



February 3, 2020

Chairman James Abdallah and
Members of the Planning Board
City of Plattsburgh
41 City Hall Place
Plattsburgh, NY 12901

Re: *Durkee Street Mixed Use Development – Final Site Plan Application*
Property: Parcel located north of Broad Street and South of Bridge Street (SLB: 207.20-7-15)

Dear Chairman Abdallah and Members of the Planning Board:

On behalf of Prime Plattsburgh, LLC (“Prime” or “Applicant”), we respectfully submit the following items for the Durkee Street Mixed Use Development, which will include a mixed-use building with 115 residential units, 10,000 square feet of commercial/restaurant space on the ground floor, 286 off-street parking spaces, open space, pedestrian access to the Saranac River waterfront, re-development of the existing farmers market structure with an additional 3,400 square feet of commercial/restaurant space and 2,400 square feet of civic space (the “Project”). The Project is proposed on the above referenced property, tax lot 207.20-7-15, which is owned by the City of Plattsburgh (the “Property”):

To facilitate the Project, a minor subdivision and Planned Unit Development (“PUD”) subdivision are being simultaneously sought by the City of Plattsburgh. The minor subdivision will divide the Property into two lots, one being the lot south of Broad Street and the other being the larger lot between Board Street and Bridge Street. The PUD subdivision, being sought by the City pursuant to City of Plattsburgh Zoning Code (“Zoning Code”) § 360-21, will divide the larger lot into two parcels. The first parcel will remain under the ownership of the City and include a strip of land encompassing the Saranac River waterfront (also to include the existing ICV development). The second parcel to be created by the PUD subdivision will be an approximately 2.8-acre lot that will host the Durkee Street Mixed Use Development sought herein and will be purchased by Prime (the “Project Site”). The PUD subdivision, being separately sought by the City, will vary some of the applicable area and bulk requirements for the Project Site, which are to be applied to the site plan application. In addition, the PUD is requesting an alternate method for calculating the parking demand for the project in accordance with the City’s Zoning Section 360-21 (D)(5)(d)(5) Planned Unit Development.

The Project Site is surrounded by the Commercial “C” zoning district and also within an existing PUD. In the City of Plattsburgh, PUD applications are first approved by the Zoning Board of Appeals (“ZBA”) as a special use permit and then by the Planning Board pursuant to Zoning Code § 360-21. The only permit sought by Prime is the site plan application discussed herein. Accordingly, this site plan is governed by the process and standards set forth in Zoning Code Article VI [Site Plans].

New York State Environmental Quality Review Act

The City Council, acting as Lead Agency, has commenced the New York State Environmental Quality Review Act ("SEQRA") process for the City's Downtown Revitalization Initiative projects. The City Council required that a Draft Generic Environmental Impacts Statement ("DGEIS") be prepared to assess the potential significant adverse environmental impacts related to the downtown area improvement projects. The DGEIS was deemed complete on November 21, 2019, a public hearing for the DGEIS was held on December 9, 2019. A Final Environmental Impacts Statement ("FGEIS") was prepared based upon comments to the DGEIS, and was accepted by the City Council as complete on January 30, 2020. Importantly, the Durkee Street Mixed Use Development was one of the downtown area improvement projects assessed in the FGEIS. The Planning Board and the ZBA were listed as involved agencies for this GEIS process and are therefore bound by the City Council's SEQRA review. Throughout the course of this application, the applicant will demonstrate that the GEIS and related Findings Statement have assessed the potential significant adverse impacts related to the Project and therefore no further SEQRA review is required. See 6 NYCRR 617.10(d).

Conclusion

We are excited to be a part of Plattsburgh downtown revitalization initiative. The enclosed site plan application submission includes 15 copies of the following:

- 1) Site Plan Drawing Set prepared by McFarland Johnson, dated January 2020;
- 2) Comment Responses Site Plan Sketch review comment letter sent dated December 23, 2019 prepared by the City of Plattsburgh Community Development Office
- 3) City of Plattsburgh Site Plan Check List;
- 4) Full StormWater Pollution Prevention Plan prepared by McFarland Johnson, dated January 2020;
- 5) Traffic Letter of Findings prepared by McFarland Johnson, dated July 29, 2019
- 6) Building Elevations prepared by Mackenzie Architects, P.C.;
- 7) Typical residential unit layouts prepared by Mackenzie Architects, P.C.;
- 8) Project Renderings prepared by Mackenzie Architects, P.C.;

We respectfully request that this matter be placed on the Planning Board's February 24, 2020 meeting agenda. If you have any questions related to the enclosed information or if you require additional information, please contact our office.

Very Truly Yours,
MCFARLAND JOHNSON, NC.

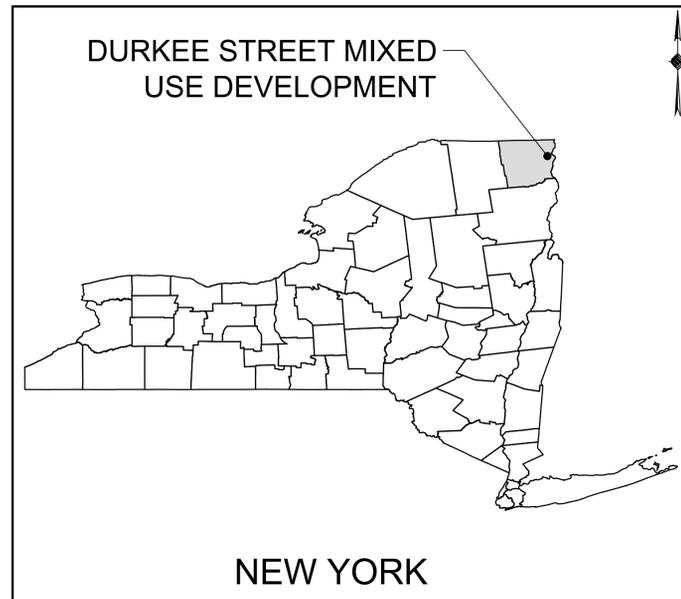


Turner Bradford, P.E.
Project Engineer

cc: Deb Osterhoudt – Prime Plattsburgh, LLC
Charles Gottlieb – Whiteman Osterman & Hanna, LLP

PRIME PLATTSBURGH, LLC

DURKEE STREET MIXED USE DEVELOPMENT

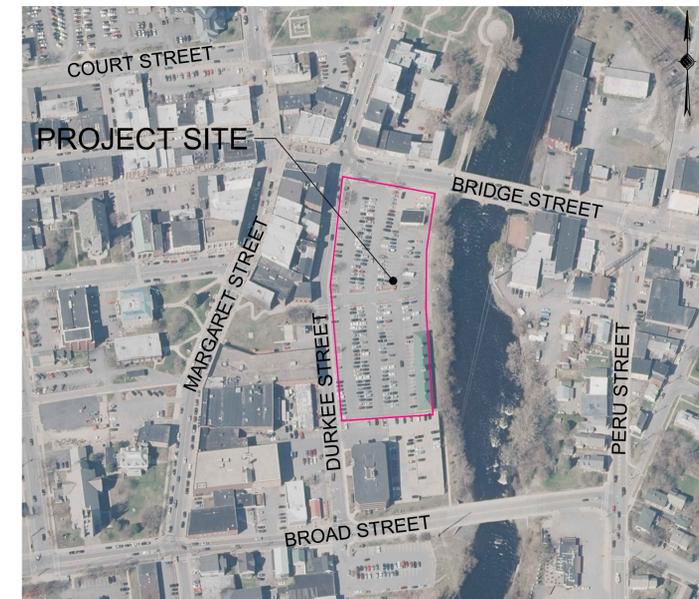


LOCATION MAP

SITE PLAN SUBMISSION
FEBRUARY 3, 2020

CITY OF PLATTSBURGH
CLINTON COUNTY
NEW YORK

NOT FOR CONSTRUCTION



VICINITY MAP

DRAWING INDEX	
SHEET NUMBER	SHEET TITLE
CV-00	COVER SHEET
GN-01	GENERAL NOTES
SURV-01	EXISTING CONDITIONS SURVEY
DE-01	DEMOLITION PLAN
BL-01	BORING LOG
C-01	SITE PLAN
C-02	DRIVEWAY PLAN
GR-01	GRADING AND DRAINAGE PLAN
GR-02	DRAINAGE PROFILES
UT-01	UTILITY LAYOUT
UT-02	SANITARY PROFILES
UT-03	WATER PROFILES
EC-01	EROSION AND SEDIMENT CONTROL PLAN PHASE I
EC-02	EROSION AND SEDIMENT CONTROL PLAN PHASE II
DT-01	DETAILS
DT-02	DETAILS
DT-03	DETAILS
DT-04	DETAILS
DT-05	DETAILS
DT-06	DETAILS
LP-01	LANDSCAPE PLAN

PREPARED FOR:



PRIME PLATTSBURGH, LLC
621 COLUMBIA ST.
COHOES, NEW YORK
(518) 785-9000 X126
WWW.PRIMECOMPANIES.COM

PREPARED BY:



60 RAILROAD PLACE, SUITE 402
SARATOGA SPRINGS, NEW YORK 12866

UTILITY CONTACTS

WATER/ SEWER/ STORM/ ROADS
CITY OF PLATTSBURGH DEPARTMENT OF PUBLIC WORKS
ANDREW DURRIN, ENGINEERING TECHNICIAN
251 IDAHO AVENUE
PLATTSBURGH, NY 12903
(518) 536-7453

FIRE DEPARTMENT
CITY OF PLATTSBURGH FIRE DEPARTMENT
SCOTT LAWLISS
65 CORNELIA STREET
PLATTSBURGH, NY 12903
(518) 561-3780

NYSDOT REGION 7
STEVEN G. KOKKORIS, REGIONAL DIRECTOR
317 WASHINGTON STREET
WATERTOWN, NY 13601
(518) 785-2333

BUILDING DEPARTMENT
JOE MCMAHON, BUILDING INSPECTOR
41 CITY HALL PLACE
PLATTSBURGH, NY 12903
(518) 563-7707

ELECTRIC
CITY OF PLATTSBURGH MUNICIPAL LIGHTING DEPARTMENT
BILL TREACY, MANAGER
6 MILLER STREET
PLATTSBURGH, NY 12903
(518) 563-2200

GAS
NYSEG PLATTSBURGH OFFICE
4125 ROUTE 22
PLATTSBURGH, NY 12901
(518) 566-9846

18491.00

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

Map Notes:

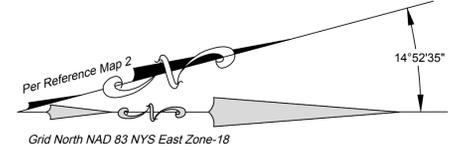
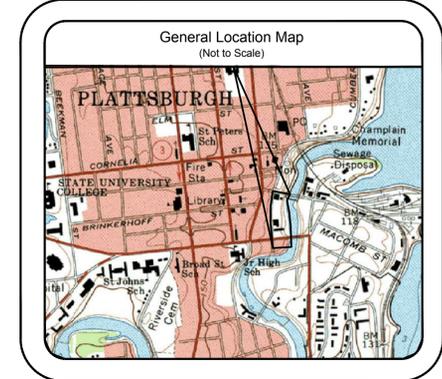
1. Unauthorized alteration or addition to a survey map bearing a Licensed Land Surveyor's seal is a violation of section 7209, sub-division 2 of the New York State Education Law.
2. Only copies from the original of this survey marked with an original of the Land Surveyor's embossed seal shall be considered valid true copies. (mylar prints shall be stamped with the surveyor's ink seal with an original signature)
3. Certifications indicated hereon signify that this survey was prepared in accordance with the existing Code of Practice for Land Surveys adopted by the New York State Association of Professional Land Surveyors, Inc. Said certifications shall run only to the person for whom the survey is prepared and on his behalf the title company, governmental agency, and lending institution listed hereon, and to the assignees of the lending institution. Certifications are not transferable to additional institutions or subsequent owners.
4. Copyright 2019, Robert M. Sutherland, P.C. All rights reserved.
5. The location of sub-surface improvements are approximate and compiled from field location and mapping provided by the respective utility companies. The contractor shall confirm the location of all utilities prior to the commencement of excavation.
6. Subject to any findings of an accurate abstract of title or those discoverable by inspection.
7. North arrow and bearings based on grid north NAD 83 New York East zone 18.
8. Vertical datum based on NAVD 1988.
9. All distances shown hereon are ground distances.
10. Riparian rights, if any, have not been established as a result of this survey.
11. Building offsets, as shown on this map, are not to be used for construction purposes.

Reference Maps:

1. "Map of Lands of City of Plattsburgh 44-48 Margaret Street, Plattsburgh," prepared by Joseph J. Martina, L.S. dated September 30, 1974 and filed in the Clinton County Clerk's Office in Book 6 Page 57.
2. "Survey Map Showing Parcels of Land (Parcels A-J) owned by City of Plattsburgh Proposed to be conveyed to City Plaza Associates," prepared by Jolly and Russo Land Surveyors dated September 25, 1989 and filed in Clinton County Clerk's Office in Book 19 Page 71.
3. "Boundary Survey Portion of Lands of The City of Plattsburgh" prepared by C.T. Male Associates, P.C. dated October 5, 2004 and on file in the office of Robert M. Sutherland, P.C.
4. "Map Showing Plattsburgh Gateway-Phase 1 Site Plan," prepared by Robert M. Sutherland, P.C. dated May 12, 2006.

Reference Deeds:

1. City Plaza Associates to City of Plattsburgh by deed dated February 27, 2003 and recorded on Instrument # 2003-152840 on March 12, 2003 in the Clinton County Clerk's Office.
2. Lease to ICV-NY, LLC to City of Plattsburgh by deed dated May 26, 2006 and recorded as Instrument # 2006-200533 on November 17, 2006 in the Clinton County Clerk's Office.
3. Richard A. Marks to City of Plattsburgh by deed dated July 9, 2014 and recorded on Instrument # 2014-265603 on July 09, 2014 in the Clinton County Clerk's Office.



Tax Map Reference:

Section 207.20 - Block 7 - Lot 15
City of Plattsburgh
County of Clinton

No.	Revision/Issue	Date

RMS
ROBERT M. SUTHERLAND P.C.
ENGINEERS - PLANNERS - SURVEYORS
SOIL & MATERIAL TESTING
11 MACDONOUGH STREET, PLATTSBURGH, NY 12901
518.561.6145(PH) 518.561.2496 (FX)
R M S P C P C O M

Project Name & Address
Survey Map
Prepared for
The City Of Plattsburgh
showing portions of lands
to be included within the
Planned Unit Development
- Situate -
Clinton County City of Plattsburgh State of New York

Project #	Sheet
19116	SURVEY
Date	07/25/2019
Scale	1" = 40'
Drawn	LSC
Checked	J.F.B.

Certification:

I hereby certify that this survey was prepared from deeds and maps of record and from an accurate survey performed during September and October of 2018.

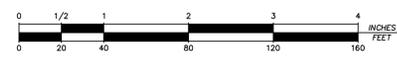
Jeffrey F. Burns, L.S. Date
N.Y.S. License #050702

Planned Unit Development Schedule:

LOCATION: Lands of the City of Plattsburgh, being a portion of lands on the south side of Bridge Street, east side of Durkee Street and north side of Broad Street, said portion of lands are contiguous to the westerly bank of the Saranac River.

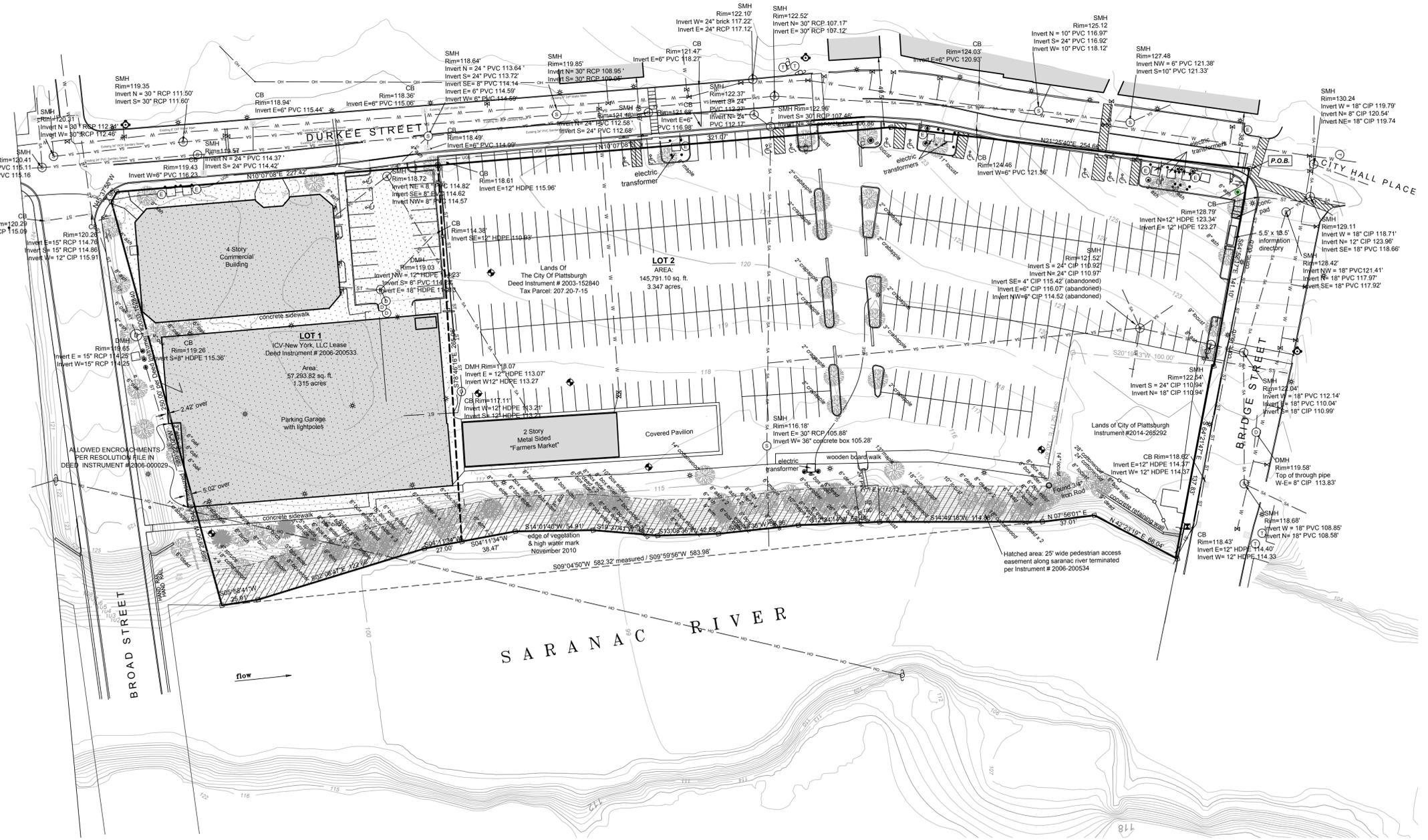
ZONE: Commercial / Planned Unit Development

Item	Lot 1	Lot 2
Lot area	57,293.82 sq. ft.	145,791.10 sq. ft.
Road frontage	529.57 ft.	828.96 ft.
Use	ICV-New York, LLC Lease	Parking lot



Legend:

- 5/8" iron rod w/ RMS survey cap (to be set)
- Found property evidence (as described)
- Computed corner
- ⊕ Fire Hydrant
- ⊙ Sanitary manhole
- ⊙ Drainage manhole
- Catch basin round
- Catch basin square
- Telephone pedestal
- Cable pedestal
- ⊕ Water Valve
- ⊕ Water shutoff
- ⊙ Utility pole
- ⊕ Sign
- Bollard
- ⊕ Monitoring well
- ⊕ Gas marker
- ⊕ Gas meter
- ⊕ Gas valve
- ⊕ Electric meter
- ⊕ Deciduous tree
- ⊕ Coniferous tree
- w — Waterline
- SA — Sanitary line
- ST — Storm line
- USE — Underground electric
- UST — Underground telephone
- GAS — Underground gas
- Proposed property line
- Existing property line
- - - - - Adjoiner property line





McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
 SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

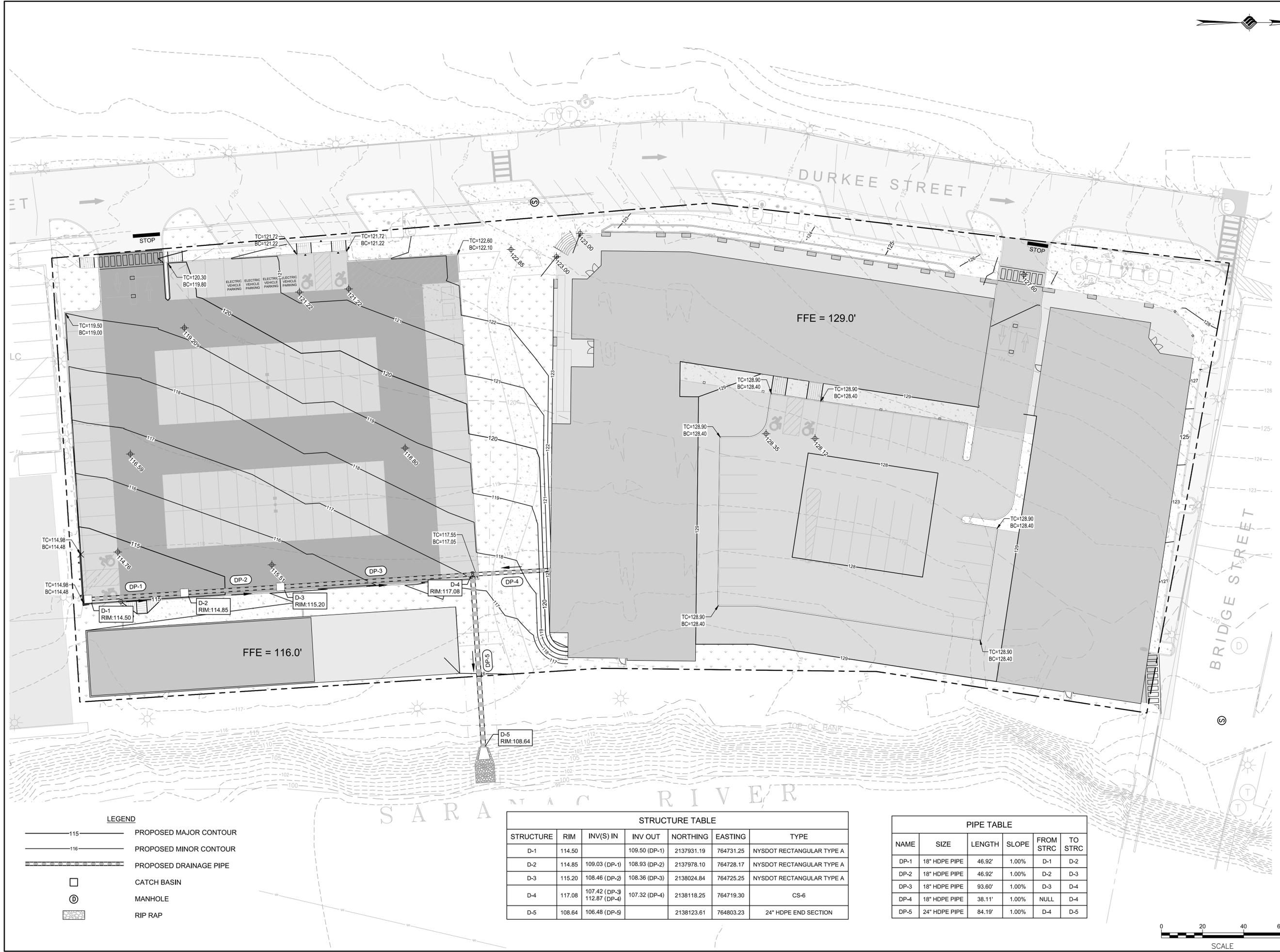
CLIENT: **PRIME PLATTSBURGH, LLC**
 CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

DRAWN	NSO
DESIGNED	NSO
CHECKED	TCB
SCALE	1"=20'
DATE	JANUARY 2020
PROJECT	18491.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
GRADING AND DRAINAGE PLAN

DRAWING NUMBER
GR-01
 07 OF 20



LEGEND

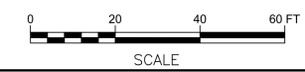
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED DRAINAGE PIPE
- CATCH BASIN
- MANHOLE
- RIP RAP

STRUCTURE TABLE

STRUCTURE	RIM	INV(S) IN	INV OUT	NORTHING	EASTING	TYPE
D-1	114.50		109.50 (DP-1)	2137931.19	764731.25	NYSOT RECTANGULAR TYPE A
D-2	114.85	109.03 (DP-1)	108.93 (DP-2)	2137978.10	764728.17	NYSOT RECTANGULAR TYPE A
D-3	115.20	108.46 (DP-2)	108.36 (DP-3)	2138024.84	764725.25	NYSOT RECTANGULAR TYPE A
D-4	117.08	107.42 (DP-3) 112.87 (DP-4)	107.32 (DP-4)	2138118.25	764719.30	CS-6
D-5	108.64	106.48 (DP-5)		2138123.61	764803.23	24" HDPE END SECTION

PIPE TABLE

NAME	SIZE	LENGTH	SLOPE	FROM STRC	TO STRC
DP-1	18" HDPE PIPE	46.92'	1.00%	D-1	D-2
DP-2	18" HDPE PIPE	46.92'	1.00%	D-2	D-3
DP-3	18" HDPE PIPE	93.60'	1.00%	D-3	D-4
DP-4	18" HDPE PIPE	38.11'	1.00%	NULL	D-4
DP-5	24" HDPE PIPE	84.19'	1.00%	D-4	D-5





McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
 SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

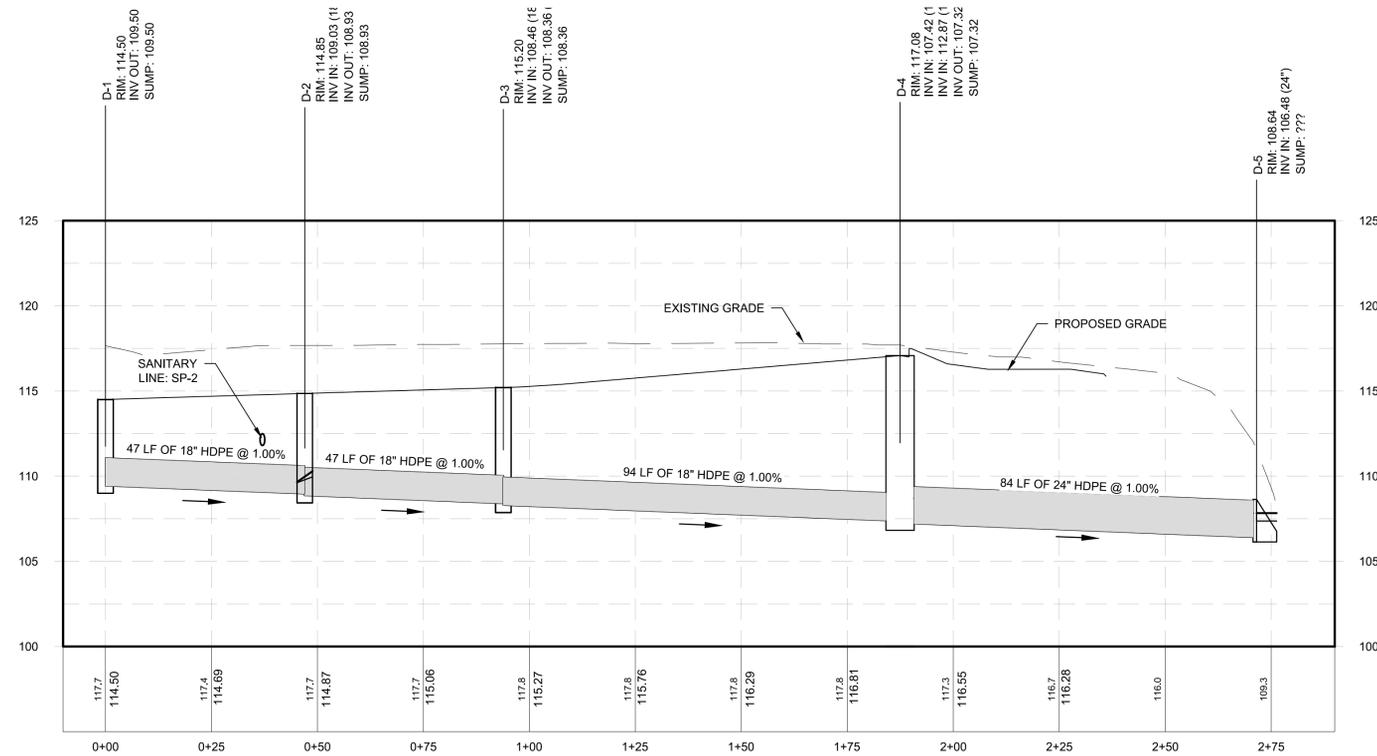
CLIENT: **PRIME PLATTSBURGH, LLC**
CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

DRAWN	NSO
DESIGNED	NSO
CHECKED	TCB
SCALE	1"=20'
DATE	JANUARY 2020
PROJECT	18491.00

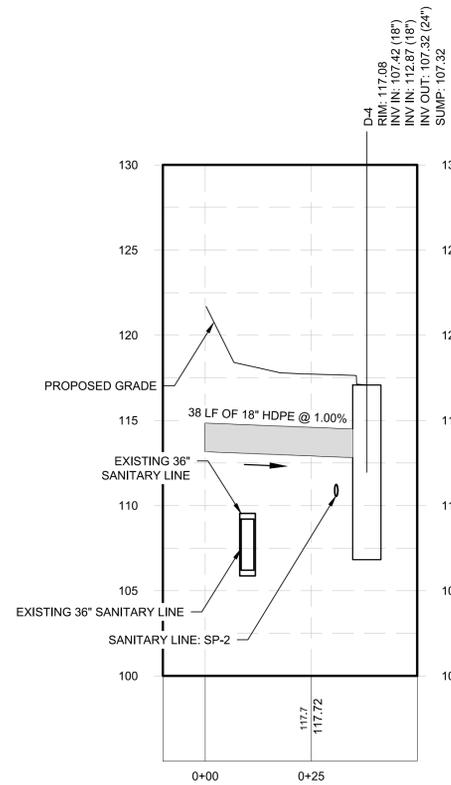
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
DRAINAGE PROFILES

DRAWING NUMBER
GR-02



DRAINAGE PROFILE
 Horizontal Scale: 1" = 20'
 Vertical Scale: 1" = 5'



P1-4 PROFILE
 Horizontal Scale: 1" = 20'
 Vertical Scale: 1" = 5'





McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
 SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

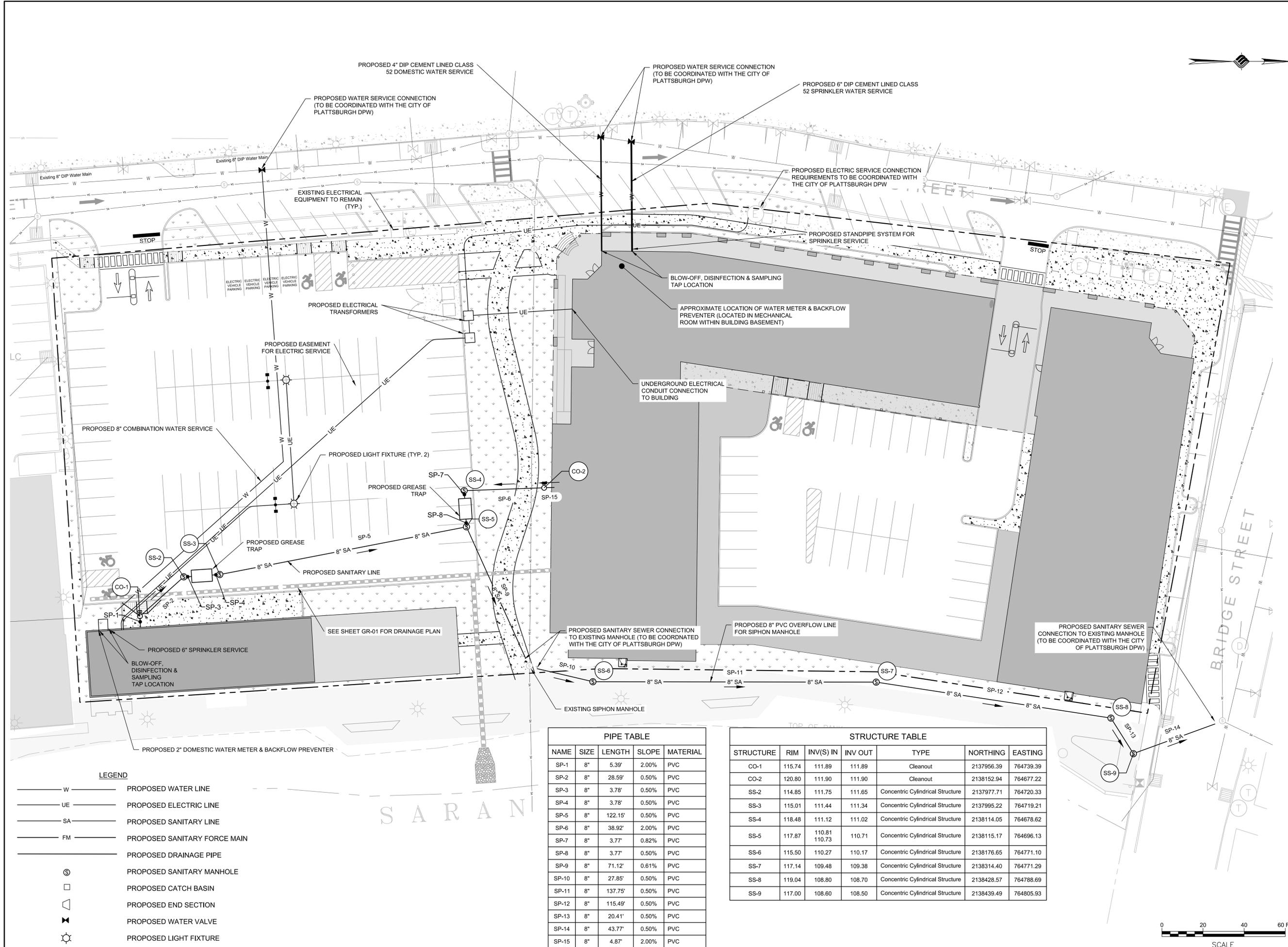
CLIENT: **PRIME PLATTSBURGH, LLC**
 CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

DRAWN	TCH
DESIGNED	TCH
CHECKED	TCB
SCALE	1"=20'
DATE	JANUARY 2020
PROJECT	18491.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
UTILITY LAYOUT

DRAWING NUMBER
UT-01
 09 OF 20



LEGEND

— W —	PROPOSED WATER LINE
— UE —	PROPOSED ELECTRIC LINE
— SA —	PROPOSED SANITARY LINE
— FM —	PROPOSED SANITARY FORCE MAIN
—	PROPOSED DRAINAGE PIPE
⊙	PROPOSED SANITARY MANHOLE
□	PROPOSED CATCH BASIN
▭	PROPOSED END SECTION
⊕	PROPOSED WATER VALVE
⊙	PROPOSED LIGHT FIXTURE

PIPE TABLE

NAME	SIZE	LENGTH	SLOPE	MATERIAL
SP-1	8"	5.39'	2.00%	PVC
SP-2	8"	28.59'	0.50%	PVC
SP-3	8"	3.78'	0.50%	PVC
SP-4	8"	3.78'	0.50%	PVC
SP-5	8"	122.15'	0.50%	PVC
SP-6	8"	38.92'	2.00%	PVC
SP-7	8"	3.77'	0.82%	PVC
SP-8	8"	3.77'	0.50%	PVC
SP-9	8"	71.12'	0.61%	PVC
SP-10	8"	27.85'	0.50%	PVC
SP-11	8"	137.75'	0.50%	PVC
SP-12	8"	115.49'	0.50%	PVC
SP-13	8"	20.41'	0.50%	PVC
SP-14	8"	43.77'	0.50%	PVC
SP-15	8"	4.87'	2.00%	PVC

STRUCTURE TABLE

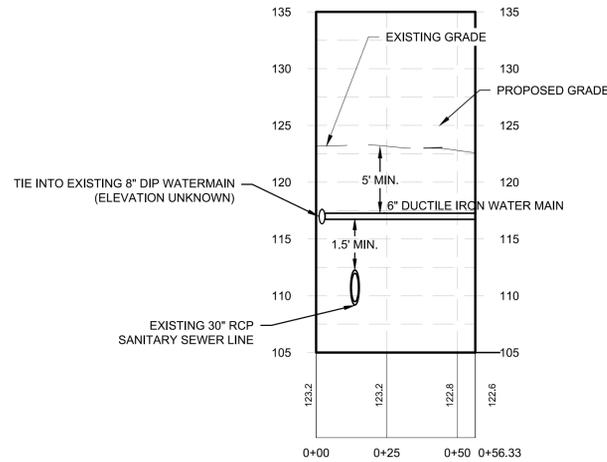
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHING	EASTING
CO-1	115.74	111.89	111.89	Cleanout	2137956.39	764739.39
CO-2	120.80	111.90	111.90	Cleanout	2138152.94	764677.22
SS-2	114.85	111.75	111.65	Concentric Cylindrical Structure	2137977.71	764720.33
SS-3	115.01	111.44	111.34	Concentric Cylindrical Structure	2137995.22	764719.21
SS-4	118.48	111.12	111.02	Concentric Cylindrical Structure	2138114.05	764678.62
SS-5	117.87	110.81	110.71	Concentric Cylindrical Structure	2138115.17	764696.13
SS-6	115.50	110.27	110.17	Concentric Cylindrical Structure	2138176.65	764771.10
SS-7	117.14	109.48	109.38	Concentric Cylindrical Structure	2138314.40	764771.29
SS-8	119.04	108.80	108.70	Concentric Cylindrical Structure	2138428.57	764788.69
SS-9	117.00	108.60	108.50	Concentric Cylindrical Structure	2138439.49	764805.93



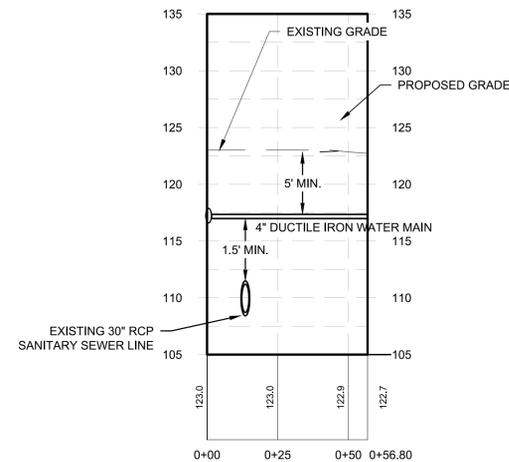
McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
 SITE PLAN SUBMISSION

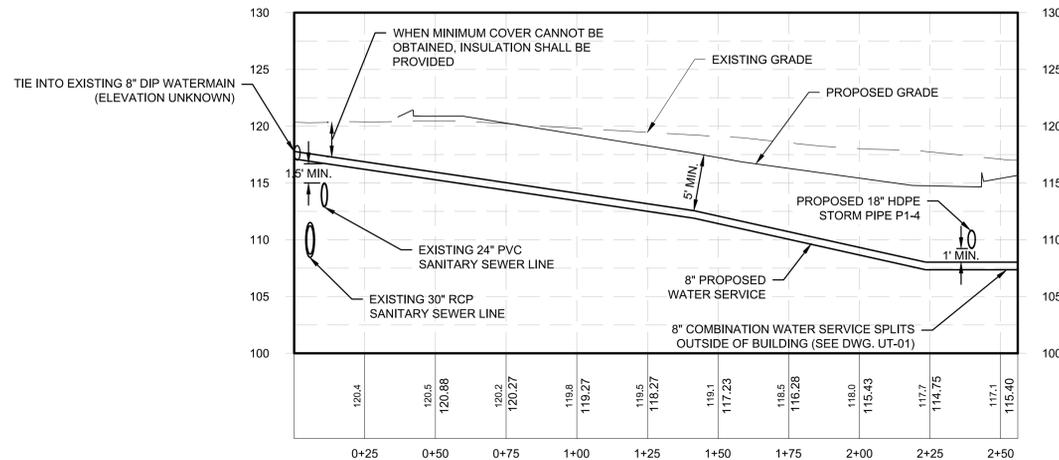
NO.	DATE	DESCRIPTION



PROPOSED MIXED-USE DEVELOPMENT SPRINKLER SERVICE
 Horizontal Scale: 1" = 30'
 Vertical Scale: 1" = 8'



PROPOSED MIXED-USE DEVELOPMENT DOMESTIC WATER SERVICE
 Horizontal Scale: 1" = 30'
 Vertical Scale: 1" = 8'



CIVIC SPACE WATER SERVICE
 Horizontal Scale: 1" = 30'
 Vertical Scale: 1" = 8'

CLIENT: **PRIME PLATTSBURGH, LLC**
 CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

DRAWN	TCH
DESIGNED	TCH
CHECKED	TCB
SCALE	1"=20'
DATE	JANUARY 2020
PROJECT	18491.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
WATER PROFILES

DRAWING NUMBER
UT-03
 11 OF 20





McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

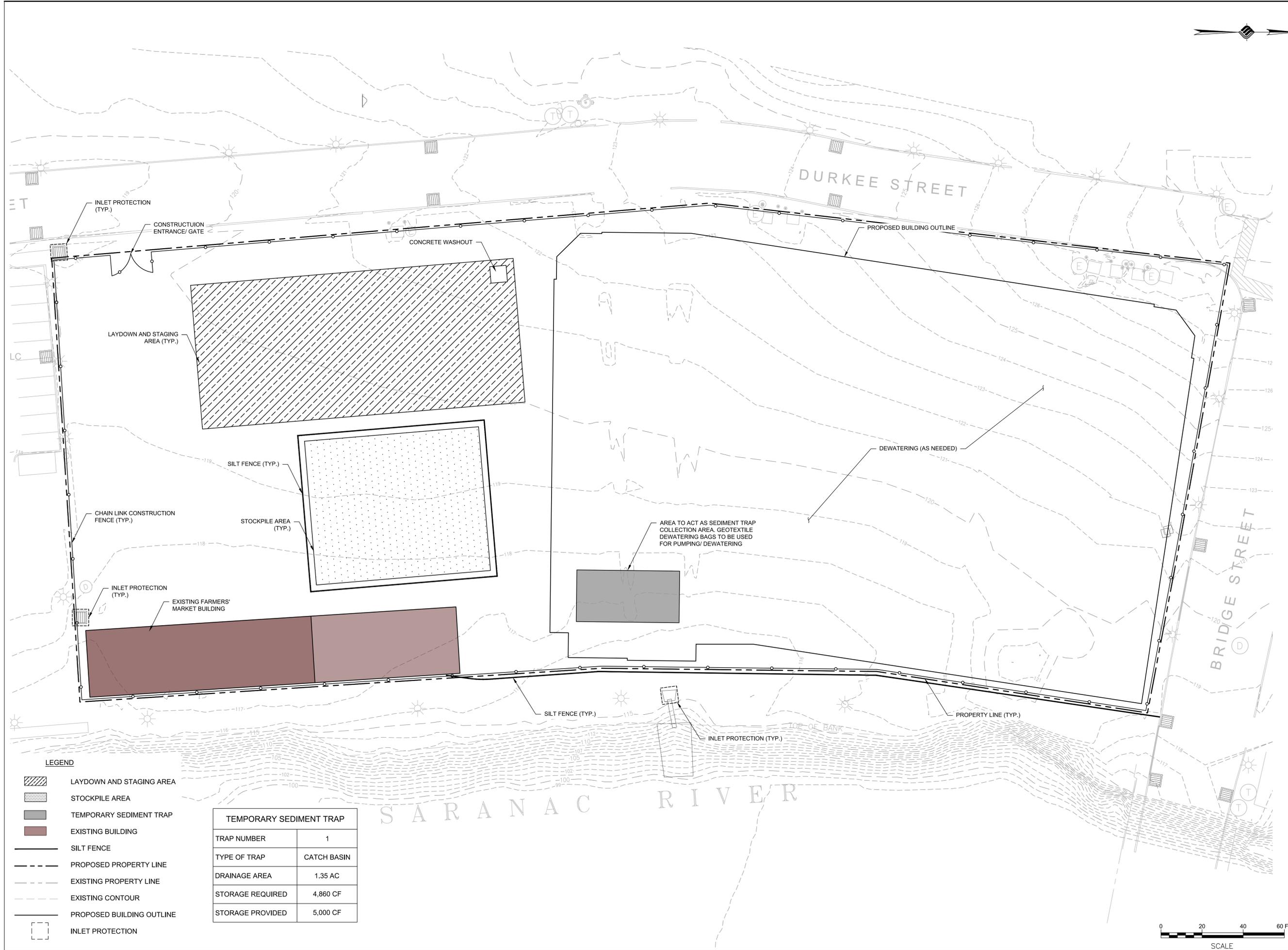
CLIENT: **PRIME PLATTSBURGH, LLC**
 CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

DRAWN	NSO
DESIGNED	NSO
CHECKED	TCB
SCALE	1"=20'
DATE	JANUARY 2020
PROJECT	18491.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
EROSION AND SEDIMENT CONTROL PLAN PHASE I

DRAWING NUMBER
EC-01
 12 OF 20



- LEGEND**
- LAYDOWN AND STAGING AREA
 - STOCKPILE AREA
 - TEMPORARY SEDIMENT TRAP
 - EXISTING BUILDING
 - SILT FENCE
 - PROPOSED PROPERTY LINE
 - EXISTING PROPERTY LINE
 - EXISTING CONTOUR
 - PROPOSED BUILDING OUTLINE
 - INLET PROTECTION

TEMPORARY SEDIMENT TRAP	
TRAP NUMBER	1
TYPE OF TRAP	CATCH BASIN
DRAINAGE AREA	1.35 AC
STORAGE REQUIRED	4,860 CF
STORAGE PROVIDED	5,000 CF





McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
 SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

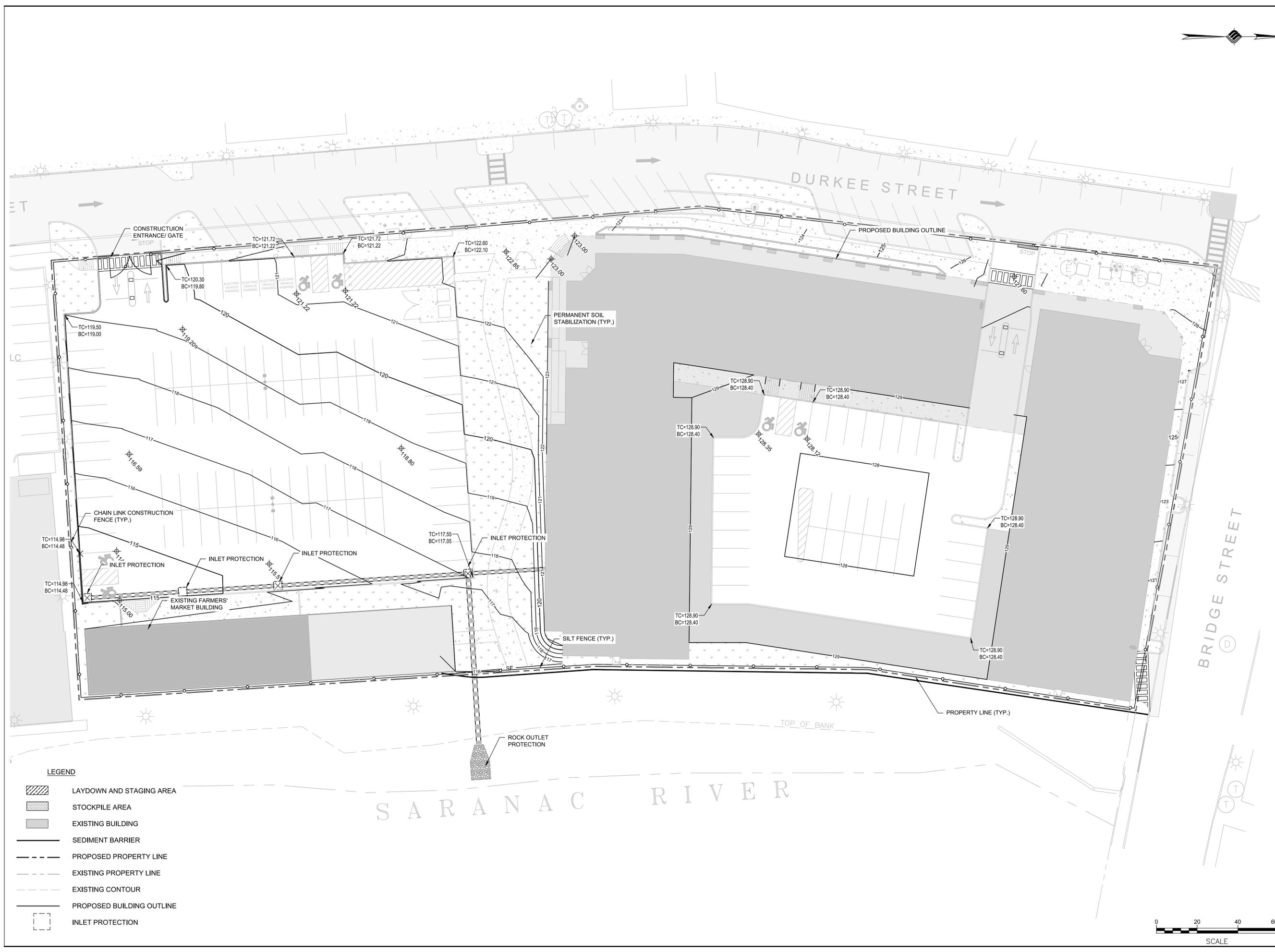
CLIENT: **PRIME PLATTSBURGH, LLC**
 CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

DRAWN	NSO
DESIGNED	NSO
CHECKED	TCB
SCALE	1"=20'
DATE	JANUARY 2020
PROJECT	18491.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

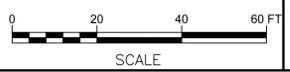
DRAWING TITLE
EROSION AND SEDIMENT CONTROL PLAN PHASE II

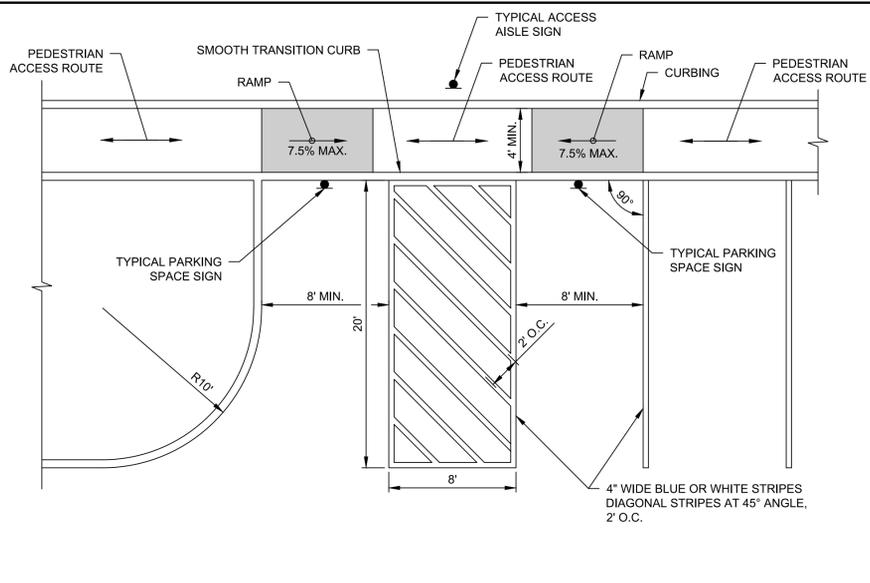
DRAWING NUMBER
EC-02
 13 OF 20



LEGEND

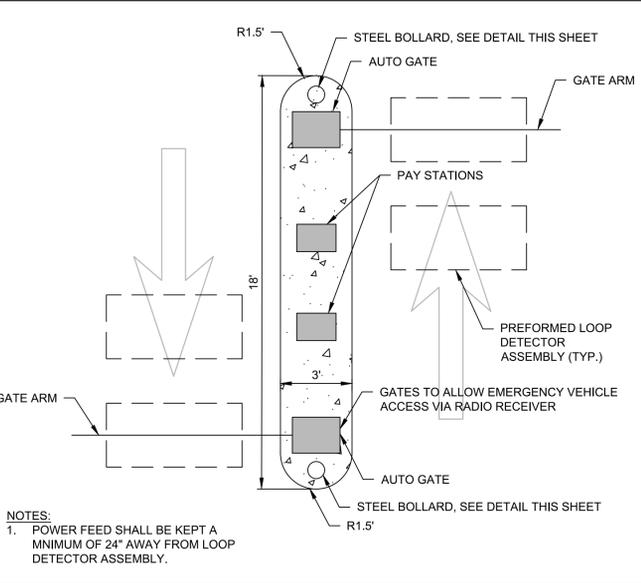
	LAYDOWN AND STAGING AREA
	STOCKPILE AREA
	EXISTING BUILDING
	SEDIMENT BARRIER
	PROPOSED PROPERTY LINE
	EXISTING PROPERTY LINE
	EXISTING CONTOUR
	PROPOSED BUILDING OUTLINE
	INLET PROTECTION



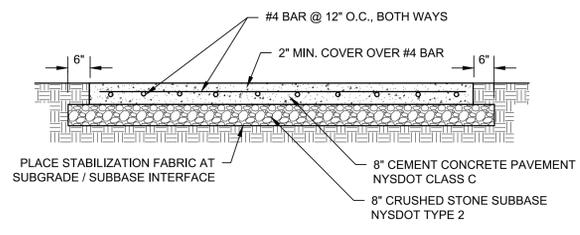


- NOTES:**
- THIS SHEET IS INTENDED TO DEPICT THE DIMENSIONAL REQUIREMENTS OF TYPICAL ACCESSIBLE PARKING LOT SPACES. SEE SITE PLAN FOR COMPLETE LAYOUT.
 - ACCESSIBLE PARKING SPACES SHALL BE AT LEAST 8' WIDE AND SHALL HAVE AN ADJACENT ACCESS AISLE 8' WIDE MEASURED PERPENDICULAR TO THE STALL STRIPE TO ACCOMMODATE VANS WITH LIFTS.
 - EACH ACCESSIBLE PARKING SPACE SHALL BE MARKED BY PERMANENTLY INSTALLED GROUND MOUNTED SIGNS WHICH DISPLAY THE INTERNATIONAL SYMBOL FOR ACCESS. EACH ACCESS AISLE SHALL BE MARKED BY PERMANENTLY INSTALLED GROUND MOUNTED SIGNS INDICATING THAT STOPPING IS NOT PERMITTED IN THE AISLE. SIGNS SHALL NOT BLOCK THE ACCESSIBLE CLEAR WIDTH OF ADJACENT WALKWAYS. SIGNS LOCATED WHERE THEY MAY BE HIT BY VEHICLES BEING PARKED SHALL BE INSTALLED AS SHOWN IN THE ACCESSIBLE PARKING SIGN DETAIL. THE BOTTOMS OF THE SIGNS LOCATED ON POSTS INSTALLED IN PAVED AREAS SHALL BE 7' MINIMUM ABOVE THE WALKWAY SURFACE.
 - SLOPES AT ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ADJOINING WALKWAYS SHALL NOT EXCEED 1.5% MAXIMUM IN ANY DIRECTION FOR DESIGN AND LAYOUT, AND 2.0% MAXIMUM FOR WORK ACCEPTANCE, WHILE PROVIDING POSITIVE DRAINAGE.
 - REQUIRED ACCESSIBLE PARKING SPACE AND ACCESS AISLE STRIPING AND OTHER OPTIONAL PAVEMENT MARKINGS, SUCH AS THE INTERNATIONAL ACCESS SYMBOL, SHALL BE PAINTED WHITE OR BLUE.
 - A SMOOTH, FLUSH TRANSITION MUST BE PROVIDED BETWEEN ALL PEDESTRIAN WALKWAYS, ACCESSIBLE PARKING SPACES AND AISLES.
 - CONTACT THE LOCAL MUNICIPALITY TO VERIFY THE SPECIFIED PARKING LAYOUT MEETS LOCAL REQUIREMENTS.

TYPICAL ACCESSIBLE PARKING LOT LAYOUT

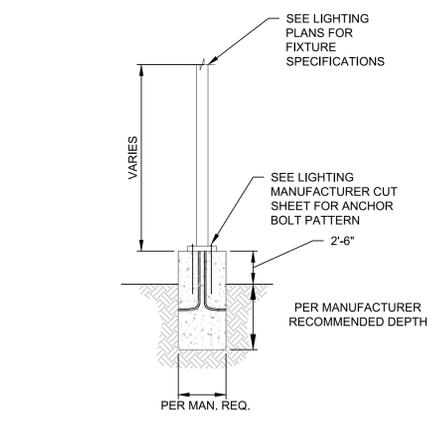


ACCESS CONTROL

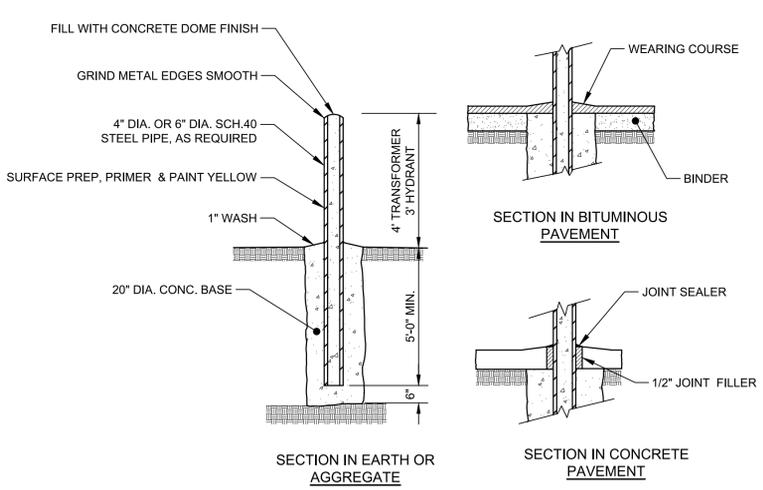


- NOTES:**
- STEEL REINFORCING SHALL BE IN THE UPPER THIRD OF THE CONCRETE.
 - CONTROL JOINTS SHALL BE SPACED EVERY 10'.

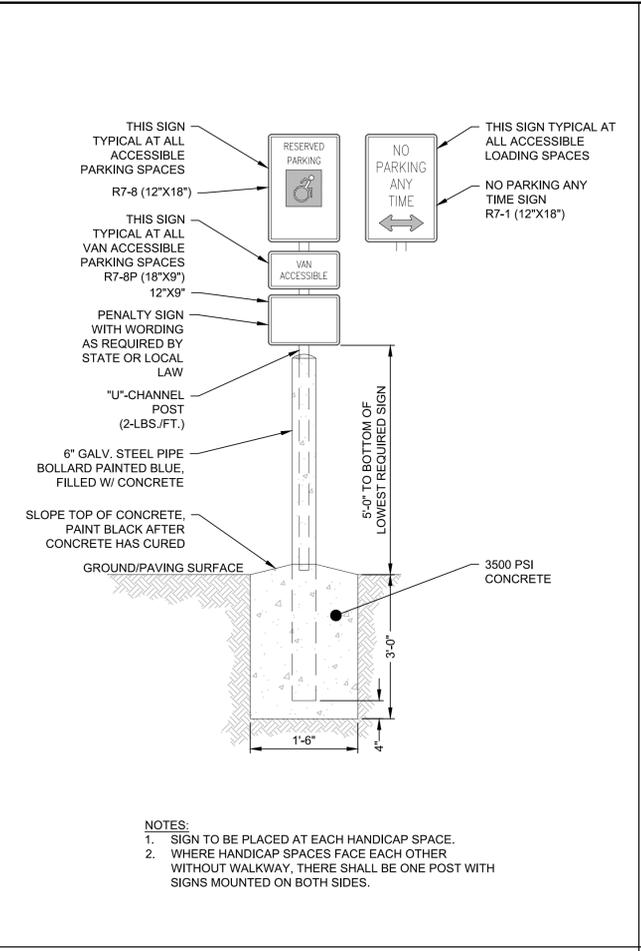
CONCRETE DUMPSTER PAD DETAIL



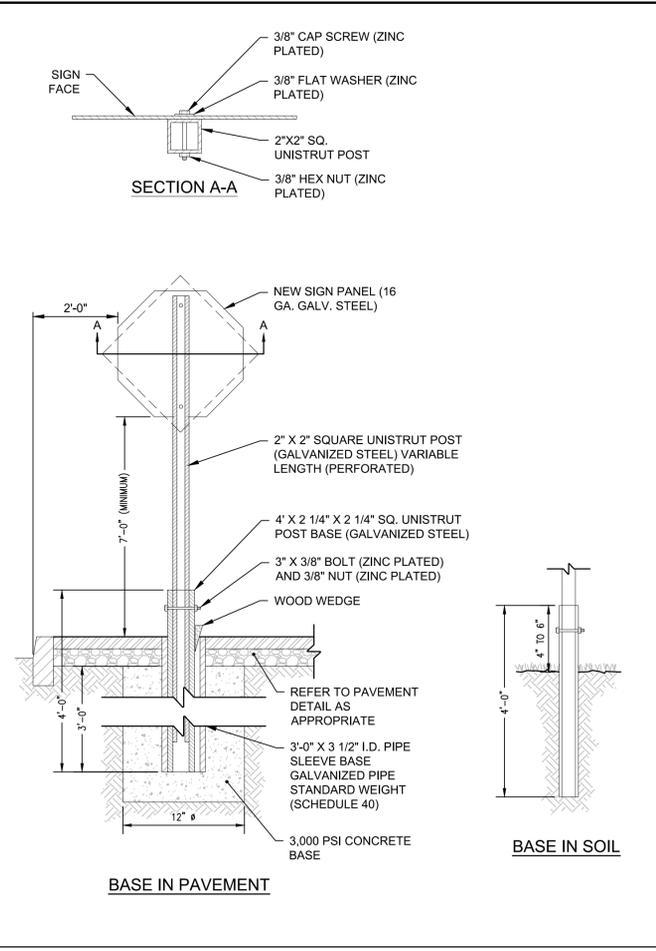
EXTERIOR LIGHT POLE BASE



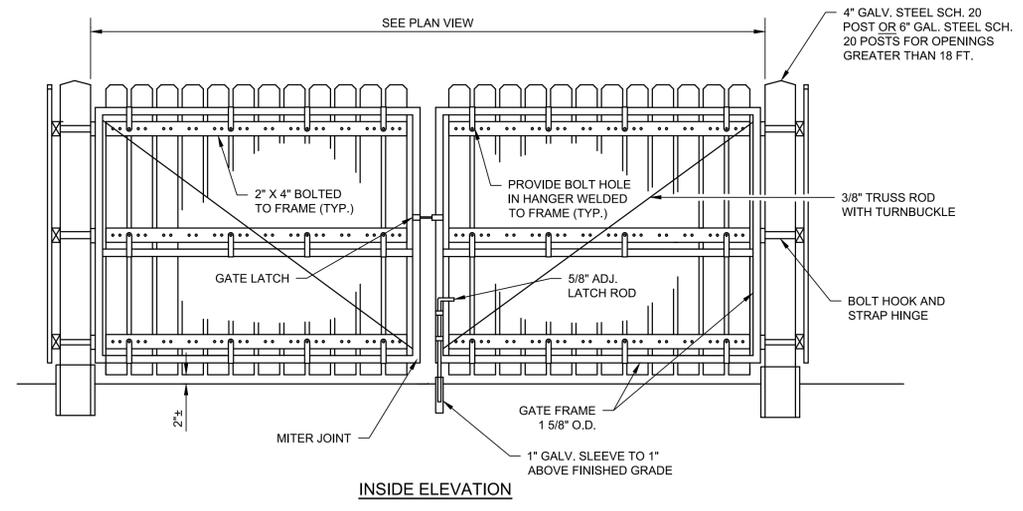
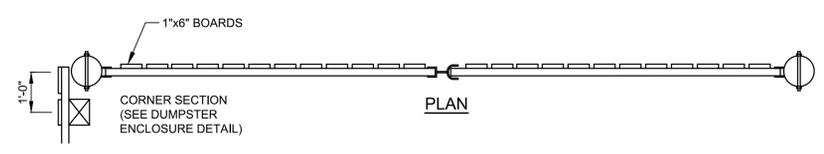
BOLLARD



ACCESSIBLE PARKING SIGN DETAIL



TYPICAL POST MOUNT SIGN INSTALLATION



- NOTES:**
- ALL WOOD TO BE PRESSURE TREATED.

DUMPSTER ENCLOSURE GATE DETAIL

McFarland Johnson
60 RAILROAD PLACE
SUITE 402
SARATOGA SPRINGS, NEW YORK 12866
P:518-580-9380 F:518-580-9383
mjinc.com

PROJECT MILESTONE
SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

CLIENT: **PRIME PLATTSBURGH, LLC**
CITY OF PLATTSBURGH, NEW YORK
PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

DRAWN	NSO
DESIGNED	NSO
CHECKED	TCB
SCALE	N.T.S.
DATE	JANUARY 2020
PROJECT	18491.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
DETAILS

DRAWING NUMBER
DT-02



McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

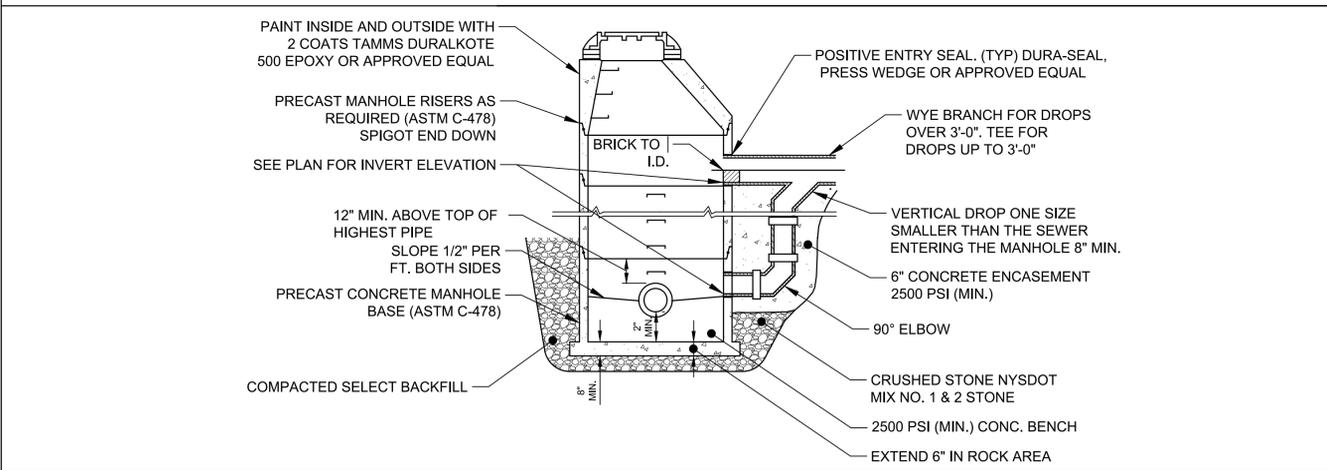
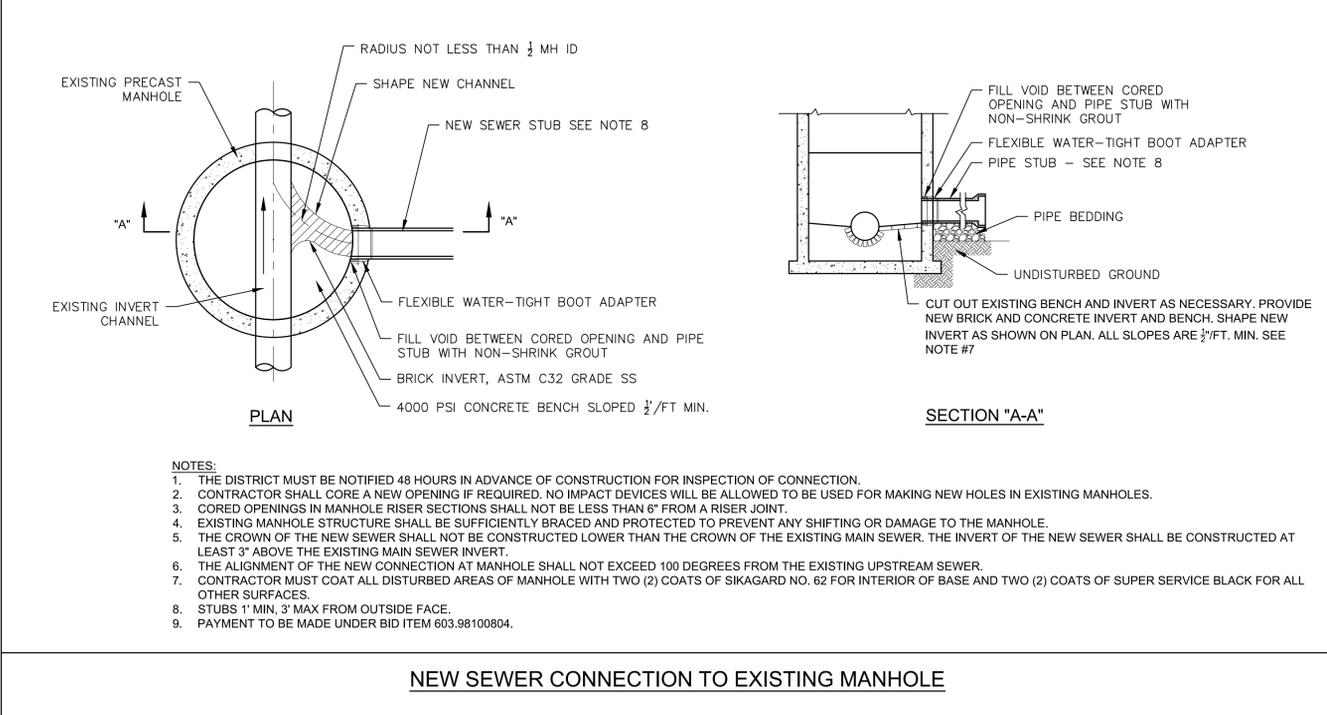
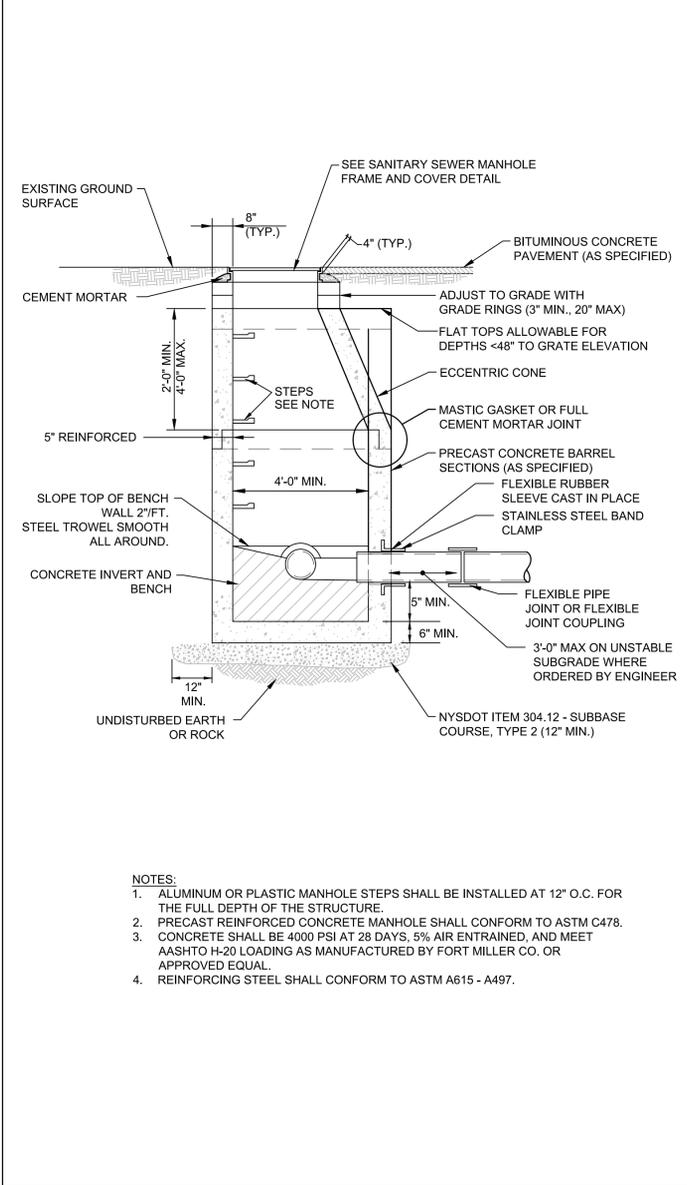
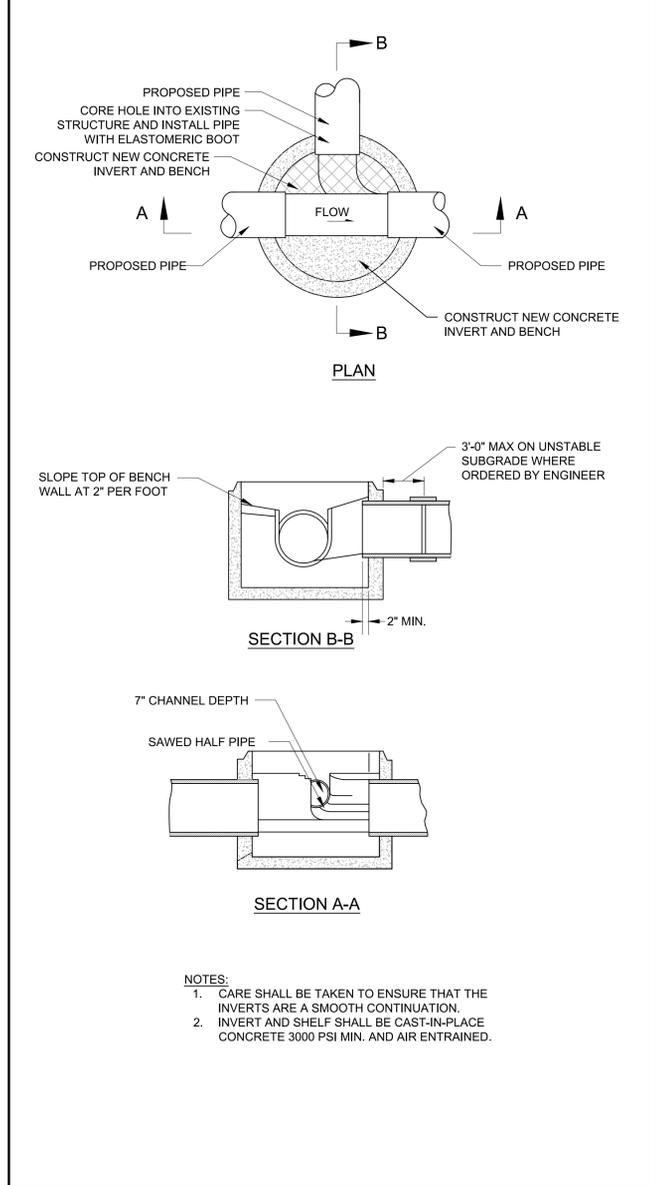
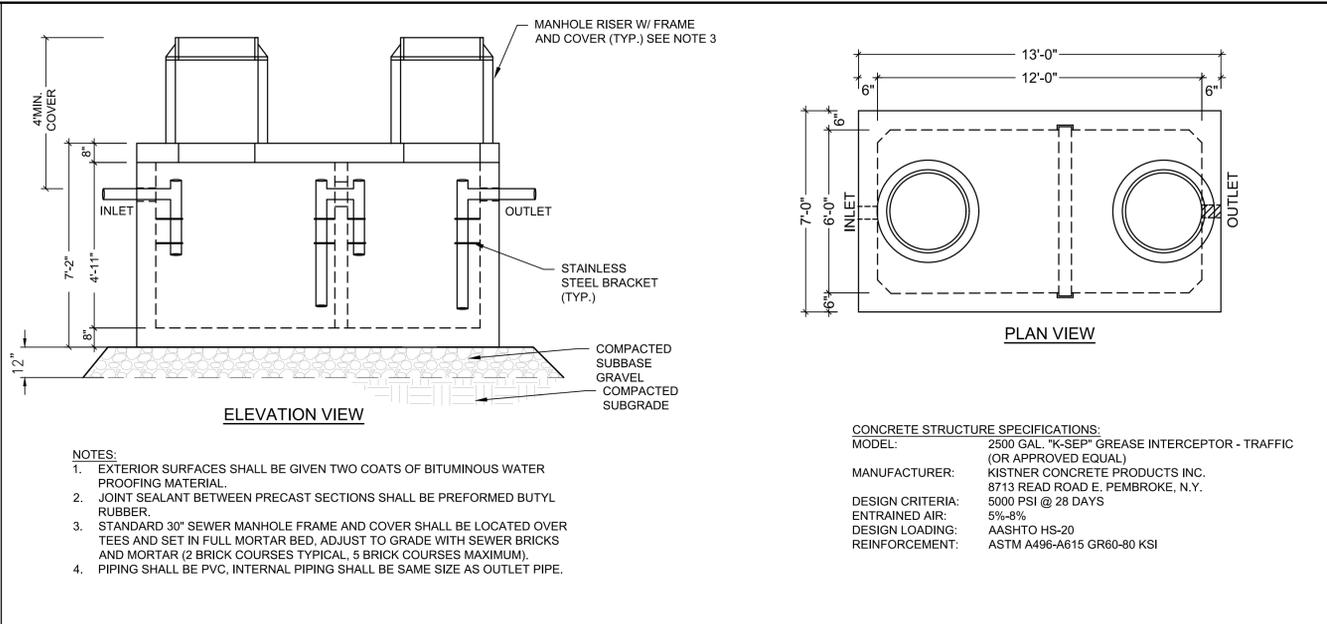
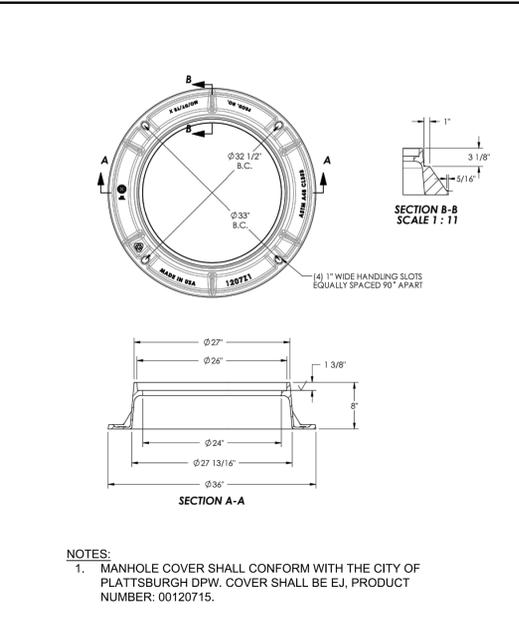
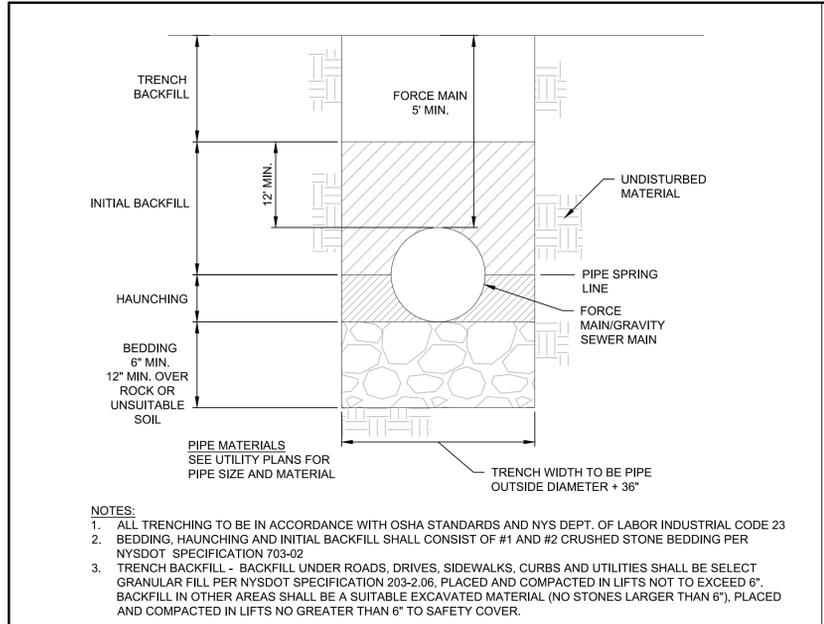
CLIENT: **PRIME PLATTSBURGH, LLC**
 CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

DRAWN	NSO
DESIGNED	NSO
CHECKED	TCB
SCALE	N.T.S.
DATE	JANUARY 2020
PROJECT	18491.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
DETAILS

DRAWING NUMBER
DT-04



SEWER BOTTOM WITH CHANNEL

PRECAST CONCRETE GRAVITY SEWER MANHOLE

SANITARY SEWER MANHOLE WITH OUTSIDE DROP FEATURE

GRAVITY SEWER MAIN TRENCH

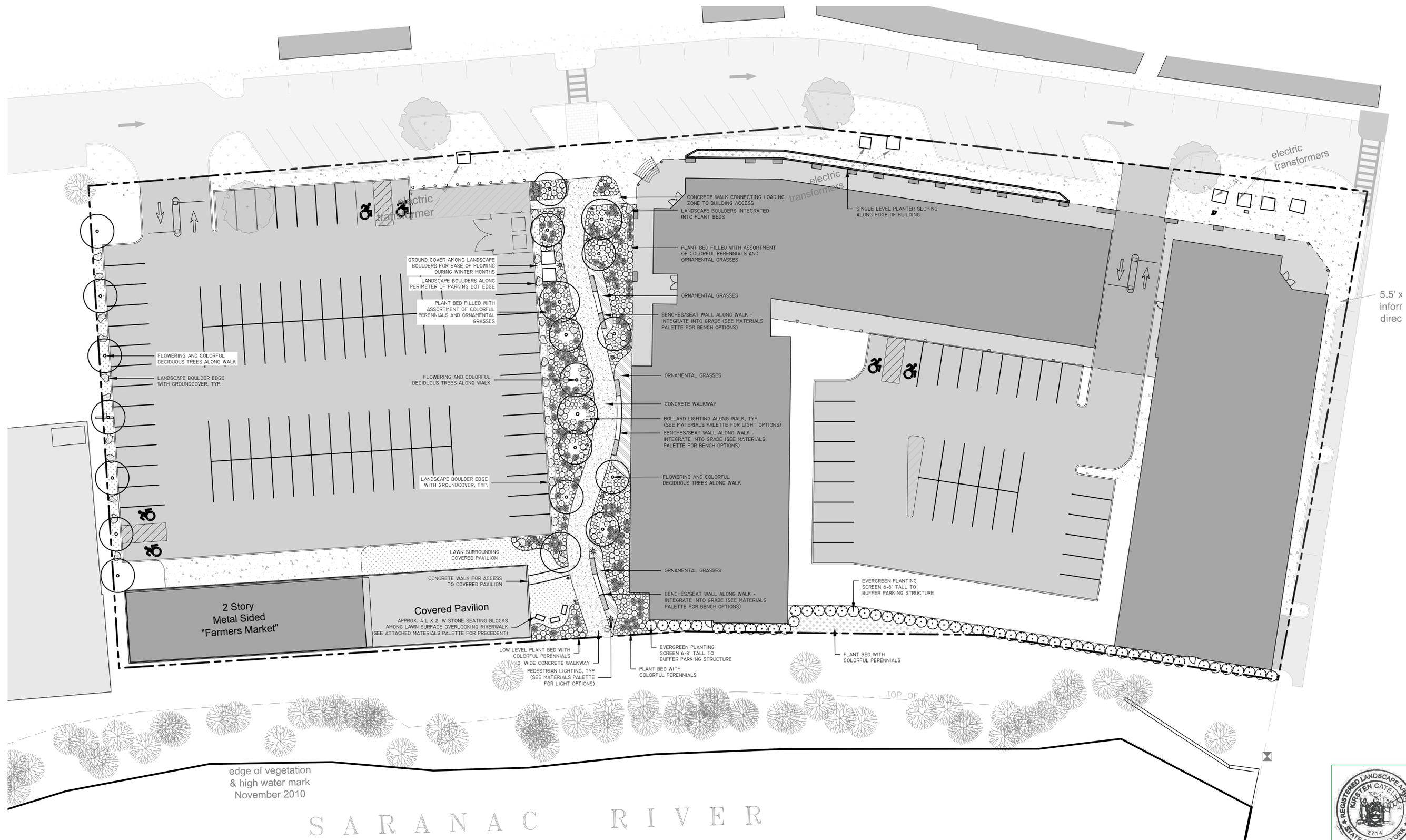
MANHOLE COVER

GREASE TRAP DETAIL

SEWER BOTTOM WITH CHANNEL

PRECAST CONCRETE GRAVITY SEWER MANHOLE

SANITARY SEWER MANHOLE WITH OUTSIDE DROP FEATURE

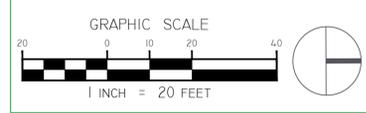


SARANAC RIVER

edge of vegetation
& high water mark
November 2010



DRAWINGS FOR
PERMIT REVIEW.
NOT FOR
CONSTRUCTION





February 3, 2020

Chairman James Abdallah and
Members of the Planning Board
City of Plattsburgh
41 City Hall Place
Plattsburgh, NY 12901

Re: Prime Plattsburgh, LLC
Durkee Street Mixed Use Development
22 Durkee Street (SLB:207.20-7-15)
City of Plattsburgh, Clinton County, New York

Dear Chairman Abdallah and Members of the Planning Board:

We are in receipt of the Site Plan Sketch review comment letter sent via email dated December 23, 2019 prepared by the City of Plattsburgh Community Development Office. We respectfully submit the following responses to the comments related to the Site Plan.

Site Plan Review Comments

1. Please respond to the Site Plan Checklist, dated December 20, 2019 prepared by the City Planner.
See attached Site Plan Checklist.
2. The project is required to obtain two (2) Special Use Permits from the ZBA to amend the previously approved PUD boundary and to allow for apartments on the first floor of a multistory building within a PUD.
Two Special Use Permits (SUP) are being undertaken by the City of Plattsburgh Community Development Office, to amend the boundary of the PUD and for a first-floor residential use of a multistory building within a PUD, and are not part of this site plan application. The applications have been submitted to the Zoning Board of Appeals.
3. It is recommended the project update the zoning table to include a note for all deviations requested and approved in the associated City of Plattsburgh PUD subdivision.
The zoning table has been updated and is included in the Site Plan Drawing set on sheet GN-01.
4. Please add the PUD subdivision map as part of the final plan set for review and reference.
The PUD and subdivision are being undertaken by the City of Plattsburgh Community Development Office and are not part of this site plan application. The PUD and subdivision applications have been submitted to the Planning Board and Zoning Board of Appeals respectively.
5. Please provide a draft easement for public access connecting Durkee St. to the proposed riverfront walk.
The draft public access easements are under review by Prime and the City of Plattsburgh attorney.
6. Please add notes to the plan referencing utility easements associated with the PUD subdivision.

The draft utility easements are under review by Prime and the City of Plattsburgh attorney.

7. Please provide a draft parking agreement for public access to the proposed off-street parking lot.
The draft parking agreement is under review by Prime and the City of Plattsburgh attorney.
8. Please provide the estimated number of residential traffic trips accessing the underground parking garage at peak weekday and weekend hours.
The estimated number of residential traffic trips can be found in the attached Traffic Generation Letter of Findings prepared by McFarland Johnson Inc dated July 29, 2019.
9. Please add dimensions to all existing and proposed buildings, parking areas, and public spaces (sidewalks and pedestrian corridor).
Dimensions have been added to the Site Plans and are shown on sheet C-01.
10. Please show all required/provided setbacks.
Setbacks have been added to the Site Plans and are shown on sheet C-01.
11. Please provide a stormwater management plan, which complies with NYSDEC stormwater regulations.
A full Stormwater Pollution Prevention Plan (SWPPP) has been prepared and is included with this submission.
12. Please provide architectural details and type of construction materials and exterior color(s), height and other exterior features for all existing and proposed structures, properly dimensioned; and elevations of all views for all existing and proposed structures in accordance with Zoning Code Section 360-38. In addition, it is recommended the project provide a visual survey or similar study that ensures compatibility with community character. Consideration should be taken in regards to the downtown historic district.
An assessment of the visual impact of the project has been included in the GEIS. It includes architectural details as well as communication and review by SHPO. Included with this submission are photo simulations and building elevations of the project.
13. Please provide a rear building (east) elevation incorporating the proposed Riverwalk.
Building elevation drawings from all directions are included with this submission.
14. It is recommended the Applicant be required to show the water and sewer main AND lateral service for the proposed and adjacent parcels. Please also note any utility service laterals that may be abandoned.
Water and sewer mains and laterals for existing and proposed services are shown on Site Plan sheet UT-01.
15. It is recommended the Applicant be required to show the location of existing and proposed fire and other emergency zones, including location of fire hydrants.
Existing fire hydrants are shown on Site Plan sheet SURV-01. Emergency response has been coordinated with the City of Plattsburgh Fire Department.
16. Please provide a lumens plan with location, design and written specifications of all existing and proposed outdoor lighting facilities.
A lighting plan will be developed in coordination with a lighting supplier.

17. Please provide a landscaping plan with location, design and written specifications of all materials to be used and planting schedule for the proposed project.
A landscaping plan is provided, see sheet LP-01.
18. Please provide an erosion control plan.
Erosion control plans provided, see sheets EC-01 and EC-02.
19. It is recommended that the Applicant be required to show proposed snow stockpile areas on the plan.
Snow stockpile areas have been provided and are shown on Site Plan sheet C-01.
20. It is recommended the project provide a typical floor plan for each floor including the first floor with mixed commercial/residential use.
Typical floor plans are included with this submission.
21. It is recommended the project provide a table outlining the number of units and bedroom sizes for each floor.
Typical unit floor plans are included with this submission.
22. It is recommended the project provide additional detail in regards to the proposed use of the approximately 2,000 sq. ft. of civic space identified on the plan.
The Civic Space is being provided within the rehabilitated Farmers Market building. It will be the covered outdoor area of the building and is being provided as a public benefit above and beyond what is required by the project. It is meant to integrate with the pedestrian corridor and river walk to provide a pedestrian friendly outdoor space.
23. Please provide additional information in regards to the proposed Durkee St improvements that may exist within the boundaries of Lot 2B.
Any improvements to Durkee Street itself are not part of the proposed project. Improvements to Durkee Street beyond the street curb line/edge of sidewalk will be designed and constructed by others.
24. Please identify the location of on-site mail facilities
Mail will be delivered to individual residents within the proposed building.
25. Please clarify and identify any on-site laundry facilities
Laundry facilities will be provided within each individual residential unit.
26. Please clarify and identify any on-site resident storage facilities.
No separate storage facilities will be provided.
27. Please provide additional information in regards to onsite residential and commercial handicapped accessibility compliance.
The site has been designed and will be constructed to be full ADA complaint. ADA parking and compliant routes to building entrances are shown in Site and Grading Plans.
28. It is recommended the project provide additional detail in regards to the proposed on site "amenities" along the riverfront walk.
The amenities area is a private area for use by the residential tenants. The final design of the amenities area will be finalized with the building design.

29. Please provide additional detail in regards to emergency access including fire and police access to gated areas of the property.
A remote access gate opened activated from the emergency response vehicle by their radios will be provided by the project. The actual product will be coordinated with emergency response personnel.
30. It is recommended the Applicant provide a truck turning plan demonstrating access for the largest emergency/delivery vehicle that may need to access the site.
A truck turning plan is provided, see sheet C-02.
31. Please provide a details sheet showing all on-site signage, landscaping, driveway and sidewalk details, etc.
Details are provided, see sheets DT-01 through DT-06.
32. Please identify any on-site playground amenities for residents.
No on-site playground amenities are included.
33. It is recommended the project provide two (2) bike racks for public use on site.
Bike rack locations are shown on sheet C-01.
34. Please provide additional information and note on the map any on site electric vehicle charging stations.
Electric vehicle charging station locations are shown on sheet C-01.
35. Please provide a phasing plan outlining the construction timeline. The phasing plan should demonstrate how existing parking will be managed during construction.
Removal of the existing parking within the Durkee Street Lot will be managed by the City of Plattsburgh and is not included as part of this project.
36. Please update the parking table to reflect each building's requirements for all proposed uses. i.e. Mixed-use building vs. proposed redeveloped Farmer's market.
The parking table has been updated and includes all proposed uses for the project.
37. The parking table states the project will provide 113 commercial parking spaces for related on-site uses. The proposed parking lot only provides 86 off street parking spaces. Please explain how the 27 deficient parking spaces will be accommodated on site.
Commercial/retail/restaurant parking will be provided in the courtyard and surface parking lots.
38. Please provide additional detail in regards to on-site resident visitor parking.
No visitor parking is being proposed; Prime does not typically provide for visitor parking at its residential developments.
39. 204 residential off-street parking spaces are required for the proposed use per zoning code Section 360-26. The project is proposing 173 off-street residential parking spaces. Please provide a narrative that includes reference to comparable developments supporting the requested parking deficiency.
Alternative parking calculations have been requested through the PUD which brings the site's total parking demand to 226 spaces. The project is also providing 50 spaces available to the public for use by the City which brings the total project demand to 276. See the summary parking tables below.

Parking Demand Per City Code

Use	Calculation	No. of Spaces
Residential	(2 per DU for first 10) x 10 + (1.75 per DU over 10) x 105	204
Commercial	(1 Space per 250 sf) x 7,250 sf	29
Restaurant		
Customer area	(1 per 50 sf) x 3,690 sf	74
Other Area	(1 per 250 sf) x 2,460 sf	10
Public Parking for City Use	-	50
	Total Demand	367

Parking Demand Per PUD		
Use	Calculation	No. of Spaces
Residential	(1.5 per DU) x 115	173
Commercial	(1 Space per 300 sf) x 13,400 sf	45
Employee Parking	(1/2 Space per employee) x 15	8
Public Parking for City Use	-	50
	Total Demand	276

Total Required (per PUD)	336
Total Provided (On-site)	286
Total Provided (Overlay District)	50
Total Provided	336

40. The project is located within the City’s Special Assessment District (overlay parking district) and any off street parking requirements may be satisfied by public parking within the district. The project has proposed 50 off street “public” parking spaces and while the project’s parking demand is not likely to be greater than the minimum number of spaces required in the underlying zone, the redevelopment of the former Plattsburgh Farmers’ and Crafters’ market building may require, at certain times, the use of all proposed on-site parking capacity to meet the parking demand created by the project’s proposed residential and commercial spaces. Staggered hours of peak parking utilization between the various uses could reduce the percentage of the proposed on-site parking supply required at any one time, but additional details regarding the project’s prospective commercial tenants would be necessary to make such a determination.

As the existing parking capacity provided by the Durkee Street parking lot must be adequately replaced elsewhere in the downtown area to meet existing parking demand within the Special Assessment District (SAD), and the City had intended to use the proposed 50 off-street “public” parking spaces proposed within the project as a portion of that replacement capacity, the current excess parking supply within the SAD, both off-street and on-street, should be analyzed to determine whether sufficient excess parking capacity exists to accommodate those 50 spaces. Please coordinate with the City’s Building Inspector to determine whether such excess capacity exists within the SAD.

A parking study is being conducted by the City of Plattsburgh and the overall analysis within the downtown area is included within the GEIS. This project will provide 50 parking spaces available to the

public for use by the City.

Department of Public Works

1. All water and sewer relocation or new construction requires City of Plattsburgh Water and Sewer Permits and can be obtained from the City Building Inspector in coordination with DPW. After obtaining the necessary permits the project construction schedule shall be coordinated with DPW within 72 hours advance notice for all work.
Water and sewer design has been coordinated with the DPW; construction will also be coordinated with DPW.
2. A City of Plattsburgh Highway permit will be required for any work in the ROW and can be obtained from the City Building Inspector in coordination with DPW. The developer is responsible for compliance with any permit conditions.
Any work within the ROW will be coordinated with DPW.
3. Please note a City of Plattsburgh water main is located under the proposed pedestrian corridor. Please coordinate with the Department of Public works in regards to design and landscaping of the proposed connection.
The developer is in coordination with DPW for protection of all utilities to remain.
4. Please add a note to the plan that references all required utility easements.
All utility easements are noted on the site plans.

Municipal Lighting

1. All electrical relocation or new service requires City of Plattsburgh Permits and can be obtained from the Plattsburgh Municipal Lighting Department (PMLD). After obtaining the necessary permits the project construction schedule shall be coordinated with PMLD within 72 hours advance notice for all work.
All electrical work will be coordinated with PMLD.
2. Please provide additional information in regards to relocation of the existing underground electric line identified on the plan.
The developer is in coordination with PMLD for all required work.
3. Please add a note on the plan that references all required utility easements.
All utility easements are noted on the site plans.

STORMWATER MANAGEMENT

1. A stormwater management plan is required which complies with NYSDEC stormwater regulations. The project is required appropriately respond to any third party Stormwater Management review and comply with the City Code Section 360-61.
A full SWPPP has been provided with this submission.

SPECIAL USE PERMIT

1. The project is required to obtain two (2) Special Use Permits from the ZBA to amend the previously approved PUD boundary and to allow for apartments on the first floor of a multistory building within a PUD.

Two Special Use Permits (SUP) are being undertaken by the City of Plattsburgh Community Development Office, to amend the boundary of the PUD and for a first-floor residential use of a multistory building within a PUD, and are not part of this site plan application. The applications have been submitted to the Zoning Board of Appeals.

PLANNED UNIT DEVELOPMENT

1. The project is associated with the City of Plattsburgh PUD subdivision and all project deviations must be approved prior to site plan approval.

The PUD and subdivision are being undertaken by the City of Plattsburgh Community Development Office and are not part of this site plan application. The PUD and subdivision applications have been submitted to the Planning Board and Zoning Board of Appeals respectively.

CLINTON COUNTY PLANNING BOARD 239-M REFERRAL

1. The project is subject to NYS GML 239m for referral to Clinton County Planning Board for action within 500 feet of NYS Route 3(Cornelia St) and for action within 500 feet of County facilities, namely the County's Department of Social Services.

The developer will attend the Clinton County Planning Board meeting.

SEQRA

1. Community Development Staff has reviewed the Part I SEQRA Long Form EAF submitted with the PUD site plan application, subdivision map and other documents associated with the project. The City of Plattsburgh Common Council is serving as lead agency for the City's Downtown Area Improvement Projects Generic Environmental Impact Statement (GEIS). A draft GEIS has been completed and accepted by the Common Council as sufficient for public review and comment. The Durkee Lot Mixed Use Development is one project evaluated as part of the GEIS and this PUD site plan action is a component piece of that project. The Planning Board and Community Development staff will utilize the draft GEIS, final GEIS, and the SEQRA findings statement to review the PUD site plan and make a determination as to whether any further SEQRA review of this action is required.

Duly noted.

A full Site Plan Set will be submitted to your office in conjunction with this response letter to these scoping items.

Please do not hesitate to call should you require additional information or have any questions.

Sincerely yours,
McFARLAND-JOHNSON, INC.



Turner Bradford, PE
Project Engineer

SITE PLAN REQUIRED INFORMATION

Durkee Street Mixed Use Development Site Plan 2019

I. REQUIRED INFORMATION FOR SITE PLANS

An application for site plan approval shall be made in writing and shall be accompanied by a detailed site plan prepared by a professional engineer, land surveyor, or architect. Maps, as required, shall be drawn to a scale of not less than one (1) inch equals fifty (50) feet and shall include a North arrow and legend. The application, including the detailed site plan and fees shall be submitted to the Secretary of the Planning Board a minimum of ten (10) consecutive days prior to the scheduled Planning Board meeting at which the detailed site plan is to be reviewed. Said detailed site plan application packet shall contain all information as designated on the following checklist:

- 1. Location map delineating the location of the site with reference to surrounding areas (lot sizes and current use of lots) and existing street intersections within 200 feet. Identify all zoning district boundaries with 200 feet.
- 2. Boundary survey map of property prepared by licensed land surveyor with all distances and bearings or angles shown.
- 3. Existing and proposed easements and deed restrictions.
- 4. Indicate all porches, decks, drives and walks and show the location of all required off-street parking. (All curb cuts for new construction are to be by owner with depressed curbs provided).
- 5. Required zoning setback lines, lines of existing streets, lots and easements, restrictions and right-of-way.
- 6. Location of existing building on site, which shall remain, and all other structures such as walls, fences, culverts and bridges. Structures to be removed shall be indicated by dashed lines.
- 7. Location of significant natural features, such as rock outcrops, watercourses, ponds, marshes, wood areas, depressions and flood lines.
- 8. Show all City water and sewer facilities and elevations in street and indicate service laterals and estimated invert elevations.
- 9. Grading: Show existing and proposed grade by either contours or; spot elevations at building corners and other locations with swales or drainage patterns clearly indicated. Elevations shall be referenced to USGS-NGVD vertical datum with benchmark locations indicated.
- 10. Location of all storm drainage structures (existing and proposed) with elevations of rim, invert, pipe size, grade and directions of flow.

- 11. Schematic building floor plans indicating use of all spaces. Show proposed floor elevations of new structures (main floor, cellar and garage). For repetitive housing units, providing typical floor plans is acceptable providing the number and location of alternate floor plans is indicated.
- 12. Elevation plans of all existing and proposed or remodeled buildings indicating type of finish materials to be used.
- 13. Tabulation of parking calculations showing floor area and use or number of housing units with appropriate zoning factor for required number of spaces and spaces actually provided.
- 14. Location and dimension of off-street parking and/or loading areas. Indicate handicap-parking spaces where such spaces must be provided.
- 15. Proposed location and size of driveways, curb cuts, fire lanes and/or turnarounds, and any proposed traffic controls for vehicular ingress and egress.
- 16. Proposed location of walkways and other areas for safe pedestrian access and circulation.
- 17. Location, dimension and details of all proposed signs.
- 18. Existing and proposed screening, landscaping and plantings (indicate number, type, size and planting schedule for proposed plantings).
- 19. Tabulation of zoning area and bulk requirements. Indicate existing, proposed and required.
- 20. Specifications or details of all proposed site improvements (paving, walks, curbing, drainage structures, manholes, hydrants, parking barriers, fencing, retaining walls, etc.).
- 21. Existing and proposed utility lines (water, yard hydrants, sanitary sewer, storm sewer, electric – including properly dimensioned profiles, elevations, cross sections and location of any utility poles and pad mount transformers).
- 22. Existing and proposed outdoor lighting. Indicate size and type of fixture, mounting and aiming height, intensity of illumination and time of proposed outdoor lighting.
- 23. Location and type of refuse storage facilities.
- 24. Proposed building materials and architectural treatments.
- 25. Identification of each land use activity

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

For

DURKEE STREET MIXED USE DEVELOPMENT

PREPARED FOR:



Prime Plattsburgh, LLC
621 Columbia Street
Cohoes, NY 12047

PREPARED BY:



60 Railroad Place, Suite 402
Saratoga Springs, NY 12866

**FINAL SITE PLAN
SUBMISSION**

JANUARY 2020

TABLE OF CONTENTS

1. INTRODUCTION	1
2. PROJECT MAPS AND PLANS	3
3. PROJECT SOILS	4
4. CONSTRUCTION PHASING	5
5. EROSION AND SEDIMENT CONTROL MEASURES	6
6. POLLUTION PREVENTION MEASURES	9
7. EXISTING SITE CONDITIONS	12
8. STORMWATER MANAGEMENT ASSESSMENT	13
9. POST CONSTRUCTION STORMWATER CONTROL PRACTICES	16

APPENDIX LIST

CSPP APPENDIX A – LOCATION MAP

CSPP APPENDIX B – NRCS SOILS MAP

CSPP APPENDIX C – EROSION & SEDIMENT CONTROL PLANS, DETAILS, & NOTES

CSPP APPENDIX D – STORMWATER MANAGEMENT, HYDROLOGIC ANALYSIS, & SUBCATCHMENT MAPS

CSPP APPENDIX E – WATER QUALITY WORKSHEETS

CSPP APPENDIX F – MAINTENANCE INSPECTION CHECKLIST

CSPP APPENDIX G – NOI, SPDES PERMIT, & ACKNOWLEDGEMENT LETTER

CSPP APPENDIX H – BMP SPECIFICATIONS

1. INTRODUCTION

A stormwater management assessment has been conducted for the proposed project in order to protect the waters of the State of New York from the adverse impacts of stormwater runoff. This report presents an analysis of the project in accordance with the *New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-15-002* and the *New York State Stormwater Management Design Manual* (“The Manual”). As required, the Stormwater Pollution Prevention Plan is designed, where appropriate, to incorporate green infrastructure techniques that preserve natural resources and utilize the existing hydrology of the site, provide runoff reduction practices, water quality treatment practices, apply volume and peak control practices for channel protection, overbank flood control, and extreme flood control as appropriate.

In accordance with Appendix B, Table 2 of the SPDES General Permit for Construction Activity, GP-0-15-002, multi-family residential developments; includes townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks that involve a soil disturbance of one or more acres require the preparation of a full SWPPP that includes post-construction stormwater management practices. In total, approximately 2.76 acres of soil disturbance is expected during the construction of this project. Therefore, this project includes the development of erosion and sediment controls, green infrastructure site planning techniques, runoff reduction volume practices and post-construction stormwater management practices.

The general contractor and subcontractors performing any activity that involves soil disturbance will be required to comply with the terms and conditions of the SWPPP for the project identified as a condition of authorization to discharge stormwater. The Contractor shall provide signed certifications (Form CONR 5) for itself and all applicable subcontractors at the preconstruction meeting. These signed certifications shall be included as part of the SWPPP. The SPDES General Permit and SWPPP must be kept on file at the Project Field Office.

As required by the conditions described in the SPDES general permit, the SWPPP shall be kept current and changes made to reflect changes in the design, construction, and operation or in the maintenance of the project.

The complete set of construction drawings and specifications are provided as separate documents; however, they should be considered an integral component of the SWPPP and are referenced throughout this document. The applicant must retain all documentation for 5 years after NYSDEC accepts the Notice of Termination (NOT).

1.1 Scope of the Project

The site is being developed in response to an RFP from the City of Plattsburgh entitled “Mixed-Use Development Opportunity for the Durkee Street Site in Downtown Plattsburgh”. The proposed project includes the construction of a 5-story mixed-use building with basement parking and the redevelopment of the existing Farmers’ Market building. The site will have 286 parking spaces and an open space pedestrian corridor.

1.2 Location of Project

The project site is the Durkee Street Public Parking Lot, located downtown in the City of Plattsburgh, Clinton County, New York. It is bound by Durkee Street the west, Bridge Street to the north, the Saranac

River to the east, and an existing office building to the south. Refer to the Location Map in Appendix A. The project is not located within a TMDL and does not discharge into a 303(d) listed waterbody.

Table 1 - Location Table

Approximate Coordinate Position @ Center of Project	
Latitude	44° 41' 48.4"N
Longitude	73° 27' 7.0"W

1.3 Project Type and Size

The project is a redevelopment construction project that has a disturbance area of approximately 2.76 acres and a reduction of impervious area.

1.4 Project Description

The Durkee Street Mixed Use Development project consists of one five story building with below grade parking and the redevelopment of the 5,800 sf Farmers' Market building, which includes 3,400 sf of commercial/restaurant space and 2,400 sf of civic space (the "Project"). The five story building will have 115 residential units (52 one-bedroom, 59 two-bedroom, 4 three-bedroom). Within the lot, there will be 286 parking spaces (86 in the surface lot, 35 spaces in the courtyard, and 165 spaces in the below grade lot beneath the building). The Project site, tax lot 207.20-7-15, is currently owned by the City of Plattsburgh.

In addition to the buildings, the project will provide on-grade parking as well as an open space corridor to connect Durkee Street to a new pedestrian Riverwalk (by others). The site is being developed in response to an RFP from the City of Plattsburgh entitled "Mixed-Use Development Opportunity for the Durkee Street Site in Downtown Plattsburgh". The City has commenced the SEQRA process by requiring that a Generic Environmental Impact Statement be prepared to assess the potential impacts of the Project and related improvements.

The existing property has 2.71 acres of impervious cover, 98.2% of the total site area. The proposed site redevelopment has 2.42 acres of impervious cover, 87.7% of the total site area. Therefore, through the redevelopment of the Durkee Street lot, there is a 10.5% reduction in impervious cover of the site.

1.5 Cultural Resources

A Draft Generic Environmental Impact Statement (DGEIS) is being developed as part of the SEQR process for all of the Downtown Plattsburgh Revitalization projects. A State Historic Preservation Office (SHPO) determination for the Durkee Street Lot will be made as part of this process.

1.6 On-site Wetlands

As part of the DGEIS, impact to aquatic resources, including wetlands, were evaluated. According to NYSDEC wetland and stream information available through GIS and the Environmental Resource Mapper, there are no mapped NYSDEC wetlands or adjacent areas or significant natural communities on or adjacent to the Durkee Street Lot.

2. PROJECT MAPS AND PLANS

2.1 Location Map

See Appendix A

2.2 Soil Maps

See Appendix B

2.3 Erosion and Sediment Control Plans

See Appendix C

2.4 Existing and Proposed Subcatchment Maps

See Appendix D

3. PROJECT SOILS

3.1 NRCS Soil Map

See Appendix B

3.2 Soil Types

The following soil type(s) and hydrologic group(s) are present within the project area of disturbance:

Table 2 – Soil Types

Soil Symbol	Name	Hydrologic Group (HSG)
Un	Urban Land	-

3.3 Discussion of Soil Characteristics and Soil Erosion Hazard Potential

The Project sites is anticipated to feature Urban Land soil types. This soil series varies and is made up of mostly gravel, sand, silt and clay, pieces of wood, brick, and cinders. The site has been consistently developed over the past hundred years, making up the variable soil type found in the area. This soil type has high runoff potential due to its unfavorable drainage and infiltration characteristics. Slopes range from 0 to 8 percent.

A geotechnical study was completed (see Appendix B), which revealed that the average depth to groundwater is approximately 20 feet, with the exception of an area(s) where groundwater was found to be perched above the glacial till layer approximately six feet below grade. The average depth to bedrock is approximately 25 feet. The topsoil on-site was confirmed to be an urban land soil type with alluvial sand and glacial till below. Half of the site features moderately well drained soils and half of the site features poorly drained soils. Slopes range from 0 to 10 percent.

4. CONSTRUCTION PHASING

4.1 Sequence of Construction Activities

The Contractor's work schedule and methods shall be consistent with the SWPPP or amended SWPPP. Once approved, the progress schedule shall become a part of the SWPPP.

The following list is a suggested sequence of major construction activities for the project to meet the NYSDEC Phase II erosion control requirements:

1. Clearly identify project work limits, identifying all areas where construction disturbance shall be permitted.
2. Install erosion control measures prior to commencing earthwork operations. Construct temporary earthen berms, diversion swales, sediment control dams and associated erosion control measures necessary to divert runoff from entering planned areas of disturbance and to protect the adjacent waterway.
3. Established temporary/permanent storm water management ponds/erosion control basins.
4. Remove and dispose of all removed vegetation off-site.
5. Strip and stockpile topsoil from proposed pavement, structural fill and cut areas. (stockpile locations as directed by owner's representative).
6. Establish mass grade elevations.
7. All temporary erosion and sediment control measures as well as stock piles are to be mulched and seeded for temporary vegetative cover immediately following grading.
8. Construct utility lines (water/electric/gas/communications/sanitary sewers/storm sewers), construct building and install infrastructure improvements.
9. Box out roadway and pavement areas and install concrete curbing.
10. Construct asphalt pavement section, up to binder course.
11. Fine grade and spread topsoil, install landscaping plantings and hardscapes, site amenities and permanent seeding.
12. Remove temporary erosion and sediment control features upon establishment of permanent ground cover and inspection/approval from a Town official or representative.
13. Notify owner's representative of completion of final site stabilization.
14. File Notice of Termination.

5. EROSION AND SEDIMENT CONTROL MEASURES

5.1 Erosion Control Plan

An erosion control plan has been developed in accordance with the “New York Standards and Specifications for Erosion and Sediment Control”. The erosion control plan employs permanent and temporary erosion and sediment control methods including silt fence, erosion control matting, construction entrances, and other appropriate measures.

5.1.1 Temporary Surface Stabilization

Areas within the project limits that may be disturbed more than once during the construction activities will be stabilized using temporary seed and mulch item or as directed by the Engineer. Areas remaining unpaved and undisturbed for more than seven (7) days during construction operations shall be stabilized temporarily. Other areas that might need to be stabilized temporarily will be at the discretion of the Engineer.

5.1.2 Drainage Pipe Inlet / Outlet Stabilization

As part of the permanent erosion control measure, the inlet and outlet of the culvert pipes will be provided with either stone riprap apron or an apron consisting of erosion control product with vegetation to provide the required erosion control which blends in with the surrounding natural features and topography. The location and type of stabilization to be provided is shown on project plans.

5.1.3 De-watering

If required, de-watering of miscellaneous areas within the site will be performed utilizing a pump and filter bag system. The filter bags should be made of non-woven geotextile material capable of trapping particles larger than 150 microns. Filter bags should be replaced when they are half full or a no longer functioning per the manufacturer’s requirements. Filter bags should be located in a well vegetated/grassy area and discharge into stable erosions resistant areas. Where this is not possible a geotextile flow path should be established. Bags shall not be placed on slopes greater than 5%. The pump discharge hose shall be inserted into the bags in the manner specified by the manufacturer and securely clamped. Pumping rate shall not be greater than 750 GPM or ½ the maximum specified by the manufacturer, whichever is less. Pump intakes shall be floated and screened.

5.1.4 Construction Entrance

As required, at least one (1) stabilized construction entrance will be constructed to access the Contractors Staging/Storage Area. This entrance/area shall conform to the details. See plans for location of construction entrance(s).

5.1.5 Concrete Truck Washout

As required, a temporary excavated or above ground lined pit where concrete truck mixers and equipment can be washed after their loads have been discharged, to prevent highly alkaline runoff from entering storm drainage systems or leaching into soil shall be constructed. See plans for location of concrete washout.

5.1.6 Permanent Stabilization

Stabilizing of the graded surfaces will be accomplished by using various seed mix for vegetation.

5.1.7 Dust Control

The contractor will be required to minimize dust generation during the construction activities. Provisions such as watering, the use of cover materials, and the application of calcium chloride have proven effective in dust control and can be approved by the Engineer for use in the affected areas.

5.1.8 Silt Fence

Silt fence will be placed per the Erosion and Sediment Control Plans, down slope of all disturbed areas, soil stockpiles, and spoil areas. The purpose of the silt fence is to remove sediment from sheet flow in these areas. Silt fence shall remain in place and functional until the contributing area has been permanently stabilized. Sediment socks may be used in lieu of silt fence.

5.1.9 Weekly Inspections

A qualified inspector shall conduct site inspections at least once every seven (7) calendar days. The qualified inspector shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved final stabilization, all points of discharge to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site. The qualified construction inspector shall also prepare an inspection report subsequent to every inspection. Complete inspection and maintenance requirements can be found in Part IV of the SPDES General Permit GP-0-15-002 (Appendix G).

5.1.10 Final Inspection

Prior to the project being finally accepted, it shall be inspected for any evidence of erosion or slope failure. If any such condition becomes apparent upon final inspection, temporary soil erosion and sediment controls shall be installed immediately as directed by the Engineer. The situation shall be corrected per a schedule agreed to by the NYSDEC, Owner, and the Contractor.

The Erosion Control Plans are included in Appendix C.

5.2 Permanent Erosion and Sediment Control Measures

Table 3 – List of Permanent Erosion & Sediment Control Measures

Permanent Feature	Converted Temporary Practice?	Location: ESC Plan	Receiving Waterbody Protected (where applicable)
Riprap outlet protection	Yes	See Plans	Saranac River
Soil Stabilization	Yes	See Plans	Saranac River

5.3 Installation Sequence

See the intended sequence of construction activities noted in Section 4 above.

5.4 Maintenance Schedule

The Contractor is required to inspect all E&SC devices in their active work area daily and repair any deficiencies in accordance with the SPDES permit.

5.5 SWPPP Implementation Responsibilities

Implementation of all E&SC devices will be by the Contractor as indicated in the contract documents.

6. POLLUTION PREVENTION MEASURES

6.1 Material Management Practices

All waste materials, including construction debris and trash that occur onsite shall be handled and disposed of in a manner that is in accordance with state and local regulations. No waste material shall be buried on site.

- An effort will be made to store only enough products required for the project.
- All materials stored within the site will be stored in a neat orderly manner in their appropriate containers and if possible, an enclosed area.
- Products shall be kept in their original containers with the original manufacturer's labels. Manufacturer's recommendations for proper use and disposal shall be followed.
- Hazardous materials shall be disposed of in accordance with State and Local regulations.
- Sanitary waste will be collected from portable units as required.

The following materials are expected to be on-site during construction:

- Concrete
- Asphalt
- Masonry Block
- Wood
- Paints (Enamel and Latex)
- Petroleum based products
- Fertilizers
- Metal Studs
- Detergents
- Cleaning Solvents
- Roofing Materials
- Tar

These materials and other materials used during construction with the potential to impact stormwater will be stored, managed, used, and disposed of in a manner that minimizes the potential for releases to the environment and especially into stormwater.

Emergency contacts for the project will be posted at the project office and are included at the end of this section.

6.2 Spill Control Practices

The contractor will be responsible for preparing a project area specific spill control plan in accordance with Local and NYSDEC regulations. At a minimum, this plan shall:

1. Reduce stormwater contact if there is a spill.
2. Contain the spill.
3. Stop the source of the spill.
4. Dispose of contaminated material in accordance with manufacturer's procedures and NYSDEC regulations.
5. Identify responsible trained personnel.
6. Ensure spill area is well ventilated.

6.3 General Material Handling Practices

The following general practices will be used throughout the project to reduce the potential for spills:

1. Potential pollutants will be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practicable, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as needed to prevent stormwater from contacting stored materials. Chemicals that are not compatible shall be stored in segregated areas so that spilled materials cannot combine and react.
2. Materials disposal will be in accordance with manufacturer's instructions and applicable local state and federal regulations.
3. Materials no longer required for construction will be removed from the site as soon as practicable.
4. Adequate garbage, construction waste, and sanitary waste handling and disposal facilities will be provided to the extent necessary to keep the site clear of obstruction and BMPs clear and functional.

6.4 Product Specific Practices

The following product specific practices will be followed within the project area.

6.4.1 *Petroleum Products*

All project related vehicles shall be monitored for leaks and receive regular preventative maintenance to reduce chance of leakage. Petroleum products shall be stored in tightly sealed containers, which are clearly labeled. Any asphalt substances used during construction shall be applied according to manufacturer's recommendations.

6.4.2 *Fertilizers*

Fertilizers used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit exposure to stormwater. Fertilizers shall be stored in covered or other contained areas.

6.4.3 *Paints*

All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged into the storm sewer system but shall be disposed of according to manufacturer's instructions or State regulations.

6.4.4 *Concrete Trucks*

Concrete Trucks shall be allowed to wash out within project areas provided that the contractor provides an area which collects and contains any concrete / slurry material washed from trucks for recovery and disposal at a later time. No concrete or slurry shall be discharged from the property at any time of construction. The concrete washout area shall conform to the detail found on sheet DT-05 (Appendix C).

6.5 Spill Response

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize their migration into stormwater runoff or conveyance systems. If the release has impacted on-site stormwater, it is critical to contain the released material on-site and prevent their release into receiving waters.

If a spill of pollutants threatens stormwater on-site, the spill response procedures outlines below must be

implemented in a timely manner to prevent release of the pollutant:

1. The site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
2. If spills represent an imminent threat of escaping ESC facilities and entering the receiving waters, facility personnel will respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
3. Spill kits containing materials and equipment for spill response and clean-up will be maintained onsite. Each spill kit may contain:
 - Oil absorbent pads (one bale)
 - Oil absorbent booms (40 feet)
 - 55-gallon drums (2)
 - 9-mil plastic bags (10)
 - Personal protective equipment including gloves and goggles
4. If an oil sheen is observed on surface water, absorbent pads and/or booms will be applied to contain and remove the oil. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
5. The site superintendent, or their designee, will be responsible for completing a spill reporting form to the appropriate state or local agency.
6. Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

6.6 Notification

In the event of a spill, make the appropriate notification(s) consistent with the following procedures:

1. Any spill of oil which a) violates water quality standards, b) produces a sheen on a surface water, c) causes a sludge or emulsion must be reported immediately by telephone to the National Response Center Hotline at (800) 424-8802.
2. Any oil, hazardous substance, or hazardous waste release which exceeds the reportable quantity must be reported immediately by telephone to the National Response Center Hotline at (800) 424-8802.
3. Any spill of oil or hazardous substance to waters of the state must be reported immediately by telephone to the NYSDEC.
4. Any release of hazardous substance that may be a threat to human health or the environment must be reported to the NYSDEC immediately upon discovery.

7. EXISTING SITE CONDITIONS

The existing site is the Durkee Street Public Parking Lot. The majority of the site is asphalt impervious cover. There is also an existing 5,800 sf building located on the southeast corner of the site.

7.1 Existing Watershed Information

The project area is located in close proximity to the Saranac River, which is the receiving waterbody for runoff from the current site. Catchment area 1A is 0.60 acres and is made up of the southern portion of the parking lot. Stormwater runoff is collected in a catch basin which is connected to a stormwater system on the adjacent property to the south. The runoff is routed directly to the Saranac River, without treatment.

Catchment area 1B is 2.11 acres and consists of the northern portion of the parking lot. Runoff flows across the parking lot and is collected in an onsite drainage pipe which drains directly to the Saranac River. No stormwater quality measures are currently in place.

Catchment area 1C is 0.64 acres and contains a portion of the roof runoff from the existing building as well as the bank adjacent to the east end of the project site. Stormwater runoff from this area flows via sheet flow directly into the Saranac River. Refer to Appendix D for HydroCAD analysis reports and subcatchment maps.

7.2 Table of Receiving Waterbodies

Table 4: Receiving Waterbodies

<i>Stormwater Structure</i>	<i>Receiving Waterbody</i>	<i>NYSDEC Regulated</i>
18" Site Outlet Pipe	Saranac River	Yes – Class C (TS)

8. STORMWATER MANAGEMENT ASSESSMENT

This project falls under Chapter 9 of the Manual, “Redevelopment Activity”. Chapter 9 provides the provision of stormwater practices during a redevelopment. This approach balances maximizing improvements in site design that can reduce the impacts to stormwater runoff and providing a maximum level of on-site treatment that is feasible given the site constraints present where the redevelopment activities are occurring.

8.1 Methodology

To analyze the hydrologic impacts of the proposed development, a storm water management model was developed in accordance with the Manual. HydroCAD™, by HydroCAD Software Solutions LLC was used to model both the existing and proposed conditions: soil data from the NRCS Web Soil Survey was entered into the software; land coverage areas were estimated using aerial photography and site visits; watershed areas were developed using the surveyed topography; time of concentrations were estimated using USDA, Urban Hydrology for Small Watersheds, TR-55 (TR-55) methodology; and finally runoff and routing calculations were performed using the SCS Unit Hydrograph method.

Green Infrastructure practices were evaluated in accordance with the Manual using the NYSDEC Runoff Reduction Worksheets available through the NYSDEC’s Construction Stormwater Toolbox, available on their website.

The following general steps are followed when conducting a stormwater design:

1. **Site Planning:** The existing natural resource areas and drainage patterns including wetlands, waterways, floodplains, and soils are identified. Conservation of natural resources are maximized given the proposed site.
2. **Pre and Post-Development Conditions Analysis:** The pre and post-development stormwater runoff conditions for the 1, 10, and 100-year storm events are determined using HydroCAD (detailed HydroCAD reports for this project can be found in Appendix D).
3. **Water Quality:** The Water Quality Volume and Runoff Reduction Volume are calculated using Chapter 4 of the Manual and Green Infrastructure Worksheets (provided in Appendix D).
4. **Water Quantity:** Peak runoff and stormwater retention/detention are evaluated using the Manual.

8.1.1 Water Quality Volume (WQv) / Runoff Reduction Volume (RRv)

Section 4.2 of the Manual states that Water Quality Volume (WQv) is intended to improve the water quality by capturing and treating runoff from small, frequent storm events that contain higher pollutant levels created through the increase of impervious surfaces. Impervious surfaces accumulate pollutants that quickly wash off and rapidly enter downstream waters as well as prevent natural groundwater recharge.

The WQv required for the proposed site is based upon the 90% rainfall event number, percent of impervious cover, and the total site area. WQv treatment by an Alternative practice requires the alternative SMP to treat a percentage of the WQv from the disturbed, impervious area as well as any additional runoff from tributary areas that are not within the disturbed, impervious area. The percentage of WQv required to be treated is based on the percentage of impervious cover reduction, percentage of water quality treated through standard practice and percentage of runoff reduction. The calculations for determining the required WQv can be found in Appendix D. The total WQv required to be treated is 3,838 cubic feet.

Runoff Reduction Volume (RRv) is the reduction of the total WQv by application of green infrastructure techniques and stormwater management practices to more closely replicate pre-development hydrology. The intent of RRv is to recognize the water quality benefits of certain site design practices to address flow as a pollutant of concern. Although encouraged, meeting the RRv sizing criteria is not required due to the reduced impervious area of the redevelopment project.

8.1.2 Channel Protection Volume (CPv)

Stream Channel Protection Volume Requirements (CPv) are designed to protect stream channels from erosion. The Manual was used to determine the water quantity requirements of CPv; specifically, providing 24-hour extended detention for the 1-year storm event or discharging directly to tidal waters. According to Section 4.4, Stream Channel Protection Volume Requirements (CPv) of the Manual the CPv requirement does not apply when the site discharges to a fifth order waterbody.

The CPv requirement does not apply in certain conditions, including the following:

- Reduction of the entire CPv is achieved at a site through green infrastructure of infiltration systems.
- The site discharges directly into tidal waters or fifth order (fifth downstream) or larger streams.

The Saranac River, adjacent to the project site, is classified as a fifth order stream. Therefore, the project site discharges directly to a fifth order stream in both the existing and proposed conditions and 24-hour extended detention of the 1-year storm event is not required for this project.

8.1.3 Overbank Flood Control (Qp)

The primary purpose of the overbank flood control sizing criterion is to prevent an increase in the frequency and magnitude of out-of-bank flooding generated by urban development. The Manual was used to determine the water quantity requirements of Qp; specifically, providing sufficient retention volume to discharge all runoff from the proposed 10-year storm event at a rate equal to or less than the existing peak 10-year runoff rate or discharging directly to tidal waters.

According to Section 4.5, Overbank Flood Control Criteria (Qp) of the Manual the Qp requirement does not apply when the site discharges to a fifth order stream.

The Qp requirement does not apply in certain conditions, including:

- The site discharges directly into tidal waters or fifth order (fifth downstream) or larger streams.

8.1.4 Extreme Flood Control (Qf)

The intent of the extreme flood criteria is to prevent the increased risk of flood damage from large storm events, maintain the boundaries of the predevelopment 100-year floodplain, and protect the physical integrity of stormwater management practices. The Manual was used to determine the water quantity requirements of Qf; specifically, providing sufficient retention volume to discharge all runoff from the proposed 100-year storm event at a rate equal to or less than the existing peak 100-year runoff rate or discharging directly to tidal waters.

According to Section 4.6, Extreme Flood Control Criteria (Qf) the Manual the Qf requirement does not apply when the site discharges to a fifth order stream.

The 100-year storm control requirement can be waived if:

- The site discharges directly into tidal waters or fifth order (fifth downstream) or larger streams.

8.2 Evaluation of Green Infrastructure

According to Section 9.2 of the Manual, meeting the RRv (through green infrastructure) is not required for a redevelopment project. However, green infrastructure practices were evaluated for the potential use on the project site.

8.2.1 Conservation of Natural Areas

The existing site is an already developed parking lot in an urban environment. The added development maintains the existing hydrologic and water quality characteristics.

8.2.2 Sheetflow to Riparian Buffers and Filter Strips

Sheetflow is not used as there is too much sheet length to meet the criteria, while the vegetated areas would not meet the Riparian and/or Filter Strip requirement.

8.2.3 Vegetated Swales

The developed site does not have sufficient room for vegetated swales.

8.2.4 Tree Planting / Tree Pits

New landscaping will complement the existing environment. No credit has been applied for proposed tree planting.

8.2.5 Disconnection of Rooftop Runoff

Rooftop disconnection was not considered for this project, as the buildings are located within large paved areas.

8.2.6 Stream Daylighting

Stream daylighting is not available for the proposed project.

8.2.7 Rain Gardens / Bioretention

The developed site does not have sufficient room for Rain Gardens or Bioretention.

8.2.8 Green Roofs

Green roofs were not considered to be feasible for this project.

8.2.9 Stormwater Planter

Stormwater Planters were not considered due to the poor soils and rooftop runoff volume.

8.2.10 Rain Barrels and Cisterns

Rain barrels and cisterns were not considered for this project due to the commercial nature of the use.

8.2.11 Porous Pavement

Porous pavement was not considered due to the poor soils.

8.2.12 Infiltration System

An infiltration system was not considered due to the poor soils not meeting the minimum infiltration rate.

9. POST CONSTRUCTION STORMWATER CONTROL PRACTICES

9.1 Table of Post Construction Practices

See Table 4 above.

9.2 Post Construction Practices Plan

See Table 4 for location of Post Construction Practices and Appendix C for Erosion & Sediment Control Plans and Details.

In order to control the post-development runoff conditions to match the existing conditions, stormwater management facilities will be constructed to collect and treat runoff. Stormwater on the project site will be treated through a hydrodynamic separation device (CS-6 Cascade Separator), which is an alternative stormwater management practice. This device moves water in a circular, centrifugal manner to accelerate the separation and deposition of sediment while also capturing hydrocarbons, trash and debris from the water.

The hydrodynamic separation device (S1) will be located on the southwest side of the site, within the surface parking lot. The catchment area routed to this device is broken up into two parts, 1A and 1B. Catchment area 1A is 0.8 acres and consists of the surface parking lot as well as the Farmers' Market building. This area has a coverage value of 98. Stormwater runoff from 1A will be collected in three catch basins that connect to the hydrodynamic separation device. After being treated, the water is discharged into the Saranac River.

Catchment area 1B is 1.35 acres and consists of the stormwater collected from the roof of the mixed-use building and courtyard parking lot. This area has a coverage value of 98 as it is entirely impervious. Stormwater runoff from 1B will be collected in a series of roof drains to be funneled through a gutter system. All of the runoff collected will be piped to the hydrodynamic separation device, treated and discharged into the Saranac River.

Catchment area 1C is 1.10 acres and is made up of the walkway area as well as the bank adjacent to the east side of the project site. Stormwater runoff from this area is not collected and will flow via sheet flow into the Saranac River.

For the 90% storm event, the water quality flow rate through the treatment system is 3.30 cubic feet per second (cfs). The structure provides 7,675 cubic feet (cf) of water quality volume, which exceeds the requirement of 3,838 cf.

9.3 Hydraulic Analysis of Pre- and Post-Development Conditions

In analyzing pre- and post-construction stormwater conditions, the Saranac River was used as the comparison point. Both the pre- and post-construction stormwater is discharged into the River. Using Chapter 9 of the Manual for redevelopment, the project meets all stormwater requirements.

The below table summarizes the impervious cover of the pre- and post-development conditions.

Table 6 – Impervious Cover

	Pre-Development	Post-Development
Impervious Area	2.71 ac	2.42 ac
% Impervious Cover	98.2%	87.7%
% IC Reduction	10.50%	

The existing site has no water quality treatment measures, and all stormwater runoff is directly discharged into the Saranac River. Per Chapter 9 of the Manual, redevelopment projects are required to provide water quality treatment and ensure the project runoff flow does not exceed the current condition. The table below summarizes the stormwater management plan.

Table 7 - Stormwater Management Plan Summary

Storm Event	Pre-Development	Post-Development
1-yr Discharge	7.54 cfs	6.64 cfs
10-yr Discharge	13.29 cfs	12.15 cfs
100-yr Discharge	23.25 cfs	21.80 cfs
Area of soil disturbance	2.76 ac	
WQv Target	3,838 cf	
WQv Provided	7,675 cf	

9.4 Maintenance Schedule of Post-Construction Stormwater Control Practices

Table 6 – Maintenance Schedule of Post-Construction Stormwater Management Facilities

Maintained by	Name of entity
Name, Address, Phone of Responsible Party	Prime Plattsburgh, LLC 621 Columbia Street Cohoes, NY 12047 (518) 785-9000 x126
Facilities to be Maintained	CS-6 Cascade Separator
Description of Maintenance Activity for each Facility and Frequency	See Appendix F for maintenance guidelines, as recommended by the manufacturer.
Description of Applicable Easements	An easement for the outlets of the stormwater devices will be needed.
Access and safety issues	Maintenance forces have access to all drainage facilities within the site.
Local and non-local permits	Article 15: Protection of Waters Permit
Legal agreements	N/A

The Cascade Separator Inspection and Maintenance Guide can be found in Appendix F.

9.5 Drainage Structure Catchment Areas

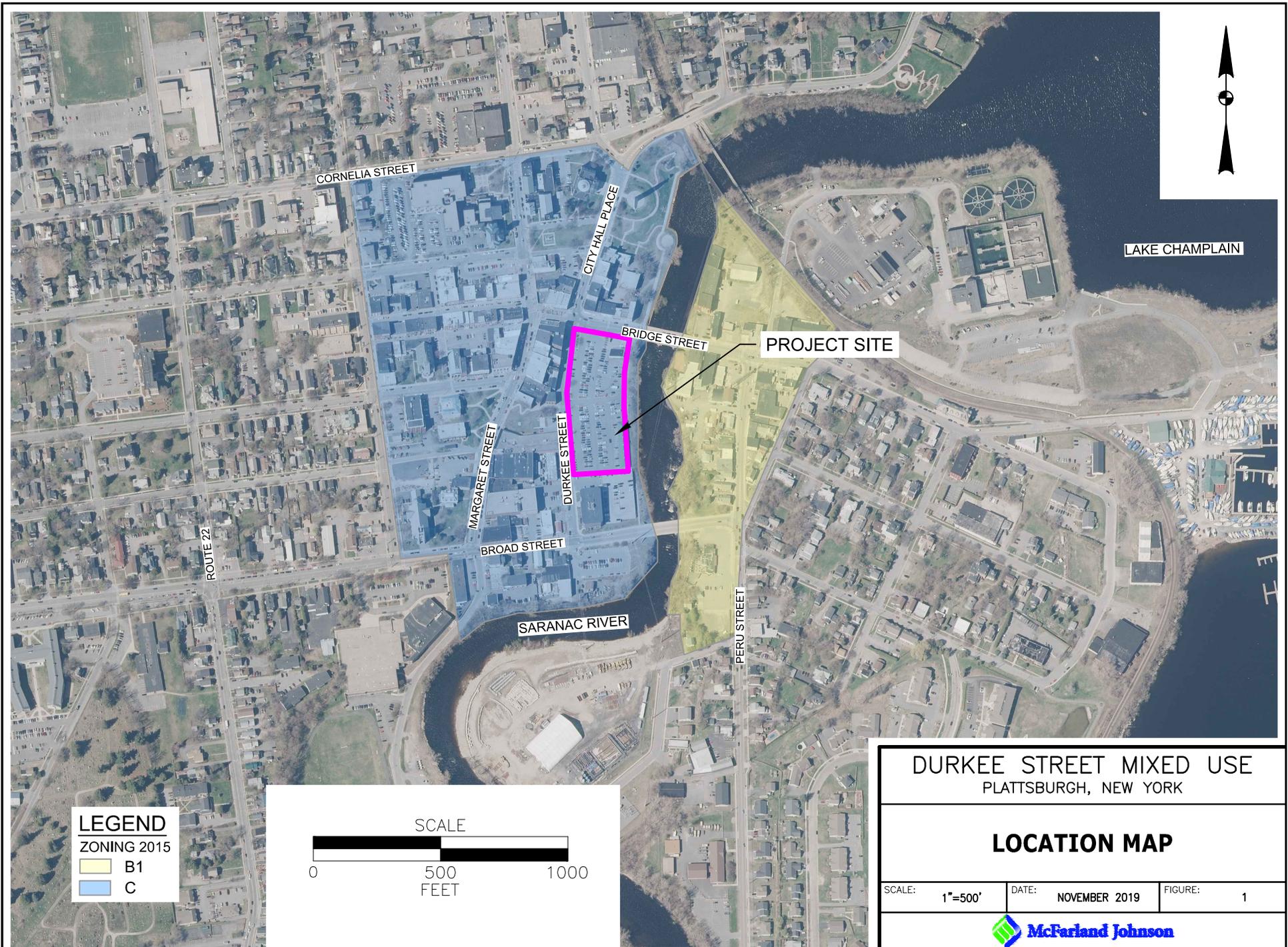
See Drainage Structure Area Figure in Appendix D.

9.6 Hydraulic Analysis of Stormwater Sewer System

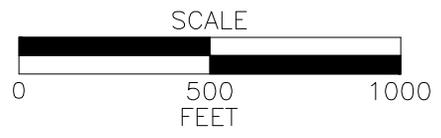
See the storm sewer profiles with the hydraulic grade lines for the 10-year storm event. The profiles were created in AutoCAD Civil 3D which incorporates the rational method and Manning's Equation to iteratively calculate the hydraulic capacity, grade lines, and inlet spreads. Printouts are provided in Appendix D.

APPENDIX A

LOCATION MAP



LEGEND
ZONING 2015
B1
C



DURKEE STREET MIXED USE
PLATTSBURGH, NEW YORK

LOCATION MAP

SCALE: 1"=500'	DATE: NOVEMBER 2019	FIGURE: 1
----------------	---------------------	-----------



APPENDIX B

NRCS SOILS MAP



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 **Clinton County, New York**



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.

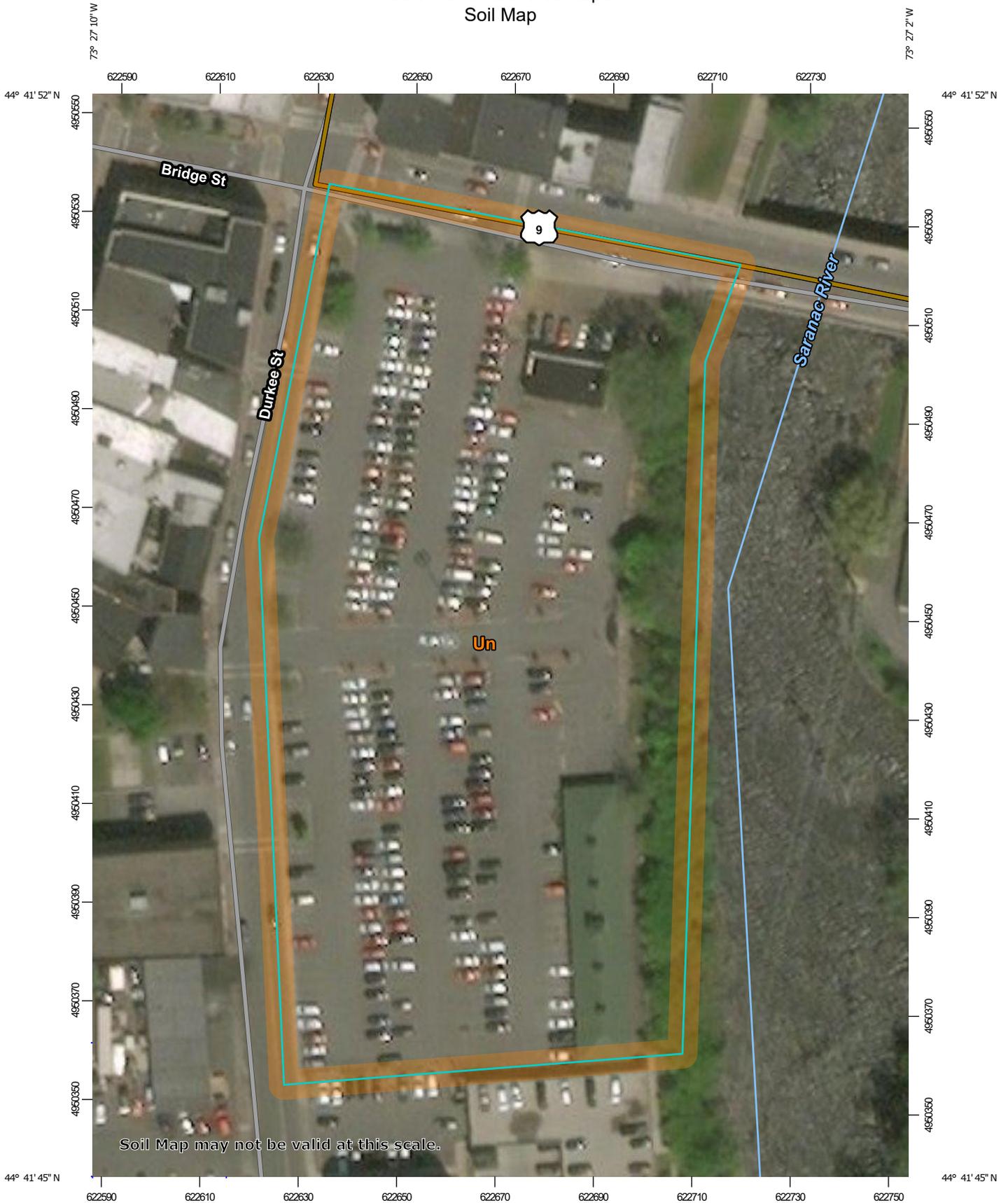
Contents

Preface	2
Soil Map	5
Soil Map.....	6
Legend.....	7
Map Unit Legend.....	8
Map Unit Descriptions.....	8
Clinton County, New York.....	10
Un—Urban land.....	10
References	11

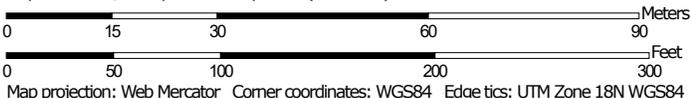
Soil Map

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: 1:1,070 if printed on A portrait (8.5" x 11") sheet.



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 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Clinton County, New York
 Survey Area Data: Version 19, Mar 7, 2019

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

Date(s) aerial images were photographed: Jun 28, 2012—Oct 13, 2016

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
Un	Urban land	3.6	100.0%
Totals for Area of Interest		3.6	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.

Custom Soil Resource Report

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.

Clinton County, New York

Un—Urban land

Map Unit Setting

National map unit symbol: 9r0w
Mean annual precipitation: 31 to 42 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 105 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Minor Components

Udipsamments

Percent of map unit: 3 percent
Hydric soil rating: No

Udorthents

Percent of map unit: 3 percent
Hydric soil rating: No

Deerfield

Percent of map unit: 1 percent
Hydric soil rating: No

Covert

Percent of map unit: 1 percent
Hydric soil rating: No

Grattan

Percent of map unit: 1 percent
Hydric soil rating: No

Plainfield

Percent of map unit: 1 percent
Hydric soil rating: No

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX C

EROSION & SEDIMENT CONTROL PLANS, DETAILS &
NOTES



McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
 SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

CLIENT: **PRIME PLATTSBURGH, LLC**
 CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

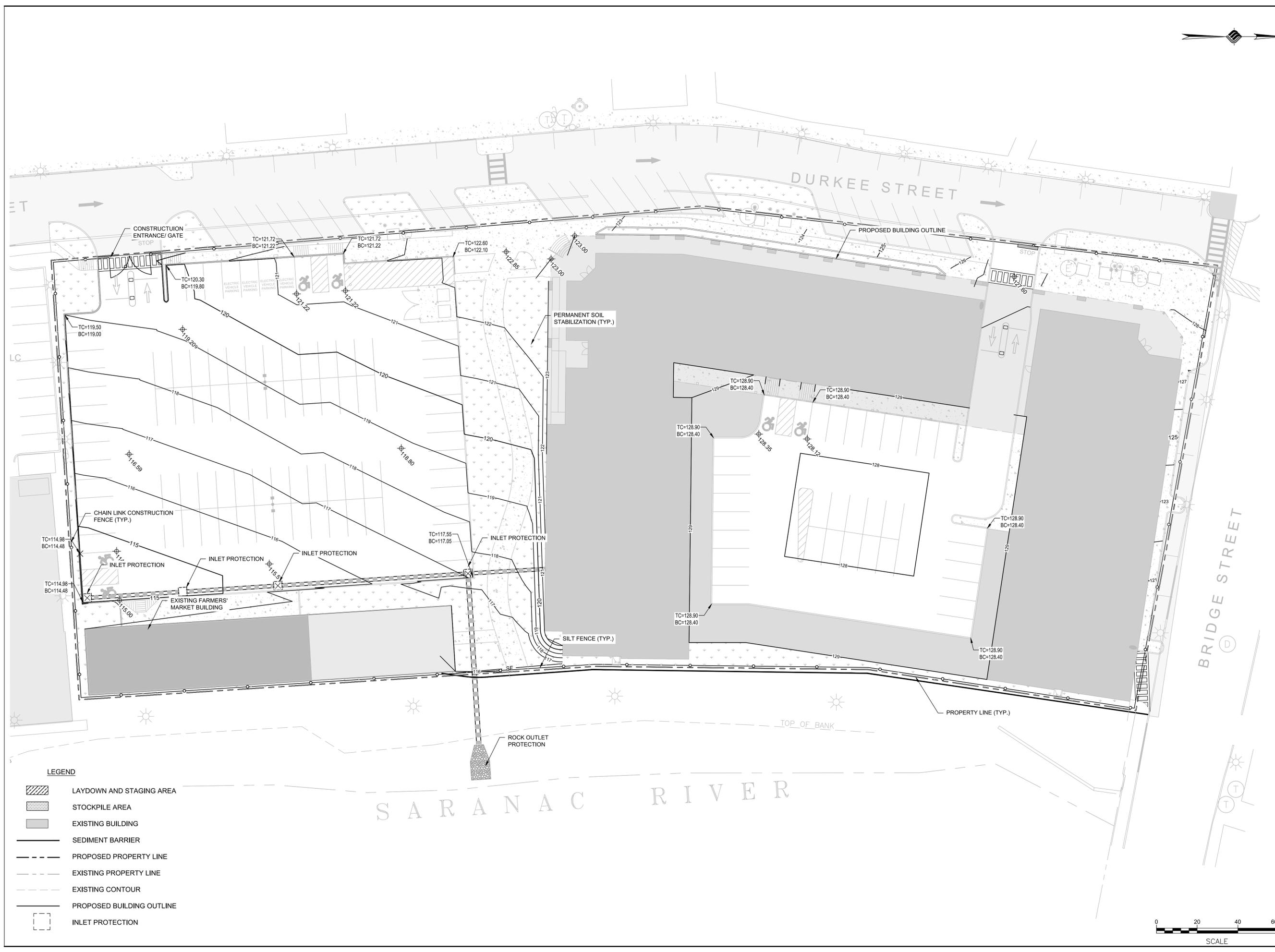
DRAWN	NSO
DESIGNED	NSO
CHECKED	TCB
SCALE	1"=20'
DATE	JANUARY 2020
PROJECT	18491.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE

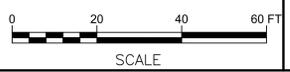
EROSION AND SEDIMENT CONTROL PLAN PHASE II

DRAWING NUMBER
EC-02
 13 OF 20



LEGEND

	LAYDOWN AND STAGING AREA
	STOCKPILE AREA
	EXISTING BUILDING
	SEDIMENT BARRIER
	PROPOSED PROPERTY LINE
	EXISTING PROPERTY LINE
	EXISTING CONTOUR
	PROPOSED BUILDING OUTLINE
	INLET PROTECTION



APPENDIX D

STORMWATER MANAGEMENT, HYDROLOGIC
ANALYSIS & SUBCATCHMENT MAPS



McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P: 518-580-9380 F: 518-580-9383
 mjinc.com

PROJECT MILESTONE
 SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

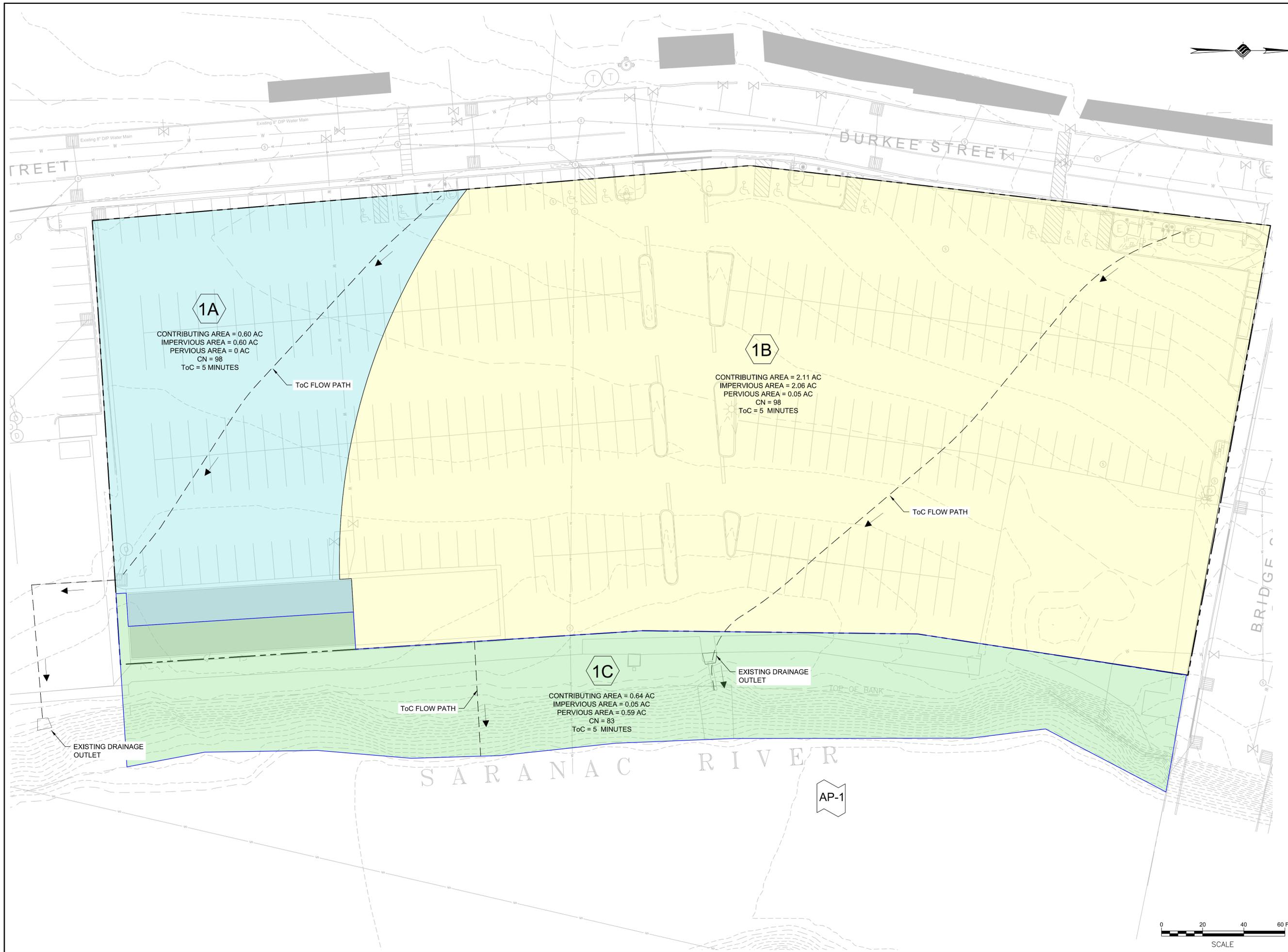
CLIENT: **PRIME PLATTSBURGH, LLC**
 CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

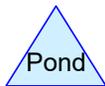
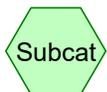
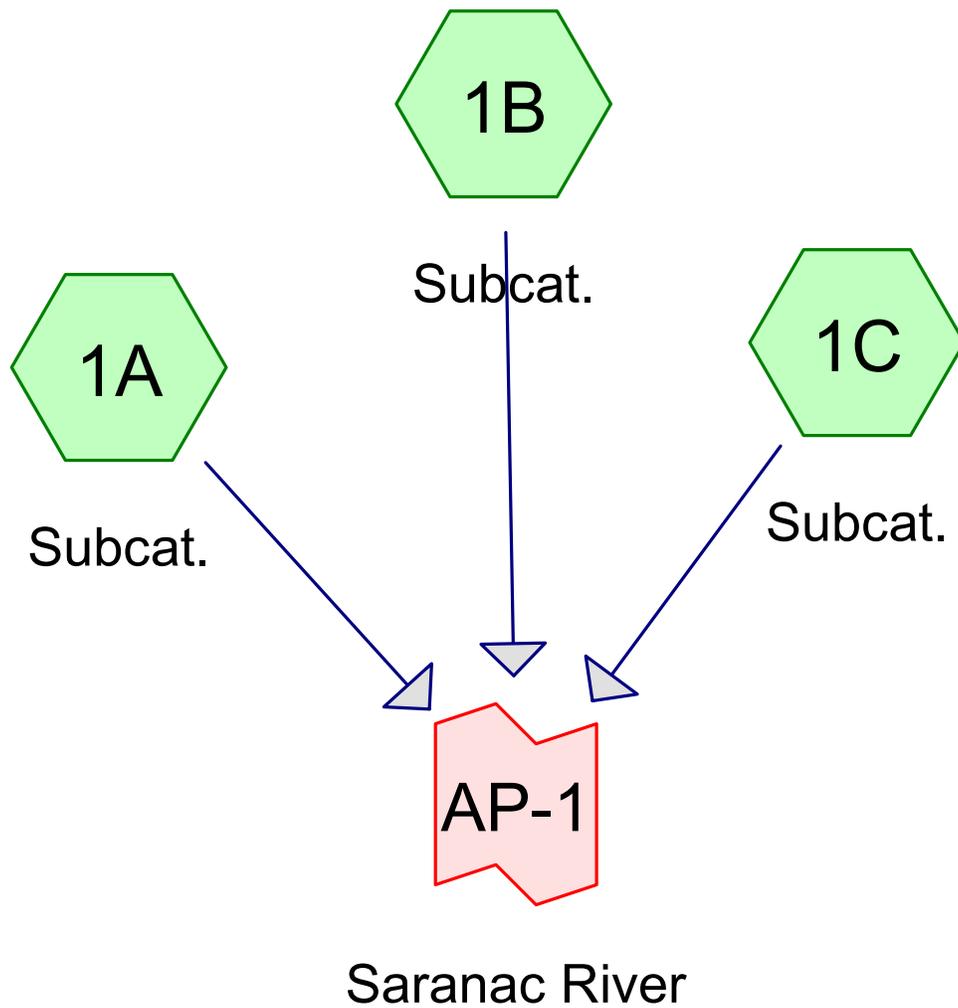
DRAWN	NSO
DESIGNED	NSO
CHECKED	TCB
SCALE	1"=20'
DATE	JANUARY 2020
PROJECT	18491.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
EXISTING DRAINAGE FIGURE

DRAWING NUMBER
SWPPP-01





EXISTING

Prepared by McFarland Johnson
HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Printed 1/31/2020

Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.050	80	>75% Grass cover, Good, HSG D (1B)
2.710	98	Asphalt (1A, 1B)
0.050	98	Paved parking, HSG D (1C)
0.590	82	Woods/grass comb., Fair, HSG D (1C)
3.400	95	TOTAL AREA

EXISTING

Prepared by McFarland Johnson

Printed 1/31/2020

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Page 3

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.050	0.000	0.050	>75% Grass cover, Good	1B
0.000	0.000	0.000	0.000	2.710	2.710	Asphalt	1A, 1B
0.000	0.000	0.000	0.050	0.000	0.050	Paved parking	1C
0.000	0.000	0.000	0.590	0.000	0.590	Woods/grass comb., Fair	1C
0.000	0.000	0.000	0.690	2.710	3.400	TOTAL AREA	

EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 1-Year Rainfall=1.85"

Printed 1/31/2020

Page 4

Summary for Subcatchment 1A: Subcat.

Runoff = 1.59 cfs @ 11.95 hrs, Volume= 0.079 af, Depth> 1.52"

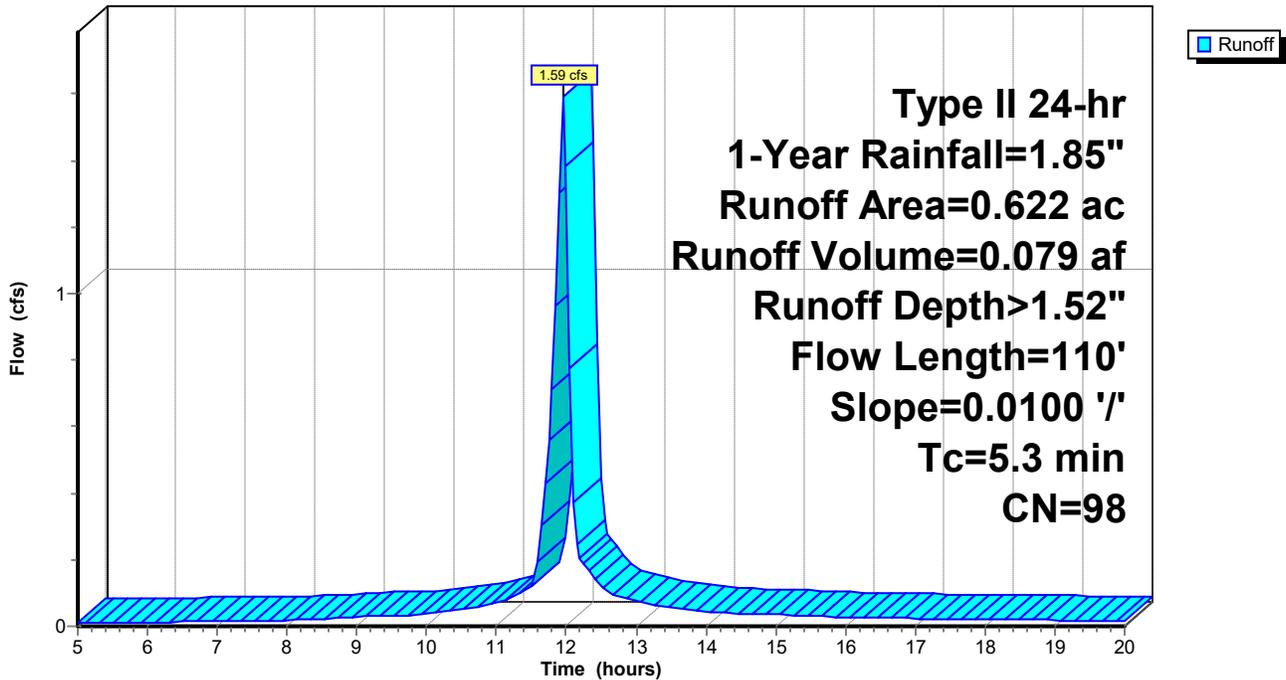
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=1.85"

Area (ac)	CN	Description
* 0.622	98	Asphalt
0.622		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min TOC
0.3	110	0.0100	5.90	4.63	Pipe Channel, Drainage Pipe Flow 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
5.3	110	Total			

Subcatchment 1A: Subcat.

Hydrograph



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 1-Year Rainfall=1.85"

Printed 1/31/2020

Page 5

Summary for Subcatchment 1B: Subcat.

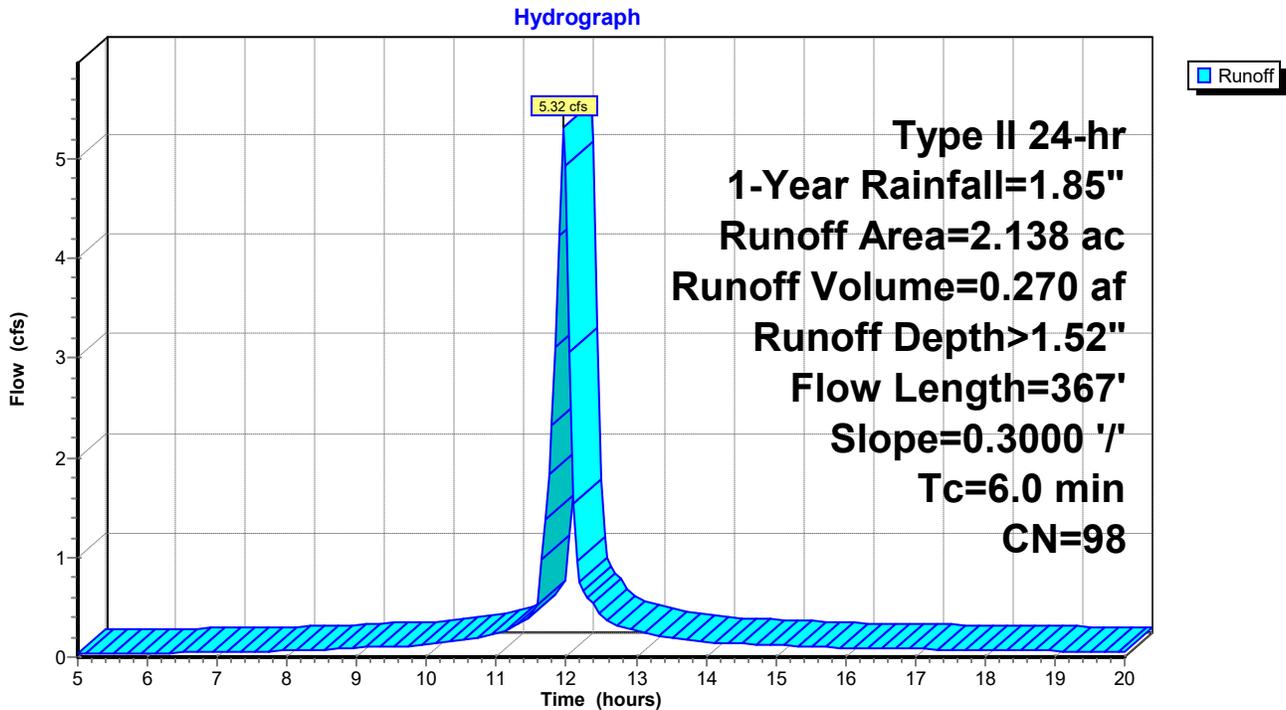
Runoff = 5.32 cfs @ 11.96 hrs, Volume= 0.270 af, Depth> 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=1.85"

Area (ac)	CN	Description
* 2.088	98	Asphalt
0.050	80	>75% Grass cover, Good, HSG D
2.138	98	Weighted Average
0.050		2.34% Pervious Area
2.088		97.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	353		0.98		Direct Entry, MINIMUM
0.0	14	0.3000	51.27	161.08	Pipe Channel, Pipe 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010 PVC, smooth interior
6.0	367	Total			

Subcatchment 1B: Subcat.



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 1-Year Rainfall=1.85"

Printed 1/31/2020

Page 6

Summary for Subcatchment 1C: Subcat.

Runoff = 0.66 cfs @ 11.98 hrs, Volume= 0.029 af, Depth> 0.54"

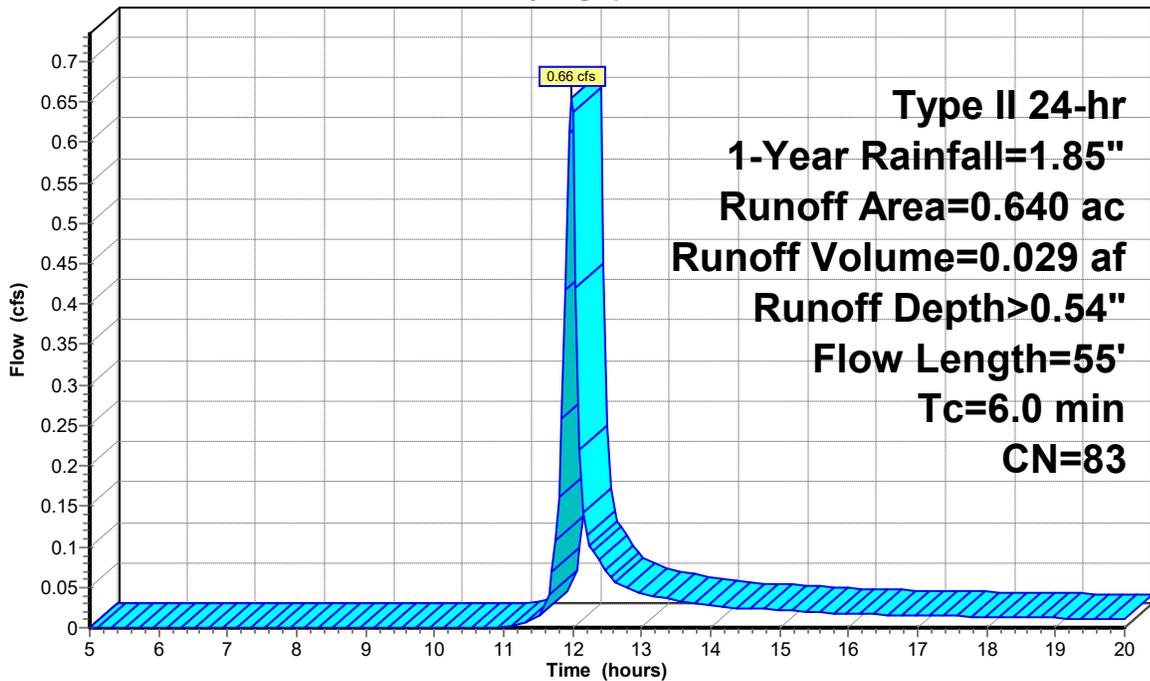
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=1.85"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG D
0.590	82	Woods/grass comb., Fair, HSG D
0.640	83	Weighted Average
0.590		92.19% Pervious Area
0.050		7.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	55		0.15		Direct Entry, Sheet Flow

Subcatchment 1C: Subcat.

Hydrograph



Runoff

EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 1-Year Rainfall=1.85"

Printed 1/31/2020

Page 7

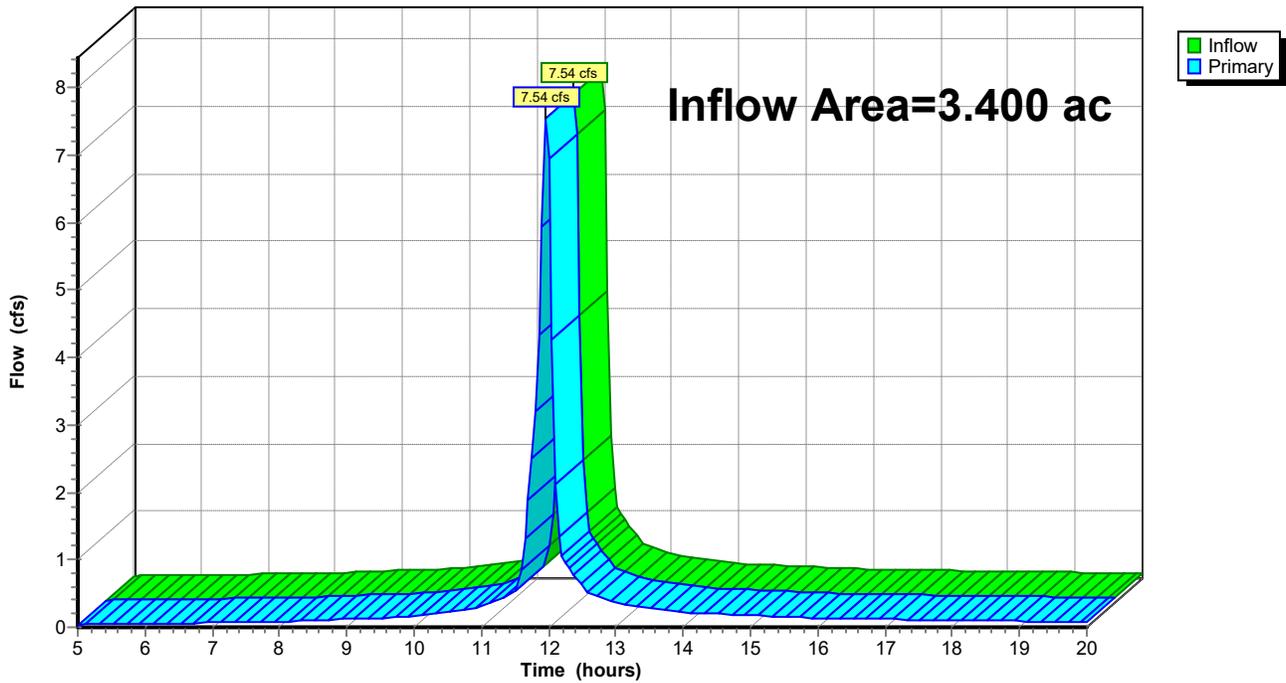
Summary for Link AP-1: Saranac River

Inflow Area = 3.400 ac, 81.18% Impervious, Inflow Depth > 1.33" for 1-Year event
Inflow = 7.54 cfs @ 11.96 hrs, Volume= 0.378 af
Primary = 7.54 cfs @ 11.96 hrs, Volume= 0.378 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: Saranac River

Hydrograph



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 10-Year Rainfall=3.06"

Printed 1/31/2020

Page 8

Summary for Subcatchment 1A: Subcat.

Runoff = 2.69 cfs @ 11.95 hrs, Volume= 0.136 af, Depth> 2.62"

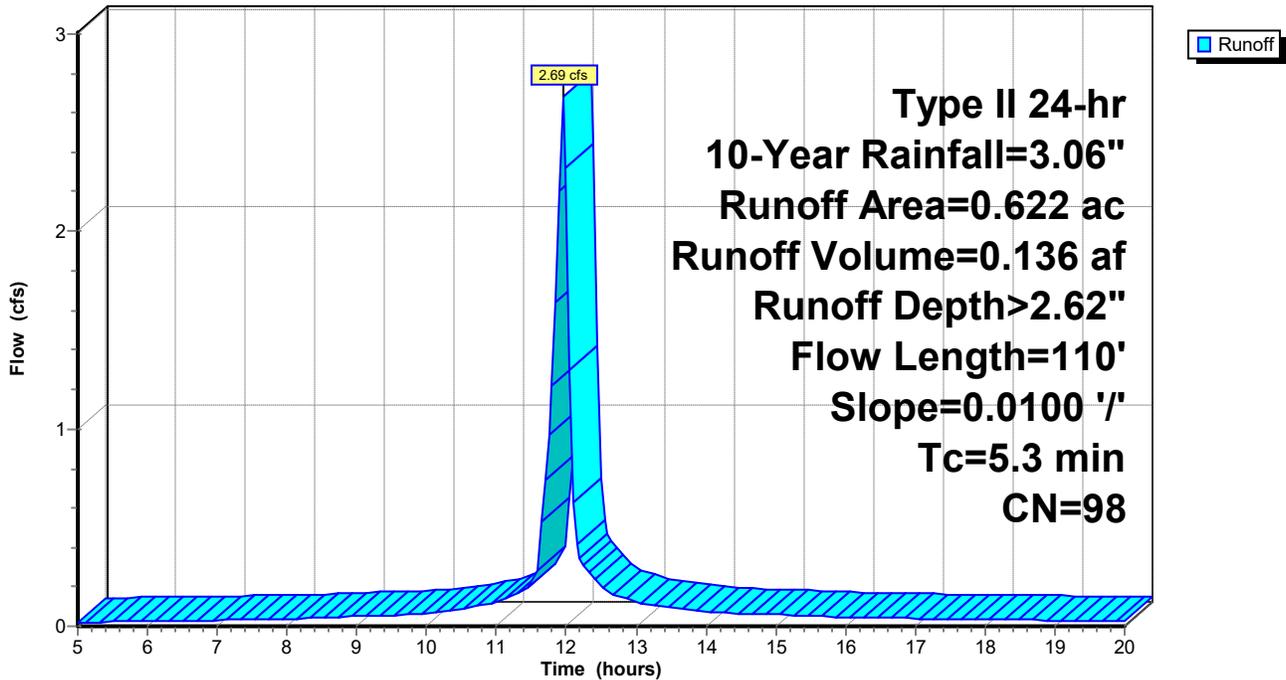
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.06"

Area (ac)	CN	Description
* 0.622	98	Asphalt
0.622		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min TOC
0.3	110	0.0100	5.90	4.63	Pipe Channel, Drainage Pipe Flow 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
5.3	110	Total			

Subcatchment 1A: Subcat.

Hydrograph



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 10-Year Rainfall=3.06"

Printed 1/31/2020

Page 9

Summary for Subcatchment 1B: Subcat.

Runoff = 8.98 cfs @ 11.96 hrs, Volume= 0.466 af, Depth> 2.62"

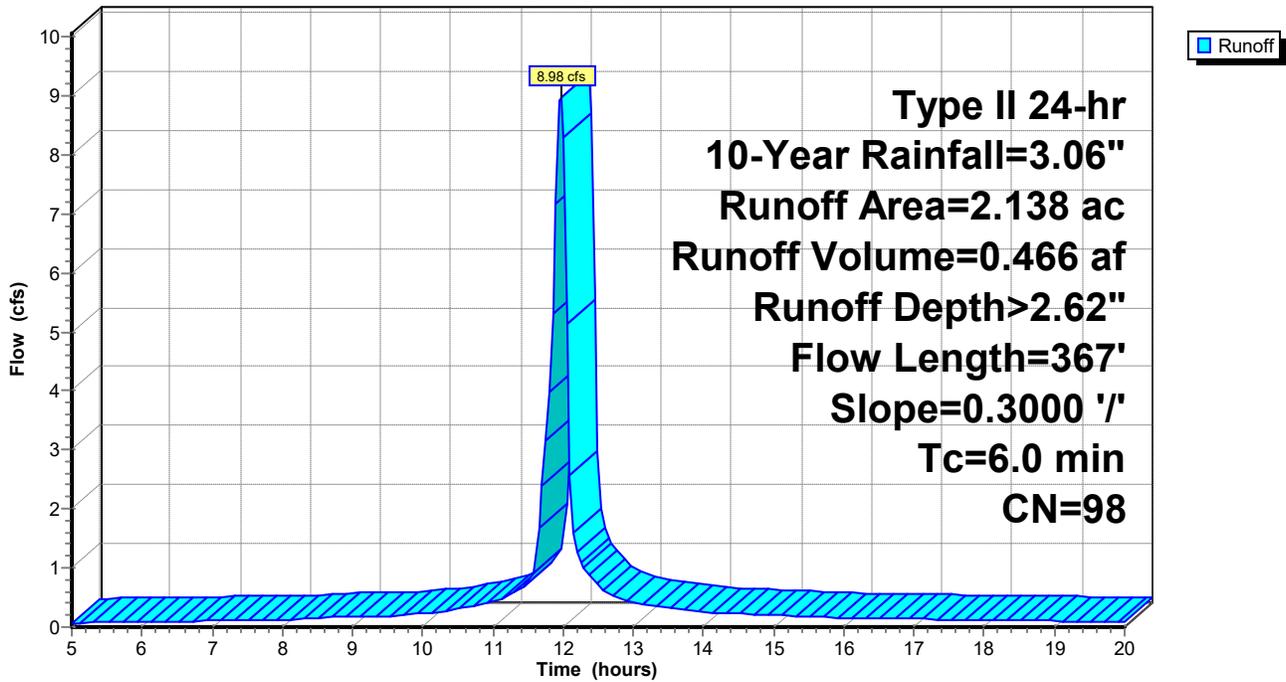
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.06"

Area (ac)	CN	Description
* 2.088	98	Asphalt
0.050	80	>75% Grass cover, Good, HSG D
2.138	98	Weighted Average
0.050		2.34% Pervious Area
2.088		97.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	353		0.98		Direct Entry, MINIMUM
0.0	14	0.3000	51.27	161.08	Pipe Channel, Pipe 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010 PVC, smooth interior
6.0	367	Total			

Subcatchment 1B: Subcat.

Hydrograph



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 10-Year Rainfall=3.06"

Printed 1/31/2020

Page 10

Summary for Subcatchment 1C: Subcat.

Runoff = 1.65 cfs @ 11.97 hrs, Volume= 0.073 af, Depth> 1.37"

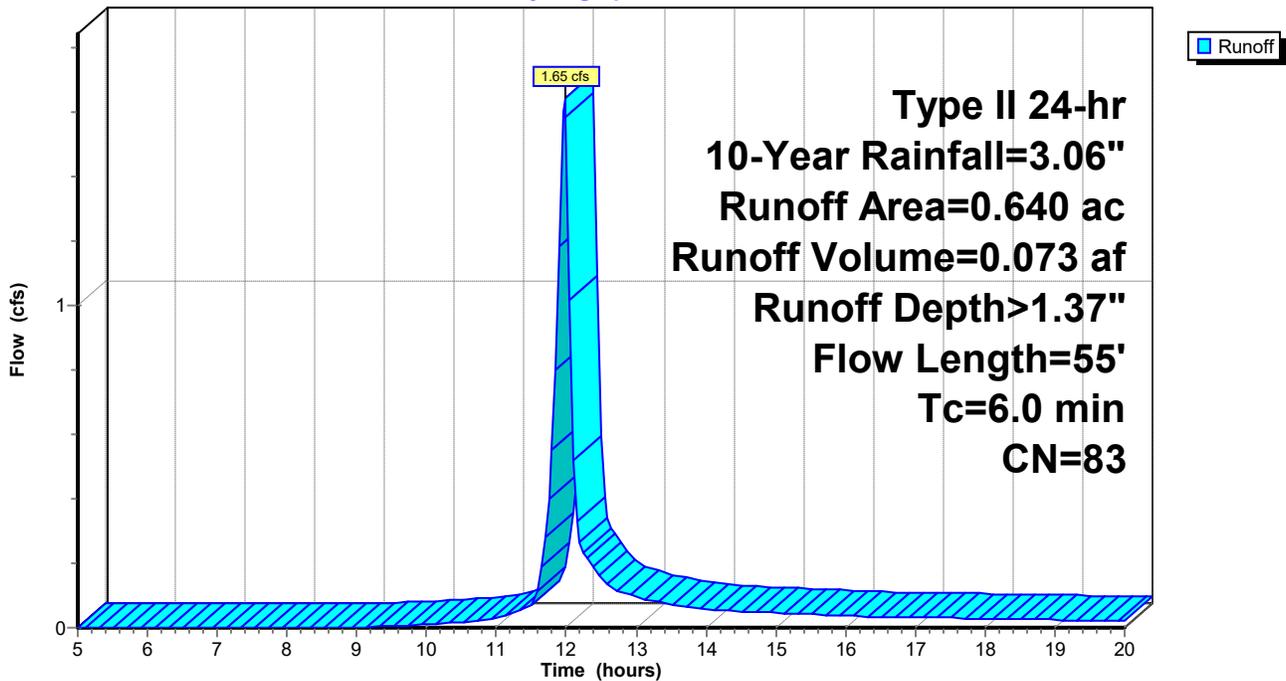
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.06"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG D
0.590	82	Woods/grass comb., Fair, HSG D
0.640	83	Weighted Average
0.590		92.19% Pervious Area
0.050		7.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	55		0.15		Direct Entry, Sheet Flow

Subcatchment 1C: Subcat.

Hydrograph



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 10-Year Rainfall=3.06"

Printed 1/31/2020

Page 11

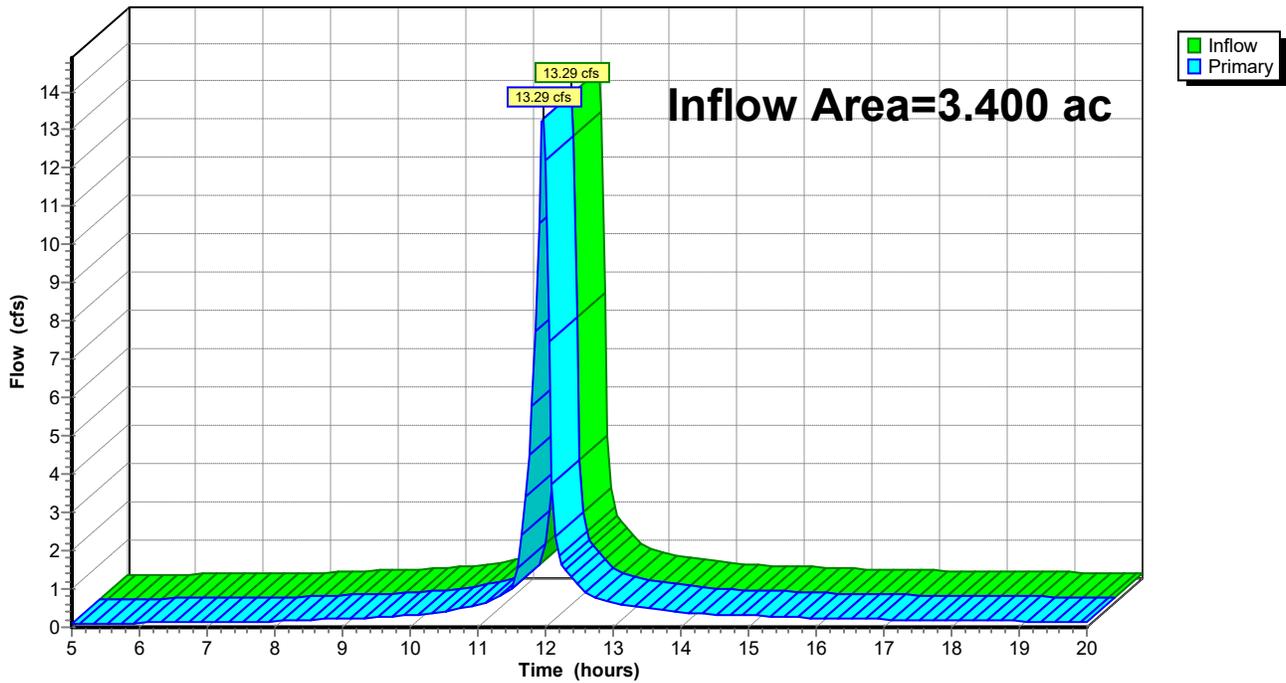
Summary for Link AP-1: Saranac River

Inflow Area = 3.400 ac, 81.18% Impervious, Inflow Depth > 2.38" for 10-Year event
Inflow = 13.29 cfs @ 11.96 hrs, Volume= 0.675 af
Primary = 13.29 cfs @ 11.96 hrs, Volume= 0.675 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: Saranac River

Hydrograph



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 100-Year Rainfall=5.13"

Printed 1/31/2020

Page 12

Summary for Subcatchment 1A: Subcat.

Runoff = 4.54 cfs @ 11.95 hrs, Volume= 0.233 af, Depth> 4.49"

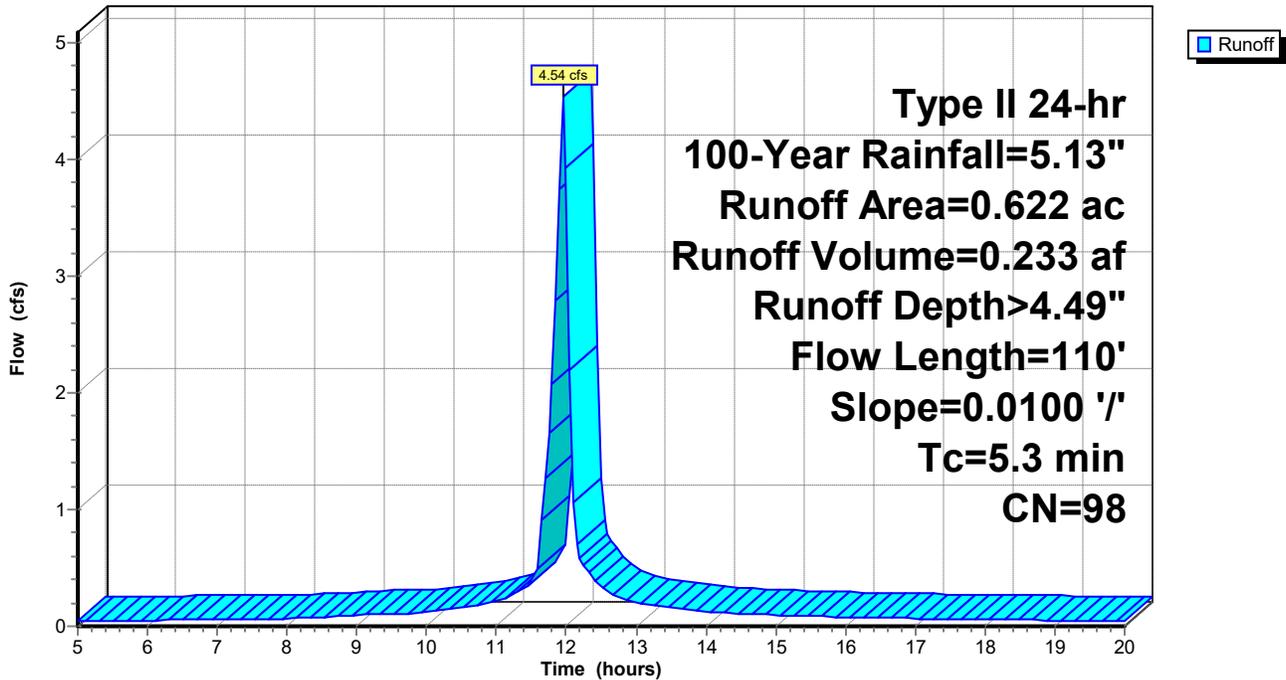
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=5.13"

Area (ac)	CN	Description
* 0.622	98	Asphalt
0.622		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min TOC
0.3	110	0.0100	5.90	4.63	Pipe Channel, Drainage Pipe Flow 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
5.3	110	Total			

Subcatchment 1A: Subcat.

Hydrograph



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 100-Year Rainfall=5.13"

Printed 1/31/2020

Page 13

Summary for Subcatchment 1B: Subcat.

Runoff = 15.19 cfs @ 11.96 hrs, Volume= 0.799 af, Depth> 4.49"

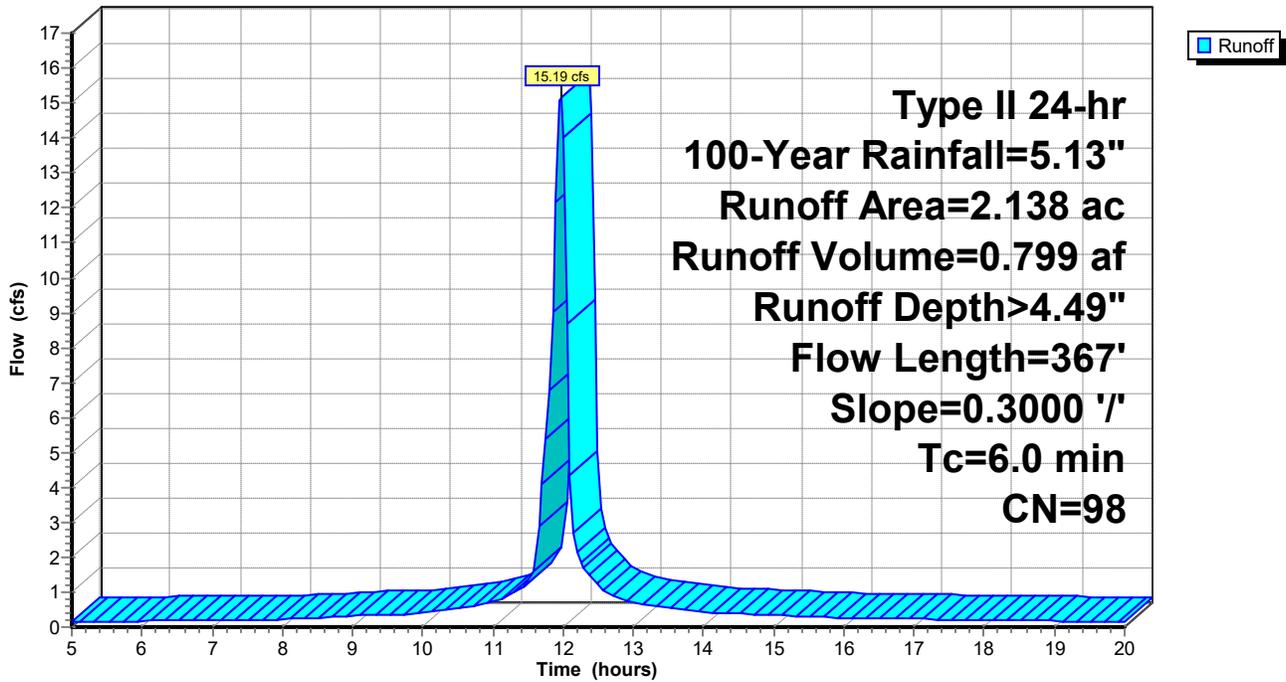
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=5.13"

Area (ac)	CN	Description
* 2.088	98	Asphalt
0.050	80	>75% Grass cover, Good, HSG D
2.138	98	Weighted Average
0.050		2.34% Pervious Area
2.088		97.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	353		0.98		Direct Entry, MINIMUM
0.0	14	0.3000	51.27	161.08	Pipe Channel, Pipe 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010 PVC, smooth interior
6.0	367	Total			

Subcatchment 1B: Subcat.

Hydrograph



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 100-Year Rainfall=5.13"

Printed 1/31/2020

Page 14

Summary for Subcatchment 1C: Subcat.

Runoff = 3.55 cfs @ 11.97 hrs, Volume= 0.163 af, Depth> 3.07"

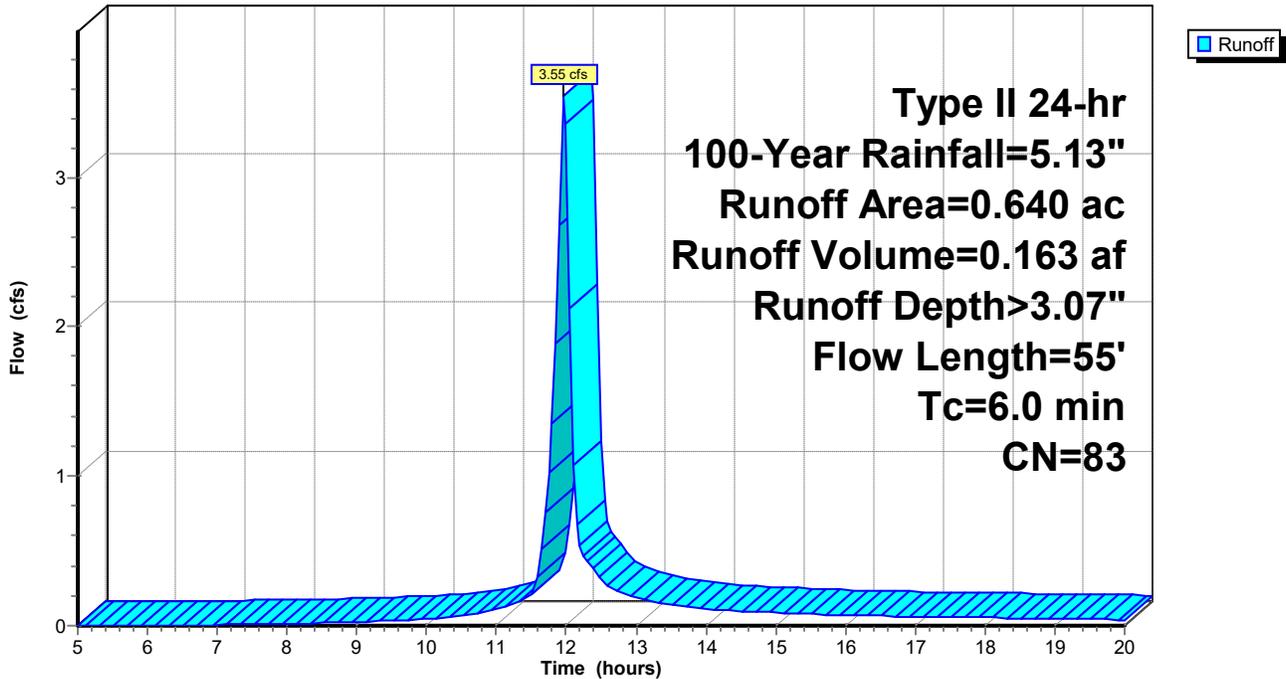
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG D
0.590	82	Woods/grass comb., Fair, HSG D
0.640	83	Weighted Average
0.590		92.19% Pervious Area
0.050		7.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	55		0.15		Direct Entry, Sheet Flow

Subcatchment 1C: Subcat.

Hydrograph



EXISTING

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 100-Year Rainfall=5.13"

Printed 1/31/2020

Page 15

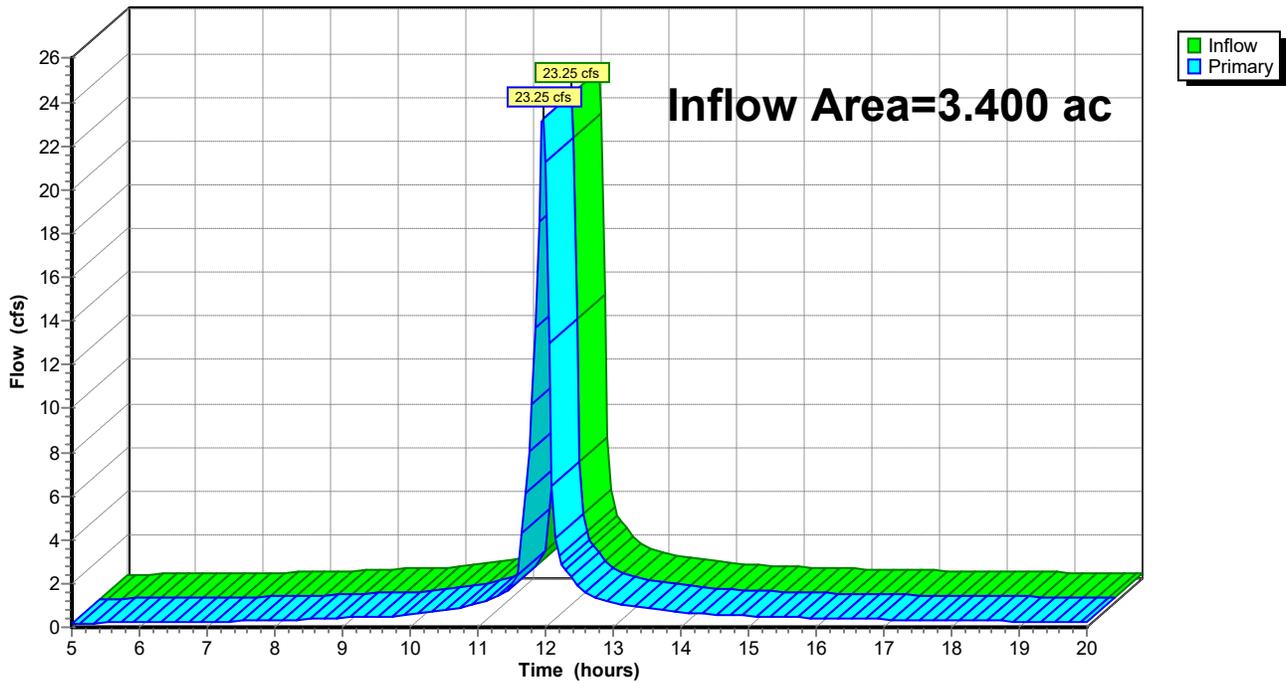
Summary for Link AP-1: Saranac River

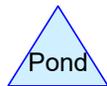
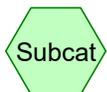
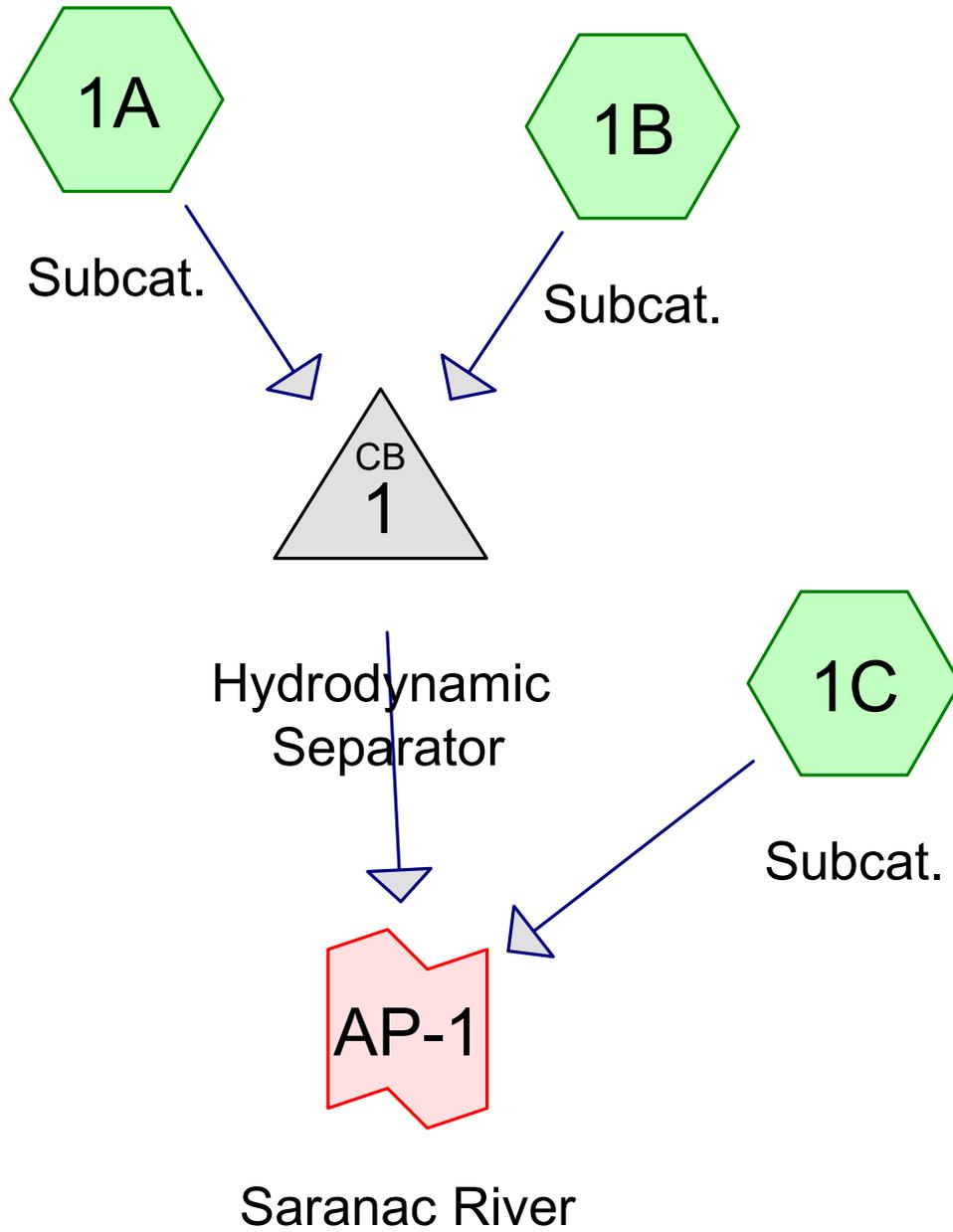
Inflow Area = 3.400 ac, 81.18% Impervious, Inflow Depth > 4.22" for 100-Year event
Inflow = 23.25 cfs @ 11.96 hrs, Volume= 1.195 af
Primary = 23.25 cfs @ 11.96 hrs, Volume= 1.195 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: Saranac River

Hydrograph





PROPOSED

Prepared by McFarland Johnson
HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Printed 1/31/2020

Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.340	80	>75% Grass cover, Good, HSG D (1B, 1C)
1.520	98	Paved parking, HSG D (1B, 1C)
0.590	82	Woods/grass comb., Fair, HSG D (1C)
0.800	98	asphalt (1A)
3.250	93	TOTAL AREA

PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Printed 1/31/2020

Page 3

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.340	0.000	0.340	>75% Grass cover, Good	1B, 1C
0.000	0.000	0.000	1.520	0.000	1.520	Paved parking	1B, 1C
0.000	0.000	0.000	0.590	0.000	0.590	Woods/grass comb., Fair	1C
0.000	0.000	0.000	0.000	0.800	0.800	asphalt	1A
0.000	0.000	0.000	2.450	0.800	3.250	TOTAL AREA	

PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 1-Year Rainfall=1.85"

Printed 1/31/2020

Page 4

Summary for Subcatchment 1A: Subcat.

Runoff = 2.02 cfs @ 11.96 hrs, Volume= 0.101 af, Depth> 1.52"

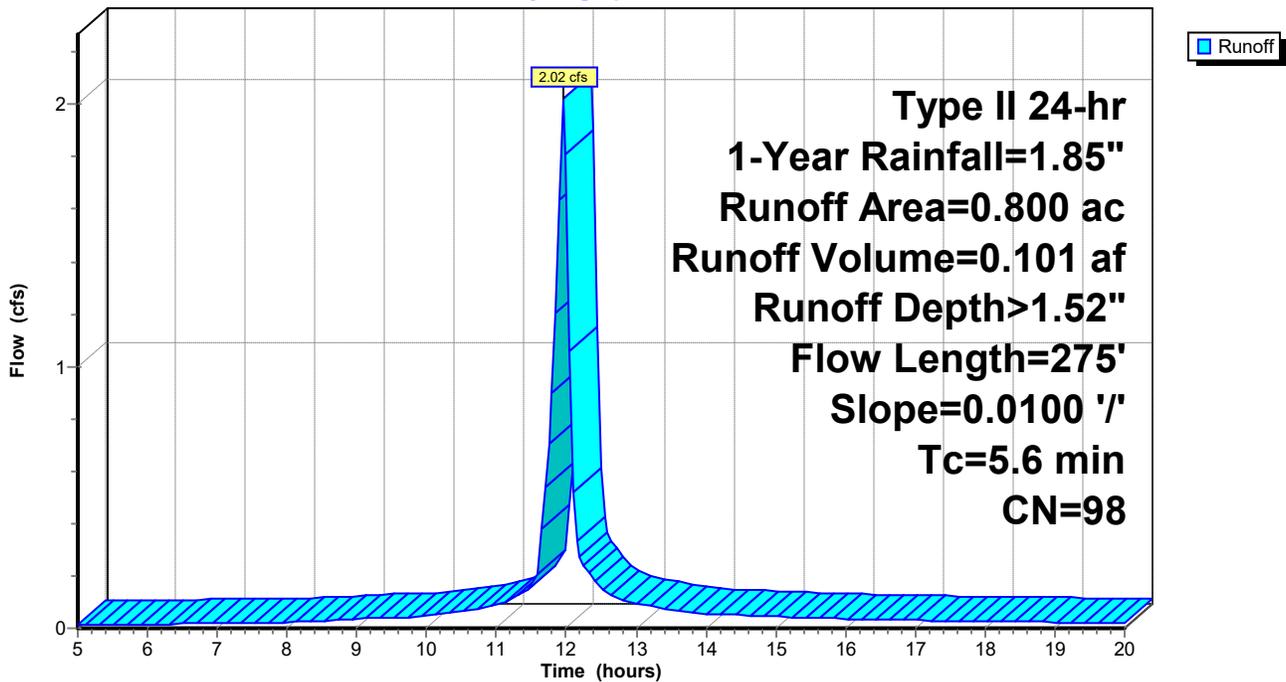
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=1.85"

Area (ac)	CN	Description
* 0.800	98	asphalt
0.800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, min
0.6	275	0.0100	7.73	13.66	Pipe Channel, Pipe Flow 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
5.6	275	Total			

Subcatchment 1A: Subcat.

Hydrograph



PROPOSED

Prepared by McFarland Johnson
 HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 1-Year Rainfall=1.85"

Printed 1/31/2020

Page 5

Summary for Subcatchment 1B: Subcat.

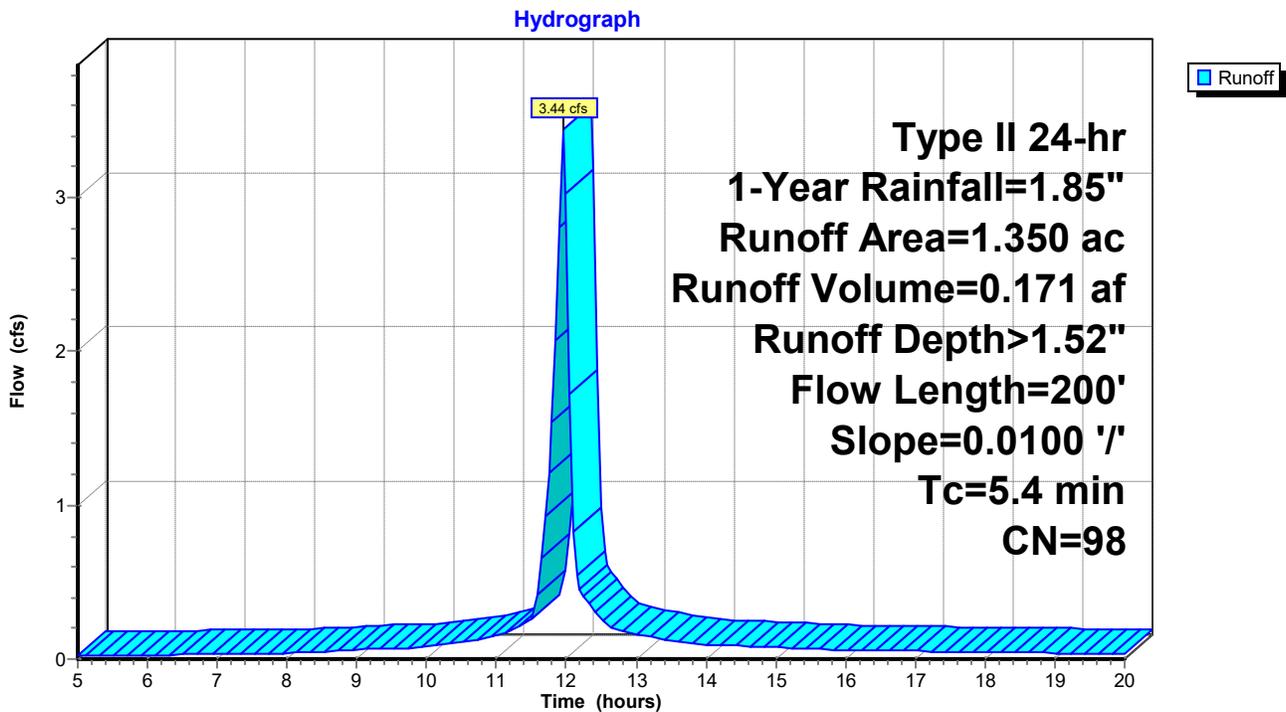
Runoff = 3.44 cfs @ 11.95 hrs, Volume= 0.171 af, Depth> 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-Year Rainfall=1.85"

Area (ac)	CN	Description
1.320	98	Paved parking, HSG D
0.030	80	>75% Grass cover, Good, HSG D
1.350	98	Weighted Average
0.030		2.22% Pervious Area
1.320		97.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum
0.4	200	0.0100	7.73	13.66	Pipe Channel, Storm Pipe Flow 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
5.4	200	Total			

Subcatchment 1B: Subcat.



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 1-Year Rainfall=1.85"

Printed 1/31/2020

Page 6

Summary for Subcatchment 1C: Subcat.

Runoff = 1.22 cfs @ 11.98 hrs, Volume= 0.053 af, Depth> 0.58"

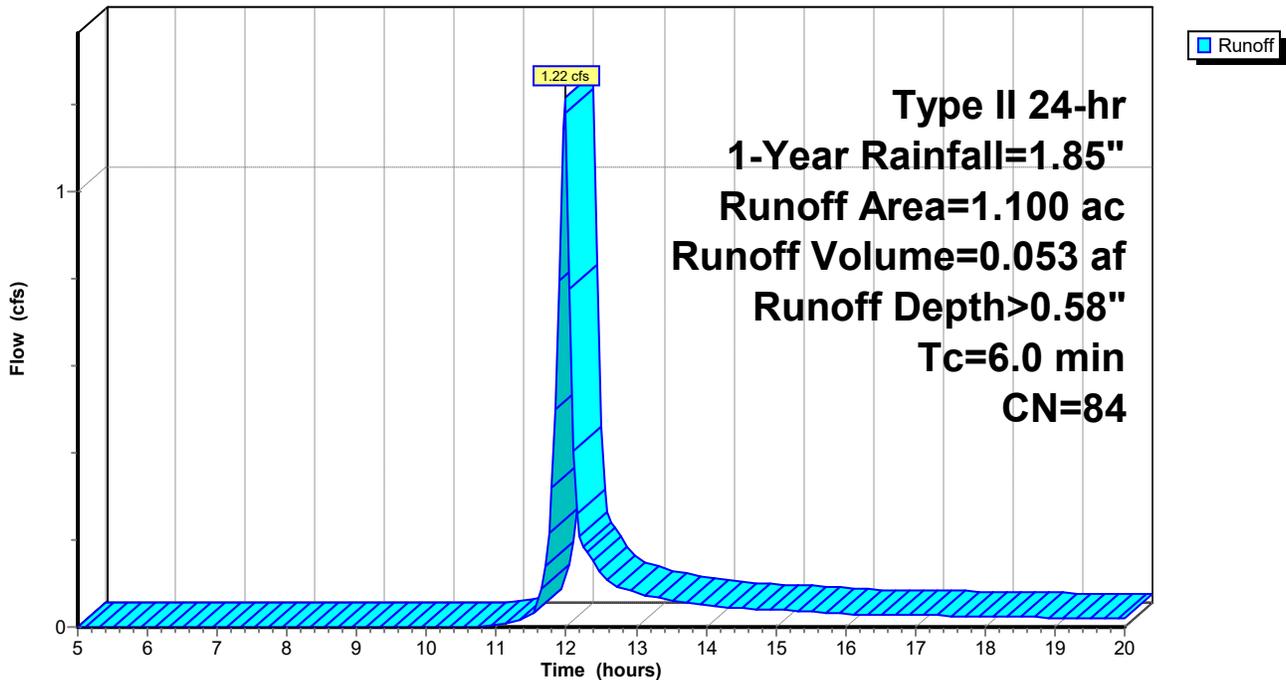
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=1.85"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.590	82	Woods/grass comb., Fair, HSG D
0.310	80	>75% Grass cover, Good, HSG D
1.100	84	Weighted Average
0.900		81.82% Pervious Area
0.200		18.18% Impervious Area

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

Subcatchment 1C: Subcat.

Hydrograph



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 1-Year Rainfall=1.85"

Printed 1/31/2020

Page 7

Summary for Pond 1: Hydrodynamic Separator

Inflow Area = 2.150 ac, 98.60% Impervious, Inflow Depth > 1.52" for 1-Year event
Inflow = 5.47 cfs @ 11.96 hrs, Volume= 0.272 af
Outflow = 5.47 cfs @ 11.96 hrs, Volume= 0.272 af, Atten= 0%, Lag= 0.0 min
Primary = 5.47 cfs @ 11.96 hrs, Volume= 0.272 af

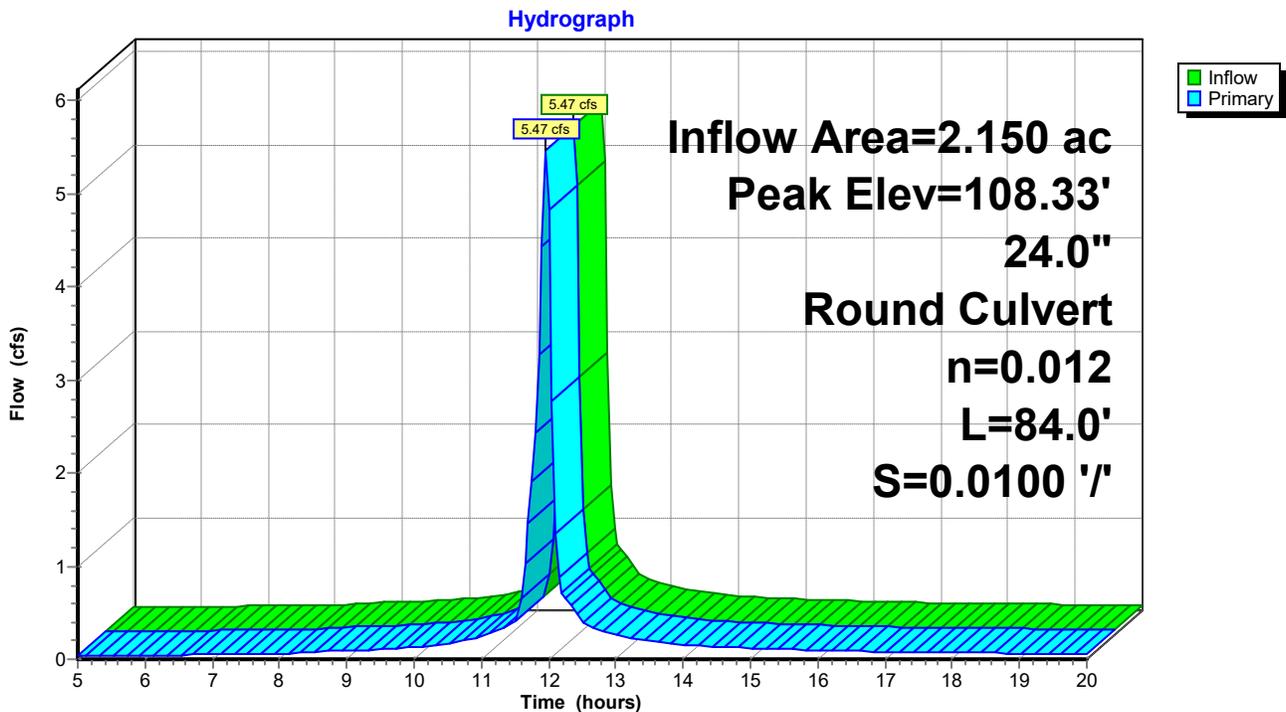
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 108.33' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	107.32'	24.0" Round Culvert L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 107.32' / 106.48' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.38 cfs @ 11.96 hrs HW=108.32' (Free Discharge)

↑1=Culvert (Inlet Controls 5.38 cfs @ 3.41 fps)

Pond 1: Hydrodynamic Separator



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 1-Year Rainfall=1.85"

Printed 1/31/2020

Page 8

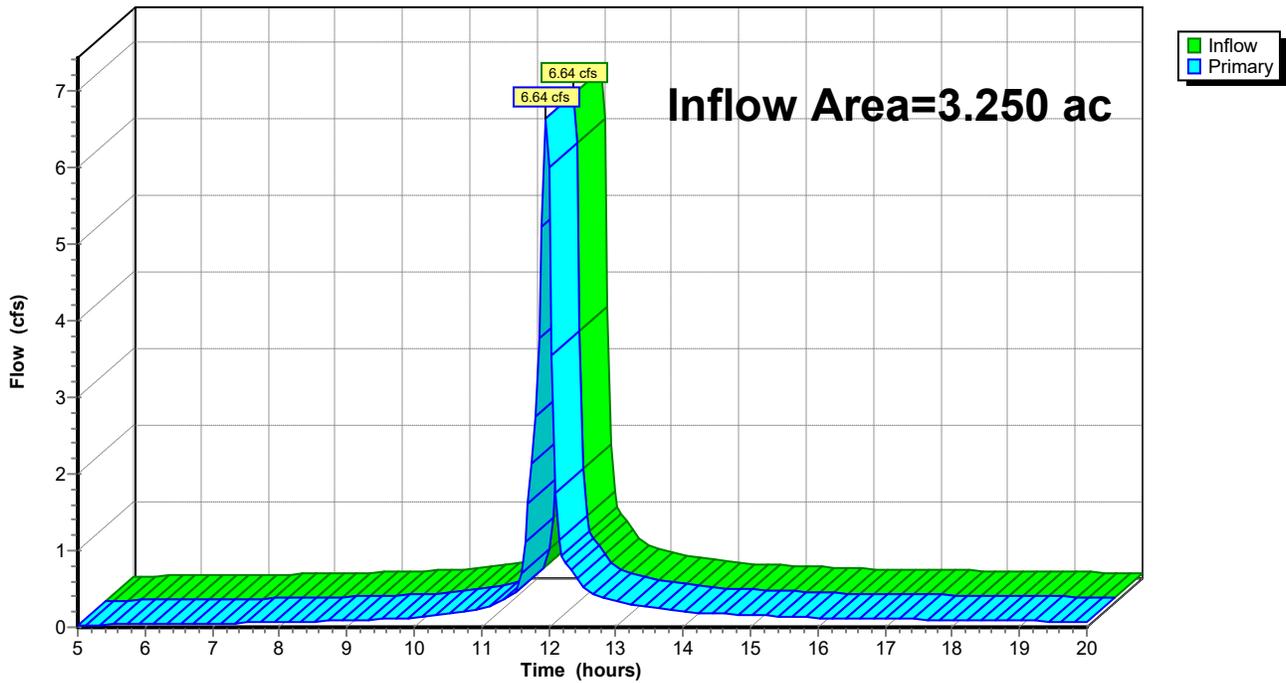
Summary for Link AP-1: Saranac River

Inflow Area = 3.250 ac, 71.38% Impervious, Inflow Depth > 1.20" for 1-Year event
Inflow = 6.64 cfs @ 11.96 hrs, Volume= 0.325 af
Primary = 6.64 cfs @ 11.96 hrs, Volume= 0.325 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: Saranac River

Hydrograph



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 10-Year Rainfall=3.06"

Printed 1/31/2020

Page 9

Summary for Subcatchment 1A: Subcat.

Runoff = 3.41 cfs @ 11.96 hrs, Volume= 0.175 af, Depth> 2.62"

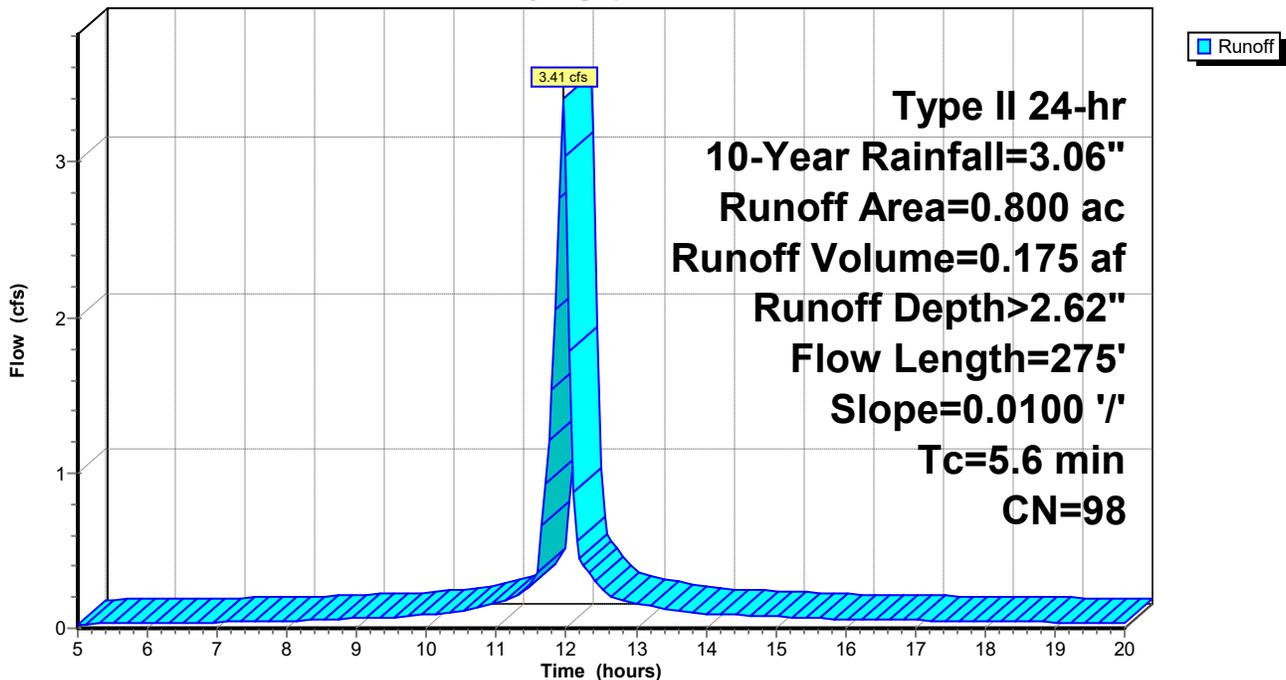
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.06"

Area (ac)	CN	Description
* 0.800	98	asphalt
0.800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, min
0.6	275	0.0100	7.73	13.66	Pipe Channel, Pipe Flow 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
5.6	275	Total			

Subcatchment 1A: Subcat.

Hydrograph



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 10-Year Rainfall=3.06"

Printed 1/31/2020

Page 10

Summary for Subcatchment 1B: Subcat.

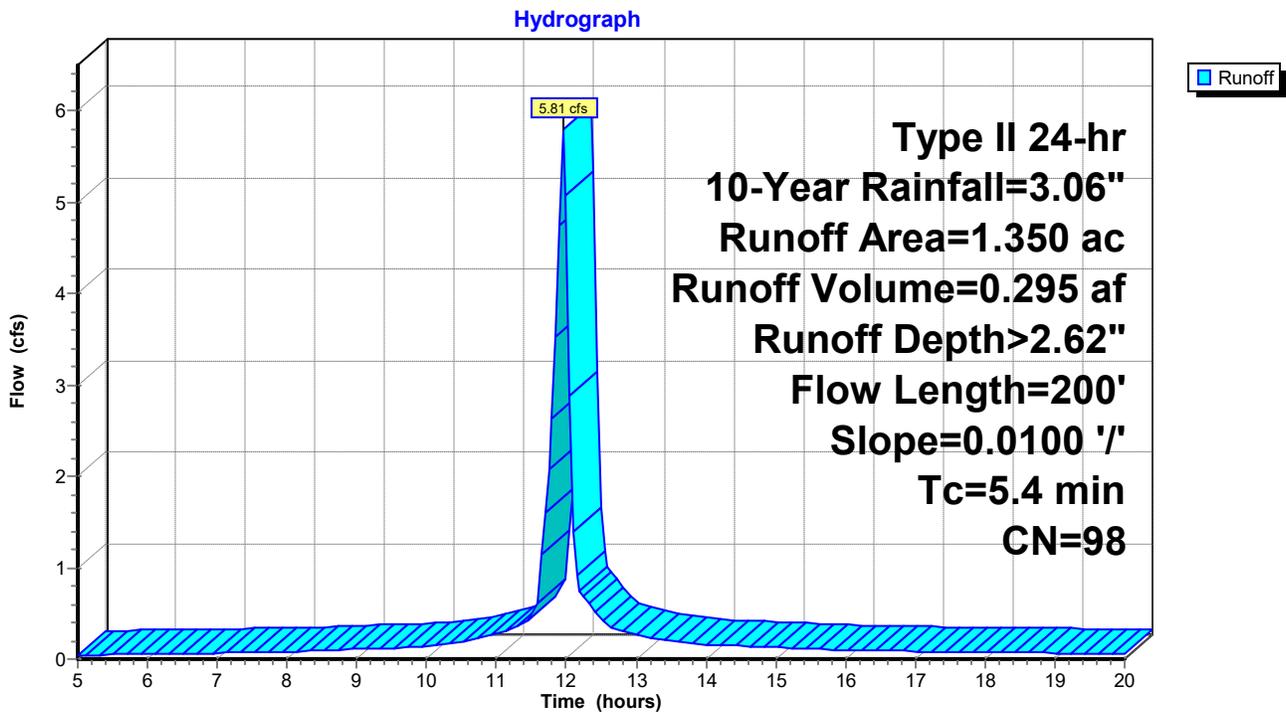
Runoff = 5.81 cfs @ 11.95 hrs, Volume= 0.295 af, Depth> 2.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.06"

Area (ac)	CN	Description
1.320	98	Paved parking, HSG D
0.030	80	>75% Grass cover, Good, HSG D
1.350	98	Weighted Average
0.030		2.22% Pervious Area
1.320		97.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum
0.4	200	0.0100	7.73	13.66	Pipe Channel, Storm Pipe Flow 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
5.4	200	Total			

Subcatchment 1B: Subcat.



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 10-Year Rainfall=3.06"

Printed 1/31/2020

Page 11

Summary for Subcatchment 1C: Subcat.

Runoff = 2.96 cfs @ 11.97 hrs, Volume= 0.132 af, Depth> 1.44"

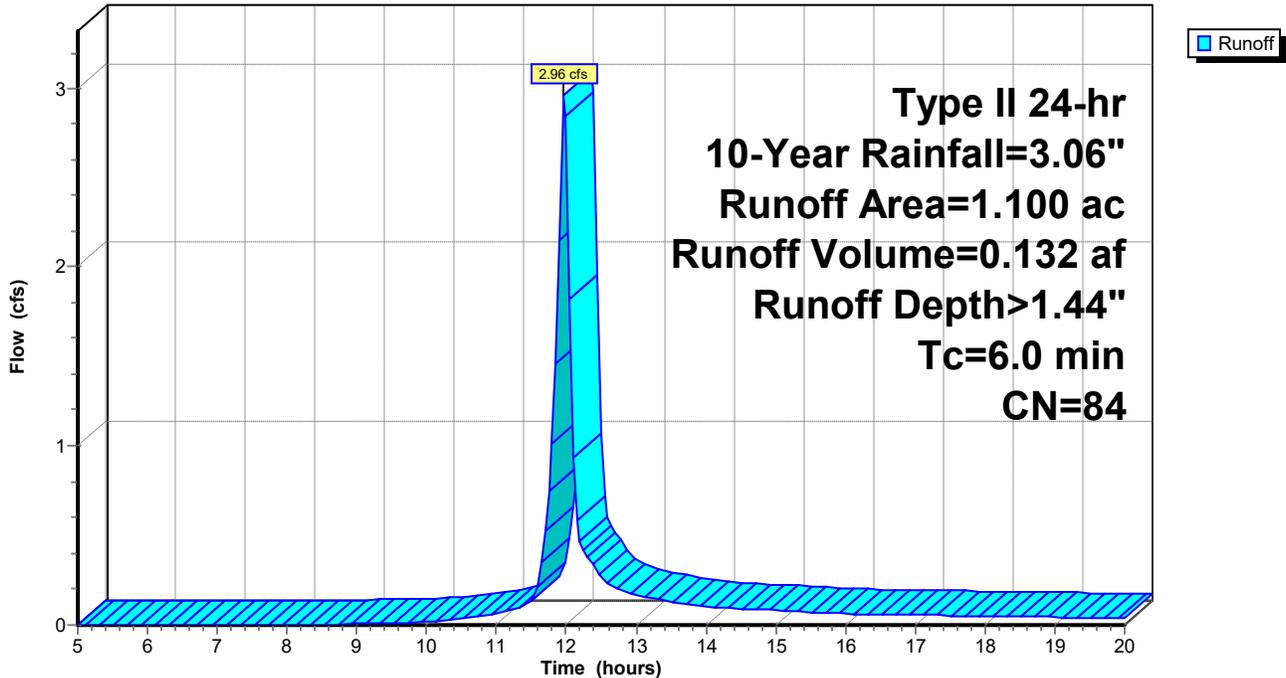
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.06"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.590	82	Woods/grass comb., Fair, HSG D
0.310	80	>75% Grass cover, Good, HSG D
1.100	84	Weighted Average
0.900		81.82% Pervious Area
0.200		18.18% Impervious Area

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

Subcatchment 1C: Subcat.

Hydrograph



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 10-Year Rainfall=3.06"

Printed 1/31/2020

Page 12

Summary for Pond 1: Hydrodynamic Separator

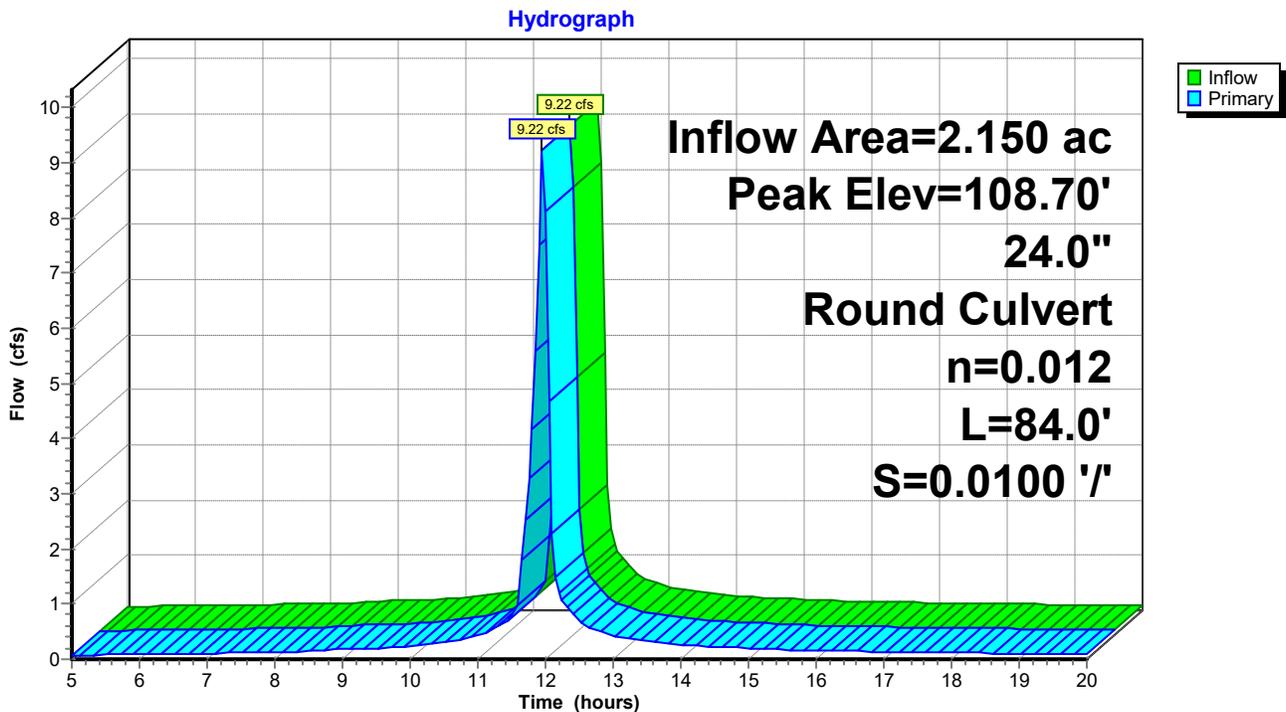
Inflow Area = 2.150 ac, 98.60% Impervious, Inflow Depth > 2.62" for 10-Year event
Inflow = 9.22 cfs @ 11.96 hrs, Volume= 0.469 af
Outflow = 9.22 cfs @ 11.96 hrs, Volume= 0.469 af, Atten= 0%, Lag= 0.0 min
Primary = 9.22 cfs @ 11.96 hrs, Volume= 0.469 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 108.70' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	107.32'	24.0" Round Culvert L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 107.32' / 106.48' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.09 cfs @ 11.96 hrs HW=108.68' (Free Discharge)
↑1=Culvert (Inlet Controls 9.09 cfs @ 3.98 fps)

Pond 1: Hydrodynamic Separator



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 10-Year Rainfall=3.06"

Printed 1/31/2020

Page 13

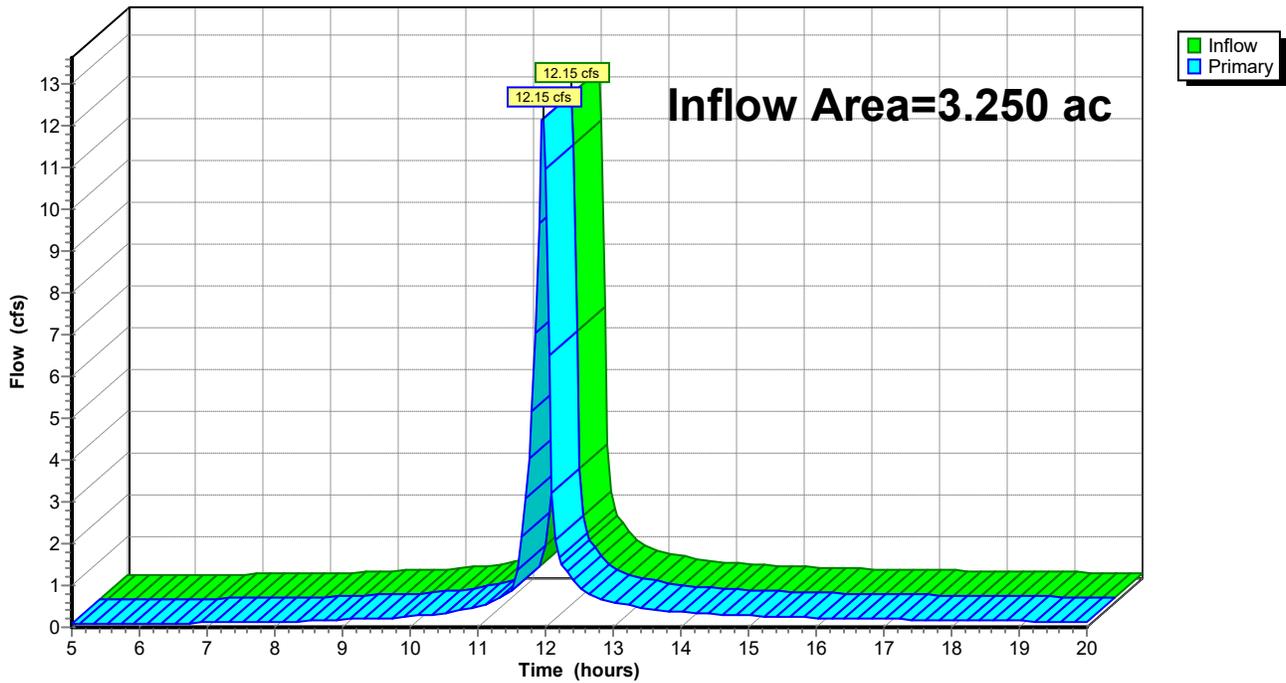
Summary for Link AP-1: Saranac River

Inflow Area = 3.250 ac, 71.38% Impervious, Inflow Depth > 2.22" for 10-Year event
Inflow = 12.15 cfs @ 11.96 hrs, Volume= 0.601 af
Primary = 12.15 cfs @ 11.96 hrs, Volume= 0.601 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: Saranac River

Hydrograph



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 100-Year Rainfall=5.13"

Printed 1/31/2020

Page 14

Summary for Subcatchment 1A: Subcat.

Runoff = 5.77 cfs @ 11.96 hrs, Volume= 0.299 af, Depth> 4.49"

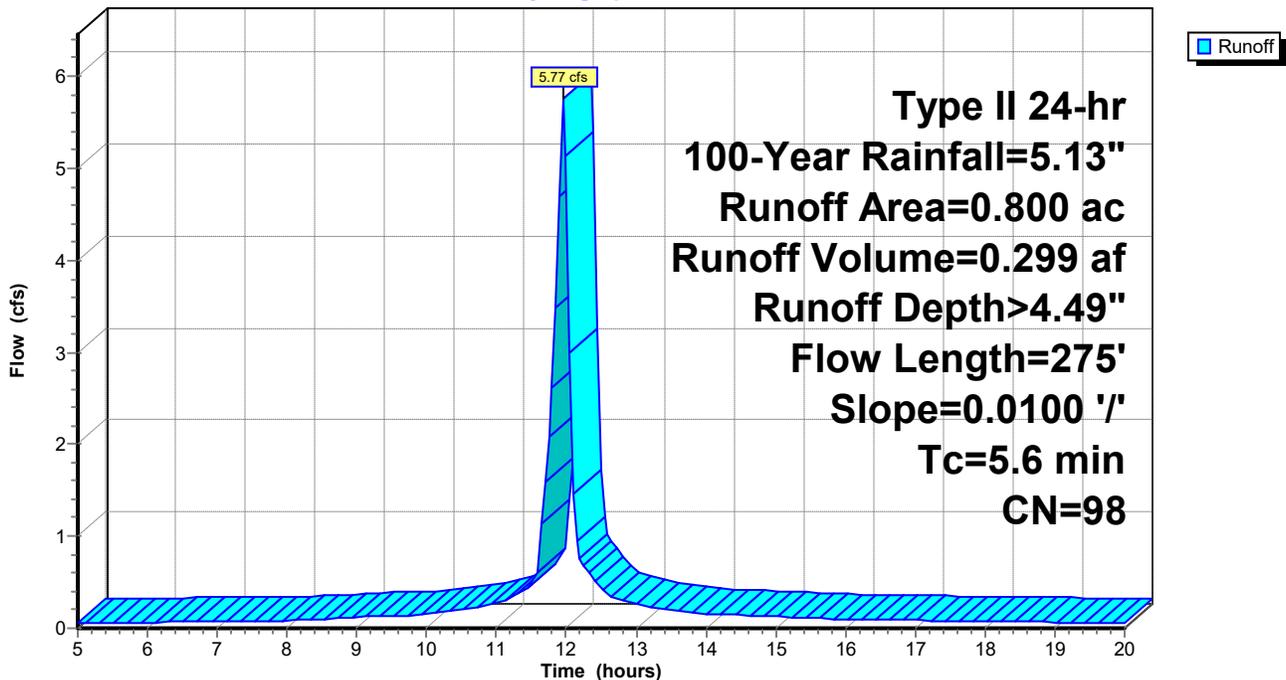
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=5.13"

Area (ac)	CN	Description
* 0.800	98	asphalt
0.800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, min
0.6	275	0.0100	7.73	13.66	Pipe Channel, Pipe Flow 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
5.6	275	Total			

Subcatchment 1A: Subcat.

Hydrograph



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 100-Year Rainfall=5.13"

Printed 1/31/2020

Page 15

Summary for Subcatchment 1B: Subcat.

Runoff = 9.81 cfs @ 11.95 hrs, Volume= 0.505 af, Depth> 4.49"

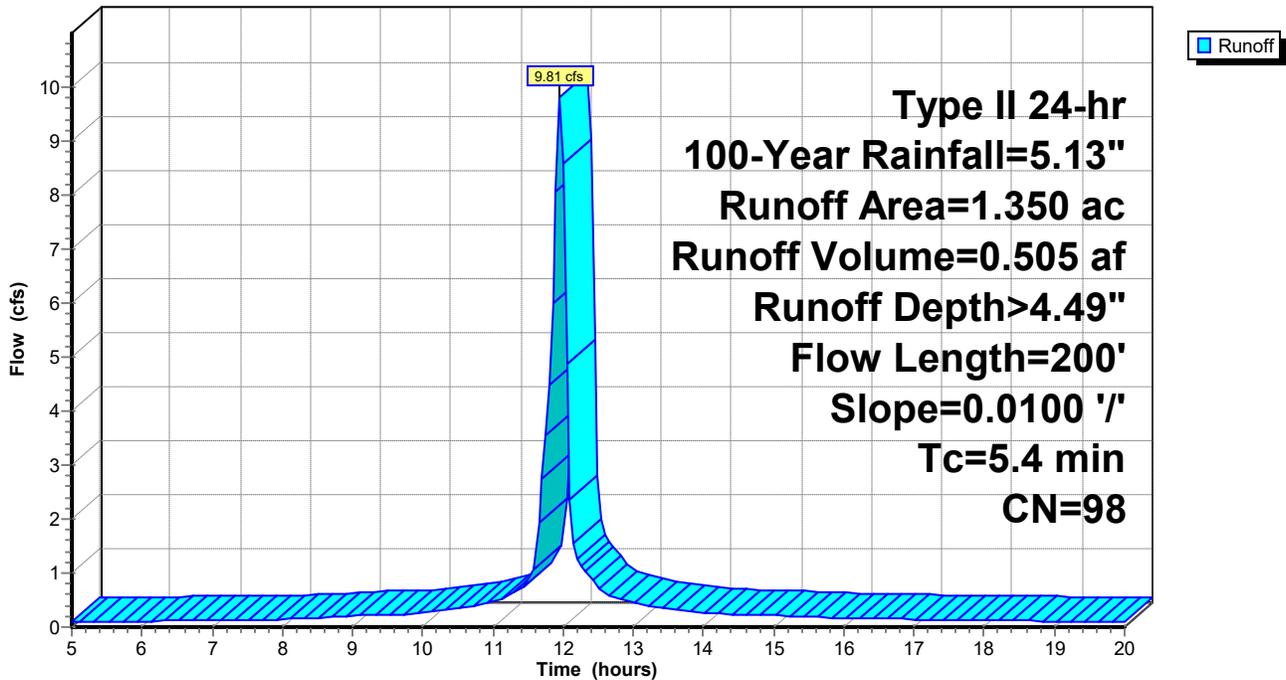
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=5.13"

Area (ac)	CN	Description
1.320	98	Paved parking, HSG D
0.030	80	>75% Grass cover, Good, HSG D
1.350	98	Weighted Average
0.030		2.22% Pervious Area
1.320		97.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Minimum
0.4	200	0.0100	7.73	13.66	Pipe Channel, Storm Pipe Flow 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
5.4	200	Total			

Subcatchment 1B: Subcat.

Hydrograph



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 100-Year Rainfall=5.13"

Printed 1/31/2020

Page 16

Summary for Subcatchment 1C: Subcat.

Runoff = 6.25 cfs @ 11.97 hrs, Volume= 0.290 af, Depth> 3.16"

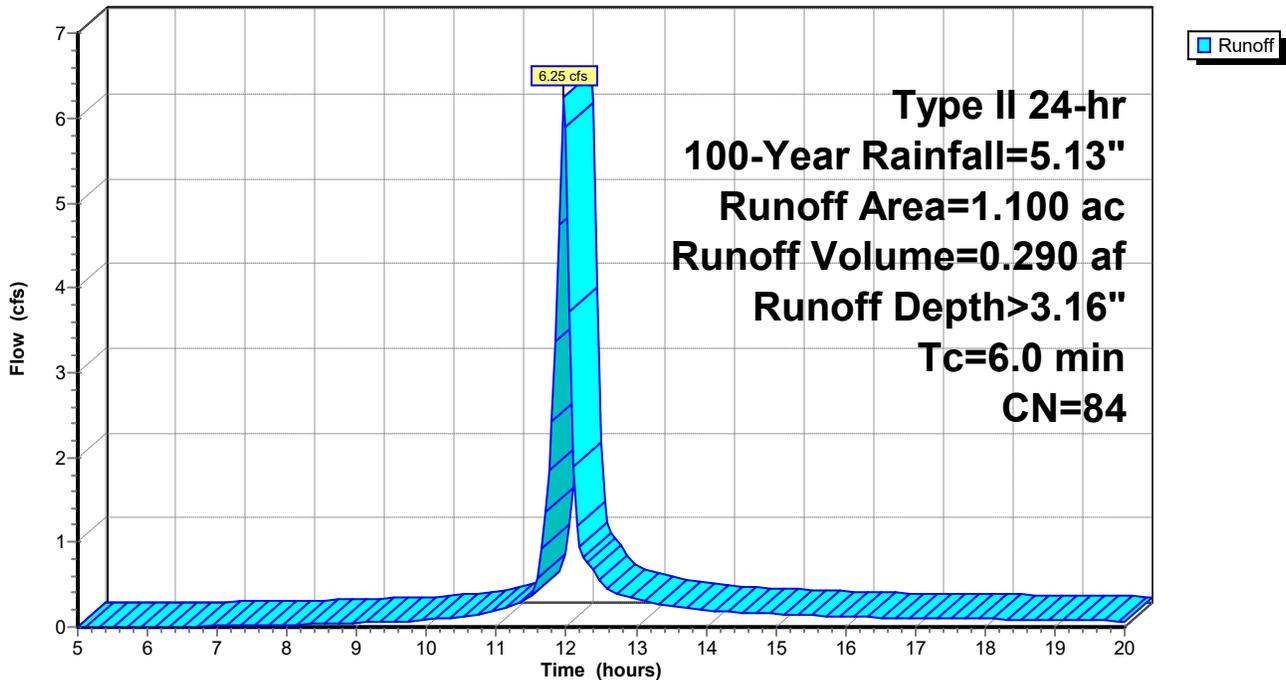
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=5.13"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.590	82	Woods/grass comb., Fair, HSG D
0.310	80	>75% Grass cover, Good, HSG D
1.100	84	Weighted Average
0.900		81.82% Pervious Area
0.200		18.18% Impervious Area

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

Subcatchment 1C: Subcat.

Hydrograph



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 100-Year Rainfall=5.13"

Printed 1/31/2020

Page 17

Summary for Pond 1: Hydrodynamic Separator

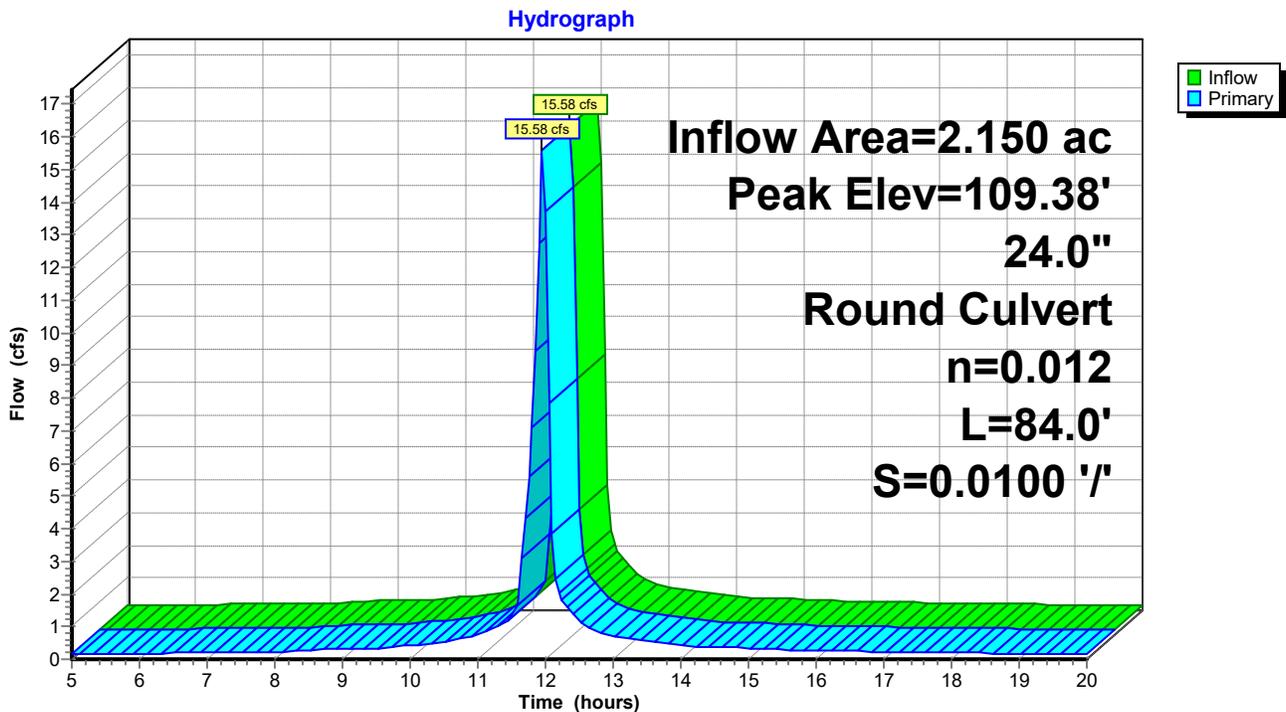
Inflow Area = 2.150 ac, 98.60% Impervious, Inflow Depth > 4.49" for 100-Year event
Inflow = 15.58 cfs @ 11.96 hrs, Volume= 0.804 af
Outflow = 15.58 cfs @ 11.96 hrs, Volume= 0.804 af, Atten= 0%, Lag= 0.0 min
Primary = 15.58 cfs @ 11.96 hrs, Volume= 0.804 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 109.38' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	107.32'	24.0" Round Culvert L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 107.32' / 106.48' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=15.37 cfs @ 11.96 hrs HW=109.35' (Free Discharge)
↑**1=Culvert** (Inlet Controls 15.37 cfs @ 4.89 fps)

Pond 1: Hydrodynamic Separator



PROPOSED

Prepared by McFarland Johnson

HydroCAD® 10.00-25 s/n 03550 © 2019 HydroCAD Software Solutions LLC

Type II 24-hr 100-Year Rainfall=5.13"

Printed 1/31/2020

Page 18

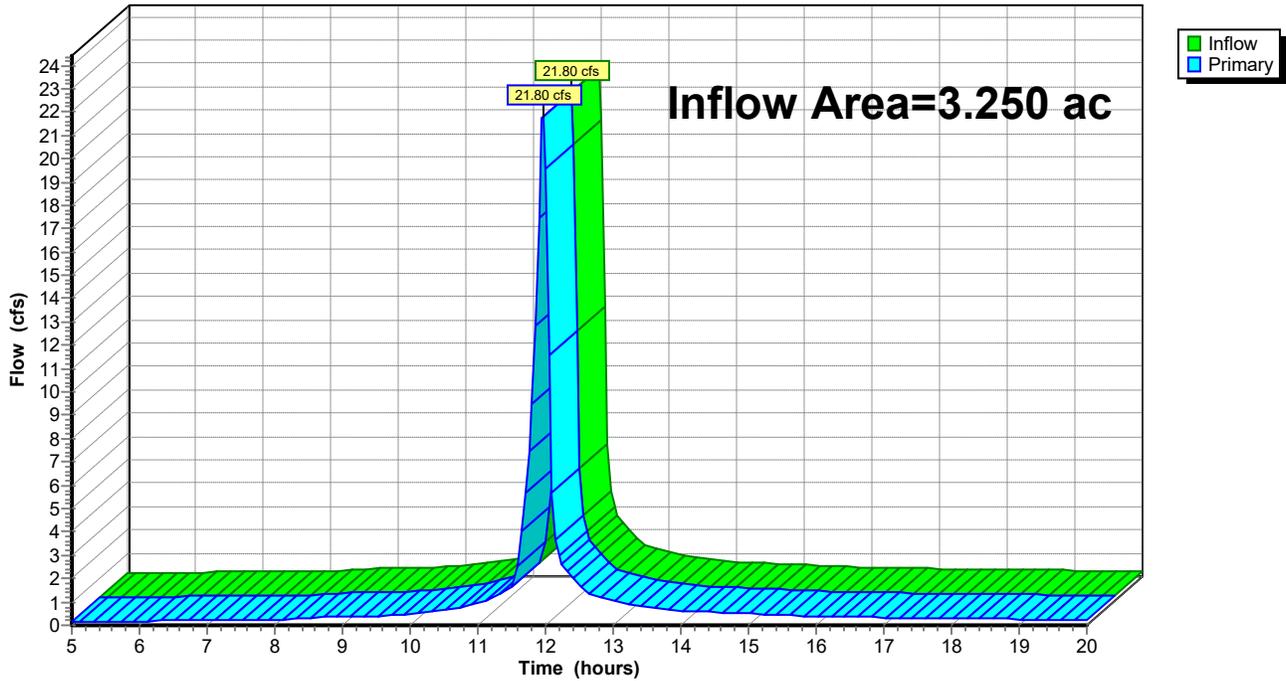
Summary for Link AP-1: Saranac River

Inflow Area = 3.250 ac, 71.38% Impervious, Inflow Depth > 4.04" for 100-Year event
Inflow = 21.80 cfs @ 11.96 hrs, Volume= 1.094 af
Primary = 21.80 cfs @ 11.96 hrs, Volume= 1.094 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: Saranac River

Hydrograph



2-YEAR STORM ANALYSIS

#Line	Pipe	From	To	3D Length Center to Center (ft)	Drainage Area Inc (sq. ft)	Drainage Area Total (sq. ft)	Runoff Coeff "C"	Area X "C" Inc (sq. ft)	Area X "C" Total (sq. ft)	Time of Concentra tion Inlet (min)	Time of Concentra tion System (min)	Rain "I" (inch/hr)	Runoff "Q" (cu. ft/sec)	Known Q (cu. ft/sec)	Total Q (cu. ft/sec)	Pipe Dia. (ft)	Full Q (cu. ft/sec)	Velocity Full (ft/s)	Velocity Design (ft/s)	Sec Time (min)	Invert Elevation U/S (ft)	Invert Elevation D/S (ft)	Crown Drop (ft)	Slope
1	P1-1	S1-1	S1-2	47.01	11937.86	11937.86	0.95	11340.96	11340.96	6	6	4.156	1.091	0	1.091	1.5	10.505	5.944	3.83	0.205	109.5	109.03	N/A	1.00%
2	P1-2	S1-2	S1-3	46.83	4733	16670.86	0.95	4496.35	15837.31	6	6.204	4.123	1.511	0	1.511	1.5	10.524	5.955	4.214	0.185	108.93	108.46	N/A	1.00%
3	P1-3	S1-3	S1-4	93.6	13074.81	29745.66	0.95	12421.07	28258.38	6	6.389	4.092	2.677	0	2.677	1.5	10.514	5.95	4.955	0.315	108.36	107.42	N/A	1.00%
4	P1-4	NULL	S1-4	38.12	58873.42	58873.42	0.95	55929.75	55929.75	6	6	4.156	5.381	0	5.381	1.5	10.514	5.95	5.974	0.106	107.8	107.42	N/A	1.00%
5	P1-5	S1-4	S1-5	84.11	0	88619.08	0	0	84188.13	0	6.703	4.041	7.875	0	7.875	2	22.655	7.211	6.551	0.214	107.32	106.48	N/A	1.00%

#Line	Struct. ID	D (ft)	Q (cu. ft/sec)	L (ft)	V (ft/s)	d (ft)	dc (ft)	v^2/2g (ft)	EGLo (ft)	HGLo (ft)	Sf	Total Pipe Loss (ft)	EGLi (ft)	HGLi (ft)	Ea (ft)	EGLa (ft)	U/S TOC (ft)	Surface Elev. (ft)
1	S1-1	1.5	1.091	46.92	3.83	0.33	0.39	0.23	109.61	109.56	0	0	110.06	109.83	0.56	110.06	---	114.5
2	S1-2	1.5	1.511	46.92	4.214	0.39	0.46	0.28	109.27	109.24	0	0	109.59	109.32	0.66	109.59	110.53	114.85
3	S1-3	1.5	2.677	93.6	4.955	0.52	0.62	0.38	108.82	108.78	0	0	109.26	108.88	0.9	109.26	109.96	115.2
4	S1-4	2	7.875	84.19	6.551	0.81	1	0.67	107.96	107.29	0	0	108.8	108.13	1.48	108.8	108.92	117
5	NULL	1.5	5.381	38.12	5.974	0.76	0.89	0.55	108.86	108.71	0	0	109.12	108.56	1.38	109.18	---	117.63

#Line	Struct. ID	Exit Ho (ft)	Hf (ft)	Hb (ft)	Hc (ft)	He (ft)	Hj (ft)	Total (ft)	Ei (ft)	y+(P/gamma ma) (ft)	DI	Eai (ft)	CB	C-theta	Cp	Ha (ft)	Ea (ft)
1	S1-1	0.02	0	0	0	0	0	0	0.56	0.33	0.089	0.47	0	0	3.015	0	0.56
2	S1-2	0.02	0	0	0	0	0	0	0.66	0.39	0.123	0.59	0	0.006	1.009	0	0.66
3	S1-3	0.02	0	0	0	0	0	0	0.9	0.52	0.218	0.87	0	0.002	1.751	0	0.9
4	S1-4	0	0	0	0	0	0	0	1.48	0.81	0.313	1.47	0	3.262	0	0	1.48
5	NULL	0.06	0	0	0	0	0	0	1.32	0.76	0.438	1.38	0	0	0	0	1.38

No.	Name	Stat. (ft)	Drain. Area A (sq. ft)	Runoff Coeff. C	Time of Conc. (min)	Rainfall Intens. (inch/hr)	Q=CIA/Kc (cu. ft/sec)	Known Q (cu. ft/sec)	Longitudin al Slope SL	Cross Slope Sx	Cross Slope Sw	Prev. Bypass Flow (cu. ft/sec)	Total Gutter Flow (cu. ft/sec)	Depth d (ft)	Gutter Width (ft)	Spread T (ft)	W / T	Inlet Type	Grate Length (ft)	Grate Width (ft)	Curb Opening Length (ft)	Curb Opening Height (ft)	Intercept Flow Qi (cu. ft/sec)	Bypass Flow Qb (cu. ft/sec)	Bypass Structure
1	S1-1	---	11937.86	0.95	6	4.156	1.091	0	-1	0.025	0.025	0.131	1.222	0.19	2	7.66	0.261	Grate inlet	2	2	---	---	1.222	0	---
2	S1-2	---	4733	0.95	6	4.156	0.433	0	0.02	0.02	0.02	0.173	0.606	0.1	2	4.85	0.412	Grate inlet	2	2	---	---	0.475	0.131	S1-1
3	S1-3	---	13074.81	0.95	6	4.156	1.195	0	0.02	0.04	0.04	0	1.195	0.16	2	4.06	0.493	Grate inlet	2	2	---	---	1.022	0.173	S1-2

10-YEAR STORM ANALYSIS

#Line	Pipe	From	To	3D Length - Center to Center (ft)	Drainage Area Inc (sq. ft)	Drainage Area Total (sq. ft)	Runoff Coeff "C"	Area X "C" Inc (sq. ft)	Area X "C" Total (sq. ft)	Time of Concentration Inlet (min)	Time of Concentration System (min)	Rain "I" (inch/hr)	Runoff "Q" (cu. ft/sec)	Known Q (cu. ft/sec)	Total Q (cu. ft/sec)	Pipe Dia. (ft)	Full Q (cu. ft/sec)	Velocity Full (ft/s)	Velocity Design (ft/s)	Sec Time (min)	Invert Elevation U/S (ft)	Invert Elevation D/S (ft)	Crown Drop (ft)	Slope
1	P1-1	S1-1	S1-2	47.01	11937.86	11937.86	0.95	11340.96	11340.96	6	6	5.551	1.457	0	1.457	1.5	10.505	5.944	4.164	0.188	109.5	109.03	N/A	1.00%
2	P1-2	S1-2	S1-3	46.83	4733	16670.86	0.95	4496.35	15837.31	6	6.188	5.513	2.021	0	2.021	1.5	10.524	5.955	4.591	0.17	108.93	108.46	N/A	1.00%
3	P1-3	S1-3	S1-4	93.6	13074.81	29745.66	0.95	12421.07	28258.38	6	6.357	5.479	3.584	0	3.584	1.5	10.514	5.95	2.028	0.769	108.36	107.42	N/A	1.00%
4	P1-4	NULL	S1-4	38.12	58873.42	58873.42	0.95	55929.75	55929.75	6	6	5.551	7.187	0	7.187	1.5	10.514	5.95	4.067	0.156	107.8	107.42	N/A	1.00%
5	P1-5	S1-4	S1-5	84.11	0	88619.08	0	0	84188.13	0	6.647	5.42	10.563	0	10.563	2	22.655	7.211	7.077	0.198	107.32	106.48	N/A	1.00%

#Line	Struct. ID	D (ft)	Q (cu. ft/sec)	L (ft)	V (ft/s)	d (ft)	dc (ft)	v^2/2g (ft)	EGLo (ft)	HGLo (ft)	Sf	Total Pipe Loss (ft)	EGLi (ft)	HGLi (ft)	Ea (ft)	EGLa (ft)	U/S TOC (ft)	Surface Elev. (ft)
1	S1-1	1.5	1.457	46.92	4.164	0.38	0.45	0.27	109.73	109.67	0	0	110.15	109.88	0.65	110.15	---	114.5
2	S1-2	1.5	2.021	46.92	4.591	0.45	0.54	0.33	109.45	109.41	0	0	109.7	109.38	0.77	109.7	110.53	114.85
3	S1-3	1.5	3.584	93.6	2.028	0.6	0.72	0.06	109.29	109.22	0.001	0.11	109.4	109.33	1.08	109.44	109.96	115.2
4	S1-4	2	10.563	84.19	7.077	0.96	1.16	0.78	108.22	107.44	0	0	109.06	108.28	1.94	109.26	108.92	117
5	NULL	1.5	7.187	38.12	4.067	0.91	1.04	0.26	109.37	109.11	0.005	0.18	109.54	109.29	1.79	109.6	---	117.63

#Line	Struct. ID	Exit Ho (ft)	Hf (ft)	Hb (ft)	Hc (ft)	He (ft)	Hj (ft)	Total (ft)	Ei (ft)	y+(P/gamma ma) (ft)	DI	Eai (ft)	CB	C-theta	Cp	Ha (ft)	Ea (ft)
1	S1-1	0.02	0	0	0	0	0	0	0.65	0.38	0.119	0.58	0	0	2.948	0	0.65
2	S1-2	0.02	0	0	0	0	0	0	0.77	0.45	0.165	0.72	0	0.006	0.985	0	0.77
3	S1-3	0.03	0.11	0	0	0	0	0.11	1.04	0.97	0.292	1.05	0	0.002	1.697	0.02	1.08
4	S1-4	0	0	0	0	0	0	0	1.74	0.96	0.419	1.79	0	3.251	0	0.16	1.94
5	NULL	0.1	0.18	0	0	0	0	0.18	1.74	1.49	0.586	1.79	0	0	0	0	1.79

No.	Name	Stat. (ft)	Drain. Area A (sq. ft)	Runoff Coeff. C	Time of Conc. (min)	Rainfall Intens. (inch/hr)	Q=CIA/Kc (cu. ft/sec)	Known Q (cu. ft/sec)	Longitudinal Slope SL	Cross Slope Sx	Cross Slope Sw	Prev. Bypass Flow (cu. ft/sec)	Total Gutter Flow (cu. ft/sec)	Depth d (ft)	Gutter Width (ft)	Spread T (ft)	W / T	Inlet Type	Grate Length (ft)	Grate Width (ft)	Curb Opening Length (ft)	Curb Opening Height (ft)	Intercept Flow Qi (cu. ft/sec)	Bypass Flow Qb (cu. ft/sec)	Bypass Structure
1	S1-1	---	11937.86	0.95	6	5.551	1.457	0	-1	0.025	0.025	0.245	1.702	0.23	2	9.3	0.215	Grate inlet	2	2	---	---	1.702	0	---
2	S1-2	---	4733	0.95	6	5.551	0.578	0	0.02	0.02	0.02	0.302	0.88	0.11	2	5.58	0.358	Grate inlet	2	2	---	---	0.635	0.245	S1-1
3	S1-3	---	13074.81	0.95	6	5.551	1.596	0	0.02	0.04	0.04	0	1.596	0.18	2	4.52	0.442	Grate inlet	2	2	---	---	1.294	0.302	S1-2

100-YEAR STORM ANALYSIS

#Line	Pipe	From	To	3D Length Center to Center (ft)	Drainage Area Inc (sq. ft)	Drainage Area Total (sq. ft)	Runoff Coeff "C"	Area X "C" Inc (sq. ft)	Area X "C" Total (sq. ft)	Time of Concentra tion Inlet (min)	Time of Concentra tion System (min)	Rain "I" (inch/hr)	Runoff "Q" (cu. ft/sec)	Known Q (cu. ft/sec)	Total Q (cu. ft/sec)	Pipe Dia. (ft)	Full Q (cu. ft/sec)	Velocity Full (ft/s)	Velocity Design (ft/s)	Sec Time (min)	Invert Elevation U/S (ft)	Invert Elevation D/S (ft)	Crown Drop (ft)	Slope
1	P1-1	S1-1	S1-2	47.01	11937.86	11937.86	0.95	11340.96	11340.96	6	6	7.772	2.04	0	2.04	1.5	10.505	5.944	4.585	0.171	109.5	109.03	N/A	1.00%
2	P1-2	S1-2	S1-3	46.83	4733	16670.86	0.95	4496.35	15837.31	6	6.17	7.726	2.833	0	2.833	1.5	10.524	5.955	1.603	0	108.93	108.46	N/A	1.00%
3	P1-3	S1-3	S1-4	93.6	13074.81	29745.66	0.95	12421.07	28258.38	6	6.325	7.685	5.027	0	5.027	1.5	10.514	5.95	2.845	0.548	108.36	107.42	N/A	1.00%
4	P1-4	NULL	S1-4	38.12	58873.42	58873.42	0.95	55929.75	55929.75	6	6	7.772	10.062	0	10.062	1.5	10.514	5.95	5.694	0.112	107.8	107.42	N/A	1.00%
5	P1-5	S1-4	S1-5	84.11	0	88619.08	0	0	84188.13	0	6.59	7.614	14.838	0	14.838	2	22.655	7.211	7.682	0.182	107.32	106.48	N/A	1.00%

#Line	Struct. ID	D (ft)	Q (cu. ft/sec)	L (ft)	V (ft/s)	d (ft)	dc (ft)	v^2/2g (ft)	EGLo (ft)	HGLo (ft)	Sf	Total Pipe Loss (ft)	EGLi (ft)	HGLi (ft)	Ea (ft)	EGLa (ft)	U/S TOC (ft)	Surface Elev. (ft)
1	NULL	1.5	10.062	38.12	5.694	1.5	0	0.5	110.24	109.73	0.009	0.35	110.59	110.08	2.89	110.69	---	117.63
2	S1-1	1.5	2.04	46.92	4.585	0.45	0.54	0.33	110.44	110.41	0	0	110.44	110.11	0.94	110.44	---	114.5
3	S1-2	1.5	2.833	46.92	1.603	0.53	0.64	0.04	110.38	110.34	0.001	0.03	110.41	110.37	1.5	110.43	110.53	114.85
4	S1-3	1.5	5.027	93.6	2.845	1.5	0	0.13	110.09	109.96	0.002	0.21	110.3	110.17	2	110.36	109.96	115.2
5	S1-4	2	14.838	84.19	7.682	1.18	1.39	0.92	108.58	107.66	0	0	109.42	108.5	2.72	110.04	108.92	117

#Line	Struct. ID	Exit Ho (ft)	Hf (ft)	Hb (ft)	Hc (ft)	He (ft)	Hj (ft)	Total (ft)	Ei (ft)	y+(P/gam ma) (ft)	DI	Eai (ft)	CB	C-theta	Cp	Ha (ft)	Ea (ft)
1	NULL	0.2	0.35	0	0	0	0	0.35	2.79	2.28	0.82	2.89	0	0	0	0	2.89
2	S1-1	0.01	0	0	0	0	0	0	0.94	0.61	0.166	0.72	0	0	2.851	0	0.94
3	S1-2	0.02	0.03	0	0	0	0	0.03	1.48	1.44	0.231	1.49	0	0.006	0.839	0.01	1.5
4	S1-3	0.05	0.21	0	0	0	0	0.21	1.94	1.81	0.41	1.97	0	0.002	1.429	0.04	2
5	S1-4	0	0	0	0	0	0	0	2.1	1.18	0.589	2.24	0	3.242	0	0.47	2.72

No.	Name	Stat.	Drain. Area A (sq. ft)	Runoff Coeff. C	Time of Conc. (min)	Rainfall Intens. (inch/hr)	Q=CIA/Kc (cu. ft/sec)	Known Q (cu. ft/sec)	Longitudin al Slope SL	Cross Slope Sx	Cross Slope Sw	Prev. Bypass Flow (cu. ft/sec)	Total Gutter Flow (cu. ft/sec)	Depth d (ft)	Gutter Width (ft)	Spread T (ft)	W / T	Inlet Type	Grate Length (ft)	Grate Width (ft)	Curb Opening Length (ft)	Curb Opening Height (ft)	Intercept Flow Qi (cu. ft/sec)	Bypass Flow Qb (cu. ft/sec)	Bypass Structure
1	S1-1	---	11937.86	0.95	6	7.772	2.04	0	-1	0.025	0.025	0.474	2.515	0.29	2	11.77	0.17	Grate inlet	2	2	---	---	2.515	0	---
2	S1-2	---	4733	0.95	6	7.772	0.809	0	0.02	0.02	0.02	0.546	1.355	0.13	2	6.56	0.305	Grate inlet	2	2	---	---	0.88	0.474	S1-1
3	S1-3	---	13074.81	0.95	6	7.772	2.235	0	0.02	0.04	0.04	0	2.235	0.21	2	5.13	0.39	Grate inlet	2	2	---	---	1.689	0.546	S1-2

APPENDIX E

WATER QUALITY WORKSHEETS



PROJ. Durkee Street Mixed Use Development
 SHEET NO. 1 OF 1
 CALCULATED BY NSO DATE 1/13/2020
 CHECKED BY _____ DATE _____
 TITLE Water Quality Volume

Initial Water Quality Volume

$$WQv = [(P)(Rv)(A)]/12$$

Where:

$$Rv = 0.05 + 0.009(I)$$

I = impervious cover in percent

P = 90% rainfall (see Figure 4.1)

A = site area in acres

% WQv Treatment by Alternative Practice

$$\%WQv = (25 - (\% \text{ IC Reduction} + \%WQv \text{ treatment by Standard practice} + \% \text{ runoff reduction})) * 3$$

Where:

$$\%WQv \text{ treatment by Standard practice} = 0$$

$$\% \text{ runoff reduction} = 0$$

Target Water Quality Volume for Redevelopment Projects with Alternative SMPs

$$WQv(\text{target}) = (N) (WQv) + (0.75)(R)(WQv)$$

Where:

N = New Impervious Area/Total Impervious Area

R = Replaced Impervious Area/Total Impervious Area

Site Area (ac)	Existing Impervious Area (ac)	New Impervious Area (ac)	Replaced Impervious Area (ac)	% Impervious	Rv	Rainfall (P) (inches)	% IC Reduction	% WQv by Alt. Practice	Initial WQv (ac-ft)	Target WQv (ac-ft)	Target WQv (cf)
2.76	2.71	0.00	2.42	87.7%	0.84	1.05	10.5%	43%	0.203	0.088	3838

Date: 1/8/2020
Project: Durkee Street Development
Location: Plattsburgh, NY
Prepared For: Natalie

Purpose: To calculate the water quality flow rate (Qwq) over a given site area. In this situation the WQv to be analyzed is the runoff produced by the first 1.05 inch(es) of rainfall, per Fig 4.1 of the New York State Stormwater Management Design Manual

Reference: United States Department of Agriculture Natural Resources Conservation Service TR-55 Manual, New York State Stormwater Management Design Manual - 2015

Formulas:
$$WQv = \frac{(P)(R_v)(A)}{12}$$

$$R_v = (0.05 + 0.009(I))$$

$$CN = 1000 / [10 + 5P + 10Qa - 10(Qa^2 + 1.25QaP)^{1/2}]$$

$$Qwq = (q_u)(A)(Qa)$$

Structure: Area 1

P	1.05	in.
A	2.120	ac
I	100.00	%
t _c	6.0	min.
t _c	0.100	hr.
R _v	0.95	
90% WQv	0.176	ac-ft
90% WQv	7675.27	ft ³
Qa	0.997	in.
CN	99.55	
I _a	0.041	
I _a /P	0.039	
q _u	1000	(csm/in)
A	0.00331	miles ²
Qwq	3.30	cfs

APPENDIX F

MAINTENANCE INSPECTION CHECKLIST

Cascade Separator™ Inspection and Maintenance Guide



Maintenance

The Cascade Separator™ system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects sediment and debris will depend upon on-site activities and site pollutant characteristics. For example, unstable soils or heavy winter sanding will cause the sediment storage sump to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (i.e. spring and fall). However, more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment wash-down areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

A visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet chamber, flumes or outlet channel. The inspection should also quantify the accumulation of hydrocarbons, trash and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided in this Inspection and Maintenance Guide.

Access to the Cascade Separator unit is typically achieved through one manhole access cover. The opening allows for inspection and cleanout of the center chamber (cylinder) and sediment storage sump, as well as inspection of the inlet chamber and slanted skirt. For large units, multiple manhole covers allow access to the chambers and sump.

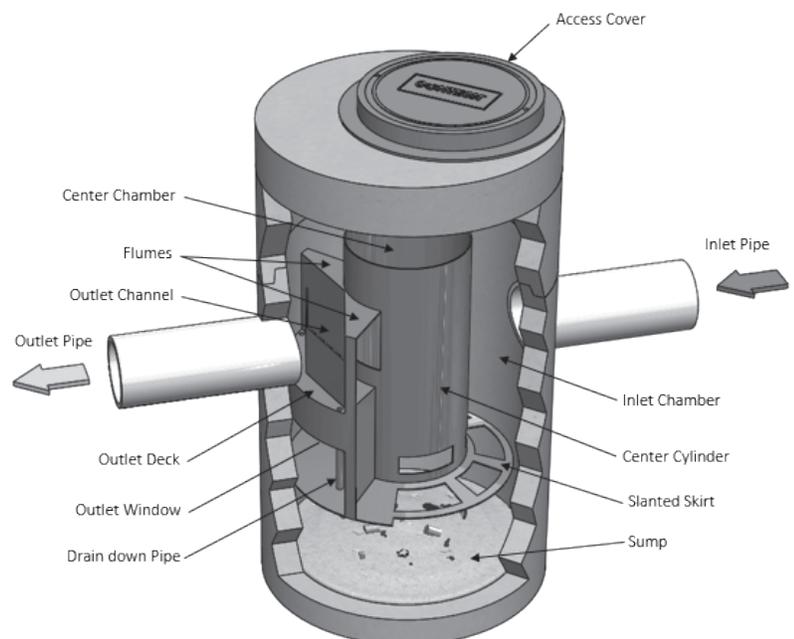
The Cascade Separator system should be cleaned before the level of sediment in the sump reaches the maximum sediment depth and/or when an appreciable level of hydrocarbons and trash has accumulated. If sorbent material is used, it must be replaced when significant discoloration has occurred. Performance may be impacted when maximum sediment storage capacity is exceeded. Contech recommends maintaining the system when sediment level reaches 50% of maximum storage volume. The level of sediment is easily determined by measuring the distance from the system outlet invert (standing water level) to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the chart in this document to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage.

Cleaning

Cleaning of a Cascade Separator system should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole cover and insert the vacuum tube down through the center chamber and into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The areas outside the center chamber and the slanted skirt should also be washed off if pollutant build-up exists in these areas.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. Then the system should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and to ensure proper safety precautions. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the Cascade Separator system must be done in 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. Check your local regulations for specific requirements on disposal. If any components are damaged, replacement parts can be ordered from the manufacturer.



Cascade Separator™ Maintenance Indicators and Sediment Storage Capacities

Model Number	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y ³	m ³
CS-4	4	1.2	1.5	0.5	0.7	0.5
CS-5	5	1.3	1.5	0.5	1.1	0.8
CS-6	6	1.8	1.5	0.5	1.6	1.2
CS-8	8	2.4	1.5	0.5	2.8	2.1
CS-10	10	3.0	1.5	0.5	4.4	3.3
CS-12	12	3.6	1.5	0.5	6.3	4.8

Note: The information in the chart is for standard units. Units may have been designed with non-standard sediment storage depth.



A Cascade Separator unit can be easily cleaned in less than 30 minutes.



A vacuum truck excavates pollutants from the systems.

APPENDIX G

NOI, SPDES PERMIT, AND ACKNOWLEDGEMENT
LETTER



Department of
Environmental
Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-15-002

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 29, 2015

Expiration Date: January 28, 2020

Modification Date:

July 14, 2015 – Correction of typographical error in definition of “New Development”,
Appendix A

November 23, 2016 – Updated to require the use of the New York State Standards and
Specifications for Erosion and Sediment Control, dated November
2016. The use of this standard will be required as of February 1,
2017.

John J. Ferguson
Chief Permit Administrator


Authorized Signature

11.14.16
Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act (“CWA”), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System (“NPDES”)* permit or by a state permit program. New York’s *State Pollutant Discharge Elimination System (“SPDES”)* is a NPDES-approved program with permits issued in accordance with the *Environmental Conservation Law (“ECL”)*.

This general permit (“permit”) is issued pursuant to Article 17, Titles 7, 8 and Article 70 of the ECL. An *owner or operator* may obtain coverage under this permit by submitting a Notice of Intent (“NOI”) to the Department. Copies of this permit and the NOI for New York are available by calling (518) 402-8109 or at any New York State Department of Environmental Conservation (“the Department”) regional office (see Appendix G). They are also available on the Department’s website at:

<http://www.dec.ny.gov/>

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of “*construction activity*”, as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a point source and therefore, pursuant to Article 17-0505 of the ECL, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. They cannot wait until there is an actual *discharge* from the construction site to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES
FROM CONSTRUCTION ACTIVITIES**

Part I. PERMIT COVERAGE AND LIMITATIONS	1
A. Permit Application	1
B. Effluent Limitations Applicable to Discharges from Construction Activities	1
C. Post-construction Stormwater Management Practice Requirements	4
D. Maintaining Water Quality	8
E. Eligibility Under This General Permit.....	9
F. Activities Which Are Ineligible for Coverage Under This General Permit	9
Part II. OBTAINING PERMIT COVERAGE	12
A. Notice of Intent (NOI) Submittal	12
B. Permit Authorization.....	13
C. General Requirements For Owners or Operators With Permit Coverage	15
D. Permit Coverage for Discharges Authorized Under GP-0-10-001	17
E. Change of <i>Owner or Operator</i>	17
Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP).....	18
A. General SWPPP Requirements	18
B. Required SWPPP Contents	20
C. Required SWPPP Components by Project Type.....	23
Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS	24
A. General Construction Site Inspection and Maintenance Requirements	24
B. Contractor Maintenance Inspection Requirements	24
C. Qualified Inspector Inspection Requirements.....	24
Part V. TERMINATION OF PERMIT COVERAGE	28
A. Termination of Permit Coverage	28
Part VI. REPORTING AND RETENTION OF RECORDS	30
A. Record Retention	30
B. Addresses	30
Part VII. STANDARD PERMIT CONDITIONS.....	31
A. Duty to Comply.....	31
B. Continuation of the Expired General Permit.....	31
C. Enforcement.....	31
D. Need to Halt or Reduce Activity Not a Defense.....	31
E. Duty to Mitigate	32
F. Duty to Provide Information.....	32
G. Other Information	32
H. Signatory Requirements.....	32
I. Property Rights.....	34
J. Severability.....	34
K. Requirement to Obtain Coverage Under an Alternative Permit.....	34
L. Proper Operation and Maintenance	35
M. Inspection and Entry	35
N. Permit Actions	36
O. Definitions	36
P. Re-Opener Clause	36

Q. Penalties for Falsification of Forms and Reports.....	36
R. Other Permits.....	36
APPENDIX A.....	37
APPENDIX B.....	44
APPENDIX C.....	46
APPENDIX D.....	52
APPENDIX E.....	53
APPENDIX F.....	55

(Part I)

Part I. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges to surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;
2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State*.
3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge of pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the Stormwater Pollution Prevention Plan (“SWPPP”) the reason(s) for the deviation or alternative design and provide information

(Part I.B.1)

which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

- (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
- (ii) Control stormwater *discharges* to *minimize* channel and streambank erosion and scour in the immediate vicinity of the *discharge* points;
- (iii) *Minimize* the amount of soil exposed during *construction activity*;
- (iv) *Minimize* the disturbance of *steep slopes*;
- (v) *Minimize* sediment *discharges* from the site;
- (vi) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
- (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and
- (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover.

b. **Soil Stabilization.** In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering.** *Discharges* from dewatering activities, including *discharges*

(Part I.B.1.c)

from dewatering of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures.** Design, install, implement, and maintain effective pollution prevention measures to *minimize the discharge of pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

- (i) *Minimize the discharge of pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;
- (ii) *Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater.* Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge of pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and
- (iii) Prevent the *discharge of pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited Discharges.** The following *discharges* are prohibited:

- (i) Wastewater from washout of concrete;
- (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- (iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;
- (iv) Soaps or solvents used in vehicle and equipment washing; and
- (v) Toxic or hazardous substances from a spill or other release.

f. **Surface Outlets.** When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion

(Part I.B.1.f)

at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual (“Design Manual”), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices (“SMPs”) are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

- (i) Runoff Reduction Volume (“RRv”): Reduce the total Water Quality Volume (“WQv”) by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv

(Part I.C.2.a.ii)

that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (“Cpv”): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.
- (iv) Overbank Flood Control Criteria (“Qp”): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.
- (v) Extreme Flood Control Criteria (“Qf”): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.

b. Sizing Criteria for New Development in Enhanced Phosphorus Removal Watershed

- (i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be calculated in accordance with the criteria in Section 10.3 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or

(Part I.C.2.b.ii)

standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.
- (iv) Overbank Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.
- (v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.

c. Sizing Criteria for Redevelopment Activity

(Part I.C.2.c.i)

- (i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.
 - (1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or
 - (2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or
 - (3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or
 - (4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

- (ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iii) Overbank Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(Part I.C.2.c.iv)

- (iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both *New Development* and *Redevelopment Activity* shall provide post-construction stormwater management controls that meet the *sizing criteria* calculated as an aggregate of the *Sizing Criteria* in Part I.C.2.a. or b. of this permit for the *New Development* portion of the project and Part I.C.2.c of this permit for *Redevelopment Activity* portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharges* necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge 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, such as:

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 or 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.

If there is evidence indicating that the stormwater *discharges* authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or

(Part I.D)

if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity to surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges* from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater *discharges* may be authorized by this permit: *discharges* from firefighting 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; uncontaminated *groundwater* or spring water; uncontaminated *discharges* from construction site de-watering operations; 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 permit, and who *discharge* as noted in this paragraph, and with the exception of flows from firefighting activities, these *discharges* must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.
4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

(Part I.F)

1. *Discharges after construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges from construction activities* that may adversely affect an endangered or threatened species unless the *owner or operator* has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.C.2 of this permit.
5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
6. *Construction activities* for residential, commercial and institutional projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb one or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture (“USDA”) Soil Survey for the County where the disturbance will occur.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb two or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the USDA Soil Survey for the County where the disturbance will occur.

(Part I.F.8)

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.C.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:
 - a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the construction site within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the construction site within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.
 - 1-5 acres of disturbance - 20 feet
 - 5-20 acres of disturbance - 50 feet
 - 20+ acres of disturbance - 100 feet, or
 - b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
 - (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
 - (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
 - (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
 - (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or
 - c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:
 - (i) No Affect
 - (ii) No Adverse Affect

(Part I.F.8.c.iii)

(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharges from construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed NOI form to the Department in order to be authorized to *discharge* under this permit. An *owner or operator* shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (<http://www.dec.ny.gov/>). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address.

**NOTICE OF INTENT
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505**

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department. An *owner or operator* shall use either the electronic (eNOI) or paper version of the NOI.

The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the address in Part II.A.1.

(Part II.A.2)

The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.E. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4*.

3. The *owner or operator* shall have the SWPPP preparer sign the “SWPPP Preparer Certification” statement on the NOI prior to submitting the form to the Department.
4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

B. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.
2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - a. project review pursuant to the State Environmental Quality Review Act (“SEQRA”) have been satisfied, when SEQRA is applicable. See the Department’s website (<http://www.dec.ny.gov/>) for more information,
 - b. where required, all necessary Department permits subject to the *Uniform Procedures Act (“UPA”)* (see 6 NYCRR Part 621) have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators of construction activities* that are required to obtain *UPA* permits must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,
 - c. the final SWPPP has been prepared, and
 - d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
3. An *owner or operator* that has satisfied the requirements of Part II.B.2 above

(Part II.B.3)

will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

- a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or
 - (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;
 - (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.
- b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed “MS4 SWPPP Acceptance” form, or
 - (ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed “MS4 SWPPP Acceptance” form.

4. The Department may suspend or deny an *owner’s or operator’s* coverage

(Part II.B.4)

under this permit if the Department determines that the SWPPP does not meet the permit requirements. In accordance with statute, regulation, and the terms and conditions of this permit, the Department may deny coverage under this permit and require submittal of an application for an individual SPDES permit based on a review of the NOI or other information pursuant to Part II.

5. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.B. of this permit.

C. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination (“NOT”) has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.
2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-15-002), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, and all documentation necessary to demonstrate eligibility with this permit at the construction site until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.
3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:
 - a. The *owner or operator* shall

(Part II.C.3.a)

have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

- b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
 - d. The *owner or operator* shall install any additional site specific practices needed to protect water quality.
 - e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.
5. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the *regulated, traditional land use control MS4* in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice

(Part II.D)

D. Permit Coverage for Discharges Authorized Under GP-0-10-001

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-10-001), an *owner or operator* of a *construction activity* with coverage under GP-0-10-001, as of the effective date of GP-0-15-002, shall be authorized to *discharge* in accordance with GP-0-15-002, unless otherwise notified by the Department.

An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-15-002.

E. Change of *Owner or Operator*

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.A.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or operator* was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

(Part III)

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP:
 - a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;
 - b. whenever there is a change in design, construction, or operation at the construction site that has or could have an effect on the *discharge* of *pollutants*; and
 - c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority.
5. The Department may notify the *owner or operator* at any time that the

(Part III.A.5)

SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.C.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

"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"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the

(Part III.A.6)

trained contractor responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the construction site. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:
 - a. Background information about the scope of the project, including the location, type and size of project;
 - b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall 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); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge(s)*;
 - c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
 - d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other

(Part III.B.1.d)

activity at the site that results in soil disturbance;

- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;
- j. 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 stormwater *discharges*;
- k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the construction site; and
- l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design

(Part III.B.1.I)

and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

The post-construction stormwater management practice component of the SWPPP shall include the following:

- a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;
- b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
- c. A Stormwater Modeling and Analysis Report that includes:
 - (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;
 - (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;
 - (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;
 - (iv) Summary table, with supporting calculations, which demonstrates

(Part III.B.2.c.iv)

that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

- (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and
 - (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;
- d. Soil testing results and locations (test pits, borings);
 - e. Infiltration test results, when required; and
 - f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.
3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria*, Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators of construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators of the construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

(Part IV)

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.
2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York, or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.
2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.
3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

(Part IV.C)

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:
 - a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and
 - d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.
2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:
 - a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.
 - b. For construction sites where soil disturbance activities are on-going and

(Part IV.C.2.b)

the *owner or operator* has received authorization in accordance with Part II.C.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

- c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.
- d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the “*Final Stabilization*” and “*Post-Construction Stormwater Management Practice*” certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.A.1 of this permit.
- e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall

(Part IV.C.2.e)

be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of *discharge* from the construction site.
4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:
 - a. Date and time of inspection;
 - b. Name and title of person(s) performing inspection;
 - c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
 - d. A description of the condition of the runoff at all points of *discharge* from the construction site. This shall include identification of any *discharges* of sediment from the construction site. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
 - e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;
 - f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;
 - g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
 - h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

(Part IV.C.4.i)

- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
 - j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
 - k. Identification and status of all corrective actions that were required by previous inspection; and
 - l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
 6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.C.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.A.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

(Part V.A.2)

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:
 - a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;
 - b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;
 - c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.E. of this permit.
 - d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.
3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the “*Final Stabilization*” and “*Post-Construction Stormwater Management Practice certification statements*” on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.
4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the “*MS4 Acceptance*” statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector’s* final site inspection certification(s) required in Part V.A.3. of this permit.

(Part V.A.5)

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:
 - a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,
 - b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),
 - c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism 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,
 - d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION OF RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.A.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

(Part VII)

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or 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 non-compliance with this permit constitutes a violation of the Clean Water Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension 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 *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 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 an *owner or operator* 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.

(Part VII.E)

E. Duty to Mitigate

The *owner or operator* 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 *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:
 - a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - (i) a president, secretary, treasurer, or vice-president of the

(Part VII.H.1.a.i)

corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

- (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

- (i) the chief executive officer of the agency, or

- (ii) 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 other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit 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 in Part VII.H.1. of this permit;

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 plant manager, operator of a well or a well field, superintendent, 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

(Part VII.H.2.b)

individual or any individual occupying a named position) and,

- c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.
3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.
4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person.

It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

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. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

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. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any *owner or operator* authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any *discharger* authorized by a general permit to apply for an individual SPDES permit, it shall notify the *discharger* in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from *owner or operator* receipt of the notification letter, whereby the authorization to

(Part VII.K.1)

discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge(s)*, the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* 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 *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, 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 *owner's or operator'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), practices or operations regulated or required by this permit.
4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

(Part VII.N)

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with *construction activity* covered by this permit, the *owner or operator* of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.
2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A

Definitions

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both “sewage” and “stormwater”.

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for “*Construction Activity(ies)*” also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a construction site by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a construction site to a separate storm sewer system and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or point source.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

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.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters,

ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a *combined sewer*; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

Performance Criteria – means the design criteria listed under the “Required Elements” sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York..

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is required to gain coverage under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Stream bank restoration projects (does not include the placement of spoil material),
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that makes the transition between the road shoulder and the ditch or embankment,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or embankment,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), Overbank Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area with a Soil Slope Phase that is identified as an E or F, or

the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture (“USDA”) Soil Survey for the County where the disturbance will occur.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part

621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B

Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP
THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not directly discharging to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other agricultural building, silo, stock yard or pen.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Bike paths and trails
- Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), excluding projects that *alter hydrology from pre to post development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of less than five acres and construction activities that include the construction or reconstruction of impervious area

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES
POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other agricultural building(e.g. silo) and structural practices as identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional, includes hospitals, prisons, schools and colleges
- Industrial facilities, includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's and water treatment plants
- Office complexes
- Sports complexes
- Racetracks, includes racetracks with earthen (dirt) surface
- Road construction or reconstruction
- Parking lot construction or reconstruction
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover*, and constructed as part of an over-head electric transmission line project , wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C

Watersheds Where Enhanced Phosphorus Removal Standards Are Required

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual (“Design Manual”).

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed -Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

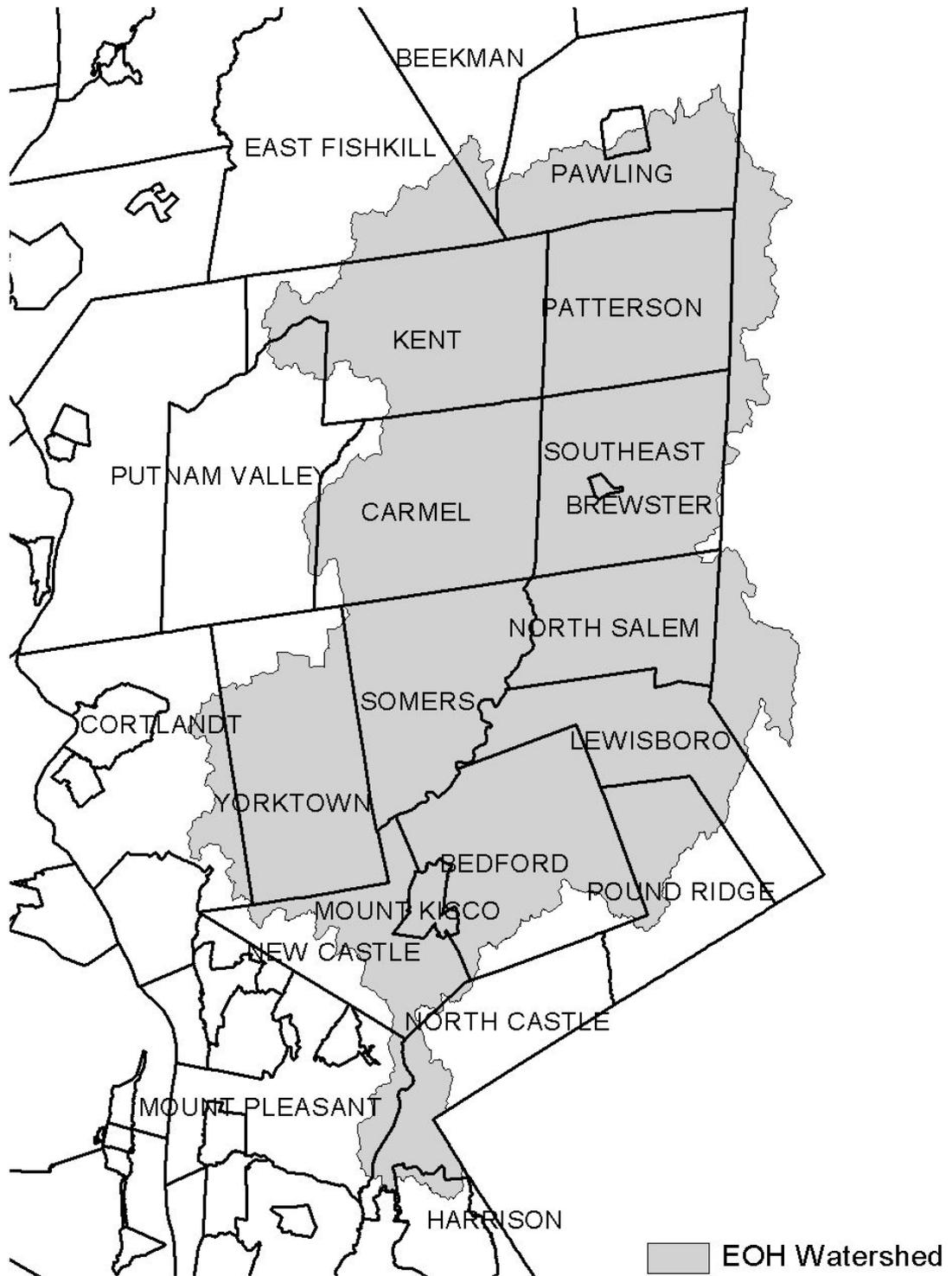


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

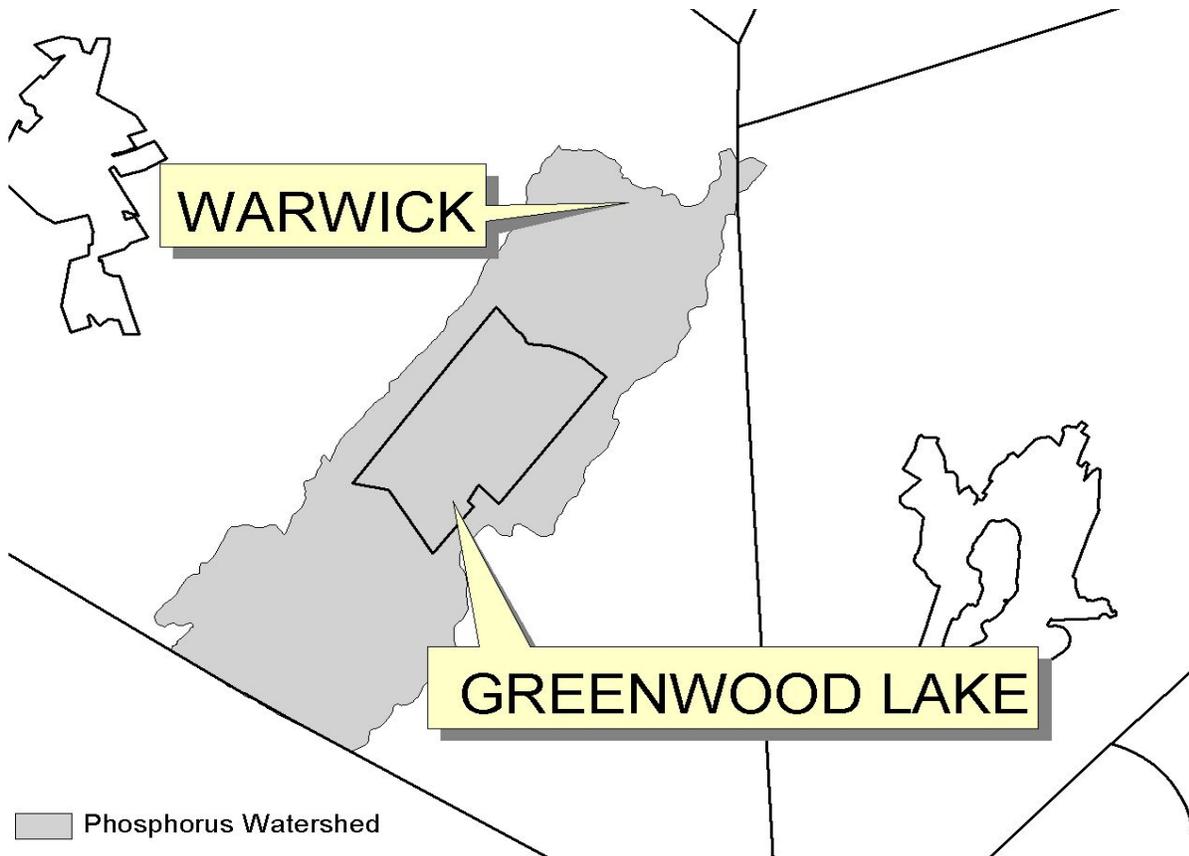


Figure 4 - Oscawana Lake Watershed

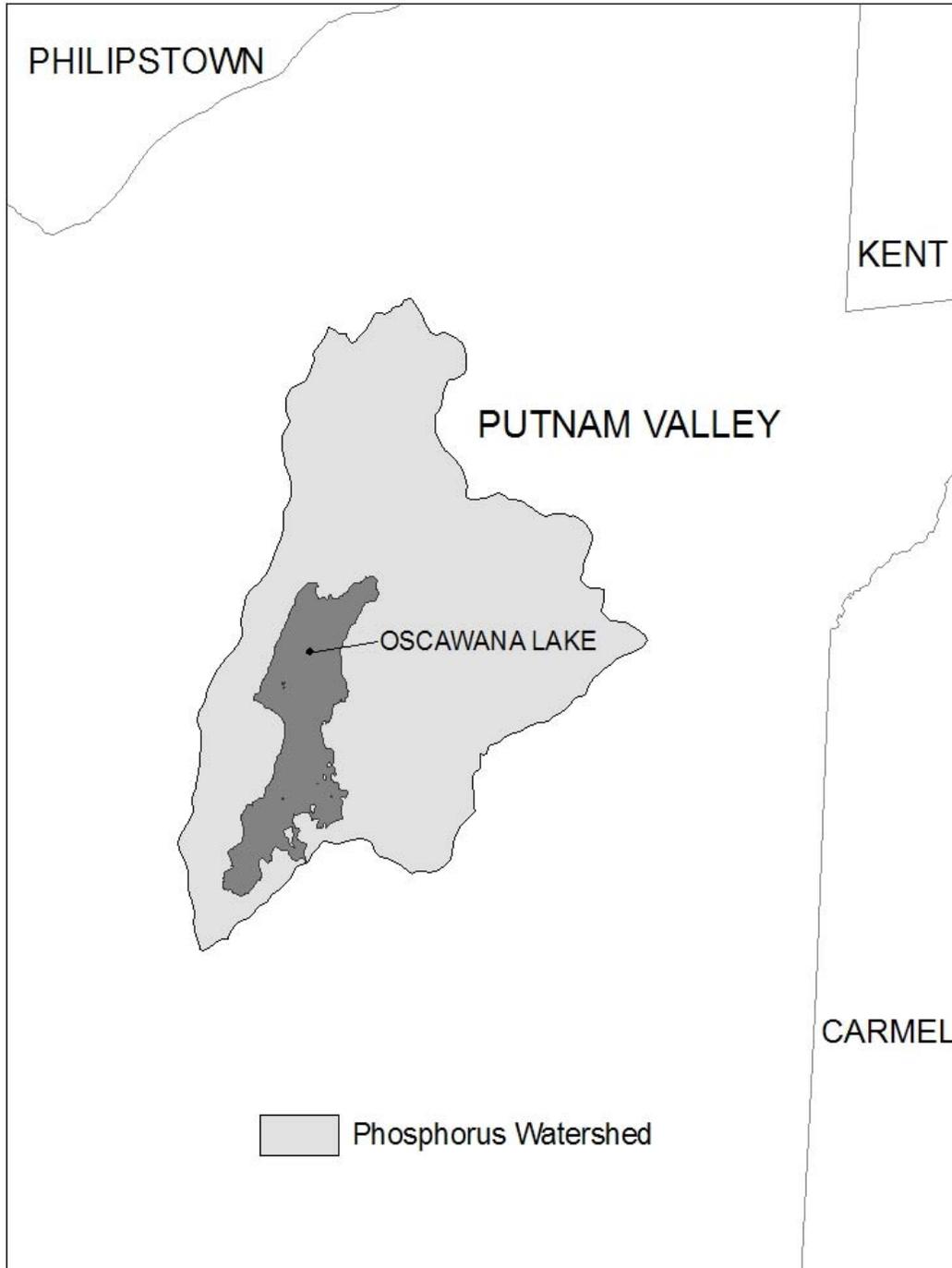
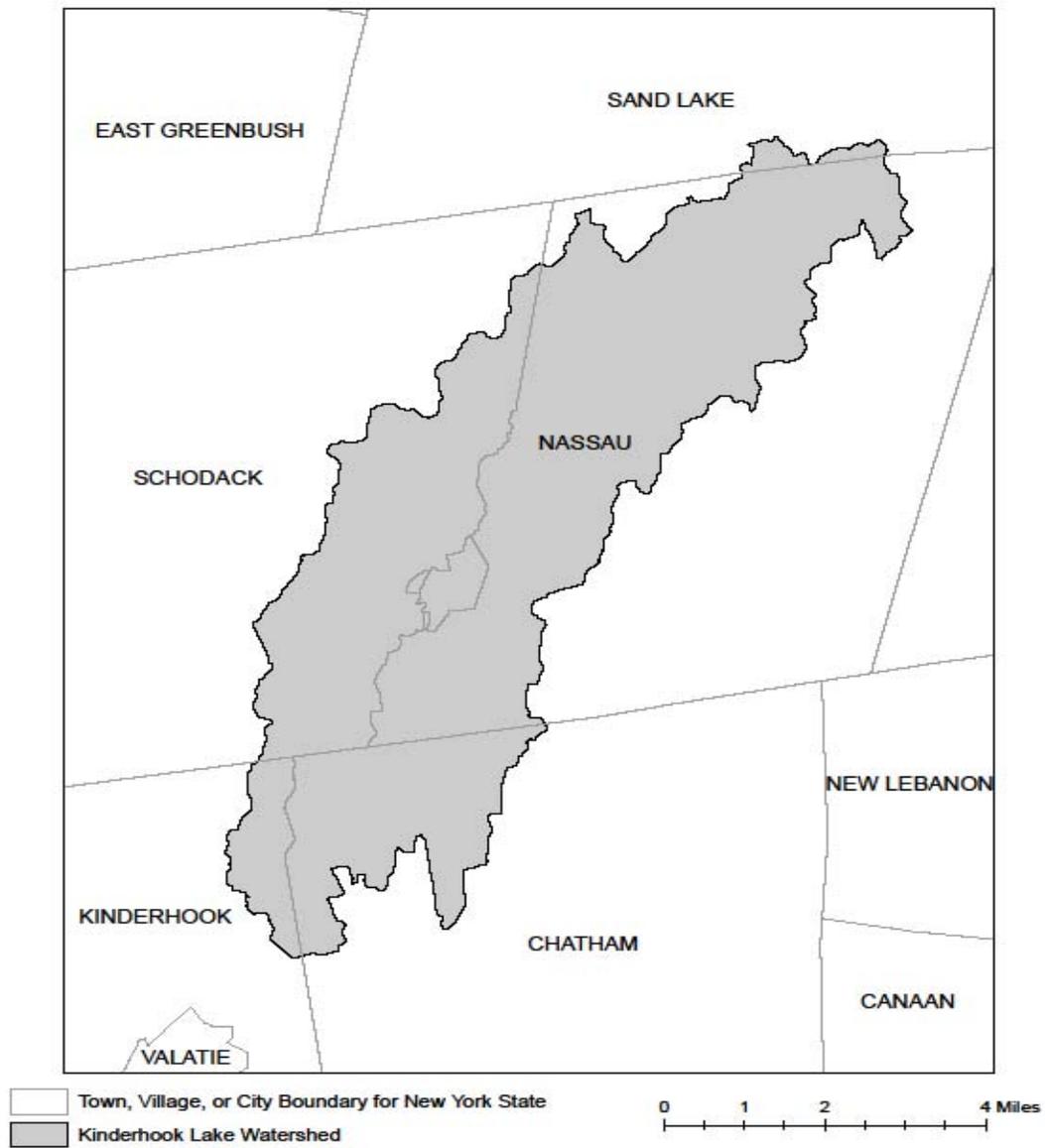


Figure 5: Kinderhook Lake Watershed



APPENDIX D

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual (“Design Manual”), dated January 2015.

COUNTY	WATERBODY	COUNTY	WATERBODY
Albany	Ann Lee (Shakers) Pond, Stump Pond	Greene	Sleepy Hollow Lake
Albany	Basic Creek Reservoir	Herkimer	Steele Creek tribs
Allegheny	Amity Lake, Saunders Pond	Kings	Hendrix Creek
Bronx	Van Cortlandt Lake	Lewis	Mill Creek/South Branch and tribs
Broome	Whitney Point Lake/Reservoir	Livingston	Conesus Lake
Broome	Fly Pond, Deer Lake	Livingston	Jaycox Creek and tribs
Broome	Minor Tribs to Lower Susquehanna (north)	Livingston	Mill Creek and minor tribs
Cattaraugus	Allegheny River/Reservoir	Livingston	Bradner Creek and tribs
Cattaraugus	Case Lake	Livingston	Christie Creek and tribs
Cattaraugus	Linlyco/Club Pond	Monroe	Lake Ontario Shoreline, Western
Cayuga	Duck Lake	Monroe	Mill Creek/Blue Pond Outlet and tribs
Chautauqua	Chautauqua Lake, North	Monroe	Rochester Embayment - East
Chautauqua	Chautauqua Lake, South	Monroe	Rochester Embayment - West
Chautauqua	Bear Lake	Monroe	Unnamed Trib to Honeoye Creek
Chautauqua	Chadakoin River and tribs	Monroe	Genesee River, Lower, Main Stem
Chautauqua	Lower Cassadaga Lake	Monroe	Genesee River, Middle, Main Stem
Chautauqua	Middle Cassadaga Lake	Monroe	Black Creek, Lower, and minor tribs
Chautauqua	Findley Lake	Monroe	Buck Pond
Clinton	Great Chazy River, Lower, Main Stem	Monroe	Long Pond
Columbia	Kinderhook Lake	Monroe	Cranberry Pond
Columbia	Robinson Pond	Monroe	Mill Creek and tribs
Dutchess	Hillside Lake	Monroe	Shipbuilders Creek and tribs
Dutchess	Wappinger Lakes	Monroe	Minor tribs to Irondequoit Bay
Dutchess	Fall Kill and tribs	Monroe	Thomas Creek/White Brook and tribs
Erie	Green Lake	Nassau	Glen Cove Creek, Lower, and tribs
Erie	Scajaquada Creek, Lower, and tribs	Nassau	LI Tribs (fresh) to East Bay
Erie	Scajaquada Creek, Middle, and tribs	Nassau	East Meadow Brook, Upper, and tribs
Erie	Scajaquada Creek, Upper, and tribs	Nassau	Hempstead Bay
Erie	Rush Creek and tribs	Nassau	Hempstead Lake
Erie	Ellicott Creek, Lower, and tribs	Nassau	Grant Park Pond
Erie	Beeman Creek and tribs	Nassau	Beaver Lake
Erie	Murder Creek, Lower, and tribs	Nassau	Camaans Pond
Erie	South Branch Smoke Cr, Lower, and tribs	Nassau	Halls Pond
Erie	Little Sister Creek, Lower, and tribs	Nassau	LI Tidal Tribs to Hempstead Bay
Essex	Lake George (primary county: Warren)	Nassau	Massapequa Creek and tribs
Genesee	Black Creek, Upper, and minor tribs	Nassau	Reynolds Channel, east
Genesee	Tonawanda Creek, Middle, Main Stem	Nassau	Reynolds Channel, west
Genesee	Oak Orchard Creek, Upper, and tribs	Nassau	Silver Lake, Lofts Pond
Genesee	Bowen Brook and tribs	Nassau	Woodmere Channel
Genesee	Bigelow Creek and tribs	Niagara	Hyde Park Lake
Genesee	Black Creek, Middle, and minor tribs	Niagara	Lake Ontario Shoreline, Western
Genesee	LeRoy Reservoir	Niagara	Bergholtz Creek and tribs
Greene	Schoharie Reservoir	Oneida	Ballou, Nail Creeks
		Onondaga	Ley Creek and tribs
		Onondaga	Onondaga Creek, Lower and tribs

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity, cont'd.

COUNTY	WATERBODY	COUNTY	WATERBODY
Onondaga	Onondaga Creek, Middle and tribs	Suffolk	Great South Bay, West
Onondaga	Onondaga Creek, Upp, and minor tribs	Suffolk	Mill and Seven Ponds
Onondaga	Harbor Brook, Lower, and tribs	Suffolk	Moriches Bay, East
Onondaga	Ninemile Creek, Lower, and tribs	Suffolk	Moriches Bay, West
Onondaga	Minor tribs to Onondaga Lake	Suffolk	Quantuck Bay
Onondaga	Onondaga Creek, Lower, and tribs	Suffolk	Shinnecock Bay (and Inlet)
Ontario	Honeoye Lake	Sullivan	Bodine, Montgomery Lakes
Ontario	Hemlock Lake Outlet and minor tribs	Sullivan	Davies Lake
Ontario	Great Brook and minor tribs	Sullivan	Pleasure Lake
Orange	Monhagen Brook and tribs	Sullivan	Swan Lake
Orange	Orange Lake	Tompkins	Cayuga Lake, Southern End
Orleans	Lake Ontario Shoreline, Western	Tompkins	Owasco Inlet, Upper, and tribs
Oswego	Pleasant Lake	Ulster	Ashokan Reservoir
Oswego	Lake Neatahwanta	Ulster	Esopus Creek, Upper, and minor tribs
Putnam	Oscawana Lake	Ulster	Esopus Creek, Lower, Main Stem
Putnam	Palmer Lake	Ulster	Esopus Creek, Middle, and minor tribs
Putnam	Lake Carmel	Warren	Lake George
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Warren	Tribs to L.George, Village of L George
Queens	Bergen Basin	Warren	Huddle/Finkle Brooks and tribs
Queens	Shellbank Basin	Warren	Indian Brook and tribs
Rensselaer	Nassau Lake	Warren	Hague Brook and tribs
Rensselaer	Snyders Lake	Washington	Tribs to L.George, East Shr Lk George
Richmond	Grasmere, Arbutus and Wolfes Lakes	Washington	Cossayuna Lake
Rockland	Congers Lake, Swartout Lake	Washington	Wood Cr/Champlain Canal, minor tribs
Rockland	Rockland Lake	Wayne	Port Bay
Saratoga	Ballston Lake	Wayne	Marbletown Creek and tribs
Saratoga	Round Lake	Westchester	Lake Katonah
Saratoga	Dwaas Kill and tribs	Westchester	Lake Mohegan
Saratoga	Tribs to Lake Lonely	Westchester	Lake Shenorock
Saratoga	Lake Lonely	Westchester	Reservoir No.1 (Lake Isle)
Schenectady	Collins Lake	Westchester	Saw Mill River, Middle, and tribs
Schenectady	Duane Lake	Westchester	Silver Lake
Schenectady	Mariaville Lake	Westchester	Teatown Lake
Schoharie	Engleville Pond	Westchester	Truesdale Lake
Schoharie	Summit Lake	Westchester	Wallace Pond
Schuyler	Cayuta Lake	Westchester	Peach Lake
St. Lawrence	Fish Creek and minor tribs	Westchester	Mamaroneck River, Lower
St. Lawrence	Black Lake Outlet/Black Lake	Westchester	Mamaroneck River, Upp, and tribs
Steuben	Lake Salubria	Westchester	Sheldrake River and tribs
Steuben	Smith Pond	Westchester	Blind Brook, Lower
Suffolk	Millers Pond	Westchester	Blind Brook, Upper, and tribs
Suffolk	Mattituck (Marratooka) Pond	Westchester	Lake Lincolndale
Suffolk	Tidal tribs to West Moriches Bay	Westchester	Lake Meahaugh
Suffolk	Canaan Lake	Wyoming	Java Lake
Suffolk	Lake Ronkonkoma	Wyoming	Silver Lake
Suffolk	Beaverdam Creek and tribs		
Suffolk	Big/Little Fresh Ponds		
Suffolk	Fresh Pond		
Suffolk	Great South Bay, East		
Suffolk	Great South Bay, Middle		

Note: The list above identifies those waters from the final New York State "2014 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy", dated January 2015, that are impaired by silt, sediment or nutrients.

APPENDIX F

LIST OF NYS DEC REGIONAL OFFICES

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 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	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, Po Box 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD WARRENSBURG, NY 12885-1172 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 H

BMP SPECIFICATIONS

STANDARD AND SPECIFICATIONS FOR CONCRETE TRUCK WASHOUT



Definition & Scope

A temporary excavated or above ground lined constructed pit where concrete truck mixers and equipment can be washed after their loads have been discharged, to prevent highly alkaline runoff from entering storm drainage systems or leaching into soil.

Conditions Where Practice Applies

Washout facilities shall be provided for every project where concrete will be poured or otherwise formed on the site. This facility will receive highly alkaline wash water from the cleaning of chutes, mixers, hoppers, vibrators, placing equipment, trowels, and screeds. Under no circumstances will wash water from these operations be allowed to infiltrate into the soil or enter surface waters.

Design Criteria

Capacity: The washout facility should be sized to contain solids, wash water, and rainfall and sized to allow for the evaporation of the wash water and rainfall. Wash water shall be estimated at 7 gallons per chute and 50 gallons per hopper of the concrete pump truck and/or discharging drum. The minimum size shall be 8 feet by 8 feet at the bottom and 2 feet deep. If excavated, the side slopes shall be 2 horizontal to 1 vertical.

Location: Locate the facility a minimum of 100 feet from drainage swales, storm drain inlets, wetlands, streams and other surface waters. Prevent surface water from entering the structure except for the access road. Provide appropriate access with a gravel access road sloped down to the structure. Signs shall be placed to direct drivers to the facility after their load is discharged.

Liner: All washout facilities will be lined to prevent

leaching of liquids into the ground. The liner shall be plastic sheeting with a minimum thickness of 10 mils with no holes or tears, and anchored beyond the top of the pit with an earthen berm, sand bags, stone, or other structural appurtenance except at the access point.

If pre-fabricated washouts are used they must ensure the capture and containment of the concrete wash and be sized based on the expected frequency of concrete pours. They shall be sited as noted in the location criteria.

Maintenance

- All concrete washout facilities shall be inspected daily. Damaged or leaking facilities shall be deactivated and repaired or replaced immediately. Excess rainwater that has accumulated over hardened concrete should be pumped to a stabilized area, such as a grass filter strip.
- Accumulated hardened material shall be removed when 75% of the storage capacity of the structure is filled. Any excess wash water shall be pumped into a containment vessel and properly disposed of off site.
- Dispose of the hardened material off-site in a construction/demolition landfill. On-site disposal may be allowed if this has been approved and accepted as part of the projects SWPPP. In that case, the material should be recycled as specified, or buried and covered with a minimum of 2 feet of clean compacted earthfill that is permanently stabilized to prevent erosion.
- The plastic liner shall be replaced with each cleaning of the washout facility.
- Inspect the project site frequently to ensure that no concrete discharges are taking place in non-designated areas.

STANDARD AND SPECIFICATIONS FOR DUST CONTROL



dust control (see Section 3).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

Spray adhesives – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators and others working with the material.

Definition & Scope

The control of dust resulting from land-disturbing activities, to prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the NYSDEC.

No polymer application shall take place without written approval from the NYSDEC.

Construction Specifications

A. **Non-driving Areas** – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of

B. **Driving Areas** – These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

Sprinkling – The site may be sprayed with water until the surface is wet. This is especially effective on haul roads and access route to provide short term limited dust control.

Polymer Additives – These polymers are mixed with water and applied to the driving surface by a water truck with a gravity feed drip bar, spray bar or automated distributor truck. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations. Incorporation of the emulsion into the soil will be done to the appropriate depth based on expected traffic. Compaction after incorporation will be by vibratory roller to a minimum of 95%. The prepared surface shall be moist and no application of the polymer will be made if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

Barriers – Woven geo-textiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

Windbreak – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

STANDARD AND SPECIFICATIONS FOR SITE POLLUTION PREVENTION



Definition & Scope

A collection of management practices intended to control non-sediment pollutants associated with construction activities to prevent the generation of pollutants due to improper handling, storage, and spills and prevent the movement of toxic substances from the site into surface waters.

Conditions Where Practice Applies

On all construction sites where the earth disturbance exceeds 5,000 square feet, and involves the use of fertilizers, pesticides, petroleum based chemicals, fuels and lubricants, as well as sealers, paints, cleared woody vegetation, garbage, and sanitary wastes.

Design Criteria

The variety of pollutants on a particular site and the severity of their impacts depend on factors such as the nature of the construction activity, the physical characteristics of the construction site, and the proximity of water bodies and conveyances to the pollutant source.

1. All state and federal regulations shall be followed for the storage, handling, application, usage, and disposal of pesticides, fertilizers, and petroleum products.
2. Vehicle and construction equipment staging and maintenance areas will be located away from all drainage ways with their parking areas graded so the runoff from these areas is collected, contained and treated prior to discharge from the site.
3. Provide sanitary facilities for on-site personnel.
4. Store, cover, and isolate construction materials including topsoil, and chemicals, to prevent runoff of

pollutants and contamination of groundwater and surface waters.

5. Develop and implement a spill prevention and control plan. The plan should include NYSDEC's spill reporting and initial notification requirements.
6. Provide adequate disposal for solid waste including woody debris, stumps, and other construction waste and include these methods and directions in the construction details on the site construction drawings. Fill, woody debris, stumps and construction waste shall not be placed in regulated wetlands, streams or other surface waters.
7. Distribute or post informational material regarding proper handling, spill response, spill kit location, and emergency actions to be taken, to all construction personnel.
8. Refueling equipment shall be located at least 100 feet from all wetlands, streams and other surface waters.



STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ACCESS



inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties ³	Light Duty ¹ Roads Grade Sub- grade	Heavy Duty ² Haul Roads Rough Graded	Test Meth- od
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Burst Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 Modified
Equivalent	40-80	40-80	US Std Sieve
Opening Size			CW-02215
Aggregate Depth	6	10	-

Definition & Scope

A stabilized pad of aggregate underlain with geotextile located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area. The purpose of stabilized construction access is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction access shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 2.1 on page 2.31 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile: The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be

¹Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

²Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

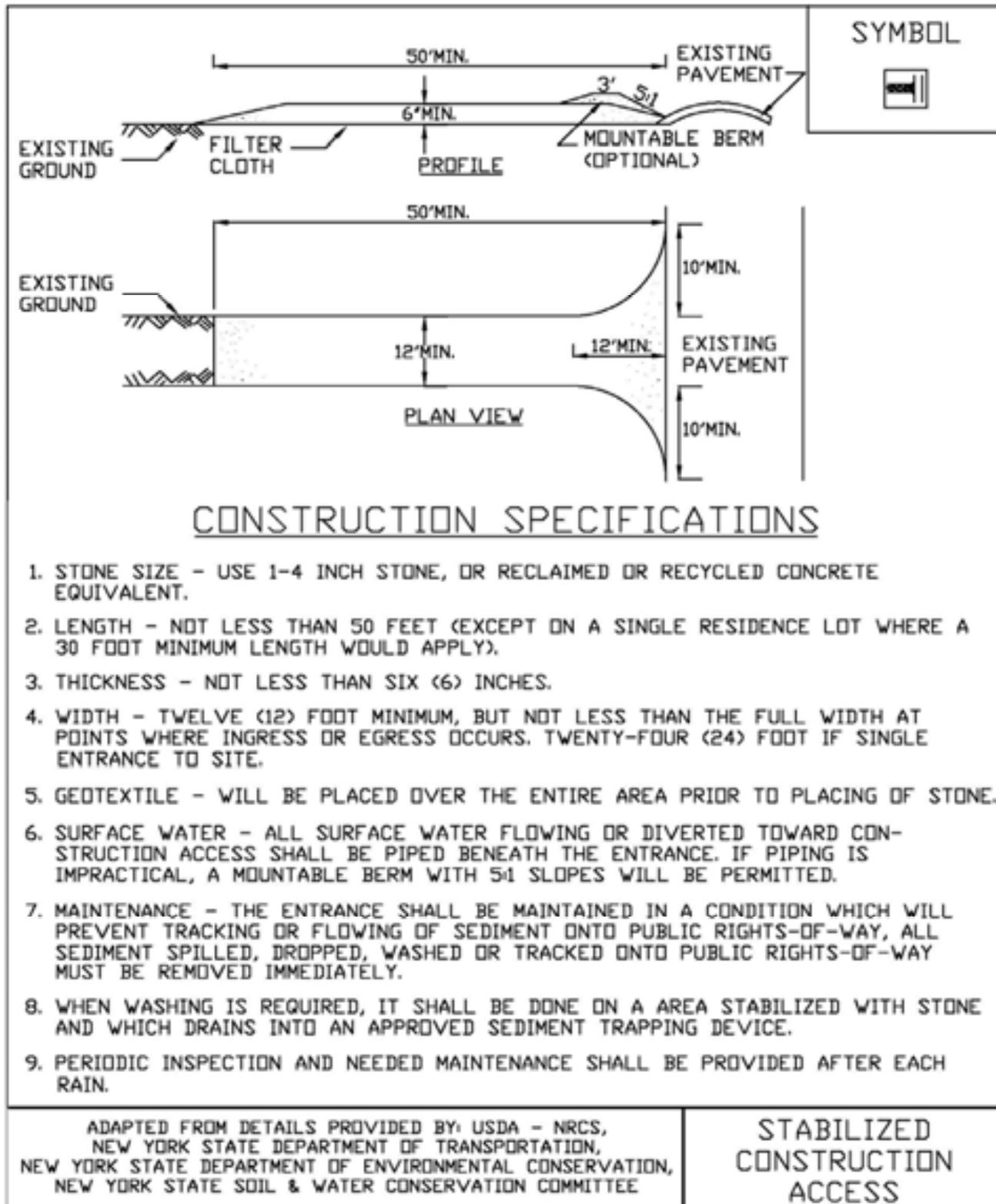
³Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The access shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

**Figure 2.1
Stabilized Construction Access**



STANDARD AND SPECIFICATIONS FOR WINTER STABILIZATION



Definition & Scope

A temporary site specific, enhanced erosion and sediment control plan to manage runoff and sediment at the site during construction activities in the winter months to protect off-site water resources.

Conditions Where Practice Applies

This standard applies to all construction activities involved with ongoing land disturbance and exposure between November 15th to the following April 1st.

Design Criteria

1. Prepare a snow management plan with adequate storage for snow and control of melt water, requiring cleared snow to be stored in a manner not affecting ongoing construction activities.
2. Enlarge and stabilize access points to provide for snow management and stockpiling. Snow management activities must not destroy or degrade installed erosion and sediment control practices.
3. A minimum 25 foot buffer shall be maintained from all perimeter controls such as silt fence. Mark silt fence with tall stakes that are visible above the snow pack.
4. Edges of disturbed areas that drain to a waterbody within 100 feet will have 2 rows of silt fence, 5 feet apart, installed on the contour.
5. Drainage structures must be kept open and free of snow and ice dams. All debris, ice dams, or debris from plowing operations, that restrict the flow of runoff and meltwater, shall be removed.
6. Sediment barriers must be installed at all appropriate

perimeter and sensitive locations. Silt fence and other practices requiring earth disturbance must be installed before the ground freezes.

7. Soil stockpiles must be protected by the use of established vegetation, anchored straw mulch, rolled stabilization matting, or other durable covering. A barrier must be installed at least 15 feet from the toe of the stockpile to prevent soil migration and to capture loose soil.
8. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three (3) days. Rolled erosion control blankets must be used on all slopes 3 horizontal to 1 vertical or steeper.
9. If straw mulch alone is used for temporary stabilization, it shall be applied at double the standard rate of 2 tons per acre, making the application rate 4 tons per acre. Other manufactured mulches should be applied at double the manufacturer's recommended rate.
10. To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each work day unless:
 - a. work will resume within 24 hours in the same area and no precipitation is forecast or;
 - b. the work is in disturbed areas that collect and retain runoff, such as open utility trenches, foundation excavations, or water management areas.
11. Use stone paths to stabilize access perimeters of buildings under construction and areas where construction vehicle traffic is anticipated. Stone paths should be a minimum 10 feet in width but wider as necessary to accommodate equipment.

Maintenance

The site shall be inspected frequently to ensure that the erosion and sediment control plan is performing its winter stabilization function. If the site will not have earth disturbing activities ongoing during the "winter season", **all** bare exposed soil must be stabilized by established vegetation, straw or other acceptable mulch, matting, rock, or other approved material such as rolled erosion control products. Seeding of areas with mulch cover is preferred but seeding alone is not acceptable for proper stabilization.

Compliance inspections must be performed and reports filed properly in accordance with the SWPPP for all sites under a winter shutdown.

STANDARD AND SPECIFICATIONS FOR DEWATERING SUMP PIT



Discharge of turbid water pumped from the standpipe should be to a sediment trap, sediment basin, filter bag or stabilized area, such as a filter strip. If water from the sump pit will be pumped directly to a storm drain system, filter cloth with an equivalent sieve size between 40-80 should be wrapped around the standpipe to ensure clean water discharge. It is recommended that $\frac{1}{4}$ to $\frac{1}{2}$ inch hardware cloth be wrapped around and secured to the standpipe prior to attaching the filter cloth. This will increase the rate of water seepage into the standpipe.

Definition & Scope

A **temporary** pit which is constructed using pipe and stone for pumping excessive water from excavations to a suitable discharge area.

Conditions Where Practice Applies

Sump pits are constructed when water collects during the excavation phase of construction. This practice is particularly useful in urban areas during excavation for building foundations. It may also be necessary during construction activities that encounter high ground water tables in floodplain locations.

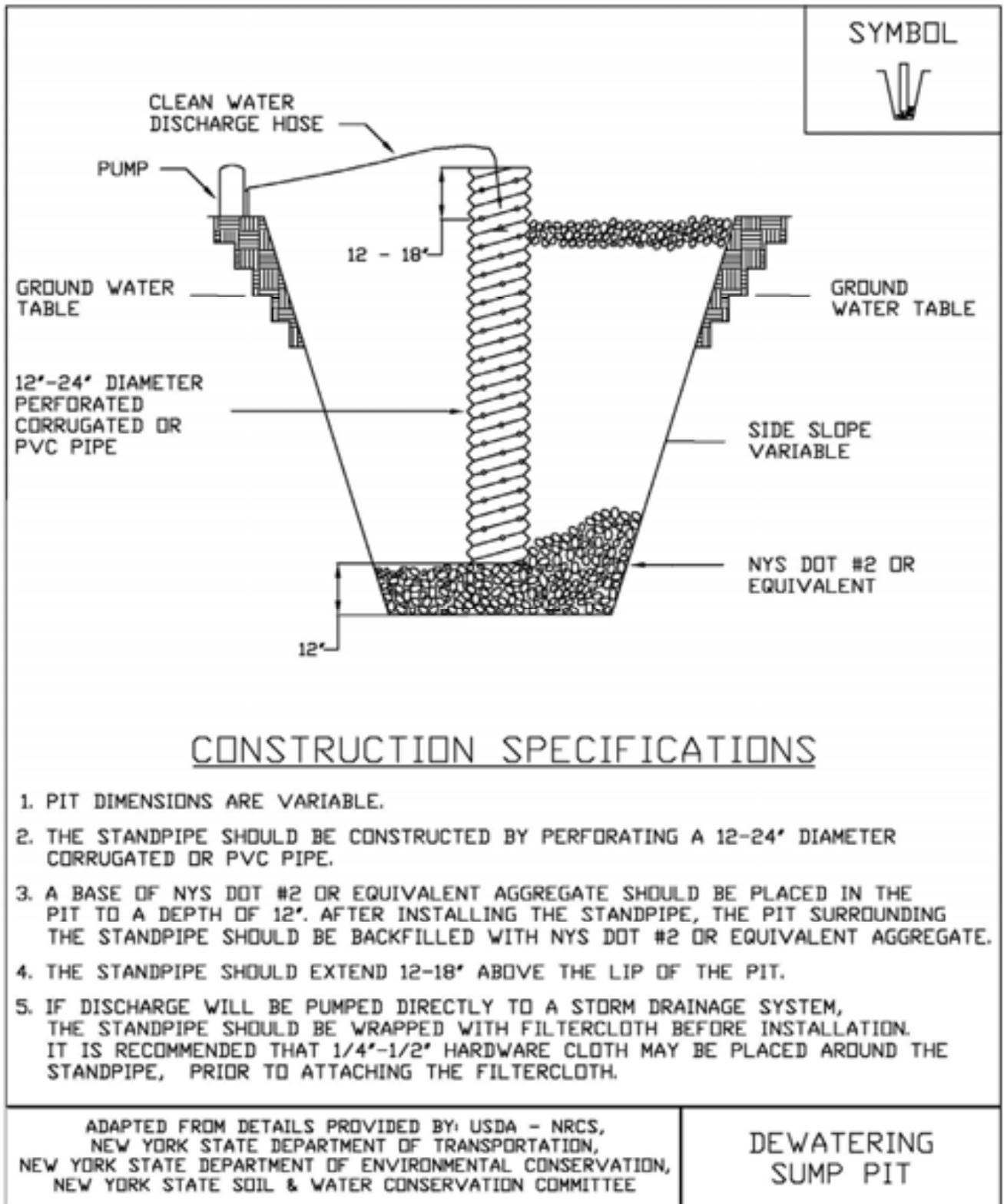
Design Criteria

The number of sump pits and their locations shall be determined by the contractor/engineer. A design is not required, but construction should conform to the general criteria outlined on Figure 3.3 on page 3.8.

A perforated vertical standpipe is placed in the center of the pit and surrounded with a stone screening material to collect filtered water. Water is then pumped from the center of the pipe to a suitable discharge area.



**Figure 3.3
Dewatering Sump Pit Detail**



STANDARD AND SPECIFICATIONS FOR ROCK OUTLET PROTECTION



Definition & Scope

A **permanent** section of rock protection placed at the outlet end of the culverts, conduits, or channels to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach.

Conditions Where Practice Applies

This practice applies where discharge velocities and energies at the outlets of culverts, conduits, or channels are sufficient to erode the next downstream reach. This applies to:

1. Culvert outlets of all types.
2. Pipe conduits from all sediment basins, dry storm water ponds, and permanent type ponds.
3. New channels constructed as outlets for culverts and conduits.

Design Criteria

The design of rock outlet protection depends entirely on the location. Pipe outlet at the top of cuts or on slopes steeper than 10 percent, cannot be protected by rock aprons or riprap sections due to re-concentration of flows and high velocities encountered after the flow leaves the apron.

Many counties and state agencies have regulations and design procedures already established for dimensions, type and size of materials, and locations where outlet protection is required. Where these requirements exist, they shall be followed.

Tailwater Depth

The depth of tailwater immediately below the pipe outlet

must be determined for the design capacity of the pipe. If the tailwater depth is less than half the diameter of the outlet pipe, and the receiving stream is wide enough to accept divergence of the flow, it shall be classified as a Minimum Tailwater Condition; see Figure 3.16 on page 3.42 as an example. If the tailwater depth is greater than half the pipe diameter and the receiving stream will continue to confine the flow, it shall be classified as a Maximum Tailwater Condition; see Figure 3.17 on page 3.43 as an example. Pipes which outlet onto flat areas with no defined channel may be assumed to have a Minimum Tailwater Condition; see Figure 3.16 on page 3.42 as an example.

Apron Size

The apron length and width shall be determined from the curves according to the tailwater conditions:

Minimum Tailwater – Use Figure 3.16 on page 3.42

Maximum Tailwater – Use Figure 3.17 on page 3.43

If the pipe discharges directly into a well defined channel, the apron shall extend across the channel bottom and up the channel banks to an elevation one foot above the maximum tailwater depth or to the top of the bank, whichever is less.

The upstream end of the apron, adjacent to the pipe, shall have a width two (2) times the diameter of the outlet pipe, or conform to pipe end section if used.

Bottom Grade

The outlet protection apron shall be constructed with no slope along its length. There shall be no overfall at the end of the apron. The elevation of the downstream end of the apron shall be equal to the elevation of the receiving channel or adjacent ground.

Alignment

The outlet protection apron shall be located so that there are no bends in the horizontal alignment.

Materials

The outlet protection may be done using rock riprap, grouted riprap, or gabions. Outlets constructed on the bank of a stream or wetland shall not use grouted rip-rap, gabions or concrete.

Riprap shall be composed of a well-graded mixture of rock size so that 50 percent of the pieces, by weight, shall be larger than the d_{50} size determined by using the charts. A

well-graded mixture, as used herein, is defined as a mixture composed primarily of larger rock sizes, but with a sufficient mixture of other sizes to fill the smaller voids between the rocks. The diameter of the largest rock size in such a mixture shall be 1.5 times the d_{50} size.

Thickness

The minimum thickness of the riprap layer shall be 1.5 times the maximum rock diameter for d_{50} of 15 inches or less; and 1.2 times the maximum rock size for d_{50} greater than 15 inches. The following chart lists some examples:

D₅₀ (inches)	d_{max} (inches)	Minimum Blanket Thick- ness (inches)
4	6	9
6	9	14
9	14	20
12	18	27
15	22	32
18	27	32
21	32	38
24	36	43

Rock Quality

Rock for riprap shall consist of field rock or rough unhewn quarry rock. The rock shall be hard and angular and of a quality that will not disintegrate on exposure to water or weathering. The specific gravity of the individual rocks shall be at least 2.5.

Filter

A filter is a layer of material placed between the riprap and the underlying soil surface to prevent soil movement into and through the riprap. Riprap shall have a filter placed under it in all cases.

A filter can be of two general forms: a gravel layer or a plastic filter cloth. The plastic filter cloth can be woven or non-woven monofilament yarns, and shall meet these base requirements: thickness 20-60 mils, grab strength 90-120 lbs; and shall conform to ASTM D-1777 and ASTM D-1682.

Gravel filter blanket, when used, shall be designed by comparing particle sizes of the overlying material and the base material. Design criteria are available in Standard and Specification for Anchored Slope and Channel Stabilization on page 4.7.

Gabions

Gabions shall be made of hexagonal triple twist mesh with heavily galvanized steel wire. The maximum linear dimension of the mesh opening shall not exceed 4 ½ inches and the area of the mesh opening shall not exceed 10 square inches.

Gabions shall be fabricated in such a manner that the sides, ends, and lid can be assembled at the construction site into a rectangular basket of the specified sizes. Gabions shall be of single unit construction and shall be installed according to manufacturer’s recommendations.

The area on which the gabion is to be installed shall be graded as shown on the drawings. Foundation conditions shall be the same as for placing rock riprap, and filter cloth shall be placed under all gabions. Where necessary, key, or tie, the structure into the bank to prevent undermining of the main gabion structure.

Maintenance

Once a riprap outlet has been installed, the maintenance needs are very low. It should be inspected after high flows for evidence of scour beneath the riprap or for dislodged rocks. Repairs should be made immediately.

Design Procedure

1. Investigate the downstream channel to assure that nonerosive velocities can be maintained.
2. Determine the tailwater condition at the outlet to establish which curve to use.
3. Use the appropriate chart with the design discharge to determine the riprap size and apron length required. It is noted that references to pipe diameters in the charts are based on full flow. For other than full pipe flow, the parameters of depth of flow and velocity must be used to adjust the design discharges.
4. Calculate apron width at the downstream end if a flare section is to be employed.

Design Examples are demonstrated in Appendix B.

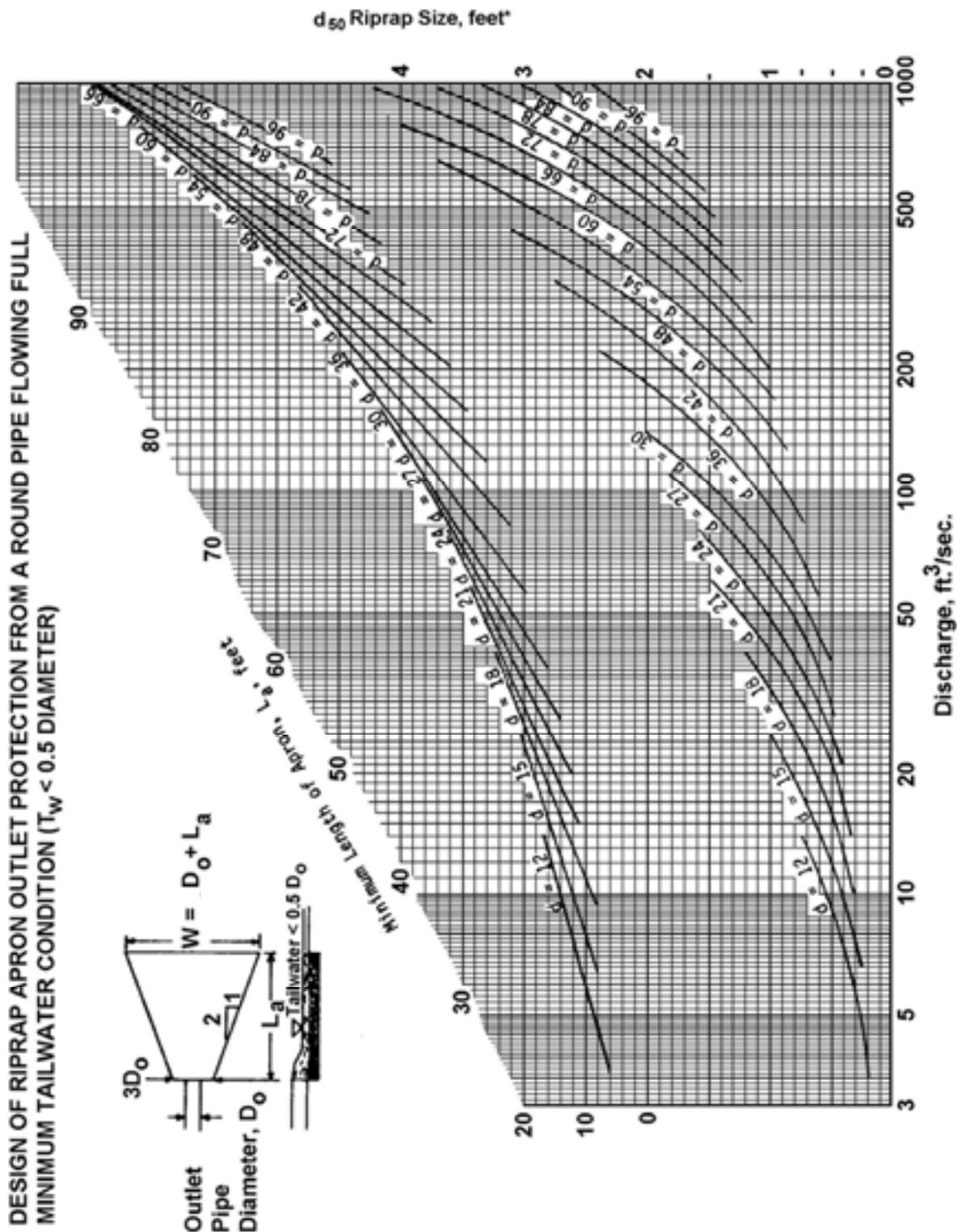
Construction Specifications

1. The subgrade for the filter, riprap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grad-

ing limits when installed respectively in the riprap or filter.

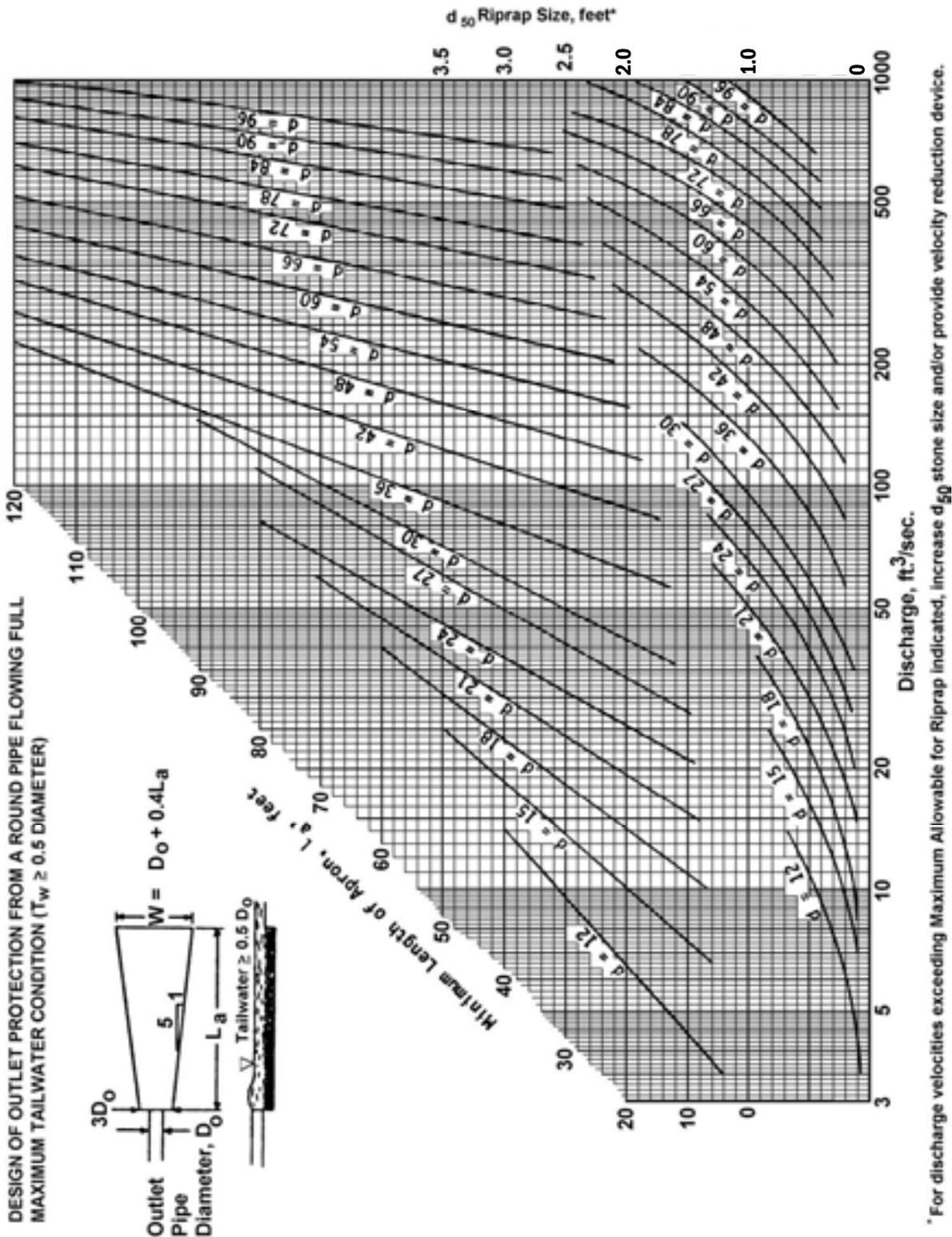
3. Filter cloth shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps, whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Rock for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The rock for riprap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogenous with the smaller rocks and spalls filling the voids between the larger rocks. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

Figure 3.16
Outlet Protection Design—Minimum Tailwater Condition Chart
(Design of Outlet Protection from a Round Pipe Flowing Full,
Minimum Tailwater Condition: $T_w < 0.5D_o$) (USDA - NRCS)

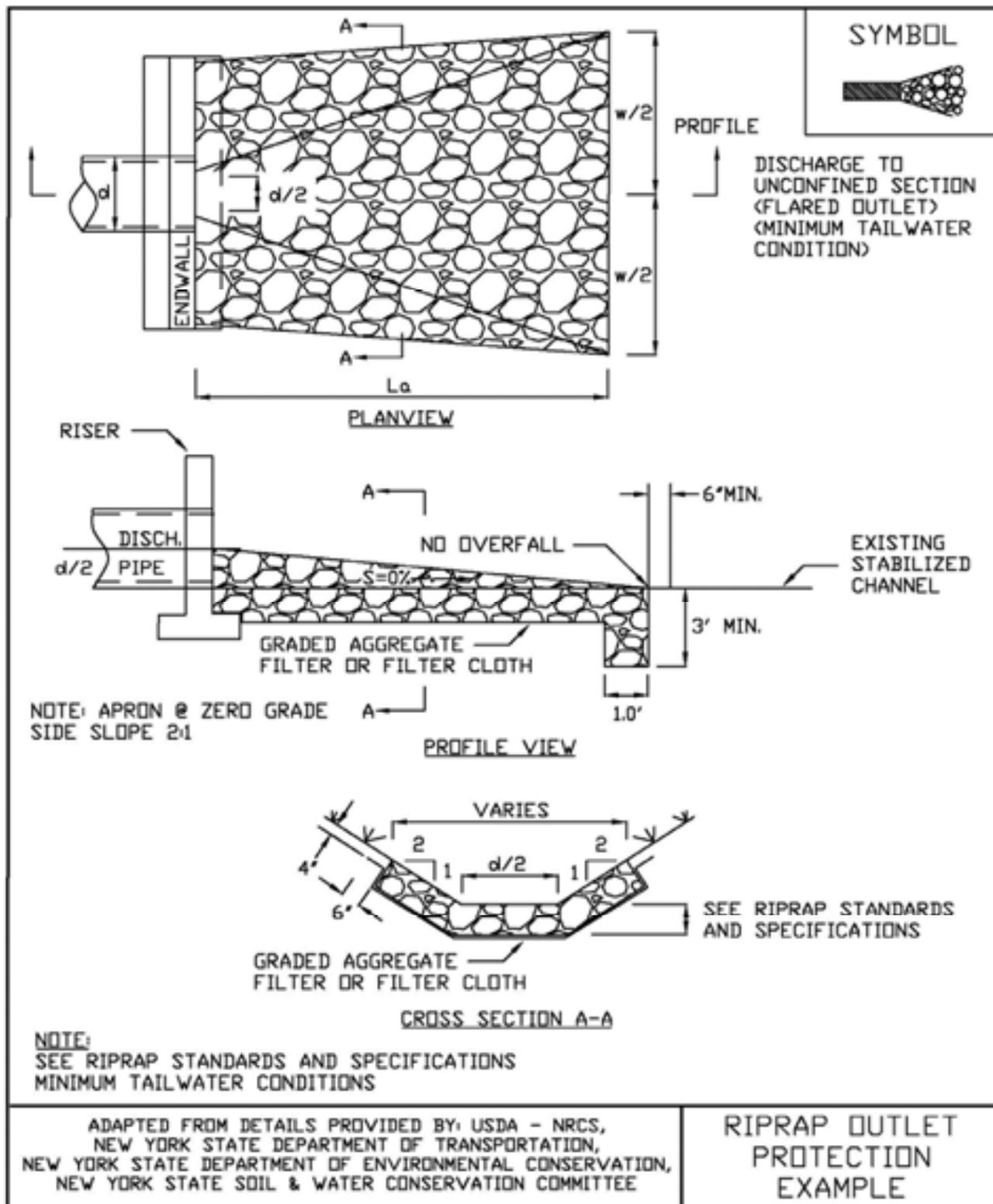


* For discharge velocities exceeding Maximum Allowable for Riprap indicated, increase d_{50} stone size and/or provide velocity reduction device.

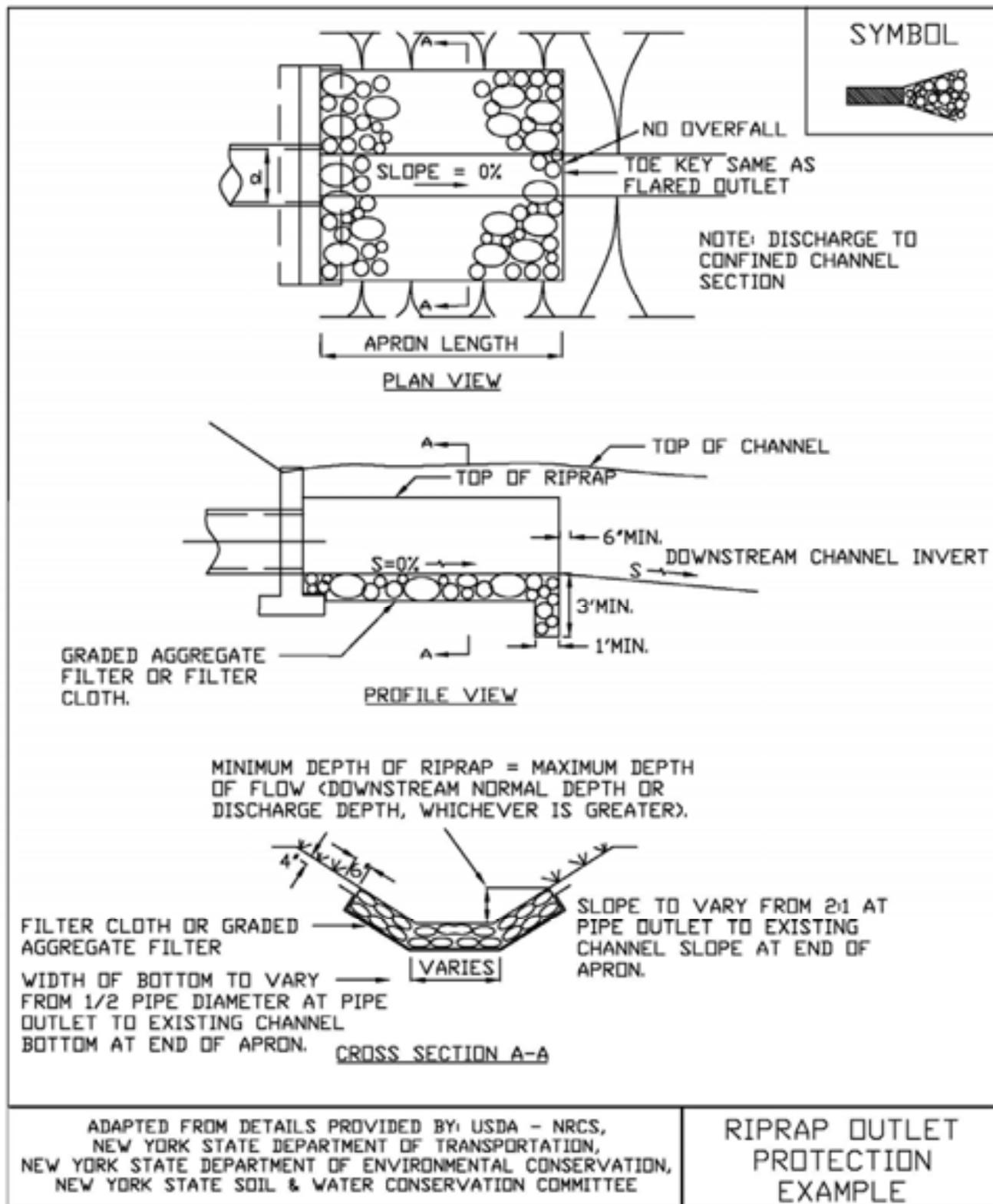
Figure 3.17
Outlet Protection Design—Maximum Tailwater Condition Chart
(Design of Outlet Protection from a Round Pipe Flowing Full,
Maximum Tailwater Condition: $T_w \geq 0.5D_o$) (USDA - NRCS)



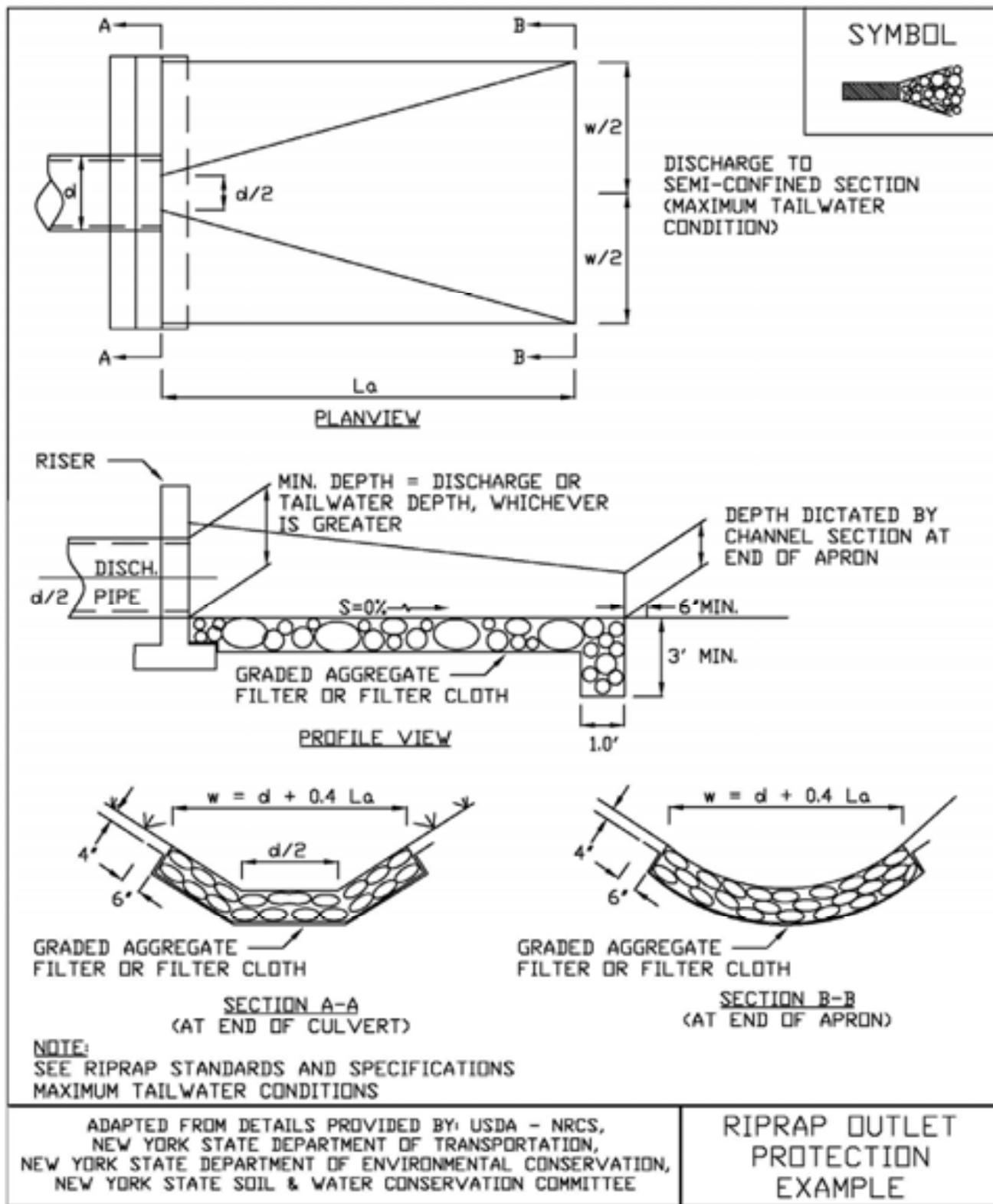
**Figure 3.18
Riprap Outlet Protection Detail (1)**



**Figure 3.19
Riprap Outlet Protection Detail (2)**



**Figure 3.20
Riprap Outlet Protection Detail (3)**



STANDARD AND SPECIFICATIONS FOR FERTILIZER APPLICATION



Definition & Scope

The **permanent** incorporation of fertilizer into the planting zone of the soil profile to provide nutrient amendments to the soil for vigorous support to plant and vegetation growth.

Conditions Where Practice Applies

This standard applies to all areas where permanent seeding, sodding, and plant establishment is required. All application of fertilizer shall be in accordance with Nutrient Runoff Law - ECL Article 17, Title 21. Phosphorus runoff poses a threat to water quality. Therefore, under New York Law, fertilizer containing phosphorus may only be applied to lawn or non-agricultural turf when:

1. A soil test indicates that additional phosphorus is needed for growth of that lawn or non-agricultural turf, or
2. The fertilizer is used for newly established lawn or non-agricultural turf during the first growing season.

For projects located within watersheds where enhanced phosphorus removal standards are required as part of its post-construction stormwater management plan, use of any fertilizer containing more than 0.67 percent phosphate (P_2O_5) content will be done only with a valid soil test demonstrating the need for that formulation.

Design Criteria

Fertilizer is sold with an analysis printed on the tag or bag shown as three numbers separated by a dash, such as 5-10-5. The first number is the percent of the total weight of the bag that is nitrogen (N), the second is the percent of

phosphate (phosphorus, P), and the third is the percent of potash (potassium, K). Other elements are sometimes included and are listed with these three basic components.

For example a 40 lb bag of 5-10-5 fertilizer contains 5% of 40 lbs of Nitrogen which equals 2 lbs. There is 10% of 40 lbs of phosphate (phosphorus) which equals 4 lbs, and there is 5% of potash (potassium), another 2 lbs., for a total of 8 lbs of active fertilizer in the 40 lb bag. The rest is filler to aid in spreading the material over the area to be treated.

Specify the design fertilizer mix and application rates based on the results of the soil tests.

Specifications

1. In no case shall fertilizer be applied between December 1 and April 1 annually.
2. Fertilizer shall not be spread within 20 feet of a surface water.
3. Any fertilizer falling or spilled into impervious surface areas such as parking lots, roadways, and sidewalks should be immediately contained and legally applied or placed in an appropriate container.
4. Incorporate the fertilizer, and lime if specified, into the top 2-4 inches of the topsoil or soil profile.
5. When applying fertilizer by hydro seeding care should be taken to apply mix only to seed bed areas at an appropriate flow rate to prevent erosion and spraying onto impervious areas.



STANDARD AND SPECIFICATIONS FOR LANDGRADING



Definition & Scope

Permanent reshaping of the existing land surface by grading in accordance with an engineering topographic plan and specification to provide for erosion control and vegetative establishment on disturbed, reshaped areas.

Design Criteria

The grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surrounding to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, effect on adjacent properties and drainage patterns, measures for drainage and water removal, and vegetative treatment, etc.

Many municipalities and counties have regulations and design procedures already established for land grading and cut and fill slopes. Where these requirements exist, they shall be followed.

The plan must show existing and proposed contours of the area(s) to be graded. The plan shall also include practices for erosion control, slope stabilization, safe disposal of runoff water and drainage, such as waterways, lined ditches, reverse slope benches (include grade and cross section), grade stabilization structures, retaining walls, and surface and subsurface drains. The plan shall also include phasing of these practices. The following shall be incorporated into the plan:

1. Provisions shall be made to safely convey surface runoff to storm drains, protected outlets, or to stable water courses to ensure that surface runoff will not

damage slopes or other graded areas; see standards and specifications for Grassed Waterway, Diversion, or Grade Stabilization Structure.

2. Cut and fill slopes that are to be stabilized with grasses shall not be steeper than 2:1. When slopes exceed 2:1, special design and stabilization consideration are required and shall be adequately shown on the plans. (Note: Where the slope is to be mowed, the slope should be no steeper than 3:1, although 4:1 is preferred because of safety factors related to mowing steep slopes.)
3. Reverse slope benches or diversion shall be provided whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slope it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slope face as equally as possible and shall convey the water to a stable outlet. Soils, seeps, rock outcrops, etc., shall also be taken into consideration when designing benches.
 - A. Benches shall be a minimum of six feet wide to provide for ease of maintenance.
 - B. Benches shall be designed with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Bench gradient to the outlet shall be between 2 percent and 3 percent, unless accompanied by appropriate design and computations.
 - C. The flow length within a bench shall not exceed 800 feet unless accompanied by appropriate design and computations; see Standard and Specifications for Diversion on page 3.9
4. Surface water shall be diverted from the face of all cut and/or fill slopes by the use of diversions, ditches and swales or conveyed downslope by the use of a designed structure, except where:
 - A. The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected from surface runoff until they are stabilized.
 - B. The face of the slope shall not be subject to any concentrated flows of surface water such as from natural drainage ways, graded ditches, downspouts, etc.
 - C. The face of the slope will be protected by anchored stabilization matting, sod, gravel, riprap, or other stabilization method.

5. Cut slopes occurring in ripable rock shall be serrated as shown in Figure 4.9 on page 4.26. The serrations shall be made with conventional equipment as the excavation is made. Each step or serration shall be constructed on the contour and will have steps cut at nominal two-foot intervals with nominal three-foot horizontal shelves. These steps will vary depending on the slope ratio or the cut slope. The nominal slope line is 1 ½: 1. These steps will weather and act to hold moisture, lime, fertilizer, and seed thus producing a much quicker and longer-lived vegetative cover and better slope stabilization. Overland flow shall be diverted from the top of all serrated cut slopes and carried to a suitable outlet.
6. Subsurface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.
7. Slopes shall not be created so close to property lines as to endanger adjoining properties without adequately protecting such properties against sedimentation, erosion, slippage, settlement, subsidence, or other related damages.
8. Fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris, and other objectionable material. It should be free of stones over two (2) inches in diameter where compacted by hand or mechanical tampers or over eight (8) inches in diameter where compacted by rollers or other equipment. Frozen material shall not be placed in the fill nor shall the fill material be placed on a frozen foundation.
9. Stockpiles, borrow areas, and spoil shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.
10. All disturbed areas shall be stabilized structurally or vegetatively in compliance with the Permanent Construction Area Planting Standard on page 4.42.
4. Areas to be filled shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots, or other objectionable material.
5. Areas that are to be topsoiled shall be scarified to a minimum depth of four inches prior to placement of topsoil.
6. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence, or other related problems. Fill intended to support buildings, structures, and conduits, etc., shall be compacted in accordance with local requirements or codes.
7. All fill shall be placed and compacted in layers not to exceed 9 inches in thickness.
8. Except for approved landfills or nonstructural fills, fill material shall be free of frozen particles, brush, roots, sod, or other foreign objectionable materials that would interfere with, or prevent, construction of satisfactory fills.
9. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills.
10. Fill shall not be placed on saturated or frozen surfaces.
11. All benches shall be kept free of sediment during all phases of development.
12. Seeps or springs encountered during construction shall be handled in accordance with the Standard and Specification for Subsurface Drain on page 3.48 or other approved methods.
13. All graded areas shall be permanently stabilized immediately following finished grading.
14. Stockpiles, borrow areas, and spoil areas shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

Construction Specifications

See Figures 4.9 and 4.10 for details.

1. All graded or disturbed areas, including slopes, shall be protected during clearing and construction in accordance with the erosion and sediment control plan until they are adequately stabilized.
2. All erosion and sediment control practices and measures shall be constructed, applied and maintained in accordance with the erosion and sediment control plan and these standards.
3. Topsoil required for the establishment of vegetation shall be stockpiled in amount necessary to complete finished grading of all exposed areas.



Figure 4.9
Typical Section of Serrated Cut Slope

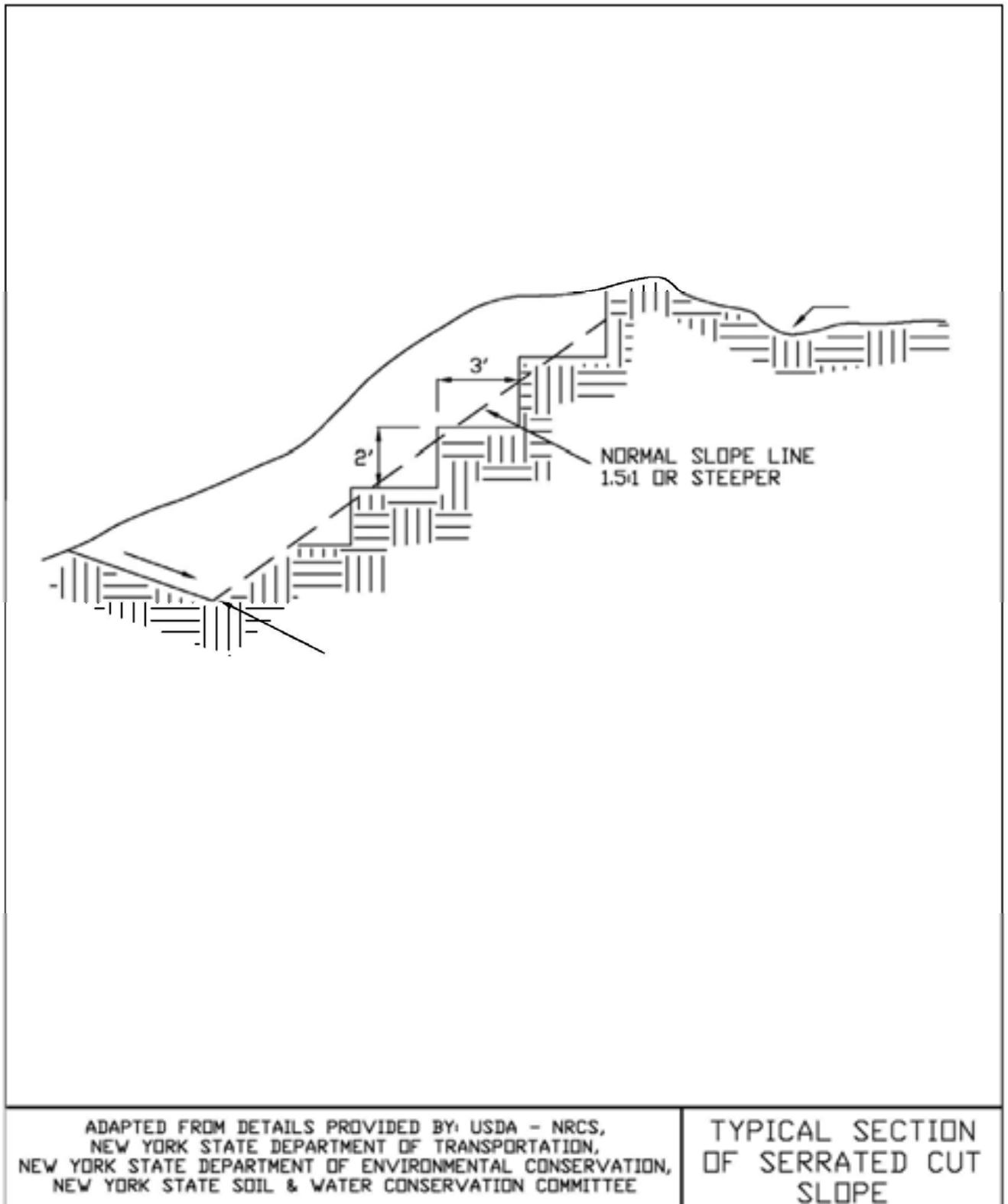


Figure 4.10
Landgrading

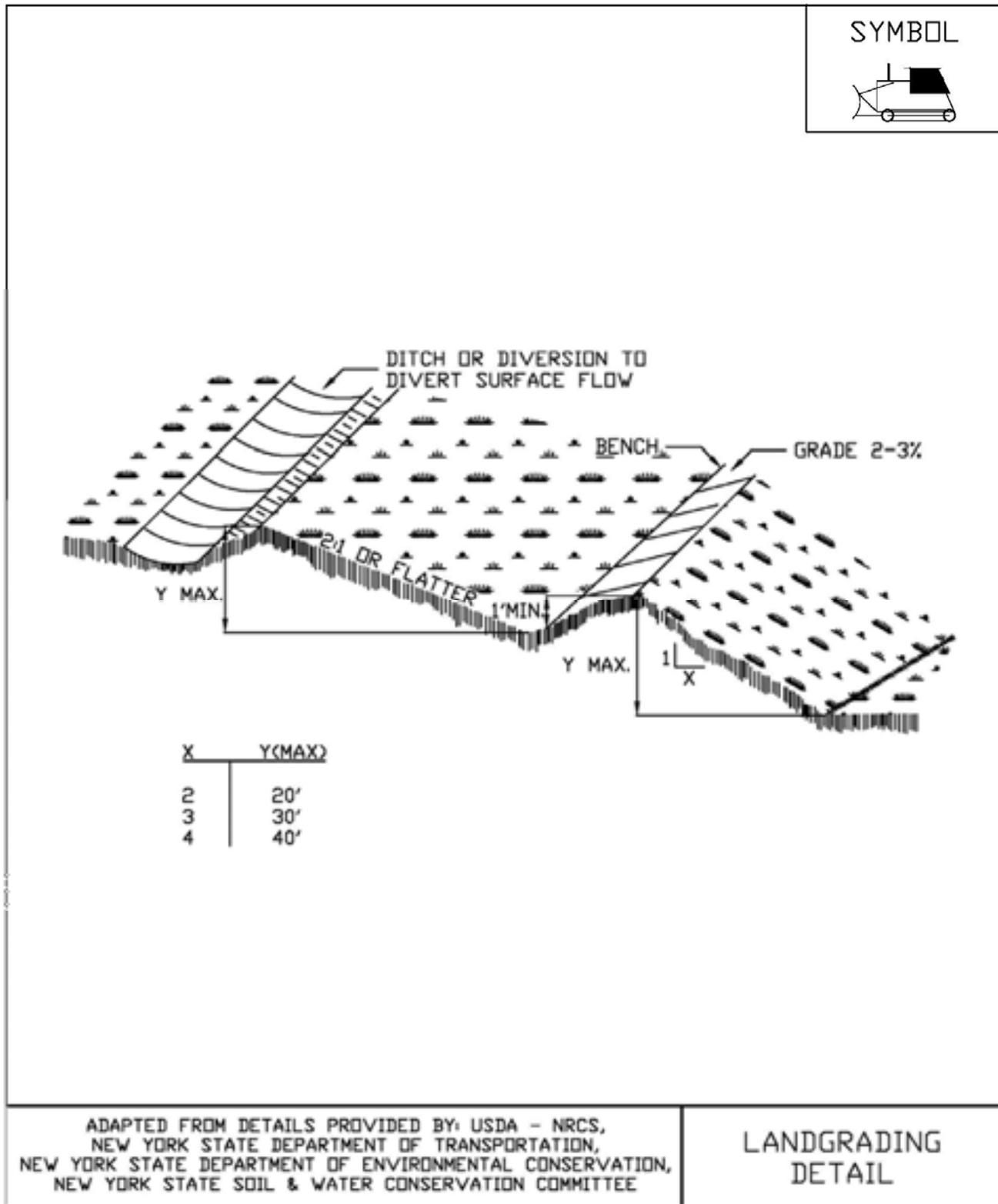


Figure 4.11
Landgrading - Construction Specifications

<u>CONSTRUCTION SPECIFICATIONS</u>	
<ol style="list-style-type: none"> 1. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE PERMANENTLY STABILIZED. 2. ALL SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. 3. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNT NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS. 4. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL. 5. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF FOUR INCHES PRIOR TO PLACEMENT OF TOPSOIL. 6. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. 7. ALL FILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS. 8. EXCEPT FOR APPROVED LANDFILLS, FILL MATERIAL SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS. 9. FROZEN MATERIALS OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED IN FILLS. 10. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES. 11. ALL BENCHES SHALL BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT. 12. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD. 13. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING. 14. STOCKPILES, BORROW AREAS AND SPOIL AREAS SHALL BE SHOWN ON THE PLANS AND SHALL BE SUBJECT TO THE PROVISIONS OF THIS STANDARD AND SPECIFICATION. 	
ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	LANDGRADING SPECIFICATIONS

STANDARD AND SPECIFICATIONS FOR PERMANENT CONSTRUCTION AREA PLANTING



Definition & Scope

Establishing **permanent** grasses with other forbs and/or shrubs to provide a minimum 80% perennial vegetative cover on areas disturbed by construction and critical areas to reduce erosion and sediment transport. Critical areas may include but are not limited to steep excavated cut or fill slopes as well as eroding or denuded natural slopes and areas subject to erosion.

Conditions Where Practice Applies

This practice applies to all disturbed areas void of, or having insufficient, cover to prevent erosion and sediment transport. See additional standards for special situations such as sand dunes and sand and gravel pits.

Criteria

All water control measures will be installed as needed prior to final grading and seedbed preparation. Any severely compacted sections will require chiseling or disking to provide an adequate rooting zone, to a minimum depth of 12", see Soil Restoration Standard. The seedbed must be prepared to allow good soil to seed contact, with the soil not too soft and not too compact. Adequate soil moisture must be present to accomplish this. If surface is powder dry or sticky wet, postpone operations until moisture changes to a favorable condition. If seeding is accomplished within 24 hours of final grading, additional scarification is generally not needed, especially on ditch or stream banks. Remove all stones and other debris from the surface that are greater than 4 inches, or that will interfere with future mowing or maintenance.

Soil amendments should be incorporated into the upper 2 inches of soil when feasible. **The soil should be tested to determine the amounts of amendments needed.** Apply

ground agricultural limestone to attain a pH of 6.0 in the upper 2 inches of soil. If soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 600 lbs. per acre of 5-5-10 or equivalent. If manure is used, apply a quantity to meet the nutrients of the above fertilizer. This requires an appropriate manure analysis prior to applying to the site. Do not use manure on sites to be planted with birdsfoot trefoil or in the path of concentrated water flow.

Seed mixtures may vary depending on location within the state and time of seeding. Generally, warm season grasses should only be seeded during early spring, April to May. These grasses are primarily used for vegetating excessively drained sands and gravels. See Standard and Specification for Sand and Gravel Mine Reclamation. Other grasses may be seeded any time of the year when the soil is not frozen and is workable. When legumes such as birdsfoot trefoil are included, spring seeding is preferred. See Table 4.4, "Permanent Construction Area Planting Mixture Recommendations" for additional seed mixtures.

<u>General Seed Mix:</u>	Variety	lbs./acre	lbs/1000 sq. ft.
Red Clover ¹ <u>OR</u>	Acclaim, Rally, Red Head II, Renegade	8 ²	0.20
Common white clover ¹	Common	8	0.20
<u>PLUS</u>			
Creeping Red Fescue	Common	20	0.45
<u>PLUS</u>			
Smooth Bromegrass <u>OR</u>	Common	2	0.05
Ryegrass (perennial)	Pennfine/Linn	5	0.10
¹ add inoculant immediately prior to seeding ² Mix 4 lbs each of Empire and Pardee OR 4 lbs of Birdsfoot and 4 lbs white clover per acre. All seeding rates are given for Pure Live Seed (PLS)			

Pure Live Seed, or (PLS) refers to the amount of live seed in a lot of bulk seed. Information on the seed bag label includes the type of seed, supplier, test date, source of seed, purity, and germination. Purity is the percentage of pure seed. Germination is the percentage of pure seed that will produce normal plants when planted under favorable conditions.

To compute Pure Live Seed multiply the “germination percent” times the “purity” and divide that by 100 to get Pure Live Seed.

$$\text{Pure Live Seed (PLS)} = \frac{\% \text{ Germination} \times \% \text{ Purity}}{100}$$

For example, the PLS for a lot of Kentucky Blue grass with 75% purity and 96% germination would be calculated as follows:

$$\frac{(96) \times (75)}{100} = 72\% \text{ Pure Live Seed}$$

For 10lbs of PLS from this lot =

$$\frac{10}{0.72} = 13.9 \text{ lbs}$$

Therefore, 13.9 lbs of seed is the actual weight needed to meet 10lbs PSL from this specific seed lot.

Time of Seeding: The optimum timing for the general seed mixture is early spring. Permanent seedings may be made any time of year if properly mulched and adequate moisture is provided. Late June through early August is not a good time to seed, but may facilitate covering the land without additional disturbance if construction is completed. Portions of the seeding may fail due to drought and heat. These areas may need reseeding in late summer/fall or the following spring.

Method of seeding: Broadcasting, drilling, cultipack type seeding, or hydroseeding are acceptable methods. Proper soil to seed contact is key to successful seedings.

Mulching: Mulching is essential to obtain a uniform stand of seeded plants. Optimum benefits of mulching new seedings are obtained with the use of small grain straw applied at a rate of 2 tons per acre, and anchored with a netting or tackifier. See the Standard and Specifications for Mulching for choices and requirements.

Irrigation: Watering may be essential to establish a new seeding when a drought condition occurs shortly after a new seeding emerges. Irrigation is a specialized practice and care must be taken not to exceed the application rate for the soil or subsoil. When disconnecting irrigation pipe, be sure pipes are drained in a safe manor, not creating an erosion concern.



80% Perennial Vegetative Cover



50% Perennial Vegetative Cover

**Table 4.4
Permanent Construction Area Planting Mixture Recommendations**

Seed Mixture	Variety	Rate in lbs./acre (PLS)	Rate in lbs./1,000 ft ²
Mix #1			
Creeping red fescue	Ensylva, Pennlawn, Boreal	10	.25
Perennial ryegrass	Pennfine, Linn	10	.25
*This mix is used extensively for shaded areas.			
Mix #2			
Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	20	.50
*This rate is in pure live seed, this would be an excellent choice along the upland edge of a wetland to filter runoff and provide wildlife benefits. In areas where erosion may be a problem, a companion seeding of sand lovegrass should be added to provide quick cover at a rate of 2 lbs. per acre (0.05 lbs. per 1000 sq. ft.).			
Mix #3			
Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	4	.10
Big bluestem	Niagara	4	.10
Little bluestem	Aldous or Camper	2	.05
Indiangrass	Rumsey	4	.10
Coastal panicgrass	Atlantic	2	.05
Sideoats grama	El Reno or Trailway	2	.05
Wildflower mix		.50	.01
*This mix has been successful on sand and gravel plantings. It is very difficult to seed without a warm season grass seeder such as a Truax seed drill. Broadcasting this seed is very difficult due to the fluffy nature of some of the seed, such as bluestems and indiangrass.			
Mix #4			
Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	10	.25
Coastal panicgrass	Atlantic	10	.25
*This mix is salt tolerant, a good choice along the upland edge of tidal areas and roadsides.			
Mix #5			
Saltmeadow cordgrass (<i>Spartina patens</i>)—This grass is used for tidal shoreline protection and tidal marsh restoration. It is planted by vegetative stem divisions.			
'Cape' American beachgrass can be planted for sand dune stabilization above the saltmeadow cordgrass zone.			
Mix #6			
Creeping red fescue	Ensylva, Pennlawn, Boreal	20	.45
Chewings Fescue	Common	20	.45
Perennial ryegrass	Pennfine, Linn	5	.10
Red Clover	Common	10	.45
*General purpose erosion control mix. Not to be used for a turf planting or play grounds.			

STANDARD AND SPECIFICATIONS FOR RECREATION AREA SEEDING



Definition & Scope

Establishing **permanent** grasses, legumes, vines, shrubs, trees, or other plants, or selectively reducing stand density and trimming woody plants, to improve an area for recreation. To increase the attractiveness and usefulness of recreation areas and to protect the soil and plant resources.

Conditions Where Practice Applies

On any area planned for recreation use, lawns, and areas that will be maintained in a closely mowed condition.

Specifications

ESTABLISHING GRASSES (Turfgrass)

The following applies for playgrounds, parks, athletic fields, camping areas, picnic areas, passive recreation areas such as lawns, and similar areas.

1. Time of Planting

Fall planting is preferred. Seed after August 15. In the spring, plant until May 15.

If seeding is done between May 15 and August 15, irrigation may be necessary to ensure a successful seeding.

2. Site Preparation

- A. Install needed water and erosion control measures and bring area to be seeded to desired grades. A minimum of 4 in. topsoil is required.
- B. Prepare seedbed by loosening soil to a depth of 4-6 inches and decompacting required areas per Soil Restoration Standard.
- C. See Standard and Specification of Topsoiling.

- D. Lime to a pH of 6.5. See Lime Application Standard.
- E. **Fertilize as per soil test** or, if soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 850 pounds of 5-5-10 or equivalent per acre (20 lbs/1,000 sq. ft.). See Fertilizer Application Standard.
- F. Incorporate lime and fertilizer in top 2-4 inches of topsoil.
- G. Smooth. Remove sticks, foreign matter, and stones over 1 inch in diameter, from the surface. Firm the seedbed.

3. Planting

Use a cultipacker type seeder if possible. Seed to a depth of 1/8 to 1/4 inch. If seed is to be broadcast, cultipack or roll after seeding. If hyroseeded, lime and fertilizer may be applied through the seeder, and rolling is not practical.

4. Mulching

Mulch all seedings in accordance with Standard and Specifications for Mulching. Small grain straw is the best material.

5. Seed Mixtures

Select seed mixture for site conditions and intended use from Table 4.5.

6. Contact Cornell Cooperative Extension Turf Specialist for suitable varieties.

Turf-type tall fescues have replaced the old KY31 tall fescues. New varieties have finer leaves and are the most resistant grass to foot traffic. Do not mix it with fine textured grasses such as bluegrass and red fescue.

Common ryegrass and redtop, which are relatively short lived species, provide quick green cover. Improved lawn cultivars of perennial ryegrass provide excellent quality turf, but continue to lack winter hardiness.

Common white clover can be added to mixtures at the rate of 1-2 lbs/acre to help maintain green color during the dry summer period; however, they will not withstand heavy traffic. Avoid using around swimming areas as flowers attract bees which can be easily stepped on.

**Table 4.5
Recreation Turfgrass Seed Mixture**

Site - Use	Species (% by weight)	lbs/1,000 ft ² (PLS)	lbs/acre (PLS)
Sunny Sites (well, moderately well, and somewhat poorly drained soils)	<i>Athletic fields and similar areas</i>		
	80% Hard fescue	2.4-3.2	105-138
	20% Perennial ryegrass	<u>0.6-0.8</u>	<u>25-37</u>
		3.0-4.0	130-175
	<u>OR</u> , for southern and eastern, NY 50% Hard fescue	1.5-2.0	65-88
	50% perennial ryegrass	<u>1.5-2.0</u>	<u>65-87</u>
		3.0-4.0	130-175
	<u>OR</u> , 100% Creeping Red Fescue	3.4-4.6	150-200
	<i>General recreation areas and lawns (Medium to high maintenance)</i>		
	65% Creeping red fescue	2.0-2.6	85-114
	20% Perennial ryegrass	0.6-0.8	26-35
	15% Fine fescue	<u>0.4-0.6</u>	<u>19-26</u>
		3.0-4.0	130-175
	<u>OR</u> , 100% Creeping red fescue	3.4-4.6	150-200
Sunny Droughty Sites (general recreation areas and lawns, low maintenance) (somewhat excessively to excessively drained soils, excluding Long Island)	65% Fine fescue	2.6-3.3	114-143
	15% Perennial ryegrass	0.6-0.7	26-33
	20% Creeping red fescue	<u>0.8-1.0</u>	<u>35-44</u>
		4.0-5.0	175-220
	<u>OR</u> , 100% Creeping red fescue	3.4-4.6	150-200
Shady Dry Sites (well to somewhat poorly drained soils)	65% fine fescue	2.6-3.3	114-143
	15% perennial ryegrass	0.6-0.7	26-33
	20% Creeping red fescue	<u>0.8-1.0</u>	<u>35-44</u>
	<u>OR</u>	4.0-5.0	174-220
	80% blend of shade-tolerant Ceral rye	2.4-3.2	105-138
	20% perennial ryegrass	<u>0.6-0.8</u>	<u>25-37</u>
	<u>OR</u>	3.0-4.0	130-175
	100% Creeping red fescue	3.4-4.6	150-200
Shady Wet Sites (somewhat poor to poorly drained soils)	70% Creeping red fescue	1.4-2.1	60-91
	30% blend of shade-tolerant Hard fescue	<u>0.6-0.9</u>	<u>25-39</u>
	<u>OR</u>	2.0-3.0	85-130
	100% Chewings fescue	3.4-4.6	150-200
For varieties suitable for specific locations, contact Cornell Cooperative Extension Turf Specialist. Reference: Thurn, M.C., N.W. Hummel, and A.M. Petrovic. Cornell Extension Pub. Info. Bulletin 185 Revised. HomeLawns Establishment and Maintenance. 1994.			

7. Fertilizing—First Year

Apply fertilizer as indicated by the soil test three to four weeks after germination (spring seedlings). If test results have not been obtained, apply 1 pound nitrogen/1,000 square feet using a complete fertilizer with a 2-1-1 or 4-1-3 ratio. Summer and early fall seedings, apply as above unless air temperatures are above 85°F for an extended period. Wait for cooler temperatures to fertilize. Late fall/winter seedings, fertilize in spring.

8. Restrict Use

New seedlings should be protected from use for one full year or a spring and fall growth cycle where possible to allow development of a dense sod with good root structure.

MAINTAINING GRASSES

1. Maintain a pH of 6.0 - 7.0.
2. Fertilize in late May to early June as follows with 5-5-10 analysis fertilizer at the rate of 5 lbs./1,000 sq. ft. and repeat in late August if sod density is not adequate. Avoid fertilizing when heat is greater than 85°F. Top dress weak sod annually in the spring, but at least once every 2 to 3 years. **Fertilize in accordance with soil test analysis**, after determining adequate topsoil depth exists.
3. Aerate compacted or heavily used areas, like athletic fields, annually as soon as soil moisture conditions permit. Aerate area six to eight times using a spoon or hollow tine type aerator. Do not use solid spike equipment.
4. Reseed bare and thin areas annually with original seed mix.

STANDARD AND SPECIFICATIONS FOR STABILIZATION WITH SOD



Definition & Scope

Stabilizing restored, exposed soil surfaces by establishing long term stands of grass with sod to reduce damage from sediment and runoff to downstream areas and enhance natural beauty.

Conditions Where Practice Applies

On exposed soils that have a potential for causing off site environmental damage where a quick vegetative cover is desired. Moisture, either applied or natural, is essential to success.

Design Criteria

1. Sod shall be bluegrass or a bluegrass/red fescue mixture or a perennial ryegrass for average sites. (CAUTION: Perennial ryegrass has limited cold tolerance and may winter kill.) Use turf type cultivars of tall fescue for shady, droughty, or otherwise more critical areas. For variety selection, contact Cornell Cooperative Extension Turf Specialist.
2. Sod shall be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/4 inch. Measurement for thickness shall exclude top growth and thatch.
3. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.
4. Sod shall be free of weeds and undesirable coarse weedy grasses. Wild native or pasture grass sod shall not be used unless specified.
5. Sod shall not be harvested or transplanted when

moisture content (excessively dry or wet) may adversely affect its survival.

6. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be inspected and approved by the contracting officer or his designated representative prior to its installation.

Site Preparation

Fertilizer and lime application rates shall be determined by soil tests. Under unusual circumstances where there is insufficient time for a complete soil test and the contracting officer agrees, fertilizer and lime materials may be applied in amounts shown in subsection 2 below. Slope land such as to provide good surface water drainage. Avoid depressions or pockets.

1. Prior to sodding, the surface shall be smoothed and cleared of all trash, debris, and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.
2. **The soil should be tested to determine the amounts of amendments needed.** Where the soil is acid or composed of heavy clays, ground limestone shall be spread to raise the pH to 6.5. If the soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 20 lbs. of 5-5-10 (or equivalent) and mix into the top 3 inches of soil with the required lime for every 1,000 square feet. Soil should be moist prior to sodding. Arrange for temporary storage of sod to keep it shaded and cool.

Sod Installation

1. For the operation of laying, tamping, and irrigating for any areas, sod shall be completed within eight hours. During periods of excessively high temperature, the soil shall be lightly moistened immediately prior to laying the sod.
2. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to, and tightly wedged against, each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots. On sloping areas where erosion may be a problem, sod shall be laid with the long edges parallel to the contour and with

staggered joints.

3. Secure the sod by tamping and pegging, or other approved methods. As sodding is completed in any one section, the entire area shall be rolled or tamped to ensure solid contact of roots with the soil surface.
4. Sod shall be watered immediately after rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Keep sod moist for at least two weeks.

Sod Maintenance

1. In the absence of adequate rainfall, watering shall be performed daily, or as often as deemed necessary by the inspector, during the first week and in sufficient quantities to maintain moist soil to a depth of 4 inches. Watering should be done in the morning. Avoid excessive watering during applications.
2. After the first week, sod shall be watered as necessary to maintain adequate moisture and ensure establishment.
3. The first mowing should not be attempted until sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2 and 3 inches unless otherwise specified. Avoid heavy mowing equipment for several weeks to prevent rutting.
4. If the soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply fertilizer three to four weeks after sodding, at a rate of 1 pound nitrogen/1,000 sq.ft. Use a complete fertilizer with a 2-1-1 ratio.
5. Weed Control: Target herbicides for weeds present. Consult current Cornell Pest Control Recommendations for Commercial Turfgrass Management or consult the local office of Cornell Cooperative Extension.
6. Disease Control: Consult the local office of the Cornell Cooperative Extension.

Additional References

1. Home Lawns, Establishment and Maintenance, CCE Information Bulletin 185, Revised November 1994. Cornell University, Ithaca, NY.
2. Installing a Sod Lawn. CCE Suffolk County, NY. Thomas Kowalsick February 1994, Revised January 1999. www.cce.cornell.edu/counties/suffolk/grownet

STANDARD AND SPECIFICATIONS FOR TEMPORARY CONSTRUCTION AREA SEEDING



Definition & Scope

Providing temporary erosion control protection to disturbed areas and/or localized critical areas for an interim period by covering all bare ground that exists as a result of construction activities or a natural event. Critical areas may include but are not limited to steep excavated cut or fill slopes and any disturbed, denuded natural slopes subject to erosion.

Conditions Where Practice Applies

Temporary seedings may be necessary on construction sites to protect an area, or section, where final grading is complete, when preparing for winter work shutdown, or to provide cover when permanent seedings are likely to fail due to mid-summer heat and drought. The intent is to provide temporary protective cover during temporary shutdown of construction and/or while waiting for optimal planting time.

Criteria

Water management practices must be installed as appropriate for site conditions. The area must be rough graded and slopes physically stable. Large debris and rocks are usually removed. Seedbed must be seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding.

Fertilizer or lime are not typically used for temporary seedings.

IF: Spring or summer or early fall, then seed the area with ryegrass (annual or perennial) at 30 lbs. per acre (Approximately 0.7 lb./1000 sq. ft. or use 1 lb./1000 sq. ft.).

IF: Late fall or early winter, then seed Certified 'Aroostook' winter rye (cereal rye) at 100 lbs. per acre (2.5 lbs./1000 sq. ft.).

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact.

Mulch the area with hay or straw at 2 tons/acre (approx. 90 lbs./1000 sq. ft. or 2 bales). Quality of hay or straw mulch allowable will be determined based on long term use and visual concerns. Mulch anchoring will be required where wind or areas of concentrated water are of concern. Wood fiber hydromulch or other sprayable products approved for erosion control (nylon web or mesh) may be used if applied according to manufacturers' specification. Caution is advised when using nylon or other synthetic products. They may be difficult to remove prior to final seeding and can be a hazard to young wildlife species.

STANDARD AND SPECIFICATIONS FOR TOPSOILING



Definition & Scope

Spreading a specified quality and quantity of topsoil materials on graded or constructed subsoil areas to provide acceptable plant cover growing conditions, thereby reducing erosion; to reduce irrigation water needs; and to reduce the need for nitrogen fertilizer application.

Conditions Where Practice Applies

Topsoil is applied to subsoils that are droughty (low available moisture for plants), stony, slowly permeable, salty or extremely acid. It is also used to backfill around shrub and tree transplants. This standard does not apply to wetland soils.

Design Criteria

1. Preserve existing topsoil in place where possible, thereby reducing the need for added topsoil.
2. Conserve by stockpiling topsoil and friable fine textured subsoils that must be stripped from the excavated site and applied after final grading where vegetation will be established. Topsoil stockpiles must be stabilized. Stockpile surfaces can be stabilized by vegetation, geotextile or plastic covers. This can be aided by orientating the stockpile lengthwise into prevailing winds.
3. Refer to USDA Natural Resource Conservation Service soil surveys or soil interpretation record sheets for further soil texture information for selecting appropriate design topsoil depths.

Site Preparation

1. As needed, install erosion and sediment control practices such as diversions, channels, sediment traps, and stabilizing measures, or maintain if already installed.
2. Complete rough grading and final grade, allowing for depth of topsoil to be added.
3. Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent. Areas that have been overly compacted shall be decompact in accordance with the Soil Restoration Standard.
4. Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

Topsoil Materials

1. Topsoil shall have at least 6 percent by weight of fine textured stable organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil.
2. Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.
3. Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.
4. Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel.
5. Topsoil containing soluble salts greater than 500 parts per million shall not be used.
6. Topsoil may be manufactured as a mixture of a mineral component and organic material such as compost.

Application and Grading

1. Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.
2. Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by “tracking” with suitable equipment.
3. Apply topsoil in the amounts shown in Table 4.7 below:

Table 4.7 - Topsoil Application Depth		
Site Conditions	Intended Use	Minimum Topsoil Depth
1. Deep sand or loamy sand	Mowed lawn	6 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	1 in.
2. Deep sandy loam	Mowed lawn	5 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	none
3. Six inches or more: silt loam, clay loam, loam, or silt	Mowed lawn	4 in.
	Tall legumes, unmowed	1 in.
	Tall grass, unmowed	1 in.

STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK



Definition & Scope

A **temporary** sediment control practice composed of a degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with construction activity to prevent their migration offsite.

Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed location.

Design Criteria

1. Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.
2. Diameters designed for use shall be 12" – 32" except

that 8" diameter socks may be used for residential lots to control areas less than 0.25 acres.

3. The flat dimension of the sock shall be at least 1.5 times the nominal diameter.
4. The **Maximum Slope Length** (in feet) above a compost filter sock shall not exceed the following limits:

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



5. The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of man-made foreign matter. The physical parameters of the compost shall meet the standards listed in Table 5.2 - Compost Standards Table. **Note: All biosolids compost produced in New York State (or approved for importation) must meet NYS DEC's 6 NYCRR Part 360 (Solid Waste Management Facilities) requirements. The Part 360 requirements are equal to or more stringent than 40 CFR Part 503 which ensure safe standards for pathogen reduction and heavy metals content. When using compost filter socks adjacent to surface water, the compost should have a low nutrient value.**
6. The compost filter sock fabric material shall meet the

7. Compost filter socks shall be anchored in earth with 2” x 2” wooden stakes driven 12” into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed area side of the compost sock.
8. All specific construction details and material specifications shall appear on the erosion and sediment control constructions drawings when compost filter socks are included in the plan.
3. Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.
4. Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Polypropylene socks shall be replaced according to the manufacturer’s recommendations.
5. Upon stabilization of the area contributory to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed in accordance with the stabilization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil supplement.

Maintenance

1. Traffic shall not be permitted to cross filter socks.
2. Accumulated sediment shall be removed when it reaches half the above ground height of the sock and disposed of in accordance with the plan.

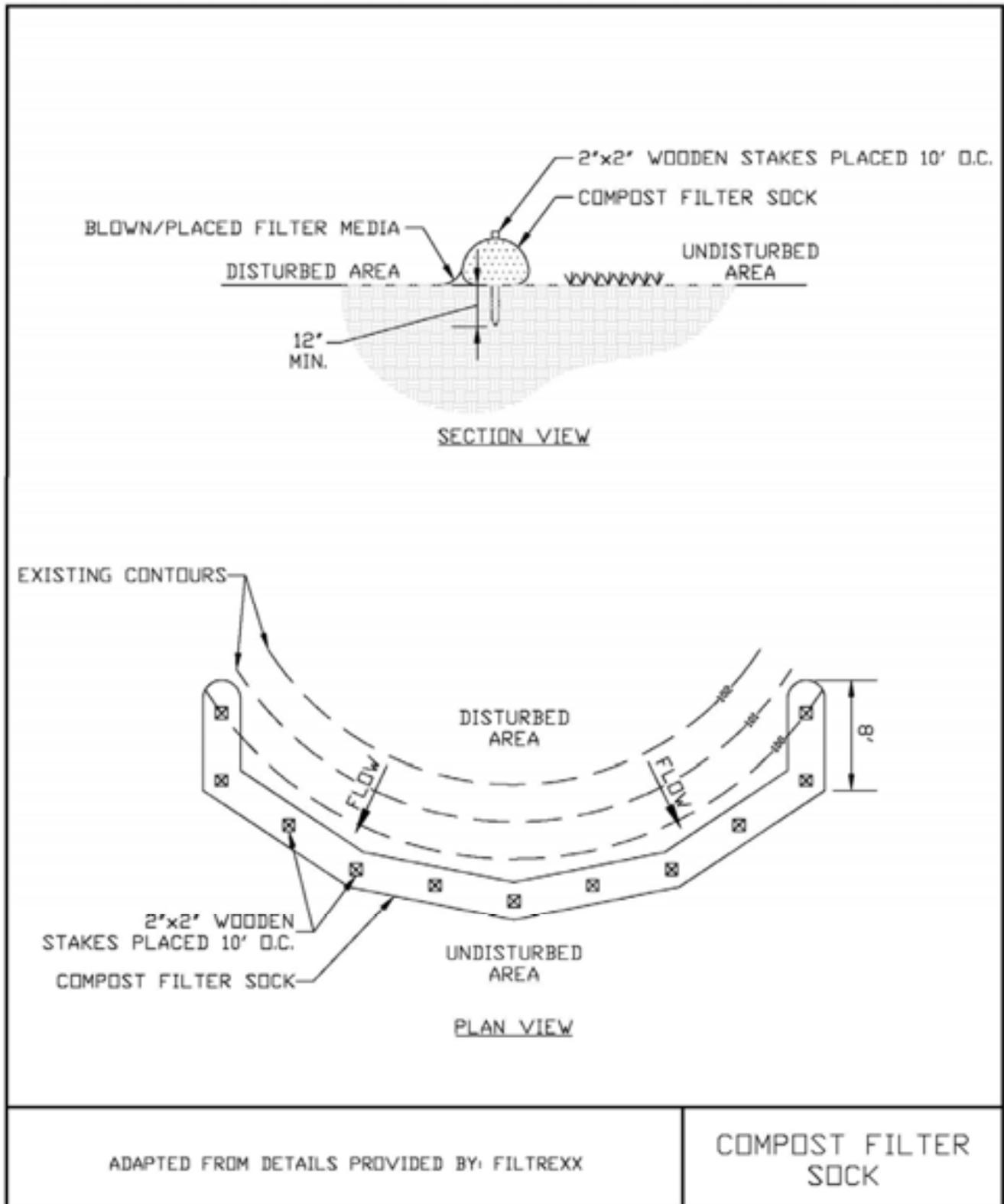
Table 5.1 - Compost Sock Fabric Minimum Specifications Table

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photodegradable	Photodegradable	Biodegradable	Photodegradable	Photodegradable
Sock Diameters	12” 18”	12” 18” 24” 32”	12” 18” 24” 32”	12” 18” 24” 32”	12” 18” 24” 32”
Mesh Opening	3/8”	3/8”	3/8”	3/8”	1/8”
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

Table 5.2 - Compost Standards Table

Organic matter content	25% - 100% (dry weight)
Organic portion	Fibrous and elongated
pH	6.0 – 8.0
Moisture content	30% - 60%
Particle size	100% passing a 1” screen and 10 - 50% passing a 3/8” screen
Soluble salt concentration	5.0 dS/m (mmhos/cm) maximum

Figure 5.2
Compost Filter Sock



STANDARD AND SPECIFICATIONS FOR DEWATERING DEVICE



Definition & Scope

An appurtenance to a sediment trapping structure such as a basin or trap that allows sediment laden water to pond allowing sediment to settle out while removing relatively clean water to a suitable, stable outlet.

Condition Where Practice Applies

Dewatering devices are appropriate where the discharge from a trap or basin will be by gravity flow through a riser and pipe outlet system. The skimmer dewatering device is the preferred option. A fixed pipe dewatering device, configured as a perforated vertical riser surrounded by filter fabric and stone material is an alternate option for small structures.

Design Criteria

Skimmer Device

1. Skimmers must be designed so as to float just beneath the water surface to remove the least sediment laden water effectively.
2. Skimmer shall be constructed with a 4 foot long flexible pipe elbow to allow for vertical movement of the skimmer for its designated range of operation.
3. The designer will provide a table that shows all required dimensions for the skimmer. An example of this table is shown in Figure 5.4 on page 5.12. See design example in Appendix B.
4. The skimmer will be provided with vertical travel guides and a resting stone pad set at the appropriate design elevation.

5. The orifice plate will be at the “T” intersection of the perforated skimmer section with the non-perforated extension arm.

Riser-Pipe Device

1. The riser-pipe device is constructed as a fixed rigid structure with a larger diameter pipe as the vertical riser connected to a smaller diameter horizontal pipe barrel.
2. The joint of these two conduits will be anchored by means of a concrete block or welded steel plate to prevent flotation.
3. The riser will be perforated above the bottom of the dewatering zone elevation and wrapped with a geotextile filter fabric to filter out sediment.
4. The filter fabric shall be covered with stone graded as NYSDOT #1, #2, or a blend of both, to protect the fabric from deterioration.
5. An orifice plate shall be placed in the riser at the bottom of the dewatering zone elevation to control the dewatering rate.

Dewatering Drawdown

As a minimum, sediment traps and basins should have their temporary storage dewatered over a 48 hour period to maximize sediment retention. If the soils disturbed within the drainage area will have 60% - 80% fines the settling time should be increased to 4 days. Soils containing greater than 80% fines will need longer settling times but in no case longer than 7 days to maintain the hydraulic performance of the basin for recurring runoff events.

1. Skimmer orifices may be sized by using the design chart shown in Figure 5.3 on page 5.11.
2. Riser-pipe orifice sizes may be approximated by the following formula:

$$A_0 = \frac{A_s \times 2h^{0.5}}{T \times C_d \times 20,428}$$

Where:

A_0 = Areas of the dewatering orifice (ft²)

A_s = Surface area of the basin/trap (ft²)

h = head of water above the orifice (ft)

C_d = 0.6 (contraction coefficient of an orifice)

T = Detention time needed to dewater basin (48 hours minimum)

Therefore, the minimum A_o formula for 48 hrs. reduces to:

$$A_o = \frac{A_r \times 2h^{0.5}}{588,326}$$

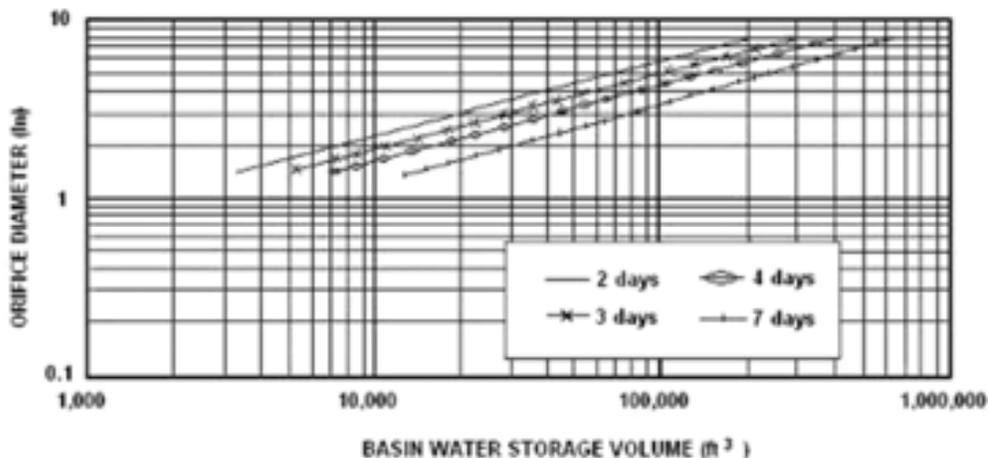
Material Specifications

1. Skimmer Devices - These devices shall be constructed with Schedule 40 PVC pipe with diameters of 4 to 6 inches. The flexible arm shall be equal diameter of non-perforated, corrugated, plastic tubing.
2. Riser-pipe Devices - These devices shall be constructed of Schedule 40 PVC if plastic pipe is used or galvanized corrugated steel or aluminum pipe. The minimum diameter shall be 6 inches if the device is used in conjunction with another permanent riser. All perforations will be at the interior of the corrugations.

Maintenance

1. Dewatering devices shall be inspected weekly and after each runoff event.
2. Filter fabric or media will be replaced as needed.
3. Any malfunctioning skimmer or its components shall be repaired or replaced within 24 hours of inspection notification.
4. Sediment shall be removed from the system when it reaches the level marked in a sediment cleanout stake or the top of the skimmer landing area.
5. The structure shall only be removed when the tributary area has been properly stabilized.

Figure 5.3 - Skimmer Orifice Design Chart

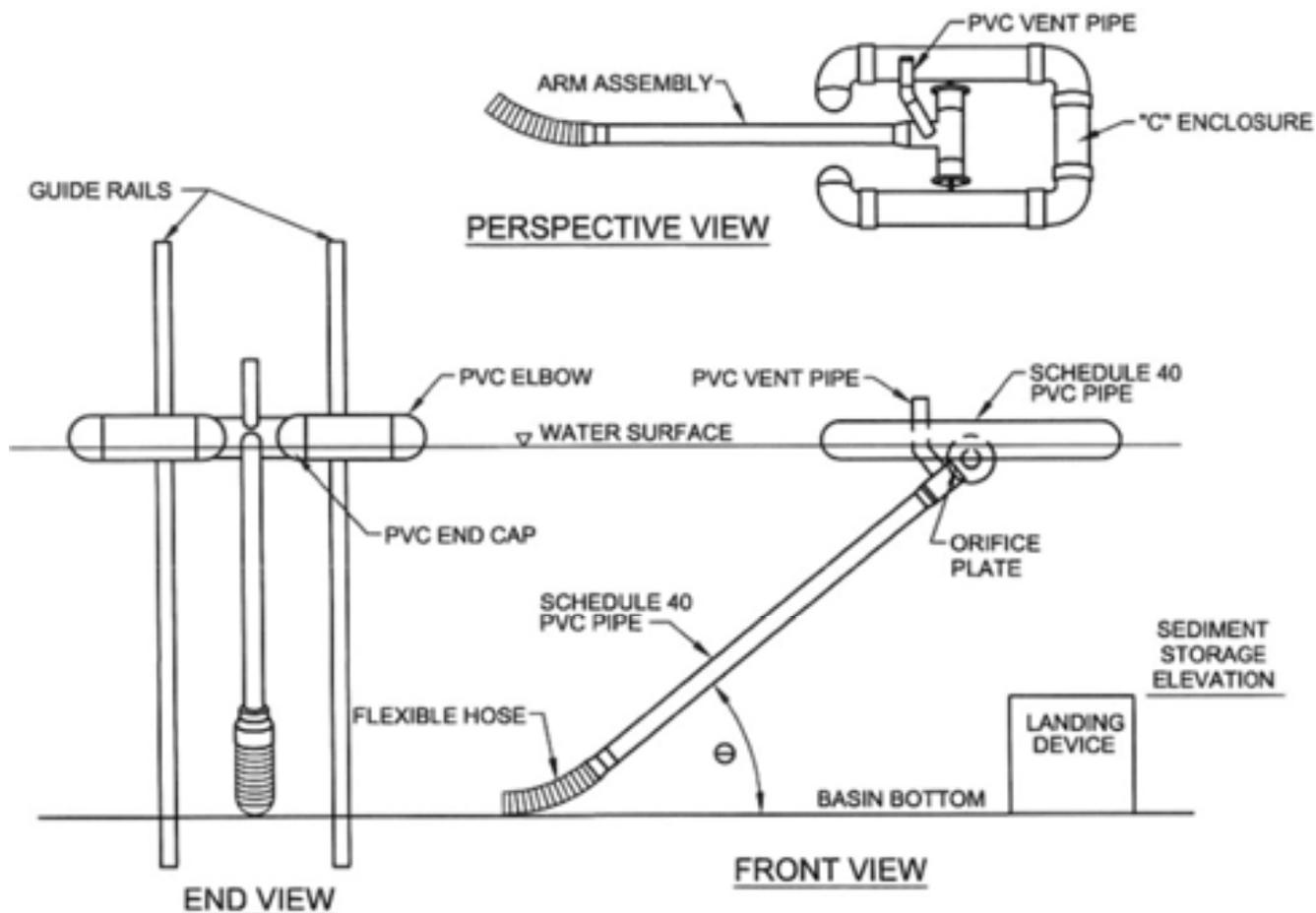


* Figure adapted from Penn State Agricultural and Biological Fact Sheet F-253

Notes:

1. Figure 5.3 is for use in designing the orifice plate for the skimmer shown in Figure 5.4. It assumes 3" to 5" head (depending upon the size of the skimmer). The required head for use of Figure 5.3 varies as follows: For a skimmer with a dewatering tube $\leq 2 \frac{1}{2}$ " diameter, use a 2" head. For a 3" diameter tube, use a 2.5" head; 4" tube, use 3.3" head, 5" tube use 4" head, and 6" diameter tube use 5" head.
2. Find the vertical line representing the basin's dewatering zone volume. At the intersection of the vertical line with the desired dewatering time, read horizontally to the left to find the required skimmer orifice diameter.

Figure 5.4 Skimmer Dewatering Device



* Figure adapted from Penn State Agricultural and Biological Fact Sheet F-253

Basin No.	Water Surface Elevation (ft.)	Arm Length* (ft.)	Arm Dia. (in.)	Orifice Size** (in.)	Top of Landing Device Elevation (ft.)	Flexible Hose Length (in.)	Flexible Hose Attachment Elevation (ft.)

* Minimum Arm length = Full design storage depth x 1.414 (for 45 degree angle)
 ** Must be equal to or less than arm diameter

Skimmer Construction Notes

1. Pipe flotation section shall be solvent welded to ensure an airtight assembly. The contractor is required to conduct a test to check for leaks prior to installation.
2. Skimmer section shall have 12 rows of 1/2" diameter holes, 1 1/4" on center. If additional filtration is necessary, the filtering media shall consist of a Type GD-II geotextile fabric wrapped around the perforated portion of the skimmer and attached with plastic snap ties, bands, etc.
3. Flexible pipe shall be inserted into solid pipe and fastened with 2 #8 wood screws.
4. At a minimum, the structure shall be inspected after each rain and repairs made as needed. If vandalism is a problem, more frequent inspection may be necessary.
5. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
6. The structure shall only be removed when the contributing drainage area has been properly stabilized.

Materials

(Note: materials for a 4" diameter arm assembly)

1. Solid Pipe - 4" Schedule 40 PVC
2. Perforated Pipe - 4" Schedule 40 PVC
3. 90° Tee (1 each) - 4" Schedule 40 PVC
4. 90° Elbow (4 each) - 4" Schedule 40 PVC
5. Cap (2 each) - 4" Schedule 40 PVC, solid
6. Flexible pipe - 4" Corrugated Plastic Tubing (non-perforated)

Figure 5.5
Riser Pipe Dewatering Device

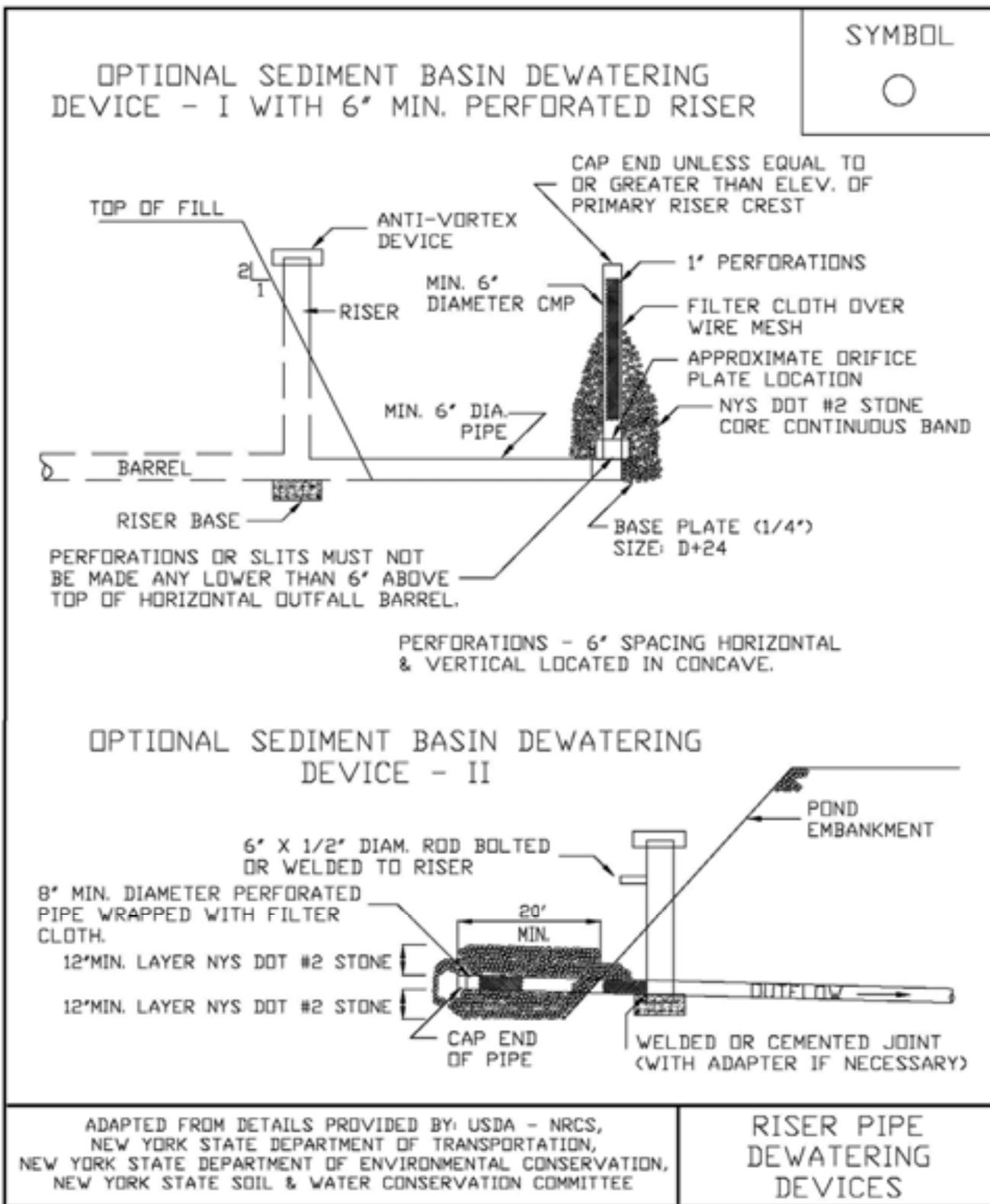


Figure 5.6

Riser Pipe Dewatering Device Construction Notes

Riser Pipe Construction Notes

1. Standpipe and connector pipe shall be a minimum of 6 inches diameter.
2. Metal pipe may be galvanized steel or aluminum; plastic pipe may be Schedule 40 PVC or HDPP.
3. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
4. The structure shall only be removed when the contributing drainage area has been properly stabilized.
5. All pipe connections shall be watertight. The lower portion of the standpipe, at a point above the barrel connection, shall be fitted with an internal orifice plate sized to release the volume of the basin no sooner than 48 hours.
6. The top 2/3 of the standpipe shall be perforated with 1 inch diameter hole or slit spaced 6 inches vertically and horizontally and placed in the concave portion of the pipe. No holes will be allowed within 6 inches of the horizontal connector pipe.
7. The riser shall be wrapped with a Type GD-II geotextile fabric. The fabric shall extend 6 inches above the highest hole and 6" below the lowest hole. Where ends of fabric come together, they shall be overlapped, folded and stapled to prevent bypass.
8. Straps or connecting bands shall be used to hold the fabric and wire mesh (as needed) in place. They shall be placed at the top and bottom of the cloth.
9. The standpipe shall be anchored with either concrete base or steel plate base to prevent flotation. Concrete bases shall be 12 inches thick with the standpipe embedded nine inches. Steel plate bases will be 1/4 inch minimum thickness attached to the standpipe by a continuous weld around the bottom to form a watertight connection. The plate shall have 2.5 feet of stone, gravel or tamped earth placed on it.
10. The perforated standpipe shall be surrounded by NYSDOT #1 or #2 stone or a blend of both to protect the filter fabric.

STANDARD AND SPECIFICATIONS FOR GEOTEXTILE FILTER BAG



Definition & Scope

A **temporary** portable device through which sediment laden water is pumped to trap and retain sediment prior to its discharge to drainageways or off-site.

Condition Where Practice Applies

On sites where space is limited such as urban construction or linear projects (e.g. roads and utility work) where rights-of-way are limited and larger de-silting practices are impractical.

Design Criteria

1. Location - The portable filter bag should be located to minimize interference with construction activities and pedestrian traffic. It should also be placed in a location that is vegetated, relatively level, and provides for ease of access by heavy equipment, cleanout, disposal of trapped sediment, and proper release of filtered water.

The filter bag shall also be placed at least 50 feet from all wetlands, streams or other surface waters.

2. Size - Geotextile filter bag shall be sized in accordance with the manufacturers recommendations based on the pump discharge rate.

Materials and Installation

1. The geotextile material will have the following attributes:

Minimum Grab Tensile Strength	200 lbs.
Minimum Grab Tensile Elongation	50 %
Minimum Trapezoid Tear Strength	80 lbs.
Mullen Burst Strength	380 psi
Minimum Puncture Strength	130 lbs
Apparent Opening Size	40 - 80 US sieve
Minimum UV Resistance	70%
Minimum Flow Thru Rate	70 gpm/sq ft

2. The bag shall be sewn with a double needle machine using high strength thread, double stitched "Joe" type capable of minimum roll strength of 100 lbs/inch (ASTM D4884).
3. The geotextile filter bag shall have an opening large enough to accommodate a 4 inch diameter discharge hose with an attached strap to tie off the bag to the hose to prevent back flow.
4. The geotextile shall be placed on a gravel bed 2 inches thick, a straw mat 4 inches thick, or a vegetated filter strip to allow water to flow out of the bag in all directions.

Maintenance

1. The geotextile filter bag is considered full when remaining bag flow area has been reduced by 75%. At this point, it should be replaced with a new bag.
2. Disposal may be accomplished by removing the bag to an appropriate designated upland area, cut open, remove the geotextile for disposal, and spread sediment contents and seeded and mulched according to the vegetative plan.

STANDARD AND SPECIFICATIONS FOR SILT FENCE



Definition & Scope

A **temporary** barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and
2. Maximum ponding depth of 1.5 feet behind the fence; and
3. Erosion would occur in the form of sheet erosion; and
4. There is no concentration of water flowing to the barrier; and
5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.
2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and

roll down. The area beyond the fence must be undisturbed or stabilized.

3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

Super Silt Fence

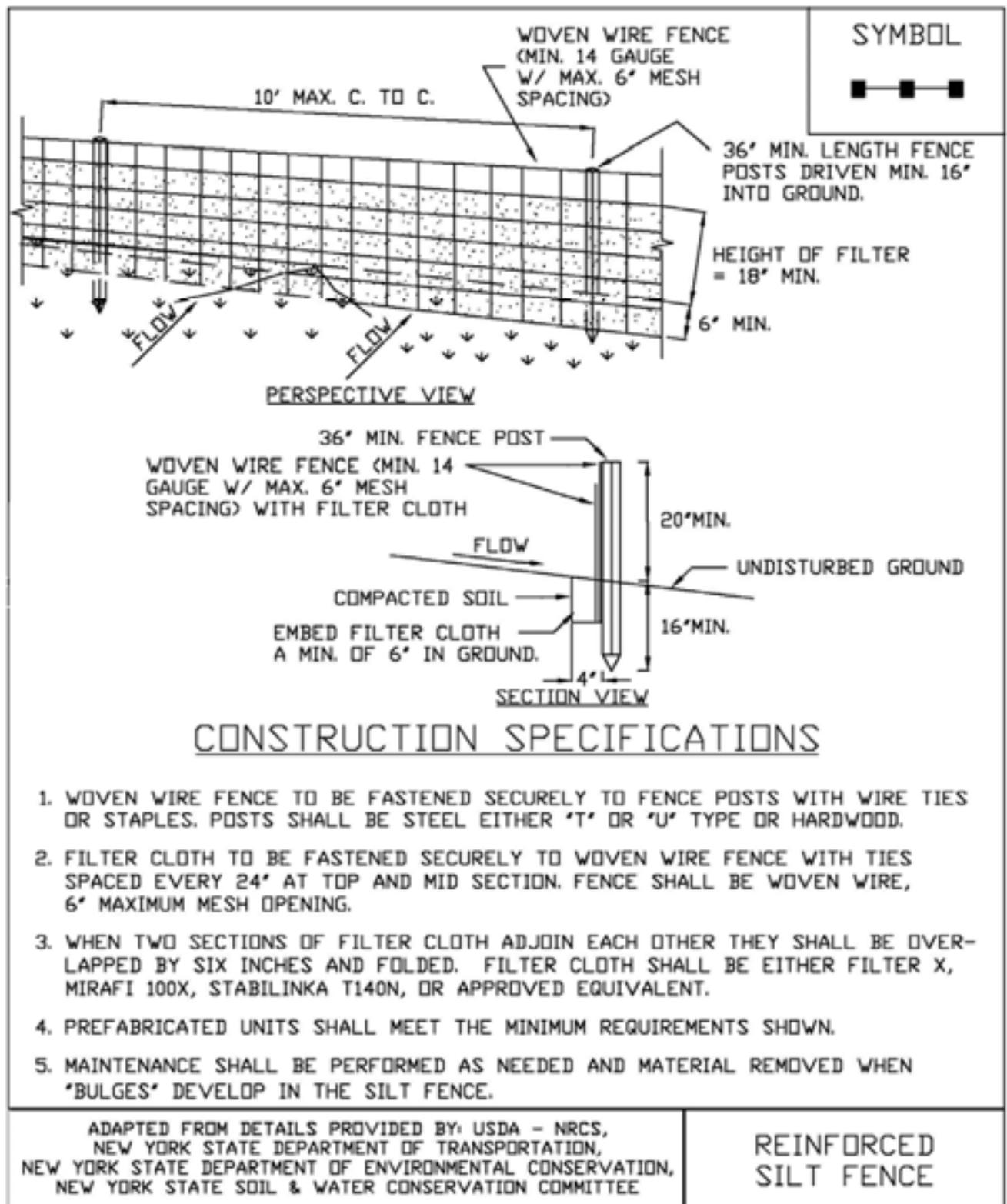


2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.
4. Prefabricated silt fence is acceptable as long as all material specifications are met.

Reinforced Silt Fence



**Figure 5.30
Reinforced Silt Fence**



STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION



Definition & Scope

A **temporary** barrier with low permeability, installed around inlets in the form of a fence, berm or excavation around an opening, detaining water and thereby reducing the sediment content of sediment laden water by settling thus preventing heavily sediment laden water from entering a storm drain system.

Conditions Where Practice Applies

This practice shall be used where the drainage area to an inlet is disturbed, it is not possible to temporarily divert the storm drain outfall into a trapping device, and watertight blocking of inlets is not advisable. **It is not to be used in place of sediment trapping devices.** This practice shall be used with an upstream buffer strip if placed at a storm drain inlet on a paved surface. It may be used in conjunction with storm drain diversion to help prevent siltation of pipes installed with low slope angle.

Types of Storm Drain Inlet Practices

There are five (5) specific types of storm drain inlet protection practices that vary according to their function, location, drainage area, and availability of materials:

- I. Excavated Drop Inlet Protection
- II. Fabric Drop Inlet Protection
- III. Stone & Block Drop Inlet Protection
- IV. Paved Surface Inlet Protection
- V. Manufactured Insert Inlet Protection

Design Criteria

Drainage Area – The drainage area for storm drain inlets shall not exceed one acre. Erosion control/temporary stabilization measures must be implemented on the disturbed

drainage area tributary to the inlet. The crest elevations of these practices shall provide storage and minimize bypass flow.

Type I – Excavated Drop Inlet Protection

This practice is generally used during initial overlot grading after the storm drain trunk line is installed.

Limit the drainage area to the inlet device to 1 acre. Excavated side slopes shall be no steeper than 2:1. The minimum depth shall be 1 foot and the maximum depth 2 feet as measured from the crest of the inlet structure. Shape the excavated basin to fit conditions with the longest dimension oriented toward the longest inflow area to provide maximum trap efficiency. The capacity of the excavated basin should be established to contain 900 cubic feet per acre of disturbed area. Weep holes, protected by fabric and stone, should be provided for draining the temporary pool.

Inspect and clean the excavated basin after every storm. Sediment should be removed when 50 percent of the storage volume is achieved. This material should be incorporated into the site in a stabilized manner.

Type II – Fabric Drop Inlet Protection



This practice is generally used during final elevation grading phases after the storm drain system is completed.

Limit the drainage area to 1 acre per inlet device. Land area slope immediately surrounding this device should not exceed 1 percent. The maximum height of the fabric above the inlet crest shall not exceed 1.5 feet unless reinforced.

The top of the barrier should be maintained to allow overflow to drop into the drop inlet and not bypass the inlet to

unprotected lower areas. Support stakes for fabric shall be a minimum of 3 feet long, spaced a maximum 3 feet apart. They should be driven close to the inlet so any overflow drops into the inlet and not on the unprotected soil. Improved performance and sediment storage volume can be obtained by excavating the area.

Inspect the fabric barrier after each rain event and make repairs as needed. Remove sediment from the pool area as necessary with care not to undercut or damage the filter fabric. Upon stabilization of the drainage area, remove all materials and unstable sediment and dispose of properly. Bring the adjacent area of the drop inlet to grade, smooth and compact and stabilize in the appropriate manner to the site.

Type III – Stone and Block Drop Inlet Protection

This practice is generally used during the initial and intermediate overlot grading of a construction site.

Limit the drainage area to 1 acre at the drop inlet. The stone barrier should have a minimum height of 1 foot and a maximum height of 2 feet. Do not use mortar. The height should be limited to prevent excess ponding and bypass flow.

Recess the first course of blocks at least 2 inches below the crest opening of the storm drain for lateral support. Subsequent courses can be supported laterally if needed by placing a 2x4 inch wood stud through the block openings perpendicular to the course. The bottom row should have a few blocks oriented so flow can drain through the block to dewater the basin area.

The stone should be placed just below the top of the blocks on slopes of 2:1 or flatter. Place hardware cloth of wire mesh with ½ inch openings over all block openings to hold stone in place.

As an optional design, the concrete blocks may be omitted and the entire structure constructed of stone, ringing the outlet (“doughnut”). The stone should be kept at a 3:1 slope toward the inlet to keep it from being washed into the inlet. A level area 1 foot wide and four inches below the crest will further prevent wash. Stone on the slope toward the inlet should be at least 3 inches in size for stability and 1 inch or smaller away from the inlet to control flow rate. The elevation of the top of the stone crest must be maintained 6 inches lower than the ground elevation down slope from the inlet to ensure that all storm flows pass over the stone into the storm drain and not past the structure. Temporary diking should be used as necessary to prevent bypass flow.

The barrier should be inspected after each rain event and repairs made where needed. Remove sediment as necessary to provide for accurate storage volume for subsequent rains. Upon stabilization of contributing drainage area, remove all

materials and any unstable soil and dispose of properly.

Bring the disturbed area to proper grade, smooth, compact and stabilize in a manner appropriate to the site.

Type IV – Paved Surface Inlet Protection



This practice is generally used after pavement construction has been done while final grading and soil stabilization is occurring. These practices should be used with upstream buffer strips in linear construction applications, and with temporary surface stabilization for overlot areas, to reduce the sediment load at the practice. This practice includes sand bags, compost filter socks, geo-tubes filled with ballast, and manufactured surface barriers. Pea gravel can also be used in conjunction with these practices to improve performance. When the inlet is not at a low point, and is offset from the pavement or gutter line, protection should be selected and installed so that flows are not diverted around the inlet.



The drainage area should be limited to 1 acre at the drain inlet. All practices will be placed at the inlet perimeter or beyond to maximize the flow capacity of the inlet. Practices shall be weighted, braced, tied, or otherwise anchored to prevent movement or shifting of location on paved surfaces. Traffic safety shall be integrated with the use of this practice. All practices should be marked with traffic safety cones as appropriate. Structure height shall not cause flooding or by-pass flow that would cause additional erosion.

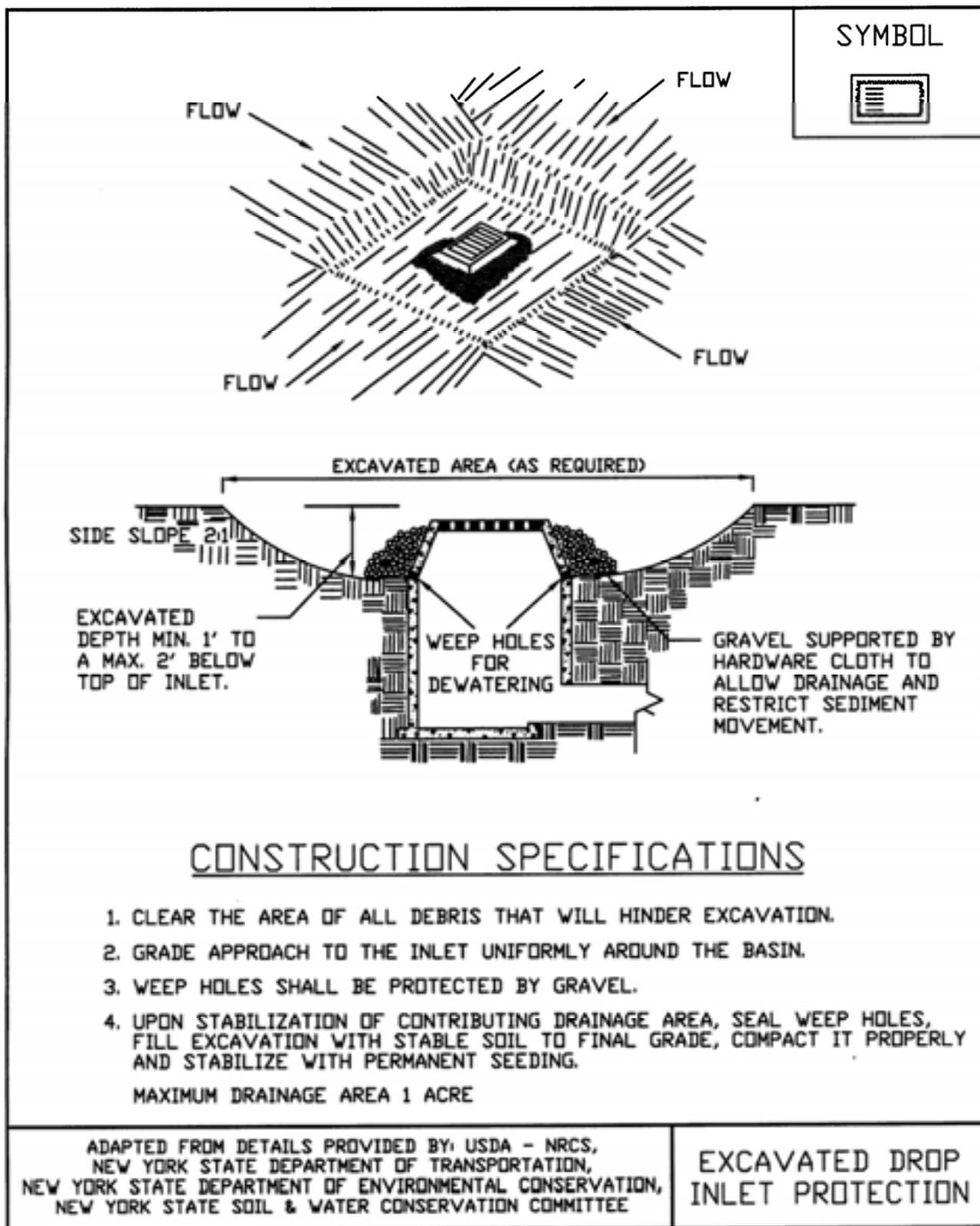
The structure should be inspected after every storm event. Any sediment should be removed and disposed of on the site. Any broken or damaged components should be replaced. Check all materials for proper anchorage and secure as necessary.

Type V - Manufactured Insert Inlet Protection



The drainage area shall be limited to 1 acre at the drain inlet. All inserts will be installed and anchored in accordance with the manufacturers recommendations and design details. The fabric portion of the structure will equal or exceed the performance standard for the silt fence fabric. The inserts will be installed to preserve a minimum of 50 percent of the open, unobstructed design flow area of the storm drain inlet opening to maintain capacity for storm events.

**Figure 5.31
Excavated Drop Inlet Protection**



**Figure 5.32
Fabric Drop Inlet Protection**

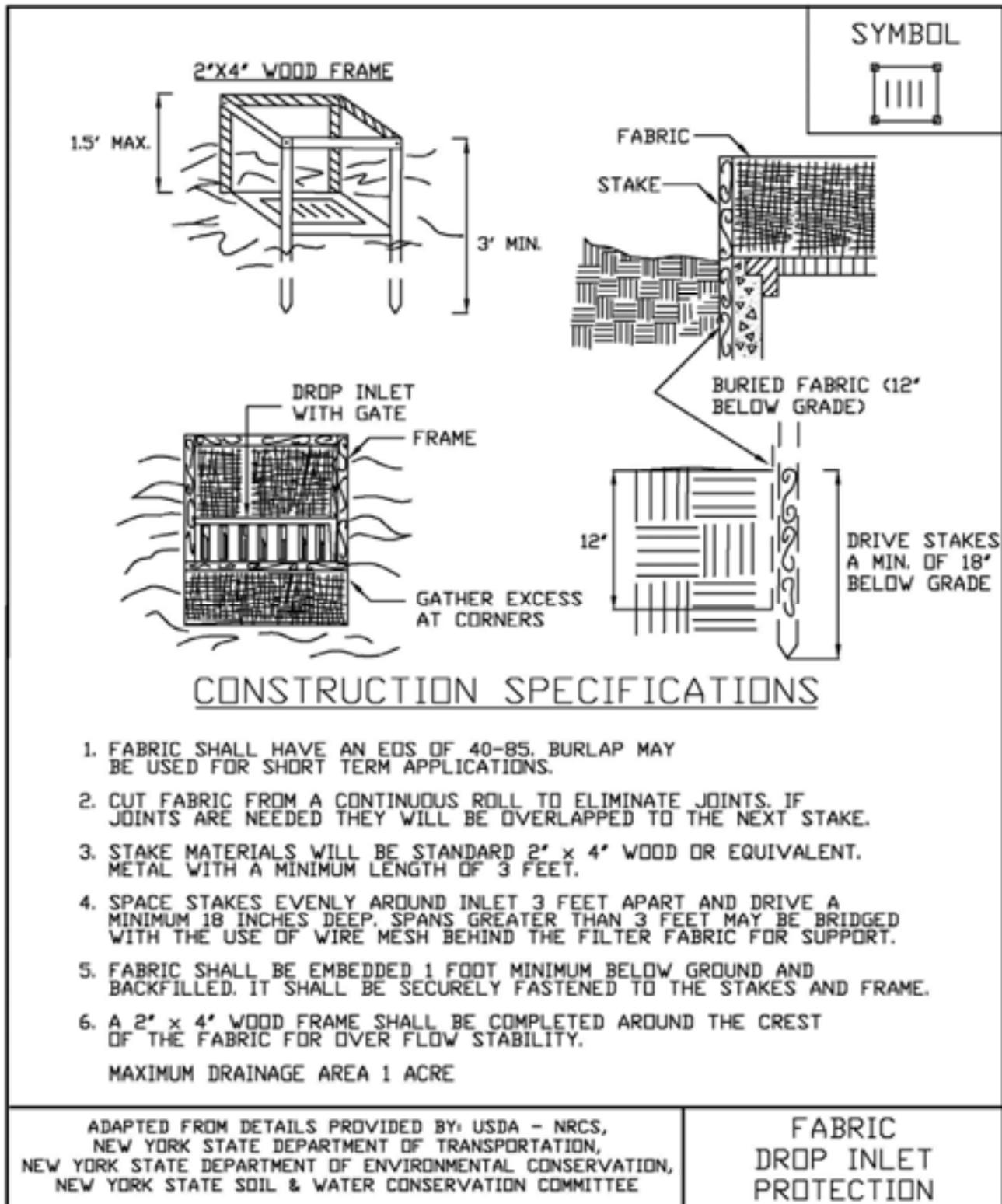
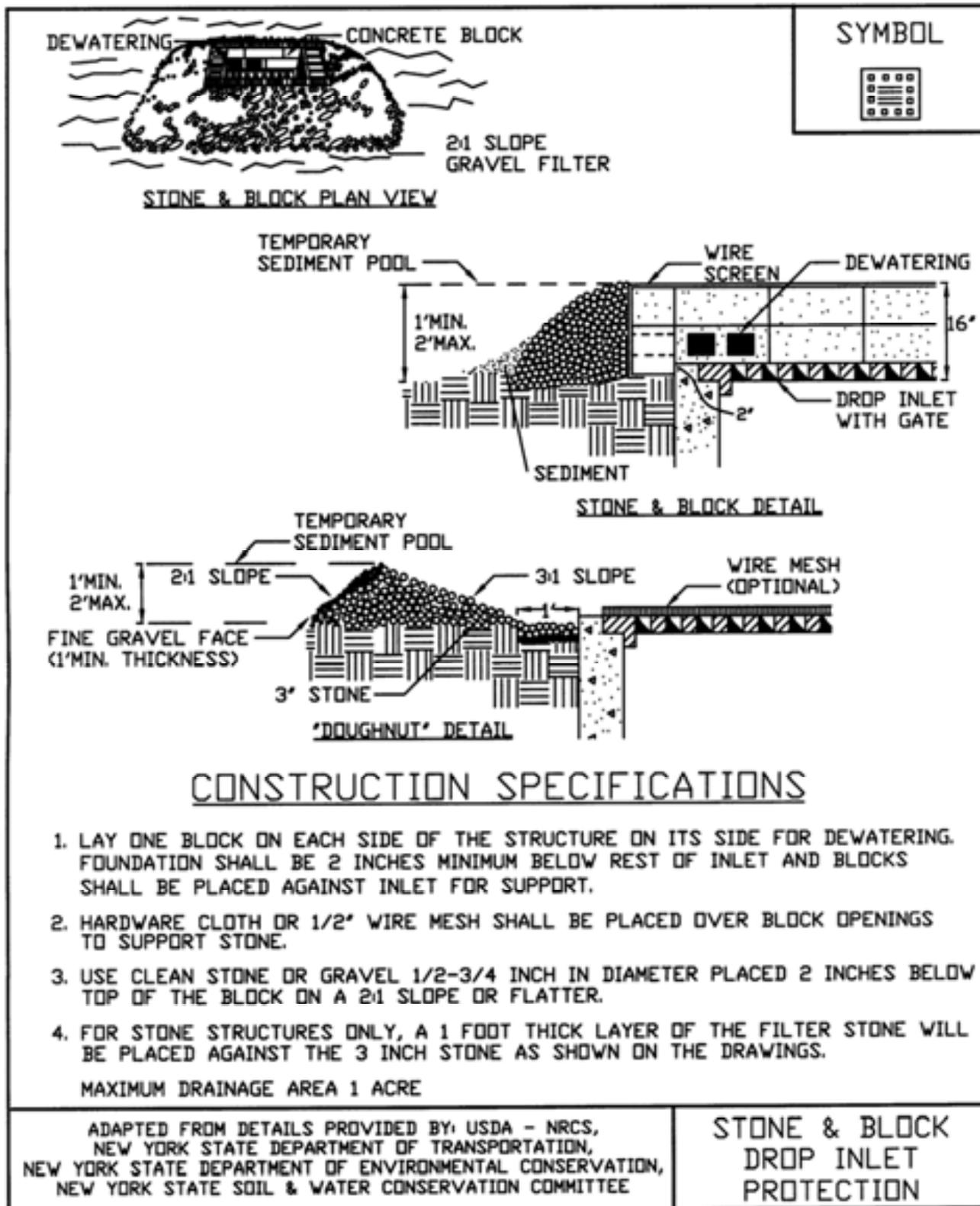


Figure 5.33
Stone & Block Drop Inlet Protection





July 29, 2019

Deb Osterhoudt
Prime Companies
621 Columbia Street
Cohoes, NY 12047

RE: Durkee Street Mixed Use Development Project - Plattsburgh, New York
Traffic Generation Letter of Findings

Dear Ms. Osterhoudt,

McFarland Johnson, Inc. (MJ) has reviewed the vehicular traffic anticipated to be generated by the proposed Durkee Street Mixed Use Development Project in Plattsburgh, New York and respectively submits this Letter of Findings. The intent of this letter of findings is to assess the projected changes in vehicular traffic generated by the site from the existing conditions to the currently proposed development.

Existing Conditions

The existing site currently contains 289 parking spaces, of which, it was estimated that roughly 275 of those spaces are used on a daily basis according to the Parking Observations and Recommendations study completed by Carl Walker dated February 2018. The study also concluded that in general city wide the parking is roughly 85% occupied during the peak timeframe at noon on weekdays. Access to the current parking lot is provided from Durkee Street and Bridge Street via single unsignalized driveway curb cuts.

Proposed Conditions

The proposed site currently includes 114 residential units, 10,000 square feet of commercial space and an auxiliary 92 space parking lot. The project will have 35 spaces on a courtyard level with a driveway access to Durkee Street and 165 spaces on a lower level with access to Bridge Street; the 92-space auxiliary parking lot will have a separate entrance onto Durkee Street, for a total of 292 parking spaces provided by the project.

Proposed Traffic Generation

For analysis purposes, the peak hours site generated traffic was estimated using trip generation rates provided in the Institute of Transportation Engineers' (ITE) Trip Generation manual, 10th edition as shown in the table below. Although it was concluded that 275 parking spaces were occupied during the peak parking period for the existing lot, that does not necessarily mean all those vehicles entered/exited during a single hour. The ITE trip generation manual uses statistical data collected nationwide to determine an appropriate amount of traffic generated during the peak hour for use in traffic analysis. The proposed trip generation was conservatively calculated assuming that the entire 92 space auxiliary lot was fully occupied by vehicles not associated with the proposed residential and commercial spaces.

Shown in the table below, the resulting trip generation volumes were calculated for both the existing and proposed uses of the site.

TRIP GENERATION CALCULATION TABLE

ITE Trip Generation 10th Edition Manual Research Data:

Type of Land Use	ITE Code	Unit	Weekday Morning Peak			Weekday Evening Peak		
			Enter	Exit	Total	Enter	Exit	Total
Park and Ride Lot	90	275 Occupied Spaces	Generation Rate = 0.44			Generation Rate = 0.55		
			81%	19%	100%	25%	75%	100%
			98	23	121	38	113	151
Total Existing Trips			98	23	121	38	113	151
Shopping Center	820	10 KSF	Generation Rate = 3.00			Generation Rate = 4.21		
			54%	46%	100%	50%	50%	100%
			16	14	30	21	21	42
Multifamily Housing (Low-Rise)	220	114 Units	Generation Rate = 0.56			Generation Rate = 0.67		
			28%	72%	100%	59%	41%	100%
			18	46	64	45	31	76
Park and Ride Lot	90	92 Occupied Spaces	Generation Rate = 0.44			Generation Rate = 0.55		
			81%	19%	100%	25%	75%	100%
			33	8	40	13	38	51
Total Proposed Trips			67	68	134	79	90	169
Difference in Trips			-31	45	13	41	-23	18

* Trip generation rates is based on ITE Trip Generation Manual 10th Edition for Trips Generated during the anticipated morning and evening peak hours.

Based on the results from the trip generation calculations, it is estimated that the proposed development will generate roughly 13 more trips during the morning peak hour and 18 more trips during the evening peak hour. The origin and destination of these trips will change as a result of the project, with an increase in exiting trips in the morning and entering trips in the evening due to the proposed residential use. The proposed development will also distribute the traffic to three access points, while the current site utilizes two driveways.

The general industry practice for many urban municipalities is that an intersection should be analyzed for impact associated with a proposed development if 100 new trips are proposed through that intersection. Although the traffic patterns will likely be altered by the proposed development, we do not believe that the proposed development will increase the traffic volumes by 100 vehicles during the peak hour at any specific intersection; therefore, it is our opinion that no further traffic impact analysis is required as a result of traffic that would be generated by the proposed development.

Please do not hesitate to call should you require additional information or have any questions.

Sincerely yours,

McFARLAND-JOHNSON, INC.



Adam J. Frosino, PE, PTOE
Project Manager - Traffic



Legend of Materials	
	Clapboard Siding
	Vertical Board & Batten Siding
	Masonry Texture
	Stone Veneer
	Metal Panel
	Cornice / Trim: Versatex or Sim.
	Windows/Commercial Storefront: Insulated Glass/Metal Frame
	Exterior Railing: Metal

1
A5.1

WEST ELEVATION

SCALE @ 11X17: 1"=20'



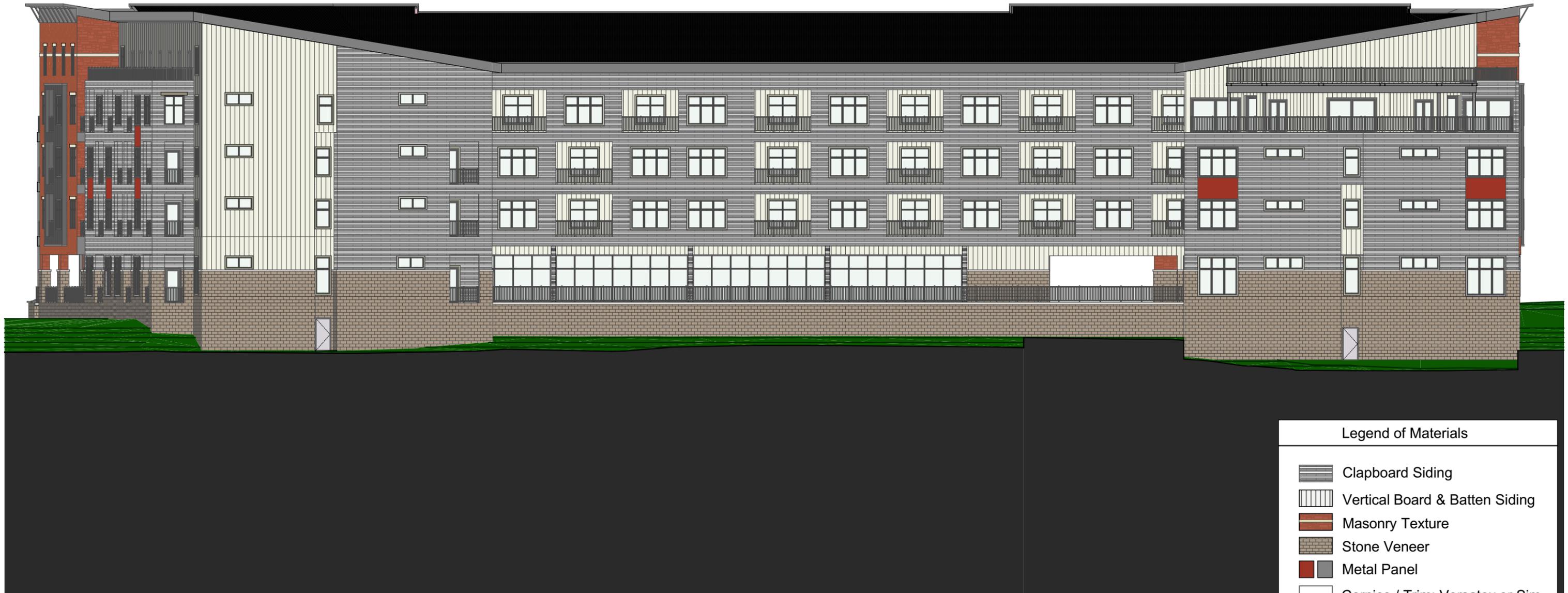
MACKENZIE ARCHITECTS P.C.
 162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

Plattsburgh Mixed Use
 Development
 Building Elevations

The City of Plattsburgh
 Plattsburgh, NY
 1/29/2020

A5.1

Ownership of Instruments of Service: All reports, drawings, specifications, computer files, field data, notes and other documents and instruments prepared by the Mackenzie Architects as instruments of service shall remain the property of the Mackenzie Architects. Mackenzie Architects shall retain all common law, statutory and other reserved rights, including the copyright thereto.



1
A5.2

EAST ELEVATION

SCALE @ 11X17: 1"=20'



Legend of Materials

- Clapboard Siding
- Vertical Board & Batten Siding
- Masonry Texture
- Stone Veneer
- Metal Panel
- Cornice / Trim: Versatex or Sim.
- Windows/Commercial Storefront:
Insulated Glass/Metal Frame
- Exterior Railing: Metal

MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

Plattsburgh Mixed Use
Development
Building Elevations

The City of Plattsburgh
Plattsburgh, NY
1/29/2020

A5.2



Legend of Materials	
	Clapboard Siding
	Vertical Board & Batten Siding
	Masonry Texture
	Stone Veneer
	Metal Panel
	Cornice / Trim: Versatex or Sim.
	Windows/Commercial Storefront: Insulated Glass/Metal Frame
	Exterior Railing: Metal

1
A5.3

SOUTH ELEVATION

SCALE @ 11X17: 1"=20'



MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

Plattsburgh Mixed Use
Development
Building Elevations

The City of Plattsburgh
Plattsburgh, NY
1/29/2020

A5.3



Legend of Materials	
	Clapboard Siding
	Vertical Board & Batten Siding
	Masonry Texture
	Stone Veneer
	Metal Panel
	Cornice / Trim: Versatex or Sim.
	Windows/Commercial Storefront: Insulated Glass/Metal Frame
	Exterior Railing: Metal

1
A5.4

NORTH ELEVATION

SCALE @ 11X17: 1"=20'



MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

Plattsburgh Mixed Use
Development
Building Elevations

The City of Plattsburgh
Plattsburgh, NY
1/29/2020

A5.4



McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
 SITE PLAN SUBMISSION

NO.	DATE	DESCRIPTION

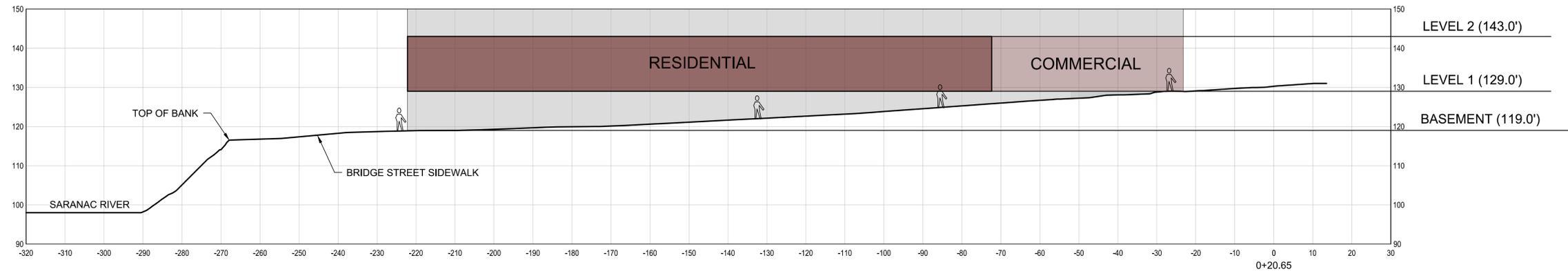
CLIENT: **PRIME PLATTSBURGH, LLC**
 CITY OF PLATTSBURGH, NEW YORK
 PROJECT: **DURKEE STREET MIXED USE DEVELOPMENT**

DRAWN	NSO
DESIGNED	NSO
CHECKED	TCB
SCALE	1"=15'
DATE	JANUARY 2020
PROJECT	18491.00

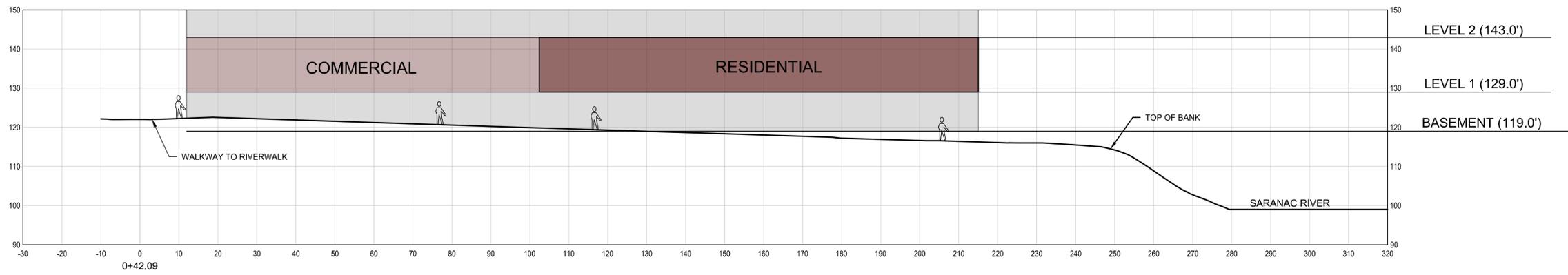
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
SECTION VIEWS

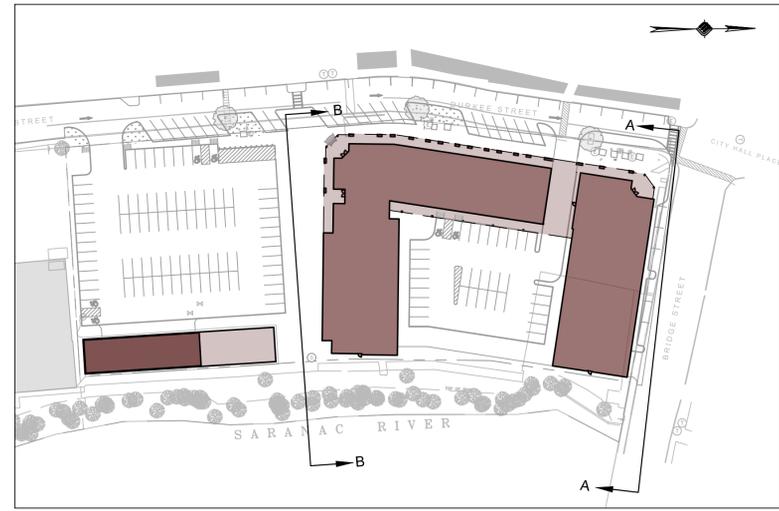
DRAWING NUMBER
SV-01



SECTION VIEW A - A

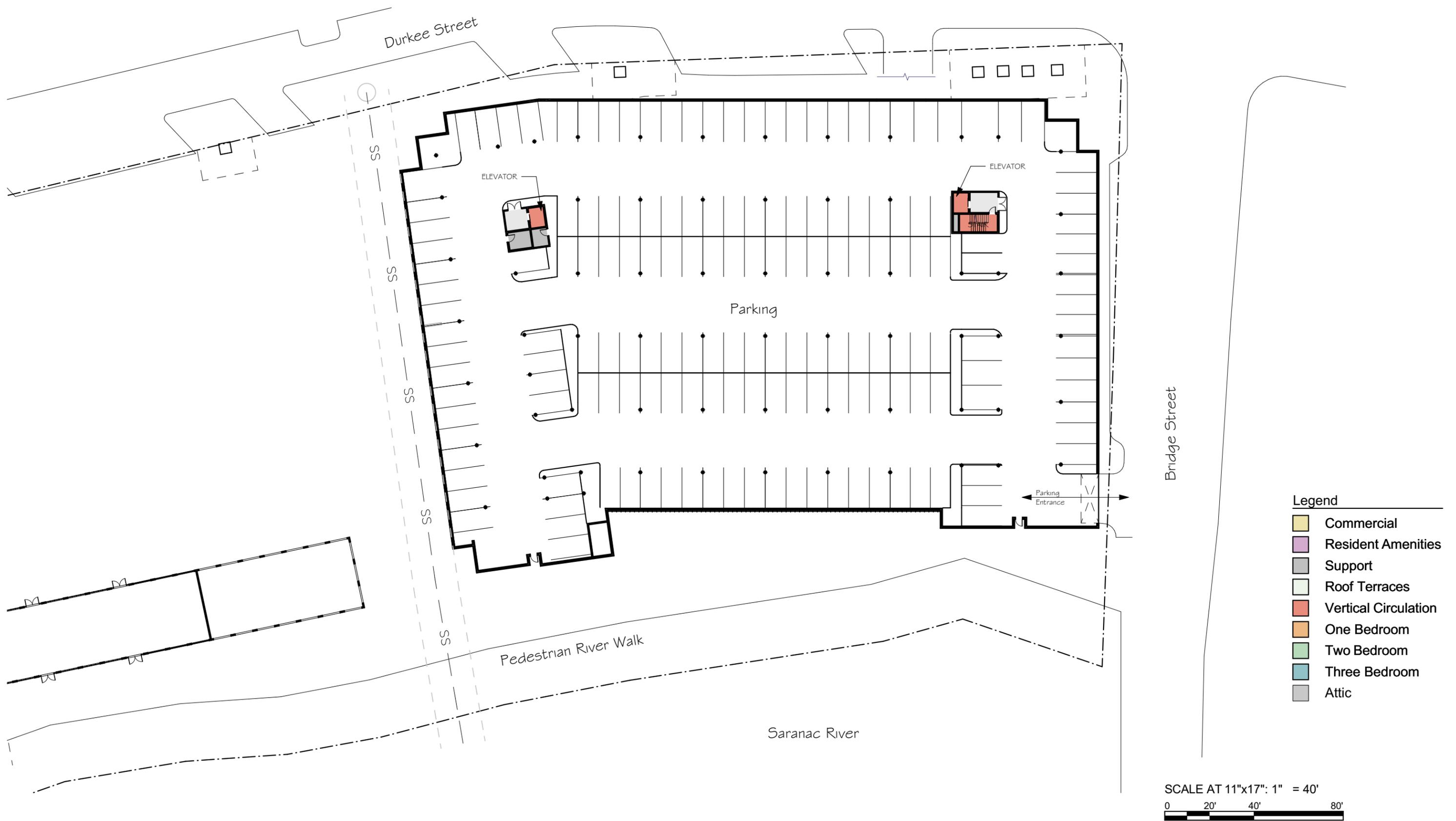


SECTION VIEW B - B



KEY MAP





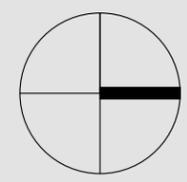
- Legend**
- Commercial
 - Resident Amenities
 - Support
 - Roof Terraces
 - Vertical Circulation
 - One Bedroom
 - Two Bedroom
 - Three Bedroom
 - Attic

SCALE AT 11"x17": 1" = 40'

MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

**Plattsburgh Mixed Use
Development
Basement Plan**



Project North

**The City of Plattsburgh
Plattsburgh, NY
1/21/2020**

A2.1

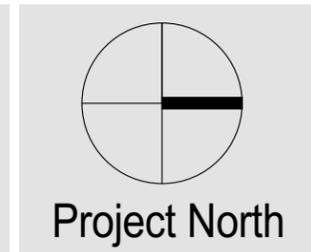


- Legend**
- Commercial
 - Resident Amenities
 - Support
 - Roof Terraces
 - Vertical Circulation
 - One Bedroom
 - Two Bedroom
 - Three Bedroom
 - Attic

SCALE AT 11"x17": 1" = 40'

MACKENZIE ARCHITECTS P.C.
 162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

**Plattsburgh Mixed Use
 Development
 Level One Plan**



The City of Plattsburgh
 Plattsburgh, NY
 1/21/2020

A2.2

Ownership of Instruments of Service: All reports, drawings, specifications, computer files, field data, notes and other documents and instruments prepared by the Mackenzie Architects as instruments of service shall remain the property of the Mackenzie Architects. Mackenzie Architects shall retain all common law, statutory and other reserved rights, including the copyright thereto.



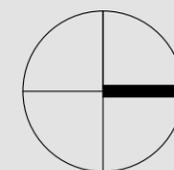
- Legend**
- Commercial
 - Resident Amenities
 - Support
 - Roof Terraces
 - Vertical Circulation
 - One Bedroom
 - Two Bedroom
 - Three Bedroom
 - Attic

SCALE AT 11"x17": 1" = 40'
 0 20' 40' 80'

MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

**Plattsburgh Mixed Use
 Development
 Level Two & Three Plan**



Project North

**The City of Plattsburgh
 Plattsburgh, NY
 1/21/2020**

A2.3



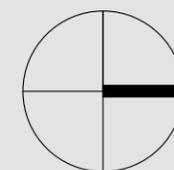
- Legend**
- Commercial
 - Resident Amenities
 - Support
 - Roof Terraces
 - Vertical Circulation
 - One Bedroom
 - Two Bedroom
 - Three Bedroom
 - Attic

SCALE AT 11"x17": 1" = 40'
 0 20' 40' 80'

MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

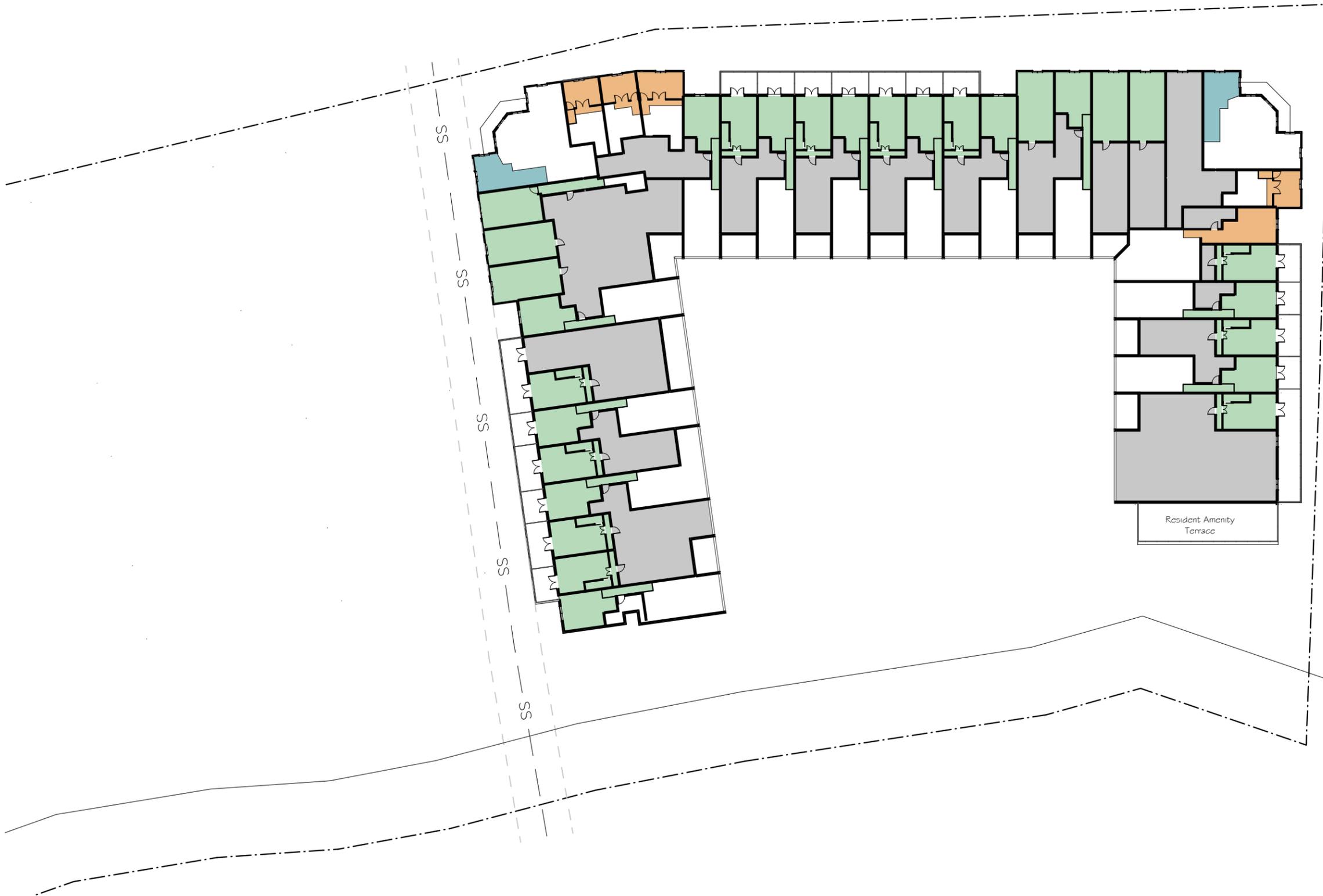
**Plattsburgh Mixed Use
 Development
 Level Four Plan**



Project North

**The City of Plattsburgh
 Plattsburgh, NY
 1/21/2020**

A2.5



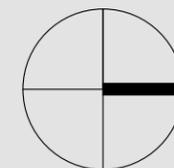
- Legend**
- Commercial
 - Resident Amenities
 - Support
 - Roof Terraces
 - Vertical Circulation
 - One Bedroom
 - Two Bedroom
 - Three Bedroom
 - Attic

SCALE AT 11"x17": 1" = 40'
 0 20' 40' 80'

MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

**Plattsburgh Mixed Use
 Development
 Attic/Mezzanine Plan**



Project North

**The City of Plattsburgh
 Plattsburgh, NY
 1/21/2020**

A2.6



MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

Plattsburgh Mixed Use
Development

View from Bridge St. & Durkee St.

The City of Plattsburgh
Plattsburgh, NY
1/24/2020

1



MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

Plattsburgh Mixed Use
Development
View from Durkee St.

The City of Plattsburgh
Plattsburgh, NY
1/24/2020

2



MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

Plattsburgh Mixed Use
Development
View from Bridge St.

The City of Plattsburgh
Plattsburgh, NY
1/24/2020

3



MACKENZIE ARCHITECTS P.C.

162 Battery Street, Burlington, Vermont 05401 802.863.7177 (T) www.mackenziearchitects.com

Plattsburgh Mixed Use
Development
View from Bridge St. 2

The City of Plattsburgh
Plattsburgh, NY
1/24/2020