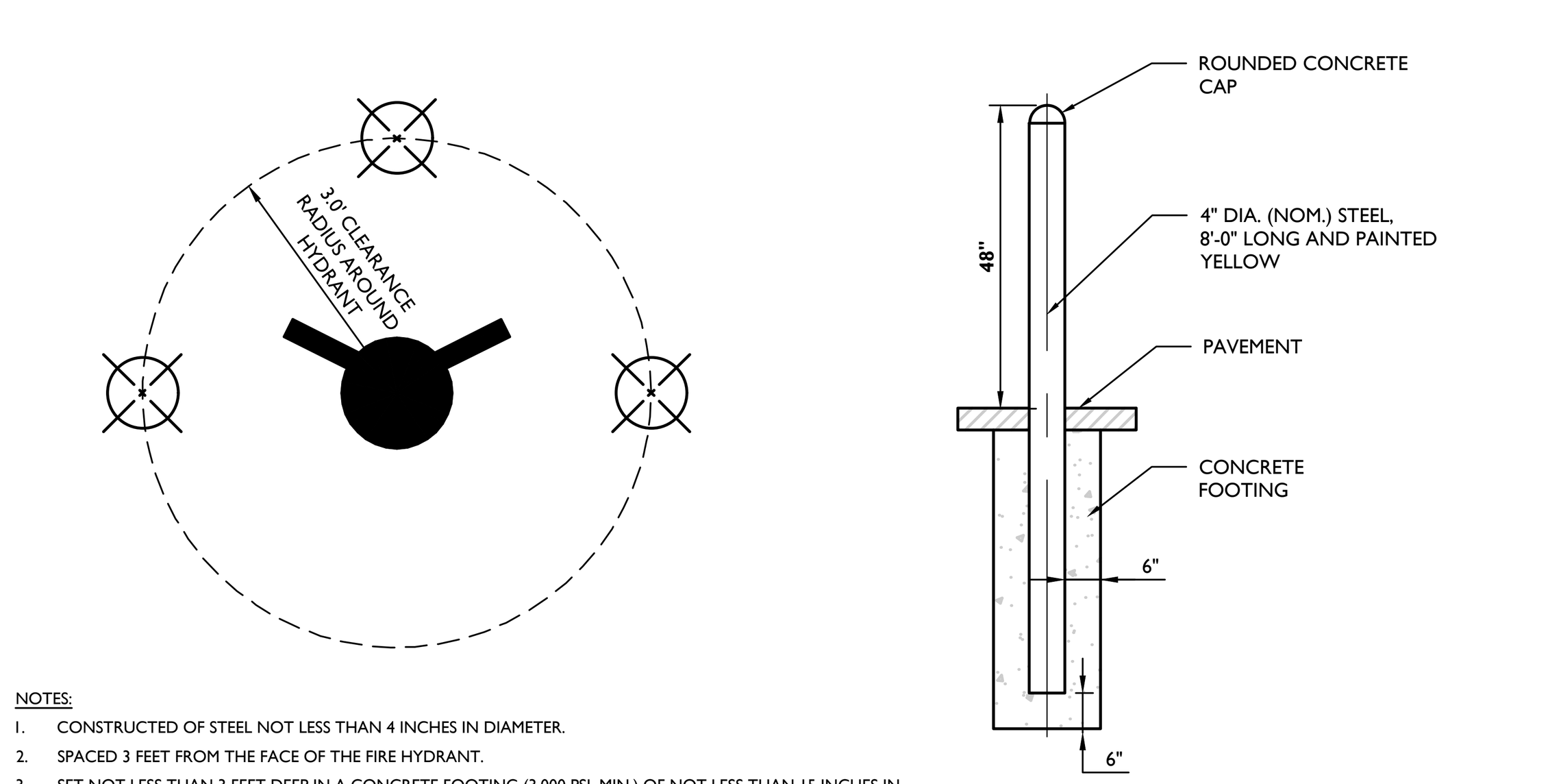
MECHANICAL JOINTS			
ANGLE	D =	R =	L =
45°	T x 1.414	T x 1.000	D-2A
22.5°	T x 2.613	T x 2.414	D-2A
11.25°	T x 5.126	T x 5.027	D-2A

NOTES:

1. WATER MAIN MAY CROSS ABOVE OBSTRUCTION IF 4' MINIMUM COVER IS MAINTAINED ABOVE THE WATER MAIN AND FINISH GRADE.
2. MINIMUM VERTICAL SEPARATION BETWEEN SANITARY OR STORM SEWER TO WATER MAIN SHALL BE 18" IF THE HORIZONTAL SEPARATION IS LESS THAN 10'. BETWEEN WATER MAIN AND OTHER UTILITIES, THE MINIMUM VERTICAL SEPARATION SHALL BE 12".
3. WATER MAIN SHALL BE SIZE AND MATERIAL SPECIFIED ON THE PLAN, WITH MECHANICAL JOINT OR PUSH-ON AND ALL FITTINGS BE CAST IRON MECHANICALLY JOINT.
4. OFFSETS MAY BE SUBSTITUTED FOR A "T" OF UP TO 24" IF APPROVED BY THE ENGINEER.
5. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS OR OTHER POINTS OF PIPE DIRECTION CHANGE.
6. TIE RODS SHALL BE UTILIZED TO RESTRAIN PIPE JOINTS IF THRUST BLOCK IS NOT USED. DETAILS OF THE TIE ROD ASSEMBLY SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. TIE RODS SHALL BE SUFFICIENT TO RESTRAIN THE THRUST DEVELOPED AT 100 PSI WORKING PRESSURE. MEGALUG RESTRAINT ALSO ACCEPTABLE IN PLACE OF TIE RODS.

NOT TO SCALE MCNY-UTIL-WATR-1300 07/01/19

4" BOLLARD PROTECTION AROUND HYDRANT DETAIL



NOTES:

1. CONSTRUCTED OF STEEL NOT LESS THAN 4 INCHES IN DIAMETER.
2. SPACED 3 FEET FROM THE FACE OF THE FIRE HYDRANT.
3. SET NOT LESS THAN 3 FEET DEEP IN A CONCRETE FOOTING (3,000 PSI, MIN.) OF NOT LESS THAN 15 INCHES IN DIAMETER.
4. SET WITH THE TOP OF THE POST NOT LESS THAN 3 FEET ABOVE GRADE.

NOT TO SCALE MCNY-UTIL-WATR-2400 07/01/19

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PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE: CONSTRUCTION DETAILS

SHEET NUMBER: 11 of 11

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2010\10000245B\Engineering\Site Plans\C-DTLS.dwg\C-11-WATER & SEWER DETAILS By: CMCCORMACK

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June 28, 2021

Mr. Steve McCulloch
Houlihan-Parnes Realtors, LLC
Four West Red Oak Lane, Suite 200
White Plains, NY 10604

Northeast Business Center
Town of Newburgh, Orange County, NY
Colliers Engineering & Design Project No. 10000245B

Dear Mr. McCulloch,

This report has been prepared to evaluate the potential traffic impacts associated with the proposed 50,000 s.f. office building to be located on the west side of Corporate Boulevard at the Northeast Business Center in the Town of Newburgh, New York. As shown on Figure No. 1 access to the development is proposed via the existing southerly driveway connection to 700 Corporate Boulevard.

A Design Year of 2023 has been utilized in completing the traffic analysis to evaluate future traffic conditions associated with this proposed development.

1. **Description of Existing Roadways**

   As shown on Figure No. 1, the proposed office development will be accessed from NYS Route 17K via 700 Corporate Boulevard. The following is a brief description of the roadways located within the study area. In addition, Section 8 provides a further description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements for each of the study area intersections.

   - **NYS Route 17K**
     NYS Route 17K is a major regional facility classified as an "Urban Principal Arterial Other" which traverses in a generally east/west direction. In the immediate vicinity of the site, NYS Route 17K is a two-lane roadway with paved shoulders and turning lanes at several signalized intersections including the intersection with Corporate Boulevard. The posted speed limit in this area is 55 MPH.

   - **Corporate Boulevard**
     Corporate Boulevard is a four-lane divided 2000-foot long roadway that generally traverses in a north/south direction between a signalized intersection with NYS Route 17K and a cul-de-sac at its northerly limit. The roadway serves other offices and warehouse land uses and provides access to each via individual driveways. The Northeast Business Center

Development is proposed to be accessed via a new connection to the 700 Corporate Boulevard driveway. Corporate Boulevard has a posted speed limit of 15 MPH.

2. **Year 2021 Existing Traffic Volumes** *(Figures No. 2 and 3)*

Manual traffic counts were collected by representatives of Colliers Engineering & Design CT, P.C. on Tuesday, June 8th and Wednesday, July 9th of 2021 for the AM and PM Peak Hours to determine the existing traffic volume conditions at the study area intersections. These traffic counts were compared to historical traffic volume data from previous traffic studies conducted in the area as well as historical traffic volume data from the New York State Department of Transportation (NYSDOT) for the NYS Route 17K corridor and were adjusted as necessary to reflect pre-Covid 19 conditions. It should also be noted that the Existing Traffic Volumes along Corporate Boulevard were adjusted by 15% to account for any vacancies and offsets of Covid-19. Based on this information, the Year 2021 Existing Traffic Volumes were established for the Weekday Peak AM and Weekday Peak PM Hours at the following study area intersections.

- NYS Route 17K and Corporate Boulevard
- Corporate Boulevard and Site Access Driveway

Based upon a review of the traffic counts, the peak hours were generally identified as follows:

- Weekday Peak AM Hour 7:45 AM – 8:45 AM
- Weekday Peak PM Hour 4:00 PM – 5:00 PM

The resulting Year 2021 Existing Traffic Volumes are shown on Figures No. 2 and 3 for the Weekday Peak AM Hour and Weekday Peak PM Hour, respectively.

3. **Year 2023 No-Build Traffic Volumes** *(Figures No. 4 and 5)*

The Year 2021 Existing Traffic Volumes were increased by a growth factor of 1% per year (for a total of 2% traffic growth) to account for normal background growth based on NYSDOT historical data resulting in the Year 2023 No-Build Traffic Volumes which are shown on Figures No. 4 and 5 for the Weekday Peak AM and Weekday Peak PM Hours, respectively. The 2% growth factor was only applied to the NYS Route 17K traffic volumes (as discussed in Section 2, the Existing Traffic Volumes along Corporate Boulevard were increased by 15%).

4. **Site Generated Traffic Volumes** *(Table No. 1)*

Estimates of the amount of traffic to be generated by the proposed office development during each of the peak hours were developed based on information published by the Institute of Transportation Engineers (ITE) as contained in the report entitled "Trip Generation", 10th Edition, 2017, based on Land Use Category – 710 Office. Table No. 1 summarizes the trip generation rates and corresponding site generated traffic volumes for the Weekday Peak AM and Weekday Peak PM Hours. It should be noted, there is a potential for the site to be developed as "flex-space" with an office component. The use of "office" in our analysis is more conservative as generation of flex-space is only approximately one-half the office rate.

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5. **Arrival/Departure Distribution** *(Figures No. 6 and 7)*

   It was necessary to establish arrival and departure distributions to assign the site generated traffic volumes to the surrounding roadway network. Based on a review of the Existing Traffic Volumes and expected travel patterns on the surrounding roadway network, the distributions were identified with 55% of the generated traffic arriving from the east and 45% arriving from the west. The anticipated arrival and departure distributions are shown on Figures No. 6 and 7, respectively.

6. **Year 2023 Build Conditions Traffic Volumes** (Figures No. 8 through 11)

   The site generated traffic volumes (Table No. 1) were assigned to the roadway network based on the arrival and departure distributions referenced above. The resulting site generated traffic volumes for each of the study area intersections are shown on Figures No. 8 and 9 for each of the peak hours, respectively. The site generated traffic volumes were then added to the Year 2023 No-Build Traffic Volumes to obtain the Year 2023 Build Traffic Volumes. The resulting Year 2023 Build Traffic Volumes are shown on Figures No. 10 and 11 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

7. **Description of Analysis Procedures**

   It was necessary to perform capacity analyses in order to determine existing and future traffic operating conditions at the study area intersections. The following is a brief description of the analysis method utilized in this report:

   - Signalized Intersection Capacity Analysis

     The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the Highway Capacity Manual, 6th Edition, dated 2016, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

   - Unsignalized Intersection Capacity Analysis

     The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the Highway Capacity Manual, 6th Edition, dated 2016. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

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Additional information concerning signalized and unsignalized Levels of Service can be found at the end of this report.

8. **Results of Analysis** (Table No. 2)

Capacity analyses that take into consideration appropriate truck percentages, pedestrian activity, roadway grades and other factors were performed at the study area intersections utilizing the procedures described above to determine the Levels of Service and average vehicle delays. Summarized below are a description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service as well as any recommended improvements.

Table No. 2 summarizes the results of the capacity analysis for the 2021 Existing, 2023 No-Build and 2023 Build Conditions. Copies of the capacity analysis that also indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied can be found at the end of this report.

- NYS Route 17K and Corporate Boulevard

  NYS Route 17K and Corporate Boulevard intersect at "T" shaped, signalized intersection. The NYS Route 17K eastbound approach consists of separate left turn lane and separate through lane and the NYS Route 17K westbound approach consists of a separate through lane and separate right turn lane. The Corporate Boulevard southbound approach consists of a separate left and a separate right turn lane.

  Capacity analyses were conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "B" during the AM and PM Peak Hours.

  The capacity analyses were recomputed using the 2023 No-Build and 2023 Build Traffic volumes. These results indicate that the intersection is projected to continue to operate at an overall Level of Service "B" during the AM and PM Peak Hours under future conditions.

- Corporate Boulevard and Southerly Site Access Driveway

  Corporate Boulevard and southerly site access driveway intersect at "T" shaped, signalized intersection. The Corporate Boulevard northbound approach consists of two lanes in the form of a shared left/through lane and separate through lane and the Corporate Boulevard southbound approach consists of two lanes in the form of a separate through lane and shared through/right lane. The driveway approach (eastbound approach) consists of a wide lane for left and right turn movements.

  Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "A" during the AM and PM Peak Hours.

  The capacity analyses were recomputed using the 2023 No-Build and 2023 Build Traffic volumes. These results indicate that the intersection is projected to continue to operate at a Level of Service "A" during the AM and PM Peak Hours under future conditions.

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9. Summary and Conclusion

Based on the above analysis, similar Levels of Service and delays will be experienced at the area intersections under the future No-Build and future Build Conditions. Thus, the Northeast Business Center development traffic is not expected to cause any significant impact in overall intersection operation.

Sincerely,

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A. Peter Russillo, P.E., PTOE
Senior Project Manager

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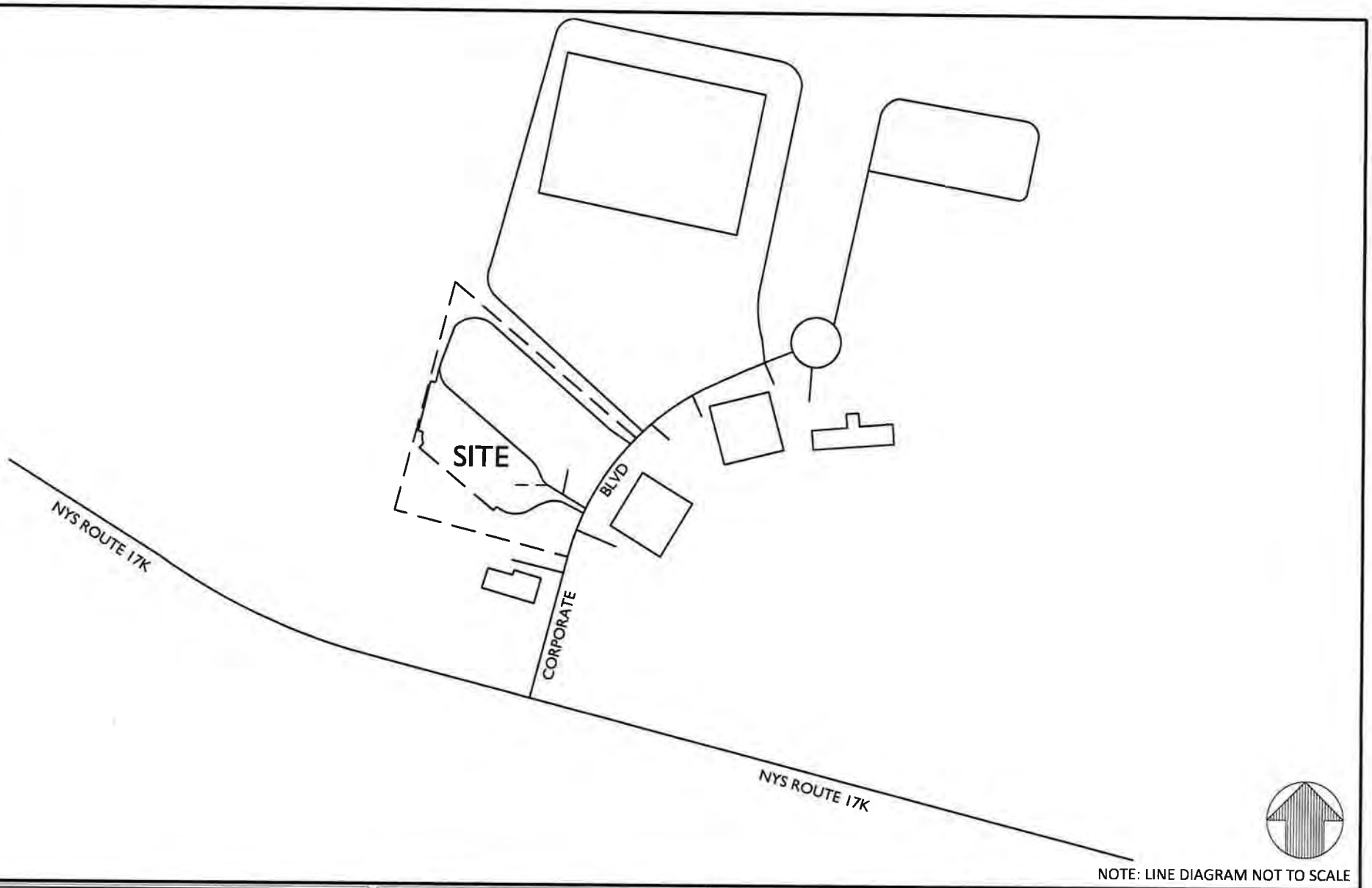
Appendix A | Traffic Figures



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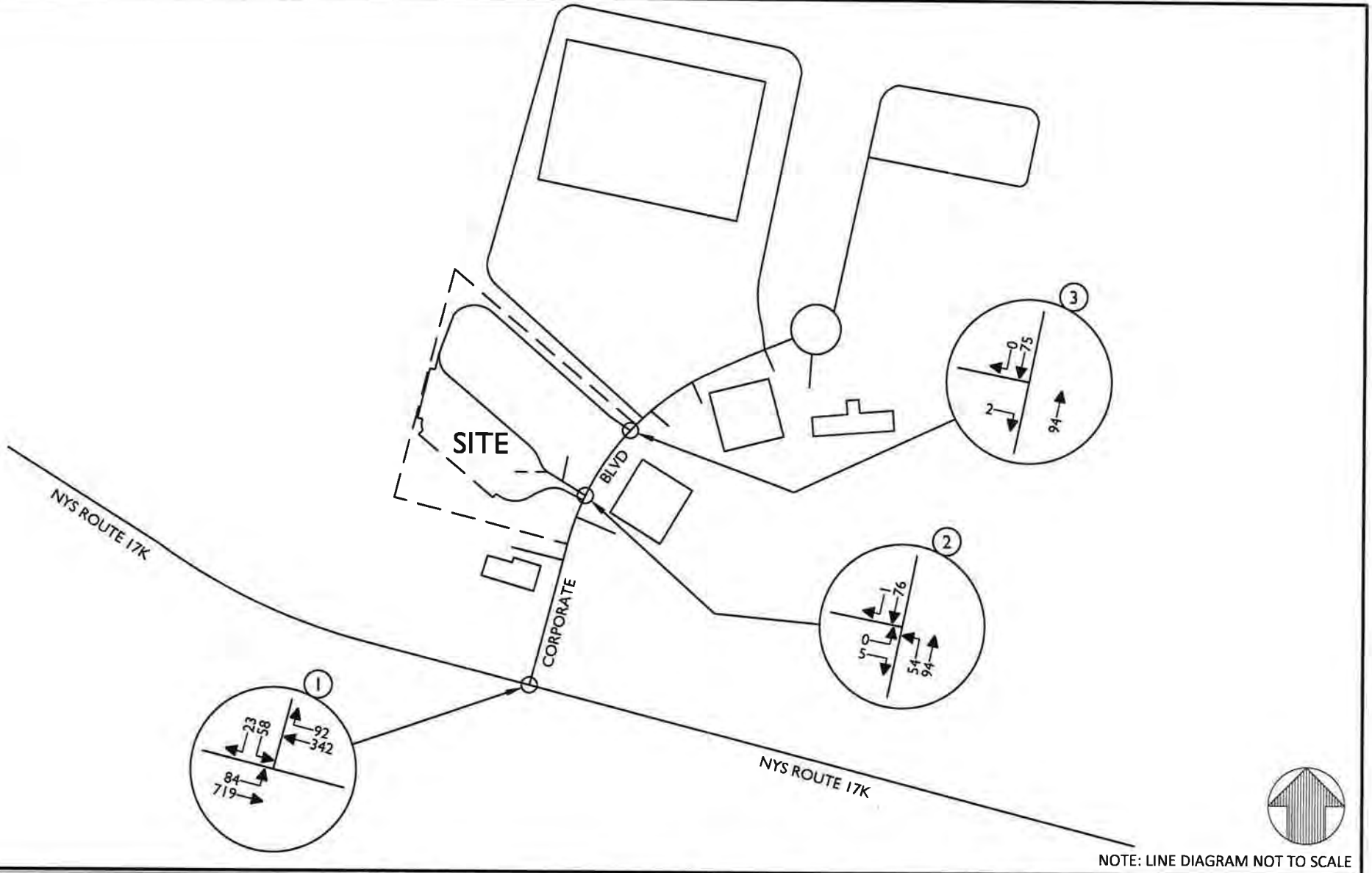

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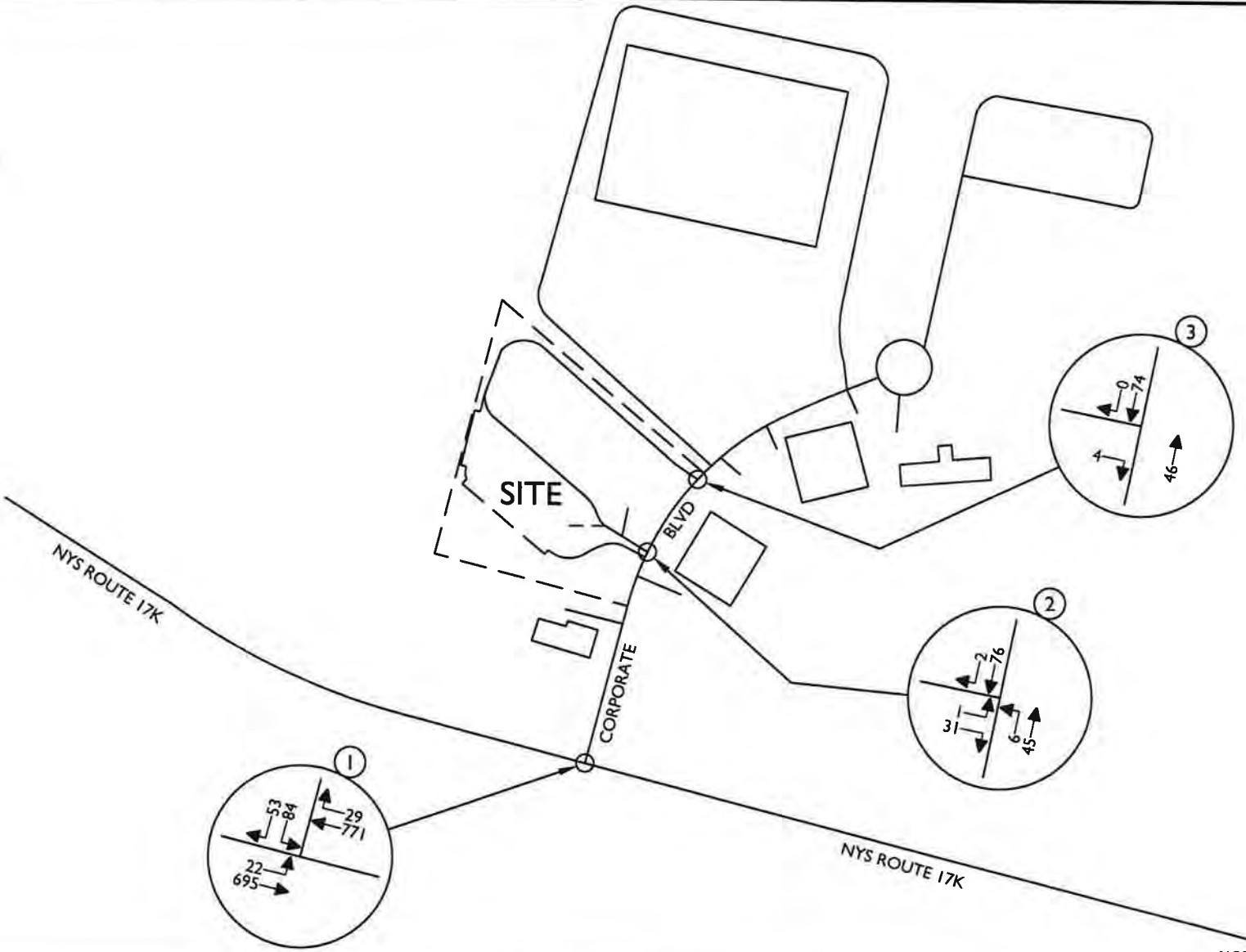

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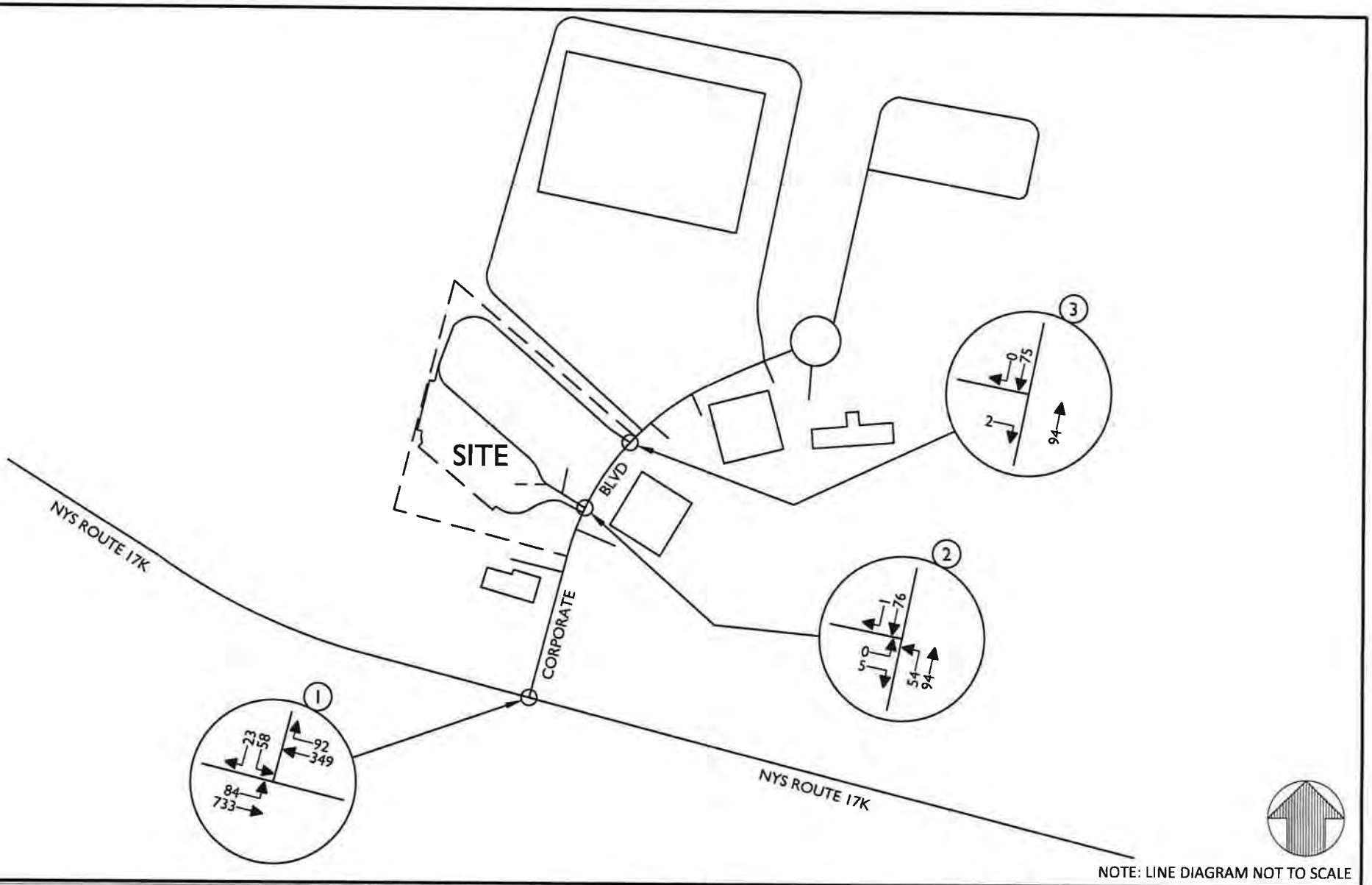

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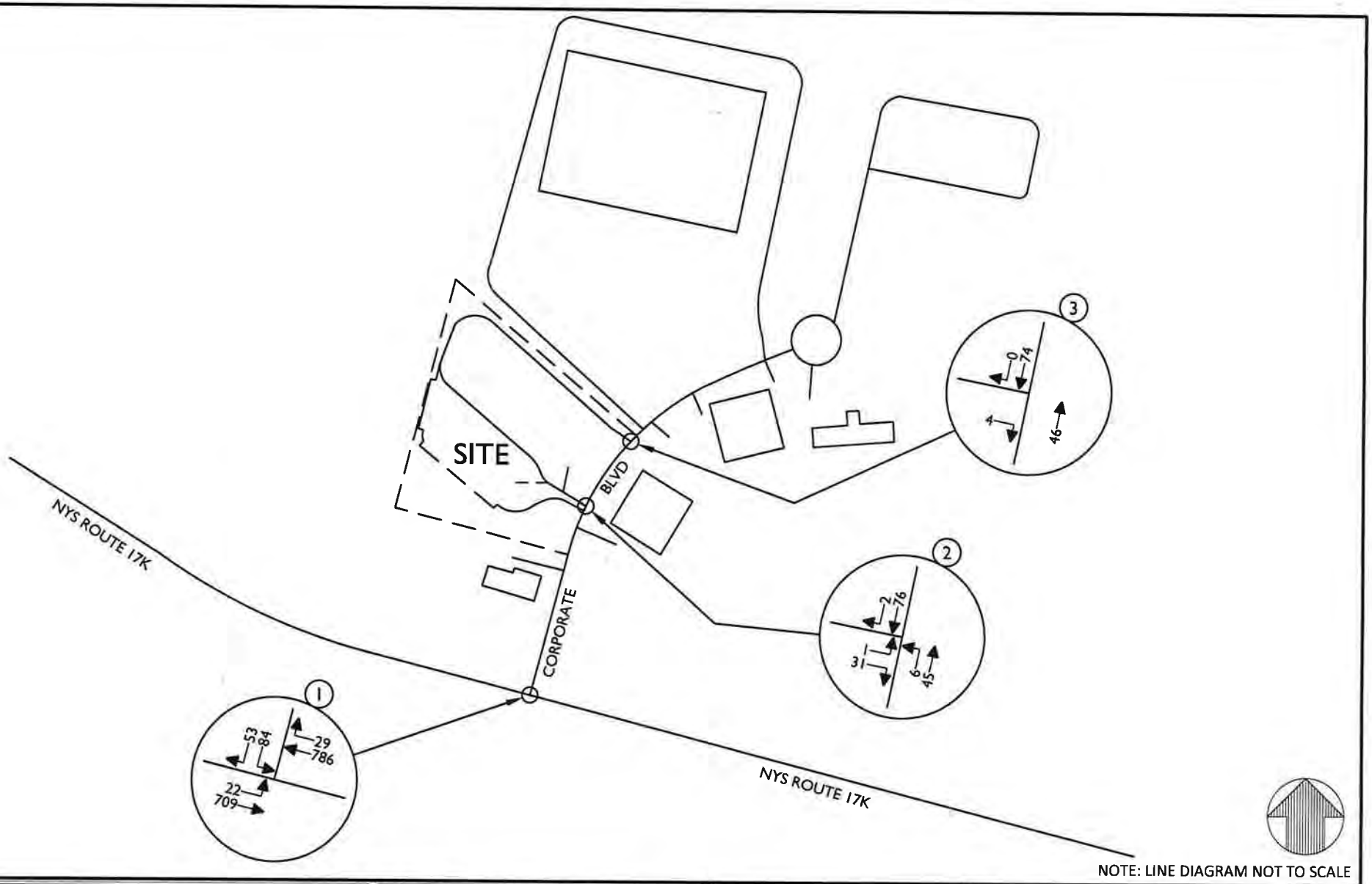

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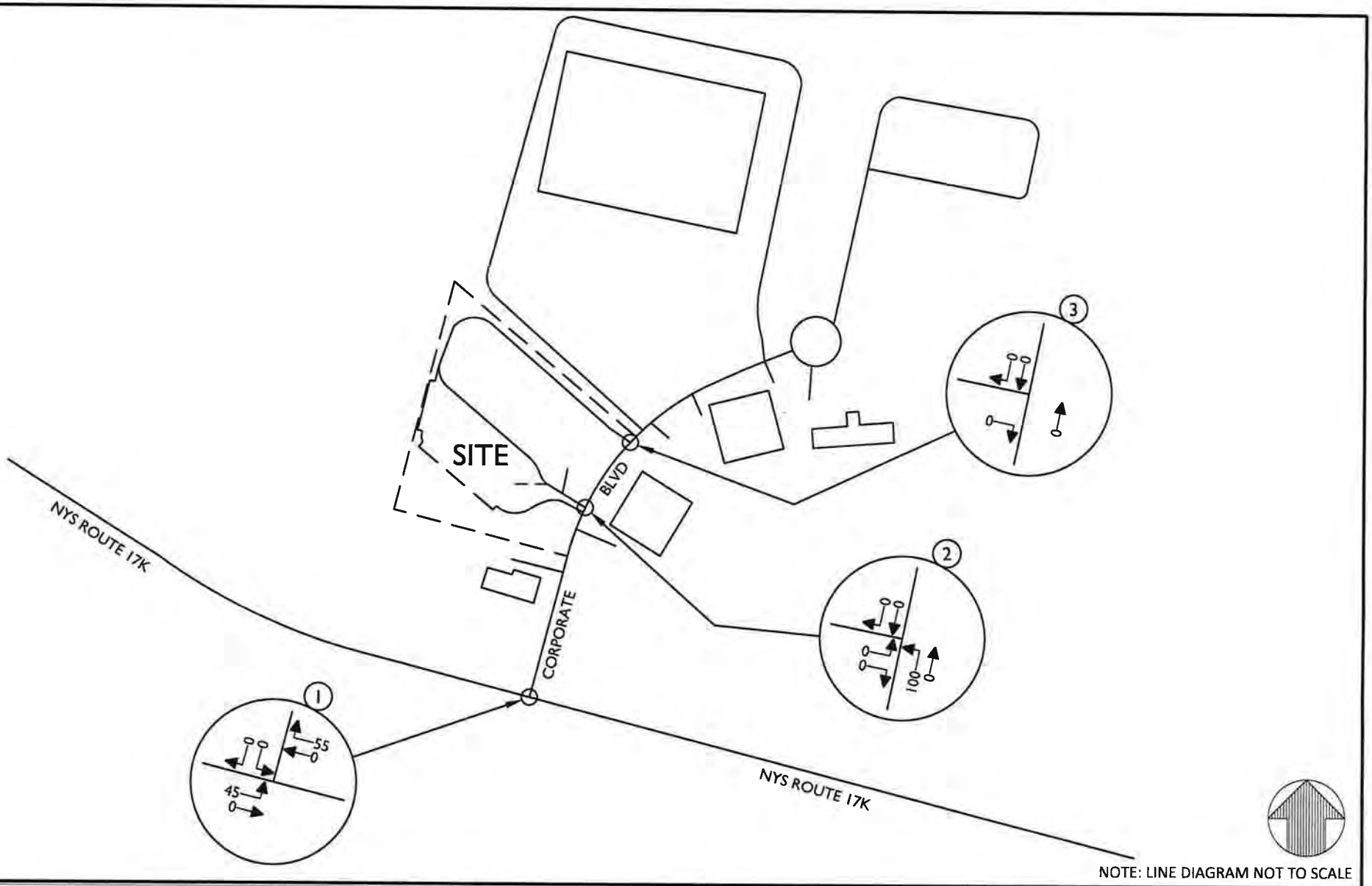

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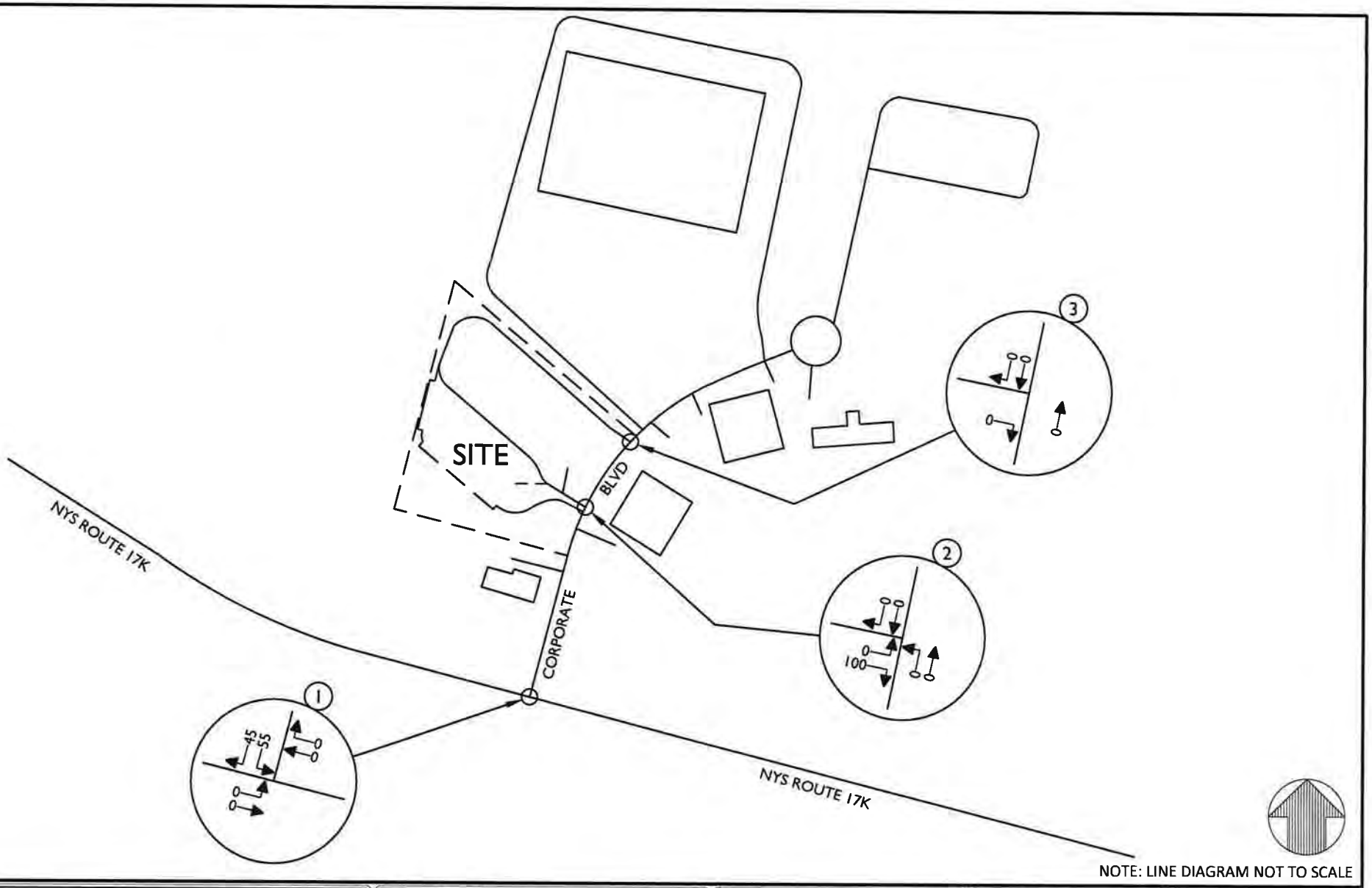

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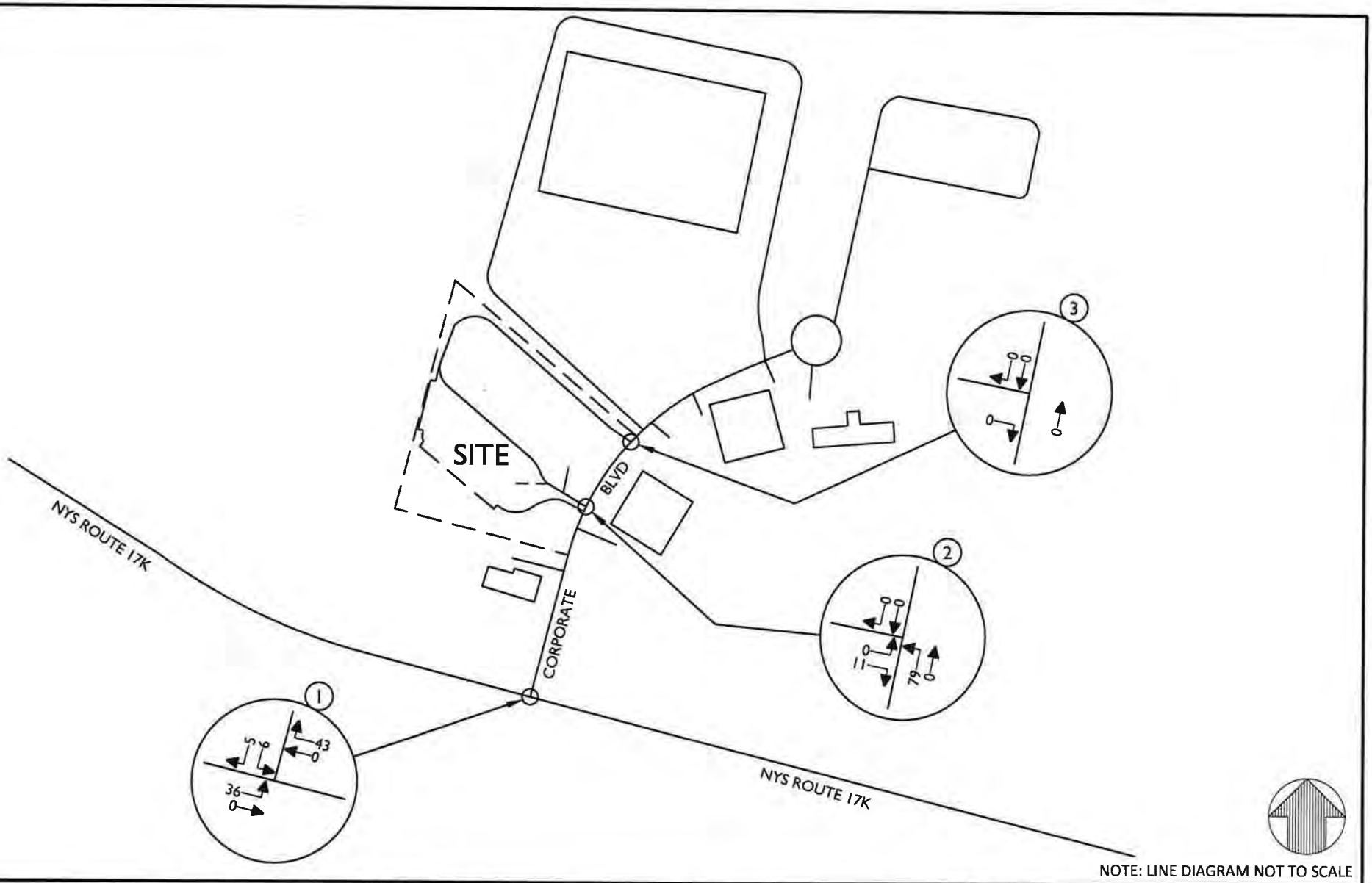

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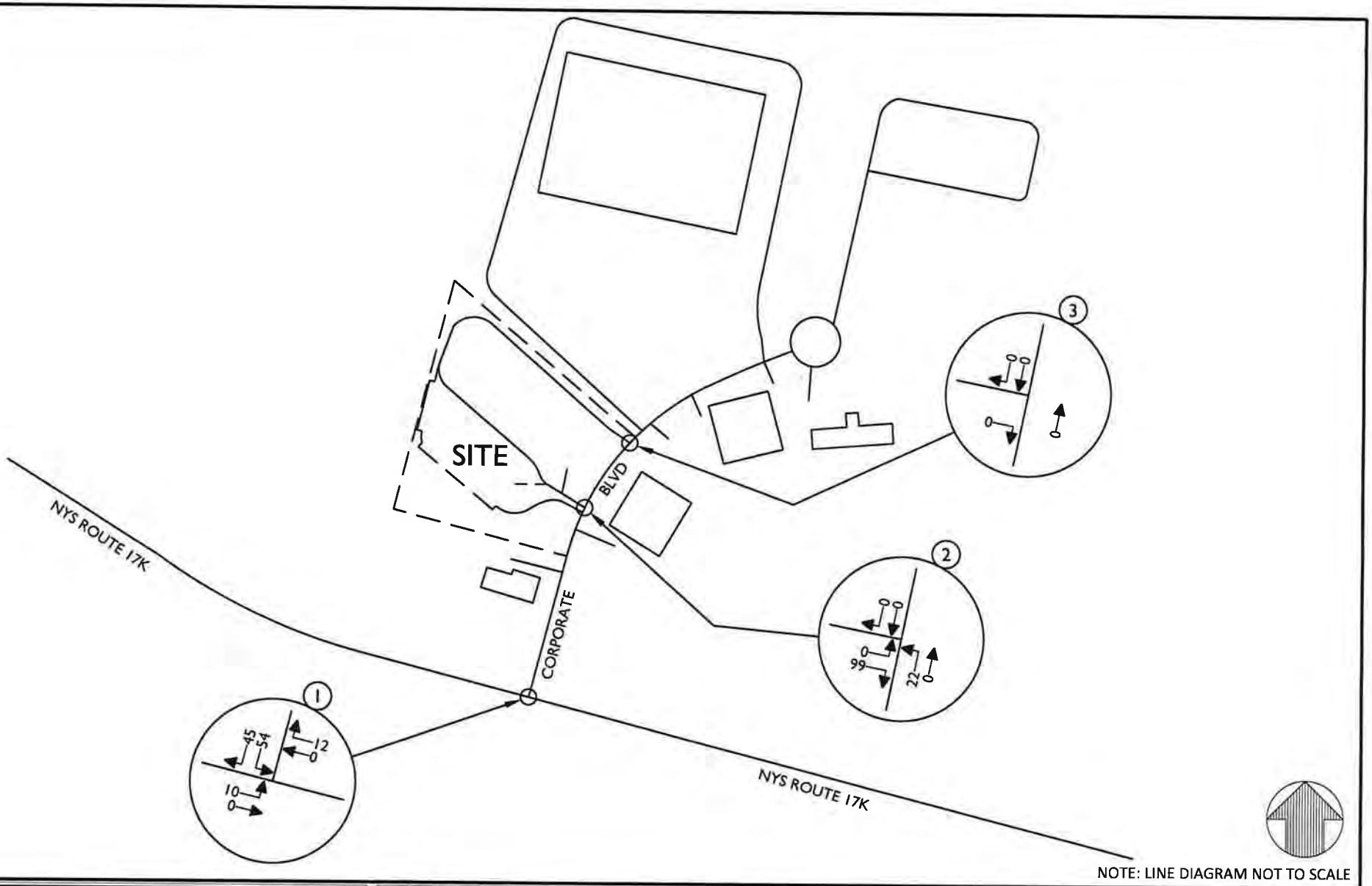

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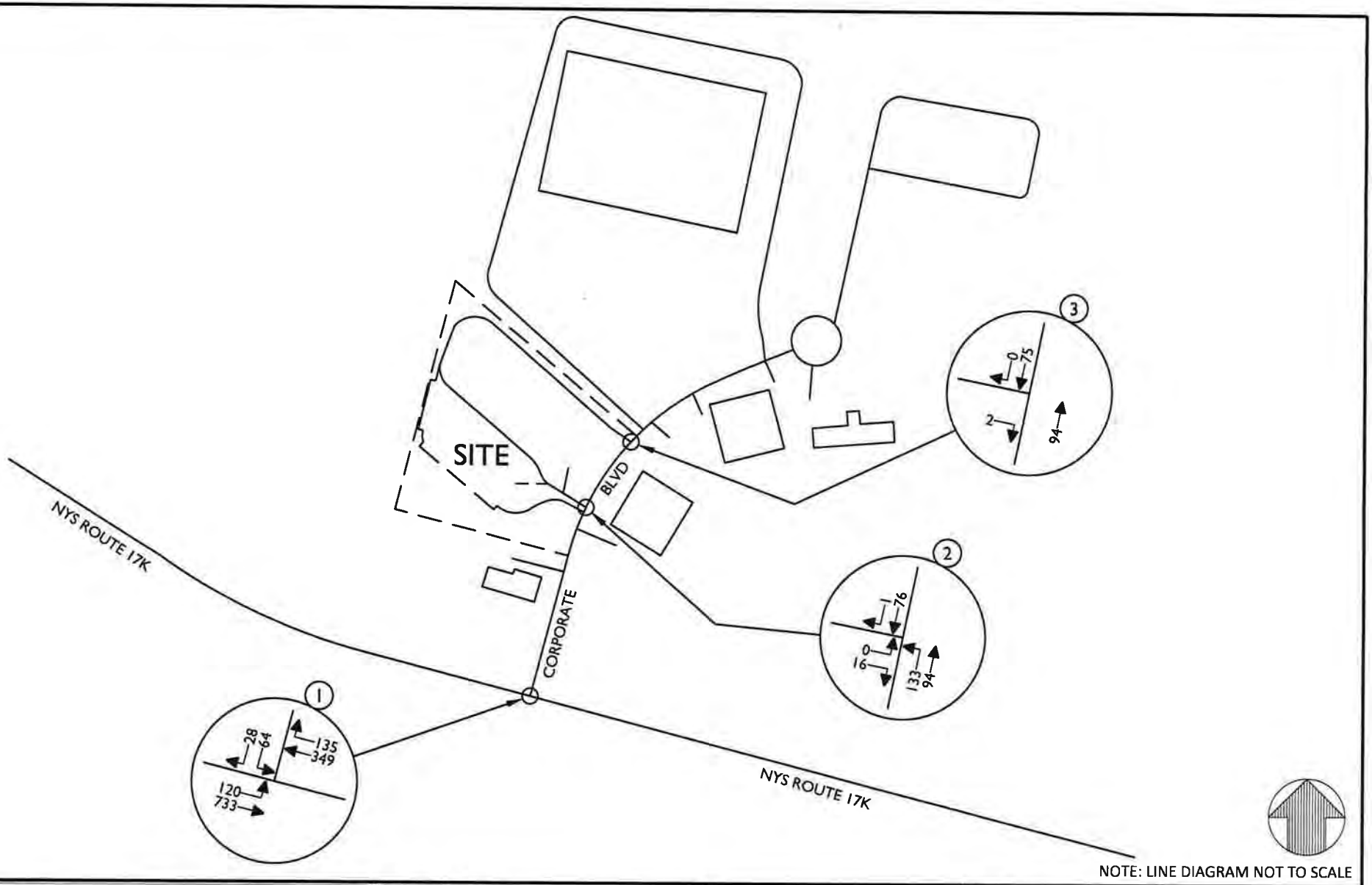

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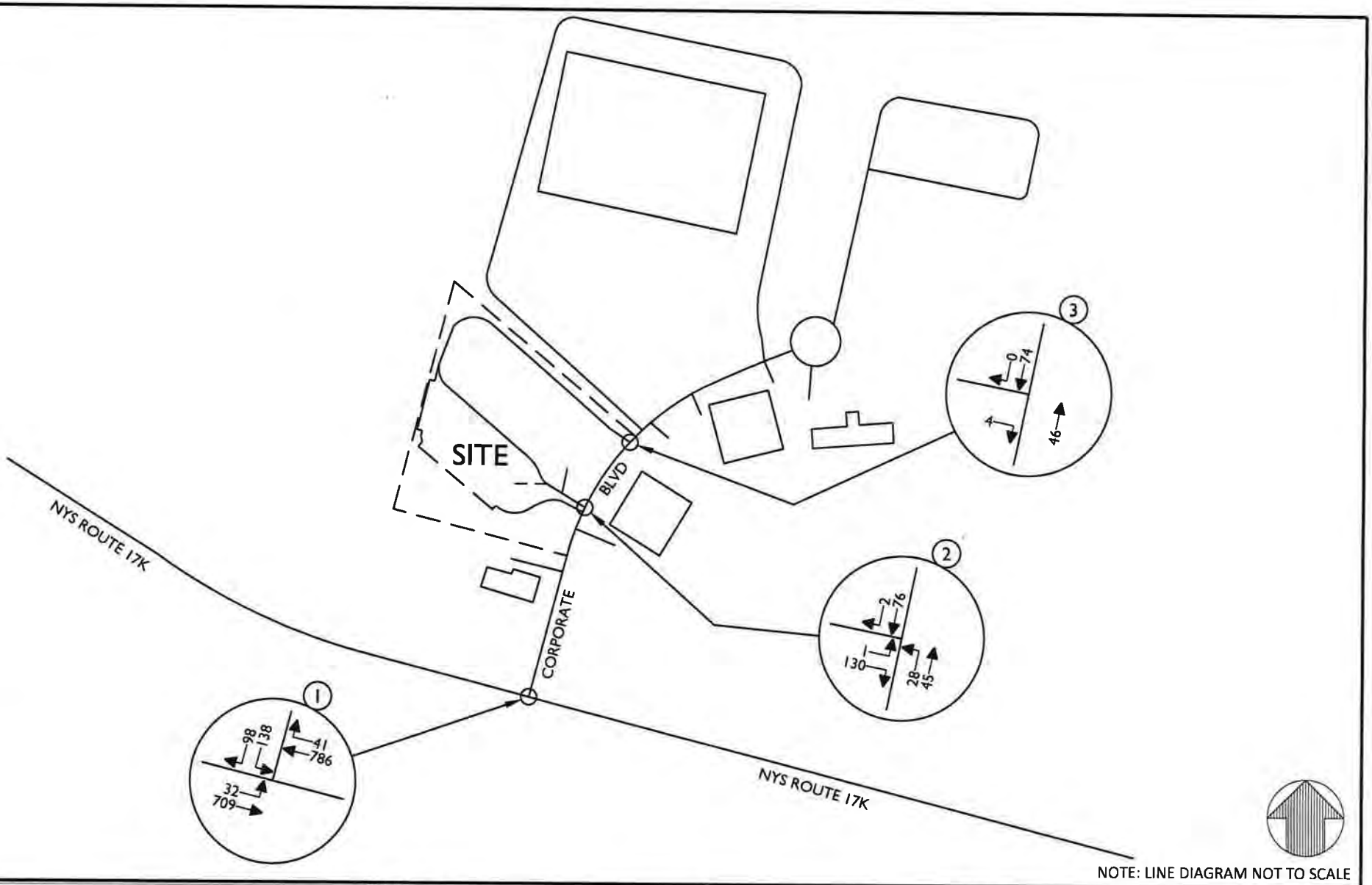

NOTE: LINE DIAGRAM NOT TO SCALE

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5	-	-	-
6	-	-	-

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TRAFFIC IMPACT STUDY

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AS SHOWN	6/8/21	R.H.	A.P.R.

PROJECT NUMBER:	DRAWING NAME:
10000245B	210608RH_FIGURE

SHEET TITLE:
2023 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

SHEET NUMBER:
11

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Northeast Business Center

Appendix B | Tables

Table No. 1
Hourly Trip Generation Rates (HTGR) and
Anticipated Site Generated Traffic Volumes

Northeast Business Center Newburgh, NY	Entry		Exit	
	HTGR[1]	Volume	HTGR1	HTGR[1]
Office (50,000 Sq. Ft.)				
Peak AM Hour	1.58	79	0.22	11
Peak PM Hour	0.44	22	1.98	99

NOTES:

1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 10TH EDITION, 2017. ITE LAND USE CODE - 710 - OFFICE BUILDING.

Table No. 2
Level of Service Summary Table
Weekday Peak AM Hour

				2021 Existing			2023 No-Build			2023 Build			Change in Delay
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	No-Build to Build
1	**N.Y.S. Route 17K & Corporate Boulevard**	**Signalized**											
	N.Y.S. Route 17K	EB	L	0.19	B	19.8	0.19	B	19.8	0.27	B	20.0	0.2
			T	0.93	B	14.9	0.93	B	15.6	0.93	B	15.6	0.0
	N.Y.S. Route 17K	WB	T	0.84	C	22.8	0.84	C	23.2	0.84	C	23.0	-0.2
			R	0.25	B	17.8	0.25	B	18.0	0.36	B	18.6	0.6
	Corporate Boulevard	SB	L	0.17	B	17.0	0.17	B	17.6	0.19	B	17.9	0.3
			R	0.05	A	8.3	0.05	A	8.5	0.06	A	8.6	0.1
		Overall		**-**	**B**	**17.4**	**-**	**B**	**18.0**	**-**	**B**	**18.0**	**0.0**
2	**Corporate Boulevard & Site Access Driveway**	**Unsignalized**											
	Corporate Boulevard	EB	LR	0.01	A	8.6	0.01	A	8.6	0.02	A	8.6	0.0
	Site Access Driveway	NB	LT	0.04	A	7.5	0.04	A	7.5	0.11	A	7.7	0.2

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

Table No. 2
Level of Service Summary Table
Weekday Peak PM Hour

				2021 Existing			2023 No-Build			2023 Build			Change in Delay
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	No-Build to Build
1	**N.Y.S. Route 17K & Corporate Boulevard**	**Signalized**											
	N.Y.S. Route 17K	EB	L	0.14	C	30.7	0.15	C	31.1	0.20	C	31.5	0.4
			T	0.64	A	9.6	0.65	A	9.6	0.64	A	9.4	-0.2
	N.Y.S. Route 17K	WB	T	0.92	C	20.1	0.92	C	20.9	0.92	C	21.5	0.6
			R	0.04	A	9.3	0.04	A	9.1	0.06	A	9.4	0.3
	Corporate Boulevard	SB	L	0.20	B	19.7	0.20	C	20.2	0.33	C	22.5	2.3
			R	0.16	B	18.2	0.16	B	18.7	0.29	C	20.7	2.0
		Overall		**-**	**B**	**15.6**	**-**	**B**	**15.9**	**-**	**B**	**16.7**	**0.8**
2	**Corporate Boulevard & Site Access Driveway**	**Unsignalized**											
	Corporate Boulevard	EB	LR	0.04	A	8.8	0.04	A	8.8	0.15	A	9.2	-
	Site Access Driveway	NB	LT	0.01	A	7.6	0.01	A	7.6	0.02	A	7.7	-

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

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Appendix C | Levels of Service Standards

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Level of Service Standards

Level of Service for Signalized Intersections

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

- **LOS A** describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
- **LOS B** describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
- **LOS C** describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.
- **LOS D** describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.
- **LOS E** describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.
- **LOS F** describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 19-8 from the *Highway Capacity Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 19-8 LOS by Volume-to-Capacity Ratio

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
≤10	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

For approach-based and intersection wide assessments, LOS is defined solely by control delay.

Level of Service Criteria
For Two-Way Stop-Controlled (TWSC) Unsignalized Intersections

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 20-2 from the Highway Capacity Manual, 6th Edition published by the Transportation Research Board.

Exhibit 20-2 LOS by Volume-to-Capacity Ratio

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street.
LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 20-2 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

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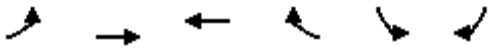
Appendix D | Capacity Analysis

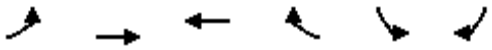


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	719	342	92	58	23
Future Volume (vph)	84	719	342	92	58	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	12	12
Grade (%)		-3%	1%		0%	
Storage Length (ft)	250			345	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1762	1543	1734	1537	1347	1154
Flt Permitted	0.391				0.950	
Satd. Flow (perm)	725	1543	1734	1537	1347	1154
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				106		26
Link Speed (mph)		55	55		30	
Link Distance (ft)		1024	913		780	
Travel Time (s)		12.7	11.3		17.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	25%	9%	8%	34%	40%
Adj. Flow (vph)	97	826	393	106	67	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	826	393	106	67	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.01	0.96	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	Perm	Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	7
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	23.0	10.0
Total Split (s)	10.0	67.0	57.0	57.0	23.0	10.0
Total Split (%)	11.1%	74.4%	63.3%	63.3%	25.6%	11.1%
Maximum Green (s)	5.0	62.0	52.0	52.0	18.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.16	0.92	0.64	0.17	0.19	0.04
Control Delay	6.7	28.4	26.0	4.7	26.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	28.4	26.0	4.7	26.9	4.9
Queue Length 50th (ft)	16	272	149	0	22	0
Queue Length 95th (ft)	29	410	244	27	67	13
Internal Link Dist (ft)		944	833		700	
Turn Bay Length (ft)	250			345		
Base Capacity (vph)	623	1351	1339	1211	360	608
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.61	0.29	0.09	0.19	0.04

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 69.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

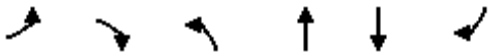
Splits and Phases: 1: NYS Route 17K & Corporate Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	719	342	92	58	23
Future Volume (veh/h)	84	719	342	92	58	23
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1958	1643	1761	1847	1396	1307
Adj Flow Rate, veh/h	97	826	393	106	67	26
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	25	9	8	34	40
Cap, veh/h	501	890	468	416	391	541
Arrive On Green	0.19	0.54	0.27	0.27	0.29	0.29
Sat Flow, veh/h	1865	1643	1761	1565	1330	1108
Grp Volume(v), veh/h	97	826	393	106	67	26
Grp Sat Flow(s),veh/h/ln	1865	1643	1761	1565	1330	1108
Q Serve(g_s), s	0.0	28.3	12.9	3.3	2.3	0.0
Cycle Q Clear(g_c), s	0.0	28.3	12.9	3.3	2.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	501	890	468	416	391	541
V/C Ratio(X)	0.19	0.93	0.84	0.25	0.17	0.05
Avail Cap(c_a), veh/h	501	1666	1498	1331	391	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	12.9	21.2	17.7	16.0	8.2
Incr Delay (d2), s/veh	0.1	2.0	1.6	0.1	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	6.7	4.5	1.0	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	14.9	22.8	17.8	17.0	8.3
LnGrp LOS	B	B	C	B	B	A
Approach Vol, veh/h		923	499		93	
Approach Delay, s/veh		15.4	21.7		14.6	
Approach LOS		B	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	38.1	23.0	16.9	21.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	62.0	18.0	5.0	52.0
Max Q Clear Time (g_c+I1), s	30.3	4.3	2.0	14.9
Green Ext Time (p_c), s	2.8	0.2	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	5	54	94	76	1
Future Volume (vph)	0	5	54	94	76	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	11	11
Grade (%)	-1%			2%	0%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.865				0.998	
Flt Protected				0.982		
Satd. Flow (prot)	1781	0	0	2961	2410	0
Flt Permitted				0.982		
Satd. Flow (perm)	1781	0	0	2961	2410	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	177			780	321	
Travel Time (s)	4.0			17.7	7.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	2%	28%	45%	2%
Adj. Flow (vph)	0	6	64	112	90	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	176	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	15			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.88	0.99	1.01	1.01	1.04	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

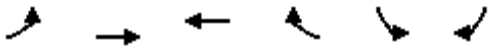
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	54	94	76	1
Future Vol, veh/h	0	5	54	94	76	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	2	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	28	45	2
Mvmt Flow	0	6	64	112	90	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	275	46	91	0	-	0
Stage 1	91	-	-	-	-	-
Stage 2	184	-	-	-	-	-
Critical Hdwy	6.64	6.84	4.14	-	-	-
Critical Hdwy Stg 1	5.64	-	-	-	-	-
Critical Hdwy Stg 2	5.64	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	702	1015	1502	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	670	1015	1502	-	-	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	885	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1502	-	1015	-	-
HCM Lane V/C Ratio	0.043	-	0.006	-	-
HCM Control Delay (s)	7.5	0.1	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

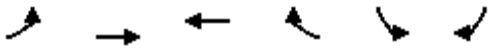


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	22	695	771	29	84	53
Future Volume (vph)	22	695	771	29	84	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	12	12
Grade (%)		-3%	1%		0%	
Storage Length (ft)	250			345	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1246	1872	1835	1444	1641	1214
Flt Permitted	0.131				0.950	
Satd. Flow (perm)	172	1872	1835	1444	1641	1214
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				31		56
Link Speed (mph)		55	55		30	
Link Distance (ft)		1024	913		780	
Travel Time (s)		12.7	11.3		17.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	47%	3%	3%	15%	10%	33%
Adj. Flow (vph)	23	732	812	31	88	56
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	732	812	31	88	56
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.01	0.96	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	Perm	Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	7
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	23.0	10.0
Total Split (s)	10.0	67.0	57.0	57.0	23.0	10.0
Total Split (%)	11.1%	74.4%	63.3%	63.3%	25.6%	11.1%
Maximum Green (s)	5.0	62.0	52.0	52.0	18.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.13	0.66	0.90	0.04	0.21	0.12
Control Delay	7.8	11.9	30.4	3.3	28.4	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	11.9	30.4	3.3	28.4	7.1
Queue Length 50th (ft)	4	184	324	0	33	0
Queue Length 95th (ft)	11	272	486	11	85	27
Internal Link Dist (ft)		944	833		700	
Turn Bay Length (ft)	250			345		
Base Capacity (vph)	183	1557	1339	1062	427	475
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.47	0.61	0.03	0.21	0.12

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 72.8	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

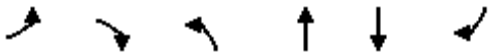
Splits and Phases: 1: NYS Route 17K & Corporate Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	695	771	29	84	53
Future Volume (veh/h)	22	695	771	29	84	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1313	1973	1850	1739	1752	1411
Adj Flow Rate, veh/h	23	732	812	31	88	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	47	3	3	15	10	33
Cap, veh/h	159	1143	884	705	451	354
Arrive On Green	0.03	0.58	0.48	0.48	0.27	0.27
Sat Flow, veh/h	1250	1973	1850	1473	1668	1196
Grp Volume(v), veh/h	23	732	812	31	88	56
Grp Sat Flow(s),veh/h/ln	1250	1973	1850	1473	1668	1196
Q Serve(g_s), s	0.0	16.5	27.2	0.7	2.7	0.6
Cycle Q Clear(g_c), s	0.0	16.5	27.2	0.7	2.7	0.6
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	159	1143	884	705	451	354
V/C Ratio(X)	0.14	0.64	0.92	0.04	0.20	0.16
Avail Cap(c_a), veh/h	220	1838	1445	1151	451	354
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	9.4	16.2	9.3	18.7	17.3
Incr Delay (d2), s/veh	0.2	0.2	4.0	0.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.5	9.1	0.2	1.1	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.7	9.6	20.1	9.3	19.7	18.2
LnGrp LOS	C	A	C	A	B	B
Approach Vol, veh/h		755	843		144	
Approach Delay, s/veh		10.2	19.7		19.1	
Approach LOS		B	B		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	43.6	23.0	6.7	36.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	62.0	18.0	5.0	52.0
Max Q Clear Time (g_c+I1), s	18.5	4.7	2.0	29.2
Green Ext Time (p_c), s	2.3	0.3	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	31	6	45	76	2
Future Volume (vph)	1	31	6	45	76	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	11	11
Grade (%)	-1%			2%	0%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.869				0.997	
Flt Protected	0.999			0.994		
Satd. Flow (prot)	1709	0	0	2796	3282	0
Flt Permitted	0.999			0.994		
Satd. Flow (perm)	1709	0	0	2796	3282	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	177			780	321	
Travel Time (s)	4.0			17.7	7.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	100%	4%	20%	28%	5%	50%
Adj. Flow (vph)	1	35	7	51	86	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	58	88	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	15			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.88	0.99	1.01	1.01	1.04	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

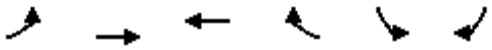
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	31	6	45	76	2
Future Vol, veh/h	1	31	6	45	76	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	2	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	100	4	20	28	5	50
Mvmt Flow	1	35	7	51	86	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	127	44	88	0	-	0
Stage 1	87	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Critical Hdwy	8.6	6.88	4.5	-	-	-
Critical Hdwy Stg 1	7.6	-	-	-	-	-
Critical Hdwy Stg 2	7.6	-	-	-	-	-
Follow-up Hdwy	4.5	3.34	2.4	-	-	-
Pot Cap-1 Maneuver	639	1011	1384	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	636	1011	1384	-	-	-
Mov Cap-2 Maneuver	636	-	-	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	754	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1384	-	993	-	-
HCM Lane V/C Ratio	0.005	-	0.037	-	-
HCM Control Delay (s)	7.6	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

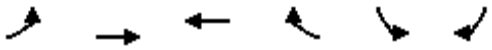


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	733	349	92	58	23
Future Volume (vph)	84	733	349	92	58	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	12	12
Grade (%)		-3%	1%		0%	
Storage Length (ft)	250			345	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1762	1543	1734	1537	1347	1154
Flt Permitted	0.384				0.950	
Satd. Flow (perm)	712	1543	1734	1537	1347	1154
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				106		26
Link Speed (mph)		55	55		30	
Link Distance (ft)		1024	913		780	
Travel Time (s)		12.7	11.3		17.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	25%	9%	8%	34%	40%
Adj. Flow (vph)	97	843	401	106	67	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	843	401	106	67	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.01	0.96	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	Perm	Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	7
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	23.0	10.0
Total Split (s)	10.0	67.0	57.0	57.0	23.0	10.0
Total Split (%)	11.1%	74.4%	63.3%	63.3%	25.6%	11.1%
Maximum Green (s)	5.0	62.0	52.0	52.0	18.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.15	0.92	0.64	0.17	0.19	0.04
Control Delay	6.6	28.7	26.0	4.6	27.7	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	28.7	26.0	4.6	27.7	5.0
Queue Length 50th (ft)	16	284	157	0	23	0
Queue Length 95th (ft)	29	430	247	27	67	13
Internal Link Dist (ft)		944	833		700	
Turn Bay Length (ft)	250			345		
Base Capacity (vph)	628	1334	1310	1187	352	603
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.63	0.31	0.09	0.19	0.04

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 71.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

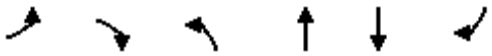
Splits and Phases: 1: NYS Route 17K & Corporate Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	733	349	92	58	23
Future Volume (veh/h)	84	733	349	92	58	23
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1958	1643	1761	1847	1396	1307
Adj Flow Rate, veh/h	97	843	401	106	67	26
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	25	9	8	34	40
Cap, veh/h	512	906	475	422	383	543
Arrive On Green	0.20	0.55	0.27	0.27	0.29	0.29
Sat Flow, veh/h	1865	1643	1761	1565	1330	1108
Grp Volume(v), veh/h	97	843	401	106	67	26
Grp Sat Flow(s),veh/h/ln	1865	1643	1761	1565	1330	1108
Q Serve(g_s), s	0.0	29.5	13.4	3.3	2.4	0.0
Cycle Q Clear(g_c), s	0.0	29.5	13.4	3.3	2.4	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	512	906	475	422	383	543
V/C Ratio(X)	0.19	0.93	0.84	0.25	0.17	0.05
Avail Cap(c_a), veh/h	512	1632	1467	1304	383	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	12.9	21.6	17.9	16.6	8.3
Incr Delay (d2), s/veh	0.1	2.7	1.6	0.1	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.2	4.7	1.0	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	15.6	23.2	18.0	17.6	8.5
LnGrp LOS	B	B	C	B	B	A
Approach Vol, veh/h		940	507		93	
Approach Delay, s/veh		16.0	22.1		15.1	
Approach LOS		B	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	39.4	23.0	17.6	21.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	62.0	18.0	5.0	52.0
Max Q Clear Time (g_c+I1), s	31.5	4.4	2.0	15.4
Green Ext Time (p_c), s	2.9	0.2	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	5	54	94	76	1
Future Volume (vph)	0	5	54	94	76	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	11	11
Grade (%)	-1%			2%	0%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.865				0.998	
Flt Protected				0.982		
Satd. Flow (prot)	1781	0	0	2961	2410	0
Flt Permitted				0.982		
Satd. Flow (perm)	1781	0	0	2961	2410	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	177			780	321	
Travel Time (s)	4.0			17.7	7.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	2%	28%	45%	2%
Adj. Flow (vph)	0	6	64	112	90	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	176	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	15			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.88	0.99	1.01	1.01	1.04	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

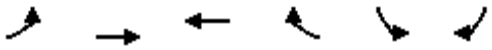
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	54	94	76	1
Future Vol, veh/h	0	5	54	94	76	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	2	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	28	45	2
Mvmt Flow	0	6	64	112	90	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	275	46	91	0	-	0
Stage 1	91	-	-	-	-	-
Stage 2	184	-	-	-	-	-
Critical Hdwy	6.64	6.84	4.14	-	-	-
Critical Hdwy Stg 1	5.64	-	-	-	-	-
Critical Hdwy Stg 2	5.64	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	702	1015	1502	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	670	1015	1502	-	-	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	885	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1502	-	1015	-	-
HCM Lane V/C Ratio	0.043	-	0.006	-	-
HCM Control Delay (s)	7.5	0.1	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

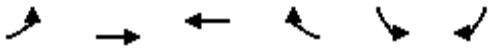


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	22	709	786	29	84	53
Future Volume (vph)	22	709	786	29	84	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	12	12
Grade (%)		-3%	1%		0%	
Storage Length (ft)	250			345	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1246	1872	1835	1444	1641	1214
Flt Permitted	0.124				0.950	
Satd. Flow (perm)	163	1872	1835	1444	1641	1214
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				31		56
Link Speed (mph)		55	55		30	
Link Distance (ft)		1024	913		780	
Travel Time (s)		12.7	11.3		17.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	47%	3%	3%	15%	10%	33%
Adj. Flow (vph)	23	746	827	31	88	56
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	746	827	31	88	56
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.01	0.96	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	Perm	Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	7
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	23.0	10.0
Total Split (s)	10.0	67.0	57.0	57.0	23.0	10.0
Total Split (%)	11.1%	74.4%	63.3%	63.3%	25.6%	11.1%
Maximum Green (s)	5.0	62.0	52.0	52.0	18.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.13	0.67	0.90	0.04	0.21	0.12
Control Delay	8.0	12.0	31.0	3.3	28.8	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	12.0	31.0	3.3	28.8	7.1
Queue Length 50th (ft)	4	190	335	0	34	0
Queue Length 95th (ft)	11	281	503	11	85	27
Internal Link Dist (ft)		944	833		700	
Turn Bay Length (ft)	250			345		
Base Capacity (vph)	178	1544	1328	1054	423	471
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.48	0.62	0.03	0.21	0.12

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 73.5	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

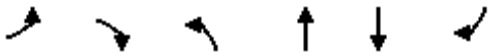
Splits and Phases: 1: NYS Route 17K & Corporate Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	709	786	29	84	53
Future Volume (veh/h)	22	709	786	29	84	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1313	1973	1850	1739	1752	1411
Adj Flow Rate, veh/h	23	746	827	31	88	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	47	3	3	15	10	33
Cap, veh/h	157	1155	898	716	445	350
Arrive On Green	0.03	0.59	0.49	0.49	0.27	0.27
Sat Flow, veh/h	1250	1973	1850	1473	1668	1196
Grp Volume(v), veh/h	23	746	827	31	88	56
Grp Sat Flow(s),veh/h/ln	1250	1973	1850	1473	1668	1196
Q Serve(g_s), s	0.0	17.0	28.1	0.7	2.8	0.6
Cycle Q Clear(g_c), s	0.0	17.0	28.1	0.7	2.8	0.6
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	157	1155	898	716	445	350
V/C Ratio(X)	0.15	0.65	0.92	0.04	0.20	0.16
Avail Cap(c_a), veh/h	217	1811	1424	1134	445	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	9.3	16.2	9.1	19.2	17.7
Incr Delay (d2), s/veh	0.2	0.2	4.7	0.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.6	9.6	0.2	1.1	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.1	9.6	20.9	9.1	20.2	18.7
LnGrp LOS	C	A	C	A	C	B
Approach Vol, veh/h		769	858		144	
Approach Delay, s/veh		10.2	20.5		19.6	
Approach LOS		B	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	44.6	23.0	6.8	37.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	62.0	18.0	5.0	52.0
Max Q Clear Time (g_c+I1), s	19.0	4.8	2.0	30.1
Green Ext Time (p_c), s	2.3	0.3	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	31	6	45	76	2
Future Volume (vph)	1	31	6	45	76	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	11	11
Grade (%)	-1%			2%	0%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.869				0.997	
Flt Protected	0.999			0.994		
Satd. Flow (prot)	1709	0	0	2796	3282	0
Flt Permitted	0.999			0.994		
Satd. Flow (perm)	1709	0	0	2796	3282	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	177			780	321	
Travel Time (s)	4.0			17.7	7.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	100%	4%	20%	28%	5%	50%
Adj. Flow (vph)	1	35	7	51	86	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	58	88	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	15			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.88	0.99	1.01	1.01	1.04	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

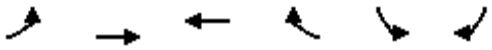
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	31	6	45	76	2
Future Vol, veh/h	1	31	6	45	76	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	2	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	100	4	20	28	5	50
Mvmt Flow	1	35	7	51	86	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	127	44	88	0	-	0
Stage 1	87	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Critical Hdwy	8.6	6.88	4.5	-	-	-
Critical Hdwy Stg 1	7.6	-	-	-	-	-
Critical Hdwy Stg 2	7.6	-	-	-	-	-
Follow-up Hdwy	4.5	3.34	2.4	-	-	-
Pot Cap-1 Maneuver	639	1011	1384	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	636	1011	1384	-	-	-
Mov Cap-2 Maneuver	636	-	-	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	754	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1384	-	993	-	-
HCM Lane V/C Ratio	0.005	-	0.037	-	-
HCM Control Delay (s)	7.6	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

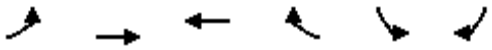


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	733	349	135	64	28
Future Volume (vph)	120	733	349	135	64	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	12	12
Grade (%)		-3%	1%		0%	
Storage Length (ft)	250			345	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1762	1543	1734	1537	1347	1154
Flt Permitted	0.385				0.950	
Satd. Flow (perm)	714	1543	1734	1537	1347	1154
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				155		32
Link Speed (mph)		55	55		30	
Link Distance (ft)		1024	913		780	
Travel Time (s)		12.7	11.3		17.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	25%	9%	8%	34%	40%
Adj. Flow (vph)	138	843	401	155	74	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	138	843	401	155	74	32
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.01	0.96	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	Perm	Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	7
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	23.0	10.0
Total Split (s)	10.0	67.0	57.0	57.0	23.0	10.0
Total Split (%)	11.1%	74.4%	63.3%	63.3%	25.6%	11.1%
Maximum Green (s)	5.0	62.0	52.0	52.0	18.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.22	0.92	0.64	0.24	0.21	0.05
Control Delay	7.5	28.7	25.8	4.1	27.9	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	28.7	25.8	4.1	27.9	4.8
Queue Length 50th (ft)	23	284	157	0	25	0
Queue Length 95th (ft)	40	430	244	32	73	14
Internal Link Dist (ft)		944	833		700	
Turn Bay Length (ft)	250			345		
Base Capacity (vph)	628	1334	1310	1199	352	605
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.63	0.31	0.13	0.21	0.05

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 71.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

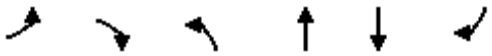
Splits and Phases: 1: NYS Route 17K & Corporate Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	733	349	135	64	28
Future Volume (veh/h)	120	733	349	135	64	28
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1958	1643	1761	1847	1396	1307
Adj Flow Rate, veh/h	138	843	401	155	74	32
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	25	9	8	34	40
Cap, veh/h	510	906	478	425	383	541
Arrive On Green	0.20	0.55	0.27	0.27	0.29	0.29
Sat Flow, veh/h	1865	1643	1761	1565	1330	1108
Grp Volume(v), veh/h	138	843	401	155	74	32
Grp Sat Flow(s),veh/h/ln	1865	1643	1761	1565	1330	1108
Q Serve(g_s), s	0.0	29.5	13.4	5.0	2.6	0.0
Cycle Q Clear(g_c), s	0.0	29.5	13.4	5.0	2.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	510	906	478	425	383	541
V/C Ratio(X)	0.27	0.93	0.84	0.36	0.19	0.06
Avail Cap(c_a), veh/h	510	1632	1467	1304	383	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	12.9	21.4	18.4	16.7	8.4
Incr Delay (d2), s/veh	0.1	2.7	1.5	0.2	1.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	7.2	4.7	1.5	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.0	15.6	23.0	18.6	17.9	8.6
LnGrp LOS	B	B	C	B	B	A
Approach Vol, veh/h		981	556		106	
Approach Delay, s/veh		16.2	21.8		15.1	
Approach LOS		B	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	39.4	23.0	17.5	22.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	62.0	18.0	5.0	52.0
Max Q Clear Time (g_c+I1), s	31.5	4.6	2.0	15.4
Green Ext Time (p_c), s	2.9	0.2	0.1	1.5

Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	16	133	94	76	1
Future Volume (vph)	0	16	133	94	76	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	11	11
Grade (%)	-1%			2%	0%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.865				0.998	
Flt Protected				0.972		
Satd. Flow (prot)	1781	0	0	3080	2410	0
Flt Permitted				0.972		
Satd. Flow (perm)	1781	0	0	3080	2410	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	177			780	321	
Travel Time (s)	4.0			17.7	7.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	2%	28%	45%	2%
Adj. Flow (vph)	0	19	158	112	90	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	0	270	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	15			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.88	0.99	1.01	1.01	1.04	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

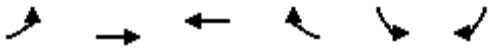
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	133	94	76	1
Future Vol, veh/h	0	16	133	94	76	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	2	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	28	45	2
Mvmt Flow	0	19	158	112	90	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	463	46	91	0	-	0
Stage 1	91	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Critical Hdwy	6.64	6.84	4.14	-	-	-
Critical Hdwy Stg 1	5.64	-	-	-	-	-
Critical Hdwy Stg 2	5.64	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	541	1015	1502	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	480	1015	1502	-	-	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	4.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1502	-	1015	-	-
HCM Lane V/C Ratio	0.105	-	0.019	-	-
HCM Control Delay (s)	7.7	0.1	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	-	-

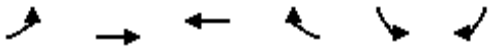


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	31	709	786	41	138	98
Future Volume (vph)	31	709	786	41	138	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	12	12
Grade (%)		-3%	1%		0%	
Storage Length (ft)	250			345	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1246	1872	1835	1444	1641	1214
Flt Permitted	0.124				0.950	
Satd. Flow (perm)	163	1872	1835	1444	1641	1214
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				43		103
Link Speed (mph)		55	55		30	
Link Distance (ft)		1024	913		780	
Travel Time (s)		12.7	11.3		17.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	47%	3%	3%	15%	10%	33%
Adj. Flow (vph)	33	746	827	43	145	103
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	746	827	43	145	103
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	1.01	0.96	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	Perm	Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	7
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	23.0	10.0
Total Split (s)	10.0	67.0	57.0	57.0	23.0	10.0
Total Split (%)	11.1%	74.4%	63.3%	63.3%	25.6%	11.1%
Maximum Green (s)	5.0	62.0	52.0	52.0	18.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.19	0.67	0.90	0.06	0.34	0.21
Control Delay	9.8	12.0	31.0	3.0	30.6	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	12.0	31.0	3.0	30.6	6.2
Queue Length 50th (ft)	5	190	335	0	58	0
Queue Length 95th (ft)	14	281	503	13	131	36
Internal Link Dist (ft)		944	833		700	
Turn Bay Length (ft)	250			345		
Base Capacity (vph)	178	1544	1328	1057	423	501
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.48	0.62	0.04	0.34	0.21

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 73.5	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

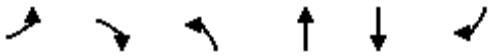
Splits and Phases: 1: NYS Route 17K & Corporate Boulevard



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	709	786	41	138	98
Future Volume (veh/h)	31	709	786	41	138	98
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1313	1973	1850	1739	1752	1411
Adj Flow Rate, veh/h	33	746	827	43	145	103
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	47	3	3	15	10	33
Cap, veh/h	165	1168	898	715	437	354
Arrive On Green	0.03	0.59	0.49	0.49	0.26	0.26
Sat Flow, veh/h	1250	1973	1850	1473	1668	1196
Grp Volume(v), veh/h	33	746	827	43	145	103
Grp Sat Flow(s),veh/h/ln	1250	1973	1850	1473	1668	1196
Q Serve(g_s), s	0.0	17.0	28.6	1.1	4.8	2.2
Cycle Q Clear(g_c), s	0.0	17.0	28.6	1.1	4.8	2.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	165	1168	898	715	437	354
V/C Ratio(X)	0.20	0.64	0.92	0.06	0.33	0.29
Avail Cap(c_a), veh/h	214	1782	1401	1116	437	354
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	9.2	16.4	9.4	20.5	18.6
Incr Delay (d2), s/veh	0.2	0.2	5.1	0.0	2.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.6	9.9	0.3	2.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.5	9.4	21.5	9.4	22.5	20.7
LnGrp LOS	C	A	C	A	C	C
Approach Vol, veh/h		779	870		248	
Approach Delay, s/veh		10.3	20.9		21.7	
Approach LOS		B	C		C	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	45.6	23.0	7.3	38.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	62.0	18.0	5.0	52.0
Max Q Clear Time (g_c+I1), s	19.0	6.8	2.0	30.6
Green Ext Time (p_c), s	2.3	0.6	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	130	28	45	76	2
Future Volume (vph)	1	130	28	45	76	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	12	12	12	11	11
Grade (%)	-1%			2%	0%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.866				0.997	
Flt Protected				0.981		
Satd. Flow (prot)	1738	0	0	2807	3282	0
Flt Permitted				0.981		
Satd. Flow (perm)	1738	0	0	2807	3282	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	177			780	321	
Travel Time (s)	4.0			17.7	7.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	100%	4%	20%	28%	5%	50%
Adj. Flow (vph)	1	148	32	51	86	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	0	0	83	88	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	15			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.88	0.99	1.01	1.01	1.04	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	130	28	45	76	2
Future Vol, veh/h	1	130	28	45	76	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	2	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	100	4	20	28	5	50
Mvmt Flow	1	148	32	51	86	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	177	44	88	0	-	0
Stage 1	87	-	-	-	-	-
Stage 2	90	-	-	-	-	-
Critical Hdwy	8.6	6.88	4.5	-	-	-
Critical Hdwy Stg 1	7.6	-	-	-	-	-
Critical Hdwy Stg 2	7.6	-	-	-	-	-
Follow-up Hdwy	4.5	3.34	2.4	-	-	-
Pot Cap-1 Maneuver	784	1011	1384	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	699	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	770	1011	1384	-	-	-
Mov Cap-2 Maneuver	770	-	-	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	699	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	2.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1384	-	1005	-	-
HCM Lane V/C Ratio	0.023	-	0.148	-	-
HCM Control Delay (s)	7.7	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Colliers
Engineering
& Design

Stormwater Pollution Prevention Plan

Octobert 2021

Northeast Business Center
Town of Newburgh, Orange County, New York

Prepared for:

JKC 700, LLC
4 West Red Oak Lane,
Suite 200
White Plains, NY 10604

Prepared by:

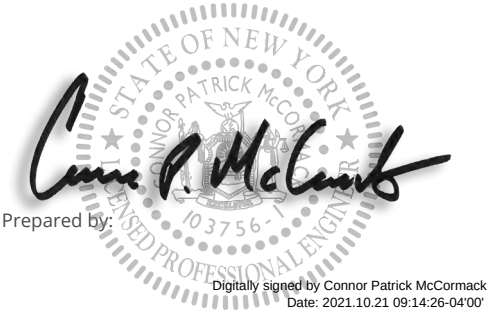


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Table of Contents

EXECUTIVE SUMMARY

The applicant proposes to re-develop the existing 14.86-acre site with one (1) new flex use building, associated parking, driveways, and utilities. The proposed site improvements are part of an amended site plan, altering an approved and partially constructed design. An aerial vicinity map has been provided below to identify a general location of the project site.

Herein, a hydrologic study revealed the need for post construction stormwater design, of which, includes the Stormwater Pollution Prevention Plan (SWPPP) for the proposed development. Stormwater conveyance systems, a bioretention basin, and a Hydrodynamic separator have been utilized in the design to meet New York State Standards for Stormwater mitigation. As the proposed design provides the same or improved stormwater mitigation over the approved design, there should be no adverse impacts due to stormwater, on-site or off-site, as a result of the proposed development.

INTRODUCTION

The subject parcel is ±14.86 acres is size and located within the IB (Interchange Business) zoning district. The site is located on the west side of Corporate Boulevard, approximately 550' north of the intersection of NYS Route 17K and Corporate Boulevard. The two existing buildings on-site consists of a ±72,000 sq. ft. mixed office and warehouse use, also called a "flex use". Additional existing site improvements include, associated parking & loading, stormwater management areas, utilities, site landscaping and lighting. The existing site is accessed through two driveways located on the east side of the site. The parcel is not located within the 100-year floodplain.

The project site was initially designed and approved in 1998 as part of the overall corporate park. Two of the three building initially intended for the lot were constructed, with the third 48,000SF building being deferred. The overall detention and drainage system that controlled stormwater discharge for the "business park" has been constructed. This system consisted of three wet-pond detention basins, one of which is located on-site and is positioned to received stormwater runoff.

More recently, in 2007, the project received amended site plan approval for a 2-stoy office building, as the third building on the lot. The amended site plan included stormwater conveyance improvements and a "Vortechic model 900" mechanical water cleansing device to meet (at the time) the latest stormwater design requirements of SPDES general permit for stormwater discharge, GP-02-01. At this time the project submitted a NOI (notice of intent) and obtained a stormwater permit that remains active. The stormwater permit number is **NYR10M084**.

The latest amended site plan (current application) proposes a 50,000 sq. ft. "flex use" building, consisting of approximately 90% warehouse use and 10% office use. The proposed site improvements will also include 12 trailer loading docks, a total of 273 parking spaces, new stormwater management areas, updated lighting and landscaping and other associated improvements.

As the project has an active SPDES permit, the stormwater management design requirements have been grandfathered in to meet the regulations of the prior permit (GP-02-01). Additionally, the current design will reduce the impervious area on site by 0.22 acres, as compared to the approved plans.

With these factors in mind, the latest design is not required attenuate the peak flow, as this was addressed with the installation of the thee (3) wet ponds. Second, Runoff Reduction Volume is not a requirement as it was not part of the 2002 General permit (GP-02-01). Finally, the only required design changes are to replace the water quality volume provided by the "Vortechic model 900" in the 2007 design. However, the latest proposed design exceeds the

minimum requirements by providing peak mitigation, Runoff Reduction Volume and the required Water Quality volume for the proposed site improvements.

METHODOLOGY

1. The watersheds are divided into subareas, by topography, soils, and land use. A summary of the watershed areas, composite curve numbers, and travel times are shown in Table 1.
2. Rainfall depths used for this analysis are those published by the Northeast Regional Climate Center for the project location for each storm event as directed in the NYSSMDM.
3. Topographical mapping is taken from a survey titled Boundary and Partial Topographic Survey for lands now or formally 700-900 LLC & JKC 700, LLC prepared by Colliers Engineering & Design.
4. The required WQv was calculated in accordance with the Section 4.2 of the NYSSMDM. This is also the required RRv as per Section 4.3 of the NYSSMDM.
5. The provided RRv was calculated through the use of the Green Infrastructure (GI) Worksheets provided by NYSDEC. The worksheets are included in the Appendix.
6. In the post-development condition, the peak flows from the proposed development are computed using the runoff curve numbers taken from TR-55. The watersheds are adjusted for the proposed improvements and grading of the site. The runoff flows are hydraulically routed for updated travel times, diversions, and new storage structures as necessary. The resulting proposed peak flows at each design point are presented in Table 2.
7. A Hydro International First Defense unit is proposed on-site provide water quality for a protion of the site. The water quality sizing criteria was taken form the First Defense "NJCAT" certification sizing chart.
8. A full Erosion & Sediment Control Plan (plans and construction sequencing) was designed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (aka the "bluebook") and is included in this report.
9. A long-term Operation & Maintenance Plan was developed for the proposed post-construction stormwater control practices and is included in this report.
10. Maps indicating the various drainage conditions are enclosed in this report. Schematic diagrams of the flow models in the existing and proposed conditions are included in the HydroCAD output included in the appendix of this report.
11. The methods used are those presented in the HydroCAD 10.00-13 computer program using a shortened printout for convenience. Soil types and hydrologic groups are based on soil maps from the NRCS online Web Soil Survey (output included in appendix).
12. A DRAFT Notice of Intent (NOI) for GP-0-20-001and a DRAFT MS4 SWPPP Acceptance form was prepared and included in the appendix of this **report.**

DISCUSSION

Description of Design Points:

The design points evaluated in this report are described as follows:

Design Point 1 is located within the existing on-site wet-pond detention basin located along the southern property line. Runoff from the site either discharges directly into the basin or is captured by the existing and modified drainage system, discharging into the pond at 2 locations. The

proposed site improvements will utilize the existing discharge location by tying into the drainage system upstream of the discharge points. The stormwater pond untimely discharges south, through the existing concrete outlet control structure located at the south east corner of the pond.

Typically design points are used as locations where the hydraulic & hydrologic impacts of the proposed development are studied and mitigated to match the existing conditions. However, because stormwater mitigation practices have already been installed for a development with more impervious area, peak mitigation has not studied at these locations. Additionally, because this SWPPP was only focused on providing water quality for the proposed impervious area, the studied watersheds were limited to Post-development conditions within the limit of disturbance. Design Point locations, along with the post-development conditions, and watersheds are clearly identified on the watershed maps found in the appendix of this report. The studied watershed characteristics have been included in table 1 below.

Table 1: Watershed Characteristics

Proposed Conditions			
WS Name	**Area**	**CN**	**Tc**
WS 1A	0.745	94	6.0
WS 1B	2.543	91	13.1

The minimum Tc of 6 minutes, or 0.10 hours, is shown above and noted on the watershed maps in the catchment areas where the composite travel time did not meet this minimum.

Hydrologic Soils:

The Web Soil Survey of Orange County, New York shows the site situated in an area having soil types, “Ab” (Alden silt Loam), “ErA” (Erie gravelly silt loam), and “MdB” (Mardin gravelly silt loam). The hydrologic soil type for these soils is hydrologic soil groups ‘D’ . The NRCS Soils report for the project specific site can be found in the Appendix of this report.

No project specific soil testing has been conducted at this time. Exploratory deep and infiltration testing may be required as the project progress to a final design

Redevelopment

As defined in Chapter 9 of the NYSSMDM, redevelopment activity is disturbance and reconstruction of existing impervious surfaces. This includes impervious surfaces removed within the last five (5) years. Redevelopment is distinguished from new development in that new development refers to construction on land where there had not been previous construction. Redevelopment specifically applies to constructed areas with impervious surface.

According to the Design Manual, Redevelopment of previously developed sites is encouraged from a watershed protection standpoint because it often provides an opportunity to conserve natural resources in less impacted areas by targeting development to areas with existing services and infrastructure. At the same time, redevelopment provides an opportunity to correct existing problems and reduce pollutant discharges from older developed areas that were constructed without effective stormwater pollution controls.

Site constraints associated with pre-developed project sites are another factor that makes it more difficult to provide standard stormwater practices (SMPs). The biggest constraints encountered on this site are primarily the presence of highly compacted and poorly drained soils. Chapter 9 of the NYSSMDM sets forth alternative design criteria for certain redevelopment projects because the technical standards contained elsewhere in the Manual were primarily intended for new development projects and compliance with those standards may present a challenge to some redevelopment projects.

The approved site plans associated with the active permit propose a total of 2.5 acres of impervious area. The current amended site plans propose 2.25 acres of impervious area and the removal of 0.07 acres of impervious area; generating a net increase of 2.18 acres of imperious area. (0.22 acres reduction from the current approval). A breakdown of the change in impervious areas at each design point has been included below.

Table 2: Redevelopment Impervious Cover Comparison

Redevelopment Area Calculation (Acres)			
1998 Plans (Original Design)	2007 Approved Plans (Active Permit)	Existing Site Conditions	Amended Site plans (Current Plans)
7.6	7.6	5.1	7.28

Section 9.2.1 of the NYSSMDM details the sizing criteria for both water quantity and water quality control practices. If redevelopment results in no increase or a reduction of impervious area or changes to hydrology that increases the discharge rate, the one-, ten-, and hundred-year criteria will not be necessary. This consideration does not mean that quality or existing quantity controls may be neglected in planned designs. Since there are no existing quality or quantity controls on site, they cannot be neglected. The development proposes to treat water quality through a combination of reducing impervious areas blow the approved plans and the use standard SMP's to treat the water quality volume from the proposed development/redeveloped.

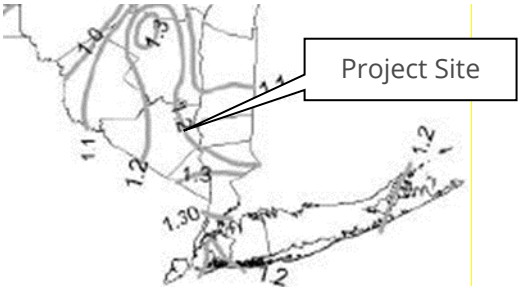
Zero-Net Increase:

As discussed in the above sections, the on-site wet-pond detention basin was originally designed to mitigate peak flow from a development that has a great impervious area. The amended site plan reduces the proposed impervious area by 0.22 Acres, reducing the runoff from the proposed development. Because of this reduction, the wet-ponds will have capacity to mitigate the runoff from the proposed development, and the need to address channel protection (CPv), overbank flood protection (Qp), and extreme flood protection (Qf) has been eliminated.

It should be noted that the proposed bioretention basin will provided additional attenuation of the 1, 10 and 100-year design storms although this impact has not been quantified.

Water Quality Volume (WQv):

The Water Quality Volume (WQv) is designed to improve water quality sizing to capture and treat 90% of the average annual stormwater runoff volume. The WQv is directly related to the impervious cover created at a site. The 90% rainfall event value (P) used in the calculations (1.40") is shown below in the portion of Figure 4.1 from page 4-2 in the NYSSMDM.



90% Rule:

$WQ_v = [(P)(R_v)(A)] /12$
$Rv = 0.05+0.009(I)$
I = Impervious Cover (Percent)
Minimum Rv = 0.2
P = 90% Rainfall Event Number (See Figure 4.1)
A = site area in acres

Colliers Engineering & Design (CED) determined the increase in impervious area for the project site in table 2 above. Only new impervious areas require water quality treatment but all impervious should be accounted for in sizing of the practices. The "required" treatment shown below includes the existing impervious areas that are tributary to the designed practice. The Runoff Coefficient "Rv" in the computation of Water Quality Volume WQv is dependent on the percent impervious cover. As per Section 4.2 of the NYSSMDM, 100% of the water quality volume shall be treated.

Table 3: Required Water Quality Calculation

Watershed	Area (A) Acres	90% Rainfall Event Number (P) Inches	Impervious Area treated Acres	Percent Impervious (I) %	Runoff Coefficient Rv	Required WQv Cf	Provided WQv Cf
WS 1A	0.75	1.40	0.58	77%	0.75	2,843	2,843
WS 1B*	1.89	1.40	1.60	85%	0.81	7,798	7,798

**The water quality was provided with Hydro International First defense units which are "rate based" practices; as such the 100% treatment volume was provided above.*

The total required water quality volume per NYSDEC standards based on the proposed increase in impervious area is 10,642 cf or 0.244 Ac-ft. As shown in table 3 above, the current design provides the required Water quality volume. The above table has also not accounted for the water quality volume provided by the pretreatment practices upstream of the SMPs. Therefore, the proposed design meets and exceeds the water quality requirements.
requirements.

Runoff Reduction Volume

As discussed in pervious sections the project as an active stormwater permit. The proposed amended site plans have maintained the requirements of the original active permit (GP-02-01). As Runoff reduction was not a requirement of the 2002 general permit for stormwater runoff, exceeding the RRv min is not required. However, the updated design has chosen stormwater mitigation practices that provide runoff reduction benefits so they have been quantified below.

Table 4: RRv Volumes Provided

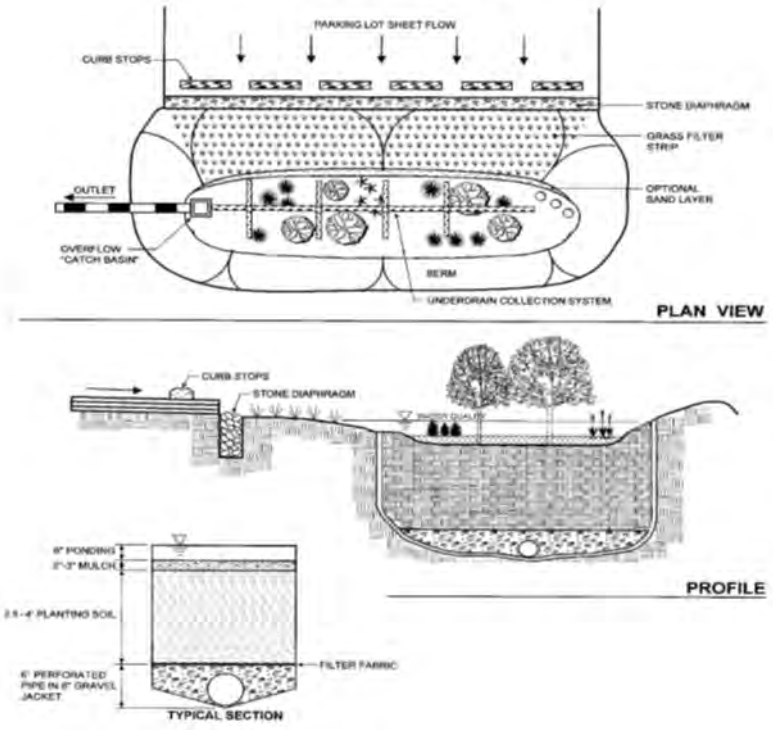
Watershed	Treatment Practice	RRv Provided (CF.)
WS 1A	Bioretention Basin (F-5)	1,267

Treatment Practices:

Bioretention Basins with Underdrain:

One of the standard mitigation measures utilized in the proposed development is the use of bioretention with a proposed underdrain (F-5). Runoff from the development is proposed to be routed to a bioretention basin to provide runoff reduction capacity as well water quality treatment volume. The basins are proposed with a 3" mulch layer, 2.5 feet of soil media, and a 6-inch drainage layer with a 4-inch underdrain which ultimately connects to an outlet control structure and discharges downstream to a subsurface chamber system to attenuate peak flows. Bioretention soils shall meet the design criteria outlined in Appendix H of the NYSSMDM; soil deep ripping and decompaction shall be in accordance with the NYSDEC guidelines found in the appendix.

Figure 6.19 Bioretention (F-5)



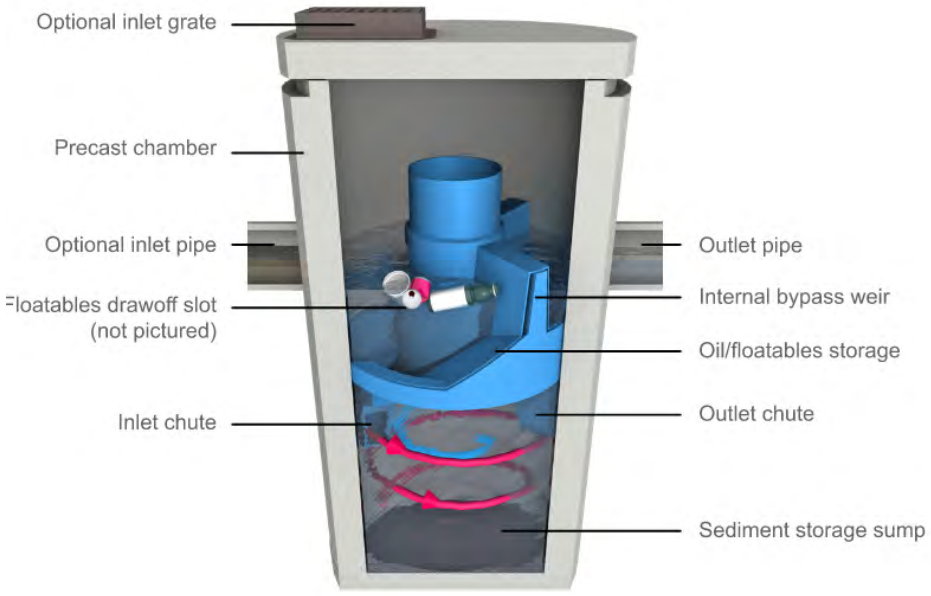
Pretreatment is provided via a the upstream grass filter strip, a pea gravel diaphragm, and a 6" ponding layer. The sizing calculation for the bioretention system was completed in accordance with design requirements set forth in Section 6.4.4 of the NYSSMDM. Stage/storage volume of the bioretention areas can be found in the appropriate HydroCAD output within the appendix of this report. Storm events in excess of the water quality storm are controlled by the outlet control structure set at the 6" ponding elevation. The NYSDEC GI worksheet can be found in the appendix for RRv capacity calculations (See NYSDEC GI worksheet).

Hydro International First Defense Unit (hydrodynamic Separator):

The amended design proposes a hydrodynamic separator to provide water quality treatment upstream of the wet-pond, mimicking the approved design. Hydrodynamic separators are devices that move water in a circular, centrifugal manner to accelerate the separation and deposition of primarily sediment from the water. They are suitable for removal of coarse particles, oils, and fuels over small drainage areas. The NYSDEC refers to the New Jersey Department of Environmental Protection for a list of Stormwater Manufactured Treatment Devices which have received Interim Certification (included in the Appendix). One of the products on the list is the Hydro International First defense unit.

Sizing of the Frist Defense unit (an alternative stormwater practice), requires the application of a "rate-based" sizing approach for water quality treatment (See Section 9.4 of the NYSSMDM). This is a derivation of the standard water quality volume (WQv) calculation generally used and found

in chapters 4, 10, and Appendix B, which is a "volume-based" sizing approach. In the "rate-based" approach, the device should be sized to treat the peak rate of runoff from the WQv storm; utilizing the WQv storm precipitation depth, the peak runoff for each tributary area can then be determined, and the associated devices sized appropriately. HydroCAD was used to determine the water quality flow rate for treatment sizing of the Frist Defense unit.



First Defense High Capacity Model Number	Typical TSS Treatment Flow Rates	
	NJDEP Certified[4]	110µm
	(cfs / L/s)	(cfs / L/s)
FDHC-3	0.84 / 23.7	1.06 / 30.0
FDHC-4	1.50 / 42.4	1.88 / 53.2
FDHC-5	2.35 / 66.2	2.94 / 83.2
FDHC-6	3.38 / 95.7	4.23 / 119.8
FDHC-8	6.00 / 169.9	7.52 / 212.9
FDHC-10	9.38 / 265.6	11.75 / 332.7

The Frist Defense Unit treatment system has the capacity of bypassing high flow rates internally as well as controlling flow through the treatment chamber so as to avoid wash-out of previously captured pollutants. The HydroCAD output can be found in the Appendix of this report. Specifications for the Frist defense system can also be found in the appendix of this report along with certification from NYSDEC that it is an accepted proprietary device. The NJCAT testing certification is also included within the appendix.

Diameter	Peak Online Flow Rate	Maximum Pipe Diameter[1]
(ft / m)	(cfs / L/s)	(in / mm)
3 / 0.9	15 / 424	18 / 450
4 / 1.2	18 / 510	24 / 600
5 / 1.5	20 / 566	24 / 600
6 / 1.8	32 / 906	30 / 750
8 / 2.4	50 / 1415	48 / 1200
10 / 3.0	50 / 1415	60 / 1500

EROSION & SEDIMENT CONTROL

General Erosion Control Plan:

All work to be done in accordance with the New York Standards and Specifications for Erosion and Sediment Control. See the Erosion & Sediment Control Plan included in the appendix of this report which has general erosion and sediment control notes and a sequence of construction, which can also be found below.

The erosion control practices designed specifically for the site phasing to be implemented during construction include sediment traps, inlet protection, a stabilized construction entrance, staging areas, silt fence, temporary swales, temporary stockpiles, and temporary/permanent stabilization. The E&SC Plan and Details found in the appendix of this report depict the location and size of the proposed erosion control practices to be used during construction.

A sediment trap sizing criteria chart has been provided on the plan; this chart identifies overall required storage per the area of disturbance as well as sub-areas and dimensions of traps to be utilized within each phase of construction; these areas are proposed and can be relocated as practicable by the Contractor but must be sized to provide 3,600 CF of storage per 1-acre of disturbance.

Construction Sequence:

The general construction sequence for the proposed development will be as follows:

- Install construction entrance.
- Stake limits of disturbance.
- Install perimeter silt fencing on downhill areas as shown on plan.
- Install sediment ponds. Install temporary swales to direct all open soil area disturbance to sediment ponds as necessary. Locations and size of the erosions and sediment control practices are noted on the plan. these may vary depending on the contractor's schedule and approach but 3,600 cf of storage must be provided at a minimum per acre of upstream disturbance. Sediment traps shall be installed in accordance with the plans and details. sediment traps and basins shall be sized in accordance with the New York standards and specifications for erosion and sediment control manual.
- Rough grade proposed driveway/road and building pad.
- Disturbed soils shall be temporarily stabilized as soon as practical. materials stored in stock piles shall be cordoned off with silt fence per the appropriate specifications and details. the operator shall initiate stabilization measures as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than (14) days after the construction activity in that portion of the site has temporarily or permanently ceased.
- Construct roads, drives, buildings, and parking area install drainage system.
- Topsoil/hay/seed lawn areas.
- The project site must meet final stabilization criteria prior to removing all erosion and sediment control devices and closing out the project. litter and construction debris shall be removed as practical throughout the life of the project.

- *Final Stabilization* means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement

- Upon final stabilization being met, Contractor shall clear drainage pipes and structures of any sediment which may have accumulated. Additional erosion control measures shall be installed, as may be necessary, required and/or requested by authorities, to prevent the incidental discharge of silt laden runoff from entering a water course or a drainage system. The general permit for stormwater discharges from construction activities states that it is unlawful for any person to cause or contribute to a violation of water quality standards.

- Additional erosion control measures shall be installed, as may be necessary, required and/or requested by authorities, to prevent the incidental discharge of silt laden runoff from entering a water course or a drainage system. the general permit for stormwater discharges from construction activities states that it is unlawful for any person to cause or contribute to a violation of water quality standards.

For additional, general Erosion and Sediment Control notes including seeding, please refer to the Erosion and Sediment Control Plans.

Maintenance and Inspection of Measures

All temporary and permanent soil erosion and sediment measures shall be maintained by the contractor during the life of the project. The contractor shall have a *trained contractor,* as defined in the general permit (See *Appendix*), on site at all times. The *trained contractor* shall be responsible for the day-to-day construction and maintenance of all erosion and sediment control measures.

All temporary measures (silt fence, inlet protection, etc.) and permanent measures (landscaping) shall be inspected by the *Qualified Inspector* every seven (7) calendar days. The *Qualified Inspector* role and inspection requirements are outlined in Part IV.C of the GP-0-20-001 (See *Appendix*). All inspections are required to be completed within one calendar day. Any comments, suggestions or corrective actions the *Qualified Inspector* notes shall be addressed by the contractor within 24 hours of the inspection.

Good Housekeeping

Good housekeeping practices are inexpensive, relatively easy to implement and are often effective in preventing stormwater contamination. Specific activities that should be completed by the contractor are listed below:

Spill Inventory

The materials or substances listed below are expected to be present on-site during construction:

- Concrete
- Fertilizers
- Piping
- Paints (enamel & latex)
- Treated and non-treated wood
- Seed
- Tar
- Petroleum-based products
- Reinforcing steel
- Cleaning solvents
- Masonry block
- Paving materials

Material Management Practices

The following are the material management practices that shall be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff:

- Products shall be kept in original containers unless they are not resealable.
- Original labels and material safety data sheets (MSDS) shall be retained; they contain important product information.
- An effort shall be made to store only enough products required to do the job.
- All materials stored onsite shall be stored in a neat, orderly manner in their appropriate containers, and if possible, under a roof or other enclosure and/or on non-porous blacktop.
- Products shall be kept in their original containers with the original manufacturer's label.
- Substances shall not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all a product shall be used up before disposing of the container.
- Manufacturer's recommendations for proper use and disposal shall be followed.
- The contractor's site superintendent shall inspect daily to ensure proper use and disposal of materials on site.

Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices shall be followed for spill prevention and cleanup.

- Spills, of any size, of toxic or hazardous material and/or petroleum products shall be reported to the NYSDEC and Central Hudson's Environmental Affairs division.
- Manufacturer's recommended methods for spill cleanup shall be clearly posted and site personnel shall be made aware of the procedures and the locations of the information and cleanup supplies.

- Materials and equipment necessary for spill cleanup shall be kept in the material storage area onsite. Equipment and materials shall include but not be limited to brooms, dust pans, mops, rags, gloves, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills shall be cleaned up immediately after discovery.
- The spill area shall be kept well ventilated, and personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- The spill prevention plan shall be adjusted to include measures to prevent toxic or hazardous material of spills from recurring and how to clean up the spill. A description of the spill, what caused it, and the cleanup measures shall also be included.

The contractor's site superintendent is responsible for the day-to-day site operations and shall be the spill prevention and cleanup coordinator.

Product Specific Practices

The following product specific practices shall be followed onsite.

- Petroleum Products – All onsite vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers that are clearly labeled. Any asphalt substances used on site shall be applied according to manufacturer's recommendations.
- Fertilizers – Fertilizers shall be applied only in the minimum amounts recommended by the manufacturer. Use only fertilizers that have five (5) or less parts phosphorous. Once applied, fertilizers shall be worked into the soil to limit exposure to stormwater. Storage shall be in a covered shed. The contents of any partially used bags of fertilizer shall be transferred to a sealable plastic bin to avoid spills.
- Paints – All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the storm sewer system but shall be properly disposed of according to the manufacturer's instructions or state and local regulations.
- Concrete Trucks – Concrete trucks shall not be allowed to wash out or discharge surplus concrete or drum wash water on the site, unless in approved clean-out areas.
- Waste Disposal – All waste materials shall be collected and stored in a securely lidded metal dumpster rented from a licensed solid waste management company. The dumpster shall meet all local and any State solid waste management regulations. All trash and construction debris from the site shall be deposited in the dumpster. The dumpster shall be emptied as necessary, and the trash shall be hauled to a NYSDEC permitted landfill. No construction waste materials shall be buried onsite. All personnel shall be instructed regarding the correct procedure for waste disposal.
- Hazardous Waste – All hazardous waste materials shall be disposed of in a manner specified by local or State regulations or the manufacturer. Site personnel shall be instructed in these practices.
- Sanitary Waste – All sanitary waste shall be collected from the portable units by a licensed sanitary waste management contractor, as required by local regulation and as required to protect public health and safety.

- Recyclable Waste – All recyclable waste (cardboard, wood, etc.) shall be collected and recycled on a weekly schedule.

Implementation of SWPPP

The owner/operator is responsible for implementing the provisions of the SWPPP and ensuring that the appropriate contractors and subcontractors on the site provide certification in accordance with the provisions of the GP-0-20-001.

The owner/operator is also responsible to have a *Trained Contractor* and *Qualified Inspector* inspect the active construction site in accordance with the active permit. (See ***Appendix 10)*** A *Trained Contractor* cannot conduct *Qualified Inspector* site inspections unless they meet the *Qualified Inspector* qualifications listed in appendices of the general permit.

Inspection Requirements

The owner/operator is responsible for implementing inspections of all erosion and sediment control measures. To do so, the owner/operator shall have a *Qualified Inspector* inspect the site in accordance with the guidelines set forth in the active permit. A sample inspection template is provided in this document (See ***Appendix 9***).

The owner/operator shall maintain a record of all inspection reports in a site logbook. The site logbook shall be kept on site and be made available to the permitting authority upon request. The owner/operator shall also retain a copy of this SWPPP document at the construction site during the life of the project.

End of Project – Termination of Permit

Final Inspection

Prior to filing the Notice of Termination (NOT), or at the end of permit term, the owner/operator shall have a Qualified Inspector perform a final site inspection. The inspector shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods. Final stabilization means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of 80% has been established on all unpaved areas and areas not covered by permanent structures.

Notice of Termination (NOT)

When the site has been finally stabilized, the owner/operator must submit a Notice of Termination (NOT) form to terminate coverage under SPDES General Permit. The permittee must identify all the permanent stormwater management structures that have been constructed. In addition, a manual describing the operation and maintenance practices that will be necessary for the structures(s) to function as designed after the site is stabilized must be developed and in place. The permittee must also certify that the permanent structure(s) have been constructed in conformance with this document. A copy of NOT is provided in this document (see *Appendix).*

Record Keeping

The owner/operator shall retain copies of SWPPP, any reports submitted in conjunction with this permit, and records of all data used to complete the NOI & NOT for a period of at least five (5) years from the date that the site is finally stabilized.

SUMMARY OF PROPOSED STORMWATER IMPROVEMENTS

The proposed project falls under the New York State definition of redevelopment with an increase in impervious area. The site runoff has been attenuated for peak flows in the peak design storms. The proposed development has been designed to treat the required water quality through SMP's with RRv capacity. The design utilizes DEC approved practices that help maintain the existing hydrology.

CONCLUSION

As the storm water pollution prevention plan meets the water quality requirements for a redevelopment projects with an increase in impervious cover and meets peak flow mitigation to the applicable standards, there should be no adverse impacts due to storm water, on-site or off-site, as a result of the proposed site improvements.

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Appendices

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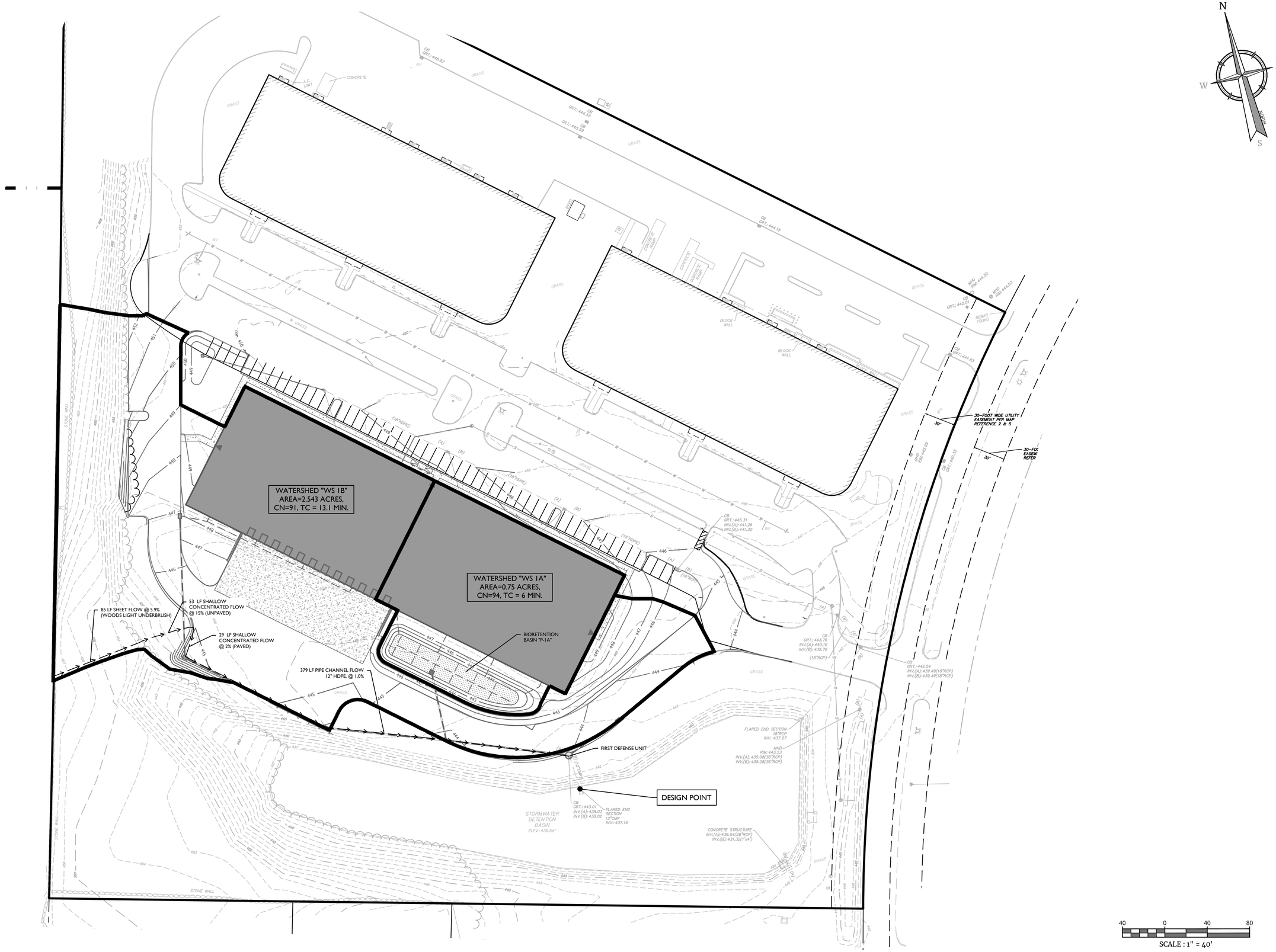
APPENDIX 1

WATERSHED MAPS



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REV	DATE	DRAWN BY	DESCRIPTION

WATERSHED MAPS

FOR

NORTHEAST
BUSINESS CENTER

SECTION 95
BLOCK 1
LOT 1.22

TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

Colliers Engineering & Design
NEWBURGH
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
COLLIERS ENGINEERING & DESIGN CT, P.C. DOING BUSINESS AS MASER CONSULTING ENGINEERING & LAND SURVEYING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/11/2021	CPM	ABF

PROJECT NUMBER: 100000245B
DRAWING NAME: C-DRNG

SHEET TITLE:
PROPOSED
DRAINAGE MAP

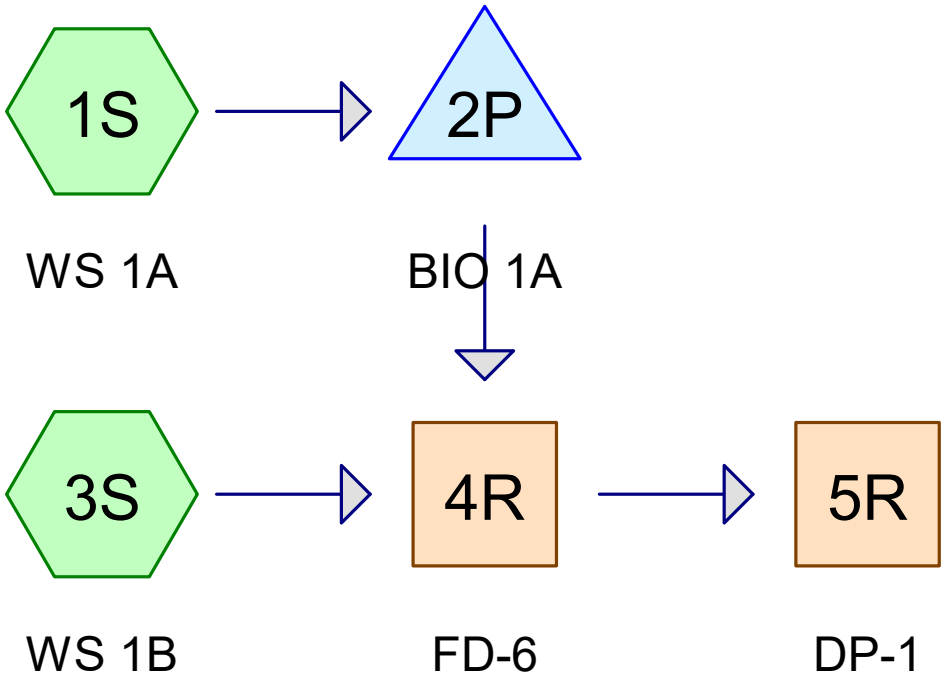
SHEET NUMBER:
01 of 01

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2019\100002458\Engineering\Drainage Maps\C_DRNG.dwg\C-02-PROP_ DRAINAGE MAP By: CMCCORMACK

APPENDIX 2

HYDROCAD MODEL OUTPUT



Subcat Reach Pond Link

Routing Diagram for 211018_CPM_NEBC_
Prepared by Maser Consulting, Printed 10/19/2021
HydroCAD® 10.10-6a s/n 08816 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: WS 1A

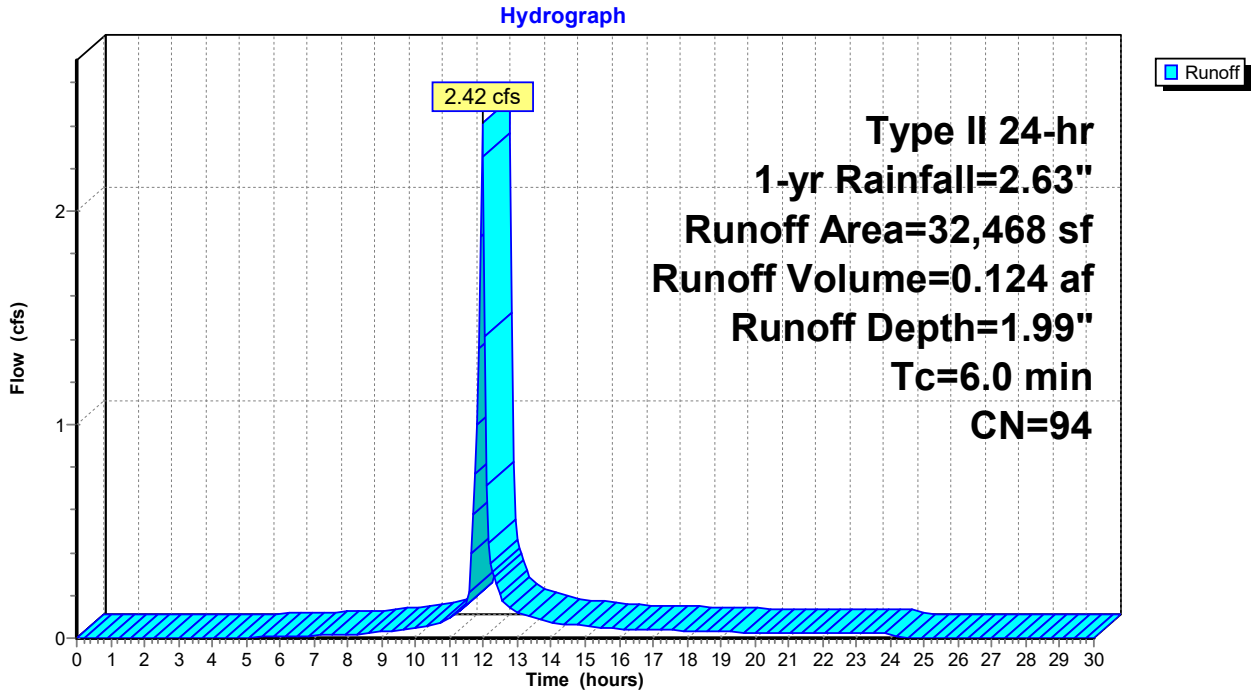
Runoff = 2.42 cfs @ 11.96 hrs, Volume= 0.124 af, Depth= 1.99"
Routed to Pond 2P : BIO 1A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.63"

Area (sf)	CN	Description
25,000	98	Paved parking, HSG D
7,468	80	>75% Grass cover, Good, HSG D
32,468	94	Weighted Average
7,468		23.00% Pervious Area
25,000		77.00% Impervious Area

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

Subcatchment 1S: WS 1A



Summary for Subcatchment 3S: WS 1B

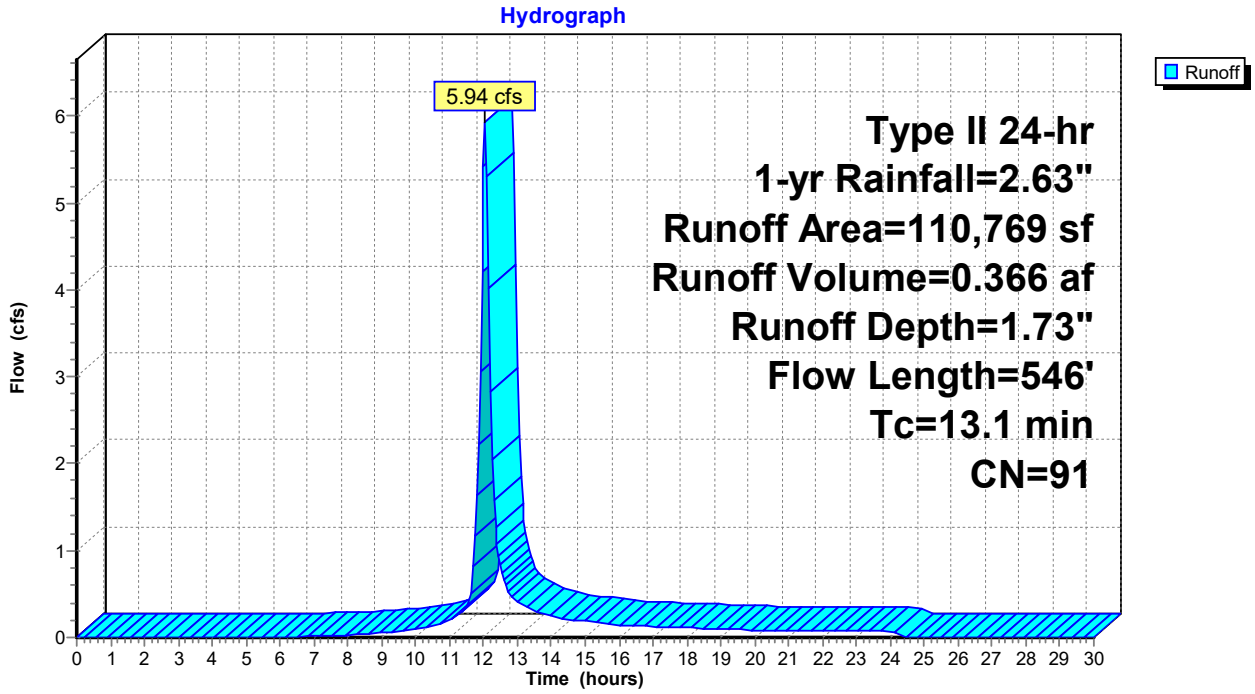
Runoff = 5.94 cfs @ 12.05 hrs, Volume= 0.366 af, Depth= 1.73"
Routed to Reach 4R : FD-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.63"

Area (sf)	CN	Description
69,391	98	Paved parking, HSG D
20,180	80	>75% Grass cover, Good, HSG D
21,198	77	Woods, Good, HSG D
110,769	91	Weighted Average
41,378		37.36% Pervious Area
69,391		62.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	85	0.0590	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	53	0.1500	6.24		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	29	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	379	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
13.1	546	Total			

Subcatchment 3S: WS 1B

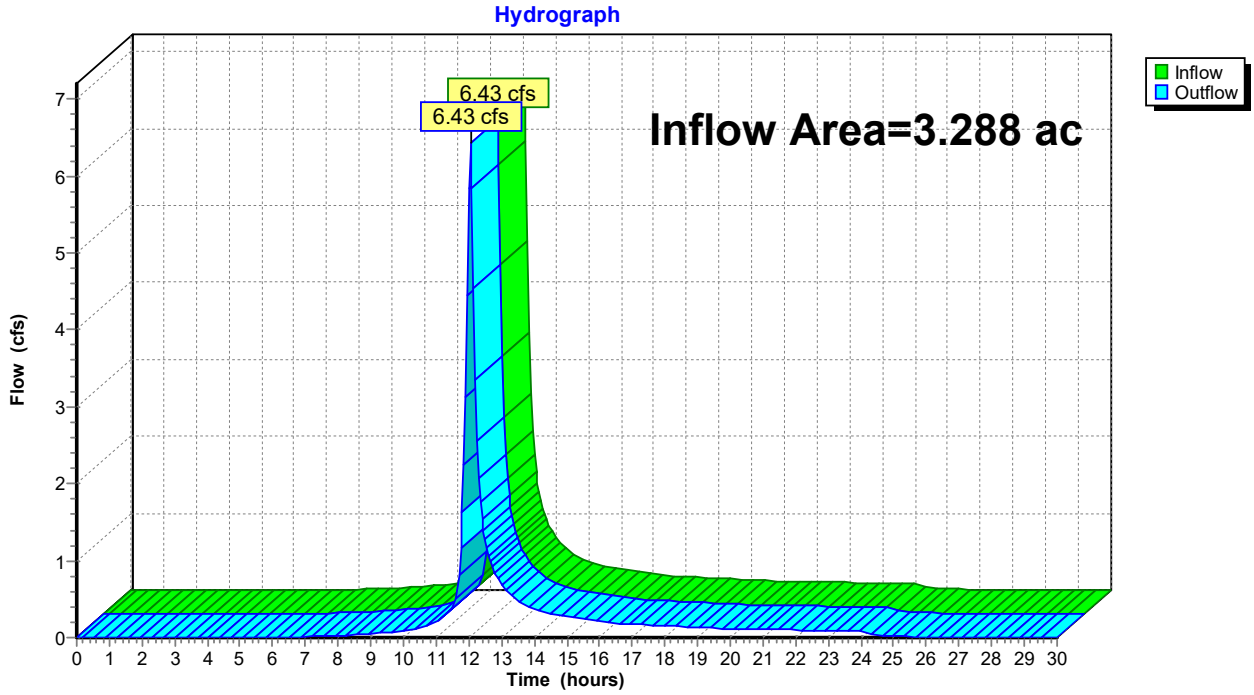


Summary for Reach 4R: FD-6

Inflow Area = 3.288 ac, 65.90% Impervious, Inflow Depth > 1.67" for 1-yr event
Inflow = 6.43 cfs @ 12.05 hrs, Volume= 0.458 af
Outflow = 6.43 cfs @ 12.05 hrs, Volume= 0.458 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 5R : DP-1

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach 4R: FD-6

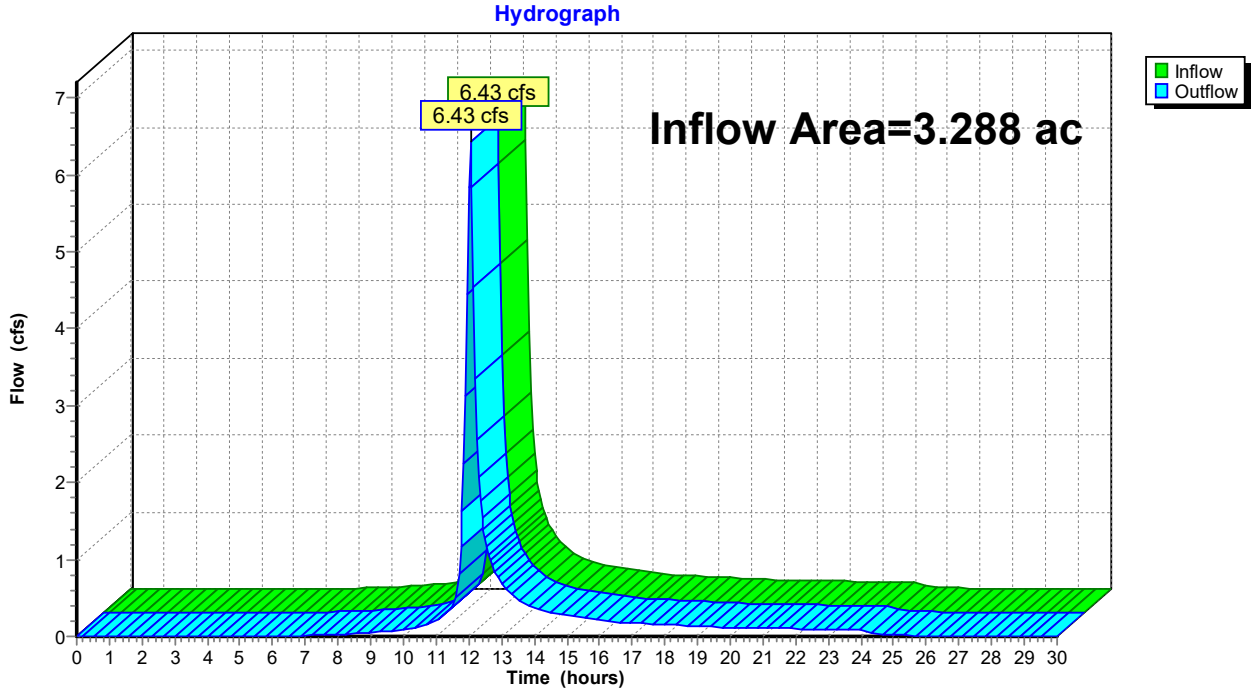


Summary for Reach 5R: DP-1

Inflow Area = 3.288 ac, 65.90% Impervious, Inflow Depth > 1.67" for 1-yr event
Inflow = 6.43 cfs @ 12.05 hrs, Volume= 0.458 af
Outflow = 6.43 cfs @ 12.05 hrs, Volume= 0.458 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach 5R: DP-1



Summary for Pond 2P: BIO 1A

Inflow Area = 0.745 ac, 77.00% Impervious, Inflow Depth = 1.99" for 1-yr event
Inflow = 2.42 cfs @ 11.96 hrs, Volume= 0.124 af
Outflow = 0.53 cfs @ 12.14 hrs, Volume= 0.092 af, Atten= 78%, Lag= 10.5 min
Primary = 0.53 cfs @ 12.14 hrs, Volume= 0.092 af
Routed to Reach 4R : FD-6

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 445.06' @ 12.14 hrs Surf.Area= 2,698 sf Storage= 2,834 cf

Plug-Flow detention time= 212.3 min calculated for 0.092 af (74% of inflow)
Center-of-Mass det. time= 121.9 min (912.4 - 790.6)

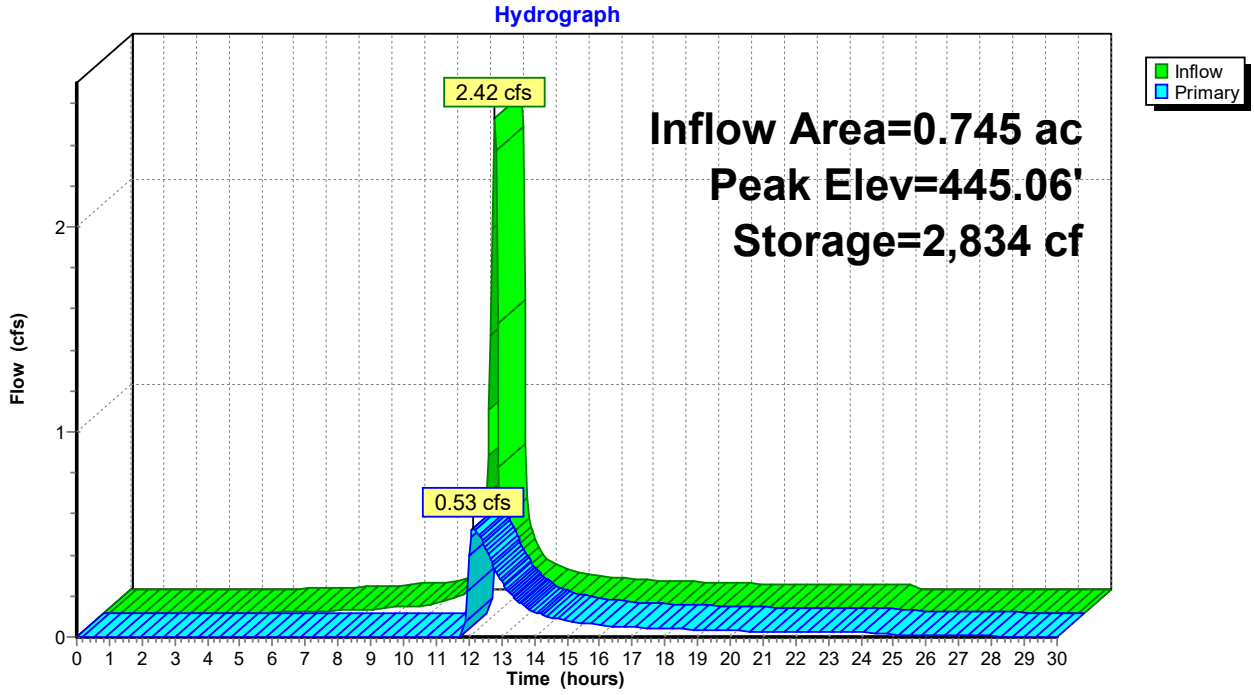
Volume	Invert	Avail.Storage	Storage Description
#1	444.00'	8,165 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
444.00	2,640	0	0
447.00	2,803	8,165	8,165

Device	Routing	Invert	Outlet Devices
#1	Primary	444.50'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	445.75'	**16.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.53 cfs @ 12.14 hrs HW=445.06' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.53 cfs @ 2.68 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: BIO 1A



Summary for Subcatchment 1S: WS 1A

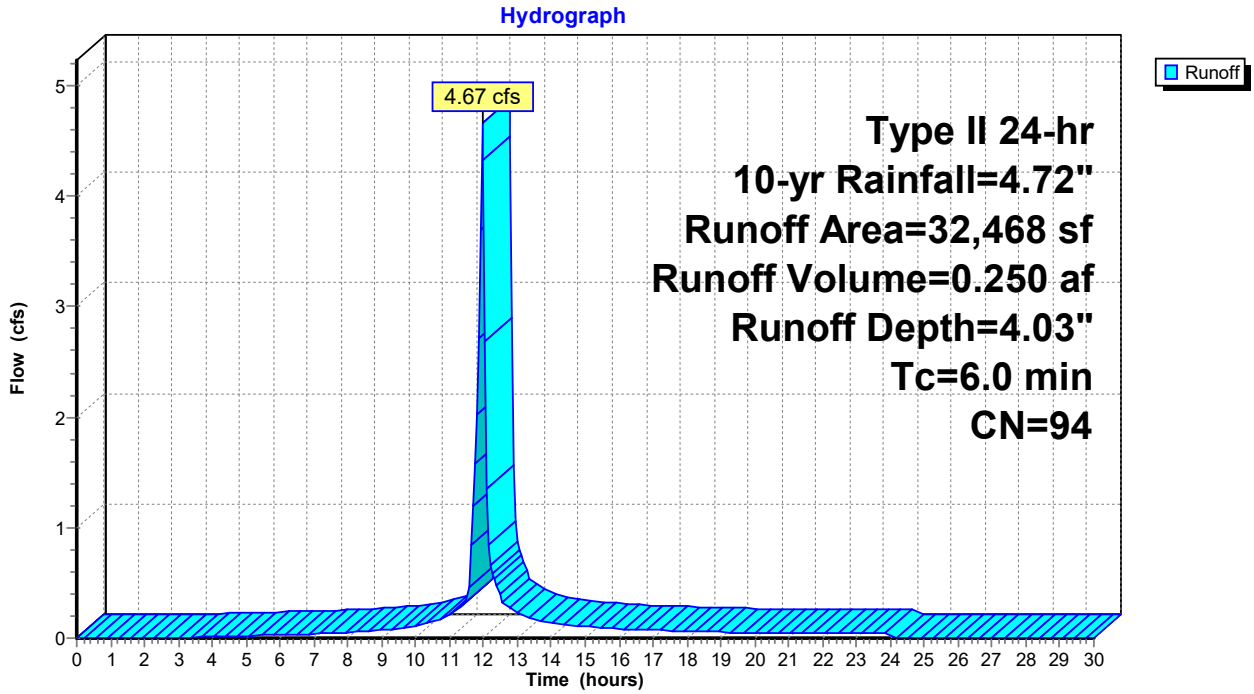
Runoff = 4.67 cfs @ 11.96 hrs, Volume= 0.250 af, Depth= 4.03"
Routed to Pond 2P : BIO 1A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.72"

Area (sf)	CN	Description
25,000	98	Paved parking, HSG D
7,468	80	>75% Grass cover, Good, HSG D
32,468	94	Weighted Average
7,468		23.00% Pervious Area
25,000		77.00% Impervious Area

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

Subcatchment 1S: WS 1A



Summary for Subcatchment 3S: WS 1B

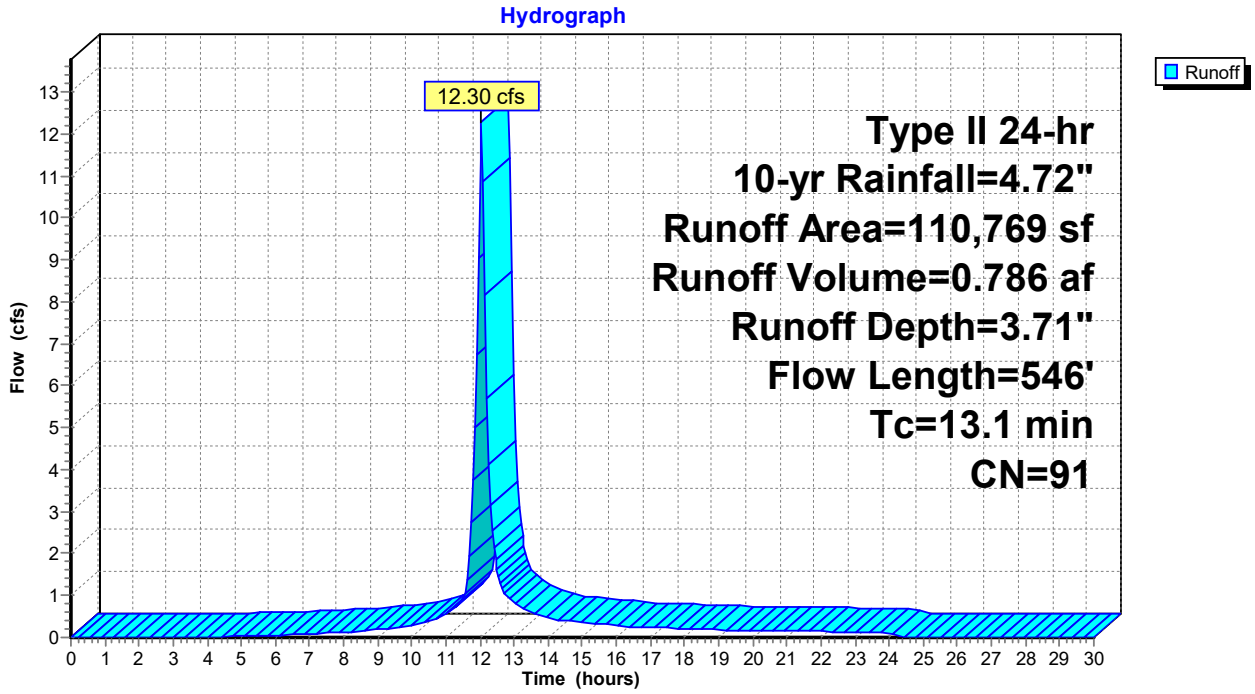
Runoff = 12.30 cfs @ 12.04 hrs, Volume= 0.786 af, Depth= 3.71"
Routed to Reach 4R : FD-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.72"

Area (sf)	CN	Description
69,391	98	Paved parking, HSG D
20,180	80	>75% Grass cover, Good, HSG D
21,198	77	Woods, Good, HSG D
110,769	91	Weighted Average
41,378		37.36% Pervious Area
69,391		62.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	85	0.0590	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	53	0.1500	6.24		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	29	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	379	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
13.1	546	Total			

Subcatchment 3S: WS 1B

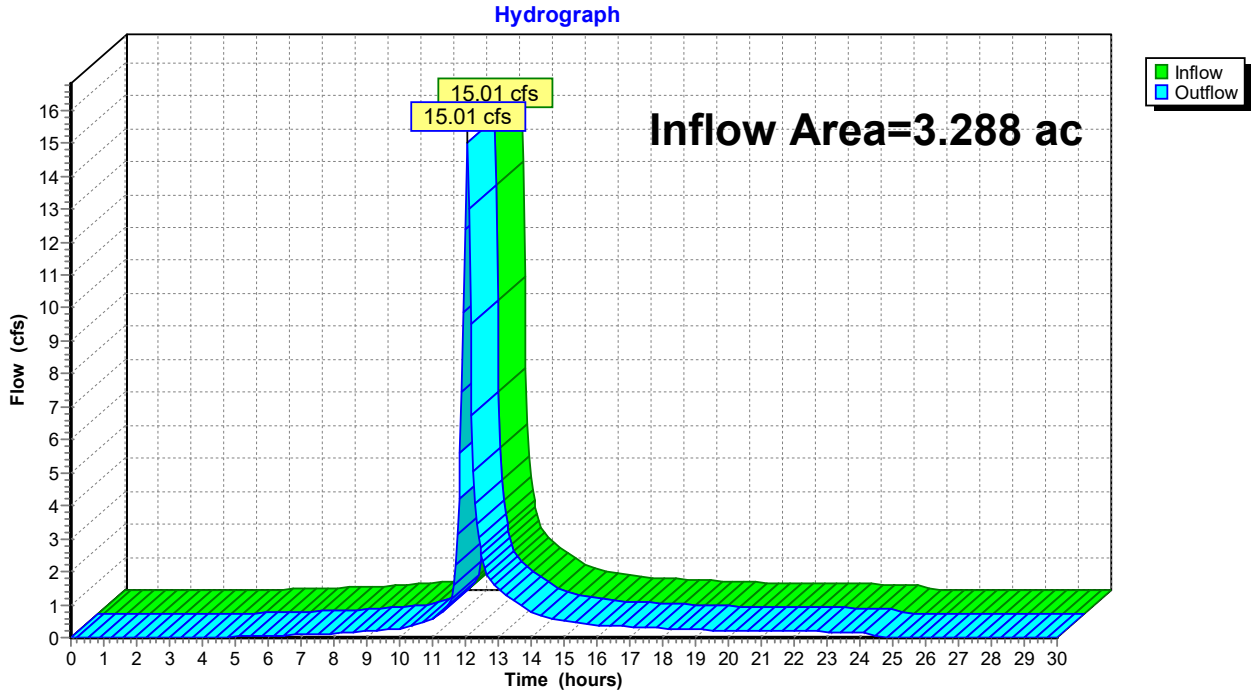


Summary for Reach 4R: FD-6

Inflow Area = 3.288 ac, 65.90% Impervious, Inflow Depth > 3.67" for 10-yr event
Inflow = 15.01 cfs @ 12.05 hrs, Volume= 1.005 af
Outflow = 15.01 cfs @ 12.05 hrs, Volume= 1.005 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 5R : DP-1

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach 4R: FD-6

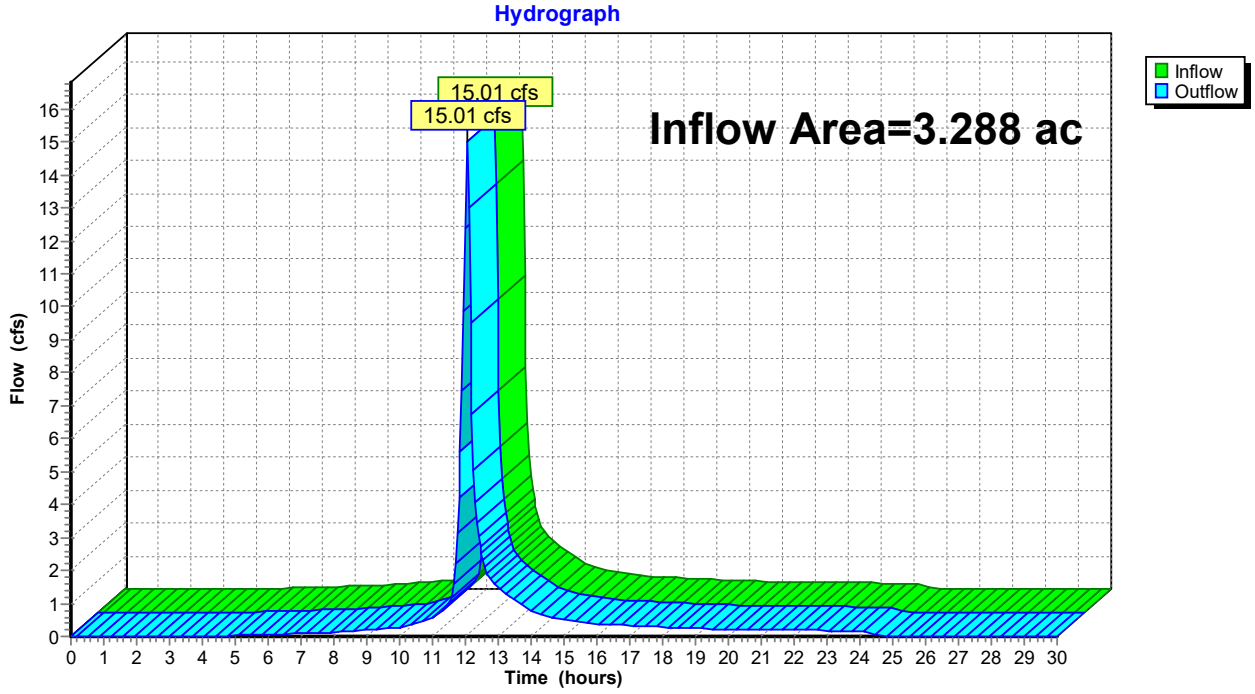


Summary for Reach 5R: DP-1

Inflow Area = 3.288 ac, 65.90% Impervious, Inflow Depth > 3.67" for 10-yr event
Inflow = 15.01 cfs @ 12.05 hrs, Volume= 1.005 af
Outflow = 15.01 cfs @ 12.05 hrs, Volume= 1.005 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach 5R: DP-1



Summary for Pond 2P: BIO 1A

Inflow Area = 0.745 ac, 77.00% Impervious, Inflow Depth = 4.03" for 10-yr event
Inflow = 4.67 cfs @ 11.96 hrs, Volume= 0.250 af
Outflow = 2.79 cfs @ 12.06 hrs, Volume= 0.218 af, Atten= 40%, Lag= 6.0 min
Primary = 2.79 cfs @ 12.06 hrs, Volume= 0.218 af
Routed to Reach 4R : FD-6

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 445.87' @ 12.07 hrs Surf.Area= 2,742 sf Storage= 5,031 cf

Plug-Flow detention time= 155.4 min calculated for 0.218 af (87% of inflow)
Center-of-Mass det. time= 95.4 min (867.0 - 771.6)

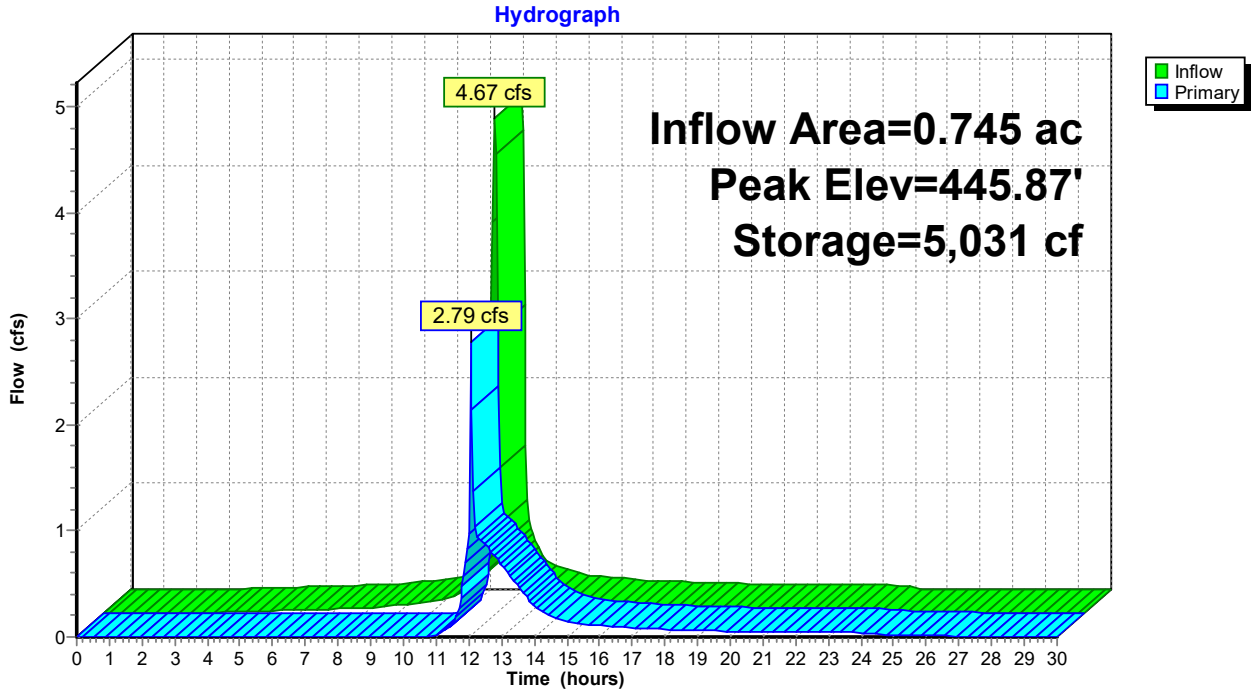
Volume	Invert	Avail.Storage	Storage Description
#1	444.00'	8,165 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
444.00	2,640	0	0
447.00	2,803	8,165	8,165

Device	Routing	Invert	Outlet Devices
#1	Primary	444.50'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	445.75'	**16.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.56 cfs @ 12.06 hrs HW=445.86' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.99 cfs @ 5.07 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 1.57 cfs @ 0.92 fps)

Pond 2P: BIO 1A



Summary for Subcatchment 1S: WS 1A

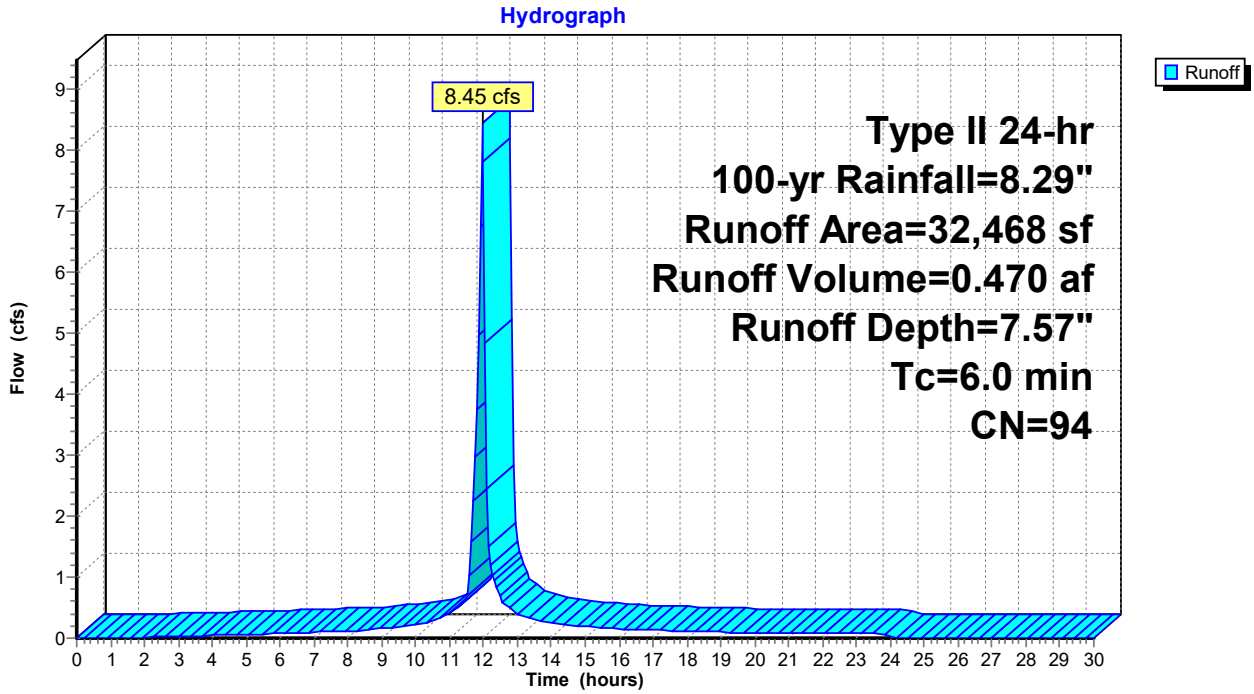
Runoff = 8.45 cfs @ 11.96 hrs, Volume= 0.470 af, Depth= 7.57"
Routed to Pond 2P : BIO 1A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=8.29"

Area (sf)	CN	Description
25,000	98	Paved parking, HSG D
7,468	80	>75% Grass cover, Good, HSG D
32,468	94	Weighted Average
7,468		23.00% Pervious Area
25,000		77.00% Impervious Area

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

Subcatchment 1S: WS 1A



Summary for Subcatchment 3S: WS 1B

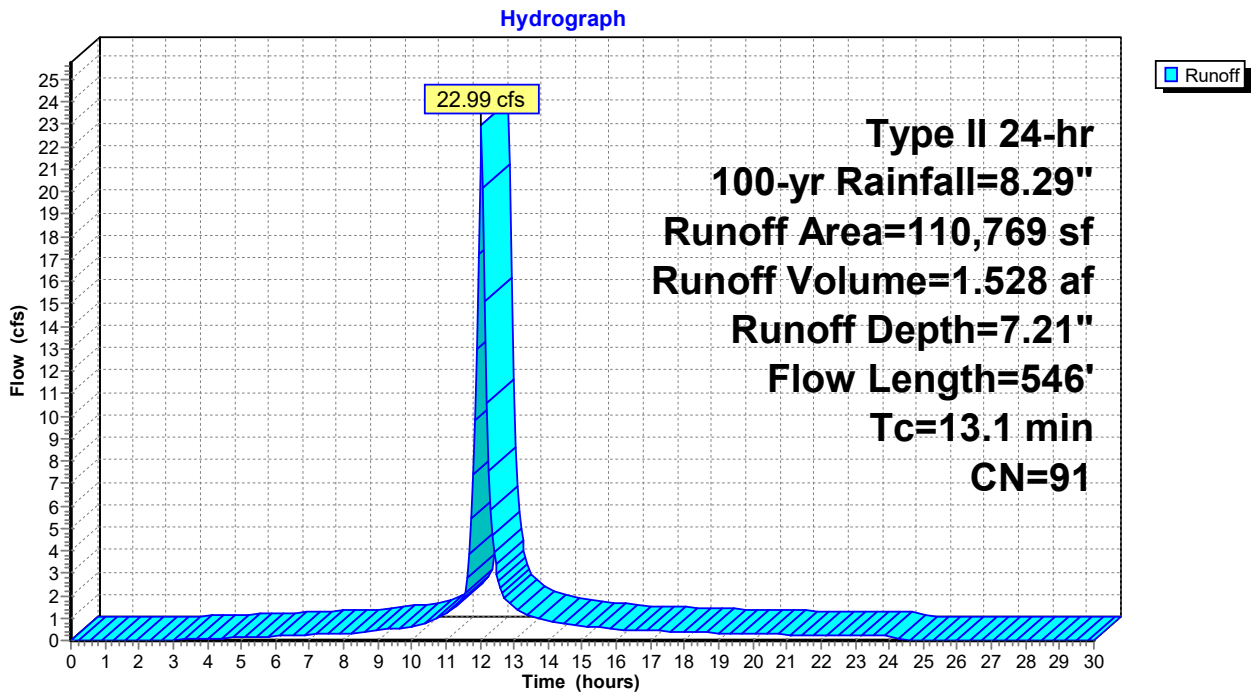
Runoff = 22.99 cfs @ 12.04 hrs, Volume= 1.528 af, Depth= 7.21"
Routed to Reach 4R : FD-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=8.29"

Area (sf)	CN	Description
69,391	98	Paved parking, HSG D
20,180	80	>75% Grass cover, Good, HSG D
21,198	77	Woods, Good, HSG D
110,769	91	Weighted Average
41,378		37.36% Pervious Area
69,391		62.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	85	0.0590	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	53	0.1500	6.24		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	29	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	379	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
13.1	546	Total			

Subcatchment 3S: WS 1B

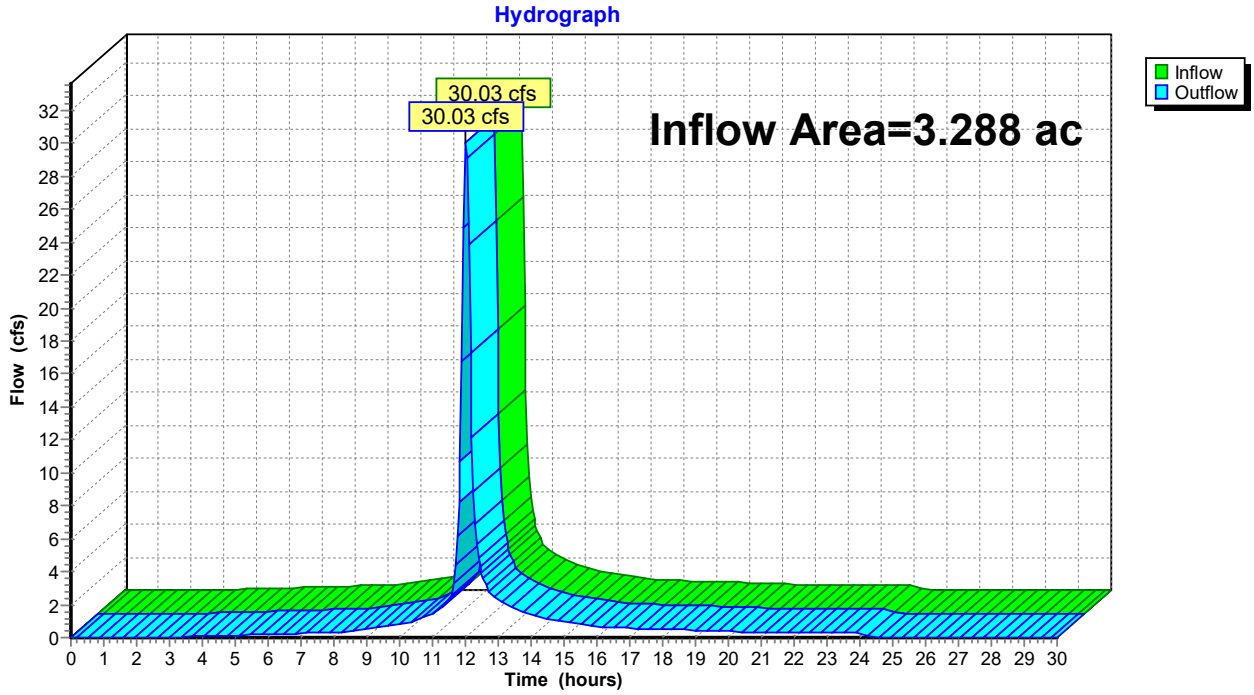


Summary for Reach 4R: FD-6

Inflow Area = 3.288 ac, 65.90% Impervious, Inflow Depth > 7.17" for 100-yr event
Inflow = 30.03 cfs @ 12.02 hrs, Volume= 1.966 af
Outflow = 30.03 cfs @ 12.02 hrs, Volume= 1.966 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 5R : DP-1

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach 4R: FD-6

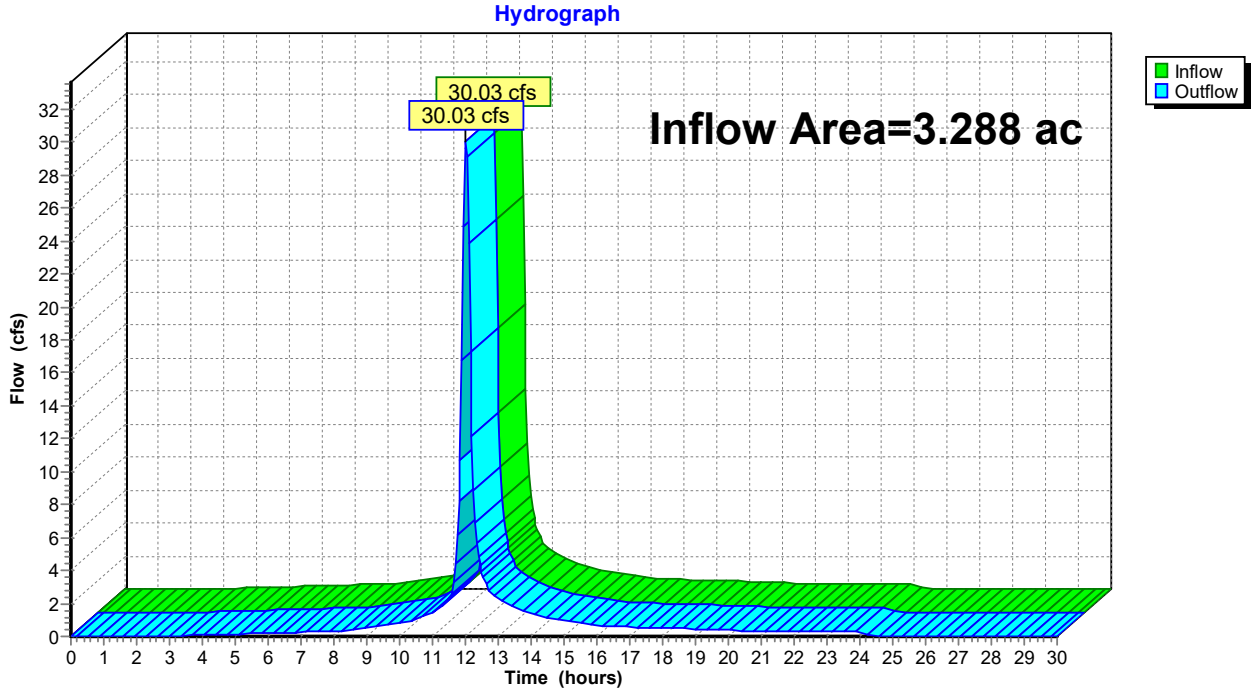


Summary for Reach 5R: DP-1

Inflow Area = 3.288 ac, 65.90% Impervious, Inflow Depth > 7.17" for 100-yr event
Inflow = 30.03 cfs @ 12.02 hrs, Volume= 1.966 af
Outflow = 30.03 cfs @ 12.02 hrs, Volume= 1.966 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach 5R: DP-1



Summary for Pond 2P: BIO 1A

Inflow Area = 0.745 ac, 77.00% Impervious, Inflow Depth = 7.57" for 100-yr event
Inflow = 8.45 cfs @ 11.96 hrs, Volume= 0.470 af
Outflow = 8.26 cfs @ 11.98 hrs, Volume= 0.438 af, Atten= 2%, Lag= 1.3 min
Primary = 8.26 cfs @ 11.98 hrs, Volume= 0.438 af
Routed to Reach 4R : FD-6

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 446.04' @ 11.98 hrs Surf.Area= 2,751 sf Storage= 5,503 cf

Plug-Flow detention time= 111.2 min calculated for 0.438 af (93% of inflow)
Center-of-Mass det. time= 72.4 min (829.1 - 756.7)

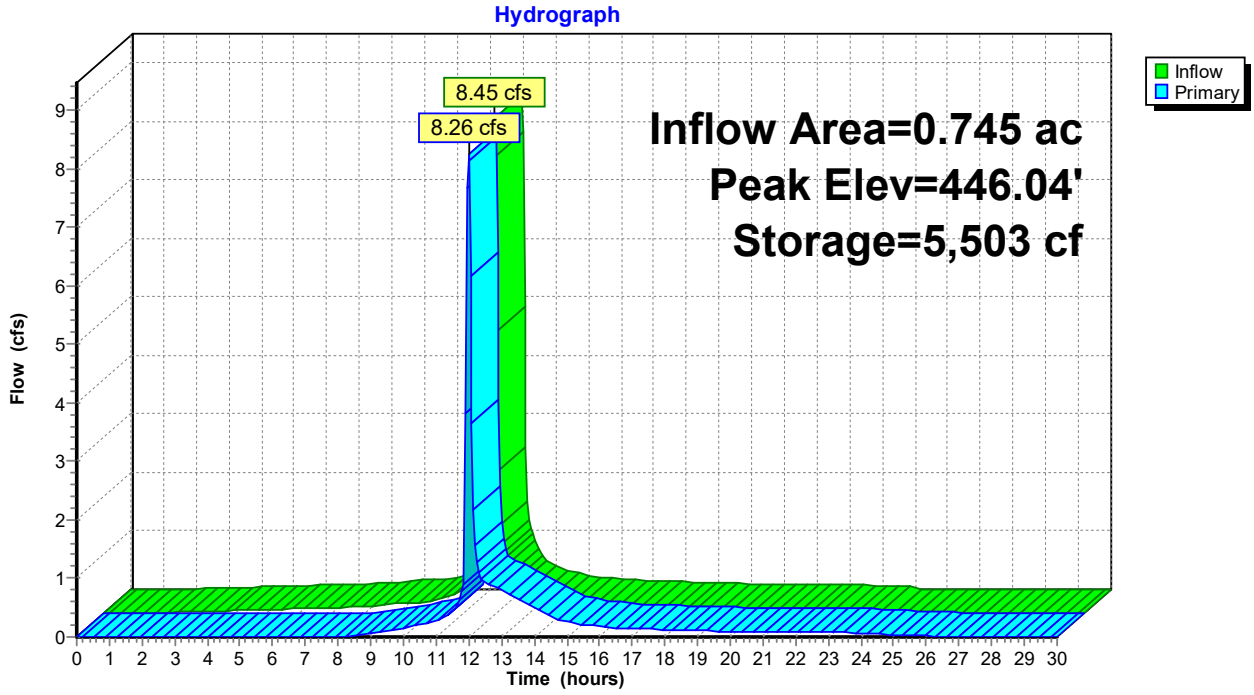
Volume	Invert	Avail.Storage	Storage Description
#1	444.00'	8,165 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
444.00	2,640	0	0
447.00	2,803	8,165	8,165

Device	Routing	Invert	Outlet Devices
#1	Primary	444.50'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	445.75'	**16.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=7.99 cfs @ 11.98 hrs HW=446.03' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.07 cfs @ 5.46 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 6.92 cfs @ 1.52 fps)

Pond 2P: BIO 1A



Summary for Subcatchment 1S: WS 1A

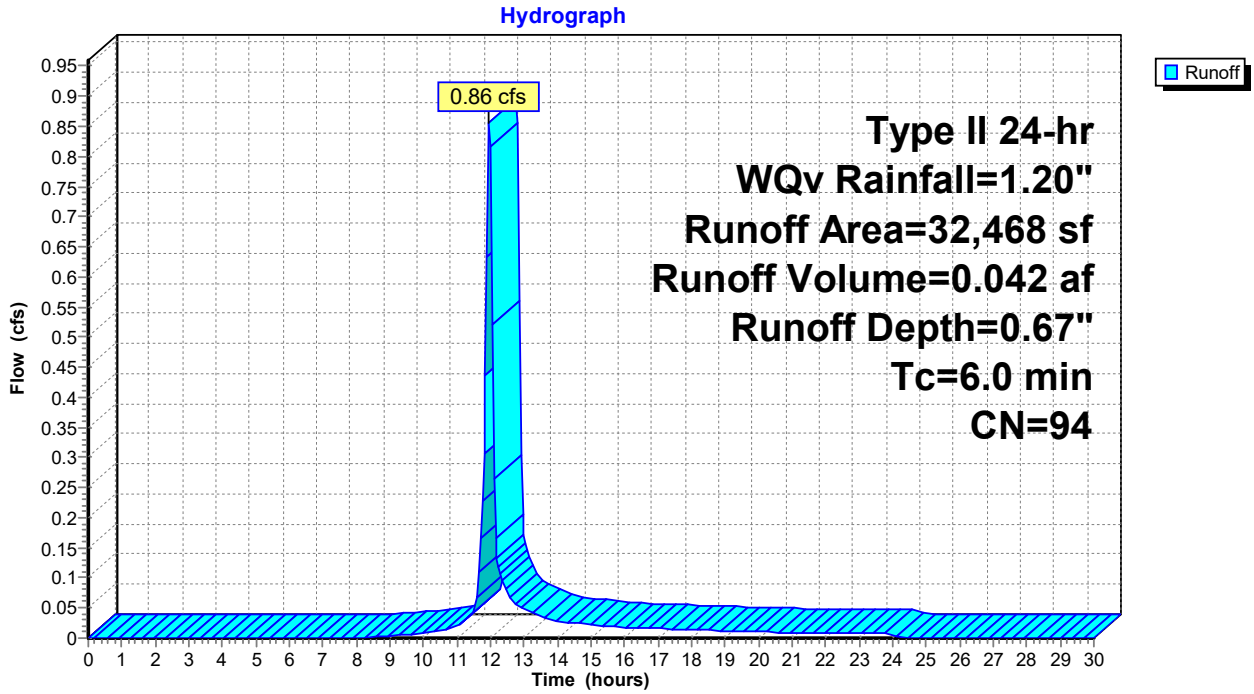
Runoff = 0.86 cfs @ 11.97 hrs, Volume= 0.042 af, Depth= 0.67"
Routed to Pond 2P : BIO 1A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
25,000	98	Paved parking, HSG D
7,468	80	>75% Grass cover, Good, HSG D
32,468	94	Weighted Average
7,468		23.00% Pervious Area
25,000		77.00% Impervious Area

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

Subcatchment 1S: WS 1A



Summary for Subcatchment 3S: WS 1B

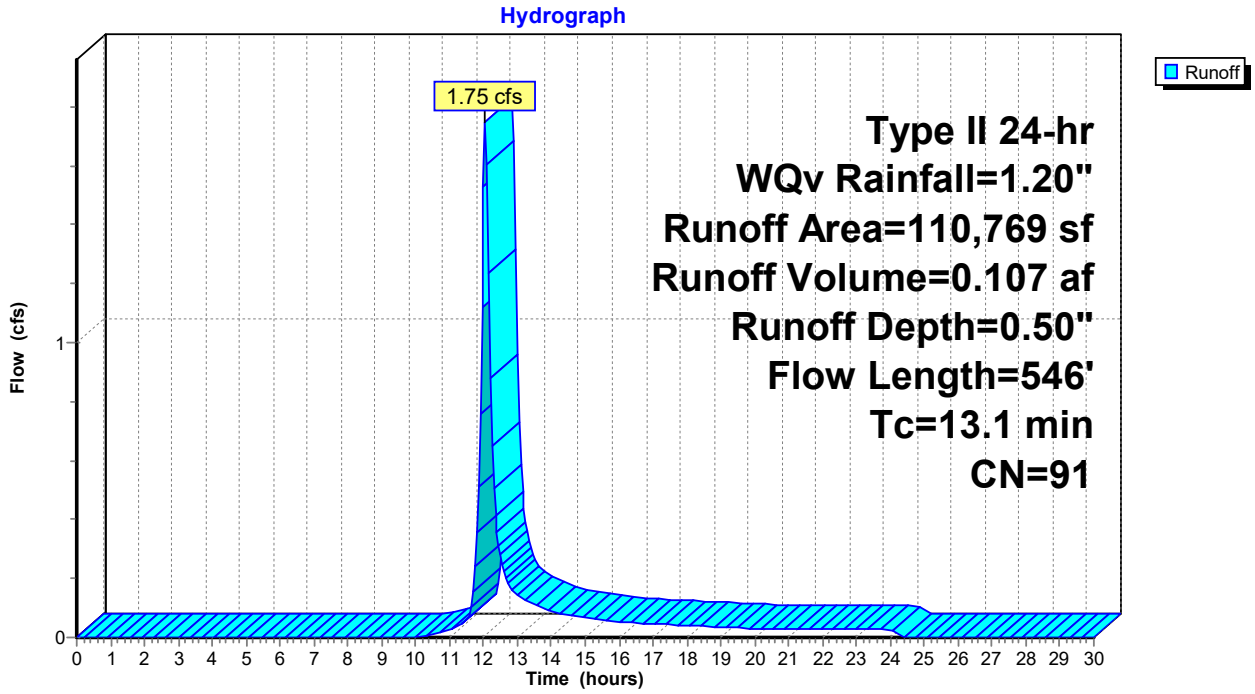
Runoff = 1.75 cfs @ 12.06 hrs, Volume= 0.107 af, Depth= 0.50"
Routed to Reach 4R : FD-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
69,391	98	Paved parking, HSG D
20,180	80	>75% Grass cover, Good, HSG D
21,198	77	Woods, Good, HSG D
110,769	91	Weighted Average
41,378		37.36% Pervious Area
69,391		62.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	85	0.0590	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	53	0.1500	6.24		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	29	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.1	379	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
13.1	546	Total			

Subcatchment 3S: WS 1B

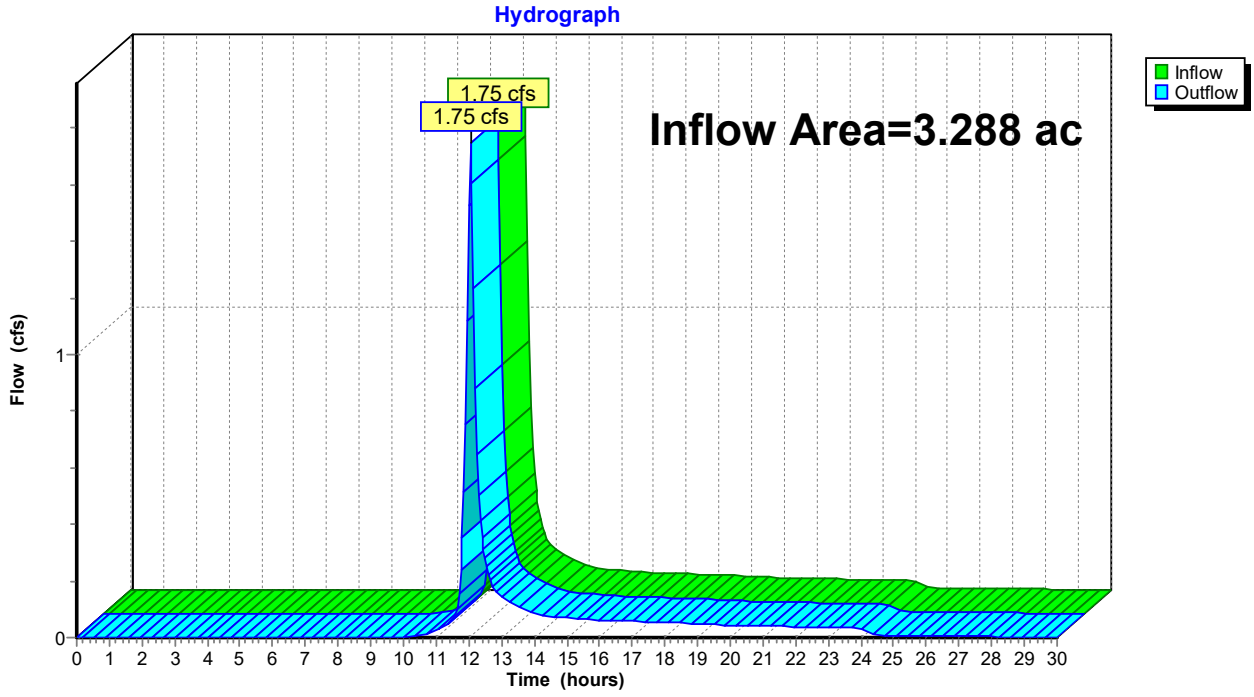


Summary for Reach 4R: FD-6

Inflow Area = 3.288 ac, 65.90% Impervious, Inflow Depth > 0.43" for WQv event
Inflow = 1.75 cfs @ 12.06 hrs, Volume= 0.117 af
Outflow = 1.75 cfs @ 12.06 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 5R : DP-1

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach 4R: FD-6

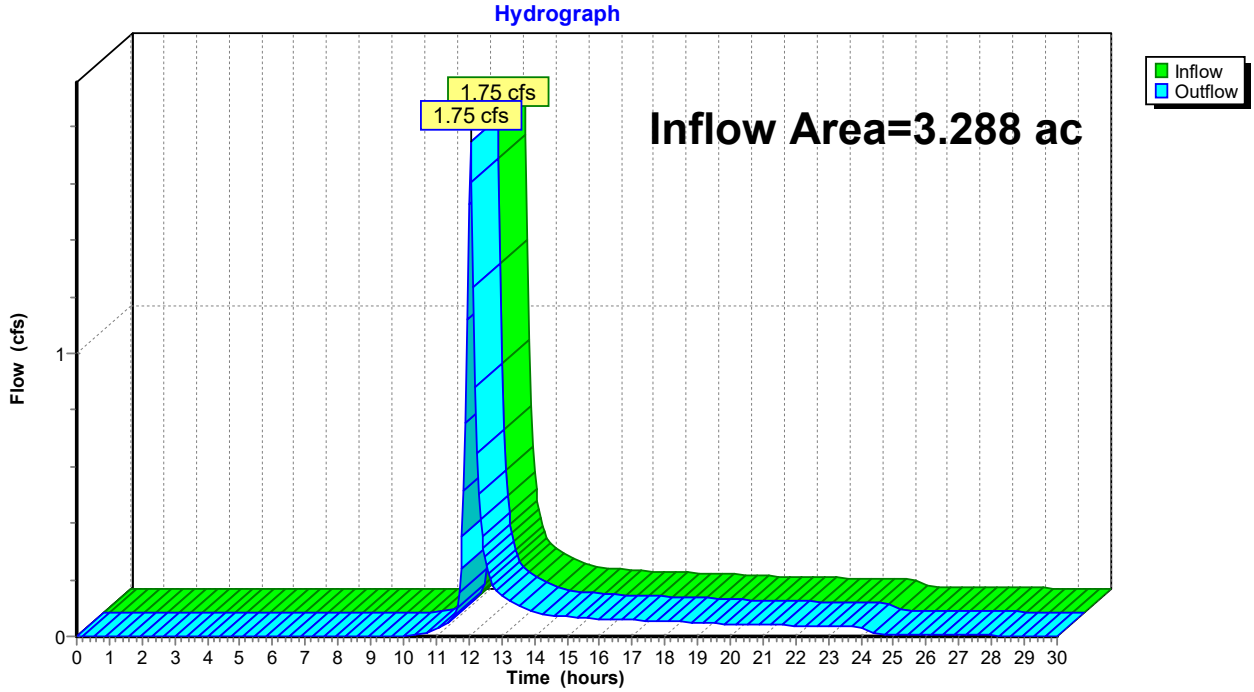


Summary for Reach 5R: DP-1

Inflow Area = 3.288 ac, 65.90% Impervious, Inflow Depth > 0.43" for WQv event
Inflow = 1.75 cfs @ 12.06 hrs, Volume= 0.117 af
Outflow = 1.75 cfs @ 12.06 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach 5R: DP-1



Summary for Pond 2P: BIO 1A

Inflow Area = 0.745 ac, 77.00% Impervious, Inflow Depth = 0.67" for WQv event
Inflow = 0.86 cfs @ 11.97 hrs, Volume= 0.042 af
Outflow = 0.01 cfs @ 18.66 hrs, Volume= 0.010 af, Atten= 99%, Lag= 401.6 min
Primary = 0.01 cfs @ 18.66 hrs, Volume= 0.010 af
Routed to Reach 4R : FD-6

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 444.56' @ 18.66 hrs Surf.Area= 2,671 sf Storage= 1,494 cf

Plug-Flow detention time= 572.4 min calculated for 0.010 af (24% of inflow)
Center-of-Mass det. time= 438.4 min (1,259.8 - 821.4)

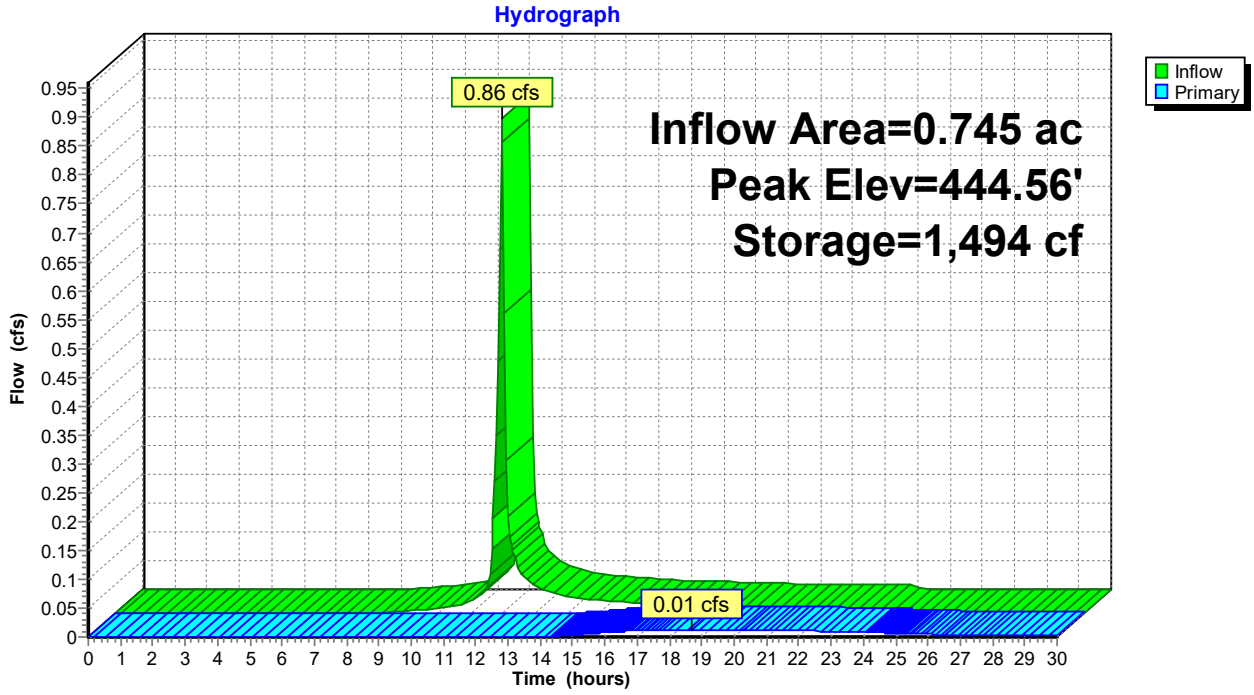
Volume	Invert	Avail.Storage	Storage Description
#1	444.00'	8,165 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
444.00	2,640	0	0
447.00	2,803	8,165	8,165

Device	Routing	Invert	Outlet Devices
#1	Primary	444.50'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	445.75'	**16.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.01 cfs @ 18.66 hrs HW=444.56' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.01 cfs @ 0.85 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: BIO 1A



APPENDIX 3

NYSDEC GREEN INFRASTRUCTURE WORKSHEETS

Version 1.8
RDM CR 56 - West

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....			No
Design Point:	1		
P=	1.40	*inch*	*Manually enter P, Total Area and Impervious Cover.*

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	0.75	0.58	77%	0.75	2,843	BIO 1A
2	1.89	1.60	85%	0.81	7,798	OTHER
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	2.64	2.18	83%	0.79	**10,642**	**Subtotal 1**
Total	2.64	2.18	83%	0.79	**10,642**	**Initial WQv**	**0.24**	**af**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**0.00**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*		
"<<Initial WQv"	2.64	2.18	83%	0.79	10,642		
Subtract Area	0.00	0.00					
WQv adjusted after Area Reductions	**2.64**	**2.18**	83%	0.79	10,642		
Disconnection of Rooftops		0.00					
Adjusted WQv after Area Reduction and Rooftop Disconnect	2.64	2.18	83%	0.79	**10,642**	**0.24**	**af**
WQv reduced by Area Reduction techniques					0	**0.00**	**af**

Version 1.8
RDM CR 56 - West

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:	**1**

Enter Site Data For Drainage Area to be Treated by Practice

Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	0.75	0.58	0.77	0.75	2843.38	1.40	BIO 1A
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	77%	0.75	2,843	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					0	*ft^3*	

Soil Information

Soil Group	D		
Soil Infiltration Rate	0.00	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area

		Value	Units	Notes
WQv		2,843	*ft^3*	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**2369**	***ft^2***	

Determine Actual Bio-Retention Area

Filter Width	10	*ft*
Filter Length	264	*ft*
Filter Area	2640	*ft^2*
Actual Volume Provided	3168	*ft^3*

Determine Runoff Reduction

Is the Bioretention contributing flow to another practice?	No	Select Practice	N/A
RRv	1,267		
RRv applied	**1,267**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***
Volume Treated	1,576	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*
Volume Directed	0	*ft^3*	This volume is directed another practice
Sizing √	OK		*Check to be sure Area provided ≥ Af*

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990);

APPENDIX 4

SPDES GENERAL PERMIT GP-02-01

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

from

CONSTRUCTION ACTIVITY

Permit No. GP-02-01

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 8, 2003

Expiration: January 8, 2008

William R. Adriance
Chief Permit Administrator

Address: NYS DEC
Div. Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

Authorized Signature

William R. Adriance

Date: January 8, 2003

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES
FROM CONSTRUCTION ACTIVITY

Preface

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater discharges from certain construction activities to waters of the United States[1] are unlawful unless they are authorized by a NPDES (National Pollutant Discharge Elimination System) permit or by a state permit program. New York's SPDES (State Pollutant Discharge Elimination System) is a NPDES-approved program with permits issued in accordance with the Environmental Conservation Law ("ECL"). Discharges of pollutants to all other "Waters of New York State" such as groundwaters are also unlawful unless they are authorized by a SPDES permit.

A discharger, owner, or operator may[2] obtain coverage under this general permit by submitting a Notice of Intent ("NOI") to the Department. Copies of this General Permit and the NOI for New York are available by calling (518) 402-8109 or at any Department of Environmental Conservation (the Department) regional office (see Appendix A on Page 23). They are also available on the Department's website at:

www.dec.state.ny.us

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[1] "Waters of the United States" means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; and
(b) All interstate waters, including interstate "wetlands"; and
(c) All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    (3) Which are used or could be used for industrial purposes by industries in interstate commerce; and
(d) All impoundments of waters otherwise defined as waters of the United States under this definition; and
(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; and
(f) The territorial sea; and
(g) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal areas in wetlands) nor resulted from the impoundment of waters of the United States.

[2] "may" refers to circumstances under which the discharger is ineligible for coverage under this general permit because of other provisions of this permit. Dischargers which are excluded from coverage under this general permit as provided for in Part I, Section C, for example, are not authorized to discharge under this permit. This also applies to possible situations in which an NOI has been submitted and/or a regulatory fee paid pursuant to Article 72 of the ECL. The submittal of an NOI and/or regulatory fee has no bearing or relevance whatsoever on the eligibility of the construction activity discharging stormwater runoff under the authority of this permit.

Local Programs of a Regulated MS4

Under the federal Phase II stormwater program, many cities, villages, towns, and other public entities in New York State which are located within "Urbanized Areas" as defined by the U.S. Census and who operate a Municipal Separate Storm Sewer System ("MS4") will be required to obtain SPDES permit coverage for stormwater discharges under their jurisdiction and control (see 40CFR Part 122 §122.26.32). Additionally, MS4s may be designated by the Department as regulated MS4s. Among other requirements, the Phase 2 NPDES stormwater regulations require regulated MS4s to address stormwater runoff from construction activities. Construction activities covered under this general permit, which are subject to stormwater runoff controls of a regulated MS4, will also need to comply with the MS4's controls.

Five (5) Day Coverage

Prior to the submission of an NOI, the owner or operator must have completed a Storm Water Pollution Prevention Plan (SWPPP) that complies with all requirements of this general permit. Submitting an NOI is an affirmation that a SWPPP has been prepared and will be implemented. If an applicant certifies that the SWPPP has been developed in conformance with the Department's technical standards, the applied-for activity may obtain coverage under this general permit in five (5) business days after the Department's receipt of the NOI provided, that the activity is eligible for coverage under this general permit and that the Department has not informed the applicant otherwise.

Sixty (60) Day Coverage

While the Department's technical standards are appropriate statewide, it is recognized that there may be situations where stormwater management goals can best be met by alternative means that are more suitable given local conditions.

For construction projects in these situations, applicants must identify in their NOI each of the deviations from the Department's technical standards that they are seeking. Applicants must also explain why the deviations are needed or desired and what impacts to water quality, if any, can be expected if the deviation were allowed. Applicants must also explain the actions, if any, that local board(s) have taken with respect to the deviation(s). For applicants which cannot certify conformance with the Department's technical standards, the SWPPP must also be certified by a licensed/certified professional that the SWPPP has been developed in a manner which will insure compliance with water quality standards and with the substantive intent of this permit.

In cases of deviations from the Department's technical standards, applicants must allow sixty (60) business days after the receipt by the Department of a completed NOI and certification before gaining coverage under this general permit and before initiating any construction activity. During this 60 day period, the Department may conduct further review of the NOI and SWPPP. If additional information is needed to complete the review, the NOI will be considered

incomplete and the applicant will be so advised. The intent of this provision is to require conformance the Department's technical standards wherever possible and appropriate. At the same time, alternative means to address stormwater control may be allowed under this general permit where they are more suitable for the site in question and where they will not diminish water quality protection.

There are other scenarios under which coverage under this general permit will not occur until 60 business days from the receipt of a completed NOI. For example, if the construction activity or post construction runoff causes the discharge of a pollutant of concern to a water identified on the 303(d) list or a watershed with an approved TMDL for that pollutant of concern, coverage under the general permit will not occur until sixty (60) business days from the receipt by the Department of a completed NOI. For these projects the operator may be required to submit the SWPPP and/or appropriate certification(s) to the Department for review. The flowchart shown in Figure 1 on page vi will help to describe the process under which certain conditions exist that require possible further analysis and water quality/quantity considerations.

Computer Tool Available For Completion of SWPPPs and NOIs Under Development

The Department is currently developing an interactive computer software tool entitled "How to Prepare SWPPPs and Notices of Intent" to assist applicants in both developing SWPPPs and completing NOIs. This will be available in the near future for use on the Department website as well as being packaged independently on compact discs. This tool will contain guidance as well as many useful links to reference materials and documents concerning erosion and sedimentation control, as well as to the design of stormwater management practices . The Department's website will contain the latest information and guidance on the various tools available.

The Department's Technical Standards

The Department's technical standards for erosion and sediment control are contained in the document, *"New York Standards and Specifications for Erosion and Sediment Control"*[3] published by the Empire State Chapter of the Soil and Water Conservation Society. For the design of water quantity and water quality controls (post-construction stormwater control practices**)**, the Department's technical standards are detailed in the *"New York State Stormwater Management Design Manual."* Both of these documents are available on the Department's website. If an applicant certifies that stormwater management practices will conform to the Department's technical standards, then coverage under the permit may occur sooner than otherwise would be the case if non-conformance with the manuals existed. See Figure 1 on page vi for more information.

[3] Previously, the *"New York Guidelines for Urban Erosion and Sediment Control"*, also commonly referred to as the "Blue Book".

Permit Valid for Any Size Disturbance

This permit may be used for construction activities involving any amount of disturbed acreage, provided that all other eligibility conditions in subsection B of Part I are satisfactorily met (see page 2 of this permit). Thus, this permit may apply to activities identified under 40 CFR Part 122, subsection 122.26(b)(14)(x) which are also referred to as "NPDES Phase 1 construction activities" involving soil disturbances of five (5) acres or more. This permit may also apply to activities identified under 40 CFR Part 122, subsection 122.26(b)(15) which are also referred to as "NPDES Phase 2 small construction activities" involving soil disturbances of between one (1) and five (5) acres. And, this permit may also apply to construction activities involving soil disturbances of less than one (1) acre if the Department determines that a SPDES permit is required pursuant to the ECL. In any and all cases, all of the eligibility provisions of this general permit must be met in order to gain coverage.

Notice of Termination

After construction is completed as defined in the general permit (see Part II beginning on Page 7), cancellation of coverage is accomplished by the submittal of a Notice of Termination ("NOT"). Failure to submit a NOT may result in the continued obligation to pay a yearly Regulatory Fee established pursuant to Article 72 of the ECL and/or may be cause for suspension of permit coverage.

Previous versions of NOIs, NOTs and Notices of Intent, Transfer and Termination ("NOITT"s) cannot be used in conjunction with this general permit. There is a new NOI required for obtaining coverage under this general permit. Failure to include information identified as "mandatory" entries on the new NOI form may prevent and/or delay discharge authorization being sought under this permit.

The new NOT will also include an identification of any permanent structures that are being left on the site after stabilization occurs and after termination of permit coverage under this general permit. The NOT will also include a certification that the structures were constructed as described in the SWPPP and that an Operation and Maintenance ("O&M") manual has been prepared and has been made available to the owner of such permanent structures who is expected to conduct the necessary O&M over the life of the structure(s).

Ineligible Activities

The submittal of a completed NOI and/or the payment of an annual regulatory fee by an applicant does not necessarily mean that an applicant is covered under this permit if the applicant is ineligible for coverage under this permit under the terms cited in Part I of this permit. In other words, submitting a completed NOI and paying an annual regulatory fee does not automatically gain an applicant permit coverage if the applicant is ineligible for coverage under this permit even if the Department fails to immediately inform the applicant of such ineligibility.

Permit Expiration Date

Coverage under this general permit is available January 8, 2003 and will expire five (5) years after issuance on January 8, 2008.

Activities Previously Covered Under GP-93-06

In a separate proposal, the Department is also concurrently seeking to re-issue GP-93-06 with an expiration of August 1, 2003. The purpose of this action is to provide a transition period for permittees which have had SPDES permit coverage under GP-93-06 immediately prior to January 8, 2003, the effective date of GP-02-01. **Prior to August 1, 2003**, these activities will need to:
(1) stabilize their sites in accordance with GP-93-06 and submit an NOT; or, if necessary,
(2) gain coverage under GP-02-01 by submitting a new NOI.

For **new** construction activities, coverage under GP-93-06 will not be available after the effective date of GP-02-01, January 8, 2003. Such discharges may be eligible for coverage under GP-02-01 (see Part I.B. on page 2 of this permit).

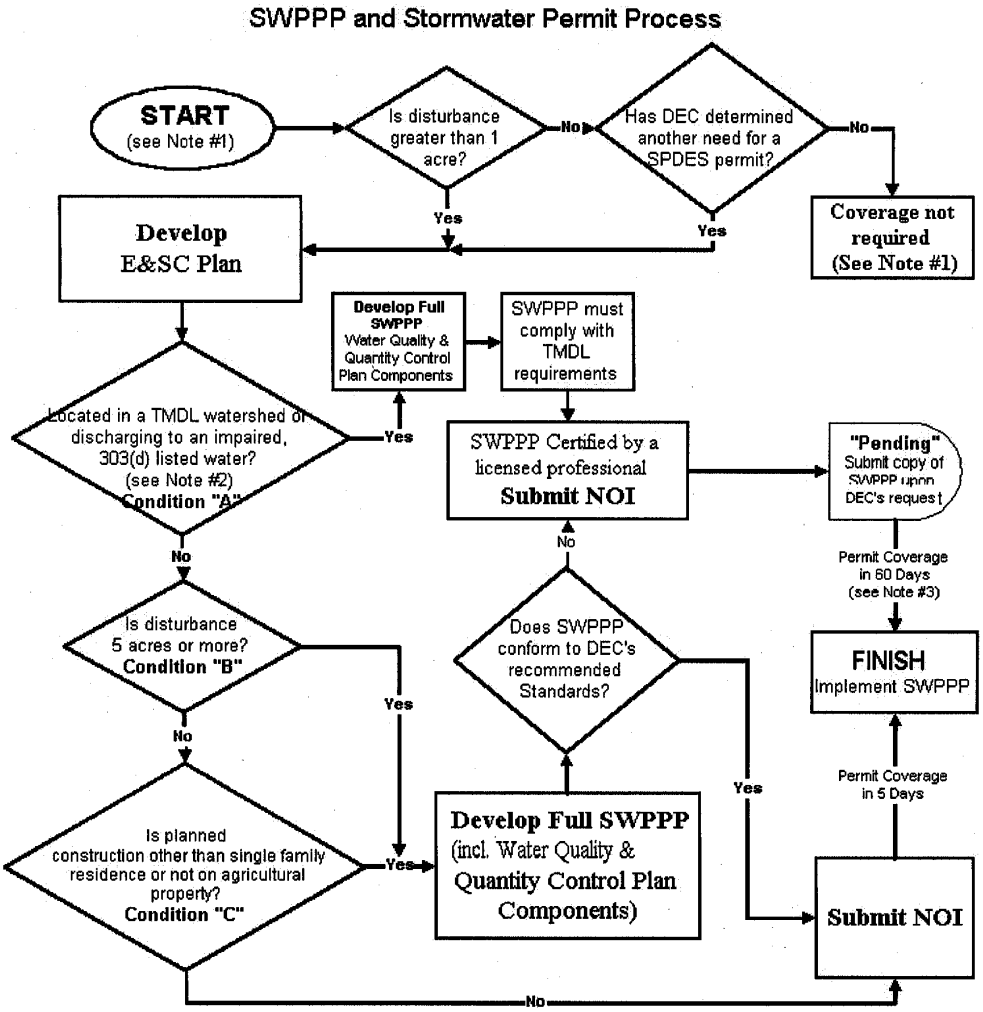
Water Quality Violations Not Permitted

This permit does not authorize any person to cause or contribute to a condition in contravention of any water quality standards that are contained in the Rules and Regulations of the State of New York (see Part I of this permit on page 2) even if the permittee is in compliance with all other provisions of this permit. Any violations of water quality standards may be considered by the Department to be violations of this permit and/or the ECL, including its accompanying regulations.

Other Department Permits

Construction activities may also require other Department permits in addition to the coverage provided by this general permit including, but not limited to, dam safety**,** wetlands and stream protection. Such other Department permits must be obtained separately from coverage under this general permit. Further information concerning these permits should be sought from the Regional Permit Administrator at the appropriate Department regional office (See Appendix A on page 23).

FIGURE 1



NOTES:

1. Under any of the above conditions other environmental permits may be required. DEC may require permit for construction disturbance < 1 acre on a case by case basis.
2. **and** the following exists: construction and/or stormwater discharges from the construction or post-construction site contain the pollutant of concern identified in the TMDL or 303(d) listing.
3. After receipt by DEC of completed application.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES

FROM CONSTRUCTION ACTIVITIES

TABLE OF CONTENTS

Part I. COVERAGE UNDER THIS PERMIT

A. **Maintaining Water Quality** - It shall be a violation of this general permit and the Environmental Conservation Law ("ECL") for any discharge authorized by this general permit to either cause or contribute to a violation of water quality standards as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York including, but not limited to:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal and settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

B. **Eligibility Under This General Permit**

1. This permit may authorize all discharges of stormwater from construction activity[4] to surface waters and groundwaters except for ineligible discharges identified under subparagraph C of this Part (see below). Discharge authorization under this permit requires the submittal of a completed NOI.

2. Except for non-stormwater discharges explicitly listed in the next paragraph, this permit only authorizes stormwater discharges from construction activities.

3. Notwithstanding paragraphs B.1 and B.2 above, the following non-stormwater discharges may be authorized by this permit: discharges from fire

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[4] This includes discharges of stormwater associated with industrial activity identified under 40 CFR Part 122, subsection 122.26(b)(14)(x), small construction activities identified under 40 CFR Part 122, subsection 122.26(b)(15) or any other stormwater from construction activities that are not otherwise ineligible for coverage under this permit (See Part I, subsection B beginning on page 2).

fighting activities; fire hydrant flushings; waters to which cleansers or other components have **not** been added that are used to wash vehicles or control dust in accordance with the SWPPP, routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this general permit, and who discharge as noted in this paragraph, and with the exception of flows from fire fighting activities, these discharges must be identified in the SWPPP(see Part III beginning on Page 7). Under all circumstances, the permittee must still comply with water quality standards (see Part I, subsection A on Page 2).

C. **Activities Which Are Ineligible for Coverage Under This General Permit** - All of the following stormwater discharges from construction activities are **not** authorized by this permit:

1. Discharges after construction activities have been completed and the site has undergone final stabilization[5];

2. Discharges that are mixed with sources of non-stormwater other than those expressly authorized under subsection B.3. of this Part (see page 3) and identified in the SWPPP required by this permit;

3. Discharges that are subject to an existing SPDES individual or general permit or which are required to obtain an individual or alternative general permit pursuant to Part V, subparagraph K (see page 21) of this permit;

4. Discharges that are likely to adversely affect a listed, or proposed to be listed, endangered or threatened species, or its critical habitat;

5. Discharges which are subject to an existing effluent (limitation) guideline addressing stormwater and/or process wastewater unless said guidelines are contained herein; or

6. Discharges which either cause or contribute to a violation of water quality standards adopted pursuant to the ECL and its accompanying regulations (See subsection A of Part I on page 2).

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[5] "Final Stabilization" means that all soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 80% has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

D. **Authorization Under This General Permit**

1. An operator[6] must submit a completed NOI form in order to be authorized to discharge under this general permit. The NOI form shall be one which is associated with this general permit, signed in accordance with Part V. H.(see Page 19) of this permit and submitted to the address indicated on the NOI form. NOIs and NOITTs used in association with either previous or other general permits are not valid for obtaining coverage under this general permit. The submittal of an NOI is an affirmation to the operators' understanding and belief that the activity is eligible for coverage under this permit and that a SWPPP has been prepared and will be implemented in accordance with Part III of this permit.

2. All contractors and subcontractors of the operator identified under Part III.E.1 (see page 17) must provide the certification cited under Part III.E.2 (see page 17). Such certifications shall become part of the SWPPP for the construction activity covered under this general permit.

3. Unless notified by the Department to the contrary, operators who are eligible for coverage under this permit **and** who submit an NOI in accordance with the requirements of this permit, may be authorized to discharge stormwater from construction activities under the terms and conditions of this permit, and in accordance with the following timetable:

a. For construction activities which:

(1) develop a SWPPP in conformance with the Department's technical standards (See subsection D of Part III on page 10), and do not or will not discharge a pollutant of concern to an impaired water or a TMDL watershed;

or

(2) as of the effective date of this general permit, GP-02-01, have obtained coverage under, and are operating in compliance with, GP-93-06; and do not or will not discharge a pollutant of concern to an impaired water or a TMDL watershed;

authorization to discharge under this permit may occur five (5) business days after the date on which the NOI is received by the Department.

6 For the purposes of this permit, the term "operator" means the person, persons, or legal entity which owns or leases the property on which the construction activity is occurring. Also, see Part V., subsection H. on page 19 of this permit.

b. For activities which do not comply with the preceding subsection (i.e. Part I.D.3.a.), authorization to discharge under this permit will begin no sooner than sixty (60) business days from the receipt of the completed NOI unless notified differently by the Department pursuant to Part V, subsection K of this permit (see page 21). For activities not satisfying Part I.D.3.a.(1) above, or for construction site runoff subject to a TMDL (see Figure 1 on page vi), the SWPPP must be prepared by a licensed/certified professional[7] and include a certification stating that the SWPPP has been developed in a manner which will assure compliance with water quality standards (see Part I.A.) and with the substantive intent of this permit.

c. For construction activities which are subject to a sixty-day period provision identified in the preceding subparagraph b., the SWPPP shall include each of the components identified in Part III.A.1.b. (see page 8).

4. At its sole discretion, the Department may deny or terminate coverage under this permit and require coverage under another SPDES permit at any time based on a review of the NOI, the SWPPP or other relevant information (see Part V, subsection K of this permit on page 21).

5. A copy of the NOI and a brief description of the project shall be posted at the construction site in a prominent place for public viewing.

6. A signed copy of the NOI, the SWPPP, and any reports required by this permit shall also be submitted concurrently to the local governing body and any other authorized agency[8] having jurisdiction or regulatory control over the construction project.

7. New stormwater discharges from construction activities that require any other Uniform Procedures Act permit (Environmental Conservation Law, 6 NYCRR Part 621) cannot be covered under this general permit until the other required permits are obtained. Upon satisfaction of the State Environmental Quality Review Act ("SEQRA") for the proposed action and issuance of necessary permits, the applicant may submit an NOI to obtain coverage under this general

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7 A "licensed/certified professional" means a person currently licensed to practice engineering in New York State or is a Certified Professional in Erosion and Sediment Control (CPESC).

8 For the purposes of this general permit, "any other authorized agency" shall include any local, regional, or state entity or agency except the Department which has authority to review stormwater discharge from the project, including authority under any approved watershed protection plan or regulations.

permit.[9] In order to facilitate the Department's review of a multi-permitted project, an applicant should submit, at a minimum, a copy of the SWPPP which contains the information specified in Appendix B (see page 24). This information will assist the Department in determining whether or not coverage under this general permit or another SPDES permit is the more appropriate option. The Department may also require the submission of additional information in order to determine the SWPPP's conformance with the Department's technical standards.

8. Upon renewal of this general permit or issuance of a new general permit, the permittee is required to notify the Department of its intent to be covered by the new general permit. Coverage will continue under this permit for its term unless action is taken to terminate permit coverage as provided elsewhere in this permit. See also Part V. subsection B. on page 18 of this permit.

9. In the event of a transfer of ownership or responsibility for stormwater runoff, there can be no "automatic" transfer of permit coverage from one permittee to the next without appropriate notification from the dischargers. The former permittee must submit an NOT and notify the new discharger of the possible need for the new discharger to submit a new NOI (see Section E, subparagraph 2 below).

E. Deadlines for Notification

1. Operators who intend to obtain coverage under this general permit for stormwater runoff from construction activities must submit an NOI in accordance with the requirements of this Part at least five (5), or sixty (60) business days, as appropriately determined from Part I, Section D.3 (see page 4) prior to the commencement of construction[10] activities.

2. For stormwater runoff from construction activities where the operator changes, a new NOI must be submitted by the new operator in accordance with the requirements of this permit. The former operator must submit a NOT in accordance with Part II (see page 7) of this permit and notify the new operator of the requirement to submit a new NOI to obtain coverage under this permit. The new operator must also review and sign the SWPPP in accordance with Part III.B.(see page 9) and continue implementation of the SWPPP as required by this

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9 The purposes of this subsection is to assure that the requirements of SEQRA are fulfilled, if necessary, before any discharge authorization under this general permit is granted.

10 "Commencement of Construction" means the initial disturbance of soils associated with clearing, grading, or excavating activities, or other construction activities.

permit.

Part II. TERMINATION OF COVERAGE[11]

Where a site has been finally stabilized, the operator must submit a NOT form prescribed by the Department for use with this general permit. The NOT shall be signed in accordance with Part V. H.(see page 19) of this permit and submitted to the address indicated on the approved NOT form.

The permittee must identify all permanent stormwater management structures that have been constructed and provide the owner(s) of such structures with a manual describing the operation and maintenance practices that will be necessary in order for the structure to function as designed after the site has been stabilized. The permittee must also certify that the permanent structure(s) have been constructed as described in the SWPPP.

Part III. STORMWATER POLLUTION PREVENTION PLANS ("SWPPP"s)

A. General

1. SWPPP Preparation

a. A SWPPP shall be developed by the operator for construction activities at each site to be covered by this permit, prior to the initiation of activities requiring coverage under this permit. SWPPPs shall be prepared in accordance with sound engineering practices. The SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges. In addition, the SWPPP shall describe and ensure the implementation of practices which will be used to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of this permit. Operators are encouraged to have their SWPPP reviewed for adequacy and completeness by the local soil and water conservation district ("SWCD") and/or other professionals qualified in erosion and sediment control practices[12] and stormwater management. Moreover, if the construction activity is identified under Part I, subsection D.3.b. (See page 5), or for construction site runoff subject to a TMDL (see Figure 1 on page vi), the SWPPP must include a certification by a licensed/certified professional.

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[11] Submittal of an NOT will terminate coverage under this general permit and will also remove the permittee from subsequent billings of the annual regulatory fee levied under Article 72 of the ECL.

[12] For example, CPESC, Inc. administers a certified program of individuals under its CPESC (Certified Professional in Erosion and Sediment Control) program which is sponsored by the International Erosion Control Association (IECA) and the Soil and Water Conservation Society (SWCS) and is endorsed by USDA - Natural Resources Conservation Service. CPESC, Inc. also administers the CPSWQ (Certified Professional in Stormwater Quality) program.

b. All SWPPPs shall include erosion and sediment controls. For construction activities meeting either Condition "A", "B" or "C" described below, the SWPPP shall also include water quantity and water quality controls (post-construction stormwater control practices).(see Part III. D.).

(1) Condition A - Construction site or post construction runoff discharging a pollutant of concern to either an impaired water identified on DEC's 303(d) list or a TMDL watershed for which pollutants in stormwater have been identified as a source of the impairment.

(2) Condition B - Construction site runoff from Phase 1 construction activities (construction activities disturbing five (5) or more acres) identified under 40 CFR Part 122, §122.26(b)(14)(x).

(3) Condition C - Construction site runoff from construction activity disturbing between one (1) and five (5) acres of land during the course of the project, exclusive of the construction of single family residences and construction activities at agricultural properties.

2. **SWPPP Implementation** - Operators are responsible for implementing the provisions of the SWPPP and ensuring that all contractors and subcontractors who perform professional services at the site provide certification of the SWPPP in accordance with Part I.D.2. (see page 4) and Part III.E.2. (see page 17) of this permit. All contractors and subcontractors identified in the SWPPP in accordance with Part III.E.1. (see page 17) of this permit must agree to implement applicable provisions of the SWPPP and satisfy the certification requirement of Part III.E.2. (see page17). However, contractors and subcontractors who are not operators, as defined in this permit (see page 4), are not required to submit a NOI in addition to the NOI submitted by the operator.

3. **Deadlines for SWPPP Preparation and Compliance** - The SWPPP must be developed prior to the submittal of an NOI and provide for compliance with the terms and schedule of the SWPPP beginning with the initiation of construction activities. The operator shall also certify in the SWPPP that all appropriate stormwater control measures will be in place before commencement of construction of any segment of the project that requires such measures.

4. **Local Requirements** - Developing a SWPPP that complies with the requirements listed herein does not relieve an operator from the obligation of complying with stormwater management requirements of the local government having jurisdiction over the project.

5. **Activities Previously Covered Under GP-93-06** - For construction activities which are covered by GP-93-06 as of the effective date of this permit (GP-02-01), the continued implementation of their SWPPP that was developed and implemented in accordance with GP-93-06 is acceptable until such time as:

(a) an NOT is submitted;

(b) the Department notifies them otherwise in accordance with this permit, including Part V, subsection K (see page 21); or

(c) this permit expires.

B. **Signature and SWPPP Review**

1. The SWPPP shall be signed in accordance with Part V. H.(see page 19), and be retained at the site where the construction activity occurs in accordance with Part IV (see retention of records on page 17) of this permit.

2. The permittee shall submit a copy of the SWPPP and any amendments thereto to the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity. The operator shall make SWPPPs available upon request to the Department and any local agency having jurisdiction; or in the case of a stormwater discharge associated with industrial activity which discharges through a municipal separate storm sewer system, to the municipal operator of the system.

3. The Department, or its authorized representative, may notify the permittee at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. Such notification shall identify those provisions of the permit which are not being met by the SWPPP and identify which provisions of the SWPPP require modifications in order to meet the minimum requirements of this permit. Within seven (7) days of such notification, (or as otherwise provided by the Department) the permittee shall make the required changes to the SWPPP and shall submit to the Department a written certification that the requested changes have been made. Notwithstanding the foregoing, the Department reserves all rights to enforce the terms of the ECL.

C. **Keeping SWPPPs Current** - The permittee shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or

2. The SWPPP proves to be ineffective in:

a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP required by this permit, or

b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity.

3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP (see Part III.E, page 17 below). Amendments to the SWPPP may be reviewed by the Department in the same manner as provided by Part III.B (see page 9 above).

D. **General Contents of SWPPPs** -

1. Standards for construction activities covered under this permit - The Department's technical standards for erosion and sediment controls are detailed in the "*New York Standards and Specifications for Erosion and Sediment Control*"[13] published by the Empire State Chapter of the Soil and Water Conservation Society. For the design of water quality and water quantity controls (post-construction stormwater control practices), the Department's technical standards are detailed in the "*New York State Stormwater Management Design Manual.*"

If an operator certifies that the SWPPP has been developed in conformance with the Department's technical standards referenced above, they may obtain coverage under this general permit in five (5) business days from the Department's receipt of the NOI, provided the construction activity does not meet Condition A in Part III.A.1.b. For SWPPPs which will not conform with the Department's technical standards, the SWPPP must be prepared by a licensed/certified professional and include a certification stating that the SWPPP has been developed in a manner which will assure compliance with the State's water quality standards and with the substantive intent of this permit. In addition, coverage under this general permit will not begin until sixty (60) business days from the receipt of a completed NOI.

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13 Previously, the "*New York Guidelines for Urban Erosion and Sediment Control*," also commonly referred to as the "Blue Book."

2. Minimum SWPPP Components SWPPPs prepared pursuant to this general permit shall present fully designed and engineered stormwater management practices with all necessary maps, plans and construction drawings. The SWPPP must, at a minimum, include the following:

a. For all construction activities subject to this general permit -

(1). provide background information about the scope of the project, including the location, type and size of project.

(2) provide a site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharge(s);

(3) provide a description of the soil(s) present at the site;

(4) provide a construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Guidelines for Urban Erosion and Sediment Control, there shall not be more than five (5) acres of disturbed soil at any one time without prior written approval from the Department;

(5) provide a description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in the storm water discharges;

(6) provide a description of construction and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to storm water, and spill prevention and response;

(7) describe the temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land

clearing and grubbing to project close-out;

(8) identify and show on a site map/construction drawing(s) the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

(9) provide the dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;

(10) identify temporary practices that will be converted to permanent control measures;

(11) provide an implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and the duration that each practice should remain in place;

(12) provide a maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practices;

(13) provide the names(s) of the receiving water(s);

(14) provide a delineation of SWPPP implementation responsibilities for each part of the site;

(15) provide a description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and

(16) provide any existing data that describes the stormwater runoff characteristics at the site.

b. For construction activities meeting Condition A, B or C in Part III.A.1.b.

(1) provide all the information required in Parts III.D.2.a.1 - 16 above;

(2) provide a description of each post-construction stormwater control practice;

(3) identify and show on a site map/construction drawing(s) the specific location(s) and size(s) of each post-construction stormwater control practice;

(4) provide a hydrologic and hydraulic analysis for all structural components of the stormwater control system for the applicable design storms;

(5) provide a comparison of post-development stormwater runoff conditions with pre-development conditions;

(6) provide the dimensions, material specifications and installation details for each post-construction stormwater control practice;

(7) provide a maintenance schedule to ensure continuous and effective operation of each post-construction stormwater control practice.

The following three subsections, Part III.D. 3. through Part III.D. 5., apply only to construction activities covered under this general permit which meet Conditions "A" , "B"[14] or "C" in Part III. A.1.b. Beginning with Part III.E. below (see page 17) the requirements set forth therein apply to all permittees covered under this permit.

3. **<u>Site Assessment and Inspections</u>** -

a. The operator shall have a qualified professional[15] conduct an assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP and required by Part III.D. (see page 10) of this permit have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction. Following the commencement of construction, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. During each inspection, the qualified professional shall record the following information:

(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

(4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and

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[14] Condition "B" includes construction activities covered under GP-93-06 and, therefore, are subject to Part III.D.3 through Part III.D. 5.

[15] "Qualified professional" means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist.

containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water;
and

(6) All deficiencies that are identified with the implementation of the SWPPP.

b. The operator shall maintain a record of all inspection reports in a site log book. The site log book shall be maintained on site and be made available to the permitting authority upon request. Prior to the commencement of construction,[16] the operator shall certify in the site log book that the SWPPP, prepared in accordance with Part III.D. (see page 10) of this permit, meets all Federal, State and local erosion and sediment control requirements.

The operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis.

c. Prior to filing of the Notice of Termination or the end of permit term, the operator shall have the qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization[17] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

d. The operator shall certify that the requirements of Parts III.D.3., III.D.4. and III.D.5 of this permit have been satisfied within 48 hours of actually meeting such requirements.

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16 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

17 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

4. **Stabilization**[18] - The operator shall initiate stabilization measures as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply in the following instances:

a. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable;

b. Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures need not be initiated on that portion of the site.

5. **Maintenance** - Sediment shall be removed from sediment traps or sediment ponds whenever their capacity has been reduced by fifty (50) percent from the design capacity.

[18] "Stabilization" means covering or maintaining an existing cover over soil. Cover can be vegetative (e.g. grass, trees, seed and mulch, shrubs, or turf) or non-vegetative (e.g. geotextiles, riprap, or gabions).

E. **Contractors**

1. The SWPPP must clearly identify for each measure identified in the SWPPP, the contractor(s) and subcontractor(s) that will implement the measure. All contractors and subcontractors identified in the SWPPP must sign a copy of the certification statement in Part III.E.2 (see below) of this permit in accordance with Part V.H.(see page 19) of this permit. All certifications must be included in the SWPPP. Additionally, new contractors and subcontractors (see subsection C.3. above) need to similarly certify.

2. **Certification Statement** - All contractors and subcontractors identified in a SWPPP in accordance with Part III.E.1 (see above) of this permit shall sign a copy of the following certification statement before undertaking any construction activity at the site identified in the SWPPP:

> "I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge stormwater. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

The certification must include the name and title of the person providing the signature in accordance with Part V.H.(see page 19) of this permit; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

Part IV. MONITORING, REPORTING AND RETENTION OF RECORDS

A. The Department may, at its sole discretion, require monitoring of discharge(s) from the permitted construction activity after notifying the permittee in writing of the basis for such monitoring, the parameters and frequency at which monitoring shall occur and the associated reporting requirements, if any.

B. The operator shall retain copies of SWPPPs and any reports submitted in conjunction with this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that the site is finally stabilized. This period may be extended by the Department, in its sole discretion, at any time upon written notification.

C. The operator shall retain a copy of the SWPPP required by this permit at the construction site from the date of initiation of construction activities to the date of final

stabilization.

D. The operator shall also prepare a written summary of its status with respect to compliance with this general permit at a minimum frequency of every three months during which coverage under this permit exists. The summary should address the status of achieving each component of the SWPPP . This summary shall be handled in the same manner as prescribed for SWPPPs under Part III, subsection B (see Page 9).

E. **Addresses** - Except for the submittal of NOIs and NOTs, all written correspondence under this permit directed to the Department, including the submittal of individual permit applications, shall be sent to the address of the appropriate Department Office as listed in Appendix A (see page 23).

Part V. STANDARD PERMIT CONDITIONS

A. **Duty to Comply** - The operator must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the ECL and is grounds for an enforcement action against either the operator or the contractor/subcontractor; permit revocation or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all construction activity at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the operator or the operator's on-site representative.

B. **Continuation of the Expired General Permit** - This permit expires five (5) years after issuance on January 8, 2008. However, coverage may be obtained under the expired general permit which will continue in force and effect until a new general permit is issued. After issuance of a new general permit, those with coverage under GP-02-01 will have six (6) months from the effective date of the new general permit to complete their project or obtain coverage under the new permit. Unless otherwise notified by the Department in writing, operators seeking authorization under a new general permit must submit a new NOI in accordance with the terms of such new general permit. See also Part I, subsection D.8. on page 6.

C. **Penalties for Violations of Permit Conditions** - There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $25,000 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. **Need to halt or reduce activity not a defense** - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the construction activity in order to maintain compliance with the conditions of this permit.

E. **Duty to Mitigate** - The permittee and its contractors and subcontractors shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. **Duty to Provide Information** - The permittee shall furnish any information requested by any agency with regulatory or review authority over this project for the purpose of determining compliance with this permit or compliance with any other regulatory requirements placed on the project in conjunction with this permit. Failure to provide requested information shall be a violation of this permit. Such regulating agencies include but are not limited to the Department, SWCDs,[19] local planning, zoning, health, and building departments that review and approve erosion and sediment control plans, grading plans, and Stormwater Management Plans, as well as MS4s into whose system runoff from the permitted project or activity discharges. The SWPPP and inspection reports required by this general permit are public documents that the operator must make available for inspection, review and copying by any person within five (5) business days of the operator receiving a written request by any such person to review the SWPPP and/or the inspection reports. Copying of documents will be done at the requester's expense.

G. **Other Information** - When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Department, he or she shall promptly submit such facts or information.

H. **Signatory Requirements** - All NOIs, NOTs, SWPPPs, reports, certifications or information required by this permit or submitted pursuant to this permit, shall be signed as follows:

1. All NOIs and NOTs shall be signed as follows:

   a. For a corporation: by (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person authorized to and who performs similar policy or decision-making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

[19] "SWCD" means Soil and Water Conservation District

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and all reports required by the permit and other information requested by the Department or local agency shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above and submitted to the Department.

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

c. **Certification** - Except for NOIs and NOTs, any person signing documents in accordance with this Part shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

I. **Property Rights** - The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

J. **Severability** - The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. **Denial of Coverage Under This Permit**

1. At its sole discretion, the Department may require any person authorized by this permit to apply for and/or obtain either an individual SPDES permit or an alternative SPDES general permit. Where the Department requires a discharger authorized to discharge under this permit to apply for an individual SPDES permit, the Department shall notify the discharger in writing that a permit application is required. This notification shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the discharger to file the application, and a statement that on the effective date of issuance or denial of the individual SPDES permit or the alternative general permit as it applies to the individual permittee, coverage under this general permit shall automatically terminate. Applications shall be submitted to the appropriate Department Office indicated in Appendix A of this permit. The Department may grant additional time to submit the application upon request of the applicant. If a discharger fails to submit in a timely manner an individual SPDES permit application as required by the Department under this paragraph, then the applicability of this permit to the individual SPDES permittee is automatically terminated at the end of the day specified by the Department for application submittal.

2. Any discharger authorized by this permit may request to be excluded from the coverage under this permit by applying for an individual permit. In such cases, the permittee shall submit an individual application in accordance with the requirements of 40 CFR 122.26(c)(1)(ii) and 6 NYCRR Part 621, with reasons supporting the request, to the Department at the address for the appropriate Department Office (see addresses in Appendix A on page 23 of this permit). The request may be granted by issuance of an individual permit or an alternative general permit at the discretion of the Department.

3. When an individual SPDES permit is issued to a discharger covered by this permit, or the discharger is authorized to discharge under an alternative SPDES general permit, the applicability of this permit to the individual SPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual SPDES permit is denied to an operator otherwise subject to this permit, or the operator is denied for coverage under an alternative SPDES general permit, the applicability of this permit to the individual SPDES permittee is automatically terminated on the date of such denial, unless otherwise specified by the Department.

L. **Proper Operation and Maintenance** - The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of SWPPPs. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

M. **Inspection and Entry** - The permittee shall allow the Department or an authorized representative of EPA, the State, or, in the case of a construction site which discharges through an MS4, an authorized representative of the MS4 receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

N. **Permit Actions** - At the Department's sole discretion, this permit may, at any time, be modified, revoked, or renewed. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not stay compliance with any terms of this permit.

APPENDIX A

List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	Bldg 40 - SUNY @ Stony Brook Stony Brook, NY 11790-2356 Tel. (631) 444-0365	Bldg 40 - SUNY @ Stony Brook Stony Brook, NY 11790-2356 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	200 White Plains Road, 5th Floor Tarrytown, NY 10591-5805 Tel. (845) 332-1835
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	Route 86, PO Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Hudson Street Warrensburg, NY 12885-0220 Tel. (518) 623-1200
6	Herkimer, Jefferson, Lewis, Oneida and St. Lawrence	State Office Building 317 Washington Street Watertown, NY 13601-3787 Tel. (315) 785-2245	State Office Building 207 Genesee Street Utica, NY 13501-2885 Tel. (315) 793-2554
7	Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga and Tompkins	615 Erie Blvd. West Syracuse, NY 13204-2400 Tel. (315) 426-7438	615 Erie Blvd. West Syracuse, NY 13204-2400 Tel. (315) 426-7500
8	Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne and Yates	6274 East Avon-Lima Road Avon, NY 14414-9519 Tel. (585) 226-2466	6274 East Avon-Lima Rd. Avon, NY 14414-9519 Tel. (585) 226-2466
9	Allegany, Cattaraugus, Chautauqua, Erie, Niagara and Wyoming	270 Michigan Avenue Buffalo, NY 14203-2999 Tel. (716) 851-7165	270 Michigan Ave. Buffalo, NY 14203-2999 Tel. (716) 851-7070

APPENDIX B

Information Required of Construction Activities Which Are Identified Under Part I, subsection D.7. (see page 5)

A. The location (including a map) and the nature of the construction activity;

B. The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

C. Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

D. Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

E. An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of the fill material and existing data describing the soil or the quality of the discharge; and

F. The name of the receiving water(s).

APPENDIX 5

NOTICE OF INTENT (NOI)

0644089821

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
Trans-Hudson Management Corp.

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Borden

Owner/Operator Contact Person First Name
Neal

Owner/Operator Mailing Address
2050 Center Avenue

City
Fort Lee

State
NJ

Zip
07024 -

Phone (Owner/Operator)
2016093664

Fax (Owner/Operator)
- -

Email (Owner/Operator)
nborden@trans-hudson.com

FED TAX ID
- (not required for individuals)

Project Site Information

Project/Site Name

Street Address (NOT P.O. BOX)

Side of Street
○ **North** ○ **South** ● **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)

State Zip - County DEC Region 3

Name of Nearest Cross Street

Distance to Nearest Cross Street (Feet)

Project In Relation to Cross Street
● **North** ○ **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting) **Y Coordinates (Northing)**

2. What is the nature of this construction project?

○ **New Construction**

○ **Redevelopment with increase in impervious area**

○ **Redevelopment with no increase in impervious area**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ○ PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ○ PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- ○ OTHER

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	**Total Area To Be Disturbed**	**Existing Impervious Area To Be Disturbed**	**Future Impervious Area Within Disturbed Area**
.	.	.	.

5. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ● **No**

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	**B**	**C**	**D**
%	%	%	%

7. Is this a phased project? ○ **Yes** ● **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date / / - **End Date** / /

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-15-002? ○ **Yes** ○ **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-15-002? ○ **Yes** ○ **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ○ **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ○ **No**
If Yes, what is the acreage to be disturbed?

.

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ **Yes** ○ **No**

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ **Yes** ○ **No** ○ **Unknown**

16. What is the name of the municipality/entity that owns the separate storm sewer system?

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ **Yes** ○ **No** ○ **Unknown**

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ **Yes** ○ **No**

19. Is this property owned by a state authority, state agency, federal government or local government? ○ **Yes** ○ **No**

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ **Yes** ○ **No**

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ○ **Yes** ○ **No**

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ○ **Yes** ○ **No**
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ○ **Yes** ○ **No**

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ● **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer

Contact Name (Last, Space, First)

Mailing Address

City

State Zip -

Phone - -

Fax - -

Email

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name

MI B

Last Name

Signature

Date / /

25. Has a construction sequence schedule for the planned management practices been prepared? ○ Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ○ Silt Fence
- ○ Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ○ Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ☐ **Preservation of Undisturbed Areas**
- ☐ **Preservation of Buffers**
- ☐ **Reduction of Clearing and Grading**
- ☐ **Locating Development in Less Sensitive Areas**
- ☐ **Roadway Reduction**
- ☐ **Sidewalk Reduction**
- ☐ **Driveway Reduction**
- ☐ **Cul-de-sac Reduction**
- ☐ **Building Footprint Reduction**
- ☐ **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ☐ All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

- ☐ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

☐☐☐.☐☐☐ **acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)		and/or	
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or	
○ Tree Planting/Tree Pit (RR-3)		and/or	
○ Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			
○ Rain Garden (RR-6)			
○ Stormwater Planter (RR-7)			
○ Rain Barrel/Cistern (RR-8)			
○ Porous Pavement (RR-9)			
○ Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			
● Infiltration Basin (I-2)			
○ Dry Well (I-3)			
○ Underground Infiltration System (I-4)			
● Bioretention (F-5)			
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
○ Pocket Pond (P-5)			
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
● Hydrodynamic	
○ Wet Vault	
○ Media Filter	
○ Other	

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

. **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

○ **Yes** ● **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

. **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

● **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). [ ][ ][ ].[ ][ ][ ]

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ◉ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

[ ][ ][ ].[ ][ ][ ] **acre-feet**

CPv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

○ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP
- ○ Other
- ○ None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ○ **No**
If Yes, Indicate Size of Impact. .

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ **Yes** ○ **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name

MI

Print Last Name

Owner/Operator Signature

Date

/ /

APPENDIX 6

NOTICE OF TERMINATION (NOT)

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:	
Title/Position:	
Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

APPENDIX 7

MS4 ACCEPTANCE FORM

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Contact Person:
14. Street Address:
15. City/State/Zip:
16. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

APPENDIX 8

NRCS SOIL RESOURCES REPORT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Orange County, New York

October 6, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,300 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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 1:15,800.

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: Orange County, New York
Survey Area Data: Version 22, Aug 29, 2021

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

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ab	Alden silt loam	0.6	4.7%
ErA	Erie gravelly silt loam, 0 to 3 percent slopes	9.8	72.7%
MdB	Mardin gravelly silt loam, 3 to 8 percent slopes	3.0	22.6%
Totals for Area of Interest		**13.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Orange County, New York

Ab—Alden silt loam

Map Unit Setting

National map unit symbol: 9vtc
Elevation: 300 to 1,500 feet
Mean annual precipitation: 42 to 52 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 135 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Alden and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alden

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: A silty mantle of local deposition overlying loamy till

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 36 inches: silt loam
H3 - 36 to 60 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: F144AY040NY - Semi-Rich Very Wet Till Depressions
Hydric soil rating: Yes

Minor Components

Canandaigua

Percent of map unit: 5 percent
Landform: Depressions

Hydric soil rating: Yes

Carlisle

Percent of map unit: 5 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Wayland

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Erie

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: No

ErA—Erie gravelly silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9vv8
Elevation: 100 to 1,360 feet
Mean annual precipitation: 42 to 52 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 135 to 215 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Erie and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Erie

Setting

Landform: Drumlinoid ridges, hills, till plains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy till derived from siltstone, sandstone, shale, and limestone

Typical profile

H1 - 0 to 10 inches: gravelly silt loam
H2 - 10 to 18 inches: channery silt loam
H3 - 18 to 56 inches: channery silt loam
H4 - 56 to 70 inches: channery silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 10 to 21 inches to fragipan
Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Wurtsboro

Percent of map unit: 5 percent
Hydric soil rating: No

Bath

Percent of map unit: 5 percent
Hydric soil rating: No

Mardin

Percent of map unit: 5 percent
Hydric soil rating: No

Alden

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Swartswood

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: No

MdB—Mardin gravelly silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2v30j
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Mardin and similar soils: 85 percent
Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mardin

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 8 inches: gravelly silt loam
Bw - 8 to 15 inches: gravelly silt loam
E - 15 to 20 inches: gravelly silt loam
Bx - 20 to 72 inches: gravelly silt loam

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 14 to 26 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 13 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: D
Ecological site: F144AY008CT - Moist Till Uplands
Hydric soil rating: No

Minor Components

Volusia

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve, base slope, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Lordstown

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Mountaintop, interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Bath

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

APPENDIX 9

NEW YORK STANDARDS AND SPECS FOR EROSION AND SEDIMENT CONTROLS, APPENDIX H: CONSTRUCTION SITE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

CONSTRUCTION SITE LOG BOOK

Table of Contents

Properly completing forms such as those contained in Appendix H meet the inspection requirement of NYS-DEC SPDES GP for Construction Activities. Completed forms shall be kept on site at all times and made available to authorities upon request.

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. Preamble to Site Assessment and Inspections

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified professional[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Name (please print): _____

Title _____ **Date:** _____

Address: _____

Phone: _____ **Email:** _____

Signature: _____

c. Qualified Professional's Credentials & Certification

"I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (please print): _____

Title _____ **Date:** _____

Address: _____

Phone: _____ **Email:** _____

Signature: _____

d. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Entrance

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Perimeter Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:
Inspection Forms will be filled out during the entire construction phase of the project.
Required Elements:

(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

(4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

(6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name) **Date of Inspection**

Qualified Professional (print name) **Qualified Professional Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions
Yes No NA
[ ] [ ] [ ] Is construction site litter and debris appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing
Yes No NA
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Runoff Control Practices

1. Excavation Dewatering
Yes No NA
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

2. Level Spreader
Yes No NA
[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales
Yes No NA
[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Stabilized Construction Entrance

Yes No NA

[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation ___% of design capacity.

4. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.

Sediment accumulation is ___% of design capacity.

5. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design.
Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

b. Modifications to the SWPPP (To be completed as described below)

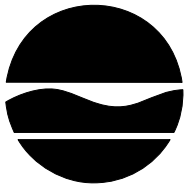
The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

APPENDIX 10

NYSDEC CONSTRUCTION STORMWATER INSPECTION MANUAL



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Construction Stormwater Inspection Manual

Primarily for Government Inspectors Evaluating Compliance with Construction Stormwater Control Requirements

New York State
Department of Environmental Conservation

TABLE OF CONTENTS

Version 1.05 (8/27/07)

ATTACHMENTS

1.0 INTRODUCTION AND PURPOSE

The New York State Department of Environmental Conservation Division of Water (DOW) considers there to be two types of inspections germane to construction stormwater; compliance inspections and self-inspections.

This manual is for use by DOW and other regulatory oversight construction stormwater inspectors in performing compliance inspections, as well as for site operators in performing self inspections. The manual should be used in conjunction with the *New York State Standards and Specifications for Erosion and Sediment Control*, August 2005.

1.1 Compliance Inspections

Regulatory compliance inspections are performed by regulatory oversight authorities such as DOW staff, or representatives of DOW and local municipal construction stormwater inspectors. These inspections are intended to determine compliance with the state or local requirements for control of construction stormwater through erosion and sediment control and post construction practices. Compliance inspections focus on determinations of compliance with legal and water quality standards. Typically, compliance inspections can be further sub-categorized to include comprehensive inspections, and follow-up or reconnaissance inspections.

Compliance inspectors will focus on determining whether:

- the project is causing water quality standard violations;
- the required Stormwater Pollution Prevention Plan (SWPPP) includes appropriate erosion and sediment controls and, to some extent, post construction controls;
- the owner/operator is complying with the SWPPP;
- where required, self-inspections are being properly performed; and
- where self-inspections are required, the owner/operator responds appropriately to the self-inspector's reports.

1.1.1 Comprehensive Inspection

Comprehensive inspections are designed to verify permittee compliance with all applicable regulatory requirements, effluent controls, and compliance schedules. This inspection involves records reviews, visual observations, and evaluations of management practices, effluents, and receiving waters.

Comprehensive inspections should be conducted according to a neutral or random inspection scheme, or in accordance with established priorities. A neutral monitoring scheme provides some objective basis for scheduling inspections and sampling visits by establishing a system (whether complex factor-based, alphabetic, or geographic) for setting prioritiesto ensure that a particular facility is not unfairly selected for inspection or sampling. The selection of which

facility to inspect must be made without bias to ensure that the regulatory oversight authority, if challenged for being arbitrary and capricious manner, can reasonably defend itself.

A neutral inspection scheme should set the criteria the inspector uses to choose which facilities to inspect, but the schedule for the actual inspection should remain confidential, and may be kept separate from the neutral plan.

A routine comprehensive compliance inspection is most effective when it is unannounced or conducted with very little advance warning.

1.1.2 Reconnaissance Inspection

A reconnaissance inspection is performed in lieu of, or following a comprehensive inspection to obtain a preliminary overview of an owner/operator's compliance program, to respond to a citizen complaint, or to assess a non-permitted site. The inspector performs a brief (generally about an hour) visual inspection of the site, discharges and receiving waters. A reconnaissance inspection uses the inspector's experience and judgement to summarize potential compliance problems, without conducting a full comprehensive inspection. The objective of a reconnaissance inspection is to expand inspection coverage without increasing inspection resource expenditures. The reconnaissance inspection is the shortest and least resource intensive of all inspections.

Reconnaissance inspections may be initiated in response to known or suspected violations, a public complaint, a violation of regulatory requirements, or as follow-up to verify that necessary actions were taken in response to a previous inspection.

1.2 Self-inspections

For some projects, the site owner/operator is required by their State Pollutant Discharge Elimination System (SPDES) Permit and/or local requirements to have a qualified professional[1] perform a "self-inspection" at the site. In self-inspections, the qualified professional determines whether the site is being managed in accordance with the SWPPP, and whether the SWPPP's recommended erosion and sediment controls are effective. If activities are not in accordance with the SWPPP, or if the SWPPP erosion and sediment controls are not effective, the qualified professional inspecting the site recommends corrections to the owner/operator.

[1] A "Qualified professional" is a person knowledgeable in the principles and practice of erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed landscape architect or soil scientist.

2.0 PRE-INSPECTION ACTIVITIES

2.1 Regulatory Oversight Authorities

This section is intended for inspectors with regulatory oversight authority such as agents of the DOW or a local municipality, or others acting on their behalf, such as county Soil and Water Conservation District staff. Examples of other regulatory oversight authorities include: the United States Environmental Protection Agency (EPA); New York City Department of Environmental Protection (DEP), Adirondack Park Agency (APA); the Lake George Park Commission (LGPC), and the Skaneateles Lake Watershed Authority (SLWA). Before arriving on-site to conduct the inspection, considerations concerning communication, documentation and equipment must be made.

Regulatory oversight authority is granted by state or local law to government agencies or, depending upon the particular law, an authorized representative of state or local government. SPDES rules 6 NYCRR 750-2.3 and Environmental Conservation Law 17-0303(6) and 17-0829(a) all allow for authorized representatives of the (NYSDEC) commissioner to perform all the duties of an inspector.

2.1.1 Communication

Coordination with Other Entities

Where appropriate, prior to selecting sites for inspection, compliance inspectors should communicate with other regulatory oversight authorities to avoid unnecessary duplication or to coordinate follow-up to inspections performed by other regulatory oversight authorities.

Announced vs. Unannounced Inspection

Inspections may be announced or unannounced. Each method has its own advantages and disadvantages. Unannounced inspections are preferred, however many job sites are not continuously manned, or not always staffed by someone who is familiar with the SWPPP, thus necessitating an announced inspection. As an alternative, when an announced inspection is necessary, inspectors should try to give as little advanced warning as possible (24 hours is suggested).

Itinerary

For obvious safety reasons, inspectors should be sure to inform someone in their office which site or sites they will be visiting prior to leaving the to perform inspections.

2.1.2 Documentation

Data Review

The inspector should review any available information such as:

- Notice of Intent
- Stormwater Pollution Prevention Plan
- Past inspection records
- Phasing plan

- Construction sequence
- Inspection and Maintenance schedules
- Site specific issues
- Consent Orders
- Access agreements

Inspection Form

The inspector should have copies of, and be familiar with, the inspection form used by their regulatory oversight authority (example in Attachment 1) before leaving the office. Static information such as name, location and permit number can be entered onto the inspection form prior to arriving at the inspection site.

Credentials

Inspectors should always carry proper identification to prove that they are employed by an entity with jurisdictional authority. Failure to display proper credentials may be legal grounds for denial of entry to a site.

2.1.3 Equipment

Personal Protective Equipment

DOW employees must conform to the DOW Health and Safety policy as it relates to personal protective equipment. Other regulatory oversight authorities should have their own safety policies or, if not, may wish to consult the OSHA health and safety tool at: www.osha.gov/dep/etools/ehasp/ to develop a health and safety plan.

The following is a list of some of the most common health and safety gear that may be needed:

- Hard hat (Class G, Type1 or better)
- Safety toe shoes
- Reflective vest
- Hearing protection (to achieve 85 dBA - 8 hr TWA)
- Safety glasses with side shields

If the construction is on an industrial site or a hazardous waste site, special training may be required prior to entering the site. The inspector should consult with OSHA or NYSDEC prior to entering such a site.

Monitoring Equipment

The following is a list of some equipment that may be helpful to document facts and verify compliance:

- Digital Camera
- Measuring tape or wheel
- Hand level or clinometer
- Turbidity meter (in limited circumstances)

2.2 Permittee's Self-inspection

This section is intended for qualified professionals who conduct site self-inspections on behalf of owner/operators. Self-inspectors are responsible for performing inspections in accordance with permit requirements and reporting to site owners and operators the results and any recommendations resulting from the inspection.

Prior to conducting inspections, qualified professionals should ensure familiarity with the Stormwater Pollution Prevention Plan and previous inspection reports.

3.0 ON-SITE INSPECTION PROCESS

3.1 Compliance Inspections

3.1.1 Professionalism

Don't Pretend to Possess Knowledge

Unless the inspector has experience with a particular management practice, do not pretend to possess knowledge. Inspectors cannot be expert in all areas; their job is to collect information, not to demonstrate superior wisdom. Site operators are often willing to talk to someone who is inquisitive and interested. Within reason, asking questions to obtain new information about a management practice, construction technique or piece of equipment is one of the inspector's main roles in an inspection.

Don't Recommend Solutions

The inspector should not recommend solutions or endorse products. The solution to a compliance problem may appear obvious based on the inspector's experience. However, the responsibility should be placed on the site owner to implement a workable solution to a compliance problem that meets NYSDEC standards. The inspector should refer the site operator to the New York Standards and Specifications for Erosion and Sediment Control (the Blue Book) or the New York State Stormwater Management Design Manual (the Design Manual).

Key advice must be offered carefully. One experienced stormwater inspector suggests saying: "I can't direct you or make recommendations, but what we've seen work in other situations is ..."

The way inspectors present themselves is important to the effectiveness of the inspection. An inspector cannot be overly familiar, but will be more effective if able to establish a minimum level of communication.

3.1.2 Safety

DOW employees must conform to Division health and safety policies when on a construction site. Other regulatory oversight authorities should have their own safety policies or, if not, may

wish to consult the OSHA health and safety tool at:

www.osha.gov/dep/etools/ehasp to develop a health and safety plan.

Some general protections for construction sites are:

- Beware of heavy equipment, avoid operator blind spots and make sure of operator eye contact around heavy equipment.
- Avoid walking on rock rip-rap if possible. Loose rock presents a slip hazard.
- Stay out of confined spaces like tanks, trenches and foundation holes.
- Avoid lightning danger. Monitor weather conditions, get out of water, avoid open areas and high points, do not huddle in groups or near trees.
- Protect yourself from sun and heat exposure. Use sun screen or shading clothing. Remain hydrated by drinking water, watching for signs of heat cramps, exhaustion (fatigue, nausea, dizziness, headache, cool or moist skin), or stroke (high body temperature; red, hot and dry skin)
- Protect yourself from cold weather. Wear multiple layers of thin clothing. Wear a warm hat. Drink warm fluids or eat hot foods, and keep dry.
- Avoid scaffolding in excess of 4 feet above grade.
- Beware of ticks, stinging insects, snakes and poison ivy or sumac.

3.1.3 Legal access

DOW has general powers, set forth under ECL 17-0303, subparagraph 6, to enter premises for inspections. In addition, ECL 3-0301.2 conveys general statutory authority granting the DOW the power to access private property to fulfill DOW obligations under the law.

ECL 15-0305 gives the DOW the authority to enter at all times in or upon any property, public or private, for the purpose of inspecting or investigating conditions affecting the construction of improvements to or developments of water resources for the public health, safety or welfare.

ECL 17-0829 allows an authorized DOW representative, upon presentation of their credentials, to enter upon any premises where any effluent source is located, or in which records are required to be maintained. The representative may at reasonable times have access to, and sample discharges/pollutants to the waters or to publicly owned treatment plants where the effluent source is located. This subparagraph provides DOW representatives performing their duties authority to enter a site to pursue administrative violations. Pursuing criminal violations may require a warrant or the owner's permission to enter the site.

For sites that are permitted, DOW has authority under the permit to enter the site.

If the owner/operator's representatives onsite deny access, the inspector *should not* physically force entry. Under these circumstances the attorney representing the inspector should be immediately notified and consideration should be given to soliciting the aid of a law officer to obtain entry.

DOW staff have the right to enter at any reasonable time. If no one is available, and the site is fenced or posted, DOW staff should make all reasonable efforts to identify, contact and notify the owner that the DOW is entering the site. If the inspector has made all reasonable efforts to contact site owners, but was unable to do so, the site can then be accessed. All efforts should be taken not to cause any damage to the facility.

Other regulatory oversight authorities should seek advice on their legal authorities to enter a job site. Municipalities that have adopted Article 6 of the New York State Sample Local Law for Stormwater Management and Erosion and Sediment Control (NYSDEC, 2004, updated 2006) will have legal authority to enter sites in accordance with that chapter and any other existing municipal authority .

Agents of DOW have authority similar DOW staff authority to enter sites. However, DOW staff enjoy significant personal liability protections as state employees. That liability protection may not be the same for authorized representatives of DOW. For authorized representatives of DOW (or other regulatory oversight authorities), it is prudent to obtain permission to enter the site. If such permission is denied, the authorized representatives should inform the appropriate DOW contact, usually the regional water manager.

3.1.4 Find the Legally Responsible Party (Construction Manager, Self-inspector)

The first action a compliance inspector should take upon entering a construction site is to find the construction trailer or the construction or project manager if they are available. The inspector should present appropriate identification to the site's responsible party and state the reason for the inspection; construction stormwater complaint response or neutral construction stormwater inspection. If the inspection is initiated as a response to a complaint, frequently the responsible party will ask who made the complaint. DOW keeps private individual complainants confidential. If the complainant is another regulatory oversight authority, DOW tends to make that known to the site's responsible party.

3.1.5 On-site records review (NOI, SWPPP, Self-inspection Reports, Permit)

Generally, the compliance inspector should next review the on-site records. Verify that a copy of the construction stormwater permit and NOI are on-site. Verify that the acreage, site conditions, and receiving water listed on the NOI are accurate. Compare the on-site documentation with documentation already submitted to, or obtained by the compliance inspector.

If the SWPPP has not been reviewed in the office, verify that it exists and contains the minimum required components (16 for a basic plan and 22 for a full plan). On-site review of the SWPPP should determine if: there is an appropriate phasing plan; the acreage disturbed in each phase, construction sequence for each phase; proposed implementation of erosion and sediment control measures; and, where required, post construction controls. For each of the erosion and sediment control practices, the SWPPP must show design details in accordance with the NYS Standards for Erosion and Sediment Controls. The SWPPP must also include provisions for maintenance of practices during construction. On-site review of post construction controls is generally limited to verification that the proposed stormwater management practices are shown on the site plan.

Where self-inspections are required, self-inspection reports are a significant tool for the compliance inspector to determine the performance history of the site. The self-inspection reports should be done with the required frequency . Self-inspection reports must include all the details required by the permit. Generally, it is desirable for permit information to be shown on a site plan. The compliance inspector should become familiar with the report and use that familiarity to judge whether the self-inspections are being performed correctly and that the site operator is correcting deficiencies noted in the report.

3.1.6 Walk the Site

During wet weather conditions, it may be advantageous to observe the receiving waters prior to walking the rest of the site. At some point during the inspection, the receiving water conditions must be observed and noted. It is critical to note if there is a substantial visible contrast to natural conditions, or evidence of deposition, streambank erosion, construction debris or waste materials (e.g. concrete washdown) in the receiving stream.

Each inspector should evaluate actual implementation and maintenance of practices on-site compared to how implementation and maintenance is detailed in the SWPPP. At a minimum, the compliance inspector should observe all areas of active construction. Observing equipment or materials storage, recently stabilized areas, or stockpile areas is also appropriate to evaluate the effectiveness of management practices.

3.1.7 Taking Photographs

Evidence of poor receiving water conditions and poor or ineffective practices should be documented with digital photographs. Those photographs should be logged date stamped and stored on media that cannot be edited (e.g. write only CDs). Photos should also be appended to the site inspector's report.

It is also beneficial to take photographs of good practices for educational and technology transfer reasons.

3.1.8 Exit Interview

Clearly communicate expectations and consequences. If it is clear from the inspection that the owner/operator must modify the SWPPP, or modify management practices within an assigned period (e.g. 24 hours, 48 hours, one week, two weeks), then that finding should be communicated at the time of the exit interview. The inspector should assign the period based on factors such as how long it would reasonably take to complete such modifications and the level of risk to water quality associated with failure to make such modifications.

The inspector should make clear that NYSDEC reserves rights to future enforcement actions. If the inspector's supervisor or enforcement coordinator determines additional enforcement actions are necessary, the inspector *should not* reassure the owner/operator that the current situation is acceptable.

3.2 Non-permitted Site Inspections

For sites not authorized in accordance with state or local laws, the process will be abbreviated. First verify the need for authorization and observe receiving waters to detect water quality standard violations. If there is a violation, notify the owner of the violation or other compliance actions in response to their illicit activity. For DOW staff, Attachment 2 or a similar notice can be used to notify the site owner/operator that stormwater authorization is required.

3.3 Self-inspections

The role of the self-inspector is to verify that the site is complying with stormwater requirements. In particular, the self-inspector verifies that the SWPPP is being properly implemented. The self-inspector also documents SWPPP implementation so regulatory agencies can review implementation activities.

It is <u>not</u> the role of the self-inspector to report directly to regulatory authorities.

Appendix H of *The New York Standards and Specifications for Erosion and Sediment Control* - August 2005 (the Blue Book) includes a Construction Duration Inspection checklist that can be used by the owner/operators qualified professional for self-inspections. The Blue Book is available on the NYSDEC website.

3.3.1 Purpose

The self inspector should ensure that the project's SWPPP is being properly implemented. This includes ensuring that the erosion and sediment control practices are properly installed and being maintained in accordance with the SWPPP/Blue Book.

The project must be properly phased to limit the disturbance to less than five acres, and the construction sequence for each phase must be followed. The SWPPP must also be modified to address evolving circumstances. Finally, and most importantly, receiving waters must be protected.

If a soil disturbance will be greater than five acres at any given time, the site operator must obtain written permission from the DOW regional office.

3.3.2 Pre-construction Conference

The parties responsible for various aspects of stormwater compliance should be identified at the pre-construction conference. Responsible parties may include, but are not limited to, owner's engineer, owner/operator/permittee, contractors, and subcontractors.

Typical responsibilities include: installation of erosion and sediment control (E & SC) practices; maintenance of E & SC practices, inspection of E&SC practices, installation of post construction stormwater management practices (SMPs), inspection of post construction SMPs, SWPPP revisions, and contractor direction.

All parties should clearly know what is expected of them. Responsible parties should complete the Pre-construction Site Assessment Checklist provided in Appendix H of the Blue Book.

3.3.3 Inspection Preparation

The inspector should review the project's SWPPP (including the phasing plan, construction sequence and site specific issues) and the last few inspection reports (if the inspector has them available).

3.3.4 Self-inspection Components

Inspect installation, performance and maintenance of all E&SC practices

The self inspector should inspect all areas that are under active construction or disturbance and areas that are vulnerable to erosion. The self-inspector should also inspect areas that will be disturbed prior to the next inspection for measures required prior to construction (e.g. silt barriers, stabilized construction entrance, diversions). Finally, self-inspectors should inspect post-construction controls during and after installation.

Identify site deficiencies and corrective measures

The self-inspector's reports must be maintained in a log book on site and the log book must be made available to the regulatory authorities. Although the legal responsibility for filing a Notice of Termination lies with the owner/operator, the self-inspector may also be called upon to perform a final site inspection, including post construction SMPs, prior to filing the Notice of Termination.

4.0 POST-INSPECTION ACTIVITIES

4.1 Regulatory Oversight Authorities

This section is intended for inspectors with regulatory oversight authority such as agents of the DOW or a local municipality, or others acting on their behalf (such as County Soil and Water Conservation District staff.) Upon completion of an inspection, inspection results should be documented for the record.

4.1.1 Written Notification

The inspector should inform the permittee or the on-site representative of their inspection results in writing by sending the permittee a complete, signed copy of the inspection report. The inspection report should be transmitted under a cover letter which elaborates on any deficiencies noted in the inspection report. It is not a good idea to commend exceptional efforts by the owner/operator in a letter, because such letters tend to undermine enforcement efforts when compliance status at a site degrades.

The inspector should consider providing a copy of the cover letter and inspection report to other parties with including:

- Permittee
- Contractor(s)
- Other regulatory oversight authorities
- Other parties present during the inspection (e.g. SWPPP preparer, permittee's self-inspector, etc.)

For DOW staff, an example of the inspection cover letter is included as Attachment 3.

4.1.2 Inspection Tracking

DOW staff must enter their inspection results into the electronic *Water Compliance System*.

Local municipalities and other regulatory oversight authorities are encouraged to develop an electronic tracking system in which to record their inspections.

4.2 Permittee's Self-inspections

This section is intended for qualified professionals who conduct site inspections for permittees in accordance with a SPDES permit or local requirements.

4.2.1 Written Records

Inspection Reports
The inspector shall prepare a written report summarizing inspection results. The inspection report is then provided to the permittee, or the permittee's duly authorized representative, and to the contractor responsible for implementing stormwater controls on-site in order to correct deficiencies noted in the inspection report. Finally, the inspection report must be added to the site log book that is required to be maintained on-site, and be available to regulatory oversight authorities for review.

4.2.2 Stormwater Pollution Prevention Plan Revisions

The inspector must inform the permittee of his/her duty to amend the Stormwater Pollution Prevention Plan (SWPPP) whenever an inspection proves the SWPPP to be ineffective in:

- Eliminating or significantly minimizing pollutants from on-site sources
- Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity
- Eliminating discharges that cause a substantial visible contrast to natural conditions

ATTACHMENT 1

Construction Stormwater Compliance Inspection Report

Project Name and Location: Municipality: County:	Date:	Page 1 of 2
	Permit # (if any): **NYR**	
	Entry Time:	Exit Time:
On-site Representative(s) and contact information:	Weather Conditions:	
Name and Address of SPDES Permittee/Title/Phone/Fax Numbers: Contacted: Yes ☐ No ☐		

INSPECTION CHECKLIST

SPDES Authority

	Yes	No	N/A		Law, rule or permit citation
1.	☐	☐	☐	Is a copy of the NOI posted at the construction site for public viewing?	
2.	☐	☐	☐	Is an up-to-date copy of the signed SWPPP retained at the construction site?	
3.	☐	☐	☐	Is a copy of the SPDES General Permit retained at the construction site?	

SWPPP Content

	Yes	No	N/A		Law, rule or permit citation
4.	☐	☐	☐	Does the SWPPP describe and identify the erosion & sediment control measures to be employed?	
5.	☐	☐	☐	Does the SWPPP provide a maintenance schedule for the erosion & sediment control measures?	
6.	☐	☐	☐	Does the SWPPP describe and identify the post-construction SW control measures to be employed?	
7.	☐	☐	☐	Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?	
8.	☐	☐	☐	Does the SWPPP include all the necessary 'CONTRACTOR CERTIFICATION' statements?	
9.	☐	☐	☐	Is the SWPPP signed/certified by the permittee?	

Recordkeeping

	Yes	No	N/A		Law, rule or permit citation
10.	☐	☐	☐	Are inspections performed as required by the permit (every 7 days and after ½" rain event)?	
11.	☐	☐	☐	Are the site inspections performed by a qualified professional?	
12.	☐	☐	☐	Are all required reports properly signed/certified?	
13.	☐	☐	☐	Does the SWPPP include copies of the monthly/quarterly written summaries of compliance status?	

Visual Observations

	Yes	No	N/A		Law, rule or permit citation
14.	☐	☐	☐	Are all erosion and sediment control measures installed/constructed?	
15.	☐	☐	☐	Are all erosion and sediment control measures maintained properly?	
16.	☐	☐	☐	Have all disturbances of 5 acres or more been approved prior to the disturbance?	
17.	☐	☐	☐	Are stabilization measures initiated in inactive areas?	
18.	☐	☐	☐	Are permanent stormwater control measures implemented?	
19.	☐	☐	☐	Was there a discharge into the receiving water on the day of inspection?	
20.	☐	☐	☐	Are receiving waters free of there evidence of turbidity, sedimentation, or oil ? (If no , complete Page 2)	

Overall Inspection Rating: ❑ Satisfactory ❑ Marginal ❑ Unsatisfactory	
Name/Agency of Lead Inspector:	**Signature of Lead Inspector:**
Names/Agencies of Other Inspectors:	

Water Quality Observations

Describe the discharge(s) [source(s), impact on receiving water(s), etc.] _____

_____

_____

_____

_____

Describe the quality of the receiving water(s) both upstream and downstream of the discharge_____

_____

_____

_____

_____

Describe any other water quality standards or permit violations _____

_____

_____

Additional Comments:_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

☐ Photographs attached

ATTACHMENT 2

**** NOTICE ****

On March 10, 2003, provisions of the Federal Clean Water Act went into effect that apply to many construction operations.

If your construction operations result in the disturbance of one acre or greater and stormwater runoff from your site reaches surface waters (i.e., lake, stream, road side ditch, swale, storm sewer system, etc.), the stormwater runoff from your site must be covered by a State Pollutant Discharge Elimination System (SPDES) Permit issued by the New York State Department of Environmental Conservation (NYSDEC).

To facilitate your compliance with the law, NYSDEC has issued a General Permit which may be applicable to your project. To obtain coverage under this General Permit, you need to prepare a Stormwater Pollution Prevention Plan (SWPPP) and then file a Notice of Intent (NOI) to the NYSDEC headquarters in Albany. The NOI form is available on the DEC website. You may also obtain a copy of the NOI form at the nearest NYSDEC regional offices.

When you file your NOI you are certifying that you have developed a SWPPP and that it will be implemented prior to commencing construction. When you submit the NOI you need to indicate if your SWPPP is in conformance with published NYSDEC technical standards; if it is, your SPDES permit coverage will be effective in as few as five business days. If your SWPPP does not conform to the DEC technical standards, coverage will not be available for at least 60 business days.

Failure to have the required permit can result in legal actions which include Stop Work Orders and/or monetary penalties of up to $37,500/day

If your construction operations are already in progress and you are not covered by an appropriate NYSDEC permit contact the NYSDEC Regional Water Engineer as soon as possible. If your construction field operations have not yet commenced, review the NOI and the General Permit on the DEC's website or at the DEC regional office for your area. When you are comfortable that you understand and comply with the requirements, file your NOI.

The requirement to file an NOI does not replace any local requirements. Developers/Contractors are directed to contact the Local Code Enforcement Officer or Stormwater Management Officer for local requirements.

ATTACHMENT 3

<< Date >>

Mr. John Smith
123 Main Street
Ferracane, NY 12345

Re: Stormwater Inspection
SPDES Permit Identification No. NYR10Z000 (through SPDES No. GP-02-01)
Blowing Leaves Subdivision
Gasper (T), Eaton (Co.)

Dear Mr. Smith:

On the afternoon of << date >> I conducted an inspection of the construction activities associated with the Blowing Leaves Subdivision located on County Route 1 in the town of Gasper, Eaton County. The inspection was conducted in the presence of you and Mr. Samuel Siltfence of Acme Excavating Co., Inc. The purpose of the inspection was to verify compliance with the *State Pollutant Discharge Elimination System (SPDES) General Permit for Storm Water Discharges from Construction Activity* ("the general permit").

The overall rating for the project at the time of the inspection was ***unsatisfactory***. A copy of my inspection report is attached for your information. In addition to the report, I would like to elaborate on the following:

SPDES Authority

- In accordance with subdivision 750-2.1 (a) of Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR), a copy of your permit must be retained at the construction site. You did not have a copy of the general permit at the site. **Your failure to retain a copy of the general permit at the construction site is a violation of 6 NYCRR Part 750-2.1 (a).** Please retain a copy of the general permit at the site from this point forward.

SWPPP Content

- In accordance with Part III.E.2. of the general permit, contractors and subcontractors must certify that they understand the terms and conditions of the general permit and the SWPPP before undertaking any construction activity at the site. Your SWPPP does not include a certification statement from Acme Excavating Co., Inc. **The failure of your contractor to sign this certification before undertaking construction activity at the site is a violation of Part III.E.2. of the general permit.** Please obtain copies of all necessary certifications and provide copies of them to each party who holds a copy of your SWPPP.

- In accordance with Part V.H.2. of the general permit, SWPPP's must be certified by the permittee. Your SWPPP was not certified by you. **Your failure to certify your SWPPP is a**

violation of Part V.H.2. of the general permit. Please certify your SWPPP.

Recordkeeping

- In accordance with Parts III.D.3.a. and III.D.3.b. of the general permit, permittees must have a qualified professional conduct site inspections within 24 hours of the end of 0.5" or greater rain events and at least once per week. A review of your records revealed that your "self-inspections" are only being conducted about two or three times per month. **Your failure to have a qualified professional conduct inspections at the required frequency is a violation of Part III.D.3.b. of the general permit.** Please immediately direct your qualified professional to conduct your site inspections at the required frequency.

- Although the frequency of self-inspections does not meet rquirements, the quality of them is very good. Your qualified professional has accurately noted the same SWPPP deficiencies and necessary maintenance activities that I also observed, and prepared thorough sketches on the self-inspection site maps.

- In accordance with Part V.H.2. of the general permit, the permittee must certify all reports required by the permit. A review of your records showed that your self-inspection reports were not certified. **Your failure to certify your self-inspection reports is a violation of Part V.H.2. of the general permit.** Please sign and certify any and all existing and future self-inspection reports.

Visual Observations

- In accordance with Parts III.A.2. and III.A.3. of the general permit, all erosion and sediment controls (E&SC) measures must be installed (as detailed in the SWPPP) prior to the initiation of construction. During the inspection, I noted all of your E&SC measures have been correctly installed at the right times and locations.

- In accordance with Part V.L. of the general permit, all of the E&SC measures at your site must be maintained properly. While on site I observed that, among other things, the section of silt fence in place parallel to County Route 1 is in various stages of disrepair. **The failure of your contractor to adequately maintain the E&SC measures currently in place at your site is a violation of Part V.L of the general permit.** Please direct your contractor to repair this silt fence immediately and to diligently maintain all of the other required E&SC measures as they are brought to his attention by your qualified professional.

- This inspection was conducted during a rain event which resulted in a stormwater discharge to the municipal separate storm sewer system (MS4) being operated by the Eaton County Department of Public Works. Your discharge was visibly turbid whereas upstream water MS4 was clear. As a result, the discharge from the MS4 outfall into Karimipour Creek was causing

Mr. John Smith
Re: SPDES Inspection
Blowing Leaves Subdivision
Gasper (T), Eaton (Co.)

<< Date >>

slight turbidity. Please be advised that the narrative water quality standard for turbidity in Karimipour Creek is "no increase that will cause a substantial visible contrast to natural conditions." I attribute the lack of maintenance of your E&SC measures to be the primary cause of the turbid discharge. Please be reminded that the general permit does not authorize you cause or contribute to a condition in contravention of any water quality standards.

If you have any questions or comments, please feel free to contact me at (999) 456-5432.

Sincerely,

Hector D. Inspector, CPESC
Environmental Program Specialist 2

HDI:ms
Attachment

cc w/att.: Chester Checkdam, (T) Gasper Code Enforcement Officer
Samuel Siltfence, Acme Excavating Co., Inc.

APPENDIX 11

CONTRACTOR CERTIFICATION

CONTRACTOR'S CERTIFICATION
Pursuant to
NYS DEC GENERAL PERMIT GP-0-20-001

Pursuant to the SPDES General Permit for Stormwater Discharges from Construction Activity (Permit GP-0-20-001) Part III.a.6, all contractors and subcontractors implementing all, or a portion of the Stormwater Pollution Prevention Plan (SWPPP) shall sign a copy of the following certification statement before undertaking any construction activity at the site identification in the SWPPP:

> *"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"*

_____	_____	_____
Signature	Print Name	Date

Contracting Firm Information:

Contracting Firm Name:

Address:

Telephone Number:

Address of Site: _____

Name of trained individual responsible for SWPPP implementation, and who shall be on site on a daily basis when soil disturbance activities are being performed:

Name: _____ Title: _____

APPENDIX 12

NYSDEC DEEP-RIPPING & DECOMPACTION MANUAL

APRIL 2008

New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

April 2008

New York State
Department of Environmental Conservation

Document Prepared by:

John E. Lacey,
Land Resource Consultant and Environmental Compliance Monitor
(Formerly with the Division of Agricultural Protection and Development Services,
NYS Dept. of Agriculture & Markets)

Alternative Stormwater Management
Deep-Ripping and Decompaction

Description

The two-phase practice of 1) “Deep Ripping;” and 2) “Decompaction” (deep subsoiling), of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compression; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

Deep Ripping and Decompaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil’s water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

In a humid climate region, compaction damage on a site is virtually guaranteed over the duration of a project. Soil in very moist to wet condition when compacted, will have severely reduced permeability. Figure 1 displays the early stage of the deep-ripping phase (Note that all topsoil was stripped prior to construction access, and it remains stockpiled until the next phase – decompaction – is complete). A heavy-duty tractor is pulling a three-shank ripper on the first of several series of incrementally deepening passes through the construction access corridor's densely compressed subsoil material. Figure 2 illustrates the approximate volumetric composition of a loam surface soil when conditions are good for plant growth, with adequate natural pore space for fluctuating moisture conditions.

Fig. 1. A typical deep ripping phase of this practice, during the first in a series of progressively deeper “rips” through severely compressed subsoil.

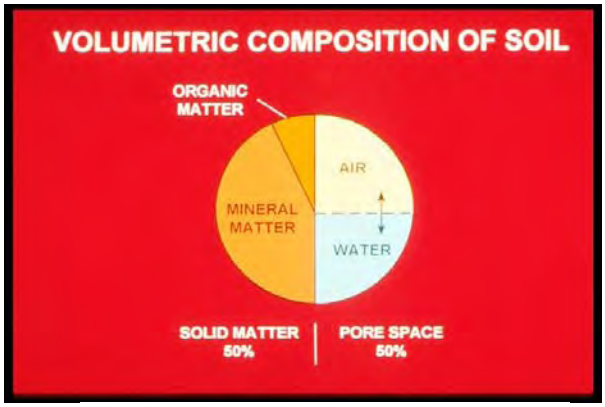


Fig. 2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.

Recommended Application of Practice

The objective of Deep Ripping and Decompaction is to effectively fracture (vertically and laterallly) through the thickness of the physically compressed subsoil material (see Figure 3), restoring soil porosity and permeability and aiding infiltration to help reduce runoff. Together with topsoil stripping, the "two-phase" practice of Deep Ripping and Decompaction first became established as a "best management practice" through ongoing success on commercial farmlands affected by heavy utility construction right-of-way projects (transmission pipelines and large power lines).

Fig. 3. Construction site with significant compaction of the deep basal till subsoil extends 24 inches below this exposed cut-and-fill work surface.

Soil permeability, soil drainage and cropland productivity were restored. For broader construction application, the two-phase practice of Deep Ripping and Decompaction is best adapted to areas impacted with significant soil compaction, on contiguous open portions of large construction sites and inside long, open construction corridors used as temporary access over the duration of construction. Each mitigation area should have minimal above-and-below-ground obstructions for the easy avoidance and maneuvering of a large tractor and ripping/decompacting implements. Conversely, the complete two-phase practice is not recommended in congested or obstructed areas due to the limitations on tractor and implement movement.

Benefits

Aggressive "deep ripping" through the compressed thickness of exposed subsoil before the replacement/respreading of the topsoil layer, followed by "decompaction," i.e.: "sub-soiling," through the restored topsoil layer down into the subsoil, offers the following benefits:

- Increases the project (larger size) area's direct surface infiltration of rainfall by providing the open site's mitigated soil condition and lowers the demand on concentrated runoff control structures

- Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures

- Decreases runoff volume generated and provides hydrologic source control

- May be planned for application in feasible open locations either alone or in

conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas

- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root-system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility / Limitations

The effectiveness of Deep Ripping and Decompaction is governed mostly by site factors such as: the original (undisturbed) soil's hydrologic characteristics; the general slope; local weather/timing (soil moisture) for implementation; the space-related freedom of equipment/implement maneuverability (noted above in **Recommended Application of Practice**), and by the proper selection and operation of tractor and implements (explained below in **Design Guidance**). The more notable site-related factors include:

Soil

In the undisturbed condition, each identified soil type comprising a site is grouped into one of four categories of soil hydrology, Hydrologic Soil Group A, B, C or D, determined primarily by a range of characteristics including soil texture, drainage capability when thoroughly wet, and depth to water table. The natural rates of infiltration and transmission of soil-water through the undisturbed soil layers for Group A is "high" with a low runoff potential while soils in Group B are moderate in infiltration and the transmission of soil-water with a moderate runoff potential, depending somewhat on slope. Soils in Group C have slow rates of infiltration and transmission of soil-water and a moderately high runoff potential influenced by soil texture and slope; while soils in Group D have exceptionally slow rates of infiltration and transmission of soil-water, and high runoff potential.

In Figure 4, the profile displays the undisturbed horizons of a soil in Hydrologic Soil Group C and the naturally slow rate of infiltration through the subsoil. The slow rate of infiltration begins immediately below the topsoil horizon (30 cm), due to the limited amount of macro pores, e.g.: natural subsoil fractures, worm holes and root channels. Infiltration after the construction-induced mixing and compression of such subsoil material is virtually absent; but can be restored back to this natural level with the two-phase practice of deep ripping and decompaction, followed by the permanent establishment of an appropriate, deep taproot

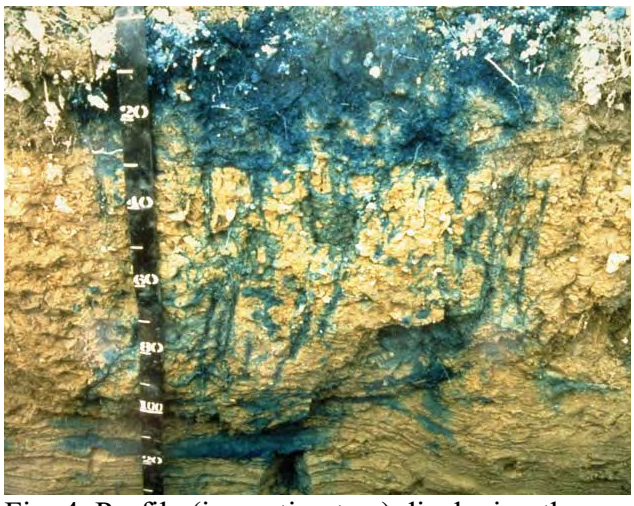


Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

lawn/ground cover to help maintain the restored subsoil structure. Infiltration after construction-induced mixing and compression of such subsoil material can be notably rehabilitated with the Deep Ripping and Decompaction practice, which prepares the site for the appropriate long-term lawn/ground cover mix including deep taproot plants such as clover, fescue or trefoil, etc. needed for all rehabilitated soils.

Generally, soils in Hydrologic Soil Groups A and B, which respectively may include deep, well-drained, sandy-gravelly materials or deep, moderately well-drained basal till materials, are among the easier ones to restore permeability and infiltration, by deep ripping and decompaction. Among the many different soils in Hydrologic Soil Group C are those unique glacial tills having a natural fragipan zone, beginning about 12 to 18 inches (30 – 45cm), below surface. Although soils in Hydrologic Soil Group C do require a somewhat more carefully applied level of the Deep Ripping and Decompaction practice, it can greatly benefit such affected areas by reducing the runoff and fostering infiltration to a level equal to that of pre-disturbance.

Soils in Hydrologic Soil Group D typically have a permanent high water table close to the surface, influenced by a clay or other highly impervious layer of material. In many locations with clay subsoil material, the bulk density is so naturally high that heavy trafficking has little or no added impact on infiltration; and structural runoff control practices rather than Deep Ripping and Decompaction should be considered.

The information about Hydrologic Soil Groups is merely a general guideline. Site-specific data such as limited depths of cut-and-fill grading with minimal removal or translocation of the inherent subsoil materials (as analyzed in the county soil survey) or, conversely, the excavation and translocation of deeper, unconsolidated substratum or consolidated bedrock materials (unlike the analyzed subsoil horizons' materials referred to in the county soil survey) should always be taken into account.

Sites made up with significant quantities of large rocks, or having a very shallow depth to bedrock, are not conducive to deep ripping and decompation (subsoiling); and other measures may be more practical.

Slope

The two-phase application of 1) deep ripping and 2) decompaction (deep subsoiling), is most practical on flat, gentle and moderate slopes. In some situations, such as but not limited to temporary construction access corridors, inclusion areas that are moderately steep along a project's otherwise gentle or moderate slope may also be deep ripped and decompacted. For limited instances of moderate steepness on other projects, however, the post-construction land use and the relative alignment of the potential ripping and decompaction work in relation to the lay of the slope should be reviewed for safety and practicality. In broad construction areas predominated by moderately steep or steep slopes, the practice is generally not used.

Local Weather/Timing/Soil Moisture

Effective fracturing of compressed subsoil material from the exposed work surface, laterally and vertically down through the affected zone is achieved only when the soil material is moderately dry to moderately moist. Neither one of the two-phases, deep ripping nor decompaction (deep

subsoiling), can be effectively conducted when the soil material (subsoil or replaced topsoil) is in either a "plastic" or "liquid" state of soil consistency. Pulling the respective implements legs through the soil when it is overly moist only results in the "slicing and smearing" of the material or added "squeezing and compression" instead of the necessary fracturing. Ample drying time is needed for a "rippable" soil condition not merely in the material close to the surface, but throughout the material located down to the bottom of the physically compressed zone of the subsoil.

The "poor man's Atterberg field test" for soil plasticity is a simple "hand-roll" method used for quick, on-site determination of whether or not the moisture level of the affected soil material is low enough for: effective deep ripping of subsoil; respreading of topsoil in a friable state; and final decompaction (deep subsoiling). Using a sample of soil material obtained from the planned bottom depth of ripping, e.g.: 20 - 24 inches below exposed subsoil surface, the sample is hand rolled between the palms down to a 1/8-inch diameter thread. (Use the same test for stored topsoil material before respreading on the site.) If the respective soil sample crumbles apart in segments no greater than 3/8 of an inch long, by the time it is rolled down to 1/8 inch diameter, it is low enough in moisture for deep ripping (or topsoil replacement), and decompaction. Conversely, as shown in Figure 5, if the rolled sample stretches out in increments greater than 3/8 of an inch long before crumbling, it is in a "plastic" state of soil consistency and is too wet for subsoil ripping (as well as topsoil replacement) and final decompaction.

Fig. 5. Augered from a depth of 19 inches below the surface of the replaced topsoil, this subsoil sample was hand rolled to a 1/8-inch diameter. The test shows the soil at this site stretches out too far without crumbling; it indicates the material is in a plastic state of consistence, too wet for final decompaction (deep subsoiling) at this time.

Design Guidance

Beyond the above-noted site factors, a vital requirement for the effective Deep Ripping and Decompaction (deep subsoiling), is implementing the practice in its distinct, two-phase process:

1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and

2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, "decompaction," mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area's soil permeability and

rainfall infiltration are being restored, a policy limiting all further traffic to permanent travel lanes is maintained.

The other critical elements, outlined below, are: using the proper implements (deep, heavy-duty rippers and subsoilers), and ample pulling-power equipment (tractors); and conducting the practice at the appropriate speed, depth and pattern(s) of movement.

Note that an appropriate plan for the separate practice of establishing a healthy perennial ground cover, with deep rooting to help maintain the restored soil structure, should be developed in advance. This may require the assistance of an agronomist or landscape horticulturist.

Implements

Avoid the use of all undersize implements. The small-to-medium, light-duty tool will, at best, only "scarify" the uppermost surface portion of the mass of compacted subsoil material. The term "chisel plow" is commonly but incorrectly applied to a broad range of implements. While a few may be adapted for the moderate subsoiling of non-impacted soils, the majority are less durable and used for only lighter land-fitting (see Figure 6).

Fig. 6. A light duty chisel implement, not adequate for either the deep ripping or decompaction (deep subsoiling) phase.

Fig. 7. One of several variations of an agricultural ripper. This unit has long, rugged shanks mounted on a steel V-frame for deep, aggressive fracturing through Phase 1.

Use a "heavy duty" agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.) Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like "lifting and shattering" action up through the soil layers as it is pulled.

Pulling-Power of Equipment

Use the following rule of thumb for tractor horsepower (hp) whenever deep ripping and decompacting a significantly impacted site: For both types of implement, have at least 40 hp of tractor pull available for each mounted shank/ leg.

Using the examples of a 3-shank and a 5-shank implement, the respective tractors should have 120 and 200 hp available for fracturing down to the final depth of 20-to-24 inches per phase. Final depth for the deep ripping in Phase 1 is achieved incrementally by a progressive series of passes (see Depth and Patterns of Movement, below); while for Phase 2, the full operating depth of the deep subsoiler is applied from the beginning.

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are "chained up" so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp, (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 174 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1) Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.

Fig. 8. A deep, angled-leg subsoiler, ideal for Phase 2 decompaction of after the topsoil layer is graded on top of the ripped subsoil.

Fig. 9. This medium tractor is pulling a 3-shank deep ripper. The severely compacted construction access corridor is narrow, and the 120 hp tractor is more maneuverable for Phase 1 deep ripping (subsoil fracturing), here.

Some industrial-grade variations of ripping implements are attached to power graders and bulldozers. Although highly durable, they are generally not recommended. Typically, the shanks or "teeth" of these rippers are too short and stout; and they are mounted too far apart to achieve the well-distributed type of lateral and vertical fracturing of the soil materials necessary to restore soil permeability and infiltration. In addition, the power graders and bulldozers, as pullers, are far less maneuverable for turns and patterns than the tractor.

Depth and Patterns of Movement

As previously noted both Phase 1 Deep Ripping through significantly compressed, exposed subsoil and Phase 2 Decompaction (deep subsoiling) through the replaced topsoil and upper subsoil need to be performed at maximum capable depth of each implement. With an implement's guide wheels attached, some have a "normal" maximum operating depth of 18 inches, while others may go deeper. In many situations, however, the tractor/implement operator must first remove the guide wheels and other non essential elements from the implement. This adapts the ripper or the deep subsoiler for skillful pulling with its frame only a few inches above surface, while the shanks or legs, fracture the soil material 20-to-24 inches deep.

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a ¾ inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally "pieced" and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decompation (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.

Fig. 10. An early pass with a 3-shank deep ripper penetrating only 8 inches into this worksite's severely compressed subsoil.

Fig. 11. A repeat run of the 3-shank ripper along the same patterned pass area as Fig. 9; here, incrementally reaching 18 of the needed 22 inches of subsoil fracture.

Typically, three separate series (patterns) are used for both the Phase 1 Deep Ripping and the Phase 2 Decompaction on significantly compacted sites. For Phase 1, each series begins with a moderate depth of rip and, by repeat-pass, continues until full depth is reached. Phase 2 applies the full depth of Decompation (subsoiling), from the beginning.

Every separate series (pattern) consists of parallel, forward-and-return runs, with each progressive

pass of the implement's legs or shanks evenly staggered between those from the previous pass. This compensates for the shank or leg-spacing on the implement, e.g., with 24-to-30 inches between each shank or leg. The staggered return pass ensures lateral and vertical fracturing actuated every 12 to 15 inches across the densely compressed soil mass.

Large, Unobstructed Areas
For larger easy areas, use the standard patterns of movement:

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.

- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.

- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a ¾-inch cone penetrometer.)

Fig. 12. Moderately dry topsoil is being replaced on the affected site now that Phase 1 deep ripping of the compressed subsoil is complete.


Fig. 13. The same deep, angled-leg subsoiler shown in Fig. 7 is engaged at maximum depth for Phase 2, decompaction (deep soiling), of the replaced topsoil and the upper subsoil materials.

Corridors
In long corridors of limited width and less maneuverability than larger sites, e.g.: along compacted areas used as temporary construction access, a modified series of pattern passes are used.

- First, apply the same initial lengthwise, parallel series of passes described above.

● A second series of passes makes a broad “S” shaped pattern of rips, continually and gradually alternating the “S” curves between opposite edges inside the compacted corridor.

● The third and final series again uses the broad, alternating S pattern, but it is “flip-flopped” to continually cross the previous S pattern along the corridor’s centerline. This final series of the S pattern curves back along the edge areas skipped by the second series.

Maintenance and Cost

Once the two-phase practice of Deep Ripping and Decompation is completed, two items are essential for maintaining a site’s soil porosity and permeability for infiltration. They are: planting and maintaining the appropriate ground cover with deep roots to maintain the soil structure (see Figure 15); and keeping the site free of traffic or other weight loads.

Note that site-specific choice of an appropriate vegetative ground-cover seed mix, including the proper seeding ratio of one or more perennial species with a deep taproot system and the proper amount of lime and soil nutrients (fertilizer mix) adapted to the soil-needs, are basic to the final practice of landscaping, i.e: surface tillage, seeding/planting/fertilizing and culti-packing or mulching is applied. The "maintenance" of an effectively deep-ripped and decompacted area is generally limited to the successful perennial (long-term) landscape ground cover; as long as no weight-bearing force of soil compaction is applied.

Fig. 14. The severely compacted soil of a temporary construction yard used daily by heavy equipment for four months; shown before deep ripping, topsoil replacement, and decompaction.

Fig. 15. The same site as Fig. 14 after deep ripping of the exposed subsoil, topsoil replacement, decompaction through the topsoil and upper subsoil and final surface tillage and revegetation to maintain soil permeability and infiltration.

The Deep Ripping and Decompaction practice is, by necessity, more extensive than periodic subsoiling of farmland.The cost of deep ripping and decompacting (deep subsoiling), will vary according to the depth and severity of soil-material compression and the relative amount of tractor and implement time that is required. In some instances, depending on open maneuverability, two-to-three acres of compacted project area may be deep-ripped in one day. In other situations of more severe compaction and - or less maneuverability, as little as one acre may be fully ripped in a day. Generally, if the Phase 1) Deep Ripping is fully effective, the Phase 2) Decompaction should be completed in 2/3 to 3/4 of the time required for Phase 1.

Using the example of two acres of Phase 1) Deep Ripping in one day, at $1800 per day, the net cost is $900 per acre. If the Phase 2) Decompacting or deep subsoiling takes 3/4 the time as Phase 1, it costs $675 per acre for a combined total of $1575 per acre to complete the practice (these figures do not include the cost of the separate practice of topsoil stripping and replacement). Due to the many variables, it must be recognized that cost will be determined by the specific conditions or constraints of the site and the availability of proper equipment.

Resources

Publications:

- American Society of Agricultural Engineers. 1971. *Compaction of Agricultural Soils.* ASAE.

- Brady, N.C., and R.R. Weil. 2002. *The Nature and Properties of Soils. 13th ed.* Pearson Education, Inc.

- Baver, L.D. 1948. *Soil Physics.* John Wiley & Sons.

- Carpachi, N. 1987 (1995 fifth printing). *Excavation and Grading Handbook, Revised. 2nd ed.* Craftsman Book Company
- Ellis, B. (Editor). 1997. Safe & Easy Lawn Care: The Complete Guide to Organic Low Maintenance Lawn. Houghton Mifflin.

- Harpstead, M.I., T.J. Sauer, and W.F. Bennett. 2001. *Soil Science Simplified. 4th ed.* Iowa State University Press.

- Magdoff, F., and H. van Es. 2000. *Building Soils for Better Crops. 2nd ed.* Sustainable Agricultural Networks

- McCarthy, D.F. 1993. *Essentials of Soil Mechanics and Foundations, Basic Geotechnics 4th ed.* Regents/Prentice Hall.

- Plaster, E.J. 1992. *Soil Science & Management. 3rd ed.* Delmar Publishers.

- Union Gas Limited, Ontario, Canada. 1984. *Rehabilitation of Agricultural Lands, Dawn-Kerwood Loop Pipeline; Technical Report*. Ecological Services for Planning, Ltd.; Robinson, Merritt & Devries, Ltd. and Smith, Hoffman Associates, Ltd.

- US Department of Agriculture in cooperation with Cornell University Agricultural Experiment Station. Various years. *Soil Survey of (various names) County, New York.* USDA.

Internet Access:

- Examples of implements:

V-Rippers. Access by internet search of *John Deere Ag -New Equipment for 915* (larger-frame model) *V-Rippe*; and, *for 913* (smaller-frame model) *V-Ripper*. Deep, angled-leg subsoiler. Access by internet search of: B*igham Brothers Shear Bolt Paratill-Subsoiler.* http://salesmanual.deere.com/sales/salesmanual/en_NA/primary_tillage/2008/feature/rippers/915v_pattern_frame.html?sbu=ag&link=prodcat Last visited March 08.

- Soils data of USDA Natural Resources Conservation Service. *NRCS Web Soil Survey.* http://websoilsurvey.nrcs.usda.gov/app/ and *USDA-NRCS Official Soil Series Descriptions; View by Name.* http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi . *Last visited Jan. 08.*

- Soil penetrometer information. Access by internet searches of: *Diagnosing Soil Compaction using a Penetrometer (soil compaction tester), PSU Extension;* as well as *Dickey-john Soil Compaction Tester*. http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf and http://cropsoil.psu.edu/Extension/Facts/uc178pdf Last visited Sept. 07

APPENDIX 13

NRCC PRECIPITATION TABLES

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	Yes
State	New York
Location	
Longitude	74.066 degrees West
Latitude	41.742 degrees North
Elevation	0 feet
Date/Time	Wed, 15 Sep 2021 14:58:06 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.31	0.48	0.59	0.78	0.97	1.22	**1yr**	0.84	1.14	1.40	1.73	2.13	2.63	3.01	**1yr**	2.33	2.89	3.38	4.02	4.61	**1yr**
2yr	0.38	0.58	0.72	0.95	1.19	1.49	**2yr**	1.03	1.37	1.71	2.12	2.60	3.20	3.62	**2yr**	2.83	3.49	3.98	4.68	5.32	**2yr**
5yr	0.44	0.69	0.86	1.15	1.48	1.86	**5yr**	1.28	1.70	2.15	2.66	3.27	3.99	4.57	**5yr**	3.53	4.39	5.00	5.76	6.52	**5yr**
10yr	0.50	0.78	0.99	1.34	1.74	2.21	**10yr**	1.50	1.99	2.56	3.17	3.88	4.72	5.44	**10yr**	4.18	5.23	5.94	6.74	7.62	**10yr**
25yr	0.58	0.92	1.18	1.63	2.17	2.79	**25yr**	1.87	2.47	3.23	4.00	4.88	5.91	6.87	**25yr**	5.23	6.61	7.48	8.31	9.36	**25yr**
50yr	0.66	1.06	1.35	1.90	2.56	3.31	**50yr**	2.21	2.91	3.85	4.76	5.80	7.00	8.20	**50yr**	6.19	7.88	8.90	9.74	10.93	**50yr**
100yr	0.75	1.21	1.56	2.22	3.03	3.94	**100yr**	2.61	3.42	4.59	5.68	6.91	8.29	9.79	**100yr**	7.34	9.41	10.60	11.42	12.79	**100yr**
200yr	0.86	1.40	1.82	2.60	3.58	4.68	**200yr**	3.09	4.04	5.46	6.76	8.21	9.83	11.69	**200yr**	8.70	11.24	12.63	13.40	14.96	**200yr**
500yr	1.04	1.70	2.22	3.21	4.49	5.90	**500yr**	3.87	5.01	6.89	8.52	10.33	12.32	14.80	**500yr**	10.90	14.23	15.95	16.56	18.41	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.72	0.89	1.02	**1yr**	0.77	0.99	1.20	1.48	1.89	2.31	2.55	**1yr**	2.04	2.45	2.83	3.71	4.04	**1yr**
2yr	0.36	0.56	0.69	0.94	1.15	1.35	**2yr**	1.00	1.32	1.53	1.96	2.48	3.11	3.54	**2yr**	2.75	3.40	3.88	4.57	5.23	**2yr**
5yr	0.40	0.62	0.77	1.06	1.34	1.57	**5yr**	1.16	1.53	1.77	2.28	2.87	3.71	4.25	**5yr**	3.28	4.09	4.74	5.46	6.17	**5yr**
10yr	0.44	0.68	0.84	1.18	1.53	1.75	**10yr**	1.32	1.71	1.97	2.55	3.19	4.22	4.89	**10yr**	3.73	4.70	5.45	6.19	7.00	**10yr**
25yr	0.51	0.77	0.96	1.37	1.80	2.01	**25yr**	1.56	1.96	2.25	2.86	3.65	5.01	5.89	**25yr**	4.43	5.67	6.58	7.32	8.25	**25yr**
50yr	0.56	0.85	1.06	1.53	2.06	2.21	**50yr**	1.77	2.17	2.50	3.18	4.06	5.72	6.81	**50yr**	5.06	6.55	7.59	8.31	9.34	**50yr**
100yr	0.63	0.95	1.18	1.71	2.35	2.46	**100yr**	2.03	2.41	2.78	3.53	4.52	6.54	7.87	**100yr**	5.79	7.57	8.79	9.46	10.61	**100yr**
200yr	0.70	1.06	1.34	1.94	2.71	2.72	**200yr**	2.34	2.66	3.08	3.93	5.02	7.49	9.13	**200yr**	6.63	8.78	10.20	10.81	12.07	**200yr**
500yr	0.83	1.23	1.59	2.30	3.28	3.12	**500yr**	2.83	3.05	3.54	4.53	5.77	8.99	11.15	**500yr**	7.96	10.72	12.46	12.92	14.38	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.34	0.52	0.64	0.86	1.06	1.28	**1yr**	0.91	1.25	1.46	1.85	2.33	2.88	3.29	**1yr**	2.55	3.17	3.69	4.31	4.98	**1yr**
2yr	0.39	0.61	0.75	1.01	1.25	1.49	**2yr**	1.08	1.45	1.69	2.16	2.71	3.32	3.74	**2yr**	2.94	3.60	4.11	4.83	5.46	**2yr**
5yr	0.48	0.75	0.93	1.27	1.62	1.91	**5yr**	1.40	1.87	2.19	2.81	3.52	4.30	4.92	**5yr**	3.81	4.73	5.29	6.10	6.87	**5yr**
10yr	0.57	0.88	1.09	1.53	1.97	2.35	**10yr**	1.70	2.30	2.69	3.46	4.31	5.28	6.06	**10yr**	4.67	5.83	6.41	7.33	8.21	**10yr**
25yr	0.72	1.09	1.36	1.94	2.56	3.08	**25yr**	2.21	3.01	3.56	4.70	5.66	6.90	7.99	**25yr**	6.11	7.68	8.29	9.37	10.39	**25yr**
50yr	0.85	1.30	1.62	2.32	3.13	3.77	**50yr**	2.70	3.69	4.40	5.84	6.93	8.46	9.85	**50yr**	7.49	9.47	10.07	11.28	12.42	**50yr**
100yr	1.01	1.53	1.92	2.77	3.80	4.65	**100yr**	3.28	4.55	5.44	7.26	8.51	10.38	12.12	**100yr**	9.19	11.66	12.25	13.58	14.84	**100yr**
200yr	1.20	1.81	2.30	3.33	4.64	5.71	**200yr**	4.00	5.59	6.74	9.04	10.46	12.73	14.91	**200yr**	11.26	14.34	14.89	16.36	17.72	**200yr**
500yr	1.52	2.27	2.92	4.24	6.03	7.52	**500yr**	5.20	7.35	8.95	12.09	13.76	16.63	19.60	**500yr**	14.72	18.85	19.26	20.88	22.43	**500yr**

APPENDIX 14

Operation and Maintenance Manual

Colliers
Engineering
& Design

Stormwater Operation & Maintenance Plan

Site Drainage

A State Pollutant Discharge Elimination System Permit is required from the New York State Department of Environmental Conservation (NYSDEC) and a Storm Water Pollution Prevention Plan (SWPPP) has been prepared for review/approval by the Town of New Paltz (an MS4 community). The site improvements made to the parcel are new construction and will increase the impervious area on the site. The study provides the proposed improvements and provides measures that will be used to control potential impacts due to stormwater runoff.

Constructed Stormwater Control Practices

Catch Basins:
Catch basins on-site are utilized to collect stormwater run-off and melting snow from the paved parking areas, driveway and sidewalks. These are located along the centerline of roadside swales.

Roof leaders:
Roof leaders are utilized to collect stormwater run-off from the roof and discharge it into the subsurface chamber system.

Frist Defense systems:
The FD is a compact, below grade stormwater treatment system that provides water quality mitigation. These systems receive overland flow through grated inlets as well as piped inlets from the various catch basins and drain/yard inlets located throughout the site.

Bio-retention Areas:
These are shallow stormwater depressions which capture run-off from a surrounding drainage area (six inch deep surface ponding area) and then utilize an engineered soil strata and vegetation for treatment.

See Design Plans and Details for these improvements.

Typical Maintenance for Stormwater Practices

As a consequence of its function, the stormwater conveyance system collects and transports runoff that may contain certain pollutants. Maintaining catch basins, stormwater inlets, and the basins on a regular basis will remove pollutants, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly to avoid flooding.

Catch Basins:
Catch basins should be inspected monthly and after heavy rain fall to ensure they are functioning properly. Typical maintenance of catch basins includes removal of debris from the grate and sump. This can be done manually or using a vehicle equipped with a vacuum pump. Catch basins should be cleaned out at least one (1) time per year. A good time to clean out catch basins is in the spring to

remove the build-up of leaves, sand used for traction, dirt, and other debris that accumulates during winter months.

Roof leaders:
Roof leaders, similar to the catch basins, require typical maintenance which includes removal of debris manually. Inspections of the leaders should occur monthly and after heavy rain fall to ensure they are still functioning properly. These should be cleaned out at least one (1) time per year.

Frist Defense Systems:
The FD systems should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit, i.e., unstable soils or heavy winter sanding will cause the treatment chamber to fill more quickly, but regular street sweeping will slow accumulation of said sediment and pollutants.

At a minimum, inspections should be performed twice per year (i.e. spring and fall) however more frequent inspections may be necessary in equipment wash down areas and in climates where winter sanding operations may lead to rapid accumulations of a large volume of sediment. The FD system should be cleaned when the level of sediment has reached 75% of the capacity in the isolated sump or when significant level of hydrocarbons or trash has accumulated.

Cleaning of the FD system should be done during dry weather conditions when no flow is entering the system. Cleanout of the FD system with a vacuum truck is generally the most effective and convenient method of excavating pollutants from the system. Disposal of all material removed from the FD systems should be done is accordance with local regulations. In many locations, disposal of evacuated sediments may be handled in the same manner as disposal of sediments removed from catch basins or deep sump manholes.

Bio-retention Areas:
These areas should be inspected monthly and after heavy rain fall to ensure they are functioning properly. Typical maintenance of the bio-retention areas include removal of debris, weeding (especially in the first couple of years while the plants are establishing their root systems) and mulching. Any areas devoid of mulch shall be re-mulched on an annual basis. Dead or diseased plant material shall be replaced immediately.

Silt/Sediment removal from the filter bed shall be conducted when the accumulation exceeds one inch or every five to six years. If the filter bed ponds water at the surface for more than 48 hours, the top 4-6 inches (below the mulch) of material shall be removed and replaced with fresh material. Any plant material removed during clean-out shall be replaced in-kind.

See Design Plans and Details for the components of the soil mixture for the filter bed.

Long-term Stormwater Basin maintenance requires the following:

- Mowing grass, at least twice yearly. Grass clippings and other debris must be removed from the basin area after each cutting. Removal of woody brush and trees. Reestablish good grass cover in areas where woody material has been removed.
- Leaves shall be removed as needed from the basin and outlet control structure.
- Restore and reseed eroded any areas and gullies along embankment areas. Reoccurring erosion should be inspected by a licensed professional engineer to determine probable cause and remedial action that may be necessary.
- General maintenance and repairs of the stormwater outlet and inlet structures.
- The emergency spillway must remain free of debris and maintain the design elevation in order to convey stormwater during a catastrophic storm event.

In general, any deficiencies identified during the regular inspections or otherwise for all the stormwater management facilities should be corrected immediately. See appendices for forms to record inspection and maintenance work for the stormwater facilities.

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Civil/Site • Traffic/Transportation • Governmental • Survey/Geospatial
Infrastructure • Geotechnical/Environmental • Telecommunications • Utilities/Energy

APPENDIX 15

FRIST DEFENSE NJDEP CERTIFICATION

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Nonpoint Pollution Control
Division of Water Quality
401-02B
Post Office Box 420
Trenton, New Jersey 08625-0420
609-633-7021 Fax: 609-777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

April 4, 2016

Lisa Lemont, CPSWQ
Business Development Manager
Hydro International
94 Hutchins Drive
Portland, ME 04102

Re: MTD Lab Certification
First Defense® HC (FDHC) Stormwater Treatment Device by Hydro International

TSS Removal Rate 50%

Dear Ms. Lemont:

The Stormwater Management rules under N.J.A.C. 7:8-5.5(b) and 5.7 (c) allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards at N.J.A.C. 7:8-5 if the pollutant removal rates have been verified by the New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP). Hydro International has requested an MTD Laboratory Certification for the First Defense® HC Stormwater Treatment Device.

The projects falls under the "Procedure for Obtaining Verification of a Stormwater Manufactured Treatment Device from New Jersey Corporation for Advance Technology" dated January 25, 2013. The applicable protocol is the "New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device" dated January 25, 2013.

NJCAT verification documents submitted to the NJDEP indicate that the requirements of the aforementioned protocol have been met or exceeded. The NJCAT letter also included a recommended certification TSS removal rate and the required maintenance plan. The NJCAT Verification Report with the Verification Appendix (dated February 2016) for this device is published online at http://www.njcat.org/verification-process/technology-verification-database.html.

The NJDEP certifies the use of the First Defense® HC Stormwater Treatment Device by Hydro International at a TSS removal rate of 50% when designed, operated and maintained in accordance with the information provided in the Verification Appendix and the following conditions:

1. The maximum treatment flow rate (MTFR) for the manufactured treatment device (MTD) is calculated using the New Jersey Water Quality Design Storm (1.25 inches in 2 hrs) in N.J.A.C. 7:8-5.5.

2. The First Defense® HC Stormwater Treatment Device shall be installed using the same configuration reviewed by NJCAT and shall be sized in accordance with the criteria specified in item 6 below.

3. This First Defense® HC Stormwater Treatment Device cannot be used in series with another MTD or a media filter (such as a sand filter) to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.

4. Additional design criteria for MTDs can be found in Chapter 9.6 of the New Jersey Stormwater Best Management Practices (NJ Stormwater BMP) Manual which can be found on-line at www.njstormwater.org.

5. The maintenance plan for a site using the First Defense® HC Stormwater Treatment Device shall incorporate, at a minimum, the maintenance requirements noted in the attached document. However, it is recommended to review the maintenance website at http://www.hydro-int.com/UserFiles/downloads/FD_O%2BM_F1512.pdf for any changes to the maintenance requirements.

6. Sizing Requirements:

   The example below demonstrates the sizing procedure for the First Defense® HC Stormwater Treatment Device:

   Example: A 0.25 acre impervious site is to be treated to 50% TSS removal using a First Defense® HC Stormwater Treatment Device. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs.

   Maximum Treatment Flow Rate (MTFR) Evaluation:

   The site runoff (Q) was based on the following:
   time of concentration = 10 minutes
   i=3.2 in/hr (page 5-8, Fig. 5-3 of the NJ Stormwater BMP Manual)
   c=0.99 (curve number for impervious)
   Q=ciA=0.99x3.2x0.25=0.79 cfs

   Given the site runoff is 0.79 cfs and based on Table 1 below, the First Defense® HC Model 4-ft with a MTFR of 1.5 cfs would be the smallest model approved that could be used for this site that could remove 50% of the TSS from the impervious area without exceeding the MTFR.

   The sizing table corresponding to the available system models is noted below. Additional specifications regarding each model can be found in the Verification Appendix under Table A-1 and Table A-2 of the NJCAT Verification Report.

Table 1 First Defense® HC Models

First Defense® Model	Manhole Diameter (ft)	Maximum Treatment Flowrate, MTFR (cfs)
4-ft	4-ft	1.50
6-ft	6-ft	3.38
8-ft	8-ft	6.00

Be advised a detailed maintenance plan is mandatory for any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8. The plan must include all of the items identified in the Stormwater Management Rules, N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance of the New Jersey Stormwater Best Management Practices Manual.

If you have any questions regarding the above information, please contact Mr. Titus Magnanao of my office at (609) 633-7021.

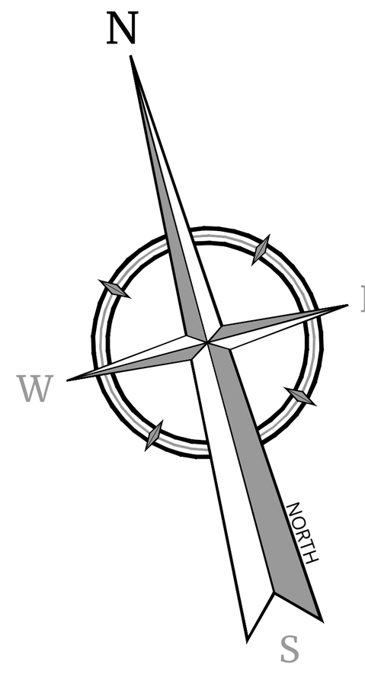
Sincerely,

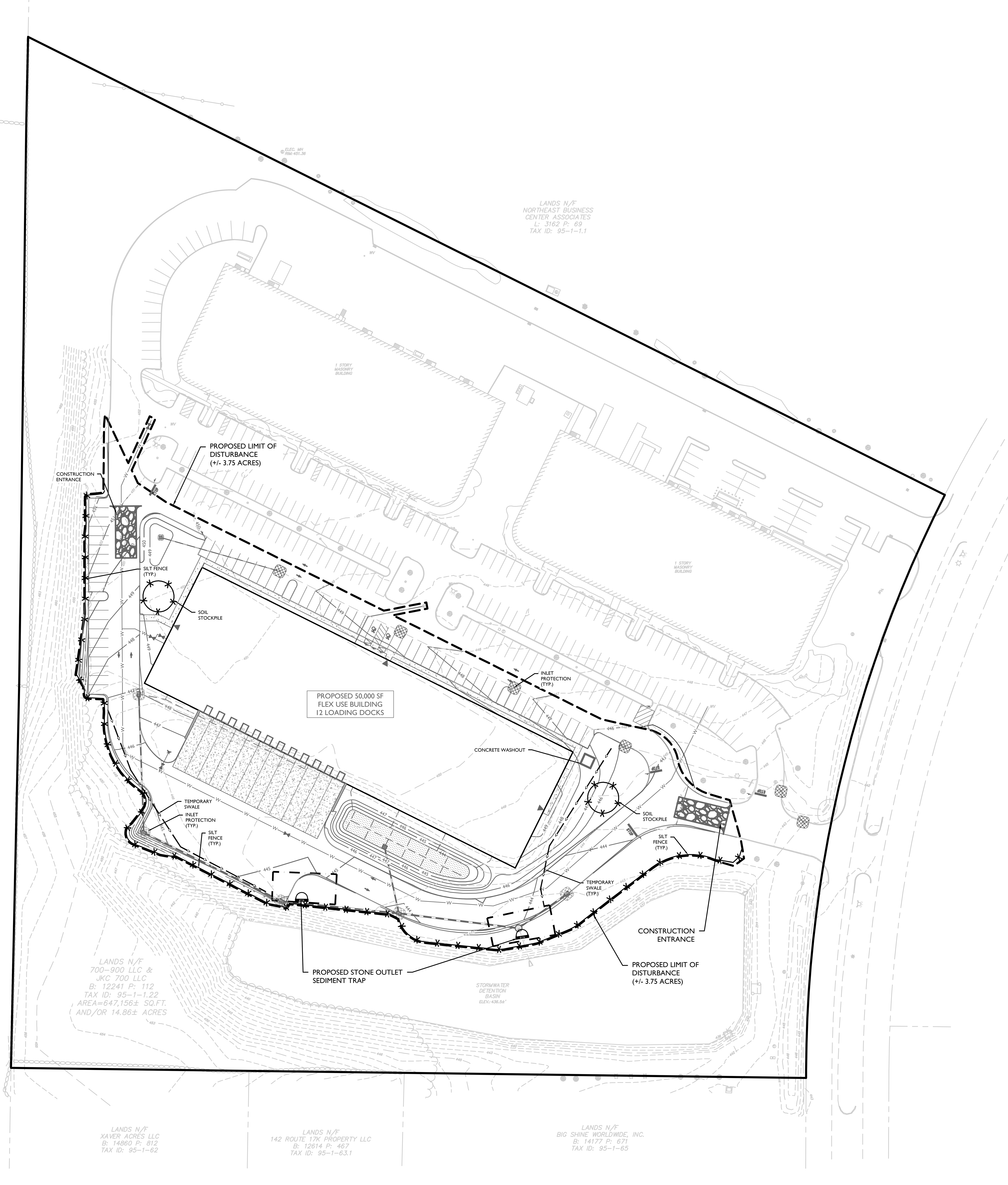
James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

Attachment: Maintenance Plan
C: Chron File
Richard Magee, NJCAT
Vince Mazzei, DLUR
Ravi Patraju, NJDEP
Gabriel Mahon, BNPC
Titus Magnanao, BNPC

APPENDIX 16

EROSION AND SEDIMENT CONTROL PLANS





GENERAL CONSTRUCTION SEQUENCE:

1. INSTALL CONSTRUCTION ENTRANCE.
2. STAKE LIMITS OF DISTURBANCE.
3. INSTALL PERIMETER SILT FENCING ON DOWNHILL AREAS AS SHOWN ON PLAN.
4. ROUGH GRADE PROPOSED DRIVEWAY/ROADS AND BUILDING PAD.
5. INSTALL SEDIMENT PONDS. INSTALL TEMPORARY SWALES TO DIRECT ALL OPEN SOIL AREA DISTURBANCE TO SEDIMENT PONDS AS NECESSARY. LOCATIONS AND SIZE OF THE EROSIONS AND SEDIMENT CONTROL PRACTICES ARE NOTED ON THE PLAN. THESE MAY VARY DEPENDING ON THE CONTRACTOR'S SCHEDULE AND APPROACH BUT 3,600 CF OF STORAGE MUST BE PROVIDED AT A MINIMUM PER ACRE OF UPSTREAM DISTURBANCE. SEDIMENT TRAPS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS AND DETAILS. SEDIMENT TRAPS AND BASINS SHALL BE SIZED IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL MANUAL.
6. DISTURBED SOILS SHALL BE TEMPORARILY STABILIZED AS SOON AS PRACTICAL. MATERIALS STORED IN STOCK PILES SHALL BE CORDONED OFF WITH SILT FENCE PER THE APPROPRIATE SPECIFICATIONS AND DETAILS. THE OPERATOR SHALL INITIATE STABILIZATION MEASURES AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
7. CONSTRUCT ROADS, DRIVES, BUILDINGS, AND PARKING AREA INSTALL DRIANAGE SYSTEM.
8. TOPSOIL/HAY/SEED LAWN AREAS.
9. THE PROJECT SITE MUST MEET FINAL STABILIZATION CRITERIA PRIOR TO REMOVING ALL EROSION AND SEDIMENT CONTROL DEVICES AND CLOSING OUT THE PROJECT. LITTER AND CONSTRUCTION DEBRIS SHALL BE REMOVED AS PRACTICAL THROUGHOUT THE LIFE OF THE PROJECT.
   - FINAL STABILIZATION MEANS THAT ALL SOIL DISTURBANCE ACTIVITIES HAVE CEASED AND A UNIFORM, PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY (80) PERCENT OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ESTABLISHED; OR OTHER EQUIVALENT STABILIZATION MEASURES, SUCH AS PERMANENT LANDSCAPE MULCHES, ROCK RIP-RAP OR WASHED/CRUSHED STONE HAVE BEEN APPLIED ON ALL DISTURBED AREAS THAT ARE NOT COVERED BY PERMANENT STRUCTURES, CONCRETE OR PAVEMENT.

12. UPON FINAL STABILIZATION BEING MET, CONTRACTOR SHALL CLEAR DRAINAGE PIPES AND STRUCTURES OF ANY SEDIMENT WHICH MAY HAVE ACCUMULATED.

13. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED, AS MAY BE NECESSARY, REQUIRED AND/OR REQUESTED BY AUTHORITIES, TO PREVENT THE INCIDENTAL DISCHARGE OF SILT LADEN RUNOFF FROM ENTERING A WATER COURSE OR A DRAINAGE SYSTEM. THE GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES STATES THAT IT IS UNLAWFUL FOR ANY PERSON TO CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS.

NOTE: A MORE DETAILED, SITE SPECIFIC CONSTRUCTION SEQUENCING WILL BE IMPLEMENTED UPON COMPLETION OF FINAL SITE PLANS AND THE CORROSPONDING STORMWATER POLLUTION PREVENTION PLAN

LEGEND FOR EROSION CONTROL DURING CONSTRUCTION

- CONSTRUCTION LIMIT LINE
- SILT FENCE
- SILT SOCK
- ORANGE CONSTRUCTION FENCE
- STORM INLET SEDIMENT TRAP
- STABILIZED CONSTRUCTION ENTRANCE
- STONE OUTLET SEDIMENT TRAP
- TEMPORARY SWALE
- TEMPORARY SEDIMENT BASIN
- MATERIAL STOCKPILE
- CHECK DAM

40 0 40 80

SCALE : 1" = 40'

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FOR

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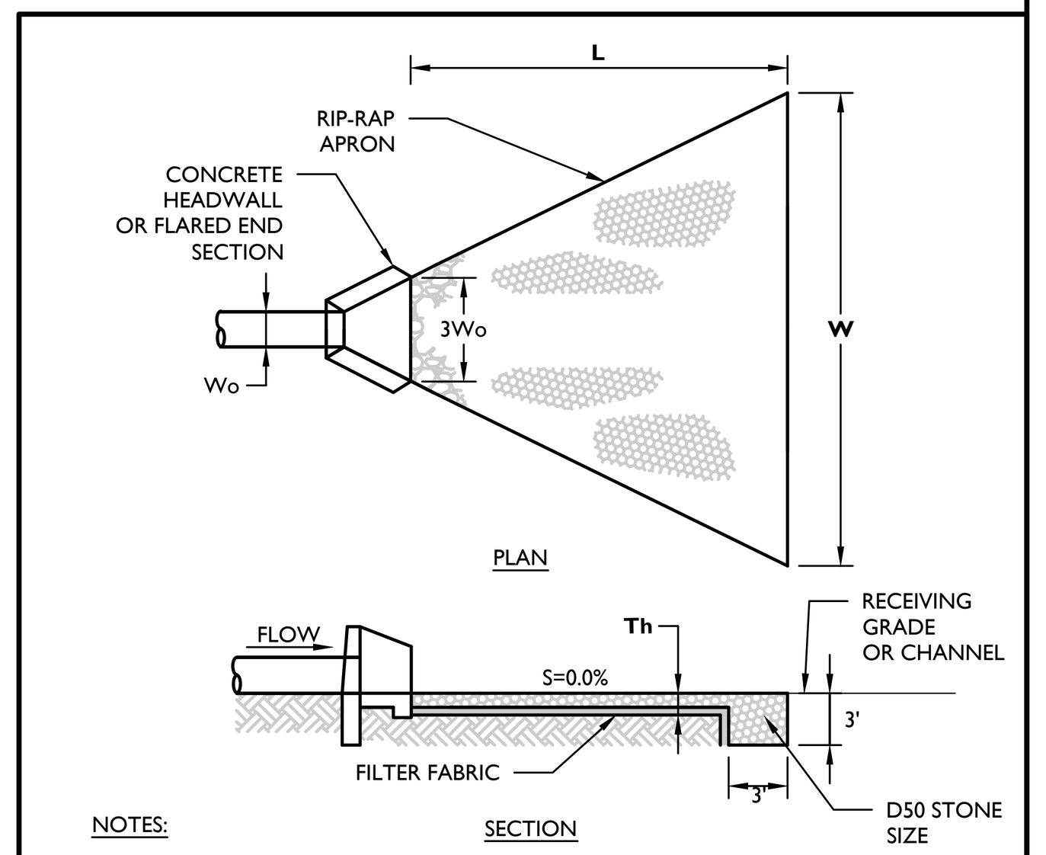
PROJECT NUMBER: 10000245B	DRAWING NAME: C-SESC		

SHEET TITLE:

SOIL EROSION & SEDIMENT CONTROL PLAN

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



NOTES:

1. SEE PLAN FOR APRON DIMENSIONS.
2. SIDE SLOPE SHALL BE 2:1 OR FLATTER. THE BOTTOM GRADE SHALL BE LEVEL (0% SLOPE). THERE SHALL BE NO FALL AT THE END OF APRON TO THE RECEIVING SURFACE.

CONDUIT OUTLET PROTECTION DETAIL

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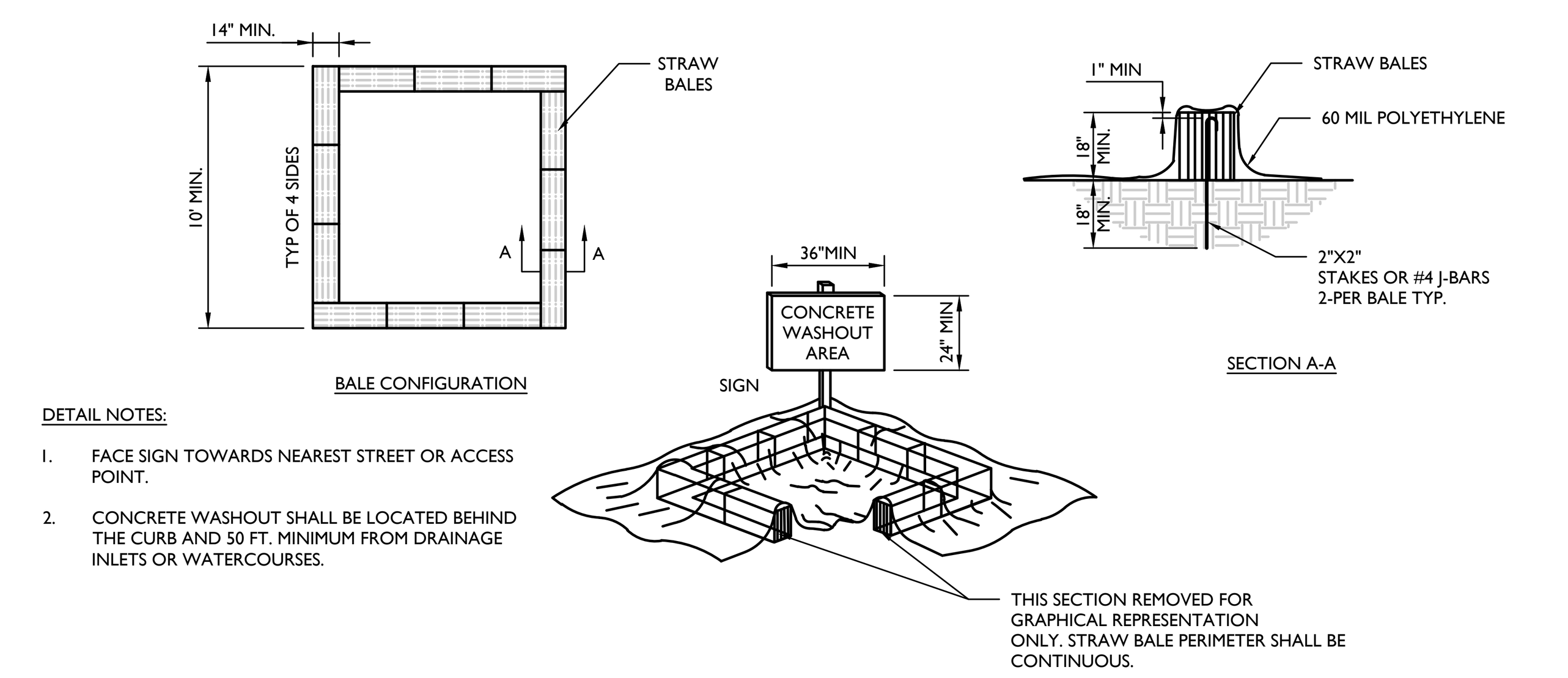

DETAIL NOTES:

1. FACE SIGN TOWARDS NEAREST STREET OR ACCESS POINT.
2. CONCRETE WASHOUT SHALL BE LOCATED BEHIND THE CURB AND 50 FT. MINIMUM FROM DRAINAGE INLETS OR WATERCOURSES.

NOTES:

1. CONCRETE WASHOUTS ARE REQUIRED ON ALL CONSTRUCTION SITES INVOLVING CONCRETE AND STUCCO USE.
2. THE CONTRACTOR SHALL REQUIRE ALL CONCRETE DRIVERS TO UTILIZE THE CONCRETE WASHOUTS ONSITE.
3. WASHOUT FACILITIES SHALL BE LOCATED AT LEAST 50 FEET AWAY FROM STORM SEWER DRAIN INLETS, GUTTERS, OPEN DITCHES, AND WATER COURSES.
4. APPROPRIATE STONE SHOULD COVER PATHS TO CONCRETE WASHOUT.
5. THE NUMBER OF CONCRETE WASHOUTS DEPENDS ON THE EXPECTED DEMAND FOR STORAGE CAPACITY. LARGE SITES WITH EXTENSIVE CONCRETE WORK SHALL BE PLACED AT MULTIPLE LOCATIONS FOR USE BY CONCRETE TRUCK DRIVERS.
6. CONCRETE WASHOUT AREAS SHALL BE IDENTIFIED BY POSTING SIGNS ONSITE.
7. CONCRETE WASHOUTS ARE TO BE INSPECTED DAILY BY THE CONTRACTOR FOR LEAKS OR TEARS IN PLASTIC LINER.
8. REMOVE AND DISPOSE OF ALL MATERIAL WHEN THE WASHOUT HAS BEEN FILLED TO 75% CAPACITY.
9. PRIOR TO ANY RAINFALL, ALL CONCRETE WASHOUTS ARE TO BE CLEANED OUT OR COVERED.
10. ONCE THE MATERIAL HAS BEEN CLEANED OUT OF THE CONCRETE WASHOUT FACILITY, THE FACILITY MUST BE INSPECTED FOR REPAIR, RECONSTRUCTION OR REPLACEMENT. ALL PLASTIC LINING SHALL BE REMOVED AND REPLACED.
11. PRE-FABRICATED OR ONSITE FABRICATED CONCRETE WASHOUTS MAY BE USED.
12. OPTIONS FOR ONSITE CONCRETE WASHOUTS:
    A. DIG A PIT AND LINE WITH 10 MIL PLASTIC SHEETING.
    B. CREATE AN ABOVE-GROUND STRUCTURE FROM STRAW BALES OR SANDBAGS WITH 10 MIL PLASTIC LINING.

CONCRETE WASHOUT DETAIL

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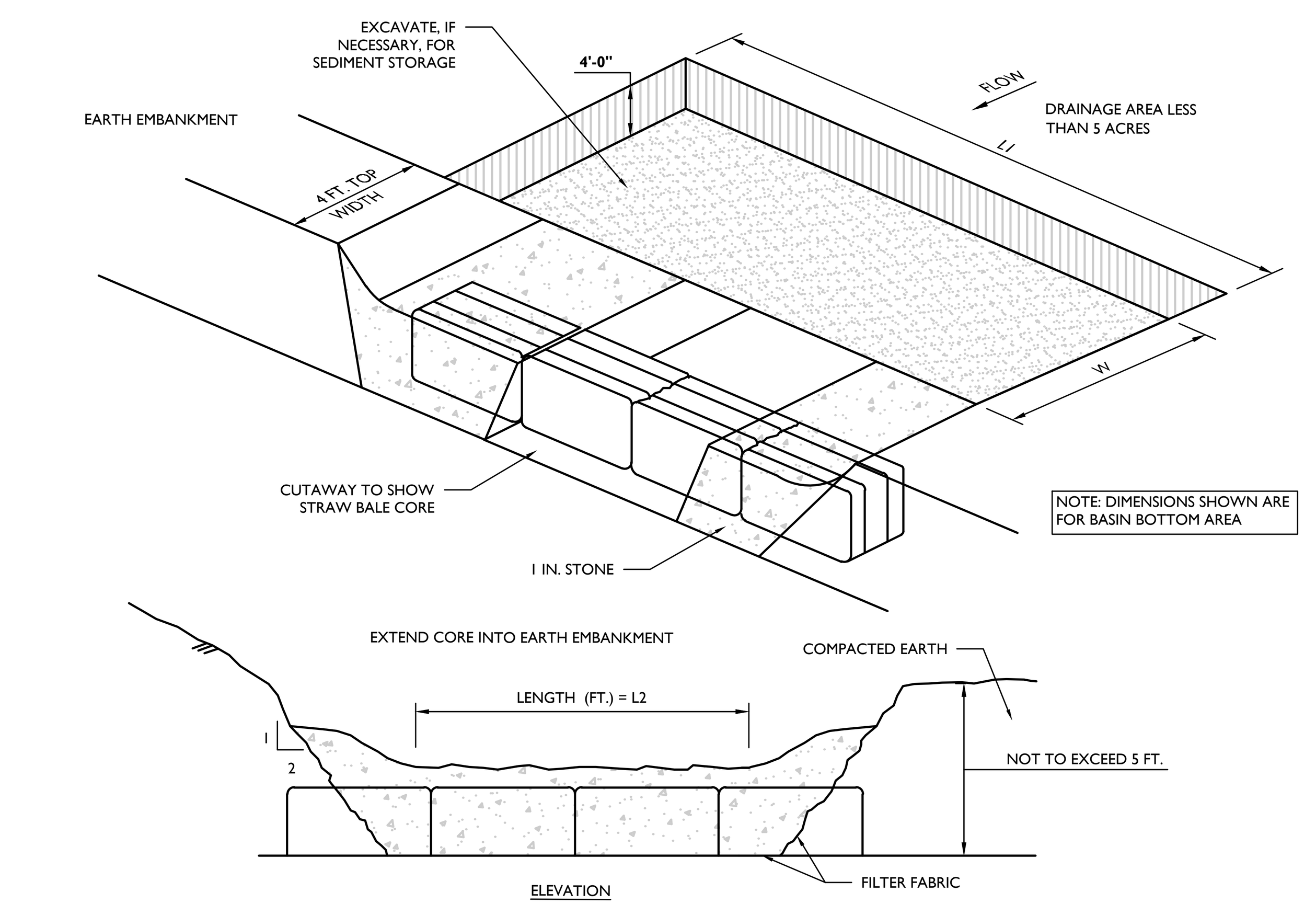


TO BE INSTALLED PRIOR TO GRADING OR FILLING IN THE DRAINAGE AREA THEY ARE TO PROTECT. TRAPS THAT ARE TO FUNCTION DURING BUILDING CONSTRUCTION MUST NOT BE LOCATED WITHIN 20 FEET OF A PROPOSED BUILDING FOUNDATION. WHILE TRAPS SHOULD BE SITED TO MAXIMIZE STORAGE BENEFIT, THEY SHOULD NOT BE LOCATED IN WETLANDS OR WETLAND BUFFER AREAS, OR IN EXISTING WATERCOURSES.

SEE EROSION AND SEDIMENT CONTROL PLAN FOR LOCATIONS.

INSTALLATION NOTES:

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED AS WELL.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER SIZED STONES, ROCKS, ORGANIC MATERIAL AND OTHER QUESTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
6. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
7. ALL CUT AND FILL SLOPES SHALL BE 1 : 2 OR FLATTER.
8. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1' THICKNESS OF 2" AGGREGATE PLACED ON THE UP GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.

SIZING CALCULATIONS

NOTE:

1. 3,600 CUBIC FEET OF STORAGE REQUIRED PER ACRE OF DISTURBANCE.

*THIS IS THE MINIMUM AMOUNT OF SEDIMENT TRAPS, ADDITIONAL MAY BE REQUIRED BASED UPON OTHER ON-SITE CONDITIONS AND CONTRACTOR SCHEDULE AND PHASING ACTIVITIES.

STONE OUTLET SEDIMENT TRAP DETAIL

NOT TO SCALE MCNY-SOIL-EROS-1601 MOD: 10/07/21 07/01/19

GENERAL SOIL EROSION AND SEDIMENT CONTROL NOTES

MCNY-SOIL-NOTE-1000 07/01/19

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN FOURTEEN (14) DAYS FOR DISTURBANCES LESS THAN FIVE (5) ACRES AND SEVEN (7) DAYS FOR DISTURBANCES GREATER THAN FIVE (5) ACRES, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
3. PERMANENT VEGETATION TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN FIVE (5) DAYS AFTER FINAL GRADING. MULCHING IS REQUIRED ON ALL SEEDING. WHEN HYDROSEEDING, MULCH SHALL NOT BE INCLUDED IN THE TANK WITH THE SEED.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE 2016 NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL OR AS AMENDED.
5. A SUBBASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUBBASE SHALL BE INSTALLED WITHIN FIVE (5) DAYS OF THE PRELIMINARY GRADING.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
7. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION CONTINUES (I.E. SLOPES GREATER THAN 3:1).
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A STONE PAD, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
9. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF TWENTY-FOUR (24) INCHES OF SOIL HAVING A PH OF 5 OR MORE.
10. AT THE TIME THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
11. CONDUIT OUTLET PROTECTION MUST BE REVIEWED & SUPPLEMENTED AT ALL OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
12. UNFILTERED DEWATERING IS NOT PERMITTED. TAKE ALL NECESSARY PRECAUTIONS DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH STATE STANDARDS.
13. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED IN ACCORDANCE WITH STATE STANDARDS FOR EROSION CONTROL.
14. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAY WILL BE REMOVED IMMEDIATELY.
15. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION AND SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.
16. STOCKPILE AND STAGING LOCATIONS DETERMINED IN THE FIELD, SHALL BE PLACED WITHIN THE LIMITS OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN.
17. CONCRETE WASHOUT, DUMPSTER, & STAGING AREA LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED AT THE PRE-CONSTRUCITON MEETING. THEY SHALL BE PLACED IN THE PROXIMITY OF THE CONSTRUCTION ENTRANCE AND STAGING AREAS AND SHALL BE USED PRIOR TO EXITING THE PROJECT SITE. THE LOCATION SHALL BE IN A PRACTICAL, CLEARLY DELINEATED, AREA AND BE MAINTAINED THROUGHOUT CONSTRUCTION.
18. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
19. ALL PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED BY THE PROPERTY OWNER, AND SHALL BECOME THEIR RESPONSIBILITY.
20. PAVEMENT AREAS ARE TO BE KEPT CLEAN AT ALL TIMES.
21. DURING CONSTRUCTION, ANY ADDITIONAL CONTROL MEASURES AS DEEMED NECESSARY TO PREVENT EROSION OR CONTROL SEDIMENT BEYOND THOSE MEASURES SHOWN ON THE APPROVED PLAN SHALL BE INSTALLED OR EMPLOYED AT THE DIRECTION OF THE MUNICIPAL ENGINEER.
22. ALL TEMPORARY, STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED, WHEN ALL CONSTRUCTION ACTIVITY IDENTIFIED IN THE SWPPP HAS BEEN COMPLETED, ALL AREAS OF DISTURBANCE HAVE ACHIEVED FINAL STABILIZATION** AND ALL POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE SWPPP AND ARE OPERATIONAL.

**FINAL STABILIZATION - MEANS THAT ALL SOIL DISTURBANCE ACTIVITIES HAVE CEASED AND A UNIFORM, PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY (80) PERCENT OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ESTABLISHED; OR OTHER EQUIVALENT STABILIZATION MEASURES, SUCH AS PERMANENT LANDSCAPE MULCHES, ROCK RIP-RAP OR WASHED/CRUSHED STONE HAVE BEEN APPLIED ON ALL DISTURBED AREAS THAT ARE NOT COVERED BY PERMANENT STRUCTURES, CONCRETE OR PAVEMENT.

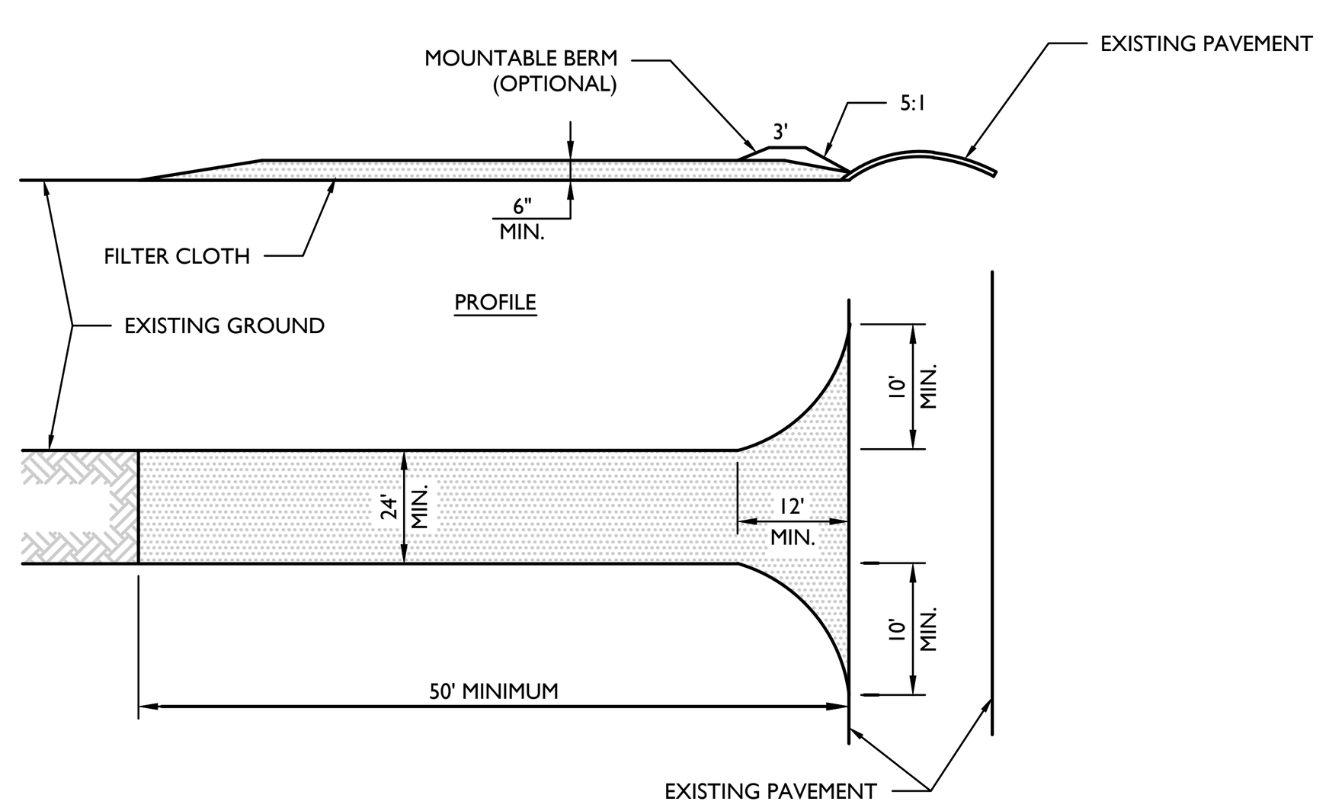
MAINTENANCE PLAN DURING CONSTRUCTION:

INSPECTION AND MAINTENANCE SHALL BE PERFORMED IN CONFORMANCE WITH GP-0-15-002 OR AS AMENDED. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED AND INSTALLED FOR THE PROJECT. THE SEDIMENT TRAPS WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT REACHES 25% OF ITS' CAPACITY. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES APPROXIMATELY 6" DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. ALL SEEDED AREAS WILL BE FERTILIZED, RE-SEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE LANDSCAPE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

NOTE: DURING THE CONSTRUCTION OF A PHASE, EACH SUBSEQUENT PHASE WILL HAVE REACHED FINAL STABILIZATION BEFORE INITIATING THE NEXT PHASE.

MAINTENANCE AGREEMENT NOTE:

THE OWNER/APPLICANT SHALL ENTER INTO AN ENFORCEABLE MAINTENANCE AGREEMENT WITH THE MUNICIPALITY (IF AN MS4. COMMUNITY) RELATED TO MAINTENANCE OF STORMWATER FACILITIES. THE OWNER/APPLICANT IS RESPONSIBLE TO PERFORM ALL REQUIRED MAINTENANCE BOTH DURING CONSTRUCTION AND LONG-TERM. THE NATURE OF THE AGREEMENT IS TO ALLOW THE MUNICIPALITY TO PERFORM MAINTENANCE AT THEIR OPTION SHOULD THE OWNER/APPLICANT FAIL TO ADEQUATELY MAINTAIN THE SYSTEM AS DETERMINED BY THE MUNICIPAL ENGINEER. MAINTENANCE OF THE STORMWATER SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED SWPPP AND DETAIL SHEETS.



NOTES:

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT. LENGTH: NOT LESS THAN 50 FEET. THICKNESS: NOT LESS THAN (6) INCHES.
2. WIDTH - 24'
3. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
4. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTING BERM WITH 5:1 SLOPES WILL BE PERMITTED.
5. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
6. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

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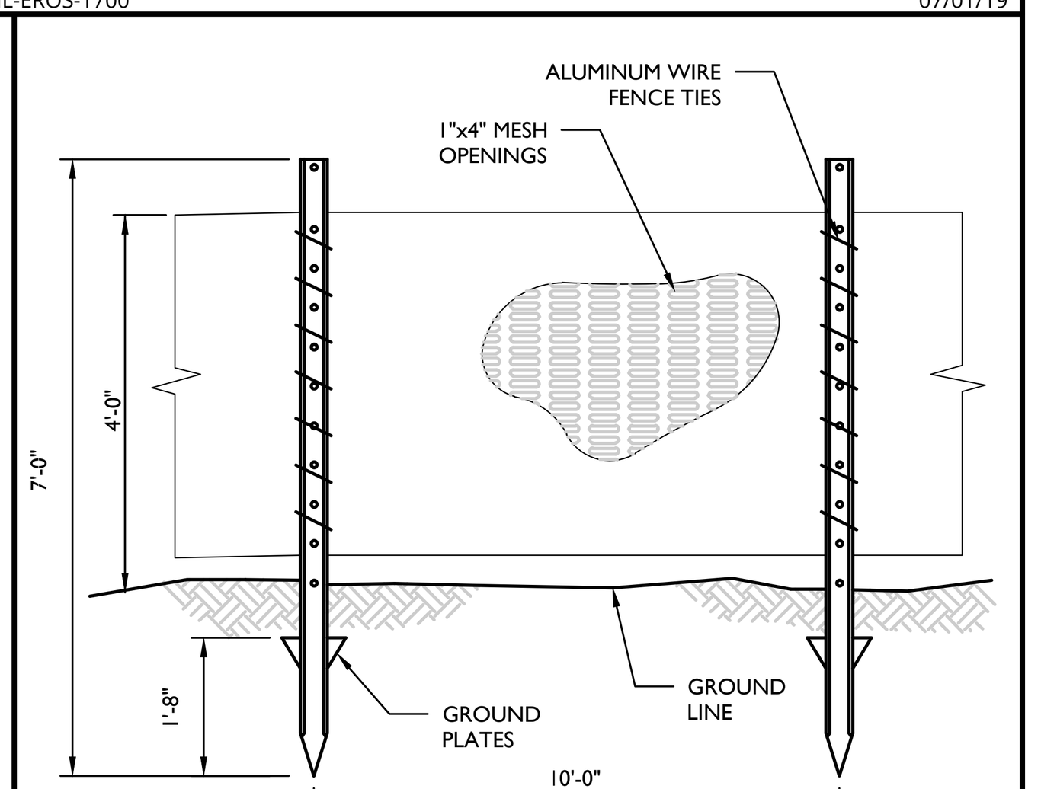

ORANGE CONSTRUCTION FENCE DETAIL

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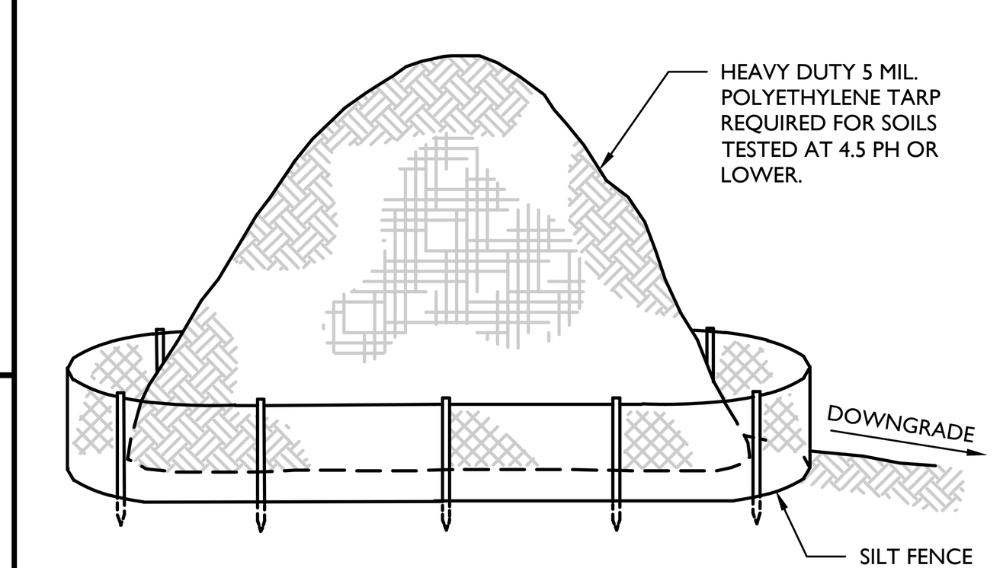

NOTES:

1. ALL STOCKPILES SHALL NOT TO BE LOCATED WITHIN 50 FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY.

TOPSOIL STOCKPILE DETAIL

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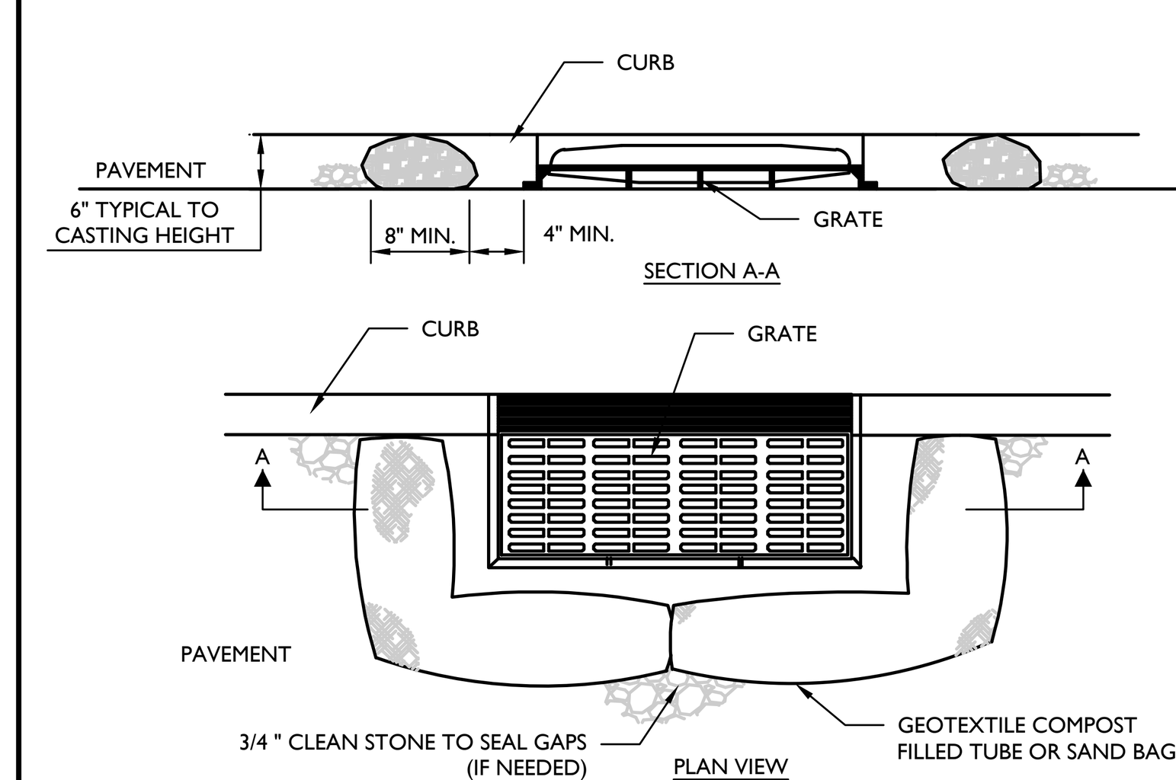
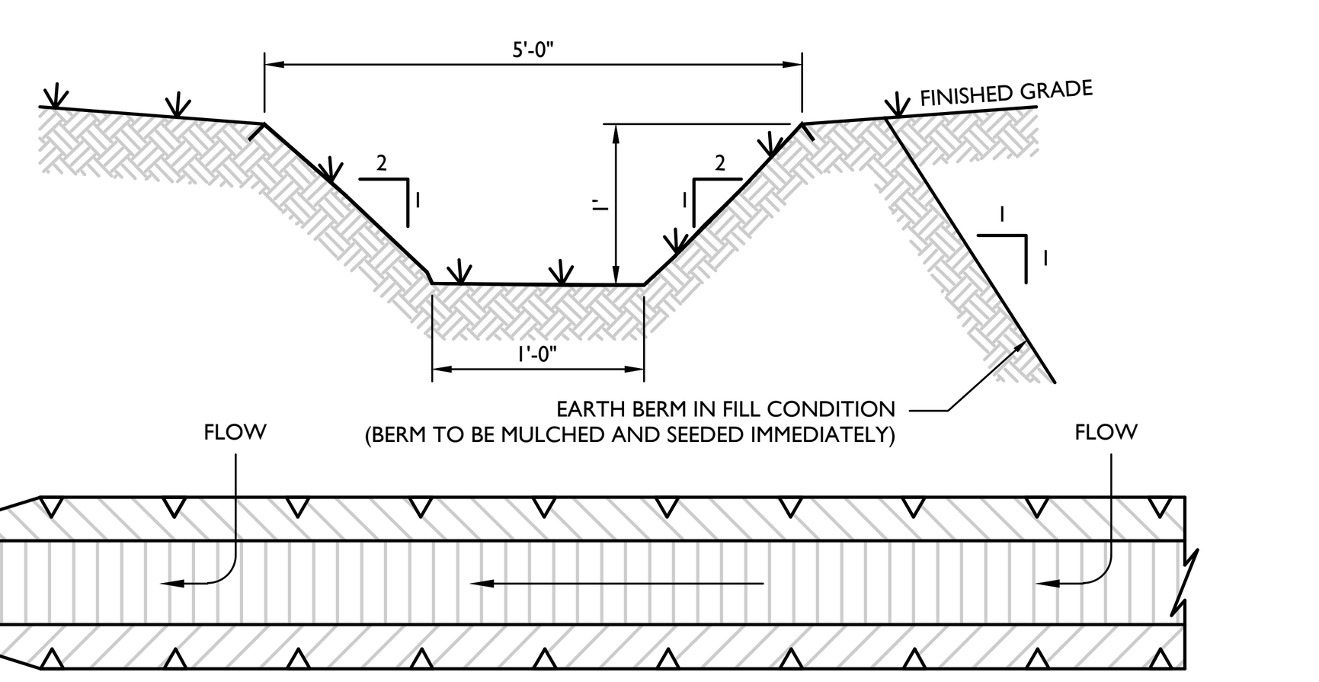


NOTES:

1. GEOTEXTILE TO BE WOVEN POLYPROPYLENE PRODUCT, OR APPROVED EQUAL.
2. FILLER CORE MAY BE SAND, COMPOST, OR PEA GRAVEL COMPLETELY CONTAINED WITHIN GEOTEXTILE. SEAMS, CLOSED BY SUITABLE MECHANICAL MEANS TO PREVENT LEAKAGE OF FILLER.
3. WHERE NO CURB IS PRESENT, BARRIER SHALL COMPLETELY ENCIRCLE THE DRAIN INLET.
4. INLET GRATE OPENING IS TO BE KEPT CLEAR OF OBSTRUCTIONS AT ALL TIMES.
5. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR/ 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.
6. OTHER METHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET PROTECTION MAY BE USED IF APPROVED BY THE PROJECT ENGINEER.
7. INSPECTIONS SHALL BE FREQUENT. MAINTENANCE, REPAIR, AND REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED. THE BARRIER SHALL BE REMOVED WHEN THE AREA DRAINING TOWARDS THE INLET HAS REACHED FINAL STABILIZATION.

INLET PROTECTION (FILTER BARRIER) DETAIL

NOT TO SCALE MCNY-SOIL-EROS-1500 07/01/19



TO BE INSTALLED ABOVE DISTURBED AREAS, TO DIVERT RUNOFF OFF-SITE WITHOUT INCREASING EROSION; INTERMITTENTLY ACROSS DISTURBED AREAS, TO SHORTEN OVERLAND FLOW DISTANCES; BELOW DISTURBED AREAS, TO DIVERT SEDIMENT-LADEN WATER TO A SEDIMENT TRAPPING DEVICE; AND TO SAFELY TRANSPORT RUNOFF ALONG ROADWAYS.

* WHERE SWALE TRAVERSES CONSTRUCTION VEHICLE PATH, DEPTH TO BE 6". SEE PLAN FOR LOCATION

INSTALLATION NOTES:

1. ALL SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. INSPECTION AND MAINTENANCE MUST BE PROVIDED BY THE CONTRACTOR AS REQUIRED
9. STABILIZATION SHALL BE SEED AND STRAW MULCH.

TEMPORARY SWALE & EARTH BERM DETAIL

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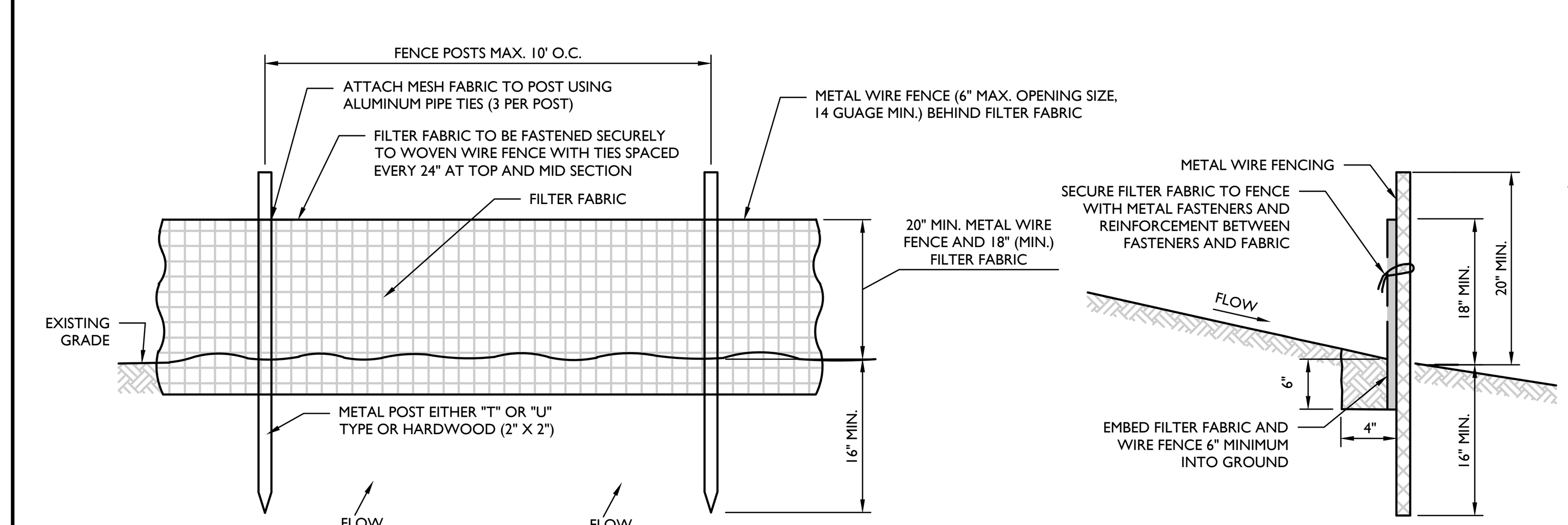

NOTES:

1. GEOTEXTILE TO BE FASTENED SECURELY TO FENCE POST BY USING WIRE TIES OR HOG RINGS. USE 3 FASTENERS PER POST.
2. SPLICING OF INDIVIDUAL ROLLS SHALL NOT OCCUR AT LOW POINTS.
3. ALL SILT FENCE TO BE INSPECTED AND REMEDIAL MAINTENANCE PERFORMED BY THE CONTRACTOR AS REQUIRED. MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
4. WHEN TWO SECTIONS OF FILTER FABRIC ARE JOINED, THEY SHALL BE OVER-WRAPPED BY SIX INCHES AND FOLDED.
5. FILTER FABRIC TO BE EITHER FILTER X, MIRAFI 100X, STABILINKA T14ON, OR APPROVED EQUIVALENT.
6. PREFABRICATED UNITS SHALL MEET THE MINIMUM REQUIREMENTS SHOWN.
7. IF SPACE PERMITTED, LOCATE SILT FENCE 10' AWAY FROM TOE OF SLOPE IF THE SLOPE IS STEEPER THAN 1:1.

REINFORCED SILT FENCE (WITH WIRE FENCE) DETAIL

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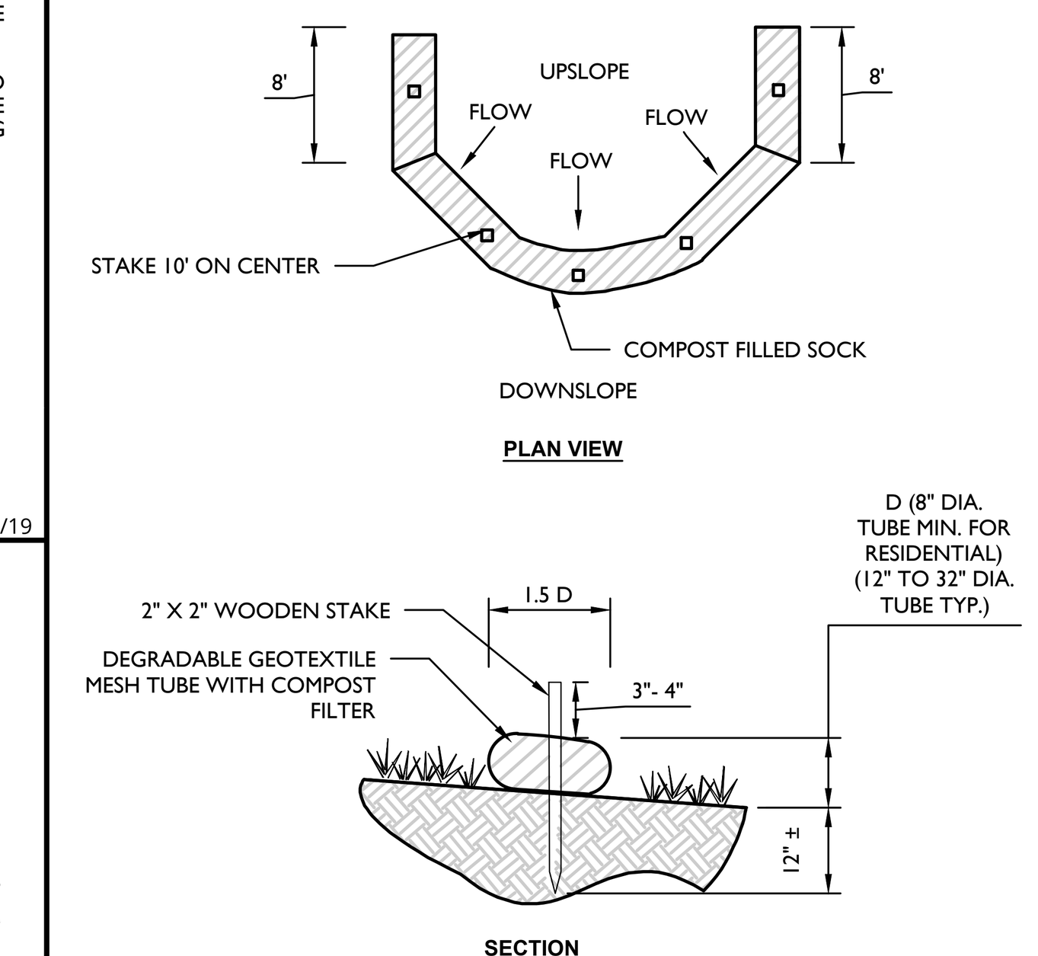

DIA. (in.)	SLOPE%						
	2	5	10	20	25	33	50
8	225*	200	100	50	20	-	-
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50
*Length in feet							

NOTES:

1. ALL MATERIAL TO MEET **FILTREXX SILTSOX** SPECIFICATIONS OR APPROVED EQUAL.
2. COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

COMPOST FILTER SOCK DETAIL

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Connor Patrick McCormack
NEW YORK LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 103756
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N.Y. C.O.A #: 0017609

PRELIMINARY AMENDED SITE PLAN

FOR

NORTHEAST BUSINESS CENTER

SECTION 95
BLOCK 1
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TOWN OF NEWBURGH
ORANGE COUNTY
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AS SHOWN	10/18/2021	CPM	JED

PROJECT NUMBER:	DRAWING NAME:
10000245B	C-SESC

SHEET TITLE:

SOIL EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER:

06 of 11

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

APPENDIX 17

VAN CLEEF - DRAINAGE CALCULATIONS AND SUPPORTING HYDROLOGIC DATA (2006)

Van Cleef
ENGINEERING ASSOCIATES

Consulting Civil, Environmental & Municipal Engineering • Land Surveying
Professional Planning • Landscape Architecture

DRAINAGE CALCULATIONS AND SUPPORTING HYDROLOGIC DATA

Prepared For

High Tech Park

Northeast Business Center

Situate In

Town of Newburgh , Orange County

New York

June 2, 2006

Prepared By

Van Cleef Engineering Associates
2345 Route 33
Robbinsville, New Jersey 08691
VCEA File No. 4401-NBNY

Paul E. Pogorzelski
N.Y.P.E. No. 069753-1

PROJECT OVERVIEW

This report has been prepared to indicate compliance with the regulations and requirements of the Town and Newburgh and the New York State Department of Environmental Conservation and to provide data required for the completion of the Notice of Intent.

Calculations address the sizing of the proposed storm sewer system, a mechanical pre-treatment device proposed for installation in the new storm sewer system, the adequacy of the wet detention basin to perform stromwater quality treatment to desired levels and to calculate discharges for the Overbank and Extreme Flood Control Criteria.

PROJECT DESCRIPTION

High Tech Park was initially developed and partially constructed as part of the overall Northeast Business Center in 1998. Two of three buildings proposed and the supporting facilities were constructed. The third 48,000 square foot one-story building was deferred. The overall detention and drainage system that controlled stromwater discharge in a regional fashion had been installed. This system consisted of three wet pond detention basins. One of those is located on-site and is positioned to receive and control the runoff from the proposed construction.

The stormwater will be conveyed to the existing on-site detention basin via the extension of existing headwalls and drainage pipes. There is no increase in impervious coverage as compared to the original approval. The on-site detention basin is a component to the overall stormwater management system. With no increase in impervious, the existing system will continue to function as designed in terms of water quantity control.

Since the original improvements were installed, regulations governing the improvement of storm water quality have been instituted. Previously paved portions of the project, all of the

previously paved areas and the two existing buildings, are exempt by grandfathering the regulations. Those areas are conveyed to the existing systems, bypass the on-site basin and are collected in the existing basin at the entrance to the Center. An additional 0.9-acre small area has been previously paved and is discharged into the on-site basin. This is included in the calculations for adequacy of the existing basin to provide long duration detention water quality treatment only. Newly paved and developed areas will be collected, treated to meet current criteria and discharged to the existing on-site basin as originally intended.

DRAINAGE DESIGN

New Storm Sewer Systems have been designed utilizing the Rational Equation using Manning's Equation to provide piping systems that will convey the 25-year storm under gravity conditions without surcharge. The 100-year storm will be conveyed to the existing detention facilities Soil Erosion and Sediment Control methods will be utilized during construction to minimize impact upon downstream waterways.

Storm Sewer Design is included as Exhibit A.

WATER QUALITY

The project adds 2.4 acres of impervious area to the existing 0.9 acres of impervious that enters the existing on-site detention basin. The new impervious enters the detention basin in a completely separate drainage system.

In order to provide pre-treatment of the new impervious, all new catch basins will be installed with "sump bottoms and hoods" to collect the heavier particulates and provide an initial skimming of floatable debris.

Before the system enters the basin, a Vortechnic (or equal) mechanical water cleansing device will be installed. The manufacturer indicate a model 9000 would be the appropriate size capable of cleansing a flow of more than 8 cubic feet per second (cfs) of flow. As indicated in the Stormwater Calculations using the Pond Pack software, the 1-year discharge is 6.0 cfs. The TR-55 calculation method was utilized in the analysis.

The Pond Pack Output is included as Exhibit B.

The detention basin itself is a wet basin providing wet extended detention. Utilizing the 90% rule contained within the procedure manuals provided by the NYDEC, the required wet storage volume for the 3.3 impervious acres that discharge directly to the basin is 0.53 acre-feet. The wet detention area provided is 2.8 acre-feet.

The Water Quality Volume Calculation is included as Exhibit C.

FLOOD CONTROL CRITERIA

The NJDEC rules that the Total Overbank Flood Control Criteria and the Total Extreme Flood Control Criteria be calculated as the peak discharge from the 10- and 100-year storms. These were calculated as the pre-development discharge for the overall watershed area that contains the development, as the existing detention basin would have been designed to control post condition discharges to at or below the pre-development levels. Pond Pack was utilized to calculate these discharges. The Total Overbank Flood Control Criteria Discharge and the Total Extreme Flood Control Criteria Discharge are 35.4 cfs and 76.4 cfs, respectively.

The Pond Pack Output is included as Exhibit D.

CONTENTS

Exhibit 'A'

Drainage Design Calculations

JOB NAME: North East Business Cntr. CLIENT: HI TECH PARK AT NE BUSINESS CENTER CALCULATED / CHECKI JTN/JSL

JOB #/PHASE/TASK: 0401 NBNY LOCATION: NEWBURGH NY DATE: 05-31-06

Van Cleef Engineering Associates

STORMWATER CONDUIT CHART

LOCATION	TYPE	TC (TG)	FROM	TO	A (ac.)	TOTAL A	C	(AxC)	TOTAL (AxC)	PIPE FLOW TIME	TOTAL Tc	I (in/hr)	Q=CIA (cfs)			PIPE INFORMATION						
														L (FT.)	S (%)	DIA. (IN.)	TYPE		n	CAP. FULL	VEL. FULL	VEL. DES.
9	A	448.00	9	8	0.07	0.07	0.80	0.06	0.06	0.1	10.0	6.2	0.35	19	1.00	15	RCP		0.013	6.46	5.3	2.6
8	B	449.75	8	7	0.15	0.22	0.87	0.13	0.19	0.2	10.1	6.2	1.16	52	1.00	15	RCP		0.013	6.46	5.3	3.9
7A	A	448.00	7A	7	0.11	0.11	0.80	0.09	0.09	0.1	10.0	6.2	0.55	21	0.60	15	RCP		0.013	5.00	4.1	2.5
7	A	448.80	7	6	0.33	0.33	0.73	0.24	0.52	0.3	10.3	6.2	3.20	86	0.60	15	RCP		0.013	5.00	4.1	4.4
6	MH	449.20	6	5	0.00	0.00	0.00	0.00	0.52	0.5	10.7	6.2	3.20	127	0.60	15	RCP		0.013	5.00	4.1	4.4
5	B	447.92	5	4	0.39	0.39	0.59	0.23	0.75	0.4	11.2	6.1	4.55	120	0.60	15	RCP		0.013	5.00	4.1	4.7
4	B	447.77	4	3	0.65	1.04	0.99	0.64	1.39	0.6	11.6	6.1	8.47	163	0.60	18	RCP		0.013	8.30	4.6	4.6
3	B	445.80	3	WQ DEV.	0.45	1.49	0.90	0.41	1.79	0.2	12.2	6.0	10.76	109	1.38	18	RCP		0.013	12.34	7.0	8.0
											12.4											
22	B	445.70	22	21	0.10	0.10	0.90	0.09	0.09	0.5	10.0	6.2	0.56	83	1.00	15	RCP		0.013	6.46	5.3	3.1
21	B	445.90	21	24	0.19	0.29	0.89	0.17	0.26	0.2	10.5	6.1	1.58	48	1.00	15	RCP		0.013	6.46	5.3	4.3
											10.6											
25	B	446.20	25	24	0.38	0.38	0.90	0.34	0.34	0.3	10.0	6.2	2.12	83	1.00	15	RCP		0.013	6.46	5.3	4.7
											10.3											
24	B	446.20	24	23	0.10	0.77	0.90	0.09	0.69	0.2	10.0	6.2	4.28	83	1.00	15	RCP		0.013	6.46	5.3	5.6
23	MH	446.75	21	WQ DEV.	0.00	0.77	0.00	0.00	0.69	0.1	10.2	6.1	4.22	48	1.00	15	RCP		0.013	6.46	5.3	5.6
											10.4											
WQ DEV		446.25	WQ DEV	2	0.00	2.26	0.00	0.00	2.49	0.1	12.4	6.0	14.91	42	1.90	24	RCP		0.013	31.17	9.9	9.8
2	B	448.25	2	FES	0.33	2.59	0.86	0.28	2.77	0.0	12.4	6.0	16.61	33	2.95	24	RCP		0.013	38.84	12.4	11.9
1	FES										12.4											
16	E	448.15	16	15	0.14	0.14	0.90	0.13	0.13	0.8	10.0	6.2	0.78	159	1.00	15	RCP		0.013	6.46	5.3	3.4
15	E	448.15	15	14	0.69	0.83	0.85	0.59	0.71	0.5	10.8	6.2	4.42	159	1.00	15	RCP		0.013	6.46	5.3	5.7
14	E	447.57	14	13	0.33	1.16	0.87	0.29	1.00	0.8	11.3	6.1	6.10	281	1.00	15	RCP		0.013	6.46	5.3	6.1
13	E	445.27	13	12	0.65	1.81	0.85	0.55	1.55	0.4	12.0	6.0	9.31	159	0.82	18	RCP		0.013	9.60	5.4	6.2
12	B	443.57	12	11	0.30	2.11	0.78	0.23	1.79	0.1	12.5	5.8	10.36	38	1.25	18	RCP		0.013	11.74	6.6	7.6
11	B	442.48	11	FES	0.35	2.46	0.75	0.26	2.05	0.1	12.5	5.6	11.47	82	2.29	18	RCP		0.013	15.89	9.0	9.9
10	FES										12.7											

Exhibit 'B'

Water Quality Rate Calculations

For Sizing Vortechnic Device

MASTER DESIGN STORM SUMMARY

Network Storm Collection: Orange County

Return Event	Total Depth in	Rainfall Type	RNF ID
1	3.0000	Synthetic Curve	TypeIII 24hr
10	5.3000	Synthetic Curve	TypeIII 24hr
100	8.7000	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
POST-DEV Q	AREA	1	1.721		12.2500	15.49		
POST-DEV Q	AREA	10	4.526		12.2500	41.90		
POST-DEV Q	AREA	100	9.213		12.2500	83.98		
*POST-Q	JCT	1	1.721		12.2500	15.49		
*POST-Q	JCT	10	4.526		12.2500	41.90		
*POST-Q	JCT	100	9.213		12.2500	83.98		
PRE-DEV Q	AREA	1	1.307		12.2500	11.11		
PRE-DEV Q	AREA	10	3.840		12.2500	35.39		
PRE-DEV Q	AREA	100	8.288		12.2500	76.40		
*PRE-Q	JCT	1	1.307		12.2500	11.11		
*PRE-Q	JCT	10	3.840		12.2500	35.39		
*PRE-Q	JCT	100	8.288		12.2500	76.40		
VORTEC SIZE	AREA	1	.554		12.1000	5.94		
VORTEC SIZE	AREA	10	1.013		12.1000	10.59		
VORTEC SIZE	AREA	100	1.692		12.1000	17.44		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*VORTECHNIC	JCT	1	.554		12.1000	5.94		
*VORTECHNIC	JCT	10	1.013		12.1000	10.59		
*VORTECHNIC	JCT	100	1.692		12.1000	17.44		

Title... Project Date: 9/13/2005 11:02:41 AM
Project Engineer:
Project Title: Watershed
Project Comments:

DESIGN STORMS SUMMARY

Design Storm File,ID = Orange County

Storm Tag Name = 1

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 1 yr
Total Rainfall Depth= 3.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 10

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 5.3000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 100

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 8.7000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

RUNOFF CURVE NUMBER DATA

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	Impervious Adjustment %UC	Adjusted CN
Impervious	98	2.400			98.00
COMPOSITE AREA & WEIGHTED CN --->		2.400			98.00 (98)

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 1 year storm
Duration = 24.0000 hrs Rain Depth = 3.0000 in
Rain Dir = F:\Jobfile\0401NBNY\drainage\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = F:\Jobfile\0401NBNY\drainage\
HYG File - ID = - VORTEC SIZE 1
Tc = .1000 hrs
Drainage Area = 2.400 acres Runoff CN= 98

Computational Time Increment	=	.01333 hrs
Computed Peak Time	=	12.1067 hrs
Computed Peak Flow	=	5.94 cfs
Time Increment for HYG File	=	.0500 hrs
Peak Time, Interpolated Output	=	12.1000 hrs
Peak Flow, Interpolated Output	=	5.94 cfs

DRAINAGE AREA

ID:VORTEC SIZE
CN = 98
Area = 2.400 acres
S = .2041 in
0.2S = .0408 in

Cumulative Runoff

2.7683 in
.554 ac-ft

HYG Volume... .554 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .10000 hrs (ID: VORTEC SIZE)
Computational Incr, Tm = .01333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 27.19 cfs
Unit peak time Tp = .06667 hrs
Unit receding limb, Tr = .26667 hrs
Total unit time, Tb = .33333 hrs

Index of Starting Page Numbers for ID Names

Exhibit 'C'

Water Quality Volume Calculation

Water Quality Volume Calculation

Methodology taken from the New York State Stormwater Management Design Manual, Chapter 4: Unified Stromwater Sizing Criteria

The Detention Northeast Business Center collects drainage from both on and off-site.

The proposed condition will consist of:
0.9 Acres Existing Impervious
2.4 Acres Proposed Impervious
10.0 Acres Off-site Woods
5.0 Acres Off-Site Residential with estimated 28 % Impervious

Total 18.3 Acres containing 4.7 Acres Impervious
24 Percent Impervious

Utilizing the 90% Rule

$Rv = 0.05 + .009\ I$ where I is the percent impervious
$Rv = 0.05 + .009(24) = .266$

$WQv = P*Rv*A/12$

Where
P = 1.2 inches (90 percent chance rainfall)
Rv = .266
A = 18.3 Acres

$WQv = 1.2*0.266*18.3 / 12 = 0.49$ Acre-Feet (Required)

Existing Wet Volume of Wet Detention Basin = 2.8 Acre-Feet
(Estimated from 0.8 Acre bottom contour and 3.5 Feet deep)

0.49 Acre-Feet < 2.8 Acre –Feet OK

Exhibit 'D'

Flood Control Criteria Calculations

MASTER DESIGN STORM SUMMARY

Network Storm Collection: Orange County

Return Event	Total Depth in	Rainfall Type	RNF ID
1	3.0000	Synthetic Curve	TypeIII 24hr
10	5.3000	Synthetic Curve	TypeIII 24hr
100	8.7000	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
POST-DEV Q	AREA	1	1.721		12.2500	15.49		
POST-DEV Q	AREA	10	4.526		12.2500	41.90		
POST-DEV Q	AREA	100	9.213		12.2500	83.98		
*POST-Q	JCT	1	1.721		12.2500	15.49		
*POST-Q	JCT	10	4.526		12.2500	41.90		
*POST-Q	JCT	100	9.213		12.2500	83.98		
PRE-DEV Q	AREA	1	1.307		12.2500	11.11		
PRE-DEV Q	AREA	10	3.840		12.2500	35.39		
PRE-DEV Q	AREA	100	8.288		12.2500	76.40		
*PRE-Q	JCT	1	1.307		12.2500	11.11		
*PRE-Q	JCT	10	3.840		12.2500	35.39		
*PRE-Q	JCT	100	8.288		12.2500	76.40		
VORTEC SIZE	AREA	1	.554		12.1000	5.94		
VORTEC SIZE	AREA	10	1.013		12.1000	10.59		
VORTEC SIZE	AREA	100	1.692		12.1000	17.44		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*VORTECHNIC	JCT	1	.554		12.1000	5.94		
*VORTECHNIC	JCT	10	1.013		12.1000	10.59		
*VORTECHNIC	JCT	100	1.692		12.1000	17.44		

Title... Project Date: 9/13/2005 11:02:41 AM
Project Engineer:
Project Title: Watershed
Project Comments:

DESIGN STORMS SUMMARY

Design Storm File,ID = Orange County

Storm Tag Name = 1

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 1 yr
Total Rainfall Depth= 3.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 10

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 5.3000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 100

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 8.7000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

RUNOFF CURVE NUMBER DATA

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	Impervious Adjustment %UC	Adjusted CN
Existing Impervious	98	.900			98.00
Proposed Impervious	98	2.400			98.00
Offsite Woods	70	10.000			70.00
Offsite Residential (28% Imp)	80	5.000			80.00
COMPOSITE AREA & WEIGHTED CN --->		18.300			77.78 (78)

RUNOFF CURVE NUMBER DATA

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	Impervious Adjustment %UC	Adjusted CN
Onsite Woods	70	3.300			70.00
Offsite Woods	70	10.000			70.00
Offsite Residential (28% Imp)	80	5.000			80.00
COMPOSITE AREA & WEIGHTED CN --->		18.300			72.73 (73)

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 8.7000 in
Rain Dir = F:\Jobfile\0401NBNY\drainage\
Rain File -ID = - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = F:\Jobfile\0401NBNY\drainage\
HYG File - ID = - POST-DEV Q 100
Tc = .3300 hrs
Drainage Area = 18.300 acres Runoff CN= 78

Computational Time Increment	=	.04400 hrs
Computed Peak Time	=	12.2320 hrs
Computed Peak Flow	=	85.05 cfs
Time Increment for HYG File	=	.0500 hrs
Peak Time, Interpolated Output	=	12.2500 hrs
Peak Flow, Interpolated Output	=	83.98 cfs

DRAINAGE AREA

ID:POST-DEV Q
CN = 78
Area = 18.300 acres
S = 2.8205 in
0.2S = .5641 in

Cumulative Runoff

6.0415 in
9.213 ac-ft

HYG Volume... 9.213 ac-ft (area under HYG curve)

***** SCS UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .33000 hrs (ID: POST-DEV Q)
Computational Incr, Tm = .04400 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 62.83 cfs
Unit peak time Tp = .22000 hrs
Unit receding limb, Tr = .88000 hrs
Total unit time, Tb = 1.10000 hrs

Index of Starting Page Numbers for ID Names

Exhibit 'E'

Notice of Intent

1752059166

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR [ ] (for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-02-01

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required. To properly complete this form, please refer to the Instruction Manual which can be accessed at www.dec.state.ny.us/website/dow/toolbox/instr_man.pdf

-IMPORTANT-
THIS FORM FOR MACHINE PRINT ONLY
RETURN THIS FORM TO THE ADDRESS ABOVE
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
JKC 700, LLC

Owner/Operator Contact Person Last Name (NOI CONSULTANT)
McCULLOCH

Owner/Operator Contact Person First Name
STEPHEN

Owner/Operator Mailing Address
ONE WEST RED OAK LANE

City
WHITE PLAINS

State: NY Zip: 10604-

Phone (Owner/Operator)
914-694-6067

Fax (Owner/Operator)
914-694-6072

Email (Owner/Operator)
SMCCULLOCH@HOULIHANPARNE

7599059161

Location Information

Project Site Information

Project/Site Name*
HIGH TECH PARK - NORTHEAST BUSINESS CNTR

Street Address (NOT P.O. BOX)
CORPORATE BOULEVARD

City/Town/Village (THAT ISSUES BUILDING PERMIT)
TOWN OF NEWBURGH

State: NY
Zip: 12550-

County: ORANGE
DEC Region (If Known): 5

Name of Nearest Cross Street
ROUTE 17K

Distance to Nearest Cross Street (Feet)
1000

Direction to Nearest Cross Street
● North ○ South ○ East ○ West

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.state.ny.us/website/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site go to the dropdown menu on the left and choose "Get Coordinates". Click on the center of your site and a small window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting): 576160

Y Coordinates (Northing): 4595705

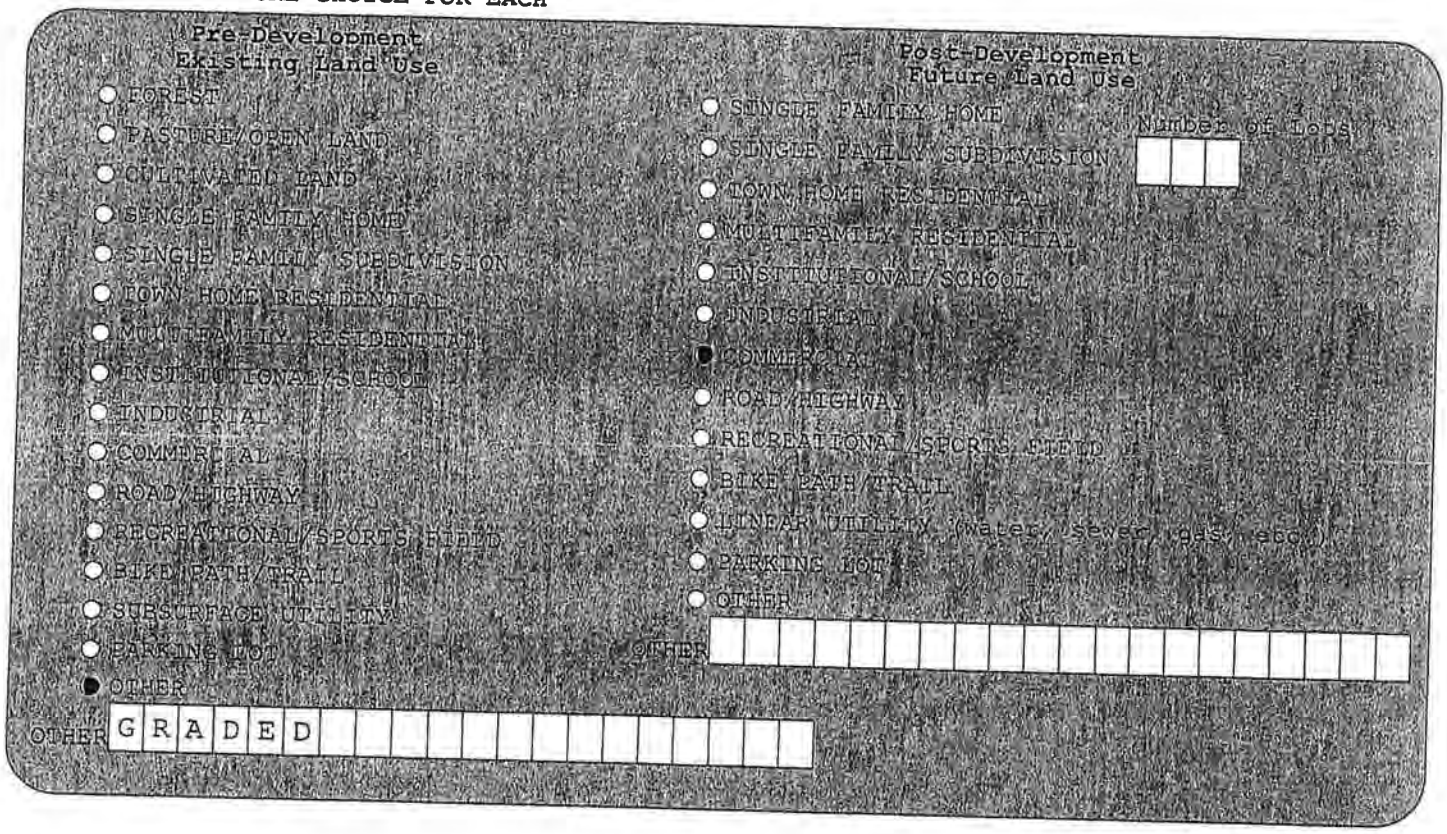
2. What is the nature of this construction project?

● New Construction
○ Redevelopment with increase in imperviousness
○ Redevelopment with no increase in imperviousness

4198059163

Project Site Information

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH



4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ? ○ Yes ● No

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)? ○ Yes ● No

6. Is this property owned by a state authority, state agency or local government? ○ Yes ● No

7. In accordance with the larger common plan of development or sale; enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	Acreage To Be Disturbed	Existing Impervious Area Within Disturbed	Future Impervious Area Within Disturbed
14.9	4.2	0.9	3.4

8. Will there be more than 5 acres disturbed at any given time? ○ Yes ● No

9. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
%	%	100 %	%

10. Is this a phased project? **(if yes, The SWPPP must address all planned phases)** ○ Yes ● No

11. Enter the planned start and end dates of the disturbance activities

Start Date: 05/01/2007 – End Date: 08/01/2007

Receiving System(s)

12. Provide the name of the nearest, natural, classified surface waterbody(ies) into which construction site runoff has the potential to discharge.

UNNAMED STREAM AKA MURPHY'S DITCH

For Questions 13 and 14 refer to the Instruction Manual for a subset of 303(d) segments and TMDL watersheds subject to Condition A of the permit. These waterbodies and watersheds have been identified for regulation within the stormwater program due to some level of impairment by nutrients, silt or sediment. The Instruction Manual can be accessed at www.dec.state.ny.us/website/dow/toolbox/instr_man.pdf

13. Has the surface waterbody(ies) in question 12 been identified as a 303(a) segment? ○ Yes ● No

14. Is this project located in a TMDL Watershed? ○ Yes ● No

*NOTE: If you answered Yes to either question 13 or 14, Pursuant to Part I.D.3.(b) of the permit, you must have your SWPPP prepared and certified by a licensed/certified professional and the SWPPP is subject to a 60-business day review.

15. Does the site runoff enter a separate storm sewer system- including roadside drains, swales, ditches, culverts, etc? **(if no, skip question 16)** ● Yes ○ No ○ Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

ROADSIDE DITCH, ROUTE 17K, NYS

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

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Stormwater Pollution Prevention Plan (SWPPP)

18. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book) ? * ● Yes ○ No

19. Does this construction activity require the development of a SWPPP that includes Water Quality and Quantity Control components (Post-Construction Stormwater Management Practices) **If no, Skip question 20** ● Yes ○ No

20. Have the Water Quality and Quantity Control components of the SWPPP been developed in comformance with the current NYS Stormwater Management Design Manual ? * ● Yes ○ No

NOTE: If you answered no to question 18 or 20, Pursuant to Part I.D.3.(b) of the permit, you must have your SWPPP prepared and certified by a licensed/certified professional and the SWPPP is subject to a 60-business day review. Please provide further details in the details/comment section on the last page of this form.

21. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ● Professional Engineer (P.E.)
- ○ Soil and Water Conservation District (SWCD)
- ○ Registered Landscape Architect (R.L.A.)
- ○ Certified Professional in Erosion and Sediment Control (CPESC)
- ○ Owner/Operator
- ○ Other

SWPPP Preparer Information
(if different from Owner/Operator info)

SWPPP Preparer: VAN CLEEF ENGINEERING ASSOCIATES

Contact Name (Last, Space, First): LALKA JOSEPH

Mailing Address: 2345 ROUTE 33

City: ROBBINSVILLE ROAD

State: NJ Zip: 08691 -

Phone: 609 - 259 - 3263 Fax: 609 - 259 - 0278

Email: JLALKA@VCEA.ORG

Stormwater Pollution Prevention Plan (SWPPP)

Erosion and Sediment Control Practices

22. Has a construction sequence schedule for the planned management practices been prepared?

● Yes ○ No

23. Select **all** of the erosion and sediment control practices that will be employed on the project site.

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ● Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Other

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ● Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Stormwater Pollution Prevention Plan (SWPPP)

Water Quality and Quantity Control

Important: Completion of Questions 24-30 is not required if the project:

Disturbs less than 5 acres and is planned for single-family residential homes (including subdivisions) or construction on agricultural property and does not have a discharge to a 303(d) water or is not located within a TMDL watershed.

Additionally, sites where there will be no future impervious area within the disturbed area and that do not have a change (pre to post development) in hydrology do not need to complete questions 24-30.

24. Indicate **all** the permanent Stormwater Management Practice(s) that will be installed on this site

Post Construction Stormwater Management Practices

Ponds

- ○ Micropool Extended Detention (P-1)
- ● Wet Pond (P-2)
- ○ Wet Extended Detention (P-3)
- ○ Multiple Pond System (P-4)
- ○ Pocket Pond (P-5)

Wetlands

- ○ Shallow Wetland (W-1)
- ○ Extended Detention Wetland (W-2)
- ○ Pond/Wetland System (W-3)
- ○ Pocket Wetland (W-4)

Filtering

- ○ Surface Sand Filter (F-1)
- ○ Underground Sand Filter (F-2)
- ○ Perimeter Sand Filter (F-3)
- ○ Organic Filter (F-4)
- ○ Bioretention (F-5)

Infiltration

- ○ Infiltration Trench (I-1)
- ○ Infiltration Basin (I-2)
- ○ Dry Well (I-3)

Open Channels

- ○ Dry Swale (O-1)
- ○ Wet Swale (O-2)

- ● Other

Describe other stormwater management practices not listed above or explain any deviations from the technical standards. If the SWPPP does not conform to the technical standards, the SWPPP must be prepared and certified by a licensed/certified professional and is subject to a 60-business day review.

VORTECHNIC MODEL 9000

Has a long term Operation and Maintenance plan for the post construction management practices been developed? ● Yes ○ No

If Yes, Identify the entity responsible for the long term Operation and Maintenance

O W N E R

Stormwater Pollution Prevention Plan (SWPPP)
Water Quality and Quantity Control

25. Provide the total water quality volume required and the total provided for the site.

Total Water Quality Volume (WQv)

WQv Required: 0.53 acre-feet

WQv Provided: 2.8 acre-feet

26. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of post-developed 1 year, 24 hour storm event

CPv Required: 2.3 acre-feet

CPv Provided: 2.8 acre-feet

The need to provide for channel protection has been waived because:

- ○ Site discharges directly to fourth order stream or larger

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development: 35.4 CFS

Post-development: 35.4 CFS

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development: 76.4 CFS

Post-development: 76.4 CFS

The need to provide for flood control has been waived because:

- ○ Site discharges directly to fourth order stream or larger
- ○ Downstream analysis reveals that flood control is not required

IMPORTANT: For questions 27 and 28 impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s) (Total Drainage Area = Project Site + Offsite areas)

27. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins. **12** %

28. Post-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction. **24** %

29. Indicate the total number of permanent stormwater management practices to be installed **2**

30. Provide the total number of stormwater discharge points from the site (include discharges to either surface waters or to seperate storm sewer systems) **1**

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Other Permits

31. S t any other DEC permits that are required for this project or ○ None

DEC Permits

○ Air Pollution Control	○ Stream Protection/Article 15
○ Coastal Erosion	○ Water Quality Certificate
○ Hazardous Waste	○ Dam Safety
○ Long Island Wells	○ Water Supply
○ Mined Land Reclamation	○ Freshwater Wetlands
○ Other SPDES	○ Tidal Wetlands
○ Solid Waste	○ Wild, Scenic and Recreational Rivers

Other: N/A

32. If this NOI is being submitted for the purpose of continuing coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

NYR

Details/Comments

Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that this document and the corresponding documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction. and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted

Print First Name: STEPHEN MI:

Print Last Name: McCULLOCH

Owner/Operator Signature:

Date: / /

APPENDIX 18

ACKNOWLEDGEMENT OF NOTICE OF INTENT

Steve Mc

New York State Department of Environmental Conservation
Division of Water
Bureau of Water Permits, 4th Floor
625 Broadway, Albany, New York 12233-3505
Phone: (518) 402-8111 • **FAX:** (518) 402-9029
Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

12/22/2006

JKC 700, LLC
ONE WEST RED OAK LANE
WHITE PLAINS NY 10604-

Re: ACKNOWLEDGMENT of NOTICE of INTENT for Coverage Under SPDES General Permit for Storm Water Discharges from CONSTRUCTION ACTIVITY General Permit No. GP-02-01

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-02-01 for the construction activities located at:

HIGH TECH PARK - NORTHEAST BUSINESS CNT
CORPORATE BOULEVARD
NEWBURGH NY 12550- **County: ORANGE**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-02-01 from the above construction site will be authorized **5** business days from **12/19/2006** which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: NYR **10M084**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on **12/19/2006** is accurate and complete.

2. You have developed a Storm Water Pollution Prevention Plan (SWPPP) that complies with GP-02-01 which must be implemented as the first element of construction at the above-noted construction site.

3. Activities related to the above construction site comply with all other requirements of GP-02-01.

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