



GENESEE COUNTY PLANNING BOARD REFERRALS NOTICE OF FINAL ACTION

GCDP Referral ID **T-04-BAT-3-22**
Review Date **3/10/2022**

Municipality
Board Name
Applicant's Name
Referral Type
Variance(s)
Description:

BATAVIA, T.
PLANNING BOARD
Benderson Development LLC
Special Use Permit
Special Use Permit and Site Plan Review for a 4,000 sq. ft.. restaurant and a 6,752 sq. ft. retail/restaurant building with a 2,000 sq. ft. endcap coffee shop with drive-through.

Location
Zoning District

8363 Lewiston Rd. (NYS Rt. 63), Batavia
Commercial (C) District

PLANNING BOARD RECOMMENDS:

APPROVAL

EXPLANATION:

Given that signage is not addressed in the application, the required modification is that the applicant comply with the Town's zoning regulations as they pertain to signage. With this required modification, the proposed development should pose no significant county-wide or inter-community impact. It is recommended that the applicant submits the attached application for 9-1-1 Address Verification to the Genesee County Sheriff's Office to ensure that addresses are assigned that meet Enhanced 9-1-1 standards.

Director

March 10, 2022

Date

If the County Planning Board disapproved the proposal, or recommends modifications, the referring agency shall NOT act contrary to the recommendations except by a vote of a majority plus one of all the members and after the adoption of a resolution setting forth the reasons for such contrary action. Within 30 days after the final action the referring agency shall file a report of final action with the County Planning Board. An action taken form is provided for this purpose and may be obtained from the Genesee County Planning Department.

SEND OR DELIVER TO:

GENESEE COUNTY DEPARTMENT OF PLANNING
3837 West Main Street Road
Batavia, NY 14020-9404
Phone: (585) 343-1729

Clear Form

DEPARTMENT USE ONLY:

GCDP Referral # T-04-BAT-3-22



*** GENESEE COUNTY *
PLANNING BOARD REFERRAL**

**RECEIVED
Genesee County
Dept. of Planning
3/3/2022**

Required According to:

GENERAL MUNICIPAL LAW ARTICLE 12B, SECTION 239 L, M, N
(Please answer ALL questions as fully as possible)

1. REFERRING BOARD(S) INFORMATION

Board(s) Town Of Batavia Planning Board
Address 3833 West Main Street Road
City, State, Zip Batavia NY 14020
Phone (585) 343 - 1729 Ext. 222

2. APPLICANT INFORMATION

Name Benderson Development LLC
Address 570 Delaware Ave.
City, State, Zip Buffalo NY 14202
Phone (716) 878 - 9626 Ext. _____ Email jmb@benderson.com

MUNICIPALITY: City Town Village of Batavia

3. TYPE OF REFERRAL: (Check all applicable items)

- | | | |
|--------------------------------------------------------|----------------------------------------------------|-----------------------------------------------|
| <input type="checkbox"/> Area Variance | <input type="checkbox"/> Zoning Map Change | <input type="checkbox"/> Subdivision Proposal |
| <input type="checkbox"/> Use Variance | <input type="checkbox"/> Zoning Text Amendments | <input type="checkbox"/> Preliminary |
| <input checked="" type="checkbox"/> Special Use Permit | <input type="checkbox"/> Comprehensive Plan/Update | <input type="checkbox"/> Final |
| <input checked="" type="checkbox"/> Site Plan Review | <input type="checkbox"/> Other: _____ | |

4. LOCATION OF THE REAL PROPERTY PERTAINING TO THIS REFERRAL:

A. Full Address 8363 Lewiston Rd., Batavia, NY 14020
B. Nearest intersecting road Park Rd
C. Tax Map Parcel Number 8.-1-21.2
D. Total area of the property 10.34 Area of property to be disturbed 2.9
E. Present zoning district(s) Commercial

5. REFERRAL CASE INFORMATION:

A. Has this referral been previously reviewed by the Genesee County Planning Board?
 NO YES If yes, give date and action taken _____
B. Special Use Permit and/or Variances refer to the following section(s) of the present zoning ordinance and/or law
235-63 D and 235-37
C. Please describe the nature of this request Proposed buildings retail/restaurants and 2 drive thru lanes Total square feet 10,752 sq feet

6. ENCLOSURES – Please enclose copy(s) of all appropriate items in regard to this referral

- | | | |
|-------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------|
| <input checked="" type="checkbox"/> Local application | <input type="checkbox"/> Zoning text/map amendments | <input type="checkbox"/> New or updated comprehensive plan |
| <input checked="" type="checkbox"/> Site plan | <input checked="" type="checkbox"/> Location map or tax maps | <input type="checkbox"/> Photos |
| <input type="checkbox"/> Subdivision plot plans | <input checked="" type="checkbox"/> Elevation drawings | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> SEQR forms | <input type="checkbox"/> Agricultural data statement | |

7. CONTACT INFORMATION of the person representing the community in filling out this form (required information)

Name Daniel Lang Title CEO/ZEO Phone (585) 343 - 1729 Ext. 222
Address, City, State, Zip 3833 West Main Street Rd Batavia NY 14020 Email dlang@townofbatavia.com



February 23, 2022

VIA HAND DELIVERY

Members of the Planning Board
Town of Batavia
3833 West Main Street Rd
Batavia, New York 14020

**RE: Application for Site Plan Approval and Special Use Permit
Former K Mart Redevelopment
Address: 8363 Lewiston Rd, Batavia, New York 14020 (BDP# 5266)**

Dear Members of the Planning Board:

In connection with the above-referenced property, please accept this letter and the enclosed application materials in support of our request for site plan approval and a special use permit to allow for the drive thru uses.

Proposed Project

The Subject Property is currently occupied by a 116,238 s.f. vacant building, formally a K-Mart. As demonstrated by the site plan, included with this application, Benderson is proposing the addition of a 4,000 s.f. restaurant with a drive-thru and bypass lane to be located in the southwest corner of the Subject Property and a 6,752 s.f. retail/restaurant building with a 2,000 s.f. endcap coffee shop with drive-thru in the southeast corner of the Subject Property. Further, the project will also include the following: (1) drainage upgrades to bring the site into compliance with the current storm water regulations; (2) an increase in overall greenspace and landscaping, (3) utility upgrades; and (4) new curbing, pavement and site lighting around the proposed buildings. The project will take a vacant property and a large vacant parking lot and revitalize the front of the Subject Property along the road frontages – significantly improving this property and the area.

Proposed Parking

The two proposed outparcel buildings require 84 parking spaces, and the site provides 366 parking spaces which is more than sufficient for the proposed uses as the Subject Property. In addition, the Subject Property currently maintains a vacant building (the former K-Mart) that does not use any parking and results in no parking demand. At this point, there are no proposed uses for that building and any reuse of the former K-Mart building is anticipated to require significantly less parking than the former K Mart required per code, and it is expected that the use would be compatible with the proposed outparcel project. When future development is proposed for the rear of the Subject Property, Benderson will revisit the parking with the Planning Board at that time. We are requesting that the Planning Board approve the parking as currently proposed.

Proposed Special Use Permit

In regard to the special use permit, the two (2) proposed drive thru uses will not have a negative impact on the surrounding area or the abutting roadway system. The drive-thru uses provide sufficient stacking within two dedicated drive thru lanes and any additional stacking that extends out of the dedicated drive thru lanes would be captured internal to the site. Moreover, the proposed uses are in a fully commercial area with similar uses in the surrounding area. Finally, the Subject Property does not abut and residential uses.



570 DELAWARE AVENUE
BUFFALO, NEW YORK 14202
716.886.0211.P :: 716.886.1026.F

Conclusion

We believe that this project is a significant improvement to an existing, vacant parcel of land and we look forward to working with the Town on this project. If you could please let us know when the project can be placed on the Planning Board agenda, it would be appreciated. If there are any questions or if additional information is needed, please feel free to contact me at (716) 878-9626 or jamesboglioli@benderson.com.

Thank you,
BENDERSON DEVELOPMENT COMPANY, LLC.

James A. Boglioli

James A. Boglioli, Esq.
Director, Right to Build – Northeast US

Enc.

Building and Zoning Application Permit No. _____

Town of Batavia 3833 West Main Rd. Batavia NY 14020 PH. 585-343-1729

Date 2 / 24 / 22 Zone C Flood Zone _____ Wellhead Protection _____ Corner Lot _____

New Construction Fence Pond Sign Alteration(s) Addition Demolition

Accessory Bldg. Mobile Home Fill Permit Home Occupation Land Separation Site Plan Approval

Special Use Permit Temporary Use Subdivision Zoning Variance Request Other Specify: _____

Tax Map No. 8.00-1-21.2

Owners Name 570 DAB 30, LLC attn: James Boglioli Phone No. (716) 878-9626

Address 570 Delaware Avenue, Buffalo, New York 14202 Project Road Width _____ ft

Applicants Name Benderson Development Company, LLC
attn: James Boglioli Project Address 8363 Lewiston Road

E Mail Address jmb@benderson.com Phone No (716) 878-9626

Description of Project: Please see the attached letter of intent.

Existing Use Retail Proposed Use Retail/Restaurant

Estimated Cost Building TBD Plumbing TBD Mechanical TBD Miscellaneous TBD

SEQR CLASSIFICATION Type 1 Type 2 Unlisted

Review completed by Planning Board Zoning Board of Appeals

Permit Fee \$ _____ Application Date ____/____/____ Permit Expires On ____/____/____

Issuing Officer _____ Date ____/____/____

IN SIGNING THIS DOCUMENT I HEARBY GIVE THE RIGHT OF AN ON SITE INSPECTION TO THE TOWN OF BATAVIA CODE ENFORCEMENT OFFICIAL OR THEIR DESIGNE. ALL PROVISIONS OF LAWS AND ORDINANCES GOVERNING THIS TYPE OF WORK WILL BE COMPLIED WITH WHETHER SPECIFIED HEREIN OR NOT. THE GRANTING OF A PERMIT DOES NOT PRESUME TO GIVE AUTHORITY TO VIOLATE OR CANCEL THE PROVISIONS OF ANY OTHER STATE OR LOCAL LAW REGULATING CONSTRUCTION OR THE PREFORMANCE OF CONSTRUCTION.

I, James A. Boglioli, as Owner or Authorized Agent hereby declare that the statements and information on the foregoing application are true and accurate, to the best of my knowledge.

James A. Boglioli February 24, 2022
Signature of Owner or Authorized Agent Date

Short Environmental Assessment Form

Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information			
Name of Action or Project: Former K Mart Redevelopment Project			
Project Location (describe, and attach a location map): 8363 Lewiston Road, Town of Batavia, Genesee County			
Brief Description of Proposed Action: The proposed action is 6,752 SF retail/restaurant building with an associated drive thru lane and a 4,000 SF restaurant with drive thru lane along with utility, drainage, landscape, lighting and pavement upgrades.			
Name of Applicant or Sponsor: Benderson Development Company, LLC		Telephone: 716-878-9626 E-Mail: jamesboglioli@benderson.com	
Address: 570 Delaware Ave			
City/PO: Buffalo		State: NY	Zip Code: 14202
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.			NO <input type="checkbox"/>
			YES <input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: Town of Batavia Water Dept - Backflow Approval; Town of Batavia - Building Permit			NO <input type="checkbox"/>
			YES <input checked="" type="checkbox"/>
3. a. Total acreage of the site of the proposed action?		_____ 10.34 +/- acres	
b. Total acreage to be physically disturbed?		_____ 2.9 +/- acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		_____ 10.34 +/- acres	
4. Check all land uses that occur on, are adjoining or near the proposed action:			
<input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Residential (suburban)			
<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input type="checkbox"/> Other(Specify):			
<input type="checkbox"/> Parkland			

5. Is the proposed action,	NO	YES	N/A
a. A permitted use under the zoning regulations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Consistent with the adopted comprehensive plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/>	
8. a. Will the proposed action result in a substantial increase in traffic above present levels? b. Are public transportation services available at or near the site of the proposed action? c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	NO <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	YES <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: _____ _____	NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____ _____	NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____ _____	NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	NO <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	YES <input type="checkbox"/> <input type="checkbox"/>	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency? b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ _____ _____	NO <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	YES <input type="checkbox"/> <input type="checkbox"/>	


14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:		
<input type="checkbox"/> Shoreline <input type="checkbox"/> Forest <input type="checkbox"/> Agricultural/grasslands <input type="checkbox"/> Early mid-successional <input type="checkbox"/> Wetland <input checked="" type="checkbox"/> Urban <input checked="" type="checkbox"/> Suburban		
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16. Is the project site located in the 100-year flood plan?	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17. Will the proposed action create storm water discharge, either from point or non-point sources?	NO	YES
If Yes,	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Will storm water discharges flow to adjacent properties?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If Yes, briefly describe:		

New drainage system will connect into the existing on site storm sewer		

18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)?	NO	YES
If Yes, explain the purpose and size of the impoundment: _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>

49. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?	NO	YES
If Yes, describe: _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>

20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?	NO	YES
If Yes, describe: _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE		
Applicant/sponsor/name: <u>Matthew J. Oates, P.E.</u> Date: <u>02/25/2022</u>		
Signature: <u></u> Title: <u>Director, Engineering</u>		

FORMER K MART

8363 Lewiston Rd.
Batavia, New York 14020

BDC Property # 5266

FORMER K MART REDEVELOPMENT PROPOSED OUTPARCELS

INDEX OF DRAWINGS

DWG. #	DRAWING NAME	REVISION	DATE
C1.0	COVER SHEET		
C2.0	EXISTING SURVEY		
C3.0	DEMOLITION & EROSION CONTROL PLAN		
C3.1	EROSION CONTROL PLAN DETAILS		
C4.0	OVERALL SITE PLAN		
C4.1	DETAILED SITE PLAN		
C4.2	PAVEMENT MATERIALS PLAN		
C4.3	CONSTRUCTION DETAILS		
C5.0	GRADING PLAN		
C5.1	DRAINAGE PLAN		
C5.2	DRAINAGE DETAILS		
C6.0	UTILITY PLAN		
C6.1	UTILITY DETAILS		
C7.0	LANDSCAPING PLAN		
C7.1	LANDSCAPING DETAILS		
C8.0	LIGHTING PLAN		

OWNER/DEVELOPER:

NAME: BENDERSON DEVELOPMENT COMPANY, LLC
ADDRESS: 570 DELAWARE AVENUE, BUFFALO, NY 14202
CONTACT: KATHERINE ROWE
PHONE: 716 - 878 - 9699

 **BENDERSON DEVELOPMENT COMPANY, LLC**
570 Delaware Ave.
Buffalo, New York 14202

SURVEYOR

NAME: MILLARD, MACKAY & DELLES LAND SURVEYORS, LLP
ADDRESS: 150 AERO DRIVE, BUFFALO, NEW YORK 14225
CONTACT: -
PHONE: 716-631-5140

UTILITIES:

NATURAL GAS
NAME/TITLE: -
COMPANY/DEPT: NATIONAL GRID BATAVIA
ADDRESS: 5100 E MAIN STREET RD, BATAVIA, NY 14020
PHONE: 800-642-4272

TELEPHONE COMPANY
NAME/TITLE: -
COMPANY/DEPT: VERIZON
ADDRESS: -
PHONE: 585-345-0919

ELECTRIC
NAME/TITLE: -
COMPANY/DEPT: NATIONAL GRID BATAVIA
ADDRESS: 5100 E MAIN STREET RD, BATAVIA, NY 14020
PHONE: 800-642-4272

DIG SAFELY NEW YORK
PHONE: 1 - 800 - 962 - 7962 OR (811)

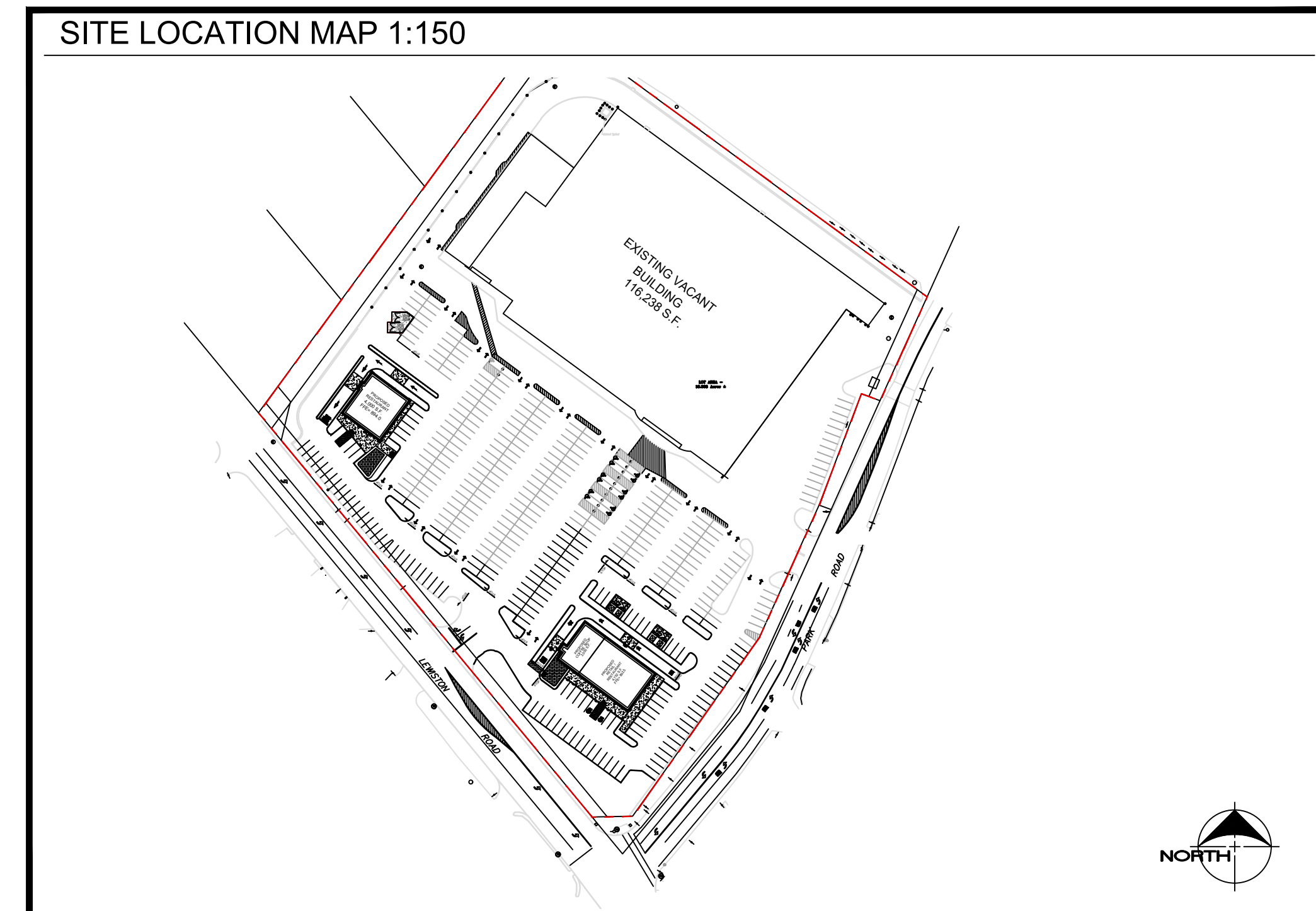
AGENCIES:

ENGINEERING DEPARTMENT
NAME/TITLE: STEVE MOUNTAIN
COMPANY/DEPT: TOWN OF BATAVIA, NY - ENGINEERING DPT
ADDRESS: 3833 WEST MAIN ST, BATAVIA, NY 14020
PHONE: 585-343-8461 EX 220

BUILDING & PLUMBING DEPARTMENT
NAME/TITLE: DANIEL LANG
COMPANY/DEPT: TOWN OF BATAVIA, NY - BUILDING/ZONING DPT
ADDRESS: 3833 WEST MAIN ST, BATAVIA, NY 14020
PHONE: 585-343-8461 EX 222

NYS DOT - HIGHWAY & UTILITY PERMITS
NAME/TITLE: THOMAS LICHTENTHAL, HIGHWAY SUPERINTENDENT
COMPANY/DEPT: TOWN OF BATAVIA, NY - HIGHWAY DPT
ADDRESS: 3833 WEST MAIN ST, BATAVIA, NY 14020
PHONE: 585-343-8461 EX 218

SITE LOCATION MAP 1:150



REGIONAL LOCATION MAP NTS



DRAWING REVISIONS:			
No.	DATE	BY	REMARKS

SPECIAL INFORMATION:
ALL CONTRACTORS SHALL GUARANTEE THEIR WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF OWNERS ACCEPTANCE.

SHOP DRAWING SUBMITTALS ARE REQUIRED FOR ANY AND ALL STRUCTURES.

NOTICE
UNAUTHORIZED ALTERATIONS OF THIS DOCUMENT ARE IN VIOLATION OF SECTION #7209 OF THE STATE EDUCATION LAW.



PROPERTY NUMBER: #5266 AREA: -

8363 Lewiston Rd
Batavia, New York 14020

FORMER KMART

CONSULTANT

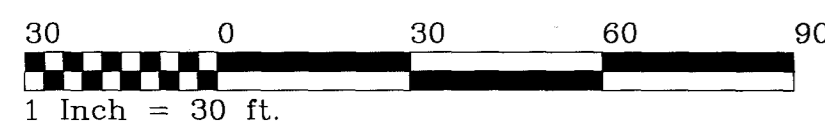
JAMES ALLEN RUMSEY
ARCHITECT
PREPARED FOR
BENDERSON DEVELOPMENT
570 DELAWARE AVE., BUFFALO, NY 14202
(716) 886-0211

SEAL



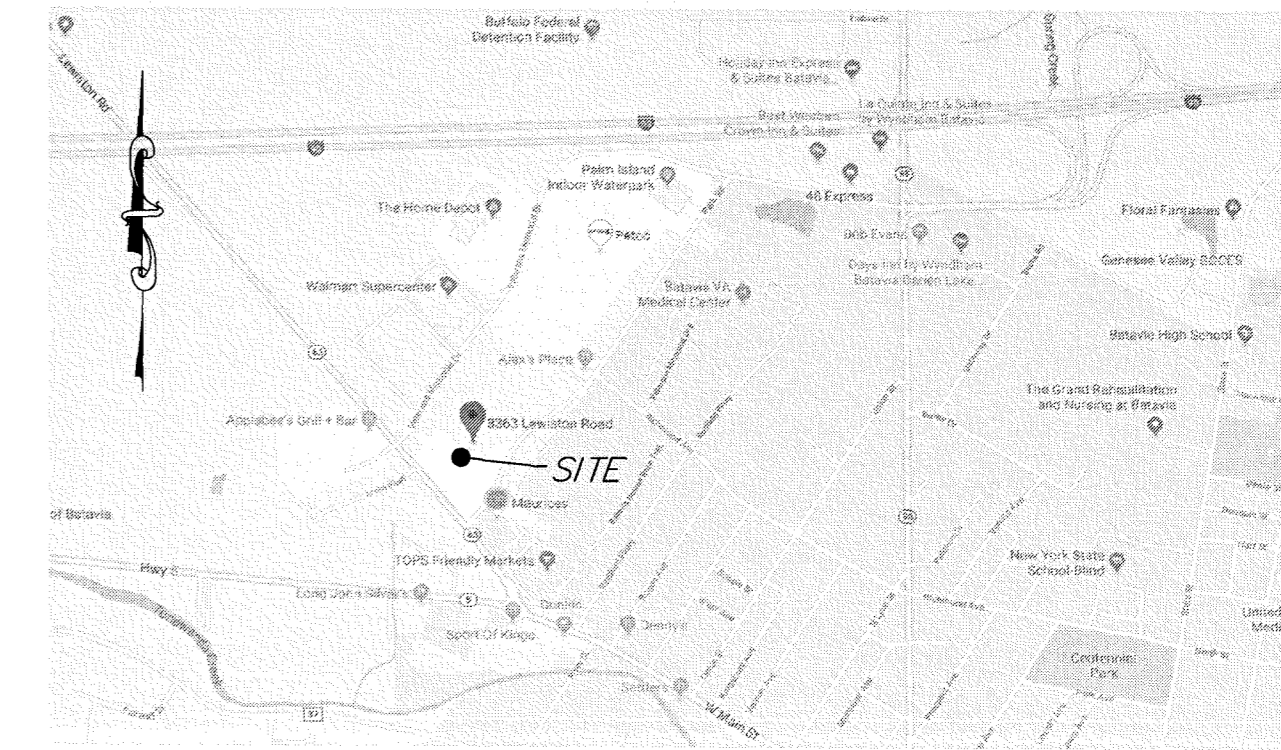
TITLE:
Cover Sheet

SCALE: -
DRAWN BY: KER DRAWING NO.
CHECKED BY: MAO
DATE: 2/15/22
C1.0



LEGEND

- Ø UTILITY / SERVICE POLE
- ⊕ WATER LINE VALVE
- ⊕ FIRE HYDRANT
- ⊕ D.I. (DROP INLET - STORM)
- ⊕ MANHOLE (STORM)
- ⊕ MANHOLE (ELECTRIC)
- ⊕ MANHOLE (TRAFFIC)
- ⊕ MANHOLE (SANITARY)
- ⊕ MANHOLE (TELEPHONE)
- ⊕ GASLINE MARKER
- ⊕ GAS LINE VALVE
- ⊕ SIGN
- ⊕ H.C. HANDICAP
- R.O.W. RIGHT OF WAY
- CONC. CONCRETE
- INV. INVERT
- M.H. MANHOLE
- GAS LINE
- WATER LINE
- TELEPHONE LINE
- ELECTRIC LINE
- UTILITY LINES
- CABLE LINES
- D. DEED
- M. MEASURED
- L. LIBER
- P. PAGE



VICINITY MAP



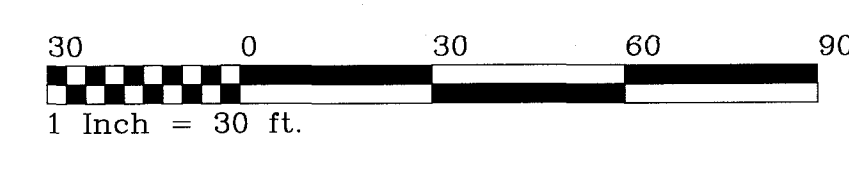
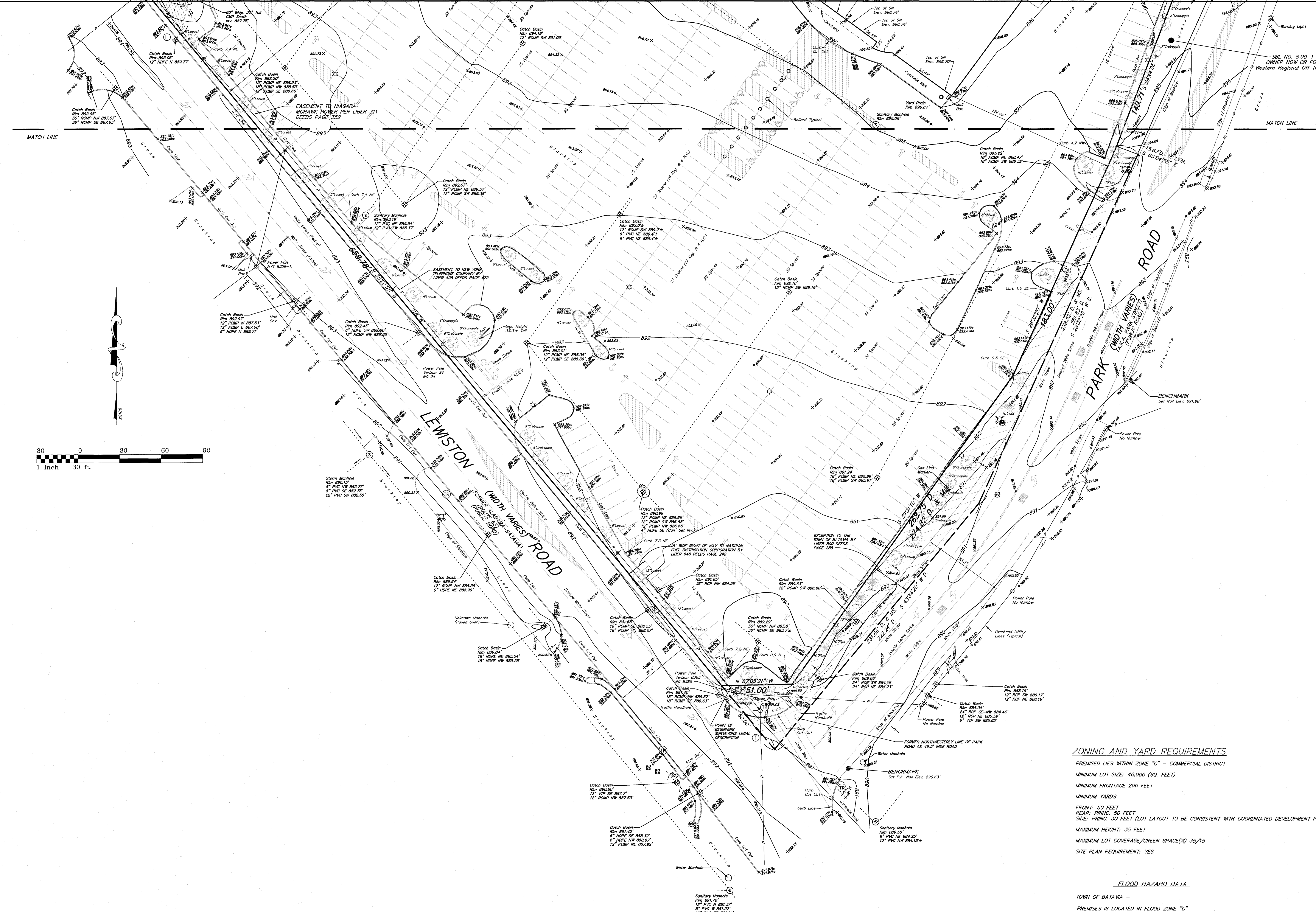
LOT AREA = 10.338 Acres ±



Francis C. Delles

INSTRUMENTS UTILIZED IN DETERMINING LOCATION OF BOUNDARY LINES: HEAD OF SEARCH
 NOTE: PROPERTY CORNER MONUMENTS WERE NOT PLACED AS PART OF THIS SURVEY.

© COPYRIGHT 2019 BY: Millard, MacKay & Delles LAND SURVEYORS, LLP 150 AERO DRIVE BUFFALO, NEW YORK 14225 PHONE (716) 631-5140 ~ FAX 631-3811	AMEND: 01 SURVEY DATE: 9-30-19 DRAWING DATE: 10-15-19 SCALE: 1" = 30' "ALL RIGHTS RESERVED"
ALTA/NSPS LAND TITLE SURVEY SHEET 2 OF 2	
PART OF LOT 6 SECTION 3 TOWNSHIP 12 RANGE 2 OF THE Holland Land Company's SURVEY - Genesee COUNTY, N.Y.	
SURVEY OF: 8363 Lewiston Road, Town of Batavia	
SBL No. 8,00-1-21.2	



SCHEDULE "A"
FIDELITY NATIONAL TITLE INSURANCE COMPANY
TITLE NO. 17-7406-40443-GENE

All that tract or parcel of land, situate in the Town of Batavia, County of Genesee, State of New York, being part of Lot 6, Section 3, Township 12, Range 2 of the Holland Land Company's Survey, and more particularly bounded and described as follows:

BEGINNING at the intersection of the northeasterly highway boundary of Lewiston Road (66.0 feet wide) with the northwesterly line of lands conveyed under 305 of Deeds as follows:

THENCE North 40°29'04" East along the northwesterly line of lands conveyed under Liber 305, Page 163, a distance of 614.65 feet;

THENCE South 49°31'56" East, a distance of 591.22 feet;

THENCE South 28°32'20" West along the northwesterly highway boundary of Park Road, a distance of 143.29 feet;

THENCE North 65°04'55" West, a distance of 25.14 feet;

THENCE South 24°44'05" West, a distance of 149.71 feet;

THENCE South 28°32'20" West, a distance of 183.00 feet;

THENCE South 39°31'10" West, a distance of 274.82 feet;

THENCE North 87°05'21" West, a distance of 510.00 feet to a point on the northeasterly highway boundary of Lewiston Road;

THENCE North 35°20'51" West along the northeasterly highway boundary of Lewiston Road, a distance of 658.78 feet to the place or point of BEGINNING.

ELEVATION DATUM
ELEVATIONS ON THIS MAP WERE DETERMINED UTILIZING OPS DATUM:
NAD83 (2011) EPOCH 2010.0 DATUM (NEW YORK WEST ZONE)

UTILITIES
The underground utilities shown have been located from field survey information & existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from the information available. This surveyor has not physically located the underground utilities.

National Fuel Attn: Ed Kulpa (716) 857-7967
Time Warner Cable Attn: Chris Smith (800) 262-8600
Verizon Attn: Mark Granschow (716) 840-8656
Bureau of Water & Wastewater One Batavia City Center Batavia, NY 1420 (585) 345-6325
N.Y.S. Electric & Gas Attn: Sam Cappiolla (716) 651-5256
National Grid Attn: Roy Schultz (515) 428-6319

ZONING AND YARD REQUIREMENTS
PREMISES LIES WITHIN ZONE "C" - COMMERCIAL DISTRICT
MINIMUM LOT SIZE: 40,000 (SQ. FEET)
MINIMUM FRONTAGE 200 FEET
MINIMUM YARDS
FRONT: 50 FEET
REAR: PRINC. 50 FEET
SIDE: PRINC. 30 FEET (LOT LAYOUT TO BE CONSISTENT WITH COORDINATED DEVELOPMENT PLAN)
MAXIMUM HEIGHT: 35 FEET
MAXIMUM LOT COVERAGE/GREEN SPACE(X) 35/15
SITE PLAN REQUIREMENT: YES

FLOOD HAZARD DATA
TOWN OF BATAVIA -
PREMISES IS LOCATED IN FLOOD ZONE "C" DESIGNATED AS OF MINIMAL FLOODING.
INFORMATION PER FLOOD INSURANCE RATE MAP PUT OUT BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY - NATIONAL FLOOD INSURANCE PROGRAM.
COMMUNITY PANEL NUMBER 360276 0012 B
EFFECTIVE DATE: JANUARY 17, 1985

- LEGEND
- UTILITY / SERVICE POLE
 - WATER LINE VALVE
 - FIRE HYDRANT
 - D.I. (DROP INLET - STORM)
 - MANHOLE (STORM)
 - MANHOLE (ELECTRIC)
 - MANHOLE (TRAFFIC)
 - MANHOLE (SANITARY)
 - UTILITY LINES
 - GASLINE MARKER
 - GAS LINE VALVE
 - LIGHT STANDARD
 - SIGN
 - H.C. HANDICAP
- R.O.W. RIGHT OF WAY
 - CONC. CONCRETE
 - INV. INVERT
 - M.H. MANHOLE
 - GAS LINE
 - WATER LINE
 - TELEPHONE LINE
 - ELECTRIC LINE
 - UTILITY LINES
 - CABLE LINES
 - D. DEED
 - M. MEASURED
 - L. LIBER
 - P. PAGE

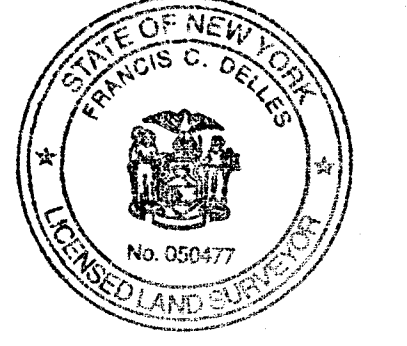
- SCHEDULE "B"
FIDELITY NATIONAL TITLE INSURANCE COMPANY
TITLE NO. 17-7406-40443-GENE
5. Easement Grant by The Genesee Monroe Racing Assn, Inc. to Republic Light, Heat and Power Company, Inc. dated February 24, 1956 recorded April 12, 1956 in Liber 310 cp 587. (As described exact location is not plotable)
 6. Easement between The Genesee Monroe Racing Assn, Inc., successor by merger to Arsenal Hill Development Corporation and Niagara Mohawk Power Corporation dated June 24, 1953 recorded August 2, 1955 in Liber 311 cp 352. (Plotted on Drawing)
 7. Easement Modification Agreement between CDP Veterans Memorial Drive Company LLC and Niagara Mohawk Power Corporation dated August 14, 2007 recorded September 5, 2007 in Deed Liber 860 page 466. (Easement Modification Agreement does not affect parcel)
 8. Easement made by Genesee Monroe Racing Assn, Inc. to New York Telephone Company dated June 14, 1974 recorded June 12, 1974 in Liber 428 page 472. (PLOTTED ON DRAWING)
 9. Right of Way by K Mart Corporation to National Fuel Gas Distribution Corporation dated July 16, 1994 in Liber 645 cp 242. (PLOTTED ON DRAWING)
 10. Agreement for Drainage Easement by Kmart Corporation to Town of Batavia dated July 26, 1994 recorded March 26, 1998 in Liber 771 cp 141. (PLOTTED ON DRAWING)
 11. Notice of Appropriation by the People of the State of New York dates August 13, 1998 recorded August 13, 1998 in Liber 719 cp 153. (Fee and Easement Takings) (PLOTTED ON DRAWING)

NOTES
THERE WAS NO VISIBLE OBSERVED EVIDENCE IN FIELD OF EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTION THE FIELDWORK.
THERE WAS NO OBSERVABLE EVIDENCE IN FIELD OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.

PARKING SPACE SUMMARY
528 REGULAR SPACES
13 HANDICAP SPACES
541 TOTAL SPACES

SURVEYOR'S CERTIFICATE
I, 570 DAB 30, LLC, WILMINGTON TRUST COMPANY, AS OWNER TRUSTEE UNDER TRUST AGREEMENT (1995-4); VAL. T. ORTON, NOT IN HIS INDIVIDUAL CAPACITY, BUT SOLELY AS TRUSTEE UNDER REMINDER TRUST AGREEMENT (1995-4), DATED AS OF JUNE 13, 1995, AS SUPPLEMENTED, HAVING AN ADDRESS AT C/O WELLS FARGO TRUST COMPANY, N.A.; FIDELITY NATIONAL TITLE INSURANCE COMPANY.
This is to certify that this map or plot and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 2.1.4, 6.0(2), 7.0(1), 7.0(1)(1), 7.0(1)(2), 8.1.1, 13.1.1, 16 & 17 of Table A thereof. The field work was completed on 9-30-2019.
Date of Plot or Map: 10-15-2019.

Francis C. Delles
Registration No. 050477



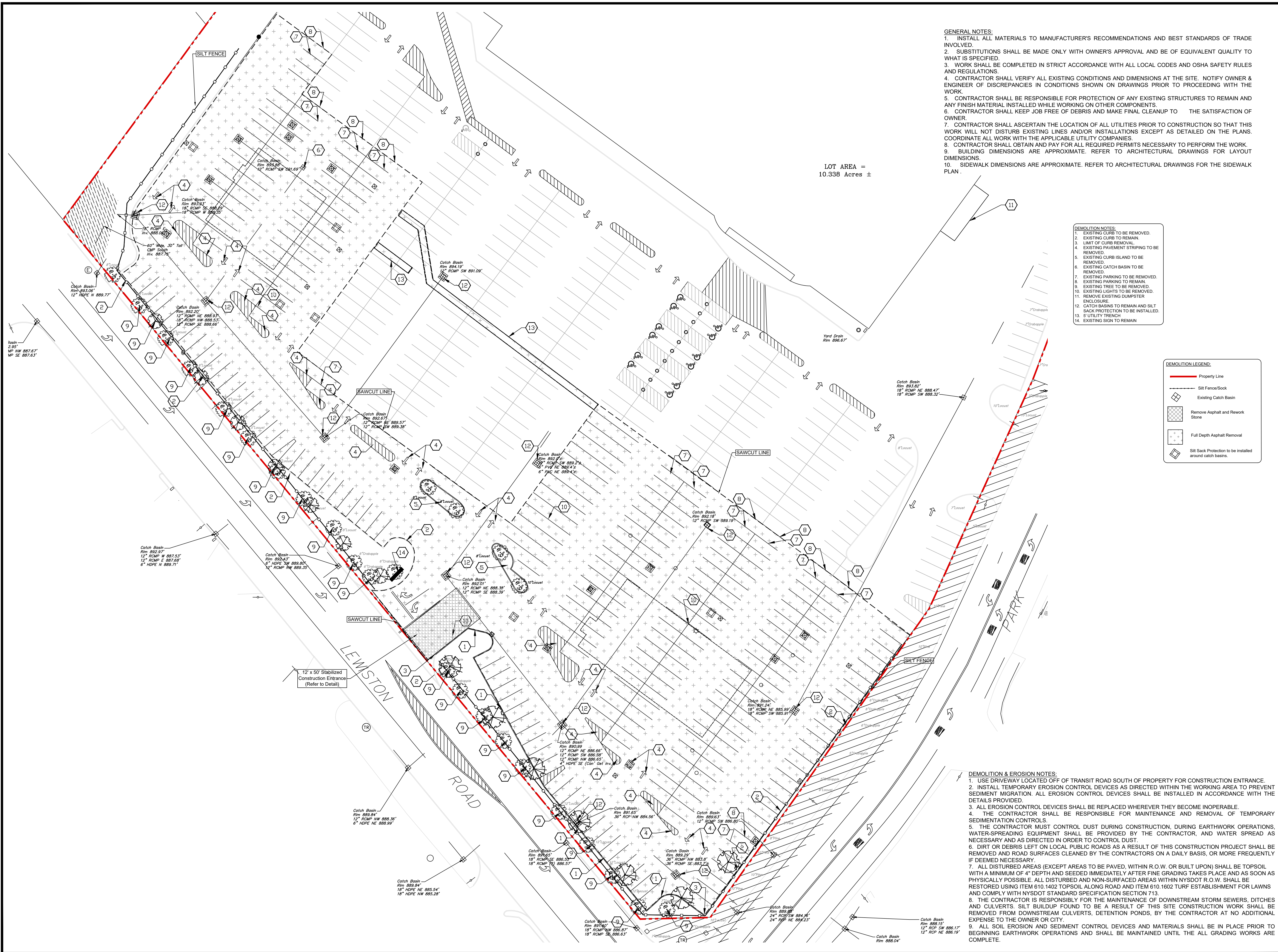
INSTRUMENTS UTILIZED IN DETERMINING LOCATION OF BOUNDARY LINES: HEAD OF SEARCH
NOTE: PROPERTY CORNER MONUMENTS WERE NOT PLACED AS PART OF THIS SURVEY.

COPYRIGHT 2019 BY:
Millard, MacKay & Delles
LAND SURVEYORS, LLP
150 AERO DRIVE
BUFFALO, NEW YORK 14225
PHONE (716) 631-5140 • FAX 631-3811

AMEND: 0"
SURVEY DATE: 9-30-19
DRAWING DATE: 10-15-19
SCALE: 1" = 30'
"ALL RIGHTS RESERVED"

THIS MAP WAS PREPARED BY MILLARD, MACKEY & DELLES, SURVEYORS, AND THE SURVEYOR'S SEAL ALTERNING ANY ITEM ON THIS MAP IS A VIOLATION OF THE LAW EXCEPT AS PROVIDED IN SECTION 7004, PART 5 OF THE NEW YORK STATE EDUCATION LAW.

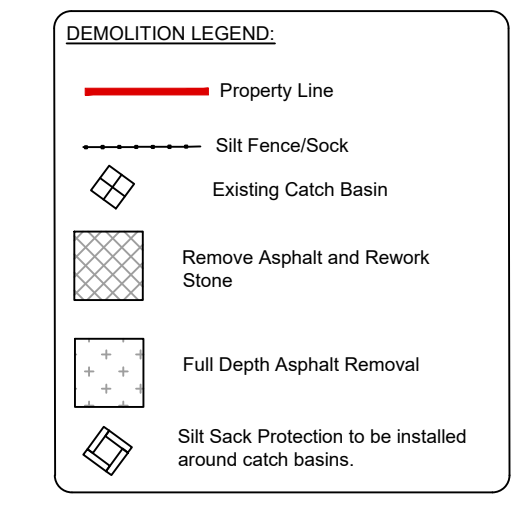
ALTA/NSPS LAND TITLE SURVEY
SHEET 1 OF 2
PART OF LOT 6 SECTION 3 TOWNSHIP 12 RANGE 2 OF THE
Holland Land Company's SURVEY - Genesee COUNTY, N.Y.
SURVEY OF: 8363 Lewiston Road, Town of Batavia
SBL No. 8.00-1-27.2



LOT AREA =
10.338 Acres ±

- GENERAL NOTES:**
1. INSTALL ALL MATERIALS TO MANUFACTURER'S RECOMMENDATIONS AND BEST STANDARDS OF TRADE INVOLVED.
 2. SUBSTITUTIONS SHALL BE MADE ONLY WITH OWNER'S APPROVAL AND BE OF EQUIVALENT QUALITY TO WHAT IS SPECIFIED.
 3. WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND OSHA SAFETY RULES AND REGULATIONS.
 4. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. NOTIFY OWNER & ENGINEER OF DISCREPANCIES IN CONDITIONS SHOWN ON DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.
 5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ANY EXISTING STRUCTURES TO REMAIN AND ANY FINISH MATERIAL INSTALLED WHILE WORKING ON OTHER COMPONENTS.
 6. CONTRACTOR SHALL KEEP JOB FREE OF DEBRIS AND MAKE FINAL CLEANUP TO THE SATISFACTION OF OWNER.
 7. CONTRACTOR SHALL ASCERTAIN THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION SO THAT THIS WORK WILL NOT DISTURB EXISTING LINES AND/OR INSTALLATIONS EXCEPT AS DETAILED ON THE PLANS. COORDINATE ALL WORK WITH THE APPLICABLE UTILITY COMPANIES.
 8. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS NECESSARY TO PERFORM THE WORK.
 9. BUILDING DIMENSIONS ARE APPROXIMATE. REFER TO ARCHITECTURAL DRAWINGS FOR LAYOUT DIMENSIONS.
 10. SIDEWALK DIMENSIONS ARE APPROXIMATE. REFER TO ARCHITECTURAL DRAWINGS FOR THE SIDEWALK PLAN.

- DEMOLITION NOTES:**
1. EXISTING CURB TO BE REMOVED.
 2. EXISTING CURB TO REMAIN.
 3. LIMIT OF CURB REMOVAL.
 4. EXISTING PAVEMENT STRIPING TO BE REMOVED.
 5. EXISTING CURB ISLAND TO BE REMOVED.
 6. EXISTING CATCH BASIN TO BE REMOVED.
 7. EXISTING PARKING TO BE REMOVED.
 8. EXISTING PARKING TO REMAIN.
 9. EXISTING TREE TO BE REMOVED.
 10. EXISTING LIGHTS TO BE REMOVED.
 11. REMOVE EXISTING DUMPSTER ENCLOSURE.
 12. CATCH BASINS TO REMAIN AND SILT SACK PROTECTION TO BE INSTALLED.
 13. 3' UTILITY TRENCH.
 14. EXISTING SIGN TO REMAIN.



- DEMOLITION & EROSION NOTES:**
1. USE DRIVEWAY LOCATED OFF OF TRANSIT ROAD SOUTH OF PROPERTY FOR CONSTRUCTION ENTRANCE.
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 6. DIRT OR DEBRIS LEFT ON LOCAL PUBLIC ROADS AS A RESULT OF THIS CONSTRUCTION PROJECT SHALL BE REMOVED AND ROAD SURFACES CLEANED BY THE CONTRACTORS ON A DAILY BASIS, OR MORE FREQUENTLY IF DEEMED NECESSARY.
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 9. ALL SOIL EROSION AND SEDIMENT CONTROL DEVICES AND MATERIALS SHALL BE IN PLACE PRIOR TO BEGINNING EARTHWORK OPERATIONS AND SHALL BE MAINTAINED UNTIL THE ALL GRADING WORKS ARE COMPLETE.

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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NOTICE
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811
Know what's below.
Call before you dig.

PROPERTY NUMBER: #5266 AREA: -

8363 Lewiston Rd
Batavia, New York 14020

FORMER KIMART

CONSULTANT

JAMES ALLEN RUMSEY
ARCHITECT
PREPARED FOR

BENDERSON
DEVELOPMENT
570 DELAWARE AVE., BUFFALO, NY 14202
(716) 886-0211

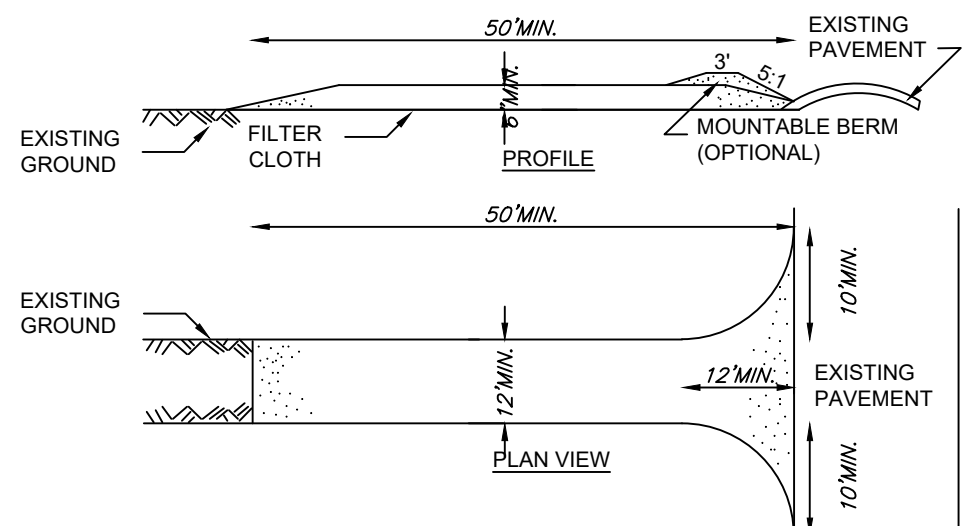
SEAL



TITLE: **Demolition and Erosion Control Plan**

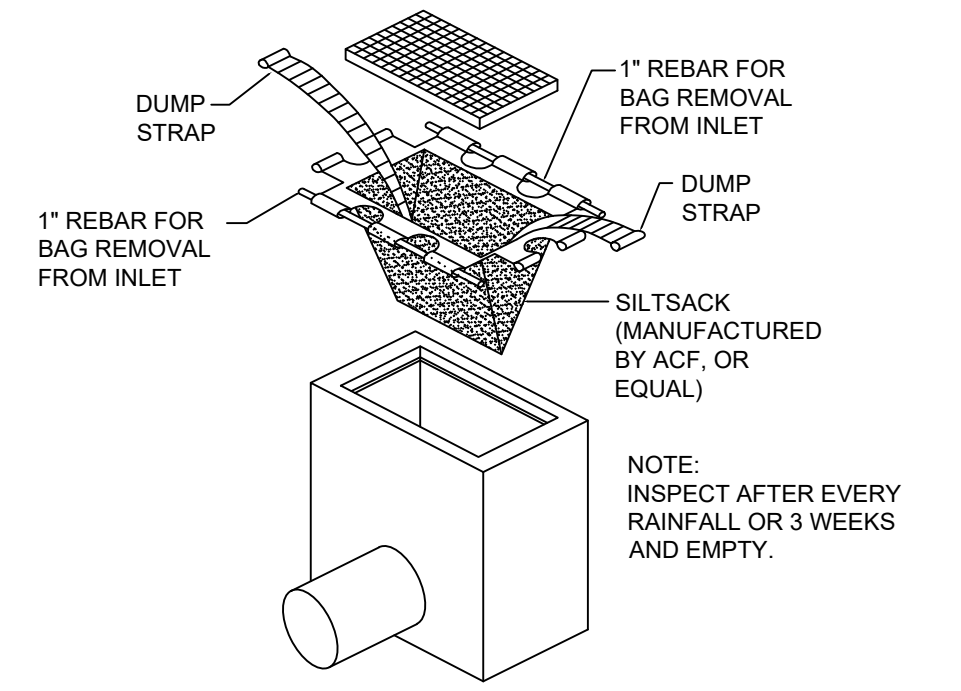
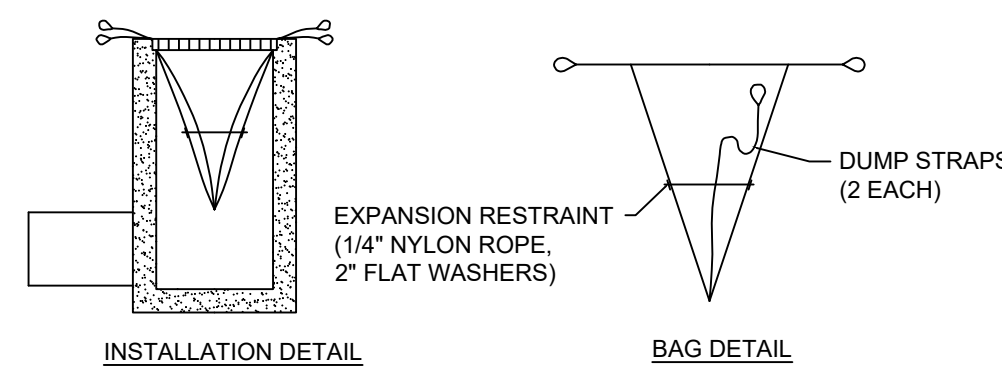
SCALE: 1:30
DRAWN BY: KER
CHECKED BY: MAO
DATE: 2/15/22

DRAWING NO. **C3.0**



STABILIZED CONSTRUCTION ENTRANCE DETAIL

- NOT TO SCALE
1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
 2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
 3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
 4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
 5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
 6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
 7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
 9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



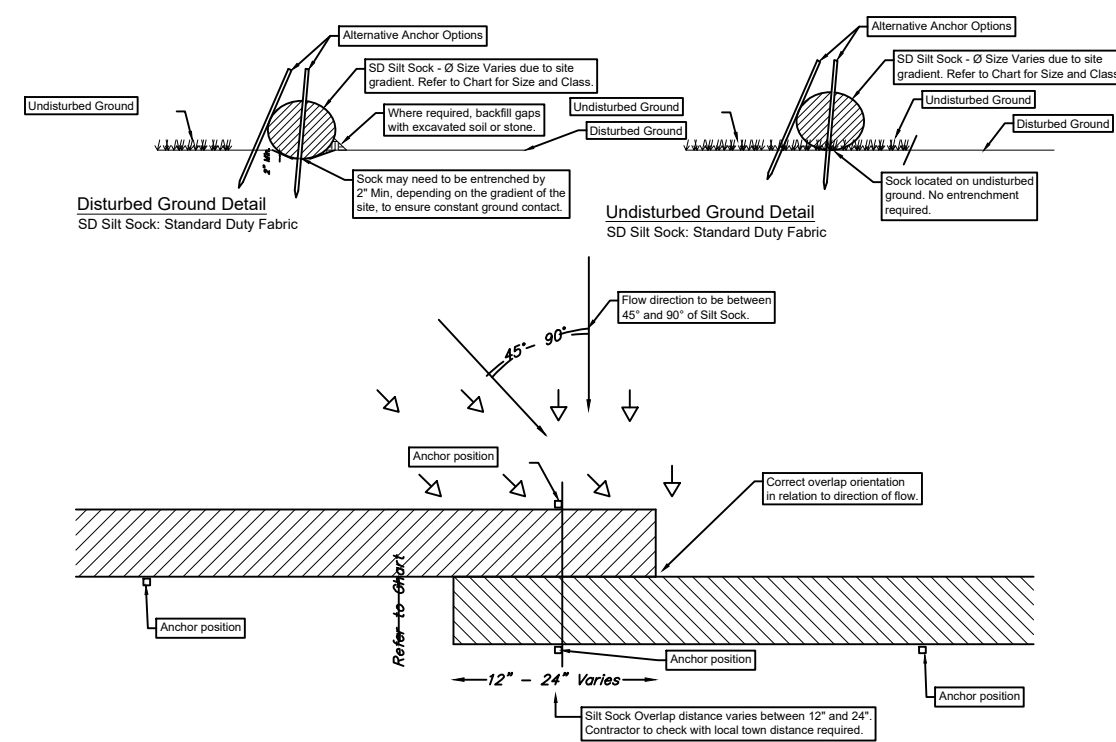
SILT SACK DETAIL

N.T.S.

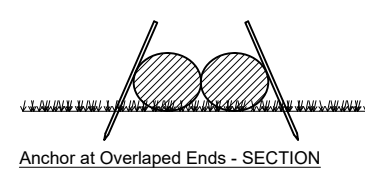
- Notes:**
- 1 - Do not use sock below the normal watermark or perpendicular to flow in river and where the maximum incline is greater than 50%.
 - 2 - Contractors should be aware of federal, state and local laws, rules regulations or permit requirements for the use of Silt Socks on site.
 - 3 - Sock should be positioned on the outline of the area to be protected, but must be installed between 45° to 90° from directions of flow.
 - 4 - Sock may be required to be entrenched a minimum of 2" on disturbed ground to ensure constant ground contact.
 - 5 - All gaps and ruts must be backfilled with soil or sock material.
 - 6 - Sock overlap should be in the direction of the flow. Overlap amount will be between 12" and 24". Contractor to check with local town for requirements.
 - 7 - If sediment collects to 1/2 the height of the sock, then a second sock may be stacked immediately up slope of the original instead of removing the sediment.
 - 8 - Sock joint is where two sock sections meet on a level grade, overlap and adjoining ends, tightening the ends together, and anchoring through each end. Where two sections meet on uneven ground, j-hook higher elevated end, anchor, and begin new section just below.
 - 9 - Sock should be inspected and repaired as needed.
 - 10 - If ruts begin under the sock they should be backfilled with soil and compacted so that the ground and sock have continuous contact.
 - 11 - If sock rolls out of place, the sock should be repositioned and secured with additional anchors.
 - 12 - Tears in the Sock fabric may be repaired by wrapping a new piece of fabric over the sock and securing, or by place a second sock immediately up slope with the required overlap beyond deformation.
 - 13 - A section of sock should be replaced whenever it has weakened to such an extent that the efficiency is reduced or diminished. Weakening can occur because the natural mesh fabric breaks down over time of from being moved/dragged on site.
 - 14 - Sock should be replaced when sediment has built up and has been removed three times.
 - 15 - All sediment in disturbed area next to sock must be removed and correctly disposed of before the sock can be removed.
 - 16 - When removing, cut sock open and spread the filler material around. The netting should be removed from site.
 - 17 - Sock should be installed before works commence on site.

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10. SIDEWALK DIMENSIONS ARE APPROXIMATE. REFER TO ARCHITECTURAL DRAWINGS FOR THE SIDEWALK PLAN.



Overlap Detail - PLAN
 1) Anchors required at the overlap section are to stay outside the Silt Sock and not pierce through the material. See alternative anchor positions in details above.



Size & Class Chart	
Gradient	Diameter
0' - 2%	30 55 75
2.1 - 5%	25 40 55
5.1 - 10%	15 30 40
10.1 - 35%	10 15 20
> 35%	5 10 15

SD SILT SOCK DETAIL
 SD Silt Sock: Standard Duty Fabric

DEMOLITION & EROSION NOTES:

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DRAWING REVISIONS:			
No.	DATE	BY	REMARKS

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PROPERTY NUMBER: #5266 AREA: -

8363 Lewiston Rd
 Batavia, New York 14020

FORMER KMART

CONSULTANT

JAMES ALLEN RUMSEY
 ARCHITECT
 PREPARED FOR

BENDERSON DEVELOPMENT
 570 DELAWARE AVE., BUFFALO, NY 14202
 (716) 886-0211

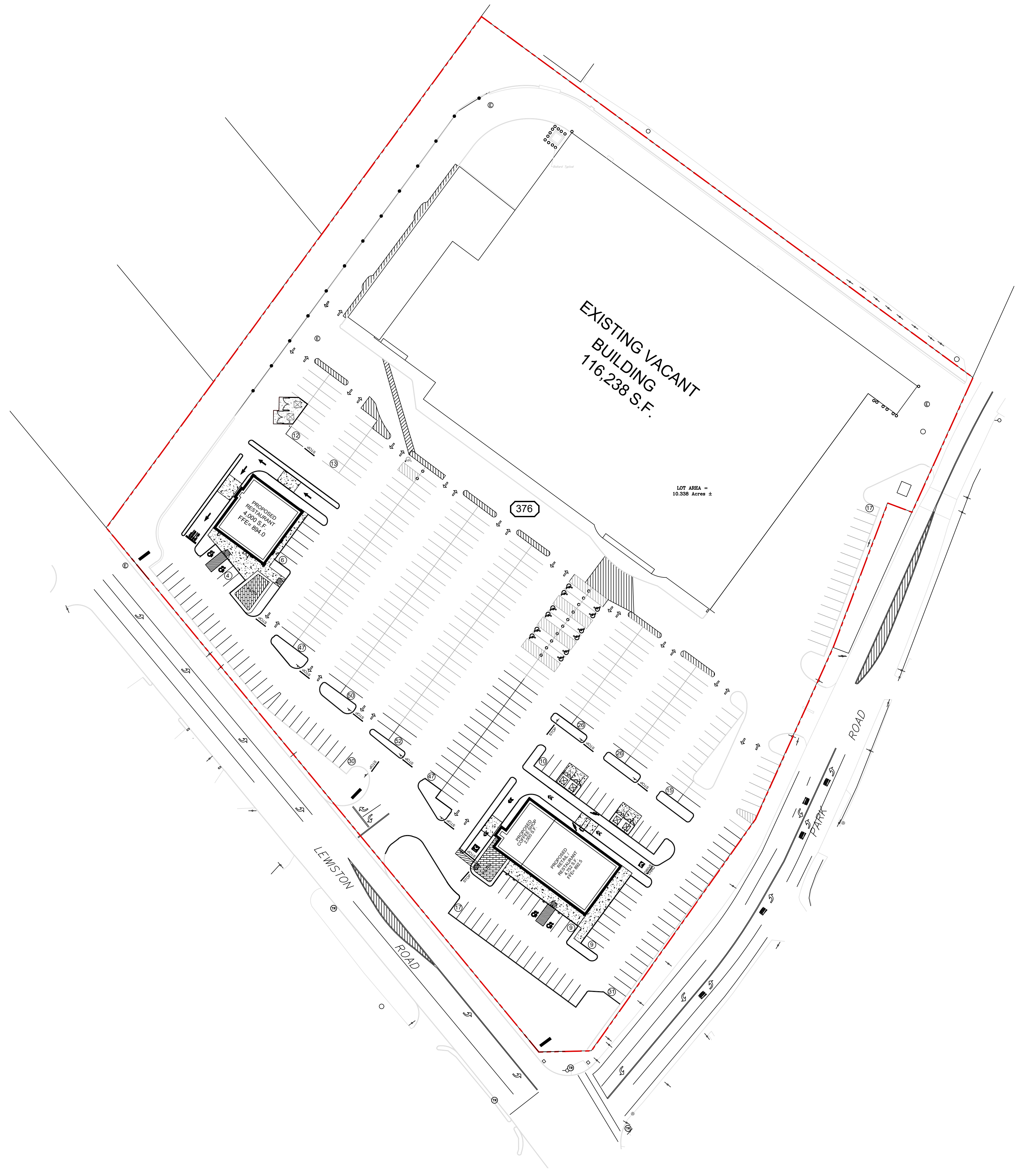
SEAL



TITLE:
Erosion Control Details

SCALE:
 NTS
 DRAWN BY: KER
 CHECKED BY: MAO
 DATE: 2/15/22

DRAWING NO.
C3.1



TOWN OF BATAVIA, NY ZONING ANALYSIS

ZONED	REQUIRED	EXISTING	PROVIDED
MAX. BUILDING HEIGHT	C 35'	C -	C -
MIN. LOT AREA	40,000 sq. ft	449,954 sq. ft	449,954 sq. ft
MIN. LOT WIDTH	-	-	-
MAX LOT COVERAGE	35%	25.8%	28.2%
MAX LOT GREEN	15%	9.4%	12.3%
MIN. FRONTAGE			
LEWISTON RD	200'	658.8'	658.8'
PARK RD	200'	750.2'	750.2'
BUILDING SETBACKS:			
LEWISTON RD	50'	N/A	61.7'
PARK RD	50'	N/A	85.5'
SIDE	30'	N/A	479'
SIDE	30'	N/A	105'
REAR	50'	N/A	N/A
PARKING REQUIREMENTS	666	572	376*

PARKING:
 FORMER K MART: (116,238 SQ. FT/ 1,000 SQ. FT) x 5 SPACES = 582 SPACES
 PROPOSED RETAIL: (4,752 SQ. FT/ 1,000 SQ. FT) x 5 SPACES= 24 SPACES
 PROPOSED COFFEE SHOP: (2,000 SQ. FT/100 SQ. FT) X 1 SPACE=20 SPACES*
 PROPOSED RESTAURANT: (4,000 SQ. FT/ 100 SQ. FT) x 1 SPACE= 40 SPACES*
 TOTAL SPACES: 666

* PER ZONING CODE THE PLANNING BOARD CAN MODIFY THE PARKING REQUIREMENT

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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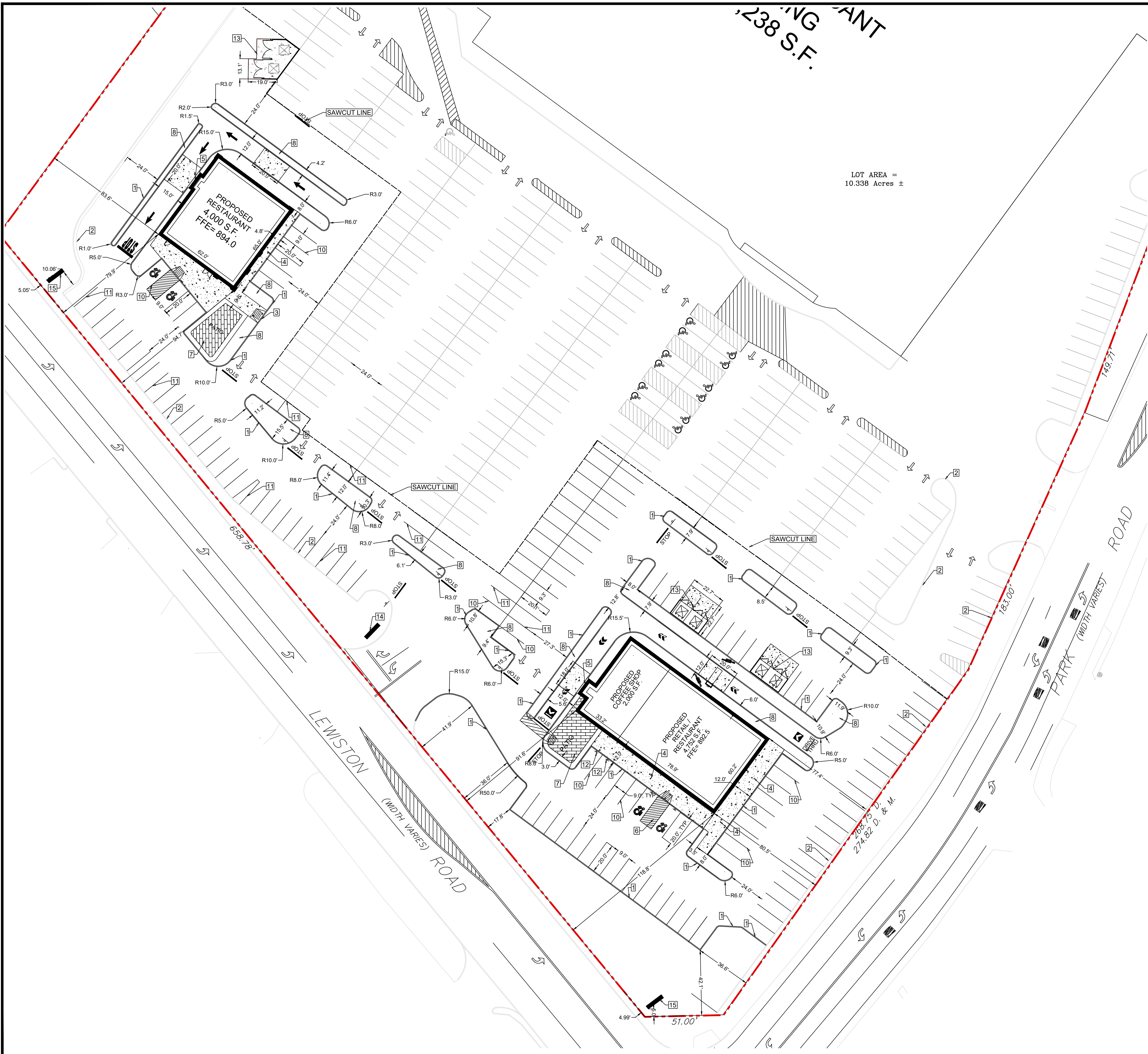
SEAL

TITLE:
 Overall Site Plan

SCALE:
 1:50

DRAWN BY: KER
 CHECKED BY: MAO
 DATE: 2/15/22

DRAWING NO.
C4.0



LOT AREA =
10,338 Acres ±

- GENERAL NOTES:**
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 - CURB ISLAND DIMENSIONS ARE FROM INSIDE OF CURB TO INSIDE OF CURB.

- SITE NOTES:**
- PROPOSED 6" CURB
 - EXISTING 6" CURB
 - PROPOSED 6" FLUSH CURB
 - PROPOSED CONCRETE SIDEWALK
 - PROPOSED 1' WIDE CURB TO DRIVE THRU WINDOW
 - 4" WHITE PAVEMENT STRIPE (AT 2' IN NO PARKING ZONES)
 - PROPOSED PATIO WITH RAILINGS- REFER TO ARCHITECTURAL PLANS
 - PROPOSED LANDSCAPE AREA
 - PROPOSED MENU SIGNS- REFER TO ARCHITECTURAL PLANS
 - PROPOSED PARKING
 - EXISTING PARKING
 - PROPOSED GRAB AND GO SPACES
 - PROPOSED DUMPSTERS, WOOD ENCLOSURE
 - EXISTING SIGN TO REMAIN
 - PROPOSED NEW SIGN

* ALL CURB RADII TO BE 3' UNLESS OTHERWISE NOTED.

SITE LEGEND:

- PROPERTY LINE
- 6" CURB TYP.
- PROPOSED SIGN & POLE
- CONCRETE PAVEMENT/SIDEWALK
- PROPOSED SIGNAGE

TOWN OF BATAVIA, NY ZONING ANALYSIS

ZONED	REQUIRED	EXISTING	PROVIDED
	C	C	C
MAX. BUILDING HEIGHT	35'	-	C
MIN. LOT AREA	40,000 sq. ft.	449,954 sq. ft.	449,954 sq. ft.
MIN. LOT WIDTH	-	-	-
MAX. LOT COVERAGE	35%	25.8%	29.0%
MAX. LOT GREEN	15%	9.4%	12.6%
MIN. FRONTAGE			
LEWISTON RD	200'	658.8'	658.8'
PARK RD	200'	750.2'	750.2'
BUILDING SETBACKS:			
LEWISTON RD	50'	N/A	61.7'
PARK RD	50'	N/A	85.5'
SIDE	30'	N/A	479'
SIDE	30'	N/A	105'
REAR	50'	N/A	N/A
PARKING REQUIREMENTS	692	572	336

DRIVE IN RESTAURANT REQUIRES SPECIAL USE PERMIT.
** NO REAR LOT LINE. IN THE CASE OF A LOT ABUTTING MORE THAN ONE STREET, EACH STREET LINE SHALL BE CONSIDERED A FRONT LOT LINE.

PARKING:
FORMER K MART: (116,238 SQ. FT./ 1,000 SQ. FT.) x 5 SPACES = 582 SPACES
PROPOSED RETAIL: (4,752 SQ. FT./ 1,000 SQ. FT.) x 5 SPACES = 24 SPACES
PROPOSED RESTAURANT: (4,000 SQ. FT./ 100 SQ. FT.) x 1 SPACE = 40 SPACES*
TOTAL SPACES: 646

* PER ZONING CODE- PARKING NEEDS TO BE DISCUSSED WITH PLANNING BOARD.

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

SPECIAL INFORMATION:
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NOTICE
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PROPERTY NUMBER: # 5266 AREA: -

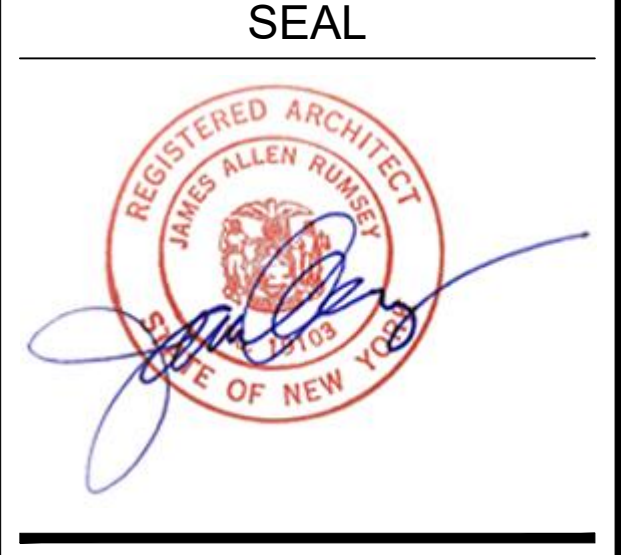
8363 Lewiston Rd
Batavia, New York 14020

FORMER KMART

CONSULTANT

JAMES ALLEN RUMSEY
ARCHITECT
PREPARED FOR

BENDERSON DEVELOPMENT
570 DELAWARE AVE., BUFFALO, NY 14202
(716) 886-0211



TITLE:
Detailed Site Plan

SCALE:
1:30





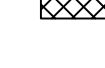

DRAWN BY: KER
CHECKED BY: MAO
DATE: 2/15/22

DRAWING NO.: **C4.1**

VACANT BUILDING
116,238 S.F.

LOT AREA =
10.338 Acres ±

SITE LEGEND:

-  PROPERTY LINE
-  6" CURB TYP.
-  PROPOSED SIGN & POLE
-  STANDARD DUTY PAVEMENT
-  HEAVY DUTY PAVEMENT
-  CONCRETE PAVEMENT/SIDEWALK

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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SEAL



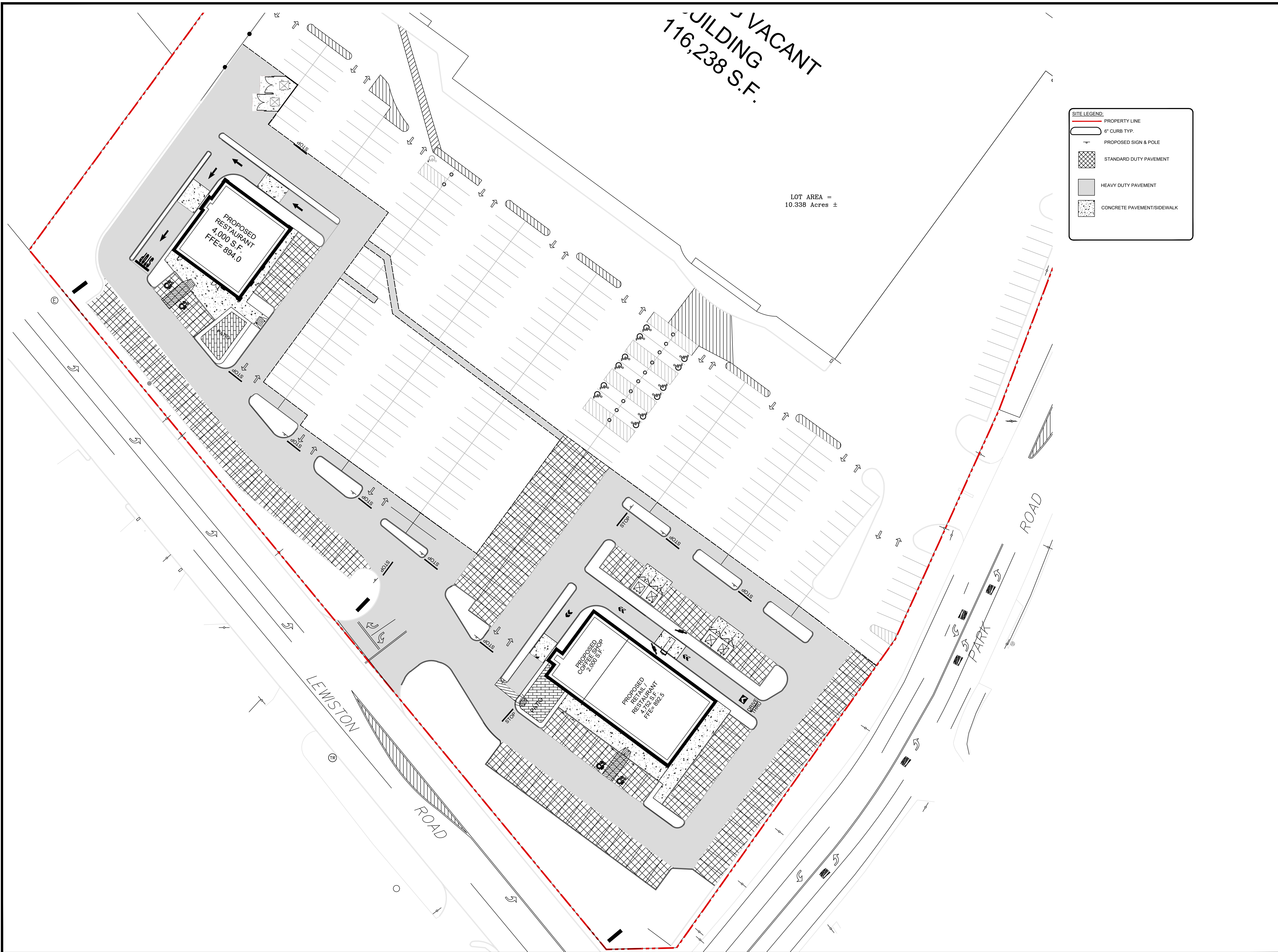
TITLE:
Pavement Materials Plan

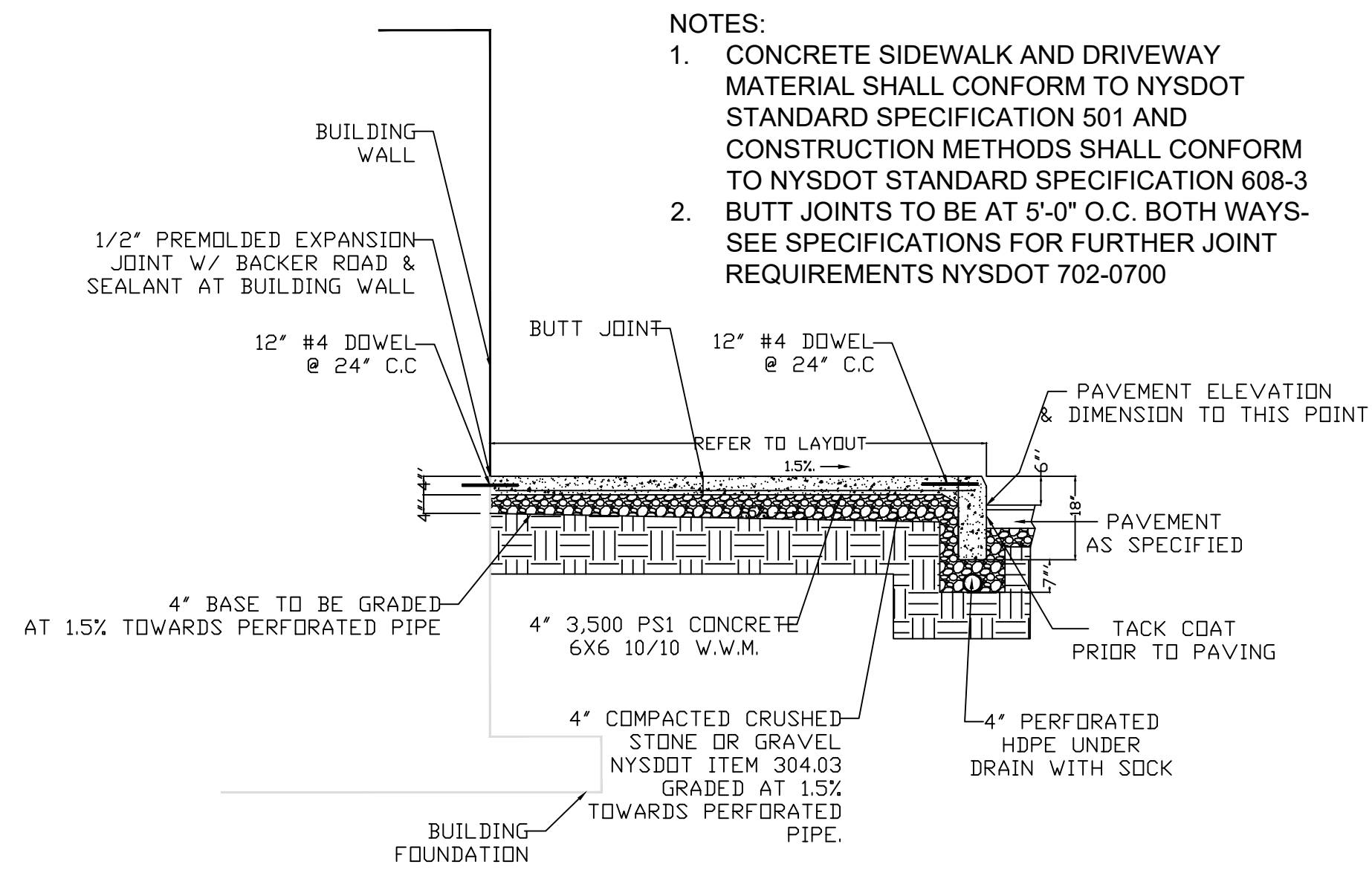
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DRAWN BY: KER DRAWING NO. C4.2

CHECKED BY: MAO

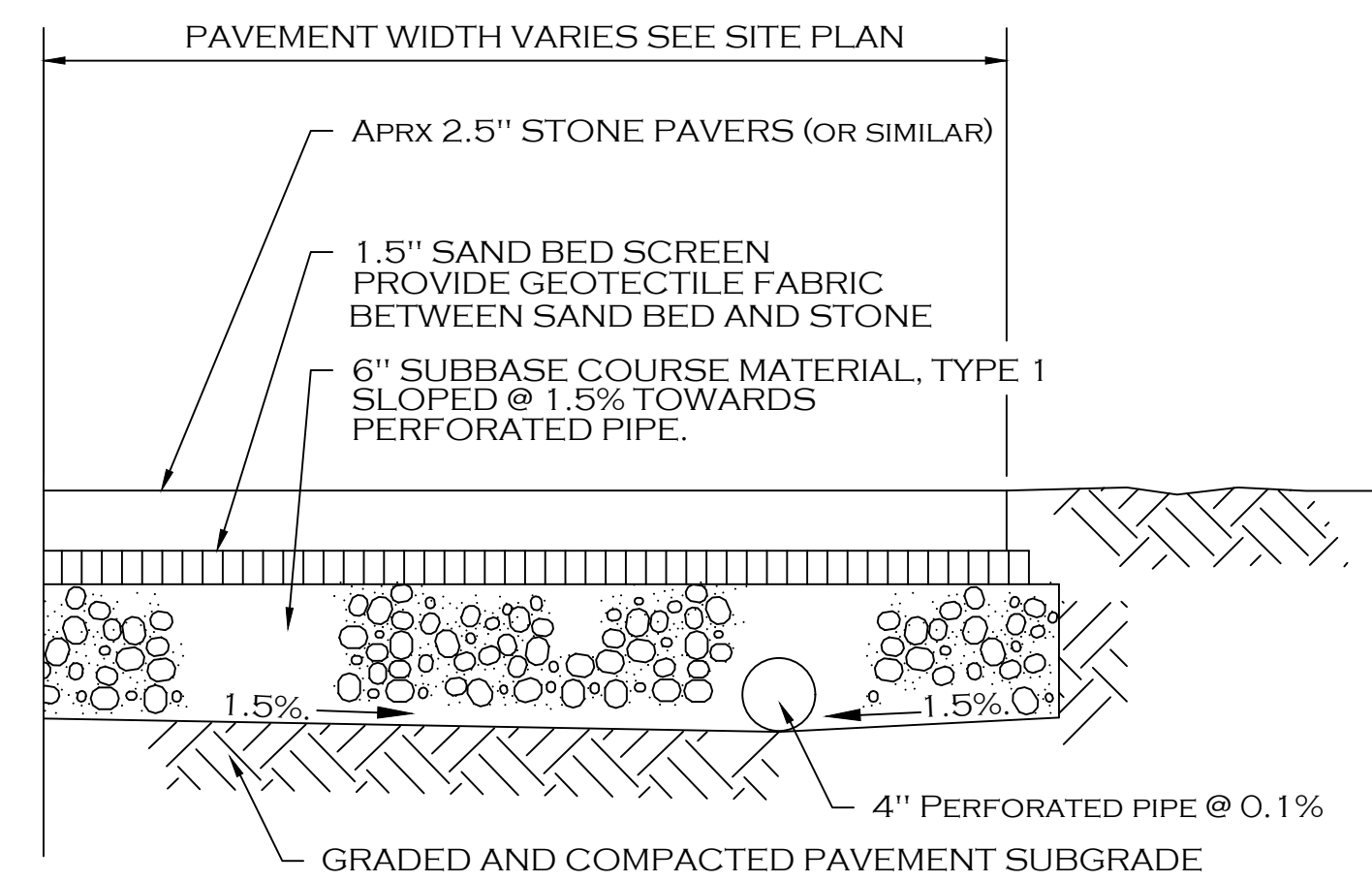
DATE: 2/15/22





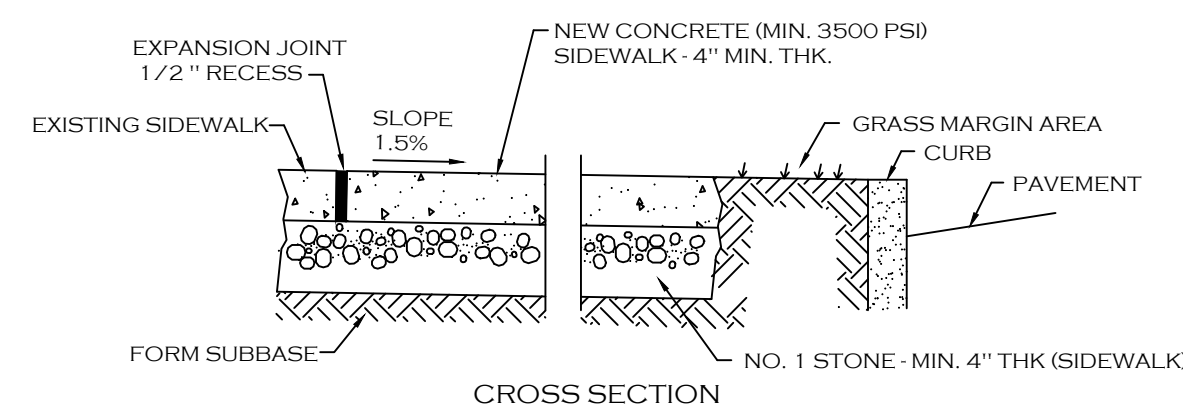
BUILDING SIDEWALK DETAIL

CONTRACTOR TO VERIFY WITH OWNER ON CURB DETAIL



PATIO SECTION - UNDERDRAIN

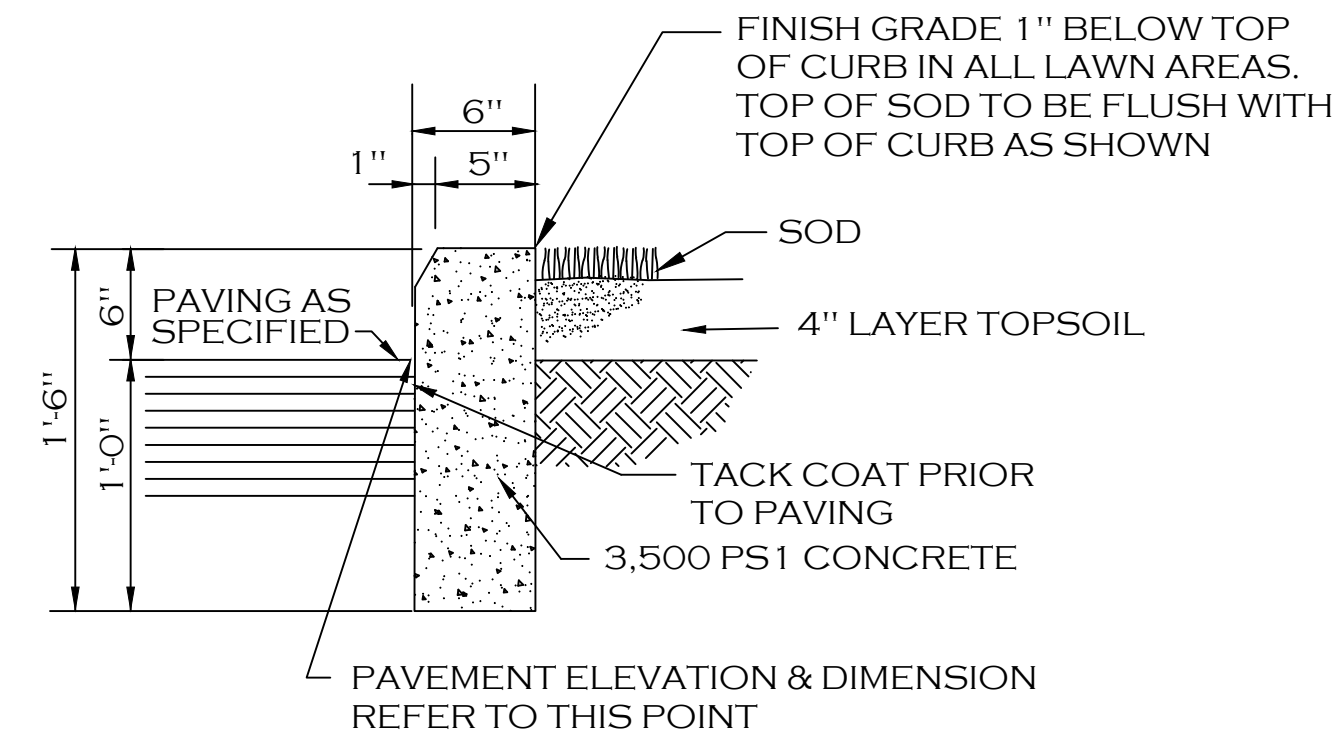
TO BE READ IN CONJUNCTION WITH ARCHITECTURAL PLANS AND CIVIL ENGINEERING PLANS



CONCRETE SIDEWALK

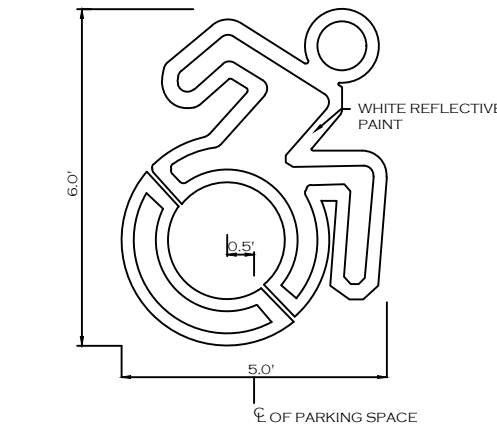
NOTES:

- CONTROL JOINTS TO BE AT 5'-0" O.C. BOTHWAYS - SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYS DOT 702-0700.
- CONCRETE SIDEWALK MATERIAL SHALL CONFORM TO NYS DOT STANDARD SPECIFICATION 501 AND CONSTRUCTION METHODS SHALL CONFORM TO NYS DOT STANDARD SPECIFICATION 608-3.

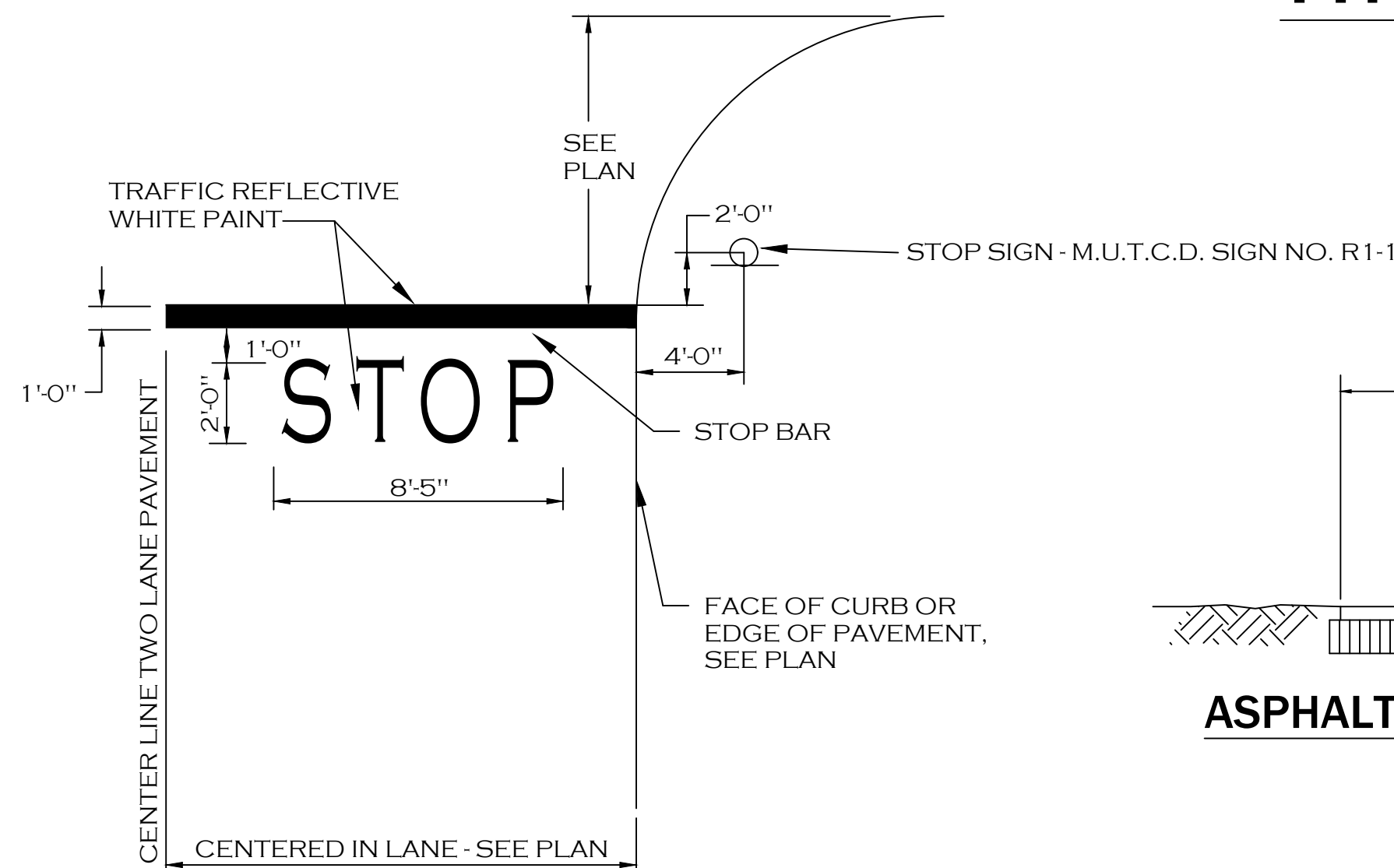


TYPE "A" CONCRETE CURB

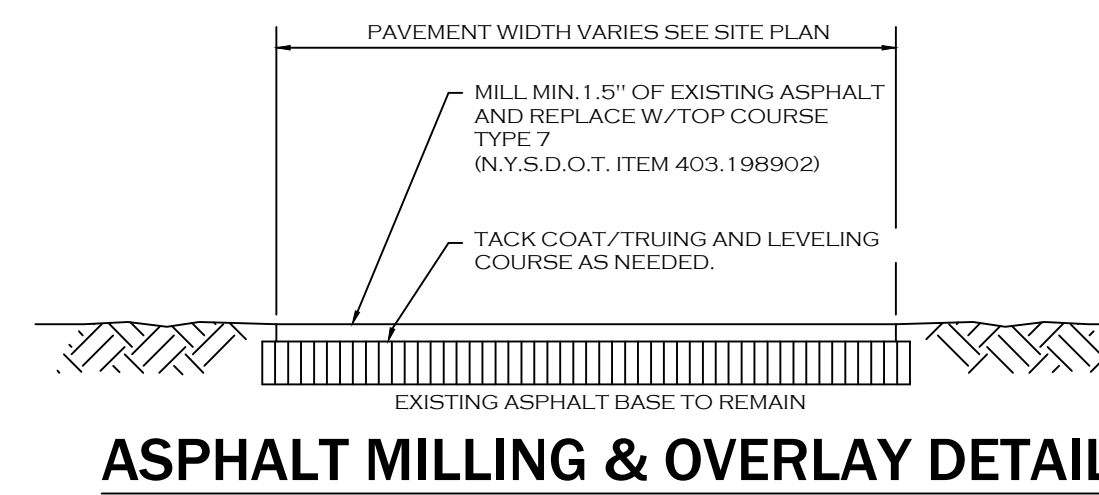
NOTE: CONTROL JOINTS TO BE 2" DEEP AT 15'-0" O.C. BOTHWAYS - SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYS DOT 702-0700



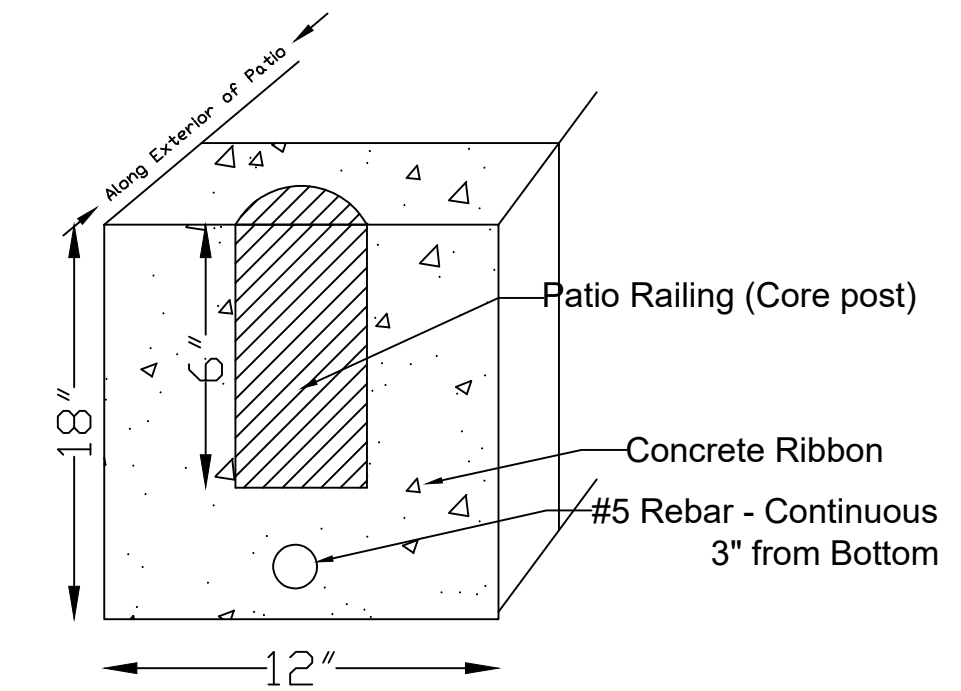
INTERNATIONAL HANDICAP SYMBOL



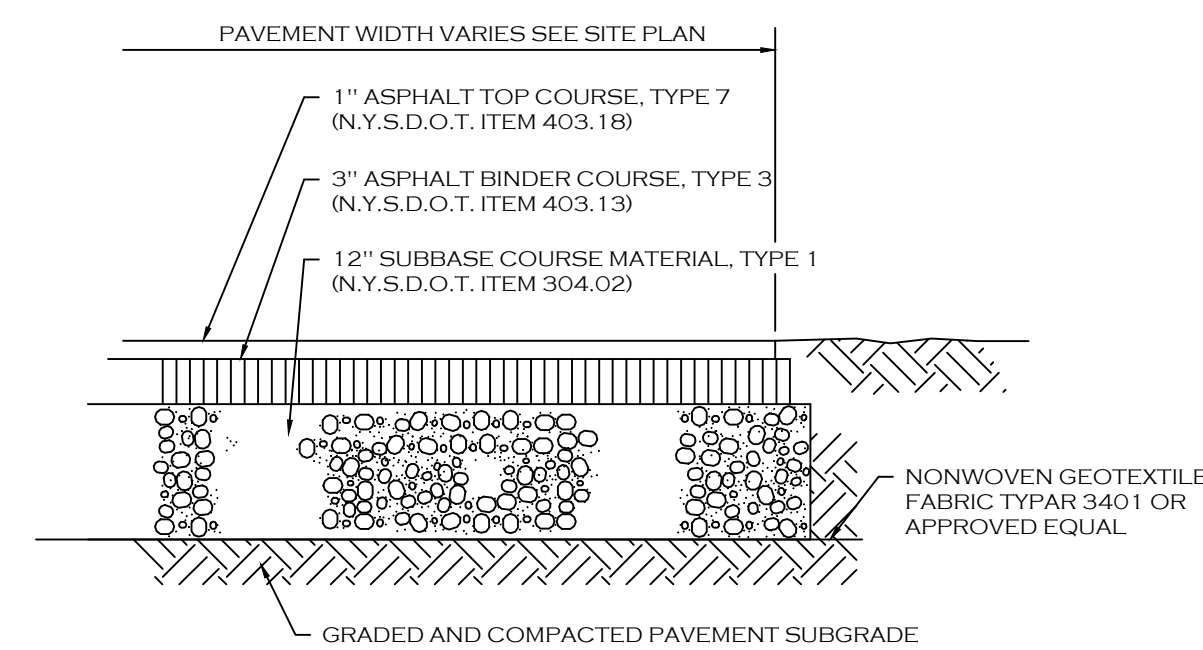
STOP BAR DETAIL



ASPHALT MILLING & OVERLAY DETAIL

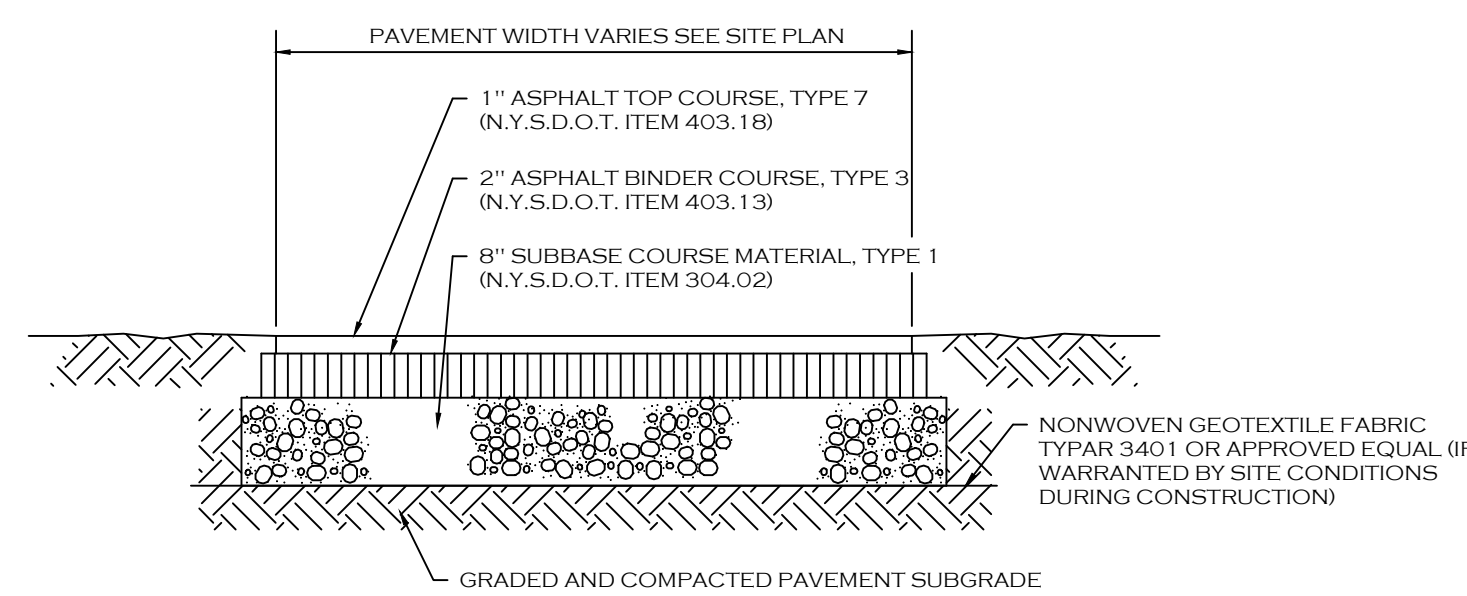


CONCRETE RIBBON FOR PATIO RAILING



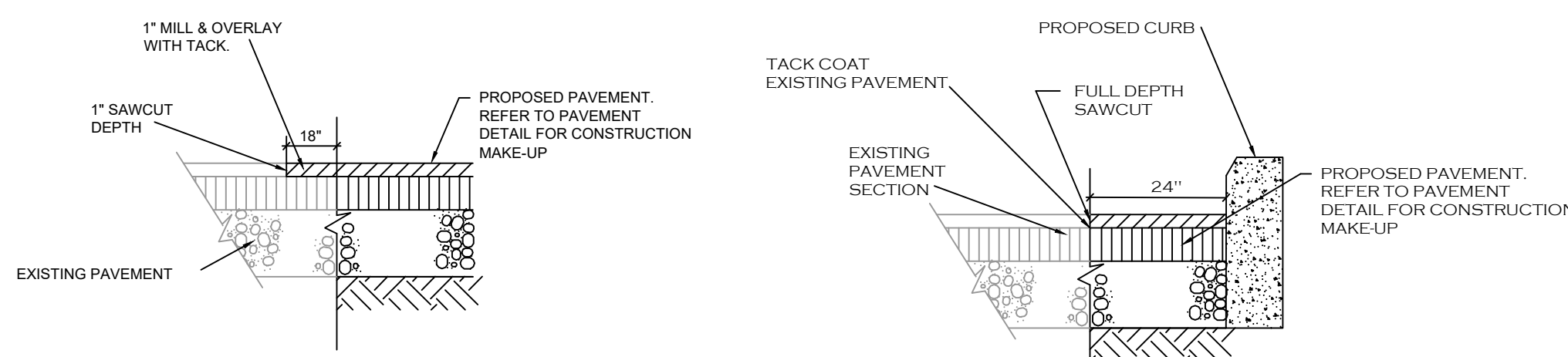
HEAVY DUTY ASPHALT SECTION

NOTE: CONSTRUCTION METHODS FOR ASPHALT PAVEMENT SHALL CONFORM TO NYS DOT STANDARD SPECIFICATION 401-3, WITH SUBBASE CONSTRUCTION METHODS CONFORMING TO NYS DOT STANDARD SPECIFICATION 304-3.



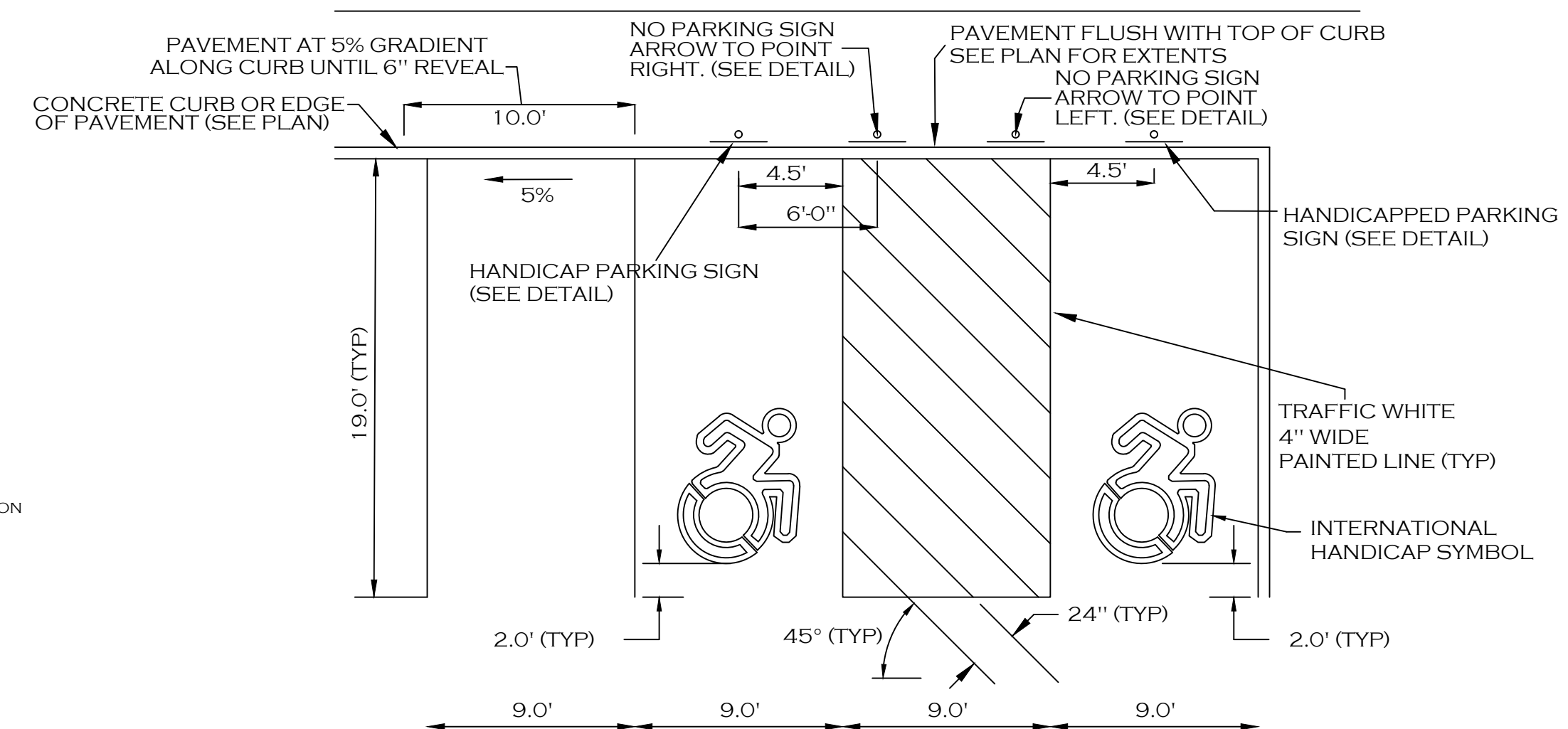
STANDARD DUTY ASPHALT SECTION

NOTE: CONSTRUCTION METHODS FOR ASPHALT PAVEMENT SHALL CONFORM TO NYS DOT STANDARD SPECIFICATION 401-3, WITH SUBBASE CONSTRUCTION METHODS CONFORMING TO NYS DOT STANDARD SPECIFICATION 304-3.



PAVEMENT TRANSITION DETAIL (ASPHALT PAVEMENT)

CURB AND PAVEMENT TRANSITION DETAIL



HANDICAPPED PAVEMENT MARKINGS & SIGNAGE

(FLUSH CURB)

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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PROPERTY NUMBER: # 5266
AREA: -

8363 Lewiston Rd
Batavia, New York 14020

FORMER KMART

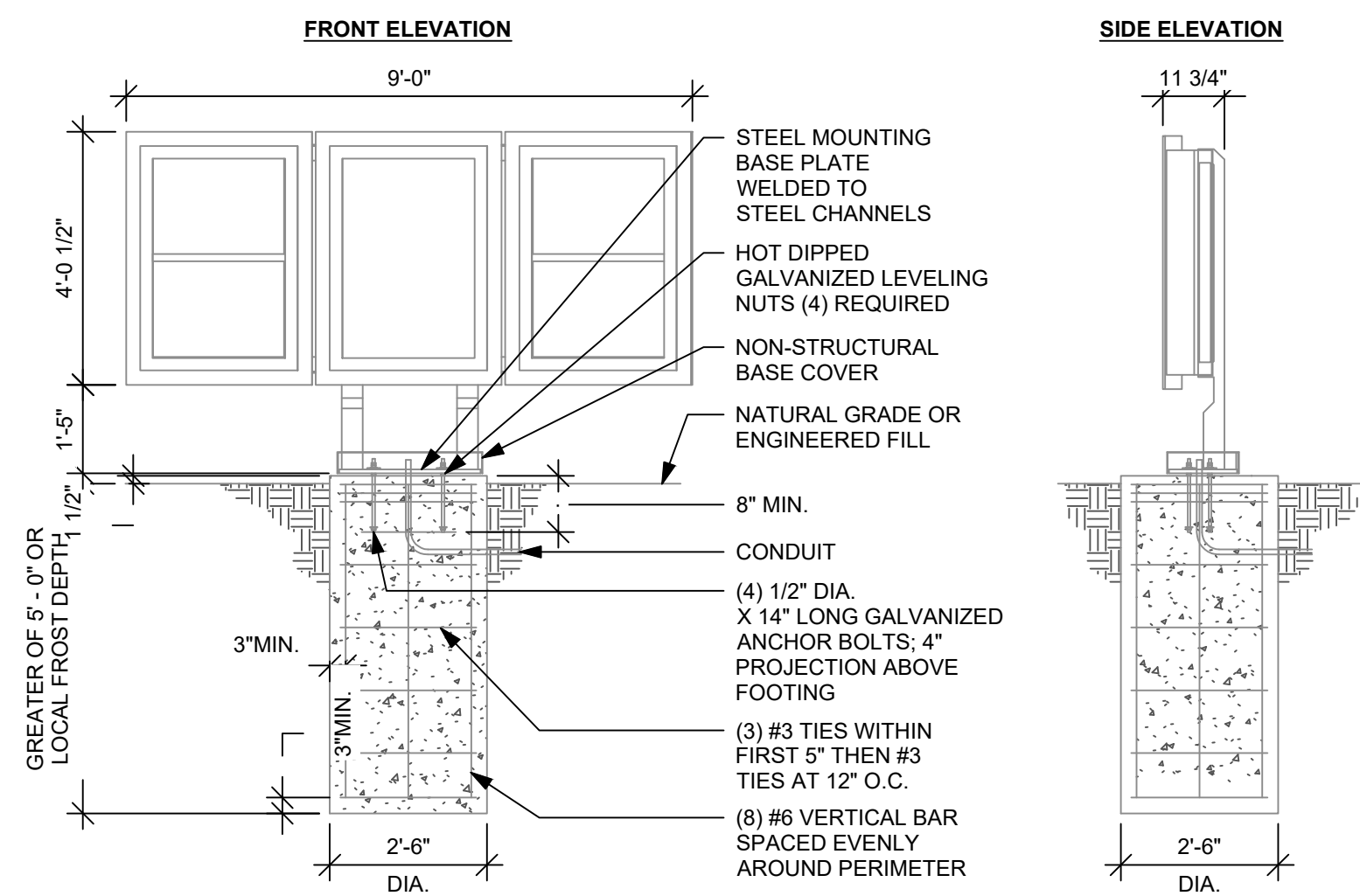
CONSULTANT

JAMES ALLEN RUMSEY
ARCHITECT
PREPARED FOR
BENDERSON DEVELOPMENT
570 DELAWARE AVE., BUFFALO, NY 14202
(716) 886-0211

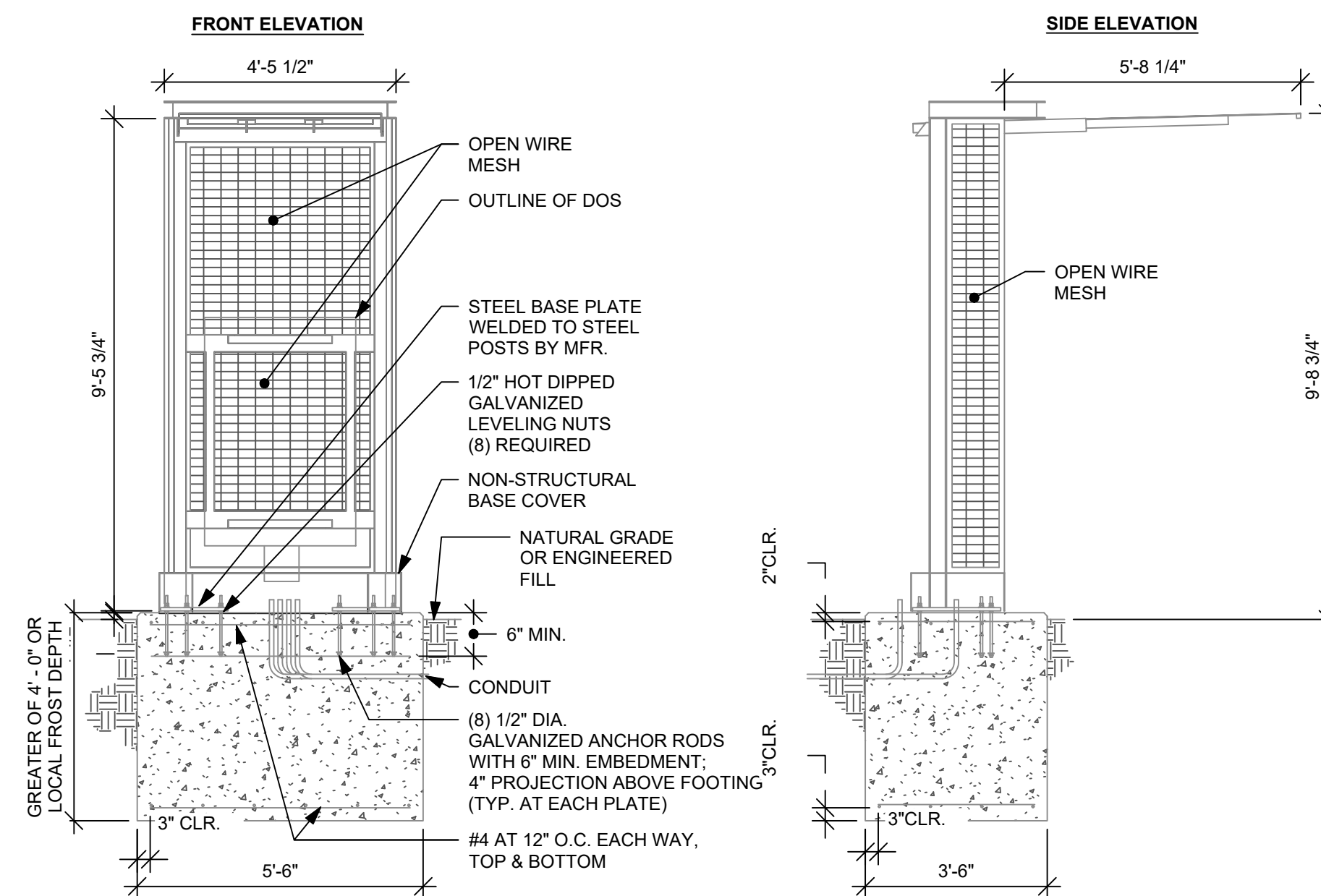
SEAL



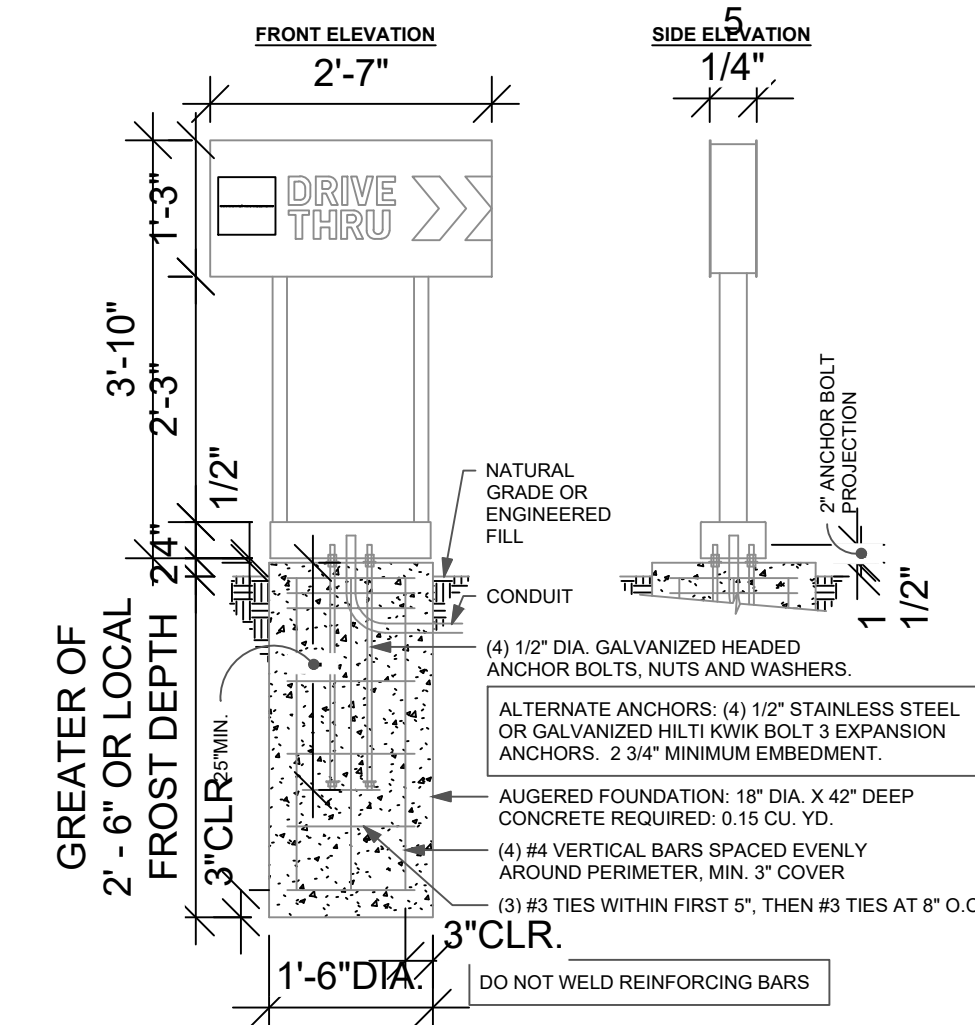
TITLE:
Construction Details
SCALE:
NTS
DRAWN BY: KER
CHECKED BY: MAO
DATE: 2/15/22
DRAWING NO.
C4.3



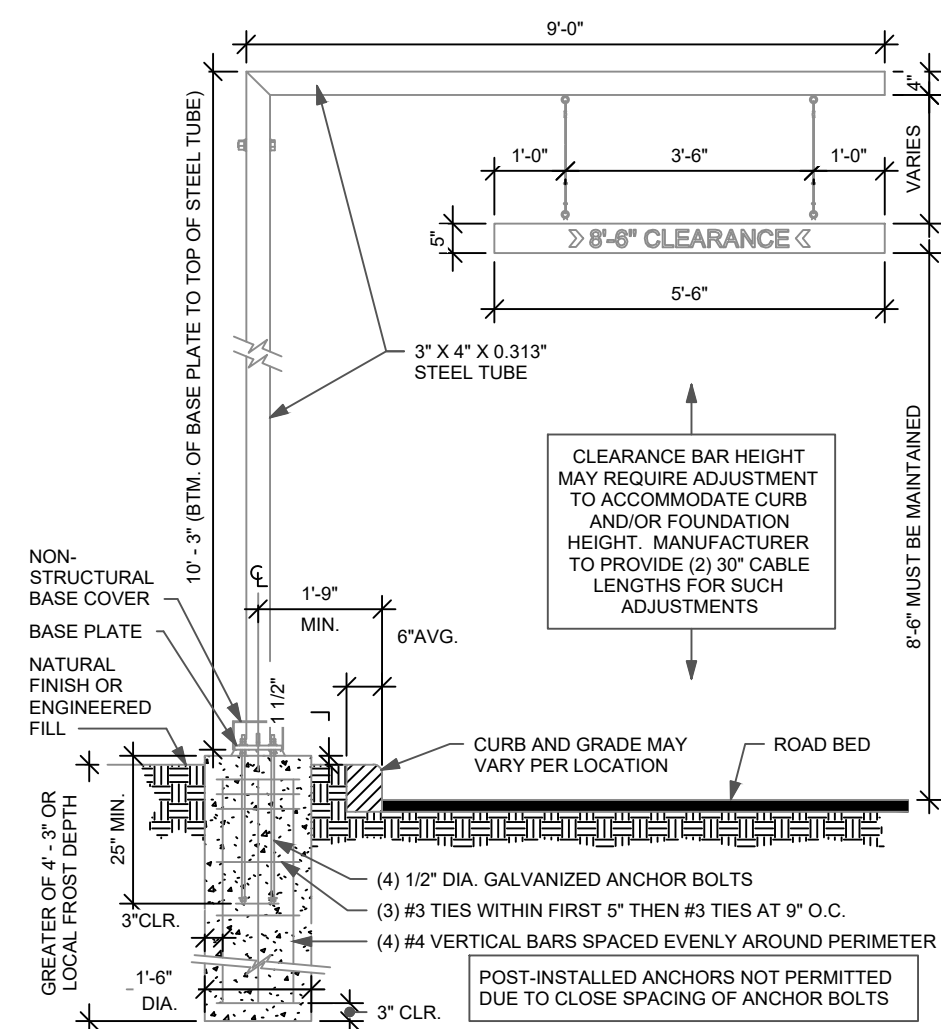
DTE PANEL MENU BOARD GROUND FOOTING



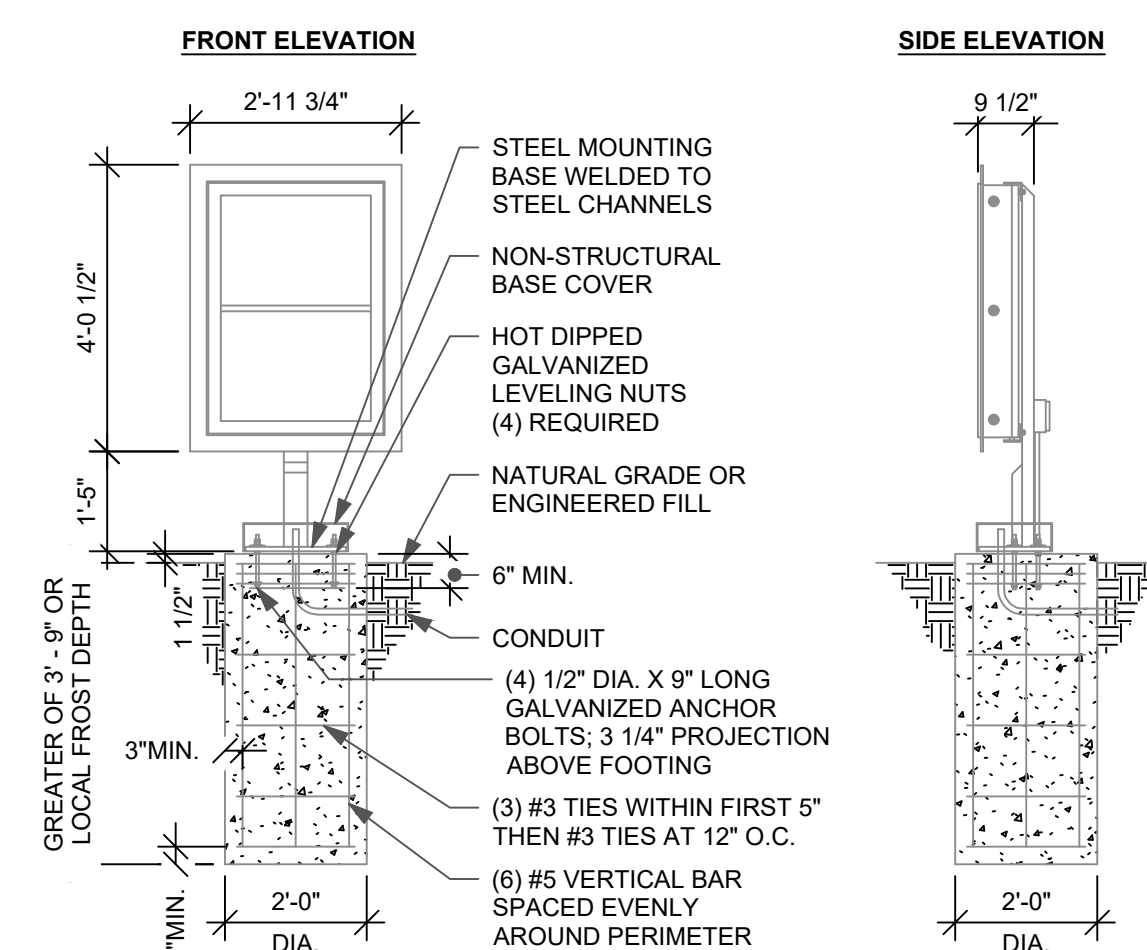
DTE DOS CANOPY GROUND FOOTING



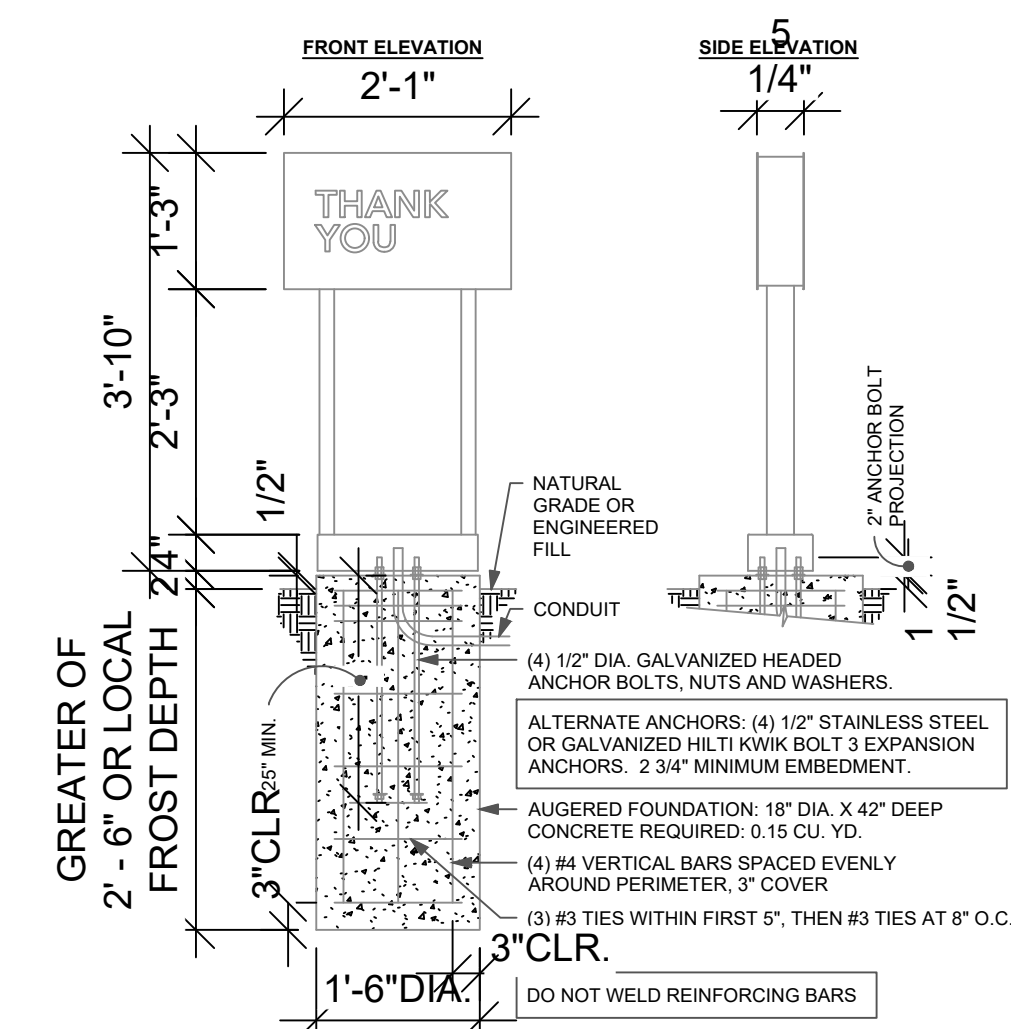
DTE ARROW SIGNAGE GROUND FOOTING



DTE CLEARANCE BAR GROUND FOOTING



DTE PRE-MENU GROUND FOOTING



DTE EXIT SIGNAGE GROUND FOOTING

**FOR BID PURPOSES ONLY

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FORMER KMART

CONSULTANT

JAMES ALLEN RUMSEY
 ARCHITECT
 PREPARED FOR

BENDERSON DEVELOPMENT
 570 DELAWARE AVE., BUFFALO, NY 14202
 (716) 886-0211

SEAL



TITLE:
Foundation Details

SCALE:
 NTS
 DRAWN BY: KER
 CHECKED BY: MAO
 DATE: 2/15/22

DRAWING NO.
C4.4



DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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Batavia, New York 14020
FORMER KMART

CONSULTANT

JAMES ALLEN RUMSEY
 ARCHITECT
 PREPARED FOR
BENDERSON DEVELOPMENT
 570 DELAWARE AVE., BUFFALO, NY 14202
 (716) 886-0211

SEAL

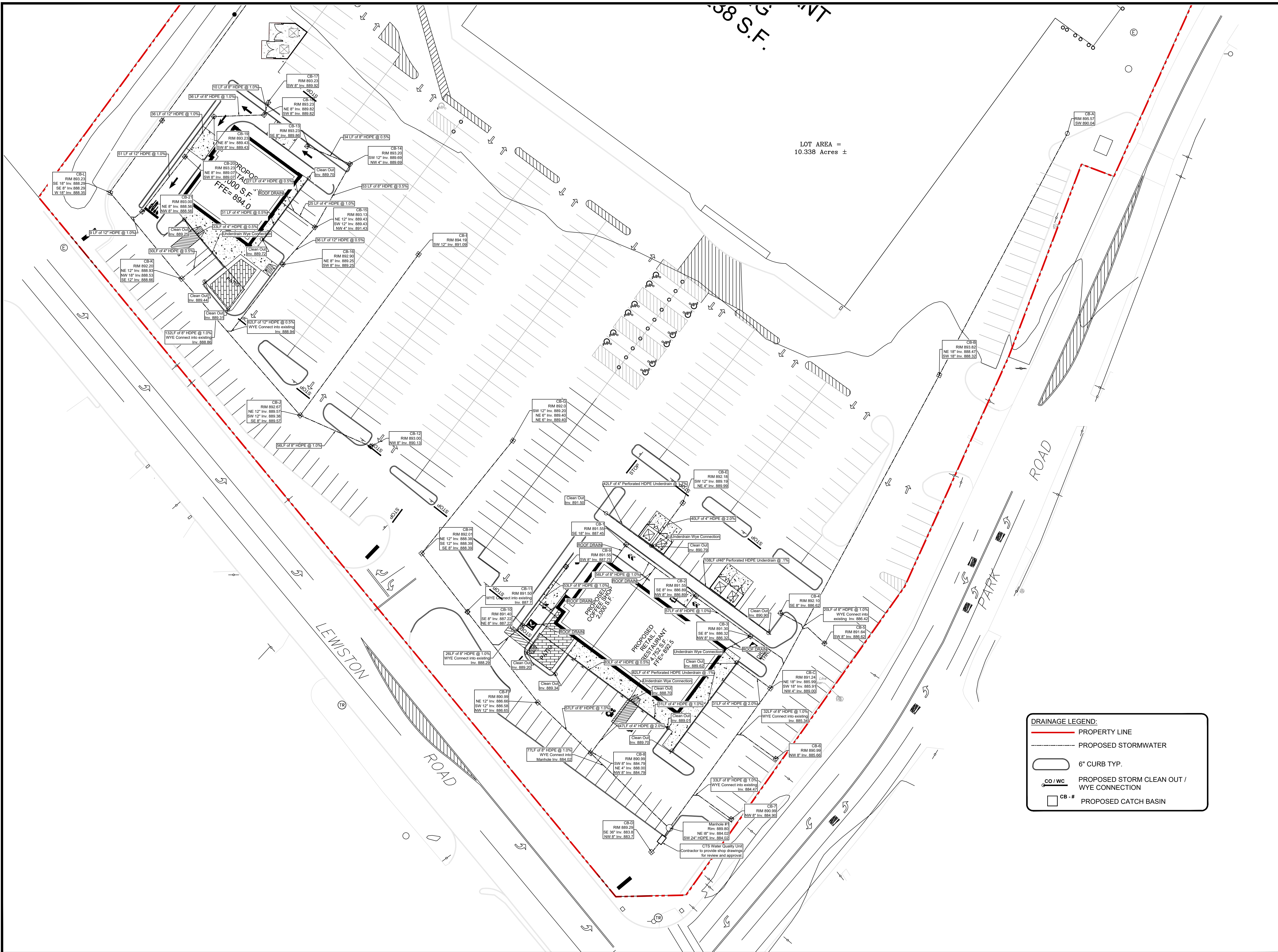


TITLE:
Grading Plan

SCALE:
 1:30

DRAWN BY: KER DRAWING NO.
 CHECKED BY: MAO
 DATE: 2/15/22

C5.0



LOT AREA =
10.336 Acres ±

DRAINAGE LEGEND:

- PROPERTY LINE
- PROPOSED STORMWATER
- 6" CURB TYP.
- PROPOSED STORM CLEAN OUT / WYE CONNECTION
- PROPOSED CATCH BASIN

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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PROPERTY NUMBER: #5266 AREA: -

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Batavia, New York 14020**

FORMER KMART

CONSULTANT

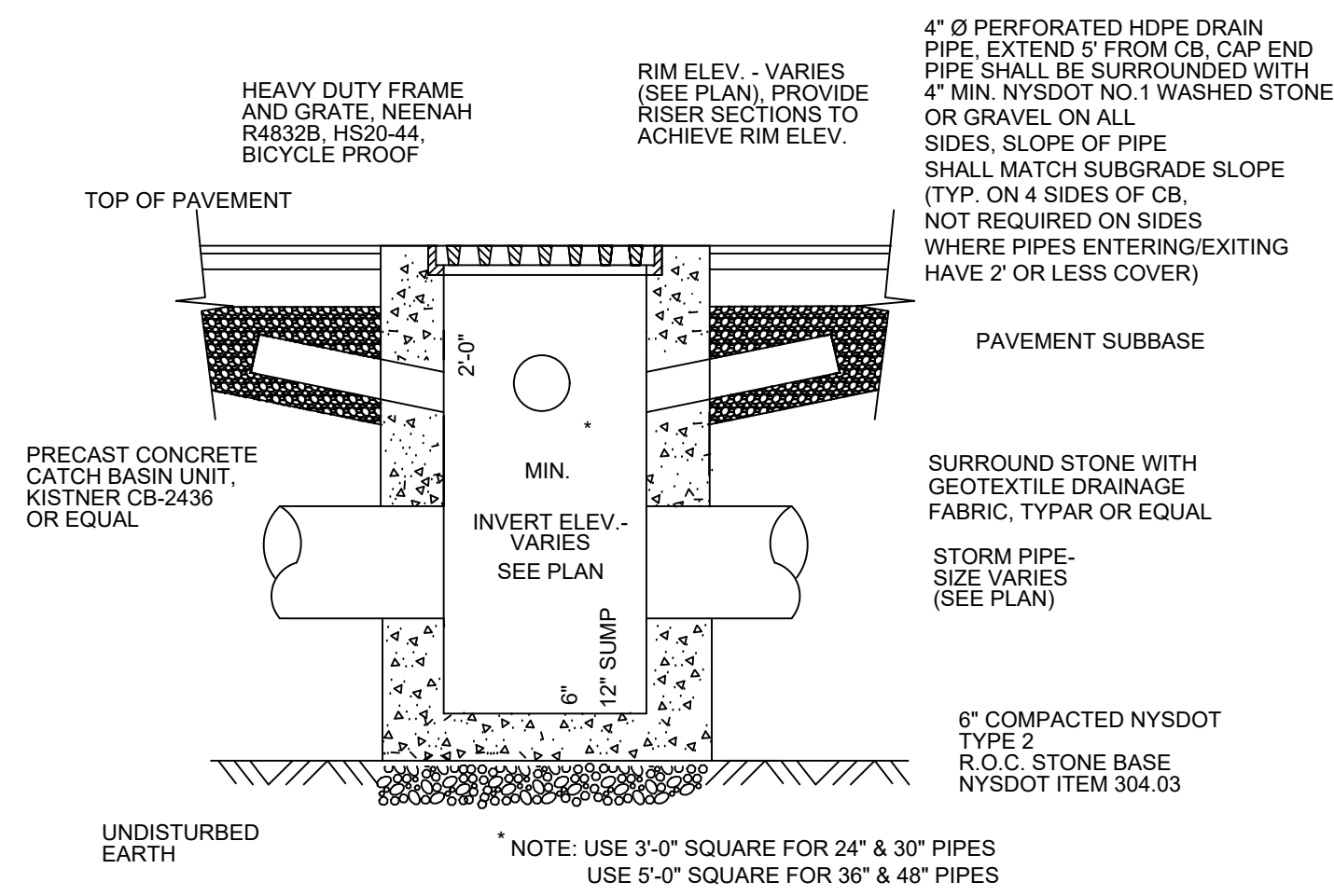
JAMES ALLEN RUMSEY
ARCHITECT
PREPARED FOR
BENDERSON DEVELOPMENT
570 DELAWARE AVE., BUFFALO, NY 14202
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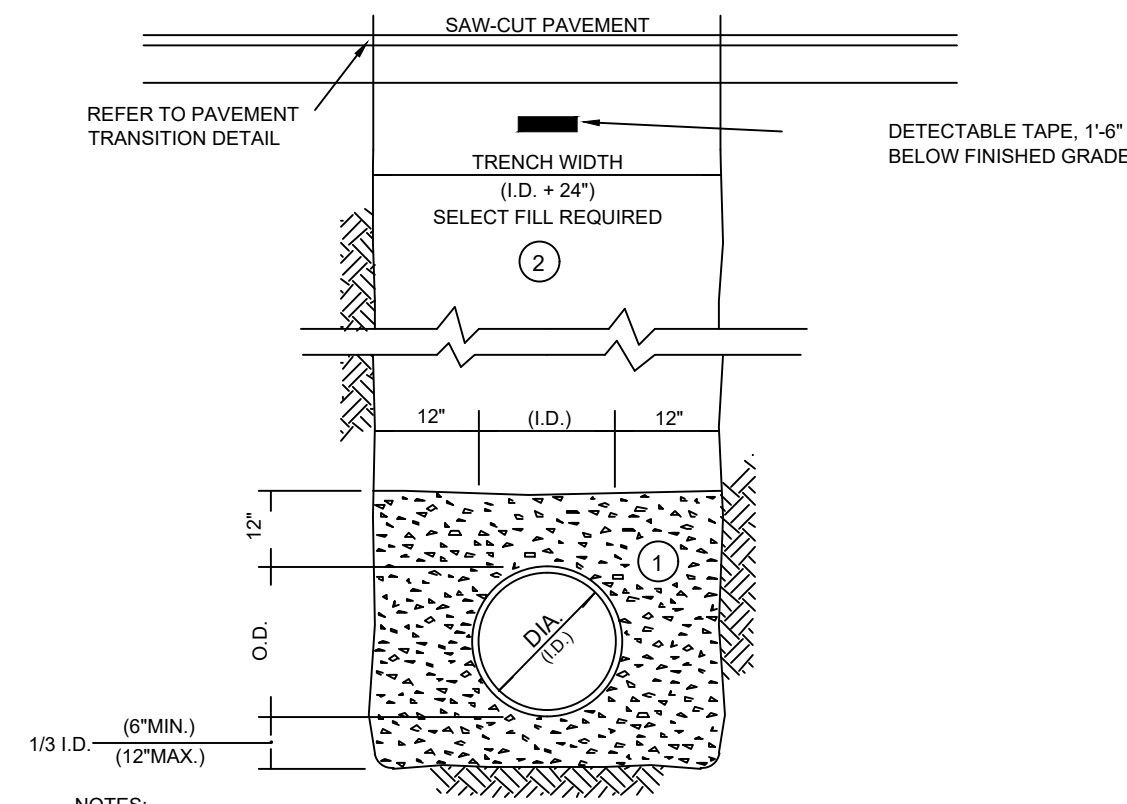
TITLE:
Drainage Plan

SCALE:
1:30
DRAWN BY: KER
CHECKED BY: MAO
DATE: 2/15/22

DRAWING NO.
C5.1



TYPICAL PRECAST CATCH BASIN



- NOTES:
- A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
 - B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.
 - C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.
 - D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT 1985 EDITION)

- 1 NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

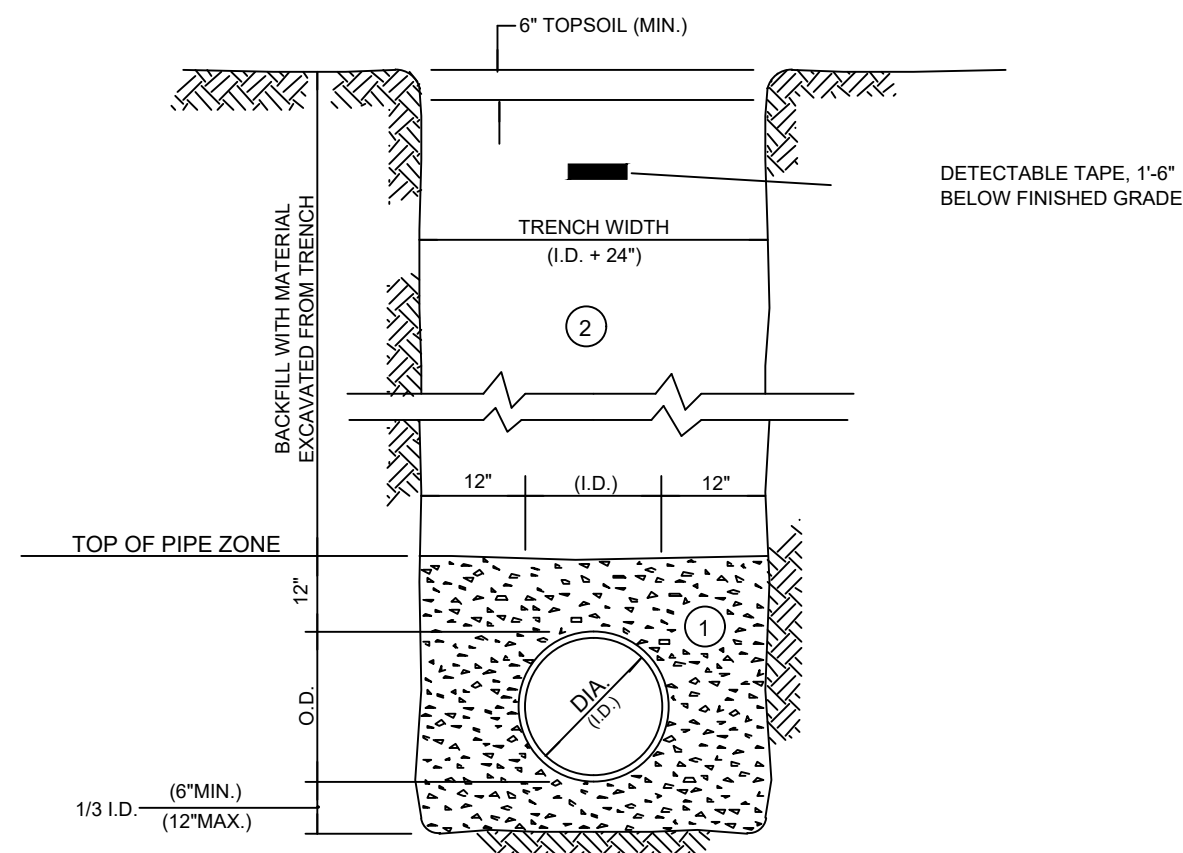
NO SLAG SHALL BE ALLOWED FOR MATERIAL 1

- 2 TYPE 2 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 304-2.02 TYPE 2. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN TWO INCHES AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NO SLAG SHALL BE ALLOWED FOR MATERIAL 2

TRENCH SECTION IN PAVED AREAS

- GENERAL NOTES:
1. INSTALL ALL MATERIALS TO MANUFACTURER'S RECOMMENDATIONS AND BEST STANDARDS OF TRADE INVOLVED.
 2. SUBSTITUTIONS SHALL BE MADE ONLY WITH OWNER'S APPROVAL AND BE OF EQUIVALENT QUALITY TO WHAT IS SPECIFIED.
 3. WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND OSHA SAFETY RULES AND REGULATIONS.
 4. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. NOTIFY OWNER & ENGINEER OF DISCREPANCIES IN CONDITIONS SHOWN ON DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.
 5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ANY EXISTING STRUCTURES TO REMAIN AND ANY FINISH MATERIAL INSTALLED WHILE WORKING ON OTHER COMPONENTS.
 6. CONTRACTOR SHALL KEEP JOB FREE OF DEBRIS AND MAKE FINAL CLEANUP TO SATISFACTION OF OWNER.
 7. CONTRACTOR SHALL ASCERTAIN THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION SO THAT THIS WORK WILL NOT DISTURB EXISTING LINES AND/OR INSTALLATIONS EXCEPT AS DETAILED ON THE PLANS. COORDINATE ALL WORK WITH THE APPLICABLE UTILITY COMPANIES.
 8. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS NECESSARY TO PERFORM THE WORK.
 9. BUILDING DIMENSIONS ARE APPROXIMATE. REFER TO ARCHITECTURAL DRAWINGS FOR LAYOUT DIMENSIONS.
 10. SIDEWALK DIMENSIONS ARE APPROXIMATE. REFER TO ARCHITECTURAL DRAWINGS FOR THE SIDEWALK PLAN.
 11. CURB ISLAND DIMENSIONS ARE FROM INSIDE OF CURB TO INSIDE OF CURB.



- NOTES:
- A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
 - B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.
 - C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.
 - D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

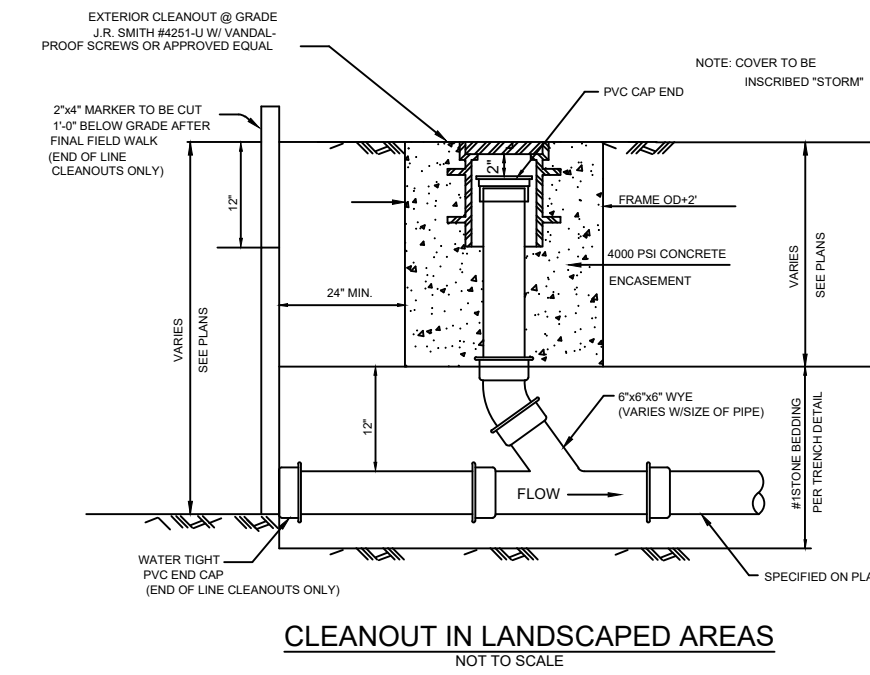
PIPE BEDDING MATERIAL (NYSDOT 1985 EDITION)

- 1 NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

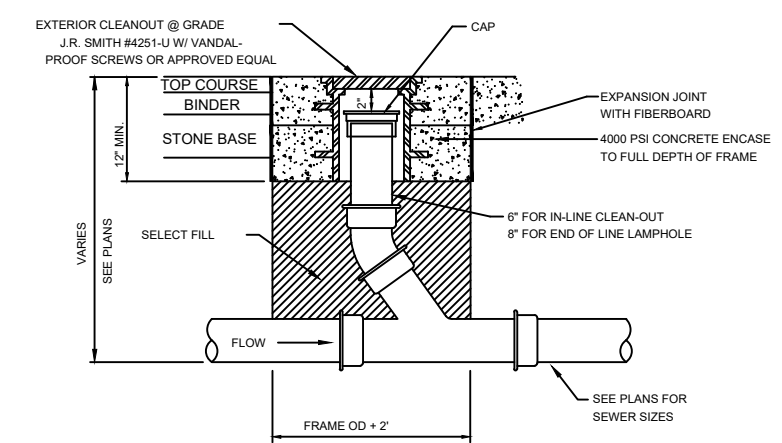
NO SLAG SHALL BE ALLOWED FOR MATERIAL 1

- 2 BACKFILL MATERIAL SHALL BE NATIVE SOIL CONTAINING NO UNSUITABLE MATERIAL COMPACTED IN 6" LIFTS.

TRENCH SECTION IN UNPAVED AREAS



CLEANOUT IN LANDSCAPED AREAS
NOT TO SCALE



CLEANOUT IN PAVED AREAS
NOT TO SCALE

DRAWING REVISIONS:			
No.	DATE	BY	REMARKS

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FORMER KMART

CONSULTANT

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BENDERSON
DEVELOPMENT
570 DELAWARE AVE., BUFFALO, NY 14202
(716) 886-0211

SEAL



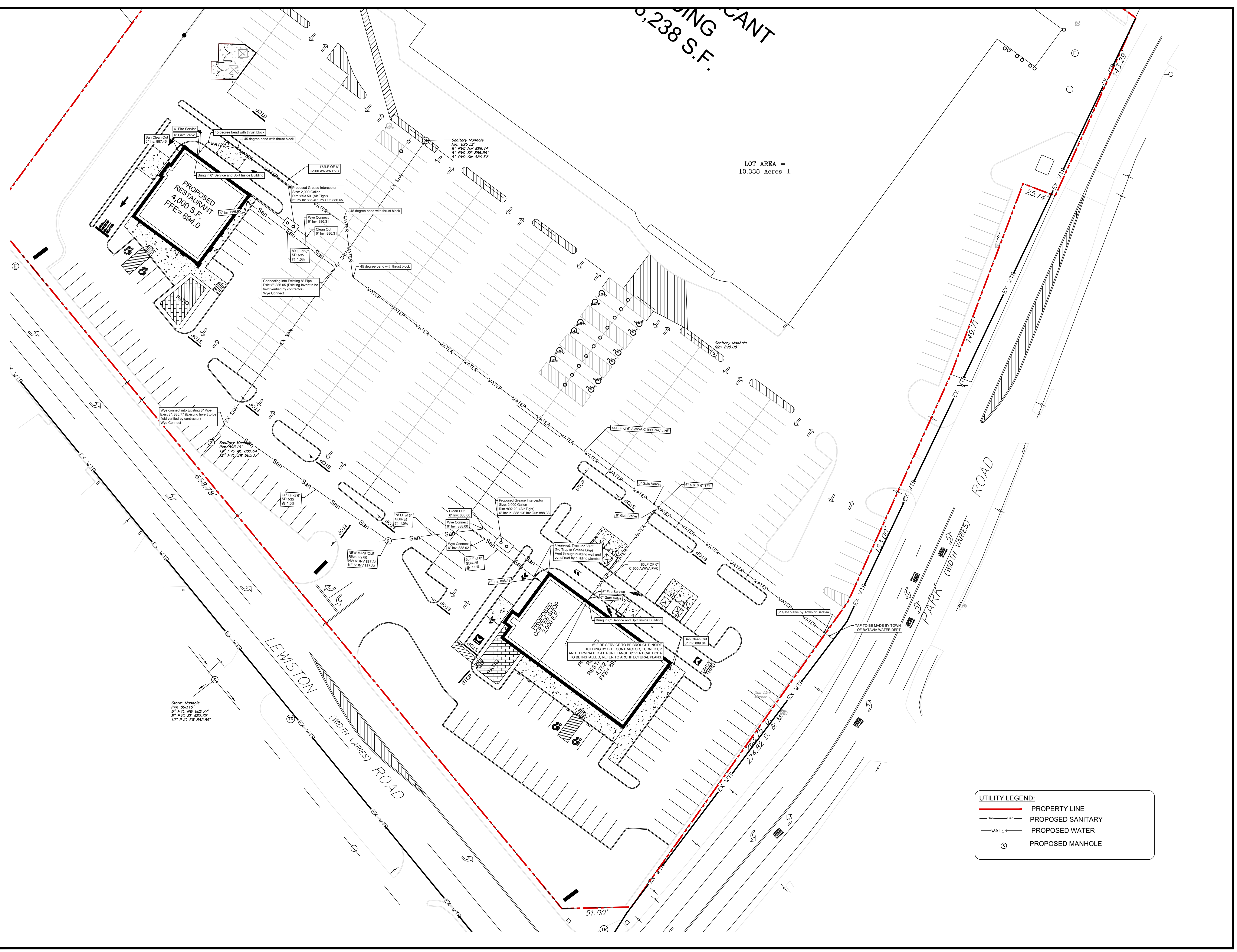
TITLE:
Drainage Details

SCALE:
NTS
DRAWN BY: KER DRAWING NO.
CHECKED BY: MAO
DATE: 2/15/22

C5.2

FORMER KMART
10,238 S.F.

LOT AREA =
10.338 Acres ±



UTILITY LEGEND:

- PROPERTY LINE
- PROPOSED SANITARY
- PROPOSED WATER
- ⊙ PROPOSED MANHOLE

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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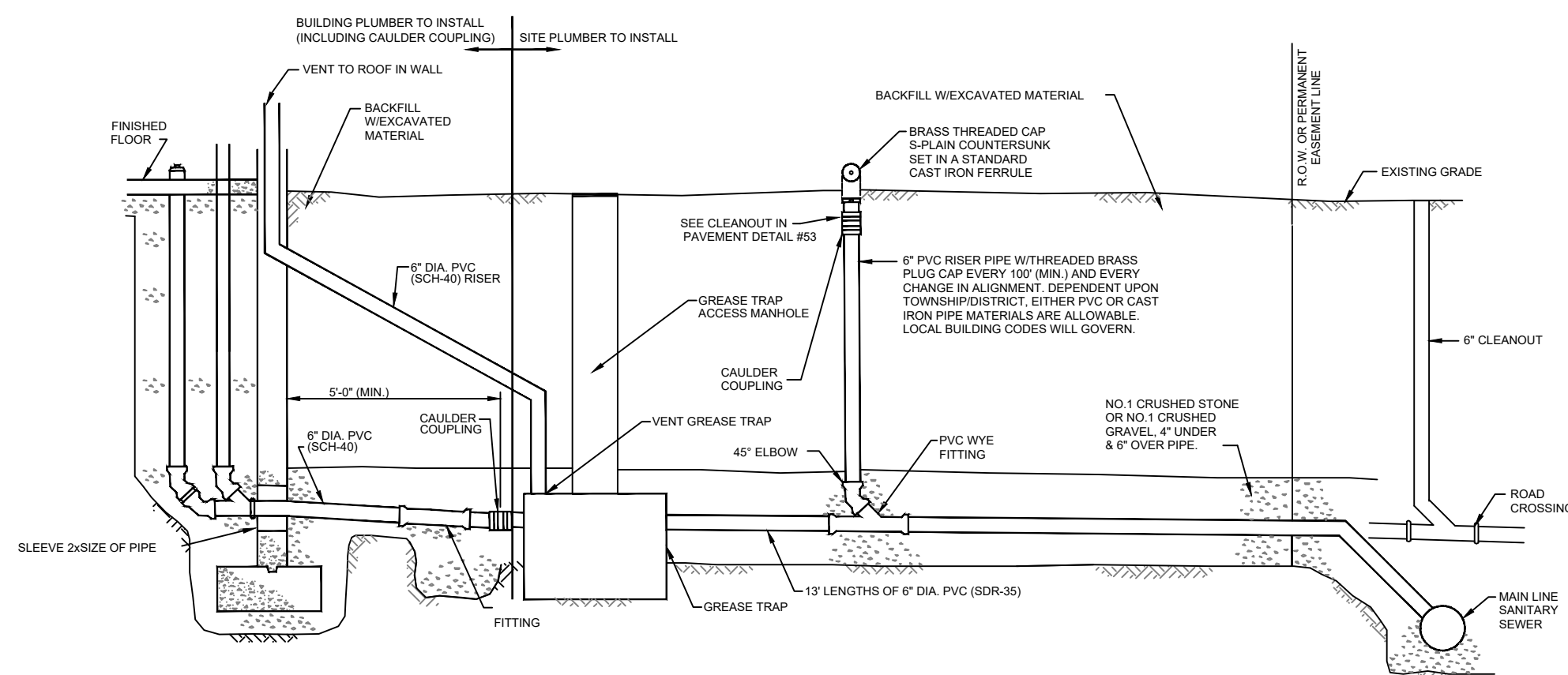
SEAL



TITLE:
Utility Plan

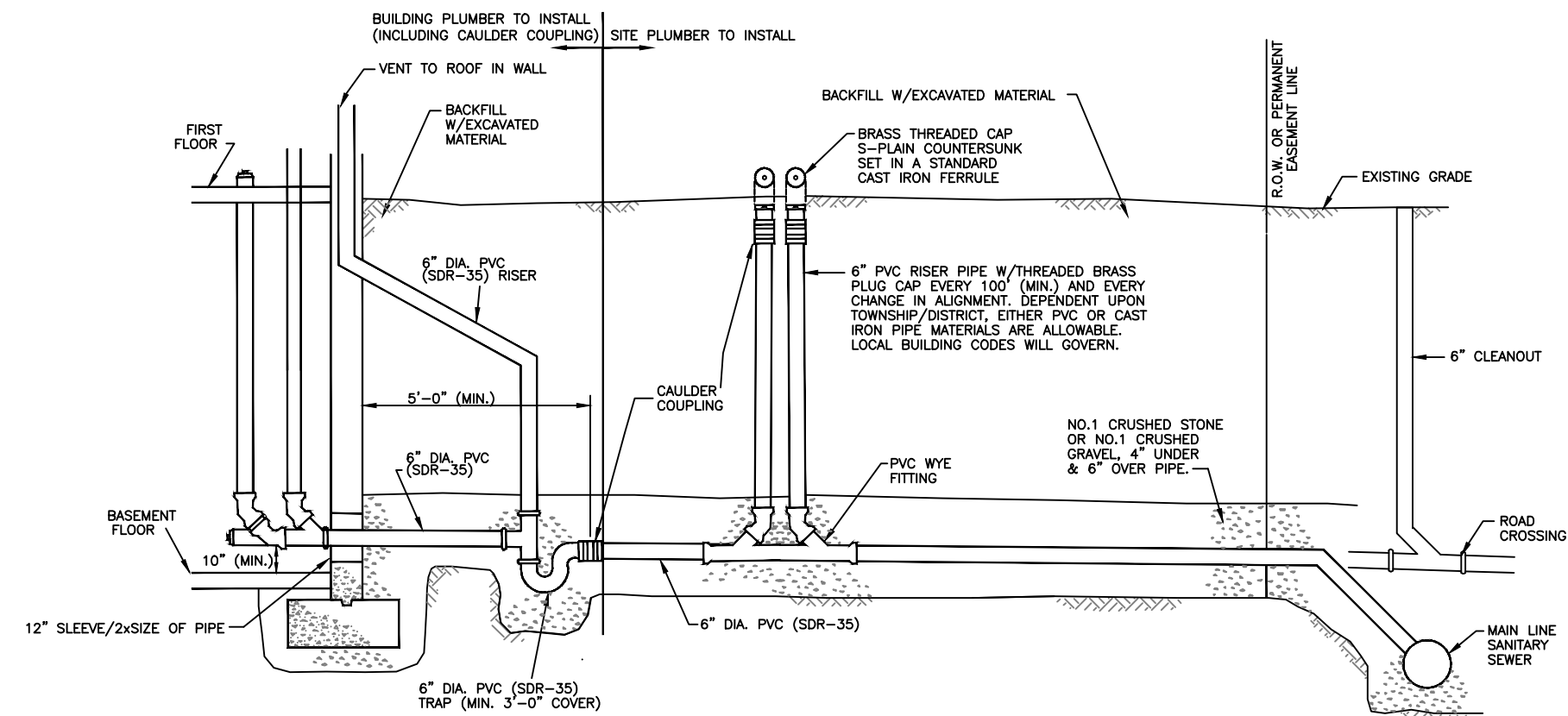
SCALE:
1:30
DRAWN BY: KER DRAWING NO.
CHECKED BY: MAO
DATE: 2/15/22

C6.0



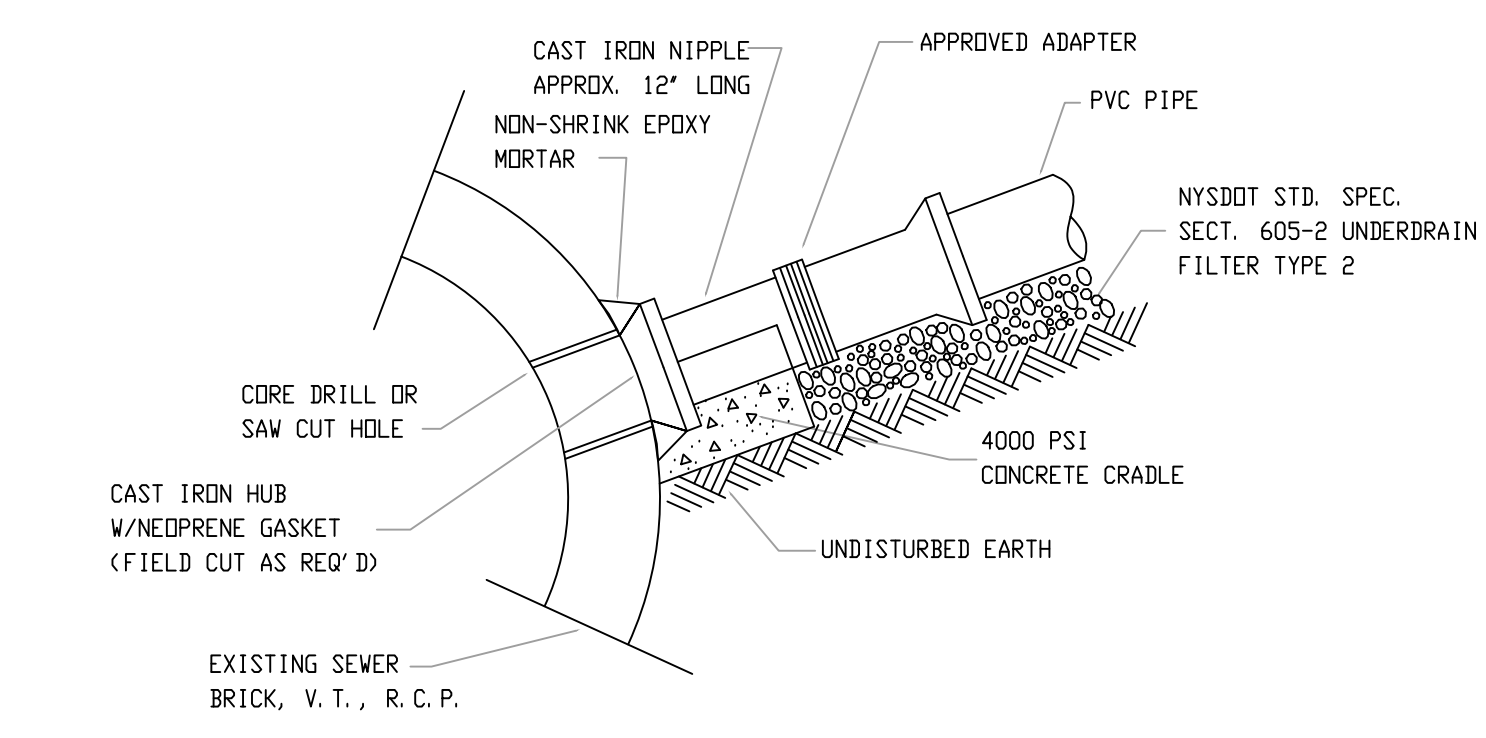
- NOTES:**
1. PVC PIPE MATERIAL SHALL BE MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST ASTM SPECIFICATION D-3035/D-3034.
 2. SELECT BACKFILL REQUIRED UNDER PAVED AREAS.
 3. CONCRETE ENCASMENT IF COVER DEPTH IS LESS THAN 4'-0" UNDER PAVED AREAS.
 4. MIN. DEPTH OF COVER 3'-0" D-3035/D-3034.
 5. A GREASE TRAP AND OIL SEPARATOR REQUIRED WHERE APPLICABLE.

TYPICAL COMMERCIAL SERVICE WITHOUT BASEMENT DETAIL (GREASE TRAP)

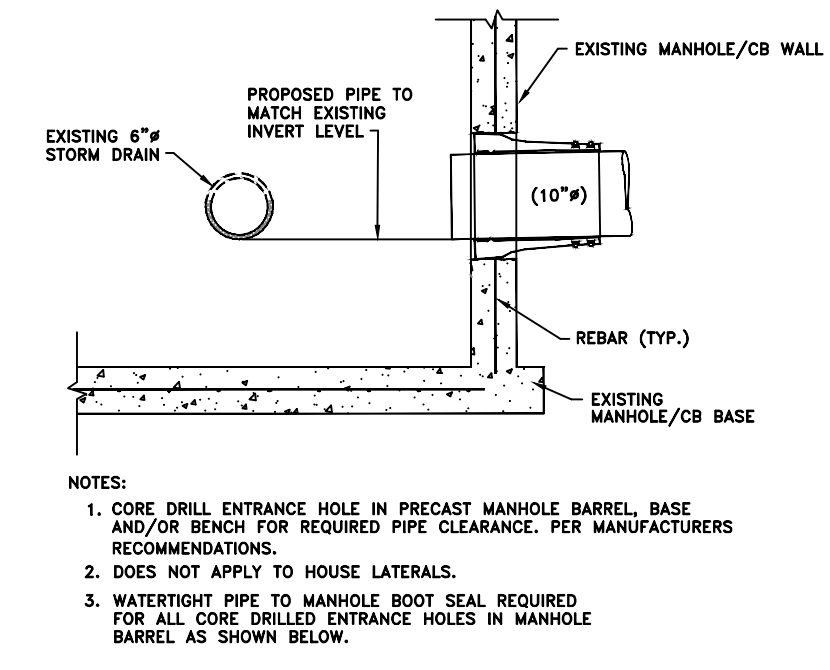


- NOTES:**
1. PVC PIPE MATERIAL SHALL BE MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST ASTM SPECIFICATION D-3035/D-3034.
 2. SELECT BACKFILL REQUIRED UNDER PAVED AREAS.
 3. CONCRETE ENCASMENT IF COVER DEPTH IS LESS THAN 4'-0" UNDER PAVED AREAS.
 4. MIN. DEPTH OF COVER 3'-0" D-3035/D-3034.
 5. A GREASE TRAP AND OIL SEPARATOR REQUIRED WHERE APPLICABLE.

TYPICAL COMMERCIAL SERVICE WITH BASEMENT DETAIL

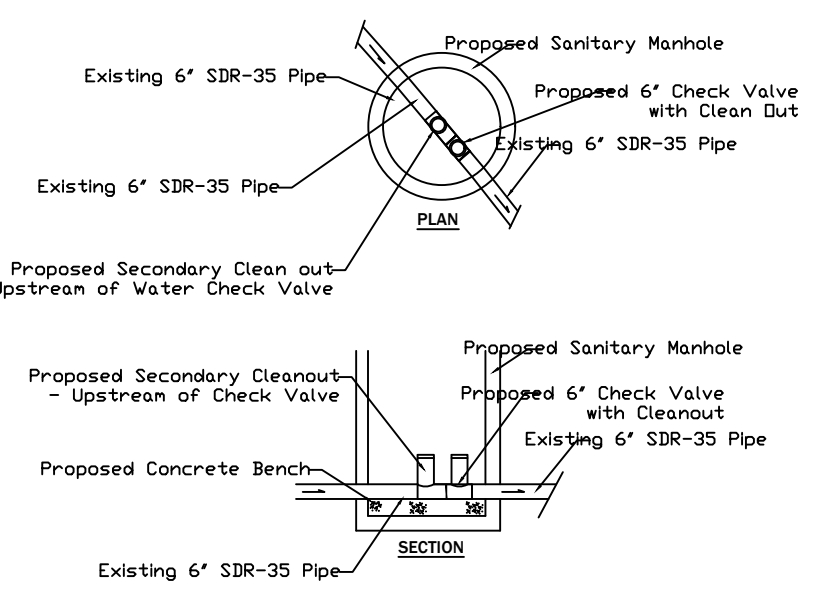


TYPICAL CONNECTION TO EXISTING SEWER
N. T. S.

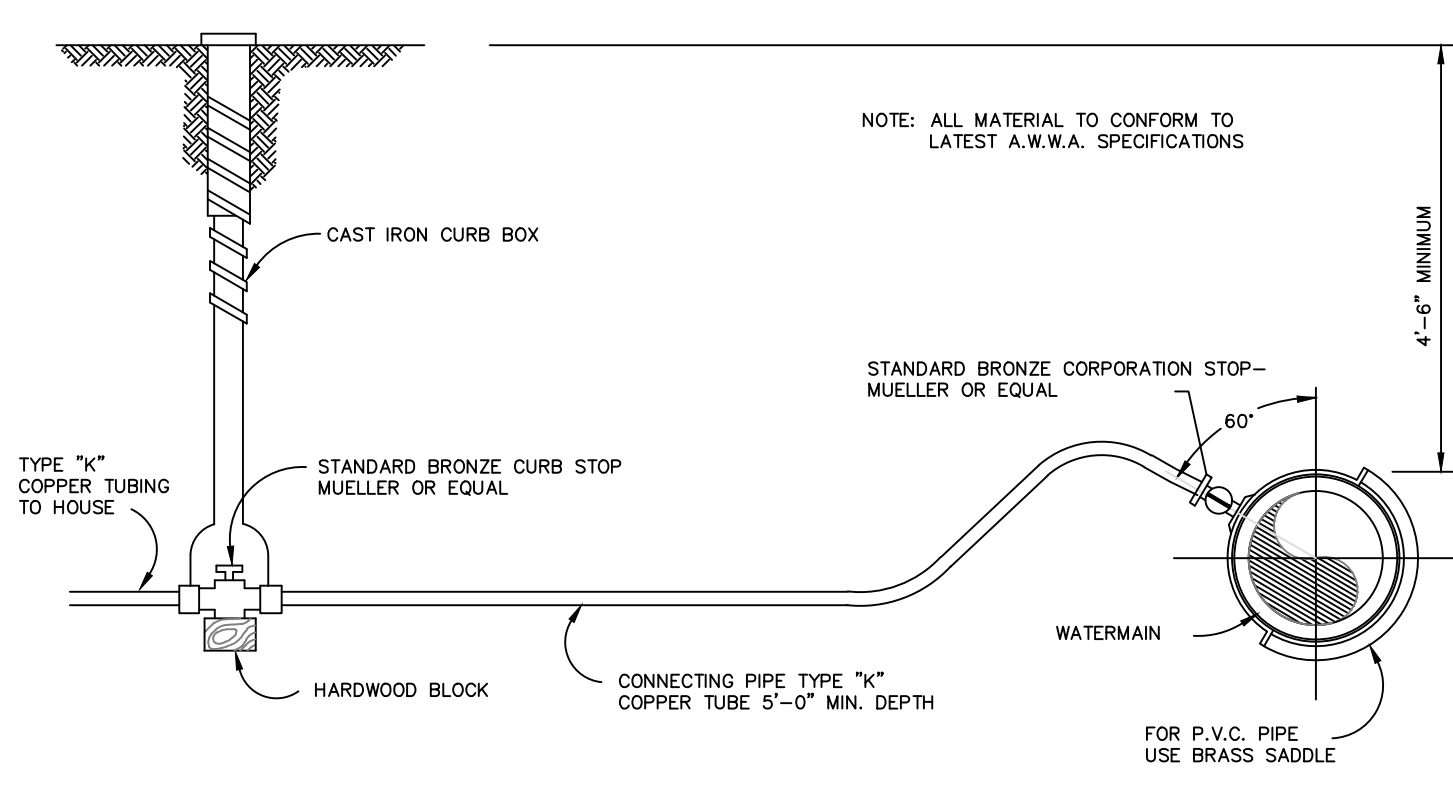


- NOTES:**
1. CORE DRILL ENTRANCE HOLE IN PRECAST MANHOLE BARREL, BASE AND/OR BENCH FOR REQUIRED PIPE CLEARANCE. PER MANUFACTURERS RECOMMENDATIONS.
 2. DOES NOT APPLY TO HOUSE LATERALS.
 3. WATER TIGHT PIPE TO MANHOLE BOOT SEAL REQUIRED FOR ALL CORE DRILLED ENTRANCE HOLES IN MANHOLE BARREL AS SHOWN BELOW.

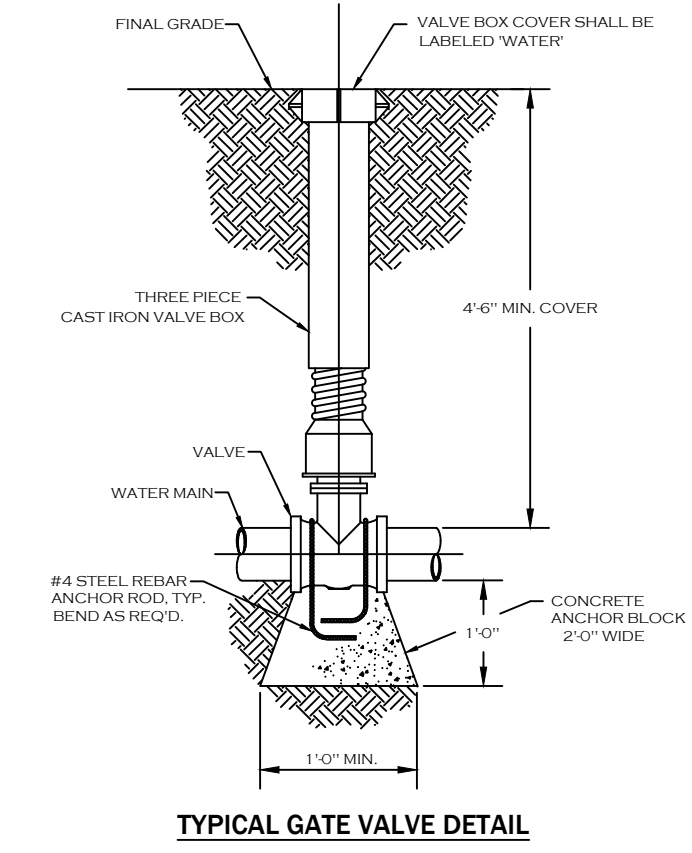
CONNECTION TO EXISTING MANHOLE/CB



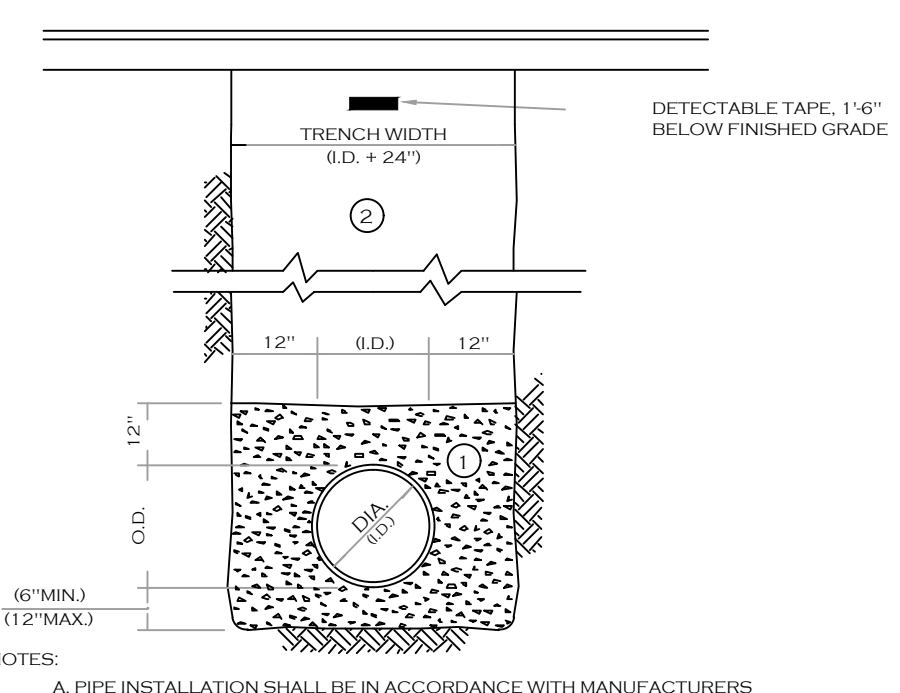
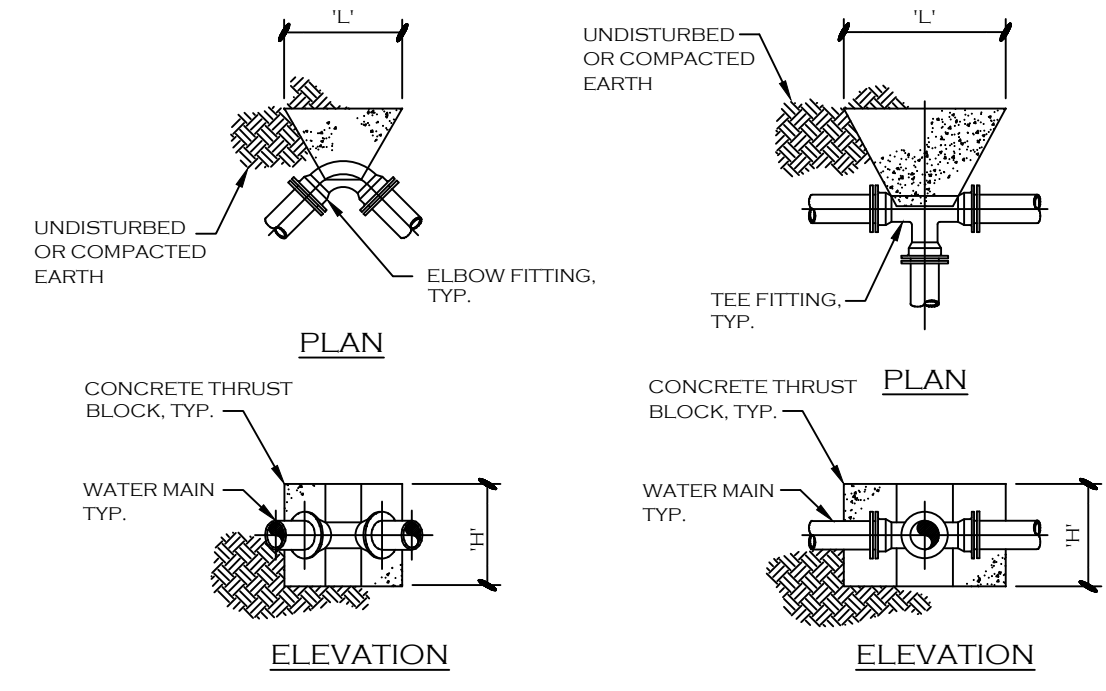
Backwater Check Valve - Sanitary Manhole
(TO BE READ IN CONJUNCTION WITH SANITARY MANHOLE DETAIL)



TYPICAL WATER SERVICE LINE INSTALLATION



TYPICAL GATE VALVE DETAIL

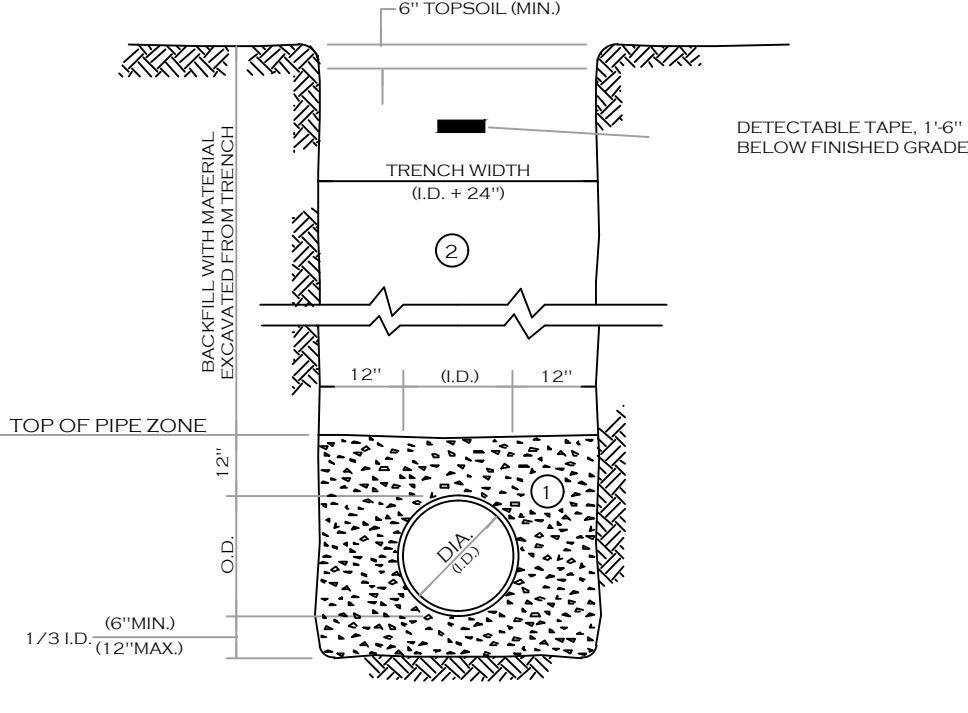


- NOTES:**
- A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
 - B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.
 - C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.
 - D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

- MATERIALS**
PIPE BEDDING MATERIAL (NYS DOT 1995 EDITION)
1. NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYS DOT SECTION 703.02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.
 2. NO. 2 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYS DOT SECTION 703.02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

- NO SLAG SHALL BE ALLOWED FOR MATERIAL 1**
- NO SLAG SHALL BE ALLOWED FOR MATERIAL 2**

UTILITY TRENCH SECTION IN PAVED AREAS



- NOTES:**
- A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
 - B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.
 - C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.
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 2. BACKFILL MATERIAL SHALL BE NATIVE SOIL, CONTAINING NO UNSUITABLE MATERIAL COMPACTED IN 6" LIFTS.

UTILITY TRENCH SECTION IN UNPAVED AREAS

DIMENSION SCHEDULE

PIPE SIZE	90° ELBOW		45° ELBOW		22.5° ELBOW		11.25° ELBOW	
	'H'	'L'	'H'	'L'	'H'	'L'	'H'	'L'
4"	1.5'	2.0'	1.0'	2.0'	1.0'	1.0'	1.0'	1.0'
6"	2.0'	2.5'	1.5'	2.0'	1.0'	1.5'	1.0'	1.5'
8"	2.5'	3.5'	2.0'	2.5'	1.5'	1.5'	1.0'	2.0'
10"	3.0'	4.5'	2.5'	3.0'	1.5'	3.0'	1.0'	2.5'
12"	3.5'	5.0'	3.0'	3.5'	2.5'	2.5'	1.5'	2.5'

DIMENSION SCHEDULE

PIPE SIZE	TEE OR TAP SLEEVE	
	'H'	'L'
4"	1.5'	1.0'
6"	1.5'	2.5'
8"	1.5'	3.5'
10"	2.5'	3.5'
12"	3.5'	3.5'

THRUST BLOCK SCHEDULE
WATER MAIN

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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PROPERTY NUMBER: #5266
AREA: -

**8363 Lewiston Rd
Batavia, New York 14020**

FORMER KMART

CONSULTANT

JAMES ALLEN RUMSEY
ARCHITECT
PREPARED FOR

BENDERSON DEVELOPMENT
570 DELAWARE AVE., BUFFALO, NY 14202
(716) 886-0211

SEAL

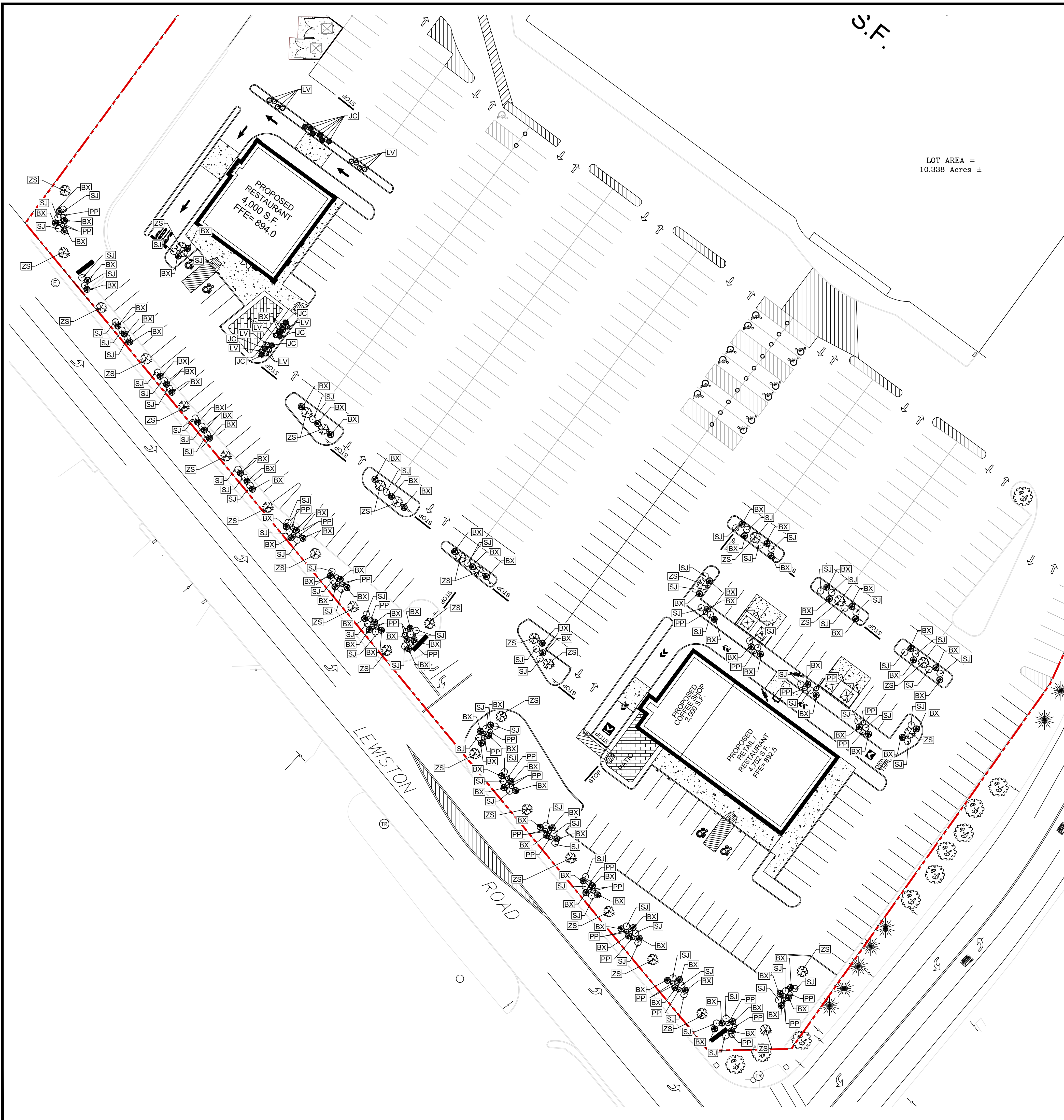


TITLE:
Utility Details

SCALE:
NTS

DRAWN BY: MAO
DRAWING NO.: C6.1

CHECKED BY: MAO
DATE: 2/15/22



LOT AREA =
10.338 Acres ±

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT NOTE	MATURE SIZE
X Af	ACER x FREEMANII 'ARMSTRONG'	ARMSTRONG MAPLE	2.5-3" CAL.	BB	HT. 50-70'; SP. 15'
X Mc	ACER PLATANOIDES 'CRIMSON SENTRY'	CRIMSON SENTRY NORWAY MAPLE	2" CAL.	BB	HT. 25'; SP. 15'
X Ss	SYRINGA RETICULATA 'IVORY SILK'	IVORY SILK JAPANESE TREE LILAC	1.75-2" CAL.	BB	HT. 20-25'; SP. 15-20'
X Bx	BUXUS x 'GREEN VELVET'	GREEN VELVET BOXWOOD	24" HT. MIN.	CONT.	HT. 4-8'; SP. 4-6'
X Hy	TAXUS x MEDIA 'HICKSII'	HICKS YEW	24" HT. MIN.	CONT.	HT. 3-4'; SP. 3-4'
X Pp	PRUNUS x CISTENA	PURPLELEAF SANDCHERRY	24" HT. MIN.	CONT.	HT. 3-4'; SP. 3-4'
X Ap	LIGUSTRUM AMURENSE	AMUR PRIVET	3-4" HT.	BB	HT. 6-8'; SP. 6'
X Rr	ROSA x 'RADTKO'	DOUBLE KNOCK OUT SHRUB ROSE	24" HT. MIN.	CONT.	HT. 3-4'; SP. 3-4'
X Tt	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	6-8" HT.	BB	HT. 15'; SP. 3-4'
X Ca	CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER'	FOERSTER'S FEATHER REED GRASS	NO. 3	CONT.	HT. 1.5-2'; SP. 2'
X Sc	SEDUM 'BRILLIANT'	BRILLIANT STONECROP	NO. 2	CONT.	HT. 2-4'; SP. 2-4'
X Jp	JUNIPERUS x PFITZERIANA 'SEA GREEN'	SEA GREEN JUNIPER	NO. 3	CONT.	HT. 1'; SP. 5-6'
X Ma	MISCANTHUS SINENSIS 'MORNING LIGHT'	MORNING LIGHT MAIDEN GRASS	NO. 3	CONT.	HT. 5'; SP. 3-4'

ABBREVIATIONS: BB = BALLED & BURLAPPED SP = SPREAD NO.# = GALLON SIZE NOTE: CALIPER TO BE MEASURED SIX INCHES ABOVE GROUND BR = BARE ROOT CAL = CALIPER IN INCHES HT. = HEIGHT CONT. = CONTAINER

PLANT LIST								
SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	CAL.	SIZE	ROOT	QTY.	MATURE SIZE
TREES								
AF	Af	Acer x Freemanii	ARMSTRONG MAPLE	2 1/2"		B&B	-	HT. 40-45' SP. 25-30'
TO	Mc	Thuja occidentalis	EMERALD GREEN ARBORVITAE		5'	B&B	-	HT. 12-15' SP. 6-8'
ZS	Ss	Zelkova serrata	MILASHINO COLUMNAR ZELKOVA	3"		B&B	34	HT. 20-25' SP. 15-25'
SHRUBS								
JC	Jc	Juniperus conferta	BLUE PACIFIC JUNIPER	24"	3 GAL.		11	HT. 3-4' SP. 3-4'
LA	Hy	Ligustrum amurense	AMUR PRIVET	24"	3 GAL.		-	HT. 5-8' SP. 6-8'
LV	Hy	Ligustrum vicaryi	GOLDEN VICARY PRIVET	24"	3 GAL.		14	HT. 4-6' SP. 3-4'
PC	Pp	Prunus cistena	PURPLE LEAF SAND CHERRY	36"	5 GAL.		-	HT. 3-4' SP. 3-4'
PP	Ap	Picea pungens	LOW GRAFT GLOBE BLUE SPRUCE	24"	3 GAL.		30	HT. 3-4' SP. 3-4'
RR	Rr	Rosa 'Radrazz'	KNOCK OUT ROSE	24"	3 GAL.		-	HT. 3-4' SP. 3-4'
SJ	Sj	Spiraea japonica	GOLD MOUND SPIRAEA	24"	3 GAL.		83	HT. 3-4' SP. 3-4'
BX	Bx	Buxus x 'Green Gem'	GREEN GEM BOXWOOD	24"	3 GAL.		106	HT. 3-4' SP. 3-4'
GRASSES								
PS	Ca	Pennisetum setaceum	FOUNTAIN GRASS	24"	3 GAL.		-	HT. 3-4' SP. 1.5-3'
PERENNIALS								
HC	Sc	Heuchera x	CORAL BELLS	24"	3 GAL.		-	HT. 1.5-2' SP. 1-2'

- LANDSCAPE NOTES:**
- ALL PLANTS INSTALLED SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS AS NOTED ON THE PLANS AND IN THE LATEST EDITION ON THE AMERICAN STANDARD FOR NURSERY STOCK, BY THE AMERICAN ASSOCIATION OF NURSERYMEN, ANSI 260.1
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN QUANTITY TAKEOFF, THE QUANTITIES SHOWN ARE A MINIMUM AND ARE FOR REFERENCE ONLY.
 - THE CONTRACTOR SHALL PERFORM A ROUGH FIELD STAKEOUT OF ALL PLANTING MATERIAL LOCATIONS AND CONTACT THE OWNERS FIELD REPRESENTATIVE PRIOR TO ACTUALLY INSTALLING. THE PLANTING MATERIAL LOCATIONS SHOWN ON THE PLANS ARE TO CONVEY THE DESIGN INTENT ONLY, ACTUAL LOCATIONS WILL BE FINALIZED BY THE OWNERS FIELD REPRESENTATIVE AT THE TIME OF INSTALLATION.
 - THE CONTRACTOR IS HEREBY NOTIFIED THAT IF UNDERGROUND UTILITIES EXIST IN THE VICINITY OF THE PLANTINGS, ALL PROPOSED PLANTINGS SHALL BE INSTALLED A MINIMUM OF 5' FROM ANY UNDERGROUND UTILITY, CONTACT THE OWNERS FIELD REPRESENTATIVE IF PLANTINGS SHOWN ON THE PLANS VIOLATE THIS SITUATION.
 - ALL TREES SHALL BE INSTALLED A MINIMUM OF 20' FROM ANY OVERHEAD ELECTRIC LINES.
 - PLANTING BACKFILL MIXTURE SHALL CONSIST OF 4 PARTS TOPSOIL, 1 PART PEAT MOSS, 1/2 PART WELL ROTTED MANURE, 10 LBS 5-10-5 PLANTING FERTILIZER THOROUGHLY MIXED PER CUBIC YARD.
 - STAKE AND WRAP TREES IMMEDIATELY FOLLOWING INSTALLATION.
 - ALL PLANTED AREAS SHALL RECEIVE A MIN. 3" LAYER OF COCOA BROWN MULCH, WEED MAT EQUAL TO "WEEDBLOCK" BY EASY GARDENER OR DEWITT WEED BARRIER.
 - ALL DISTURBED AREAS NOT RECEIVING PLANTINGS (INCLUDING RIGHT-OF-WAYS) SHALL BE PROVIDED WITH SOD. SEED PERMITTED AT DETENTION POND IF PLANTED EARLY ENOUGH TO ESTABLISH.
 - THE AREAS ON THE PLAN TO BE SEEDED SHALL HAVE 4" MINIMUM OF TOPSOIL, DISK PLOWED, LEVELED AND HAND RAKED SMOOTH. SURFACE SHALL BE ROLLED TO REMOVE LUMPS.
 - ALL SEEDED AREAS SHALL BE HYDROSEDED IN ACCORDANCE WITH THE SPECIFICATION INDICATED. WHERE REQUIRED BY CLIMATIC CONDITIONS, SLOPE OR SEASON OF PLANTING. HYDROSEED SPEC: 20% RYE, 20% BLUE GRASS, 60% TURF TYPE FESCUE. SOD MAY BE SUBSTITUTED FOR SEEDING IN ORDER TO ACHIEVE THE REQUIRED COVERAGE (REFER TO CONTRACTOR FOR SOD/SEED COVERAGE).
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING, MOWING AND OTHER MAINTENANCE TO SEEDED AREAS UNTIL THE PROJECT IS ACCEPTED BY THE OWNER, THIS SHALL INCLUDE WATERING DAILY FOR 15 DAYS OR AS REQUIRED BY WEATHER CONDITIONS AND RE-SEEDING OF THIN SPOTS FOLLOWING THE GERMINATION OF THE SEEDS.
 - CONTRACTOR IS RESPONSIBLE TO PROTECT ALL EXISTING TREES ONSITE AND OFFSITE, WHICH ARE TO BE PRESERVED, FROM ALL POSSIBLE TYPES OF ROOT, TRUNK, AND LIMB DAMAGE PER ZONING 203-7-2.3 (B)(3).
 - ALL PLANTING ISLANDS ARE REQUIRED TO HAVE A 3 FOOT DEPTH PLANTING SOIL MIXTURE.
 - LANDSCAPING MAINTENANCE SHALL FOLLOW THE PLANT MAINTENANCE GUIDELINES PER ZONING 203-7-2.7

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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811
Know what's below.
Call before you dig.

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Batavia, New York 14020

FORMER KMART

CONSULTANT

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ARCHITECT
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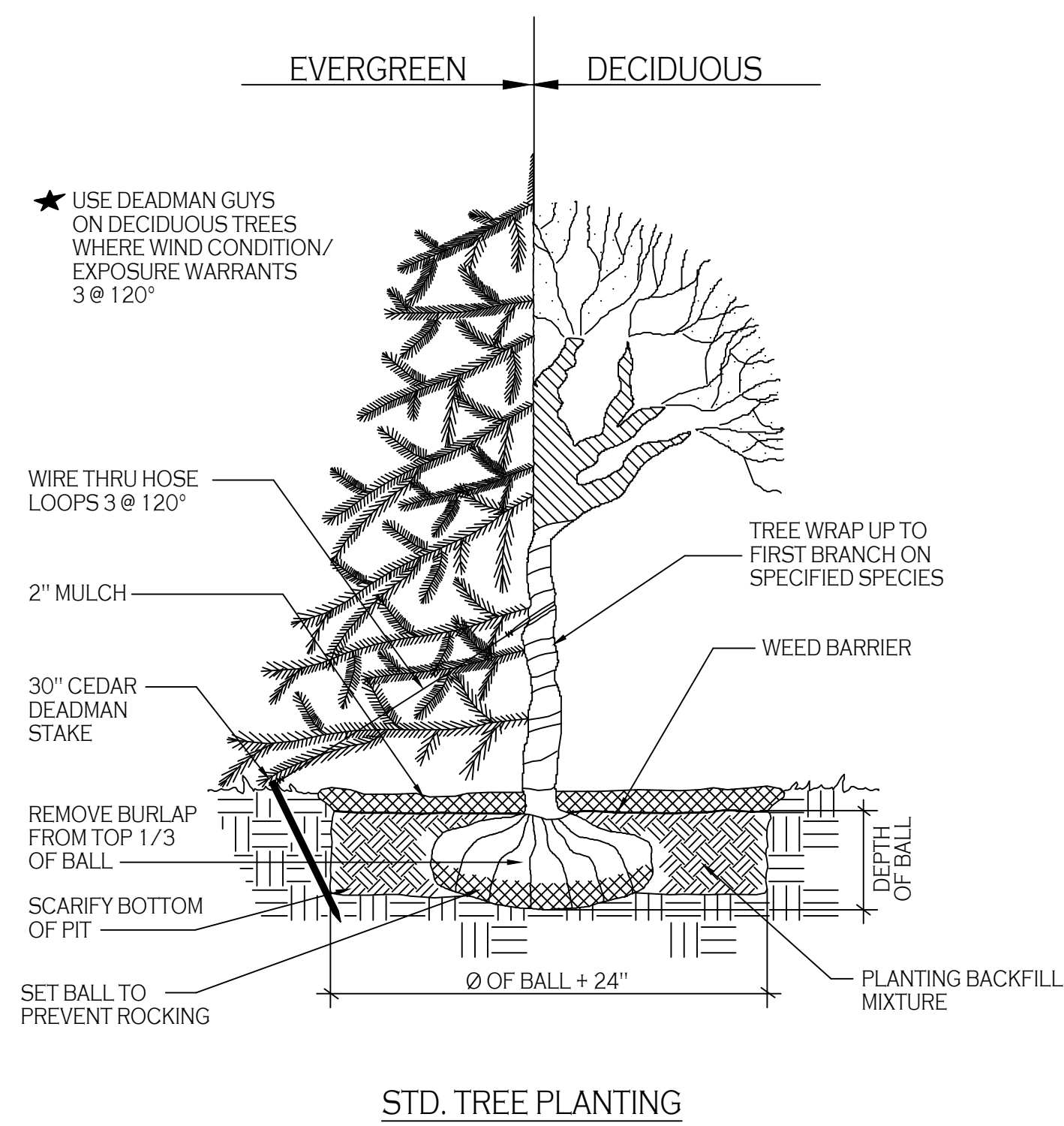
SEAL

REGISTERED ARCHITECT
JAMES ALLEN RUMSEY
STATE OF NEW YORK

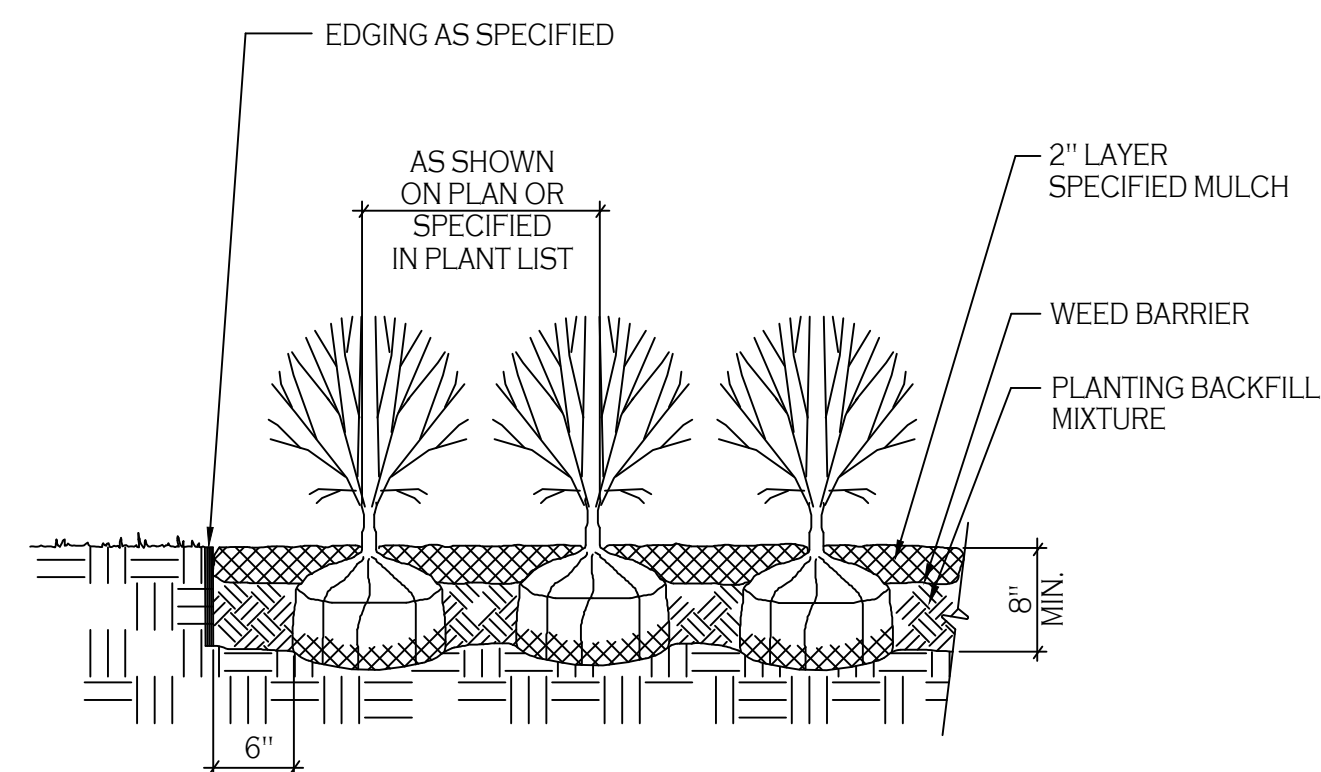
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Landscaping Plan

SCALE:
1:30
DRAWN BY: KER
CHECKED BY: MAO
DATE: 2/15/22

DRAWING NO.
C7.0



STD. TREE PLANTING



STD. SHRUB PLANTING

DRAWING REVISIONS:			
No.	DATE	BY	REMARKS

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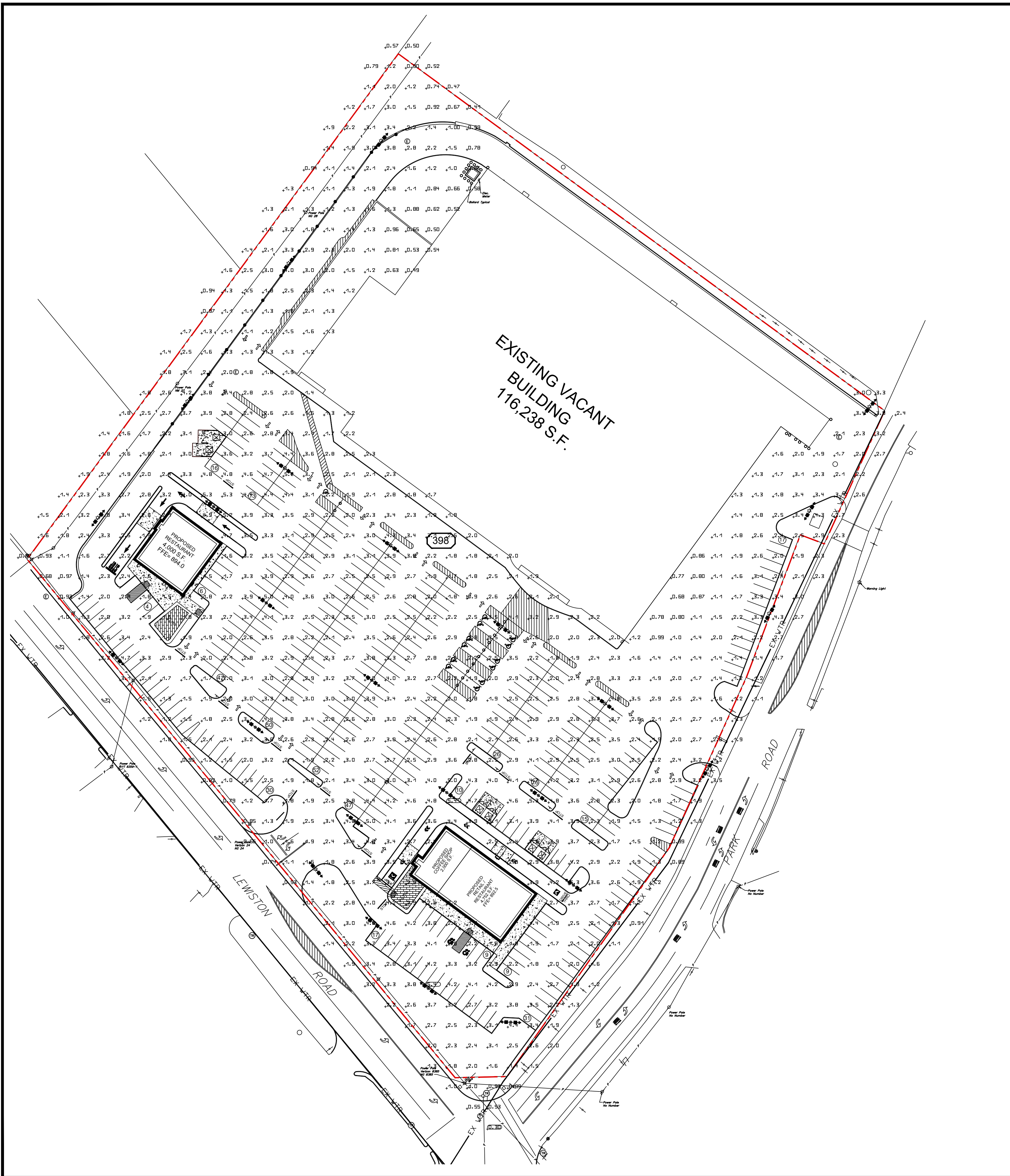
SEAL



TITLE:
**Landscaping
Details**

SCALE:
NTS
DRAWN BY: KER DRAWING NO.
CHECKED BY: MAO
DATE: 2/15/22

C7.1



OSQ Series

OSQ™ LED Area/Flood Luminaire featuring Cree TrueWhite® Technology – Medium & Large

Rev. Date: 1/5/2021

Product Description

The OSQ™ Area/Flood luminaire blends extreme optical control, advanced thermal management and modern, clean aesthetics. Built to last, the housing is rugged cast aluminum with an integral, weatherlight LED driver compartment. Versatile mounting configurations offer simple installation. Its slim, low-profile design minimizes wind load requirements and blends seamlessly into the site providing even, quality illumination. The 4L lumen package is a suitable upgrade for HID applications up to 250 Watt, and the 11L lumen package is a suitable upgrade for HID applications up to 400 Watt. The 22L lumen package is a suitable upgrade for HID applications up to 750 Watts, and the 30L lumen package is a suitable upgrade for HID applications up to 1000 Watts.

Applications: Parking lots, walkways, campuses, car dealerships, office complexes, tunnels, underpasses, and internal roadways

Performance Summary

Utilizes Cree TrueWhite® Technology on 5000K Luminaires

NanoOptic® Precision Delivery Grid™ optic

Assembled in the U.S.A. of U.S. and imported parts

Initial Delivered Lumens: 4,000 - 30,000

Efficiency: Up to 173 LPW

CRI: Minimum 70 CRI (3000K, 4000K & 5700K); 90 CRI (5000K)

CCT: 3000K, 4000K, 5000K, 5700K

Limited Warranty: 10 years on luminaire; 10 years on Colorfast DeltaGuard® finish; up to 5 years for Synapse® accessories; 1 year on luminaire accessories

Ordering Information
Fully assembled luminaire is composed of two components that must be ordered separately:
Example: Mount: OSQ-ML-B-AA-GK + Luminaire: OSQM-B-4L-30K7-2M-UL-NM-BK

Mount Luminaire must be ordered separately*

OSQ-ML-B-AA Adjustable Arm
OSQ-ML-B-DA Direct Arm
OSQ-ML-B-TSP Transportation Mount (stainless steel; do not specify color)
OSQ-ML-B-TM Trunion Mount

Color Options: SV Silver BK Black BZ Bronze WH White

*Reference EPA and pole configuration suitability data beginning on page 10

Luminaire (Mount must be ordered separately)											
OSQ	Family	Size	Series	Lumen Package	CCT/CRI	Optic	Voltage	Mount	Color Options	Controls**	Options
OSQ	H L	Medium	30K7	2500K 70 CRI	3M	Asymmetric Type II Medium	UL Universal 120-277V	NM No Mount	BK Black	PML Programmable Multi-Level, up to 40' Mounting Height - Refer to PML_spec sheet for details - Must specify mount separately	20KV 20KV/100A Surge Suppression F Fuse - Replaces standard 100V surge protection - Compatible with 120V, 277V or 347V (phase to neutral) - Contact factory if fusing is required for 20KV, 240V or 480V (phase to phase)
		Medium	50K9	Type IV Medium	UL Universal 347-480V	SV Silver	PML3 Programmable Multi-Level, 10-30' Mounting Height - Refer to PML3_spec sheet for details - Intended for downlight applications - 40' or 60'				
								Small	70K7	Type V Square	UL Universal 347-480V
		Large	11L	5700K 90 CRI	Type V Narrow	UL Universal 347-480V	PML5 Programmable Multi-Level, 10-30' Mounting Height - Refer to PML5_spec sheet for details - Intended for downlight applications - 40' or 60'				
								Medium	11L	5700K 90 CRI	Type V Square
	Small	11L	5700K 90 CRI	Type V Square	UL Universal 347-480V	PML7 Programmable Multi-Level, 10-30' Mounting Height - Refer to PML7_spec sheet for details - Intended for downlight applications - 40' or 60'					
							Large	22L	22,000 Lumens	Narrow Flood	UL Universal 347-480V
	Medium	30L	30,000 Lumens	Narrow Flood	UL Universal 347-480V	PML9 Programmable Multi-Level, 10-30' Mounting Height - Refer to PML9_spec sheet for details - Intended for downlight applications - 40' or 60'					
							Small	30L	30,000 Lumens	Narrow Flood	UL Universal 347-480V
	Large	30L	30,000 Lumens	Narrow Flood	UL Universal 347-480V	PML11 Programmable Multi-Level, 10-30' Mounting Height - Refer to PML11_spec sheet for details - Intended for downlight applications - 40' or 60'					
							Medium	30L	30,000 Lumens	Narrow Flood	UL Universal 347-480V
Small	30L	30,000 Lumens	Narrow Flood	UL Universal 347-480V	PML13 Programmable Multi-Level, 10-30' Mounting Height - Refer to PML13_spec sheet for details - Intended for downlight applications - 40' or 60'						

* Lumen Package codes identify approximate light output only. Actual lumen output values vary by CCT and optic selection. Refer to Initial Delivered Lumens tables for specific lumen values

** Available with Backlight Shield when ordered with field-installed accessories (see table above)

** Luminaire comes standard with 0-10V dimming



US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

CREE LIGHTING

Luminaire Schedule

Index	Manufacturer	Luminaire type	Item number	Lumens per Fixture	Mounting Height	Fixture Watts	Quantity
←	Cree	Cree Lighting OSQ B Series Area Luminaire, Type SM, 200W Input Power Dissipator, 4000K Double Head Fixture	OSQL-B-30L-40K7-2M-UL-BK	27,800 lm	30 Ft	200 W	25

☉ New Light Pole Base

FOOTCANDLE LEVELS AT GRADE

#	Name	Parameter	Min	Max	Average
1	Parking / Pavement Areas	Site FC	0.30 fc	5.43 fc	2.41 fc

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

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SEAL

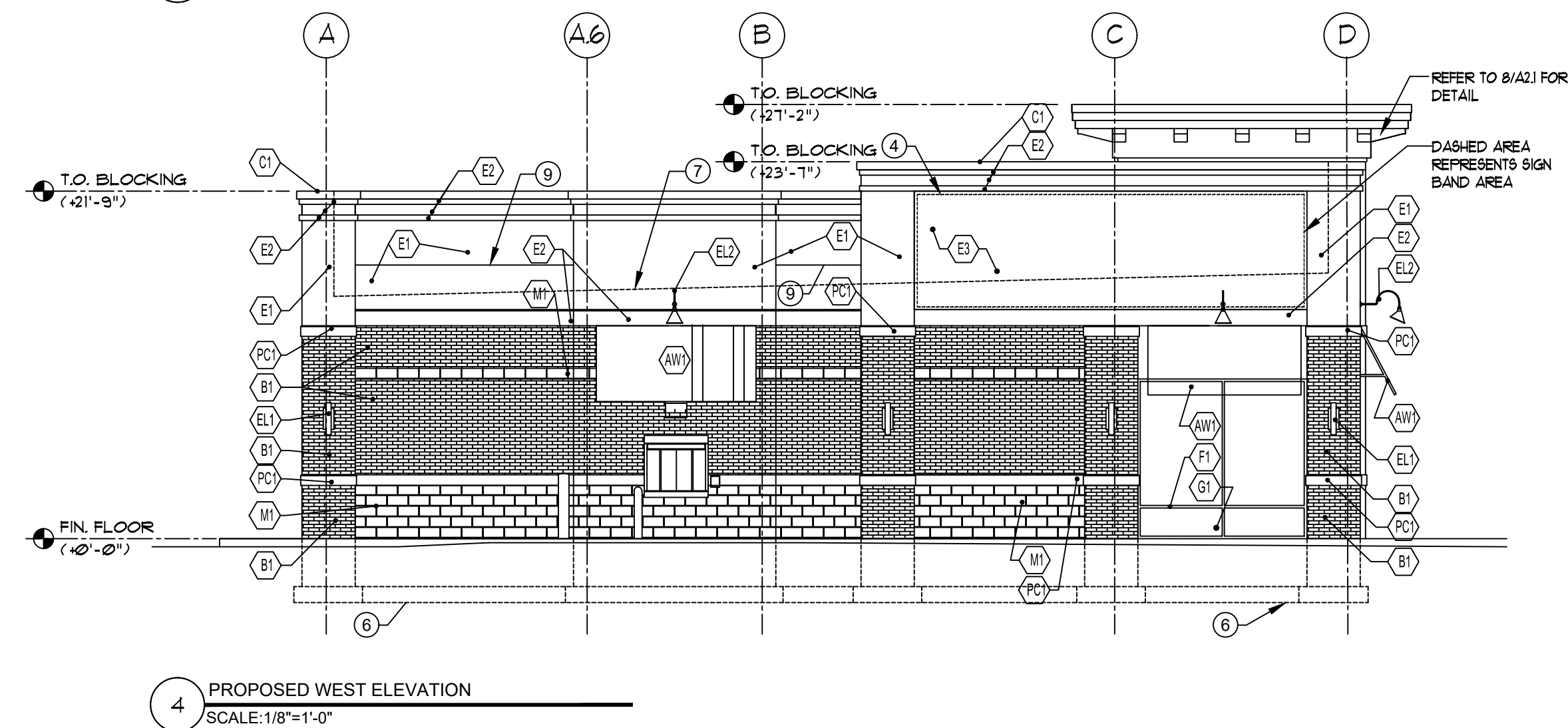
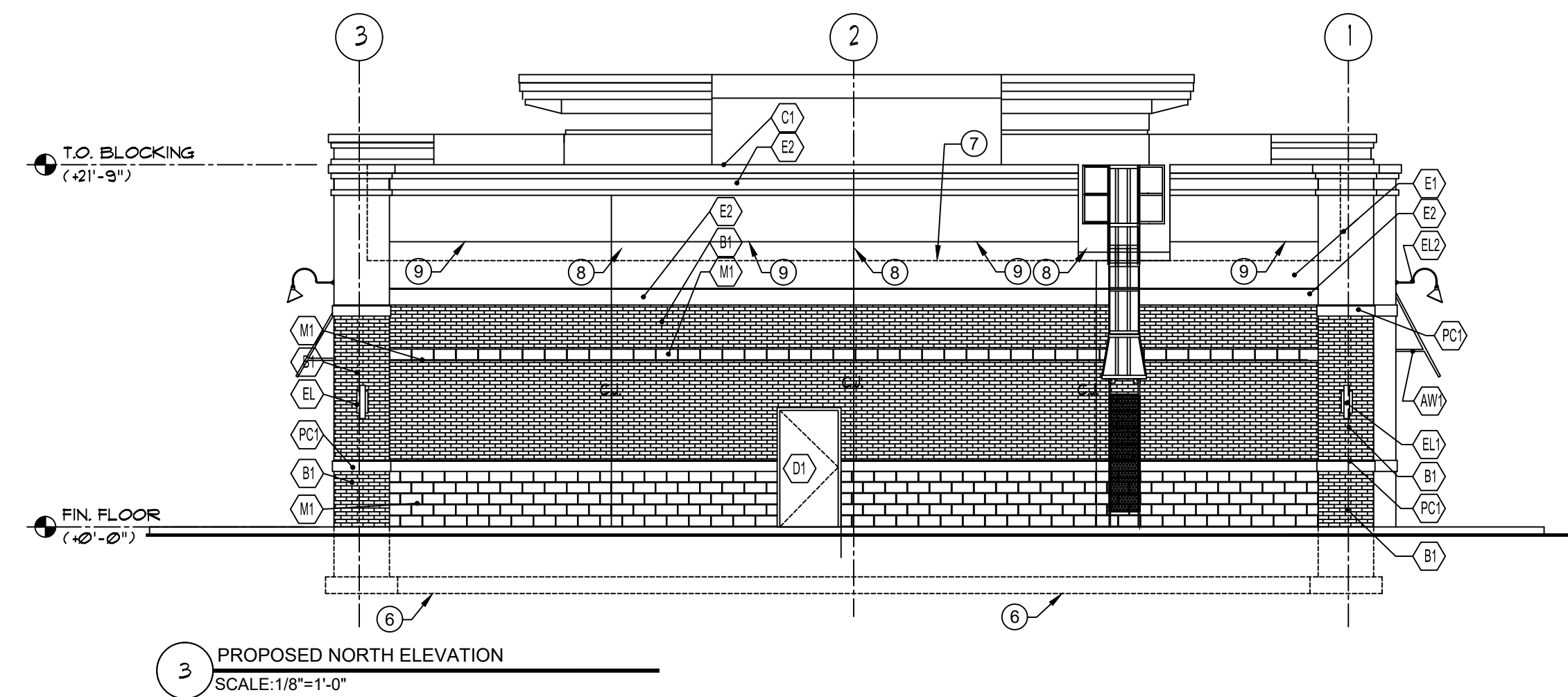
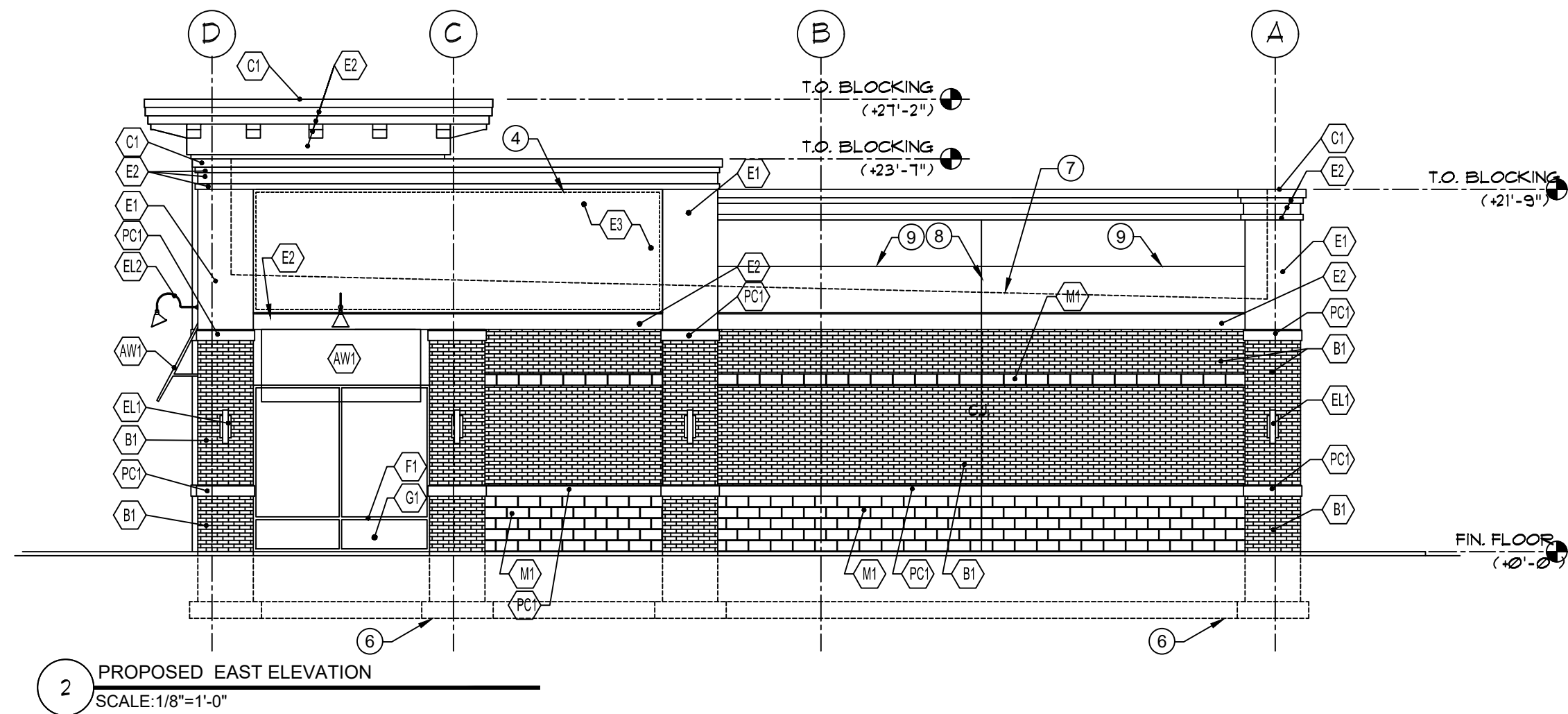
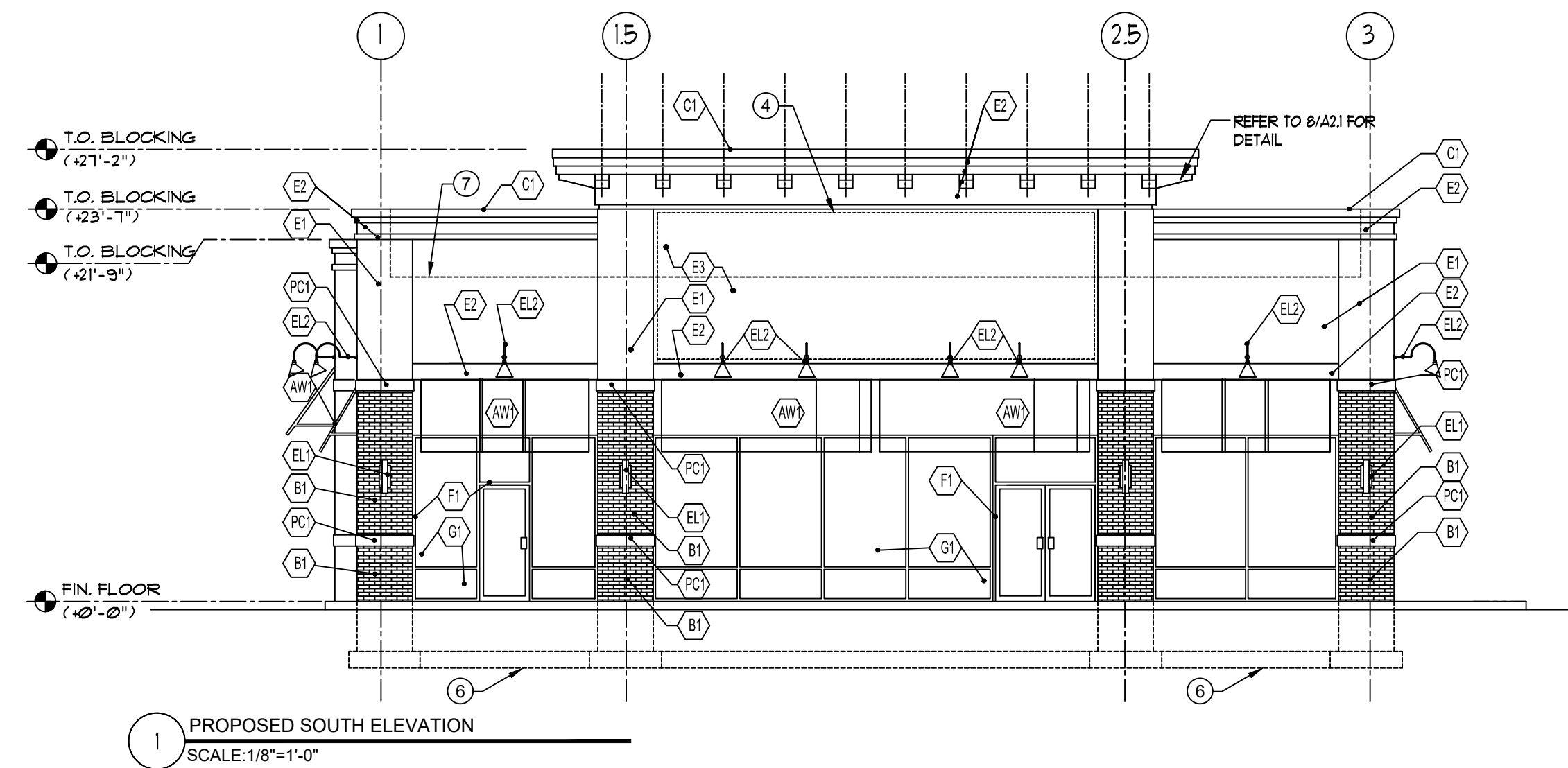


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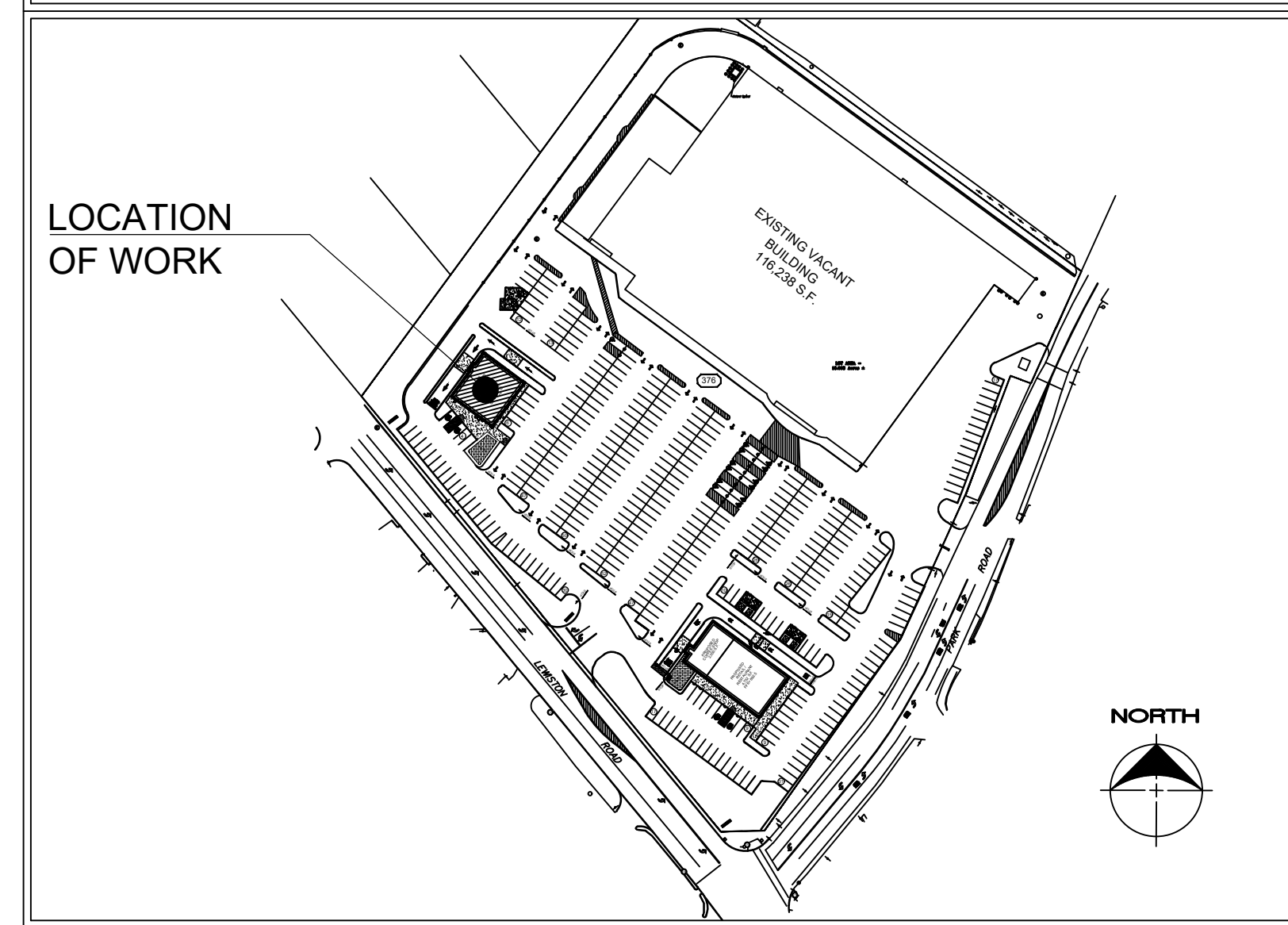
Lighting Plan

SCALE: NTS
DRAWN BY: DMZ
CHECKED BY: MAO
DATE: 1/20/22

C8.0



SITE LOCATION PLAN



EXTERIOR FINISH MATERIALS LEGEND	
COPING	GENERAL NOTES:
(C) PREFINISHED METAL COPING, ATAS 150 RAUHIDE	1. CONTRACTOR SHALL SUBMIT SAMPLES OF ALL FINISH MATERIALS TO ARCHITECT'S OFFICE FOR APPROVALS, PRIOR TO CONSTRUCTION.
(A) ALUMINUM FRAMING - COLOR: CLEAR ANODIZED GLASS	2. WITH OWNER'S APPROVAL, CONTRACTOR MAY SUBMIT TO ARCHITECT ALTERNATE MANUFACTURER FINISH PRODUCTS FOR SUBSTITUTION. OWNER/ARCHITECT RESERVE THE RIGHT TO REJECT ANY OR ALL ALTERNATES.
(G) 1" INSULATED GLASS--COLOR CLEAR	3. CONTRACTOR TO COORDINATE WITH ARCHITECT'S OFFICE AND LANDLORD, COLOR AND FINISH MATERIALS SPECIFICATIONS AND THEIR INTENDED LOCATIONS, PRIOR TO INSTALLATION AND CONSTRUCTION.
EIFS	4. LINE INDICATES SIGNBAND AREA.
(E) EIFS COLOR: DRY-VIT #3 AMARILLO WHITE---TEXTURE SANDPEBBLE	5. LINE INDICATED CONTROL JOINT.
(F) EIFS COLOR: DRY-VIT #11 COLONIAL TAN---TEXTURE SANDPEBBLE	6. LINE OF FOUNDATION
(B) EIFS COLOR: DRY-VIT, TEXTURE SANDPEBBLE - PAINTED BY HC-02 GREAT BARRINGTON GREEN	7. LINE OF ROOF
MASONRY	8. VERT. VEE GROOVE- 1" SEE DETAIL 'X1A2/B'
(M) 4" SPLIT FACE CMU- PAINTED, SHERWIN WILLIAMS 'NINE KILT' BEIGE	9. HORIZ. VEE GROOVE- 1" SEE DETAIL 'X1A2/B'
BRICKS (B) HANSON CAROLINA COLLECTION-CONGAREE	
PROVIDE SAMPLE BOARD TO ARCHITECT FOR APPROVAL	
PRE-CAST	
(PC) PRE-CAST #1 LIGHT GREY	
FABRIC AWNING	
(AW) FABRIC AWNING- BY TENANT	
EXTERIOR LIGHT FIXTURE	
(E) EVERGREEN LIGHTING- BENNINGTON SERIES-B'1/6"1/4" D BEN-1180-MN-UF-LET LOC TOP 4 BOT	
(E) ELECTRICAL FIXTURE- BY TENANT	
FABRIC AWNING	
(D) HOLLOW METAL DOOR AND FRAME- 8000000	

DRAWING REVISIONS:

No.	DATE	BY	REMARKS

SPECIAL INFORMATION:
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NOTICE
UNAUTHORIZED ALTERATIONS OF THIS DOCUMENT ARE IN VIOLATION OF SECTION #7209 OF THE STATE EDUCATION LAW.

PROPERTY NUMBER: 5266 AREA: 4,000 SF

8363 Lewiston Road
Batavia, NY 14020

Proposed
4K SHELL

JAMES ALLEN RUMSEY
ARCHITECT
PREPARED FOR
BENDERSON DEVELOPMENT
570 DELAWARE AVE., BUFFALO, NY 14202
(716) 886-0211

SEAL

TITLE:

LEASE OUTLINE
DRAWING

DRAWN BY: RT
CHECKED BY: JAR
DATE: 10-22-2021

DRAWING NO. A1.0

T-04-BAT-3-22



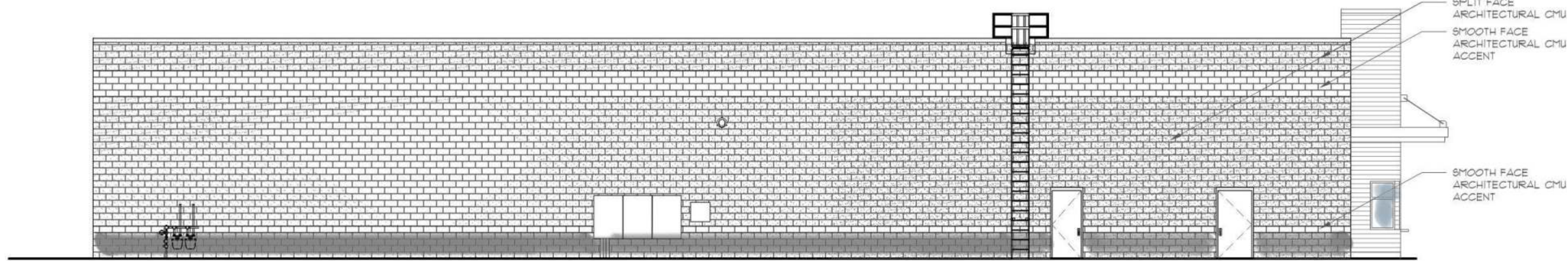
© All Pictometry



WEST ELEVATION



SOUTH ELEVATION



NORTH ELEVATION

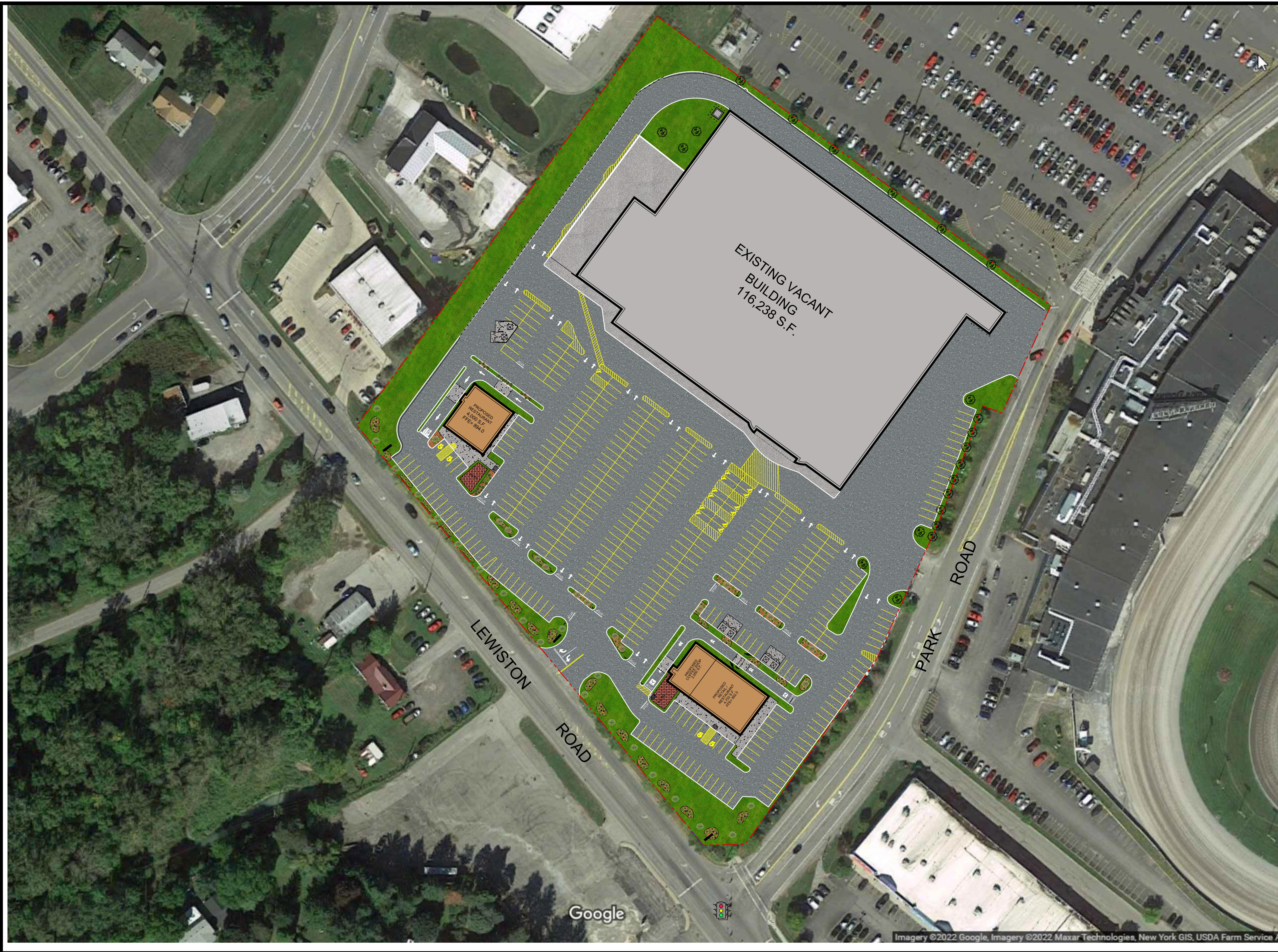


EAST ELEVATION

8363 Lewiston Rd.
BATAVIA, NEW YORK

**BENDERSON
 DEVELOPMENT**
 570 DELAWARE AVENUE, BUFFALO, NEW YORK 14202

PROP. #5266
DRWG. #5266 ELEVATION
DATE 03.10.22 BY V. FRAGALE
REVISION



DRAWING REVISIONS:

No.	DATE	BY	REMARKS

SPECIAL INFORMATION:
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 Know what's below.
 Call before you dig.

PROPERTY NUMBER: #8288
 AREA:

8363 Lewiston Rd
Batavia, New York 14020

FORMER KMART

CONSULTANT

JAMES ALLEN RUMISEY
 ARCHITECT
 PREPARED FOR
BENDERSON DEVELOPMENT
 570 DELAWARE AVE. BUFFALO, NY 14202
 (716) 888-0211

SEAL

TITLE:
Landscaping Plan

SCALE:
 1"=50'
 DRAWN BY: KIER
 CHECKED BY: MIAO
 DATE: 2/18/22

DRAWING NO.
C7.0

**ENGINEER'S REPORT
FOR
PROPOSED RETAIL/RESTAURANT BUILDING
AND SITE IMPROVMENTS
8363 LEWISTON RD.
BATAVIA, NEW YORK 14020.
PROP # 5266**

February 16, 2022

GENERAL

This project is a proposed redevelopment of a 10.33-acre parcel of land currently occupied with a vacant 116,238 S.F. building, parking lot, utility and drainage infrastructure. It is located on the Northwest corner of Lewiston Road and Park Road in the Town of Batavia. The existing 116,238 S.F. building will remain as part of the project.

Existing Conditions:

The site is currently occupied by a 116,238 S.F. vacant building, formally a K-Mart. The site currently drains into an existing storm sewer that maintains two separate discharge points, at the northwest and southwest corners of the property, that effectively separates the site into two separate drainage areas.

An existing private 8" Sanitary Sewer is located on the property running from the former K Mart building in a Southeast direction and discharges into a Town of Batavia sanitary sewer along Lewiston Road.

PROJECT OVERVIEW

The proposed project (*Figure 1*) consists of; the pavement demolition and the clearing of land; construction of a proposed 6,752 S.F. retail/restaurant building and a 4,000 S.F. restaurant building with associated parking lots, drive-thru with bypass lanes, and improvements to the sites grading, drainage and utility infrastructures along with new site lighting and landscaping.

PROPOSED FACILITIES

Storm Water

The existing on site drainage system will remain and additional on site storm sewers will be installed as part of this project utilizing and existing discharge points.

For all storm water calculations, please refer to the SWPPP, Project No. 8202, prepared by Costich Engineering dated January, 2022.

Water System

The water service to the existing vacant building will remain untouched during Construction. Water service to the proposed buildings is to be tapped off the existing 8" water main off of Park Rd that the town will be replacing with a 12" water main. The proposed development will have a 6" combined service to be split inside the buildings.

Flow Data is not available based on conversation with the Town of Batavia Water Department for the existing water line. The existing line consists of 8" asbestos cement and is anticipated to be replaced by 12" line April 2022. Once the line is replaced, new flow data can be requested.

Summary: *(Refer to Figure 2)*

Building 1:

Proposed Building: 6,752 S.F.
Operating Demand: 3.10 GPM
Peak Demand: 12.4 GPM
Water Main: 6"
Static Pressure: TBD PSI
Head Loss Friction: -.005 PSI
Loss through meter/RPZ: -13 PSI

Elevation Loss: 0.0 PSI
Bends Loss: 0.0 PSI
Required Pressure after RPZ: 20 PSI

Proposed Pressure after RPZ: TBD after new flow and pressure data is obtained

Building 2:

Proposed Building: 4,000
Operating Demand: 3.63 GPM
Peak Demand: 14.51 GPM
Water Main: 6"
Static Pressure: TBD
Head Loss Friction: -.01 PSI
Loss through meter/RPZ: -13 PSI

Elevation Loss: 0.0 PSI
Bends Loss: .002 PSI
Required Pressure after RPZ: 20 PSI

Proposed Pressure after RPZ: TBD after new flow and pressure data is obtained

Sanitary Sewer:

Building 1:

Sanitary services will be provided to the proposed 6,752 S.F. retail/restaurant building, which will connect into the existing 8" sanitary sewer line West of the proposed building, running Northeast to Southwest. The proposed building will be provided with a new 6" SDR-35 PVC sanitary and 2,000 gal grease trap.

Summary:

Proposed Retail/Restaurant Building:	6,752 S.F. (4,000 S.F. Restaurant, 2,752 S.F. Retail)
Proposed Flow:	25GPD/Seat + 500 GPD / DT Window
Flows per Seat:	50 Seats x 25GPD/seat = 1,250 GPD
Drive-Thru Window:	500GPD/Pick-up Window = 500GPD
Retail – 2,752 S.F.	.1 GPD/S.F.= 275.20 GPD

GPD = 2,026GPD

Grease Tank Sizing- 4" interior grease line flowing half full= 65 GPM at 30 minute settling time = 1,950 gallon so use 2,000 gallon grease tank.

Sanitary Sewer:

Building 2:

Sanitary services will be provided to the proposed 4,000S.F. restaurant building, which will connect into the existing 8" sanitary sewer line East of the proposed building, running Northeast to Southwest. The proposed building will be provided with a new 6" SDR-35 PVC sanitary and 2,000 gal grease trap.

Summary:

Proposed Restaurant Building:	4,000 S.F.
Proposed Flow:	25GPD/Seat + 500 GPD / DT Window
Flows per Seat:	75 Seats x 25GPD/seat = 1,875GPD
Drive-Thru Window:	500GPD/Pick-up Window = 500GPD

GPD = 2,375 GPD

Grease Tank Sizing- 4" interior grease line flowing half full= 65 GPM at 30 minute settling time = 1,950 gallon so use 2,000 gallon grease tank.

Total Sanitary Flow for both buildings:	4,401 GPD
-----------------------------------------	------------------

FIGURES:

- 1 *Site Location Plan & Engineering Plan*
- 2 *Sanitary & Water Calculations*
- 3 *SWPPP Memorandum*

APPENDICES:

- A *FEMA Flood Areas*

FIGURE 1

*SITE LOCATION PLAN
ENGINEERING PLANS*

FIGURE 2

SANITARY & WATER CALCULATIONS

SANITARY SEWER CALCULATIONS:

PROPOSED BUILDING: **6,752 Total S.F.**

GPD: = Fast Food Restaurant - 50 Seats x 25GPD = 1,250 GPD
 = Drive-Thru Window - 500GPD
 = Retail - 0.1gpd/sf x 2,752 S.F = 275.20GPD

SANITARY FLOW = **2,026 GPD**

PEAK SANITARY DEMAND

Total Demand = 2,026 GPD x 1.1 = 2,228.6 GPD
 Per Population = 50 Per Capita

Peak Factor: $(18+vP) / (4+vP)$ P in Thousands

Peak Factor = 4.0

Peak Sanitary Demand = 2,228.60 x 4.00 = 8,914.40 gpd
 = 0.0074 MGD
 = 0.014 cfs

WATER CALCULATIONS:

GPM: = GPD / 12hr / 60min
 ASSUMED 9HR SHIFT = 2228.6 / 12 / 60
 = **3.10 GPM**

PEAK FACTOR: = GPM X 4
 = 3.10 X 4.0
 Q = **12.4 GPM PEAK**

HEADLOSS FRICTION: = $\frac{(10.44) \times (L) \times (Q)^{1.85}}{(C)^{1.85} \times (D)^{4.866}}$

Q = GPMIn
 L = LENGTH OF PIPE = $\frac{(10.44) \times (247) \times (12.4)^{1.85}}{(140)^{1.85} \times (6)^{4.866}}$
 C = DESIGN COEF OF PIPE
 D = PIPE DIAMETER = **.005 PSI**

ELEVATION LOSS: = (BUILDING INTAKE - HYDRANT HEIGHT) X 0.433
 = (892.5-892.5) X 0.433 Δ0.5 ft
 = **0.0 PSI (+)**

LOSS THROUGH RPZ & METER:

RPZ = 12 PSI (STANDARD)
 METER = 1 PSI (STANDARD)
 = **13 PSI**

LOSS DUE TO BENDS:
 RESISTANCE EQUIVALENT LENGTH METHOD)

2" DIAMETER PIPE
 4 X 45° ANGLE = 0 FT ADDITIONAL PIPE
 TOTAL = **24 FT ADDITIONAL PIPE**
 = $\frac{(10.44) \times (0) \times (11.67)^{1.85}}{(140)^{1.85} \times (6)^{4.866}}$
 = **0.0 PSI**

STATIC PRESSURE @ HYDRANT:
 = **100 PSI** Per ECWA

PRESSURE AFTER RPZ / METER / BENDS / ELEVATION / HEADLOSS:
 = 100 PSI - 12 PSI - 1 PSI - .005PSI
 (HYD) (RPZ) (METER) (LOSS)
 = **87.0 PSI**

REQUIRED RESIDUAL PRESSURE = 20 PSI

PROPOSED RESIDUAL PRESSURE = 87.0 PSI

THEREFORE PROPOSED > REQUIRED
 84.7 PSI (GREATER) 20 PSI

SANITARY SEWER CALCULATIONS:

PROPOSED BUILDING:	=	<u>4,000 Total S.F.</u>
GPD:	=	Fast Food Restaurant - 75 Seats x 25GPD = 1,875 GPD
	=	Drive-Thru Window - 500GPD
SANITARY FLOW	=	<u>2,375 GPD</u>
PEAK SANITARY DEMAND		
Total Demand	=	2,375 GPD x 1.1 = 2,612.5 GPD
Per Population	=	75 Per Capita
Peak Factor: $(18+VP) / (4+VP)$		P in Thousands
Peak Factor	=	4.0
Peak Sanitary Demand	=	2,612.50 x 4.00 = 10,450 gpd
		= 0.0087 MGD
		= 0.016 cfs

WATER CALCULATIONS:

GPM:	=	GPD / 12hr / 60min
ASSUMED 9HR SHIFT	=	2612.50 / 12 / 60
	=	<u>3.63 GPM</u>
PEAK FACTOR:	=	GPM X 4
	=	3.63 X 4.0
Q	=	<u>14.51 GPM PEAK</u>
HEADLOSS FRICTION:	=	$\frac{(10.44) \times (L) \times (Q)^{1.85}}{(C)^{1.85} \times (D)^{4.866}}$
Q = GPMin		
L = LENGTH OF PIPE	=	$\frac{(10.44) \times (390.5) \times (14.51)^{1.85}}{(140)^{1.85} \times (6)^{4.866}}$
C = DESIGN COEF OF PIPE		
D = PIPE DIAMETER	=	<u>.01 PSI</u>

ELEVATION LOSS: = (BUILDING INTAKE - HYDRANT HEIGHT) X 0.433
 = (84.0-894.0) X 0.433 Δ0.5 ft
 = **0.0 PSI (+)**

LOSS THROUGH RPZ & METER:

RPZ = 12 PSI (STANDARD)
 METER = 1 PSI (STANDARD)
 = **13 PSI**

LOSS DUE TO BENDS:

RESISTANCE EQUIVALENT LENGTH METHOD)

2" DIAMETER PIPE
 2 X 45° ANGLE = 64 FT ADDITIONAL PIPE

TOTAL = **64 FT ADDITIONAL PIPE**

= $\frac{(10.44) \times (64) \times (14.51)^{1.85}}{(140)^{1.85} \times (6)^{4.866}}$

= **0.002 PSI**

STATIC PRESSURE @ HYDRANT:

= **100 PSI** Per ECWA

PRESSURE AFTER RPZ / METER / BENDS / ELEVATION / HEADLOSS:

= 100 PSI - 12 PSI - 1 PSI - .005PSI
 (HYD) (RPZ) (METER) (LOSS)

= **86.9 PSI**

REQUIRED RESIDUAL PRESSURE = 20 PSI

PROPOSED RESIDUAL PRESSURE = 86.9 PSI

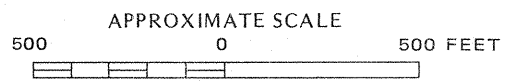
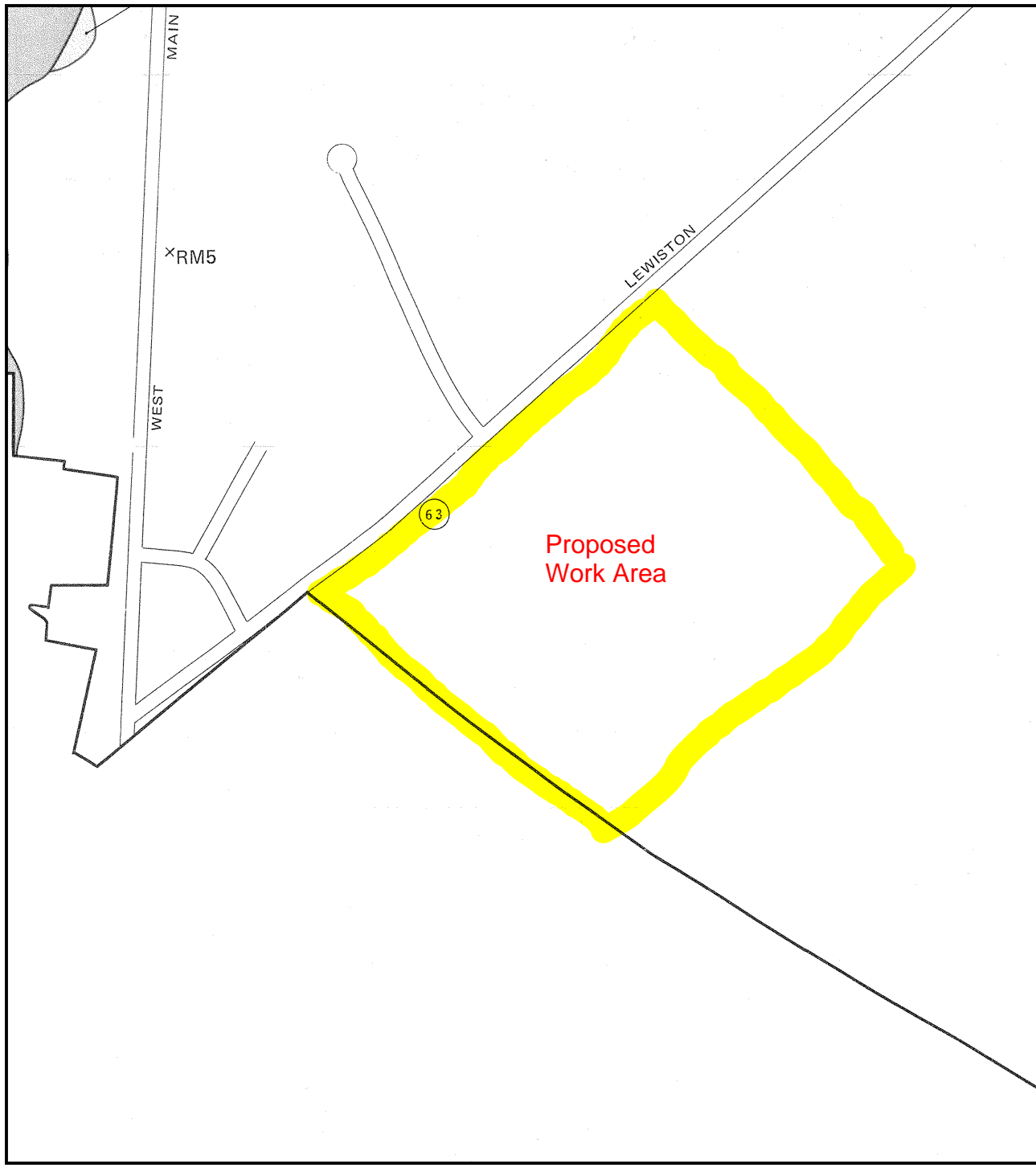
THEREFORE PROPOSED > REQUIRED
 84.7 PSI (GREATER) 20 PSI

FIGURE 3

SWPPP MEMORANDUM

APPENDIX A

FEMA Flood Areas



NATIONAL FLOOD INSURANCE PROGRAM


FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
BATAVIA,
NEW YORK
GENESEE COUNTY

PANEL 12 OF 15
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
360278 0012 B

EFFECTIVE DATE:
JANUARY 17, 1985



Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://msc.fema.gov>.

**STORMWATER POLLUTION PREVENTION PLAN
FOR**

Former K-Mart -Lewiston Road
Town of Batavia, County of Genesee,
State of New York

PREPARED FOR:

Benderson Development Co. LLC
570 Delaware Avenue
Buffalo, New York 14202

PREPARED BY:



217 Lake Avenue
Rochester, New York 14608

PROJECT NO. 8202

January, 2022



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**FORMER K-MART-LEWISTON ROAD
TOWN OF BATAVIA
GENESEE COUNTY, NEW YORK STATE
STORMWATER POLLUTION PREVENTION PLAN**

OVERVIEW

The Stormwater Pollution Prevention Plan for redevelopment of the existing K-Mart parking lot located at 8363 Lewiston Rd, Batavia, NY 14020 is outlined in this report. Refer to the location sketch in Appendix I. The proposed re-development project consists of the removal of existing pavements, construction of 2 new buildings (with analysis of a third for future development). A 4,000 S.F. restaurant, and a 6,752 S.F. shared coffee shop (2,000 S.F.) and restaurant (4,752 S.F.) with associated utilities, patios and parking areas. Construction activities will result in a decrease in the amount of impervious cover (0.364 ac.). The existing detention pond in the southwest corner of the site will remain. A hydrodynamic water quality treatment unit is proposed to provide the required water quality treatment volumes. There are no threatened or endangered species within the project boundaries; there are also no listed State or Federal wetlands within the project boundaries.

SCOPE OF PROJECT

The following report addresses the final disposition of stormwater runoff for this development. This report shows peak flow attenuation to levels at or below existing conditions. This report shows that the proposed design of stormwater management facilities and practices meets water quality and quantity volumes to conform to the required standards set forth in the SPDES Phase II General Construction Permit (GP-0-20-001).

This report also details the installation and maintenance of erosion and sediment control devices prior to and during the period of construction activity. Approximately +/-2.9 acres of this site will be disturbed during construction activities. A sequence of construction activities has been designed to limit the amount of soil disturbance at any one time. This report describes the best management practices and a schedule of implementation. These practices have been designed in accordance with the "New York State Standards and Specifications for Erosion and Sediment Control, August 2015".

BASIS FOR DESIGN

The design criteria used for this analysis is based on the "New York State Department of Environmental Conservation's Phase II Stormwater Rules" and the "New York State Stormwater Management Design Manual" (Design Manual), dated January 2015, in association with "SPDES General Permit for Stormwater Discharges from Construction Activity", dated January 2020 (GP-0-20-001). Existing and developed drainage sheds will be modeled using the SCS method to determine volume and peak rates of stormwater runoff.

DESCRIPTION OF SOILS

According to the National Resource Conservation Service, the predominant soils present onsite are classified as **Ontario loam** (HSG Type B), **Lima silt loam** (HSG Type B/D), **Canandaigua silt loam** (HSG Type C/D). For soils that are assigned a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

The **Ontario** Series (OnB) The Ontario series consists of deep or very deep, well drained soils formed in loamy till which is strongly influenced by limestone and sandstone. They are nearly level to very steep soils on convex upland till plains and drumlins. Slope ranges from 0 to 60 percent.

The **Lima** Series (LmA) he Lima series consists of very deep, moderately well drained soils on till plains. They are nearly level to moderately steep soils formed in till that is strongly influenced by limestone and calcareous shale. Slope ranges from 0 to 20 percent.

The **Canandaigua** Series (CaA) consists of very deep, poorly and very poorly drained soils formed in silty glacio-lacustrine sediments. These soils are on lowland lake plains and in depressional areas on glaciated uplands. Slope ranges from 0 to 3 percent.

Refer to the soils map in Appendix 1.

EXISTING CONDITIONS

Under Existing Conditions there are two drainage areas totaling 5.9 acres and 2 discharge points. Drainage will ultimately reach Tonawanda Creak, located off site. In addition to these areas, there is a 2 acre offsite drainage basin that discharges to an existing 36" RCP which is also the discharge point for drainage areas 2.

Existing Drainage Area 1 (E-1) is comprised of 1.6 acres, Time of Concentration (T_c) = 3.3 minutes, Curve Number (CN) = 98, and currently drains via sheet, shallow concentrated flow, and pipe flow to the existing stormwater pond in the south west corner of the site (DP-1). This area consists primarily of existing paved parking lots.

Existing Drainage Area 2 (E-2) is comprised of 4.3 acres, T_c = 3.9 minutes, CN = 98, and currently drains via sheet flow, shallow concentrated flow, and pipe flow eventually flowing offsite via an existing storm sewer in the south east corner of the site (DP-2). This area consists primarily of existing paved parking lots.

Existing drainage areas are shown on the drawing entitled, "Existing Drainage Area Map" (See Appendix 1). Table 1 provides a summary of existing peak flow rates.

TABLE 1 - EXISTING PEAK FLOW RATES (5.9Acres)

Area Designation	Q ₁ (cfs)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
(E-1) (1.6 ac.)	4.97	5.96	8.66	11.83
(E-2) (4.3 ac.)	13.2	15.82	22.99	31.42
Total (5.9 ac.)	18.17	21.78	31.65	43.25

Supporting data and calculations used to derive these results can be found in Appendix 1.

DEVELOPED CONDITIONS

The site under redeveloped conditions consists of the same 2 drainage areas totaling 5.9 acres that discharge to the same 2 discharge point as under existing conditions. Under redeveloped conditions, a majority of the sites disturbed area and existing impervious areas will be directed to the proposed Hydrodynamic treatment unit. The proposed development will result in a decrease impervious surfaces by adding landscape islands. The overall site discharge has been reduced at each discharge point (DP-1 & DP-2). The developed drainage areas are shown on the “Developed Drainage Area Map” (See Appendix 2).

Developed Drainage Area 1 (D-1) is comprised 1.6 acres, Time of Concentration (T_c) = 1.6 minutes, Curve Number (CN) =97. and will continue to drain via sheet, shallow concentrated flow, and pipe flow to the existing stormwater pond in the south west corner of the site (DP-1). This area will consist of 1 proposed building, parking lot, and grassed area around the building.

Developed Drainage Area 2 (D-2) is comprised 4.3 acres, Time of Concentration (T_c) = 3.4 minutes, Curve Number (CN) =95. and will continue to drain via sheet, shallow concentrated flow, and pipe flow, flowing offsite via an existing storm sewer in the south east corner of the site (DP-2). This area will consist of 1 proposed building, parking lots, and grassed areas around the buildings. A Hydrodynamic treatment unit (Crystal Streams Technologies, model 1056) is proposed to provide the required WQ_v treatment for the site.

Table 2 summarizes the developed peak flow rates for the drainage areas.

TABLE 2 - DEVELOPED PEAK FLOW RATES (5.9 Acres)

Area Designation	Q ₁ (cfs)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
(D-1) (1.6 ac.)	4.84	5.83	8.55	11.74
(D-2) (4.6 ac.)	12.08	14.80	22.21	30.87
Overall (5.9 ac.)	16.92	20.63	30.76	42.61

Supporting data and calculations used to derive the developed peak flow rates can be found in Appendix. 2.

SUMMARY OF PEAK FLOW RATES

Table 3 compares the existing vs. developed peak flow rates for the entire drainage area.

TABLE 3 - EXISTING VS. DEVELOPED PEAK FLOW RATES (5.9 acres)

Storm Frequency	Q _{Existing} (cfs)	Q _{Developed} (cfs)	% Reduction
1	18.17	16.92	7
2	21.78	20.63	5
10	31.65	30.76	3
100	43.25	42.61	1

These results show a reduction in overall peak flow discharge rates below existing from the drainage area is achieved for all storm events.

REDEVELOPMENT ACTIVITY

This project is considered a redevelopment project because existing impervious surfaces will be disturbed and reconstructed as either new impervious surfaces or grass areas. Redevelopment of previously developed sites is encouraged by the New York State Stormwater Design Manual because it provides an opportunity to conserve natural resources in less impacted areas by targeting development to areas with existing services and infrastructure. Redevelopment also provides an opportunity to correct existing problems and reduce pollutant discharges from older developed areas that were constructed without effective stormwater pollution controls.

Per Section 9.2.1 of the New York State Stormwater Design Manual, Channel Protection for redevelopment activities is not required if there are no changes to hydrology that increase the discharge rate from the project site. Also pursuant to Section 9.2.1; Runoff Reduction Volume (RRv) sizing criteria is not required for redevelopment activities.

Refer to Appendix 3 for referenced sections of the NYS Stormwater Design Manual.

WATER QUALITY VOLUME

In keeping with the goals of the NYSDEC Stormwater Pollution Prevention Control and SPDES General Permit GP-0-20-001 associated with long term development, in order to meet pollutant removal goals, hydrodynamic water quality vault (Crystal Stream Model: 1056) will be used to treat the required water quality volumes for the disturbed areas) Per Section 9.2.1- section IV of the NYS Stormwater Design Manual, since the plan proposes a combination of impervious cover (IC) reduction of 14% and standard or alternative SMPs that provide a weighted average of at least two of the above methods. The plan may provide a combination of the above options using the following calculation.

Refer to Appendix 3 for referenced sections of the NYS Stormwater Design Manual and the water quality design calculations.

EROSION AND SEDIMENT CONTROL MEASURES

All erosion and sediment control measures will be designed in accordance with the “New York State Standards and Specifications for Erosion and Sediment Control.” The site contractor shall adhere to all erosion and sediment control measures. The following temporary measures must be followed to control any potential pollutants leaving the construction site.

Temporary stabilization practices for this site include siltation fence, stone and block inlet protection in paved areas; filter fabric drop inlet protection of new inlets and a stabilized construction entrance.

Permanent stabilization practices for this site include new pavement and permanent seeding of all lawn areas.

ONSITE CONSTRUCTION MATERIAL STORAGE

All site work shall be performed in accordance with Title 29 of the Federal Regulations, Part 1926 Safety and Health Regulations for Construction (OSHA). In addition, the site subcontractor(s) shall follow all material management practices that will reduce the risk of exposure of any material to stormwater runoff. The site subcontractor(s) shall adhere to all of the following construction practices in regard to material storage:

- All materials shall be stored in an orderly manner with their appropriate manufacturer’s labels and storage recommendations visible, and where possible, store any spillable materials under a roof or in a storage container.
- Materials should not be mixed with one another unless recommended by the manufacturer. All materials mixed or not mixed shall be sealed properly when not being used.
- Subcontractor shall follow manufacturer’s storage recommendations for proper storage of all materials, and a regular inspection shall be made.
- Every vehicle shall be checked for leakage regularly. Any containers used to store petroleum or other liquids for vehicles shall be stored in proper containers and in a place protected from spilling or mixing with other liquids and placed in secondary containment.
- Subcontractor(s) shall provide proper storage for fertilizers, herbicides, pesticides and paints with manufacturer’s labels and storage recommendations visible. All fertilizers, herbicides, pesticides and paints shall be applied using the minimum amount recommended by the manufacturer.

In addition to the standard management practices to be followed above, the sites Subcontractor(s) shall also follow the following spill cleanup procedures:

- Spills of petroleum, toxins or hazardous materials will be reported to the New York State Health Department and the New York State Department of Environmental Conservation.
- Manufacturer’s recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and location of clean up supplies.
- Materials and equipment necessary for cleanup will be kept in a material storage area onsite to be identified by the site subcontractor(s). Equipment and materials will include, but not be limited to brooms, dust pans, mops, rags, gloves, goggles, speed-dry, sand, sawdust and trash containers.

- Spills will be cleaned up immediately upon discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the spilled substance.
- A spill report will be completed and filed on site.

SEQUENCE OF MAJOR ACTIVITIES

The contractor will be responsible for implementing the following erosion control and storm water management control measures. The contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the contractor. The order of activities will be as follows:

- A. Install temporary stabilized construction entrance.
- B. Install all perimeter erosion and sediment control devices.
- C. Demolition of existing pavements and removal of underground utilities.
- D. Earthwork activities for building pads.
- E. Stabilize building pads with stone sub-base.
- F. Install utilities.
- G. Stabilize access drives and parking areas with stone sub-base.
- H. Stabilization measures (Temporary and/or permanent seeding, mulching, Geotextiles, Etc.) must be initiated within 7 days where construction activities have temporarily or permanently ceased.
- I. In addition to these measures, the contractor shall comply with whatever supplementary measures may be required to enhance or improve the control of erosion on this site.

IMPLEMENTATION SCHEDULE

Stabilization measures shall initiate as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, however in no case more than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceased.

The onsite construction supervisor shall visually inspect all erosion control measures daily. Any measure that is damaged, becomes inoperative or has been in place for a three-month period shall be replaced immediately.

All erosion/sediment control measures must remain in place and properly inspected and operable until all disturbed areas have been stabilized.

MAINTENANCE AND INSPECTION SCHEDULE

A qualified site supervisor shall assess the site prior to construction beginning and certify in an inspection report that all erosion and sediment facilities have been completely and properly installed and functional. Once construction begins, an inspection shall be done every seven (7) days. The following should be included in the inspectors report following each site visit:

- On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 7-day period.
- Indicate on a site plan areas that have had temporary or permanent stabilization.
- Indicate on a site plan areas that have not had active site work within the past 7 days.
- All erosion and sediment controls shall be inspected and the approximate percent of remaining silt storage capacity (in the sediment trap devices) shall be reported in the inspection report on a weekly basis.
- Inspection of erosion and sediment control practices and any maintenance requirements should be recorded. Depths of sediment should be measured, and effectiveness should be recorded. If any methods of erosion or sediment control are found to be inadequate, a recommendation should be made that would bring all facilities to standards set forth by the NYSDEC.
- An onsite logbook shall be maintained and weekly inspections should be kept updated and available for permitting authorities upon request. Prior to construction, the site supervisor shall certify in the site logbook that the SWPPP was prepared in accordance with the stormwater permit GP-0-20-001, and meets all Federal, and State erosion and sediment control requirements. Prior to filing notice of Termination or the end of the permit, the site supervisor shall perform a final site inspection. The site supervisor shall report that 80% germination has been completed. The report should also state all erosion and sediment methods have been removed.

IMPLEMENTATION OF RESPONSIBILITY

Each contractor(s) and subcontractor(s) shall be responsible for implementing the SWPPP temporary practices, structures and controls. The owner shall be responsible for implementing all permanent operation and maintenance practices and procedures.

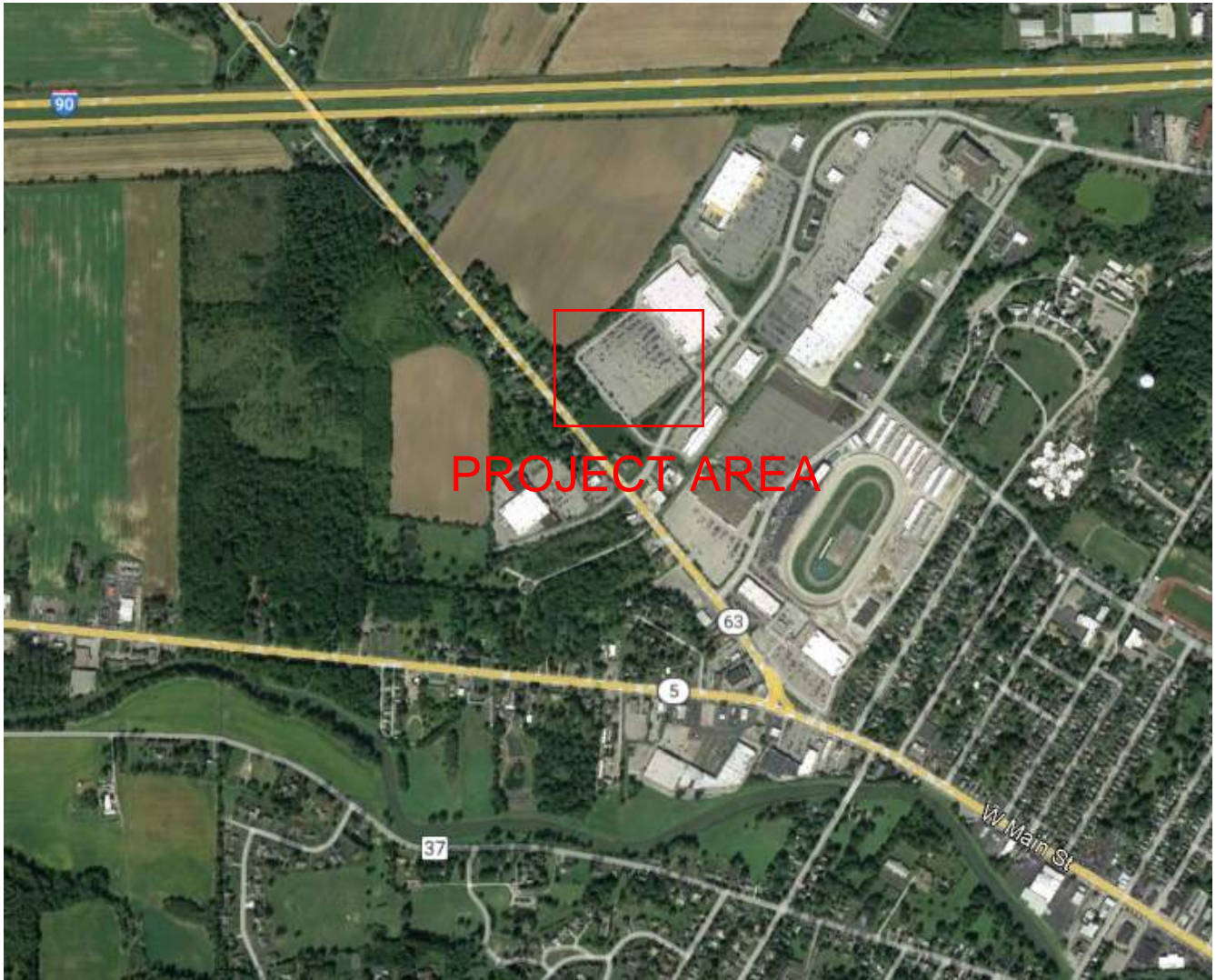
POST-CONSTRUCTION OPERATIONS AND MAINTENANCE

Benderson Development LLC shall be responsible for the long term maintenance and continuation of stormwater control measures for the development as stated in the Stormwater Control Facility Maintenance Agreement. The owner shall maintain, clean, repair, replace (if necessary) the stormwater control measures for the site. The facility owner shall be responsible for all expenses related to maintenance of the stormwater management facilities. The facility owner shall provide periodic inspection of stormwater control measures, not less than once every three-year period to determine the condition and integrity of the measures. Please refer to the Stormwater Control Facility Maintenance Agreement in Appendix 3.

CONCLUSION

Stormwater runoff from the former K-Mart redevelopment will be captured and conveyed to the proposed hydrodynamic water quality treatment unit before discharging the site into existing storm sewers. Design and construction criteria conform to, the “New York State Department of Environmental Conservation’s Phase II Stormwater Rules” and the “New York State Stormwater Management Design Manual”, dated January 2020 in association with “SPDES General Permit for Stormwater Discharges from Construction Activity”, dated January, 2020 (GP-0-20-001).

APPENDIX I



LOCATION MAP

NOT TO SCALE



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 **Genesee 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.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

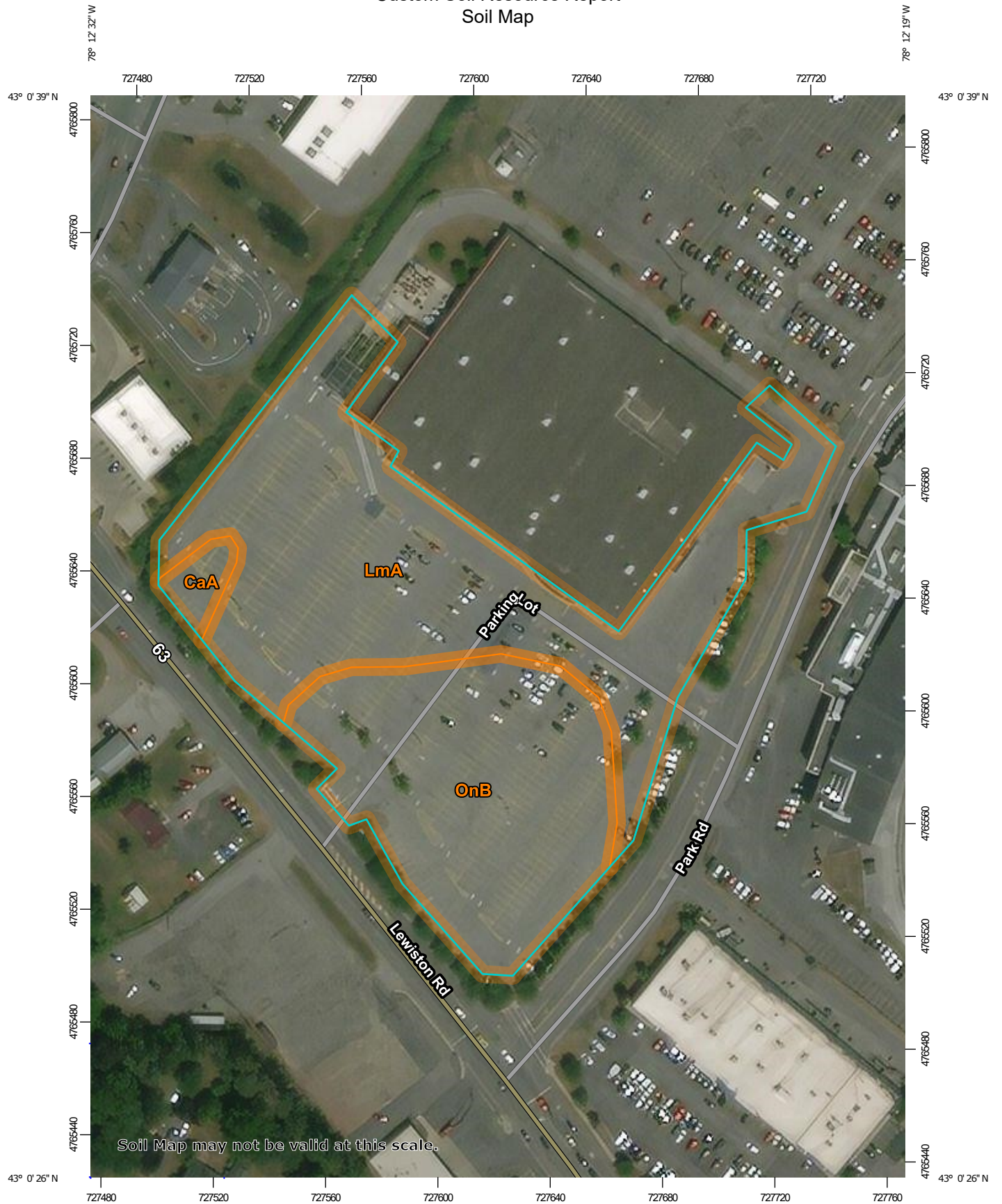
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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: 1:1,870 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N 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: Genesee County, New York
 Survey Area Data: Version 22, Aug 29, 2021

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

Date(s) aerial images were photographed: Jul 29, 2011—Oct 18, 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
CaA	Canandaigua silt loam, 0 to 2 percent slopes	0.1	2.3%
LmA	Lima silt loam, 0 to 3 percent slopes	3.5	60.1%
OnB	Ontario loam, 3 to 8 percent slopes	2.2	37.6%
Totals for Area of Interest		5.9	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

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landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Genesee County, New York

CaA—Canandaigua silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: b3xk
Elevation: 100 to 1,000 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 140 to 175 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Canandaigua and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canandaigua

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 39 inches: silt loam
H3 - 39 to 72 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F101XY010NY - Wet Lake Plain Depression
Hydric soil rating: Yes

Minor Components

Bergen

Percent of map unit: 5 percent
Landform: Swamps, marshes

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Hydric soil rating: Yes

Lamson

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Halsey

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Madalin

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Unnamed soils

Percent of map unit: 5 percent

Hydric soil rating: No

LmA—Lima silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2w3kh

Elevation: 410 to 1,640 feet

Mean annual precipitation: 31 to 57 inches

Mean annual air temperature: 41 to 50 degrees F

Frost-free period: 100 to 190 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Lima and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lima

Setting

Landform: Drumlins, ridges, till plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Crest

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: silt loam

Bt/E - 9 to 12 inches: loam

Bt1 - 12 to 16 inches: loam

Bt2 - 16 to 25 inches: gravelly loam

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C - 25 to 79 inches: gravelly loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: F101XY013NY - Moist Till

Hydric soil rating: No

Minor Components

Honeoye

Percent of map unit: 6 percent

Landform: Drumlins, hills, till plains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Kendaia

Percent of map unit: 3 percent

Landform: Till plains, drumlins, ridges

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Appleton

Percent of map unit: 3 percent

Landform: Drumlins, ridges, till plains

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Cazenovia

Percent of map unit: 2 percent

Landform: Reworked lake plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Crest

Down-slope shape: Concave

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Across-slope shape: Convex
Hydric soil rating: No

Lyons

Percent of map unit: 1 percent
Landform: Depressions, drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

OnB—Ontario loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w3ps
Elevation: 250 to 1,490 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ontario and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ontario

Setting

Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: loam
E - 8 to 14 inches: loam
Bt/E - 14 to 21 inches: loam
Bt - 21 to 39 inches: gravelly loam
C1 - 39 to 48 inches: gravelly loam
C2 - 48 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low

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Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: F101XY012NY - Till Upland

Hydric soil rating: No

Minor Components

Honeoye

Percent of map unit: 5 percent

Landform: Drumlins, ridges, till plains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Hilton

Percent of map unit: 5 percent

Landform: Drumlins, ridges, till plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Crest

Down-slope shape: Linear

Across-slope shape: Concave, convex

Hydric soil rating: No

Cazenovia

Percent of map unit: 3 percent

Landform: Till plains, reworked lake plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Crest

Down-slope shape: Concave

Across-slope shape: Convex

Hydric soil rating: No

Appleton

Percent of map unit: 2 percent

Landform: Drumlins, ridges, till plains

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

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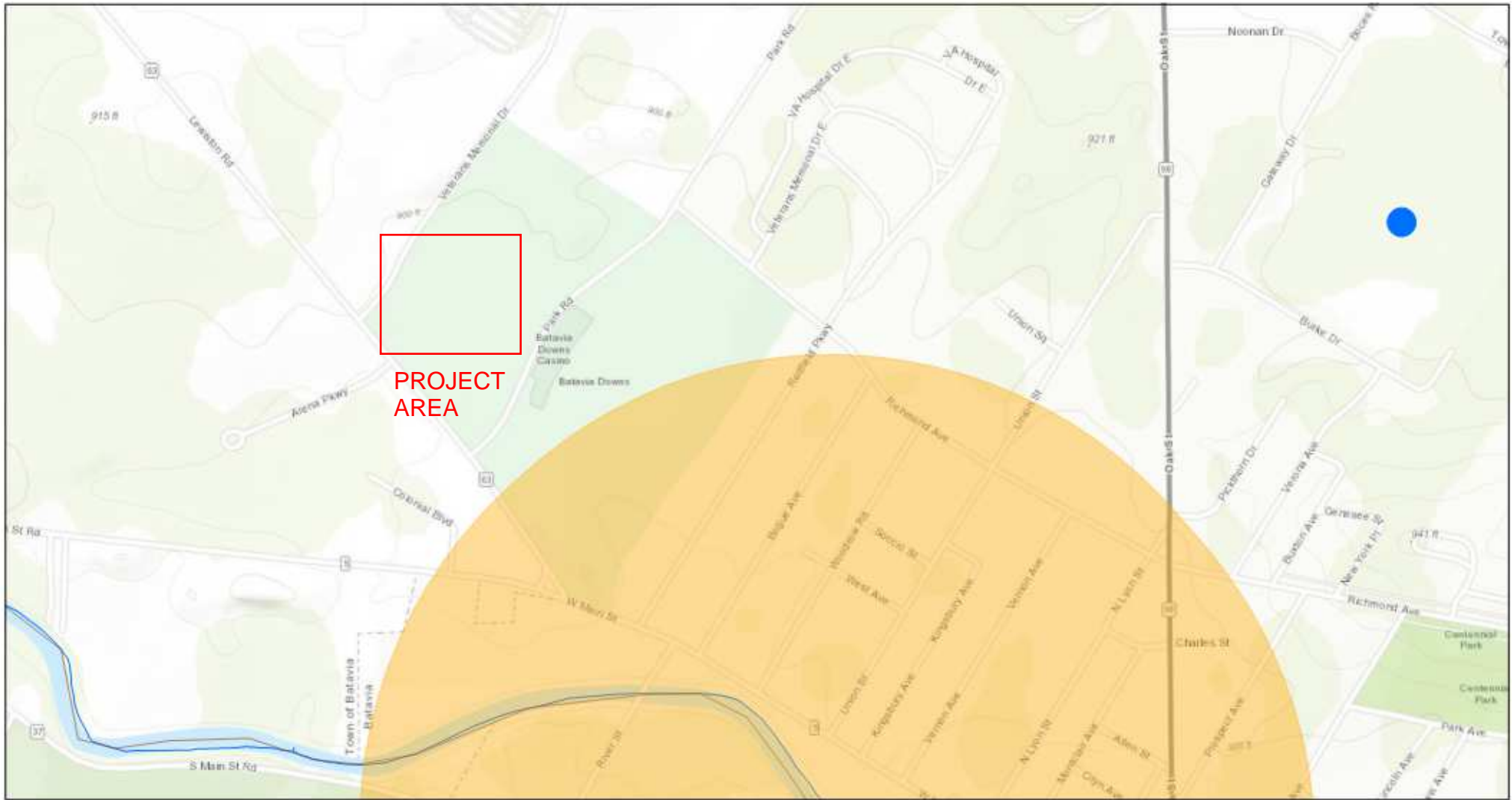
Custom Soil Resource Report

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Environmental Resource Mapper



October 19, 2021



October 19, 2021

Wetlands

- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Lake
- Estuarine and Marine Wetland
- Freshwater Forested/Shrub Wetland
- Other
- Freshwater Pond
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Map navigation controls including zoom in (+), zoom out (-), home, and other utility icons.

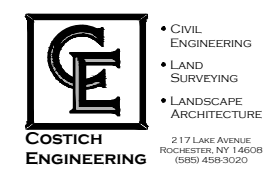
Overview map showing the current map's location within a larger geographic context.





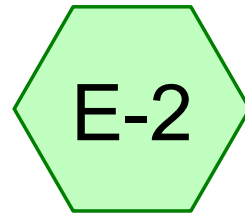
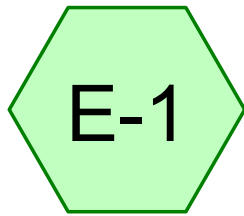
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TOPO/BASE	---
DATE	10/12/2021
SCALE	1" = 80'

TITLE OF DRAWING
EXISTING DRAINAGE AREA MAP



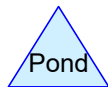
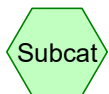
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DWG. # 8202
CE100
SHEET 1 OF 2



Existing Drainage area 1

Existing Drainage area 2



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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.040	61	>75% Grass cover, Good, HSG B (E-2)
2.160	98	Paved parking, HSG B (E-2)
3.700	98	Paved parking, HSG D (E-1, E-2)
5.900	98	TOTAL AREA

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
2.200	HSG B	E-2
0.000	HSG C	
3.700	HSG D	E-1, E-2
0.000	Other	
5.900		TOTAL AREA

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Page 4

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	0.040	0.000	0.000	0.000	0.040	>75% Grass cover, Good	E-2
0.000	2.160	0.000	3.700	0.000	5.860	Paved parking	E-1, E-2
0.000	2.200	0.000	3.700	0.000	5.900	TOTAL AREA	

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Page 5

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	E-1	0.00	0.00	81.0	0.0050	0.010	18.0	0.0	0.0
2	E-2	0.00	0.00	423.0	0.0150	0.010	12.0	0.0	0.0

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Type II 24-hr 1-Year Rainfall=2.10"

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Page 6

Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-1: Existing Drainage Runoff Area=1.600 ac 100.00% Impervious Runoff Depth>1.77"
Flow Length=370' Tc=3.3 min CN=98 Runoff=4.97 cfs 0.236 af

SubcatchmentE-2: Existing Drainage area Runoff Area=4.300 ac 99.07% Impervious Runoff Depth>1.77"
Flow Length=642' Tc=3.9 min CN=98 Runoff=13.20 cfs 0.635 af

Total Runoff Area = 5.900 ac Runoff Volume = 0.872 af Average Runoff Depth = 1.77"
0.68% Pervious = 0.040 ac 99.32% Impervious = 5.860 ac

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Type II 24-hr 1-Year Rainfall=2.10"

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Summary for Subcatchment E-1: Existing Drainage area 1

[49] Hint: Tc<2dt may require smaller dt

Runoff = 4.97 cfs @ 11.93 hrs, Volume= 0.236 af, Depth> 1.77"

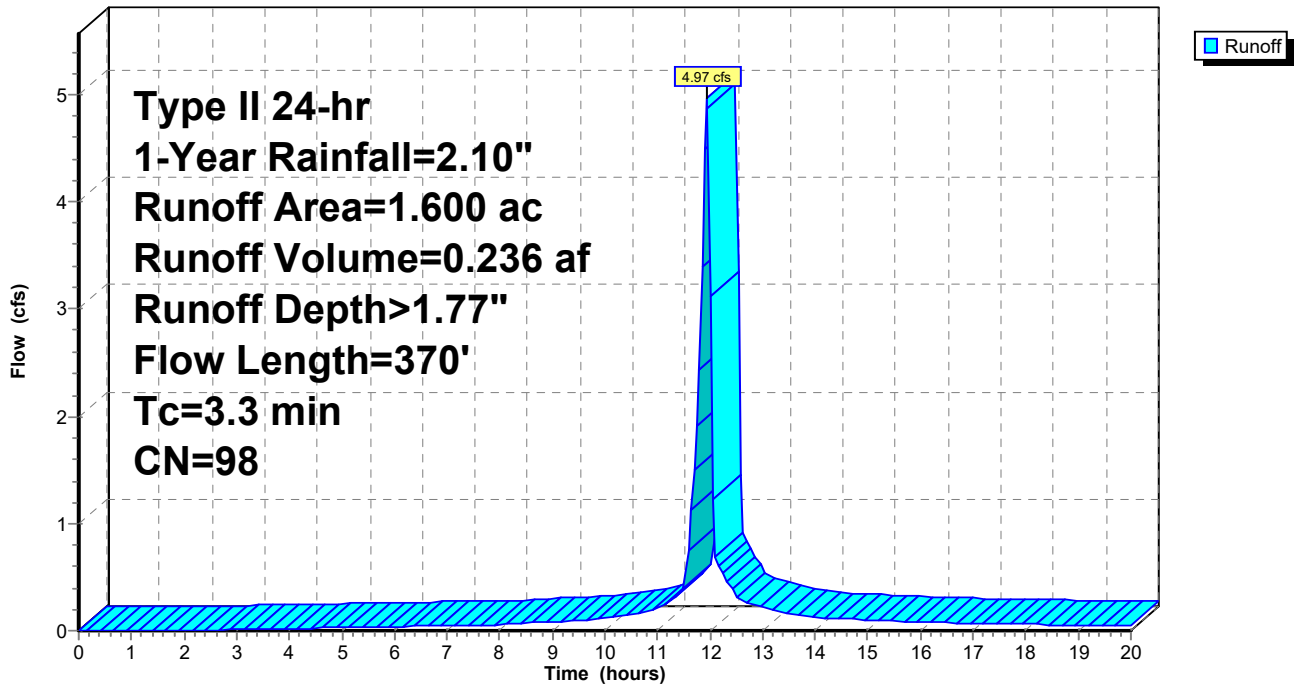
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.10"

Area (ac)	CN	Description
1.600	98	Paved parking, HSG D
1.600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.3	189	0.0150	2.49		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
0.2	81	0.0050	5.46	9.66	Pipe Channel, CMP_Round 18" 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
3.3	370	Total			

Subcatchment E-1: Existing Drainage area 1

Hydrograph



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Type II 24-hr 1-Year Rainfall=2.10"

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Summary for Subcatchment E-2: Existing Drainage area 2

[49] Hint: Tc<2dt may require smaller dt

Runoff = 13.20 cfs @ 11.94 hrs, Volume= 0.635 af, Depth> 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.10"

Area (ac)	CN	Description
2.100	98	Paved parking, HSG D
2.160	98	Paved parking, HSG B
0.040	61	>75% Grass cover, Good, HSG B
4.300	98	Weighted Average
0.040		0.93% Pervious Area
4.260		99.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.1	119	0.0085	1.87		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
1.0	423	0.0150	7.22	5.67	Pipe Channel, CMP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
3.9	642	Total			

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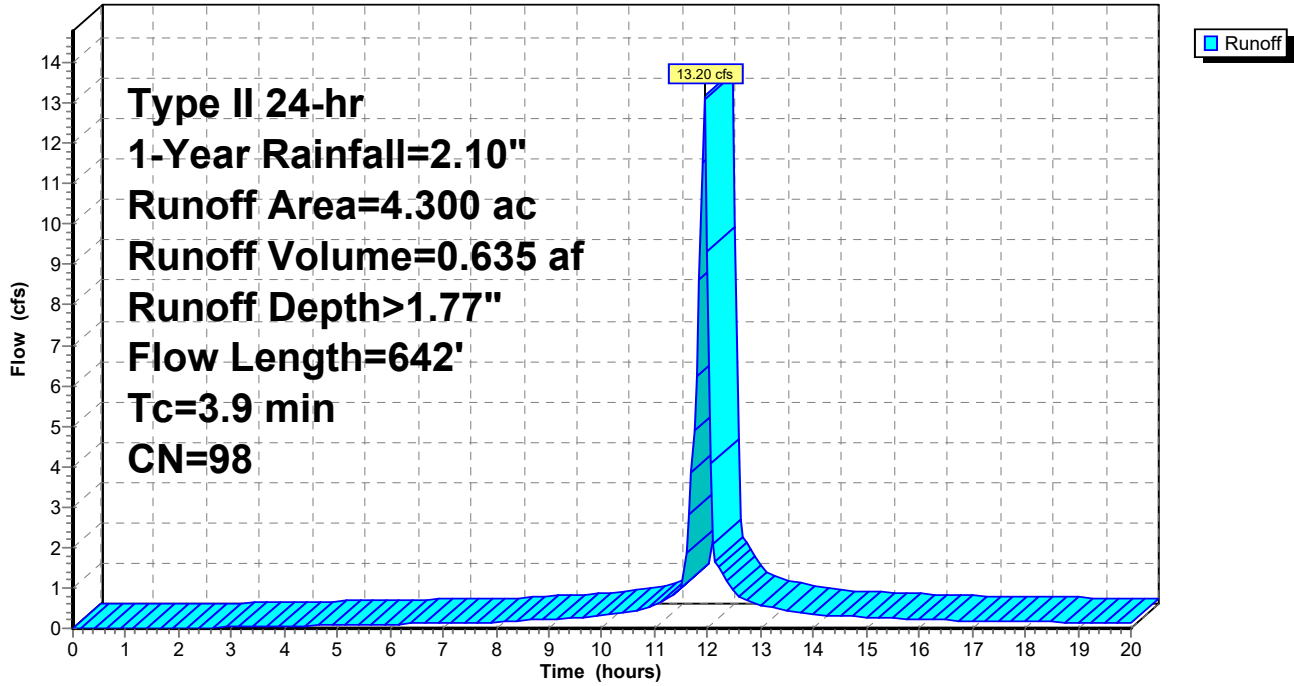
Type II 24-hr 1-Year Rainfall=2.10"

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Subcatchment E-2: Existing Drainage area 2

Hydrograph



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Type II 24-hr 2-Year Rainfall=2.50"

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Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-1: Existing Drainage Runoff Area=1.600 ac 100.00% Impervious Runoff Depth>2.15"
Flow Length=370' Tc=3.3 min CN=98 Runoff=5.96 cfs 0.287 af

SubcatchmentE-2: Existing Drainage area Runoff Area=4.300 ac 99.07% Impervious Runoff Depth>2.15"
Flow Length=642' Tc=3.9 min CN=98 Runoff=15.82 cfs 0.771 af

Total Runoff Area = 5.900 ac Runoff Volume = 1.057 af Average Runoff Depth = 2.15"
0.68% Pervious = 0.040 ac 99.32% Impervious = 5.860 ac

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Type II 24-hr 2-Year Rainfall=2.50"

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Summary for Subcatchment E-1: Existing Drainage area 1

[49] Hint: Tc<2dt may require smaller dt

Runoff = 5.96 cfs @ 11.93 hrs, Volume= 0.287 af, Depth> 2.15"

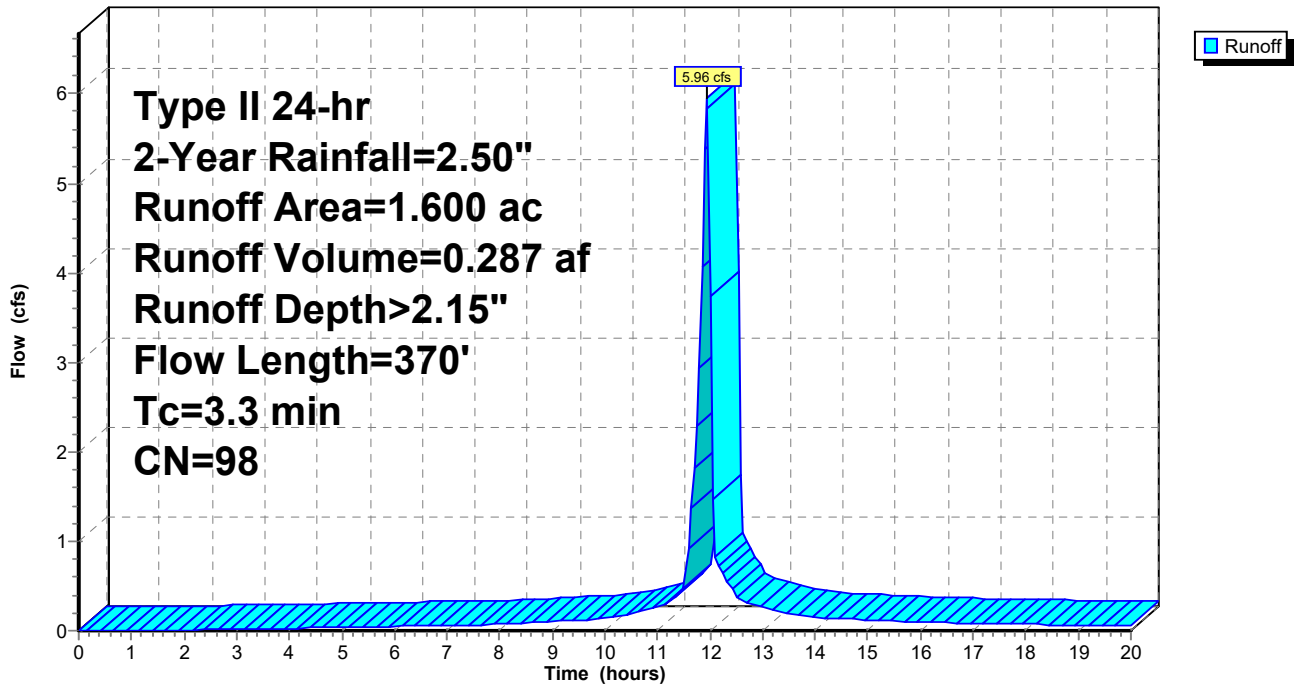
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.50"

Area (ac)	CN	Description
1.600	98	Paved parking, HSG D
1.600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.3	189	0.0150	2.49		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
0.2	81	0.0050	5.46	9.66	Pipe Channel, CMP_Round 18" 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
3.3	370	Total			

Subcatchment E-1: Existing Drainage area 1

Hydrograph



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Type II 24-hr 2-Year Rainfall=2.50"

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Summary for Subcatchment E-2: Existing Drainage area 2

[49] Hint: Tc<2dt may require smaller dt

Runoff = 15.82 cfs @ 11.94 hrs, Volume= 0.771 af, Depth> 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.50"

Area (ac)	CN	Description
2.100	98	Paved parking, HSG D
2.160	98	Paved parking, HSG B
0.040	61	>75% Grass cover, Good, HSG B
4.300	98	Weighted Average
0.040		0.93% Pervious Area
4.260		99.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.1	119	0.0085	1.87		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
1.0	423	0.0150	7.22	5.67	Pipe Channel, CMP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
3.9	642	Total			

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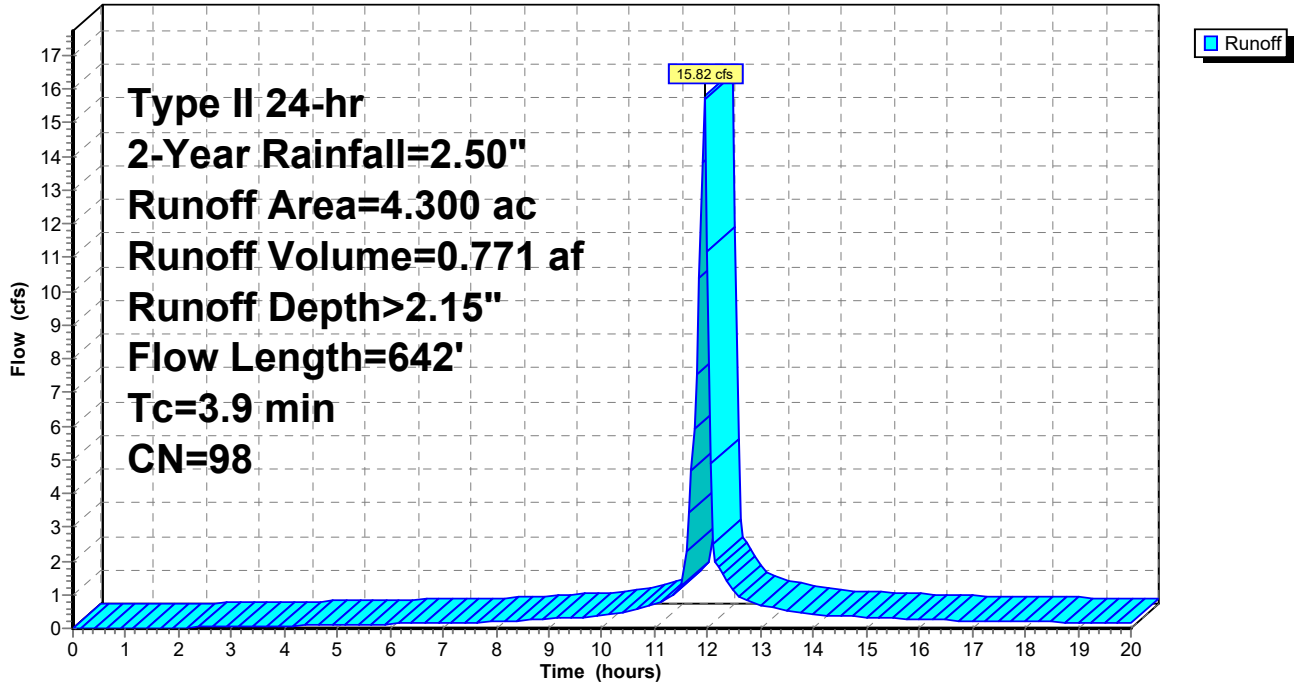
Type II 24-hr 2-Year Rainfall=2.50"

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Subcatchment E-2: Existing Drainage area 2

Hydrograph



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Type II 24-hr 10-Year Rainfall=3.60"

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Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-1: Existing Drainage Runoff Area=1.600 ac 100.00% Impervious Runoff Depth>3.19"
Flow Length=370' Tc=3.3 min CN=98 Runoff=8.66 cfs 0.426 af

SubcatchmentE-2: Existing Drainage area Runoff Area=4.300 ac 99.07% Impervious Runoff Depth>3.19"
Flow Length=642' Tc=3.9 min CN=98 Runoff=22.99 cfs 1.144 af

Total Runoff Area = 5.900 ac Runoff Volume = 1.570 af Average Runoff Depth = 3.19"
0.68% Pervious = 0.040 ac 99.32% Impervious = 5.860 ac

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Type II 24-hr 10-Year Rainfall=3.60"

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Summary for Subcatchment E-1: Existing Drainage area 1

[49] Hint: Tc<2dt may require smaller dt

Runoff = 8.66 cfs @ 11.93 hrs, Volume= 0.426 af, Depth> 3.19"

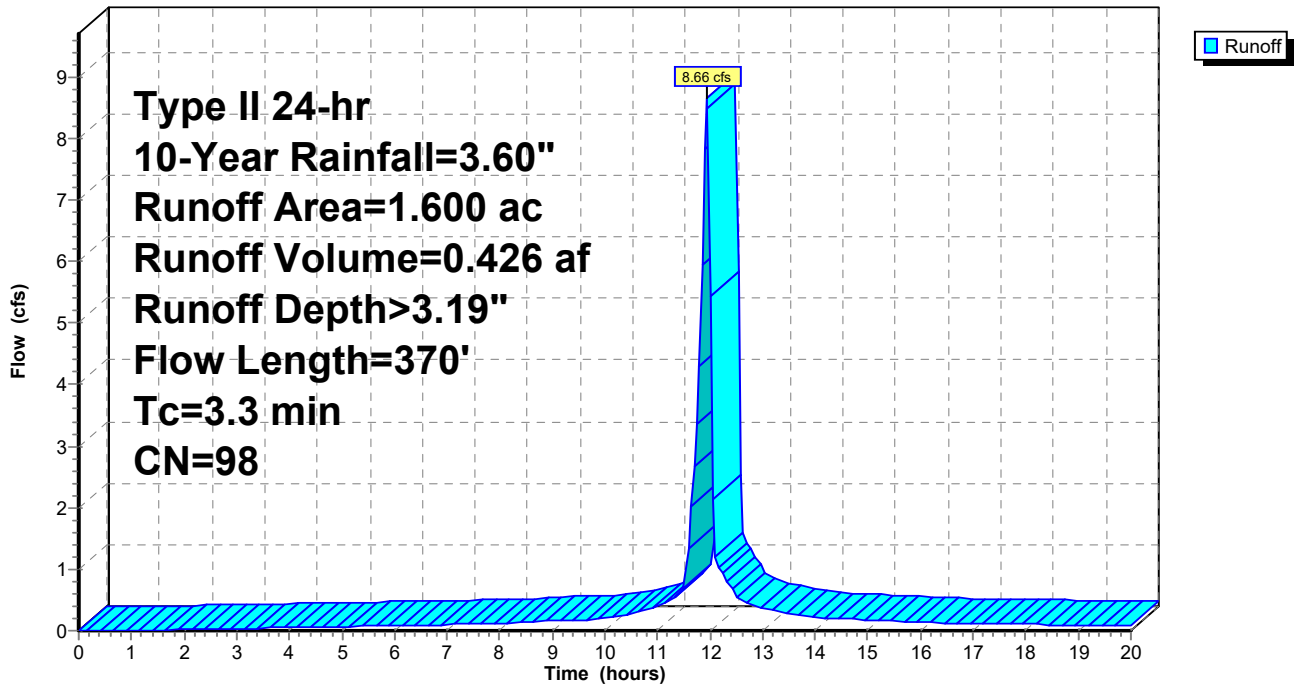
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.60"

Area (ac)	CN	Description
1.600	98	Paved parking, HSG D
1.600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.3	189	0.0150	2.49		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
0.2	81	0.0050	5.46	9.66	Pipe Channel, CMP_Round 18" 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
3.3	370	Total			

Subcatchment E-1: Existing Drainage area 1

Hydrograph



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Type II 24-hr 10-Year Rainfall=3.60"

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Summary for Subcatchment E-2: Existing Drainage area 2

[49] Hint: Tc<2dt may require smaller dt

Runoff = 22.99 cfs @ 11.94 hrs, Volume= 1.144 af, Depth> 3.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.60"

Area (ac)	CN	Description
2.100	98	Paved parking, HSG D
2.160	98	Paved parking, HSG B
0.040	61	>75% Grass cover, Good, HSG B
4.300	98	Weighted Average
0.040		0.93% Pervious Area
4.260		99.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.1	119	0.0085	1.87		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
1.0	423	0.0150	7.22	5.67	Pipe Channel, CMP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
3.9	642	Total			

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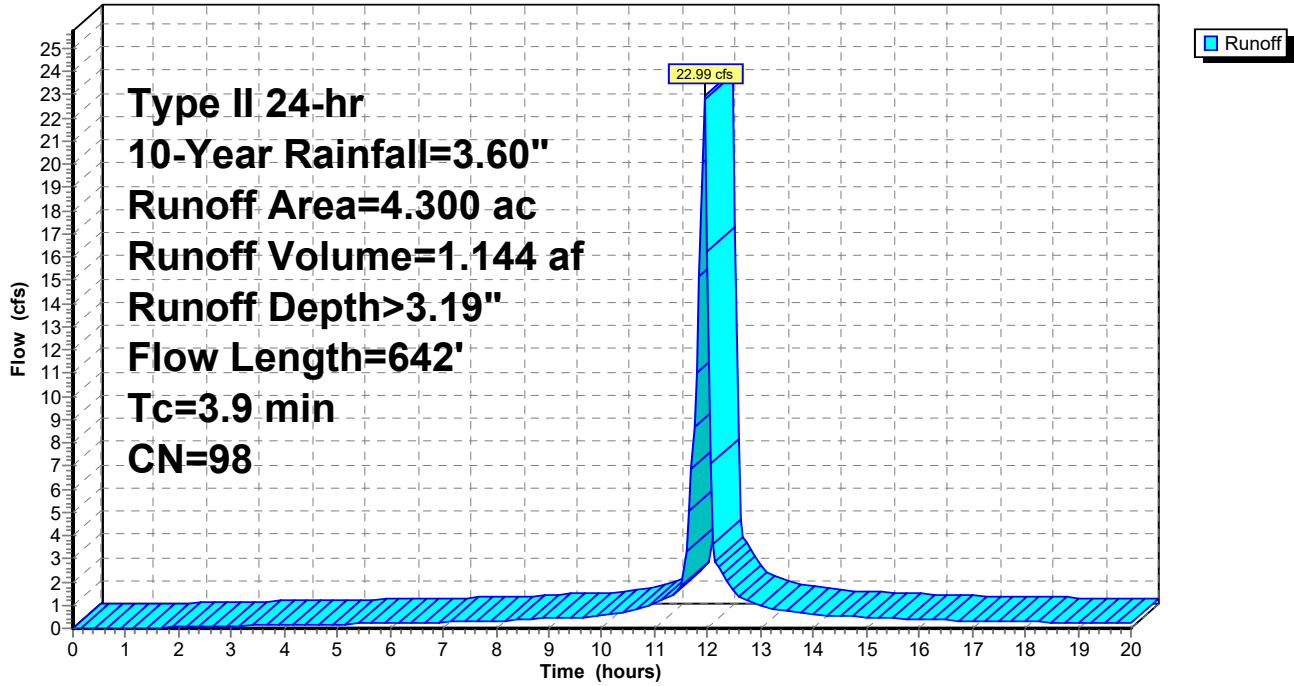
Type II 24-hr 10-Year Rainfall=3.60"

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Subcatchment E-2: Existing Drainage area 2

Hydrograph



Ex.

Type II 24-hr 100-Year Rainfall=4.90"

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Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-1: Existing Drainage Runoff Area=1.600 ac 100.00% Impervious Runoff Depth>4.43"
Flow Length=370' Tc=3.3 min CN=98 Runoff=11.83 cfs 0.590 af

SubcatchmentE-2: Existing Drainage area Runoff Area=4.300 ac 99.07% Impervious Runoff Depth>4.43"
Flow Length=642' Tc=3.9 min CN=98 Runoff=31.42 cfs 1.586 af

Total Runoff Area = 5.900 ac Runoff Volume = 2.176 af Average Runoff Depth = 4.43"
0.68% Pervious = 0.040 ac 99.32% Impervious = 5.860 ac

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Type II 24-hr 100-Year Rainfall=4.90"

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Summary for Subcatchment E-1: Existing Drainage area 1

[49] Hint: Tc<2dt may require smaller dt

Runoff = 11.83 cfs @ 11.93 hrs, Volume= 0.590 af, Depth> 4.43"

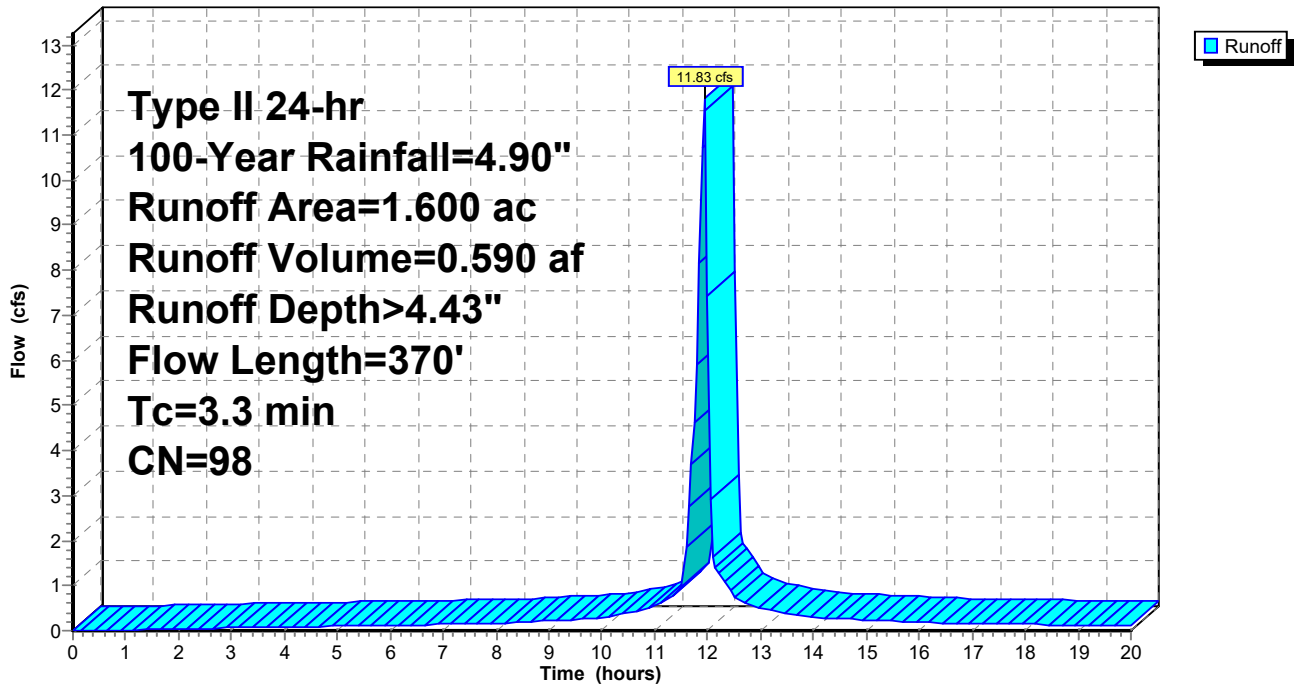
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=4.90"

Area (ac)	CN	Description
1.600	98	Paved parking, HSG D
1.600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.3	189	0.0150	2.49		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
0.2	81	0.0050	5.46	9.66	Pipe Channel, CMP_Round 18" 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
3.3	370	Total			

Subcatchment E-1: Existing Drainage area 1

Hydrograph



Ex.

Type II 24-hr 100-Year Rainfall=4.90"

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Summary for Subcatchment E-2: Existing Drainage area 2

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 31.42 cfs @ 11.94 hrs, Volume= 1.586 af, Depth> 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=4.90"

Area (ac)	CN	Description
2.100	98	Paved parking, HSG D
2.160	98	Paved parking, HSG B
0.040	61	>75% Grass cover, Good, HSG B
4.300	98	Weighted Average
0.040		0.93% Pervious Area
4.260		99.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.1	119	0.0085	1.87		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
1.0	423	0.0150	7.22	5.67	Pipe Channel, CMP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
3.9	642	Total			

Ex.

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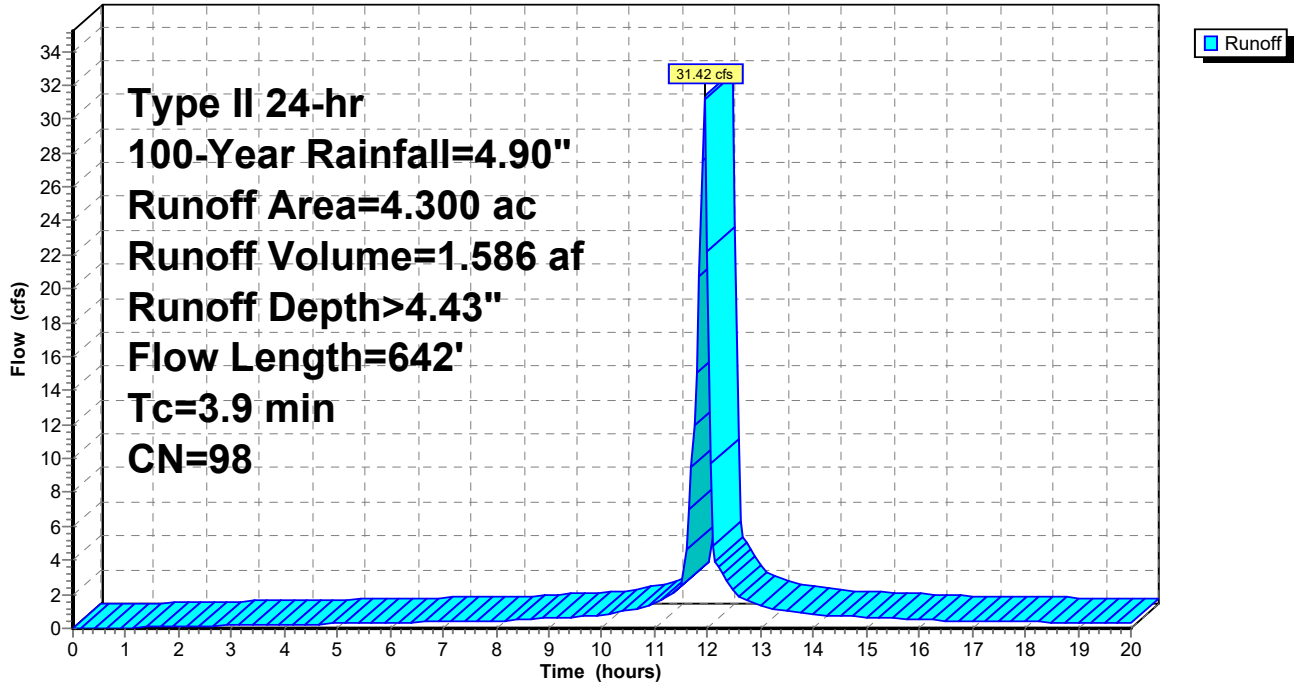
Type II 24-hr 100-Year Rainfall=4.90"

Printed 10/26/2021

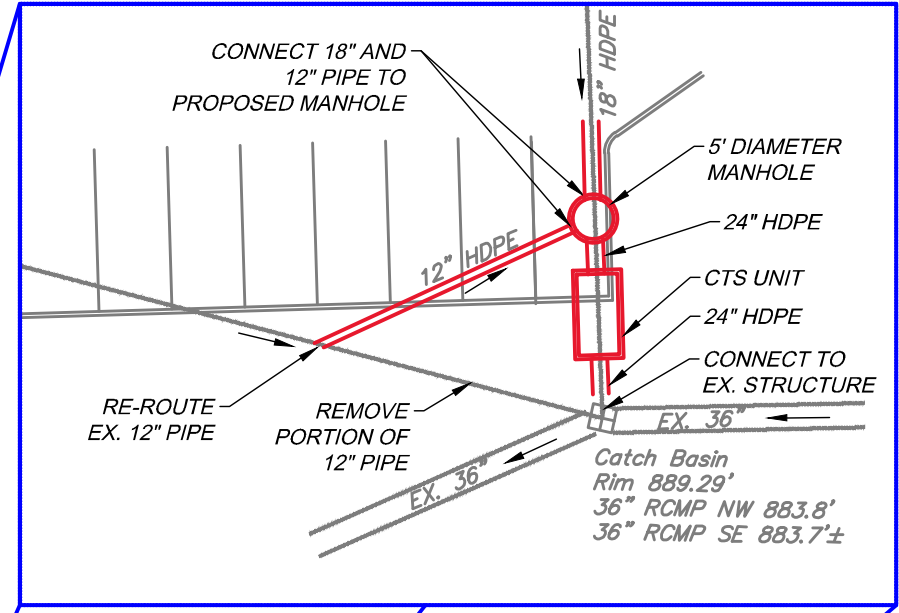
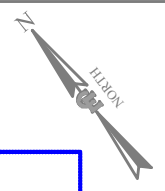
Page 21

Subcatchment E-2: Existing Drainage area 2

Hydrograph



APPENDIX II



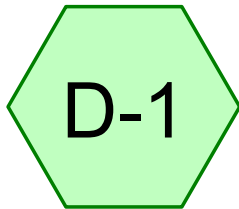
APPROXIMATE LOCATION OF PROPOSED HYDRODYNAMIC UNIT: CTS MODEL 1056
(SEE ATTACHED DETAIL)

BOUNDARY	---
TOPO/BASE	---
DATE	10/29/2021
SCALE	1" = 80'

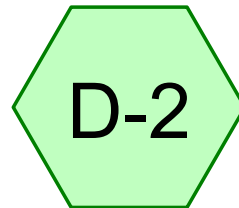
TITLE OF DRAWING
LOCATION OF CTS UNIT



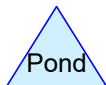
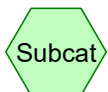
DWG. # 8202
CE100
SHEET 1 OF 1



Developed Drainage
area 1



Developed Drainage
area 2



Dev.

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Page 2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.380	61	>75% Grass cover, Good, HSG B (D-2)
0.074	80	>75% Grass cover, Good, HSG D (D-1)
1.820	98	Paved parking, HSG B (D-2)
3.626	98	Paved parking, HSG D (D-1, D-2)
5.900	95	TOTAL AREA

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Page 3

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
2.200	HSG B	D-2
0.000	HSG C	
3.700	HSG D	D-1, D-2
0.000	Other	
5.900		TOTAL AREA

Dev.

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Page 4

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.380	0.000	0.074	0.000	0.454	>75% Grass cover, Good	D-1, D-2
0.000	1.820	0.000	3.626	0.000	5.446	Paved parking	D-1, D-2
0.000	2.200	0.000	3.700	0.000	5.900	TOTAL AREA	

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Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	D-2	0.00	0.00	423.0	0.0150	0.010	12.0	0.0	0.0

Dev.

Type II 24-hr 1-Year Rainfall=2.10"

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Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentD-1: Developed Drainage Runoff Area=1.600 ac 95.37% Impervious Runoff Depth>1.67"
Flow Length=293' Tc=3.4 min CN=97 Runoff=4.84 cfs 0.223 af

SubcatchmentD-2: Developed Drainage Runoff Area=4.300 ac 91.16% Impervious Runoff Depth>1.48"
Flow Length=661' Tc=3.6 min CN=95 Runoff=12.08 cfs 0.531 af

Total Runoff Area = 5.900 ac Runoff Volume = 0.753 af Average Runoff Depth = 1.53"
7.69% Pervious = 0.454 ac 92.31% Impervious = 5.446 ac

Dev.

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Type II 24-hr 1-Year Rainfall=2.10"

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Summary for Subcatchment D-1: Developed Drainage area 1

[49] Hint: Tc<2dt may require smaller dt

Runoff = 4.84 cfs @ 11.94 hrs, Volume= 0.223 af, Depth> 1.67"

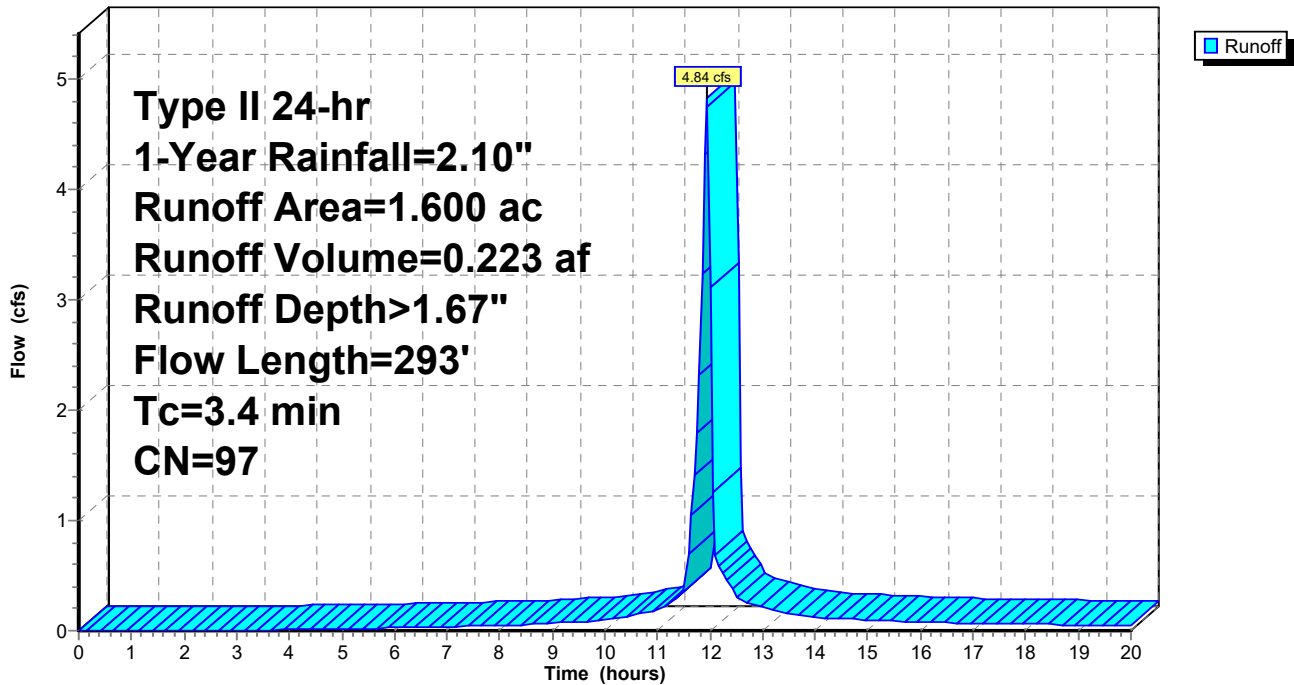
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.10"

Area (ac)	CN	Description
1.526	98	Paved parking, HSG D
0.074	80	>75% Grass cover, Good, HSG D
1.600	97	Weighted Average
0.074		4.62% Pervious Area
1.526		95.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.6	193	0.0098	2.01		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
3.4	293	Total			

Subcatchment D-1: Developed Drainage area 1

Hydrograph



Dev.

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Type II 24-hr 1-Year Rainfall=2.10"

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Summary for Subcatchment D-2: Developed Drainage area 2

[49] Hint: Tc<2dt may require smaller dt

Runoff = 12.08 cfs @ 11.94 hrs, Volume= 0.531 af, Depth> 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.10"

Area (ac)	CN	Description
2.100	98	Paved parking, HSG D
1.820	98	Paved parking, HSG B
0.380	61	>75% Grass cover, Good, HSG B
4.300	95	Weighted Average
0.380		8.84% Pervious Area
3.920		91.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
0.8	138	0.0190	2.80		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
1.0	423	0.0150	7.22	5.67	Pipe Channel, CMP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
3.6	661	Total			

Dev.

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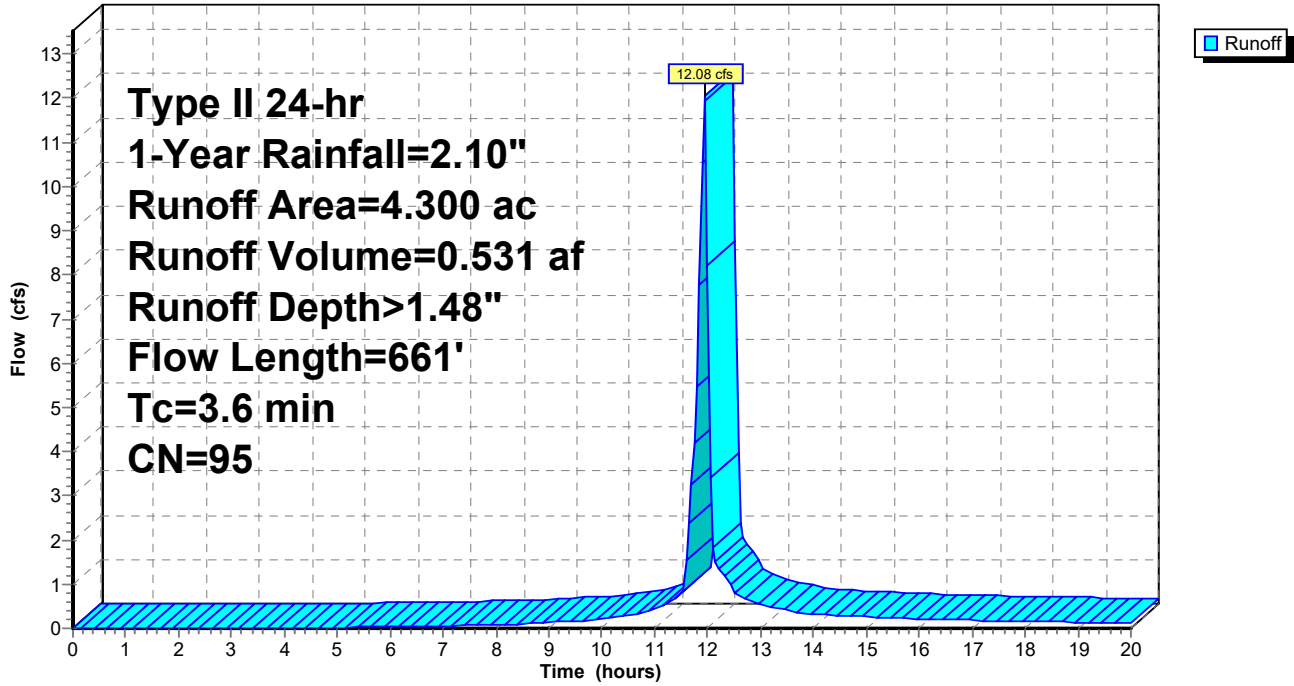
Type II 24-hr 1-Year Rainfall=2.10"

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Subcatchment D-2: Developed Drainage area 2

Hydrograph



Dev.

Type II 24-hr 2-Year Rainfall=2.50"

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Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentD-1: Developed Drainage Runoff Area=1.600 ac 95.37% Impervious Runoff Depth>2.04"
Flow Length=293' Tc=3.4 min CN=97 Runoff=5.83 cfs 0.273 af

SubcatchmentD-2: Developed Drainage Runoff Area=4.300 ac 91.16% Impervious Runoff Depth>1.85"
Flow Length=661' Tc=3.6 min CN=95 Runoff=14.80 cfs 0.662 af

Total Runoff Area = 5.900 ac Runoff Volume = 0.934 af Average Runoff Depth = 1.90"
7.69% Pervious = 0.454 ac 92.31% Impervious = 5.446 ac

Dev.

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Type II 24-hr 2-Year Rainfall=2.50"

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Summary for Subcatchment D-1: Developed Drainage area 1

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 5.83 cfs @ 11.94 hrs, Volume= 0.273 af, Depth> 2.04"

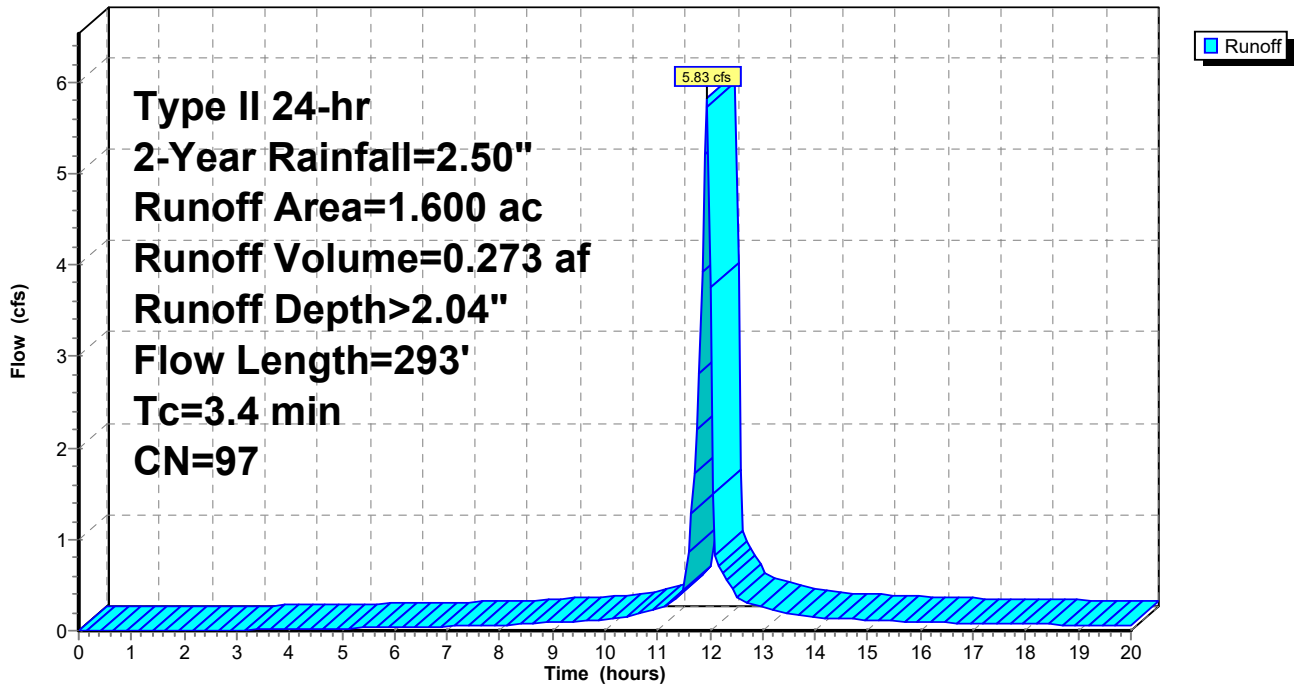
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.50"

Area (ac)	CN	Description
1.526	98	Paved parking, HSG D
0.074	80	>75% Grass cover, Good, HSG D
1.600	97	Weighted Average
0.074		4.62% Pervious Area
1.526		95.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.6	193	0.0098	2.01		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
3.4	293	Total			

Subcatchment D-1: Developed Drainage area 1

Hydrograph



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Type II 24-hr 2-Year Rainfall=2.50"

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Summary for Subcatchment D-2: Developed Drainage area 2

[49] Hint: Tc<2dt may require smaller dt

Runoff = 14.80 cfs @ 11.94 hrs, Volume= 0.662 af, Depth> 1.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.50"

Area (ac)	CN	Description
2.100	98	Paved parking, HSG D
1.820	98	Paved parking, HSG B
0.380	61	>75% Grass cover, Good, HSG B
4.300	95	Weighted Average
0.380		8.84% Pervious Area
3.920		91.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
0.8	138	0.0190	2.80		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
1.0	423	0.0150	7.22	5.67	Pipe Channel, CMP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
3.6	661	Total			

Dev.

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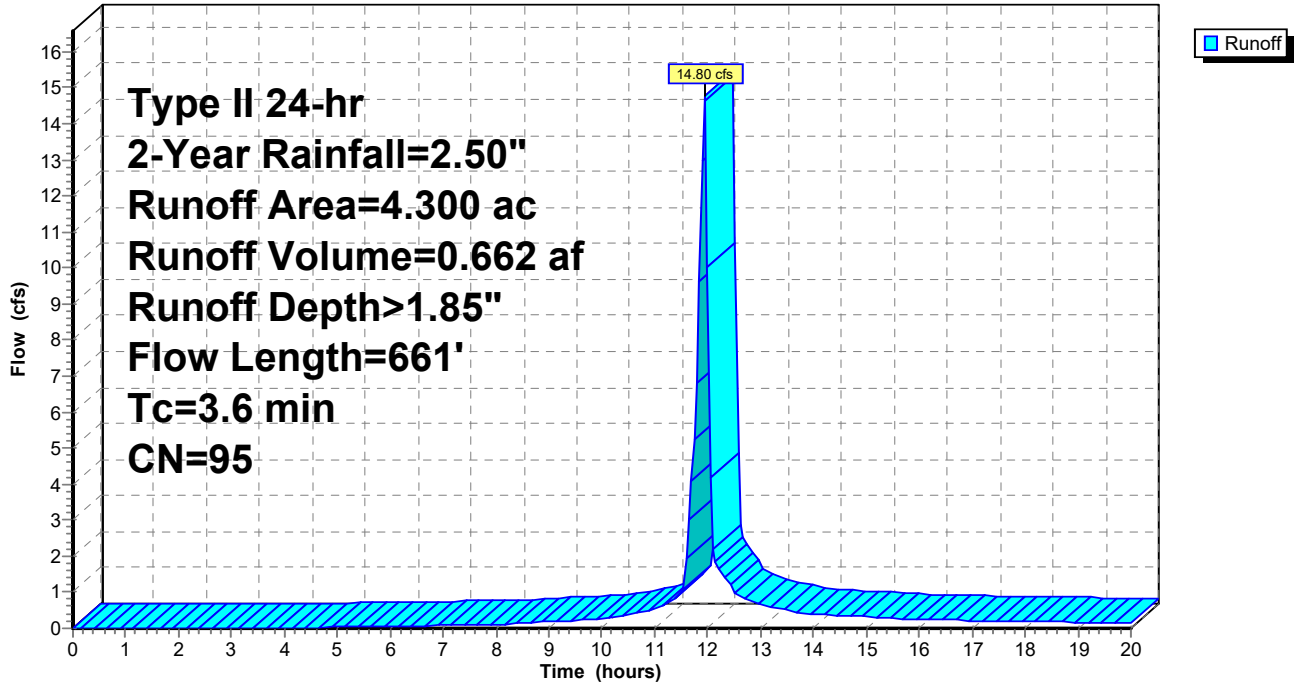
Type II 24-hr 2-Year Rainfall=2.50"

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Subcatchment D-2: Developed Drainage area 2

Hydrograph



Dev.

Type II 24-hr 10-Year Rainfall=3.60"

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Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentD-1: Developed Drainage Runoff Area=1.600 ac 95.37% Impervious Runoff Depth>3.08"
Flow Length=293' Tc=3.4 min CN=97 Runoff=8.55 cfs 0.411 af

SubcatchmentD-2: Developed Drainage Runoff Area=4.300 ac 91.16% Impervious Runoff Depth>2.87"
Flow Length=661' Tc=3.6 min CN=95 Runoff=22.21 cfs 1.027 af

Total Runoff Area = 5.900 ac Runoff Volume = 1.438 af Average Runoff Depth = 2.92"
7.69% Pervious = 0.454 ac 92.31% Impervious = 5.446 ac

Dev.

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Type II 24-hr 10-Year Rainfall=3.60"

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Summary for Subcatchment D-1: Developed Drainage area 1

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 8.55 cfs @ 11.93 hrs, Volume= 0.411 af, Depth> 3.08"

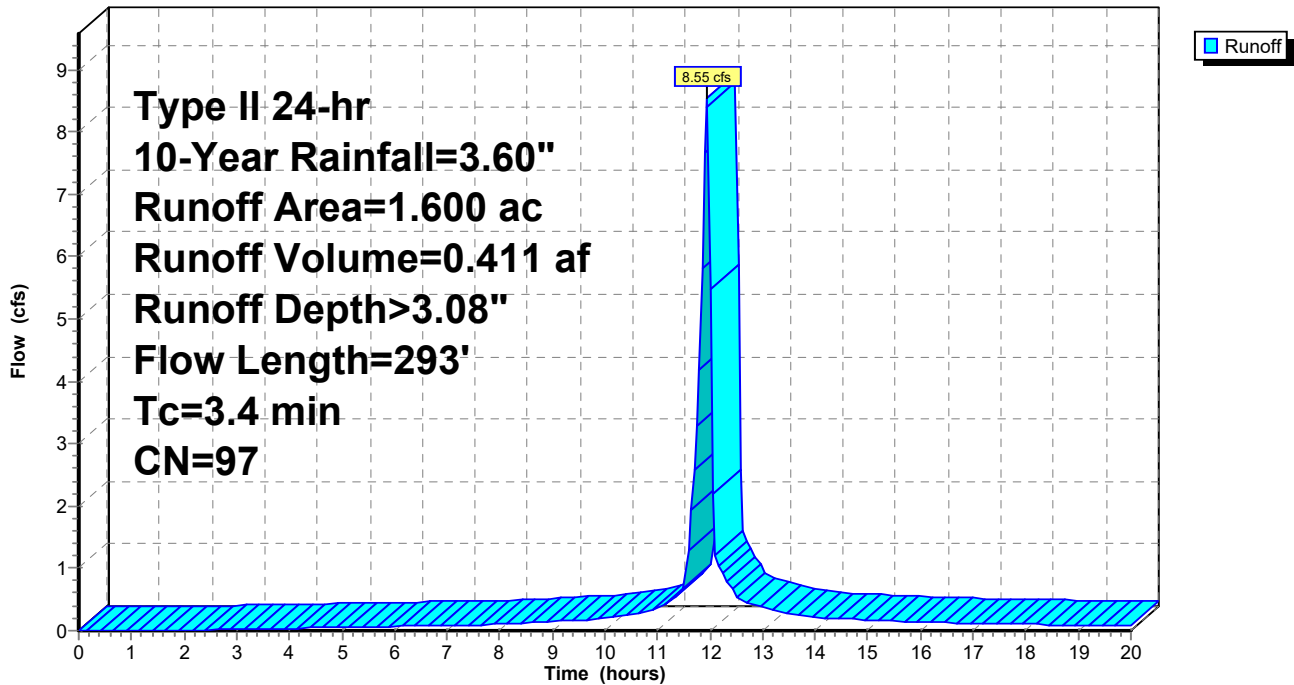
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.60"

Area (ac)	CN	Description
1.526	98	Paved parking, HSG D
0.074	80	>75% Grass cover, Good, HSG D
1.600	97	Weighted Average
0.074		4.62% Pervious Area
1.526		95.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.6	193	0.0098	2.01		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
3.4	293	Total			

Subcatchment D-1: Developed Drainage area 1

Hydrograph



Dev.

Type II 24-hr 10-Year Rainfall=3.60"

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Summary for Subcatchment D-2: Developed Drainage area 2

[49] Hint: Tc<2dt may require smaller dt

Runoff = 22.21 cfs @ 11.94 hrs, Volume= 1.027 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.60"

Area (ac)	CN	Description
2.100	98	Paved parking, HSG D
1.820	98	Paved parking, HSG B
0.380	61	>75% Grass cover, Good, HSG B
4.300	95	Weighted Average
0.380		8.84% Pervious Area
3.920		91.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
0.8	138	0.0190	2.80		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
1.0	423	0.0150	7.22	5.67	Pipe Channel, CMP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
3.6	661	Total			

Dev.

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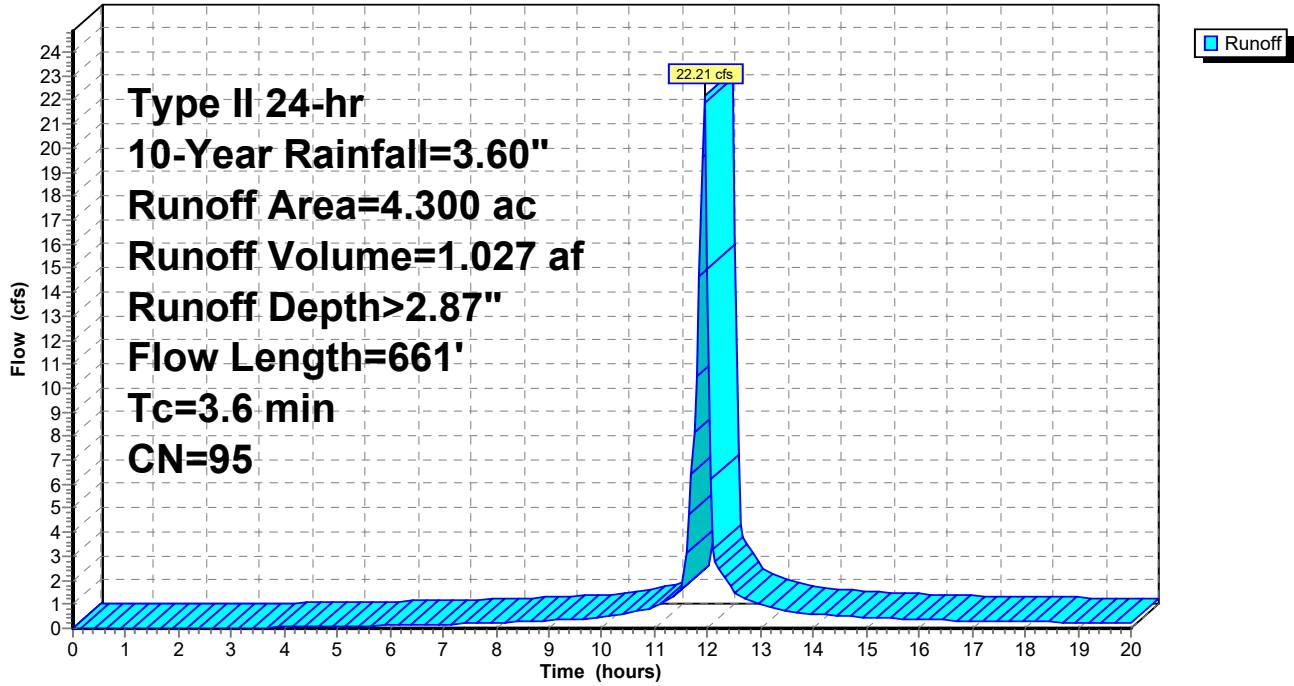
Type II 24-hr 10-Year Rainfall=3.60"

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Subcatchment D-2: Developed Drainage area 2

Hydrograph



Dev.

Type II 24-hr 100-Year Rainfall=4.90"

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Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentD-1: Developed Drainage Runoff Area=1.600 ac 95.37% Impervious Runoff Depth>4.31"
Flow Length=293' Tc=3.4 min CN=97 Runoff=11.74 cfs 0.575 af

SubcatchmentD-2: Developed Drainage Runoff Area=4.300 ac 91.16% Impervious Runoff Depth>4.09"
Flow Length=661' Tc=3.6 min CN=95 Runoff=30.87 cfs 1.464 af

Total Runoff Area = 5.900 ac Runoff Volume = 2.039 af Average Runoff Depth = 4.15"
7.69% Pervious = 0.454 ac 92.31% Impervious = 5.446 ac

Dev.

Type II 24-hr 100-Year Rainfall=4.90"

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Summary for Subcatchment D-1: Developed Drainage area 1

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 11.74 cfs @ 11.93 hrs, Volume= 0.575 af, Depth> 4.31"

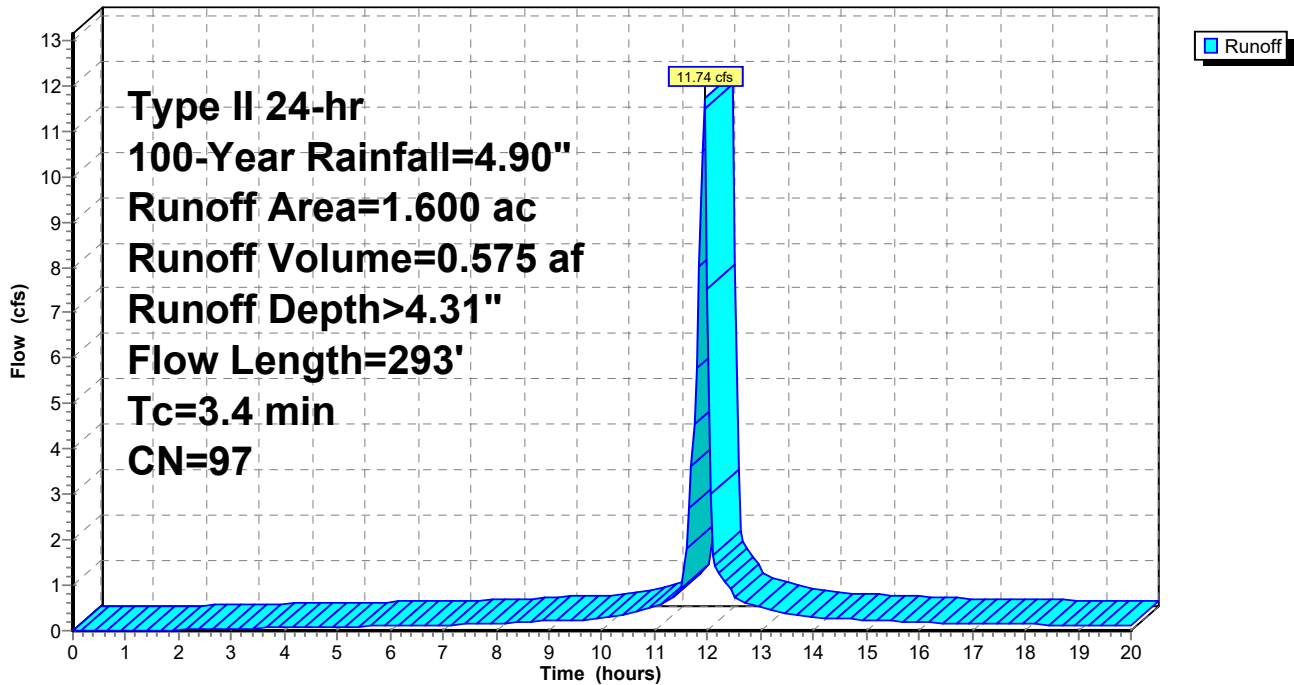
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=4.90"

Area (ac)	CN	Description
1.526	98	Paved parking, HSG D
0.074	80	>75% Grass cover, Good, HSG D
1.600	97	Weighted Average
0.074		4.62% Pervious Area
1.526		95.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
1.6	193	0.0098	2.01		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
3.4	293	Total			

Subcatchment D-1: Developed Drainage area 1

Hydrograph



Dev.

Type II 24-hr 100-Year Rainfall=4.90"

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Summary for Subcatchment D-2: Developed Drainage area 2

[49] Hint: Tc<2dt may require smaller dt

Runoff = 30.87 cfs @ 11.94 hrs, Volume= 1.464 af, Depth> 4.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=4.90"

Area (ac)	CN	Description
2.100	98	Paved parking, HSG D
1.820	98	Paved parking, HSG B
0.380	61	>75% Grass cover, Good, HSG B
4.300	95	Weighted Average
0.380		8.84% Pervious Area
3.920		91.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	100	0.0100	0.92		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.50"
0.8	138	0.0190	2.80		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
1.0	423	0.0150	7.22	5.67	Pipe Channel, CMP_Round 12" 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
3.6	661	Total			

Dev.

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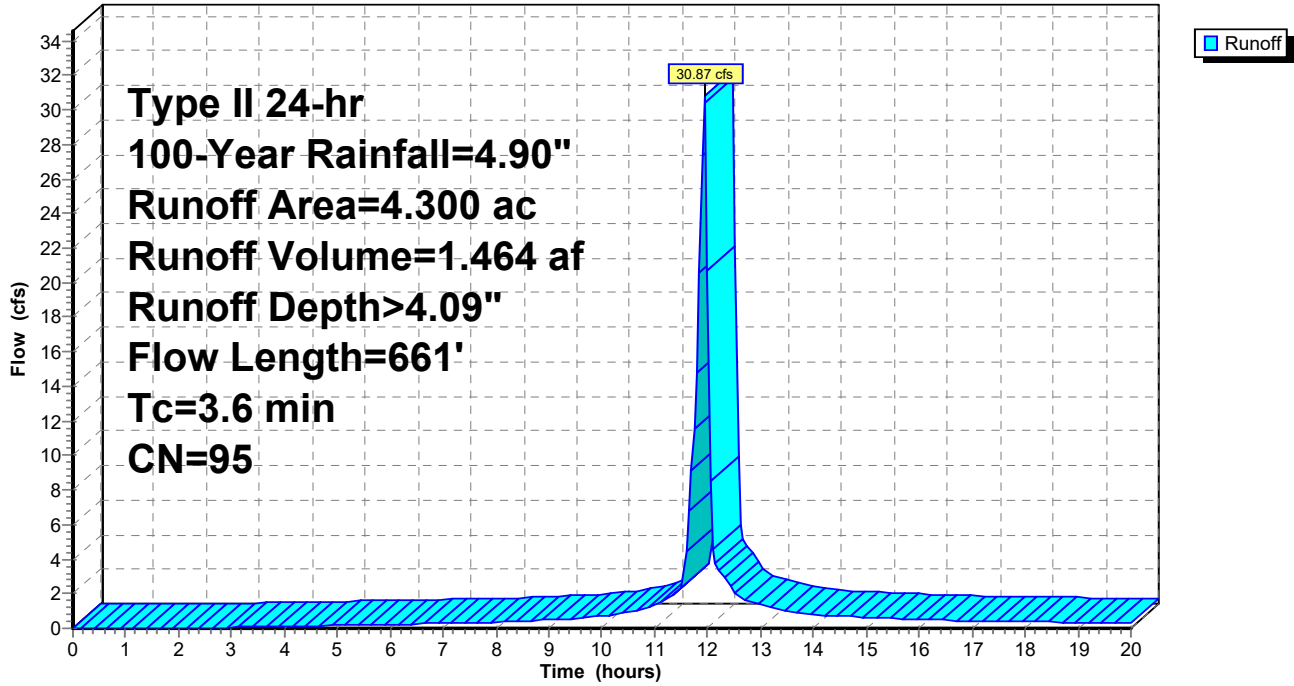
Type II 24-hr 100-Year Rainfall=4.90"

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Subcatchment D-2: Developed Drainage area 2

Hydrograph



APPENDIX III

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff) No

Design *Manually enter P, Total Area and Impervious Cover.*

P= 1.00 inch

Breakdown of Subcatchments						
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious	Rv	WQv (ft ³)	Description
1	1.60	1.53	95%	0.91	5,276	
2	4.30	3.92	91%	0.87	13,587	
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	5.90	5.45	92%	0.88	18,863	Subtotal 1
Total	5.90	5.45	92%	0.88	18,863	Initial WQv

0.43	af
------	----

32 %WQv treatment by Alternate practices required = 0.43 af *.32 = 0.14

Per NYS Stormwater Design Manual Jan 2015, Chapter 9: Redevelopment Activity - Section 9.2.1 Sizing Criteria

IV- The plan proposes a combination of impervious cover (IC) reduction and standard or alternative SMPs that provide a weighted average of at least two of the above methods. The plan may provide a combination of the above options using the following calculation:

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

Wqv Treatment by Stand: 0 %
Runoff Re: 0 %

Existing Impv. Area Disturbed = 2.88 ac.

Proposed Increased Perv. Area = 0.414 ac.

% decrease of Impv. Area of Existing Impv. Area Disturbed = 0.414 / 2.88 = 14 % IC Reduction

$$\%WQv \text{ treatment by Alternate practices} = (25 - (\% \text{ IC reduction} + \% \text{ WQv treatment by Standard practice} + \% \text{ runoff reduction})) * 3 = (25 - (14 + 0 + 0)) * 3 = 32 \% \text{ WQv treatment by Alternate practices}$$

Calculated Water Quality Storm Peak Discharge Rate

Assumptions:

Weighted CN = (97*0.27)+(95*0.73) = 95.54

Area of WQv treatment by Alternate practices = 5.9 ac * 0.00 = 1.88063 ac.
Overall Area * % WQv treatment by Alternate practices = 1.88063 ac.

USE CN = 96.00 Tc = 3.4 min. = 0.06 hr.

Ia TR-55 Table 4-1 CN = 96 Ia = 0.083

P = 1 " Ia*P = 0.083
Qu from TR-55 Exhibit 4-II = 1000 csm/in.

% Impv cover = 92.31 %

$$Rv = 0.009 * (I) + Tc = 0.009 * 92.31 + 0.06 = 0.8875 \text{ in. / ac.}$$

Water Quality Flow Calculations:

$$A = 1.880625 \text{ ac.} / 640 \text{ *ac/ sq. mi.} = 1.88063 / 640 \text{ ac.sq. mi.} = 0.003 \text{ sq. mi.}$$

$$Qp = Qu * A * WQR = 1000 \text{ csm/in.} * 0.00294 \text{ sq. mi.} * 0.887 \text{ in. / ac.} = 2.61 \text{ cfs}$$

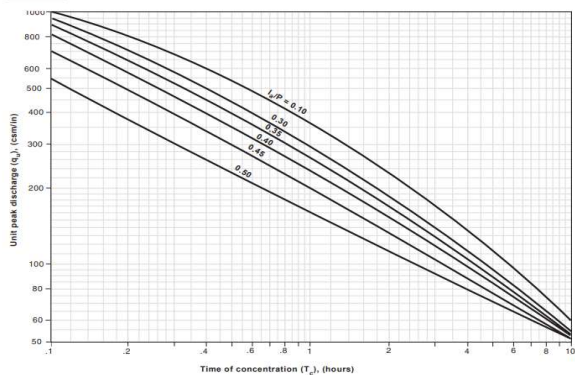
Conclusion:

Crystal Stream Technologies Model 1056 has a Water Quality Treatment flow rate of 3.0 cfs which is greater than the actual Water Quality flow rate of 2.61 cfs.
See attached spec sheet from Crystal Stream Technologies on General Design Criteria for referenced Model

Table 4-1 I_a values for runoff curve numbers

Curve number (in.)	I _a	Curve number (in.)	I _a
40	3.000	70	0.857
41	2.878	71	0.817
42	2.762	72	0.779
43	2.651	73	0.740
44	2.545	74	0.703
45	2.444	75	0.667
46	2.348	76	0.632
47	2.255	77	0.597
48	2.167	78	0.564
49	2.082	79	0.532
50	2.000	80	0.500
51	1.922	81	0.469
52	1.846	82	0.439
53	1.774	83	0.410
54	1.704	84	0.381
55	1.636	85	0.353
56	1.571	86	0.326
57	1.509	87	0.299
58	1.448	88	0.273
59	1.389	89	0.247
60	1.333	90	0.222
61	1.279	91	0.198
62	1.226	92	0.174
63	1.175	93	0.151
64	1.125	94	0.128
65	1.077	95	0.105
66	1.030	96	0.083
67	0.985	97	0.062
68	0.941	98	0.041
69	0.899		

Exhibit 4-II Unit peak discharge (q_p) for NRCS (SCS) type II rainfall distribution



GENERAL DESIGN CRITERIA⁽¹⁾

Model Number	Maximum Design CFS	Water Quality CFS	Spill Protection Gallons	Unit Dimensions
846	6.0	1.2	280	6 x 4 x 6
956	12.5	2.5	550	9 x 5 x 6
1056	17.5	3.0	800	10 x 5 x 6
1266	24.0	4.0	1000	12 x 6 x 6
1246 ⁽²⁾	12.0	2.4	700	12 x 4 x 6
1856 ⁽²⁾	23.0	4.6	1300	18 x 5 x 6
2056 ⁽²⁾	25.0	5.0	1400	20 x 5 x 6
2466 ⁽²⁾	36.0	7.2	2000	24 x 6 x 6

INTERNAL BYPASS UNITS

646-IB	7.8	1.2	280	6 x 4 x 6
956-IB	16.3	2.5	550	9 x 5 x 6
1056-IB	22.8	3.0	600	10 x 5 x 6
1246-IB ⁽²⁾	18.0	2.4	280	12 x 4 x 6
1266-IB	31.2	4.0	1000	12 x 6 x 6
2056-IB ⁽²⁾	25.0	5.0	400	20 x 5 x 6
2466-IB ⁽²⁾	50.0	7.2	800	24 x 6 x 6

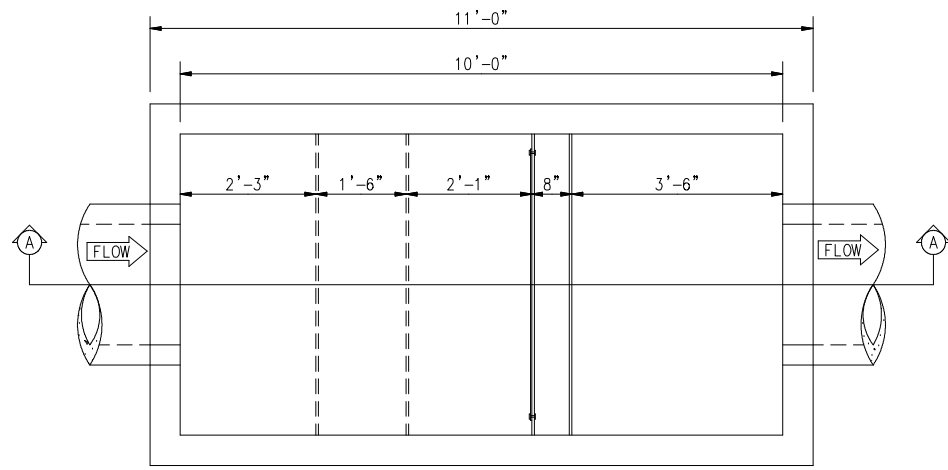
(1) All units are sized and internal components placed at a site by site team depending on multiple factors associated with the specific basin. Maximum flow will adhere to the Water Quality flow is highly dependent on site conditions and target pollutants. The above criteria is for general level estimation and conceptual analysis. The unit is standard with a 270 foot fall across the device but can be reduced in certain applications.

(2) Two vault units. May be inline or side by side.

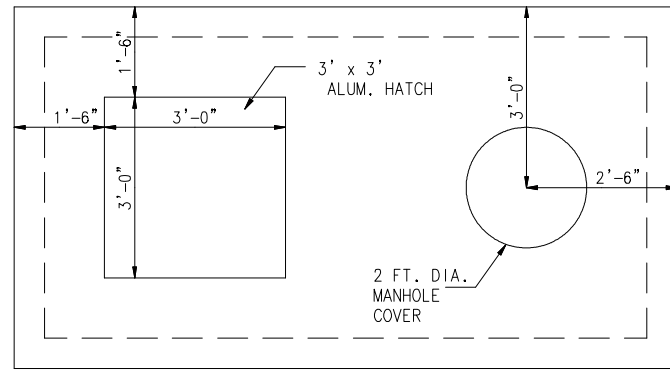
(3) Two vault units. Made to order by site.

All units are constructed using 100% pre-cast concrete and all aluminum internal components. Lids and access are available in multiple configurations including traffic loading and non-traffic.

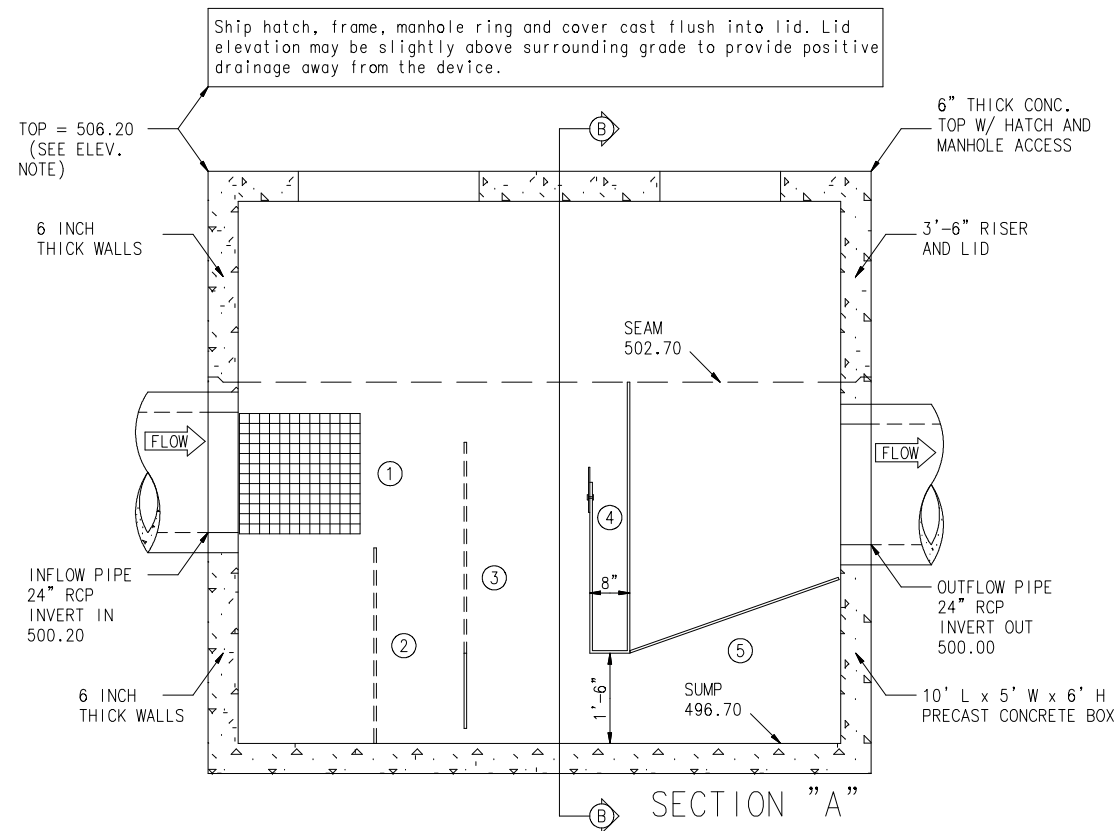
1. ALL PIPES SHALL BE CONSTRUCTED TO BE FLUSH WITH THE INSIDE WALLS.
 2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL PIPING, INCLUDING PIPES BETWEEN VAULTS.



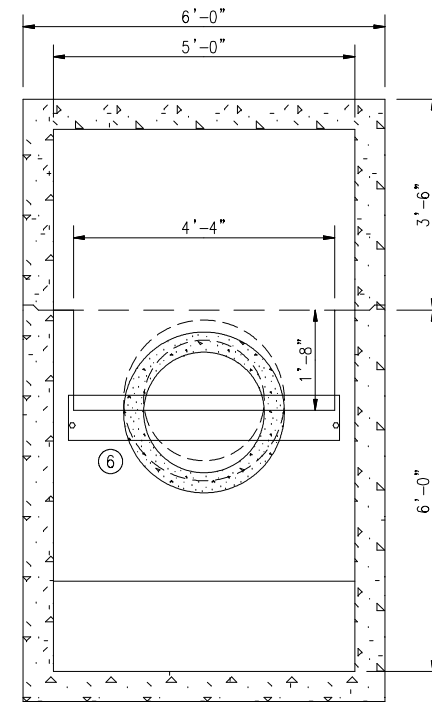
TOP VIEW (INTERNAL)



TOP VIEW (SLAB)



SECTION "A"

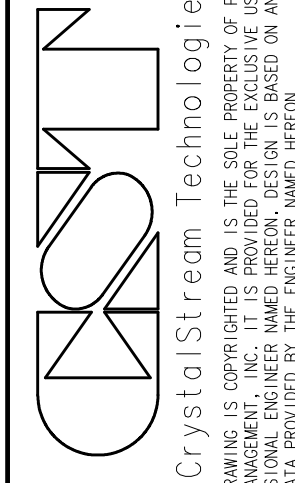


SECTION B

LEGEND

- ① EXPANDED ALUMINUM BASKET W/ 1/4" MESH LINING, 2'-0" H x 2'-0" L x 5'-0" W
- ② 1ST INTERNAL BAFFLE W/ 1" HOLES DRILLED AT 1-1/4" O.C., 3'-3" H.
- ③ 2ND INTERNAL BAFFLE W/ 1" HOLES DRILLED AT 1 1/4" O.C., 5'-0" H.
- ④ SPILL PROTECTION RESERVOIR 4'-6" H. WITH A 1'-8" FRONT CUT.
- ⑤ 3/4" COCONUT FIBER FILTER IN ALUMINUM FRAME 3'-8" LONG.
- ⑥ 1/4" ALUMINUM PLATE, 9" H., 4'-6" WIDE.

CRYSTALSTREAM WATER QUALITY VAULT
 MODEL "1056"



CrystalStream Technologies
 THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF PRACTICAL BEST MANAGEMENT, INC. IT IS PROVIDED FOR THE EXCLUSIVE USE OF THE PROFESSIONAL ENGINEER NAMED HEREON. DESIGN IS BASED ON AND RELIES UPON DATA PROVIDED BY THE ENGINEER NAMED HEREON.

Protected by U.S. Patent No's: 6,797,161; 6,936,163; 6,939,461; 6,951,607; 6,994,783; 7,011,743; 7,037,436

SPECIFICATIONS

- 1. TOTAL FLOW CAPACITY SHALL BE 17.5 CFS.
- 2. WATER QUALITY FLOW OF 3.04 CFS MUST BE TREATED BEFORE BYPASS.
- 3. SPILL PROTECTION CAPACITY SHALL BE 701 GALLONS BEFORE OVERFLOW.
- 4. ANY CHANGES OR SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER AND THE REVIEWING AUTHORITY.

JOB NAME: cst-sample1056 5/9/2008 p.a.d.s.

Sample 1056

Device No.: CST-1
 GAO-000-000000

DESIGN FIRM: CrystalStream Technologies

Chapter 9: Redevelopment Activity

This chapter outlines alternative approaches for addressing stormwater management at projects that include the disturbance and reconstruction of existing impervious surfaces (i.e. redevelopment activity). The approaches set forth in this Chapter comply with the Department’s technical standards. The document includes the following sections:

9.1 Introduction

9.2 Scope and Applicability

9.3 How to Apply Alternative Stormwater Practices

9.4 Alternative Stormwater Management Practices – Proprietary Practices

Section 9.1 Introduction

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

Redevelopment activities can range from large-scale redevelopment (e.g. reconstruction of a box store, mall, etc.), to much smaller building, parking lot or road reconstruction project. The proposed density of the large-scale projects can be high, resulting in space constraints to implement on-site stormwater controls. Added to this basic space constraint is the need to tie in to the existing drainage infrastructure, which may be at an elevation that does not provide enough head for certain stormwater management practices (SMPs). Other problems encountered in redevelopment include the presence of underground utilities, incompatible surrounding land uses, highly compacted soils that are not suitable for infiltration, and contaminated soils that require mitigation and can drive up project costs.

Because the technical standards contained elsewhere in this Manual were primarily intended for new development projects, compliance with the sizing criteria in full may present a challenge on projects that include redevelopment activities. Therefore, this chapter sets forth alternative sizing criteria for redevelopment activities. Implementation of this alternative sizing criteria will result in pollutant

New York State Stormwater Management Design Manual

Chapter 9: Redevelopment Activity

Section 9.1 Introduction

reductions over existing conditions with no practices in place, particularly when considering the cumulative effect of multiple projects.

For redevelopment activities located in critical environmental areas (see <http://www.dec.ny.gov/permits/6184.html>) and other sensitive environmental or regulated areas, all attempts should be made to seek compliance with the sizing criteria set elsewhere in this manual.

Key Terminology:

Alternative Sizing Criteria - The sizing criteria that can be achieved on construction projects that include redevelopment activities.

Alternative Stormwater Management Practice – Stormwater management practices that are outlined in this chapter for potential application for redevelopment activities and are designed and implemented in accordance with the recommendations in this chapter.

Disconnected impervious area - Impervious area that is not directly connected to a stream or drainage system, but which directs runoff towards pervious areas where it can infiltrate, be filtered, and slowed down.

Redevelopment Activity/Activities – Disturbance and reconstruction of existing impervious surfaces. This includes impervious surfaces that were removed within the last five (5) years.

Stormwater Management Practice (SMP) – A standard stormwater management practice that appears in Chapter 3 of this Manual, sized in accordance with Chapter 4 or 10, and designed in accordance with Chapter 6 or 10 of this Manual.

Stormwater sizing criteria – Criteria comprised of the following four elements: Water Quality Treatment, Runoff Reduction, Channel Protection, Overbank Flooding, and control of extreme storms as defined in Chapters 4 and 10 of this Manual for standard practices and any other requirements for enhanced treatment.

Total impervious area – This is the total area within the drainage area comprised of all materials or structures on or above the ground surface that prevents water from infiltrating into the underlying soils. Impervious surfaces include, without limitation: paved and/or gravel road surfaces, parking lots, driveways, and sidewalks; building structures; roof tops and miscellaneous impermeable structures such as patios, swimming pools, and sheds.

New York State Stormwater Management Design Manual

Chapter 9: Redevelopment Activity

Section 9.2 Scope and Applicability

Section 9.2 Scope and Applicability

The provision of stormwater management practices during redevelopment activities should follow an approach to balance between 1) maximizing improvements in site design that can reduce the impacts of stormwater runoff, and 2) providing a maximum level of on-site treatment that is feasible given the site constraints present where the redevelopment activities are occurring.

Under conditions where onsite treatment is not practicable, an appropriate off-site watershed improvement to offset the required level of control may be applied, in the presence of a regulated/permitted municipal stormwater management program. The off-site stormwater management approach is subject to applicable local agency approval for banking and trading of credits. This approach may not be an acceptable option in all cases. In addition, a SWPPP that incorporates this approach is considered to be not in conformance with the State's technical standards.

Requirements for installation of post construction controls set forth in current stormwater regulations do apply to construction projects that include redevelopment activities.

The sizing criteria described in this chapter apply to redevelopment activities only. If a construction project includes both new development and redevelopment activities, the stormwater management practices for the new development portion of the project must be designed in accordance with the sizing criteria in Chapter 4 or 10, and the redevelopment activities portion of the project is subject to the sizing criteria in Section 9.3.

If runoff from the reconstructed impervious area (i.e redevelopment activity) was being treated by an existing stormwater management practice that generally meets the criteria of one of the practices included in Chapters 5, 6, 9 or 10 of this manual, the final design must include WQv treatment equal to the treatment that was provided by the existing practice or the treatment options defined in Section 9.2.1 of this chapter, whichever provides the larger, more effective treatment.

9.2.1 Sizing Criteria

Note: The following sizing criteria apply to construction projects that include redevelopment activities.

A. Water Quantity controls shall be sized using the following options:

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Chapter 9: Redevelopment Activity

Section 9.2 Scope and Applicability

I- If the redevelopment activities result in no change to hydrology that increases the discharge rate from the project site (Note: Include the redevelopment activity portion of a project and if applicable, any new development in the analysis), the ten-year and hundred-year criteria do not apply. This is true because the calculated discharge of pre-development versus post-development flows results in zero net increase. This consideration does not mean that existing quantity controls may be neglected in planned designs. Existing quantity controls must be maintained for post-development flow discharge control.

II- **Channel protection** for redevelopment activities is not required if there are no changes to hydrology that increase the discharge rate from the project site (Note: Include the redevelopment activity portion of a project and if applicable, any new development in the analysis). This criterion, as defined in Chapter 4 of this Manual, is not based on a pre versus post-development comparison. However, for redevelopment activities this requirement is relaxed. If the hydrology and hydraulic analysis for the project site shows that the post-construction 1-year 24 hour discharge rate and velocity are less than or equal to the pre-construction discharge rate, providing 24 hour detention of the 1-year storm to meet the channel protection criteria is not required.

B. Water Quality treatment objective shall be achieved using the following options. If there is an existing stormwater management practice located on the site that captures and treats runoff from the impervious area that is being disturbed, the water quality volume 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 I - IV:

I- The plan proposes a reduction of existing impervious cover by a minimum of 25% of the total disturbed, impervious area. A reduction in site imperviousness will reduce the volume of stormwater runoff, thereby achieving, at least in part, stormwater criteria for both water quality and quantity. The final grading of the site should be planned to minimize runoff contribution from new pervious area onto the impervious cover. Effective implementation of this option requires restoration of soil properties in the newly created pervious areas. Soil restoration is achieved by practices such as soil amendment, deep-ripping, and de-compaction (See Section 5.1.6 Soil Restoration).

II- The plan proposes that a minimum of 25 % of the water quality volume (WQv) from the disturbed, impervious area is captured and treated by the implementation of standard SMP or reduced by application of green infrastructure techniques (see Chapter 5 of this Manual). For all sites that utilize structural SMPs, these practices should be targeted to treat areas with the greatest pollutant

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Chapter 9: Redevelopment Activity

Section 9.2 Scope and Applicability

generation potential (e.g. parking areas, service stations, etc.). If the construction project includes both new development and redevelopment activities, treatment would be required for 25% of the existing, disturbed impervious area, however, the stormwater management practices for the new development portion of the project must be designed in accordance with the sizing criteria in Chapter 4. As with design of any practice, sizing of structures should be based on all areas contributing to the SMP. Construction projects that involve the redevelopment of a portion of the site, may choose diversion or flow splitters to be able to size the control structures for the reconstructed area only. For all sites that utilize green infrastructure techniques (See Table 3.2), a proposed plan is effective when runoff is controlled near the source and managed by infiltration, reuse, and evapotranspiration. Although encouraged, meeting the Runoff Reduction Volume (RRV) sizing criteria is not required for the redevelopment activity portion of a project.

III- The plan proposes the use of alternative SMPs to treat 75 % of the water quality volume from the disturbed, impervious area as well as any additional runoff from tributary areas that are not within the disturbed, impervious area. The use of alternative SMPs is discussed in Sections 9.3 and 9.4 of this chapter, which is focused on the accepted verified manufactured technologies.

IV- The plan proposes a combination of impervious cover (IC) reduction and standard or alternative SMPs that provide a weighted average of at least two of the above methods. The plan may provide a combination of the above options using the following calculation:

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

For example, water quality volume for the alternative practice for the following scenarios can be computed as follows:

5% IC Reduction, 20% Standard Practice, 0% Runoff Reduction, 0% Alternative Practice

5% IC reduction, 0% Standard practice, 0% Runoff Reduction, 60% Alternative practice

0% IC reduction, 5% Standard practice, 5% Runoff Reduction, 45% Alternative practice

5% IC reduction, 5% Standard practice, 5% Runoff Reduction, 30% Alternative practice

9.2.2 Performance Criteria

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Chapter 9: Redevelopment Activity

Section 9.4 Alternative Stormwater Management Practices Proprietary Practices

The performance criteria of selected SMPs for redevelopment activities fall under three categories:

- Performance criteria for standard stormwater management practices as defined in Chapter 6 of this Manual, including required elements and design guidance details, must be applied in the design of the practices.
- Performance criteria for green infrastructure techniques as defined in Chapter 5 of this Manual, including design details and sizing methods, can be applied to meet the required RRv criteria, and
- The alternative SMPs discussed in this chapter are to be used for redevelopment activities only. The performance criteria for alternative SMPs are based on the testing protocols and procedure set for verification of manufactured system by regulatory agencies

Section 9.3 How to Apply Alternative Stormwater Practices

When using an alternative SMP (i.e. proprietary practices), the WQv criteria shall be met by applying the sizing criteria in Section 9.2.1, Option B.III. to one of the alternative SMPs . Proprietary practices must be sized to capture and treat the WQv resulting from the contributing drainage area depending on whether it uses a volume-based or a rate-based sizing approach. For practices with a volume-based sizing approach, the practice must be sized to capture and treat 75 % of the WQv as defined in Chapter 4 of the Manual. For flow through practices, the practice must be sized to treat the peak rate of runoff from the WQv design storm, as defined in Chapters 4 and 10, and Appendix B of this Manual. The flow capacity identified in the verification process for the specific alternative practice must be greater than or equal to the calculated peak runoff rate from the WQv design storm. For off-line practices, the installation must include flow diversion that protects the practice from exceeding the design criteria.

Section 9.4 Alternative Stormwater Management Practices Proprietary Practices

Proprietary practices encompass a broad range of manufactured structural control systems available from commercial vendors designed to treat stormwater runoff and/or provide water quantity control. The focus of this profile sheet is on those proprietary practices that provide a level of water quality treatment that is acceptable for redevelopment activities. Manufactured treatment systems are often attractive during redevelopment activities because they tend to take up little space, often installed underground, and can usually be retrofitted to existing infrastructure.

Common proprietary systems include:

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Chapter 9: Redevelopment Activity

Section 9.4 Alternative Stormwater Management Practices Proprietary Practices

- Hydrodynamic systems such as gravity and vortex separators –devices that move water in a circular, centrifugal manner to accelerate the separation and deposition of primarily sediment from the water. They are suitable for removal of coarse particles, small drainage areas, and are more effective in an offline configuration.
- Wet vaults – water-tight “boxes” that include a permanent pool and promote settling of particulates through detention and use of internal baffles and other proprietary modifications. A manufacturer’s recommendation may base the sizing of the vaults on water quality volume or flow rate, incorporate bypass, and sediment capacity.
- Media filters – surface or subsurface practices that contain filter beds containing absorptive filtering media that promotes settling of particulates as well as adsorption and absorption of other pollutants attracted to the characteristics of the proprietary filter media. Similar to traditional filtering systems, they are flow through systems which function based on contact of polluted stormwater with the filtering media, commonly contained in prefabricated devices. Commercially available media range from fabrics, activated carbon, perlite, zeolite, and combination of multiple media mixes, with varied treatment performances.
- Underground infiltration systems- prefabricated pipes and vaults designed as alternative treatment systems to capture and infiltrate the runoff. Various proprietary products are marketed as space saving structures utilizing the infiltration capacity of the sites. The offline underground infiltration modular structures have potential to perform at an acceptable treatment level when designed according to all the technical specifications of the standard infiltration systems. Manufactured infiltration systems are considered standard practices when all the required elements, design guidance, soil testing, siting, and maintenance requirements, as defined in the Design Manual, are followed.

9.4.1 Evaluation of Alternative Practices

As a group, the performance of manufactured stormwater management practices (SMPs) have been verified thus far only to a limited extent, with a majority of the verification studies limited to laboratory testing. Where verification data does exist, they generally indicate that these practices do not meet both the 80% total suspended solids (TSS) and 40% total phosphorus (TP) removal efficiency target that is specified in Chapter 3 of this Manual. However, proprietary practices that have been certified by specific verification sources and can demonstrate that they provides some level of water quality treatment, are allowed for redevelopment activities in New York State. This allowance is conditioned upon the system being operated at the specific tested design flow rate, defined based on the verified performance of each specific system. Based on the conclusions of the verification sources, it is believed that these treatment systems have the capability of achieving an acceptable TSS removal efficiency in field applications.

NYSDEC’s evaluation of proprietary systems for demonstration of minimum removal efficiency for redevelopment activities are based on one of the following stormwater management practice

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Chapter 9: Redevelopment Activity

Section 9.4 Alternative Stormwater Management Practices Proprietary Practices

evaluation systems: The U.S. Environmental Protection Agency (EPA) Environmental Technology Verification Program, the state of Washington Technology Assessment Protocol - Ecology (TAPE), the Technology Acceptance Reciprocity Partnership Protocol (TARP), the state of Maryland Department of the Environment, , and several other evaluation systems.

The proposed manufactured treatment systems that are verified or certified through ETV, TAPE, or TARP (primarily New Jersey Corporation for Advanced Technology) process and meet the criteria stated above are allowed for redevelopment activities in New York State. Proposed manufactured treatment systems that are not verified yet may be considered for acceptance in New York State if verified at any time through one these verification sources.

All the manufactured treatment systems must be sized appropriately to provide treatment for the water quality volume or the runoff from the entire contributing area. Due to the proprietary nature of the practices, designers are responsible to ensure that manufacturer's recommendations concerning all the design details such as structural integrity, configuration, assembly, installation, operation, and maintenance of the units are followed. Designers are also responsible to address, at minimum, all the relevant requirements set by New York State standards such as quantity controls, pretreatment, bypass, overflow, head configuration, inflow/outflow rates, maintenance, separation distance, accessibility, and safety issues concerning the selected practice.

9.4.2 Recommended Application of Practice

Many proprietary systems are useful on small sites and space-limited areas where there is not enough land or room for other structural control alternatives. Proprietary practices can also be reasonable alternatives where there is a need to tie in to the existing drainage infrastructure, where site elevations limit the head for certain stormwater management practices (SMPs). Hydrodynamic separators are generally more effective on sites with potential loading of coarse particulates. While specific media filters may be suitable in most conditions, infiltration systems must be limited to sites with the A or B hydrologic soil groups.

9.4.3 Benefits

The benefits of using proprietary practices will vary depending on the type of practice, but may include:

- Reduced space requirements for practices located below grade.

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Chapter 9: Redevelopment Activity

Section 9.4 Alternative Stormwater Management Practices Proprietary Practices

- Reduced engineering and design due to prefabricated nature of systems and design support and tools provided by manufacturer.
- Spill containment and control capabilities

9.4.4 Feasibility/Limitations

Depending on the proprietary system, the following factors may be considered as a limitation:

- Limited performance data. Data that does exist suggest these practices don't perform at the same level as the suite of standard practices in Chapters 3 and 6 of this Manual, particularly with regard to nutrient load reduction.
- Application constraints such as limits to area draining to a practice, due to pre-manufactured nature of products.
- High maintenance requirements (e.g., need for specialized equipment, confined space entry training, frequency of recommended maintenance, and cost of replacement components) that often are ignored or forgotten because many practices are underground and out of sight.
- Higher costs per treated area than other structural control alternatives, but this can be offset by value of land not needed due to subsurface nature of many proprietary practices.
- Concern over mosquito breeding habitat being provided by practices that have wet sumps as design components.

9.4.5 Sizing and Design Guidance

Sizing and design guidance will vary based on the product being used. Since sizing criteria is integral to the verified performance of manufactured practices, designers should refer to the capacities and flow rates associated with the models (sizes) of the manufactured SMPs identified by the verification source.

The New York State design standards calls for small storm hydrology and the use of Simple Method for hydrology calculation. For practices with volume-based sizing approaches, sizing should be performed to meet the water quality volume as defined in Section 4.2 of this Manual. For rate or flow-based sizing approaches, sizing should be performed based on the peak rate of discharge for the water quality design storm, as described in Appendix B of this Manual.

Some proprietary practices can be designed on-line or off-line. On-line practices typically have built-in bypass capabilities. Flow through systems, which do not have built-in bypass must be designed as off-line systems

New York State Stormwater Management Design Manual

Chapter 9: Redevelopment Activity

Section 9.4 Alternative Stormwater Management Practices Proprietary Practices

It is important for designers to specify proprietary practices based on their treatment capacities (CASQA, 2003). Since hydraulic capacity can be as much as ten times that of the treatment capacity, designer must ensure that hydraulic load does not exceed the performance rate defined in the verification process. The above applies to all design elements that affect the performance rate. Some examples of such design elements are head, orifice sizing, oil storage or sediment storage capacities, baffle configuration, or screen size.

Practices with a volume-based sizing approach must be sized to capture and treat 75 % of the WQv as defined in Chapter 4 of the Manual. Flow through practices must be sized to the peak rate of runoff from the WQv design storm, as defined in Chapters 4 and 10, and Appendix B of this Manual. For off-line practices, the installation must include flow diversion that protects the practice from exceeding design criteria.

9.4.6 Environmental/Landscape Elements

There are few or no environmental or landscaping elements that designers can consider with most proprietary treatment practices. They are frequently absent or predetermined by the manufacturer. The use of land area above the facility needs to be selective and manufacturer design codes must be strictly followed.

9.4.7 Maintenance

Maintenance is a critical component to ensure proper functioning of proprietary practices. Most manufacturers provide maintenance recommendations. When these schedules are not followed, proprietary practices can be expected to fail. Maintenance is often overlooked with proprietary products because they are underground and out of view. Most proprietary practices require a quarterly inspections and cleanouts at a minimum. In addition, specialized equipment (e.g., vactor trucks and boom trucks) may be required for maintaining certain proprietary products. Similar to standard practices, a maintenance agreement between the municipality and the property owner should be executed to clearly identify required or recommended maintenance activities, schedules, reporting, and enforcement procedures. Please also refer to maintenance requirements defined in Chapter 3 of this Design Manual.

9.4.8 Cost

STORMWATER CONTROL FACILITY MAINTENANCE AGREEMENT

Whereas, the Town of Batavia and Benderson Development Co. LLC , 570 Delaware Ave., Buffalo, NY.
(TOWN/MUNICIPALITY)
(FACILITY OWNER & ADDRESS)

want to enter into an agreement to provide for the long term maintenance and continuation of stormwater control measures approved by the Town of Batavia for the
(TOWN/MUNICIPALITY)

Former K Mart located at 8363 Lewiston Rd, Batavia, NY 14020.
(PROJECT TITLE) (PROJECT LOCATION)

Whereas, the Town and the facility owner desire that the stormwater control measures be built in accordance with the approved project plans and thereafter be maintained, cleaned, repaired, replaced and continued in perpetuity in order to ensure optimum performance of the components. Therefore, the Town and the facility owner agree as follows:

1. This agreement binds the Town and the facility owner, its successors and assigns, to the maintenance provisions depicted in the approved final site plan, which are attached as Appendix A of this agreement.
2. The facility owner shall maintain, clean, repair, replace (if necessary) the stormwater control measures depicted in Schedule A as necessary to ensure optimum performance of the measures as designed.
3. The facility owner shall be responsible for all expenses related to maintenance of stormwater management and shall establish a means for collection and distribution of expenses among parties for any commonly owner facilities.
4. The facility owner shall provide periodic inspection of stormwater control measures, not less than once every three-year period, to determine the condition and integrity of the measures. A Professional Engineer licensed by the State of New York shall perform such inspections. The inspecting engineer shall prepare and submit a report of the findings, including recommended actions, to the Town within 30 days of the inspection.
5. The facility owner shall not authorize, undertake or permit alteration, abandon, modification or discontinuation of the stormwater control measures without written approval of the Town.

6. The facility owner shall undertake necessary repairs and replacement of the stormwater control measures at the direction of the Town or in accordance with the recommendation of the inspecting engineer.
7. The agreement shall be recorded in the Office of the County Clerk, County of _____ Genesee _____ together with the deed for the common property.
(COUNTY)
8. If ever the Town determines that the facility owner has failed to construct or maintain the stormwater control measures in accordance with the project plans or has failed to undertake required corrective measures, the Town is authorized to undertake steps reasonably necessary for the preservation, continuation or maintenance of the facility and to affix the expenses as a lien against the property.
9. This agreement is effective on _____.
(DATE)

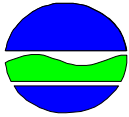
Signature of Owner: _____

Signature of Town Official: _____

Notary Public:

APPENDIX IV

NOTICE OF INTENT



**New York State Department of Environmental Conservation
 Division of Water
 625 Broadway, 4th Floor
 Albany, New York 12233-3505**

NYR
 (For DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001
 All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

- IMPORTANT -
RETURN THIS FORM TO THE ADDRESS ABOVE
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
 B E N D E R S O N D E V E L O P M E N T C O . L L C

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
 O A T E S

Owner/Operator Contact Person First Name
 M A T T

Owner/Operator Mailing Address
 5 7 0 D E L A W A R E A V E N U E

City
 B U F F A L O

State Zip
 N Y 1 4 2 0 2 -

Phone (Owner/Operator) Fax (Owner/Operator)
 - - - -

Email (Owner/Operator)
 M A T T O A T E S @ B E N D E R S O N . C O M

FED TAX ID
 - (not required for individuals)

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

**Pre-Development
Existing Land Use**

- FOREST
- PASTURE/OPEN LAND
- CULTIVATED LAND
- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY
- PARKING LOT
- OTHER

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Post-Development
Future Land Use**

- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- MUNICIPAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY (water, sewer, gas, etc.)
- PARKING LOT
- CLEARING/GRADING ONLY
- DEMOLITION, NO REDEVELOPMENT
- WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- OTHER

Number of Lots

--	--	--	--

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

*Note: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
<input type="text" value="5"/> <input type="text" value="9"/>	<input type="text" value="2"/> <input type="text" value="9"/>	<input type="text" value="2"/> <input type="text" value="8"/>	<input type="text" value="2"/> <input type="text" value="4"/>

5. Do you plan to disturb more than 5 acres of soil at any one time? Yes No

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

<input type="text" value="A"/> <input type="text" value=""/> <input type="text" value=""/>	<input type="text" value="B"/> <input type="text" value="3"/> <input type="text" value="0"/>	<input type="text" value="C"/> <input type="text" value=""/> <input type="text" value="0"/>	<input type="text" value="D"/> <input type="text" value="7"/> <input type="text" value="0"/>
%	%	%	%

7. Is this a phased project? Yes No

8. Enter the planned start and end dates of the disturbance activities.

Start Date	<input type="text" value="0"/> <input type="text" value="2"/>	/	<input type="text" value="0"/> <input type="text" value="1"/>	/	<input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="2"/>	-	End Date	<input type="text" value="1"/> <input type="text" value="0"/>	/	<input type="text" value="0"/> <input type="text" value="1"/>	/	<input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="2"/>
-------------------	---------------------------------------------------------------	---	---------------------------------------------------------------	---	-----------------------------------------------------------------------------------------------------------------------------	---	-----------------	---------------------------------------------------------------	---	---------------------------------------------------------------	---	-----------------------------------------------------------------------------------------------------------------------------

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? Yes No Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

Two rows of empty grid boxes for text entry.

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? Yes No Unknown

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? Yes No

19. Is this property owned by a state authority, state agency, federal government or local government? Yes No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) Yes No

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? Yes No

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? Yes No
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? Yes No

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- Preservation of Undisturbed Areas
- Preservation of Buffers
- Reduction of Clearing and Grading
- Locating Development in Less Sensitive Areas
- Roadway Reduction
- Sidewalk Reduction
- Driveway Reduction
- Cul-de-sac Reduction
- Building Footprint Reduction
- Parking Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

. acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required (#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

<u>RR Techniques (Area Reduction)</u>	<u>Total Contributing Area (acres)</u>		<u>Total Contributing Impervious Area(acres)</u>	
<input type="radio"/> Conservation of Natural Areas (RR-1) ...	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Sheetflow to Riparian Buffers/Filters Strips (RR-2)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Tree Planting/Tree Pit (RR-3)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Disconnection of Rooftop Runoff (RR-4)..	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
 <u>RR Techniques (Volume Reduction)</u>				
<input type="radio"/> Vegetated Swale (RR-5)				
<input type="radio"/> Rain Garden (RR-6)				
<input type="radio"/> Stormwater Planter (RR-7)				
<input type="radio"/> Rain Barrel/Cistern (RR-8)				
<input type="radio"/> Porous Pavement (RR-9)				
<input type="radio"/> Green Roof (RR-10)				
 <u>Standard SMPs with RRv Capacity</u>				
<input type="radio"/> Infiltration Trench (I-1)				
<input type="radio"/> Infiltration Basin (I-2)				
<input type="radio"/> Dry Well (I-3)				
<input type="radio"/> Underground Infiltration System (I-4)				
<input type="radio"/> Bioretention (F-5)				
<input type="radio"/> Dry Swale (O-1)				
 <u>Standard SMPs</u>				
<input type="radio"/> Micropool Extended Detention (P-1)				
<input type="radio"/> Wet Pond (P-2)				
<input type="radio"/> Wet Extended Detention (P-3)				
<input type="radio"/> Multiple Pond System (P-4)				
<input type="radio"/> Pocket Pond (P-5)				
<input type="radio"/> Surface Sand Filter (F-1)				
<input type="radio"/> Underground Sand Filter (F-2)				
<input type="radio"/> Perimeter Sand Filter (F-3)				
<input type="radio"/> Organic Filter (F-4)				
<input type="radio"/> Shallow Wetland (W-1)				
<input type="radio"/> Extended Detention Wetland (W-2)				
<input type="radio"/> Pond/Wetland System (W-3)				
<input type="radio"/> Pocket Wetland (W-4)				
<input type="radio"/> Wet Swale (O-2)				

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

		0	.	1	4	
--	--	---	---	---	---	--

acre-feet

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).

		0	.	1	4	
--	--	---	---	---	---	--

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? **Yes** **No**

If Yes, go to question 36.

If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

		0	.	0	
--	--	---	---	---	--

acre-feet

CPv Provided

		0	.	0	
--	--	---	---	---	--

acre-feet

36a. The need to provide channel protection has been waived because:

- Site discharges directly to tidal waters or a fifth order or larger stream.
- Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

	2	1	.	7	8	
--	---	---	---	---	---	--

CFS

Post-development

	2	0	.	6	3	
--	---	---	---	---	---	--

CFS

Total Extreme Flood Control Criteria (Qf)

Pre-Development

	4	3	.	2	5	
--	---	---	---	---	---	--

CFS

Post-development

	4	2	.	6	1	
--	---	---	---	---	---	--

CFS

Stormwater Construction Site Inspection Report

General Information			
Project Name			
SPDES Tracking No.		Location	
Date of Inspection		Start/End Time	
Inspector's Name(s)			
Inspector's Contact Information			
Inspector's Qualifications			
Describe present phase of construction			
Type of Inspection: <input type="checkbox"/> Regular <input type="checkbox"/> Pre-storm event <input type="checkbox"/> During storm event <input type="checkbox"/> Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide: Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):			
Weather at time of this inspection? <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds <input type="checkbox"/> Other: Temperature: ° F			
Have any discharges occurred since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe:			
Are there any discharges at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe:			

Site-specific BMPs

- Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.
- Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1	Silt Fence	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Stabilized Construction Entrance	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Inlet protection	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Stabilization	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Stormwater Management Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Are discharge points and receiving waters free of any sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Are storm drain inlets properly protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Is the construction exit preventing sediment from being tracked into the street?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	Are materials that are potential stormwater contaminants stored inside or under cover	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	Temporary basin	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments

CERTIFICATION STATEMENT

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Print name and title:

Signature: _____ **Date:** _____

STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION



Definition

A temporary, somewhat permeable barrier, installed around inlets in the form of a fence, berm or excavation around an opening, trapping water and thereby reducing the sediment content of sediment laden water by settling.

Purpose

To prevent heavily sediment laden water from entering a storm drain system through inlets.

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 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 four (4) 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. Curb Drop Inlet Protection

Design Criteria

Drainage Area – The drainage area for storm drain inlets shall not exceed one acre. The crest elevations of these practices shall provide storage and minimize bypass flow.

Type I – Excavated Drop Inlet Protection

See details for Excavated Drop Inlet Protection in Figure 5A.11 on page 5A.29.

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

See Figure 5A.12 for details on Filter Fabric Drop Inlet Protection on page 5A.30.

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.

If straw bales are used in lieu of filter fabric, they should be placed tight with the cut edge adhering to the ground at least 3 inches below the elevation of the drop inlet. Two anchor stakes per bale shall be driven flush to bale surface. Straw bales will be replaced every 4 months until the area is stabilized.

Type III – Stone and Block Drop Inlet Protection

See Figure 5A.13 for details on Stone and Block Drop Inlet Protection on page 5A.31.

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 stabilized in a manner appropriate to the site.

Type IV – Curb Drop Inlet Protection

See Figure 5A. 14 for details on Curb Drop Inlet Protection on page 5A.32.

The drainage area should be limited to 1 acre at the drop inlet. The wire mesh must be of sufficient strength to support the filter fabric and stone with the water fully impounded against it. Stone is to be 2 inches in size and clean. The filter fabric must be of a type approved for this purpose with an equivalent opening size (EOS) of 40-85. The protective structure will be constructed to extend beyond the inlet 2 feet in both directions. Assure that storm flow does not bypass the inlet by installing temporary dikes (such as sand bags) directing flow into the inlet. Make sure that the overflow weir is stable. Traffic safety shall be integrated with the use of this practice.

The structure should be inspected after every storm event. Any sediment should be removed and disposed of on the site. Any stone missing should be replaced. Check materials for proper anchorage and secure as necessary.

Figure 5A.11
Excavated Drop Inlet Protection

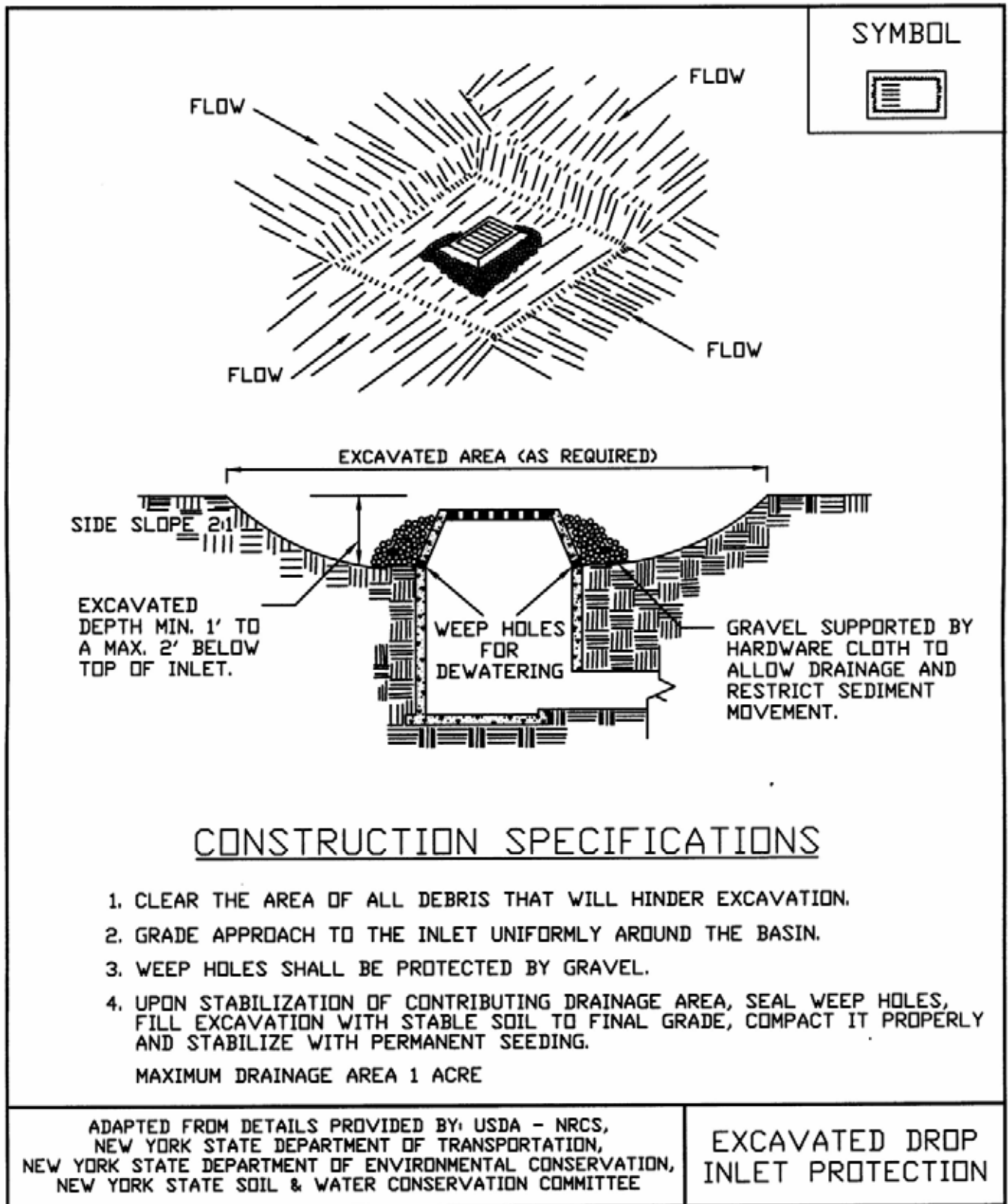


Figure 5A.12
Filter Fabric Drop Inlet Protection

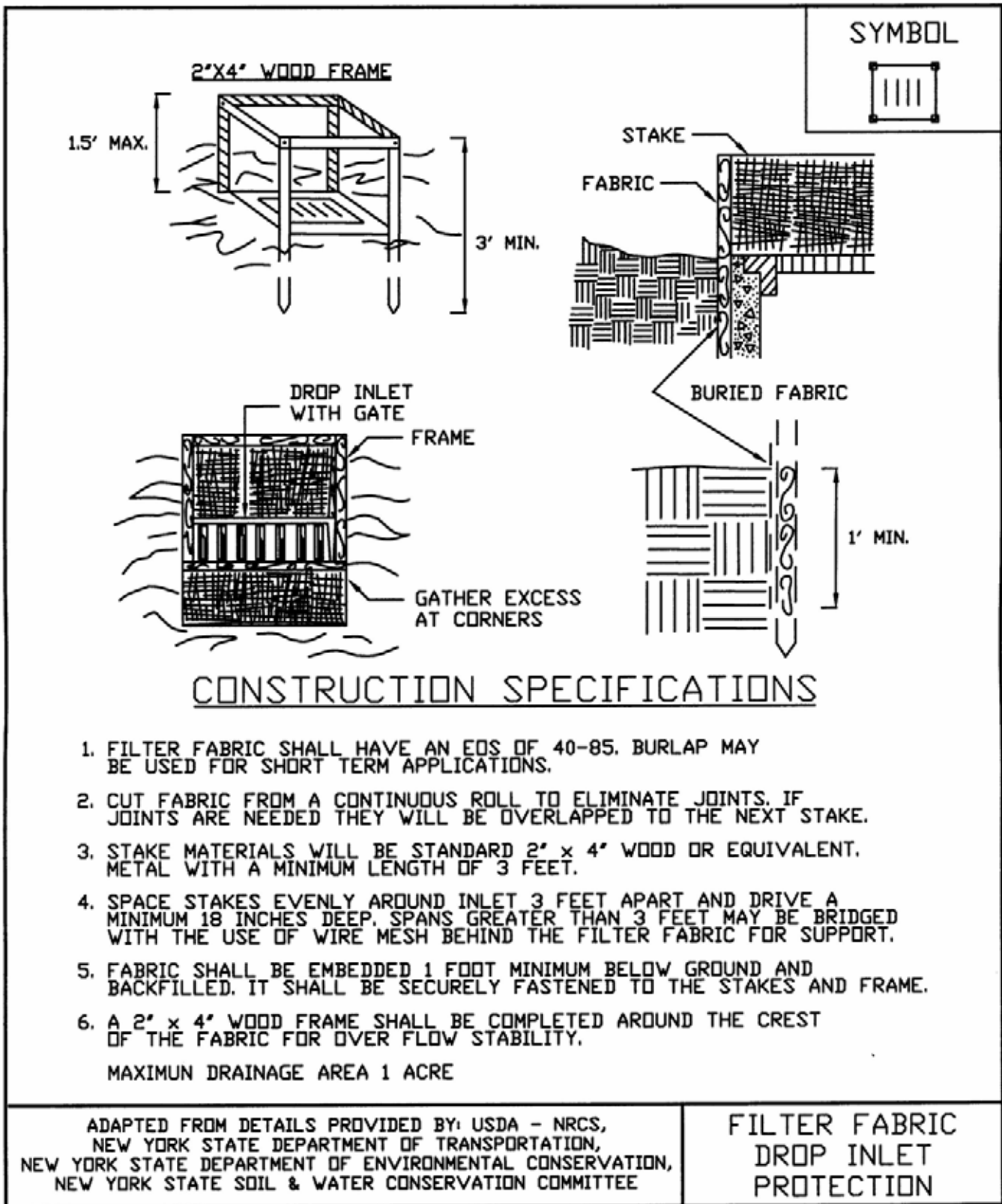
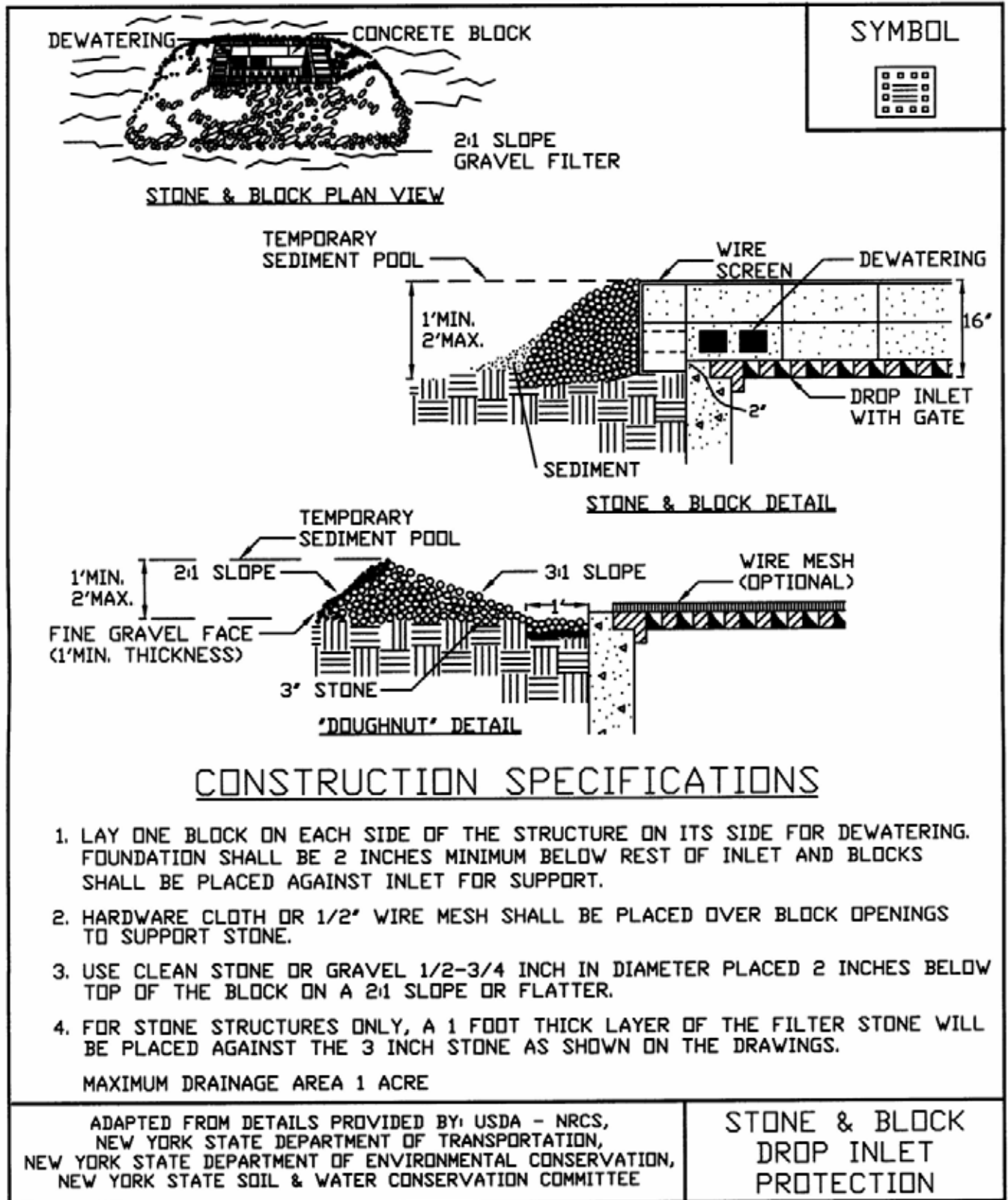


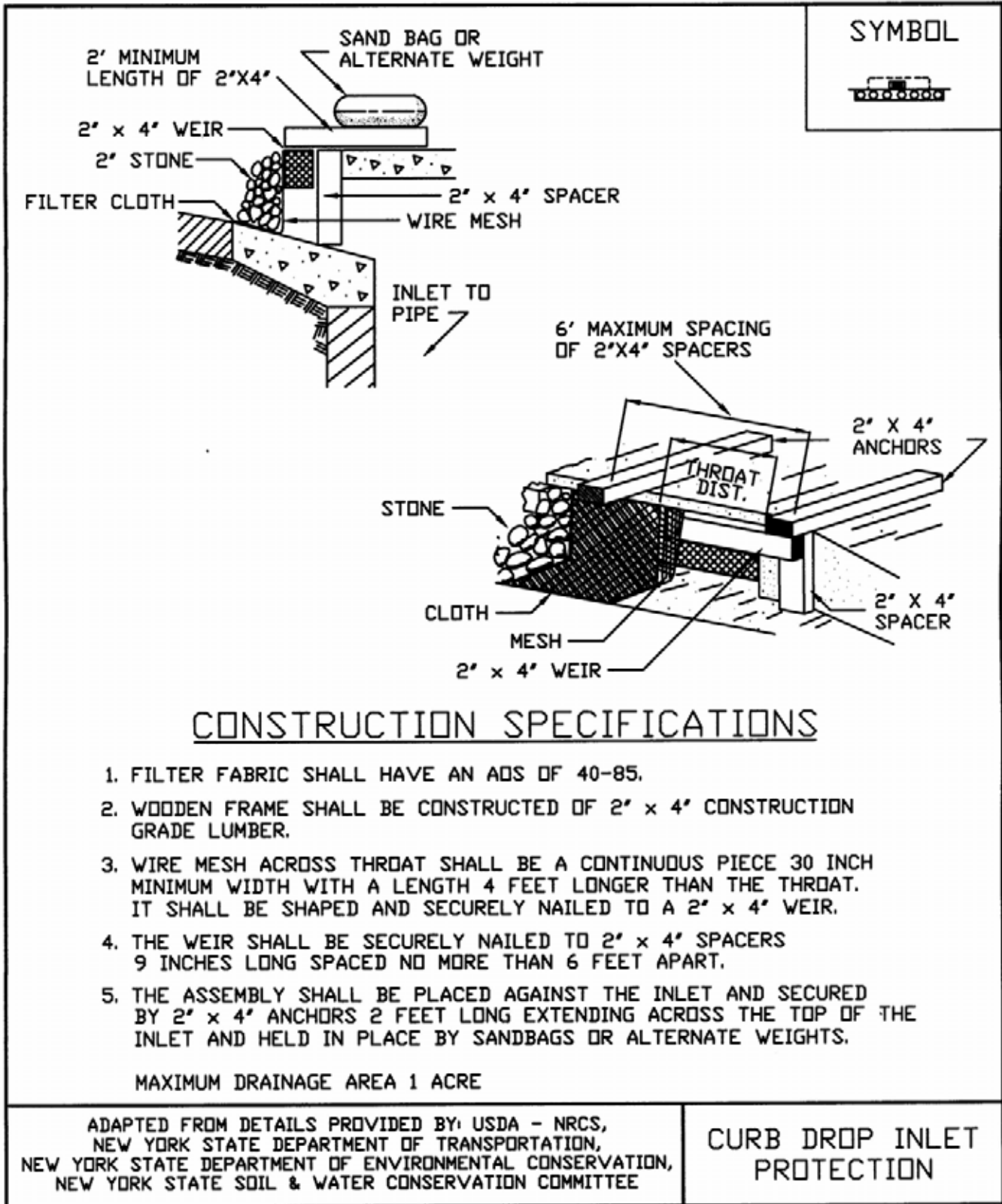
Figure 5A.13
Stone & Block Drop Inlet Protection



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

**STONE & BLOCK
DROP INLET
PROTECTION**

Figure 5A.14
Curb Drop Inlet Protection



STANDARD AND SPECIFICATIONS FOR SILT FENCE



Definition

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.

Purpose

The purpose of a silt fence is to reduce runoff velocity and effect deposition of transported sediment load. Limits imposed by ultraviolet stability of the fabric will dictate the maximum period the silt fence may be used (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope lengths contributing runoff to a silt fence placed on a slope are:

Slope Steepness	Maximum Length (ft.)
2:1	25
3:1	50
4:1	75
5:1 or flatter	100

2. Maximum drainage area for overland flow to a silt fence shall not exceed ¼ acre per 100 feet of fence, with 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.

Design Criteria

Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff. All silt fences shall be placed as close to the areas as possible, but at least 10 feet from the toe of a slope to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.

Sensitive areas to be protected by silt fence may need to be reinforced by using heavy wire fencing for added support to prevent collapse.

Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. A detail of the silt fence shall be shown on the plan. See Figure 5A.8 on page 5A.21 for details.

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)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682

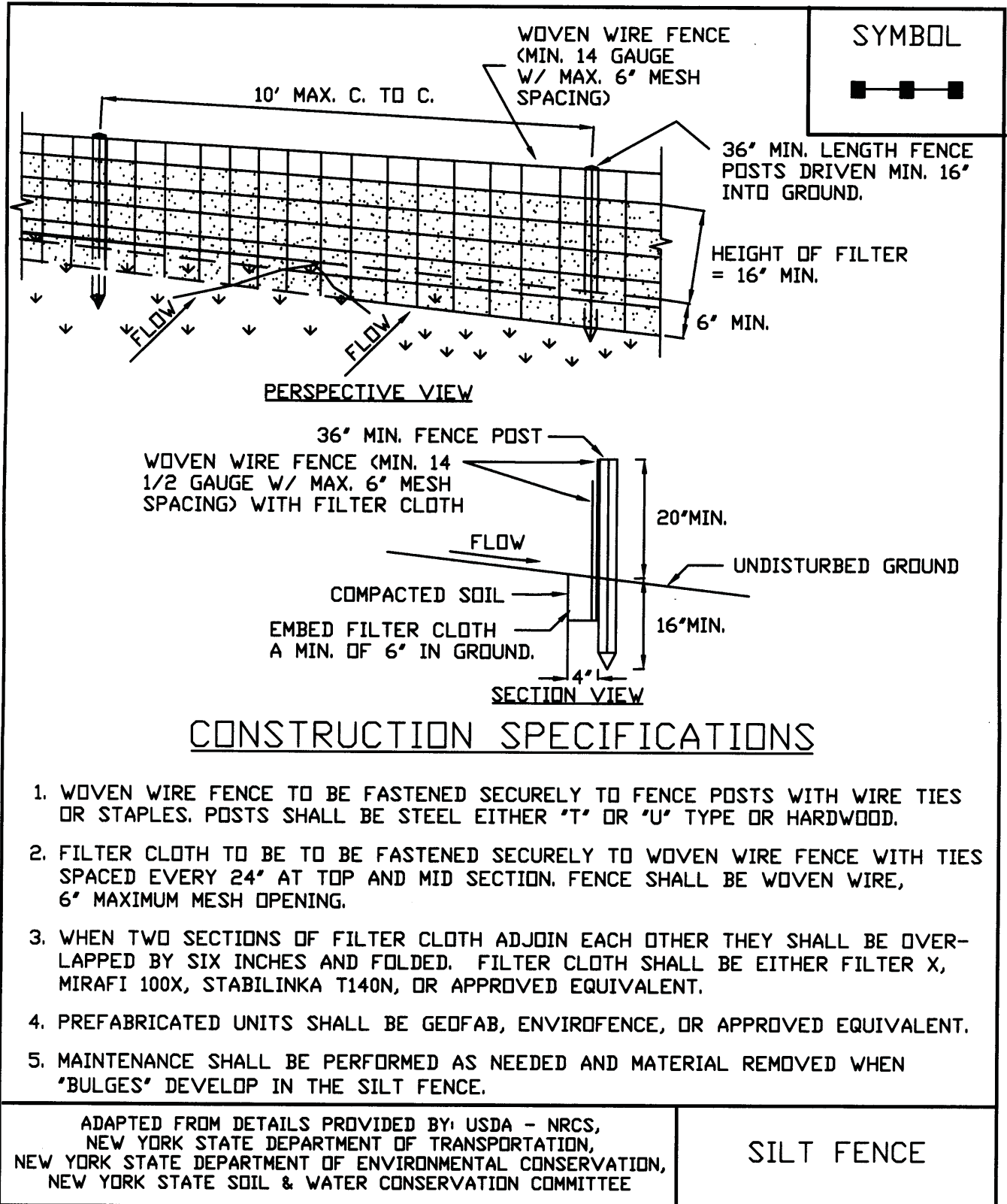
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D751 (modified)
Slurry Flow Rate (gal/min/sf)	0.3	
Equivalent Opening Size	40-80	US Std Sieve CW-02215
Ultraviolet Radiation Stability (%)	90	ASTM G-26

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 3.0 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot.

3. Wire Fence (for fabricated units): Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated Units: Envirofence, Geofab, or approved equal, may be used in lieu of the above method providing the unit is installed per details shown in Figure 5A.8.

Figure 5A.8
Silt Fence



STANDARD AND SPECIFICATIONS FOR CHECK DAM



Definition

Small barriers or dams constructed of stone, bagged sand or gravel, or other durable material across a drainage way.

Purpose

To reduce erosion in a drainage channel by restricting the velocity of flow in the channel.

Condition Where Practice Applies

This practice is used as a temporary or emergency measure to limit erosion by reducing velocities in small open channels that are degrading or subject to erosion and where permanent stabilization is impractical due to short period of usefulness and time constraints of construction.

Design Criteria

Drainage Area: Maximum drainage area above the check dam shall not exceed two (2) acres.

Height: Not greater than 2 feet. Center shall be maintained 9 inches lower than abutments at natural ground elevation.

Side Slopes: Shall be 2:1 or flatter.

Spacing: The check dams shall be spaced as necessary in the channel so that the crest of the downstream dam is at the

elevation of the toe of the upstream dam. This spacing is equal to the height of the check dam divided by the channel slope.

Therefore:

$$S = h/s$$

Where:

S = spacing interval (ft.)

h = height of check dam (ft.)

s = channel slope (ft./ft.)

Example:

For a channel with a 4% slope and 2 ft. high stone check dams, they are spaced as follows:

$$S = \frac{2 \text{ ft.}}{.04 \text{ ft./ft.}} = 50 \text{ ft.}$$

Stone size: Use a well graded stone matrix 2 to 9 inches in size (NYS – DOT Light Stone Fill meets these requirements).

The overflow of the check dams will be stabilized to resist erosion that might be caused by the check dam. See Figure 5A.9 on page 5A.24 for details.

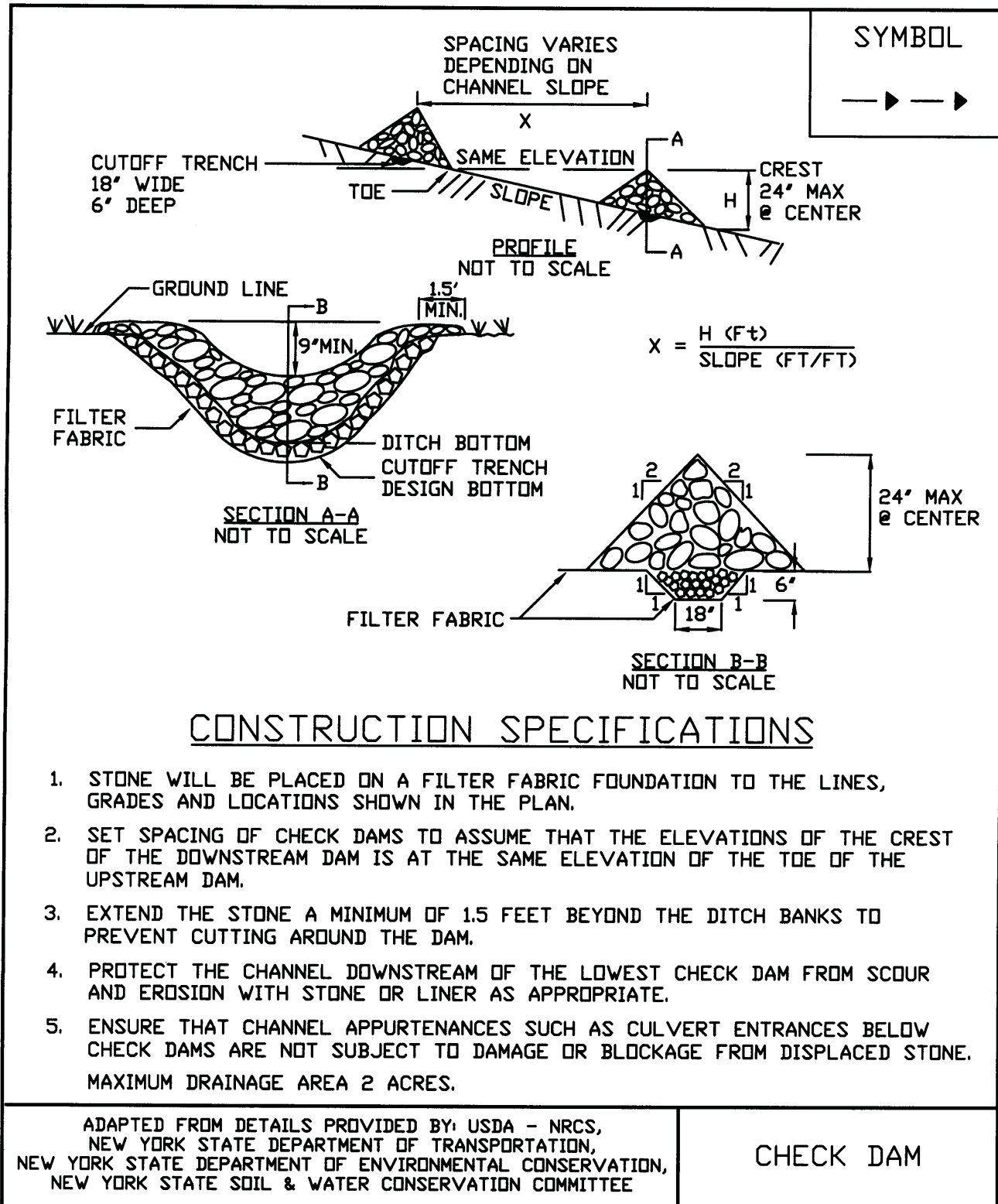
Check dams should be anchored in the channel by a cutoff trench 1.5 ft. wide and 0.5 ft. deep and lined with filter fabric to prevent soil migration.

Maintenance

The check dams should be inspected after each runoff event. Correct all damage immediately. If significant erosion has occurred between structures, a liner of stone or other suitable material should be installed in that portion of the channel.

Remove sediment accumulated behind the dam as needed to allow channel to drain through the stone check dam and prevent large flows from carrying sediment over the dam. Replace stones as needed to maintain the design cross section of the structures.

**Figure 5A.9
Check Dam**



STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ENTRANCE



Definition

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.

Purpose

The purpose of stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

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

Design Criteria

See Figure 5A.35 on page 5A.76 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 inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

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

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.

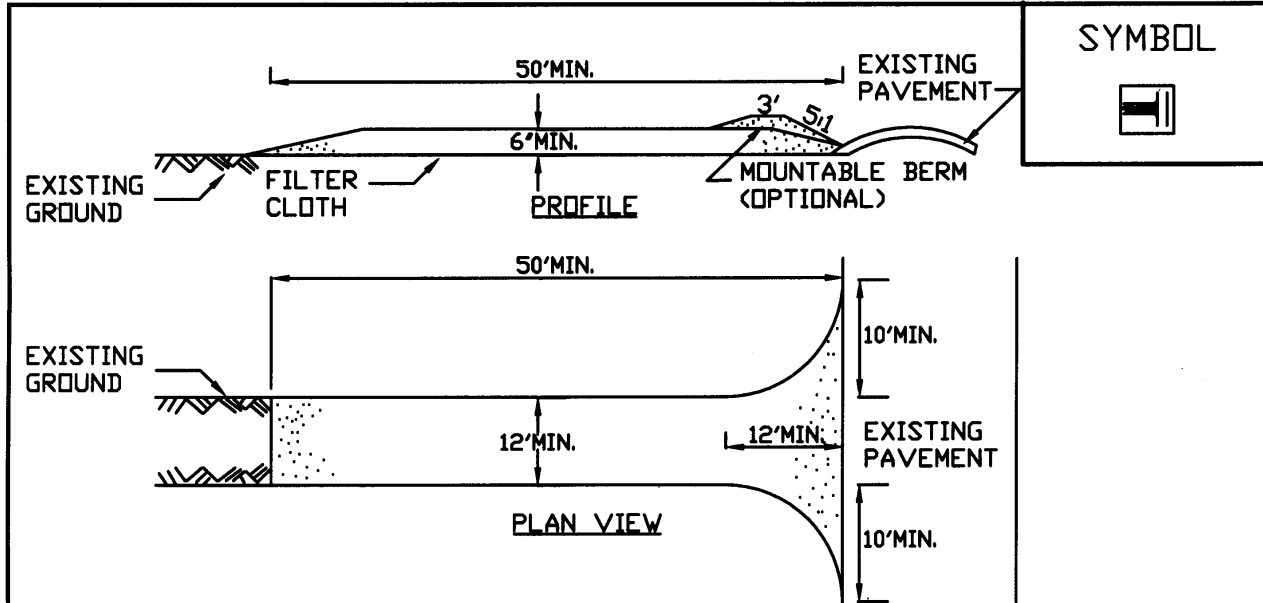
³Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The entrance 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 5A.35
Stabilized Construction Entrance**



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

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

**STABILIZED
CONSTRUCTION
ENTRANCE**

**STORMWATER POLLUTION PREVENTION PLAN
GENERAL CONTRACTOR'S CERTIFICATION**

GENERAL CONTRACTOR'S CERTIFICATION:

"I hereby certify 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 understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "

Name: _____ Signature: _____
(Print)

Title: _____

Company Name: _____

Address: _____

Name and Title of Trained Individual _____

4-hour Stormwater Training Certificate # _____

Telephone Number: _____

Date : _____

Scope of Services: Site Contractor

The above listed contractor is responsible for the following practices: (check all that apply and add more as needed)

<input checked="" type="checkbox"/>	SW Management Practice	<input checked="" type="checkbox"/>	SW Management Practice	<input checked="" type="checkbox"/>	SW Management Practice
	Construction Exit		Diversions		Solid Waste
	Silt Fence		Sediment Traps		Sanitary Waste
	Check Dams		Sediment Basins		Hazardous Waste Management
	Inlet Protection		Dust Control		Record Keeping/SWPPP modifications
	Erosion Control		Concrete Wash-out		
	Vegetation		Fuel Storage/Containment		

**STORMWATER POLLUTION PREVENTION PLAN
SUBCONTRACTOR'S CERTIFICATION**

SUBCONTRACTOR'S CERTIFICATION:

"I hereby certify 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 understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "

Name: _____ Signature: _____
(Print)

Title: _____

Company Name: _____

Address: _____

Name and Title of Trained Individual _____

4-hour Stormwater Training Certificate # _____

Telephone Number: _____

Date : _____

Scope of Services: Site Contractor

The above listed contractor is responsible for the following practices: (check all that apply and add more as needed)

<input checked="" type="checkbox"/>	SW Management Practice	<input checked="" type="checkbox"/>	SW Management Practice	<input checked="" type="checkbox"/>	SW Management Practice
	Construction Exit		Diversions		Solid Waste
	Silt Fence		Sediment Traps		Sanitary Waste
	Check Dams		Sediment Basins		Hazardous Waste Management
	Inlet Protection		Dust Control		Record Keeping/SWPPP modifications
	Erosion Control		Concrete Wash-out		
	Vegetation		Fuel Storage/Containment		

**New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
*(NOTE: Submit completed form to address above)***

**NOTICE OF TERMINATION for Storm Water Discharges Authorized
under the SPDES General Permit for Construction Activity**

Please indicate your permit identification number: NYR _____

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _____
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? yes no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? yes no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

**NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued**

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? yes no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

- Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.
- For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____
(acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? yes
 no
(If Yes, complete section VI - "MS4 Acceptance" statement)

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:

Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date: