

*BEACON PLANNING BOARD
One Municipal Plaza - Courtroom
BEACON, NEW YORK 12508
Phone (845) 838-5002 Fax (845) 838-5026*

The Planning Board will meet on **Tuesday, January 8, 2019** in the Municipal Center Courtroom. A work session will take place at 7:00 PM for a training workshop, discussion of agenda items and/or topics of interest to the Planning Board. The regular meeting will begin immediately thereafter, but not later than 7:30 p.m.

- **Regular Meeting**

1. Ferry Landing - Beekman Street
Continue public hearing for SEQRA Environmental Review on applications for Subdivision Approval and Site Plan Approval, 6 Unit Residential "Ferry Landing at Beacon", Beekman Street, submitted by Ferry Landing at Beacon, Ltd. (*adjourned until February 13, 2019*)
2. 21 South Avenue
Public hearing on application for Site Plan Approval related to Special Use Permit, three-unit residential, 21 South Avenue, submitted by Protestant Episcopal Diocese of New York (*postponed until February 13, 2019 at request of applicant*)
3. 554 Main Street
Continue public hearing on application to amend an existing Site Plan Approval, Residential/Professional Office/Restaurant with outdoor seating and entertainment area, 554 Main Street, submitted by Dana Collins (*postponed until February 13, 2019 at request of applicant*)
4. 52 Dennings Avenue
Public hearing on application for Subdivision, 2-lot residential, submitted by Delaportas Enterprises I, Inc., 52 Dennings Avenue (*no new information submitted*)
5. 511 Fishkill Avenue
Public hearing on application to amend an existing Site Plan Approval, brewery and related uses, submitted by Jeff O'Neil, 511 Fishkill Avenue
6. 296 Main Street
Public hearing on application for Site Plan Approval, convert existing retail and garage to restaurant, 296 Main Street, submitted by River Valley Restaurant Group
7. 234 Main Street
Continue review of application for Site Plan Approval, 2nd Floor Addition, Retail/Office Use, 234 Main Street, submitted by 234 Main Street, LLC
8. 23-28 Creek Drive
Review application for Site Plan Approval, Mixed Use Development, 23-28 Creek Drive, submitted by 23-28 Creek Drive, LLC

- **Miscellaneous Business**

1. Zoning Board of Appeals
Zoning Board of Appeals – January Agenda
2. Review Local Law
City Council request to review proposed Local Law to amend Section 223-24.5 of City Code concerning Wireless Telecommunication Services Facilities
3. Meeting Date Change
Change meeting date – Wednesday, February 13, 2019 (*due to Lincoln's Birthday Holiday*)

- **Architectural Review**

1. 412 Main Street
Certificate of Appropriateness – 412 Main Street; sign

City of Beacon Planning Board
1/8/2019

Title:

Ferry Landing - Beekman Street

Subject:

Continue public hearing for SEQRA Environmental Review on applications for Subdivision Approval and Site Plan Approval, 6 Unit Residential "Ferry Landing at Beacon", Beekman Street, submitted by Ferry Landing at Beacon, Ltd.
(adjourned until February 13, 2019)

Background:

City of Beacon Planning Board
1/8/2019

Title:

21 South Avenue

Subject:

Public hearing on application for Site Plan Approval related to Special Use Permit, three-unit residential, 21 South Avenue, submitted by Protestant Episcopal Diocese of New York (***postponed until February 13, 2019 at request of applicant***)

Background:

City of Beacon Planning Board
1/8/2019

Title:

554 Main Street

Subject:

Continue public hearing on application to amend an existing Site Plan Approval, Residential/Professional Office/Restaurant with outdoor seating and entertainment area, 554 Main Street, submitted by Dana Collins ***(postponed until February 13, 2019 at request of applicant)***

Background:

City of Beacon Planning Board
1/8/2019

Title:

52 Dennings Avenue

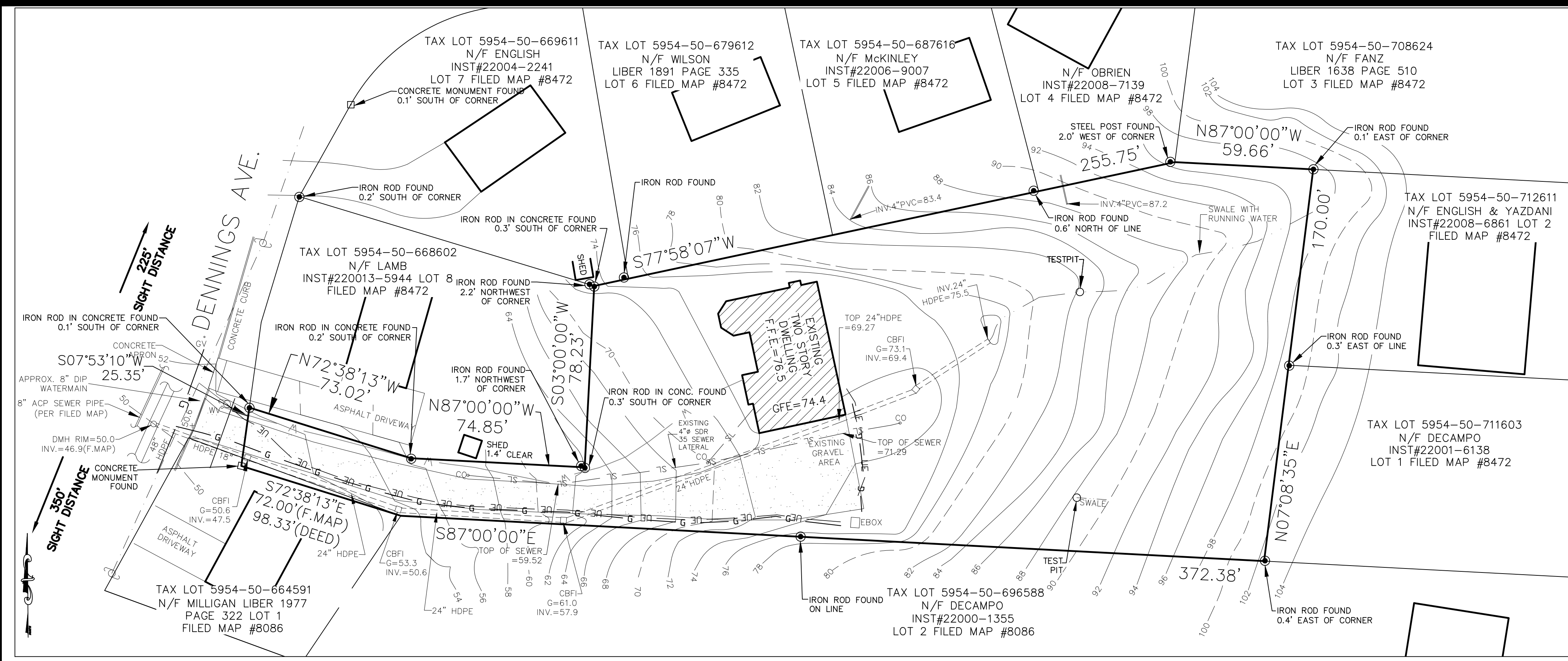
Subject:

Public hearing on application for Subdivision, 2-lot residential, submitted by Delaportas Enterprises I, Inc., 52 Dennings Avenue (***no new information submitted***)

Background:

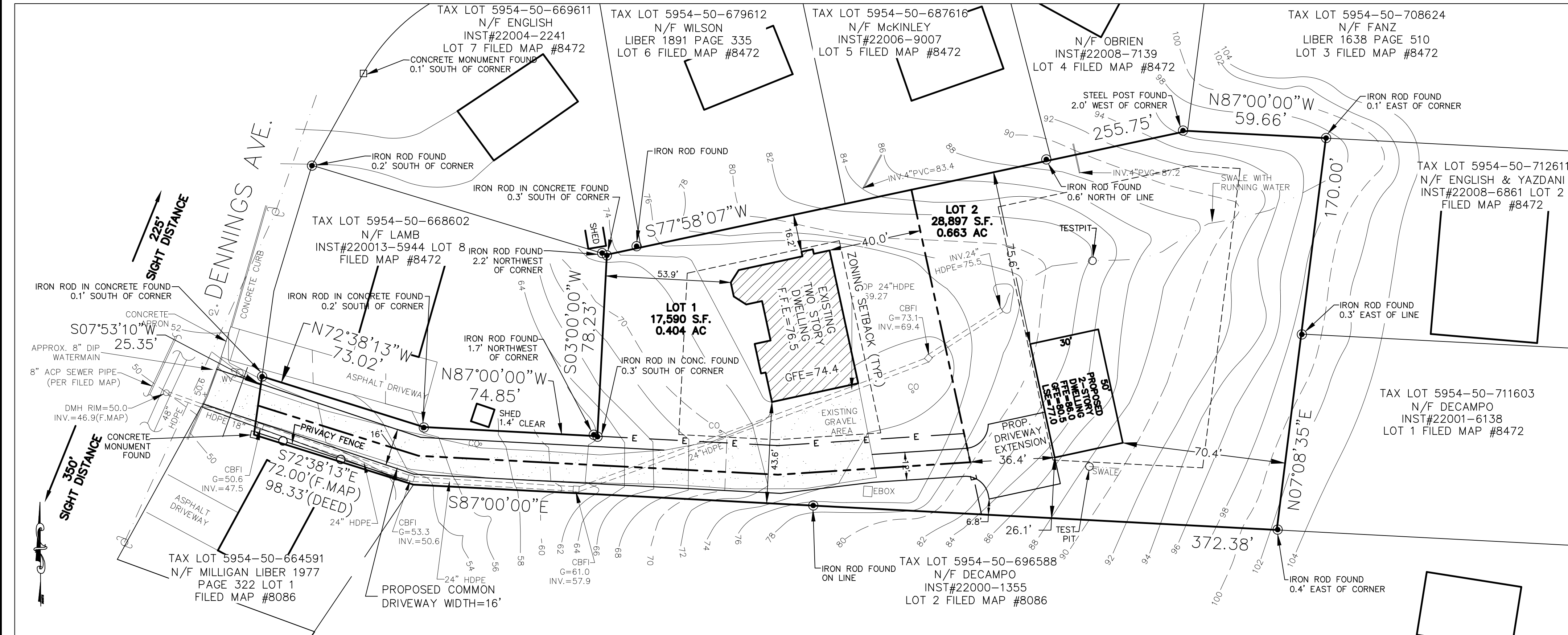
ATTACHMENTS:

Description	Type
Dennings Avenue Subdivision	Plans



EXISTING CONDITIONS

SCALE: 1"=30'



SUBDIVISION PLAT

SCALE: 1"=30'

ABBREVIATIONS

CBFI	CATCH BASIN FIELD INLET
BFE	BASEMENT FLOOR ELEVATION
CB	CATCH BASIN
EX	EXISTING
FFE	FINISHED FLOOR ELEVATION
GFE	GARAGE FLOOR ELEVATION
FT	FEET
INV	INVERT ELEVATION
LF	LINEAR FEET
LSE	LOWEST SEWERABLE ELEVATION
MAX.	MAXIMUM
MH	MANHOLE
MIN.	MINIMUM OR MINUTE
N/F	NOW OR FORMERLY
NTS	NOT TO SCALE
PROP.	PROPOSED
REF.	REFERENCE
REV.	REVISION
SF	SQUARE FOOT
SQ.	SQUARE
STD.	STANDARD
TYP.	TYPICAL

LEGEND

---	EXISTING UTILITY POLE
---	EXISTING OVERHEAD WIRES
---	EXISTING 4" SDR35 SEWER LATERAL
---	EXISTING WATER SERVICE LINES
---	EXISTING UNDERGROUND ELECTRIC
---	EXISTING GAS SERVICE LINE
---	EXISTING MAJOR CONTOUR
---	EXISTING MINOR CONTOUR
---	EXISTING HOPE PIPE
---	EXISTING PROPERTY LINE
---	PROPOSED PROPERTY LINE
---	PROPOSED EASEMENT LINE
---	EXISTING ADJACENT DWELLING

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THIS BOUNDARY AND TOPOGRAPHICAL SURVEY WAS PREPARED BY ME AND WAS MADE FROM AN ACTUAL FIELD SURVEY COMPLETED IN FEBRUARY 2014.

TOPOGRAPHICAL SURVEY AS PER APPROXIMATED USGS DATUM.

DARREN J. STRIDIRON, P.L.S.
NYS LICENSE NO. 050487

CITY OF BEACON PLANNING BOARD

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____ SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____ BY _____ CHAIRMAN
_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

OWNER CONSENT

THE UNERSIGNED OWNER OF THIS PROPERTY HEREON STATES THAT HE/SHE IS FAMILIAR WITH THIS MAP, ITS CONTENTS, LEGENDS AND NOTATIONS, AND HEREBY CONSENTS TO ALL SAID TERMS AND CONDITIONS STATED HEREON.

APPROVED FOR FILING:
A. DELLAPORTAS DATE _____

GENERAL NOTES:

- SITE TO BE SERVED BY CITY OF BEACON PUBLIC SEWER & WATER.
- LIMITS OF DISTURBANCE = 0.71 ACRES.
- CALL BEFORE YOU DIG UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION 2 FULL WORKING DAYS BEFORE YOU DIG. TELEPHONE NUMBER: 1-800-955-7962.
- UNDERGROUND IMPROVEMENTS, STRUCTURES, UTILITIES OR ENCROACHMENTS, AND ANY EASEMENTS RELATED THERETO, ARE NOT SHOWN HEREON UNLESS OTHERWISE NOTED. ANY UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS AND IS NOT CERTIFIED TO ACCURACY OR COMPLETENESS.
- FOR INCOMING ELECTRIC SERVICE COORDINATE ALL REQUIREMENTS WITH LOCAL UTILITY CO. IF REQUIRED, ELECTRIC SERVICE FOR RESIDENTIAL HOMES SHALL BE UNDERGROUND (IF AVAILABLE) OR CONNECTED TO THE NEAREST OVERHEAD CONNECTION POINT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS, QUANTITIES, AND LOCATIONS OF UNDERGROUND UTILITIES AND LIMITS OF WORK. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK WITHIN THE CITY RIGHT OF WAY. ALL DIMENSIONS, LOCATIONS, GRADES, ETC OF PROPOSED WORK ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXACT LOCATIONS OF ALL UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES THAT MAY OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- THE DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR SETUP AND COSTS OF ALL TEMPORARY UTILITY SERVICES (INCLUDING TEMPORARY POWER).
- RETAINING WALLS THAT EXCEED A HEIGHT OF 4- FEET SHALL BE DESIGNED AND SEALED BY A LICENSED ENGINEER IN THE STATE OF NEW YORK.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS AND SHALL IMMEDIATELY REPORT ANY AND ALL DISCREPANCIES TO ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF BEACON WATER AND SEWER DEPARTMENTS TO SCHEDULE A PRE-CONSTRUCTION MEETING TO ENSURE THAT ARRANGEMENTS FOR WATER SUPPLY AND SEWAGE DISPOSAL ARE COMMENCED IN ACCORDANCE WITH THE APPROVED PLANS AND AMENDMENTS THERETO AND GENERALLY ACCEPTED STANDARDS.
- ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION.
- ROOF LEADERS FOR THE PROPOSED HOME SHALL BE DIRECTED TOWARDS PROPOSED DRAINAGE SWALES AND DRAINAGE STRUCTURES.
- THE ORIGINAL PARCEL WAS ESTABLISHED AS LOT #9 OF FILED MAP #8472.
- AS PER NOTE #2 OF FILED MAP #8472, ANY LOT WITHIN THE ORIGINAL SUBDIVISION HAS THE RIGHT TO DISCHARGE SURFACE WATER ACROSS ANOTHER LOT IN THIS SUBDIVISION TO THE STORM WATER SYSTEM.
- THE WATER SERVICE LINE AND METER SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF BEACON WATER DEPARTMENT REQUIREMENTS.
- DENNINGS AVENUE AND DRIVEWAY FOR THE WATER SERVICE AND SEWAGE LATERAL CONNECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BEACON REQUIREMENTS.
- AN OPERATION AND MAINTENANCE AGREEMENT WILL BE REQUIRED FOR THE SHARED DRIVEWAY.
- EXISTING UTILITY LOCATIONS WERE FIELD SURVEYED AND MAPPED BY HERITAGE LAND SURVEYING ON 10/20/2016.
- PRIOR TO CONSTRUCTION, THE PROPERTY LINES SHALL BE STAKED OUT BY A NYS LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.
- SERVICE LINES MUST BE CONTINUOUS FROM THE HOUSE TO THE PUBLIC UTILITY.
- ANY PROPOSED RETAINING WALLS SHALL BE DESIGNED BY A GEOTECHNICAL ENGINEER PRIOR TO A BUILDING PERMIT BEING ISSUED.

ADJOINING PROPERTY OWNERS

- INFORMATION TAKEN FROM DUTCHESS COUNTY PARCEL ACCESS
- | | |
|-----------------------------------|-----------------------------------|
| 1) BARBARA LAMB | 7) RONALD ENGLISH |
| 48 DENNINGS AVE | 129 SOUTH AVE |
| BEACON, NY 12508 | BEACON, NY 12508 |
| FORFOTPRTY:1302000059540050668602 | FORFOTPRTY:1302000059540050712611 |
| 2) HERBERT G. ENGLISH | 8) DAVID DE CAMPO |
| 129 SOUTH AVE | 129 SOUTH AVE |
| BEACON, NY 12508 | BEACON, NY 12508 |
| FORFOTPRTY:1302000059540050668611 | FORFOTPRTY:130200005954005071603 |
| 3) WENDY A. WILSON | 9) DAVID DE CAMPO |
| 36 DENNINGS AVE | 129 SOUTH AVE |
| BEACON, NY 12508 | BEACON, NY 12508 |
| FORFOTPRTY:1302000059540050679612 | FORFOTPRTY:130200005954005069588 |
| 4) DONNA MCKINLEY | 10) MURRAY J. MILLIGAN |
| 30 DENNINGS AVE | 58 DENNINGS AVE |
| BEACON, NY 12508 | BEACON, NY 12508 |
| FORFOTPRTY:130200005954005067616 | FORFOTPRTY:130200005954005064591 |
| 5) KAREN M. OBRIEN | 11) JOHN H. WILKINS |
| 43 DENNINGS AVE | 43 DENNINGS AVE |
| BEACON, NY 12508 | BEACON, NY 12508 |
| FORFOTPRTY:1302000059540050694421 | FORFOTPRTY:130200005954005064992 |
| 6) DIETER E. FANZ | 12) GINA M. LAYNE |
| 123 SOUTH AVE | 43 DENNINGS AVE |
| BEACON, NY 12508 | BEACON, NY 12508 |
| FORFOTPRTY:130200005954005070824 | FORFOTPRTY:130200005954005067602 |

OWNER/APPLICANT:

1. RECORD OWNER & APPLICANT:
DELLAPORTAS ENTERPRISES I
AETHENIAN LANE
HOPEWELL JUNCTION, NY 12533

REFERENCES:

- CITY OF BEACON TAX MAP SBL 5954-50-687603.
- SURVEY REFERENCES:
- INFORMATION ON THIS PLAN HAS BEEN TAKEN FROM A SURVEY ENTITLED "EXISTING FOUNDATION LOCATION PREPARED FOR 52 DENNINGS AVENUE." LAST REVISED NOVEMBER 12, 2015 PREPARED BY HERITAGE LAND SURVEYING, P.C. - P.O. BOX 579 PLATEKILL, NY 12568.
- PARCEL ADDRESS: 52 DENNINGS AVE, BEACON, NY 12508
- TOTAL PARENT PARCEL AREA: 1.07 ACRES
- POTABLE WATER SUPPLY: CITY OF BEACON WATER
- SEWAGE DISPOSAL: CITY OF BEACON SEWER

SURVEY REFERENCES:

- CITY OF BEACON TAX MAP SECTION 5954.
- DEEDS FILED IN THE DUTCHESS COUNTY CLERK'S OFFICE AS:
LIBER 1638 PAGE 510
INST#22013-5944
INST#22004-2241
LIBER 1891 PAGE 335
INST#22006-9007
INST#22008-7139
LIBER 1638 PAGE 510
INST#22008-6861
INST#22001-6138
INST#22000-1355
LIBER 1977 PAGE 322
- MAPS FILED IN THE DUTCHESS COUNTY CLERK'S OFFICE AS:
FILED MAP #8472
FILED MAP #8086

TABLE OF ZONING REQUIREMENTS:

ZONE:	ZONING PARAMETERS									
	MINIMUM AREA (SQ. FT.)	LOT AREA PER UNIT (SQ. FT.)	MINIMUM LOT WIDTH (FT.)	MINIMUM LOT DEPTH (FT.)	MINIMUM FRONT YARD (FT.)	MINIMUM SIDE YARD EA. (FT.)	MINIMUM SIDE YARD BOTH (FT.)	MINIMUM REAR YARD (FT.)	BUILDING COVERAGE	DWELLING UNITS PER LOT
R1-10	10,000	10,000	85	100	35	15	40	35	25% MAX.	MAX 1
REQUIRED LOT 1	17,590 ±	17,590 ±	127.5' ±	147.1' ±	53.9 ±	16.2' ±	47.5' ±	40.0' ±	11.8%	1
PROVIDED LOT 2	28,897 ±	28,897 ±	157.3' ±	153.9' ±	36.4' ±	26.1' ±	101.7' ±	70.4' ±	7.6%	1

REVISION	BY	DATE	DESCRIPTION
5	MM	1/28/18	REVISIONS PER 1/22/18 DOH LETTER
4	MM	12/30/17	REVISIONS PER 4/17/17 DOH LETTER
3	MM	2/13/17	REVISIONS PER 2/7/17 DOH LETTER
2	MM	10/25/16	REVISIONS PER FPC 1/8/16 LETTER & 1/7/16 L&T LETTER
1	MM	1/14/16	REVISIONS PER FPC 1/8/16 LETTER & 1/7/16 L&T LETTER

ARDEN CONSULTING ENGINEERS, PLLC
P.O. BOX 340 MONROE, N.Y.
TEL: (845) 782-8114 FAX: (845) 238-3527
WWW.ARDENCONSULTING.NET

2-LOT SUBDIVISION FOR
DELLAPORTAS ENTERPRISES I
CITY OF BEACON
COUNTY OF DUTCHESS, NEW YORK

2-LOT SUBDIVISION

JOB#: 14-006
SCALE: AS NOTED
DATE: 11-30-15
DRAWN: MM
CHECKED: MM
SHEET NO. 1 of 3

MICHAEL A. MORGANTE, P.E.
LIC. NO. 78577

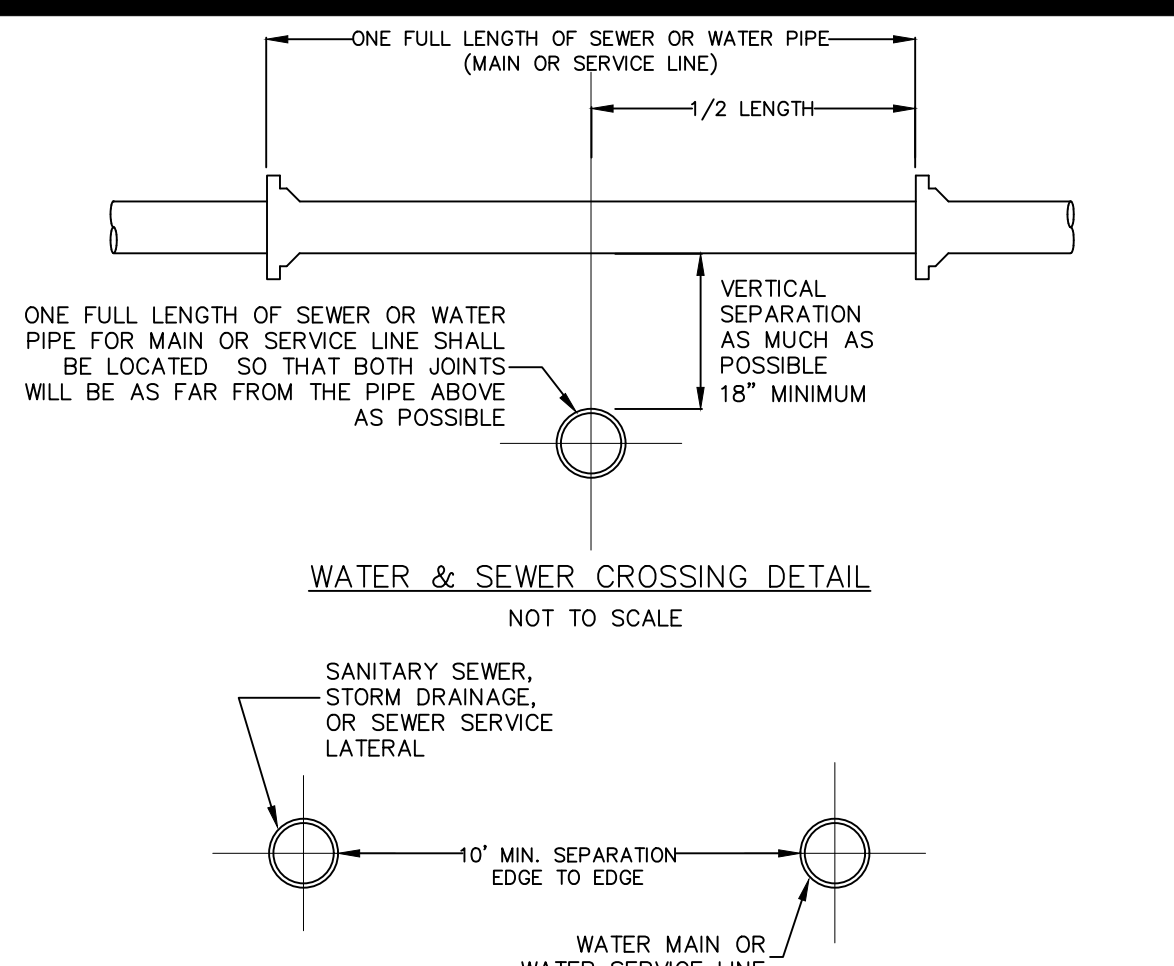
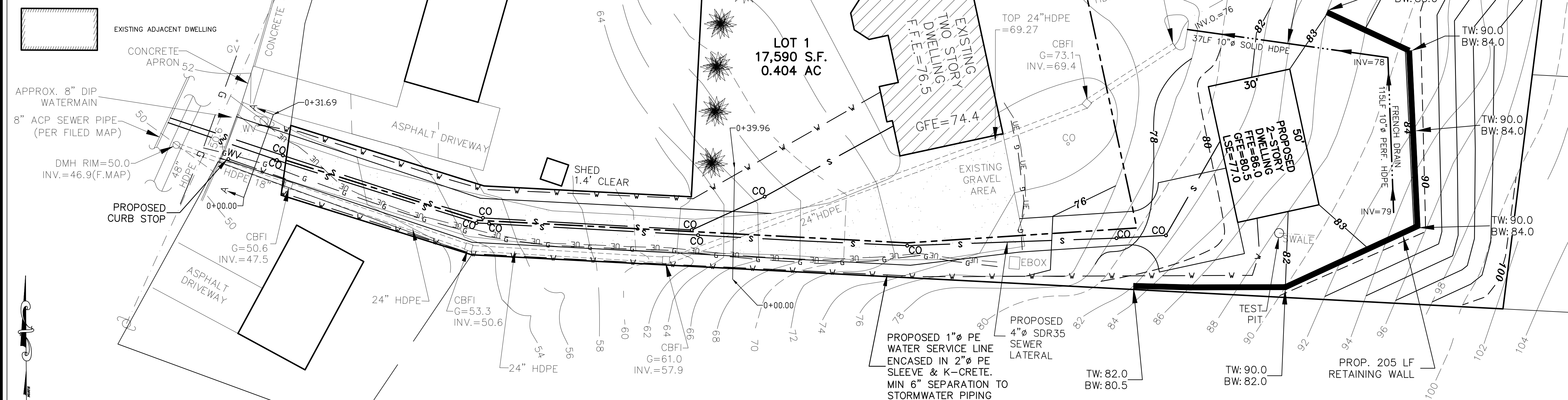
Dig Safely. New York
Call 811 before you dig

WARNING- IT IS A VIOLATION OF NEW YORK EDUCATIONAL LAW, SECTION 7209.2, FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATIONAL LAW, SECTION 7209.2

ONLY MAPS WITH EMBOSSED SEALS ARE GENUINE COPIES OF THE ORIGINAL WORK AND OPINION. MAPS NOT BEARING EMBOSSED SEALS SHOULD NOT BE RELIED UPON SINCE OTHER THAN EMBOSSED-SEAL COPIES MAY CONTAIN UNAUTHORIZED AND UNDETECTABLE MODIFICATIONS, DELETIONS, ADDITIONS AND CHANGES.

LEGEND

⊙	EXISTING UTILITY POLE
— SL —	EXISTING OVERHEAD WIRES
— W —	EXISTING 4" SDR35 SEWER LATERAL
— UE —	EXISTING 3/4" WATER SERVICE LINE
— G —	EXISTING UNDERGROUND ELECTRIC
— G —	EXISTING GAS SERVICE LINE
70	EXISTING MAJOR CONTOUR
72	EXISTING MINOR CONTOUR
---	EXISTING HDPE PIPE
---	EXISTING PROPERTY LINE
- - -	PROPOSED PROPERTY LINE
70	PROPOSED MAJOR CONTOUR
72	PROPOSED MINOR CONTOUR
— W —	PROPOSED 1" PE WATER SERVICE LINE
— S —	PROPOSED 4" SDR35 SEWAGE DISPOSAL LATERAL
---	PROPOSED ZONING SETBACK
---	PROPOSED DRIVEWAY
⊙	PROPOSED SEWER LATERAL CLEANOUT



WATER & SEWER HORIZONTAL SEPARATION
NOT TO SCALE

SEWER & WATER SEPARATION NOTES

1. WHEN IT IS IMPOSSIBLE TO MAINTAIN PROPER HORIZONTAL OR VERTICAL SEPARATION AS SHOWN, THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER MAIN, AND SHALL BE PRESSURE TESTED TO ASSURE WATERTIGHTNESS PRIOR TO BACKFILLING.
2. A FULL LENGTH OF BOTH PIPES CROSSING MUST BE CENTERED AT THE CROSSING.
3. BEDDING MATERIAL SHALL BE INCREASED TO 12" BELOW THE LENGTH OF WATER MAIN PIPE FOR 10' ON EITHER SIDE OF THE CROSSING.
4. TWO LAYERS OF CAUTION TRACER TAPE SHALL BE PLACED 18" MINIMUM ABOVE STORM SEWER MAINS.

NOTES

1. SEPARATION DISTANCE BETWEEN WATER MAINS AND STORM/SEWER MAINS SHALL BE 10' HORIZONTAL AND 18" AT CROSSINGS. THESE SEPARATION DISTANCES MUST BE MAINTAINED UNLESS SPECIALLY SHOWN AND INDICATED OTHERWISE ON THE PLANS. THE PREFERRED CROSSING OPTION IS FOR THE WATER MAIN TO BE CONSTRUCTED ABOVE STORM/SEWER MAINS.
2. SEWER MAIN INCLUDES SEWER LATERALS AND STORM DRAIN.
3. WATER MAIN INCLUDES WATER SERVICE LATERALS.
4. DEFLECT WATER MAIN IN AN ARC BENEATH THE SEWER/STORM LINE. DO NOT USE FITTINGS TO DEFLECT THE WATER MAIN.

WATER OVER SEWER SEPARATION NOTES

1. FULL LENGTH OF BOTH PIPES CROSSING MUST BE CENTERED AT THE CROSSING SO THAT PIPE JOINTS WILL BE AS FAR FROM EACH OTHER AS POSSIBLE (10' MIN.).
2. CONTRACTOR SHALL PROVIDE STRUCTURAL SUPPORT FOR EXISTING WATER MAIN OVER THE ENTIRE TRENCH WIDTH TO PREVENT DAMAGE TO THE WATER MAIN.
3. WATER TIGHT JOINTS WHERE WATERLINES ARE CROSSED ABOVE OR BELOW.

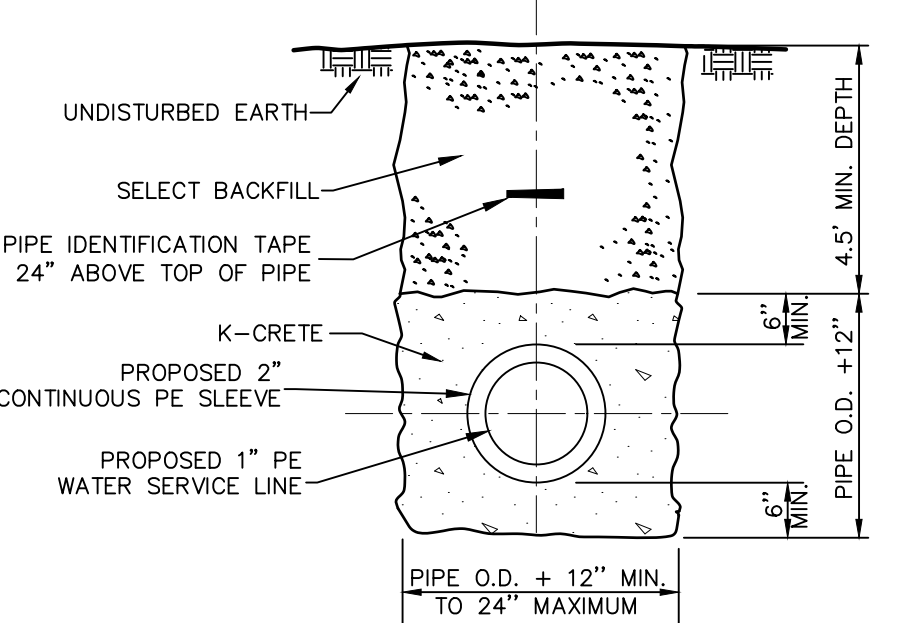
PRESSURE TESTING OF SANITARY SEWER & STORM SEWERS
LOW PRESSURE AIR TESTING SHALL BE EMPLOYED PRIOR TO ISSUANCE OF AUTHORIZATION TO OPERATE. LOW PRESSURE AIR TESTS SHALL CONFORM TO ASTM SPECIFICATION C 828. ALL SECTIONS TO BE TESTED SHALL BE CLEANED AND FLUSHED, AND SHALL HAVE BEEN BACKFILLED, PRIOR TO TESTING. AIR SHALL BE ADDED UNTIL THE INTERNAL PRESSURE OF THE TEST SECTION IS RAISED TO APPROXIMATELY 4.0 PSIG. THE AIR PRESSURE TEST SHALL BE BASED ON THE TIME, MEASURED IN SECONDS, FOR THE AIR PRESSURE TO DROP FROM 3.5 PSIG TO 2.5 PSIG.

ACCEPTANCE IS BASED ON LIMITS TABULATED IN THE "SPECIFICATION TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP" IN THE UNI-BELL PVC PIPE ASSOCIATION "RECOMMENDED PRACTICE FOR LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE".

BEFORE PRESSURE IS APPLIED TO THE LINE ALL CONNECTIONS SHALL BE FIRMLY PLUGGED. BEFORE THE TEST PERIOD STARTS, THE AIR SHALL BE GIVEN SUFFICIENT TIME TO COOL TO AMBIENT TEMPERATURE IN THE TEST SECTION.

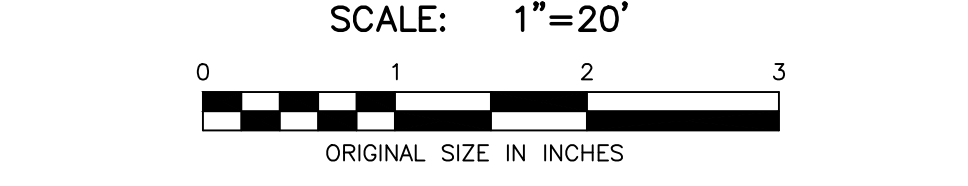
IF THE TEST SECTION IS BELOW GROUNDWATER, THE TEST PRESSURE SHALL BE INCREASED BY AN AMOUNT SUFFICIENT TO COMPENSATE FOR GROUNDWATER HYDROSTATIC PRESSURE. HOWEVER, THE TEST PRESSURE SHALL NOT EXCEED TO PSI, OR A LOWER PRESSURE AS REQUIRED BY THE SUPERINTENDENT.

THE PRESSURE TEST GAUGE SHALL HAVE BEEN RECENTLY CALIBRATED, AND A COPY OF THE CALIBRATION RESULTS SHALL BE MADE AVAILABLE TO THE SUPERINTENDENT PRIOR TO TESTING.



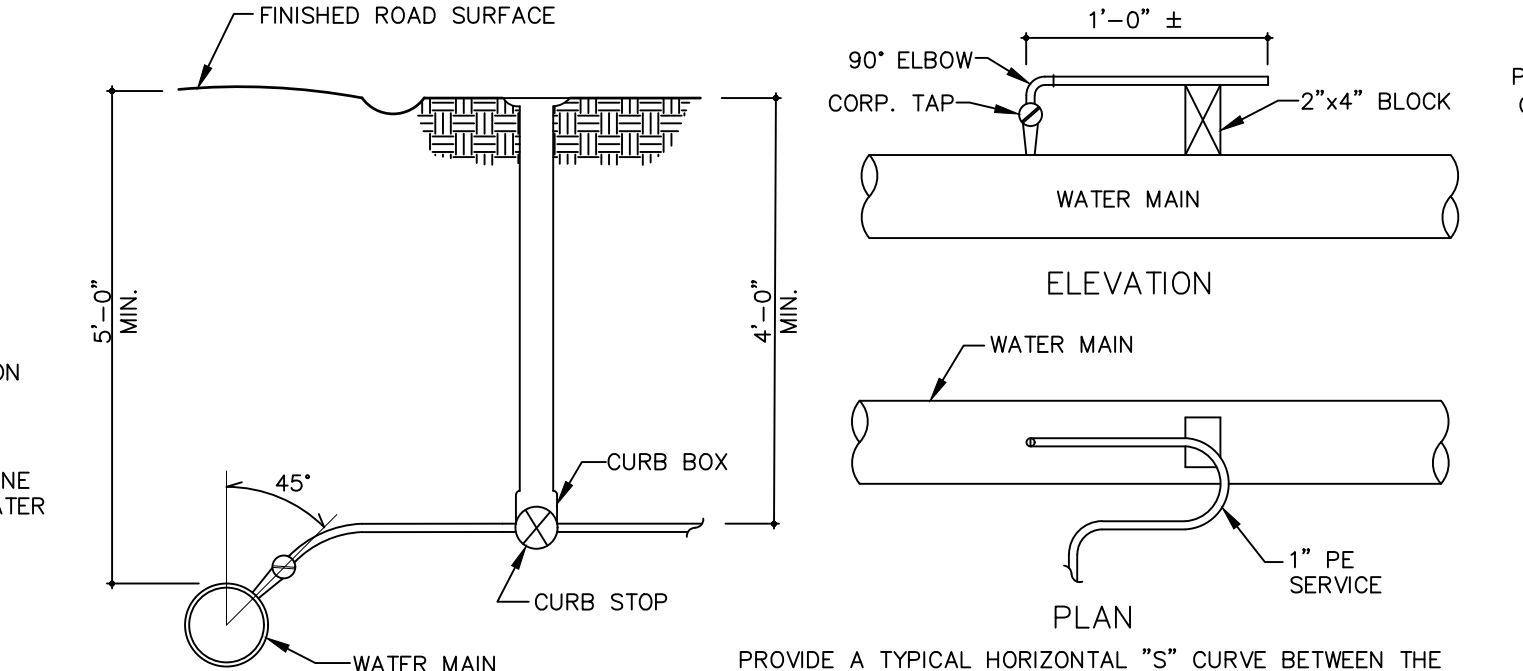
WATER SERVICE LINE CONCRETE ENCASMENT DETAIL FOR PROPOSED LOT 2
NOT TO SCALE

GRADING & UTILITY PLAN

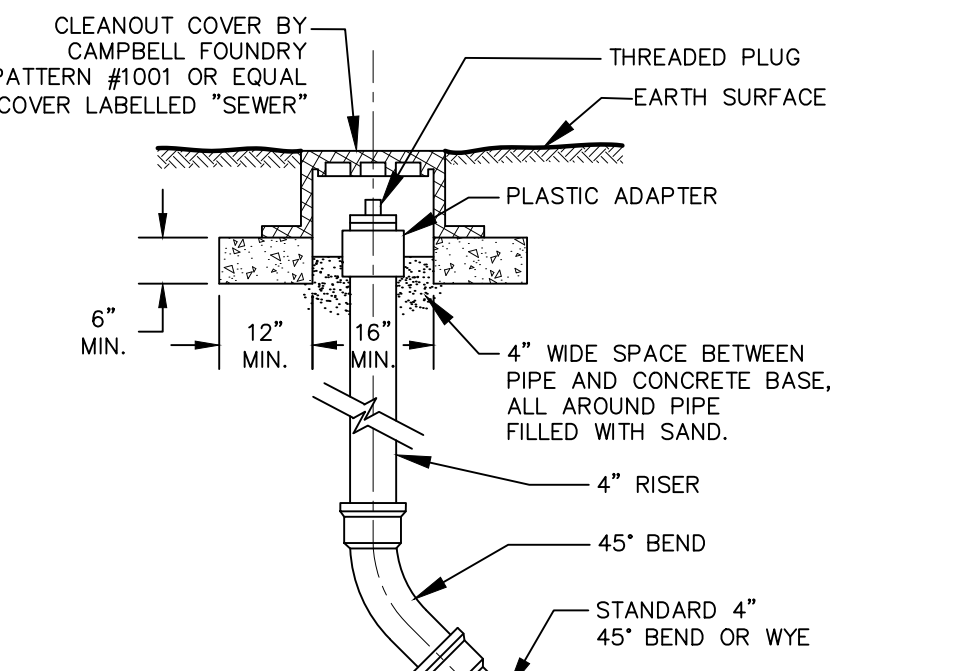


DC EHSD WAIVER NOTE:
THE WAIVER FROM THE DC EHSD IS REQUIRED SINCE THE "FLAG POLE" PORTION OF THE PROPOSED SUBDIVISION IS TOO NARROW & HAS MULTIPLE UTILITIES WITHIN IT. THE WAIVER FOR THE EXISTING WATER & SEWER SEPARATION ON PROPOSED LOT 2 IS APPROXIMATELY 0.5' WHERE THE WATER SERVICE LINE & STORMWATER PIPING ARE THE CLOSEST AND 3' WHERE THE WATER SERVICE LINE AND PROPOSED SEWAGE DISPOSAL LATERAL ARE CLOSEST. THE PROPOSED WATER SERVICE LINE FOR PROPOSED LOT 2 SHALL BE SLEEVED IN A 2" PE PIPE & ENCASED IN K-CRETE FOR ITS ENTIRE LENGTH.

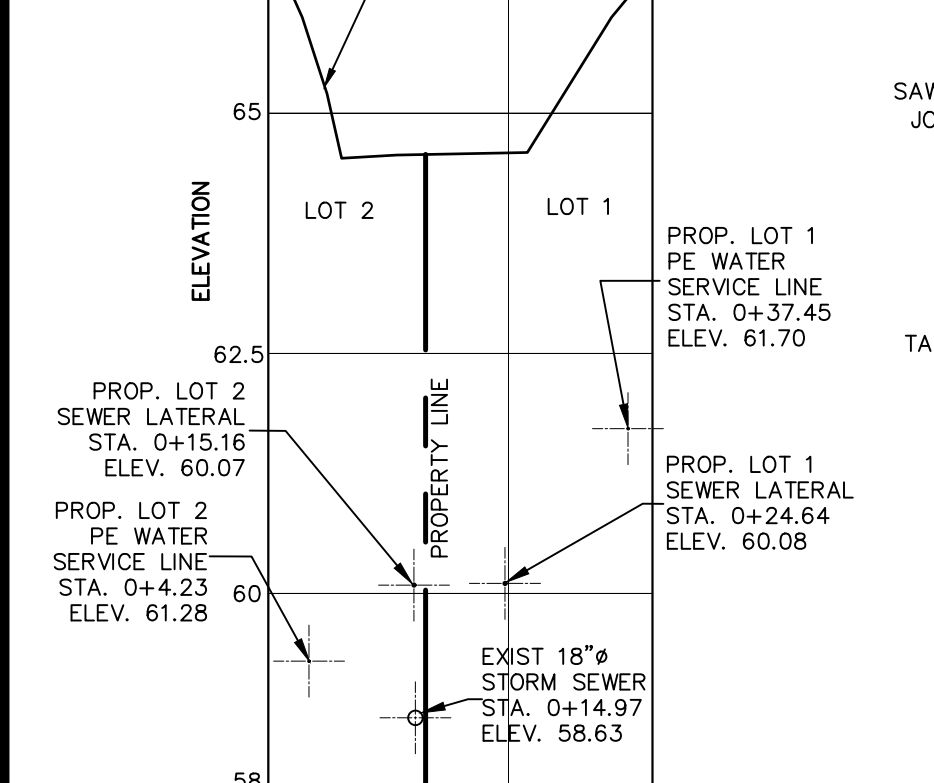
SURVEY NOTE:
PRIOR TO CONSTRUCTION, THE PROPERTY LINES SHALL BE STAKED OUT BY A NEW YORK STATE LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.



TYPICAL WATER SERVICE DETAIL
NOT TO SCALE

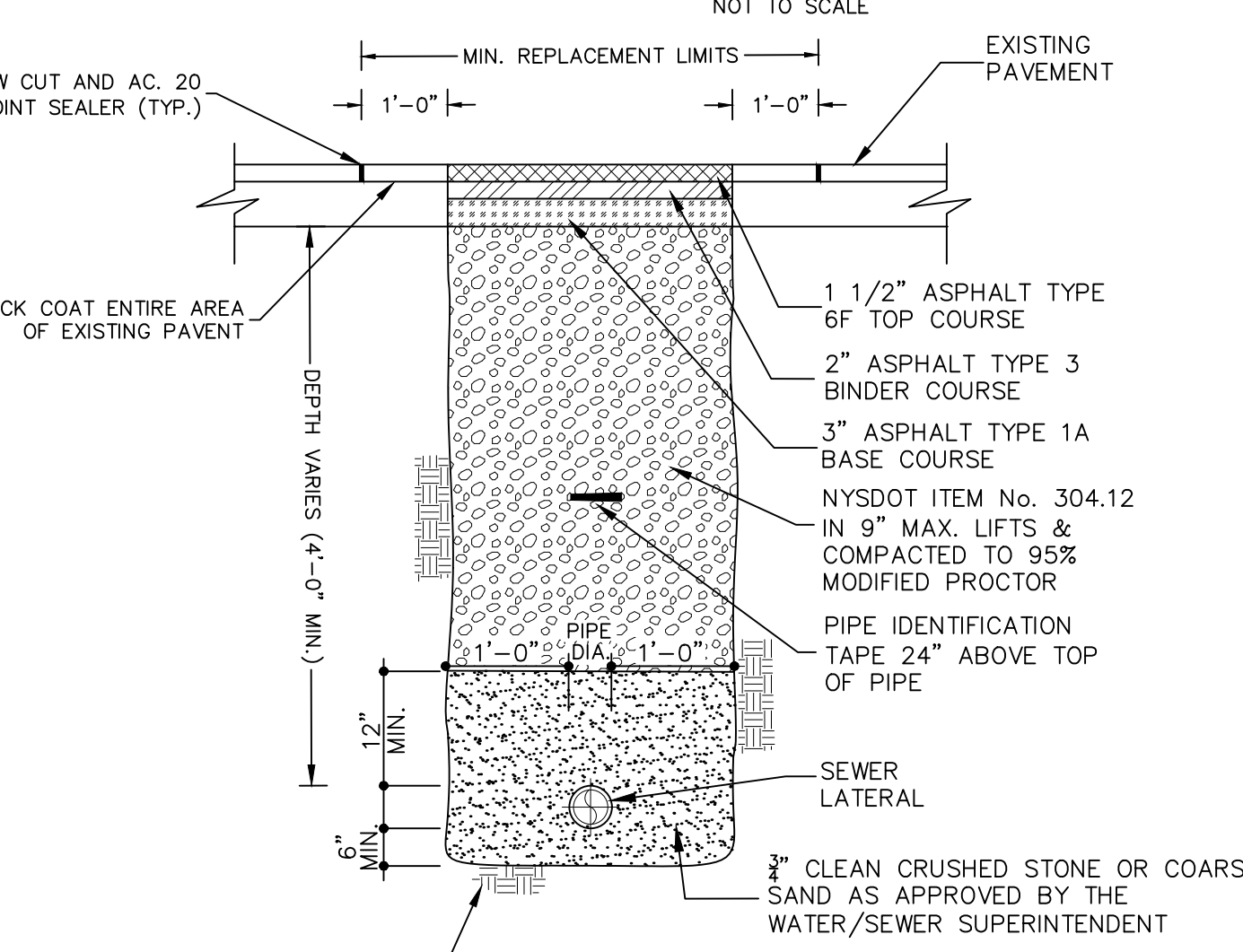


CLEANOUT DETAIL
NOT TO SCALE

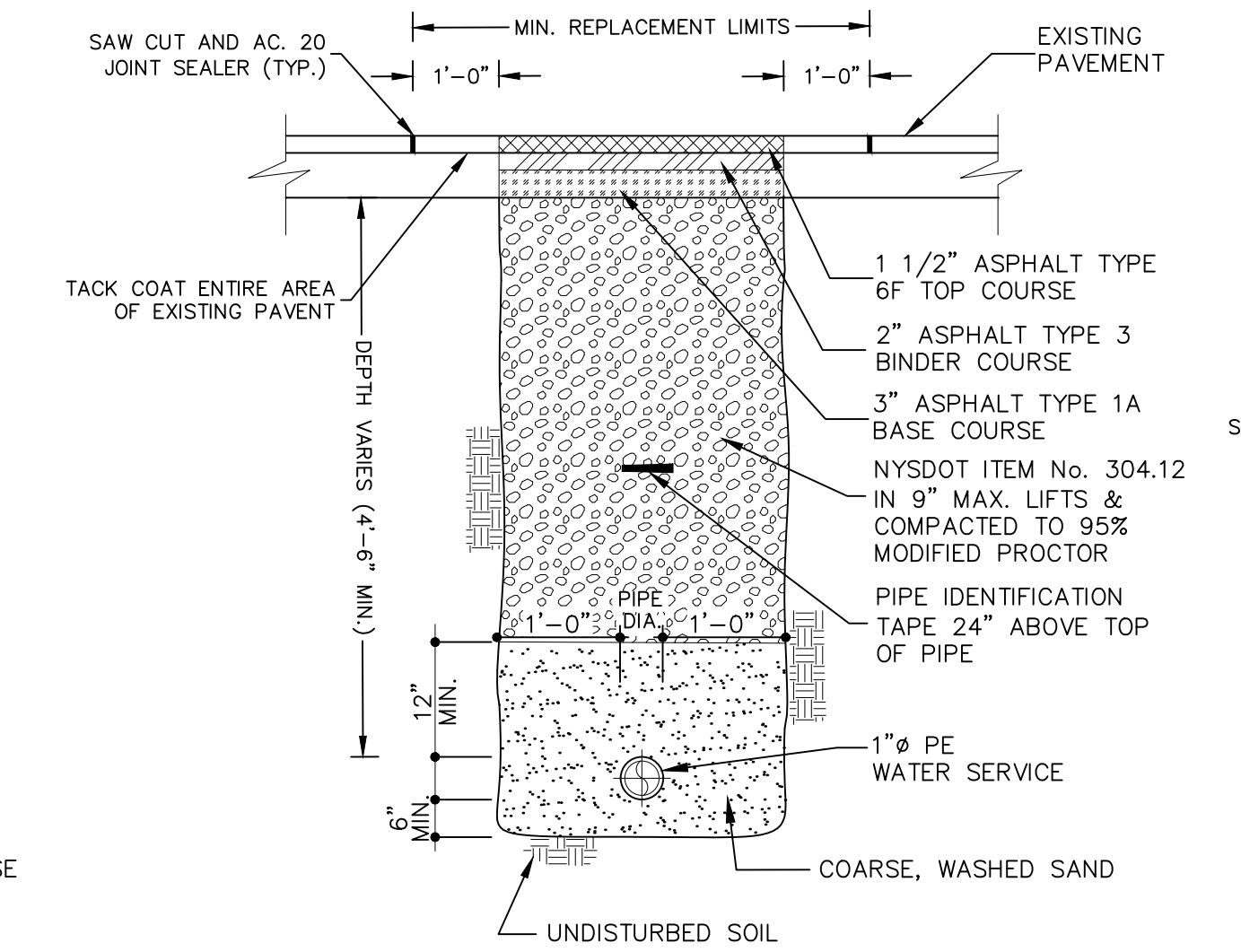


UTILITY CROSS SECTION B-B
VERT. SCALE: 1"=20'
HORZ. SCALE: 1"=20'

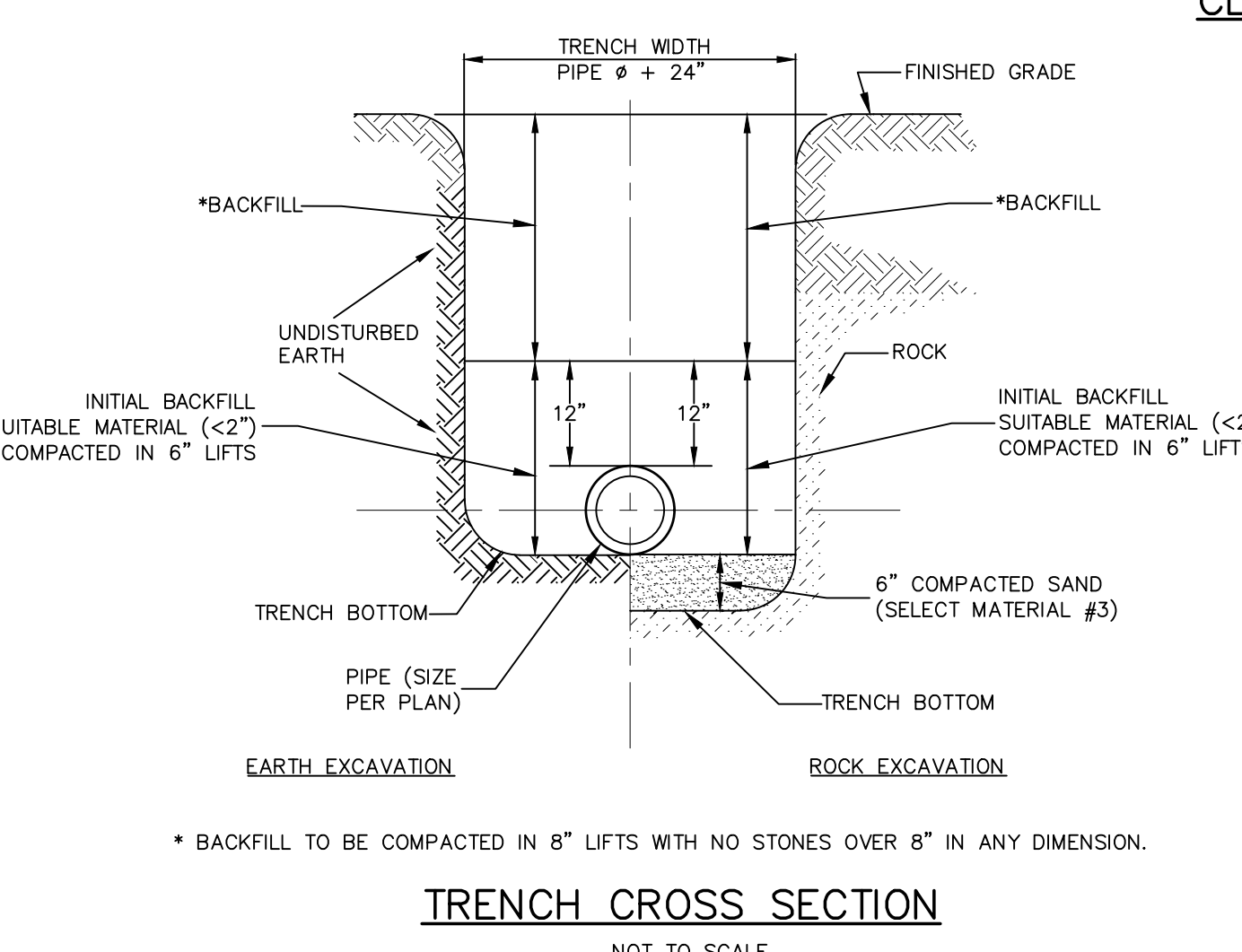
WARNING- IT IS A VIOLATION OF NEW YORK EDUCATIONAL LAW, SECTION 7209.2, FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATIONAL LAW, SECTION 7209.2



TYPICAL SEWER LATERAL INSTALLATION/RESTORATION DETAIL
NOT TO SCALE

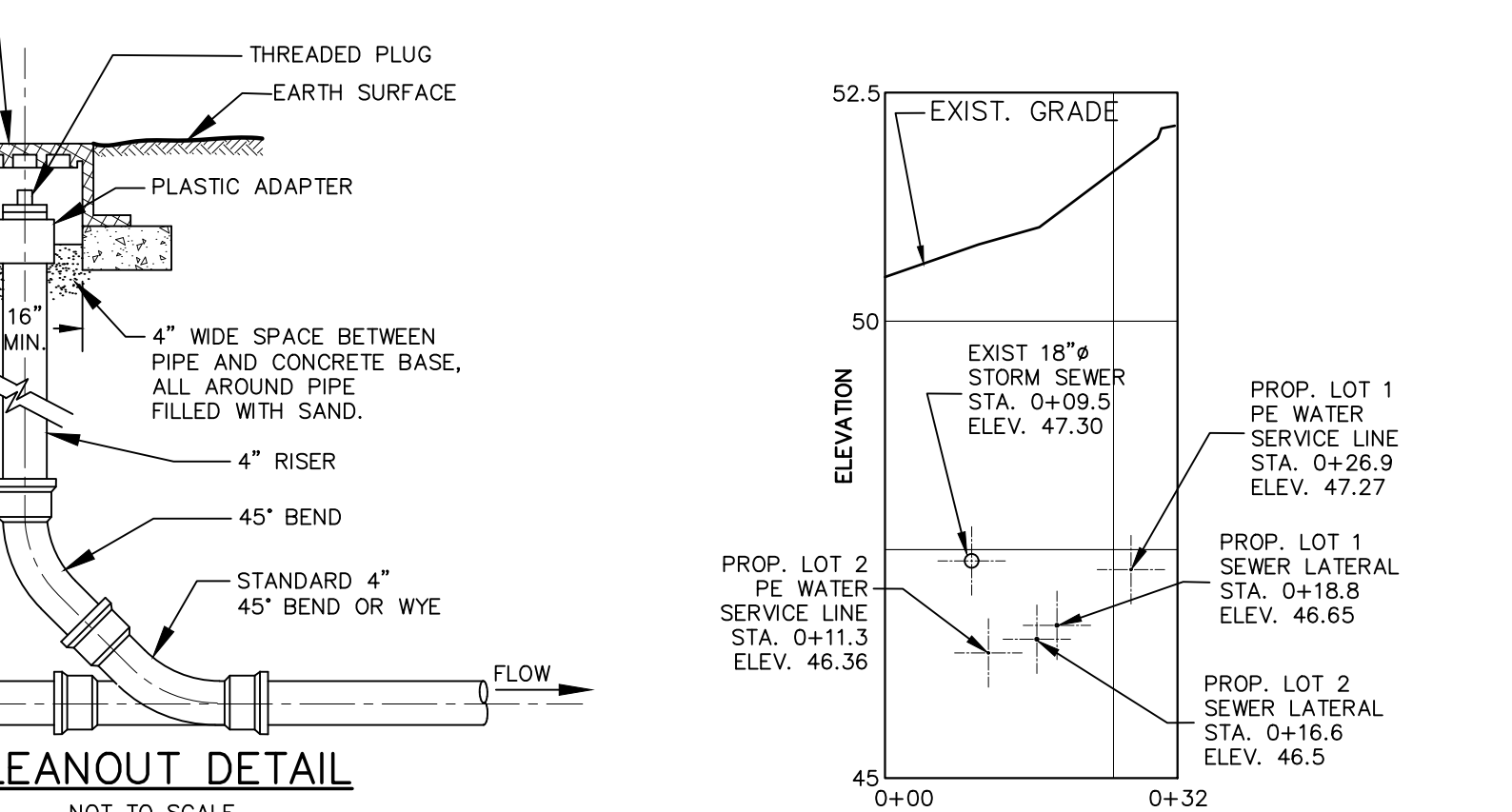


TYPICAL WATER SERVICE INSTALLATION/RESTORATION DETAIL
NOT TO SCALE



TRENCH CROSS SECTION
NOT TO SCALE

- NOTES:**
1. TRENCHES IN PAVED AREAS SHALL UTILIZE THE PAVEMENT REPLACEMENT DETAIL FOUND ON THIS SHEET.
 2. FULL DEPTH ROB GRAVEL OR ITEM 4 COMPACTED TO 95% MODIFIED PROCTOR UNDER PAVED AREAS.



UTILITY CROSS SECTION A-A
VERT. SCALE: 1"=20'
HORZ. SCALE: 1"=20'

NOTE: SEWER AND WATER SHOWN BURIED AT A DEPTH OF 54"

REVISION	BY	DATE	DESCRIPTION
5	MM	1/28/18	REVISIONS PER 1/22/18 DOH LETTER
4	MM	12/30/17	REVISIONS PER 4/17/17 DOH LETTER
3	MM	2/13/17	REVISIONS PER 2/7/17 DOH LETTER
2	MM	10/25/16	UTILITY LOCATIONS MAPPED
1	MM	1/14/16	REVISIONS PER FPC 1/8/16 LETTER & 1/7/16 L&T LETTER

THIS SHEET IS NOT VALID WITHOUT ALL OF THE SHEETS THAT COMPRISE THE SET

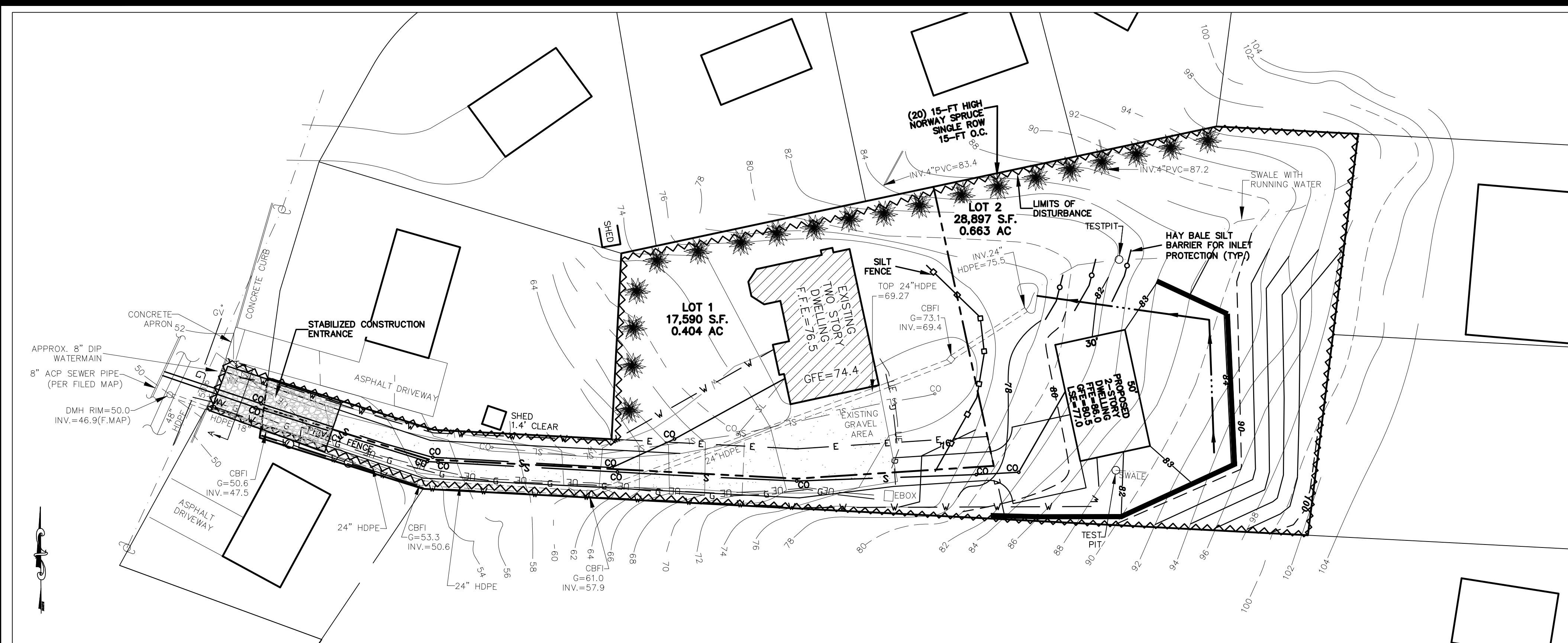
ARDEN CONSULTING ENGINEERS, PLLC
P.O. BOX 340 MONROE, N.Y.
TEL: (845) 782-8114 FAX: (845) 238-3527
WWW.ARDENCONSULTING.NET

2-LOT SUBDIVISION FOR
DELLAPORTAS ENTERPRISES I
CITY OF BEACON
COUNTY OF DUTCHESS, NEW YORK

GRADING & UTILITY PLAN

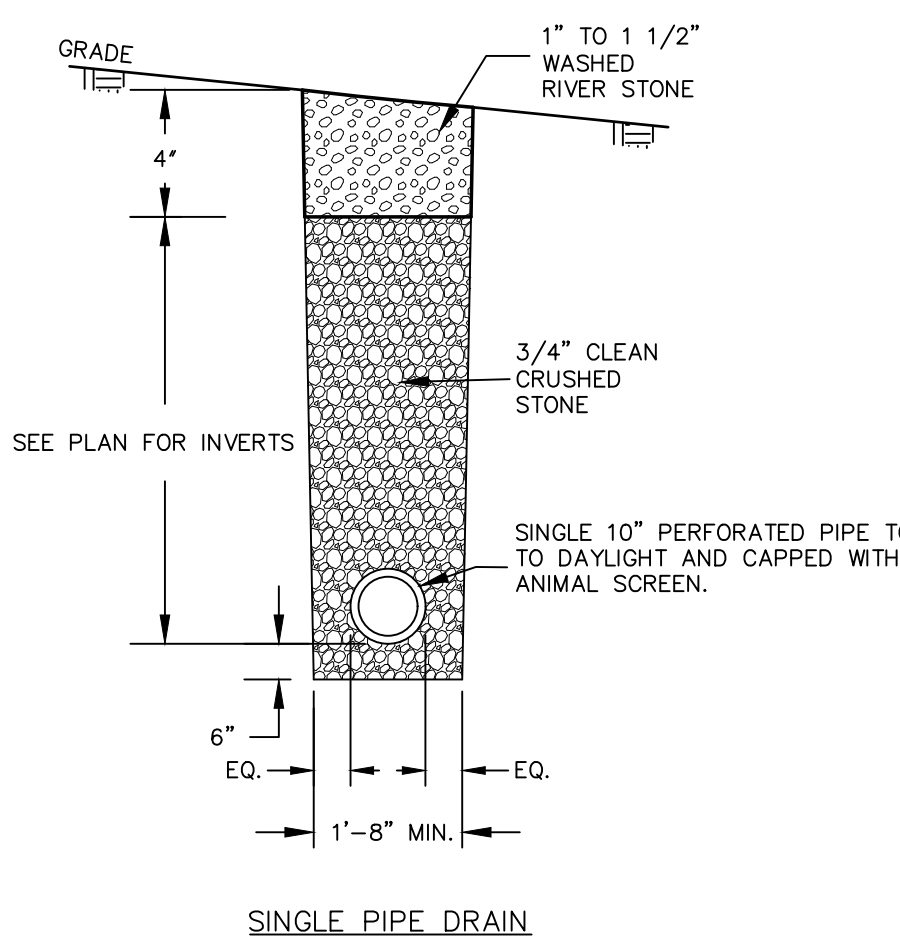
JOB#: 14-006
SCALE: AS NOTED
DATE: 11-30-15
DRAWN: MM
CHECKED: MM
SHEET NO. 2 of 3

MICHAEL A. MORGANTE, P.E.
LIC. NO. 78577



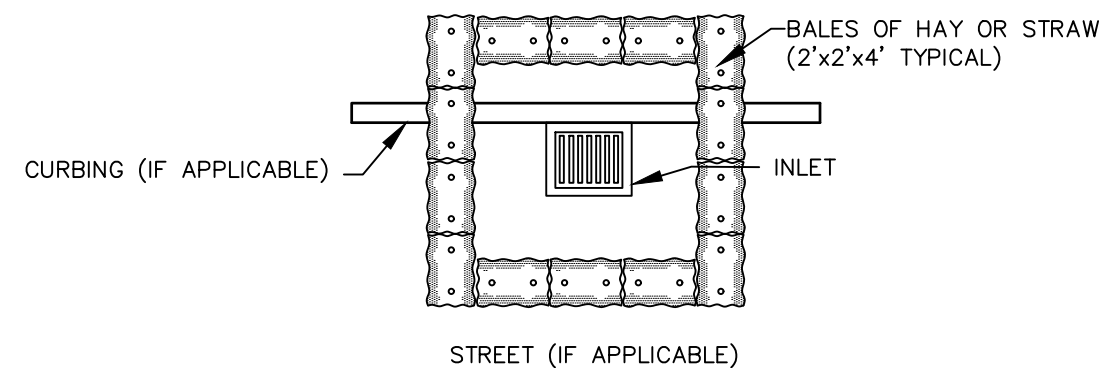
EROSION & SEDIMENT CONTROL PLAN
SCALE: 1"=30'

LIMITS OF DISTURBANCE = 38,000 SF or 0.87 AC.
NOTE: INCLUDES APPROXIMATE SOIL DISTURBANCE LIMITS FROM PREVIOUSLY CONSTRUCTED DWELLING.

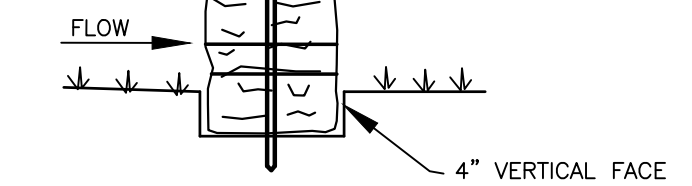


FRENCH DRAIN DETAIL
NOT TO SCALE

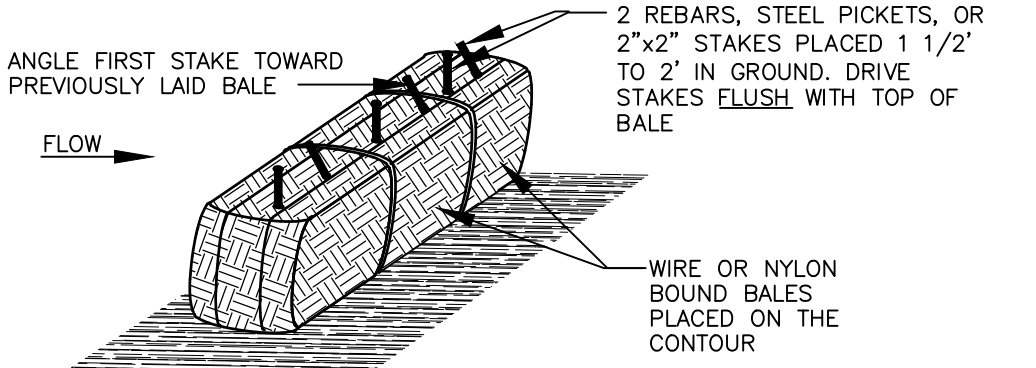
- NOTES:
1. INSTALL CLEANOUT AT HIGHEST INVERT ELEVATION
2. WRAP ENTIRE TRENCH IN FILTER FABRIC WHERE PERFORATED PIPE IS CALLED FOR.
3. GRAVEL COVER OVER PIPE SHALL BE ONLY 8" IN TRENCHES WHERE SOLID PIPE IS SPECIFIED, COMMON BACKFILL SHALL EXTEND FROM GRAVEL COVER TO 4" TOPSOIL IN TRENCHES WHERE SOLID PIPE IS SPECIFIED.



INLET PROTECTION DETAIL
NOT TO SCALE



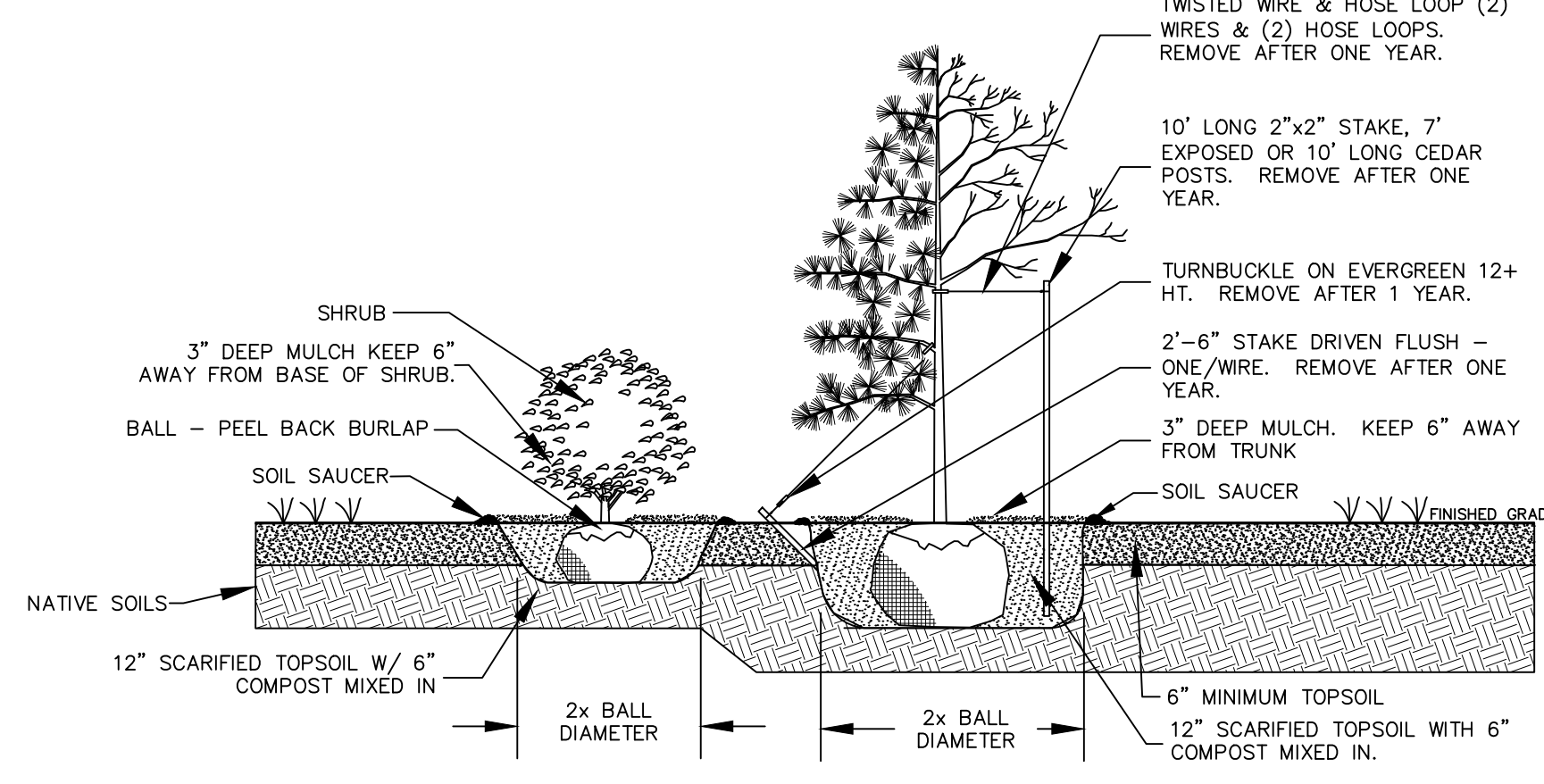
BEDDING DETAIL
NOT TO SCALE



ANCHORING DETAIL
NOT TO SCALE

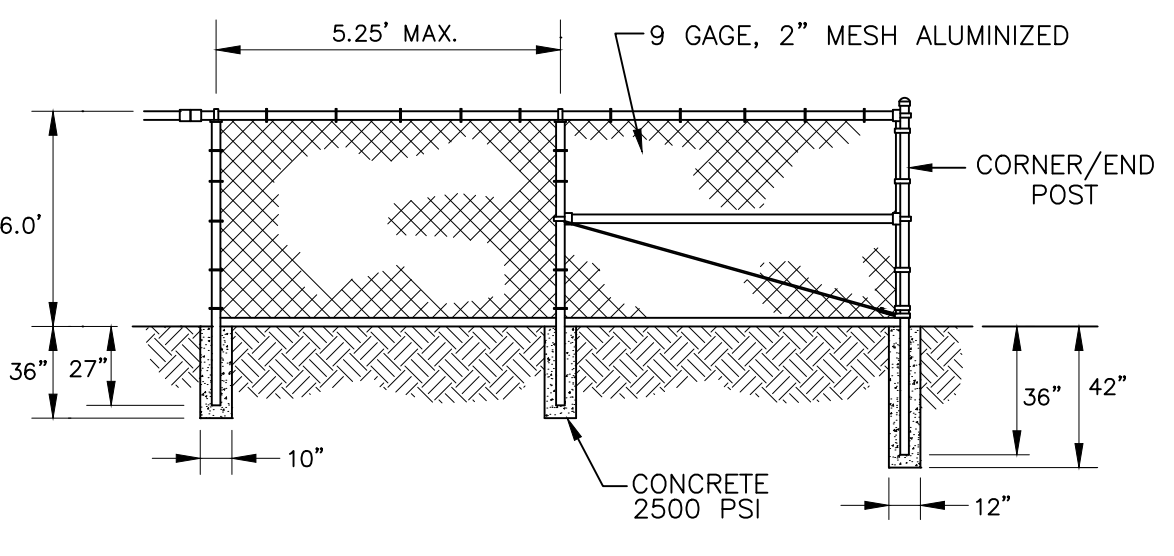
- CONSTRUCTION SPECIFICATIONS**
1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4", AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE DIKE
NOT TO SCALE



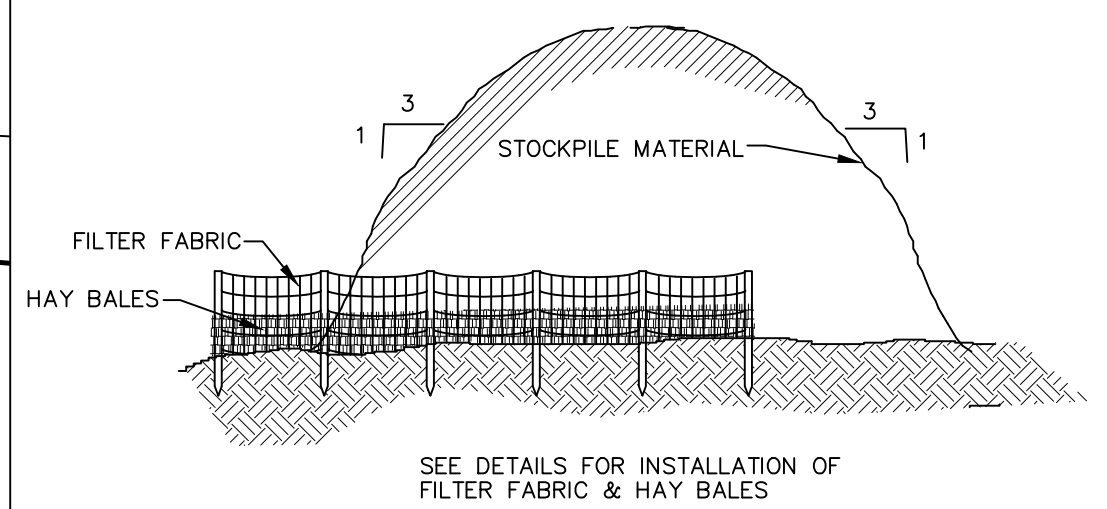
PLANTING DETAIL
NOT TO SCALE

- NOTES:
1. OPPOSITE HALF OF DECIDUOUS AND EVERGREEN TREE IS SIMILAR.



CHAIN LINK PRIVACY FENCE DETAIL
NOT TO SCALE

- NOTES:
1. PRIVACY SLATS SHALL BE INSTALLED FOR SCREENING.



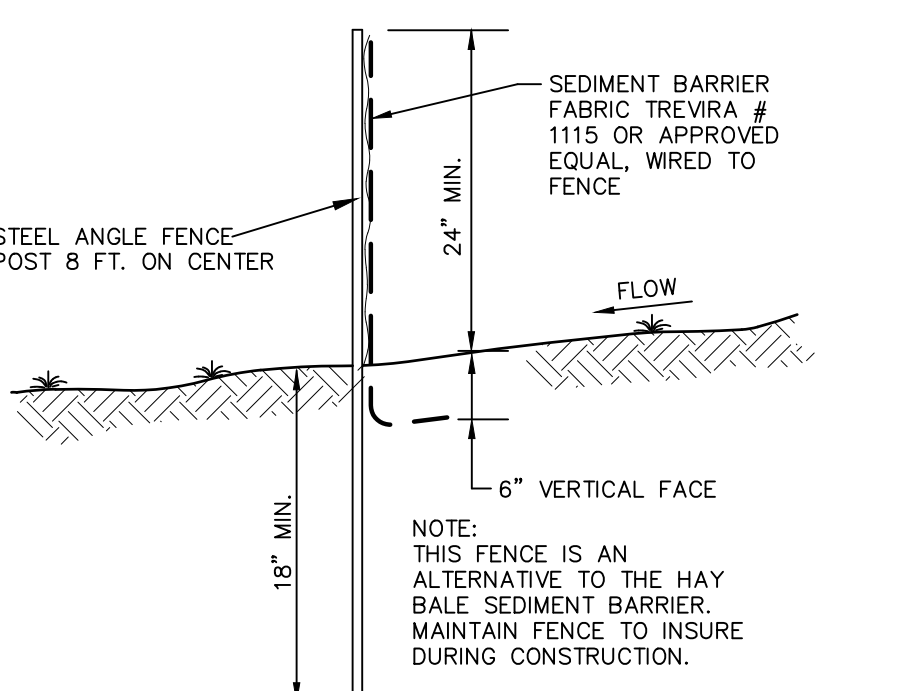
TYPICAL STOCKPILE DETAIL
NOT TO SCALE

CONSTRUCTION SEQUENCE

- CLEAR ALL AREAS OF THE SITE THAT WILL BE AFFECTED BY THE PROPOSED DRIVEWAY AND BUILDING CONSTRUCTION. [3 DAYS]
- INSTALL SEDIMENT BARRIERS AS SHOWN ON THESE PLANS AND DETAIL SHEETS. [1 DAY]
- INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AS SHOWN. [1 DAY]
- STRIP AND GRADE DRIVEWAY TO SUBGRADE AND STOCKPILE TOPSOIL IN APPROVED LOCATIONS. STABILIZE STOCKPILE WITH TEMPORARY SEEDING AND CONSTRUCTION SEDIMENT BARRIER AROUND STOCKPILE. TOPSOIL STOCKPILES SHOWN ARE LOCATED 10-FEET FROM THE DWELLING TO PERMIT CONSTRUCTION ACTIVITIES AND ARE OF ADEQUATE SIZE TO ACCOMMODATE ALL REQUIRED TOPSOIL THAT IS STRIPPED. [3 DAYS]
- STABILIZE ALL DISTURBED AREAS NOT AFFECTED BY BUILDING CONSTRUCTION WITH TEMPORARY SEEDING AND MULCHING MIXTURE. INSTALL EROSION CONTROL MATTING ON SEED STEEP SLOPES. [2 DAYS]
- CONSTRUCT ALL UNDERGROUND UTILITIES AND DRAINAGE FACILITIES WITHIN THE PROPOSED ROADWAYS, REPLACING CONSTRUCTION PAD ENTRANCE AS REQUIRED. INSTALL SILTATION BARRIERS AROUND ANY INLETS. [3 DAYS]
- BEGIN CONSTRUCTION OF INDIVIDUAL DWELLING. [120 DAYS]
- AFTER COMPLETION OF INDIVIDUAL LOT IMPROVEMENTS, REPLACE TOPSOIL STOCKPILES, INSTALL DRIVEWAY BASE AND SURFACE COURSE. [7 DAYS]
- PERFORM FINE GRADING, CONSTRUCT RAIN GARDEN AND INSTALL TREES. [5 DAYS]
- AFTER PERMANENT PLANTING & SEED HAVE BECOME ESTABLISHED, REMOVE SEDIMENT BARRIERS AND PERMANENTLY SEED ANY REMAINING DISTURBED AREAS. [2 DAYS]

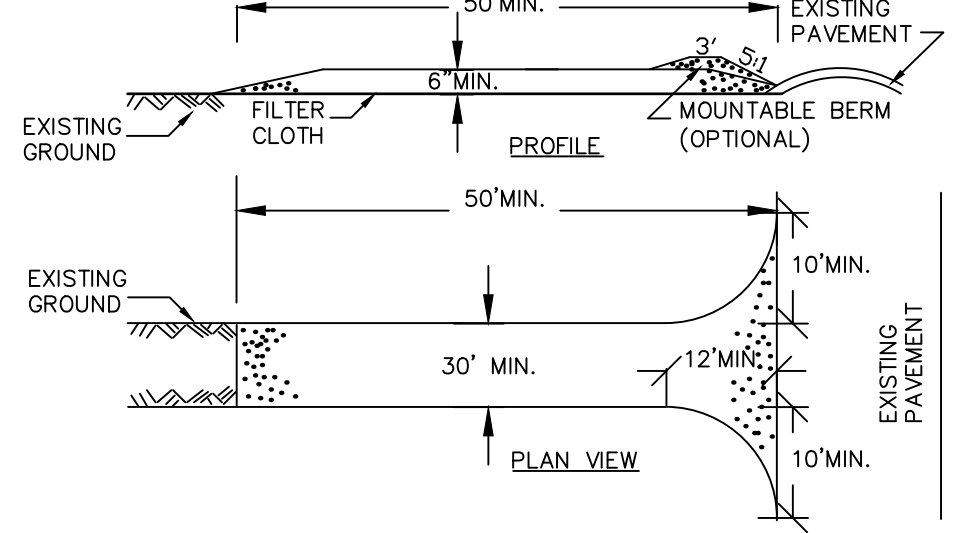
LEGEND

- EXISTING UTILITY POLE
- EXISTING OVERHEAD WIRES
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING HDPE PIPE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED 3/4" WATER SERVICE LINE
- PROPOSED 4" SDR 35 SEWAGE DISPOSAL LATERAL
- PROPOSED ZONING SETBACK
- PROPOSED DRIVEWAY
- EXISTING ADJACENT DWELLING



SILT FENCE
NOT TO SCALE

- CONSTRUCTION SPECIFICATIONS**
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



CONSTRUCTION SPECIFICATIONS

- STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
- THICKNESS - NOT LESS THAN SIX (6) INCHES.
- 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.
- FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
- 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.
- 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 TRACED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- WHEN PAVING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



Dig Safely. New York
Call 811
before you dig

REVISION	BY	DATE	DESCRIPTION
2	MM	10/25/16	REVISIONS PER FPC 1/8/16 LETTER & 1/7/16 L&T LETTER
1	MM	1/14/16	REVISIONS PER FPC 1/8/16 LETTER & 1/7/16 L&T LETTER

ARDEN CONSULTING ENGINEERS, PLLC
P.O. BOX 340 MONROE, N.Y.
TEL: (845) 782-8114 FAX: (845) 238-3527
WWW.ARDENCONSULTING.NET

2-LOT SUBDIVISION FOR
DELLAPORTAS ENTERPRISES I
CITY OF BEACON
COUNTY OF DUTCHESS, NEW YORK

EROSION & SEDIMENT CONTROL PLAN
& LANDSCAPING DETAILS

JOB#: 14-008
SCALE: AS NOTED
DATE: 11-30-15
DRAWN: MM
CHECKED: MM
SHEET NO. 3 of 3

MICHAEL A. MORGANTE, P.E.
LIC. NO. 78577

WARNING- IT IS A VIOLATION OF NEW YORK EDUCATIONAL LAW, SECTION 7209.2, FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATIONAL LAW, SECTION 7209.2

ONLY MAPS WITH EMBOSSED SEALS ARE GENUINE COPIES OF THE ORIGINAL WORK AND OPINION. MAPS NOT BEARING EMBOSSED SEALS SHOULD NOT BE RELIED UPON SINCE OTHER THAN EMBOSSED-SEAL COPIES MAY CONTAIN UNAUTHORIZED AND UNDETECTABLE MODIFICATIONS, DELETIONS, ADDITIONS AND CHANGES.

City of Beacon Planning Board
1/8/2019

Title:

511 Fishkill Avenue

Subject:

Public hearing on application to amend an existing Site Plan Approval, brewery and related uses, submitted by Jeff O'Neil, 511 Fishkill Avenue

Background:

ATTACHMENTS:

Description	Type
511 Fishkill Avenue Sheet Cover Letter	Cover Memo/Letter
511 Fishkill Avenue Sheet Architect Cover Letter	Cover Memo/Letter
511 Fishkill Avenue Sheet Long Form EAF	EAF
511 Fishkill Avenue Sheet Compiled SWPPP	Backup Material
511 Fishkill Avenue Sheet 1 Site Plan	Plans
511 Fishkill Avenue Sheet 2 Existing Conditions	Plans
511 Fishkill Avenue Sheet 3 Previously Approved Site Plan	Plans
511 Fishkill Avenue Sheet 4 Previously Approved Landscape Plan	Plans
511 Fishkill Avenue Sheet 5 Elevations	Plans
511 Fishkill Avenue Sheet 6 Plans	Plans
511 Fishkill Avenue Sheet 7 Large 1st Floor Plan	Plans
511 Fishkill Avenue Sheet 8 Large 2nd Floor Plan	Plans
511 Fishkill Avenue Sheet 9 Grading Plan	Plans
511 Fishkill Avenue Sheet 10 ESC Plan	Plans
511 Fishkill Avenue Sheet 11 Utility Plan	Plans
511 Fishkill Avenue Sheet 12 Construction Details	Plans
511 Fishkill Avenue Sheet 13 Construction Details	Plans
DC Referral Response	Backup Material



*Civil & Environmental Engineering Consultants
174 Main Street, Beacon, New York 12508
Phone: 845-440-6926 Fax: 845-440-6637
www.HudsonLandDesign.com*

December 26, 2018

Mr. John Gunn, Chairman & Members of the City of Beacon Planning Board
1 Municipal Center
Beacon, NY 12508

Re: Site Plan
511 Fishkill Avenue (NYS Route 52)
Tax parcel: 6055-04-580285 (±10.33 acres)
City of Beacon, NY

Dear Chairman Gunn & Members of the City of Beacon Planning Board:

On behalf of the Applicant for the above referenced project, Hudson Land Design (HLD) has revised portions of the site plan set in response to the City Engineer's and the City Planner's comment letters. The project architect's response letter of December 25, 2018 addresses the majority of the comments. The following is a point-by-point response to each of the comments received that were not addressed by the project architect (or a supplementary response):

Lanc & Tully's December 7, 2018 Review Letter:

General Comments:

6. The preliminary SWPPP is provided with this submittal.

Sheet 9 of 13:

1. A north arrow has been provided on the sheet.

Sheet 10 of 13:

1. Silt fencing is shown.

Sheet 11 of 13:

1. The callouts have been relocated to the reputed existing service locations.
2. Storm structure and pipe tables have been added to the sheet.
3. The existing storm structure on the north side of the site was covered with stone and the surveyor was unaware of its existence. HLD personnel measured down to the inverts and added the approximate location of the basin and the inverts to the plan. We have added notes that the pipe and structure location, size, inverts shall

be field verified prior to construction. It should be noted that the previously approved plans called the pipe out as 18”.

4. Bypass callouts have been updated to show the inlet, discharge and the manhole that necessitates the bypass.
5. The trench drain and grading has been slightly modified to provide a more perpendicular orientation.

Sheet 12 of 13:

1. We have maintained the accessible parking detail until such time that the parking as proposed is accepted. If the Board disagrees with the shared parking arrangement as proposed, then additional accessible spaces may be warranted.

Sheet 13 of 13:

1. Maintenance schedules have been added to the utility plan sheet.

John Clarke Planning and Design’s December 7, 2018 Review Letter:

7. The truck turning diagram has been added to the site plan sheet.

We look forward to continuing the discussion of the proposal with the Planning Board at its next meeting. Included with the submittal in addition to those items noted in the project architect’s cover sheet are three (3) copies of the revised EAF and the preliminary SWPPP. Should you have any questions or require additional information, please feel free to call me at 845-440-6926.

Sincerely,



Daniel G. Koehler, P.E.
Principal

cc: Applicants (via email)
Aryeh Siegel, project Architect (via email)
Michael A. Bodendorf, P.E. (HLD File)

ARYEH SIEGEL

ARCHITECT

Etha Grogan
Planning Board Secretary
City of Beacon
One Municipal Plaza
Beacon, NY 12508

Re: 511 Fishkill Avenue
Site Plan Application

December 25, 2018

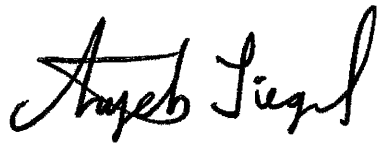
Dear Etha,

Please find enclosed:

- (5) sets of drawings, dated December 25, 2018
- Electronic Files on CDROM

Thank you. Please let me know if you have any questions.

Sincerely,



Aryeh Siegel
Aryeh Siegel, Architect

ARYEH SIEGEL

ARCHITECT

John Gunn - Planning Board Chairman
City of Beacon
One Municipal Plaza
Beacon, NY 12508

Re: 511 Fishkill Avenue Street, Beacon, New York
Site Plan Application – Responses to Comments

December 25, 2018

Dear Chairman Gunn and Members of the Planning Board,

Below please find our responses to the comments included in John Clarke Planning and Design's Memorandum, dated December 7, 2018. Please refer to Hudson Land Design's response letter regarding Lanc & Tully's letter dated December 4, 2018.

John Clarke Planning and Design Comment Responses:

1. Comment acknowledged. The existing chain link fence along Fishkill Avenue is shown to be removed on the survey / existing conditions plan on Sheet 2.
2. Comment acknowledged.
3. Comment acknowledged. The EAF has been revised.
4. The parking spaces are 18' long, with generally 24' aisles, except as required to maintain the number of parking spaces proposed along the perimeter of the lot. So in some cases the aisles exceed 24' in order to maintain the parking count.
5. Trees have been added in the new parking lot.
6. A sidewalk connection from the new parking lot to the building entrance has been added.
7. The turning radius for trucks will be confirmed.
8. ADA parking will remain where it is because of grading issues near the building. A crosswalk has been added to the site plan.

84 Mason Circle
Beacon, New York 12508

ajs@ajsarch.com
www.ajsarch.com

Tel 845 838 2490
Fax 845 838 2657

ARYEH SIEGEL
ARCHITECT

9. The proposed lighting fixture specification has been added to the plan. The fixture matches the existing installed fixtures.
10. New landscaping has been noted. The tree types are based on the existing planting schedule included in the submission.

Lanc & Tully Comment Responses:
General Comments

1. The project title has been changed on the engineering drawings to make them consistent with the 511 Fishkill Avenue title on the Site Plan drawings.
2. Question E.2.h.iv of the EAF has been modified.
3. Question E.3.h of the EAF has been modified.
4. The Applicant is in the process of obtaining proposals from a traffic consultant. The consultant will coordinate with NYSDOT requirements.
5. Comment acknowledged.
6. A SWPPP will be provided, as well as the soil test results.

Sheet 1 of 13

1. The numbers on the isometric lighting lines has been enlarged for clarity.
2. The fire egress door has been eliminated due to a plan change.
3. A legend has been added to the site plan.
4. The graphic scale is no longer obscured
5. A north arrow has been provided.
6. Lighting in the new parking lot has been modified for additional coverage.

Thank you. Please let me know if you have any questions.

ARYEH SIEGEL

ARCHITECT

Sincerely,

A handwritten signature in black ink, reading "Aryeh Siegel". The signature is written in a cursive, flowing style with a large initial 'A'.

Aryeh Siegel
Aryeh Siegel, Architect

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

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

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

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

A. Project and Sponsor Information.

Name of Action or Project: 511 Fishkill Avenue		
Project Location (describe, and attach a general location map): 511 Fishkill Avenue		
Brief Description of Proposed Action (include purpose or need): Amend previously approved Site Plan Application per new tenant uses: 37,247 s.f. brewery 72,428 s.f. warehouse 11,381 s.f. arcade (commercial recreation) 2,296 s.f. office (accessory to brewery use) 4,965 s.f. event space / lounge (accessory to brewery)		
Name of Applicant/Sponsor: DP108, LLC	Telephone: (914) 773-6248	E-Mail: ron.roth@dpmgt.com
Address: 333 N Bedford Road, Suite 145		
City/PO: Mount Kisco	State: NY	Zip Code: 10549
Project Contact (if not same as sponsor; give name and title/role): Same As Sponsor	Telephone:	E-Mail:
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Same As Sponsor	Telephone:	E-Mail:
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. (“Funding” includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No or Village Board of Trustees		
b. City, Town or Village Planning Board or Commission <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Planning Board: Site Plan Approval	November 27, 2018
c. City Council, Town or Village Zoning Board of Appeals <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
d. Other local agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
e. County agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
f. Regional agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
g. State agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	NYSDEC - SPDES Stormwater Coverage	~ April 2019
h. Federal agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
i. Coastal Resources. <ul style="list-style-type: none"> i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? <input type="checkbox"/> Yes<input checked="" type="checkbox"/> No ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? <input checked="" type="checkbox"/> Yes<input type="checkbox"/> No iii. Is the project site within a Coastal Erosion Hazard Area? <input type="checkbox"/> Yes<input checked="" type="checkbox"/> No 		

C. Planning and Zoning

C.1. Planning and zoning actions.

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

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

C.2. Adopted land use plans.

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

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

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

If Yes, identify the plan(s):

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

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. Yes No
If Yes, what is the zoning classification(s) including any applicable overlay district?
HI - Heavy Industrial

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

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

C.4. Existing community services.

a. In what school district is the project site located? Beacon City School District

b. What police or other public protection forces serve the project site?
City of Beacon

c. Which fire protection and emergency medical services serve the project site?
City of Beacon

d. What parks serve the project site?
Memorial Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Industrial, commercial, recreational

b. a. Total acreage of the site of the proposed action? 9.787 acres
b. Total acreage to be physically disturbed? 1.159 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 9.787 acres

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

d. Is the proposed action a subdivision, or does it include a subdivision? Yes No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? Yes No
iii. Number of lots proposed?
iv. Minimum and maximum proposed lot sizes? Minimum Maximum

e. Will proposed action be constructed in multiple phases? Yes No
i. If No, anticipated period of construction: 18 months
ii. If Yes:
• Total number of phases anticipated
• Anticipated commencement date of phase 1 (including demolition) month year
• Anticipated completion date of final phase month year
• Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

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

If Yes, show numbers of units proposed.

	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

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

If Yes,

i. Total number of structures _____

ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length

iii. Approximate extent of building space to be heated or cooled: _____ square feet

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

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: Ground water Surface water streams Other specify: _____

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

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

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

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

D.2. Project Operations

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

If Yes:

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

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

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

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

iv. Will there be onsite dewatering or processing of excavated materials? Yes No
If yes, describe. _____

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

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

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

viii. Will the excavation require blasting? Yes No

ix. Summarize site reclamation goals and plan: _____

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

If Yes:

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

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

iii. Will proposed action cause or result in disturbance to bottom sediments? Yes No

If Yes, describe: _____

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

If Yes:

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

v. Describe any proposed reclamation/mitigation following disturbance: _____

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

If Yes:

i. Total anticipated water usage/demand per day: _____ 10,061 gallons/day

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

If Yes:

- Name of district or service area: City of Beacon Water
- Does the existing public water supply have capacity to serve the proposal? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No
- Do existing lines serve the project site? Yes No

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

If Yes:

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

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

If Yes:

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

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

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

d. Will the proposed action generate liquid wastes? (Waste < water due to product (beer) and byproducts that do not reach the sanitary sewer) Yes No

If Yes:

i. Total anticipated liquid waste generation per day: _____ 6,494 gallons/day

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

Sanitary sewage

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

If Yes:

- Name of wastewater treatment plant to be used: City of Beacon
- Name of district: City of Beacon
- Does the existing wastewater treatment plant have capacity to serve the project? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No

• Do existing sewer lines serve the project site? Yes No
 • Will line extension within an existing district be necessary to serve the project? Yes No
 If Yes:
 • Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? Yes No
 If Yes:
 • Applicant/sponsor for new district: _____
 • Date application submitted or anticipated: _____
 • What is the receiving water for the wastewater discharge? _____

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

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____
 none _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? Yes No
 If Yes:
 i. How much impervious surface will the project create in relation to total size of project parcel?
 _____ Square feet or 0.66 acres (impervious surface)
 _____ Square feet or 9.787 acres (parcel size)
 ii. Describe types of new point sources. Surface stormwater runoff _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?
Stormwater runoff from the new parking area will be directed to stormwater collection system that will treat quality and quantity per NYSDEC standards prior to discharging to the same pre-development location _____

 • If to surface waters, identify receiving water bodies or wetlands: _____
Fishkill Creek _____

 • Will stormwater runoff flow to adjacent properties? Yes No

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

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? Yes No
 If Yes, identify:
 i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles) _____

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

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

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? Yes No
 If Yes:
 i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) Yes No
 ii. In addition to emissions as calculated in the application, the project will generate:
 • _____ Tons/year (short tons) of Carbon Dioxide (CO₂)
 • _____ Tons/year (short tons) of Nitrous Oxide (N₂O)
 • _____ Tons/year (short tons) of Perfluorocarbons (PFCs)
 • _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆)
 • _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflouorocarbons (HFCs)
 • _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

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

If Yes:

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

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

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

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

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

If Yes:

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

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing 116 Proposed 205 Net increase/decrease +79

iv. Does the proposed action include any shared use parking? Yes No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____

vi. Are public/private transportation service(s) or facilities available within 1/2 mile of the proposed site? Yes No

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

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

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

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____
300,000 kWh

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):
Central Hudson - gas and electric

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

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

<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 7am - 5pm • Saturday: _____ 7am - 5pm • Sunday: _____ • Holidays: _____ 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 7am - 11pm • Saturday: _____ 7am - 11pm • Sunday: _____ 7am - 11pm • Holidays: _____ 7am - 11pm
--	---

<p>m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes:</p> <p>i. Provide details including sources, time of day and duration:</p> <p>_____</p> <p>_____</p>	
<p>ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Describe: _____</p> <p>_____</p>	
<p>n.. Will the proposed action have outdoor lighting? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes:</p> <p>i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:</p> <p> <u>Parking lot lighting - 16' high, shielded to prevent light spill onto neighboring properties</u></p> <p>_____</p>	
<p>ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe: _____</p> <p>_____</p>	
<p>o. Does the proposed action have the potential to produce odors for more than one hour per day? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____</p> <p>_____</p> <p>_____</p>	
<p>p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Product(s) to be stored _____</p> <p>ii. Volume(s) _____ per unit time _____ (e.g., month, year)</p> <p>iii. Generally describe proposed storage facilities: _____</p> <p>_____</p>	
<p>q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe proposed treatment(s):</p> <p>_____</p> <p>_____</p> <p>_____</p>	
<p>ii. Will the proposed action use Integrated Pest Management Practices? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes:</p> <p>i. Describe any solid waste(s) to be generated during construction or operation of the facility:</p> <ul style="list-style-type: none"> • Construction: _____ tons per _____ (unit of time) • Operation : _____ tons per _____ (unit of time) <p>ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:</p> <ul style="list-style-type: none"> • Construction: <u>general recycling</u> _____ • Operation: <u>general recycling</u> _____ <p>iii. Proposed disposal methods/facilities for solid waste generated on-site:</p> <ul style="list-style-type: none"> • Construction: <u>on-site roll-off container</u> _____ • Operation: <u>dumpster</u> _____ 	

s. Does the proposed action include construction or modification of a solid waste management facility? Yes No
 If Yes:
 i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____
 ii. Anticipated rate of disposal/processing:
 • _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
 • _____ Tons/hour, if combustion or thermal treatment
 iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? Yes No
 If Yes:
 i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

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

 iii. Specify amount to be handled or generated _____ tons/month
 iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

 v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? Yes No
 If Yes: provide name and location of facility: _____

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

E. Site and Setting of Proposed Action

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

a. Existing land uses.
 i. Check all uses that occur on, adjoining and near the project site.
 Urban Industrial Commercial Residential (suburban) Rural (non-farm)
 Forest Agriculture Aquatic Other (specify): _____
 ii. If mix of uses, generally describe:
 Industrial, prison, residential

b. Land uses and coverytypes on the project site.

Land use or Coverytype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	4.80	5.47	+0.67
• Forested	0.38	0.38	---
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	4.24	3.64	-0.60
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	---
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	---
• Wetlands (freshwater or tidal)	0	0	---
• Non-vegetated (bare rock, earth or fill)	0	0	---
• Other Describe: Gravel Drive _____	0.37	0.30	-0.07

c. Is the project site presently used by members of the community for public recreation? Yes No
i. If Yes: explain: _____

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

e. Does the project site contain an existing dam? Yes No
If Yes:
i. Dimensions of the dam and impoundment:
• Dam height: _____ feet
• Dam length: _____ feet
• Surface area: _____ acres
• Volume impounded: _____ gallons OR acre-feet
ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? Yes No
If Yes:
i. Has the facility been formally closed? Yes No
• If yes, cite sources/documentation: _____
ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

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

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? Yes No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? Yes No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes No
 Yes – Spills Incidents database Provide DEC ID number(s): _____
 Yes – Environmental Site Remediation database Provide DEC ID number(s): _____
 Neither database
ii. If site has been subject of RCRA corrective activities, describe control measures: _____
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? Yes No
If yes, provide DEC ID number(s): 314004
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):
Tuck Industries - Classification: completed

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

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

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? _____ >6 feet

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

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

Ur	_____	50 %
BeB	_____	36.5 %
Ud	_____	13.5 %

d. What is the average depth to the water table on the project site? Average: _____ feet

e. Drainage status of project site soils: Well Drained: _____ 100 % of site
 Moderately Well Drained: _____ % of site
 Poorly Drained _____ % of site

f. Approximate proportion of proposed action site with slopes: 0-10%: _____ 70 % of site
 10-15%: _____ 10 % of site
 15% or greater: _____ 20 % of site

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

h. Surface water features.

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

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

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

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

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

- Streams: Name Fishkill Creek (opposite Route 52) Classification Class C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? Yes No
 If yes, name of impaired water body/bodies and basis for listing as impaired: _____

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

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

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

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? Yes No
 If Yes:
 i. Name of aquifer: _____

<p>m. Identify the predominant wildlife species that occupy or use the project site: _____</p> <p>squirrels _____</p> <p>deer _____</p> <p>small birds _____</p>	
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Describe the habitat/community (composition, function, and basis for designation): _____</p> <p style="margin-left: 20px;">ii. Source(s) of description or evaluation: _____</p> <p style="margin-left: 20px;">iii. Extent of community/habitat:</p> <ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres 	
<p>o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Indiana Bat</p>	
<p>p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, give a brief description of how the proposed action may affect that use: _____</p> <p>_____</p>	
E.3. Designated Public Resources On or Near Project Site	
<p>a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, provide county plus district name/number: _____</p>	
<p>b. Are agricultural lands consisting of highly productive soils present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p style="margin-left: 20px;">i. If Yes: acreage(s) on project site? _____</p> <p style="margin-left: 20px;">ii. Source(s) of soil rating(s): _____</p>	
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature</p> <p style="margin-left: 20px;">ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____</p> <p>_____</p> <p>_____</p>	
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. CEA name: _____</p> <p style="margin-left: 20px;">ii. Basis for designation: _____</p> <p style="margin-left: 20px;">iii. Designating agency and date: _____</p>	

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes:	
<i>i.</i> Nature of historic/archaeological resource: <input type="checkbox"/> Archaeological Site <input type="checkbox"/> Historic Building or District	
<i>ii.</i> Name: _____	
<i>iii.</i> Brief description of attributes on which listing is based: _____	
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
g. Have additional archaeological or historic site(s) or resources been identified on the project site?	
If Yes:	
<i>i.</i> Describe possible resource(s): _____	
<i>ii.</i> Basis for identification: _____	
h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes:	
<i>i.</i> Identify resource: _____	
<i>ii.</i> Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____	
<i>iii.</i> Distance between project and resource: _____ miles.	
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes:	
<i>i.</i> Identify the name of the river and its designation: _____	
<i>ii.</i> Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	

F. Additional Information

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

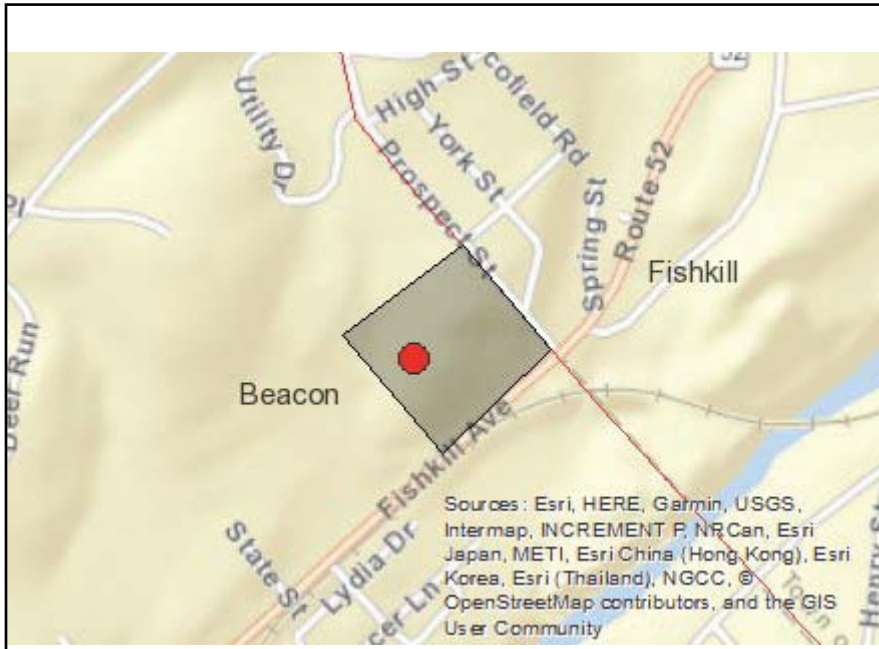
If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

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

Applicant/Sponsor Name James Diamond Date November 27, 2018 Updated 12/26/18

Signature:  Title Co-Manager



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



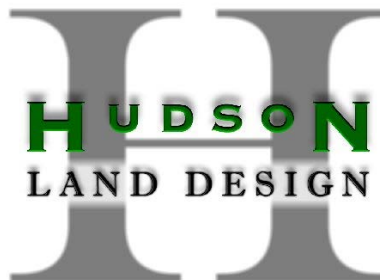
B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	314004
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes

E.2.o. [Endangered or Threatened Species - Name]	Indiana Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

***Preliminary Stormwater Pollution Prevention Plan:
for
511 Fishkill Avenue***

Prepared for:
Diamond Properties, LLC
333 N. Bedford Road, Suite 145
Mt. Kisco, NY 10549

December 26, 2018



Prepared by:
Hudson Land Design Professional Engineering, P.C.
174 Main Street
Beacon, NY 12508

TABLE OF CONTENTS

1.0 INTRODUCTION.....	4
1.1 Overview	4
1.2 Land Disturbance	5
2.0 PROJECT DESCRIPTION.....	5
2.1 Project Location	5
2.2 Project Scope and Description	5
2.3 Surface Water Bodies.....	6
2.3.1 Wetlands	6
2.3.2 Streams.....	6
2.3.3 Floodplains.....	6
3.0 NOTICE OF INTENT	6
4.0 SOILS	6
5.0 RAINFALL	7
5.1 Overview	7
5.2 Rainfall Event Sizing Criteria	7
6.0 STORMWATER ANALYSIS AND MANAGEMENT	8
6.1 Methodology	8
6.1.1 Hydrologic Analysis	8
6.1.2 Stormwater Design Points.....	8
6.2 Pre-Development Watershed Conditions	8
6.3 Post-Development Watershed Conditions	9
6.4 Hydrologic Review	9
6.5 Stormwater Management System.....	10
6.6 Hydraulic Calculations.....	10
6.7 Green Infrastructure for Stormwater Management	10
6.7.1 Green Infrastructure Practices.....	10
6.7.2 Five Step Process for Stormwater Site Planning and Selection Design	11
6.8 Qualitative Practices.....	11
6.8.2 Pre-Treatment Practices	12
6.8.3 Treatment Practices.....	13
6.9 Runoff Reduction Volume (RRv)	14
6.10 Soil Restoration	15
6.10.1 Soil Restoration Methods.....	16
7.0 EROSION AND SEDIMENT CONTROL	16
7.1 Overview.....	16
7.2 Temporary Erosion and Sediment Control Measures	16

7.2.1	Silt Fence	17
7.2.2	Stabilized Construction Entrance.....	17
7.2.3	Check Dams.....	17
7.2.4	Inlet Protection.....	17
7.2.5	Temporary Channels.....	18
7.2.6	Sediment Traps & Sediment Basins	18
7.2.7	Water Bars	18
7.2.8	Straw Bale Barriers.....	18
7.2.9	Temporary Soil Stockpiles.....	19
7.2.10	Dust Control.....	19
7.2.11	Temporary Soil Stabilization Practices.....	19
7.3	Permanent Erosion and Sediment Control Measures	20
7.3.1	Outlet Protection	20
7.3.2	Permanent Soil Stabilization Practices	20
7.4	Erosion and Sediment Control Sequencing Schedule	21
7.5	Maintenance Schedules.....	21
7.6	Construction Staging Areas.....	22
7.7	Site Assessments, Inspections and Reporting	22
7.7.1	Prior to Construction.....	22
7.7.2	During Construction.....	22
7.7.3	Quarterly Report	24
7.7.4	End of Term	24
7.8	Construction Log Book	25
8.0	GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES	
	25	
8.1	Waste Materials.....	25
8.2	Chemical.....	25
8.3	Fuels and Oil	25
8.4	Fertilizers.....	26
8.5	Paint.....	26
8.6	Sanitary Waste Facilities.....	26
8.7	Container Disposal	26
8.8	Concrete and Asphalt Trucks	26
8.9	Site Supervisor	26
9.0	SWPPP AMENDMENT	26
10.0	CONTRACTOR CERTIFICATIONS	27
11.0	OWNER/OPERATOR CERTIFICATION.....	27
12.0	CONCLUSIONS.....	27

APPENDICES

APPENDIX A:	NOTICE OF INTENT AND MS4 ACCEPTANCE
APPENDIX B:	SOILS DATA
APPENDIX C:	RAINFALL DATA
APPENDIX D:	PRE-DEVELOPMENT HYDROCAD MODEL
APPENDIX E:	POST-DEVELOPMENT HYDROCAD MODEL
APPENDIX F:	STORM WATER MANAGEMENT PRACTICE DESIGN
APPENDIX G:	PRE-CONSTRUCTION SITE ASSESSMENT CHECKLIST
APPENDIX H:	INFILTRATION BASIN CONSTRUCTION CHECKLIST
APPENDIX I:	CONTRACTOR AND SUBCONTRACTOR CERTIFICATIONS
APPENDIX J:	QUALIFIED PROFESSIONAL'S CERTIFICATION
APPENDIX K:	OWNER/OPERATOR CERTIFICATION
APPENDIX L:	POST-DEVELOPMENT MAINTENANCE AND INSPECTION CHECKLIST
APPENDIX M:	CONSTRUCTION INSPECTION REPORT
APPENDIX N:	NOTICE OF TERMINATION
APPENDIX O:	DRAINAGE MAPS

1.0 INTRODUCTION

1.1 Overview

This Stormwater Pollution Prevention Plan (SWPPP) has been developed in accordance with NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-15-002, dated May 1, 2015 which authorizes stormwater discharges to surface waters of the State from the following construction activities identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

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

This project qualifies for SPDES coverage under provision 3 as stated above.

The objectives of this SWPPP are as follows:

- To develop a sediment and erosion control plan in accordance with the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, latest edition, which implements best management practices to stabilize disturbed areas, protect off site areas and sensitive areas and minimize the transport of sediment.
- To demonstrate that the resulting stormwater runoff from the development exiting the site will not adversely impact offsite properties, stormwater conveyance systems or receiving water bodies, and that temporary and permanent stormwater systems and facilities are designed in accordance with the latest revision to the New York State Stormwater Management Design Manual, January 2015.
- To demonstrate that a minimum of 90% of the average annual stormwater runoff from the development is captured and treated through approved water quality measures.

A copy of the Permit, SWPPP, Notice of Intent (NOI), NOI acknowledgment letter, inspection reports and accompanying plans shall be maintained on-site from the date of initiation of construction activities to the date of final stabilization. This SWPPP shall be kept on-site in accordance with the above requirement upon mobilization and start of construction activities.

1.2 Land Disturbance

Per the General Permit, no more than five (5) acres of land disturbance may occur at any one time without written approval from the NYSDEC. At a minimum, the owner or operator must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

- a. The owner or operator shall have a qualified inspector conduct at least two (2) site inspections every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
- b. In areas where soil disturbance activity has been temporarily or permanently ceased and is located in one of the watersheds [NYCDEP], the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity has ceased. The soil stabilization measures selected shall be in conformance with the current version most of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control.
- c. The owner or operator shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
- d. The owner or operator shall install any additional site-specific practices needed to protect water quality.

The project calls for clearing of vegetation, installation of utilities and associated grading for the construction of a parking lot area with new sidewalk to serve the project. The limits of soil disturbance has been calculated to be 1.16 acres; therefore, a phasing plan for erosion control purposes will not be developed.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The project site is located at 511 Fishkill Avenue (NYS Route 52), in the City of Beacon, Dutchess County, New York, and is located on the west side of the road. The total parcel area is approximately 10.33 acres, while the development of the additional parking area is approximately 1.16 acres. The project study area, regarding storm water pollution prevention, consists of approximately 1.05 acres (total area contributing to the design point identified in the SWPPP), and consists of grassed area, a gravel drive and a small contributing area of impervious asphalt parking lot.

2.2 Project Scope and Description

The construction project entails the construction of an additional parking area on the northern side of the existing industrial building due to a change in use.

The proposed project will disturb approximately 1.16 acres of on-site area. Development of a phasing plan is not necessary due to less than 5.0-acres of disturbance.

2.3 Surface Water Bodies

2.3.1 Wetlands

The NYSDEC and USACE wetland maps do not indicate that wetlands are present within the project area.

2.3.2 Streams

NYSDEC mapping indicates that there are no regulated streams located on the property.

2.3.3 Floodplains

Based upon a review of the National Flood Insurance Program Flood Insurance Rate Map panel 36027C 0464E for the City of Beacon, New York, the entire site lies within Zone X – areas determined to be outside the 100-year flood plain.

3.0 NOTICE OF INTENT

Prior to commencement of construction activities, the Owner/Operator shall submit a Notice of Intent (NOI) to the NYSDEC for authorization. The NYSDEC authorization schedule is as follows:

For construction activities that are not subject to the requirements of a regulated, traditional land use control MS4:

- Five (5) business days from the date the NYSDEC receives a complete NOI for construction activities with a SWPPP that has been prepared in conformance with the technical standards, or
- Sixty (60) business days from the date the NYSDEC receives a complete NOI for construction activities with a SWPPP that has not been prepared in conformance with the technical standards.

For construction activities that are subject to the requirements of a regulated, traditional land use control MS4:

- Five (5) business days from the date the NYSDEC receives a complete NOI and signed “MS4 SWPPP Acceptance” form.

The project area is under the control of a regulated MS4, therefore the NOI shall be submitted directly to the NYSDEC along with the MS4 SWPPP Acceptance form. A NOI and blank SWPPP Acceptance Form has been included within Appendix A.

4.0 SOILS

The hydrologic soil characteristics of the watershed areas were obtained from Soil Survey Mapping of Dutchess County, New York, and available Geographical Information Systems (GIS) and are as follows:

Symbol	Description	Hydrologic Soil Group
BeB	Bernardston Silt Loam, 3% to 8% slopes	D

SOIL PROPERTIES

Symbol	Water Table	Restrictive Layer	Bedrock	Erosion Hazard (k)
BeB	22"	>27"	>27"	0.32

Supporting information has been provided in Appendix B.

5.0 RAINFALL

5.1 Overview

The rainfall data utilized in the analysis of the watershed was obtained from <http://precip.eas.cornell.edu> as provided in the NYS Stormwater Design Manual dated January 2015. Supporting information has been provided in Appendix C. The storm events are as follows:

Storm Event	24-Hour Rainfall (in)
1 - year	2.61
10 - year	4.69
25 - year	5.88
100 - year	8.29

5.2 Rainfall Event Sizing Criteria

The stream channel protection volume (C_{pv}) criteria, intended to protect stream banks from erosion, will be demonstrated by providing 12-24 hour extended detention or infiltration of the Type III 1-year, 24-hour storm event. The channel protection volume criterion is not required where the resulting diameter of the extended detention basin orifice is less than three (3) inches with a trash rack.

The overbank flood control (Q_p) criteria, intended to prevent an increase in frequency and magnitude of out of bank flooding generated by new development, will be demonstrated by attenuating the Type III 10-year, 24-hour peak discharge rate to pre-development conditions. The overbank flood criteria can be waived if the project site discharges to a tidal water or fifth order stream.

The extreme flood control (Q_f) criteria, intended to prevent the increased risk of flood damage from large storm events, maintain the boundaries of pre-development conditions, and protect the physical integrity of stormwater management practices, will be demonstrated by attenuating the Type III 100-year, 24-hour peak discharge rate to pre-development conditions. The extreme

flood control criteria can be waived if the project site discharges to a tidal water or fifth order stream.

The pre-and post-development runoff rates were compared utilizing the Type III 1-year (channel protection), 10-year (overbank flood control), and 100-year (extreme flood control) year, 24-hour storm events.

The proposed drainage conveyance system will be designed utilizing the Type III, 25-year storm event.

6.0 STORMWATER ANALYSIS AND MANAGEMENT

6.1 Methodology

6.1.1 Hydrologic Analysis

The HydroCAD stormwater modeling system computer program by Applied Microcomputer Systems was used to analyze, design and document the complete drainage system. The program uses standard hydrograph generation and routing techniques based on the USDA-NRCS Technical Releases TR-20 and TR-55 to develop stormwater runoff rates and volumes.

The program determines the rate and volume of runoff based on inputs of the watershed area, and characteristics of the land including vegetative coverage, slope, soil type, and impervious area.

6.1.2 Stormwater Design Points

Design Points represent the location where the majority of runoff from an area exits the site. The same design points are identified in post-development conditions so that a comparison can be made between the pre-development and post-development conditions. Four design points for the main project area were selected, as follows:

Stormwater Design Points	
SDP	Description
1	Discharge from on-site area to existing stormwater conveyance system at northeast corner of existing building.

6.2 Pre-Development Watershed Conditions

All existing watershed areas are modeled in HydroCAD as 'subcatchment' areas. The pre-development areas are as follows:

Subcatchment 1 is comprised of approximately 0.94 acres of on-site area. The on-site area is undeveloped grassed area, gravel driveway and landscaped grassed area. The subcatchment area contains soil in hydrologic soil group D. Runoff from the subcatchment travels overland via sheet flow and shallow concentrated flow to SDP 1.

Detailed stormwater calculations and routing have been included in Appendix D.

The following table summarizes the pre-development watershed conditions:

Pre-Development Watershed Conditions					
Subcatchment	Area (ac)	Cover	Average Curve #	Hydrologic Soil Group(s)	Time of Concentration
1	0.94	Grassed area, gravel driveway and some impervious parking area	81	D	6.0 minutes

6.3 Post-Development Watershed Conditions

The proposed development will result in a disturbance of approximately 1.16 acres. The land cover will consist of mainly impervious asphalt parking area, with some grassy landscaped areas and site grading.

The post-developed subcatchment numbers listed below correspond to the pre-developed watershed areas with the same number. One underground infiltration area and one water quality unit is proposed for attenuation of the design storms and to provide treatment of the site runoff from the site access, respectively.

Subcatchment 10 is comprised of approximately 1.05 acres of on-site area. The area consists of impervious asphalt parking area, with some grassy landscaped areas and site grading. The entire subcatchment area contains soils in hydrologic soil group D. Runoff from the subcatchment is directed towards the western property line to SDP1.

Detailed stormwater calculations and routing have been included in Appendix E.

The following table summarizes the post-development watershed conditions:

Post-Development Watershed Conditions					
Subcatchment	Area (ac)	Cover	Average Curve #	Hydrologic Soil Group(s)	Time of Concentration
10	1.05	Mostly impervious parking area and some grassed area	92	D	6.0 minutes

6.4 Hydrologic Review

The stormwater runoff flows at each discharge point under pre-development and post-development conditions are summarized below.

Volumetric Flow Rate in cfs:

SDP	1 - Year		10 - Year		100 - Year	
	Pre	Post	Pre	Post	Pre	Post
1	1.08	0.21	2.92	2.92	6.33	5.93

As shown above, post-development peak flow rates are less or equal to the pre-development

rates for all the storm events modeled for the stormwater discharge point. Therefore, it can be stated that the post-developed storm water management controls (underground infiltration basin) mitigate the increased runoff from development of the site.

Supporting hydrologic analyses for pre-development and post-development conditions are included in Appendices D and E, respectively.

6.5 Stormwater Management System

The final stormwater management system will consist of conveyance systems which will include catch basins, yard drains, culverts, grass-lined swales/dikes and underground infiltration areas where required. Operations and maintenance of the stormwater management system is included in Appendix O. The remainder of the drainage area will remain undisturbed with natural vegetation remaining.

6.6 Hydraulic Calculations

Hydraulic sizing of the culverts and swales (if required) are based on the 25-year, Type III, 24-hour rainfall event. Sizing calculations will be provided within Appendix F in the final SWPPP (if required).

6.7 Green Infrastructure for Stormwater Management

The SDM encourages the use of green infrastructure (GI) practices for stormwater management. Green infrastructure approach for stormwater management reduces a site's impact on an aquatic ecosystem through the use of site planning techniques, runoff reduction techniques, and certain standard stormwater management practices. The objective is to replicate the pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, and minimizing concentrated runoff by use of runoff control techniques. When implemented, green infrastructure can reduce volume, peak flow, and flow duration, promote infiltration and evapotranspiration, improve groundwater recharge, reduce downstream flooding, and protect downstream water and wetlands.

6.7.1 Green Infrastructure Practices

Green infrastructure consists of implementing several techniques during the site planning process which are:

- Preservation of Natural Resources – Preservation of undisturbed areas; preservation of buffers; reduction of clearing and grading; locating development in less sensitive areas; open space design; soil restoration.
- Reduction of Impervious Cover – Roadway reduction; sidewalk reduction; driveway reduction; cul-de-sac reduction; building footprint reduction; parking reduction.
- Runoff Reduction Techniques – Conservation of natural areas; sheet flow to riparian buffers or filter strips; vegetated open swale; tree planting/tree box; disconnection of roof runoff; stream daylighting for redevelopment projects; bioretention areas; rain gardens; green roofs; stormwater planters; rain tank/cistern; pervious pavement.

During the planning process, the above techniques are implemented to the greatest extent possible to reduce runoff developed by the site.

6.7.2 Five Step Process for Stormwater Site Planning and Selection Design

Stormwater management using GI is summarized in the five-step process described below.

Step 1: Site Planning

The site design will incorporate the preservation of natural resources including protection of wetland areas (where applicable), natural areas, avoidance of sensitive areas, minimizing grading and soil disturbance, minimizing impervious areas on internal access ways, driveways and parking areas. The site layout will avoid wetlands, waterways, buffers, areas of highly erodible soils and critical areas. The site design will also maintain natural drainage design points.

Step 2: Determine Water Quality Volume (WQv)

Calculate the water quality volume per Chapter 4 of the NYSDEC manual. This is described in detail under Section 6.8.

Step 3: Runoff Reduction by Applying Green Infrastructure Techniques

Green infrastructure practices will be implemented wherever possible to reduce runoff from the site. GI for this site will consist of reduction of access drive width, preservation of undisturbed buffers, providing infiltration practices and use of open channel vegetated conveyance systems.

Step 4: Apply Standard SMP's to Address Remaining WQv

Standard SMP's such as ponds, filtering practices or stormwater wetlands to meet additional water quality volume requirements. No additional standard SMP's will be required for this project.

Step 5: Apply Volume and Peak Rate Control Practices (if needed)

Cpv, Qp and Qf must also be met, either by standard practices, or other accepted techniques such as meeting criteria set forth in the NYS SWDM, where Cpv, Qp and Qf are required. Cpv, Qp and Qf are met by the installation of underground infiltration trenches which reduce the peak flows associated with each criterion.

6.8 Qualitative Practices

Small sized, frequently occurring storms account for the majority of runoff events that generate stormwater runoff. As a result, the runoff from these storms is recognized as a major contributor of pollutants. Therefore, treating these frequently occurring smaller rainfall events and a portion of the larger events offers an opportunity to minimize the water quality impacts associated with developed areas.

The water quality volume, denoted as WQ_v, specifies a treatment volume required to be captured and treated by intercepting 90% of the average annual stormwater runoff volume. This criterion strives to achieve an 80% Total Suspended Solids (TSS) removal and 40% Total Phosphorous (TP) removal on an annual basis.

In numerical terms, it is calculated using the formula below which was obtained from Section 4.2 of the New York State Stormwater Management Design Manual, January 2015:

$$WQ_v = (P \times R_v \times A) / 12$$

Where:

WQ_v = Water Quality Volume (acre-feet)

P = 90% Rainfall Event Number

R_v = 0.05+0.009 x I, where I is percent impervious (minimum R_v = 0.2)

A = Site area in acres (contributing area)

The following table has been developed summarizing the pre-treatment volume, water quality volume and treatment practices for the main project area.

Watershed	Total WQ _v (cf)	Required Pre-Treatment Volume (cf)	Pre-Treatment Practice	Treatment Practice	WQ _v Provided (cf)
10	3,336	1,668	Hydrodynamic	Infiltration	3,336

Infiltration rates are 4 inches per hour, thus requiring 50% pre-treatment at Underground Detention Area A.

A major concern with runoff into waterbodies is phosphorus loading. Phosphorus, like nitrogen, is an essential nutrient for aquatic life in waterbodies. However, increased amounts of phosphorus entering surface waters promotes excessive algae growth, which decreases water clarity, causes variations in dissolved oxygen, disagreeable odors, habitat loss and fish kills. The protection of waterbodies from the harmful effects of phosphorus can be accomplished from reducing the runoff volume entering surface waters. Reduction of runoff volume reduces the concentrations of pollutants entering the surface water and thus decreases harmful effects. The removal of enhanced phosphorus can be accomplished using stormwater management practices. Whether in particulate or dissolved speciation, phosphorus can be removed using unit operations. Particulate phosphorus in particular can be removed using infiltration basins and through sedimentation of runoff before entering surface water. Primarily, reducing the WQ_v entering a surface water body will lower phosphorus pollutant loading. The underground infiltration basin has been sized to infiltrate the entire WQ_v and provides extended detention of the 1-year storm.

6.8.2 Pre-Treatment Practices

The following pre-treatment practices have been incorporated into the design of this project. Preventative and corrective maintenance measures to provide long-term effectiveness of stormwater attenuation practices if properly implemented will be included in Appendix L.

6.8.2.1 Overland Flow

A significant portion of the runoff will flow overland to receiving water bodies. Much of the site's existing natural vegetation is proposed to remain, and the post developed land cover will be restored to meadow. The meadow and remaining vegetated areas will capture sediment and floatables for those areas that are not directly conveyed to treatment practices.

6.8.2.2 Grass-Lined Swales

The design does not incorporate permanent grass-lined swale/dike to convey stormwater.

6.8.2.3 Stone Check Dams

No stone check dams will be incorporated in the stormwater design for this project. Stone check dams provide a pooling area where sediment can be captured and allowed to settle out of suspension. Stone check dams provide a good means of capturing floatables.

6.8.2.4 Hydrodynamic Devices

Hydrodynamic devices are designed to intercept and store pollutants such as sediment and floatables for later removal and safe disposal.

One hydrodynamic device has been included in the design of this project conveying flow into Underground Infiltration Area A.

6.8.3 Treatment Practices

The following treatment practices have been incorporated into the design of this project. Preventative and corrective maintenance measures to provide long-term effectiveness of stormwater attenuation practices if properly implemented will be included in Appendix L.

6.8.3.1 Underground Infiltration Area

Stormwater infiltration practices capture and temporarily store the water quality volume before allowing it to infiltrate through the floor of each practice into the soil over a two-day period. In areas where the subsurface soils exhibit high infiltration rates, the channel protection volume may also be infiltrated. Infiltration facilities are not typically capable of infiltrating the overbank flood or extreme flood volumes. Adequate outflows are required for these larger storm events. Soil testing to obtain infiltration rates are required as part of the design of infiltration facilities. Varying degrees of pre-treatment of the water quality are required based on the field determined infiltration rate of the subsurface soils. 100% of the water quality volume is required where the infiltration rate exceeds 5 inches per hour, 50% for infiltration rates between 2 and 5 inches per hour, and 25% for infiltration rates less than 2 inches per hour. Pre-treatment is typically accomplished through installation of plunge pools and other filtering methods. Infiltration practices must be isolated and protected from stormwater run-off during construction. The contributory drainage area shall be completely constructed and stabilized before connection of the stormwater conveyance system to the infiltration practice. Infiltration basins are typically landscaped by providing a hardy, drought tolerant grass species that is capable of tolerating periodic inundation. The established grass requires mowing twice annually (or as needed). Underground infiltration areas typically consist of stone reservoirs with piping or chambers embedded within the stone. These areas are typically used where surface infiltration areas are limited due to site constraints. Proper maintenance of the contributing conveyance system and pre-treatment practice are important in maintaining infiltration rates.

There is one underground infiltration area proposed for this project. Underground Infiltration Area A consists of 6 rows of 9 chambers each, utilizing Cultec Recharger Model 330 XLHD. A hydrodynamic device has been provided for pre-treatment prior to discharge to the infiltration basin. An outlet control structure is provided after the underground infiltration basin to provide extended detention. Infiltration testing in the area has been performed, and the basin has been designed to infiltrate the entire WQv and provides extended detention of the CPv.

6.9 Runoff Reduction Volume (RRv)

RRv (measured in acre-feet) is reduction of the total WQv by application of GI techniques and SMP's to replicate the pre-development hydrology. The minimum required RRv is defined as the specified Reduction Factor (S), provided objective technical justification is documented.

RRv must be achieved by infiltration, groundwater recharge, reuse, recycle, evaporation/evapotranspiration of 100% of the post-developed WQv's to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow by using runoff control techniques to provide treatment in a distributed manner before runoff reaches the collection system.

RRv is calculated based upon three methods:

1. Reduction of the practice contributing area in WQv computation.
2. Reduction of runoff volume by storage capacity of the practice.
3. Reduction using standard SMP's with runoff reduction capacity.

Projects that cannot meet 100% of the runoff reduction requirement must provide a justification that evaluates each of the GI planning and reduction techniques and identify the specific limitations of the site according to which application of this criterion is technically infeasible. Projects that do not achieve runoff reduction to pre-construction must, at a minimum, reduce a percentage of the runoff from impervious areas to be constructed on the site. The percent reduction is based on the Hydrologic Soil Group(s) (HSG) of the site and is defined as Specific Reduction Factor (S).

The following lists the specific reduction factors for the HSG's.

$$\text{HSG A} = 0.55$$

$$\text{HSG B} = 0.40$$

$$\text{HSG C} = 0.30$$

$$\text{HSG D} = 0.20$$

The specific reduction factor (S) is based on the HSG's present at the site. The values are defined based on a hydrology analysis of low, medium, and high imperviousness. The reduction is achieved when runoff from a percentage of the impervious area on a site is captured, routed through GI or an SMP, infiltrated to the ground, reused, reduced by evapotranspiration, and eventually removed from the stormwater discharge from the site.

The following equation is used to determine the minimum RRv:

$$\text{RRv (in acre-feet of storage)} = [(P)(Rv^*)(Ai)]/12$$

$$Ai = (S)(Aic)$$

Ai = impervious cover targeted for runoff reduction

(Aic) = total area of new impervious cover

Rv * = 0.05+0.009(I) where I is 100% impervious

S = Hydrologic Soil Group (HSG) Specific Reduction Factor (S)

The goal of the SWPPP is to utilize as many runoff reduction methods as possible on a site. All GI practices will be quantified and compared to the overall WQv for the site. If the RRv is greater than or equal to the WQv, then standard SMP's can be implemented to control peak rate leaving the site if applicable.

The following table summarizes required 100% RRv, minimum RRv, RRv reduced by use of runoff reduction techniques, RRv provided by standard SMP's with RRv and provided RRv for the main project area.

Watershed	Required Total RRv (cf)	Required Minimum RRv (cf)	RRv reduced by use of runoff reduction techniques (cf)	RRv provided by standard SMP with RRv (cf)*	RRv (cf) Provided
1	1,668	648	N/A	1,668	1,668

* Treatment practices can be oversized to provide additional runoff reduction (RRv); however, they can only be oversized to provide up to 100% of the RRv. No additional credit can be taken for RRv for practices that provide greater than 100% RRv. The infiltration basin has been sized to provide extended detention of the 1-year storm.

6.10 Soil Restoration

Soils within disturbed areas tend to over compact as a result of heavy construction traffic; thus, limiting their infiltrative capacity. Under the GP 0-15-002 permit, soil restoration is required in disturbed areas that will be vegetated in order to recover the original properties and porosity of the soil, especially in areas that receive high construction traffic, or areas that have soils that are poorly drained.

Many runoff reduction practices need Soil Restoration measures applied over and adjacent to the practice to achieve runoff reduction performance. Some key benefits of soil restoration are less runoff, better water quality; healthier, aesthetically pleasing landscapes; increased porosity on redevelopment sites where impervious cover is converted to pervious; decreases runoff volume generated and lowers the demand on runoff control structures; enhances direct groundwater recharge; promotes successful long-term re-vegetation by restoring soil organic matter, permeability, drainage and water holding capacity for healthy root system development of trees, shrubs and deep-rooted ground covers, minimizing lawn chemical requirements, plant drowning during wet periods, and burnout during dry periods.

Soil restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.

6.10.1 Soil Restoration Methods

- Topsoil Application – Applying 6” of topsoil in soils with an HSG of A & B and have only been stripped, cut or filled. Soils with HSG of C or D that have only been stripped require aeration in addition to topsoil.
- Aeration - Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
- Tilling – Tilling includes the use of a cat-mounted ripper, tractor mounted disc, or tiller in order to expose the compacted soil devoid of oxygen and air to recreate temporary air space which allows for infiltration.
- Full Soil Restoration - Consists of Deep Ripping and De-Compaction, Compost Enhancement, and/or Deep Subsoiling. Deep Ripping includes the use of a cat mounted ripper and is typically done at 12” to 24” depths. Compost Enhancement is done by using a deep subsoiler after topsoil has been applied. The goal is to alleviate the compaction that may have occurred during the placement of topsoil. This method mixes the topsoil and compost with subsoils.

Restoration techniques shall not be done until construction is complete, and traffic will not travel through green areas.

7.0 EROSION AND SEDIMENT CONTROL

7.1 Overview

The most sensitive stage of the development cycle is the period when vegetation is cleared, and a site is graded. The potential impacts to on-site and off-site receiving waters and adjoining properties are particularly high at this stage. Trees and topsoil are removed, soils are exposed to erosion, natural topography and drainage patterns are altered. Control of erosion and sediment during these periods is an essential function of this SWPPP and accompanying plans.

Effective and practical measures employed to minimize the erosion potential and prevent sediment from leaving the construction site and reaching streams or other water bodies have been recommended in accordance with:

- New York State Standards and Specifications for Erosion and Sediment Control, July 2016

In order to ensure the effectiveness of the measures recommended herein, routine inspections and documentation, along with procedures for monitoring the findings, maintenance, and corrective actions resulting from each inspection are outlined within this section of the SWPPP.

7.2 Temporary Erosion and Sediment Control Measures

The following temporary measures have been incorporated into the erosion and sediment control plans for the site construction activities. These measures are also detailed on the site plans.

7.2.1 Silt Fence

A silt fence is a temporary sediment barrier consisting of a filter fabric stretched across and attached to supporting posts, entrenched, and supported with woven wire fence. Silt fences are installed on the contours across a slope and used to trap sediment by intercepting and detaining sediment laden runoff from disturbed areas in order to promote sedimentation on the uphill side of the fence.

Silt fences are suitable for perimeter and interior control, placed below areas where runoff may occur in the form of sheet flow. It should not be placed in channels or areas where flow is concentrated. In addition to interior and perimeter control a silt fence can be applied in the following applications:

- Below the toe or down slope of exposed and erodible slopes.
- Along streams and channels banks.
- Around temporary spoil area and stockpiles.

7.2.2 Stabilized Construction Entrance

A stabilized construction entrance consists of a pad of aggregate overlaying a geotextile fabric located at a point where construction vehicles enter or exit a site to reduce or eliminate the tracking of sediment onto public right of ways, street, alleys or parking areas, thereby preventing the transportation of sediment into local stormwater collection systems. Efficiency is greatly increased when a washing area is included as part of a stabilized construction entrance.

Stabilized construction entrances shall be a minimum of fifty (50) feet long and twelve (12) feet wide, but not less the full width of points where vehicles enter and exit the site. Where there is only one access point to the site, the stabilized construction entrance shall be a minimum of twenty-four (24) feet wide. Stabilized construction entrances shall be a minimum of six (6) inches in depth consisting of one (1) to four (4) inch stone or reclaimed or recycled equivalent.

7.2.3 Check Dams

Check dams shall be placed in channels to reduce scour and erosion by reducing flow velocity and promoting sediment settlement. Check dams shall be spaced in the channel so that the crest of the downstream dam is at the elevation of the toe of the upstream dam. Check dams, consisting of a well-graded stone two (2) – nine (9) inches in size (NYSDOT – Light Stone) shall maintain a height of two (2) feet with side slopes of 2:1 extending beyond the bank of the channel by a minimum of one and a half (1.5) feet. Check dams shall be anchored in the channel by a cutoff trench of one and a half (1.5) feet in width by a half (0.5) foot in depth.

7.2.4 Inlet Protection

Inlet protection consists of a filtering measure placed around or upstream of a storm drain used to trap sediment by temporary ponding runoff before it enters the storm drain. Inlet protection is not considered to be a primary means of sediment control and should be used with an overall integrated sediment control program. There are four types of storm drain inlet protection consisting of: excavated drop inlet protection, fabric drop inlet protection, stone and block drop inlet protection and curb drop inlet protection.

Inlet protection shall be implemented for all inlets that could potentially be impacted by sediment laden runoff.

7.2.5 Temporary Channels

Temporary channels in the form of diversion swales or berms may be used to intercept and direct runoff under the following applications:

- Above disturbed areas in order to direct and prevent clean runoff from flowing over disturbed areas until the area is permanently stabilized.
- Below disturbed areas to convey sediment laden runoff to sediment traps.
- Across disturbed slopes to reduce slope lengths.

Where used to convey sediment laden runoff, temporary channels shall be equipped with check dams.

7.2.6 Sediment Traps & Sediment Basins

A sediment trap or basin is a containment area, where sediment laden runoff collected from disturbed areas is temporarily detained allowing sediment to settle out before the runoff is discharged. Sediment traps and basins are formed by excavating an area or constructing an earthen embankment where sediment control is needed.

There are several types of sediment traps. The outlet of a rip rap outlet sediment traps shall be through a partially excavated channel through the embankment lined with rip rap. Pipe outlet sediment traps are equipped with an outlet structure including a perforated riser. The pipe outlet typically is installed through the embankment.

Sediment traps and basins are designed to treat 3,600 cubic feet per acre of drainage area collected. Pipe outlet sediment traps are limited to drainage areas of less than five (5) acres, rip rap outlet sediment traps are limited to fifteen (15) acres of drainage area, and sediment basins can accommodate upwards of one-hundred (100) acres.

Sediment shall be removed, and the trap or basin shall be restored to the original dimensions when the sediment has accumulated to $\frac{1}{2}$ of the design depth. The required and provided storage/cleanout elevations have been provided on the plan set. Calculations for sizing the facilities will be provided in the final SWPPP if necessary.

7.2.7 Water Bars

Water bars are temporary earth barriers constructed across construction roads used to intercept and divert roadway runoff toward temporary sediment traps or channels, prevent runoff from concentrating, and minimize the potential of gullies from forming. Spacing of water bars is dependent upon the road slope and shall be installed in accordance with the schedule depicted on the Erosion and Sediment Control detail sheet, if necessary.

7.2.8 Straw Bale Barriers

Straw bale barriers are used to intercept and contain sediment from disturbed areas of limited size in order to prevent sediment from exiting the site. Bales should be placed in a single row lengthwise along the contour, with ends abutting one another. Straw bales shall be bound and installed so that the bindings are oriented around the sides. Straw bales shall be entrenched a

minimum of four (4) inches, backfilled, and anchored using either two stakes or rebar driven through the straw bales to a depth of one and a half (1.5) to two (2) feet below grade.

Straw bales shall be used where no other measure is feasible. They shall not be used where there is a concentration of flow within a channel or other area.

The useful life of a straw bale barrier is three (3) months.

7.2.9 Temporary Soil Stockpiles

Stockpiling of soil is a method of preserving soil and topsoil for regrading and vegetating disturbed areas. Stockpiles shall be located away from environmentally sensitive areas (i.e. wetlands and associated buffers, streams, water bodies) and shall be protected with a peripheral silt fence. Slopes of stockpiles shall not exceed 2V:1H. Temporary stabilization measures shall be completed within seven (7) days of stockpile formation.

7.2.10 Dust Control

Dust controls reduce the surface and air transport of dust, thereby preventing pollutants from mixing into stormwater. Dust control measures for the construction activities associated within this project consist of windbreaks, minimization of soil disturbance (preserving buffer areas of vegetation where practical), mulching, temporary and permanent vegetation cover, barriers (i.e. geotextile on driving surfaces) and water spraying.

Construction activities shall be scheduled to minimize the amount of area disturbed at any one time.

7.2.11 Temporary Soil Stabilization Practices

Stabilization practices reduce the potential for soil detachment by shielding the soil surface from the impact of rainfall and reducing overland flow velocity.

The Contractor shall initiate stabilization measures as soon as possible in portions of the site where construction activities have temporarily or permanently ceased. In areas where soil disturbance activity has temporarily or permanently ceased and is located in one of the watersheds [NYCDEP] the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased.

This requirement does not apply where the initiation of stabilization measures by the 7th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions.

Temporary stabilization practices may include:

7.2.11.1 Mulching

Mulching is a temporary soil stabilization practice. Mulching prevents erosion by protecting soil from raindrop impact and by reducing the velocity of overland flow. Mulching also retains moisture within the soil surface and prevents germination.

Where mulching consists of wood chips or shavings, it shall be applied at a rate of 500-900 lbs per 1000 s.f. Where mulching consists of straw, it shall be applied at a rate of 90-100 lbs. per 1000 s.f.

All temporary grass areas shall receive a standard application of mulch consisting of straw, unless the area is hydro-seeded.

7.2.11.2 Temporary Seeding

Temporary seeding provides additional benefits over other stabilization practices by creating a vegetation system holding soil particles in place with root systems and maintaining the soils capacity to absorb runoff. Temporary vegetation shall be placed in accordance with project plans.

Irrigation shall be used when the soil is dry or when summer plantings are done.

7.2.11.3 Temporary Erosion Control Blanket

A temporary erosion control blanket is a degradable erosion control blanket used to hold seed and soil in place until vegetation is established in disturbed areas. Temporary erosion control blankets insulate and conserve seed moisture thus reducing evaporation and increasing germination rates and protects seeds from birds. Temporary erosion control blankets may consist of straw blankets, excelsior blankets (curled wood excelsior), coconut fiber blankets, or wood fiber blankets (reprocessed wood fibers which do not possess or contain any growth or germination inhibiting factors).

7.3 Permanent Erosion and Sediment Control Measures

The following permanent measures have been incorporated into the erosion and sediment control plans for the site construction activities.

7.3.1 Outlet Protection

Outlet protection is used to reduce stormwater velocity and dissipate the energy of flow exiting a culvert before discharging into receiving channels. Rip-rap treatment extends between the point where flows exit the culvert and where the velocity and/or energy from runoff is dissipated to a degree where there is minimal erosion downstream of the discharge point.

A geotextile fabric shall be placed beneath the rip-rap to prevent soil movement into and through the rip-rap.

7.3.2 Permanent Soil Stabilization Practices

Stabilization practices reduce the potential for soil detachment by shielding the soil surface from the impact of rainfall and reducing overland flow velocity.

In areas where soil disturbance activity has temporarily or permanently ceased and is located in one of the watersheds [NYCDEP] the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased.

Permanent stabilization practices may include:

7.3.2.1 Sod

Where exposed soils have the potential to generate off-site sediment loading, sod can provide a immediate form of stabilization and extra protection to a disturbed area. Where applied, sod shall be blue grass or a bluegrass/red fescue mixture or a perennial ryegrass and machine cut

with a uniform soil thickness of $\frac{3}{4}$ inch, plus or minus $\frac{1}{4}$ inch. Sod shall be used at the discretion of the Owner, unless specifically required by the plans.

7.3.2.2 Permanent Vegetation

Permanent vegetation shall be used to provide a protective cover for exposed areas that have received final grading. Permanent stabilization shall be applied where topsoil has been placed or returned and incorporated into the soil surface. When used, this process shall be followed with the application of straw mulch to protect soil from erosion and seed from drying out.

Irrigation shall be used when the soil is dry or when summer plantings are done.

Permanent vegetation shall be placed in accordance with project plans.

7.3.2.3 Hydroseeding

Hydroseeding is the hydraulic application of seed and fertilizer onto prepared seed beds. When used, this process shall be followed with the application of straw mulch to protect soil from erosion and seed from drying out.

Irrigation shall be used when the soil is dry or when summer plantings are done.

Hydroseeding shall be used at the discretion of the Contractor, unless specifically required by the plans.

7.3.2.4 Permanent Erosion Control Blankets

Permanent erosion control blankets are comprised of synthetic materials that form a high strength mat that helps prevent soil erosion in channels and on steep slopes. Stems and roots become intertwined within the matrix, thus reinforcing the vegetation and anchoring the mat. Permanent erosion control blankets insulate and conserve seed moisture thus reducing evaporation and increasing germination rates and protect seeds from birds. When used within channels, permanent erosion control blankets can aid in the establishment of vegetation and increase the maximum permissible velocity of the given channel by reinforcing the soil and vegetation to resist the forces of erosion during runoff events.

Permanent erosion control blankets shall be used on slopes steeper than 3:1.

7.4 Erosion and Sediment Control Sequencing Schedule

Implementation schedules for the installation of erosion and sediment control measures prior to and during the course of construction will depend greatly on the actual construction schedule and the varying field conditions that may warrant temporary construction stops and/or work commencing in other locations. The plans include an anticipated construction sequence schedule, of which temporary and permanent erosion and sediment control practices will be required and inspected.

7.5 Maintenance Schedules

Maintenance of the erosion and sediment controls incorporated into this project shall be performed on a regular basis to assure continued effectiveness. This includes repairs and replacement to all erosion and sediment control practices, including cleanout of all sediment retaining measures. Those measures found to be ineffective during routine inspections shall be repaired or replaced and cleaned out (where applicable) before the next anticipated storm event or within 24-hours of being notified, whichever comes first. A more detailed description of the

maintenance procedures for the site-specific erosion and sediment control practices has been provided on the plan set.

7.6 Construction Staging Areas

Construction staging areas are areas designated within construction sites where most equipment and materials are stored. The locations of the construction staging areas for this project will be shown on the final plan set.

7.7 Site Assessments, Inspections and Reporting

Regular inspections of the construction site shall be performed by a qualified professional who is familiar with all aspects of the SWPPP and the implemented control practices. Inspections are intended to identify areas where the pollutant control measures at the site are ineffective and have the potential to allow pollutants to enter water bodies or adjoining properties.

7.7.1 Prior to Construction

Prior to the commencement of construction, a qualified professional shall conduct an inspection of the site and certify in an inspection report that the appropriate erosion and sediment control measures have been installed as indicated by the project plan set and SWPPP. This certification shall be forwarded to the Owner's Representative and Contractor for filing in the construction log book.

A copy of the "Pre-Construction Site Assessment Checklist" has been provided in Appendix G.

7.7.2 During Construction

Following the commencement of construction, a qualified professional shall perform inspections of site construction activities in accordance with the SPDES General Permit. Inspections shall occur every seven (7) calendar days. Refer to Section 1.2 of this SWPPP for additional inspection requirements associated with disturbance of greater than five (5) acres at any time.

For project areas where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days. The owner or operator shall notify the Regional Office stormwater contact person in writing prior to reducing the frequency of inspections.

For project areas where soil disturbance activities have been shut down with partial project completion, the qualified inspector can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The owner or operator shall notify the Regional Office stormwater contact person in writing prior to the shutdown.

The inspections shall include observation of installed and maintained erosion and sediment control measures for consistency with project specifications and documentation of items to be corrected and recommendations for mitigating concerns. The following information, at minimum, shall be recorded during each inspection:

- Date and time of inspection;

- Name and title of person(s) performing inspection;
- A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- A description of the condition of all-natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody;
- Identification of all erosion and sediment control practices that need repair or maintenance;
- Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
- Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
- Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water (where applicable);
- Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume;
- Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

- Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The qualified inspector shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection
- A brief description of any erosion and sediment control practice repairs, maintenance or installations made as a result of previous inspection; and
- All deficiencies that are identified with the implementation of the SWPPP.

Summary reports shall be forwarded to the Owner's Representative and Contractor. Reports shall be incorporated into the construction log book. Within one business day of the completion of an inspection, the qualified inspector shall notify the owner or operator and appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

A copy of the "Construction" inspection report has been provided in Appendix M.

7.7.3 Quarterly Report

The Owner shall prepare a written summary of its status with respect to compliance with the SPDES General Permit at a minimum frequency of every three months during which coverage under the permit exists. The summary should address the status of achieving each component of the SWPPP.

7.7.4 End of Term

Termination of coverage under SPDES General Permit is accomplished by filing a Notice of Termination with the NYSDEC. Prior to the filing of the Notice of Termination (NOT), the Owner shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment control structures have been removed and that all permanent erosion control and stormwater facilities have been installed and are operational in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The owner or operator shall then submit the completed NOT form to the NYSDEC. Final stabilization" means that all soil disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextile) have been employed on all unpaved areas and area not covered by permanent structures.

A NOT is provided in Appendix N.

7.8 Construction Log Book

The construction log book shall be maintained on-site from the date of initiation of construction activities to the date of final stabilization and shall be made available to the permitting authority upon request. The construction log book shall contain a record of all inspections; preparer's, qualified professional's; owner's/operator's; contractor's, and sub-contractor's (if applicable) certifications; and weekly and quarterly reports.

8.0 GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES

The following good housekeeping and material management practices shall be followed to reduce the risk of spills or exposure of materials to stormwater runoff.

8.1 Waste Materials

All waste material, including but not limited to trash and construction debris, generated during construction shall be collected and stored in a proper receptacle in accordance with Federal, State, County and Local regulations. No waste material shall be buried on-site. All collected waste material shall be hauled to an approved waste disposal facility.

8.2 Chemical

Chemicals used on-site shall be kept in small quantities and stored in closed water tight containers undercover in a neat orderly manner and kept out of direct contact with stormwater. Chemical products shall not be mixed with one another unless recommended by manufacturer.

All on-site personnel shall have access to material safety data sheets (MSDS) and National Institute for Occupational Safety and Health (NIOSH) Guide to Chemical Hazards (latest edition) for all chemicals stored and used on-site.

Manufacturer's and/or Federal, State, County and Local guidelines for proper use and disposal shall be followed. Any spills or contamination of runoff with chemicals shall be contained, collected, cleaned up immediately and disposed of in accordance with Federal, State, County and Local regulations.

8.3 Fuels and Oil

All on-site vehicles, tools, and construction equipment shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. On-site vehicle and equipment refueling shall be conducted at a location away from access to surface waters and runoff. Any on-site storage tanks shall have a means of secondary containment. Oil products shall be kept in their original containers with original manufacturer's label. In the event of a spill, it shall be contained, cleaned up immediately and the material, including any contaminated soil, shall be disposed of in accordance with Federal, State, County and Local regulations.

Fuel and oil spills in excess of reportable quantities shall be reported to the NYSDEC as soon as the discharge is discovered.

8.4 Fertilizers

Fertilizers used on-site shall be stored in closed water tight containers undercover in a neat orderly manner and kept out of direct contact with stormwater. Manufacturer's and/or Federal, State, County and Local guidelines for proper use and disposal shall be followed. Any spills or contamination of runoff with fertilizers shall be contained, collected, cleaned up immediately, and disposed of in accordance with Federal, State, County and Local regulations.

8.5 Paint

Paints used on-site shall be stored in closed water tight containers undercover in a neat orderly manner and kept out of direct contact with stormwater. Manufacturer's and/or Federal, State, County and Local guidelines for proper use and disposal shall be followed. Any spills or contamination of runoff with paint shall be contained, collected, cleaned up immediately, and disposed of in accordance with Federal, State, County and Local regulations.

8.6 Sanitary Waste Facilities

Should portable units be located on-site, they shall be placed on upland areas away from direct contact with surface waters. They shall be serviced and cleaned on a weekly basis by a licensed portable toilet and septic disposal service. Any spills occurring during service shall be cleaned up immediately and disposed of in accordance with Federal, State, County, and Local regulations.

8.7 Container Disposal

All of a product shall be used up before disposal of the container. Empty containers that may contain chemical residue shall be disposed of in accordance with Federal, State, County and Local regulations.

8.8 Concrete and Asphalt Trucks

Concrete and asphalt trucks shall not be allowed to wash out or discharge surplus material on-site.

8.9 Site Supervisor

It shall be the responsibility of the Contractor's Site Supervisor to inspect daily and ensure the proper use, storage and disposal of all on-site materials.

9.0 SWPPP AMENDMENT

The SWPPP shall be updated by a licensed professional engineer whenever any of the following apply:

- 1) There is a significant change in design, construction, operation or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP.
- 2) The SWPPP proves to be ineffective in:

- Eliminating or significantly minimizing pollutants from sources identified in the SWPPP required by the SPDES Permit; or
 - Achieving the general objective of controlling pollutants in stormwater discharges from permitted construction activity.
- 3) Identify any new contractor or subcontractor that will implement any measure of the SWPPP.
 - 4) NYSDEC notifies the Permittee that the SWPPP does not meet one or more of the minimum requirements of the SPDES Permit. Within seven (7) days of such notification or as provided for by the NYSDEC, the Permittee shall make amendments to the SWPPP and submit to the NYSDEC a written certification that the requested changes have been made.

10.0 CONTRACTOR CERTIFICATIONS

All contractors and subcontractors that have any responsibility to install, inspect or maintain erosion or sediment control measures shall sign a copy of the certification statement included in Appendix I before undertaking any construction activity at the site identified in the SWPPP.

11.0 OWNER/OPERATOR CERTIFICATION

The Owner/Operator must review and sign the owner/operator certification statement included in Appendix K.

12.0 CONCLUSIONS

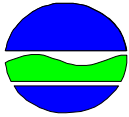
This SWPPP demonstrates that the proposed project generally meets the requirements of SPDES GP-0-15-002, as follows:

- An erosion and sediment control plan in accordance with the latest revision to the New York State Standards and Specifications for Erosion and Sediment Control, July 2016, has been developed for the project and is included in the site plan set.
- Hydraulic calculations for all storm events modeled will demonstrate that the resulting stormwater runoff from the development, exiting the site will not adversely impact offsite properties, stormwater conveyance systems or receiving water bodies. Temporary and permanent stormwater systems and facilities are designed in accordance with the latest revision to the New York State Stormwater Management Design Manual, January 2015.
- The project has been designed to capture and treat 90% of the average annual stormwater runoff from the development through approved water quality measures in all available areas.
- The underground infiltration practice will capture 100% of the required runoff reduction volume (RRv) and provides extended detention of the entire 1-year storm.

APPENDIX A

NOTICE OF INTENT AND MS4 ACCEPTANCE

NOTICE OF INTENT



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

NYR
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002
All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

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

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State Zip -

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

Email (Owner/Operator)

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																				
<table border="1" style="width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>						<table border="1" style="width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>						<table border="1" style="width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>						<table border="1" style="width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>					

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.

<p>A</p> <table border="1" style="width: 40px; height: 25px;"> <tr> <td></td><td></td><td></td> </tr> </table> <p>%</p>				<p>B</p> <table border="1" style="width: 40px; height: 25px;"> <tr> <td></td><td></td><td></td> </tr> </table> <p>%</p>				<p>C</p> <table border="1" style="width: 40px; height: 25px;"> <tr> <td></td><td></td><td></td> </tr> </table> <p>%</p>				<p>D</p> <table border="1" style="width: 40px; height: 25px;"> <tr> <td></td><td></td><td></td> </tr> </table> <p>%</p>			

7. Is this a phased project? Yes No

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

Start Date	End Date										
<table border="1" style="width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>						<table border="1" style="width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>					

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 25 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

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- Professional Engineer (P.E.)
- Soil and Water Conservation District (SWCD)
- Registered Landscape Architect (R.L.A)
- Certified Professional in Erosion and Sediment Control (CPESC)
- Owner/Operator
- Other

SWPPP Preparer

Contact Name (Last, Space, First)

Mailing Address

City

State Zip

	-	
--	---	--

Phone

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

Fax

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

Email

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name

MI

Last Name

Signature

Date

	/		/	
--	---	--	---	--

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)				

Table 2 - Alternative SMPs
 (DO NOT INCLUDE PRACTICES BEING
 USED FOR PRETREATMENT ONLY)

<u>Alternative SMP</u>	<u>Total Contributing Impervious Area(acres)</u>	
<input type="radio"/> Hydrodynamic	<input type="text"/>	<input type="text"/>
<input type="radio"/> Wet Vault	<input type="text"/>	<input type="text"/>
<input type="radio"/> Media Filter	<input type="text"/>	<input type="text"/>
<input type="radio"/> Other <input type="text"/>	<input type="text"/>	<input type="text"/>

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

. acre-feet

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

Yes **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
 [Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

. acre-feet

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

Yes **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

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

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

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

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

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

WQv Provided
 . **acre-feet**

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

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

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

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

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

CPv Required . **acre-feet** **CPv Provided** . **acre-feet**

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

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

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

Total Overbank Flood Control Criteria (Qp)

Pre-Development . **CFS** **Post-development** . **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development . **CFS** **Post-development** . **CFS**

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- Air Pollution Control
- Coastal Erosion
- Hazardous Waste
- Long Island Wells
- Mined Land Reclamation
- Solid Waste
- Navigable Waters Protection / Article 15
- Water Quality Certificate
- Dam Safety
- Water Supply
- Freshwater Wetlands/Article 24
- Tidal Wetlands
- Wild, Scenic and Recreational Rivers
- Stream Bed or Bank Protection / Article 15
- Endangered or Threatened Species(Incidental Take Permit)
- Individual SPDES
- SPDES Multi-Sector GP

--	--	--	--	--	--	--	--
- Other

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- None

41. Does this project require a US Army Corps of Engineers Wetland Permit? Yes No
If Yes, Indicate Size of Impact.

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

 .

--

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? Yes No
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? Yes No

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

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

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name

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

MI

--

Print Last Name

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

Owner/Operator Signature

--

Date

		/			/				
--	--	---	--	--	---	--	--	--	--



Department of
Environmental
Conservation

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information

1. Owner/Operator Name:

2. Contact Person:

3. Street Address:

4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by:

9. Title/Position:

10. Date Final SWPPP Reviewed and Accepted:

IV. Regulated MS4 Information

11. Name of MS4:

12. MS4 SPDES Permit Identification Number: NYR20A

13. Contact Person:

14. Street Address:

15. City/State/Zip:

16. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).
Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

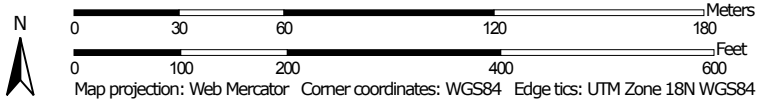
VI. Additional Information

APPENDIX B
SOILS DATA

Hydrologic Soil Group—Dutchess County, New York
(511 FISHKILL AVENUE)




Map Scale: 1:2,160 if printed on A portrait (8.5" x 11") sheet.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





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

Soil Rating Lines


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

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Dutchess County, New York
 Survey Area Data: Version 15, Sep 2, 2018

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

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BeB	Bernardston silt loam, 3 to 8 percent slopes	C/D	3.6	37.1%
Ud	Udorthents, smoothed	A	0.9	9.3%
Ur	Urban land		5.2	53.6%
Totals for Area of Interest			9.7	100.0%

Description

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

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

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

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

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

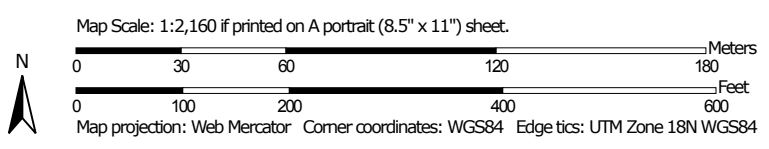
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over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

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

K Factor, Whole Soil—Dutchess County, New York
(511 FISHKILL AVENUE)




Soil Map may not be valid at this scale.


















MAP LEGEND

Area of Interest (AOI)



 Area of Interest (AOI)










Soils

Soil Rating Polygons
















-  .02
-  .05
-  .10
-  .15
-  .17
-  .20
-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Soil Rating Lines








-  .02
-  .05
-  .10
-  .15
-  .17
-  .20

-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Soil Rating Points

-  .02
-  .05
-  .10
-  .15
-  .17
-  .20
-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Water Features

-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 15, Sep 2, 2018

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

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

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

K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BeB	Bernardston silt loam, 3 to 8 percent slopes	.32	3.6	37.1%
Ud	Udorthents, smoothed	.17	0.9	9.3%
Ur	Urban land		5.2	53.6%
Totals for Area of Interest			9.7	100.0%

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

APPENDIX C

**RAINFALL DATA, NYSDEC ERM, FLOOD MAP AND
WETLAND MAP**

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	Yes
State	New York
Location	
Longitude	73.947 degrees West
Latitude	41.517 degrees North
Elevation	0 feet
Date/Time	Tue, 18 Dec 2018 13:29:09 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.33	0.50	0.62	0.81	1.02	1.26	1yr	0.88	1.19	1.44	1.77	2.15	2.61	2.96	1yr	2.31	2.84	3.29	3.96	4.59	1yr
2yr	0.39	0.59	0.74	0.98	1.23	1.53	2yr	1.06	1.43	1.75	2.14	2.61	3.16	3.57	2yr	2.80	3.43	3.93	4.64	5.28	2yr
5yr	0.45	0.71	0.89	1.19	1.52	1.91	5yr	1.31	1.76	2.20	2.70	3.28	3.96	4.52	5yr	3.50	4.34	5.00	5.78	6.53	5yr
10yr	0.51	0.80	1.02	1.38	1.79	2.27	10yr	1.55	2.06	2.62	3.21	3.90	4.69	5.40	10yr	4.15	5.19	6.00	6.83	7.67	10yr
25yr	0.60	0.95	1.21	1.67	2.23	2.85	25yr	1.92	2.55	3.30	4.06	4.91	5.88	6.85	25yr	5.20	6.58	7.64	8.52	9.50	25yr
50yr	0.68	1.09	1.40	1.95	2.63	3.39	50yr	2.27	3.00	3.93	4.83	5.84	6.98	8.20	50yr	6.18	7.88	9.18	10.07	11.17	50yr
100yr	0.77	1.25	1.61	2.28	3.11	4.03	100yr	2.69	3.52	4.68	5.77	6.96	8.29	9.82	100yr	7.34	9.44	11.03	11.92	13.14	100yr
200yr	0.88	1.43	1.86	2.66	3.68	4.80	200yr	3.18	4.14	5.59	6.88	8.29	9.85	11.76	200yr	8.72	11.31	13.26	14.11	15.47	200yr
500yr	1.06	1.74	2.27	3.29	4.61	6.05	500yr	3.98	5.14	7.05	8.68	10.45	12.38	14.95	500yr	10.96	14.37	16.94	17.64	19.21	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	1yr	0.75	1.06	1.24	1.60	2.00	2.07	2.35	1yr	1.83	2.26	2.48	3.13	4.16	1yr
2yr	0.37	0.58	0.71	0.96	1.18	1.41	2yr	1.02	1.38	1.60	2.05	2.58	3.07	3.44	2yr	2.72	3.31	3.78	4.47	5.13	2yr
5yr	0.42	0.65	0.81	1.11	1.41	1.65	5yr	1.22	1.61	1.87	2.41	3.00	3.64	4.16	5yr	3.22	4.00	4.55	5.26	6.06	5yr
10yr	0.47	0.72	0.89	1.25	1.62	1.85	10yr	1.39	1.81	2.11	2.70	3.37	4.12	4.80	10yr	3.64	4.62	5.23	5.93	6.86	10yr
25yr	0.54	0.83	1.03	1.47	1.93	2.13	25yr	1.67	2.08	2.45	3.04	3.92	4.81	5.82	25yr	4.26	5.60	6.27	6.93	8.10	25yr
50yr	0.61	0.92	1.15	1.65	2.22	2.37	50yr	1.92	2.32	2.76	3.39	4.41	5.45	6.75	50yr	4.82	6.49	7.19	7.78	9.20	50yr
100yr	0.69	1.04	1.30	1.88	2.57	2.66	100yr	2.22	2.61	3.12	3.78	4.98	6.11	7.83	100yr	5.41	7.53	8.25	8.70	10.43	100yr
200yr	0.78	1.17	1.48	2.15	3.00	2.98	200yr	2.59	2.91	3.53	4.24	5.62	6.79	9.11	200yr	6.01	8.76	9.46	9.72	11.86	200yr
500yr	0.93	1.38	1.78	2.59	3.68	3.48	500yr	3.18	3.40	4.17	4.93	6.63	7.83	11.14	500yr	6.93	10.71	11.34	11.19	14.05	500yr

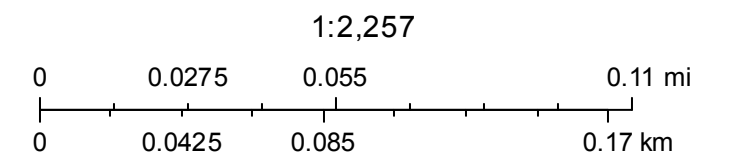
Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.36	0.56	0.68	0.91	1.12	1.36	1yr	0.97	1.33	1.52	1.96	2.42	2.82	3.18	1yr	2.50	3.06	3.55	4.23	4.91	1yr
2yr	0.40	0.62	0.76	1.03	1.28	1.54	2yr	1.10	1.50	1.74	2.24	2.80	3.33	3.70	2yr	2.95	3.55	4.09	4.83	5.48	2yr
5yr	0.49	0.76	0.94	1.29	1.64	1.95	5yr	1.42	1.91	2.25	2.88	3.66	4.25	4.90	5yr	3.77	4.71	5.42	6.30	7.02	5yr
10yr	0.58	0.89	1.11	1.54	2.00	2.36	10yr	1.72	2.31	2.74	3.53	4.49	5.18	6.03	10yr	4.59	5.80	6.73	7.72	8.50	10yr
25yr	0.72	1.10	1.37	1.95	2.57	3.04	25yr	2.22	2.97	3.56	4.74	5.88	6.75	7.97	25yr	5.97	7.66	8.99	10.11	10.96	25yr
50yr	0.85	1.29	1.61	2.32	3.12	3.69	50yr	2.69	3.61	4.35	5.84	7.21	8.25	9.83	50yr	7.30	9.45	11.20	12.42	13.29	50yr
100yr	1.01	1.52	1.91	2.76	3.78	4.49	100yr	3.26	4.39	5.31	7.22	8.84	10.09	12.11	100yr	8.93	11.65	13.98	15.28	16.14	100yr
200yr	1.19	1.79	2.27	3.28	4.58	5.44	200yr	3.95	5.32	6.49	8.89	10.84	12.36	14.95	200yr	10.94	14.38	17.44	18.82	19.60	200yr
500yr	1.49	2.22	2.86	4.15	5.90	7.04	500yr	5.09	6.88	8.44	11.77	14.20	16.19	19.73	500yr	14.33	18.97	23.40	24.84	25.33	500yr

511 FISHKILL AVENUE



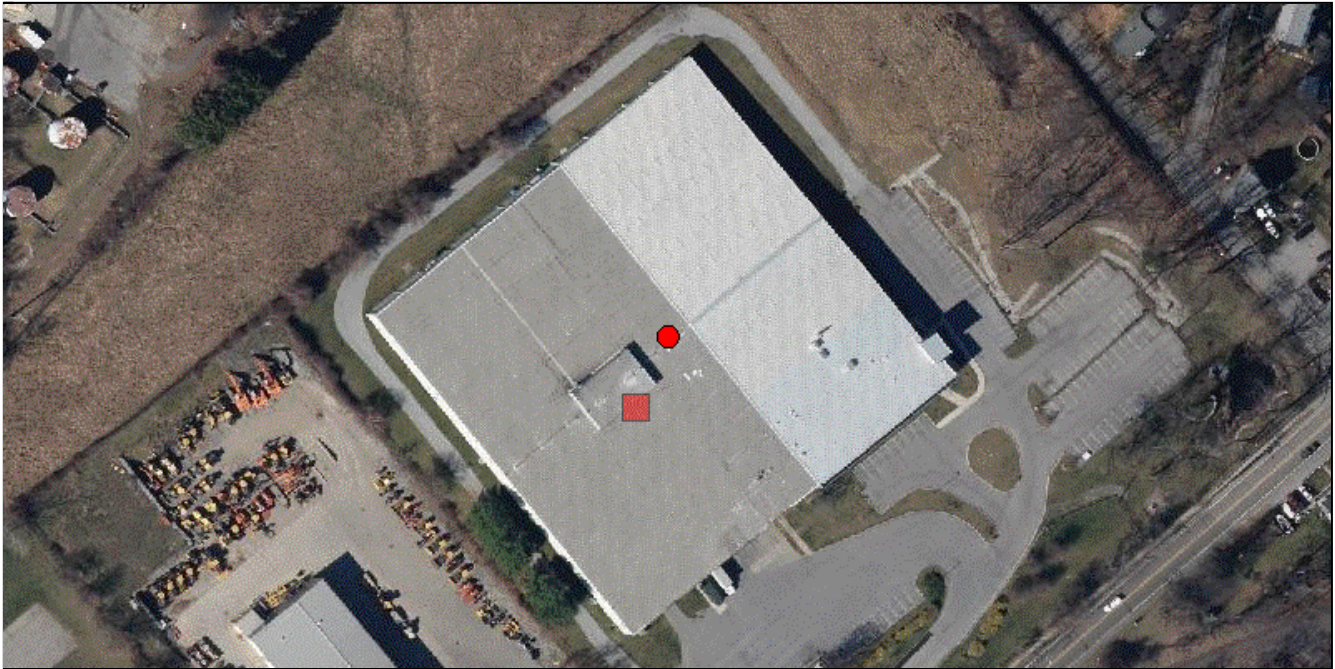
December 18, 2018



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Author: HLD
Not a legal document

Environmental Resource Mapper



The coordinates of the point you clicked on are:

UTM 18

Easting: 587855.575

Northing: 4596696.827

Longitude/Latitude

Longitude: -73.947

Latitude: 41.517

The approximate address of the point you clicked on is:

511 Fishkill Ave, Beacon, New York, 12508

County: Dutchess

City: Beacon

USGS Quad: WAPPINGERS FALLS

DEC Region

Region 3:

(Lower Hudson Valley) Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester counties. For more information visit <http://www.dec.ny.gov/about/607.html>.

Rare Plants and Rare Animals

This location is in the vicinity of Bats Listed as Endangered or Threatened -- Contact NYSDEC Regional Office

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

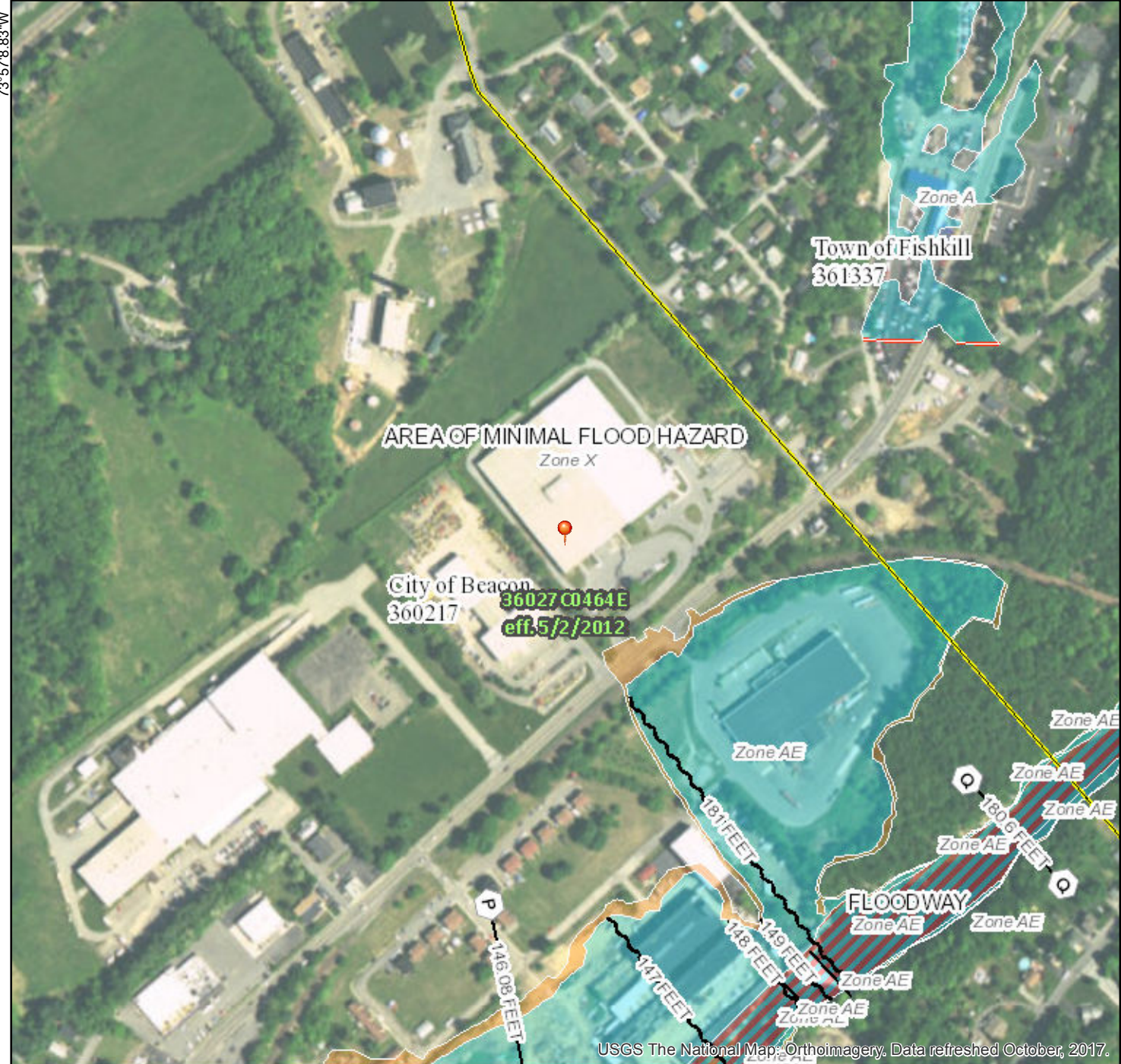
Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

Disclaimer: If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.

National Flood Hazard Layer FIRMette



41°31'13.32"N



USGS The National Map: Orthoimagery. Data refreshed October, 2017. 1:6,000 41°30'46.39"N

Legend

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

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

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

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

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

OTHER FEATURES		Digital Data Available
		No Digital Data Available
		Unmapped

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

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

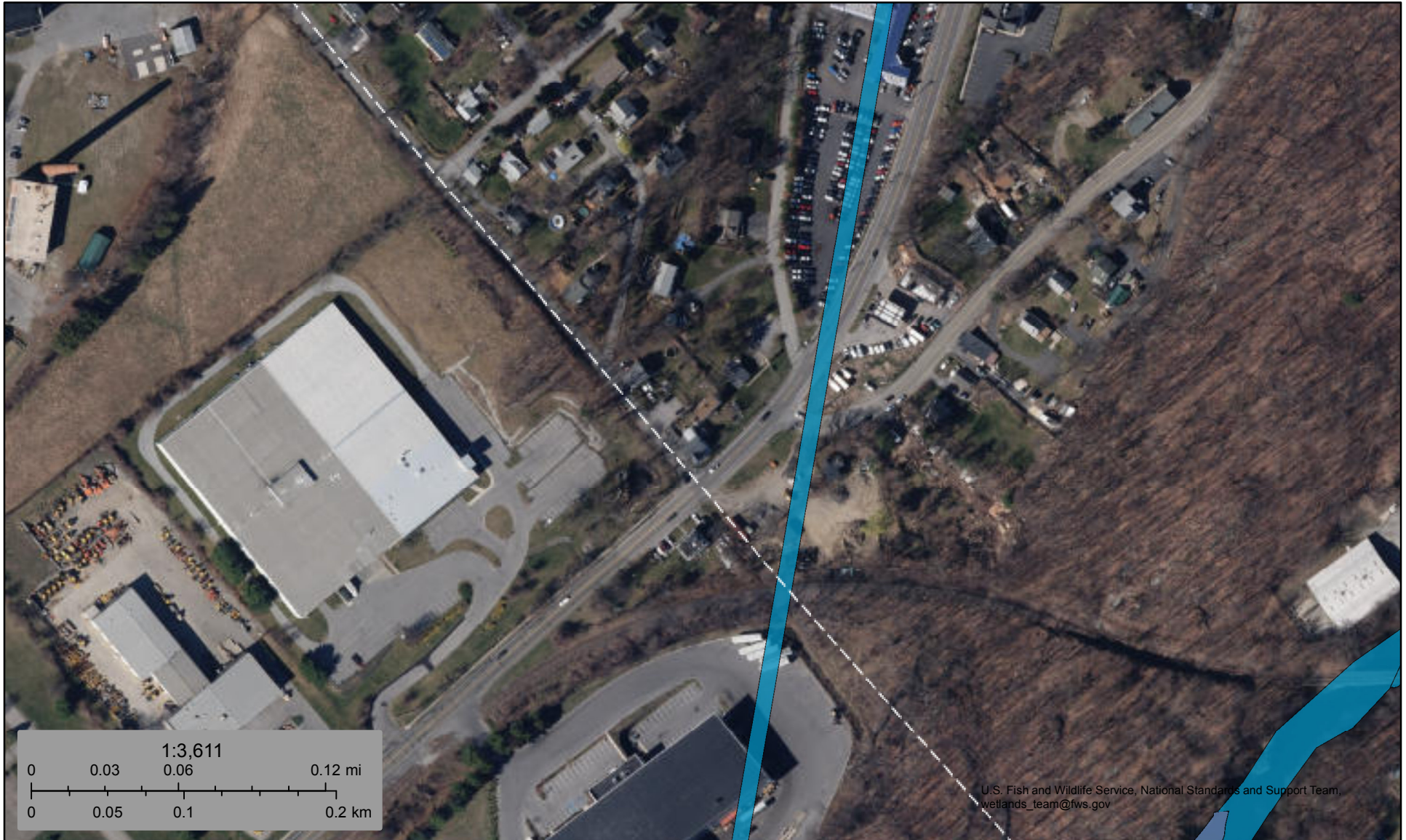
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/18/2018 at 1:58:31 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

73°57'8.83"W

73°56'31.38"W



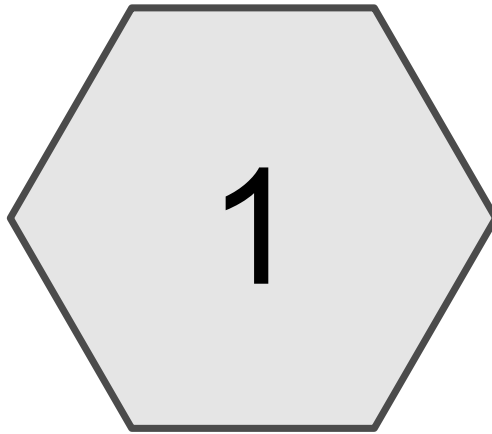
December 24, 2018

Wetlands

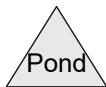
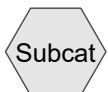
- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Lake
- Freshwater Forested/Shrub Wetland
- Other
- Estuarine and Marine Wetland
- Freshwater Pond
- Riverine

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.

APPENDIX D
PRE-DEVELOPMENT HYDROCAD MODEL



1



Routing Diagram for PRE CONDITIONS

Prepared by Hudson Land Design, P.C. , Printed 12/24/2018
HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

PRE CONDITIONS

Prepared by Hudson Land Design, P.C.

Printed 12/24/2018

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.780	80	>75% Grass cover, Good, HSG D (1)
0.082	96	Gravel surface, HSG D (1)
0.008	98	Paved parking, HSG D (1)
0.068	77	Woods, Good, HSG D (1)

PRE CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 1: 1

Runoff = 1.08 cfs @ 12.10 hrs, Volume= 0.073 af, Depth> 0.94"

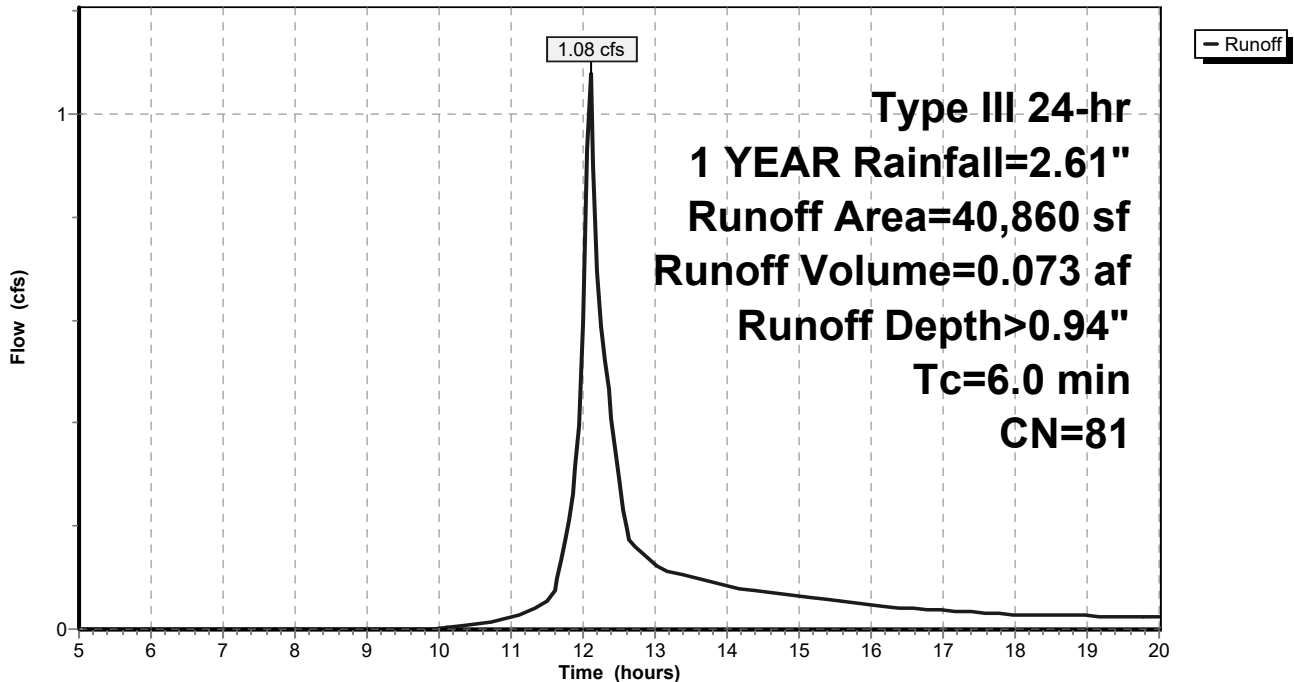
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YEAR Rainfall=2.61"

Area (sf)	CN	Description
33,986	80	>75% Grass cover, Good, HSG D
3,561	96	Gravel surface, HSG D
345	98	Paved parking, HSG D
2,968	77	Woods, Good, HSG D
40,860	81	Weighted Average
40,515		99.16% Pervious Area
345		0.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 1: 1

Hydrograph



PRE CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 1: 1

Runoff = 2.92 cfs @ 12.09 hrs, Volume= 0.198 af, Depth> 2.53"

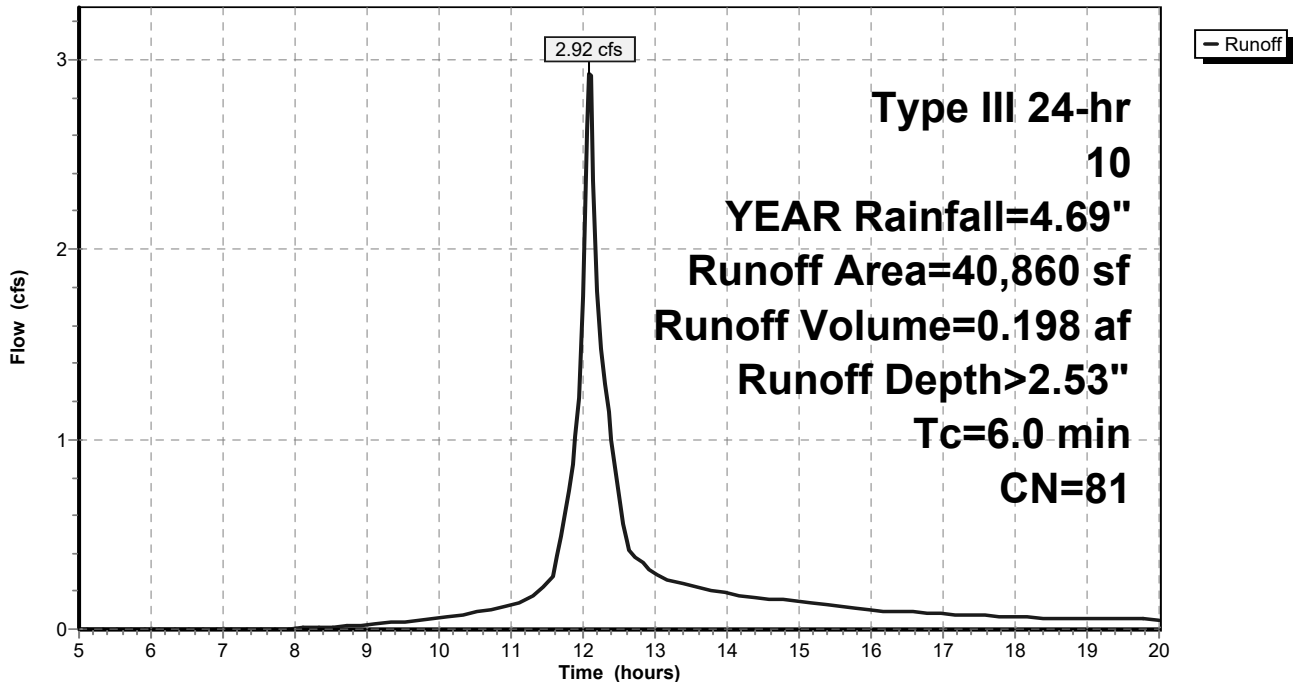
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.69"

Area (sf)	CN	Description
33,986	80	>75% Grass cover, Good, HSG D
3,561	96	Gravel surface, HSG D
345	98	Paved parking, HSG D
2,968	77	Woods, Good, HSG D
40,860	81	Weighted Average
40,515		99.16% Pervious Area
345		0.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 1: 1

Hydrograph



PRE CONDITIONS

Prepared by Hudson Land Design, P.C.
 HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 1: 1

Runoff = 6.33 cfs @ 12.09 hrs, Volume= 0.443 af, Depth> 5.67"

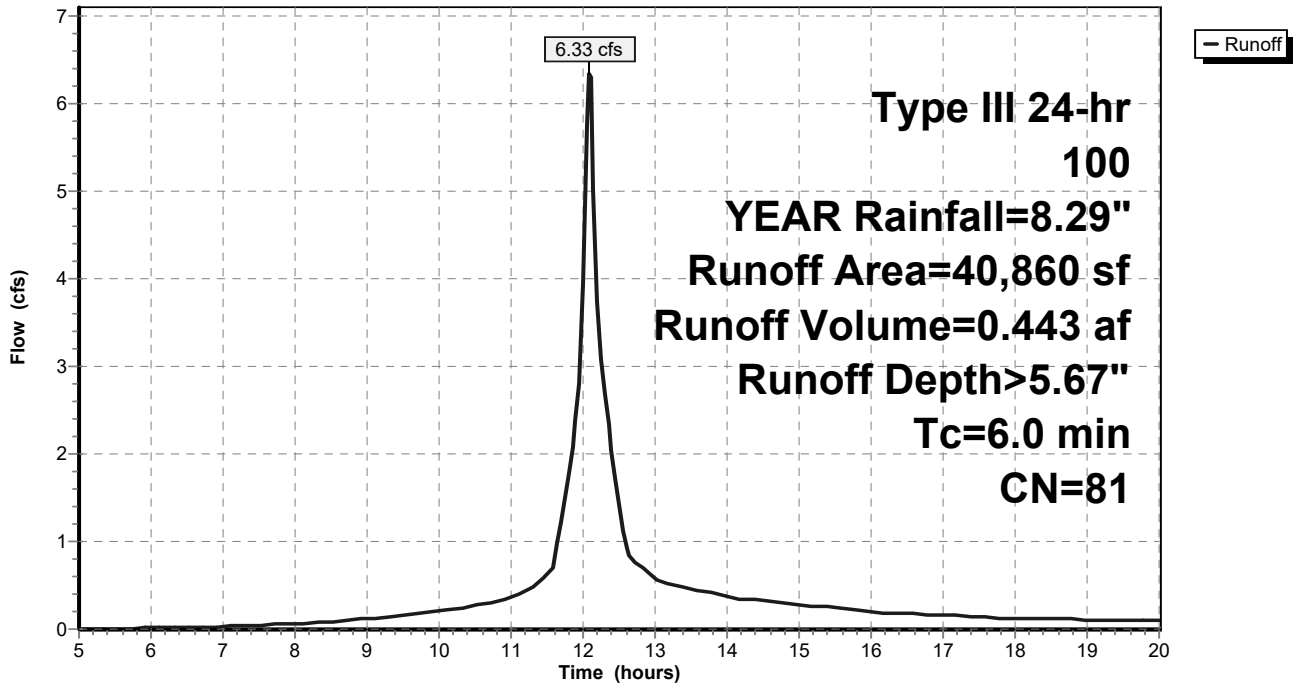
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100 YEAR Rainfall=8.29"

Area (sf)	CN	Description
33,986	80	>75% Grass cover, Good, HSG D
3,561	96	Gravel surface, HSG D
345	98	Paved parking, HSG D
2,968	77	Woods, Good, HSG D
40,860	81	Weighted Average
40,515		99.16% Pervious Area
345		0.84% Impervious Area

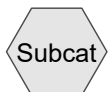
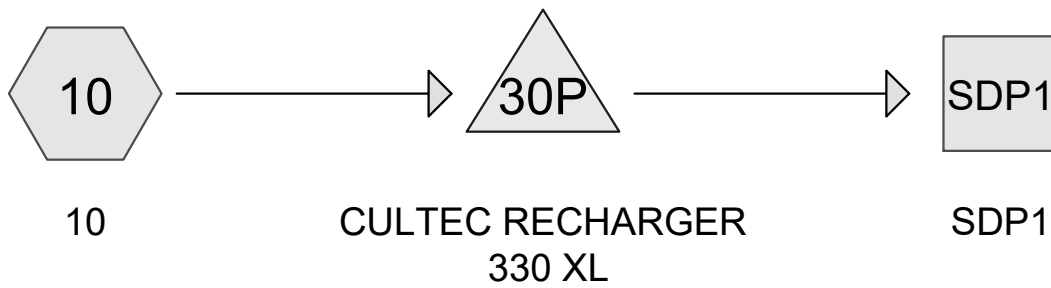
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 1: 1

Hydrograph



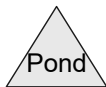
APPENDIX E
POST-DEVELOPMENT HYDROCAD MODEL



Subcat



Reach



Pond



Link

Routing Diagram for POST CONDITIONS

Prepared by Hudson Land Design, P.C. , Printed 12/24/2018
HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

POST CONDITIONS

Prepared by Hudson Land Design, P.C.

Printed 12/24/2018

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.297	80	>75% Grass cover, Good, HSG D (10)
0.687	98	Paved parking, HSG D (10)
0.068	77	Woods, Good, HSG D (10)

POST CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
 Type III 24-hr 1 YEAR Rainfall=2.61"

Printed 12/24/2018

Summary for Subcatchment 10: 10

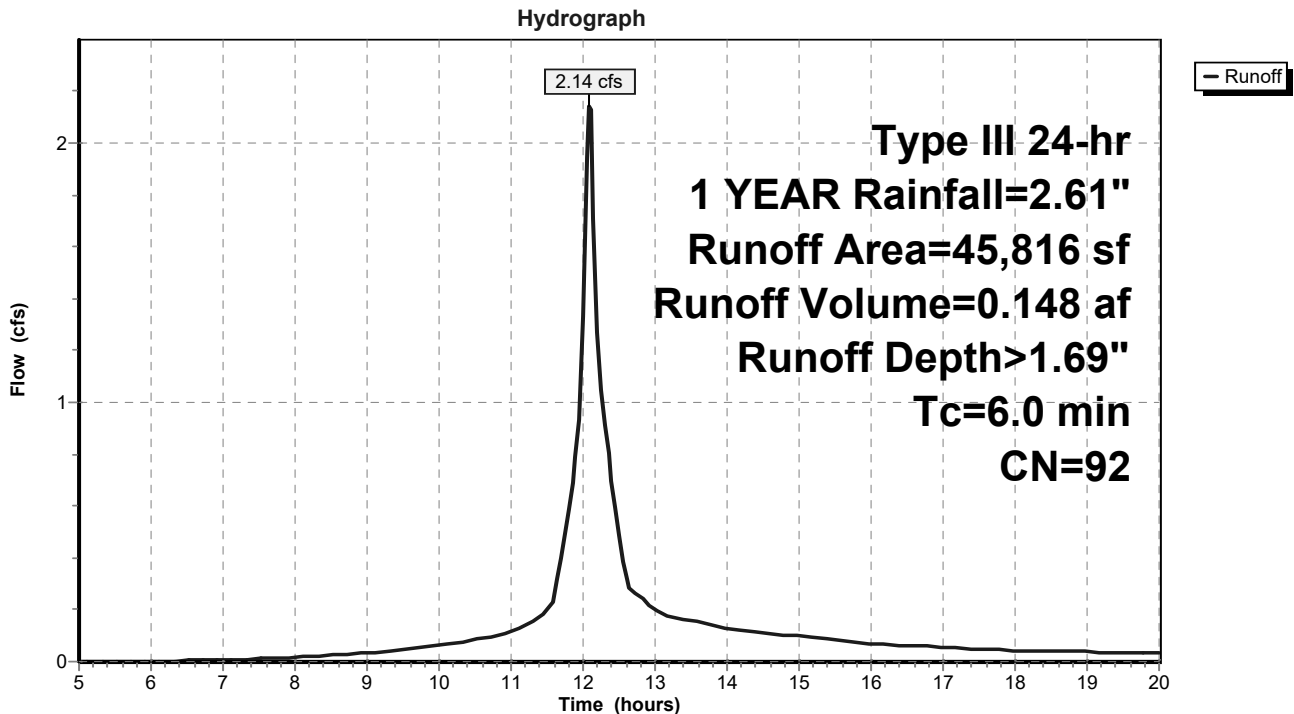
Runoff = 2.14 cfs @ 12.09 hrs, Volume= 0.148 af, Depth> 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 1 YEAR Rainfall=2.61"

Area (sf)	CN	Description
12,916	80	>75% Grass cover, Good, HSG D
29,932	98	Paved parking, HSG D
2,968	77	Woods, Good, HSG D
45,816	92	Weighted Average
15,884		34.67% Pervious Area
29,932		65.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 10: 10



POST CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
Type III 24-hr 1 YEAR Rainfall=2.61"

Printed 12/24/2018

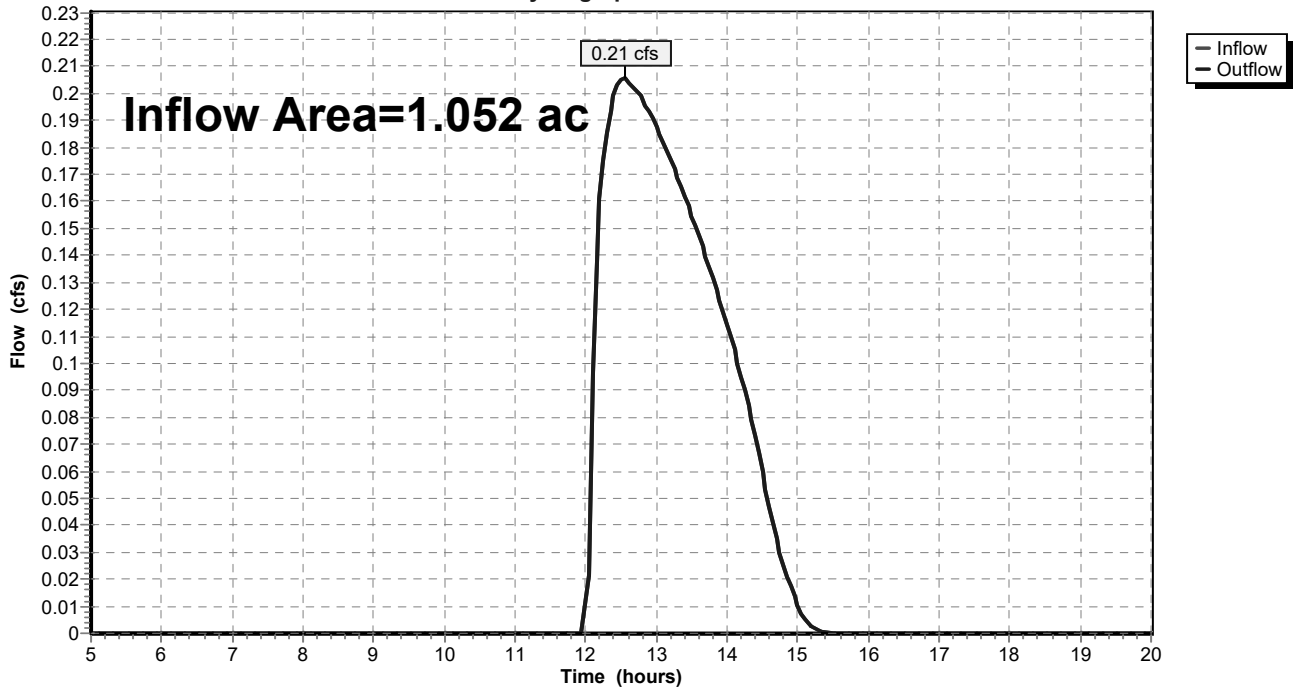
Summary for Reach SDP1: SDP1

Inflow Area = 1.052 ac, 65.33% Impervious, Inflow Depth = 0.37" for 1 YEAR event
Inflow = 0.21 cfs @ 12.55 hrs, Volume= 0.032 af
Outflow = 0.21 cfs @ 12.55 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SDP1: SDP1

Hydrograph



POST CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
Type III 24-hr 1 YEAR Rainfall=2.61"

Printed 12/24/2018

Summary for Pond 30P: CULTEC RECHARGER 330 XL

Inflow Area = 1.052 ac, 65.33% Impervious, Inflow Depth > 1.69" for 1 YEAR event
Inflow = 2.14 cfs @ 12.09 hrs, Volume= 0.148 af
Outflow = 0.39 cfs @ 12.55 hrs, Volume= 0.148 af, Atten= 82%, Lag= 27.6 min
Discarded = 0.19 cfs @ 12.55 hrs, Volume= 0.116 af
Primary = 0.21 cfs @ 12.55 hrs, Volume= 0.032 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 215.13' @ 12.55 hrs Surf.Area= 2,025 sf Storage= 2,233 cf

Plug-Flow detention time= 54.5 min calculated for 0.147 af (100% of inflow)
Center-of-Mass det. time= 54.0 min (827.2 - 773.2)

Volume	Invert	Avail.Storage	Storage Description
#1	213.55'	2,119 cf	30.50'W x 66.40'L x 4.04'H Prismatic 8,182 cf Overall - 2,884 cf Embedded = 5,298 cf x 40.0% Voids
#2	214.05'	2,884 cf	Cultec R-330XLHD x 54 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		5,003 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	213.50'	12.0" Round Culvert X 4.00 L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 213.50' / 212.80' S= 0.0140 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	214.25'	3.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	215.15'	21.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#4	Discarded	213.55'	4.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 11.00'

Discarded OutFlow Max=0.19 cfs @ 12.55 hrs HW=215.13' (Free Discharge)
↳ **4=Exfiltration** (Controls 0.19 cfs)

Primary OutFlow Max=0.21 cfs @ 12.55 hrs HW=215.13' (Free Discharge)
↳ **1=Culvert** (Passes 0.21 cfs of 16.10 cfs potential flow)
↳ **2=Orifice/Grate** (Orifice Controls 0.21 cfs @ 4.19 fps)
↳ **3=Orifice/Grate** (Controls 0.00 cfs)

POST CONDITIONS

Prepared by Hudson Land Design, P.C.

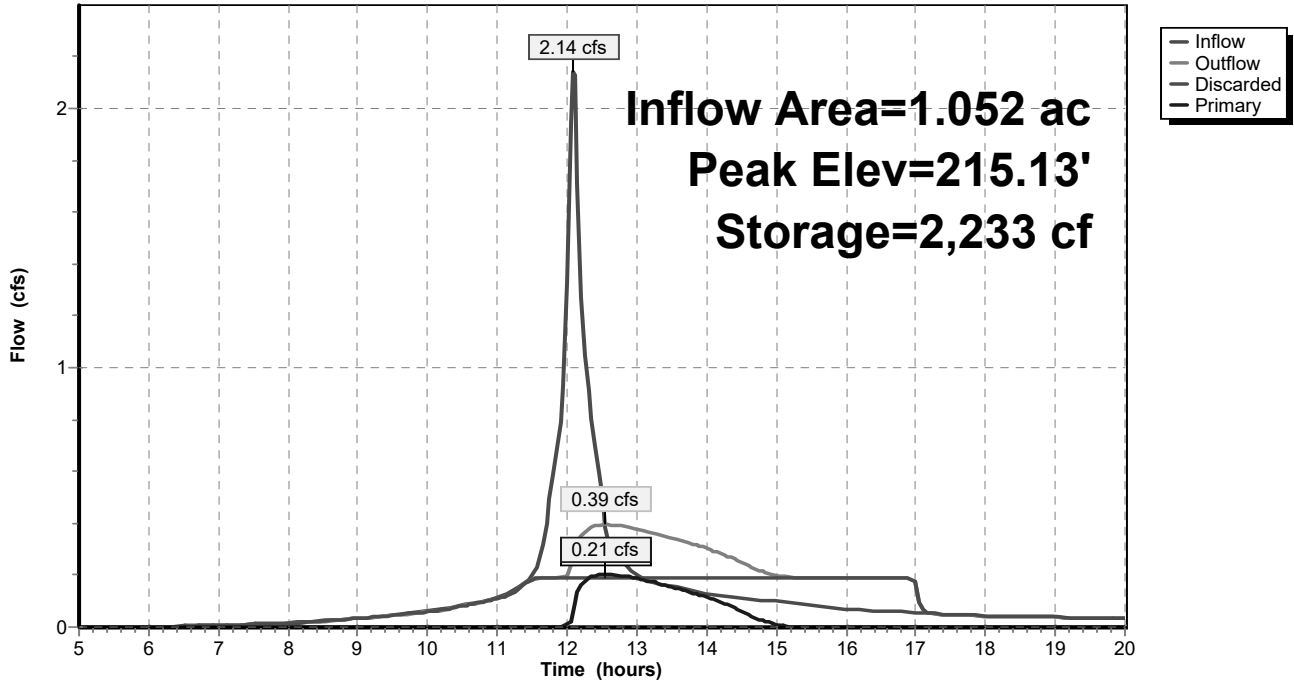
HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
Type III 24-hr 1 YEAR Rainfall=2.61"

Printed 12/24/2018

Pond 30P: CULTEC RECHARGER 330 XL

Hydrograph



POST CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
 Type III 24-hr 10 YEAR Rainfall=4.69"

Printed 12/24/2018

Summary for Subcatchment 10: 10

Runoff = 4.35 cfs @ 12.09 hrs, Volume= 0.314 af, Depth> 3.58"

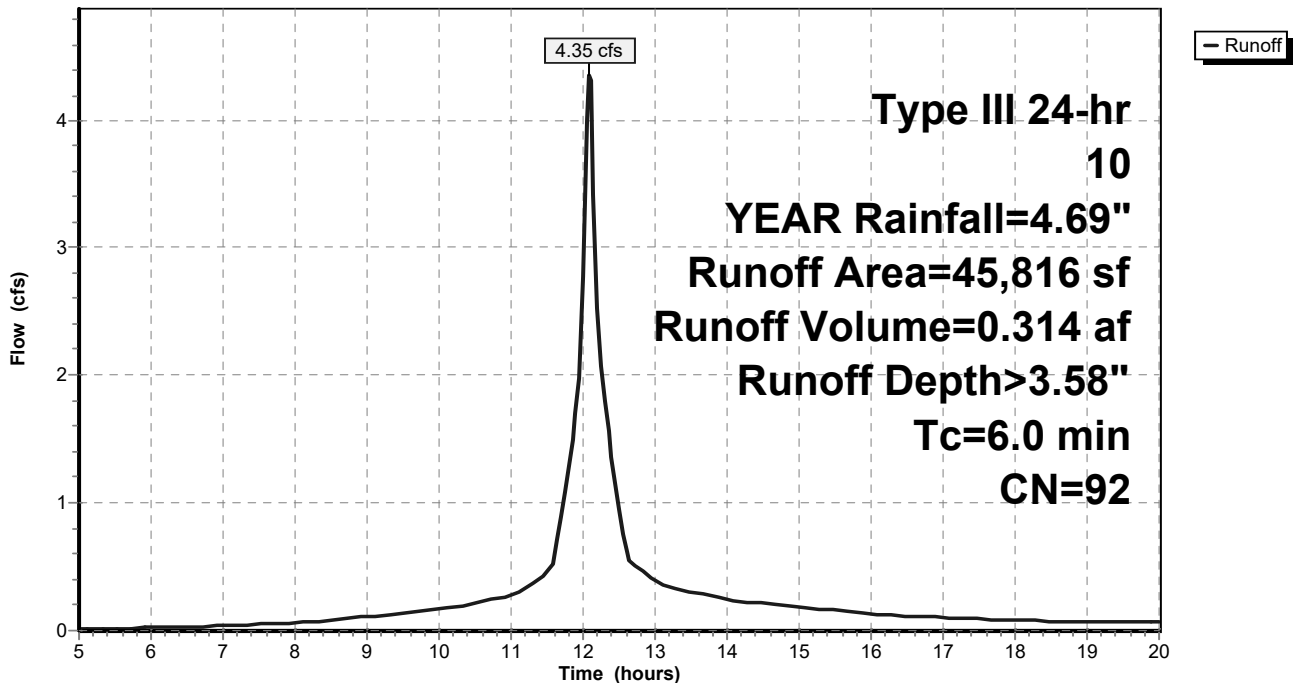
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YEAR Rainfall=4.69"

Area (sf)	CN	Description
12,916	80	>75% Grass cover, Good, HSG D
29,932	98	Paved parking, HSG D
2,968	77	Woods, Good, HSG D
45,816	92	Weighted Average
15,884		34.67% Pervious Area
29,932		65.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 10: 10

Hydrograph



POST CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
Type III 24-hr 10 YEAR Rainfall=4.69"

Printed 12/24/2018

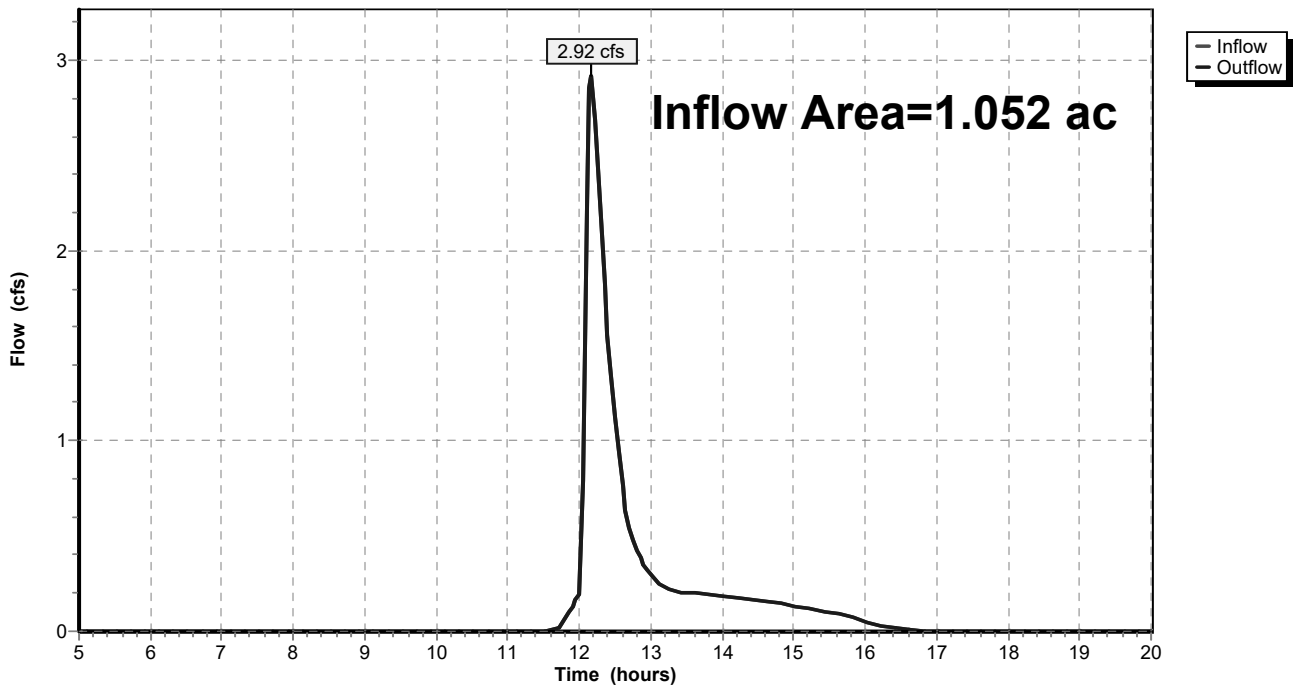
Summary for Reach SDP1: SDP1

Inflow Area = 1.052 ac, 65.33% Impervious, Inflow Depth = 1.64" for 10 YEAR event
Inflow = 2.92 cfs @ 12.17 hrs, Volume= 0.143 af
Outflow = 2.92 cfs @ 12.17 hrs, Volume= 0.143 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SDP1: SDP1

Hydrograph



POST CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
Type III 24-hr 10 YEAR Rainfall=4.69"

Printed 12/24/2018

Summary for Pond 30P: CULTEC RECHARGER 330 XL

Inflow Area = 1.052 ac, 65.33% Impervious, Inflow Depth > 3.58" for 10 YEAR event
Inflow = 4.35 cfs @ 12.09 hrs, Volume= 0.314 af
Outflow = 3.11 cfs @ 12.17 hrs, Volume= 0.313 af, Atten= 29%, Lag= 5.1 min
Discarded = 0.19 cfs @ 12.17 hrs, Volume= 0.170 af
Primary = 2.92 cfs @ 12.17 hrs, Volume= 0.143 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 215.80' @ 12.17 hrs Surf.Area= 2,025 sf Storage= 3,274 cf

Plug-Flow detention time= 45.5 min calculated for 0.313 af (100% of inflow)
Center-of-Mass det. time= 45.0 min (801.2 - 756.1)

Volume	Invert	Avail.Storage	Storage Description
#1	213.55'	2,119 cf	30.50'W x 66.40'L x 4.04'H Prismatic 8,182 cf Overall - 2,884 cf Embedded = 5,298 cf x 40.0% Voids
#2	214.05'	2,884 cf	Cultec R-330XLHD x 54 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		5,003 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	213.50'	12.0" Round Culvert X 4.00 L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 213.50' / 212.80' S= 0.0140 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	214.25'	3.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	215.15'	21.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#4	Discarded	213.55'	4.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 11.00'

Discarded OutFlow Max=0.19 cfs @ 12.17 hrs HW=215.78' (Free Discharge)
↳ **4=Exfiltration** (Controls 0.19 cfs)

Primary OutFlow Max=2.84 cfs @ 12.17 hrs HW=215.78' (Free Discharge)
↳ **1=Culvert** (Passes 2.84 cfs of 20.21 cfs potential flow)
↳ **2=Orifice/Grate** (Orifice Controls 0.28 cfs @ 5.72 fps)
↳ **3=Orifice/Grate** (Orifice Controls 2.56 cfs @ 2.93 fps)

POST CONDITIONS

Prepared by Hudson Land Design, P.C.

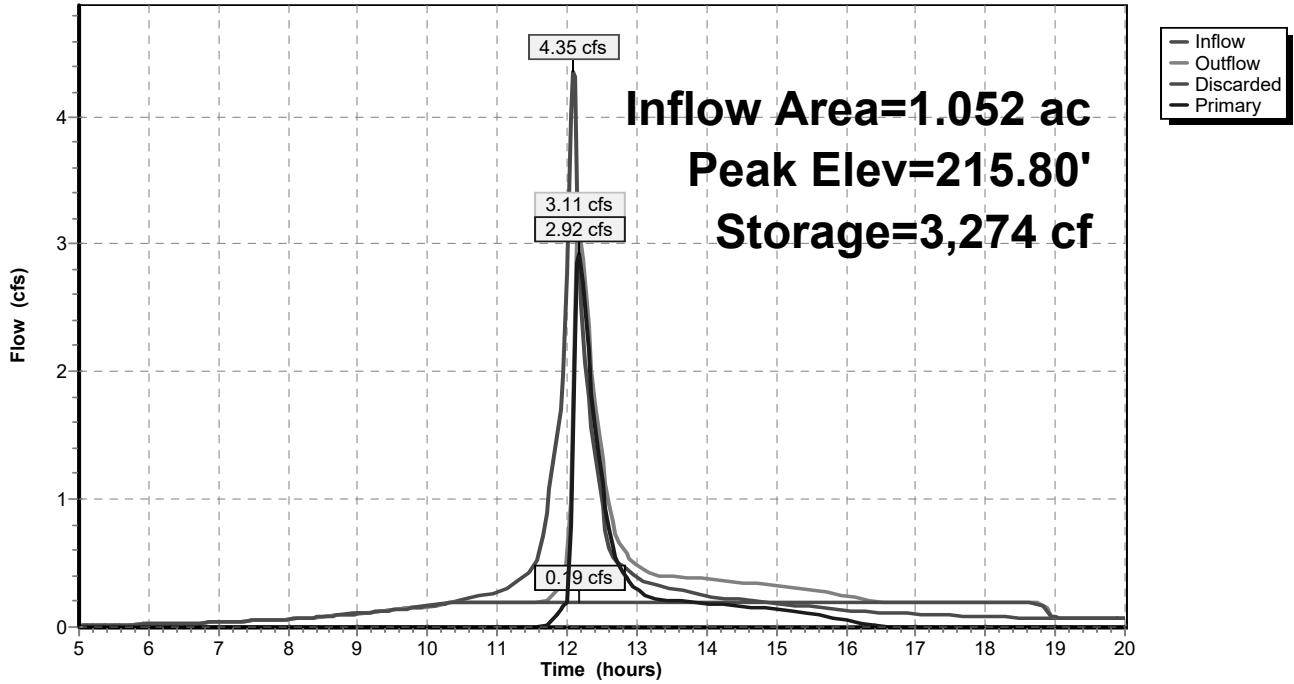
HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
Type III 24-hr 10 YEAR Rainfall=4.69"

Printed 12/24/2018

Pond 30P: CULTEC RECHARGER 330 XL

Hydrograph



POST CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
 Type III 24-hr 100 YEAR Rainfall=8.29"

Printed 12/24/2018

Summary for Subcatchment 10: 10

Runoff = 8.11 cfs @ 12.09 hrs, Volume= 0.605 af, Depth> 6.90"

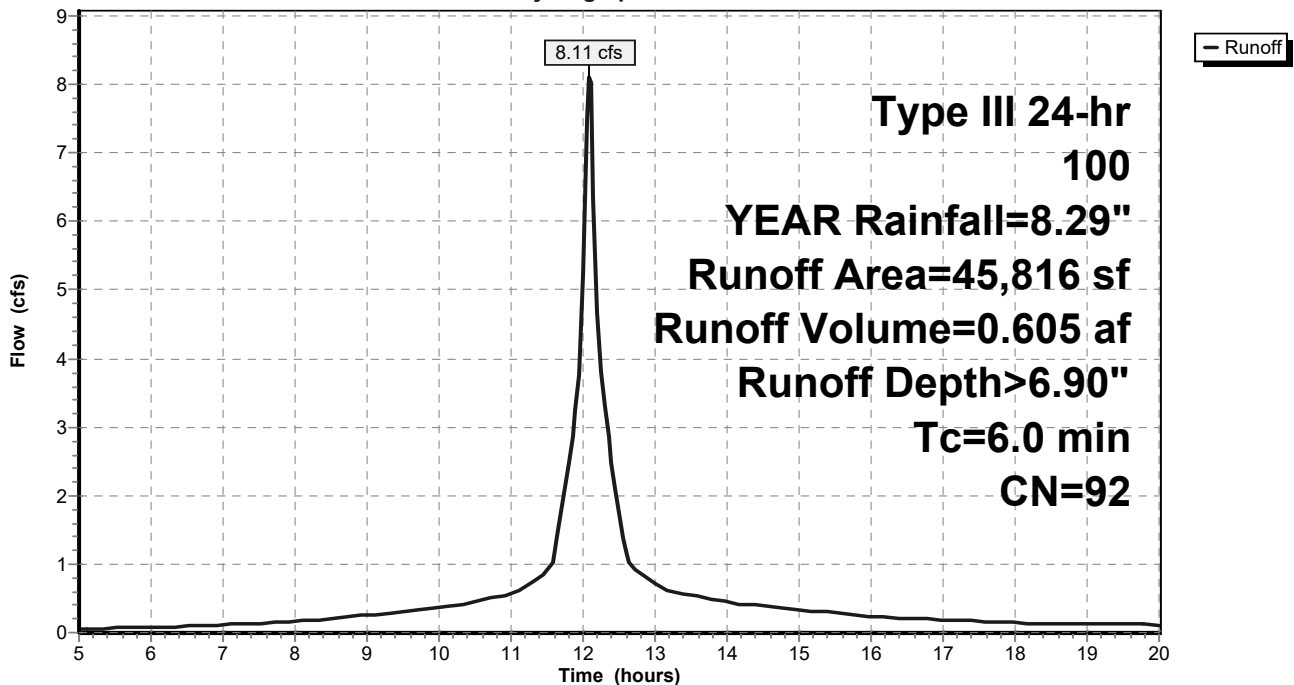
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100 YEAR Rainfall=8.29"

Area (sf)	CN	Description
12,916	80	>75% Grass cover, Good, HSG D
29,932	98	Paved parking, HSG D
2,968	77	Woods, Good, HSG D
45,816	92	Weighted Average
15,884		34.67% Pervious Area
29,932		65.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 10: 10

Hydrograph



POST CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
Type III 24-hr 100 YEAR Rainfall=8.29"

Printed 12/24/2018

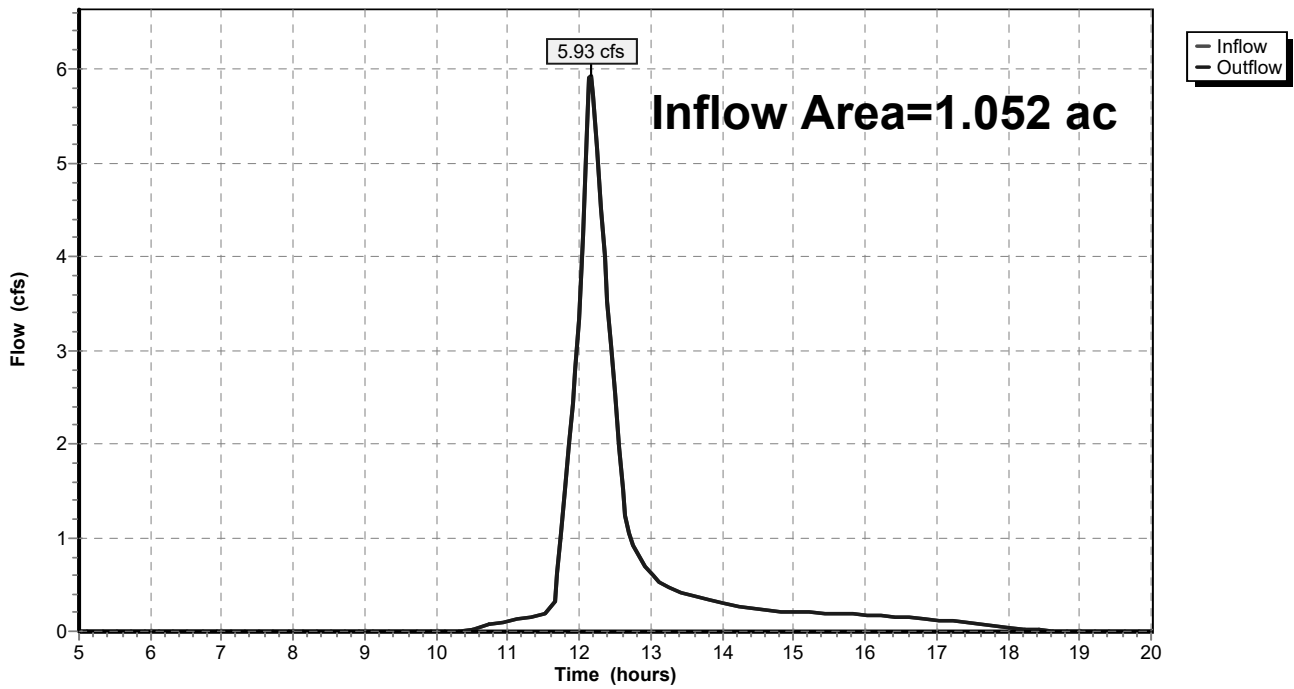
Summary for Reach SDP1: SDP1

Inflow Area = 1.052 ac, 65.33% Impervious, Inflow Depth = 4.36" for 100 YEAR event
Inflow = 5.93 cfs @ 12.16 hrs, Volume= 0.382 af
Outflow = 5.93 cfs @ 12.16 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SDP1: SDP1

Hydrograph



POST CONDITIONS

Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
Type III 24-hr 100 YEAR Rainfall=8.29"

Printed 12/24/2018

Summary for Pond 30P: CULTEC RECHARGER 330 XL

Inflow Area = 1.052 ac, 65.33% Impervious, Inflow Depth > 6.90" for 100 YEAR event
Inflow = 8.11 cfs @ 12.09 hrs, Volume= 0.605 af
Outflow = 6.12 cfs @ 12.16 hrs, Volume= 0.593 af, Atten= 24%, Lag= 4.5 min
Discarded = 0.19 cfs @ 12.16 hrs, Volume= 0.211 af
Primary = 5.93 cfs @ 12.16 hrs, Volume= 0.382 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 217.13' @ 12.16 hrs Surf.Area= 2,025 sf Storage= 4,632 cf

Plug-Flow detention time= 41.0 min calculated for 0.591 af (98% of inflow)
Center-of-Mass det. time= 32.6 min (777.4 - 744.9)

Volume	Invert	Avail.Storage	Storage Description
#1	213.55'	2,119 cf	30.50'W x 66.40'L x 4.04'H Prismatic 8,182 cf Overall - 2,884 cf Embedded = 5,298 cf x 40.0% Voids
#2	214.05'	2,884 cf	Cultec R-330XLHD x 54 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 6 rows
		5,003 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	213.50'	12.0" Round Culvert X 4.00 L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 213.50' / 212.80' S= 0.0140 ' /' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	214.25'	3.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	215.15'	21.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#4	Discarded	213.55'	4.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 11.00'

Discarded OutFlow Max=0.19 cfs @ 12.16 hrs HW=217.10' (Free Discharge)
↳ **4=Exfiltration** (Controls 0.19 cfs)

Primary OutFlow Max=5.87 cfs @ 12.16 hrs HW=217.10' (Free Discharge)
↳ **1=Culvert** (Passes 5.87 cfs of 26.12 cfs potential flow)
↳ **2=Orifice/Grate** (Orifice Controls 0.39 cfs @ 7.94 fps)
↳ **3=Orifice/Grate** (Orifice Controls 5.48 cfs @ 6.26 fps)

POST CONDITIONS

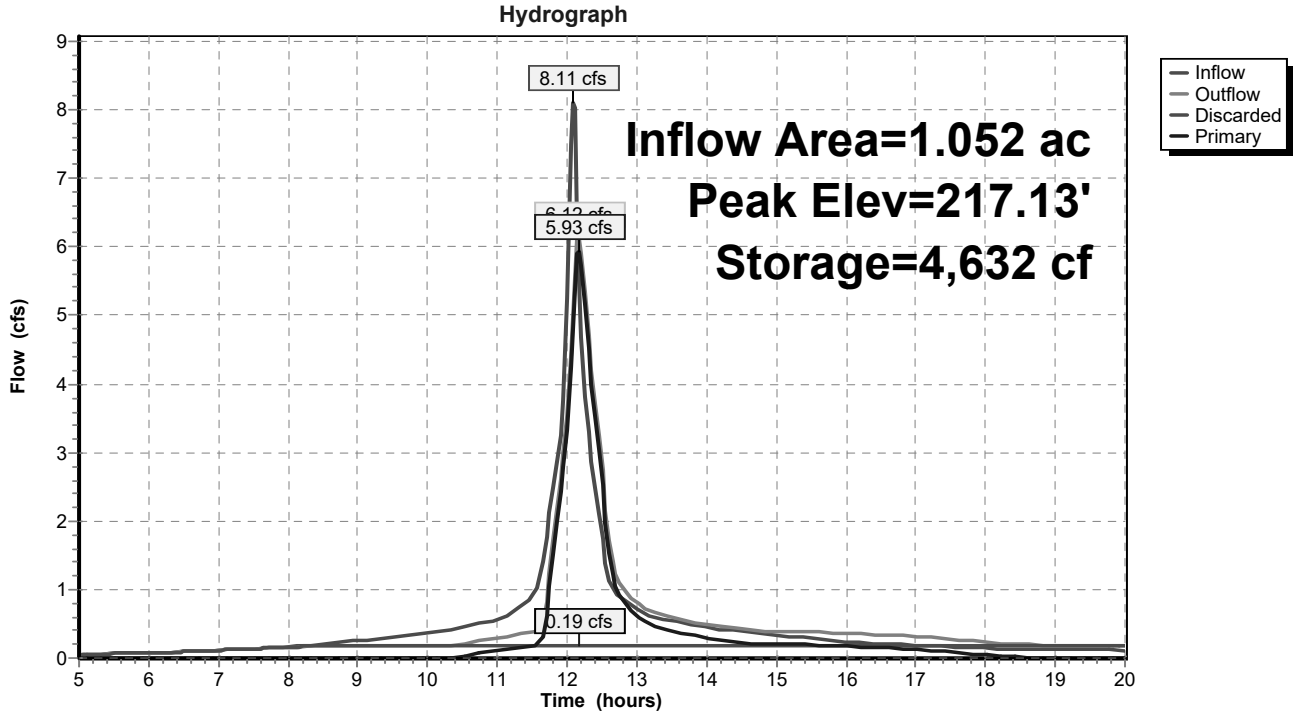
Prepared by Hudson Land Design, P.C.

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

511 Fishkill Ave Post Conditions
Type III 24-hr 100 YEAR Rainfall=8.29"

Printed 12/24/2018

Pond 30P: CULTEC RECHARGER 330 XL



APPENDIX F
STORMWATER MANAGEMENT PRACTICE DESIGN

INFILTRATION TEST DATA

Project: 511 Fishkill Avenue

City of Beacon

Date: 12/02/2018

By: Daniel G. Koehler, P.E.

Test Hole #	Test Hole Bottom Elevation	Soil Type	Soaked	TEST RUNS					
				*	1	2	3	4	5
IT 1	212.0	Brown Silty-Clay Loam	Yes	Finish	14:15	15:15	16:15		
				Start	13:15	14:15	15:15		
				Depth (in)	8"	6"	4"		

I, Daniel G. Koehler, P.E., the undersigned, certify that these infiltration tests were done by myself or under my direction according to the standard procedure as outlined in the NYS Stormwater Management Design Manual. The data and results presented are true and correct.

Dated: 12/02/2017

Signature: _____

License No. (P.E.) _____

DEEP TEST RESULTS

Date: 12/05/2018

Name of property: 511 Fishkill Avenue

(C) Beacon

TAX GRID #

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

Owner of property: Diamond Properties, LLC

Engineer: Hudson Land Design

Person directing test: Daniel G. Koehler, P.E.

C/o Beacon Rep: Eric Rogge, P.E.

HOLE #	LOT #	TOTAL DEPTH	ROCK DEPTH	WATER DEPTH	MOTTLING DEPTH	SOIL DESCRIPTION
DT-1	1	100"	None Observed	None Observed	None Observed	0"-6" TOPSOIL, 6"-24" SANDY-CLAY LOAM WITH GRAVEL, 24"-48" SANDY-CLAY LOAM WITH COBBLES, 48"-100" BROWN SILTY-CLAY LOAM WITH COBBLES
DT-2	1	101"	None Observed	None Observed	None Observed	0"-6" TOPSOIL, 6"-30" SANDY-CLAY LOAM WITH GRAVEL, 30"-101" SILTY-CLAY LOAM WITH COBBLES

General remarks (terrain; weather; springs, streams, etc.)



**Providing Stormwater and
Septic Solutions Since 1986**

CULTEC, Inc.
878 Federal Road
P.O. Box 280
Brookfield, CT 06804 USA

Phone: 203.775.4416
Fax: 203.775.1462
Email: custservice@cultec.com
Website: www.cultec.com

MODEL # 330XLHD, RECHARGER® 330XLHD

The Recharger® 330XLHD is a 30.5" (775 mm) tall, high capacity chamber. Typically when using this model, fewer chambers are required resulting in less labor and a smaller installation area. The Recharger® 330XLHD has the side portal internal manifold feature. [HVLV™ FC-24 Feed Connectors](#) are

[+ more](#)



[Specifications](#) | [Technical References](#)

Specifications

Length	8.50 ft 2.59 m
Width	52 in 1321 mm
Height	30.50 in 775 mm
Installed Length	7.00 ft 2.13 m
Length Adjustment per Run	1.50 ft 0.46 m

Chamber Storage	7.459 ft ³ /ft 52.21 ft ³ /unit 391 gal 0.69 m ³ /m 1.48 m ³ /unit 1478.44 L
Min. Installed Storage	11.32 ft ³ /ft 79.26 ft ³ /unit 593 gal 1.05 m ³ /m 2.24 m ³ /unit 2244.25 L
Min. Area Required per Unit	33.83 ft ² 3.14 m ²
Min. Center-to-Center Spacing (Design Unit Width)	4.83 ft 1.47 m
Max. Allowable Cover	3.66 m 12 ft
Max. Inlet Opening in End Wall	24 in 600 mm
Max. Allowable O.D. in Side Portal	11.75 in 298 mm
Compatible Feed Connector	<u>HVLV FC-24 Feed Connector</u>

Technical References

Downloads

[CAD - Recharger 330XLHD Stormwater Design Aide](#)

[CAD - Recharger 330XLHD Stormwater Details](#)

[PDF - Contactor & Recharger Stormwater Installation Instructions - CULG012](#)

[PDF - Recharger 330XLHD Stormwater Details](#)

[PDF - Recharger 330XLHD Submittal Package - Stormwater](#)

[XLS - CULTEC Recharger 330XLHD Incremental Storage Calculator](#)



CONTECH[®]
ENGINEERED SOLUTIONS

CDS[®]



Solutions
Guide



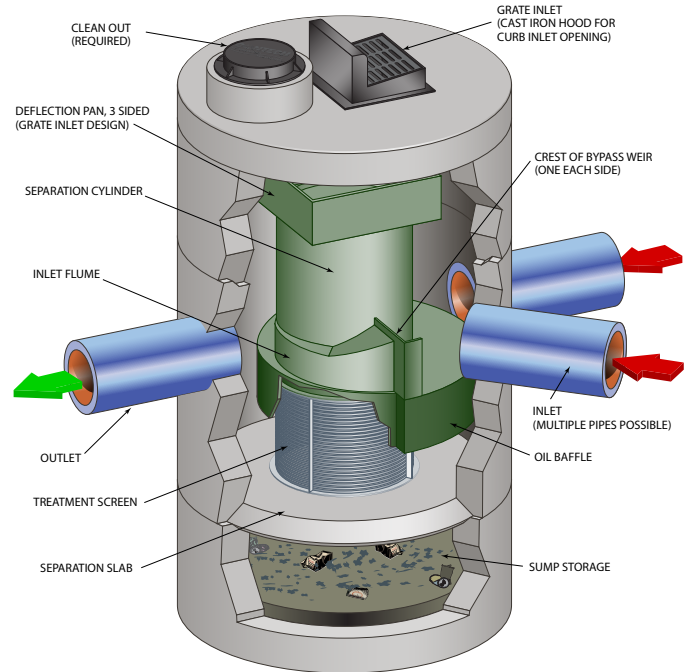
Continuous Deflective Separation - CDS®



Superior Stormwater Trash and Sediment Removal

The CDS is a swirl concentrator hybrid technology that uses continuous deflective separation – a combination of swirl concentration and indirect screening to screen, separate and trap debris, sediment, and hydrocarbons from stormwater runoff. The indirect screening capability of the system allows for 100% removal of floatables and neutrally buoyant material debris 2.4 mm or larger, without binding. CDS retains all captured pollutants, even at high flow rates, and provides easy access for maintenance.

CDS is used to meet trash Total Maximum Daily Load (TMDL) requirements, for stormwater quality control, inlet and outlet pollution control, and as pretreatment for filtration, detention/infiltration, bioretention, rainwater harvesting systems, and a variety of green infrastructure practices.



Learn more about the CDS system at www.ContechES.com/CDS ❖ ❖ ❖

CDS® Approvals

CDS has been verified by some of the most stringent stormwater technology evaluation organizations in North America, including:

- Washington State Department of Ecology
- New Jersey Department of Environmental Protection
- Canadian Environmental Technology Verification (ETV)



Performance Claim Verified by the Canadian ETV Program



CDS® Features & Benefits

Feature	Benefit
1. Captures and retains 100% of floatables and neutrally buoyant debris 2.4 mm or larger	1. Superior pollutant removal
2. Self-cleaning screen	2. Ease of maintenance
3. Isolated storage sump eliminates scour potential	3. Excellent pollutant retention
4. Internal bypass	4. Eliminates the need for additional structures
5. Multiple pipe inlets and 90-180° angles	5. Design flexibility
6. Numerous regulatory approvals	6. Proven performance

The CDS® Screen

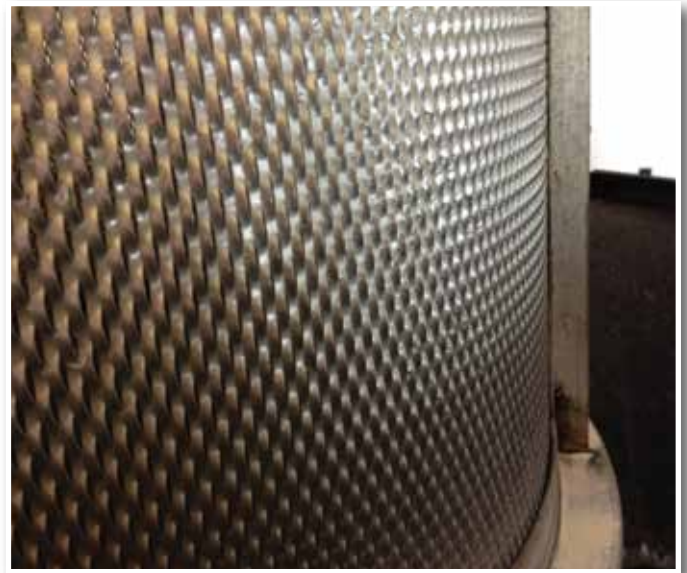
Traditional approaches to trash control typically involve “direct screening” that can easily become clogged, as trash is pinned to the screen as water passes through. Clogged screens can lead to flooding as water backs up.

The design of the CDS screen is fundamentally different. Flow is introduced to the screen face which is louvered so that it is smooth in the downstream direction. The effect created is called “Continuous Deflective Separation.” The power of the incoming flow is harnessed to continually shear debris off the screen and to direct trash and sediment toward the center of the separation cylinder.

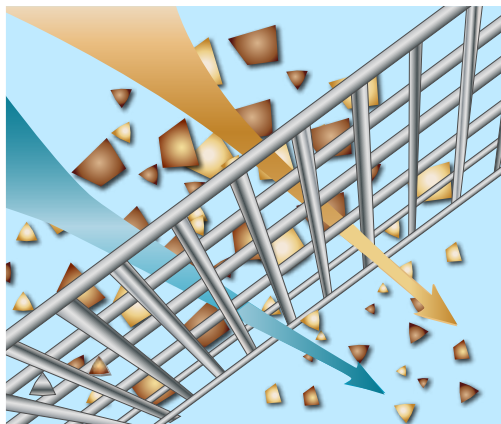
Key Features:

Self-Cleaning Screening Technology

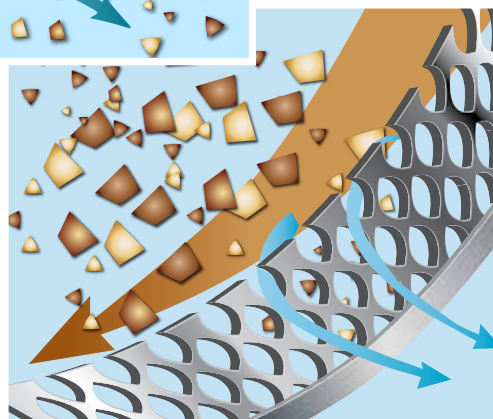
- CDS Screen captures neutrally buoyant materials missed by other separator systems.
- Screen is hydraulically designed to be self-cleaning.
- Runoff entering the separation cylinder must pass through the screen prior to discharge, eliminating potential for scouring previously captured trash at high flow rates.



The CDS Screen — Self-Cleaning Screening Technology ❖ ❖ ❖



Direct Screening – particles that are larger than the aperture size of the screen can cause clogging, resulting in flooding if not maintained frequently.



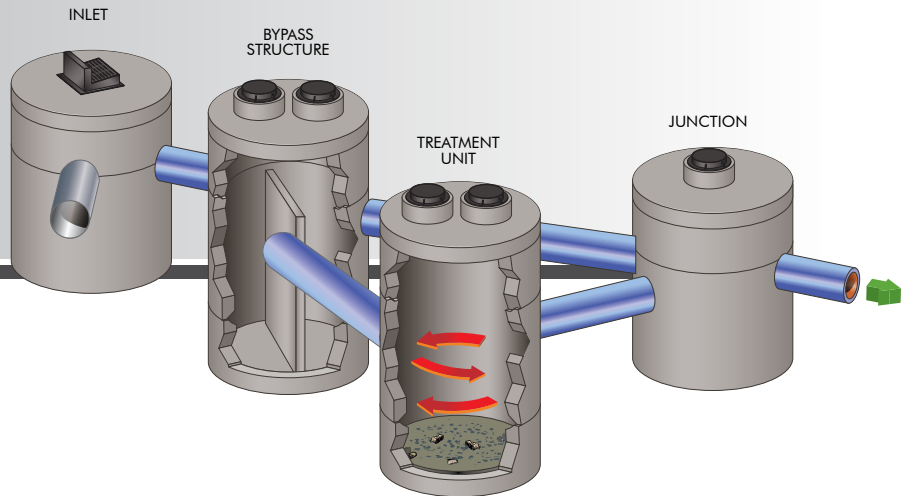
Continuous Deflective Separation Indirect Screening – water velocities within the swirl chamber continually shear debris off the screen to keep it clean.

CDS® Configuration - One System that Can Do It All!

The CDS effectively treats stormwater runoff while reducing the number of structures on your site.

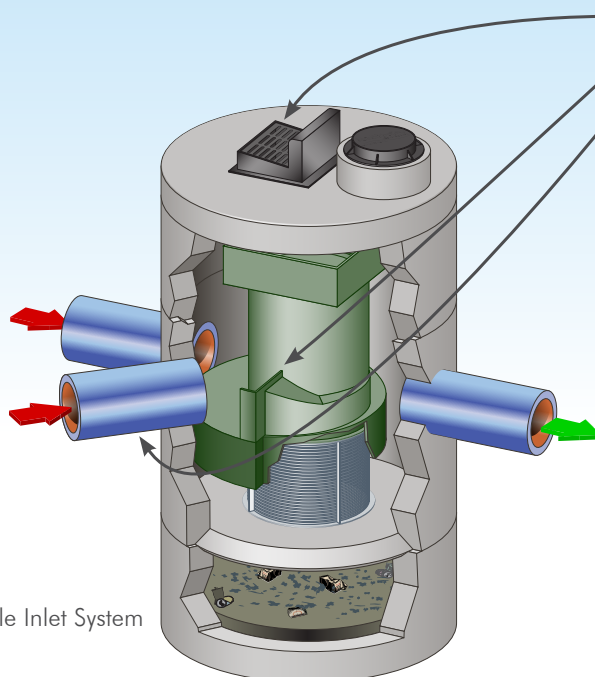
WHY GO THROUGH ALL THIS?

TRADITIONAL STORMWATER TREATMENT SITE DESIGN



ONE SYSTEM CAN DO IT ALL!

- Inline, offline, grate inlet, and drop inlet configurations available
- Internal and external peak bypass options available



CDS® Multiple Inlet System



Save Time, Space, and Money with CDS®

- Grate inlet option available
- Internal bypass weir
- Accepts multiple inlets at a variety of angles
- Advanced hydrodynamic separator
- Captures and retains 100% of floatables and neutrally buoyant debris 2.4 mm or larger
- Indirect screening capability keeps screen from clogging
- Retention of all captured pollutants, even at high flows
- Performance verified by NJCAT, WA Ecology, and ETV Canada

CDS[®] Applications

CDS is commonly used in the following stormwater applications:

- Stormwater quality control – trash, debris, sediment, and hydrocarbon removal
- Urban retrofit and redevelopment
- Inlet and outlet protection
- Pretreatment for filtration, detention/infiltration, bioretention, rainwater harvesting systems, and Low Impact Development designs.



CDS provides trash control.



CDS pretreats a bioswale.



CDS pretreats a rainwater harvesting cistern.



CDS standalone system removes trash and sediment.

CDS® Models and Capacities

CDS MODEL	Treatment Flow Rates ¹			Estimated Maximum Peak Conveyance Flow ³ (cfs)/(L/s)	Minimum Sump Storage Capacity ⁴ (yd ³)/(m ³)	Minimum Oil Storage Capacity ⁴ (gal)/(L)	
	75 microns (cfs)/(L/s)	125 microns ² (cfs)/(L/s)	Trash & Debris (cfs)/(L/s)				
PRECAST	CDS2015-4	0.5 (14.2)	0.7 (19.8)	1.0 (28.3)	10 (283)	0.9 (0.7)	61 (232)
	CDS2015-5	0.5 (14.2)	0.7(19.8)	1.0 (28.3)	10 (283)	1.5 (1.1)	83 (313)
	CDS2020-5	0.7 (19.8)	1.1 (31.2)	1.5 (42.5)	14 (396)	1.5 (1.1)	99 (376)
	CDS2025-5	1.1 (31.2)	1.6 (45.3)	2.2 (62.3)	14 (396)	1.5 (1.1)	116 (439)
	CDS3020-6	1.4 (39.6)	2.0 (56.6)	2.8 (79.3)	20 (566)	2.1 (1.6)	184 (696)
	CDS3025-6	1.7 (48.1)	2.5 (70.8)	3.5 (99.2)	20 (566)	2.1 (1.6)	210 (795)
	CDS3030-6	2.0 (56.6)	3.0 (85.0)	4.2 (118.9)	20 (566)	2.1 (1.6)	236 (895)
	CDS3035-6	2.6 (73.6)	3.8 (106.2)	5.3 (150.0)	20 (566)	2.1 (1.6)	263 (994)
	CDS4030-8	3.1 (87.7)	4.5 (127.4)	6.3 (178.3)	30 (850)	5.6 (4.3)	426 (1612)
	CDS4040-8	4.1 (116.1)	6.0 (169.9)	8.4 (237.8)	30 (850)	5.6 (4.3)	520 (1970)
	CDS4045-8	5.1 (144.4)	7.5 (212.4)	10.5 (297.2)	30 (850)	5.6 (4.3)	568 (2149)
	CDS5640-10	6.1 (172.7)	9.0 (254.9)	12.6 (356.7)	50 (1416)	8.7 (6.7)	758 (2869)
	CDS5653-10	9.5 (268.9)	14.0 (396.5)	19.6 (554.8)	50 (1416)	8.7 (6.7)	965 (3652)
	CDS5668-10	12.9 (365.1)	19.0 (538.1)	26.6 (752.9)	50 (1416)	8.7 (6.7)	1172 (4435)
	CDS5678-10	17.0 (481.2)	25.0 (708.0)	35.0 (990.7)	50 (1416)	8.7 (6.7)	1309 (4956)
CAST-IN-PLACE	CDS9280-12	27.2 (770.2)	40.0 (1132.7)	56.0 (1585.7)	Offline	16.8 (12.8)	N/A
	CDS9290-12	35.4 (1002.4)	52.0 (1472.5)	72 (2038.8)		16.8 (12.8)	
	CDS92100-12	42.8 (1212.0)	63.0 (1783.9)	88 (2491.9)		16.8 (12.8)	
	CDS150134-22	100.7 (2851.5)	148.0 (4190.9)	270 (7645.6)		56.3 (43.0)	
	CDS200164-26	183.6 (5199.0)	270.0 (7645.6)	378.0 (10703.8)		78.7 (60.2)	
	CDS240160-32	204 (5776.6)	300.0 (8495.1)	420.0 (8495.1)		119.1 (91.1)	
	Additional Cast-in-Place models available upon request.						

1. Alternative PSD/D₅₀ sizing is available upon request.
2. 125 micron flows are based on the CDS Washington State Department of Ecology approval for 80% removal of a particle size distribution (PSD) having a mean particle size (D₅₀) of 125 microns.
3. Estimated maximum peak conveyance flow is calculated using conservative values and may be exceeded on sites with lower inflow velocities and sufficient head over the weir.
4. Sump and oil capacities can be customized to meet site needs

CDS[®] Maintenance

Systems vary in their maintenance needs, and the selection of a cost-effective and easy-to-access treatment system can mean a huge difference in maintenance expenses for years to come.

A CDS unit is designed to minimize maintenance and make it as easy and inexpensive as possible to keep our systems working properly.

Inspection

Inspection is the key to effective maintenance. Pollutant deposition and transport may vary from year to year and site to site. Semi-annual inspections will help ensure that the system is cleaned out at the appropriate time. Inspections should be performed more frequently where site conditions may cause rapid accumulation of pollutants.



Most CDS units can easily be cleaned in 30 minutes.

Recommendations for CDS Maintenance

The recommended cleanout of solids within the CDS unit's sump should occur at 75% of the sump capacity. Access to the CDS unit is typically achieved through two manhole access covers – one allows inspection and cleanout of the separation chamber and sump, and another allows inspection and cleanout of sediment captured and retained behind the screen. A vacuum truck is recommended for cleanout of the CDS unit and can be easily accomplished in less than 30 minutes for most installations.

DYOHDS[™] Tool Design Your Own Hydrodynamic Separator

Features

- Choose from three HDS technologies - CDS[®], Vortechs[®] and VortSentry[®] HS
- Site specific questions ensure the selected unit will comply with site constraints
- Unit size based on selected mean particle size and targeted removal percentage
- Localized rainfall data allows for region specific designs
- PDF report includes detailed performance calculations, specification and standard drawing for the unit that was sized



↑ Design Your Own (DYO) Hydrodynamic Separator
online at www.ContechES.com/dyohds



Next Steps

Learn more

See our CDS systems in action at www.ContechES.com/videos

Connect with Us

We're here to make your job easier – and that includes being able to get in touch with us when you need to. www.ContechES.com/localresources

Start a Project

If you are ready to begin a project, visit us at www.ContechES.com/startaproject

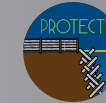
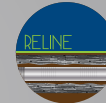
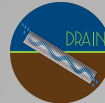
Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, retaining walls, sanitary sewer, stormwater, erosion control and soil stabilization products.

The product(s) described may be protected by one or more of the following US patents: 5,322,629; 5,624,576; 5,707,527; 5,759,415; 5,788,848; 5,985,157; 6,027,639; 6,350,374; 6,406,218; 6,641,720; 6,511,595; 6,649,048; 6,991,114; 6,998,038; 7,186,058; 7,296,692; 7,297,266 related foreign patents or other patents pending.

CDS is a registered trademark or licensed trademark of Contech Engineered Solutions LLC.



COMPLETE SITE SOLUTIONS



Stormwater Solutions

Helping to satisfy stormwater management requirements on land development projects

- Stormwater Treatment
- Detention/Infiltration
- Rainwater Harvesting
- Biofiltration/Bioretenation

Pipe Solutions

Meeting project needs for durability, hydraulics, corrosion resistance, and stiffness

- Corrugated Metal Pipe (CMP)
- Steel Reinforced Polyethylene (SRPE)
- High Density Polyethylene (HDPE)
- Polyvinyl Chloride (PVC)

Structures Solutions

Providing innovative options and support for crossings, culverts, and bridges

- Plate, Precast & Truss bridges
- Hard Armor
- Retaining Walls
- Tunnel Liner Plate

NOTHING IN THIS CATALOG SHOULD BE CONSTRUED AS A WARRANTY. APPLICATIONS SUGGESTED HEREIN ARE DESCRIBED ONLY TO HELP READERS MAKE THEIR OWN EVALUATIONS AND DECISIONS, AND ARE NEITHER GUARANTEES NOR WARRANTIES OF SUITABILITY FOR ANY APPLICATION. CONTECH MAKES NO WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, RELATED TO THE APPLICATIONS, MATERIALS, COATINGS, OR PRODUCTS DISCUSSED HEREIN. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY CONTECH. SEE CONTECH'S CONDITIONS OF SALE (AVAILABLE AT WWW.CONTECHES.COM/COS) FOR MORE INFORMATION.



©2017 Contech Engineered Solutions LLC, a QUIKRETE Company
800-338-1122 | www.ContechES.com
All Rights Reserved. Printed in the USA.

Get Social With Us!



CDS Brochure - 06/2017 (PDF)

We print our brochures entirely on Forest Stewardship Council certified paper. FSC certification ensures that the paper in our brochures contain fiber from well-managed and responsibly harvested forests that meet strict environmental and socioeconomic standards.

FSC

APPENDIX G

PRE-CONSTRUCTION SITE ASSESSMENT CHECKLIST

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _____
Permit No. _____ **Date of Authorization** _____
Name of Operator _____
Prime Contractor _____

a. Preamble to Site Assessment and Inspections

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified professional¹ conduct an assessment of the site prior to the commencement of construction² and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization³ using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Name (please print): _____

Title _____ **Date:** _____

Address: _____

Phone: _____ **Email:** _____

Signature: _____

c. Qualified Professional's Credentials & Certification

"I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (please print): _____

Title _____ **Date:** _____

Address: _____

Phone: _____ **Email:** _____

Signature: _____

d. Pre-construction Site Assessment Checklist

(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

- Has a Notice of Intent been filed with the NYS Department of Conservation?
- Is the SWPPP on-site? Where? _____
- Is the Plan current? What is the latest revision date? _____
- Is a copy of the NOI (with brief description) onsite? Where? _____
- Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

- Are construction limits clearly flagged or fenced?
- Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
- Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

- Clean stormwater runoff has been diverted from areas to be disturbed.
- Bodies of water located either on site or in the vicinity of the site have been identified and protected.
- Appropriate practices to protect on-site or downstream surface water are installed.
- Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Entrance

Yes No NA

- A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
- Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
- Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Perimeter Sediment Controls

Yes No NA

- Silt fence material and installation comply with the standard drawing and specifications.
- Silt fences are installed at appropriate spacing intervals
- Sediment/detention basin was installed as first land disturbing activity.
- Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

- The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
- The plan is contained in the SWPPP on page _____
- Appropriate materials to control spills are onsite. Where? _____

APPENDIX H
INFILTRATION AREA CONSTRUCTION INSPECTION
CHECKLIST

Infiltration Basin Construction Inspection Checklist

Project:
 Location:
 Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Embankment		
Barrel		
Anti-seep collar or Filter diaphragm		
Fill material		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Final Excavation		
Drainage area stabilized		
Sediment removed from facility		
Basin floor tilled		
Facility stabilized		
5. Final Inspection		
Pretreatment facility in place		
Inlets / outlets		
Contributing watershed stabilized before flow is routed to the facility		

Comments:

Actions to be Taken:

Open Channel System Construction Inspection Checklist

Project:
 Location:
 Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Facility location staked out		
2. Excavation		
Size and location		
Side slope stable		
Soil permeability		
Groundwater / bedrock		
Lateral slopes completely level		
Longitudinal slopes within design range		
Excavation does not compact subsoils		
3. Check dams		
Dimensions		
Spacing		
Materials		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
4. Structural Components		
Underdrain installed correctly		
Inflow installed correctly		
Pretreatment devices installed		
5. Vegetation		
Complies with planting specifications		
Topsoil adequate in composition and placement		
Adequate erosion control measures in place		
6. Final inspection		
Dimensions		
Check dams		
Proper outlet		
Effective stand of vegetation and stabilization		
Contributing watershed stabilized before flow is routed to the facility		

Comments:

Contactor® & Recharger® Stormwater Chambers The Chamber With The Stripe®



Operation and Maintenance Guidelines

Operation & Maintenance

This manual contains guidelines recommended by CULTEC, Inc. and may be used in conjunction with, but not to supersede, local regulations or regulatory authorities. OSHA Guidelines must be followed when inspecting or cleaning any structure.

Introduction

The CULTEC Subsurface Stormwater Management System is a high-density polyethylene (HDPE) chamber system arranged in parallel rows surrounded by washed stone. The CULTEC chambers create arch-shaped voids within the washed stone to provide stormwater detention, retention, infiltration, and reclamation. Filter fabric is placed between the native soil and stone interface to prevent the intrusion of fines into the system. In order to minimize the amount of sediment which may enter the CULTEC system, a sediment collection device (stormwater pretreatment device) is recommended upstream from the CULTEC chamber system. Examples of pretreatment devices include, but are not limited to, an appropriately sized catch basin with sump, pretreatment catchment device, oil grit separator, or baffled distribution box. Manufactured pretreatment devices may also be used in accordance with CULTEC chambers. Installation, operation, and maintenance of these devices shall be in accordance with manufacturer's recommendations. Almost all of the sediment entering the stormwater management system will be collected within the pretreatment device.

Best Management Practices allow for the maintenance of the preliminary collection systems prior to feeding the CULTEC chambers. The pretreatment structures shall be inspected for any debris that will restrict inlet flow rates. Outfall structures, if any, such as outlet control must also be inspected for any obstructions that would restrict outlet flow rates. OSHA Guidelines must be followed when inspecting or cleaning any structure.

Operation and Maintenance Requirements

I. Operation

CULTEC stormwater management systems shall be operated to receive only stormwater run-off in accordance with applicable local regulations. CULTEC subsurface stormwater management chambers operate at peak performance when installed in series with pretreatment. Pretreatment of suspended solids is superior to treatment of solids once they have been introduced into the system. The use of pretreatment is adequate as long as the structure is maintained and the site remains stable with finished impervious surfaces such as parking lots, walkways, and pervious areas are properly maintained. If there is to be an unstable condition, such as improvements to buildings or parking areas, all proper silt control measures shall be implemented according to local regulations.

II. Inspection and Maintenance Options

- A. The CULTEC system may be equipped with an inspection port located on the inlet row. The inspection port is a circular cast box placed in a rectangular concrete collar. When the lid is removed, a 6-inch (150 mm) pipe with a screw-in plug will be exposed. Remove the plug. This will provide access to the CULTEC Chamber row below. From the surface, through this access, the sediment may be measured at this location. A stadia rod may be used to measure the depth of sediment if any in this row. If the depth of sediment is in excess of 3 inches (76 mm), then this row should be cleaned with high pressure water through a culvert cleaning nozzle. This would be carried out through an upstream manhole or through the CULTEC StormFilter Unit (or other pre-treatment device). CCTV inspection of this row can be deployed through this access port to determine if any sediment has accumulated in the inlet row.
- B. If the CULTEC bed is not equipped with an inspection port, then access to the inlet row will be through an upstream manhole or the CULTEC StormFilter.
 1. **Manhole Access**

This inspection should only be carried out by persons trained in confined space entry and sewer inspection services. After the manhole cover has been removed a gas detector must be lowered into the manhole to ensure that there are not high concentrations of toxic gases present. The inspector should be lowered into the manhole with the proper safety equipment as per OSHA requirements. The inspector may be able to observe sediment from this location. If this is not possible, the inspector will need to deploy a CCTV robot to permit viewing of the sediment.

2. StormFilter Access

Remove the manhole cover to allow access to the unit. Typically a 30-inch (750 mm) pipe is used as a riser from the StormFilter to the surface. As in the case with manhole access, this access point requires a technician trained in confined space entry with proper gas detection equipment. This individual must be equipped with the proper safety equipment for entry into the StormFilter. The technician will be lowered onto the StormFilter unit. The hatch on the unit must be removed. Inside the unit are two filters which may be removed according to StormFilter maintenance guidelines. Once these filters are removed the inspector can enter the StormFilter unit to launch the CCTV camera robot.

- C. The inlet row of the CULTEC system is placed on a polyethylene liner to prevent scouring of the washed stone beneath this row. This also facilitates the flushing of this row with high pressure water through a culvert cleaning nozzle. The nozzle is deployed through a manhole or the StormFilter and extended to the end of the row. The water is turned on and the inlet row is back-flushed into the manhole or StormFilter. This water is to be removed from the manhole or StormFilter using a vacuum truck.

III. Maintenance Guidelines

The following guidelines shall be adhered to for the operation and maintenance of the CULTEC stormwater management system:

- A. The owner shall keep a maintenance log which shall include details of any events which would have an effect on the system’s operational capacity.
- B. The operation and maintenance procedure shall be reviewed periodically and changed to meet site conditions.
- C. Maintenance of the stormwater management system shall be performed by qualified workers and shall follow applicable occupational health and safety requirements.
- D. Debris removed from the stormwater management system shall be disposed of in accordance with applicable laws and regulations.

IV. Suggested Maintenance Schedules

A. Minor Maintenance

The following suggested schedule shall be followed for routine maintenance during the regular operation of the stormwater system:

Frequency	Action
Monthly in first year	Check inlets and outlets for clogging and remove any debris as required.
Spring and Fall	Check inlets and outlets for clogging and remove any debris as required.
One year after commissioning and every third year following	Check inlets and outlets for clogging and remove any debris as required.

B. Major Maintenance

The following suggested maintenance schedule shall be followed to maintain the performance of the CULTEC stormwater management chambers. Additional work may be necessary due to insufficient performance and other issues that might be found during the inspection of the stormwater management chambers. (See table on next page)

Major Maintenance *(continued)*

	Frequency	Action
Inlets and Outlets	Every 3 years	<ul style="list-style-type: none"> Obtain documentation that the inlets, outlets and vents have been cleaned and will function as intended.
	Spring and Fall	<ul style="list-style-type: none"> Check inlet and outlets for clogging and remove any debris as required.
CULTEC Stormwater Chambers	2 years after commissioning	<ul style="list-style-type: none"> Inspect the interior of the stormwater management chambers through inspection port for deficiencies using CCTV or comparable technique. Obtain documentation that the stormwater management chambers and feed connectors will function as anticipated.
	9 years after commissioning every 9 years following	<ul style="list-style-type: none"> Clean stormwater management chambers and feed connectors of any debris. Inspect the interior of the stormwater management structures for deficiencies using CCTV or comparable technique. Obtain documentation that the stormwater management chambers and feed connectors have been cleaned and will function as intended.
	45 years after commissioning	<ul style="list-style-type: none"> Clean stormwater management chambers and feed connectors of any debris. Determine the remaining life expectancy of the stormwater management chambers and recommended schedule and actions to rehabilitate the stormwater management chambers as required. Inspect the interior of the stormwater management chambers for deficiencies using CCTV or comparable technique.
	45 to 50 years after commissioning	<ul style="list-style-type: none"> Replace or restore the stormwater management chambers in accordance with the schedule determined at the 45-year inspection. Attain the appropriate approvals as required. Establish a new operation and maintenance schedule.
Surrounding Site	Monthly in 1 st year	<ul style="list-style-type: none"> Check for depressions in areas over and surrounding the stormwater management system.
	Spring and Fall	<ul style="list-style-type: none"> Check for depressions in areas over and surrounding the stormwater management system.
	Yearly	<ul style="list-style-type: none"> Confirm that no unauthorized modifications have been performed to the site.

For additional information concerning the maintenance of CULTEC Subsurface Stormwater Management Chambers, please contact CULTEC, Inc. at 1-800-428-5832.



CULTEC

Chamber of Choice™

CULTEC, Inc.

878 Federal Road • P.O. Box 280 • Brookfield, CT 06804

Phone: 203-775-4416 • Toll Free: 800-4-CULTEC • Fax: 203-775-1462

Web: www.cultec.com • E-mail: custservice@cultec.com

CDS[®] Inspection and Maintenance Guide



Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

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

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

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allow both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine whether the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

Cleaning

Cleaning of a CDS system should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

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

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes.



CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	yd3	m3
CDS2015-4	4	1.2	3.0	0.9	0.9	0.7
CDS2015	5	1.5	3.0	0.9	1.3	1.0
CDS2020	5	1.5	3.5	1.1	1.3	1.0
CDS2025	5	1.5	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3
CDS5640	10	3.0	6.3	1.9	8.7	6.7
CDS5653	10	3.0	7.7	2.3	8.7	6.7
CDS5668	10	3.0	9.3	2.8	8.7	6.7
CDS5678	10	3.0	10.3	3.1	8.7	6.7

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities



Support

- Drawings and specifications are available at www.contechstormwater.com.
- Site-specific design support is available from our engineers.

©2014 Contech Engineered Solutions LLC

Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, earth stabilization and wastewater treatment products. For information, visit www.ContechES.com or call 800.338.1122

NOTHING IN THIS CATALOG SHOULD BE CONSTRUED AS AN EXPRESSED WARRANTY OR AN IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. SEE THE CONTECH STANDARD CONDITION OF SALES (VIEWABLE AT WWW.CONTECHES.COM/COS) FOR MORE INFORMATION.

The product(s) described may be protected by one or more of the following US patents: 5,322,629; 5,624,576; 5,707,527; 5,759,415; 5,788,848; 5,985,157; 6,027,639; 6,350,374; 6,406,218; 6,641,720; 6,511,595; 6,649,048; 6,991,114; 6,998,038; 7,186,058; 7,296,692; 7,297,266; 7,517,450 related foreign patents or other patents pending.

CDS Inspection & Maintenance Log

CDS Model: _____ Location: _____

Date	Water depth to sediment ¹	Floatable Layer Thickness ²	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. **Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.**

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

APPENDIX I
CONTRACTOR AND SUBCONTRACTOR
CERTIFICATIONS

CERTIFICATION STATEMENT

“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.”

Contractor:

Name: _____

Signature: _____

Title: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Site Address: _____

Specific SWPPP Responsibilities:

Date of Certification: _____

Name and Title of Trained Contractor for SWPPP

Implementation: _____

CERTIFICATION STATEMENT

“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.”

Sub-Contractor:

Name: _____

Signature: _____

Title: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Site Address: _____

Specific SWPPP Responsibilities:

Date of Certification: _____

Name and Title of Trained Contractor for SWPPP

Implementation: _____

APPENDIX J

QUALIFIED PROFESSIONAL'S CERTIFICATION

QUALIFIED PROFESSIONAL’S CERTIFICATION

“ I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the Pre-Construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction.”

Name (Print): _____

Title: _____

Date: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Company Email: _____

Signature: _____

APPENDIX K
OWNER / OPERATOR CERTIFICATION

CERTIFICATION STATEMENT

“ I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that that this document and the corresponding documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 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. Further, I am acknowledging that this SWPPP has been developed and will be implemented as the first element of construction and agree to comply with all the terms and conditions of the general permit for which the NOI is being submitted.”

Name (Print): _____

Title: _____

Date: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Company Email: _____

Signature: _____

APPENDIX L

**POST DEVELOPMENT MAINTENANCE AND
INSPECTION CHECKLIST**

Infiltration Trench Operation, Maintenance, and Management Inspection Checklist

Project:
 Location:
 Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Trench surface clear of debris		
Inflow pipes clear of debris		
Overflow spillway clear of debris		
Inlet area clear of debris		
2. Sediment Traps or Forebays (Annual)		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
3. Dewatering (Monthly)		
Trench dewateres between storms		
4. Sediment Cleanout of Trench (Annual)		
No evidence of sedimentation in trench		
Sediment accumulation doesn't yet require cleanout		
5. Inlets (Annual)		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
Good condition		
No evidence of erosion		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repair		
No evidence of erosion		
7. Aggregate Repairs (Annual)		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Trench does not need rehabilitation		

Comments:

Actions to be Taken:

Open Channel Operation, Maintenance, and Management Inspection Checklist

Project:
 Location:
 Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Contributing areas clean of debris		
2. Check Dams or Energy Dissipators (Annual, After Major Storms)		
No evidence of flow going around structures		
No evidence of erosion at downstream toe		
Soil permeability		
Groundwater / bedrock		
3. Vegetation (Monthly)		
Mowing done when needed		
Minimum mowing depth not exceeded		
No evidence of erosion		
Fertilized per specification		
4. Dewatering (Monthly)		
Dewaterers between storms		

MAINTENANCE ITEM	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Sediment deposition (Annual)		
Clean of sediment		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repairs		
No evidence of erosion		

Comments:

Actions to be Taken:

APPENDIX M
CONSTRUCTION INSPECTION REPORT

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

- (1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;
- (2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;
- (3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;
- (4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);
- (5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and
- (6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)

Date of Inspection

Qualified Professional (print name)

Qualified Professional Signature

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

- Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- All disturbance is within the limits of the approved plans.
- Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

- Is construction site litter and debris appropriately managed?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

- Maximum diameter pipes necessary to span creek without dredging are installed.
- Installed non-woven geotextile fabric beneath approaches.
- Is fill composed of aggregate (no earth or soil)?
- Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

- Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
- Clean water from upstream pool is being pumped to the downstream pool.
- Sediment laden water from work area is being discharged to a silt-trapping device.
- Constructed upstream berm with one-foot minimum freeboard.

2. Level Spreader

Yes No NA

- Installed per plan.
- Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
- Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

- Installed per plan with minimum side slopes 2H:1V or flatter.
- Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
- Sediment-laden runoff directed to sediment trapping structure

CONSTRUCTION DURATION INSPECTIONS
Runoff Control Practices (continued)

4. Stone Check Dam

Yes No NA

- Is channel stable? (flow is not eroding soil underneath or around the structure).
- Check is in good condition (rocks in place and no permanent pools behind the structure).
- Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

- Installed per plan.
- Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

- Stockpiles are stabilized with vegetation and/or mulch.
- Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

- Temporary seedings and mulch have been applied to idle areas.
- 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Stabilized Construction Entrance

Yes No NA

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence

Yes No NA

- Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
 - Joints constructed by wrapping the two ends together for continuous support.
 - Fabric buried 6 inches minimum.
 - Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated practices)

Yes No NA

- Installed concrete blocks lengthwise so open ends face outward, not upward.
 - Placed wire screen between No. 3 crushed stone and concrete blocks.
 - Drainage area is 1acre or less.
 - Excavated area is 900 cubic feet.
 - Excavated side slopes should be 2:1.
 - 2" x 4" frame is constructed and structurally sound.
 - Posts 3-foot maximum spacing between posts.
 - Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
 - Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation ___% of design capacity.

4. Temporary Sediment Trap

Yes No NA

- Outlet structure is constructed per the approved plan or drawing.
 - Geotextile fabric has been placed beneath rock fill.
- Sediment accumulation is ___% of design capacity.

5. Temporary Sediment Basin

Yes No NA

- Basin and outlet structure constructed per the approved plan.
 - Basin side slopes are stabilized with seed/mulch.
 - Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
- Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design.
 Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

APPENDIX N
NOTICE OF TERMINATION

**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.

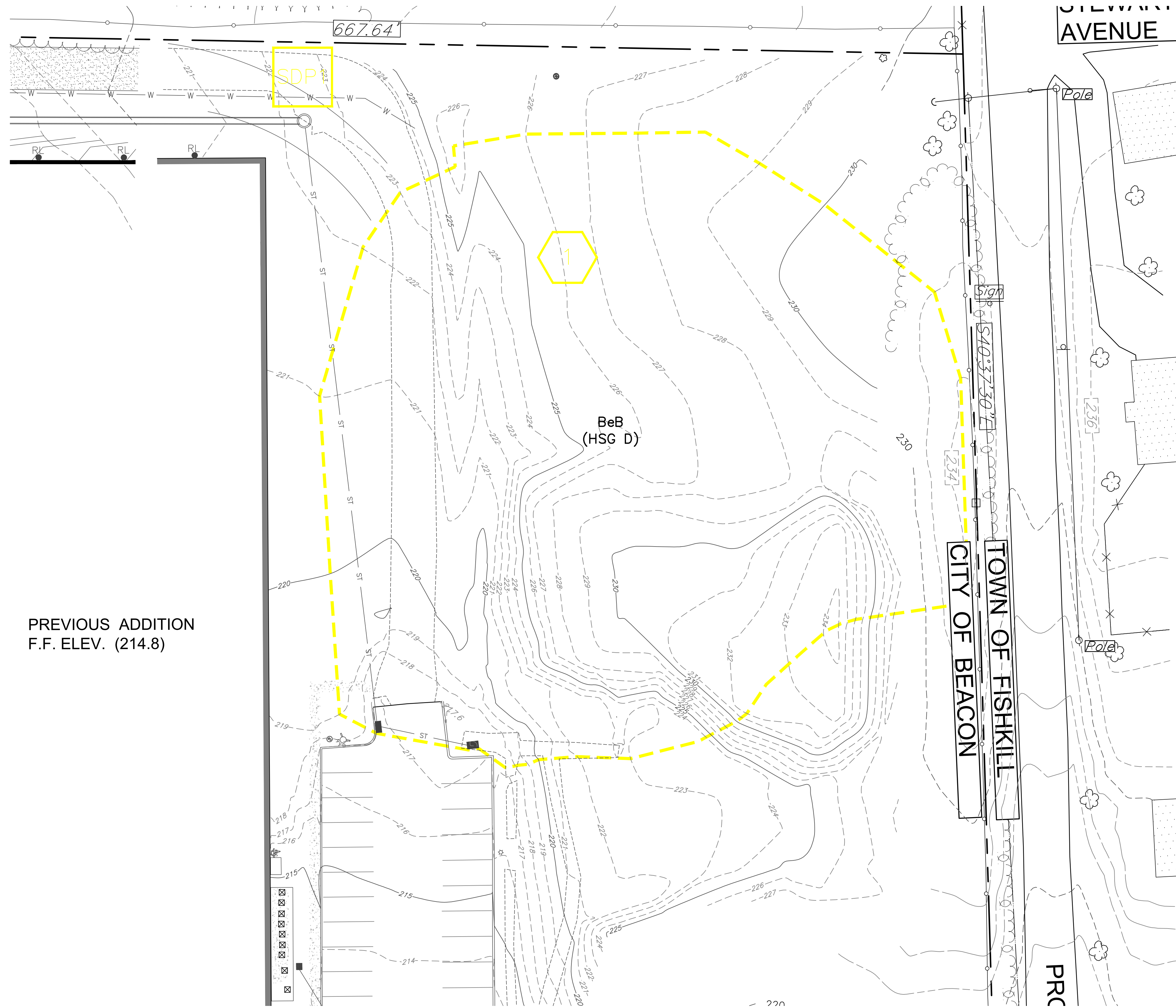
Printed Name:

Title/Position:

Signature:

Date:

APPENDIX O
DRAINAGE MAPS



PRE-DRAINAGE CONDITIONS
SUBCATCHMENT 1

TOTAL AREA = 40,860 SQFT

GRASS D = 33,986 SQFT
WOODS D = 2,968 SQFT
GRAVEL D = 3,561 SQFT
IMPERVIOUS = 345 SQFT

TIME OF CONCENTRATION, T_c :

DIRECT ENTRY = 6 MINUTES

LEGEND:

- SOIL TAG BeB
(HSG D)
- DRAINAGE BOUNDARY -----
- SUBCATCHMENT ID 1
- DESIGN POINT SDP1

PREVIOUS ADDITION
F.F. ELEV. (214.8)

DRAWN BY: AG				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY

Dig Safely.
New York
800-962-7962
www.digsafelynewyork.org

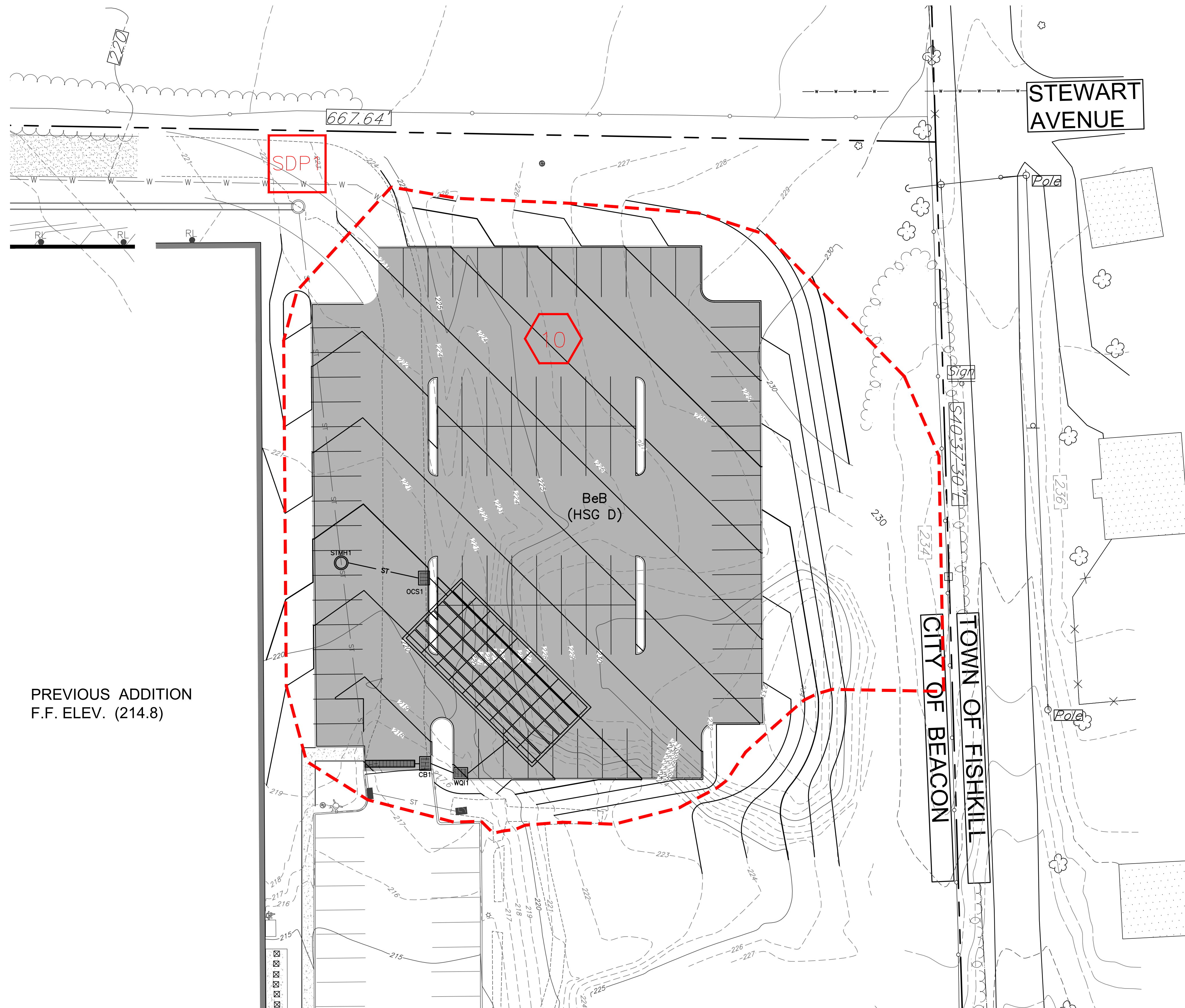
- Call Before You Dig
- Wait The Required Time
- Confirm Utility Response
- Respect the Marks
- Dig With Care

HUDSON
LAND DESIGN

HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926
F: 845-440-6637

PRE-CONDITIONS DRAINAGE MAP
511 FISHKILL AVENUE
FISHKILL AVENUE (ROUTE 52)
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6055-04-580285

JOB #: 2018:041
DATE: 12/20/2018
SCALE: 1" = 20'
TITLE: DM-1
SHEET: 1 OF 2



POST DRAINAGE CONDITIONS
SUBCATCHMENT 10

TOTAL AREA = 45,816 SQFT

GRASS D = 12,916 SQFT
WOODS D = 2,968 SQFT
IMPERVIOUS = 29,932 SQFT

TIME OF CONCENTRATION, T_c:

DIRECT ENTRY = 6 MINUTES

LEGEND:

SOIL BOUNDARY

BeB
(HSG D)

DRAINAGE BOUNDARY



SUBCATCHMENT ID



DESIGN POINT



PREVIOUS ADDITION
F.F. ELEV. (214.8)

DRAWN BY: AG

CHECKED BY: DGK

REVISIONS:

REVISIONS:

NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY

Dig Safely.
New York
800-962-7962
www.digsafelynewyork.org

- Call Before You Dig
- Wait The Required Time
- Confirm Utility Response
- Respect the Marks
- Dig With Care



HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926
F: 845-440-6637

SEAL

POST-CONDITIONS DRAINAGE MAP

511 FISHKILL AVENUE

FISHKILL AVENUE (NYS ROUTE 52)
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6055-04-580285

JOB #: 2018:041

DATE: 12/20/2018

SCALE: 1" = 20'

TITLE: DM-2

SHEET: 2 OF 2

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____ 20____ SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERRASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.

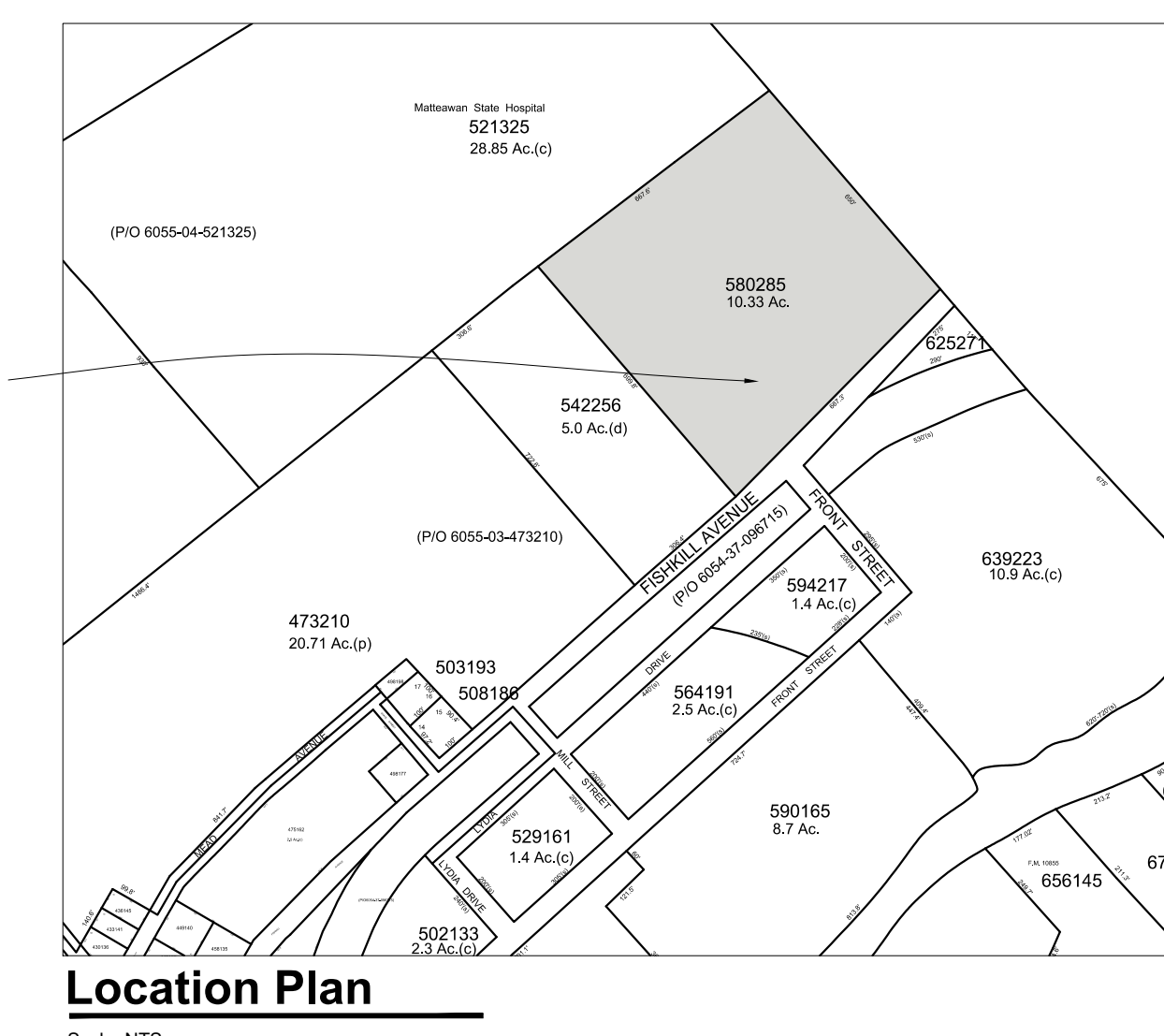
SIGNED THIS _____ DAY OF _____ 20____ BY _____

CHAIRMAN

SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

Zoning District	Minimum Lot Width	Minimum Lot Depth	Required Minimum Setbacks			Existing Setbacks			Maximum Building Height	Existing Building Height
			Front	Side ¹	Rear ²	Front	Side ¹	Rear ²		
HI	N/A	100'	0	20'	25'	22'	51'	43'	35'	34'

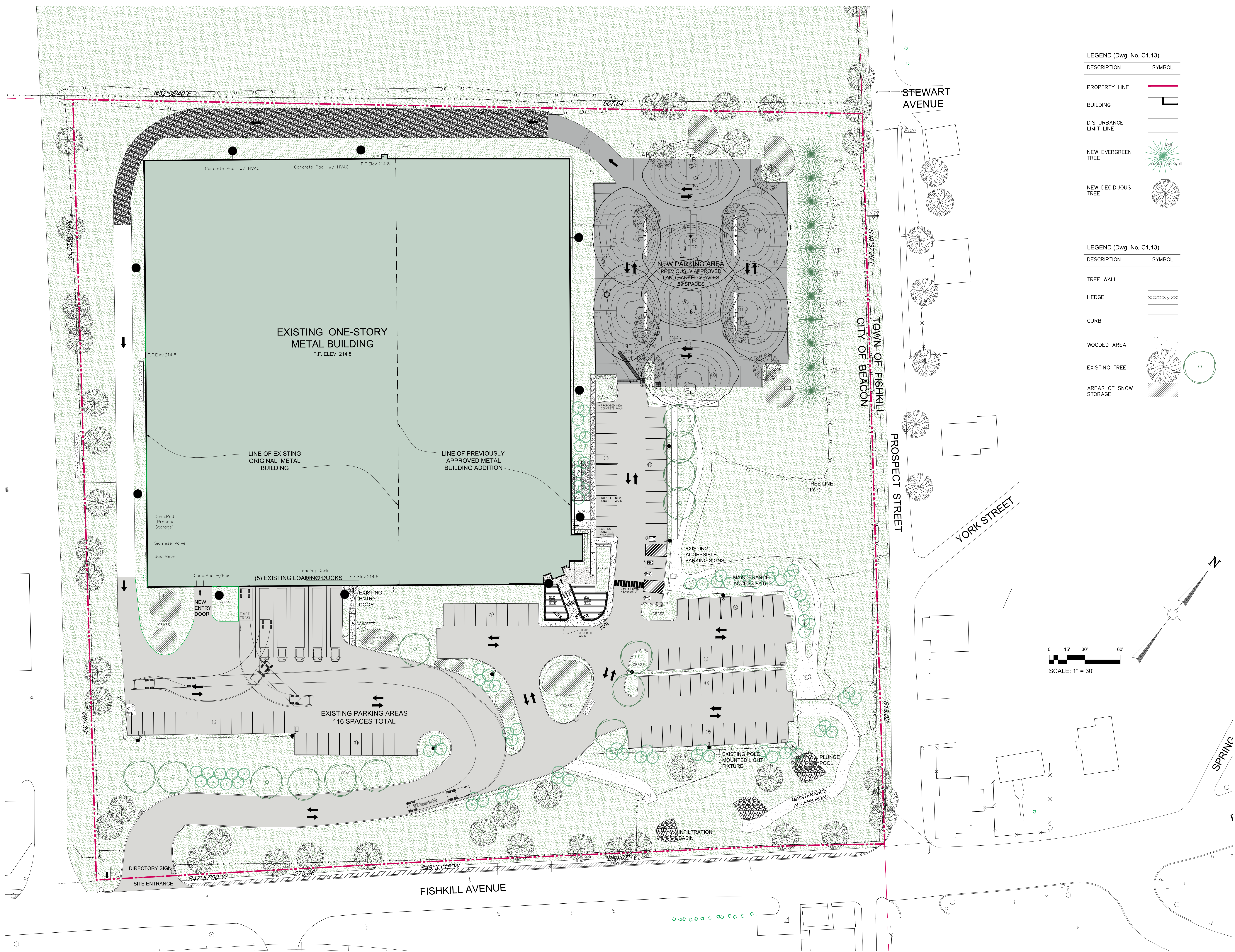


NEW POLE MOUNTED PARKING LOT LIGHT FIXTURES

MATCH EXISTING POLE MOUNTED LIGHT DESIGN, USE LED FIXTURE

KIM LIGHTING "ARCHETYPE" SERIES CUT-OFF LUMINAIRE DIE-CAST ALUMINUM REFLECTOR SYSTEM WITH SPECULAR PANELS, DIE-CAST ALUMINUM HOUSING AND LENS FRAME - CLEAR CONVEX GLASS LENS

3,000 K PICO PRISM LED LAMP WITH 17,539 LUMENS, NIGHT SKY COMPLIANT



LEGEND (Dwg. No. C1.13)

DESCRIPTION	SYMBOL
PROPERTY LINE	[Red line symbol]
BUILDING	[Black outline symbol]
DISTURBANCE LIMIT LINE	[Dashed line symbol]
NEW EVERGREEN TREE	[Green starburst symbol]
NEW DECIDUOUS TREE	[Green circle symbol]
TREE WALL	[Hatched area symbol]
HEDGE	[Wavy line symbol]
CURB	[Solid line symbol]
WOODED AREA	[Dotted area symbol]
EXISTING TREE	[Green circle with outline symbol]
AREAS OF SNOW STORAGE	[Hatched area symbol]

Zoning Summary

Zoning District: HI (Heavy Industry)
 Tax Map No.: 6055-04-580285
 Lot Area: 9.79 acres (426,327.9 sf)
 Building Footprint: 76,773 square feet (existing)
 Total Lot Coverage: 18%
 Historical Overlay District: No
 Parking Overlay District: No
 Existing Use: Industrial & Office (Vacant)
 Proposed Use: Industrial, Warehouse, Brewery, Office, Retail, Commercial Recreation (Arcade)

Parking & Loading

Use & Parking Requirements	Area / Count	Proposed Parking Requirement
Future Brewery 1 space per 2 employees but not less than 1 space per 400 square feet of gross floor space 1 space per employee but not less than 1 space per 1,000 square feet of gross floor space	42,802 sf total area (14,000 sf brewery requires 35 spaces; 28,802 sf warehouse requires 29 spaces) 10 employees estimated	64 spaces
Warehouse 1 space per employee but not less than 1 space per 1,000 square feet of gross floor space	66,696 sf 20 employees estimated	67 spaces
Arcade (commercial recreation) 1 space for each 4 persons of maximum occupancy or 1 space for each 200 square feet of gross floor area, whichever is greater	7,045 sf	36 spaces
Office/Retail 1 space for each 200 square feet of gross floor area, excluding utility areas	5,843 sf	30 spaces
Brewery Event Space / Lounge 1 space for each 3 patron seats or 1 space for each 150 square feet of gross floor area, excluding kitchen and storage areas, whichever is greater	4,965 sf 331 occupants @ 15 sf per occupant	111 spaces
Total Required Parking Spaces		308
Total Proposed Parking Spaces		237
Total Required Loading Spaces		1
Total Proposed Loading Spaces		5

Notes:
1.

Index of Drawings

Sheet No.	Description
Sheet 1 of 10	Site Plan
Sheet 2 of 10	Survey/Existing Conditions Plan
Sheet 3 of 10	Landscape Plan & Lighting
Sheet 4 of 10	Building Plans
Sheet 5 of 10	Elevations
Sheet 6 of 10	Grading & Utility Plan
Sheet 7 of 10	Erosion & Sediment Control Plan
Sheet 8 of 10	Site Details
Sheet 9 of 10	Stormwater Details
Sheet 10 of 10	Water & Sewer Details

NOTE THAT SHEETS FROM THE PREVIOUSLY APPROVED SPECIAL USE PERMIT APPLICATION ARE INCLUDED IN THIS SET FOR REFERENCE

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____ 20____ SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERRASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____ 20____ BY _____

CHAIRMAN

SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.



LEGEND (Dwg. No. C1.3)

DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE		N/A
BUILDING		
DISTURBANCE LIMIT LINE	N/A	
WELL		
MONITORING WELL		N/A
TRANSFORMER		N/A
TREE		REFER TO DWG. NO. C1.13
TREE WALL/WELL	N/A	
TREE LINE		
CONCRETE CURB		
DROP CURB	N/A	
CONCRETE WALK	N/A	
HANDICAPPED RAMP	N/A	
PARKING STALL	N/A	
HC PARKING SYMBOL	N/A	HC
RIP-RAP SWALE	N/A	
NEW PAVEMENT	N/A	
PAVEMENT OVERLAY	N/A	
PAVEMENT RAISE	N/A	
LIGHT POLE		REFER TO DWG. C1.14
PAVEMENT NOTCHING INTO EXISTING PAVEMENT	N/A	
GUIDE RAIL	N/A	
PAVEMENT EDGE		
SIGN		N/A
FENCE		
BUILDING ENTRANCE		
MAINTENANCE ACCESS ROAD	N/A	

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS

NOTE: REMOVE EXISTING CHAIN LINK FENCE FROM FRONT OF PROPERTY (TYPICAL ALONG ROUTE 52 FISHKILL AVENUE FRONTAGE)

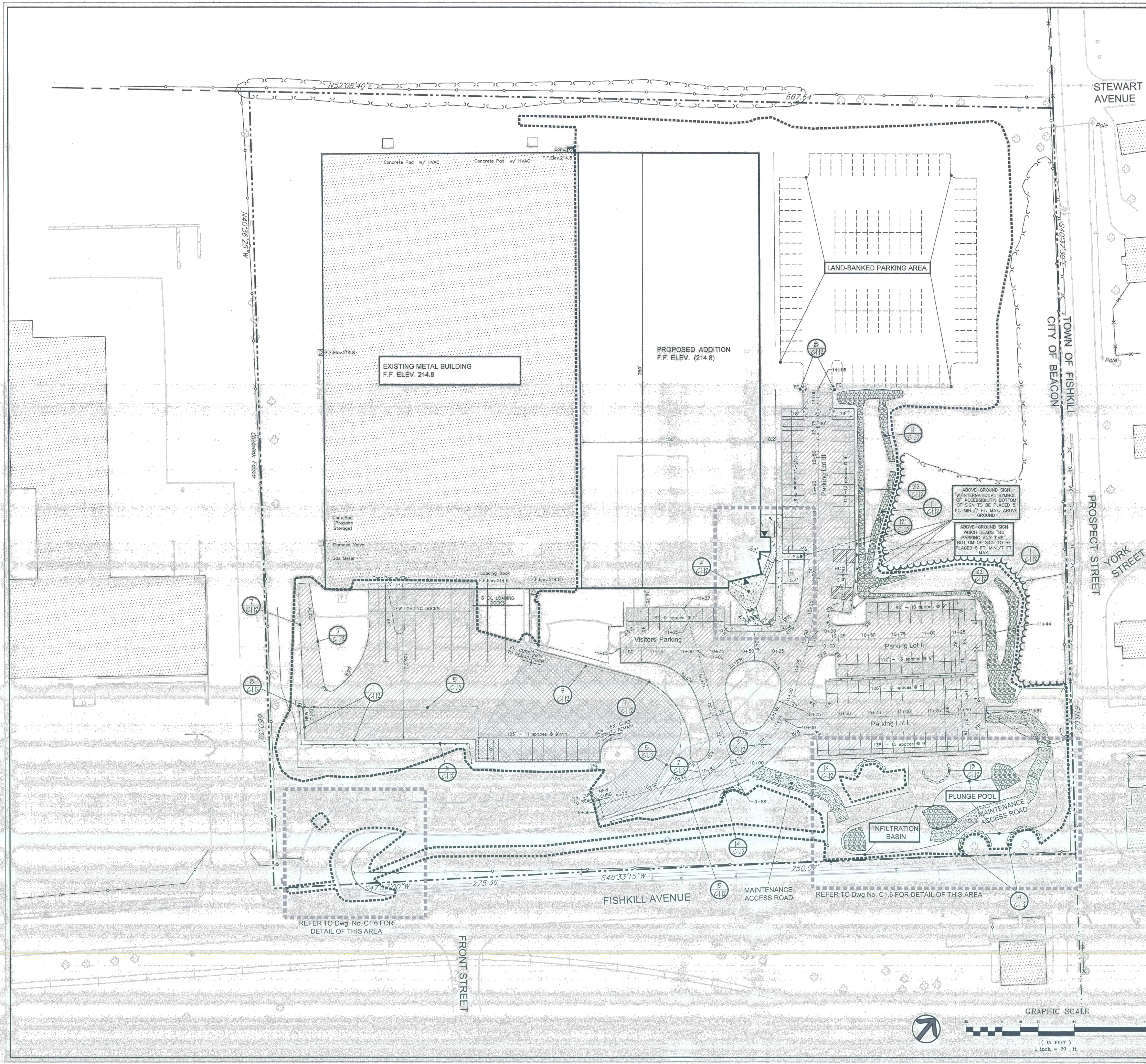
Site Plan
Scale: 1"=30'

Amendment to Site Plan Application
Existing Conditions Survey - Sheet 2 of 13

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____ 20____ SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____ 20____ BY _____ CHAIRMAN _____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.



LEGEND (Dwg. No. C1.3)

DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE	---	N/A
BUILDING	[Pattern]	[Pattern]
DISTURBANCE LIMIT LINE	N/A	-----
WELL	[Symbol]	N/A
MONITORING WELL	[Symbol]	N/A
TRANSFORMER	[Symbol]	N/A
TREE	[Symbol]	REFER TO DWG. NO. C1.13
TREE WALL/WELL	N/A	[Symbol]
TREE LINE	[Symbol]	[Symbol]
CONCRETE CURB	[Symbol]	[Symbol]
DROP CURB	N/A	[Symbol]
CONCRETE WALK	N/A	[Symbol]
HANDICAPPED RAMP	N/A	[Symbol]
PARKING STALL	N/A	[Symbol]
HC PARKING SYMBOL	N/A	HC
RIP-RAP SWALE	N/A	[Symbol]
NEW PAVEMENT	N/A	[Symbol]
PAVEMENT OVERLAY	N/A	[Symbol]
PAVEMENT RAISE	N/A	[Symbol]
LIGHT POLE	[Symbol]	REFER TO DWG. C1.14
PAVEMENT NOTCHING INTO EXISTING PAVEMENT	N/A	[Symbol]
GUIDE RAIL	N/A	[Symbol]
PAVEMENT EDGE	[Symbol]	[Symbol]
SIGN	[Symbol]	N/A
FENCE	[Symbol]	[Symbol]
BUILDING ENTRANCE	[Symbol]	[Symbol]
MAINTENANCE ACCESS ROAD	N/A	[Symbol]

MECHTRONICS CORPORATION
 511 Fishkill Avenue
 City of Beacon
 New York, 12508

KG&D architects
 Keyser, Garment & Davidson architects, pc
 285 main street mount kisco, new york 10549
 p:914.666.9900 f:914.666.0051 kudararchitects.com

SITE DEVELOPMENT PLAN APPLICATION

Owner:
 RICHARD J. FELLINGER
 1 NEW KING STREET
 WHITE PLAINS, NY 10604

Applicant:
 RICHARD J. FELLINGER
 1 NEW KING STREET
 WHITE PLAINS, NY 10604

Tax ID:
 Section 6055
 BLOCK 4
 LOT 580 285

APPROVED
 DAVID BULLY
 BUILDING DEPARTMENT
 DEC 16 2018

LAYOUT and PAVEMENT PLAN

C1.2

Job No. 2009-1013
 Date: 10/16/2010
 Scale: AS NOTED
 Drawn/Checked: SL/SL

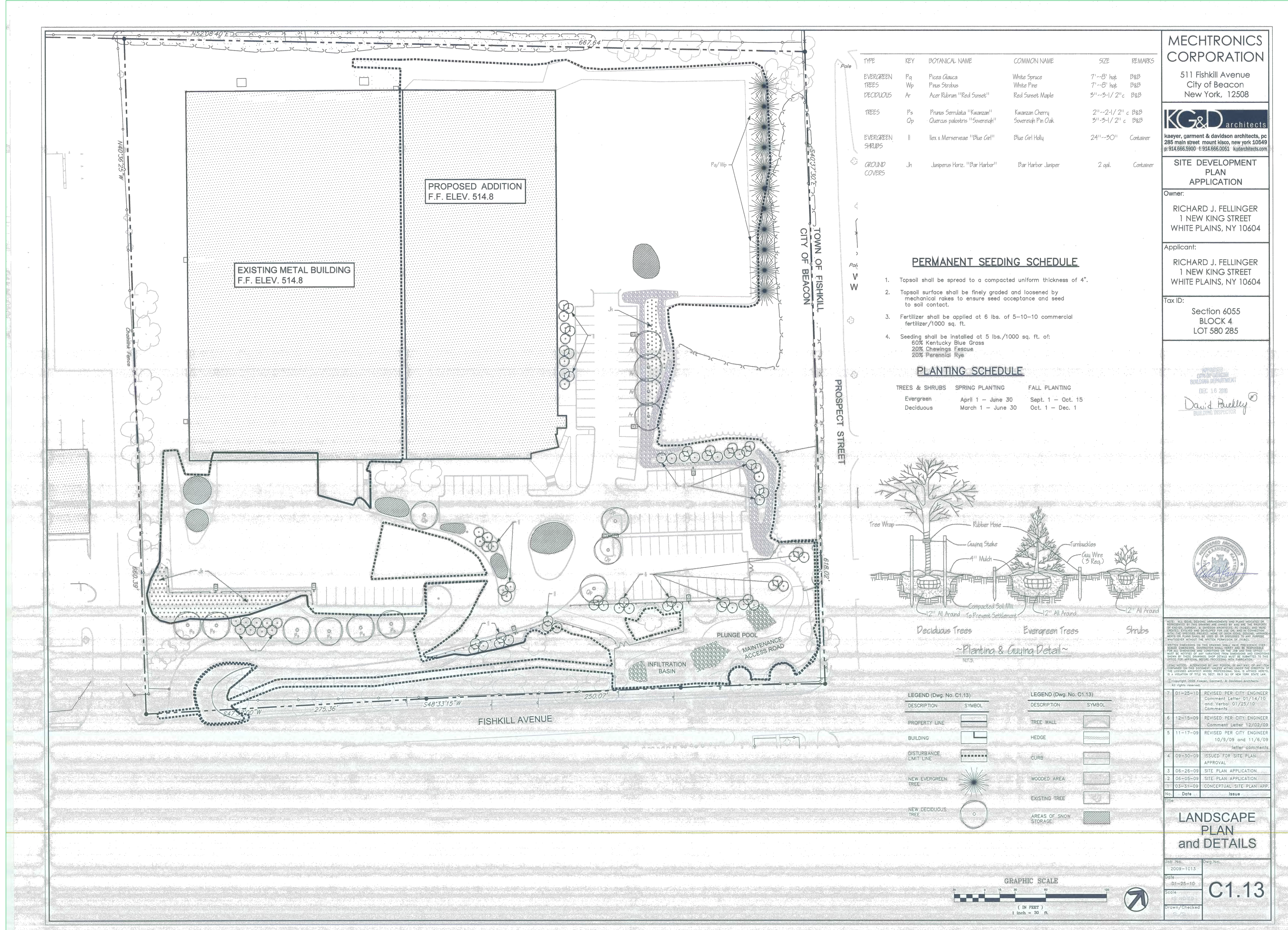
NO.	DATE	DESCRIPTION	BY
1	12/25/18	NO CHANGE	AJS

Site Plan
 Scale: 1" = 30'

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____ 20____ SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____ 20____ BY _____ CHAIRMAN _____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.



Site Plan
Scale: 1"=30'

Amendment to Site Plan Application
Previously Approved Site Plan For Reference Only - Sheet 4 of 13

Owner: **DP108, LLC**
333 North Bedford Road
Mt. Kisco, NY 10549

Architect: **Aryeh Siegel, Architect**
84 Mason Circle
Beacon, New York 12508

Site/Civil Engineer: **Hudson Land Design**
174 Main Street
Beacon, New York 12508

Surveyor: **TEC Land Surveying**
Beacon, New York 12508

511 Fishkill Avenue
Beacon, New York
Scale: As Noted
November 27, 2018

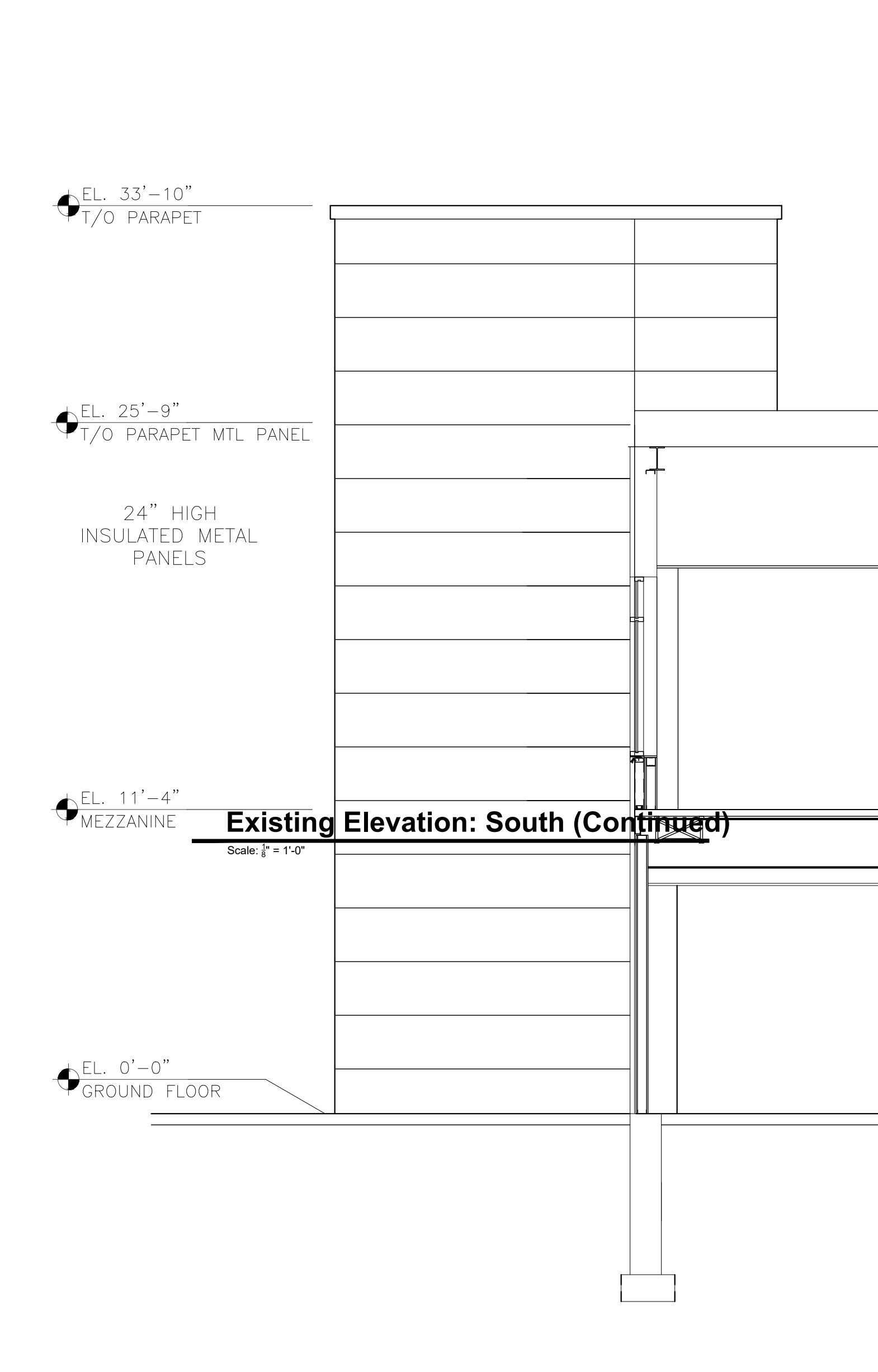
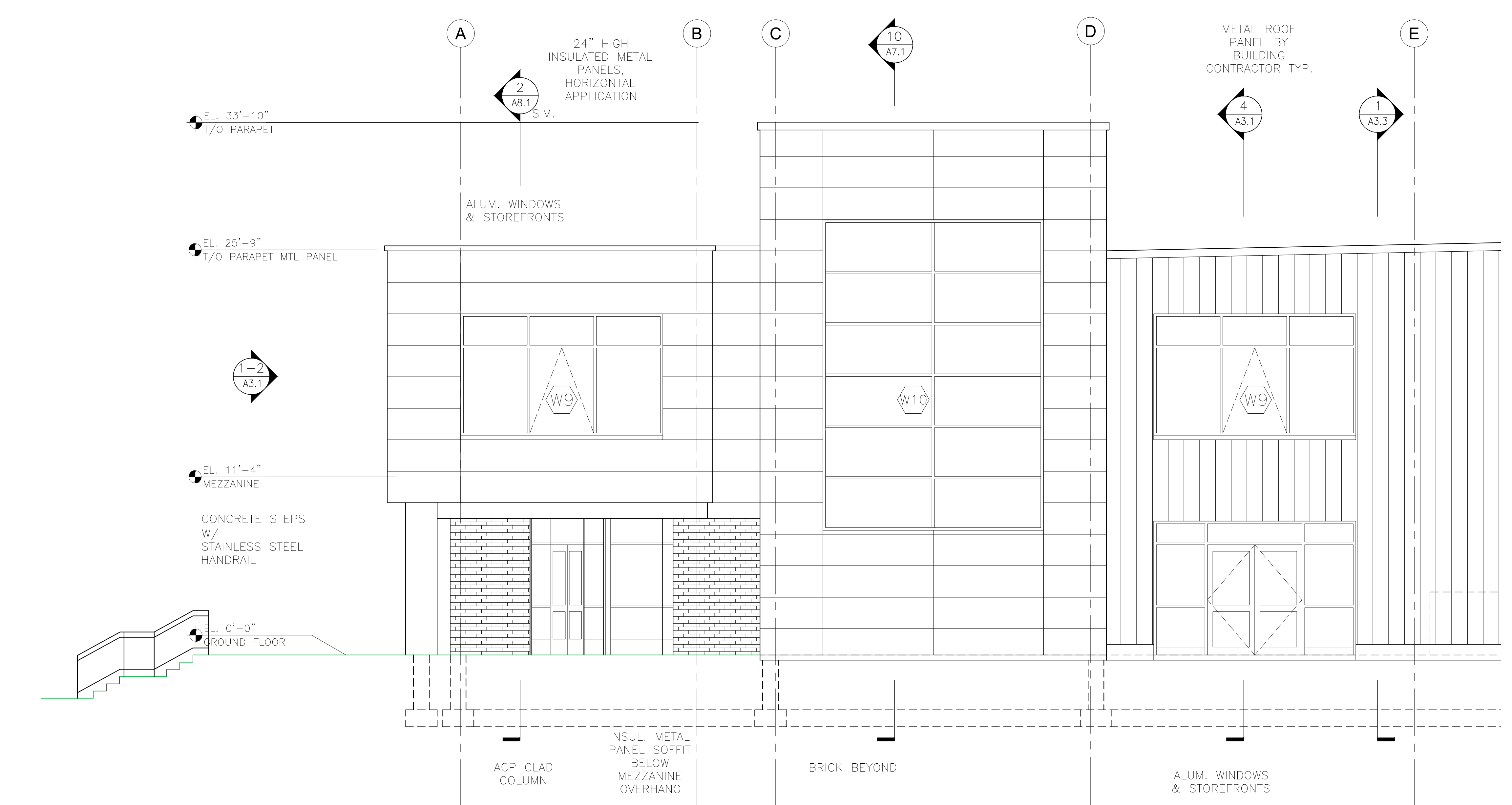
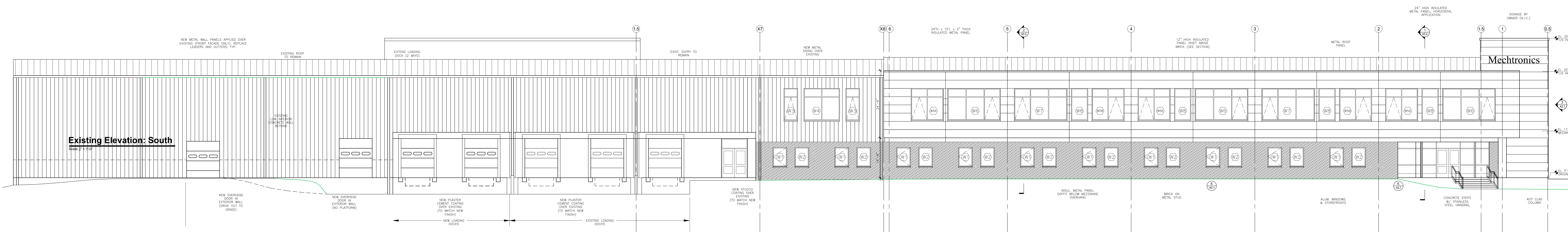
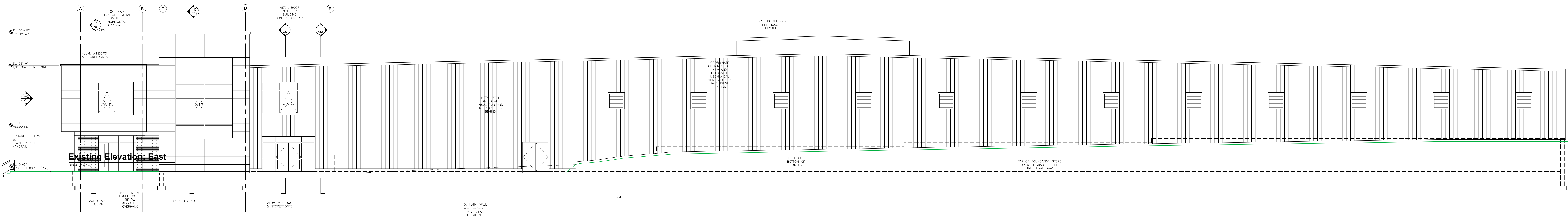
LANDSCAPE PLAN and DETAILS

Proj. No. 2009-1013
Date 01-25-10
Scale
Drawn/Checked

Dwg. No. **C1.13**

No.	Date	Issue
1	05/31/09	CONCEPTUAL SITE PLAN APP.
2	06/05/09	SITE PLAN APPLICATION
3	06/26/09	SITE PLAN APPLICATION
4	09/30/09	ISSUED FOR SITE PLAN APPROVAL
5	11-17-09	REVISED PER CITY ENGINEER 10/9/09 and 11/6/09
6	12-15-09	REVISED PER CITY ENGINEER Comment Letter 12/02/09
7	01-23-10	REVISED PER CITY ENGINEER Comment Letter 01/14/10 and Verbal 01/25/10 Comments

REVISIONS:			
NO.	DATE	DESCRIPTION	BY



APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERRASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY _____

CHAIRMAN

SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	12/25/18	NO CHANGE	AJS

Amendment to Site Plan Application

Elevations (No Work) For Reference Only - Sheet 5 of 13

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS

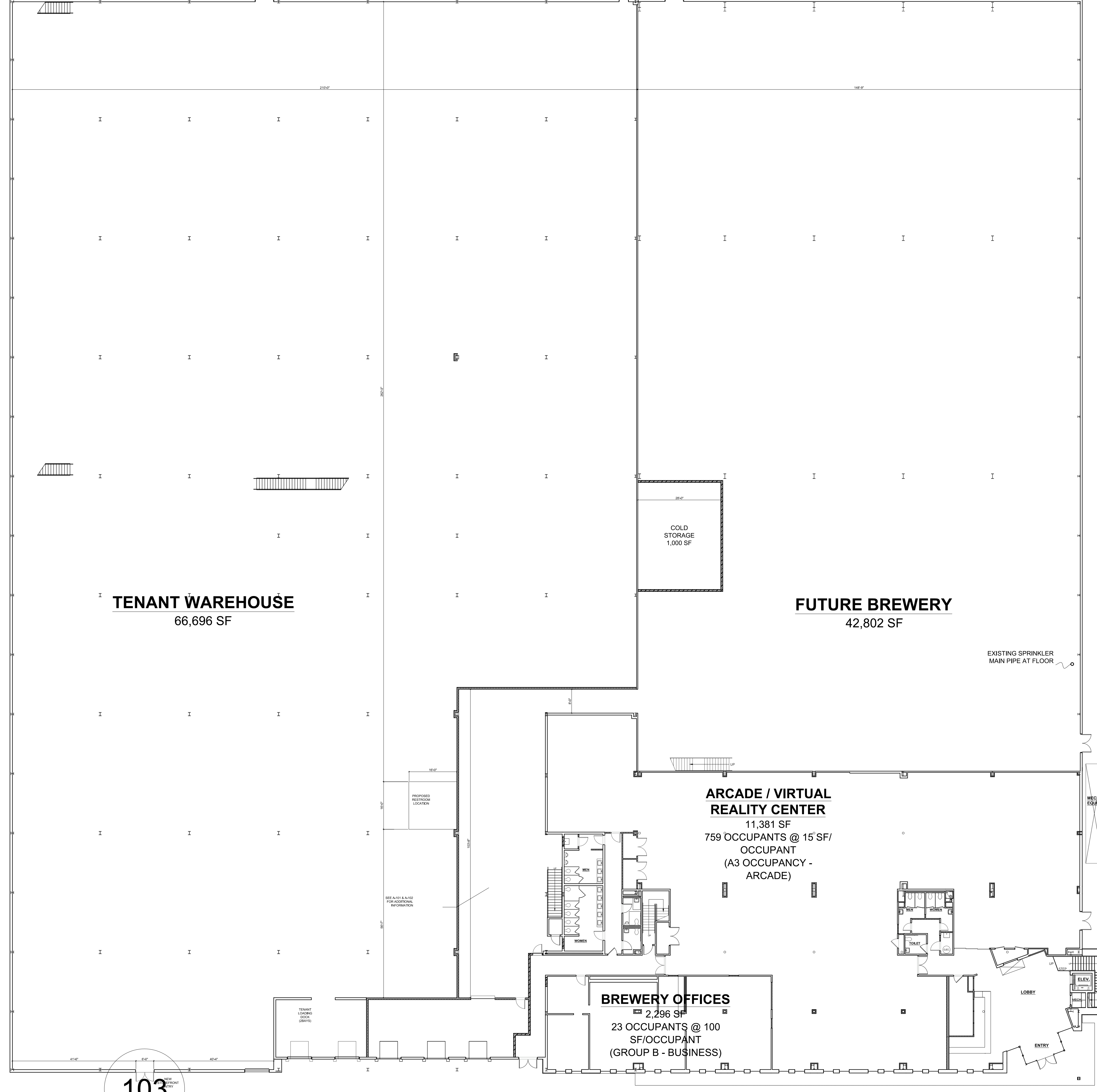
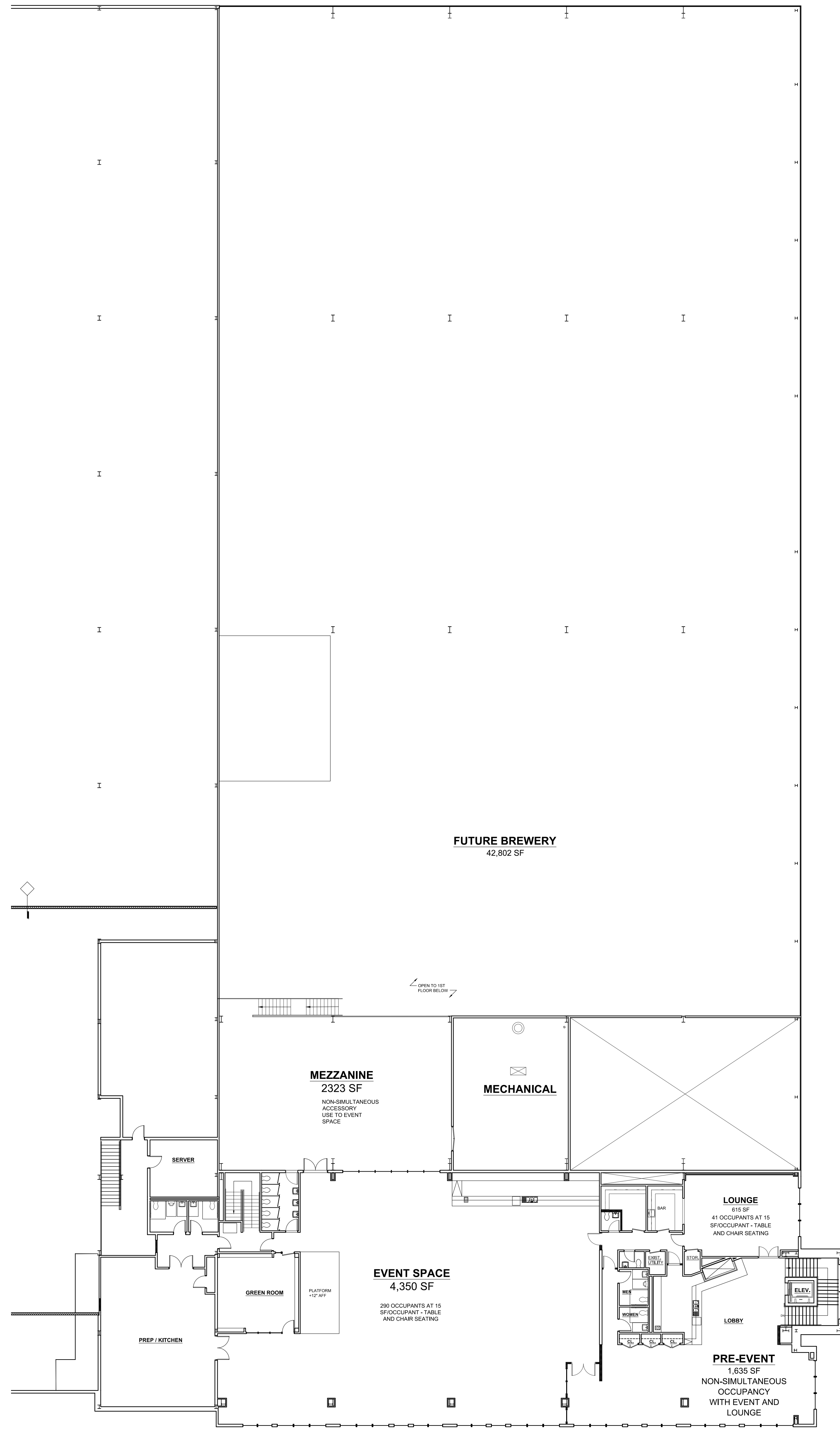
APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____ 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____ 20____, BY _____

_____ CHAIRMAN

_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.



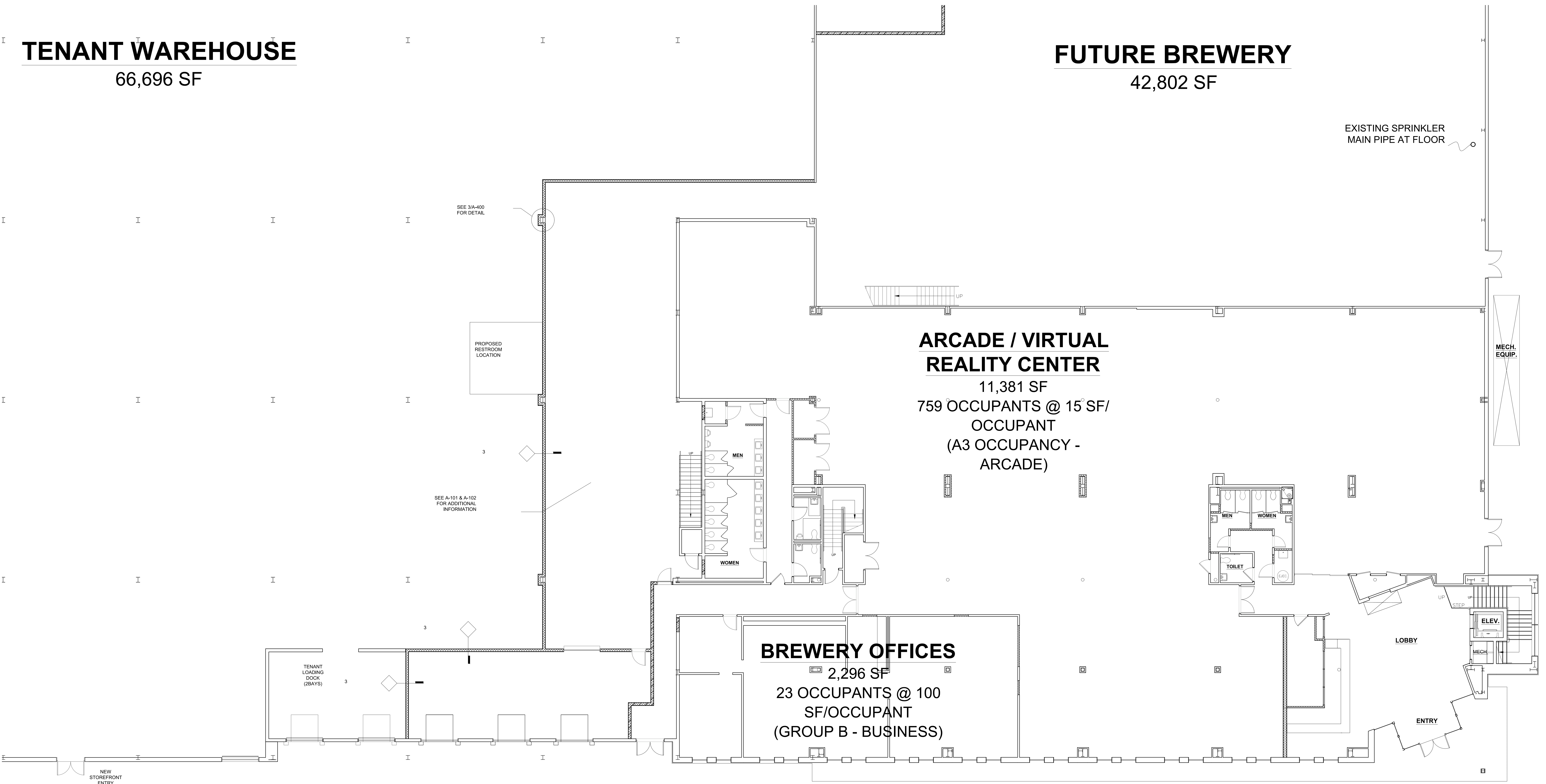
**Amendment to Site Plan Application
Floor Plans - Sheet 6 of 13**

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION, ANY CHANGE, ERRASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.
 SIGNED THIS _____ DAY OF _____, 20____, BY _____
 _____ CHAIRMAN
 _____ SECRETARY
 IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

TENANT WAREHOUSE
 66,696 SF

FUTURE BREWERY
 42,802 SF

EXISTING SPRINKLER MAIN PIPE AT FLOOR



1st Floor Plan
 Scale: 1/8" = 1'-0"

REVISIONS:			
NO.	DATE	DESCRIPTION	BY

Amendment to Site Plan Application
Floor Plans - Sheet 7 of 13

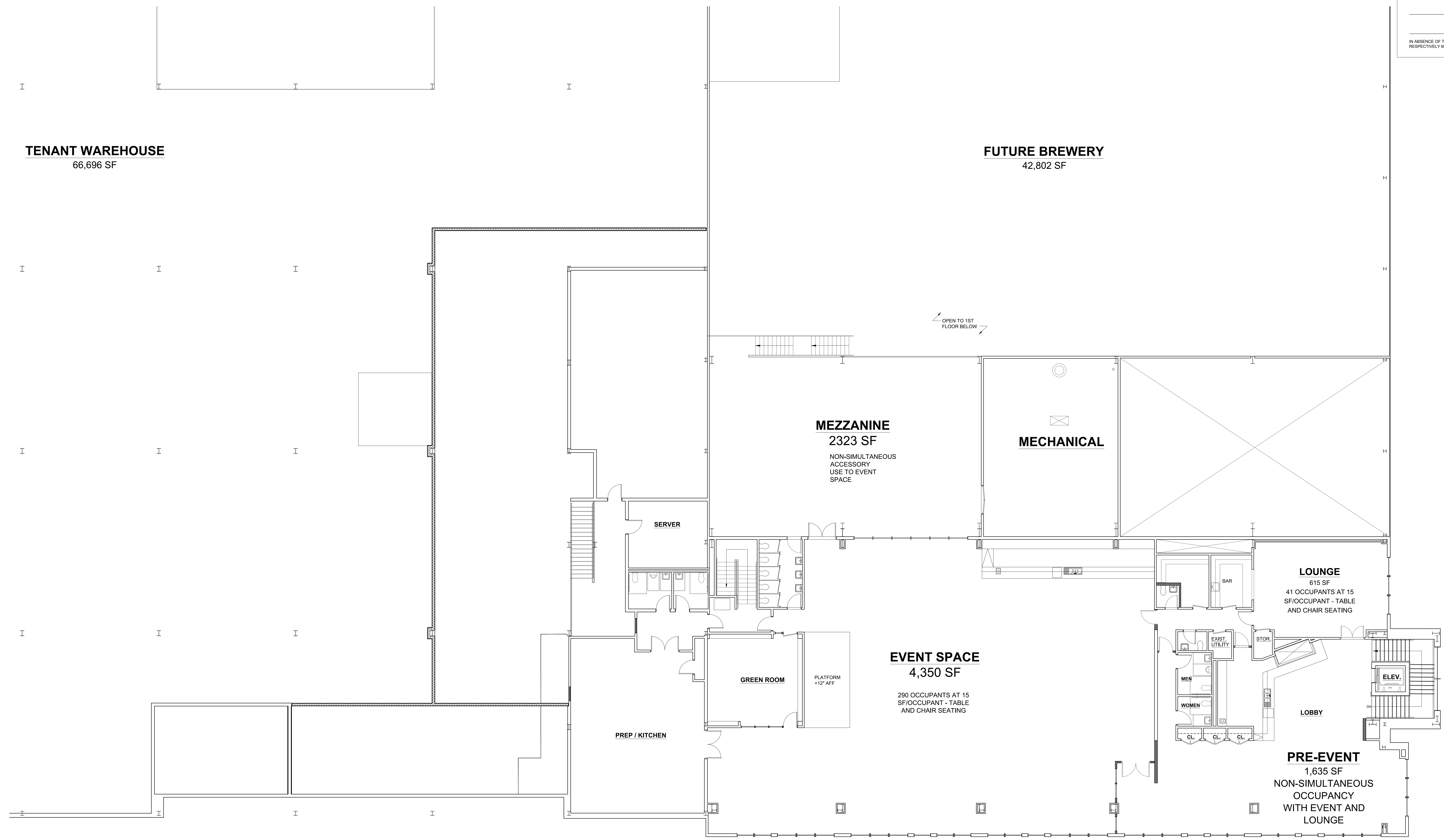
APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION, ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY _____

_____ CHAIRMAN

_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.



2nd Floor Plan
Scale: 1/8" = 1'-0"

REVISIONS:			
NO.	DATE	DESCRIPTION	BY

Amendment to Site Plan Application
Floor Plans - Sheet 8 of 13



METAL BUILDING
F. 214.8

PREVIOUS ADDITION
F.F. ELEV. (214.8)

Loading Dock
F.F.Elev.214.8

AVENUE

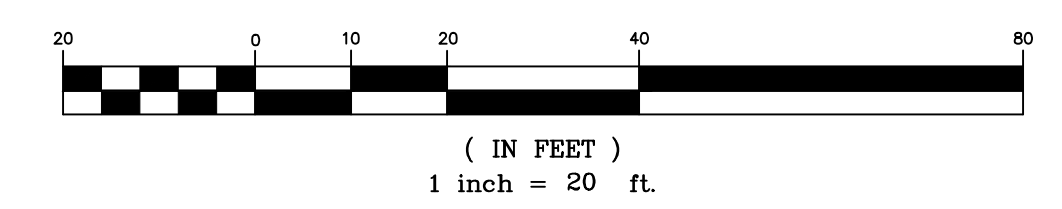
CITY OF BEACON

TOWN OF FISHKILL

PROSPECT STREET

YORK STREET

GRADING PLAN
SCALE: 1" = 20'
GRAPHIC SCALE



GENERAL CONSTRUCTION SCHEDULE:
THE FOLLOWING SCHEDULE IS SUBJECT TO CHANGE BASED ON ENCOUNTERED FIELD CONDITIONS AND/OR THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION.
1. PREPARE THE SITE FOR CONSTRUCTION BY INSTALLING THE PRELIMINARY EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. CLEAR AND GRUB THE PREVIOUS AREAS WITHIN THE LIMITS OF CONSTRUCTION.
3. MASS EARTHWORK AND DRAINAGE INSTALLATION ON THE SITE GENERALLY WITHIN THE AREA FROM THE RETAINING WALL TO ITS EAST WITHIN THE LIMITS OF DISTURBANCE (INCLUDING THE ACCESS ROAD, PARKING AREAS, FOUNDATION AREAS FOR LINES 8-18). UTILITIES TO INCLUDE METER PIT, THE WATER MAIN, INDIVIDUAL WATER SERVICES UNITS 8-18, SANITARY SEWER TO THE CONNECTION POINT ON THE SOUTH SIDE OF THE SITE, SANITARY SEWER MAIN AND MANHOLES, SANITARY SEWER SERVICE CONNECTIONS UNITS 8-18, STORMWATER CATCH BASIN AND PIPING ON NORTHERN PORTION OF SITE AND STORM MANHOLES 1 & 2 TO THE EXISTING CATCH BASIN ON THE SOUTH SIDE OF THE SITE (STORM SYSTEM ON NORTH TO DISCHARGE TO TEMPORARY SEDIMENT TRAPS ON THE SOUTH PORTION OF THE SITE, WITH TEMPORARY OVERFLOW TO THE STORM MANHOLE 2).
4. INSTALL CURBING AND BRING PARKING/ROADWAY TO FINISH COURSE.
5. FINALIZE SITE LANDSCAPING AND INSTALL TOP ASPHALT COURSE.

GENERAL CONSTRUCTION NOTES:
1. ALL OTHER UTILITIES (TELEPHONE, ELECTRIC, GAS, CABLE, ETC.) SHALL BE INCORPORATED PRIOR TO CONSTRUCTION. ALL SUCH UTILITY DESIGNS SHALL BE DEVELOPED IN COOPERATION WITH THE RESPECTIVE UTILITY COMPANIES.
2. LIMITS OF UPDATED TOPOGRAPHICAL SURVEY AS PROVIDED BY TIC LAND SURVEYING BY FIELD SURVEY COMPLETED IN OCTOBER 2018. ALL AREAS SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ARE SHOWN PER PREVIOUS DESIGN PLANS FOR THE MECHRONICS SITE.
3. THE CONTRACTOR SHALL PERFORM A UTILITIES CALL-OUT PRIOR TO CONSTRUCTION TO VERIFY ALL UNDERGROUND UTILITY LOCATIONS BY CONTACTING UPPO @ 1-800-942-7962.
4. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND INVERTS OF ALL CATCH BASINS & STORM SEWER LINES, SANITARY MANHOLES & SEWER LINES, WATERLINES AND OTHER UNDERGROUND UTILITY LINES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOT ASSUME THAT ALL LOCATIONS AS SHOWN ON THE PLAN ARE CORRECT. INVESTIGATIVE TEST PITS MAY BE REQUIRED TO VERIFY LOCATIONS.
5. PIPE CONNECTIONS TO ALL CATCH BASINS SHALL BE MADE WATER-TIGHT, WITH PARTICULAR ATTENTION BEING PAID TO CONNECTIONS LOCATED WITHIN 10 FEET OF SEWER MAINS (AND SERVICE LATERALS).

INFILTRATION TEST TABLE:
INFILTRATION TESTS RESULTS ESTABLISHED ON 12/05/2018
ALL TESTS PRESERVED 24 HOURS PRIOR

TEST ID	TEST HOLE BOTTOM ELEVATION	RESULTS
IT-1	212.5	13" PER HOUR, 6" PER HOUR, 4" PER HOUR

DEEP TEST HOLE TABLE:
DEEP TEST HOLE RESULTS ESTABLISHED ON 12/05/2018

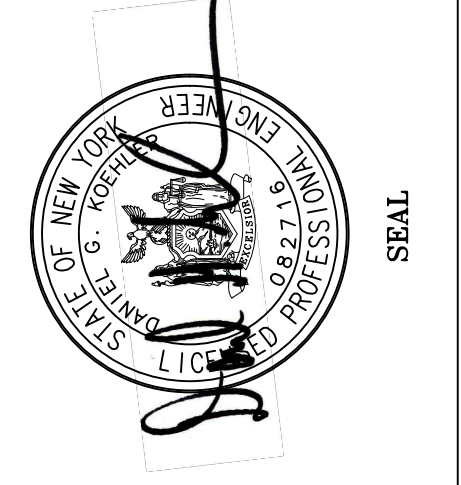
TEST PIT ID	EX. ELEVATION	DESCRIPTION
DT-1	219.7	0'-6" TOPSOIL, 6'-24" SANDY-CLAY LOAM WITH GRAVEL, 24"-48" SANDY-CLAY LOAM WITH COBBLES, 48"-100" BROWN SILTY-CLAY LOAM WITH COBBLES; NO GROUNDWATER, NO MOTTLING, NO BEDROCK
DT-2	221.0	0'-4" TOPSOIL, 4'-30" SANDY-CLAY LOAM WITH GRAVEL, 30"-101" SILTY-CLAY LOAM WITH COBBLES; NO GROUNDWATER, NO MOTTLING, NO BEDROCK

CHECKED BY: DAK

NO.	DATE	DESCRIPTION	BY	DATE
1	12/25/18	PER PLANNING BOARD COMMENTS		

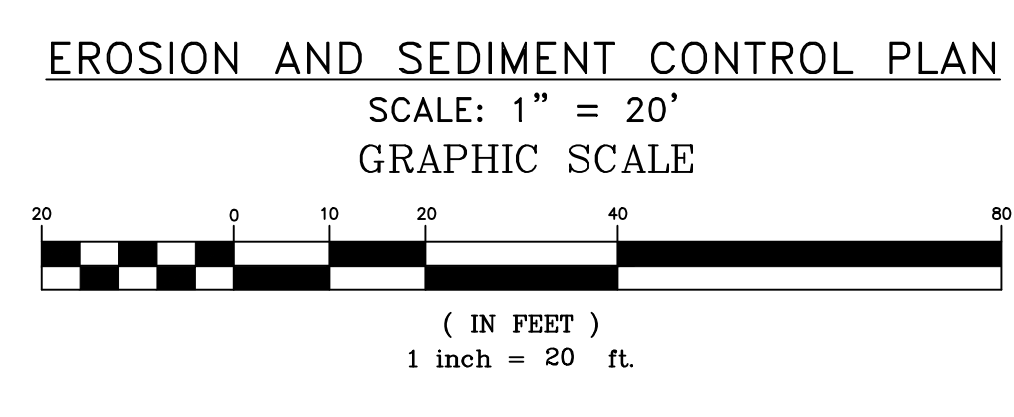
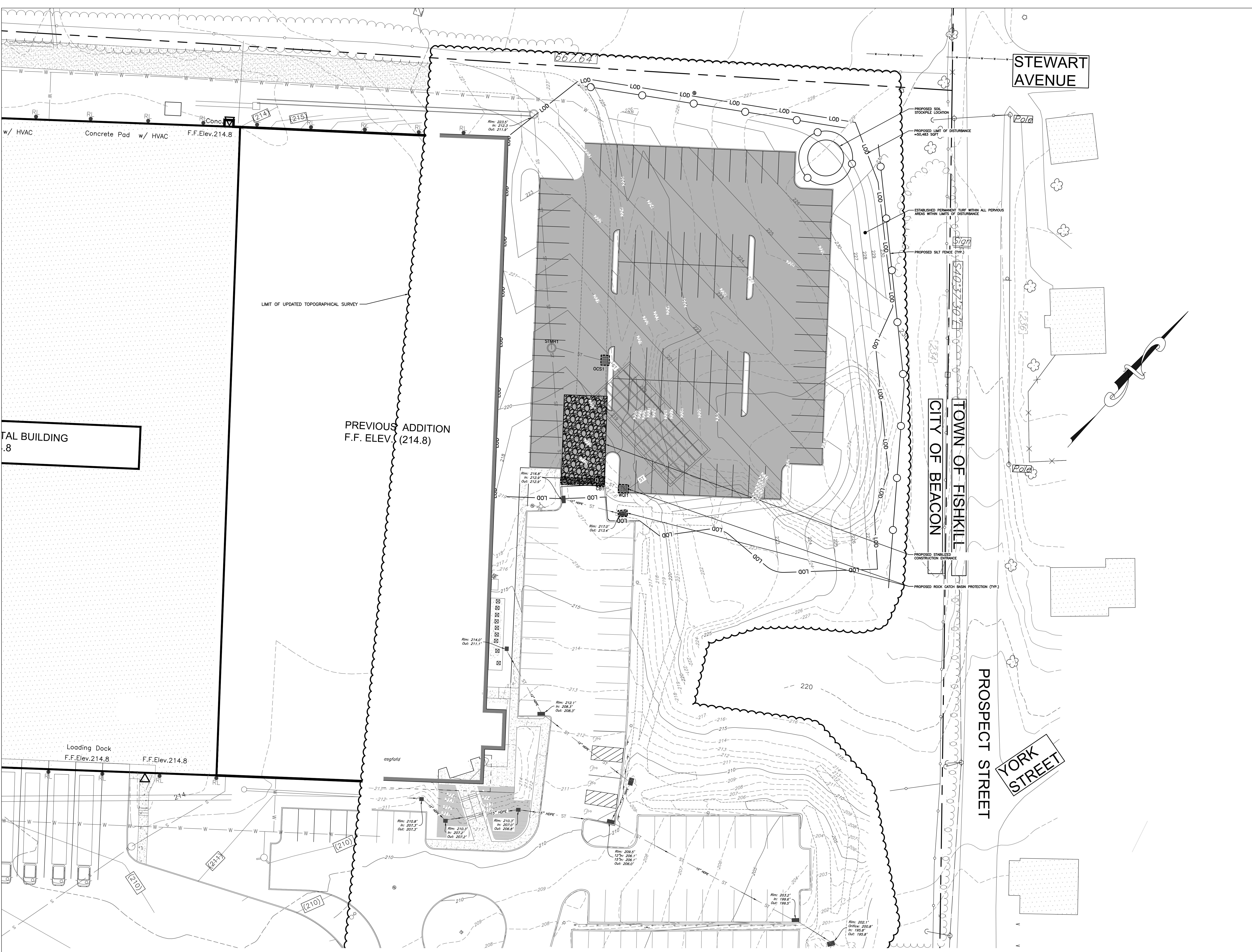
Digsafely
New York
800-962-7962
Call Before You Dig
Protect the Underground
Prevent Accidents
Save Lives

HUDSON LAND DESIGN
HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
P: 845-440-6837
F: 845-440-6837



GRADING PLAN
511 FISHKILL AVENUE
511 FISHKILL AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6650-04-566260

JOB #: 2016641
DATE: 11/27/18
SCALE: 1" = 20'
TITLE: GD-1
SHEET: 9 OF 13
UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW



EROSION AND SEDIMENT CONTROL NOTES

1. ALL EROSION CONTROL MEASURES EMPLOYED DURING THE CONSTRUCTION PROCESS SHALL BE INSPECTED BY THE CONTRACTOR IN ACCORDANCE WITH THE MAINTENANCE SCHEDULE PROVIDED ON THIS SHEET. ALL EROSION CONTROL STRUCTURES SHALL BE REPAIRED AND MAINTAINED AS NECESSARY BY THE CONTRACTOR.
2. ALL STORMWATER MANAGEMENT STRUCTURES (E.G., SWALES, CULVERTS) SHALL BE REGULARLY INSPECTED FOR SEDIMENT ACCUMULATIONS. SEDIMENT AND TRASH SHALL BE REMOVED AS NECESSARY.
3. ALL EROSION CONTROL INSTALLATION AND MAINTENANCE MEASURES SHALL MEET THE REQUIREMENTS OF THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
4. ANY PILE OF POTENTIALLY ERODIBLE MATERIAL TEMPORARILY STOCKPILED ON THE SITE DURING THE CONSTRUCTION PROCESS SHALL BE LOCATED IN AN AREA AWAY FROM STORM DRAINAGE AND PROTECTED FROM EROSION BY A SUBSIDIOUS EROSION CONTROL STRUCTURE.
5. PERMANENT SEEDING AREAS FOR EROSION CONTROL SHALL BE IN ACCORDANCE WITH DETAIL AND SPECIFICATIONS ON THE DETAIL SHEET.
6. AREAS UNDERGOING CLEARING OR GRADING SHALL BE PROTECTED AND MAINTAINED FOR A PERIOD OF 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATIVE COVER WITHIN 14 DAYS.
7. ON-SITE DUST CONTROL SHALL BE ACCOMPLISHED BY STANDARD METHODS OF LIGHTLY WATERING ALL EXPOSED SOIL AND RAPIDLY STABILIZING THE EXPOSED AREAS WITH TOPSOIL, LOAM AND/OR SEEDING.
8. THE PROJECT SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE CITY OF BEACON 24 HOURS PRIOR TO THE START OF ANY SITE WORK AND BY SUCH NOTIFICATION, SHALL BE PROVIDED WITH THE NAME AND TELEPHONE NUMBER OF THE GENERAL CONTRACTOR RESPONSIBLE FOR SUCH WORK.
9. THE CITY MAY INSPECT AND RECORD CONSTRUCTION ACTIVITIES AT ANY TIME WITHOUT NOTICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE CITY OF BEACON 24 HOURS PRIOR TO THE START OF ANY SITE WORK AND BY SUCH NOTIFICATION, SHALL BE PROVIDED WITH THE NAME AND TELEPHONE NUMBER OF THE GENERAL CONTRACTOR RESPONSIBLE FOR SUCH WORK.
10. THE CONTRACTOR/OWNER SHALL MAINTAIN A RECORD OF ALL EROSION AND SEDIMENT CONTROL INSPECTION REPORTS AT THE SITE IN A LOG BOOK. THE SITE LOG BOOK SHALL BE MAINTAINED ON SITE AND BE MADE AVAILABLE TO THE PERMITTING AUTHORITY. THE OWNER/CONTRACTOR SHALL ON A MONTHLY BASIS, POST AT THE SITE A SUMMARY OF THE SITE INSPECTION ACTIVITIES IN A PUBLICLY ACCESSIBLE LOCATION.
11. THE OWNER SHALL FILE A NOI WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES AND A NOTICE OF TERMINATION (NOT) WITH THE NYSDEC FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES.
12. IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL CONSTRUCT A DRAINAGE PIT IN ACCORDANCE WITH NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (USA SUMP PIT) TO FILTER WATER FOR PUMPING TO A SUITABLE LOCATION.
13. WHEN ALL DISTURBED AREAS ARE STABLE, ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED PER THE APPROVAL OF THE CITY AND QUALIFIED PROFESSIONAL ENGINEER.
14. UPON COMPLETION OF CONSTRUCTION, THE PARCEL OWNER(S) AND SUBSEQUENTLY THE HOMEOWNERS ASSOCIATION SHALL BE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM. THE STORMWATER MANAGEMENT SYSTEM SHALL BE INSPECTED QUARTERLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT. THE OWNERS SHALL MAINTAIN A RECORD OF INSPECTION AND MAINTENANCE REPORTS AT THE SITE. REFER TO THE SWPPP FOR INSPECTION REQUIREMENTS AND FUTURE MAINTENANCE.

SOIL RESTORATION NOTES:

1. THE CONTRACTOR SHALL EMPLOY SOIL RESTORATION TO ALL DISTURBED AREAS THAT WILL REMAIN LANDSCAPED.
2. FOR HEAVY TRAFFIC AREAS, FULL SOIL RESTORATION WILL BE REQUIRED. FULL SOIL RESTORATION CONSISTS OF USE OF A BULLDOZER WITH A DEEP RIPPER ATTACHED TO IT. THE RIPPER SHALL BE DONE TO A DEPTH OF 12"-24". COMPOST IS PLACED OVER THE RIPPER SOIL. WHEN WORKING INTO THE SOIL, A DEEP SUB-SOILER.
3. FOR LIGHT TRAFFIC AREAS, SOIL RESTORATION MAY BE ACCOMPLISHED BY MEANS OF TILLING THE SOIL WITH A DISK TYPE TILLER PULLED BY A TRACTOR OR PLACEMENT OF TOPSOIL OVER THE EXISTING SOIL A.G.B.E.

PHASING:

DISTURBED AREA - 1.16 AC.

1. SCHEDULE A PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE THE CITY ENGINEER, OWNER OR OWNER'S REPRESENTATIVE, PROJECT ENGINEER, CONTRACTOR AND SUBCONTRACTORS (IF NECESSARY) WHO ARE TO PERFORM THE CONSTRUCTION.
2. ESTABLISH THE LIMIT OF DISTURBANCE FOR PROPOSED CLEARING AND GRADING ASSOCIATED WITH THE PROPOSED PARKING AREAS AND STORMWATER MANAGEMENT AREA.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE AS DEPICTED ON THE PLAN.
4. CLEAR LOCATIONS FOR INSTALLATION OF PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.
5. INSTALL SILT FENCE AS SHOWN ON THIS PLAN AND IN OTHER AREAS THAT BECOME APPARENT FOLLOWING CLEARING ACTIVITIES.
6. PRIOR TO FURTHER CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER TO CONDUCT A PRE-CONSTRUCTION SITE ASSESSMENT TO VERIFY THAT THE APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THIS PLAN HAVE BEEN ADEQUATELY INSTALLED ENSURING OVERALL PREPAREDNESS OF THIS SITE FOR THE COMMENCEMENT OF CONSTRUCTION.
7. COMMENCE MASS GRADING ACTIVITIES ON PROJECT AREA.
8. INSTALL UNDERGROUND DETENTION SYSTEM. INSTALL SILT FENCE SURROUNDING UNDERGROUND DETENTION FOOTPRINT. USE ORANGE CONSTRUCTION FENCE IN ADDITION TO THE SILT FENCE IF NECESSARY.
9. CONSTRUCT STORM SUMPS SYSTEM.
10. CONSTRUCT CURBING AND PARKING AREAS TO BINDER COURSE.
11. FILL SOIL IN ALL LANDSCAPED AREAS THAT HAVE PREVIOUSLY BEEN DISTURBED.
12. INSTALL ALL PROPOSED LANDSCAPING.
13. PAVE TOP COURSE ON PARKING AREAS.
14. REMOVE EROSION AND SEDIMENT CONTROLS WHEN CONTRIBUTING DRAINAGE AREAS HAVE BECOME STABILIZED.

GENERAL NOTE: EROSION CONTROL MEASURES SHALL BE INSPECTED AND REPAIRED AS NEEDED DURING CONSTRUCTION ACTIVITIES AND BASED ON THE MAINTENANCE SCHEDULE. ADDITIONAL EROSION CONTROL MEASURES BASED ON SITE CONDITIONS SHALL BE PROVIDED AS NECESSARY IN ORDER TO PROTECT ADJACENT PARCELS AND WATERS.

INSPECTION SCHEDULE & MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES

PERMANENT AND TEMPORARY VEGETATION:
 INSPECT ALL AREAS THAT HAVE RECEIVED VEGETATION EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. ALL AREAS DAMAGED BY EROSION OR WINDY SEED HAS NOT ESTABLISHED SHALL BE REPAIRED AND RESTABILIZED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE:
 INSPECT THE ENTRANCE PAD EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. CHECK FOR MIN. SEDIMENT BUILD-UP AND PAID INTEGRITY. MAKE DAILY INSPECTIONS DURING WEATHER. REPAIR PAD AS NEEDED FOR RAINFALL CONTROL. WASH AND REPLACE STONE AS NEEDED. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BENEATH OF SITE BY VEHICLES. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKS OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. REMOVE TEMPORARY CONSTRUCTION ENTRANCE AS SOON AS THEY ARE NO LONGER NEEDED TO PROVIDE ACCESS TO THE SITE AS DIRECTED BY PROJECT ENGINEER.

SILT FENCE:
 INSPECT FOR DAMAGE EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SECTIONS OF THE FENCE BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO ONE-QUARTER THE HEIGHT OF THE FENCE. IF FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF FENCE IMMEDIATELY.

SOIL STOCKPILE:
 INSPECT SEDIMENT CONTROL BARRIERS (SILT FENCE) AND VEGETATION FOR DAMAGE EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE SEDIMENT CONTROL BARRIER BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO ONE-QUARTER THE HEIGHT OF THE SEDIMENT CONTROL BARRIER. IF SEDIMENT CONTROL BARRIER TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF SEDIMENT CONTROL BARRIER IMMEDIATELY. REVEGETATE DISTURBED AREA TO STABILIZE SOIL STOCKPILE. REMOVE THE SEDIMENT CONTROL BARRIER WHEN THE SOIL STOCKPILE HAS BEEN REMOVED.

DUST CONTROL:
 SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORKS. APPLY TEMPORARY SOIL STABILIZATION PRACTICES SUCH AS MOWING, SEEDING, AND SPRINKLING (WATER). STRUCTURAL MEASURES (WALLS, SEEDING) SHALL BE INSTALLED IN DISTURBED AREAS BEFORE SIGNIFICANT BLOWING PROBLEMS DEVELOP. WATER SHALL BE SPRAYED AS NEEDED. REPEAT AS NEEDED, BUT AVOID EXCESSIVE SPRAYING, WHICH COULD CREATE RUNOFF AND EROSION PROBLEMS.

DEWATERING PITS:
 (IF REQUIRED) - INSPECT DAILY DURING OPERATION FOR CLOGGING OR OVERFLOW. CLEAN INLET AND DISCHARGE PIPES OF OBSTRUCTIONS. IF A FILTER MATERIAL BECOMES CLOGGED WITH SEDIMENT, PITS SHALL BE Dismantled AND NEW PITS SHALL BE CONSTRUCTED AS NEEDED.

CATCH BASINS:
 ALL CATCH BASINS SHALL BE INSPECTED AFTER EACH STORM EVENT FOR SEDIMENT ACCUMULATION, AND DEBRIS, AND REMOVE AS NECESSARY. THE INLET PROTECTION SHALL BE INSPECTED FOR SEDIMENT ACCUMULATION AND REPLACED AS NECESSARY. WHEN SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN SUMP REACHES 1/2 OF THE SUMP DEPTH, IT SHALL BE REMOVED.

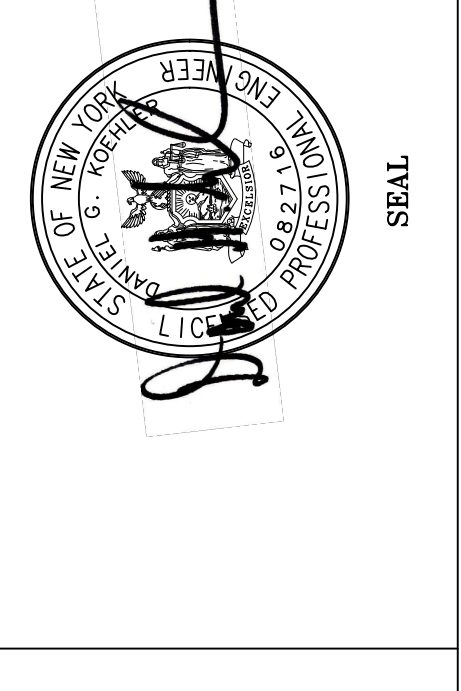
CHECKED BY: DCK		REVISIONS:	
NO.	DATE	BY	DESCRIPTION
1	12/25/18	CMB	PER PLANNING BOARD COMMENTS

DRAWN BY: CMB		REVISIONS:	
NO.	DATE	BY	DESCRIPTION
1	12/25/18	CMB	PER PLANNING BOARD COMMENTS

Dig Safely
 New York
 800-962-7962
 Call Before You Dig
 Dig Safely is a registered trademark of the National Underground Utility Marking Association (NUOMA).

Hudson Land Design
 HUDSON LAND DESIGN
 PROFESSIONAL ENGINEERING P.C.
 174 MAIN ST., BEACON, NEW YORK 12508
 13 CHAMBERS ST., NEWBURGH, NEW YORK 10950
 F: 845-440-6837

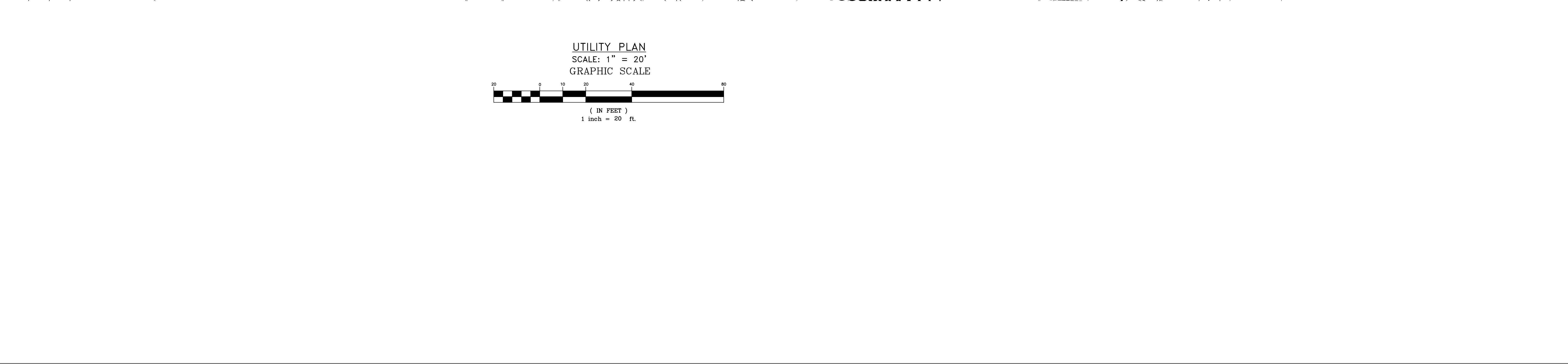
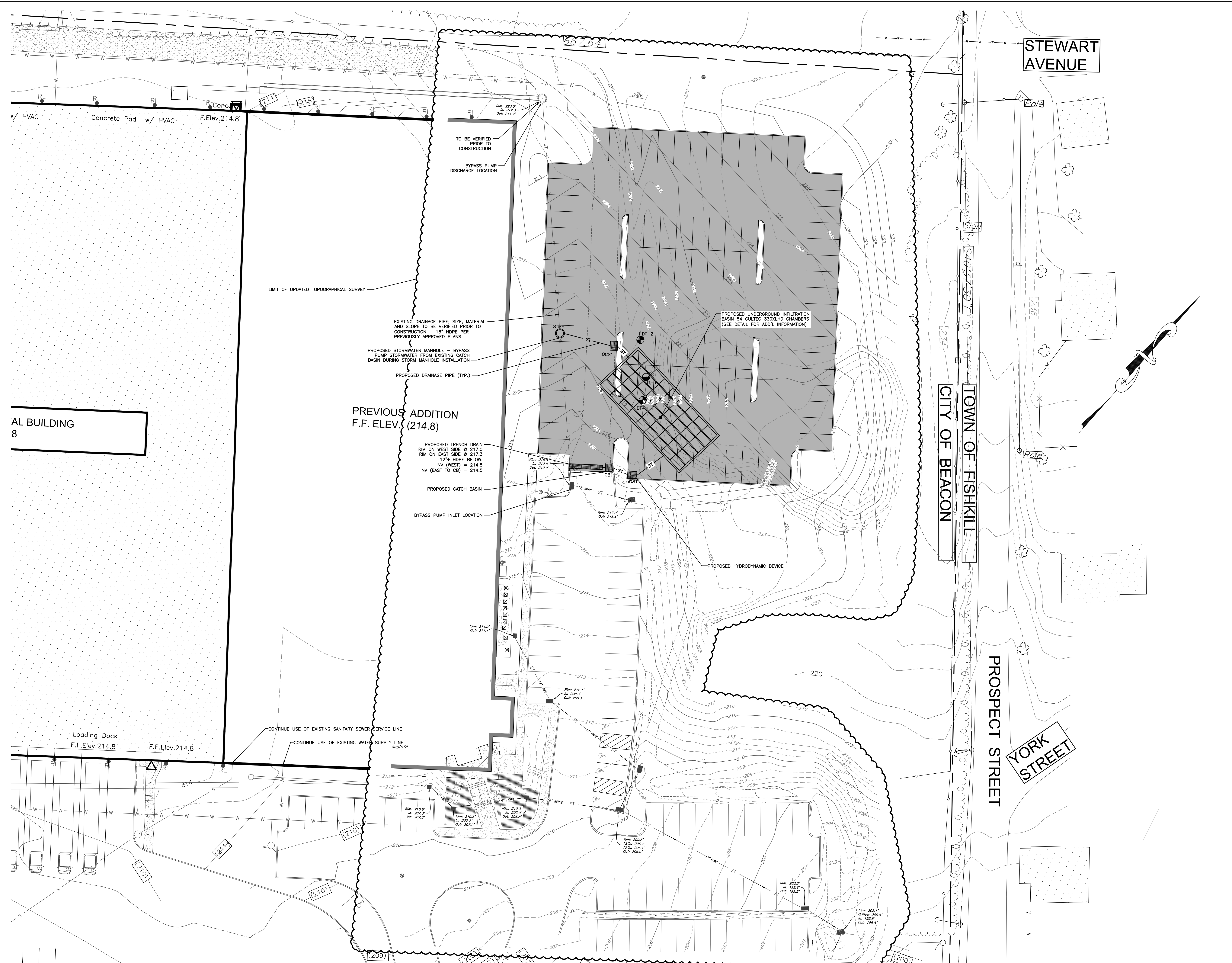
Hudson Land Design
 HUDSON LAND DESIGN
 PROFESSIONAL ENGINEERING P.C.
 174 MAIN ST., BEACON, NEW YORK 12508
 13 CHAMBERS ST., NEWBURGH, NEW YORK 10950
 F: 845-440-6837



EROSION AND SEDIMENT CONTROL PLAN
 511 FISHKILL AVENUE
 CITY OF BEACON
 DUTCHESS COUNTY, NEW YORK
 TAX ID: 060-04-560260

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW

JOB #: 2016041
 DATE: 11/27/18
 SCALE: 1" = 20'
 TITLE: EC-1
 SHEET 10 OF 13



INSPECTION SCHEDULE & LONG TERM MAINTENANCE OF STORMWATER STRUCTURES

CATCH BASINS AND PIPING:
 ALL CATCH BASINS SHALL BE INSPECTED AFTER EACH STORM EVENT FOR SEDIMENT ACCUMULATION, AND DEBRIS, AND REMOVE AS NECESSARY. WHEN SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN SUMP REACHES 1/2 OF THE SUMP DEPTH, IT SHALL BE REMOVED. ASSOCIATED PIPING SHALL BE INSPECTED ANNUALLY AND ACCUMULATED SEDIMENT SHALL BE REMOVED AS NEEDED.

HYDRODYNAMIC DEVICE:
 THE CDS STORMWATER TREATMENT SYSTEM IS A HIGH-PERFORMANCE HYDRODYNAMIC SEPARATOR AND REQUIRES REGULAR INSPECTION AND MAINTENANCE TO ENSURE OPTIMAL PERFORMANCE. MAINTENANCE FREQUENCY WILL BE DETERMINED BY SITE CONDITIONS. THE MANUFACTURER SUGGESTS QUARTERLY VISUAL INSPECTIONS TO DETERMINE THE ACCUMULATION OF POLLUTANTS, AND SUGGESTS ANNUAL REMOVAL OF ACCUMULATED POLLUTANTS. VISUAL INSPECTIONS SHALL BE PERFORMED QUARTERLY, GENERALLY AROUND THE CHANGE OF EACH SEASON. INSPECTIONS AND MAINTENANCE SHALL BE PERFORMED BY QUALIFIED PERSONNEL WITH ADEQUATE TRAINING IN THESE TYPES OF UNITS. THE UNITS SHALL BE CLEANED BY VACUUM TRUCK. ADDITIONAL CLEANINGS SHOULD BE ANTICIPATED DURING THE FIRST YEAR OF OPERATION. THE RECOMMENDED CLEANOUT OF SOLIDS WITHIN THE CDS UNIT'S SUMP SHOULD OCCUR AT 75% OF THE SUMP CAPACITY.

UNDERGROUND DETENTION/FILTRATION:
 BEST MANAGEMENT PRACTICE FOR MAINTAINING OPTIMUM PERFORMANCE OF THE UNDERGROUND INFILTRATION SYSTEM IS A COMBINATION OF THE FOLLOWING:
 1. PROPER MAINTENANCE OF THE PRETREATMENT HYDRODYNAMIC DEVICE.
 2. REMOVAL OF ACCUMULATED SEDIMENT FROM THE UPSTREAM CATCH BASIN AND STORMWATER COLLECTION SYSTEM, AND
 3. MAINTAINING THE SITE IMPROVED AND LAWN AREAS IN A STABLE CONDITION. ANY FUTURE LAND DISTURBANCE ASSOCIATED WITH MAINTENANCE OF THE BUILDINGS AND GROUNDS SHALL CAREFULLY PREPARE AN EROSION AND SEDIMENT CONTROL PLAN TO LIMIT TRANSPORT OF SEDIMENT TO THE COLLECTION SYSTEM.
 THE CULTEC SYSTEM SHALL BE EQUIPPED WITH AN INSPECTION PORT LOCATED ON THE INLET ROW. THE INSPECTION PORT IS A CIRCULAR CAST IRON PLUG IN A RECTANGULAR CONCRETE COLLAR. WHEN THE LID IS REMOVED, A 6-INCH PIPE WITH A SCREEN-IN PLUG WILL BE EXPOSED. REMOVE THE PLUG. THIS WILL PROVIDE ACCESS TO THE CULTEC CHAMBER ROW BELOW FROM THE SURFACE, THROUGH THIS ACCESS, THE SEDIMENT MAY BE MEASURED AT THIS LOCATION. A STAIN ROD MAY BE USED TO MEASURE THE DEPTH OF SEDIMENT IF ANY IN THIS ROW. ADDITIONALLY, CITY INSPECTION OF THIS ROW CAN BE DEPLOYED THROUGH THIS ACCESS PORT TO DETERMINE IF ANY SEDIMENT HAS ACCUMULATED. IF THE DEPTH OF SEDIMENT IS IN EXCESS OF 3 INCHES, THEN THIS ROW SHOULD BE CLEANED WITH HIGH PRESSURE WATER THROUGH A CULVERT CLEANING NOZZLE. THIS WOULD BE CARRIED OUT THROUGH THE UPSTREAM PRETREATMENT DEVICE. THE ACCESS POINT THROUGH THE HYDRODYNAMIC DEVICE REQUIRES A TECHNICIAN TRAINED IN CONFINED SPACE ENTRY WITH PROPER GAS DETECTION EQUIPMENT. THIS INDIVIDUAL MUST BE EQUIPPED WITH THE PROPER SAFETY EQUIPMENT FOR ENTRY INTO THE HYDRODYNAMIC DEVICE. THE INLET ROW IS PLACED ON A POLYETHYLENE LINER TO PREVENT SCOURING OF THE WASHED STONE BENEATH THIS ROW. THIS FACILITATES THE FLUSHING OF THIS ROW WITH HIGH PRESSURE WATER THROUGH A CULVERT CLEANING NOZZLE. THE NOZZLE IS DEPLOYED THROUGH THE HYDRODYNAMIC DEVICE AND EXTENDED TO THE END OF THE ROW. THE WATER IS TURNED ON AND THE INLET ROW IS BACK-FLUSHED INTO THE HYDRODYNAMIC DEVICE WHERE IT IS REMOVED BY USING A VACUUM TRUCK.

MAINTENANCE GUIDELINES:
 1. THE OWNER SHALL KEEP A MAINTENANCE LOG WHICH SHALL INCLUDE DETAILS OF ANY EVENTS WHICH WOULD HAVE AN EFFECT ON THE SYSTEM'S OPERATIONAL CAPACITY.
 2. THE OPERATION AND MAINTENANCE PROCEDURE SHALL BE REVIEWED PERIODICALLY AND CHANGED TO MEET SITE CONDITIONS.
 3. MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM SHALL BE PERFORMED BY QUALIFIED WORKERS AND SHALL FOLLOW APPLICABLE OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS.
 4. DEBRIS REMOVED FROM THE STORMWATER MANAGEMENT SYSTEM SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS.
SUGGESTED MAINTENANCE SCHEDULE (TO BE RE-ASSESSED BY THE OPERATOR PERIODICALLY BASED ON SITE CONDITIONS AND EVALUATION OF SYSTEM FUNCTIONALITY):
 1. YEAR 1: INSPECT INLETS AND OUTLETS MONTHLY FOR ANY CLOGGING, AND REMOVE DEBRIS AS MAY BE NECESSARY. INSPECT THE SURFACE AROUND THE CHAMBERS FOR ANY DEPRESSIONS.
 2. YEAR 2 AND AFTER: INSPECT INLETS AND OUTLETS EVERY SPRING AND FALL FOR ANY CLOGGING, AND REMOVE DEBRIS AS MAY BE NECESSARY. INSPECT THE SURFACE AROUND THE CHAMBERS FOR ANY DEPRESSIONS.
 3. 2 YEARS AFTER COMMISSIONING: INSPECT THE INTERIOR OF THE STORMWATER MANAGEMENT CHAMBERS THROUGH INSPECTION PORT FOR DEFICIENCIES USING CCTV OR COMPARABLE TECHNIQUE.
 4. 9 YEARS AFTER COMMISSIONING, AND EVERY 9 YEARS THEREAFTER (OR AS MAY BE NEEDED): CLEAN STORMWATER MANAGEMENT CHAMBERS AND FEED CONNECTIONS OF ANY DEBRIS. INSPECT THE INTERIOR OF THE STORMWATER MANAGEMENT CHAMBERS THROUGH INSPECTION PORT FOR DEFICIENCIES USING CCTV OR COMPARABLE TECHNIQUE.
 5. 45 YEARS AFTER COMMISSIONING: A PROFESSIONAL ENGINEER SHALL ASSESS THE REMAINING LIFE EXPECTANCY OF THE STORMWATER MANAGEMENT CHAMBERS AND RECOMMEND ACTIONS TO REHABILITATE, RESTORE OR REPLACE THE STORMWATER MANAGEMENT CHAMBERS AS MAY BE REQUIRED.
 6. ANNUALLY: CONFIRM THAT NO UNAUTHORIZED MODIFICATIONS HAVE BEEN PERFORMED TO THE SITE THAT MAY IMPACT THE ADEQUATE FUNCTIONING OF THE SYSTEM.
 7. PERIODICALLY: MONITOR WATER LEVELS IN THE CHAMBER SYSTEM FOLLOWING SIGNIFICANT STORM EVENTS. DETERMINING OF THE SYSTEM SHOULD TAKE NO LONGER THAN 24 HOURS.

EXISTING UNDERGROUND UTILITY NOTES:
 1. CONTRACTOR SHALL DIG TEST PITS TO VERIFY LOCATION, SIZE AND PIPE MATERIAL OF EXISTING UNDERGROUND UTILITIES. IF ANY EXISTING UTILITIES ARE NOT IN THE LOCATION WHERE THEY ARE SHOWN ON THE PLAN, IT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY.

POST CONSTRUCTION NOTES:
 1. RECORD DRAWINGS OF THE PROJECT INCLUDING ALL UTILITIES WILL BE PROVIDED TO THE BUILDING INSPECTOR AFTER CONSTRUCTION IS COMPLETE.
 2. AN OPERATION AND MAINTENANCE PLAN MANUAL SHALL BE PROVIDED TO THE CITY OF BEACON BUILDING INSPECTOR FOLLOWING COMPLETION OF THE STORMWATER FACILITIES.

STRUCTURE	STRUCTURE DETAILS
CB1	RIM = 217.52 SUMP = 213.50 CB1-WQ1 INV OUT = 214.50
OCS1	RIM = 219.85 SUMP = 212.50 INF CH OUTLET INV IN = 213.90 OCS1-STMH1 INV OUT = 213.50
STMH1	RIM = 219.50 SUMP = 211.80 OCS1-STMH1 INV IN = 212.80
WQ1	RIM = 217.85 SUMP = 213.30 CB1-WQ1 INV IN = 214.40 WQ1-INF CH INV OUT = 214.30

PIPE NAME	LENGTH	SIZE AND MATERIAL	SLOPE
CB1-WQ1	10 LF	15" # CORR HDPE	1.00%
INF CH OUTLET	11 LF	15" # CORR HDPE	1.38%
OCS1-STMH1	31 LF	12" # CORR HDPE	2.29%
WQ1-INF CH	23 LF	15" # CORR HDPE	1.09%

REVISIONS:

NO.	DATE	DESCRIPTION
1	12/25/18	PRE PLANNING BOARD COMMENTS

CHECKED BY: DCK

DRAWN BY: CUB

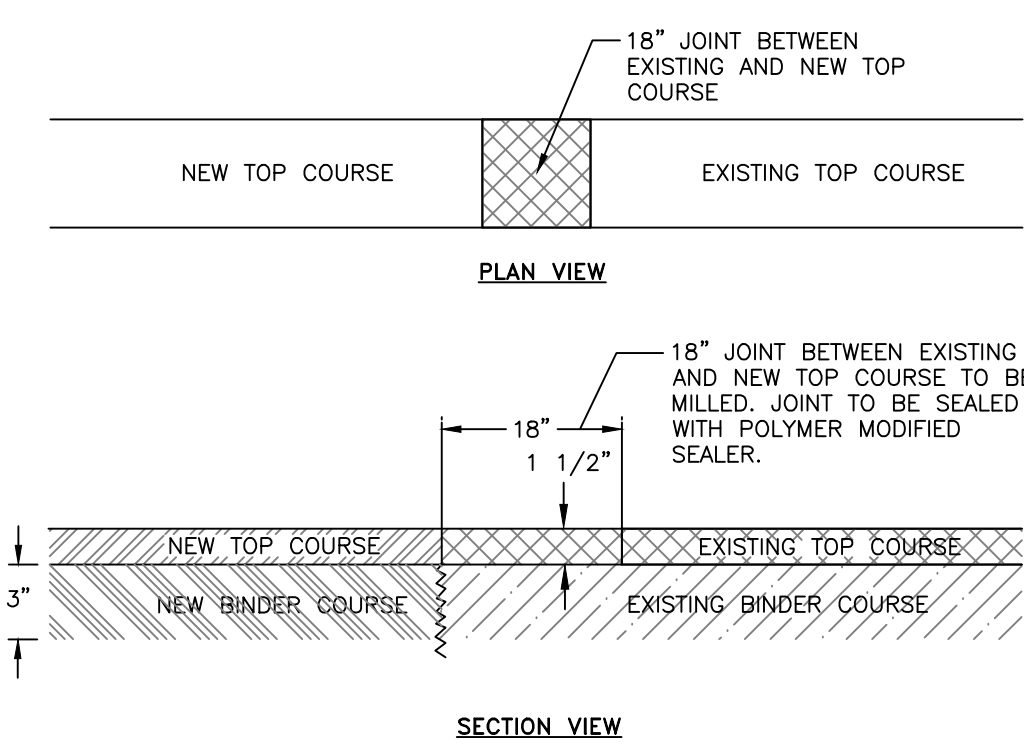
DATE: 11/27/18
SCALE: 1" = 20'
TITLE: UT-1
SHEET: 11 OF 13

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW

Dig Safely - New York
 800-962-7962
 Call Before You Dig
 Dig Safely is a registered trademark of the National Call Before You Dig Council, Inc.

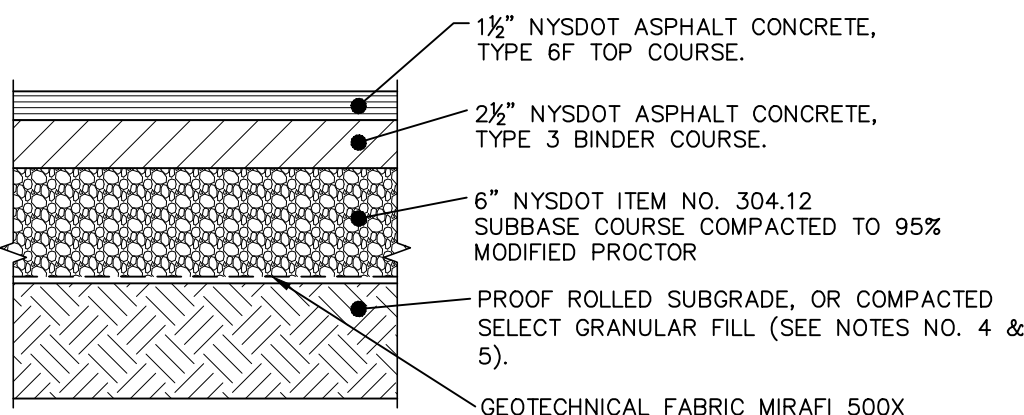
Hudson Land Design
HUDSON LAND DESIGN
 HUDSON LAND DESIGN
 PROFESSIONAL ENGINEERING P.C.
 174 MAIN ST., BEACON, NEW YORK 12508
 13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
 F: 845-440-6837

UTILITY PLAN
511 FISHKILL AVENUE
 511 FISHKILL AVENUE
 CITY OF BEACON
 DUTCHESS COUNTY, NEW YORK
 TAX ID: 660-04-060680



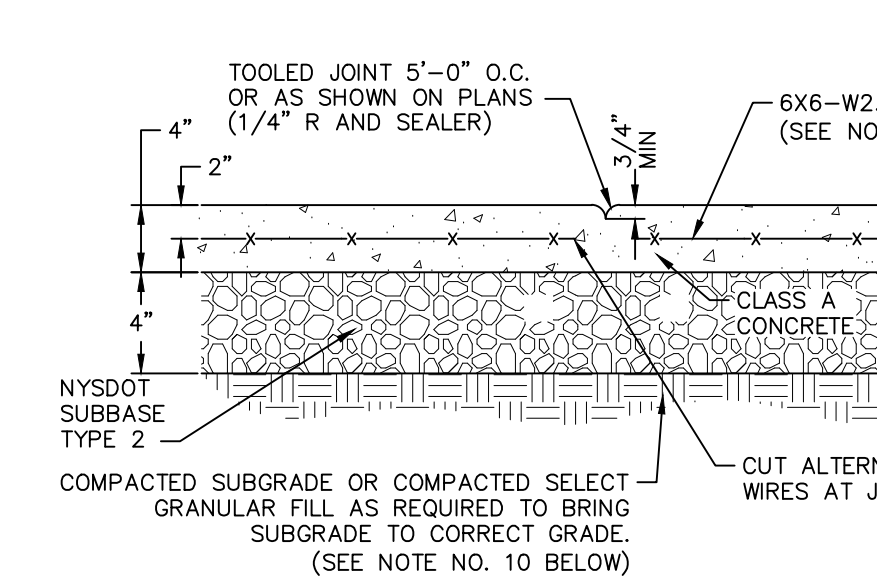
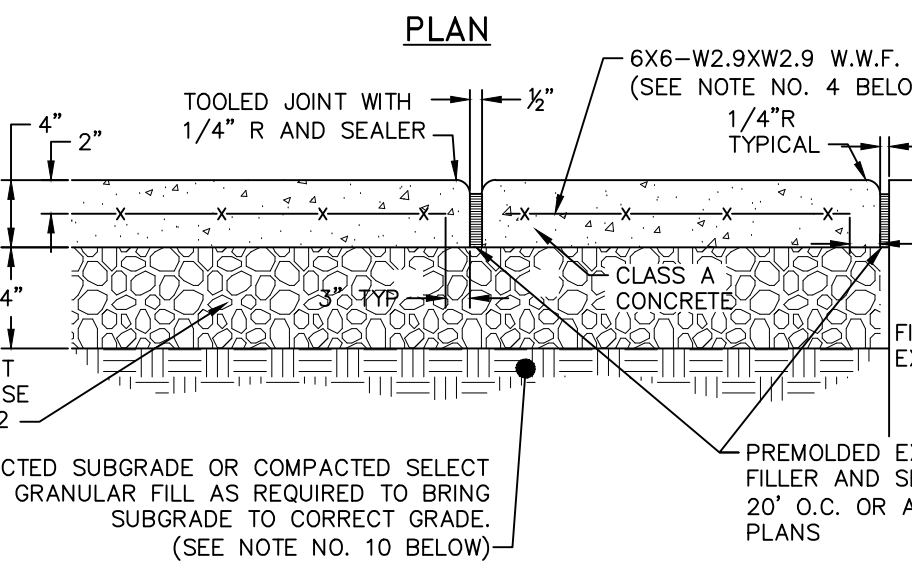
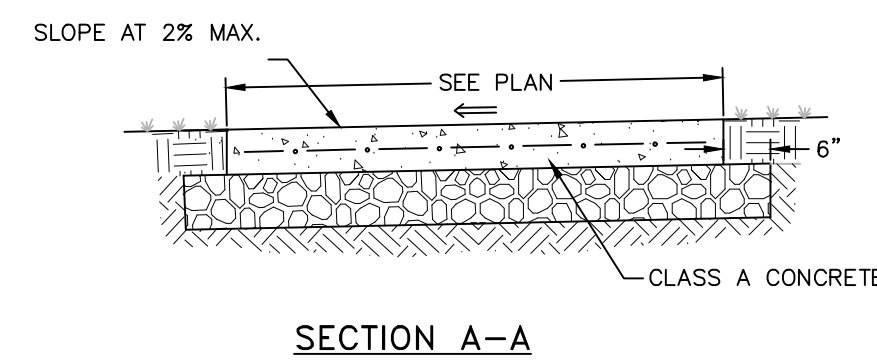
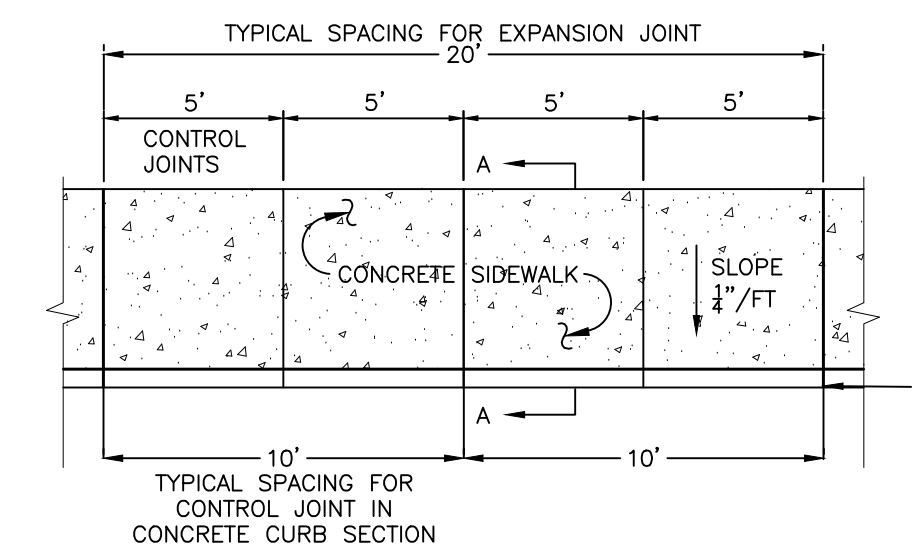
NOTES:
 1. 3" BINDER COURSE AND 1 1/2" TOP COURSE TO BE USED FOR RESTORATION OF PAVEMENT WITHIN CITY ROADS.
 2. EXCAVATIONS ARE TO BE SAW CUT SMOOTH-ALL EDGES TACK COATED, AND ALL SEAMS SEALED WITH A HOT POLYMER MODIFIED CRACK SEALANT.
 3. IF EXISTING ASPHALT PAVEMENT DEPTH IS GREATER THAN THE PROPOSED ASPHALT PAVEMENT SECTION, INCREASE PROPOSED ASPHALT BINDER THICKNESS TO MATCH EXISTING.

MILLED KEYWAY DETAIL
NOT TO SCALE



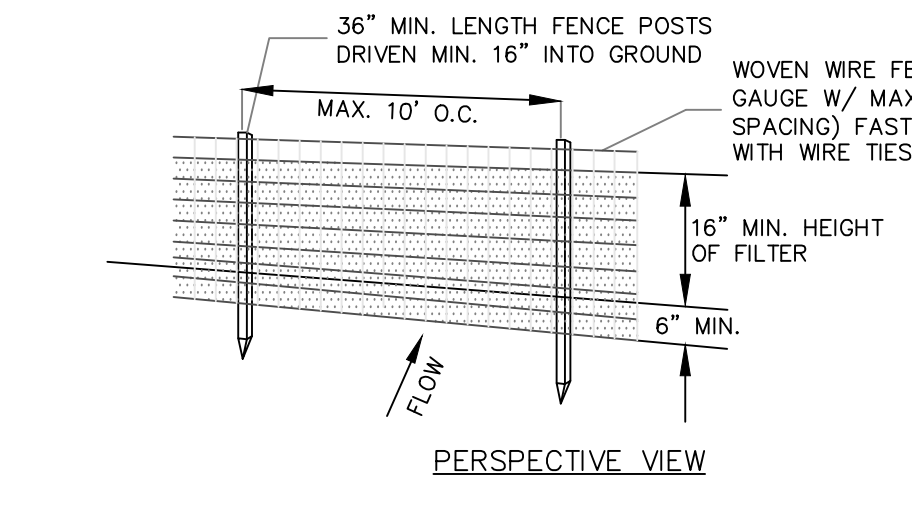
NOTES:
 1. MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, LATEST REVISION.
 2. SUBGRADE SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS.
 3. TACK COAT WHEN SPECIFIED OR CALLED OUT IN THESE DRAWINGS OR REQUIRED BY THE REFERENCED SPECIFICATIONS SHALL CONFORM WITH SECTION 407-TACK COAT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 4. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSES OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMANCE WITH SECTION 203-EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 5. IT IS EXPECTED THAT THE EXISTING SITE SUB-SOLS ARE SUITABLE IF UNSUITABLE SOILS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR POSSIBLE MODIFICATIONS TO THE PAVEMENT DETAIL.

PAVEMENT SECTION DETAIL
NOT TO SCALE



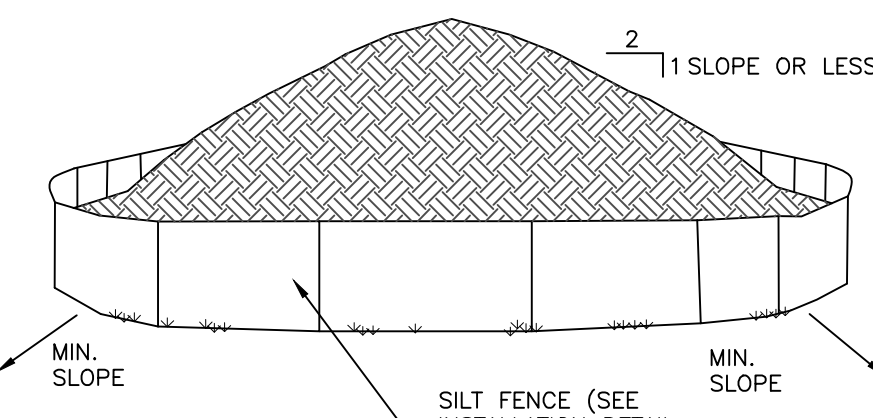
NOTES:
 1. 10' SPACING OF CONTROL JOINTS SHALL BE USED FOR CAST IN PLACE CONCRETE CURBS.
 2. MATERIAL AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, LATEST REVISION.
 3. ALL CONCRETE SHALL BE 3500 PSI CLASS A CONCRETE. CONCRETE MATERIALS, PLACEMENT, AND CONSTRUCTION SHALL CONFORM WITH SECTION 500 OF THE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 4. REINFORCING STEEL FOR CONCRETE SHALL CONFORM WITH SECTION 556 - REINFORCING STEEL FOR CONCRETE STRUCTURES OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND AS SPECIFICALLY CALLED OUT IN THE DRAWINGS.
 5. ALL EXPOSED SURFACES SHALL HAVE A BROOM TEXTURED FINISH.
 6. EXPANSION JOINTS SHALL BE LOCATED A MAXIMUM OF 20' ON CENTER, OR AS INDICATED ON PLANS.
 7. JOINTS SHALL NOT BE SAW CUT.
 8. EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH "SUREBOND"/"SAFEBOOND" 58-7000 INTENSIFIER BRIGHT PROTECTOR AND SIDEWALK SEALER, OR EQUAL RATE AND METHOD OF APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 9. SUBGRADE MATERIAL SHALL CONFORM WITH SECTION 304 OF THE ABOVE REFERENCED NYSDOT STANDARD.
 10. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSES OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMANCE WITH SECTION 203-EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 11. ALL WORK SHALL CONFORM WITH SECTION 608-SIDEWALK, DRIVEWAYS, AND BICYCLE PATHS OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



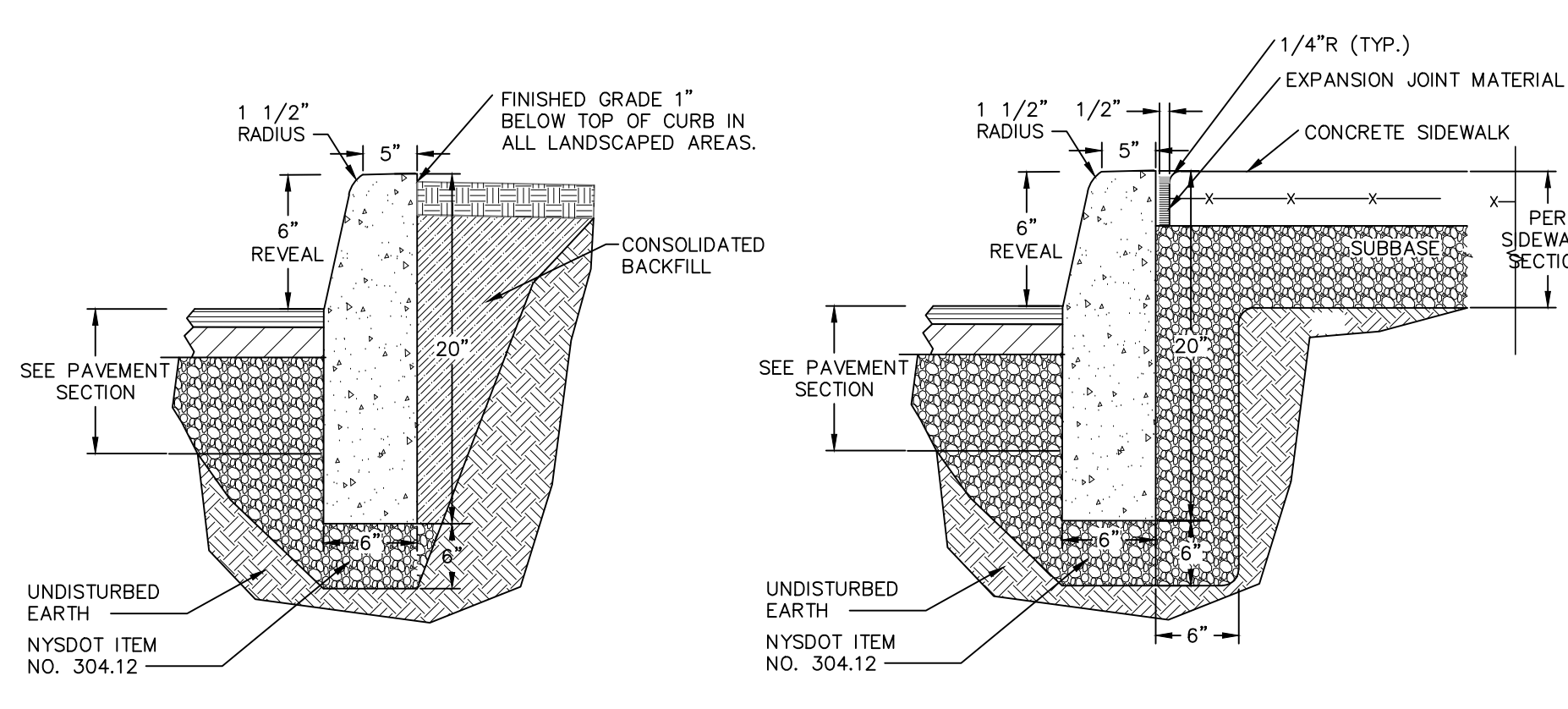
NOTES:
 1. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
 2. WHEN TWO SECTIONS OF FILTER CLOTH ADJACENT TO EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER 1/2 MESH OR STABILIZED 200 OR APPROVED EQUAL.
 3. PREFABRICATED UNITS SHALL BE GEOTEX, ENVIROFENCE OR APPROVED EQUAL.
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SILT FENCE DETAIL
NOT TO SCALE



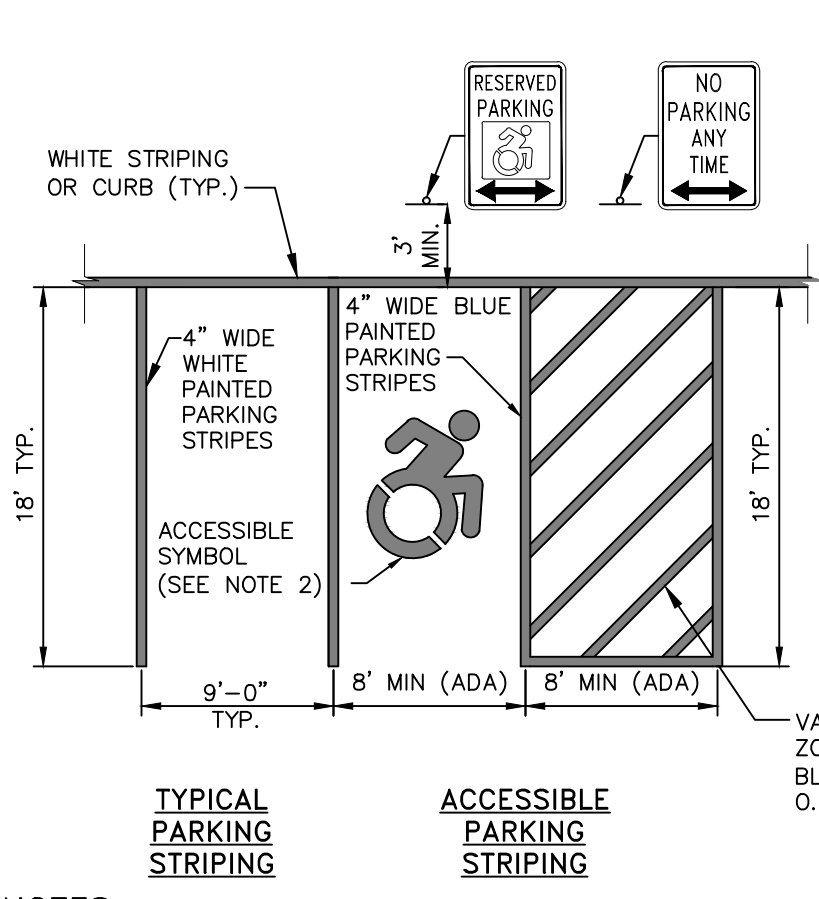
NOTES:
 1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
 2. EACH FILE SHALL BE SURROUNDED WITH SILT FENCING THEN STABILIZED WITH VEGETATION OR COVERED.

TEMPORARY SOIL STOCKPILE DETAIL
NOT TO SCALE



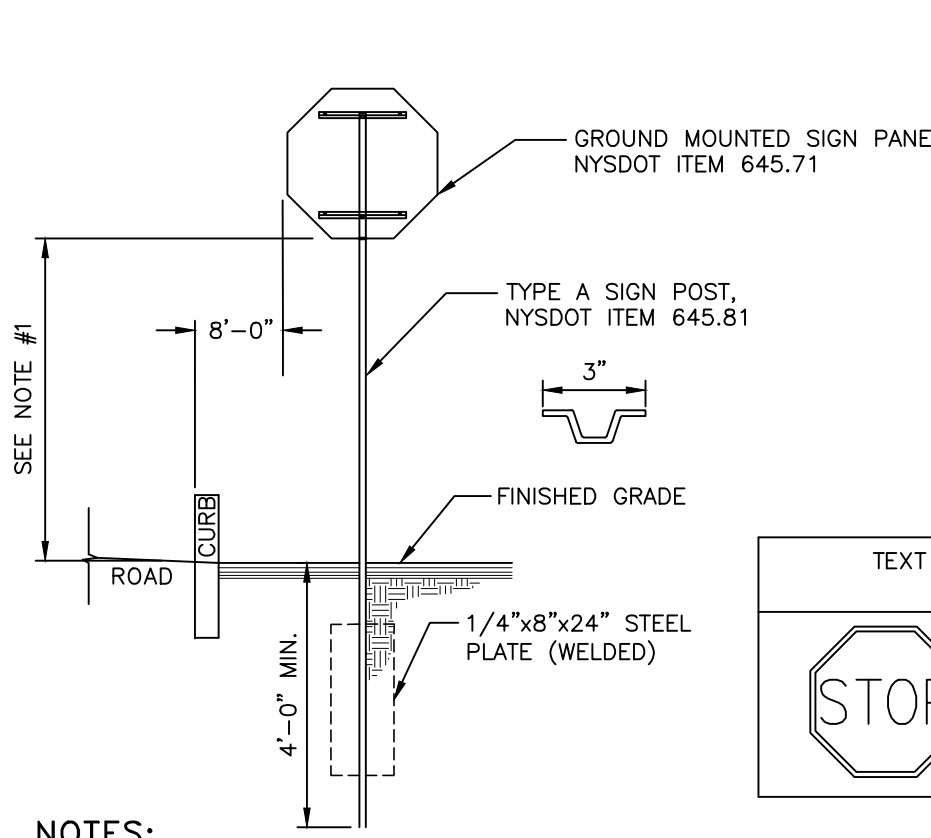
NOTES:
 1. CONCRETE CURB SHALL BE 4000 PSI CAST-IN-PLACE, AND IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 609.
 2. EXPANSION JOINTS OF 1/2" CELLULOSE OR SIMILAR MATERIAL SHALL BE PLACED AT 10 FOOT INTERVALS.
 3. FOR MOUNTABLE CURBS ABUTTING SIDEWALK OR OTHER HARDSCAPE, REFER TO "ABUTTING SIDEWALK" DETAIL.

CAST-IN-PLACE CONCRETE CURB DETAIL
NOT TO SCALE



NOTES:
 1. ALL DIMENSIONS SUBJECT TO CURRENT MUNICIPALITY ZONING AND SITE REGULATIONS.
 2. PAINTED ACCESSIBLE SYMBOL TO BE IN ACCORDANCE WITH NYSDOT AND ADA STANDARDS.
 3. IF PARKING ABUTS A SIDEWALK, THEN THE REGULATORY SIGNS SHALL BE PLACED BEHIND THE SIDEWALK.

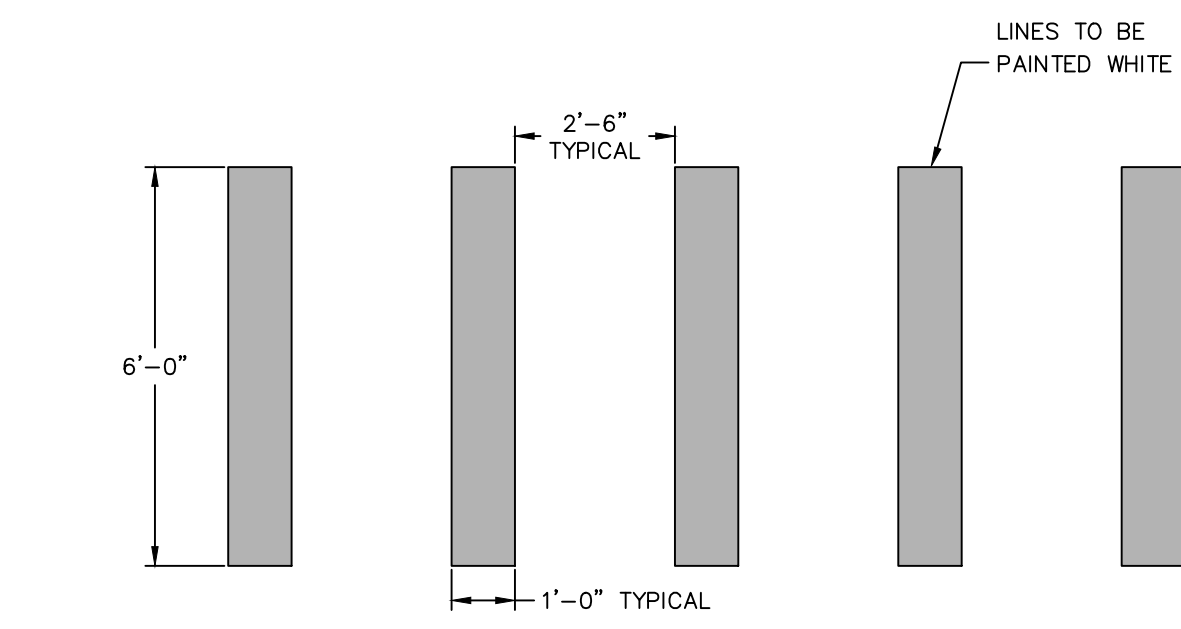
PARKING AND STRIPING DETAIL
NOT TO SCALE



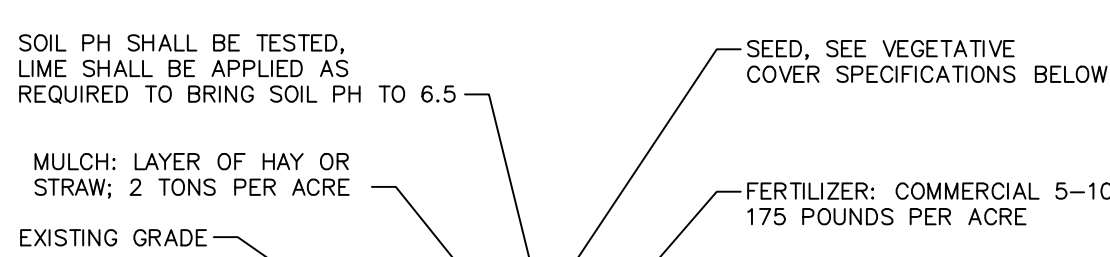
NOTES:
 1. SIGN MOUNTING HEIGHT SHALL BE A MINIMUM OF 7'. MINIMUM MOUNTING HEIGHT MAY BE ADJUSTED ONLY IN ACCORDANCE WITH PROVISIONS OUTLINED IN "NYCRR, CHAPTER V-UNIFORM TRAFFIC CONTROL DEVICES."
 2. SIGN POST SHALL BE IN ACCORDANCE W/ NYSDOT STANDARD SPECS SECTION 730.
 3. SIGN BRACKETS PER NYSDOT STANDARD SHEETS.
 4. SIGN POSTS WITHIN THE COUNTY RIGHT-OF-WAY SHALL BE BREAKAWAY TYPE MEETING THE REQUIREMENTS OF THE NYSDOT.

SINGLE POST SIGN DETAIL
NOT TO SCALE

TEXT	APPROXIMATE SIZE OF SIGN	NYSDOT NO.	COLOR BACKGROUND	COLOR LEGEND	TYPE OF MOUNTING
STOP	30"x30"	R1-1	RED	WHITE	POST MOUNT

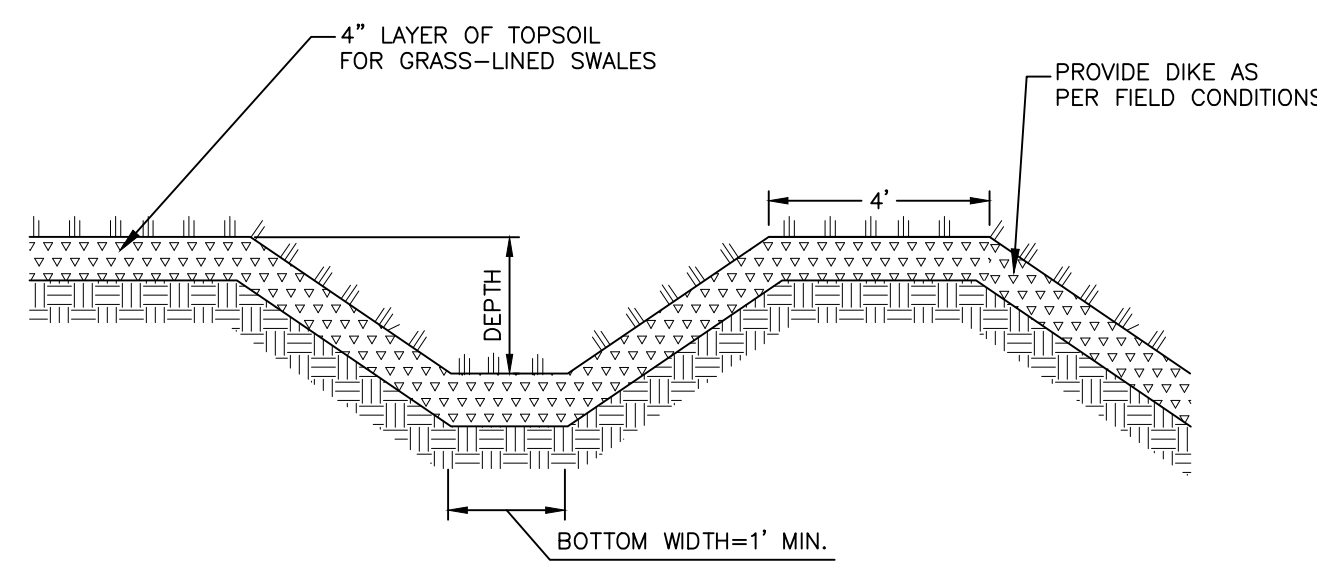


PAINTED CROSSWALK DETAIL
NOT TO SCALE



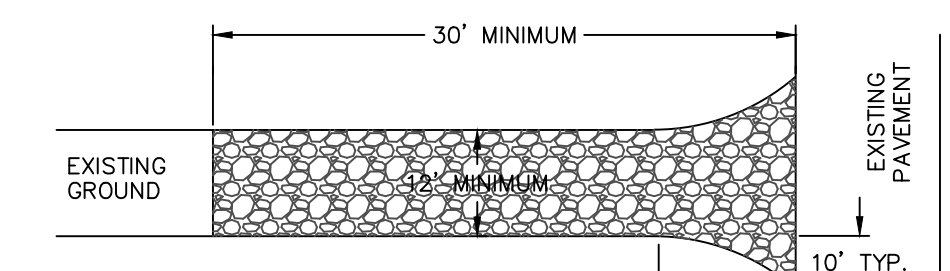
NOTES:
 1. TOPSOIL, SEED, MULCH, AND FERTILIZE DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 14 DAYS OR MORE.
 2. SEED MIXTURE FOR USE ON LAWNS IN SUNNY AREAS:
 100% PERENNIAL Ryegrass 114 POUNDS PER ACRE
 20% PERENNIAL Ryegrass 35 POUNDS PER ACRE
 15% FINE FESCUE 175 POUNDS PER ACRE
 3. SEED MIXTURE FOR USE IN SHADY AREAS:
 80% BLEND OF SHADE TOLERANT KENTUCKY BLUEGRASS 138 POUNDS PER ACRE
 20% FINE FESCUE 115 POUNDS PER ACRE
 4. SEED BETWEEN APRIL 1ST AND MAY 15TH OR AUGUST 15TH AND OCTOBER 15TH, SEEDING MAY OCCUR BETWEEN MAY 15TH AND AUGUST 15TH IF ADEQUATE IRRIGATION IS PROVIDED.
 5. TOPSOIL SHALL HAVE AT LEAST 6% BY WEIGHT OF FINE TEXTURED STABLE ORGANIC MATERIAL, AND NO GREATER THAN 20% TOPSOIL SHALL HAVE NOT LESS THAN 20% FINE TEXTURED MATERIAL (PASSING THE NO. 200 SIEVE) AND NOT MORE THAN 15% CLAY.

TOPSOIL, SEED AND MULCH DETAIL
NOT TO SCALE



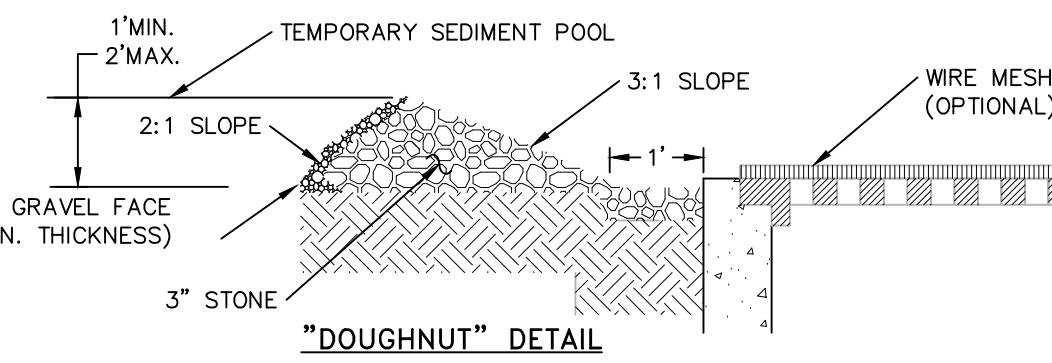
NOTES:
 1. MINIMUM 1" DEPTH AND 1" WIDTH FOR ALL SWALES.
 2. SWALE SHALL BE SEEDED WITH FAST GERMINATING RYE 15 TO 25 POUNDS PER 1,000 SQUARE FEET AND MULCHED.

GRASS LINED SWALE/DIKE DETAIL
NOT TO SCALE



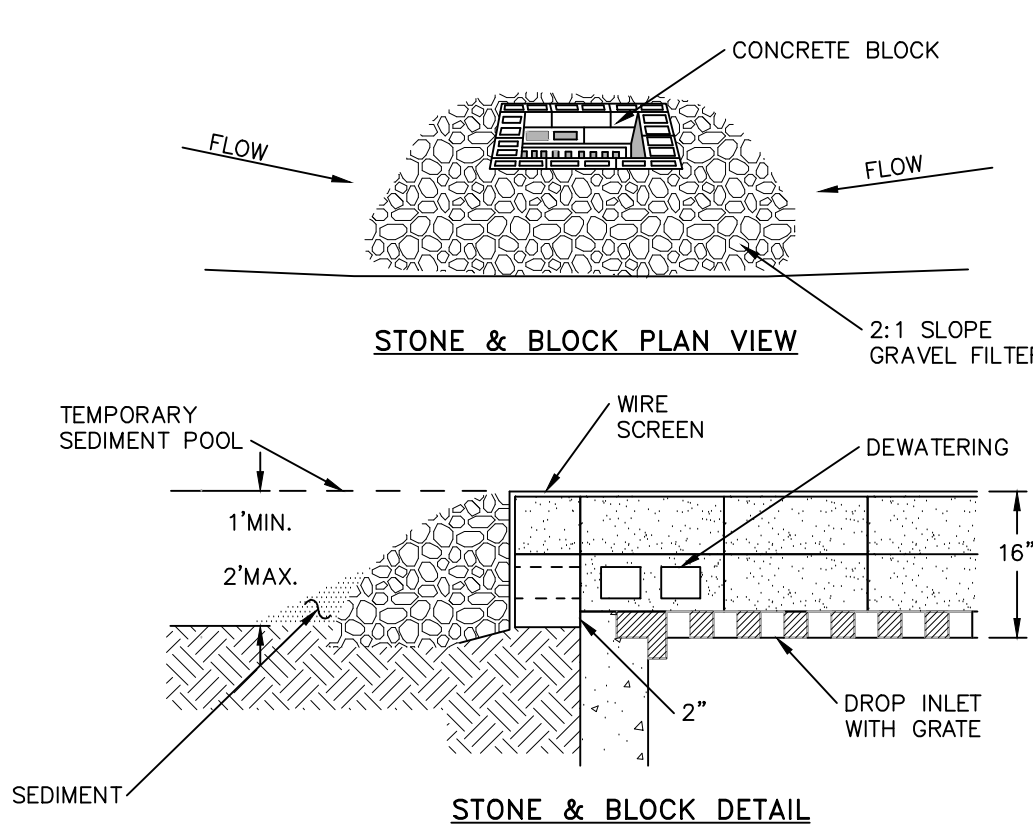
NOTES:
 1) STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
 2) LENGTH - NOT LESS THAN 30 FEET FOR A SINGLE RESIDENCE LOT.
 3) THICKNESS - NOT LESS THAN SIX (6) INCHES.
 4) WIDTH - 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24 FOOT MINIMUM 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 BEHIND 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. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MESSAGING USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 8) WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN 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.

STABILIZED CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



NOTES:
 1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
 2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
 3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
 4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.
 MAXIMUM DRAINAGE AREA 1 ACRE

CATCH BASIN INLET PROTECTION DETAIL
NOT TO SCALE



NOTES:
 1. MIN. 1" MAX. 2" MAX.
 2. 2:1 SLOPE
 3. 3" STONE
 4. 2:1 SLOPE
 5. 1" MIN. 2" MAX.
 6. 2:1 SLOPE
 7. 2" MIN. 16" MAX.
 8. 2" MIN. 16" MAX.

CHECKED BY: DCK

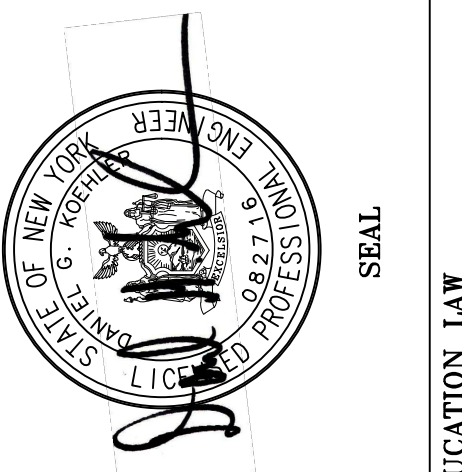
NO.	DATE	DESCRIPTION	BY
1	12/25/18	PER PLANNING BOARD COMMENTS	CMB

DRAWN BY: CMB

NO.	DATE	DESCRIPTION	BY
1	12/25/18	PER PLANNING BOARD COMMENTS	CMB

DigiSafely
New York
800-962-7962
Call for the latest updates on the New York State Department of Environmental Conservation's (DEC) new regulations for the protection of water bodies.

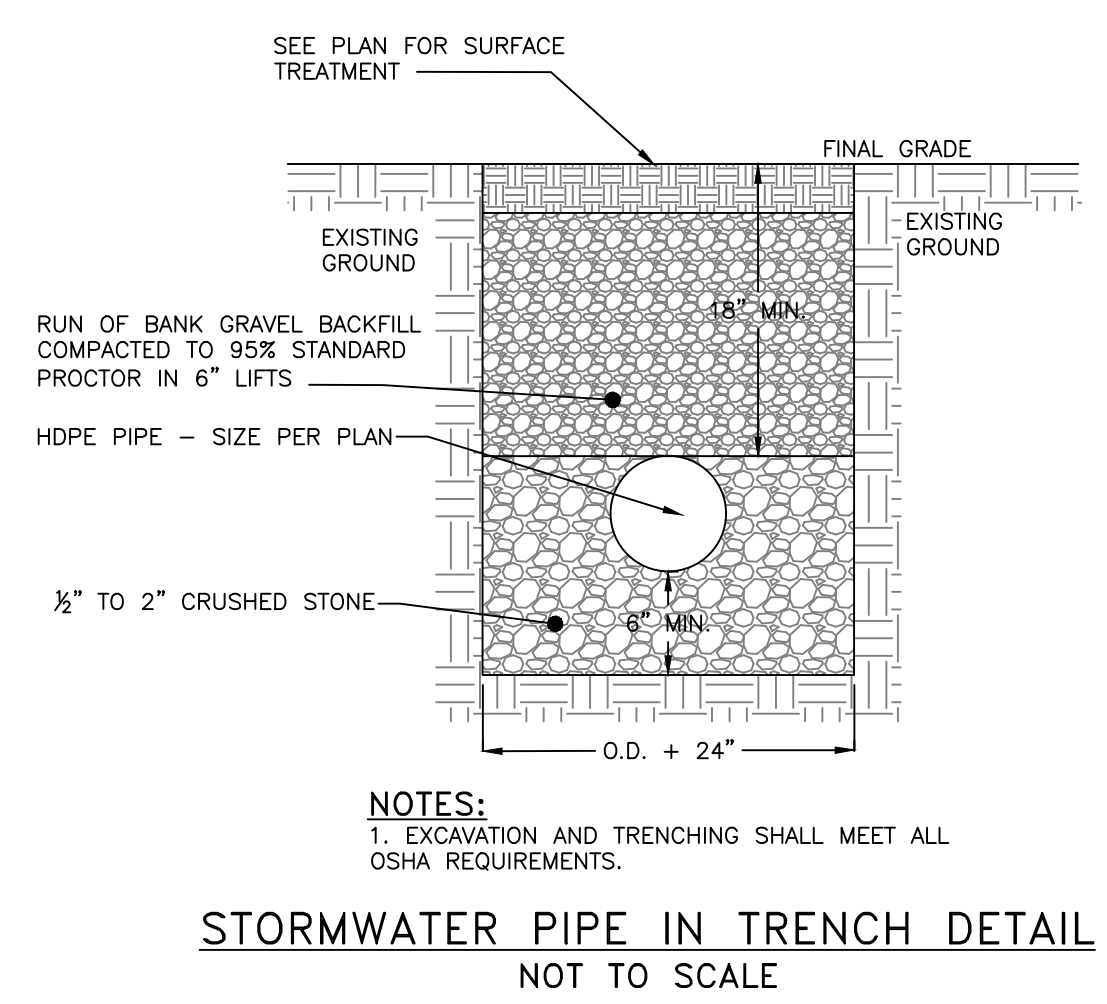
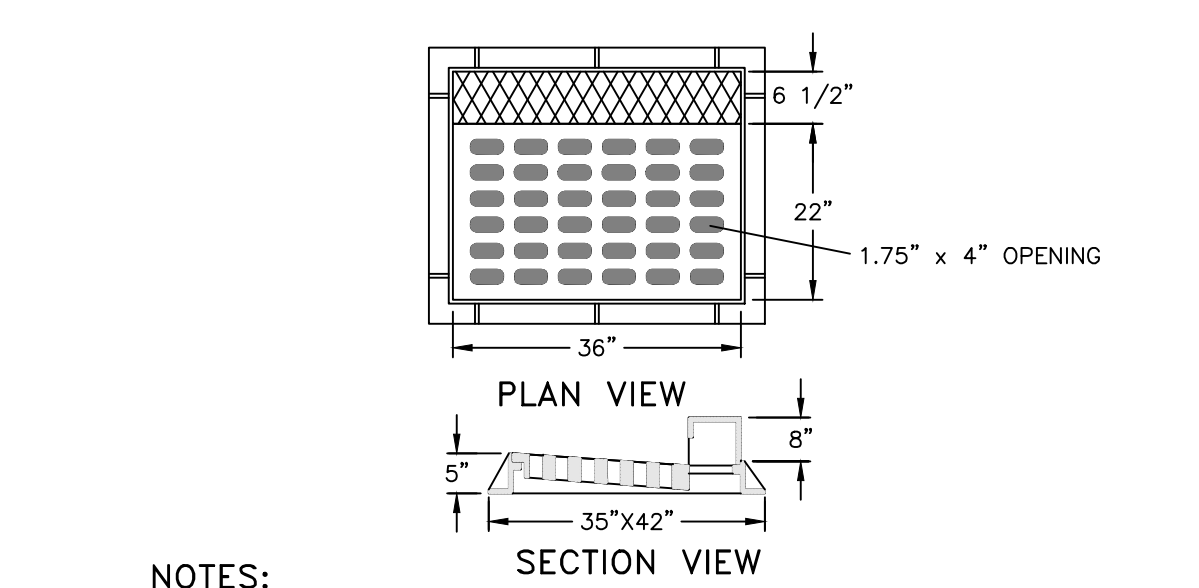
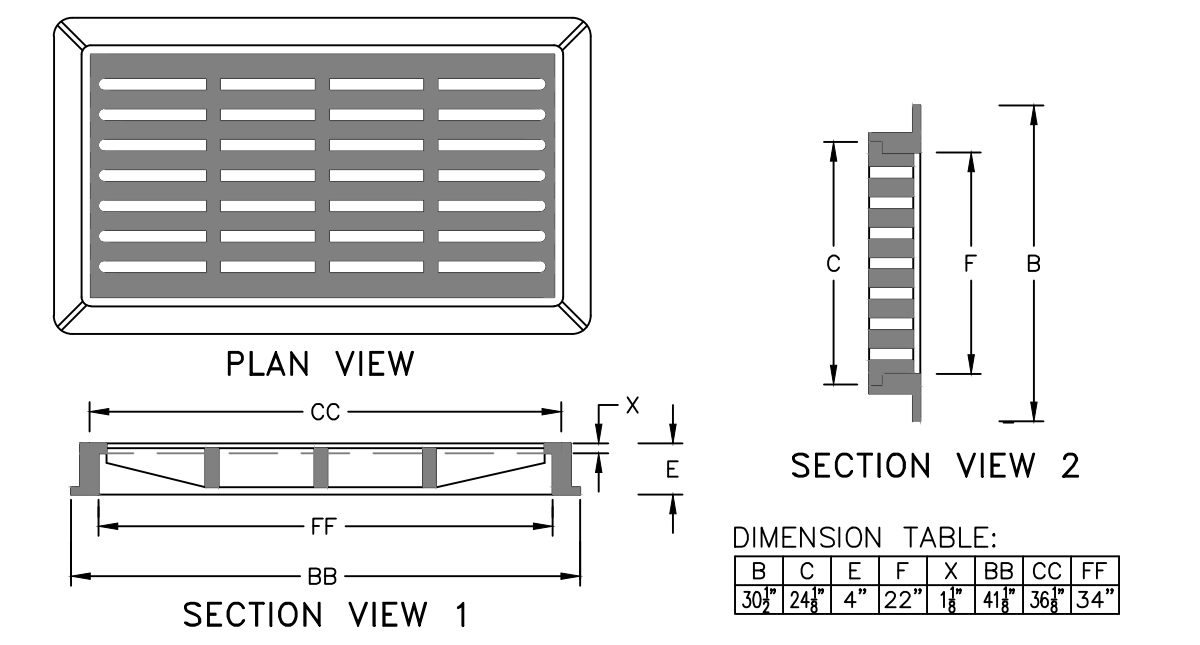
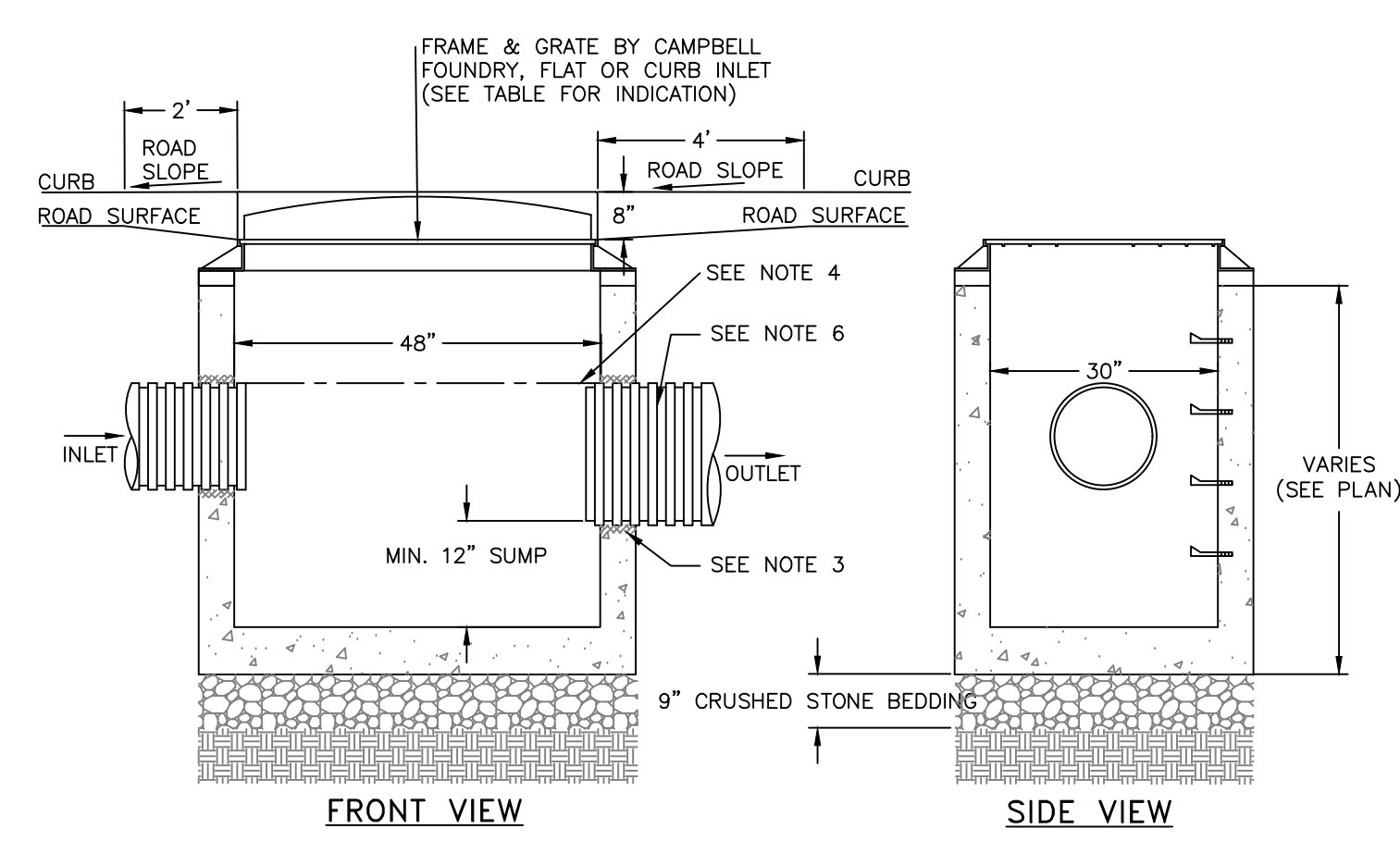
Hudson Land Design
HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
F: 845-440-6837



CONSTRUCTION DETAILS
511 FISHKILL AVENUE
511 FISHKILL AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6650-04-560265

JOB #: 2016041
DATE: 11/27/18
SCALE: AS SHOWN
TITLE: CD-1
SHEET 12 OF 13

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW

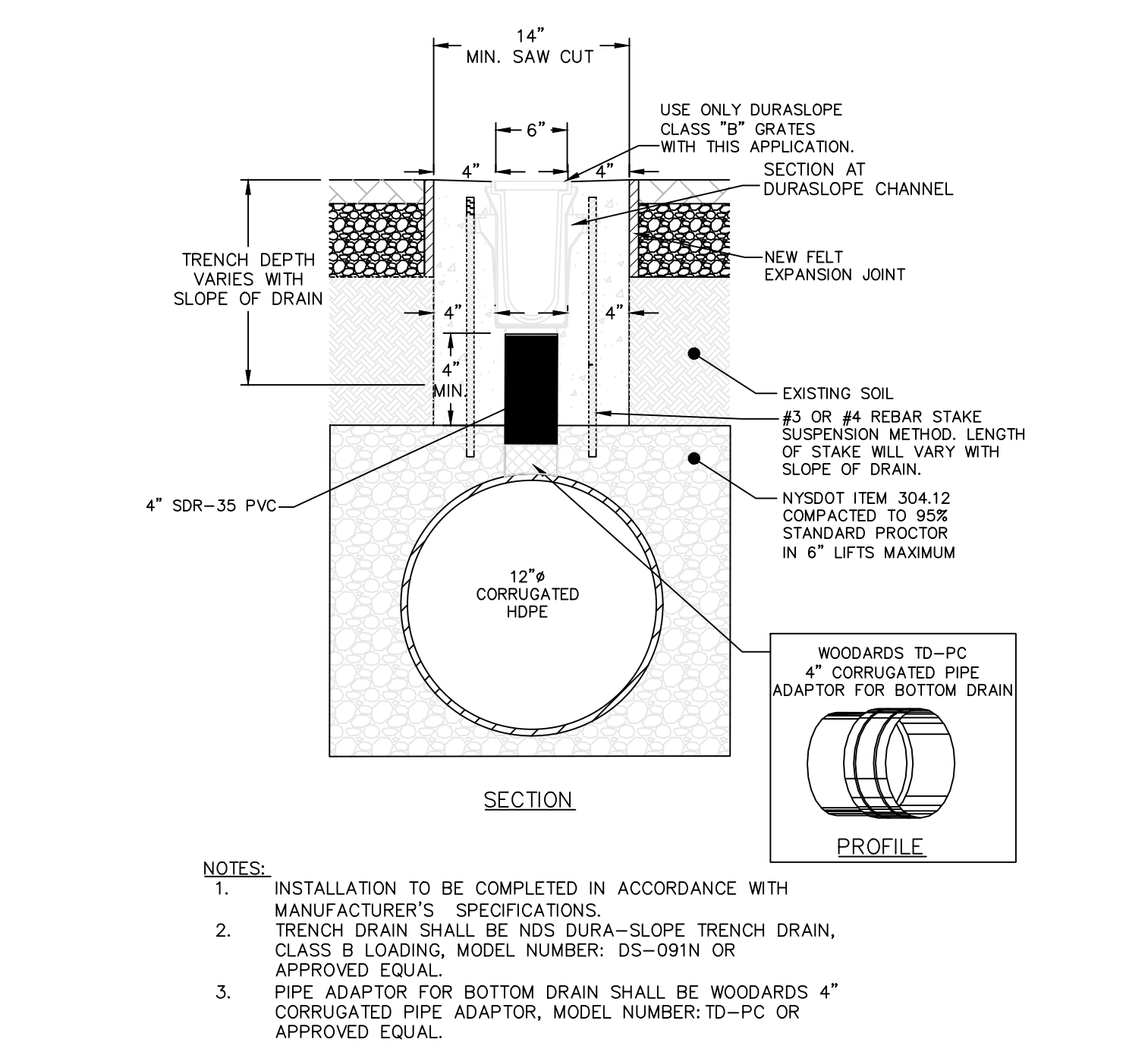


NOTES:
 1. PRECAST CONCRETE CATCH BASIN WITH CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
 2. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF THE CATCH BASIN AND PARGED AROUND.
 3. PIPES SHALL BE PARGED AROUND INTERIOR AND EXTERIOR PRIOR TO BACKFILLING OF STRUCTURE. CONNECTIONS MADE WITHIN 10 FEET OF A WATER MAIN (OR SERVICE LINE) OR A SEWER MAIN (OR SERVICE LATERAL) SHALL BE MADE WATER-TIGHT.
 4. PROVIDE A MINIMUM 0.1" DROP BETWEEN INLET AND OUTLET INVERTS (MATCH CROWNS FOR PIPES WITH DIFFERENT SIZES) UNLESS OTHERWISE NOTED ON THE PLAN.
 5. CATCH BASINS WITH AN INTERIOR DEPTH OF 4' AND GREATER SHALL BE FURNISHED WITH STEEL REINFORCED POLYPROPYLENE PLASTIC STEPS AT 12" INTERVALS.
 6. HDPE PIPE SHALL BE PROVIDED WITH WATER-TIGHT CONNECTIONS. ADS MODEL N12 WT IB OR APPROVED EQUAL.

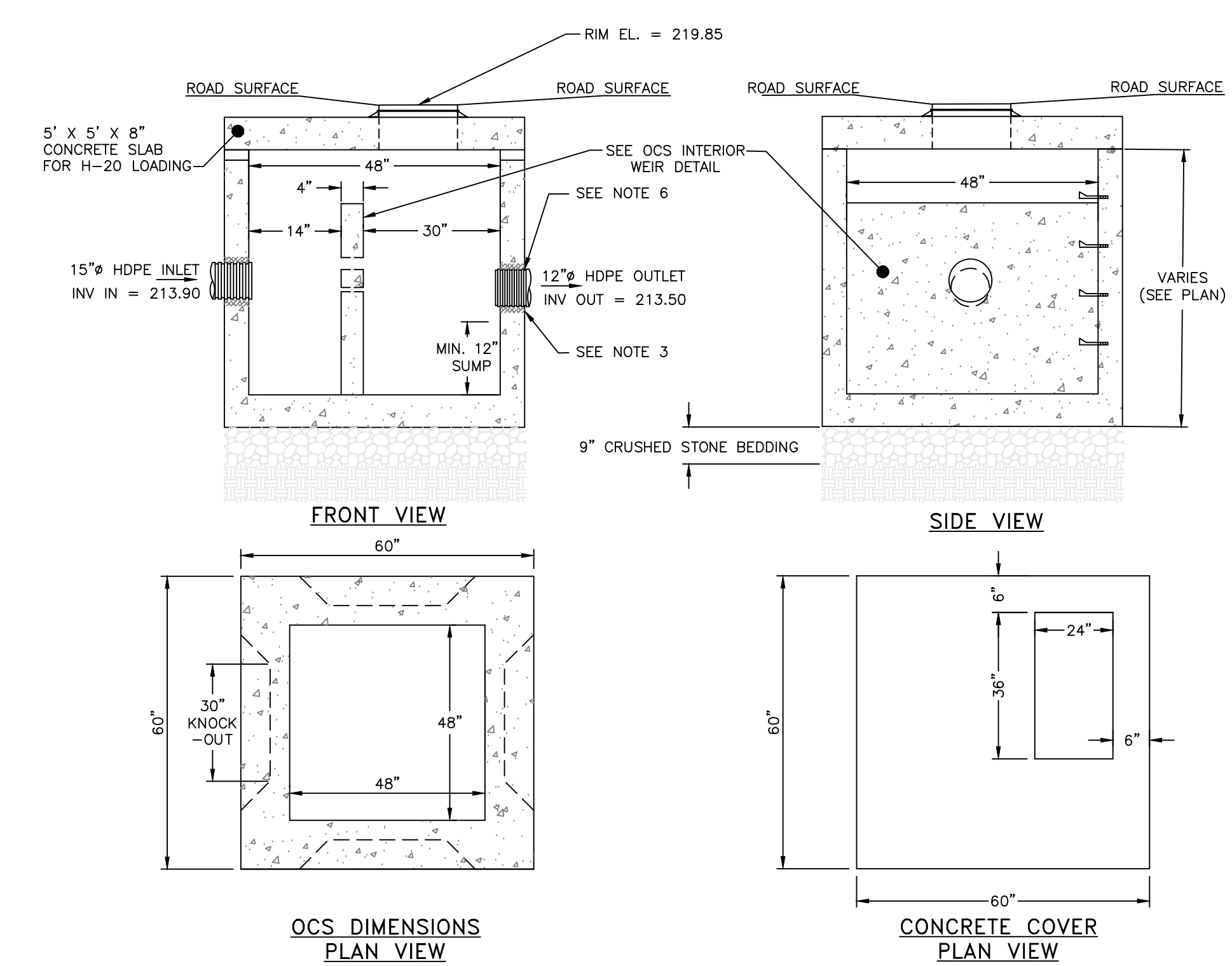
NOTES:
 1. HEAVY DUTY RECTANGULAR STORMWATER INLET GRATE TO BE CAMPBELL FOUNDRY MODEL 2541, OR APPROVED EQUAL.
 2. CATCH BASINS TO RECEIVE CURB INLETS ARE: CB 1-4, CB 6, CB 8 AND WD 1.

NOTES:
 1. HEAVY DUTY RECTANGULAR STORMWATER INLET GRATE TO BE CAMPBELL FOUNDRY MODEL 2541, OR APPROVED EQUAL.
 2. CATCH BASINS TO RECEIVE CURB INLETS ARE: CB 1-4, CB 6, CB 8 AND WD 1.

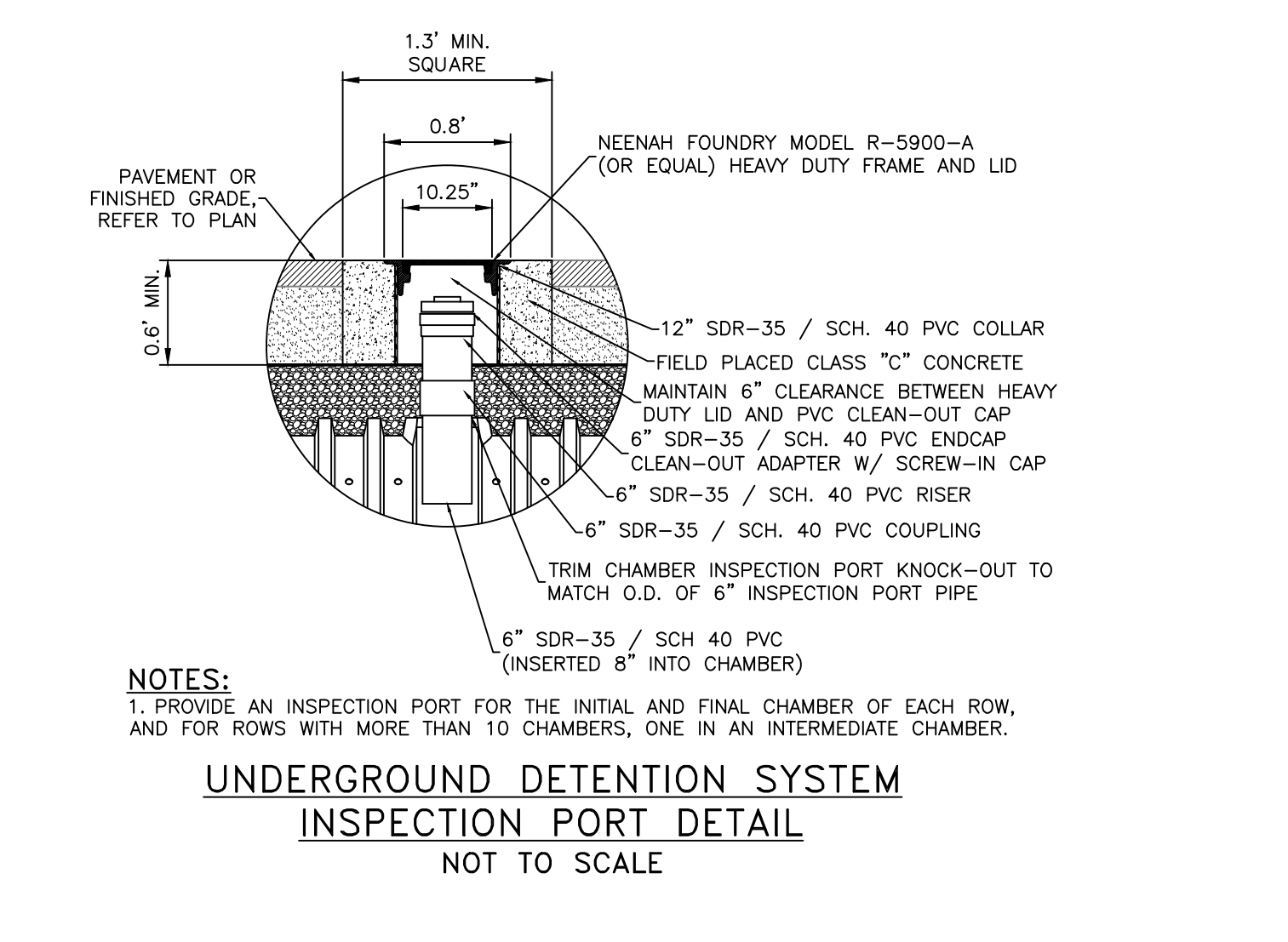
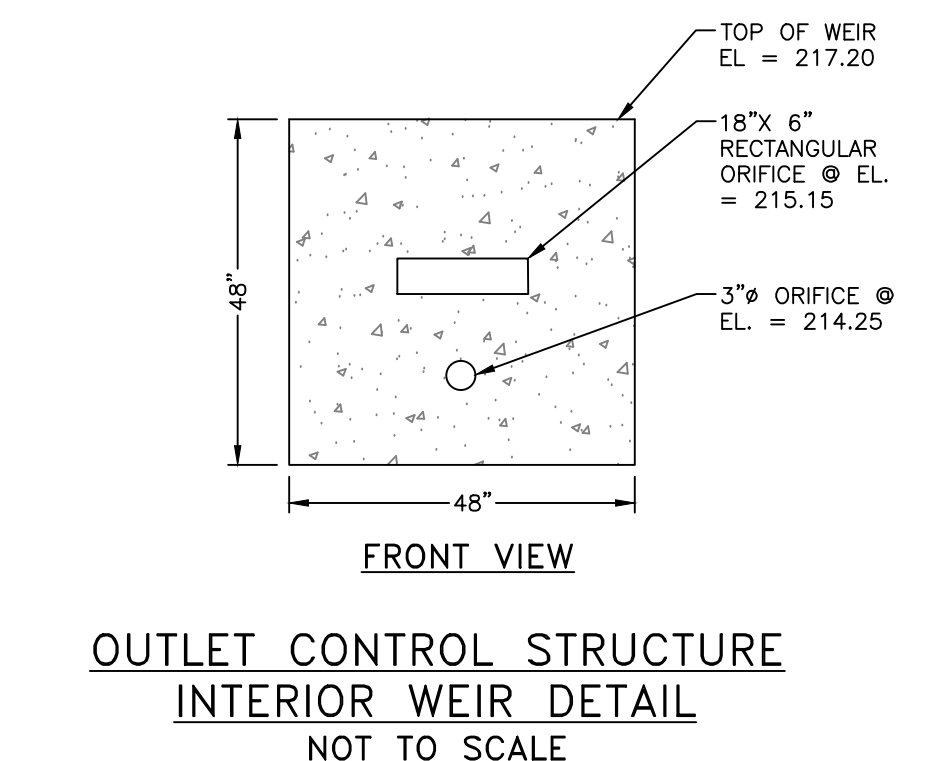
NOTES:
 1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.



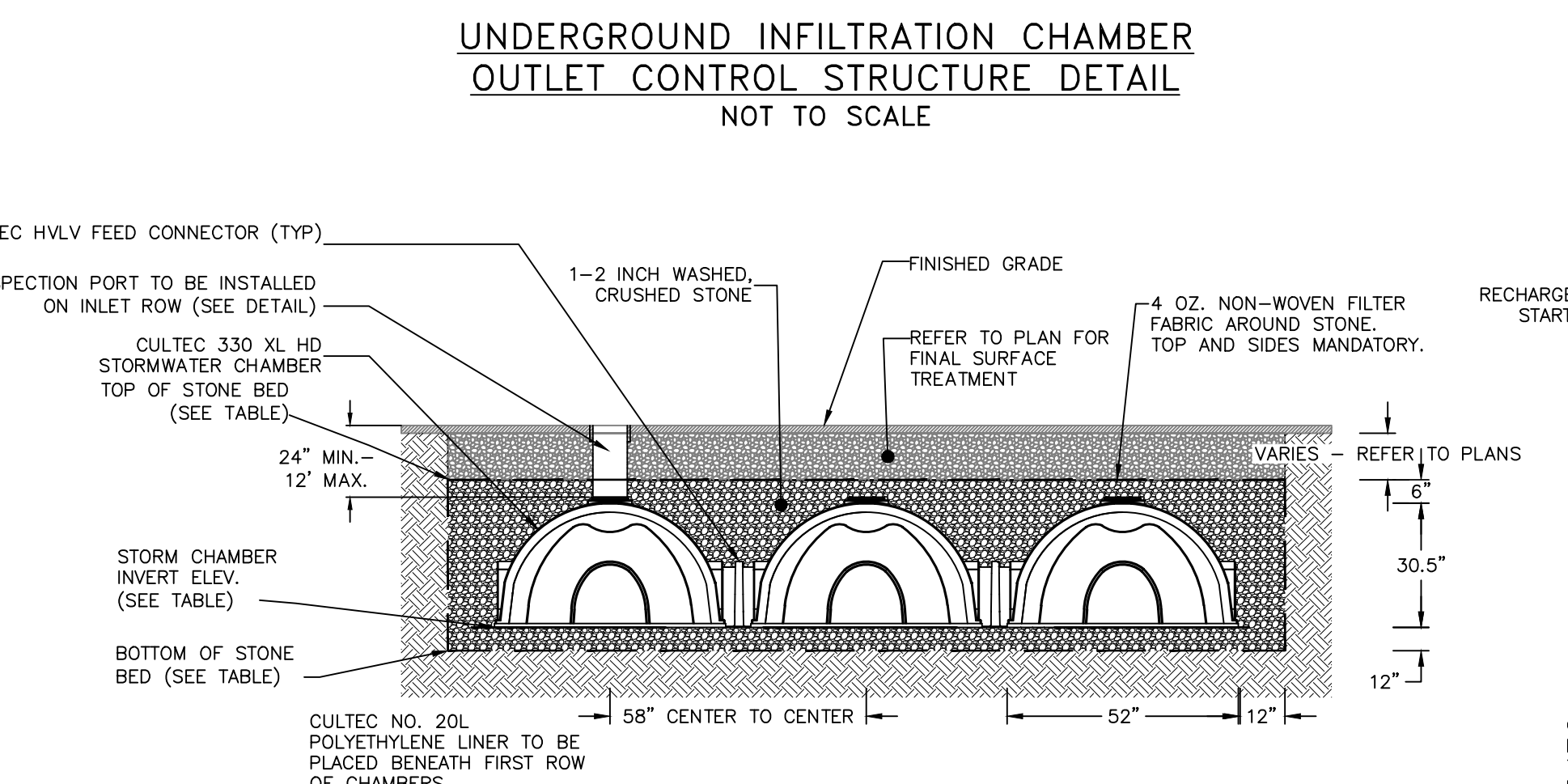
NOTES:
 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 2. TRENCH DRAIN SHALL BE NOS DURA-SLOPE TRENCH DRAIN, CLASS B LOADING, MODEL NUMBER: DS-0911 OR APPROVED EQUAL.
 3. PIPE ADAPTOR FOR BOTTOM DRAIN SHALL BE WOODWARD'S 4" CORRUGATED PIPE ADAPTOR, MODEL NUMBER: TO-PC OR APPROVED EQUAL.



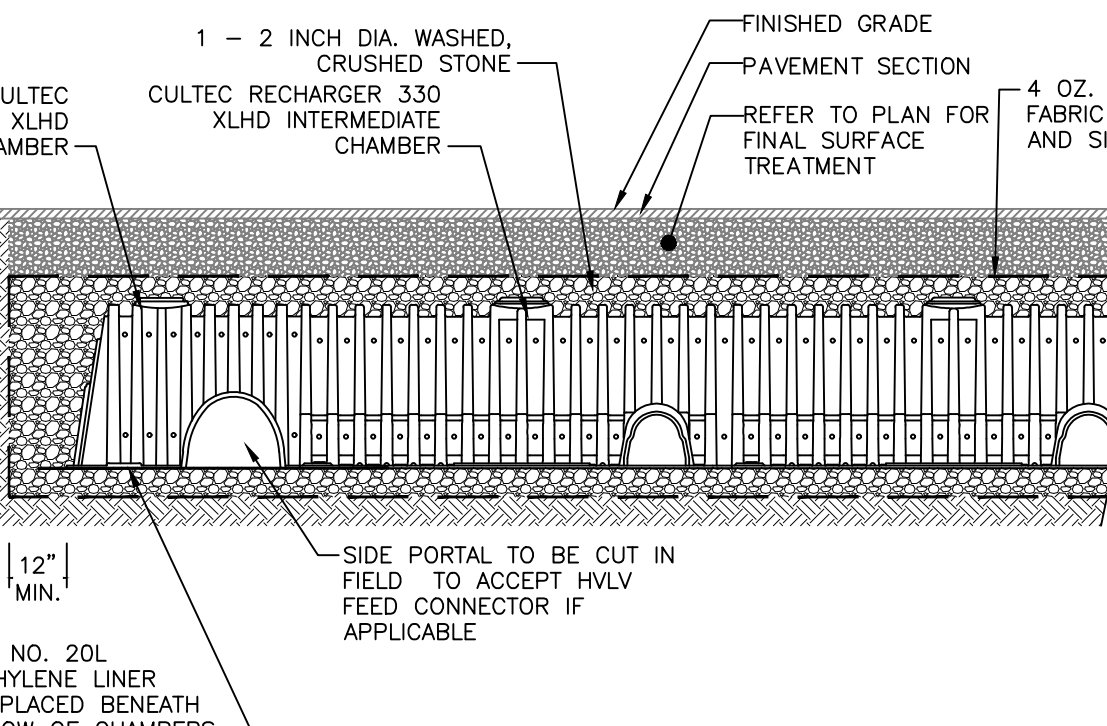
NOTES:
 1. PRECAST CONCRETE CATCH BASIN WITH CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
 2. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF THE CATCH BASIN AND PARGED AROUND.
 3. PIPES SHALL BE PARGED AROUND INTERIOR AND EXTERIOR PRIOR TO BACKFILLING OF STRUCTURE. CONNECTIONS MADE WITHIN 10 FEET OF A WATER MAIN (OR SERVICE LINE) OR A SEWER MAIN (OR SERVICE LATERAL) SHALL BE MADE WATER-TIGHT.
 4. PROVIDE A MINIMUM 0.1" DROP BETWEEN INLET AND OUTLET INVERTS (MATCH CROWNS FOR PIPES WITH DIFFERENT SIZES) UNLESS OTHERWISE NOTED ON THE PLAN.
 5. CATCH BASINS WITH AN INTERIOR DEPTH OF 4' AND GREATER SHALL BE FURNISHED WITH STEEL REINFORCED POLYPROPYLENE PLASTIC STEPS AT 12" INTERVALS.
 6. HDPE PIPE SHALL BE PROVIDED WITH WATER-TIGHT CONNECTIONS. ADS MODEL N12 WT IB OR APPROVED EQUAL.



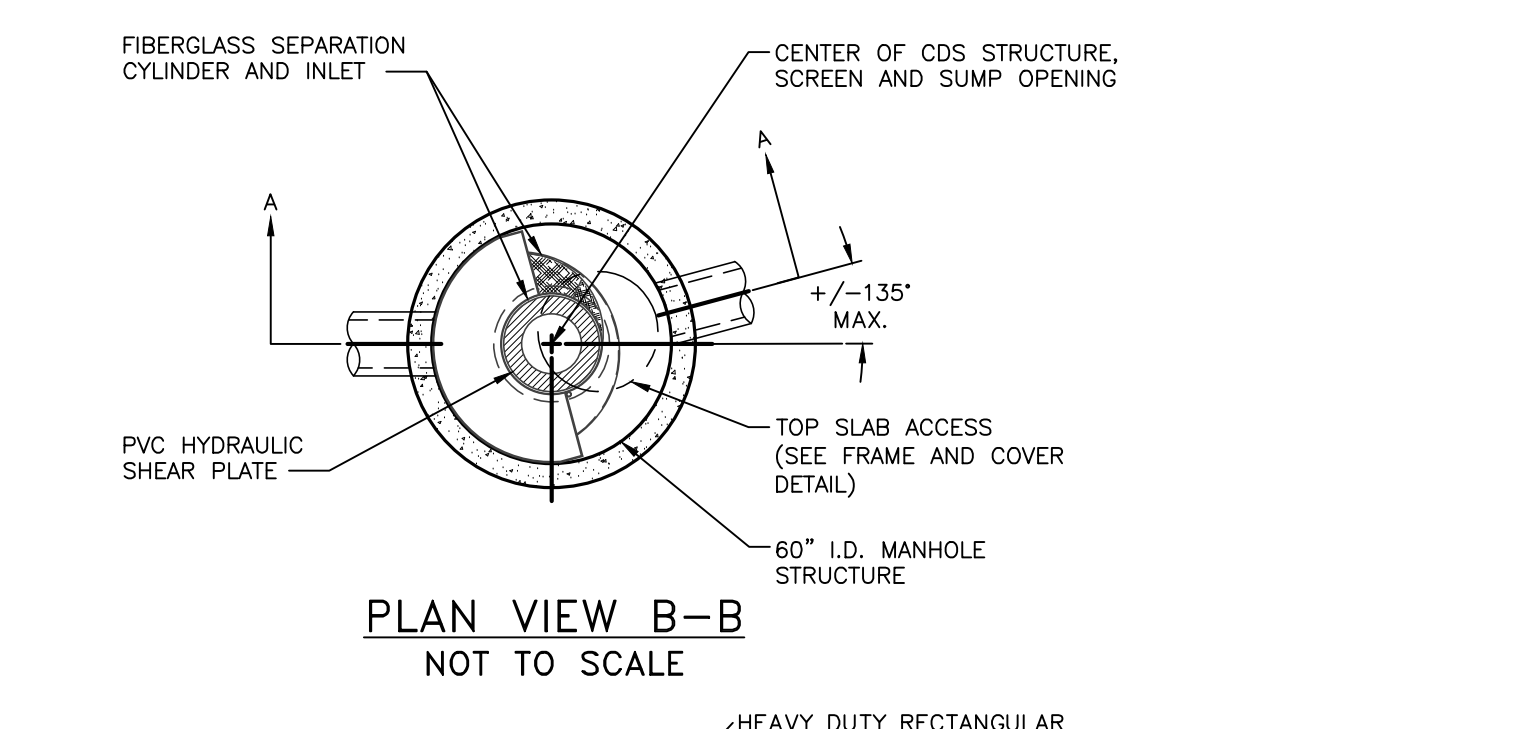
NOTES:
 1. PROVIDE AN INSPECTION PORT FOR THE INITIAL AND FINAL CHAMBER OF EACH ROW, AND FOR ROWS WITH MORE THAN 10 CHAMBERS, ONE IN AN INTERMEDIATE CHAMBER.



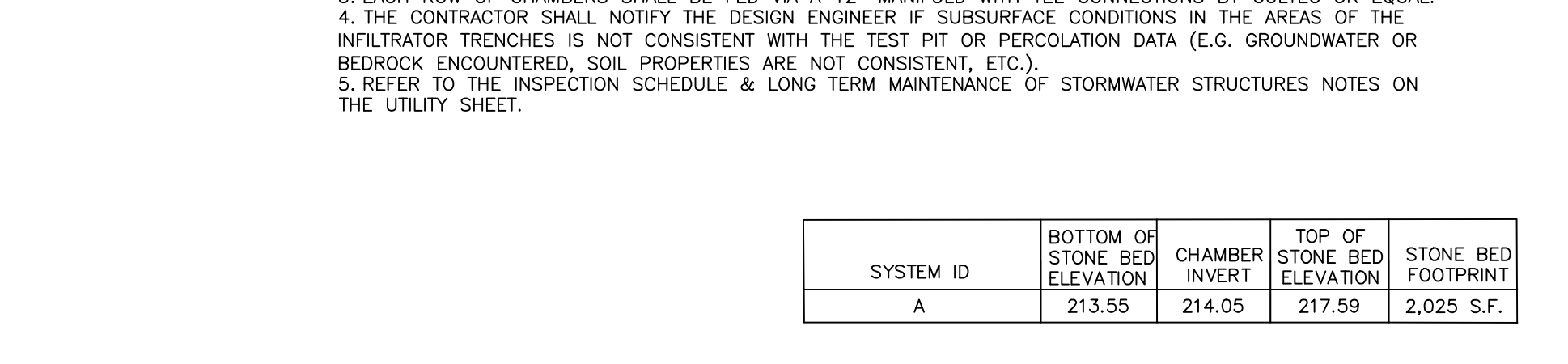
NOTES:
 1. CULTEC RECHARGER 330XLHD CHAMBERS BY CULTEC, INC. OF BROOKFIELD, CT. ALL CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
 2. THE BED OF THE SYSTEM FOOTPRINT SHALL BE LAD NEARLY LEVEL.
 3. EACH ROW OF CHAMBERS SHALL BE FED VIA A 12" MANHOLE WITH TEE CONNECTIONS BY CULTEC OR EQUAL.
 4. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IF SUBSURFACE CONDITIONS IN THE AREAS OF THE INFILTRATOR TRENCHES IS NOT CONSISTENT WITH THE TEST PIT OR PERCOLATION DATA (E.G. GROUNDWATER OR BEDROCK ENCOUNTERED, SOIL PROPERTIES ARE NOT CONSISTENT, ETC.).
 5. REFER TO THE INSPECTION SCHEDULE & LONG TERM MAINTENANCE OF STORMWATER STRUCTURES NOTES ON THE UTILITY SHEET.



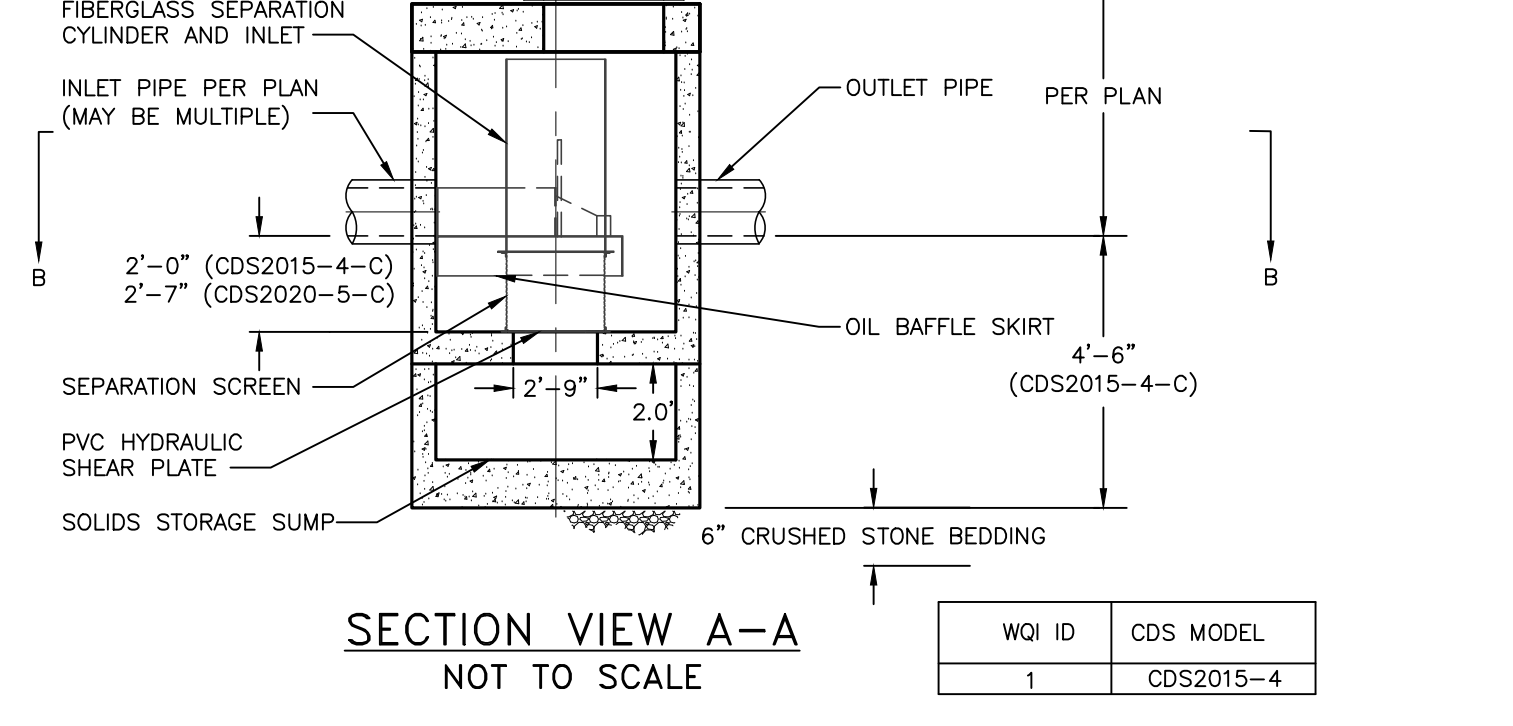
NOTES:
 1. CULTEC RECHARGER 330XLHD CHAMBERS BY CULTEC, INC. OF BROOKFIELD, CT. ALL CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
 2. THE BED OF THE SYSTEM FOOTPRINT SHALL BE LAD NEARLY LEVEL.
 3. EACH ROW OF CHAMBERS SHALL BE FED VIA A 12" MANHOLE WITH TEE CONNECTIONS BY CULTEC OR EQUAL.
 4. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IF SUBSURFACE CONDITIONS IN THE AREAS OF THE INFILTRATOR TRENCHES IS NOT CONSISTENT WITH THE TEST PIT OR PERCOLATION DATA (E.G. GROUNDWATER OR BEDROCK ENCOUNTERED, SOIL PROPERTIES ARE NOT CONSISTENT, ETC.).
 5. REFER TO THE INSPECTION SCHEDULE & LONG TERM MAINTENANCE OF STORMWATER STRUCTURES NOTES ON THE UTILITY SHEET.



NOTES:
 1. CONTRACTOR TO DROP TO FINISHED GRADE.
 2. PROVIDE HEAVY DUTY RECTANGULAR FLAT STORMWATER INLET GRATE TO BE CAMPBELL FOUNDRY MODEL 2541, OR APPROVED EQUAL.



NOTES:
 1. CULTEC RECHARGER 330XLHD CHAMBERS BY CULTEC, INC. OF BROOKFIELD, CT. ALL CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
 2. THE BED OF THE SYSTEM FOOTPRINT SHALL BE LAD NEARLY LEVEL.
 3. EACH ROW OF CHAMBERS SHALL BE FED VIA A 12" MANHOLE WITH TEE CONNECTIONS BY CULTEC OR EQUAL.
 4. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IF SUBSURFACE CONDITIONS IN THE AREAS OF THE INFILTRATOR TRENCHES IS NOT CONSISTENT WITH THE TEST PIT OR PERCOLATION DATA (E.G. GROUNDWATER OR BEDROCK ENCOUNTERED, SOIL PROPERTIES ARE NOT CONSISTENT, ETC.).
 5. REFER TO THE INSPECTION SCHEDULE & LONG TERM MAINTENANCE OF STORMWATER STRUCTURES NOTES ON THE UTILITY SHEET.



NOTES:
 1. CONTRACTOR TO DROP TO FINISHED GRADE.
 2. PROVIDE HEAVY DUTY RECTANGULAR FLAT STORMWATER INLET GRATE TO BE CAMPBELL FOUNDRY MODEL 2541, OR APPROVED EQUAL.

NOTES:
 1. STORMWATER TREATMENT SYSTEM (SWS) SHALL BE DESIGNED TO MEET PERFORMANCE GOALS BASED ON FULL SCALE LABORATORY PERFORMANCE DATA.
 2. SWS SHALL BE DESIGNED TO RETAIN FLOATABLES AND TRAPPED SEDIMENT AT FLOW RATES UP TO AND INCLUDING PEAK TREATMENT CAPACITY.
 3. SWS INVERTS IN AND OUT SHALL BE AT THE SAME ELEVATION.
 4. SWS SHALL NOT BE COMPROMISED BY EFFECTS OF DOWNSTREAM TALKWATER.
 5. SWS SHALL HAVE NO INTERNAL COMPONENTS THAT OBSTRUCT MAINTENANCE ACCESS.
 6. PIPE ORIENTATION MAY VARY: SEE SITE PLAN FOR SIZE AND LOCATION.
 7. PURCHASER SHALL NOT BE RESPONSIBLE FOR ASSEMBLY OF INTERNAL COMPONENTS.
 8. ONE MANHOLE FRAME AND COVER SUPPLIED WITH SYSTEM, NOT INSTALLED.
 9. PURCHASER TO PREPARE EXCAVATION AND PREPARE LIFTING EQUIPMENT.
 10. STRUCTURE SHALL MEET AASHTO H20 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING, ASSUMING GROUNDWATER AT, OR BELOW THE OUTLET PIPE INVERT ELEVATION.
 11. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
 12. SEE UTILITY PLAN FOR PIPE ORIENTATION, INVERTS AND SIZES.

CDS@ PRE-TREATMENT UNIT DETAIL NOT TO SCALE

NOTES:
 1. CULTEC RECHARGER 330XLHD CHAMBERS BY CULTEC, INC. OF BROOKFIELD, CT. ALL CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
 2. THE BED OF THE SYSTEM FOOTPRINT SHALL BE LAD NEARLY LEVEL.
 3. EACH ROW OF CHAMBERS SHALL BE FED VIA A 12" MANHOLE WITH TEE CONNECTIONS BY CULTEC OR EQUAL.
 4. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IF SUBSURFACE CONDITIONS IN THE AREAS OF THE INFILTRATOR TRENCHES IS NOT CONSISTENT WITH THE TEST PIT OR PERCOLATION DATA (E.G. GROUNDWATER OR BEDROCK ENCOUNTERED, SOIL PROPERTIES ARE NOT CONSISTENT, ETC.).
 5. REFER TO THE INSPECTION SCHEDULE & LONG TERM MAINTENANCE OF STORMWATER STRUCTURES NOTES ON THE UTILITY SHEET.

SYSTEM ID	BOTTOM OF STONE BED ELEVATION	CHAMBER INVERT ELEVATION	TOP OF STONE BED ELEVATION	STONE BED FOOTPRINT
A	213.55	214.05	217.59	2,025 S.F.

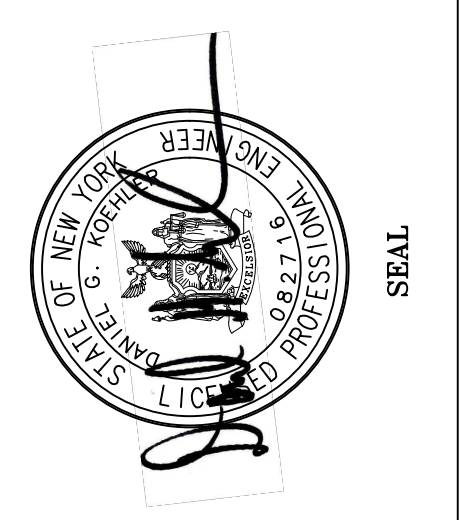
CDS@ PRE-TREATMENT UNIT DETAIL NOT TO SCALE

CHECKED BY: DCK		REVISIONS:	
NO.	DATE	DESCRIPTION	BY
1	12/25/18	PER PLANNING BOARD COMMENTS	

DRAWN BY: CUB		REVISIONS:	
NO.	DATE	DESCRIPTION	BY
1	12/25/18	PER PLANNING BOARD COMMENTS	

DigiSafely
 New York
 800-962-7962
 174 MAIN ST., BEACON, NEW YORK 12508
 516-831-1111

Hudson Land Design
 HUDSON LAND DESIGN
 PROFESSIONAL ENGINEERING P.C.
 174 MAIN ST., BEACON, NEW YORK 12508
 13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
 F: 845-440-6837



CONSTRUCTION DETAILS
 511 FISHKILL AVENUE
 CITY OF BEACON
 DUTCHESS COUNTY, NEW YORK
 TAX ID: 6050-04-560260

JOB #: 2016041
 DATE: 11/27/18
 SCALE: AS SHOWN
 TITLE: CD-2
 SHEET 13 OF 13

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW

REC'D 2018 DEC 11 PM 11:05 DDC

Dutchess County Department of Planning and Development	To	Date <u>12/27</u>	# pgs <u>1</u>
	Dept	From	
	Fax #	Phone #	

239 Planning/Zoning Referral – Exemption Communities

Municipality: City of Beacon

Referring Agency: Planning Board Zoning Board of Appeals Municipal Board

Tax Parcel Number(s): 6055-04-580285

Project Name: 511 Fishkill Avenue - Warehouse/Brewery/Related Uses

Applicant: DP 108, LLC

Address of Property: 511 Fishkill Avenue

Please fill in this section

Parcel(s) within 600 feet of

State Road _____

County Road _____

State Property (w/public building or recreation area)

County Property (w/public building or recreation area)

Municipal Boundary

Farm operation in an Agricultural District

Actions Requiring 239 Review

Comprehensive/Master Plans

Zoning Amendments (standards, uses, definitions, district regulations, etc.)

Rezoning involving all map changes

Other Local Laws associated with zoning (wellands, historic preservation, affordable housing, architectural review, etc.)

Site Plans (all)

Special Permits for all non-residential uses

Use Variances for all non-residential uses

Area Variances for all non-residential uses

Exempt Actions:*
239 Review is NOT Required

- Administrative Amendments (fees, procedures, penalties, etc.)
- Special Permits for residential uses (accessory apts, home occupations, etc.)
- Use Variances for residential uses
- Area Variances for residential uses
- Renewals/Extension of Site Plans or Special Permits that have no changes from previous approvals
- Subdivisions / Lot Line Adjustments
- Interpretations

Exempt Action submitted for informal review

Date Response Requested (if less than 30 days): _____

If subject of a previous referral, please note County referral number(s): 2209-293

** These actions are only exempt in municipalities that signed an intermunicipal agreement with Dutchess County to that effect.*

FOR COUNTY OFFICE USE ONLY

Response from Dutchess County Department of Planning and Development

<p>No Comments:</p> <p><input checked="" type="checkbox"/> Matter of Local Concern</p> <p><input type="checkbox"/> No Jurisdiction</p> <p><input type="checkbox"/> No Authority</p> <p><input type="checkbox"/> Project Withdrawn</p> <p><input type="checkbox"/> Exempt from 239 Review</p>	<p>Comments Attached:</p> <p><input type="checkbox"/> Local Concern with Comments</p> <p><input type="checkbox"/> Conditional</p> <p><input type="checkbox"/> Denial</p> <p><input type="checkbox"/> Incomplete — municipality must resubmit to County</p> <p><input type="checkbox"/> Incomplete with Comments — municipality must resubmit to County</p> <p><input type="checkbox"/> Informal Comments Only (Action Exempt from 239 Review)</p>
---	--

Date Submitted: <u>12/4/18</u>	Notes:	<input type="checkbox"/> Major Project
Date Received: <u>12/11/18</u>		Referral #: <u>ZR18-392</u>
Date Requested: _____		
Date Required: <u>1/2/19</u>	<input type="checkbox"/> Also mailed hard copy	Reviewer: <u>Jennifer Toussaint</u>
Date Response Faxed: <u>12/27/18</u>		

City of Beacon Planning Board
1/8/2019

Title:

296 Main Street

Subject:

Public hearing on application for Site Plan Approval, convert existing retail and garage to restaurant, 296 Main Street, submitted by River Valley Restaurant Group

Background:

ATTACHMENTS:

Description	Type
296 Main Street Comment Response Letter	Cover Memo/Letter
296 Main Street Sheet 1 Site Plan	Plans
296 Main Street Sheet 2 Existing Survey Demolition Plan	Plans
296 Main Street Sheet 3 Plans	Plans

ARYEH SIEGEL
ARCHITECT

John Gunn - Planning Board Chairman
City of Beacon
One Municipal Plaza
Beacon, NY 12508

Re: Ziatun Restaurant - 296 Main Street, Beacon, New York
Site Plan Application – Responses to Comments

December 25, 2018

Dear Chairman Gunn and Members of the Planning Board,

Below please find our responses to the comments included in John Clarke Planning and Design's Memorandum, dated December 7, 2018. Please refer to Hudson Land Design's response letter regarding Lanc & Tully's letter dated December 4, 2018.

John Clarke Planning and Design Comment Responses:

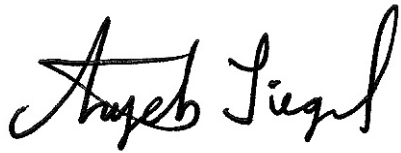
1. The Zoning Regulations Table has been updated to show the Maximum Front Setback, and proposed building frontage
2. The parking calculation has been corrected
3. The fence detail has been removed because the trash will be stored indoors.
4. The maple tree has been removed. The original tree location in the garden has been replaced by a sculpture, to be determined.
5. The plans have been revised to maintain the entrance door on Main Street.
6. The permeable pavers will not encroach into the existing sidewalk.
7. Minimal outdoor dining is shown for the courtyard area.
8. The existing front awning will remain, and it is noted on the plans.
9. New exterior construction elements are noted on the plans, with materials.

Lanc & Tully Comment Responses:

1. The owner has retained Hudson Land Design to prepare an I & I Report. It will be submitted next month.
2. Maintenance requirements for the permeable pavers is noted on the plan.
3. Minimal outdoor dining is shown for the courtyard area. No additional seating is proposed.
4. The plot plan was updated to conform to a recently acquired survey.
5. The proposed wood fence and pergola will not extend further than the existing chain link fence to be removed. The plan has been updated to reflect this.

Thank you. Please let me know if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Aryeh Siegel". The signature is written in a cursive, flowing style.

Aryeh Siegel
Aryeh Siegel, Architect

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION, ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY _____

_____ CHAIRMAN

_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

HATCHING LEGEND

	CONCRETE SIDEWALK
	PAVERS
	GRASS

Bulk Zoning Regulations Table

Zoning District	Required Setbacks			Proposed Setbacks			Lot Depth Required	Lot Depth Existing	Lot Width Required	Lot Width Existing	Minimum Building Frontage	Proposed Building Frontage	Minimum Landscaped Area	Proposed Landscaped Area	Allowable Building Height	Proposed Building Height	Allowable Building Depth
	Front	Side	Rear	Front	Side	Rear											
CMS (Central Main Street District)	0' min. 10' max.	0'	25'	7.7' 1'	.75' 1.5'	2.1' 1'	75'	108'	N/A	50'	80%	<50% 1	10%	11%	38'	24'	150'

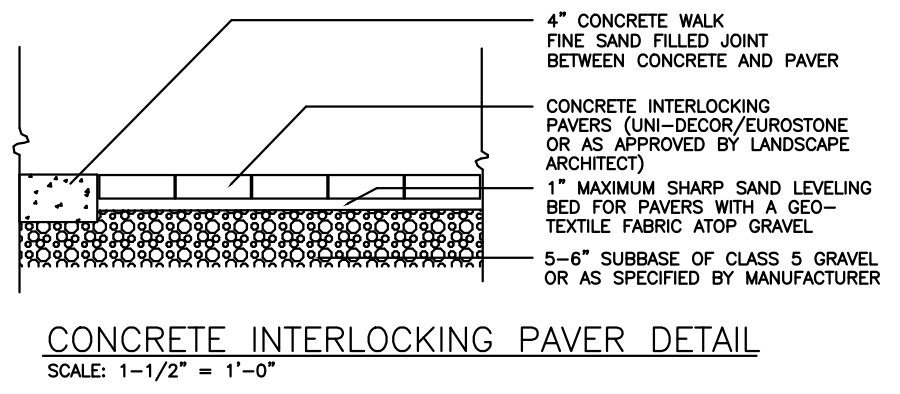
Notes:
1. Existing Condition

PLANT SCHEDULE

KEY	BOTANICAL NAME	QTY.	SIZE	ROOT	SPACING	COMMENTS
SHRUBS						
AV	THUJA OCCIDENTALIS (ARBOR VITAE)	18	7 GAL.	CONT	6' O.C. - STAGGERED	

LAWN

SEEDED WITH 5311 CONSERVATION MIX (OR APPROVED EQUAL), APPLIED AT 3-5LBS PER 1000SF
 30% CREEPING RED FESCUE; 30% ANNUAL RYEGRASS; 25% KENTUCKY BLUEGRASS 'CORSAIR'; 25% KENTUCKY BLUEGRASS 'SHAMROCK'; 10% ANNUAL RYEGRASS; 10% PERENNIAL RYEGRASS. SOURCE: ERNST CONSERVATION SEEDS



PERMEABLE PAVERS TO BE BELGARD "AQUA ROC™ II" OR APPROVED EQUAL

PERMEABLE PAVER MAINTENANCE NOTES:

- REPLENISH AGGREGATE IN JOINTS IF MORE THAN 1/2 INCH FROM CHAMFER BOTTOMS ON PAVER SURFACES
- MAINTAIN GROUNDCOVER AND PLANTS AROUND PICP PERIMETER TO ENSURE STABILITY AND MINIMIZE SEDIMENT RUNNING ONTO THE PAVEMENT SURFACE
- REMOVE WEEDS THAT GROW IN THE PAVER JOINTS/OPENINGS WITH A BIO-DEGRADABLE HERBICIDE
- INSPECT AND REPAIR ALL PAVER SURFACE DEFORMATIONS EXCEEDING 1/2 INCH
- REPLACE ANY CRACKED PAVER UNITS THAT COMPROMISE THE SURFACE STRUCTURAL INTEGRITY
- KEEP ANY OVERFLOW CURB CUT-OUTS FREE FROM DEBRIS
- IF AN OBSERVATION WELL IS INSTALLED, CHECK OUTFLOW



Zoning Summary

Zoning District: CMS (Central Main Street District)
 Tax Map No.: 5459-36-933866
 Lot Area: 0.124 acre (5,401 sf)
 Building Footprint: 3,294 square feet
 Historical Overlay District: No
 Parking Overlay District: Yes
 Existing Use: Retail / Office Space
 Proposed Use: Restaurant / Office Space

Parking & Loading

Use & Parking Requirements	1964 Area	1964 Parking Requirement	Proposed Area	Current Parking Requirement
Retail Service (1964 Use) Automobile Service Garage 1 space per 200 gsf	1,858 gsf	10 spaces		
Apartment 1 1/2 space per Apartment	1 Apartment	2 spaces		
Retail 1 space per 200 gsf	998 sf	5 spaces		
Restaurant 2 spaces per 1,000 square feet			3,294 sf	7 spaces
Office 2 spaces per 1,000 square feet			1,109 sf	3 spaces
Total Required Parking Spaces		17 spaces		10 spaces
Total Proposed Parking Spaces				0 spaces (Note 1)

Notes:

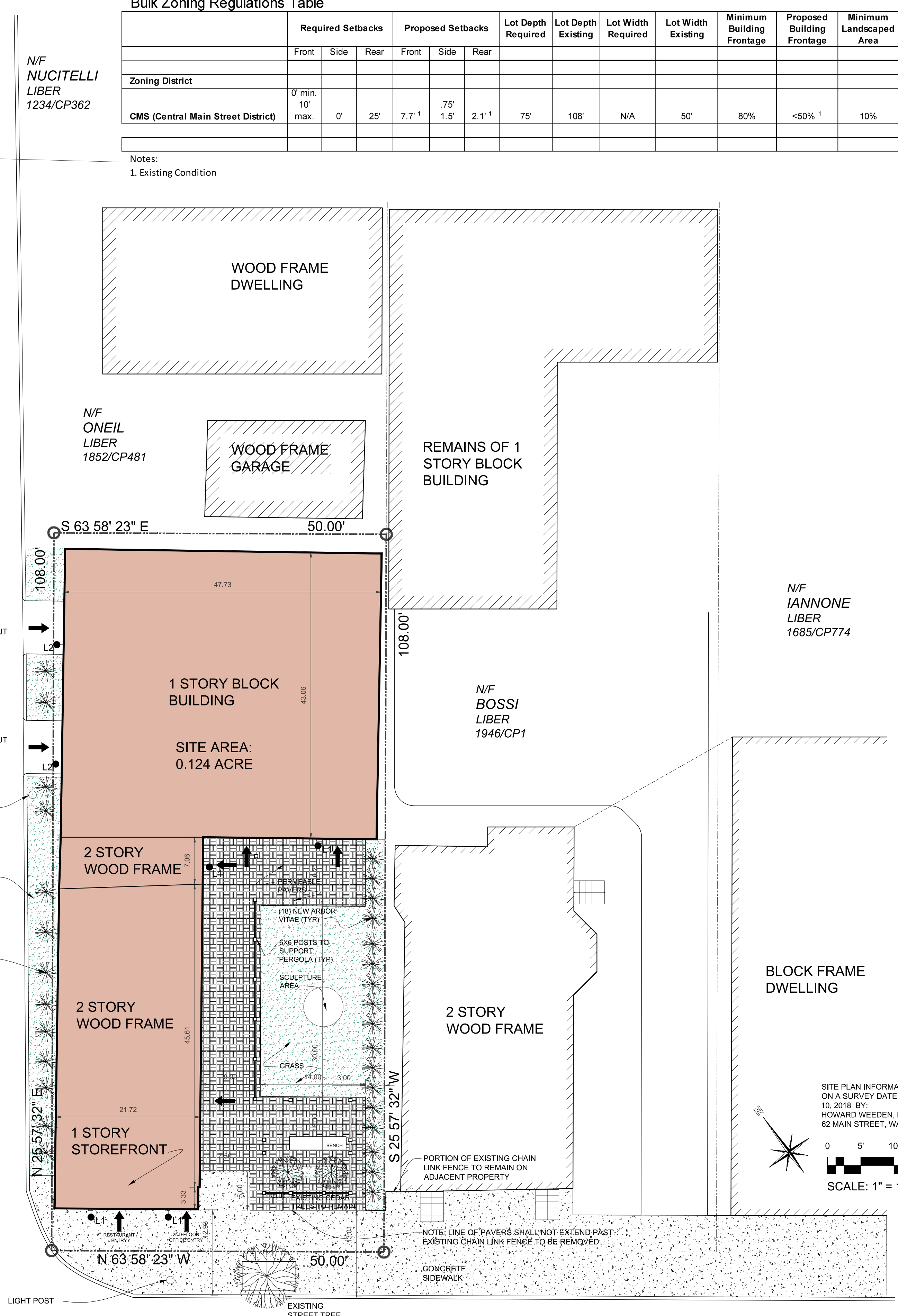
- Parking is not required per Beacon Zoning Code Section 223-26 (B.2): The building was in existence on April 20, 1964. The existing use in 1964 was retail at the 1st floor per the 1964 Beacon Directory. The new use is less than 25% greater intensity than the use existing in 1964. 17 parking spaces would have been required in 1964 for the uses in existence at that time. 10 parking spaces are required for the current proposed uses.
- There is no space on the property to provide parking.
- For lots of 8,000 square feet or less, where the provision of on-site parking is infeasible, the Planning Board may waive all parking requirements, provided that the total floor area of the building is no greater than 5,000 square feet
- Restaurant Hours of operation: 7am – 11pm, Monday through Sunday, inclusive

Index of Drawings

Sheet 1 of 3	Site Plan
Sheet 2 of 3	Existing Conditions & Demolition Plan
Sheet 3 of 3	Plans & Elevations

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS



Site Plan

Scale: 1" = 10'

Owner:
Field Properties, LLC
36 Winston Lane
Garrison, New York 10524

Applicant:
River Valley Restaurant Group
Beacon, New York 12508

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Surveyor:
Howard Weeden, LS
62 Main Street
Walden, New York

296 Main Street - Ziatun Restaurant
Beacon, New York
Scale: 1" = 20'
November 27, 2018

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY _____

_____ CHAIRMAN

_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.



MODERN FORMS "SUSPENSE"
 OUTDOOR DARK SKY COMPLIANT
 WALL SCONCE #306563. SIZE:
 SMALL. BRUSHED ALUMINUM
 FINISH. 11 WATT (590 LUMENS)
 120 VOLT INTEGRATED LED. CRI:
 90 COLOR TEMP: 3000K

L1: Wall Mounted

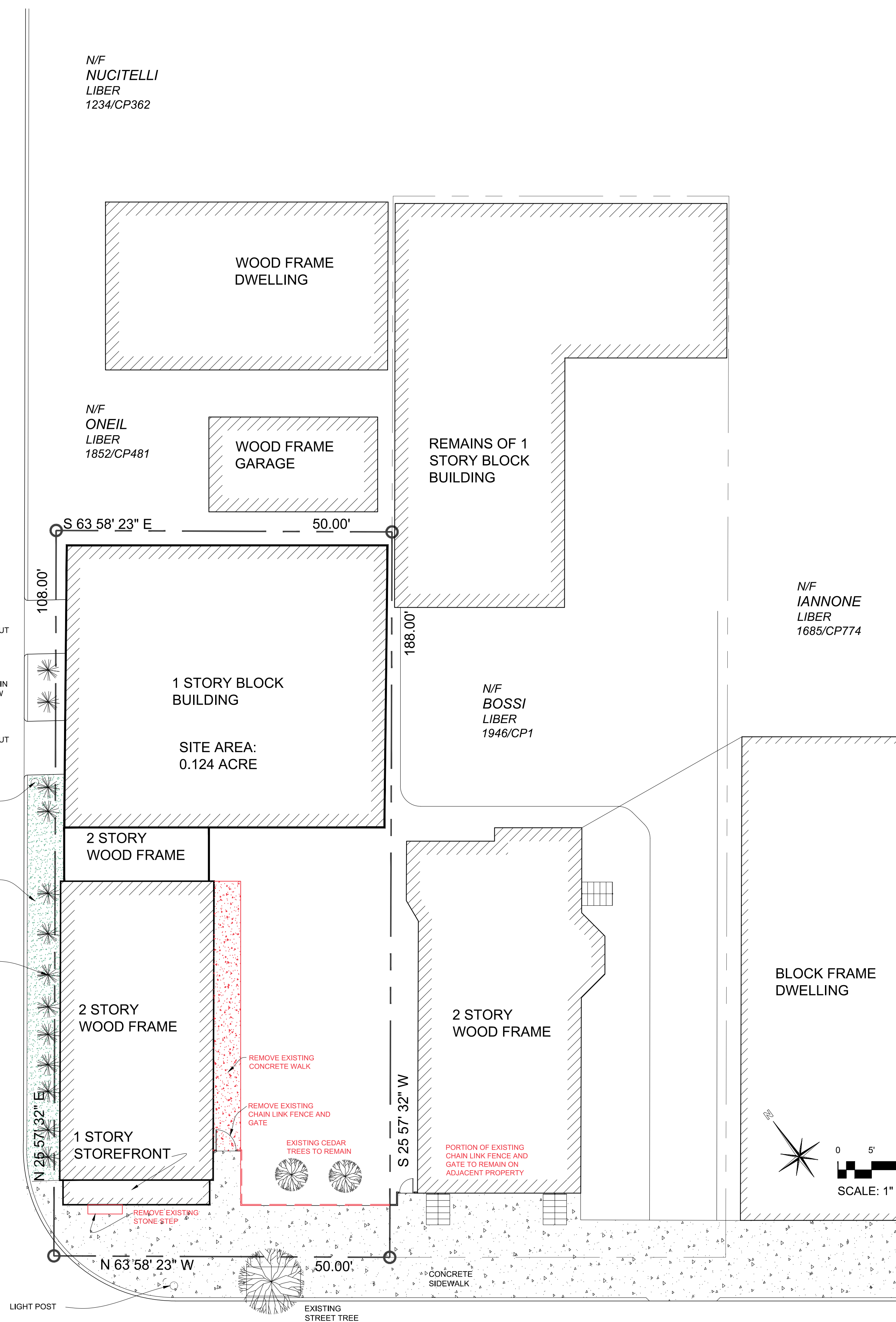
NOTE: THE MANUFACTURER DOES NOT PROVIDE PHOTOMETRIC INFORMATION FOR THESE FIXTURES. FIXTURES WILL BE SHIELDED TO AVOID LIGHT SPILLAGE ONTO ADJACENT PROPERTIES, AND TO SHIELD FROM LIGHT PROJECTING UPWARD TO THE SKY



L2: Wall Mounted

HAMPTON BAY
 "1-LIGHT ZINC OUTDOOR WALL
 LANTERN" MODEL # HSP1691A
 60 W INCANDESCENT LAMP OR
 LED EQUIVALENT - MAX COLOR
 TEMPERATURE SHALL BE 3000K

NORTH CEDAR STREET



MAIN STREET

Existing Conditions & Demolition Plan

Scale: 1" = 10'

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS

Site Plan Application

Sheet 2 of 3 - Existing Conditions / Demolition Plan

Owner:
Field Properties, LLC
 36 Winston Lane
 Garrison, New York 10524

Applicant:
River Valley Restaurant Group
 Beacon, New York 12508

Architect:
Aryeh Siegel, Architect
 84 Mason Circle
 Beacon, New York 12508

Surveyor:
Howard Weeden, LS
 62 Main Street
 Walden, New York

296 Main Street - Ziatun Restaurant
 Beacon, New York
 Scale: 1" = 20'
 November 27, 2018

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION, ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY _____

_____ CHAIRMAN

_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS

- NOTES:
1. THE GARAGE DOOR CLOSEST TO MAIN STREET WILL BE REPLACED BY A NEW GLASS AND ALUMINUM OVERHEAD GARAGE DOOR IN THE EXISTING OPENING
 2. THE GARAGE DOOR FURTHEST FROM MAIN STREET WILL BE FILLED IN WITH IRON GRAY HARDIE BOARD SIDING, WITH A 3'-0" X 7'-0" SWINGING DOOR, PAINTED DARK GRAY.
 3. THE INTERIOR TRASH HOLDING AREA WILL HAVE A PAIR OF 5'-0" X 7'-0" PAINTED HOLLOW METAL DOORS. COLOR: DARK GRAY

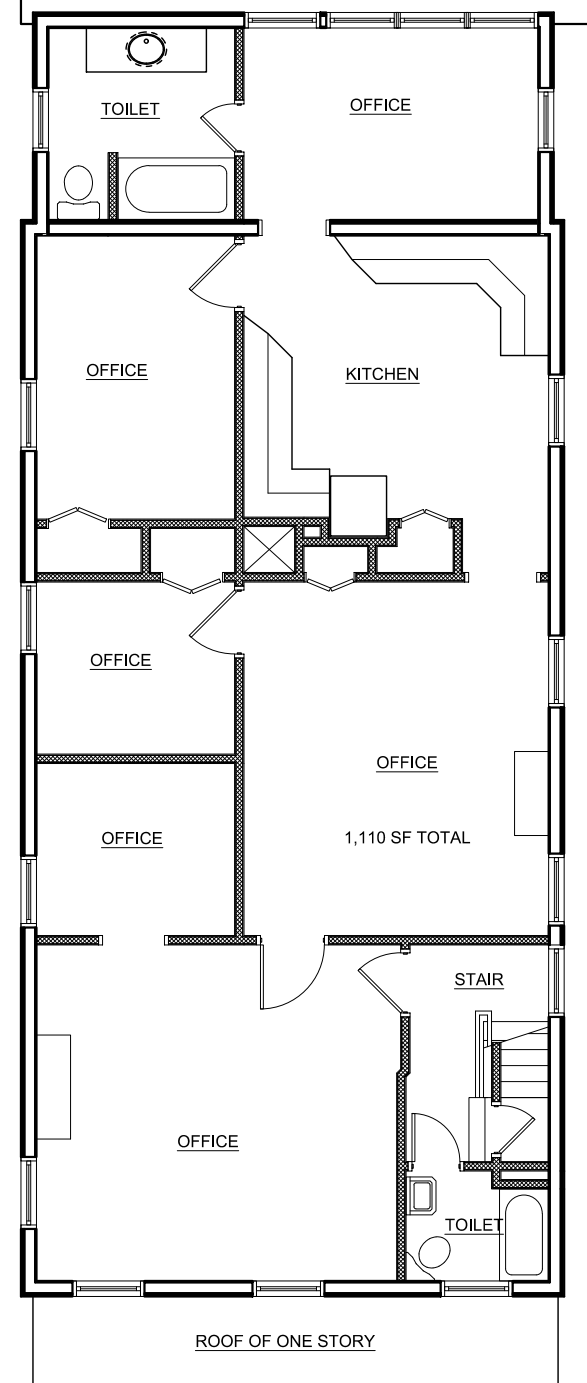
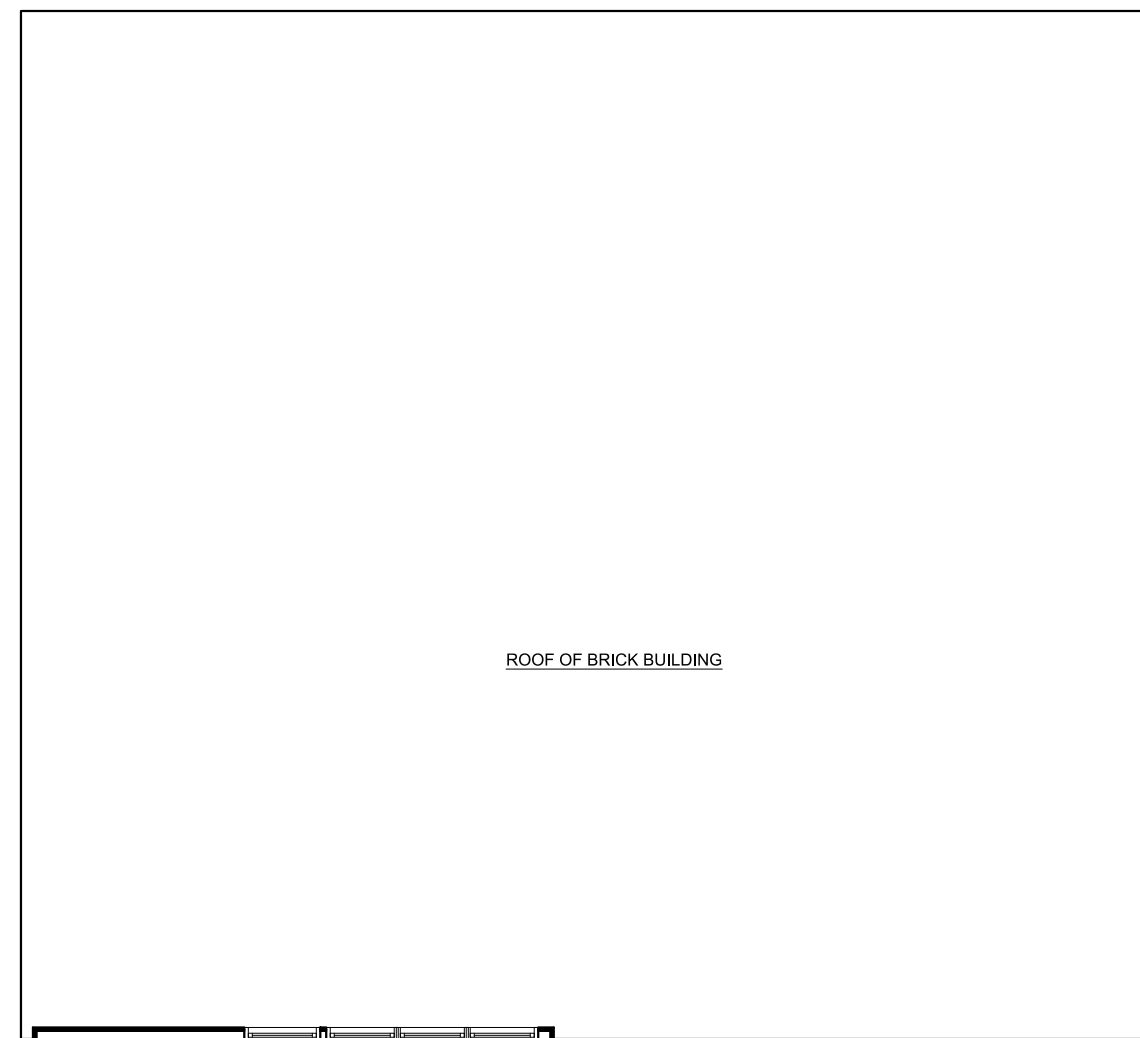


View 1

NOTE: EXISTING AWNING TO REMAIN AT STOREFRONT - "ZIATUN RESTAURANT" TO REPLACE EXISTING LETTERING ON AWNING

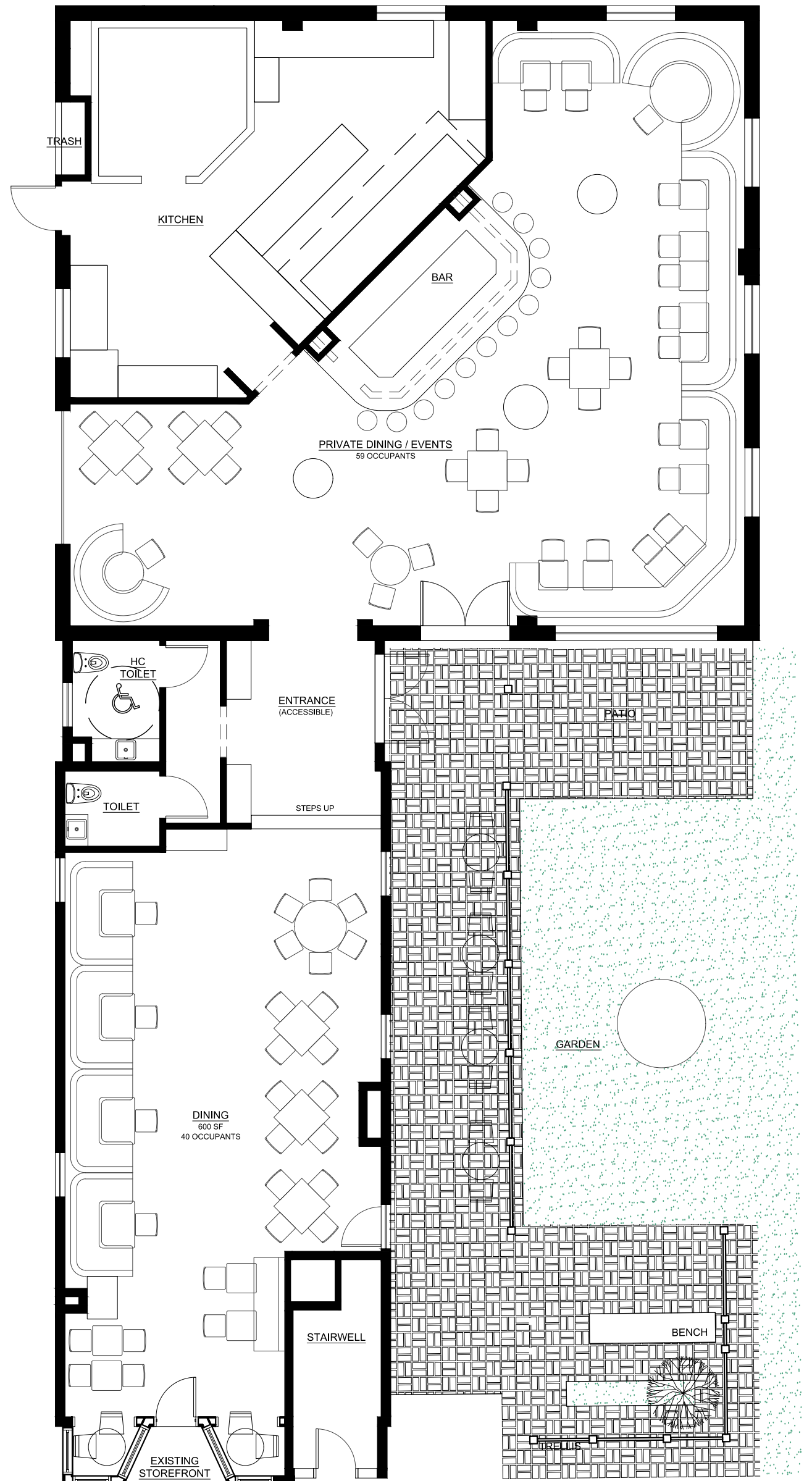


View 2



2nd Floor Plan

Scale: 1/8" = 1'-0"



1st Floor Plan

Scale: 1/8" = 1'-0"

Site Plan Application

Sheet 3 of 3 - Plans & Elevations

City of Beacon Planning Board
1/8/2019

Title:

234 Main Street

Subject:

Continue review of application for Site Plan Approval, 2nd Floor Addition, Retail/Office Use, 234 Main Street, submitted by 234 Main Street, LLC

Background:

ATTACHMENTS:

Description	Type
234 Main Street Comment Response Letter	Cover Memo/Letter
234 Main Street I&I Report	Backup Material
234 Main Street Sheet 1 Site Plan	Plans
234 Main Street Sheet 2 Existing Conditions	Plans
234 Main Street Sheet 3 Floor Plans	Plans

ARYEH SIEGEL
ARCHITECT

John Gunn - Planning Board Chairman
City of Beacon
One Municipal Plaza
Beacon, NY 12508

Re: 234 Main Street
Site Plan Application – Responses to Comments

December 25, 2018

Dear Chairman Gunn and Members of the Planning Board,

Below please find our responses to the comments included in John Clarke Planning and Design's Memorandum, dated December 7, 2018; and Lanc & Tully's letter dated December 5, 2018 .

John Clarke Planning and Design Comment Responses:

1. The Parking and Loading Table on Sheet 1 has been corrected to show 13 spaces required
2. A note was added to Sheet 3 stating that the front plane of the new façade will not project further, at any point, than the current face of building.


Lanc & Tully Comment Responses:

Site Plan

1. Hudson Land Design will finalize and submit an I & I report.

Thank you. Please let me know if you have any questions.

Sincerely,



Aryeh Siegel
Aryeh Siegel, Architect



*Civil & Environmental Engineering Consultants
174 Main Street, Beacon, New York 12508
13 Chambers Street, Newburgh, New York 12550
Phone: 845-440-6926 Fax: 845-440-6637
www.HudsonLandDesign.com*

December 26, 2018

Lt. Timothy Dexter
City of Beacon Building Inspector
1 Municipal Center
Beacon, NY 12508

Re: Infiltration and Inflow Investigation
234 Main Street Project
234 Main Street
City of Beacon, New York
Tax ID: 5954-27-869916 (\pm 0.09 acres)

Dear Mr. Dexter,

Hudson Land Design (HLD) has completed an infiltration and inflow investigation at the above referenced parcel as required by the City of Beacon. The investigation was conducted on November 27, 2018 at the existing building located at 234 Main Street, which consists of a singles-story retail space which is currently vacant.

The first phase of the study consisted of an exterior inspection of the building to determine the location of roof leader discharge points. There were no roof leaders observed on the exterior of the building. The building roof was accessed to determine if there were roof drains that could be piped through the interior of the building. No roof drains were observed. Upon inspection the existing brick building has a flat roof pitched slightly to the rear (away from Main Street) with no roof leaders. Runoff from the roof drains off the back edge of the roof to the ground surface and overland toward the north.

It should be noted that the adjacent building's second floor roof located at 232 Main Street discharges to the 234 Main roof. The roof leader is attached to the second story wall down to the 234 Main roof where there is a 90 degree elbow directed toward the north. The pipe travels toward the north to a point that is located approximately the midpoint of the rear outdoor seating area for 232 Main. It appears that the roof leader used to continue down the first floor wall of 234 main on its west side to the ground surface within the outdoor seating area; however, the pipe has been disconnected from

the lower downspout and discharges to the 234 Main rooftop where it flows toward the rear of the building. The roof area of 232 Main Street is approximately 1,375 sqft of additional runoff area. Considering a frequent storm event of 1.3 inches of rainfall over a 24-hour period (90% probability storm) accounts for an additional 1,105 gallons of stormwater runoff to the 234 Main roof. This roof leader will need to be re-connected to the downspout that it once was connected to.

The second phase of the study consisted of interior inspection of the building to determine if there are any illicit connections to the building sewer line from sump pumps, floor drains and the like. The building is on slab with no basement. There were sump pumps observed within the building. There was a floor drain observed in the northwest edge of the building where the furnace and HVAC system is located. There is a condensate line from the HVAC system that drains into the floor drain. No sump pumps or floor drains were observed throughout the interior of the building.

HLD personnel located the last section of the interior sanitary sewer plumbing. The sanitary sewer line flows south west towards Main Streets sanitary sewer collection system from the front of building foundation.

Based on our observations, HLD believes that there are not illicit stormwater connections from the building located at 234 Main Street to the City of Beacon's sanitary sewer collection system.

The proposed design will provide two roof leaders on the east side of the building to discharge to the grass area besides the building. A small infiltration trench has been designed to capture the roof runoff and allow it to infiltrate into the ground. Larger storms overflow through a stone-lined overflow weir. An infiltration test has been performed within the infiltration trench area. The stabilized rate is approximately 20 inches per hour.

Design plans, hydraulic and hydrologic calculations have been provided at the end of this report using an infiltration rate of 5 inches per hour.

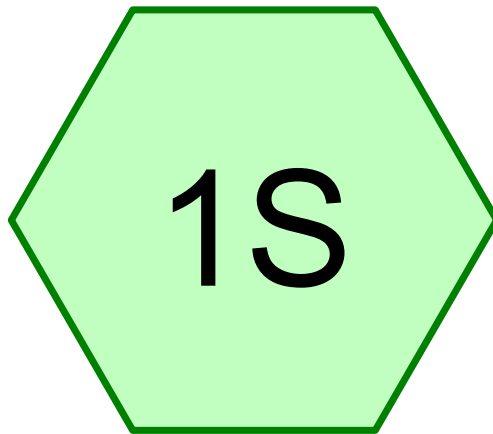
Should you have any questions, please feel free to call me at 845-440-6926.

Sincerely,

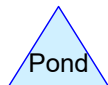
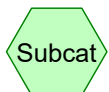
A handwritten signature in black ink, appearing to read "Michael A. Bodendorf". The signature is fluid and cursive, with a large, stylized initial "M".

Michael A. Bodendorf, P.E.

cc: 234 Main, LLC
Aryeh Seigel
Daniel G. Koehler, P.E. (HLD file)



ROOF DRAINAGE



DRAINAGE-PRE

Type III 24-hr 1 Year Storm Rainfall=2.61"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 2

Summary for Subcatchment 1S: ROOF DRAINAGE

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.016 af, Depth> 2.23"

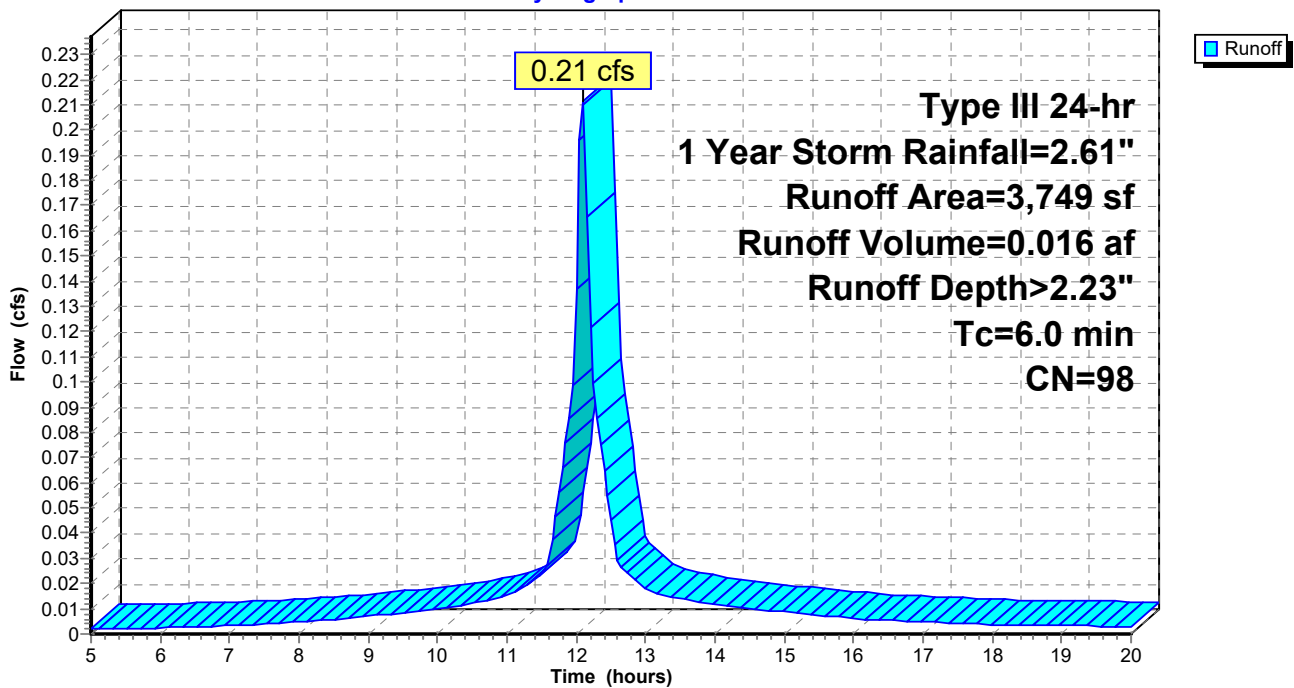
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 Year Storm Rainfall=2.61"

Area (sf)	CN	Description
3,749	98	Roofs, HSG B
3,749		100.00% Impervious Area

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

Subcatchment 1S: ROOF DRAINAGE

Hydrograph



DRAINAGE-PRE

Type III 24-hr 10 Year Storm Rainfall=4.71"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 3

Summary for Subcatchment 1S: ROOF DRAINAGE

Runoff = 0.39 cfs @ 12.09 hrs, Volume= 0.030 af, Depth> 4.15"

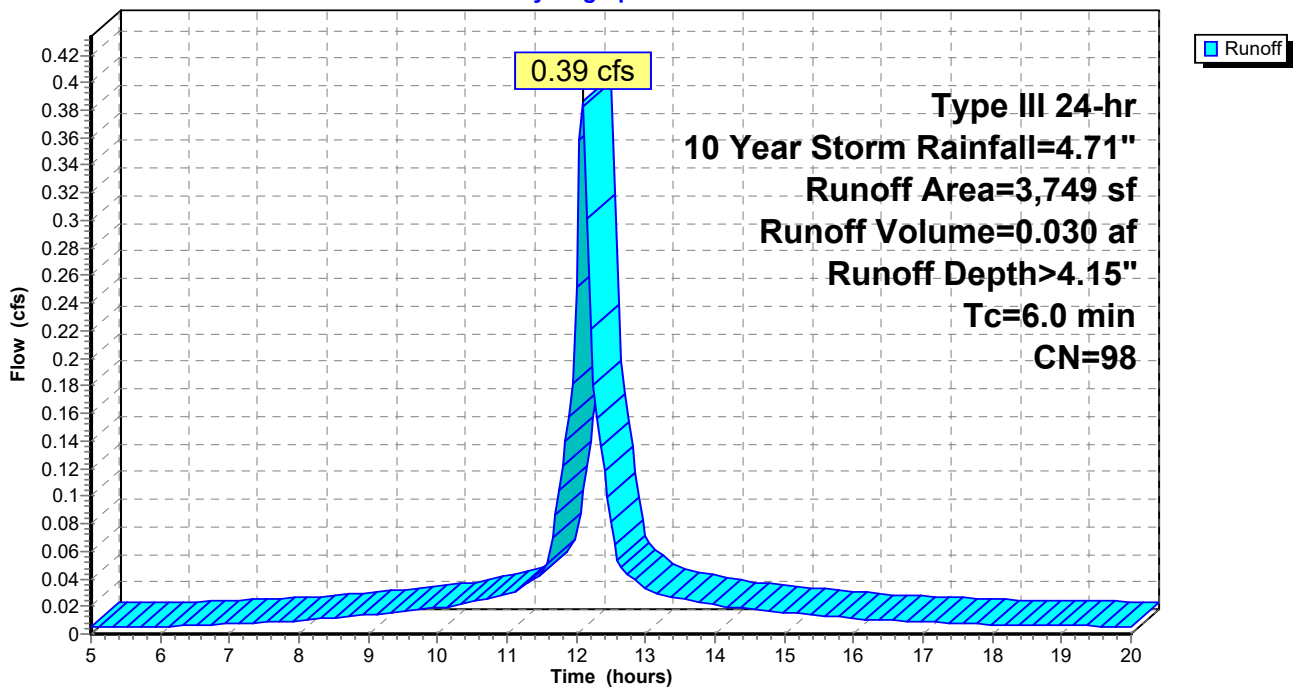
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=4.71"

Area (sf)	CN	Description
3,749	98	Roofs, HSG B
3,749		100.00% Impervious Area

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

Subcatchment 1S: ROOF DRAINAGE

Hydrograph



DRAINAGE-PRE

Type III 24-hr 100 Year Storm Rainfall=8.37"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 4

Summary for Subcatchment 1S: ROOF DRAINAGE

Runoff = 0.69 cfs @ 12.09 hrs, Volume= 0.054 af, Depth> 7.48"

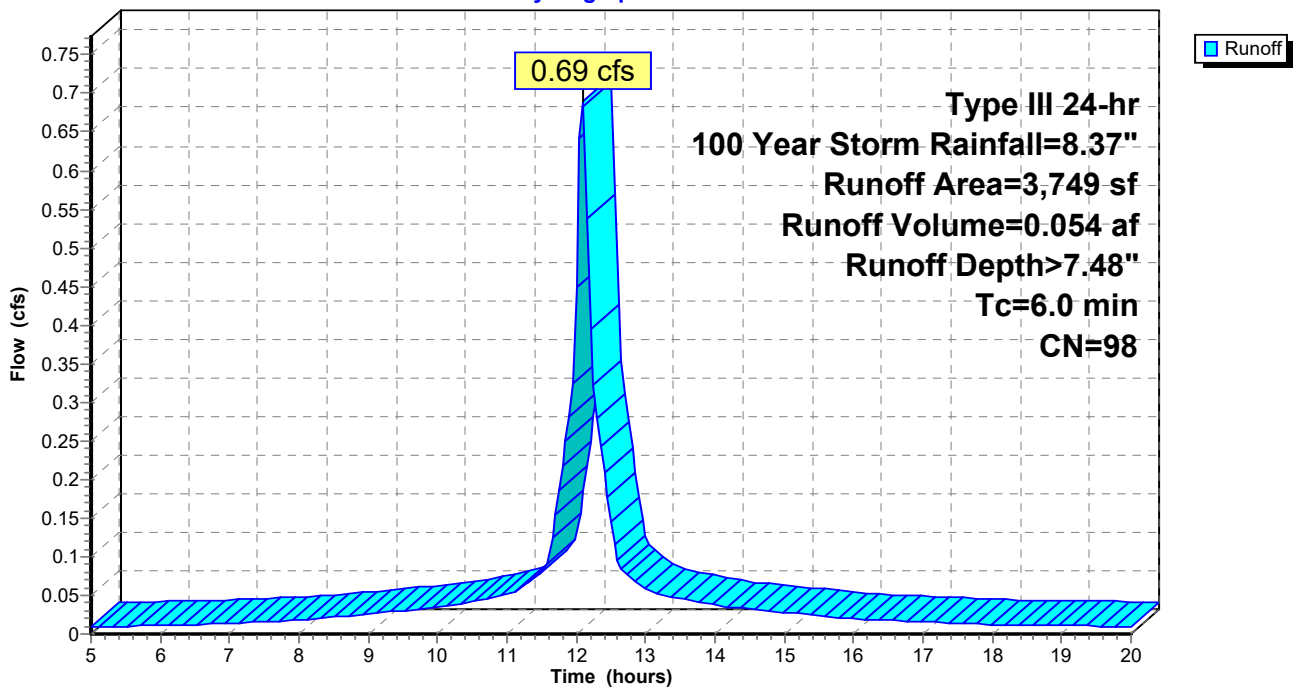
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Storm Rainfall=8.37"

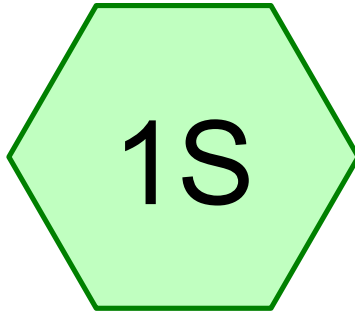
Area (sf)	CN	Description
3,749	98	Roofs, HSG B
3,749		100.00% Impervious Area

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

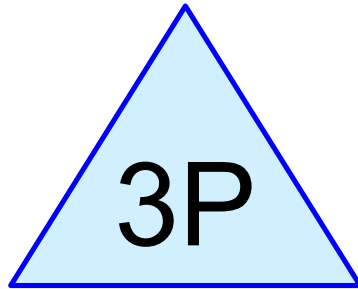
Subcatchment 1S: ROOF DRAINAGE

Hydrograph

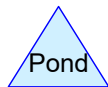
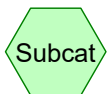




ROOF DRAINAGE



INFILTRATION
TRENCH



DRAINAGE-POST

Type III 24-hr 1 Year Storm Rainfall=2.61"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 2

Summary for Subcatchment 1S: ROOF DRAINAGE

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.016 af, Depth> 2.23"

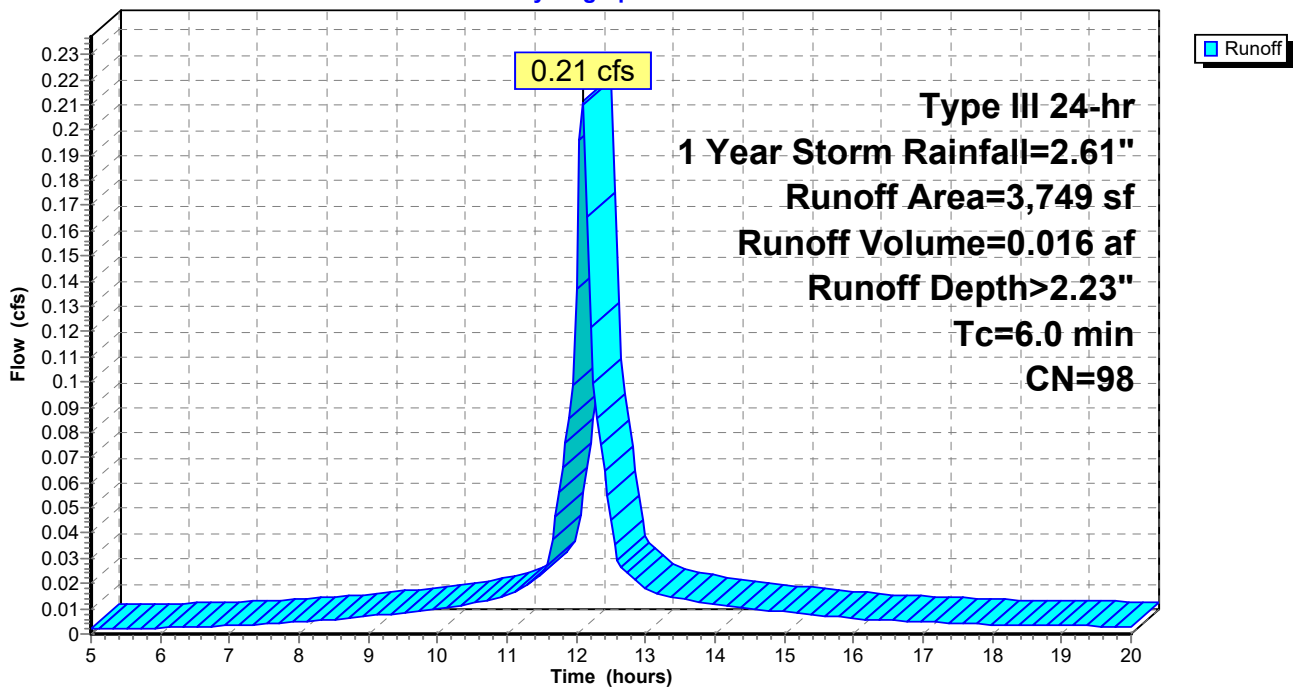
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 Year Storm Rainfall=2.61"

Area (sf)	CN	Description
3,749	98	Roofs, HSG B
3,749		100.00% Impervious Area

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

Subcatchment 1S: ROOF DRAINAGE

Hydrograph



DRAINAGE-POST

Type III 24-hr 1 Year Storm Rainfall=2.61"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 3

Summary for Pond 3P: INFILTRATION TRENCH

Inflow Area = 0.086 ac, 100.00% Impervious, Inflow Depth > 2.23" for 1 Year Storm event
 Inflow = 0.21 cfs @ 12.09 hrs, Volume= 0.016 af
 Outflow = 0.20 cfs @ 12.11 hrs, Volume= 0.016 af, Atten= 4%, Lag= 1.6 min
 Discarded = 0.03 cfs @ 12.11 hrs, Volume= 0.012 af
 Primary = 0.18 cfs @ 12.11 hrs, Volume= 0.004 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.57' @ 12.11 hrs Surf.Area= 349 sf Storage= 129 cf

Plug-Flow detention time= 41.9 min calculated for 0.016 af (99% of inflow)
 Center-of-Mass det. time= 36.8 min (777.6 - 740.8)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	319 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	103	0	0
101.00	535	319	319

Device	Routing	Invert	Outlet Devices
#1	Primary	100.50'	4.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	100.00'	5.000 in/hr Exfiltration over Surface area above 100.00' Excluded Surface area = 103 sf

Discarded OutFlow Max=0.03 cfs @ 12.11 hrs HW=100.57' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.17 cfs @ 12.11 hrs HW=100.57' (Free Discharge)
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 0.17 cfs @ 0.62 fps)

DRAINAGE-POST

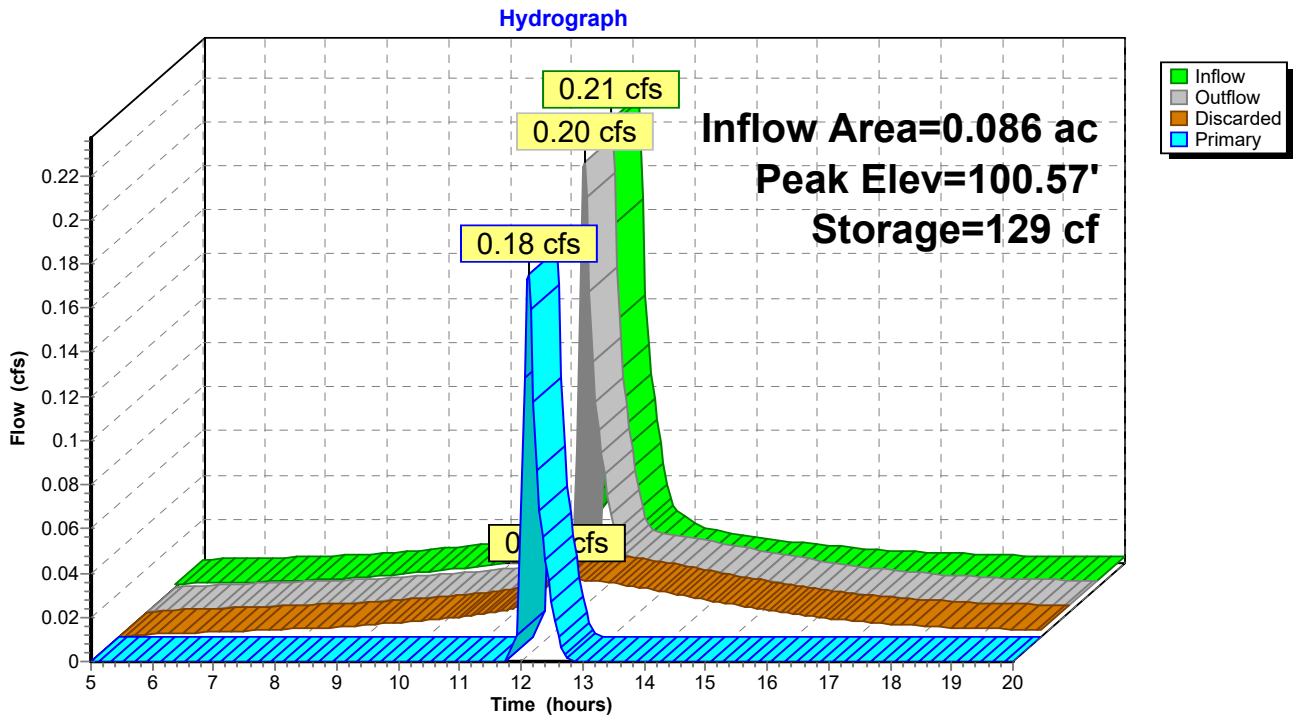
Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Type III 24-hr 1 Year Storm Rainfall=2.61"

Page 4

Pond 3P: INFILTRATION TRENCH



DRAINAGE-POST

Type III 24-hr 10 Year Storm Rainfall=4.71"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 5

Summary for Subcatchment 1S: ROOF DRAINAGE

Runoff = 0.39 cfs @ 12.09 hrs, Volume= 0.030 af, Depth> 4.15"

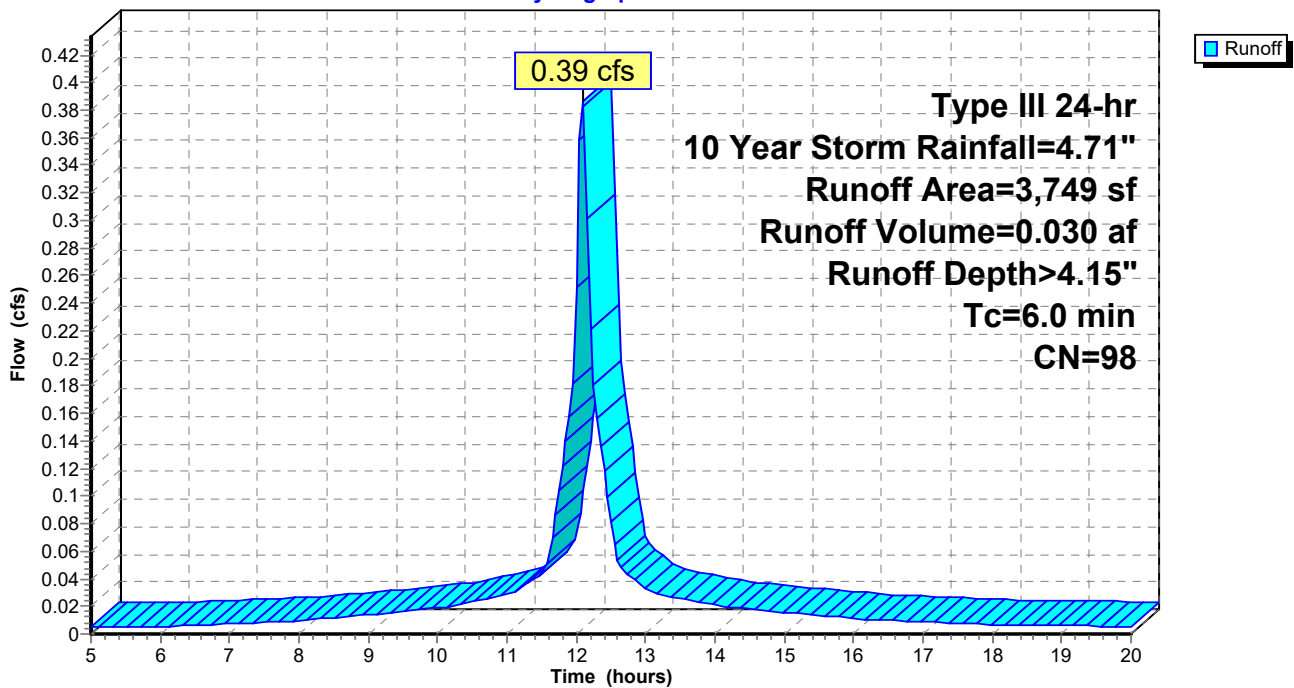
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=4.71"

Area (sf)	CN	Description
3,749	98	Roofs, HSG B
3,749		100.00% Impervious Area

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

Subcatchment 1S: ROOF DRAINAGE

Hydrograph



DRAINAGE-POST

Type III 24-hr 10 Year Storm Rainfall=4.71"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 6

Summary for Pond 3P: INFILTRATION TRENCH

Inflow Area = 0.086 ac, 100.00% Impervious, Inflow Depth > 4.15" for 10 Year Storm event
 Inflow = 0.39 cfs @ 12.09 hrs, Volume= 0.030 af
 Outflow = 0.38 cfs @ 12.11 hrs, Volume= 0.029 af, Atten= 3%, Lag= 1.3 min
 Discarded = 0.03 cfs @ 12.11 hrs, Volume= 0.018 af
 Primary = 0.35 cfs @ 12.11 hrs, Volume= 0.012 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.61' @ 12.11 hrs Surf.Area= 366 sf Storage= 143 cf

Plug-Flow detention time= 36.4 min calculated for 0.029 af (98% of inflow)
 Center-of-Mass det. time= 30.6 min (766.1 - 735.5)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	319 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	103	0	0
101.00	535	319	319

Device	Routing	Invert	Outlet Devices
#1	Primary	100.50'	4.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	100.00'	5.000 in/hr Exfiltration over Surface area above 100.00' Excluded Surface area = 103 sf

Discarded OutFlow Max=0.03 cfs @ 12.11 hrs HW=100.61' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.34 cfs @ 12.11 hrs HW=100.61' (Free Discharge)
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 0.34 cfs @ 0.78 fps)

DRAINAGE-POST

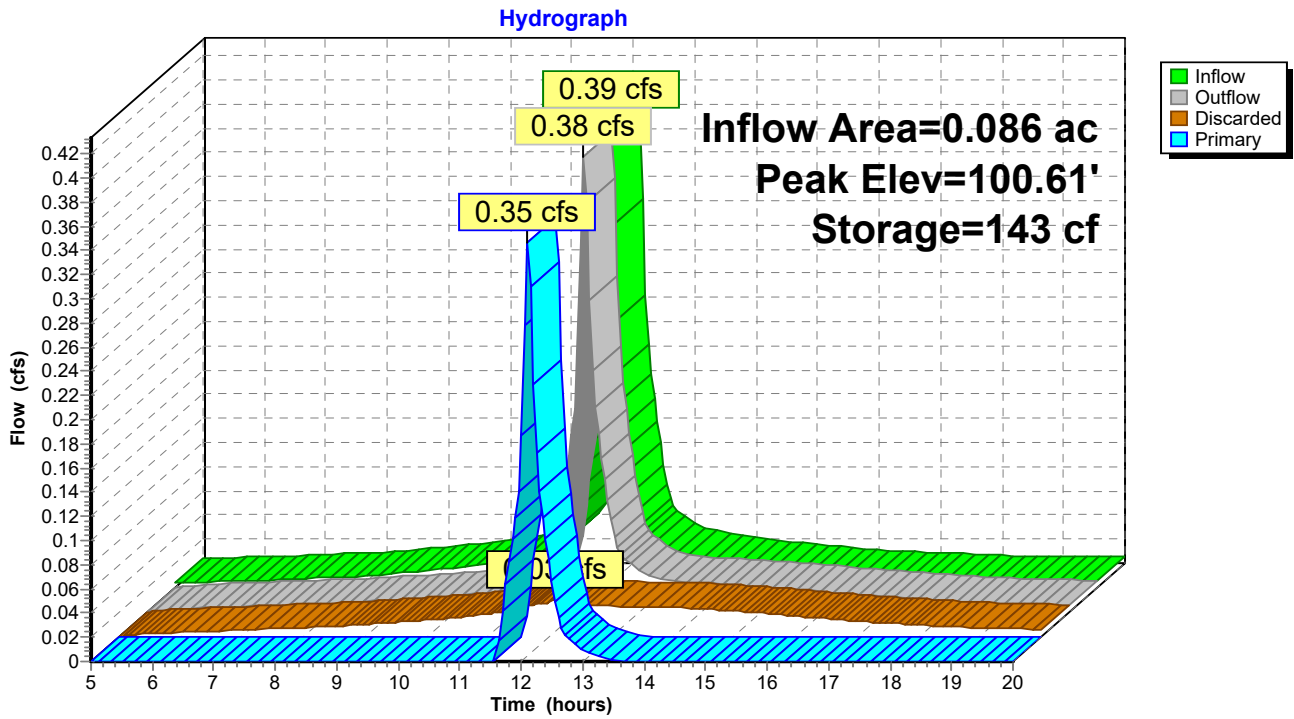
Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Type III 24-hr 10 Year Storm Rainfall=4.71"

Page 7

Pond 3P: INFILTRATION TRENCH



DRAINAGE-POST

Type III 24-hr 100 Year Storm Rainfall=8.37"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 8

Summary for Subcatchment 1S: ROOF DRAINAGE

Runoff = 0.69 cfs @ 12.09 hrs, Volume= 0.054 af, Depth> 7.48"

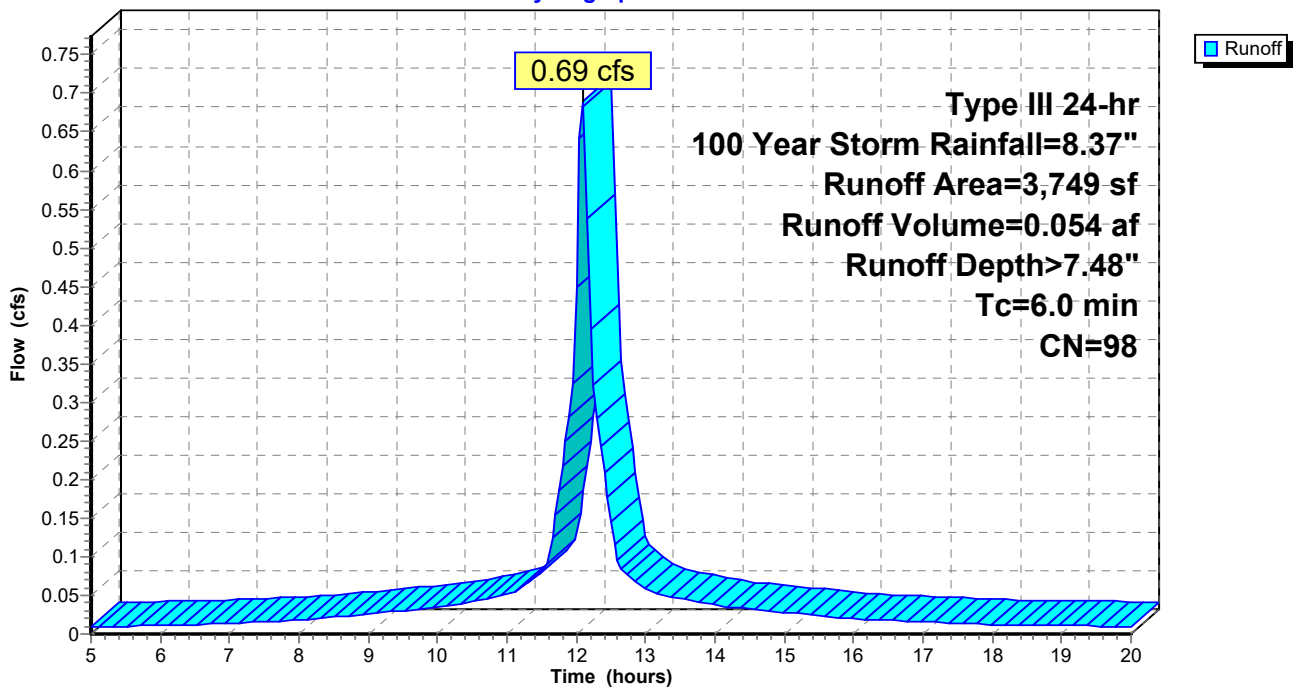
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Storm Rainfall=8.37"

Area (sf)	CN	Description
3,749	98	Roofs, HSG B
3,749		100.00% Impervious Area

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

Subcatchment 1S: ROOF DRAINAGE

Hydrograph



DRAINAGE-POST

Type III 24-hr 100 Year Storm Rainfall=8.37"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 9

Summary for Pond 3P: INFILTRATION TRENCH

Inflow Area = 0.086 ac, 100.00% Impervious, Inflow Depth > 7.48" for 100 Year Storm event
 Inflow = 0.69 cfs @ 12.09 hrs, Volume= 0.054 af
 Outflow = 0.68 cfs @ 12.11 hrs, Volume= 0.053 af, Atten= 2%, Lag= 1.1 min
 Discarded = 0.03 cfs @ 12.11 hrs, Volume= 0.024 af
 Primary = 0.64 cfs @ 12.11 hrs, Volume= 0.029 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.67' @ 12.11 hrs Surf.Area= 391 sf Storage= 164 cf

Plug-Flow detention time= 29.8 min calculated for 0.053 af (98% of inflow)
 Center-of-Mass det. time= 22.7 min (755.7 - 732.9)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	319 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	103	0	0
101.00	535	319	319

Device	Routing	Invert	Outlet Devices
#1	Primary	100.50'	4.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	100.00'	5.000 in/hr Exfiltration over Surface area above 100.00' Excluded Surface area = 103 sf

Discarded OutFlow Max=0.03 cfs @ 12.11 hrs HW=100.66' (Free Discharge)
 ↳ **2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.64 cfs @ 12.11 hrs HW=100.66' (Free Discharge)
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 0.64 cfs @ 0.97 fps)

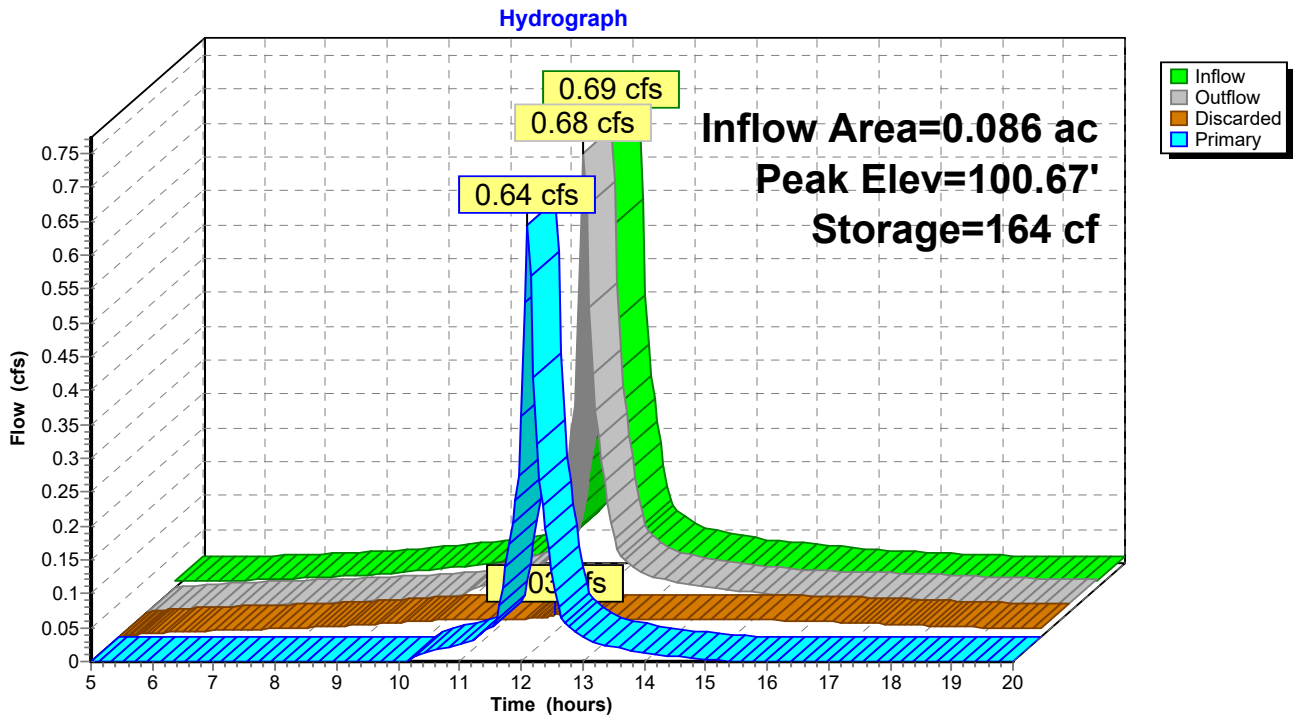
DRAINAGE-POST

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Type III 24-hr 100 Year Storm Rainfall=8.37"

Pond 3P: INFILTRATION TRENCH



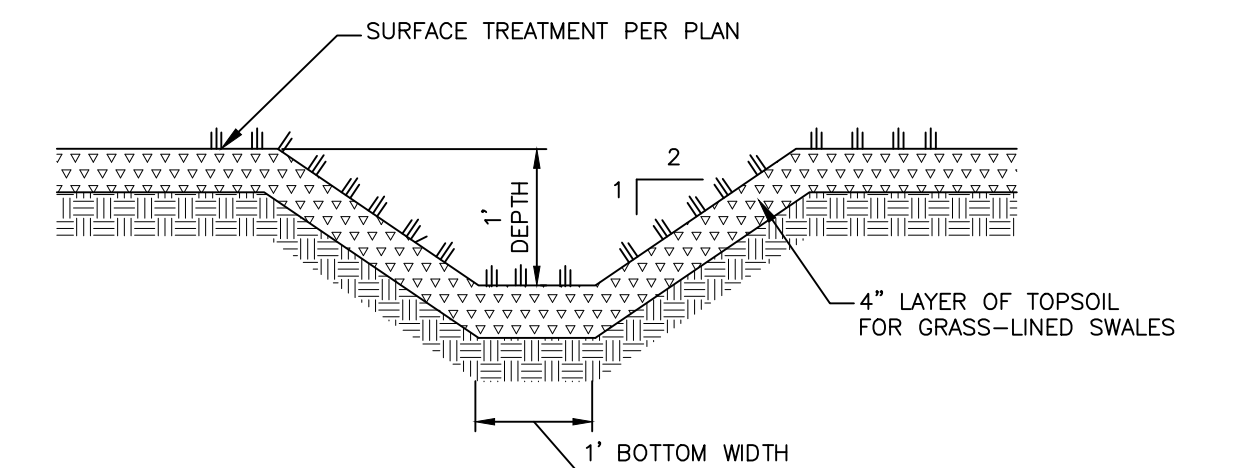
PROJECT INFORMATION:	
PARCEL OWNER:	234 MAIN, LLC; 234 MAIN STREET BEACON, NY 12508
ENGINEER OF RECORD:	HUDSON LAND DESIGN P.C., 174 MAIN STREET, BEACON NY 12508
PROJECT LOCATION:	234 MAIN STREET BEACON, NY 12508
TAX PARCEL ID:	5954-27-869916
PARCEL AREA:	±0.09 ACRES
ZONING DISTRICT:	(CMS) CENTRAL MAIN STREET
POTABLE WATER SUPPLY:	MUNICIPAL
SEWAGE DISPOSAL:	MUNICIPAL

INSPECTION SCHEDULE & LONG TERM MAINTENANCE OF STORMWATER STRUCTURES

INFILTRATION TRENCH:
 THE INFILTRATION TRENCH SHALL BE INSPECTED MONTHLY FOR SEDIMENT AND DEBRIS ACCUMULATION. INFLOW PIPES, OUTLET STRUCTURES AND SPILLWAYS SHOULD ALSO BE INSPECTED FOR SEDIMENT AND DEBRIS MONTHLY. ANY ACCUMULATED SEDIMENT OR DEBRIS SHOULD BE REMOVED AS NECESSARY. PLANTINGS SHALL BE INSPECTED MONTHLY FOR HEIGHT, FERTILIZER, QUANTITY AND UNAUTHORIZED INVASIVE OR INAPPROPRIATE SPECIES. AFTER STORM EVENTS, THE INFILTRATION TRENCH DEWATERING DURATION SHOULD ALSO BE MONITORED. THE TRENCH FLOOR SHALL BE MOWED AS REQUIRED; HOWEVER, THE GRASS HEIGHT SHALL NOT EXCEED 18". SEDIMENT SHALL BE CLEANED OUT OF THE INFILTRATION TRENCH ANNUALLY.

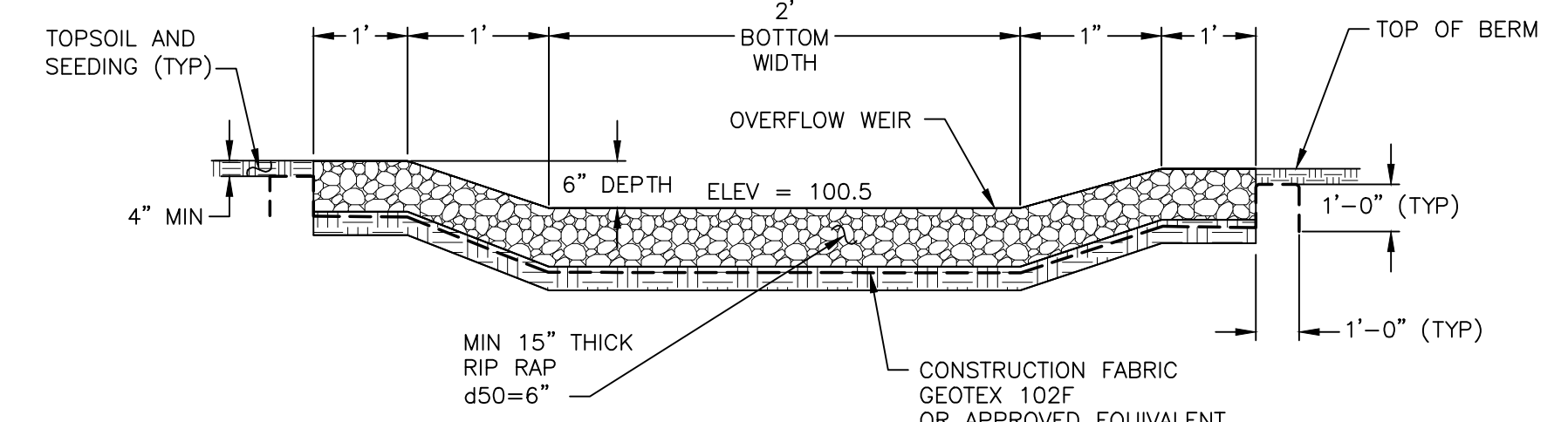
234 MAIN STREET INFILTRATION TEST TABLE:
 24" DEEP HOLE PRESOAKED ON 12/19/2018 AND RAN ON 12/20/2018

TEST#	START TIME	END TIME	RESULTS (MINUTES/INCH)
1	11:57AM	12:00PM	3
2	12:01PM	12:04PM	3
3	12:06PM	12:09PM	3
4	12:10PM	12:13PM	3
5	12:15PM	12:18PM	3
6	12:18PM	12:21PM	3



- NOTES:**
- SEE PLAN FOR LOCATIONS.
 - SWALE SHALL BE SEEDED WITH FAST GERMINATING RYE 15 TO 25 POUNDS PER 1,000 SQUARE FEET AND MULCHED.
 - MINIMUM AND MAXIMUM ALLOWABLE SLOPES FOR SWALES AS PER THE PLAN.

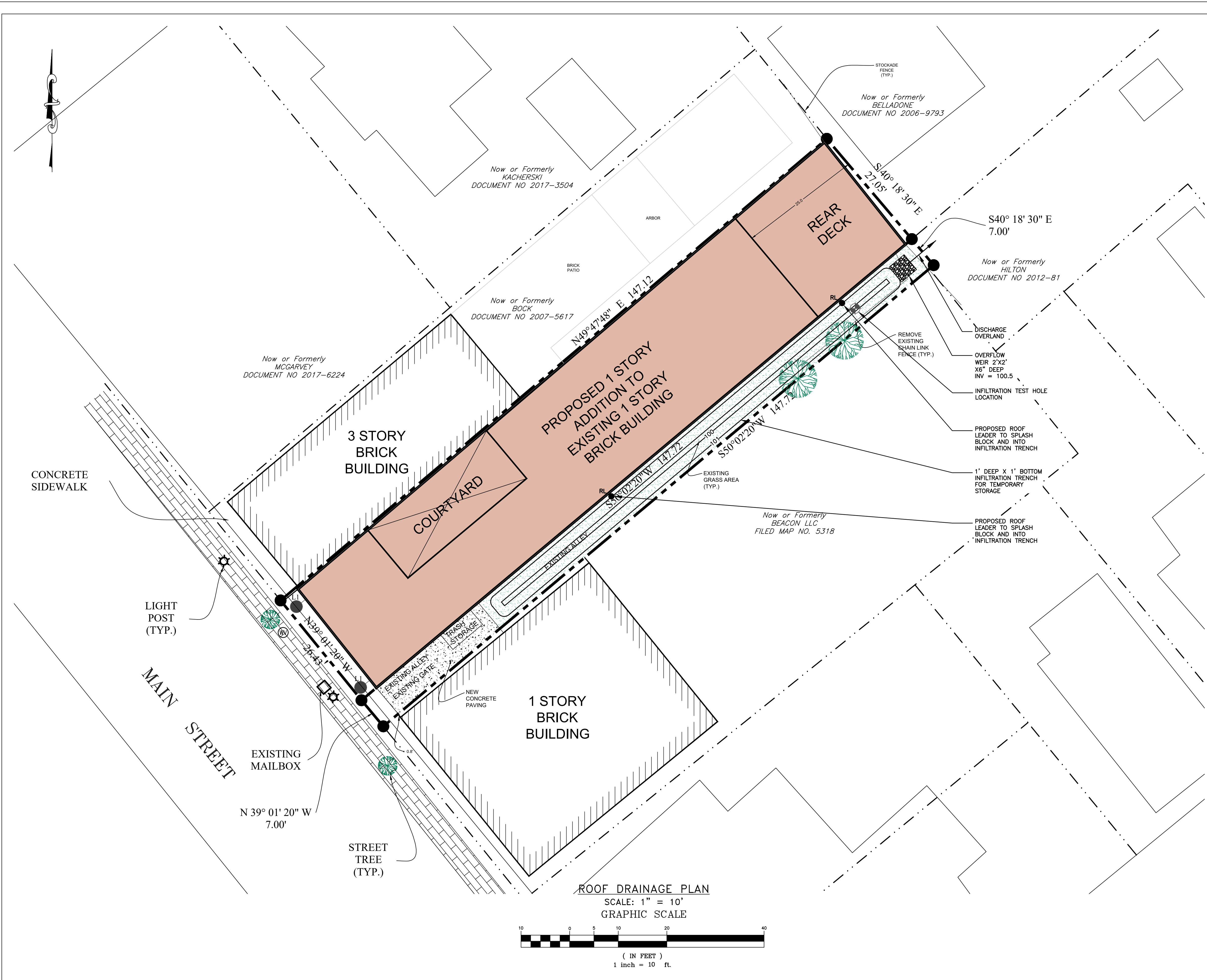
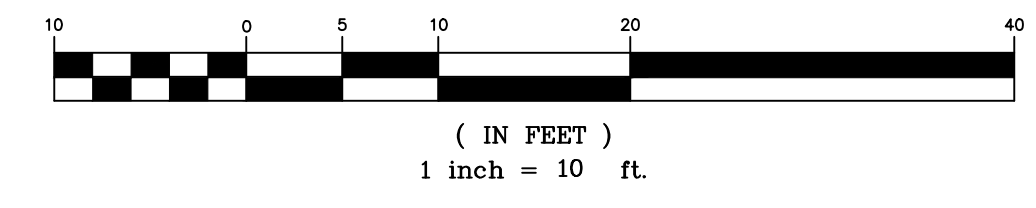
INFILTRATION TRENCH DETAIL
 NOT TO SCALE



- NOTES:**
- RIP RAP OUTLET PROTECTION SHALL BE 15" OF LIGHT STONE FILLING. STONE FILLING SIZE d50=6", RIVER ROCK MAY BE SUBSTITUTED FOR ANGULAR STONE.

OVERFLOW WEIR DETAIL
 NOT TO SCALE

ROOF DRAINAGE PLAN
 SCALE: 1" = 10'
 GRAPHIC SCALE



DRAWN BY: CMB				CHECKED BY: MAB			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY

Dig Safely. New York.
 800-962-7962
 www.digsafelynewyork.org

- Call Before You Dig
- Wait The Required Time
- Confirm Utility Response
- Respect the Marks
- Dig With Care



HUDSON LAND DESIGN
 HUDSON LAND DESIGN
 PROFESSIONAL ENGINEERING P.C.
 174 MAIN ST., BEACON, NEW YORK 12508
 13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
 PH: 845-440-6926
 F: 845-440-6637

ROOF DRAINAGE PLAN
 234 MAIN STREET
 234 MAIN STREET
 CITY BEACON
 DUTCHESS COUNTY, NEW YORK
 TAX ID: 5954-27-869916

JOB #: 2018:049
DATE: 12/21/18
SCALE: 1" = 10'
TITLE: DR-1
SHEET: 1 OF 1

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY _____

CHAIRMAN

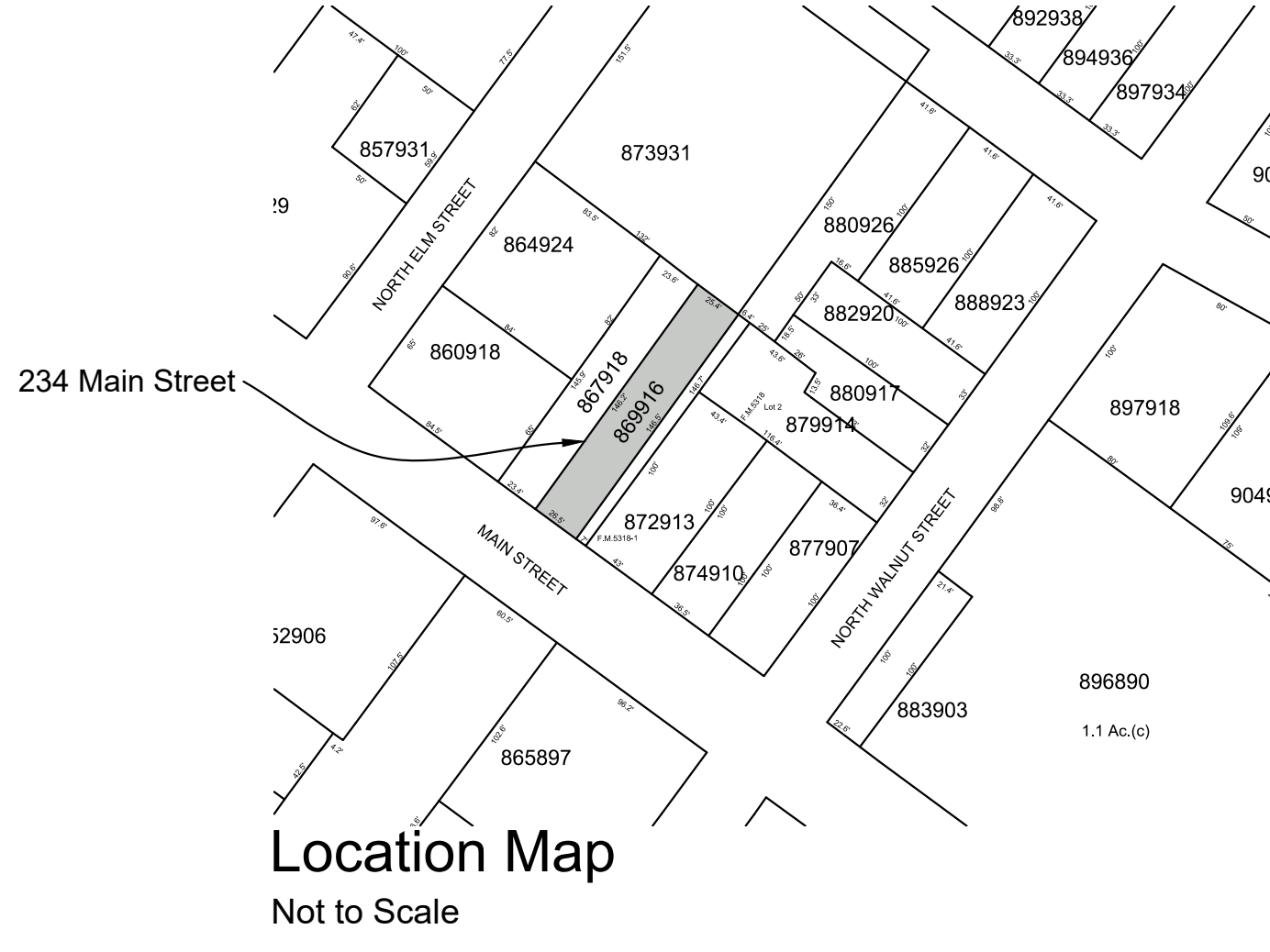
SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

Bulk Zoning Regulations Table

Zoning District	Required Setbacks			Proposed Setbacks			Lot Depth Required	Lot Depth Existing	Lot Width Required	Lot Width Existing	Minimum Building Frontage	Proposed Building Frontage	Allowable Building Height	Proposed Building Height	Minimum Landscape Area	Proposed Landscape Area	Lot Area
	Front	Side	Rear	Front	Side	Rear											
CMS (Central Main Street District)	0' min. 10' max.	0'	25'	4.2' ¹	0'	0.8' at 1st floor 25' at 2nd floor	75'	148'	N/A	27'	80%	80% ¹	38'	24'	10%	16%	3,940 SF

Notes:
1. Existing Condition



HUBBARDTON FORGE "HOOD" OUTDOOR DARK SKY COMPLIANT WALL SCONCE #306563. 15" HIGH X 6 1/2" WIDE. BURNISHED STEEL FINISH. 60 W INCANDESCENT LAMP

L1: Wall Mounted

NOTE: THE MANUFACTURER DOES NOT PROVIDE PHOTOMETRIC INFORMATION FOR THESE FIXTURES. FIXTURES WILL BE SHIELDED TO AVOID LIGHT SPILLAGE ONTO ADJACENT PROPERTIES, AND TO SHIELD FROM LIGHT PROJECTING UPWARD TO THE SKY

Zoning Summary

Zoning District: CMS (Central Main Street District)
 Tax Map No.: 5954-27-869916
 Lot Area: 0.09 Acres (3,940 SF)
 Building Footprint: 3,745 Square Feet
 Historical Overlay District: No
 Parking Overlay District: Yes
 Existing Use: Retail
 Proposed Use: Retail / Office Space

Parking & Loading

Use & Parking Requirements	1964 Area	1964 Parking Requirement	Proposed Area	Current Parking Requirement
Mercantile (Retail)				
1964 - 1 space per 200 SF of gross floor area excluding basement and utility areas	3,745 SF	19 spaces		
Present - 2 spaces per 1,000 SF of gross floor area			3,745 sf	8 spaces
Office / Professional Use				
Present - 2 spaces per 1,000 sf of floor area			2,500 SF	5 spaces
Total Required Parking Spaces		19 spaces		13 spaces
Total Proposed Parking Spaces				0 spaces (Note 1)

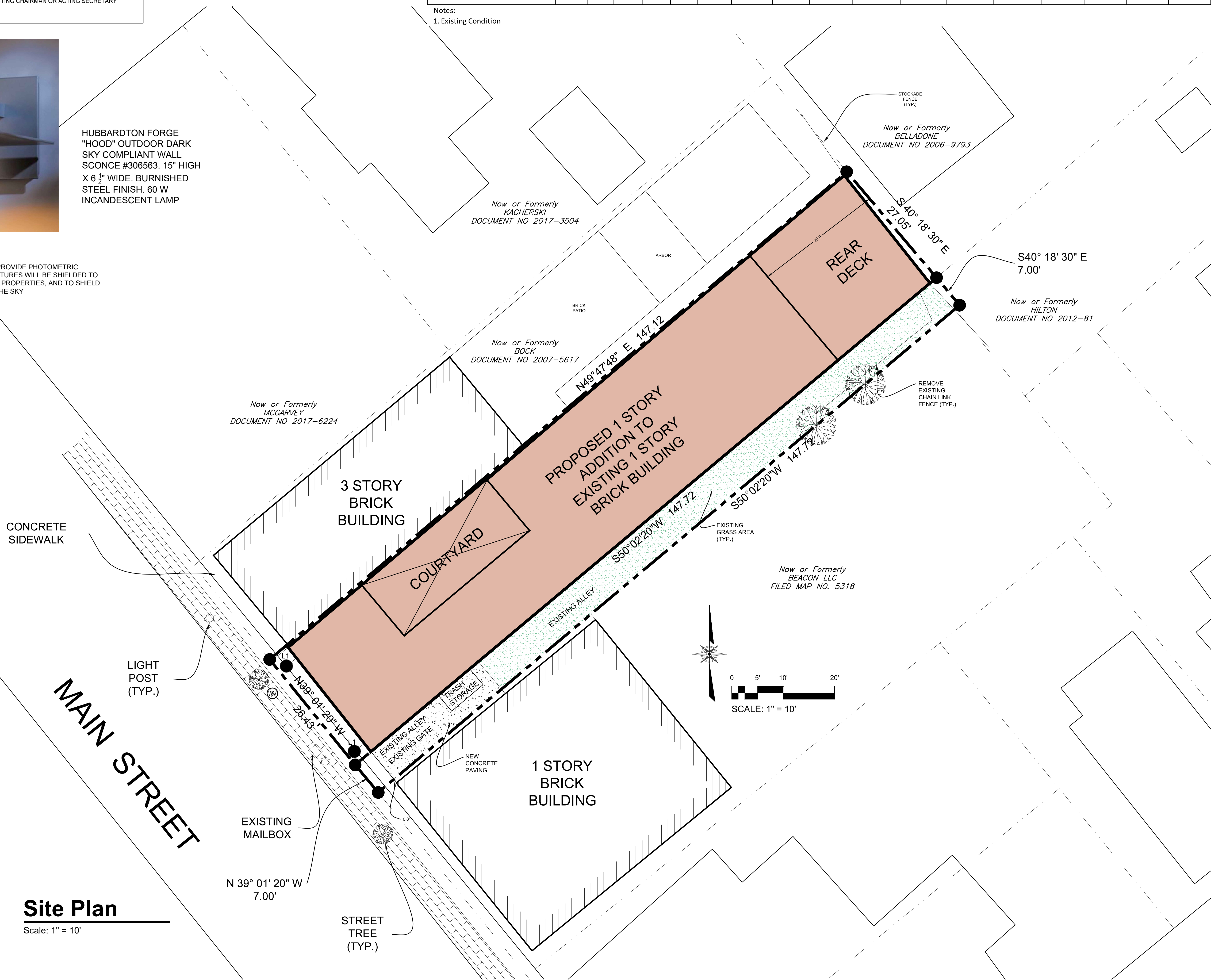
Notes:

- Parking is not required per Beacon Zoning Code Section 223-26 (B.2). The building was in existence on April 20, 1964. The existing use in 1964 was retail at the 1st floor per the 1964 Beacon Directory. The new use is less than 25% greater intensity than the use existing in 1964. 19 parking spaces would have been required in 1964 for the uses in existence at that time. 13 parking spaces are required for the current proposed uses.
- There is no space on the property to provide parking.
- Required landscaping of a minimum of 10% of the lot area is satisfied by the existing grass alley, which is 16% of the lot area. The Planning Board can waive the landscaping requirement for lots smaller than 5,000 sf. The subject property is 3,940 sf.
- There are public parking lots within 800' of the property.
 - Adjacent to 208 Main Street
 - Dutchess County Motor Vehicles
- Retail Hours of operation: 7am – 11pm, Monday through Sunday, inclusive
- Retail tenants will apply separately for permits for their own signage
- The Applicant hereby grants the City of Beacon Building Inspector access to the building and site to verify where roof leaders, and sump pumps, if any, drain to.

Index of Drawings

Sheet 1 of 3 Site Plan
 Sheet 2 of 3 Existing Conditions Survey
 Sheet 3 of 3 Floor Plans & Elevations

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	11/27/18	REVISED PER PLANNING BOARD COMMENTS	AJS
2	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS



Site Plan

Scale: 1" = 10'

LEGEND	
---	PROPERTY LINE
SS	SANITARY SEWER LINE
ST	STORM SEWER LINE
---	FENCE
---	OVERHEAD WIRES
⊕	HYDRANT
⊕	GAS VALVE
⊕	WATER VALVE
⊕	ELECTRIC BOX
⊕	UNKNOWN MANHOLE
⊕	TELEPHONE MANHOLE
⊕	SANITARY SEWER MANHOLE
⊕	DRAINAGE MANHOLE
⊕	DROP INLET
⊕	LIGHT POLE
⊕	UTILITY POLE
⊕	MAIL BOX
---	GUY WIRE
---	SIGN
●	BOLLARD
○	IRON ROD FOUND
□	MONUMENT FOUND

- NOTES:
1. BEING THE SAME PARCEL AS DESCRIBED IN THE LIBER 1357 OF DEEDS, AT PAGE 365 AND SUBJECT TO RESTRICTIONS AND CONDITIONS THEREIN.
 2. TOGETHER WITH ANY RIGHT, TITLE OR INTEREST IN AND TO THE CENTER OF THE PUBLIC ROADS SHOWN HEREON.
 3. BEING LOT NO. ___ AS SHOWN ON FILED MAP NO. _____
 4. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
 5. ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.
 6. CERTIFICATIONS INDICATED HEREON SIGNIFY THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. SAID CERTIFICATIONS SHALL RUN ONLY TO THE PERSONS FOR WHOM THE SURVEY IS PREPARED, AND ON HIS BEHALF TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.
 7. THIS SURVEY IS SUBJECT TO ANY FINDINGS OF A TITLE SEARCH.
 8. SUBSURFACE STRUCTURES AND UTILITIES WHICH WERE NOT VISIBLE AT THE TIME OF THE SURVEY HAVE NOT BEEN SHOWN.
 9. ©ALL RIGHTS RESERVED. COPYING OR REPRODUCTION OF THIS PLAN OR ANY PORTION THEREOF PROHIBITED WITHOUT THE WRITTEN PERMISSION OF THE DESIGN ENGINEER / SURVEYOR.

FILED MAP REFERENCE

Map entitled "The Lands of 234 Main, LLC" prepared by Robert V. Oswald and filed in the Dutchess County Clerks office on (Date) as Map No. (2018.030)

DATE OF SURVEY

Field Completion: March 29, 2018
Robert V. Oswald Land Surveying
175 Walsh Road
Lagrangeville, New York 12540

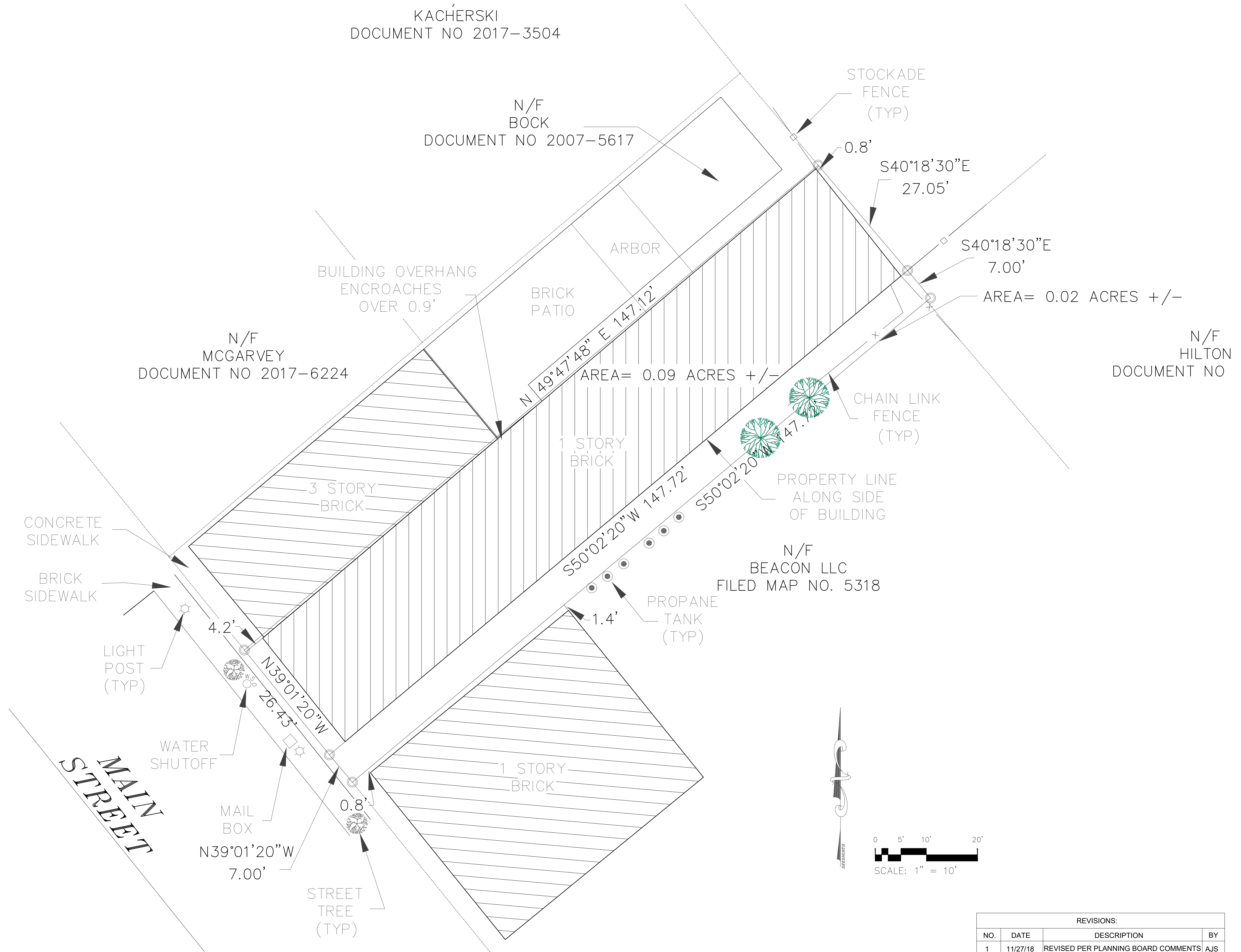
APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAN, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____ BY

CHAIRMAN

SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.



Existing Conditions Survey

Scale: 1" = 10'

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	11/27/18	REVISED PER PLANNING BOARD COMMENTS	AJS
2	12/25/18	NO CHANGE	AJS

Site Plan Application
Sheet 2 of 3 - Existing Conditions Survey

Owner:
234 Main, LLC

Beacon, New York 12508

Architect:
Aryeh Siegel, Architect

84 Mason Circle
Beacon, New York 12508

Surveyor:
Robert V. Oswald Land Surveying

175 Walsh Road
Lagrangeville, New York 12540

234 Main Street

Beacon, New York
Scale: 1" = 10'
October 30, 2018

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY _____

_____, CHAIRMAN

_____, SECRETARY
 IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.



Existing Photos



Elevation: Main Street

Scale: 1/4" = 1'-0"

NOTE THAT THE NEW FIRST FLOOR ARCHITECTURAL ELEMENTS, INCLUDING THE NEW STOREFRONT AND FLANKING STEEL COLUMNS, WILL NOT PROJECT BEYOND THE FRONT PLANE OF THE EXISTING BUILDING



View



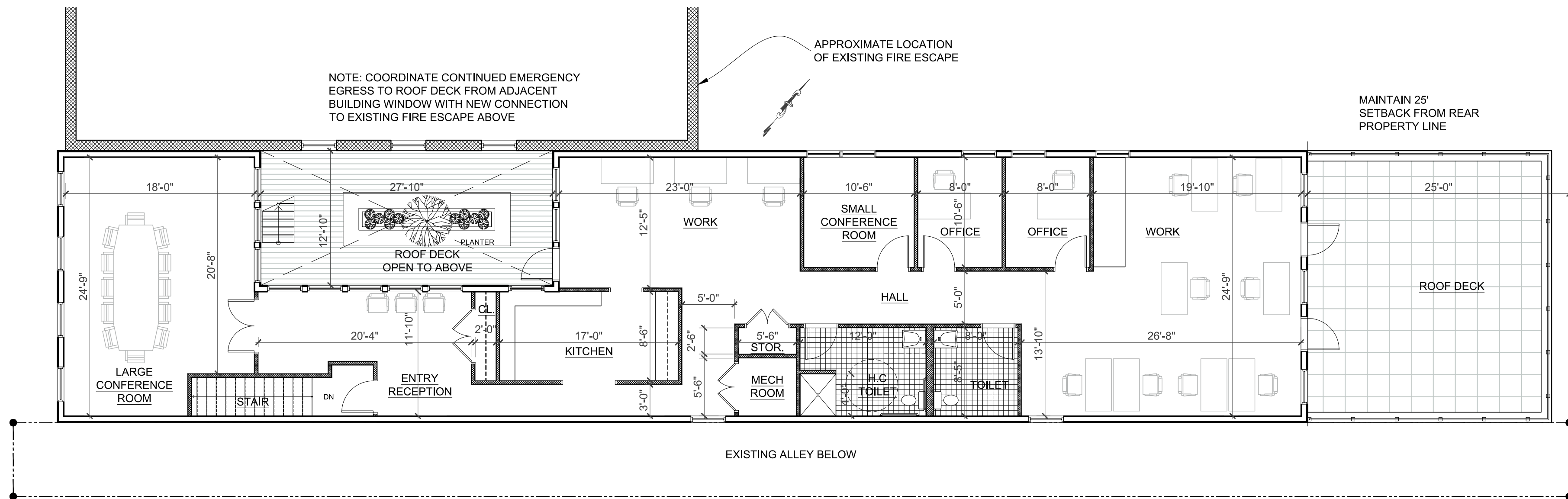
View

Site Plan Application
 Sheet 3 of 3 - Floor Plans & Elevations

234 Main Street

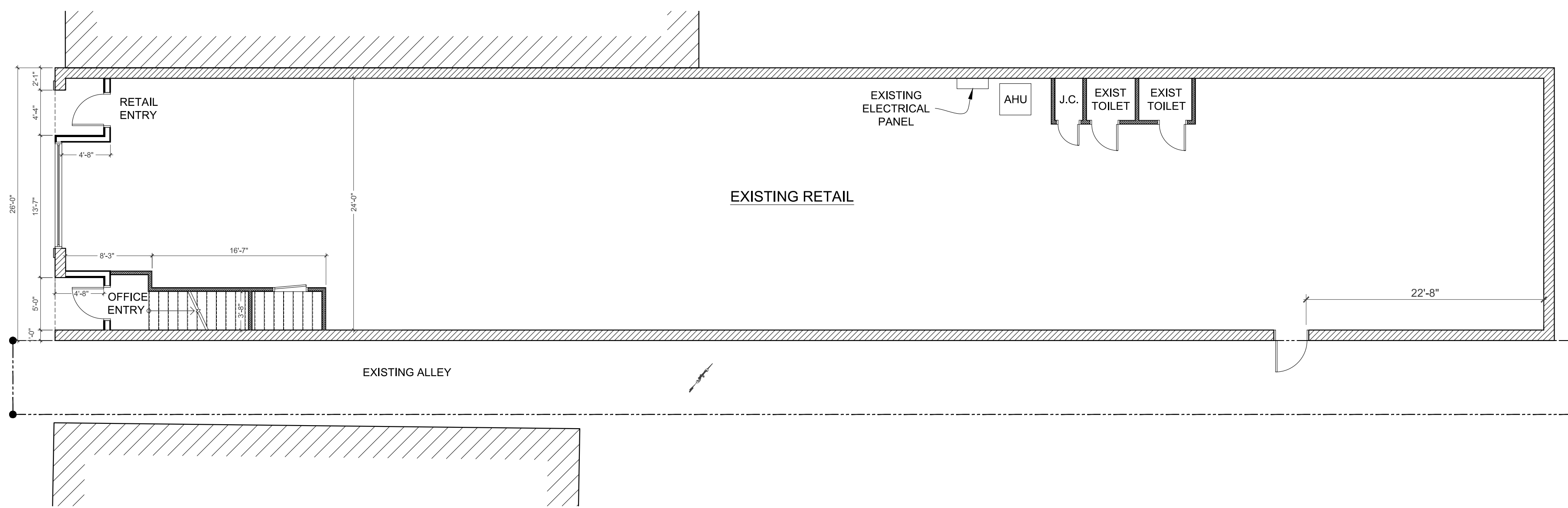
Beacon, New York
 Scale: As Noted
 October 30, 2018

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	11/27/18	REVISED PER PLANNING BOARD COMMENTS	AJS
2	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS



2nd Floor Plan

Scale: 1/8" = 1'-0"



1st Floor Plan

Scale: 1/8" = 1'-0"

City of Beacon Planning Board
1/8/2019

Title:

23-28 Creek Drive

Subject:

Review application for Site Plan Approval, Mixed Use Development, 23-28 Creek Drive, submitted by 23-28 Creek Drive, LLC

Background:

ATTACHMENTS:

Description	Type
23-28 Creek Drive Exhibit A - Images of Premises	Backup Material
23-28 Creek Drive Exhibit B - Contract of Sale	Backup Material
23-28 Creek Drive Exhibit C - EAF Narrative Full EAF - Signed	EAF
23-28 Creek Drive Exhibit D 12-3-18 Resolution_Creek Dr referral(3954651.1)	Resolution
23-28 Creek Drive Exhibit H - SWPPP	Backup Material
23-28 Creek Drive Exhibit I Traffic Impact Study - Maser	Backup Material
23-28 Creek Drive Exhibit J - Application Site Plan Approval	Application
23-28 Creek Drive_Sheet_1_Site Plan_181225	Plans
23-28 Creek Drive_Sheet_2_Existing Conditions Survey_181225	Plans
23-28 Creek Drive_Sheet_3_Site Section Diagram_181225	Plans
23-28 Creek Drive_Sheet_4_Landscape Plan_181225	Plans
23-28 Creek Drive_Sheet_5_Floor Plans_181225	Plans
23-28 Creek Drive_Sheet_6_Renderings_181225	Plans
23-28 Creek Drive_Sheet_7_Grading and Utility Plan_181225	Plans
23-28 Creek Drive_Sheet_8_Erosion and Sediment Control Plan_181225	Plans
23-28 Creek Drive_Sheet_9_Profiles_181225	Plans
23-28 Creek Drive_Sheet_10_Site Details_181225	Plans
23-28 Creek Drive_Sheet_11_Stormwater Details_181225	Plans
23-28 Creek Drive_Sheet_12_Water and Sewer Details_181225	Plans

Exhibit A:

Google Map Aerial of the Premises – 23-28 Creek Drive:

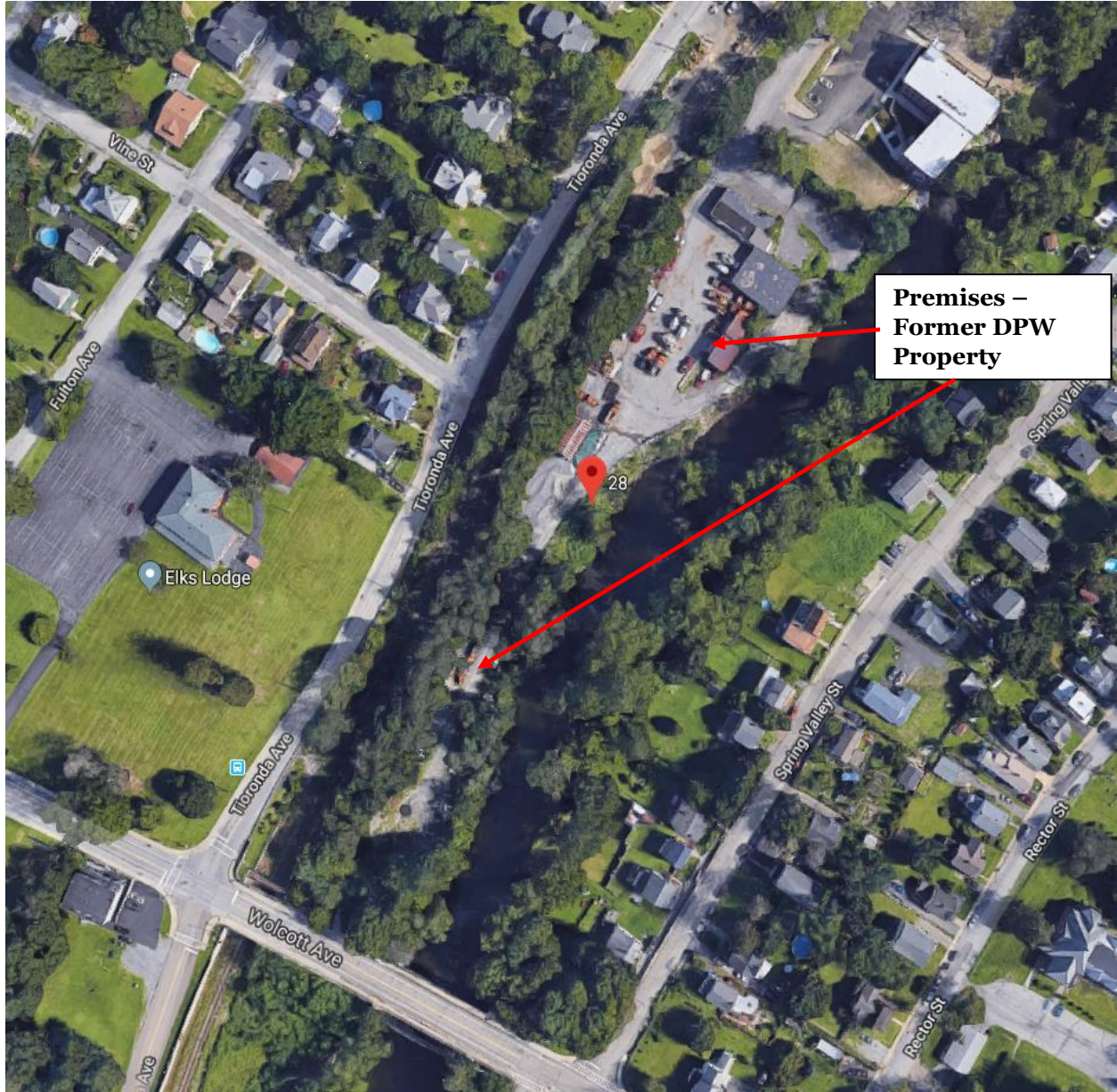


Exhibit A (Cont.):

Google Map Aerial of the Premises:

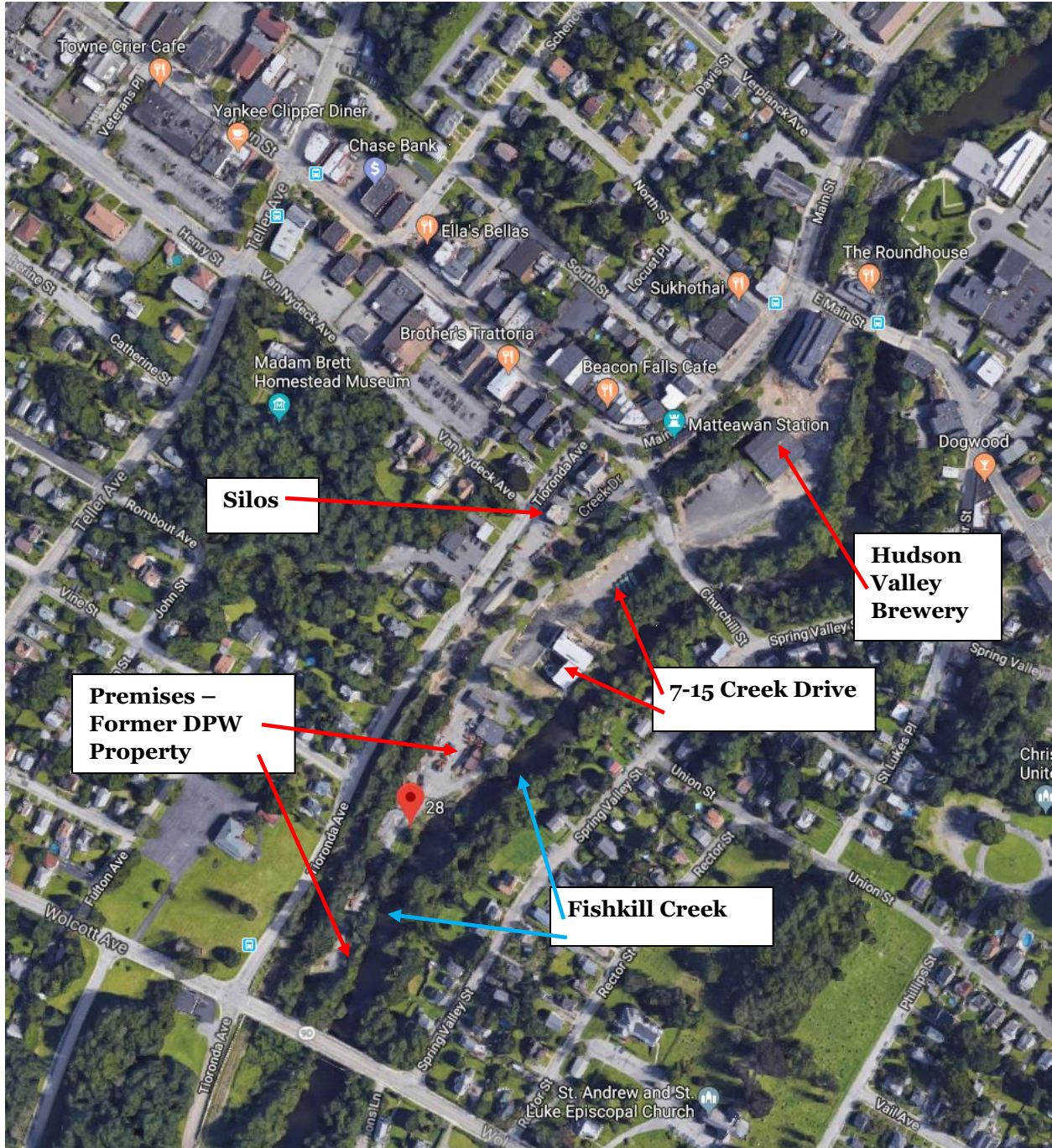


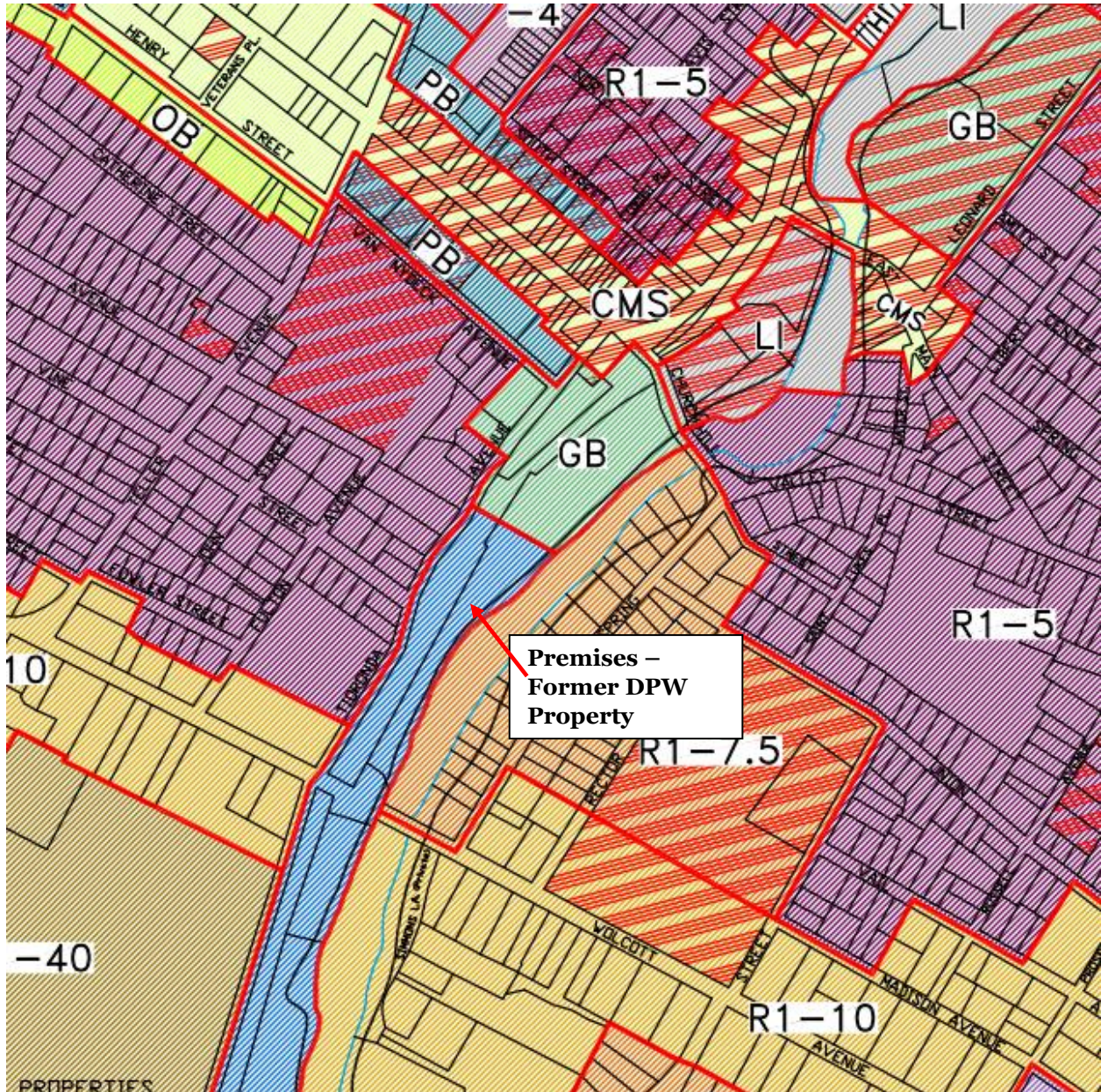
Exhibit A (Cont.):

Dutchess County GIS—Parcel Access View of the Premises:



Exhibit A (Cont.):

Excerpt of City of Beacon Zoning Map (Dated September 24, 2018):



23 – 28 Creek Drive

FULL ENVIRONMENTAL ASSESSMENT FORM

APPLICATION FOR CONCEPT PLAN APPROVAL

By 23-28 Creek Drive, LLC

For premises located at:

**23 – 28 CREEK DRIVE
BEACON, NY 12508**

SUBMITTED TO:

CITY OF BEACON CITY COUNCIL

OCTOBER 23, 2018

CONTRIBUTORS

Applicant:	Weber Projects III, LLC Beacon, NY 12508
Architect:	Aryeh Siegel, Architect 84 Mason Circle Beacon, NY 12508
Landscape Designer:	Landscape Restorations P.O. Box 286 Beacon, NY 12508
Civil Engineer:	Hudson Land Design 174 Main Street Beacon, NY 12508
Surveyor:	TEC Land Surveying, P.C. 15C Tioranda Avenue Beacon, NY 12508
Project Attorney:	Cuddy & Feder, LLP 445 Hamilton Avenue 14 th Floor White Plains, NY 10601

TABLE OF CONTENTS

1. Introduction
2. Part 1 Full Environmental Assessment Form

In addition, site development plans and drawings prepared by Aryeh Siegel, Architect, Hudson Land Design, Landscape Restorations, and TEC Land Surveying, and submitted to the Planning Board with the application materials, are made part of this document by reference.

INTRODUCTION

Summary

The 23-28 Creek Drive project is located on the former City of Beacon Department of Public Works (DPW) property in the City of Beacon, Dutchess County, New York. The parcel consists of approximately 2.81 acres of land, is located at 23-28 Creek Drive behind the 7-15 Creek Drive project, adjacent to the Fishkill Creek, and consists of the proposed redevelopment of the site to allow for construction of new buildings, in addition to parking, landscaping and other general improvements to the site.

The Applicant proposes to demolish the existing buildings on the site in order to construct a new mixed-used commercial/residential building with 13,771+/- sq. ft. of commercial space and nine (9) residential apartment units. The project also includes an extension of the City's Fishkill Creek Greenway & Heritage Trail ("Greenway Trail") through the site and the creation of a large creek-front public park. Additionally, parking, paving, landscaping, and other site improvements will be part of the proposed development.

The property abuts the property located at 7-11 Creek Drive, which is also owned by the Applicant. The proposal for the former DPW site incorporates the new drive on the Applicant's property. The Applicant hopes to use crushed rock from site demolition at his adjacent property as fill on the subject site to alleviate some of the elevation differences at the head of the Greenway Trail near NYS Route 9D. The Applicant proposes to create a public park, integrated with the Greenway Trail, at the end of the property near NYS Route 9D.

Existing Conditions

The site has been previously developed by the City of Beacon and currently contains several buildings including a salt shed that will be demolished to allow for the proposed development. Since the site served as a former DPW yard, there is potential for previous contamination of the soils from machinery, storage of salt and other materials typically used by municipalities. A Phase I Environmental Site Assessment revealed diesel contaminants in portions of the site. The existing contaminated soils will be remediated in accordance with NYSDEC regulations.

Zoning and Approvals Sought

The site is located in the FCD – Fishkill Creek Development zoning district. The proposed uses are consistent with the Zoning Code requirements for the zoning district, and are permitted as of right, via Concept Plan Approval from the City Council, and Site Plan approval from the City of Beacon Planning Board.

The proposed development also requires the following area variances from the Zoning Board of Appeals (ZBA):

- 4-story building where 3-stories are permitted;
- Building height of 53.5' where 40' is permitted;
- Apartment size exceeding 2,000 sq.ft. for two (2) of the proposed apartments, and
- Lot Frontage on a public street right-of-way in the FCD.

Architecture

The proposed 4-story mixed-use building has a brick commercial 1st floor base over the 34 car garage. The upper portion of the building is clad with galvanized metal siding with a natural finish. The proportions of the overall structure, and the large scaled windows reference the original factory buildings along the Fishkill Creek. Monumental exit stairs cascade down the front of the building, and eliminate the need for internal stair towers.

There are 7 duplex units on the 2nd and 3rd floors, with two larger single floor units on the 4th floor. The duplex units have private roof terraces over the 1st floor overlooking the Creek. The 4th floor units have access to private decks on the upper roof.

The 1st floor commercial space has 14-foot-high ceilings, and the residential floors all have 10 foot ceilings.

Ownership

The proposed apartments and commercial space will be owned by one entity and offered for rent.

Traffic Access

Access to the site will be via the internal driveway through the 7-15 Creek Drive property. Creek Drive will remain in place; however will only be used for emergency access. A gate with Knox box or some other means of blocking Creek Drive is proposed to deter drivers from using Creek Drive, as the existing curb cut at the 7-15 Creek Drive development was determined to have better sight distance as part of that project.

Parking

The project will provide a total of 84 parking spaces located in a number of lots on the site, as well as beneath the building. Parking will be screened by landscaping to mitigate views from the street and neighboring properties. The total required number of parking spaces is 83. Therefore 6 extra parking spaces are provided in addition to the required parking. The provision of sufficient on-site parking for the residents and users of the commercial portion of the site ensures that on-street parking will not be used for this development. The following table summarizes the require parking spaces.

Use & Parking Requirements	Area / Count	Proposed Parking Requirement
Residential Use <i>1 space for each dwelling unit, plus 1 /4 space for ebedroom</i>	9 Apartments + 20 bedrooms	14 spaces
Office (Shared Workspace) <i>1 space for every 200 sqft of floor area.</i>	13,771 sf	69
Total Required Parking Spaces		83
Total Proposed Parking Spaces		84

Office Space Operations

The proposed project will provide a total of 13,771 sq. ft. of commercial shared office/work space, primarily on the second story of the proposed building, with some of the commercial space located in two smaller buildings. The shared office/work space will be available for the residents of the building as well as the general public. An outdoor patio will be provided on the main building outside of the shared office/work space.

Landscaping

Landscaping on this project will fulfill several goals. First, it will improve the aesthetic experience of the site through the removal of dead, diseased, and invasive vegetation, as well as non-vegetative debris, and replacement with gardens, planted parking islands, and shade trees. Plant and tree species will be native with many species of ornamental grasses that are drought tolerant.

Additionally, a combination of fencing and plant material (trees, shrubs, perennials, vines, and ornamental grasses) will be employed to create a visual buffer between the street and parking areas. Plantings will also be designed to soften buildings while framing and enhancing views of Fishkill Creek and Mount Beacon.

Second, the landscaping will help with the management of stormwater runoff through grading, hardscape and softscape (vegetation) elements that will serve to slow, detain, and filter surface runoff. Third, implementation of the proposed landscaping plan will result in restoration of a native riparian habitat through removal of non-native and invasive species and planting of native trees, shrubs, and herbaceous plants. Fourth, the landscaping will improve safety conditions along the banks of the Fishkill Creek through planting, where possible, of evergreen or dense deciduous shrubs, obviating the need for guardrail fencing along steep drop-off areas of the creek.

Lot Line Realignment

A lot line re-alignment is proposed between the subject parcel and the adjacent 7-15 Creek Drive parcel that the Applicant owns. This will allow for the proposed parking lots to lie on the subject parcel after the alignment. The 7-15 Creek drive parcel will convey approximately 0.44+/- acres of lot area to the subject parcel. The resultant lot areas for

the 7-15 Creek Drive parcel and the subject parcel will be approximately 1.503+/- acres and 3.246+/- acres, respectively

Greenway Trail and Park

An 8' wide Greenway Trail is proposed to link up with the existing Greenway Trail on the 7-15 Creek Drive project to Route 9D. There is a substantial elevation difference between the grade on the south side of the site and NYS Route 9D. As such, the Applicant will work with the Greenway Trail Committee and the City to come up with the best solution for providing a walking path that provides accessible passage to the greatest extent possible.

A park will also be provided in the southern portion of the site that will offer passive on-site recreation to residents and the public.

Storm Water

As site disturbance will exceed 1-acre, a full Storm Water Pollution Prevention Plan (SWPPP) will be prepared in order to obtain coverage under the New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit GP-0-15-002. The proposed redevelopment of the property will result in a slight decrease in impervious area (including the proposed impervious area within the lot conveyance area). As such, under Chapter 9 of the NYSDEC Stormwater Manual, the proposed redevelopment of the property requires quality control of 25% of the impervious surface associated with the site as well as erosion and sediment control measures.

The Fishkill Creek borders the east side of the property and runs in a southerly direction. The Fishkill Creek is classified as a fourth order stream; therefore, under the current permit, quantity control is not required and discharge directly to the creek without attenuation is permitted if a downstream analysis reveals that quantity for the 10 and 100 year storms is not required.

The Fishkill Creek has a substantial watershed and attenuating the site runoff and delaying the discharge to the Fishkill Creek could actually exacerbate flooding problems within the watershed by discharging the site's runoff at a time closer to when the peak flow of the stream occurs. Since the site is very close to the bottom of the Fishkill Creek watershed, it would be beneficial to discharge the runoff as quickly as possible. This has been confirmed with a conversation with representatives of the NYSDEC. The permit does require qualitative treatment prior to discharge off site. Qualitative treatment will be established by providing a combination of storm water practices consisting of storm water infiltration basins, and underground infiltration. The use of these "best management practices" (BMP's) will ensure that the state standard goals are met.

Water Supply

At full build-out, the project is expected to require 2,920 gallons of water per day. Per conversations with the City of Beacon Water Superintendent, the anticipated increase in daily water demand is readily available. There is new 8" ductile iron main that was installed within 7-15 Creek Drive during construction of that site to replace a 6" asbestos clay pipe (ACP) that ran through the property. The 8" ductile iron water main (DIP) was connected back to the 6" ACP pipe with a water valve and stub, so that the main could be extended in the future without shutting down the water main through 7-15 Creek Drive.

The 6" ACP main continues into the subject parcel and terminates at an existing hydrant. The 6" ACP water main will be replaced with new 8" DIP water main into the site and terminate at a proposed hydrant. The existing hydrant will be relocated as part of the project providing two on-site hydrants. A 6" DIP service line will be provided to the new building for domestic and fire flow needs.

Flow and pressure tests have been conducted on existing hydrants at the intersection of Main Street and Churchill Street, and the intersection of Churchill Street and Spring Valley Street. Two (2) hydrants were tested for flow while monitoring pressure losses at two other hydrants per test hydrant. Each hydrant was flowed at a rate in excess of 1,400 gallons per minute with average pressure losses of 15 psi during maximum flow, and static pressures of 88 to 100 psi.

Sewage Disposal

At full build-out, the project is expected to generate 2,920 gallons of wastewater per day. Per conversations with the City of Beacon Sewer Superintendent, the City's existing sewer infrastructure and sewer treatment plant have sufficient capacity to handle the anticipated increase in daily sewage load. There is an existing 30" sewer main that runs through the site. The proposed main building will tie into the 30" sewer main via an insertion (dog house) manhole. The sewer main will also be relocated through a portion of the site to allow for construction of the main building. A combination of insertion manholes and a standard manhole are proposed along with new 30" SDR 35 PVC sewer main to bypass the building.

Most of the site's sewer connections are old and experience infiltration and inflow (I&I) problems; however, the City has been working diligently to correct I&I issues with the old infrastructure by eliminating sources of stormwater discharges into the sewer, and infiltration by replacing old infrastructure.

An on-site I&I study was conducted on site, and it was determined that no building rooftops or floor drains discharge to the City sewer. During rain storms, the flow into the City's sewer mains increases dramatically, which is a common problem in cities with old buildings. The increase in flow adds unnecessary strain to the existing sewer mains and sewer plant. Therefore, a new sewer service connection will be provided at the proposed building and all existing service connections on site will be disconnected from the City's mains and capped in place or removed. This will eliminate (I&I) problems that currently

occur on site; thus reducing I&I flow surges to the City's municipal system during rain storms.

Sewage will be conveyed to the City owned sewer treatment plant which has a reported excess capacity of 3 million gallons per day. The sewer main re-alignment will be offered to the City of Beacon. A sewer easement will be provided along the main through the site for allowance of maintenance and repairs by the Beacon Sewer Department.

Summary

Once completed, the project will add approximately 9 residential housing units, and 13,771 sq. ft. of commercial shared office/work space. Further, the park in the southern portion of the parcel and Greenway Trail will offer passive recreation for the residents of the site where no access or recreation is currently provided. The commercial shared office/work space will offer state-of-the-art shared office space for businesses and sole source proprietors seeking office space without the need to rent a large space.

Environmental remediation of the site will improve the overall quality of the site by remediating contaminated soils in accordance with NYSDEC regulations; thereby reducing potential contaminants from entering the Fishkill Creek, groundwater, or atmosphere.

Implementation of green infrastructure stormwater practices will reduce the impacts to the Fishkill Creek from site runoff.

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

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

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

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

A. Project and Sponsor Information.

Name of Action or Project: 23-28 Creek Drive Mixed-Use Development		
Project Location (describe, and attach a general location map): 23-28 Creek Drive Beacon, New York 12508		
Brief Description of Proposed Action (include purpose or need): The 23-28 Creek Drive project is located on the property formerly occupied by the City of Beacon Department of Public Works (DPW). The parcel consists of approximately 2.81 acres of land and related improvements located at 23-28 Creek Drive, Beacon, New York. The project proposes to redevelop the site to allow for the construction of a commercial/residential mixed-use project, in addition to parking, landscaping and other improvements. The Applicant proposes to demolish the existing buildings on the site in order to construct a new mixed-used commercial/residential building with 13,771+/- sq.ft. of commercial space and nine (9) residential apartment units. The project also includes an extension of the City's Fishkill Creek Greenway & Heritage Trail through the site and the creation of a large creek-front public park.		
Name of Applicant/Sponsor: 23-28 Creek Drive, LLC	Telephone: (917) 622-0657	E-Mail: rodney@weberprojectslc.com
Address: 11 Creek Drive, Suite 102A		
City/PO: Beacon	State: New York	Zip Code: 12508
Project Contact (if not same as sponsor; give name and title/role):	Telephone:	E-Mail:
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): City of Beacon	Telephone: (845) 838-5000	E-Mail: cityofbeacon@cityofbeacon.org
Address: One Municipal Plaza		
City/PO: Beacon	State: New York	Zip Code: 12508

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. (“Funding” includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No or Village Board of Trustees	City Council Concept Plan Approval	October 23, 2018
b. City, Town or Village <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Planning Board or Commission	Planning Board Site Plan Approval and Possible Lot Line Realignment Approval	November 2018 (projected)
c. City Council, Town or <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Village Zoning Board of Appeals	ZBA Area Variances	December 2018 (projected)
d. Other local agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building Department Building Permit and Possible Lot Line Realignment Approval	June, 2019 (projected)
e. County agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Dutchess County Planning-GML 239	November 2018 (projected)
f. Regional agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
g. State agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	NYSDEC GP-0-015-002 SPDES Permit	June 2019 (projected)
h. Federal agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	USACE Section 404 Permit	December 2018 (projected)
i. Coastal Resources.		
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
iii. Is the project site within a Coastal Erosion Hazard Area?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

C. Planning and Zoning

C.1. Planning and zoning actions.	
Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> • If Yes, complete sections C, F and G. • If No, proceed to question C.2 and complete all remaining sections and questions in Part 1 	
C.2. Adopted land use plans.	
a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, identify the plan(s):	
Fishkill Creek Development zone requires a greenway trail to be incorporated into the planning of the site for passive recreation.	

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes, identify the plan(s):	

C.3. Zoning

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

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

c. Is a zoning change requested as part of the proposed action? Yes No

If Yes,

i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? City of Beacon

b. What police or other public protection forces serve the project site?
City of Beacon

c. Which fire protection and emergency medical services serve the project site?
City of Beacon

d. What parks serve the project site?
Mount Beacon, Memorial Park, Madam Brett Park, Dennings Point Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Residential and commercial (shared office/work space)

b. a. Total acreage of the site of the proposed action? 2.806 acres 3.246 ac. after lot line re-alignment
b. Total acreage to be physically disturbed? 2.06 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 4.35 acres

c. Is the proposed action an expansion of an existing project or use? Yes No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? Yes No
If Yes,

i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
A lot line re-alignment is proposed between the subject parcel and the adjacent parcel that the Applicant also owns.

ii. Is a cluster/conservation layout proposed? Yes No

iii. Number of lots proposed? 2 existing

iv. Minimum and maximum proposed lot sizes? Minimum 1.503 ac. Maximum 3.246 ac.

e. Will proposed action be constructed in multiple phases? Yes No

i. If No, anticipated period of construction: 12 months

ii. If Yes:

- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year

• Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? Yes No
 If Yes, show numbers of units proposed.

	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	9
At completion of all phases	_____	_____	_____	9

g. Does the proposed action include new non-residential construction (including expansions)? Yes No
 If Yes, ^{*With two accessory buildings.}

i. Total number of structures _____ 1*
 ii. Dimensions (in feet) of largest proposed structure: 53 1/2' height; 69' width; and 194' length
 iii. Approximate extent of building space to be heated or cooled: _____ 13,771 square feet

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

i. Purpose of the impoundment: _____
 ii. If a water impoundment, the principal source of the water: Ground water Surface water streams Other specify: _____
 iii. If other than water, identify the type of impounded/contained liquids and their source. _____
 iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres
 v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length
 vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____

D.2. Project Operations

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

i. What is the purpose of the excavation or dredging? _____
 ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
 • Volume (specify tons or cubic yards): _____
 • Over what duration of time? _____
 iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____

 iv. Will there be onsite dewatering or processing of excavated materials? Yes No
 If yes, describe. _____

 v. What is the total area to be dredged or excavated? _____ acres
 vi. What is the maximum area to be worked at any one time? _____ acres
 vii. What would be the maximum depth of excavation or dredging? _____ feet
 viii. Will the excavation require blasting? Yes No
 ix. Summarize site reclamation goals and plan: _____

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

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

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

iii. Will proposed action cause or result in disturbance to bottom sediments? Yes No

If Yes, describe: _____

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

If Yes:

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

v. Describe any proposed reclamation/mitigation following disturbance: _____

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

If Yes:

i. Total anticipated water usage/demand per day: _____ 2,920 gallons/day

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

If Yes:

- Name of district or service area: City of Beacon
- Does the existing public water supply have capacity to serve the proposal? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No
- Do existing lines serve the project site? Yes No

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

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
The existing 6" ACP water main will be replaced with a new 8" DIP water main.
- Source(s) of supply for the district: City of Beacon

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

If Yes:

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

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

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

d. Will the proposed action generate liquid wastes? Yes No

If Yes:

i. Total anticipated liquid waste generation per day: _____ 2,920 gallons/day

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

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

If Yes:

- Name of wastewater treatment plant to be used: City of Beacon
- Name of district: City of Beacon
- Does the existing wastewater treatment plant have capacity to serve the project? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No

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

 If Yes:

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

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

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

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

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

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

- i. How much impervious surface will the project create in relation to total size of project parcel?
 -346 Square feet or _____ acres (impervious surface) *The overall project will result in a reduction of impervious surface.
 _____ Square feet or _____ acres (parcel size)
- ii. Describe types of new point sources. _____
- iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?
 Stormwater runoff will be captured on site through best management practices where it will be treated prior to discharge to Fishkill Creek.

- If to surface waters, identify receiving water bodies or wetlands: _____
 Fishkill Creek.
- Will stormwater runoff flow to adjacent properties? Yes No

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

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

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

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

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

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

- i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) Yes No
- ii. In addition to emissions as calculated in the application, the project will generate:
 - _____ Tons/year (short tons) of Carbon Dioxide (CO₂)
 - _____ Tons/year (short tons) of Nitrous Oxide (N₂O)
 - _____ Tons/year (short tons) of Perfluorocarbons (PFCs)
 - _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆)
 - _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflouorocarbons (HFCs)
 - _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

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

If Yes:

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

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

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

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

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

If Yes:

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

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? Yes No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____

vi. Are public/private transportation service(s) or facilities available within 1/2 mile of the proposed site? Yes No

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

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

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

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____
80,760 KWh

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):
Central Hudson Gas & Electric

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

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

<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8am-6pm • Saturday: _____ 8am-6pm • Sunday: _____ • Holidays: _____ 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8am-6pm • Saturday: _____ 8am-6pm • Sunday: _____ • Holidays: _____
--	---

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? Yes No
 If yes:
 i. Provide details including sources, time of day and duration:

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? Yes No
 Describe: _____

n. Will the proposed action have outdoor lighting? Yes No
 If yes:
 i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:
Outdoor lights will be LED dark sky friendly, shielded and aimed at parking spaces and building entrances.

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

o. Does the proposed action have the potential to produce odors for more than one hour per day? Yes No
 If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? Yes No
 If Yes:
 i. Product(s) to be stored _____
 ii. Volume(s) _____ per unit time _____ (e.g., month, year)
 iii. Generally describe proposed storage facilities: _____

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

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

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? Yes No
 If Yes:
 i. Describe any solid waste(s) to be generated during construction or operation of the facility:
 • Construction: _____ tons per _____ (unit of time)
 • Operation : _____ tons per _____ (unit of time)
 ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:
 • Construction: _____

 • Operation: _____

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

 • Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? Yes No
 If Yes:
 i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____
 ii. Anticipated rate of disposal/processing:
 • _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
 • _____ Tons/hour, if combustion or thermal treatment
 iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? Yes No
 If Yes:
 i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

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

 iii. Specify amount to be handled or generated _____ tons/month
 iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

 v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? Yes No
 If Yes: provide name and location of facility: _____

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

E. Site and Setting of Proposed Action

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

a. Existing land uses.
 i. Check all uses that occur on, adjoining and near the project site.
 Urban Industrial Commercial Residential (suburban) Rural (non-farm)
 Forest Agriculture Aquatic Other (specify): _____
 ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertypes	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.971	0.969	-0.002
• Forested	0.290	0.290	0.00
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.978	1.186	0.208
• Agricultural (includes active orchards, field, greenhouse etc.)	0.00	0.00	0.00
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.802	0.802	0.802
• Wetlands (freshwater or tidal)	0.00	0.00	0.00
• Non-vegetated (bare rock, earth or fill)	0.205	0.00	-0.205
• Other Describe: _____ _____			

*The above areas are based upon the total area of 3.246 ac. after lot line re-alignment.

c. Is the project site presently used by members of the community for public recreation? Yes No
i. If Yes: explain: _____

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

e. Does the project site contain an existing dam? Yes No
If Yes:
i. Dimensions of the dam and impoundment:
• Dam height: _____ feet
• Dam length: _____ feet
• Surface area: _____ acres
• Volume impounded: _____ gallons OR acre-feet
ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? Yes No
If Yes:
i. Has the facility been formally closed? Yes No
• If yes, cite sources/documentation: _____
ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

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

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? Yes No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? Yes No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes No
 Yes – Spills Incidents database Provide DEC ID number(s): 9607092
 Yes – Environmental Site Remediation database Provide DEC ID number(s): _____
 Neither database
ii. If site has been subject of RCRA corrective activities, describe control measures:
A spill was reported on adjacent site at 2 Churchill Street on 9/3/1996 and closed on 3/24/2004.
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? Yes No
If yes, provide DEC ID number(s): 314044 , C314118, 546031
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):
Site no. 314044 is classified: C, site no. C314118 is classified: N, and site no. 546031 is classified: 2.

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

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

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? _____ 6.5 feet

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

c. Predominant soil type(s) present on project site: Udorthents _____ 100 %
_____ %
_____ %

d. What is the average depth to the water table on the project site? Average: _____ 4.5 feet

e. Drainage status of project site soils: Well Drained: _____ 100 % of site
 Moderately Well Drained: _____ % of site
 Poorly Drained _____ % of site

f. Approximate proportion of proposed action site with slopes: 0-10%: _____ 65 % of site
 10-15%: _____ 5 % of site
 15% or greater: _____ 30 % of site

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

h. Surface water features.

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

ii. Do any wetlands or other waterbodies adjoin the project site? Yes No
If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

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

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

- Streams: Name Fishkill Creek Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, Federal Waters Approximate Size Fishkill Creek
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? Yes No
If yes, name of impaired water body/bodies and basis for listing as impaired: _____

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

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

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

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? Yes No
If Yes:
i. Name of aquifer: Principal Aquifer

<p>m. Identify the predominant wildlife species that occupy or use the project site:</p> <p>White Tail Deer _____ Grey Squirrel _____ Raccoon _____</p> <p>_____</p>	
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Describe the habitat/community (composition, function, and basis for designation): _____</p> <p style="margin-left: 20px;">ii. Source(s) of description or evaluation: _____</p> <p style="margin-left: 20px;">iii. Extent of community/habitat:</p> <ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres 	
<p>o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
<p>p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, give a brief description of how the proposed action may affect that use: _____</p> <p>_____</p>	
<p>E.3. Designated Public Resources On or Near Project Site</p>	
<p>a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, provide county plus district name/number: _____</p>	
<p>b. Are agricultural lands consisting of highly productive soils present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p style="margin-left: 20px;">i. If Yes: acreage(s) on project site? _____</p> <p style="margin-left: 20px;">ii. Source(s) of soil rating(s): _____</p>	
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature</p> <p style="margin-left: 20px;">ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____</p> <p>_____</p>	
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. CEA name: _____</p> <p style="margin-left: 20px;">ii. Basis for designation: _____</p> <p style="margin-left: 20px;">iii. Designating agency and date: _____</p>	

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes:	
<i>i.</i> Nature of historic/archaeological resource: <input type="checkbox"/> Archaeological Site <input checked="" type="checkbox"/> Historic Building or District	
<i>ii.</i> Name: <u>St. Luke's Episcopal Church Complex, Brett, Madam Catharyna, Homestead</u>	
<i>iii.</i> Brief description of attributes on which listing is based:	
<u>EAF Mapper generated list</u>	
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
g. Have additional archaeological or historic site(s) or resources been identified on the project site?	
If Yes:	
<i>i.</i> Describe possible resource(s): _____	
<i>ii.</i> Basis for identification: _____	
h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes:	
<i>i.</i> Identify resource: <u>Mt Beacon, Long Dock Park</u>	
<i>ii.</i> Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): <u>State or Local Park</u>	
<i>iii.</i> Distance between project and resource: _____ <u>0.9</u> miles.	
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes:	
<i>i.</i> Identify the name of the river and its designation: _____	
<i>ii.</i> Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	

F. Additional Information

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

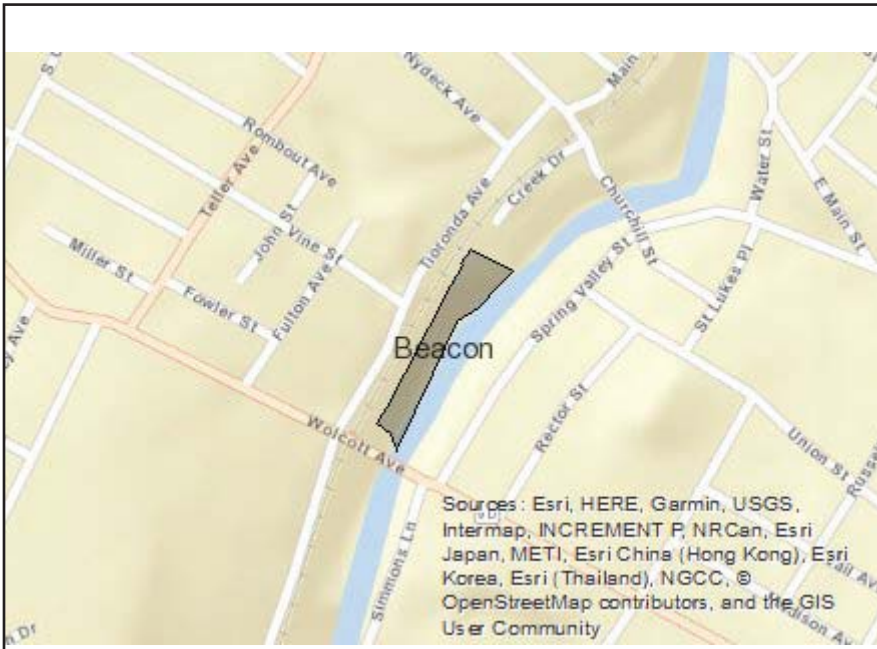
If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

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

Applicant/Sponsor Name Redney Weber Date 10/23/2018

Signature  Title Applicant



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



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	314044 , C314118, 546031
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Yes
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes

E.2.l. [Aquifer Names]	Principal Aquifer
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National Register of Historic Places - Name]	St. Luke's Episcopal Church Complex, Brett, Madam Catharyna, Homestead
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

23 – 28 Creek Drive

FULL ENVIRONMENTAL ASSESSMENT FORM

APPLICATION FOR SITE PLAN APPROVAL

By 23-28 Creek Drive, LLC

For premises located at:

**23 – 28 CREEK DRIVE
BEACON, NY 12508**

SUBMITTED TO:

CITY OF BEACON PLANNING BOARD

**OCTOBER 23, 2018,
DECEMBER 25, 2018 REVISED FOR PLANNING BOARD APPROVAL**

CONTRIBUTORS

Applicant:	Weber Projects III, LLC Beacon, NY 12508
Architect:	Aryeh Siegel, Architect 84 Mason Circle Beacon, NY 12508
Landscape Designer:	Landscape Restorations P.O. Box 286 Beacon, NY 12508
Civil Engineer:	Hudson Land Design 174 Main Street Beacon, NY 12508
Surveyor:	TEC Land Surveying, P.C. 15C Tioranda Avenue Beacon, NY 12508
Project Attorney:	Cuddy & Feder, LLP 445 Hamilton Avenue 14 th Floor White Plains, NY 10601

TABLE OF CONTENTS

1. Introduction

2. Part 1 Full Environmental Assessment Form

In addition, site development plans and drawings prepared by Aryeh Siegel, Architect, Hudson Land Design, Landscape Restorations, and TEC Land Surveying, and submitted to the Planning Board with the application materials, are made part of this document by reference.

INTRODUCTION

Summary

The 23-28 Creek Drive project is located on the former City of Beacon Department of Public Works (DPW) property in the City of Beacon, Dutchess County, New York. The parcel consists of approximately 2.81 acres of land, is located at 23-28 Creek Drive behind the 7-15 Creek Drive project, adjacent to the Fishkill Creek, and consists of the proposed redevelopment of the site to allow for construction of new buildings, in addition to parking, landscaping and other general improvements to the site.

The Applicant proposes to demolish the existing buildings on the site in order to construct a new mixed-used commercial/residential building with 13,771+/- sq. ft. of commercial space and nine (9) residential apartment units. The project also includes an extension of the City's Fishkill Creek Greenway & Heritage Trail ("Greenway Trail") through the site and the creation of a large creek-front public park. Additionally, parking, paving, landscaping, and other site improvements will be part of the proposed development.

The property abuts the property located at 7-11 Creek Drive, which is also owned by the Applicant. The proposal for the former DPW site incorporates the new drive on the Applicant's property. The Applicant hopes to use crushed rock from site demolition at his adjacent property as fill on the subject site to alleviate some of the elevation differences at the head of the Greenway Trail near NYS Route 9D. The Applicant proposes to create a public park, integrated with the Greenway Trail, at the end of the property near NYS Route 9D.

Existing Conditions

The site has been previously developed by the City of Beacon and currently contains several buildings including a salt shed that will be demolished to allow for the proposed development. Since the site served as a former DPW yard, there is potential for previous contamination of the soils from machinery, storage of salt and other materials typically used by municipalities. A Phase I Environmental Site Assessment revealed diesel contaminants in portions of the site. The existing contaminated soils will be remediated in accordance with NYSDEC regulations.

Zoning and Approvals Sought

The site is located in the FCD – Fishkill Creek Development zoning district. The proposed uses are consistent with the Zoning Code requirements for the zoning district, and are permitted as of right, via Concept Plan Approval from the City Council, and Site Plan approval from the City of Beacon Planning Board.

The proposed development also requires the following area variances from the Zoning Board of Appeals (ZBA):

- 4-story building where 3-stories are permitted;
- Building height of 53.5' where 40' is permitted, and
- Apartment size exceeding 2,000 sq.ft. for two (2) of the proposed apartments.

Architecture

The proposed 4-story mixed-use building has a brick commercial 1st floor base over the 34 car garage. The upper portion of the building is clad with galvanized metal siding with a natural finish. The proportions of the overall structure, and the large scaled windows reference the original factory buildings along the Fishkill Creek. Monumental exit stairs cascade down the front of the building, and eliminate the need for internal stair towers.

There are 7 duplex units on the 2nd and 3rd floors, with two larger single floor units on the 4th floor. The duplex units have private roof terraces over the 1st floor overlooking the Creek. The 4th floor units have access to private decks on the upper roof.

The 1st floor commercial space has 14-foot-high ceilings, and the residential floors all have 10 foot ceilings.

Ownership

The proposed apartments and commercial space will be owned by one entity and offered for rent.

Traffic Access

Access to the site will be via the internal driveway through the 7-15 Creek Drive property. Creek Drive will remain in place; however will only be used for emergency access. A gate with Knox box or some other means of blocking Creek Drive is proposed to deter drivers from using Creek Drive, as the existing curb cut at the 7-15 Creek Drive development was determined to have better sight distance as part of that project.

Parking

The project will provide a total of 84 parking spaces located in a number of lots on the site, as well as beneath the building. Parking will be screened by landscaping to mitigate views from the street and neighboring properties. The total required number of parking spaces is 83. Therefore 1 extra parking spaces are provided in addition to the required parking. The provision of sufficient on-site parking for the residents and users of the commercial portion of the site ensures that on-street parking will not be used for this development. The following table summarizes the require parking spaces.

Use & Parking Requirements	Area / Count	Proposed Parking Requirement
Residential Use <i>1 space for each dwelling unit, plus 1 /4 space for ebedroom</i>	9 Apartments + 20 bedrooms	14 spaces
Office (Shared Workspace) <i>1 space for every 200 sqft of floor area.</i>	13,771 sf	69
Total Required Parking Spaces		83
Total Proposed Parking Spaces		84

In addition to the parking spaces required for the residential and office use, the Project also includes two (2) handicapped parking spaces for greenway trail access.

Office Space Operations

The proposed project will provide a total of 13,771 sq. ft. of commercial shared office/work space, primarily on the second story of the proposed building, with some of the commercial space located in two smaller buildings. The shared office/work space will be available for the residents of the building as well as the general public. An outdoor patio will be provided on the main building outside of the shared office/work space.

Landscaping

Landscaping on this project will fulfill several goals. First, it will improve the aesthetic experience of the site through the removal of dead, diseased, and invasive vegetation, as well as non-vegetative debris, and replacement with gardens, planted parking islands, and shade trees. Plant and tree species will be native with many species of ornamental grasses that are drought tolerant.

Additionally, a combination of fencing and plant material (trees, shrubs, perennials, vines, and ornamental grasses) will be employed to create a visual buffer between the street and parking areas. Plantings will also be designed to soften buildings while framing and enhancing views of Fishkill Creek and Mount Beacon.

Second, the landscaping will help with the management of stormwater runoff through grading, hardscape and softscape (vegetation) elements that will serve to slow, detain, and filter surface runoff. Third, implementation of the proposed landscaping plan will result in restoration of a native riparian habitat through removal of non-native and invasive species and planting of native trees, shrubs, and herbaceous plants. Fourth, the landscaping will improve safety conditions along the banks of the Fishkill Creek through planting, where possible, of evergreen or dense deciduous shrubs, obviating the need for guardrail fencing along steep drop-off areas of the creek.

Lot Line Realignment

A lot line re-alignment is proposed between the subject parcel and the adjacent 7-15 Creek Drive parcel that the Applicant owns. This will allow for the proposed parking lots to lie on the subject parcel after the alignment. The 7-15 Creek drive parcel will convey approximately 0.34+/- acres of lot area to the subject parcel. The resultant lot areas for

the 7-15 Creek Drive parcel and the subject parcel will be approximately 1.605+/- acres and 3.144+/- acres, respectively

Greenway Trail and Park

An 8' wide Greenway Trail is proposed to link up with the existing Greenway Trail on the 7-15 Creek Drive project to Route 9D. There is a substantial elevation difference between the grade on the south side of the site and NYS Route 9D. As such, the Applicant will work with the Greenway Trail Committee and the City to come up with the best solution for providing a walking path that provides accessible passage to the greatest extent possible.

A park will also be provided in the southern portion of the site that will offer passive on-site recreation to residents and the public.

Storm Water

As site disturbance will exceed 1-acre, a full Storm Water Pollution Prevention Plan (SWPPP) will be prepared in order to obtain coverage under the New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit GP-0-15-002. The proposed redevelopment of the property will result in a slight decrease in impervious area (including the proposed impervious area within the lot conveyance area). As such, under Chapter 9 of the NYSDEC Stormwater Manual, the proposed redevelopment of the property requires quality control of 25% of the impervious surface associated with the site as well as erosion and sediment control measures.

The Fishkill Creek borders the east side of the property and runs in a southerly direction. The Fishkill Creek is classified as a fourth order stream; therefore, under the current permit, quantity control is not required and discharge directly to the creek without attenuation is permitted if a downstream analysis reveals that quantity for the 10 and 100 year storms is not required.

The Fishkill Creek has a substantial watershed and attenuating the site runoff and delaying the discharge to the Fishkill Creek could actually exacerbate flooding problems within the watershed by discharging the site's runoff at a time closer to when the peak flow of the stream occurs. Since the site is very close to the bottom of the Fishkill Creek watershed, it would be beneficial to discharge the runoff as quickly as possible. This has been confirmed with a conversation with representatives of the NYSDEC. The permit does require qualitative treatment prior to discharge off site. Qualitative treatment will be established by providing a combination of storm water practices consisting of storm water infiltration basins, and underground infiltration. The use of these "best management practices" (BMP's) will ensure that the state standard goals are met.

Water Supply

At full build-out, the project is expected to require 2,920 gallons of water per day. Per conversations with the City of Beacon Water Superintendent, the anticipated increase in daily water demand is readily available. There is new 8" ductile iron main that was installed within 7-15 Creek Drive during construction of that site to replace a 6" asbestos clay pipe (ACP) that ran through the property. The 8" ductile iron water main (DIP) was connected back to the 6" ACP pipe with a water valve and stub, so that the main could be extended in the future without shutting down the water main through 7-15 Creek Drive.

The 6" ACP main continues into the subject parcel and terminates at an existing hydrant. The 6" ACP water main will be replaced with new 8" DIP water main into the site and terminate at a proposed hydrant. The existing hydrant will be relocated as part of the project providing two on-site hydrants. A 6" DIP service line will be provided to the new building for domestic and fire flow needs.

Flow and pressure tests have been conducted on existing hydrants at the intersection of Main Street and Churchill Street, and the intersection of Churchill Street and Spring Valley Street. Two (2) hydrants were tested for flow while monitoring pressure losses at two other hydrants per test hydrant. Each hydrant was flowed at a rate in excess of 1,400 gallons per minute with average pressure losses of 15 psi during maximum flow, and static pressures of 88 to 100 psi.

Sewage Disposal

At full build-out, the project is expected to generate 2,920 gallons of wastewater per day. Per conversations with the City of Beacon Sewer Superintendent, the City's existing sewer infrastructure and sewer treatment plant have sufficient capacity to handle the anticipated increase in daily sewage load. There is an existing 30" sewer main that runs through the site. The proposed main building will tie into the 30" sewer main via an insertion (dog house) manhole. The sewer main will also be relocated through a portion of the site to allow for construction of the main building. A combination of insertion manholes and a standard manhole are proposed along with new 30" SDR 35 PVC sewer main to bypass the building.

Most of the site's sewer connections are old and experience infiltration and inflow (I&I) problems; however, the City has been working diligently to correct I&I issues with the old infrastructure by eliminating sources of stormwater discharges into the sewer, and infiltration by replacing old infrastructure.

An on-site I&I study was conducted on site, and it was determined that no building rooftops or floor drains discharge to the City sewer. During rain storms, the flow into the City's sewer mains increases dramatically, which is a common problem in cities with old buildings. The increase in flow adds unnecessary strain to the existing sewer mains and sewer plant. Therefore, a new sewer service connection will be provided at the proposed building and all existing service connections on site will be disconnected from the City's mains and capped in place or removed. This will eliminate (I&I) problems that currently

occur on site; thus reducing I&I flow surges to the City's municipal system during rain storms.

Sewage will be conveyed to the City owned sewer treatment plant which has a reported excess capacity of 3 million gallons per day. The sewer main re-alignment will be offered to the City of Beacon. A sewer easement will be provided along the main through the site for allowance of maintenance and repairs by the Beacon Sewer Department.

Summary

Once completed, the project will add approximately 9 residential housing units, and 13,771 sq. ft. of commercial shared office/work space. Further, the park in the southern portion of the parcel and Greenway Trail will offer passive recreation for the residents of the site where no access or recreation is currently provided. The commercial shared office/work space will offer state-of-the-art shared office space for businesses and sole source proprietors seeking office space without the need to rent a large space.

Environmental remediation of the site will improve the overall quality of the site by remediating contaminated soils in accordance with NYSDEC regulations; thereby reducing potential contaminants from entering the Fishkill Creek, groundwater, or atmosphere.

Implementation of green infrastructure stormwater practices will reduce the impacts to the Fishkill Creek from site runoff.

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

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

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

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

A. Project and Sponsor Information.

Name of Action or Project: 23-28 Creek Drive Mixed-Use Development		
Project Location (describe, and attach a general location map): 23-28 Creek Drive Beacon, New York 12508		
Brief Description of Proposed Action (include purpose or need): The 23-28 Creek Drive project is located on the property formerly occupied by the City of Beacon Department of Public Works (DPW). The parcel consists of approximately 2.81 acres of land and related improvements located at 23-28 Creek Drive, Beacon, New York. The project proposes to redevelop the site to allow for the construction of a commercial/residential mixed-use project, in addition to parking, landscaping and other improvements. The Applicant proposes to demolish the existing buildings on the site in order to construct a new mixed-used commercial/residential building with 13,771+/- sq.ft. of commercial space and nine (9) residential apartment units. The project also includes an extension of the City's Fishkill Creek Greenway & Heritage Trail through the site and the creation of a large creek-front public park.		
Name of Applicant/Sponsor: 23-28 Creek Drive, LLC	Telephone: (917) 622-0657	E-Mail: rodney@weberprojectslc.com
Address: 11 Creek Drive, Suite 102A		
City/PO: Beacon	State: New York	Zip Code: 12508
Project Contact (if not same as sponsor; give name and title/role):	Telephone:	E-Mail:
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): City of Beacon	Telephone: (845) 838-5000	E-Mail: cityofbeacon@cityofbeacon.org
Address: One Municipal Plaza		
City/PO: Beacon	State: New York	Zip Code: 12508

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. (“Funding” includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	City Council Concept Plan Approval	October 23, 2018
b. City, Town or Village Planning Board or Commission <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Planning Board Site Plan Approval Subdivision / Exempt Lot Line Adjustment	November 2018 (projected)
c. City Council, Town or Village Zoning Board of Appeals <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ZBA Area Variances	December 2018 (projected)
d. Other local agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building Department Building Permit and Possible Exempt Lot Line Adjustment	June, 2019 (projected)
e. County agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Dutchess County Planning-GML 239	November 2018 (projected)
f. Regional agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
g. State agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	NYSDEC GP-0-015-002 SPDES Permit	June 2019 (projected)
h. Federal agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	USACE Section 404 Permit	December 2018 (projected)
i. Coastal Resources.		
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
iii. Is the project site within a Coastal Erosion Hazard Area?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

C. Planning and Zoning

C.1. Planning and zoning actions.

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

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

C.2. Adopted land use plans.

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

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

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

If Yes, identify the plan(s):

Fishkill Creek Development zone requires a greenway trail to be incorporated into the planning of the site for passive recreation.

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

If Yes, identify the plan(s):

C.3. Zoning

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

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

c. Is a zoning change requested as part of the proposed action? Yes No

If Yes,

i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? City of Beacon

b. What police or other public protection forces serve the project site?
City of Beacon

c. Which fire protection and emergency medical services serve the project site?
City of Beacon

d. What parks serve the project site?
Mount Beacon, Memorial Park, Madam Brett Park, Dennings Point Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Residential and commercial (shared office/work space)

b. a. Total acreage of the site of the proposed action? _____ 2.806 acres 3.144 ac after lot line realignment
b. Total acreage to be physically disturbed? _____ 2.17 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ 4.35 acres

c. Is the proposed action an expansion of an existing project or use? Yes No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? Yes No
If Yes,

i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
A lot line re-alignment is proposed between the subject parcel and the adjacent parcel that the Applicant also owns.

ii. Is a cluster/conservation layout proposed? Yes No

iii. Number of lots proposed? 2 existing

iv. Minimum and maximum proposed lot sizes? Minimum 1.605 ac. Maximum 3.144ac.

e. Will proposed action be constructed in multiple phases? Yes No

i. If No, anticipated period of construction: _____ 12 months

ii. If Yes:

- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year

• Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? Yes No
 If Yes, show numbers of units proposed.

	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	9
At completion of all phases	_____	_____	_____	9

g. Does the proposed action include new non-residential construction (including expansions)? Yes No
 If Yes, ^{*With two accessory buildings.}

i. Total number of structures _____ 1*

ii. Dimensions (in feet) of largest proposed structure: _____ 53 1/2' height; _____ 69' width; and _____ 194' length

iii. Approximate extent of building space to be heated or cooled: _____ 13,771 square feet

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

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: Ground water Surface water streams Other specify: _____

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

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

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

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

D.2. Project Operations

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

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

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

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

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

iv. Will there be onsite dewatering or processing of excavated materials? Yes No
 If yes, describe. _____

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

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

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

viii. Will the excavation require blasting? Yes No

ix. Summarize site reclamation goals and plan: _____

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

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

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

iii. Will proposed action cause or result in disturbance to bottom sediments? Yes No

If Yes, describe: _____

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

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

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

If Yes:

i. Total anticipated water usage/demand per day: _____ 2,920 gallons/day

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

If Yes:

- Name of district or service area: City of Beacon
- Does the existing public water supply have capacity to serve the proposal? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No
- Do existing lines serve the project site? Yes No

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

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
The existing 6" ACP water main will be replaced with a new 8" DIP water main.
- Source(s) of supply for the district: City of Beacon

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

If Yes:

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

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

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

d. Will the proposed action generate liquid wastes? Yes No

If Yes:

i. Total anticipated liquid waste generation per day: _____ 2,920 gallons/day

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

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

If Yes:

- Name of wastewater treatment plant to be used: City of Beacon
- Name of district: City of Beacon
- Does the existing wastewater treatment plant have capacity to serve the project? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No

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

 If Yes:

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

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

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

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

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

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

- i. How much impervious surface will the project create in relation to total size of project parcel?
 -346 Square feet or _____ acres (impervious surface) *The overall project will result in a reduction of impervious surface.
 _____ Square feet or _____ acres (parcel size)
- ii. Describe types of new point sources. _____
- iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?
 Stormwater runoff will be captured on site through best management practices where it will be treated prior to discharge to Fishkill Creek.

- If to surface waters, identify receiving water bodies or wetlands: _____
 Fishkill Creek.
- Will stormwater runoff flow to adjacent properties? Yes No

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

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

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

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

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

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

- i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) Yes No
- ii. In addition to emissions as calculated in the application, the project will generate:
 - _____ Tons/year (short tons) of Carbon Dioxide (CO₂)
 - _____ Tons/year (short tons) of Nitrous Oxide (N₂O)
 - _____ Tons/year (short tons) of Perfluorocarbons (PFCs)
 - _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆)
 - _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflouorocarbons (HFCs)
 - _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

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

If Yes:

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

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

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

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

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

If Yes:

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

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? Yes No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____

vi. Are public/private transportation service(s) or facilities available within 1/2 mile of the proposed site? Yes No

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

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

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

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____
80,760 KWh

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):
Central Hudson Gas & Electric

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

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

<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8am-6pm • Saturday: _____ 8am-6pm • Sunday: _____ • Holidays: _____ 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ 8am-6pm • Saturday: _____ 8am-6pm • Sunday: _____ • Holidays: _____
--	---

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? Yes No
 If yes:
 i. Provide details including sources, time of day and duration:

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? Yes No
 Describe: _____

n. Will the proposed action have outdoor lighting? Yes No
 If yes:
 i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:
Outdoor lights will be LED dark sky friendly, shielded and aimed at parking spaces and building entrances.

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

o. Does the proposed action have the potential to produce odors for more than one hour per day? Yes No
 If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? Yes No
 If Yes:
 i. Product(s) to be stored _____
 ii. Volume(s) _____ per unit time _____ (e.g., month, year)
 iii. Generally describe proposed storage facilities: _____

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

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

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? Yes No
 If Yes:
 i. Describe any solid waste(s) to be generated during construction or operation of the facility:
 • Construction: _____ tons per _____ (unit of time)
 • Operation : _____ tons per _____ (unit of time)
 ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:
 • Construction: _____

 • Operation: _____

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

 • Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? Yes No
 If Yes:
 i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____
 ii. Anticipated rate of disposal/processing:
 • _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
 • _____ Tons/hour, if combustion or thermal treatment
 iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? Yes No
 If Yes:
 i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

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

 iii. Specify amount to be handled or generated _____ tons/month
 iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

 v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? Yes No
 If Yes: provide name and location of facility: _____

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

E. Site and Setting of Proposed Action

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

a. Existing land uses.
 i. Check all uses that occur on, adjoining and near the project site.
 Urban Industrial Commercial Residential (suburban) Rural (non-farm)
 Forest Agriculture Aquatic Other (specify): _____
 ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertypes	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.971	0.969	-0.002
• Forested	0.290	0.290	0.00
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.978	1.186	0.208
• Agricultural (includes active orchards, field, greenhouse etc.)	0.00	0.00	0.00
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.802	0.802	0.802
• Wetlands (freshwater or tidal)	0.00	0.00	0.00
• Non-vegetated (bare rock, earth or fill)	0.205	0.00	-0.205
• Other Describe: _____ _____			

*The above areas are based upon the total area of 3.246 ac. after lot line re-alignment.

c. Is the project site presently used by members of the community for public recreation? Yes No
i. If Yes: explain: _____

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

e. Does the project site contain an existing dam? Yes No
If Yes:
i. Dimensions of the dam and impoundment:
• Dam height: _____ feet
• Dam length: _____ feet
• Surface area: _____ acres
• Volume impounded: _____ gallons OR acre-feet
ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection: _____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? Yes No
If Yes:
i. Has the facility been formally closed? Yes No
• If yes, cite sources/documentation: _____
ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____
iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? Yes No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred: _____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? Yes No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes No
 Yes – Spills Incidents database Provide DEC ID number(s): 9607092
 Yes – Environmental Site Remediation database Provide DEC ID number(s): _____
 Neither database
ii. If site has been subject of RCRA corrective activities, describe control measures: _____
A spill was reported on adjacent site at 2 Churchill Street on 9/3/1996 and closed on 3/24/2004.
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? Yes No
If yes, provide DEC ID number(s): 314044 , C314118, 546031
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____
Site no. 314044 is classified: C, site no. C314118 is classified: N, and site no. 546031 is classified: 2.

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

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

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? _____ 6.5 feet

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

c. Predominant soil type(s) present on project site: Udorthents _____ 100 %
 _____ %
 _____ %

d. What is the average depth to the water table on the project site? Average: _____ 4.5 feet

e. Drainage status of project site soils: Well Drained: _____ 100 % of site
 Moderately Well Drained: _____ % of site
 Poorly Drained _____ % of site

f. Approximate proportion of proposed action site with slopes: 0-10%: _____ 65 % of site
 10-15%: _____ 5 % of site
 15% or greater: _____ 30 % of site

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

h. Surface water features.

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

ii. Do any wetlands or other waterbodies adjoin the project site? Yes No
 If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

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

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

- Streams: Name Fishkill Creek Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, Federal Waters Approximate Size Fishkill Creek
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? Yes No
 If yes, name of impaired water body/bodies and basis for listing as impaired: _____

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

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

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

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? Yes No
 If Yes:
 i. Name of aquifer: Principal Aquifer

<p>m. Identify the predominant wildlife species that occupy or use the project site:</p> <p>White Tail Deer _____ Grey Squirrel _____ Raccoon _____</p> <p>_____</p>	
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Describe the habitat/community (composition, function, and basis for designation): _____</p> <p style="margin-left: 20px;">ii. Source(s) of description or evaluation: _____</p> <p style="margin-left: 20px;">iii. Extent of community/habitat:</p> <ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres 	
<p>o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
<p>p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, give a brief description of how the proposed action may affect that use: _____</p> <p>_____</p>	
E.3. Designated Public Resources On or Near Project Site	
<p>a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, provide county plus district name/number: _____</p>	
<p>b. Are agricultural lands consisting of highly productive soils present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p style="margin-left: 20px;">i. If Yes: acreage(s) on project site? _____</p> <p style="margin-left: 20px;">ii. Source(s) of soil rating(s): _____</p>	
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature</p> <p style="margin-left: 20px;">ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____</p> <p>_____</p>	
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes:</p> <p style="margin-left: 20px;">i. CEA name: _____</p> <p style="margin-left: 20px;">ii. Basis for designation: _____</p> <p style="margin-left: 20px;">iii. Designating agency and date: _____</p>	

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes:	
<i>i.</i> Nature of historic/archaeological resource: <input type="checkbox"/> Archaeological Site <input checked="" type="checkbox"/> Historic Building or District	
<i>ii.</i> Name: <u>St. Luke's Episcopal Church Complex, Brett, Madam Catharyna, Homestead</u>	
<i>iii.</i> Brief description of attributes on which listing is based: <u>EAF Mapper generated list</u>	
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
g. Have additional archaeological or historic site(s) or resources been identified on the project site?	
If Yes:	
<i>i.</i> Describe possible resource(s): _____	
<i>ii.</i> Basis for identification: _____	
h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes:	
<i>i.</i> Identify resource: <u>Mt Beacon, Long Dock Park</u>	
<i>ii.</i> Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): <u>State or Local Park</u>	
<i>iii.</i> Distance between project and resource: _____ <u>0.9</u> miles.	
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes:	
<i>i.</i> Identify the name of the river and its designation: _____	
<i>ii.</i> Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	

F. Additional Information

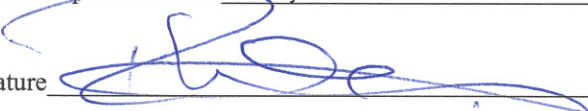
Attach any additional information which may be needed to clarify your project.

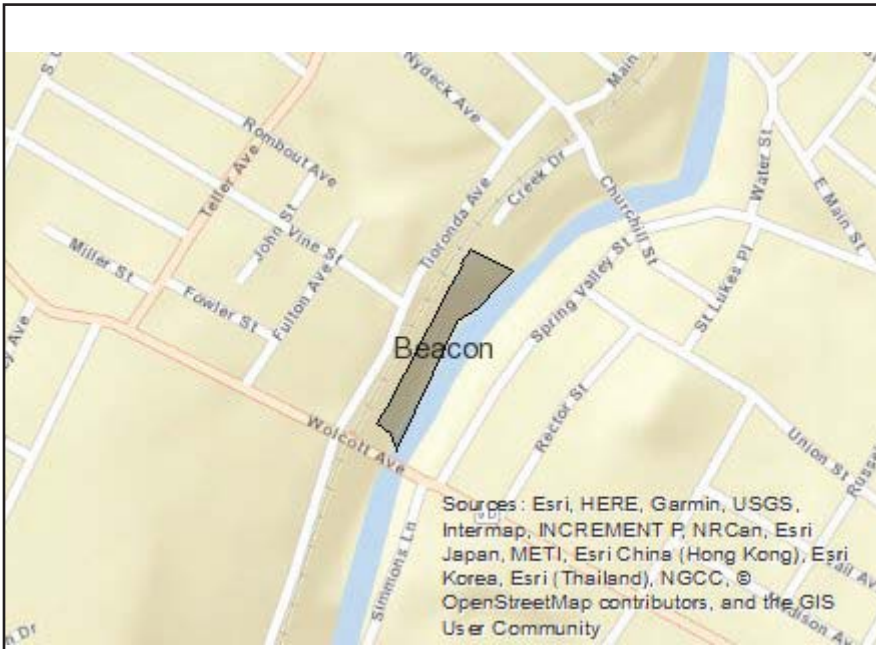
If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

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

Applicant/Sponsor Name Rodney Weber Date 12/26/2018

Signature  Title Applicant _____



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



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	314044 , C314118, 546031
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Yes
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes

E.2.l. [Aquifer Names]	Principal Aquifer
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National Register of Historic Places - Name]	St. Luke's Episcopal Church Complex, Brett, Madam Catharyna, Homestead
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No



**CITY OF BEACON
CITY COUNCIL**

RESOLUTION NO. 187 OF 2018

**A RESOLUTION TO REFER THE CONCEPT PLAN FOR 23-28 CREEK DRIVE, LLC
TO THE DUTCHESS COUNTY PLANNING BOARD AND THE CITY PLANNING
BOARD FOR A REPORT AND RECOMMENDATION**

WHEREAS, The City Council has received an application from 23-28 Creek Drive, LLC (the “Applicant”), the Contract-Vendee of the above-referenced City owned property, for Concept Plan approval. The Applicant seeks to redevelop the former City of Beacon Department of Public Works (“DPW”) Premises for a proposed mixed-use development consisting of 13,771 sq. ft. of commercial space and nine (9) residential apartment units (the “Proposed Action”).

WHEREAS, the project site is approximately 2.81 acres on property located at 23-28 Creek Drive, designated on the City tax maps as parcel 6054-37-037625 (the “Property”). The Property is located in the Fishkill Creek Development (“FCD”) District, but is not located in the City’s Local Waterfront Revitalization Area. The proposed multifamily use is permitted in the FCD District. The City Council may permit the proposed commercial space as a principally permitted use in the FCD District by making adopting a resolution setting forth such determination. *See* § 223-41.12. B (10) (“Other nonresidential uses similar to the above uses as determined by resolution of the City Council.”);

WHEREAS, the Project requires a determination of significance under the NYS Environmental Quality Review Act (“SEQRA”), Concept plan approval from the City Council, site plan approval from the Planning Board and area variances from the Zoning Board of Appeals;

NOW THEREFORE BE IT RESOLVED, that the City Council refers the Concept Plan to the Dutchess County Planning Board and the City Planning Board for a report and recommendation; and

BE IT FURTHER RESOLVED, that the City Council requests the City Planning Board be the Lead Agency to undertake the SEQRA review of the Project and make a

determination of significance and that upon receipt of the Planning Board’s determination of significance and report and recommendation from the County and City Planning Board, the City Council will further review the Concept Plan and then direct the Applicant to apply for the required Area Variances before the City Council makes a decision on the Concept Plan; and

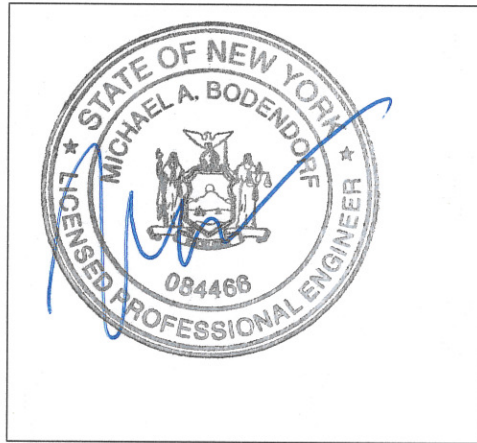
BE IT FURTHER RESOLVED, that the City Clerk is requested to transmit a copy of the Concept Plan application to the Greenway Trail Committee with a request that they review the proposed Greenway Trail and other comments to both the City Council and the City Planning Board.

Resolution No. <u>187</u> of 2018		Date: <u>December 3, 2018</u>					
<input type="checkbox"/> Amendments		<input type="checkbox"/> On roll call				<input type="checkbox"/> 2/3 Required.	
<input type="checkbox"/> Not on roll call.						<input type="checkbox"/> 3/4 Required	
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson	x				
	x	Jodi McCredo	x				
x		George Mansfield	x				
		Lee Kyriacou	x				
		John Rembert	x				
		Amber Grant					x
		Mayor Randy J. Casale	x				
		Motion Carried	x				

***Preliminary Stormwater Pollution Prevention Plan:
for
23-28 Creek Drive***

Prepared for:
Weber Projects III, LLC
11 Creek Drive
Beacon, NY 12508

October 23, 2018,
Revised December 26, 2018



Prepared by:
Hudson Land Design Professional Engineering, P.C.
174 Main Street
Beacon, NY 12508

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Overview	1
1.2	Land Disturbance	2
2.0	PROJECT DESCRIPTION	2
2.1	Project Location	2
2.2	Project Scope and Description	2
2.3	Surface Water Bodies.....	3
2.3.1	Wetlands	3
2.3.2	Streams.....	3
2.3.3	Floodplains.....	4
3.0	NOTICE OF INTENT	4
4.0	SOILS.....	4
5.0	RAINFALL.....	5
5.1	Overview	5
5.2	Rainfall Event Sizing Criteria	5
6.0	STORMWATER ANALYSIS AND MANAGEMENT	6
6.1	Methodology	6
6.1.1	Hydrologic Analysis	6
6.1.2	Stormwater Design Points.....	6
6.2	Pre-Development Watershed Conditions	6
6.3	Post-Development Watershed Conditions	7
6.4	Hydrologic Review	8
6.5	Quantity and Quality Sizing Criteria for Re-development Projects.....	8
6.6	Stormwater Management System.....	8
6.7	Green Infrastructure for Stormwater Management	9
6.7.1	Green Infrastructure Practices.....	9
6.7.2	Five Step Process for Stormwater Site Planning and Selection Design	9
6.8	Qualitative Practices.....	10
6.8.2	Pre-Treatment Practices	11
6.8.3	Treatment Practices.....	12
6.9	Runoff Reduction Volume (RRv)	12
6.10	Soil Restoration	14
6.10.1	Soil Restoration Methods.....	14
7.0	EROSION AND SEDIMENT CONTROL.....	15
7.1	Overview.....	15
7.2	Temporary Erosion and Sediment Control Measures.....	15

7.2.1	Silt Fence	15
7.2.2	Stabilized Construction Entrance.....	16
7.2.3	Check Dams.....	16
7.2.4	Inlet Protection.....	16
7.2.5	Temporary Channels.....	16
7.2.6	Water Bars	17
7.2.7	Straw Bale Barriers.....	17
7.2.8	Temporary Soil Stockpiles.....	17
7.2.9	Dust Control.....	17
7.2.10	Temporary Soil Stabilization Practices.....	18
7.3	Permanent Erosion and Sediment Control Measures.....	18
7.3.1	Outlet Protection.....	18
7.3.2	Permanent Soil Stabilization Practices	19
7.4	Erosion and Sediment Control Sequencing Schedule	20
7.5	Maintenance Schedules	21
7.6	Construction Staging Areas.....	21
7.7	Site Assessments, Inspections and Reporting	21
7.7.1	Prior to Construction.....	21
7.7.2	During Construction.....	21
7.7.3	Quarterly Report	23
7.7.4	End of Term	23
7.8	Construction Log Book	24
7.9	Long Term Operation and Maintenance Plan of Stormwater System and Landscape Areas	24
7.9.1	Deep Sump Catch Basins and Piping.....	24
7.9.2	Infiltration Basins.....	24
7.9.3	Underground Infiltration System.....	24
7.9.4	Hydrodynamic Pretreatment Devices	25

8.0 GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES..... 25

8.1	Waste Materials.....	25
8.2	Chemical.....	25
8.3	Fuels and Oil	25
8.4	Fertilizers.....	26
8.5	Paint.....	26
8.6	Sanitary Waste Facilities.....	26
8.7	Container Disposal	26
8.8	Concrete and Asphalt Trucks	26
8.9	Site Supervisor	26

9.0	SWPPP AMENDMENT	26
10.0	CONTRACTOR CERTIFICATIONS	27
11.0	OWNER/OPERATOR CERTIFICATION	27
12.0	CONCLUSIONS	27

APPENDICES

APPENDIX A:	NOTICE OF INTENT
APPENDIX B:	SOILS DATA
APPENDIX C:	RAINFALL DATA
APPENDIX D:	PRE-DEVELOPMENT HYDROCAD MODEL
APPENDIX E:	POST-DEVELOPMENT HYDROCAD MODEL
APPENDIX F:	STORMWATER MANAGEMENT SYSTEM COMPONENT DESIGN
APPENDIX G:	PRE-CONSTRUCTION SITE ASSESSMENT CHECKLIST
APPENDIX H:	INFILTRATION BASIN INSPECTION CHECKLIST
APPENDIX I:	CONTRACTOR AND SUBCONTRACTOR CERTIFICATIONS
APPENDIX J:	QUALIFIED PROFESSIONAL'S CERTIFICATION
APPENDIX K:	OWNER/OPERATOR CERTIFICATION
APPENDIX L:	POST-DEVELOPMENT MAINTENANCE AND INSPECTION CHECKLIST
APPENDIX M:	CONSTRUCTION INSPECTION REPORT
APPENDIX N:	NOTICE OF TERMINATION
APPENDIX O:	OPERATION AND MAINTENANCE PLAN

1.0 INTRODUCTION

1.1 Overview

This preliminary Stormwater Pollution Prevention Plan (SWPPP) has been developed in accordance with New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-15-002, which authorizes stormwater discharges to surface waters of the State from the following construction activities identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

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

This project qualifies for SPDES coverage under provision 1 as stated above.

The objectives of this SWPPP are as follows:

- To develop a sediment and erosion control plan in accordance with the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, which implements best management practices to stabilize disturbed areas, protect off site areas and sensitive areas and minimize the transport of sediment.
- To demonstrate that the resulting stormwater runoff from the development exiting the site will not adversely impact offsite properties, stormwater conveyance systems or receiving water bodies, and that temporary and permanent stormwater systems and facilities are designed in accordance with the latest revision to the New York State Stormwater Management Design Manual (SDM), January 2015.
- To demonstrate that runoff reduction measures have been implemented into the design of the site.
- To demonstrate that the required runoff from the development is captured and treated through approved water quality measures.

Construction activities are not permitted to begin until such time that authorization is obtained under the General Permit. This project is located within a Municipal Separate Storm Sewer System (MS4) area. Authorization to commence construction activities may commence five (5) days

following receipt of the Notice of Intent (NOI) accompanied by the MS4 SWPPP Acceptance Form.

A copy of the General Permit, SWPPP, NOI, NOI acknowledgment letter, MS4 SWPPP acceptance form, inspection reports and accompanying plans shall be maintained on-site from the date of initiation of construction activities until final stabilization of all disturbed areas has been achieved and the Notice of Termination (NOT) has been submitted.

1.2 Land Disturbance

Per the General Permit, no more than five (5) acres of land disturbance may occur at any one time without written approval from the NYSDEC. At a minimum, the owner or operator must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

- a. The owner or operator shall have a qualified inspector conduct at least two (2) site inspections every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
- b. In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control.
- c. The owner or operator shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
- d. The owner or operator shall install any additional site specific practices needed to protect water quality.

Disturbance of more than five (5) acres at any one time is not anticipated for this project. Phasing of the construction activities is planned to limit the amount of disturbance at any one time.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The project site is located along the south side of Creek Drive, in the City of Beacon, Dutchess County, New York. The Fishkill Creek marks the southeast border of the site. This project area is approximately 2.81 acres and consists of a former Department of Public Works facility with existing brick buildings, maintenance sheds and a large asphalt area.

2.2 Project Scope and Description

The project consists of the redevelopment of the existing Department of Public Works site on Creek Drive, Tax ID: 6054-37-037625. The existing buildings and large asphalt area will be demolished and replaced with a proposed 4-story building comprised of 9 apartments, and a 13,771 sqft shared workspace. Parking will be provided by the construction of underground parking beneath the main building and surface parking surrounding the proposed building.

A greenway trail will be constructed at the top of the bank along Fishkill Creek. The trail will continue from the newly constructed trail on 7-15 Creek Drive and continue to the south through the site where it will link with the pocket park located at Wollcott Avenue. A public park will be constructed in the south portion of the site, and a private park will be constructed in the mid-portion of the site.

A lot line realignment is proposed for the subject parcel, 0.44 acres of area will be added to the subject parcel from Parcel Tax ID: 6054-37-066670 to accommodate the northern parking area and entrance to underground parking. The subject parcel and Parcel 066670 will utilize the same ingress and egress off through the internal drive on parcel 066670.

The underlying soils and gravel areas have become compacted from continuous movement of vehicles and machinery throughout the site. The re-development of the site will entail soil restoration where impervious area is removed, specifically to the east of the proposed building. Restoration of the soil will result in a lower runoff curve number along with an overall reduction in impervious cover. The entire site will be landscaped appropriately for the use. In addition, the existing vegetated stream riparian area will remain undisturbed.

The proposed project at full build-out will disturb approximately 2.17 acres. The total drainage study area is 3.69 ac.

2.3 Surface Water Bodies

2.3.1 Wetlands

Federal wetlands are present along the Fishkill Creek according to the National Wetlands Inventory (NWI) mapper. The wetland is classified as R2UBH, typical of a lower perennial river. These areas appear to be restricted to the stream itself, which seems likely since the banks of the stream are generally steep. Typically, the United States Army Corps of Engineers (USACE) regulates Federal wetlands. No wetland permitting is sought, however, since there is no proposed disturbance to the wetlands.

The NYSDEC Environmental Resource Mapper does not indicate the presence of NYSDEC-regulated wetlands within or near the project location.

2.3.2 Streams

The Fishkill Creek runs in a north to south direction along the east property line, and is a fourth order stream. According to the NYSDEC Environmental Resource Mapper, the Stream Classification is C. Under New York State's Environmental Conservation Law (ECL), Title 5 of Article 15, certain waters of the State are protected on the basis of their classification. Streams and small water bodies located in the course of a stream that are designated as C(T) or higher (i.e., C (TS), B, or A) are collectively referred to as "protected streams". A Protection of Waters Permit is required to physically disturb the bed or banks of any stream with a classification standard of C(T) or higher. Therefore, the Fishkill Creek is not a protected stream as classified by the NYSDEC. However, the USACE regulates the Fishkill Creek to the mean water level. A permit will be required from the USACE for new stormwater outfalls and repair of existing outfalls adjacent to the creek.

2.3.3 Floodplains

Based upon a review of the National Flood Insurance Program Flood Insurance Rate Map panel 360227 0464 E and 36027 0577 E for the City of Beacon, New York, a small portion of the site is identified as area within the 100-year flood. An in-depth Flood Insurance Study (FIS) was prepared by the Federal Emergency Management Agency in 2012. The topographic survey datum is tied into the same datum used for the FIS. The determined floodplain line is shown on the plans. The proposed construction activities do not discharge fill into the floodplain or floodway of the stream; however, the existing building and proposed building on the south side are located in the floodplain. That said, there are no anticipated measurable impacts to the 100-year floodplain within this area.

3.0 NOTICE OF INTENT

Prior to commencement of construction activities, the Owner/Operator shall submit a Notice of Intent (NOI) to the NYSDEC for authorization. The NYSDEC authorization schedule is as follows:

For construction activities that are not subject to the requirements of a regulated, traditional land use control MS4:

- Five (5) business days from the date the NYSDEC receives a complete NOI for construction activities with a SWPPP that has been prepared in conformance with the technical standards, or
- Sixty (60) business days from the date the NYSDEC receives a complete NOI for construction activities with a SWPPP that has not been prepared in conformance with the technical standards.

For construction activities that are subject to the requirements of a regulated, traditional land use control MS4:

- Five (5) business days from the date the NYSDEC receives a complete NOI and signed “MS4 SWPPP Acceptance” form.

The project area is under the control of a regulated MS4, therefore the NOI shall be submitted directly to the NYSDEC along with a signed MS4 SWPPP Acceptance Form. A completed NOI is included in Appendix A of this SWPPP.

4.0 SOILS

The hydrologic soil characteristics of the watershed areas were obtained from Soil Survey Mapping of Dutchess County, New York, and available Geographical Information Systems (GIS) and are as follows:

Symbol	Description	Hydrologic Soil Group
Ud	Udorthents, smoothed	A

SOIL PROPERTIES

Symbol	Water Table	Restrictive Layer	Bedrock	Erosion Hazard (k)
Ud	54"	78"	78"	0.20 - Slight

Supporting soils information is provided in Appendix B of this SWPPP.

5.0 RAINFALL

5.1 Overview

The rainfall data utilized in the analysis of the watershed was obtained from Technical Release 55 (Urban Hydrology for Small Watersheds). Supporting information will be provided in future revisions to this SWPPP. The storm events are as follows:

Storm Event	24-Hour Rainfall (in)
1 - year	2.61
10 - year	4.71
100 - year	8.37

Rainfall data is provided in Appendix C of this SWPPP.

5.2 Rainfall Event Sizing Criteria

The stream channel protection volume (C_{pv}) criteria, intended to protect stream banks from erosion, will be demonstrated by providing 24 hour extended detention of the Type III 1-year, 24-hour storm event, or by infiltrating the entire volume. When providing extended detention, the channel protection volume criterion is not required where the resulting diameter of the stormwater management basin orifice is less than three (3) inches with a trash rack. C_{pv} can be met by use of green infrastructure treatment practices described in greater detail in section 6 of this report.

The overbank flood control (Q_p) criteria, intended to prevent an increase in frequency and magnitude of out of bank flooding generated by new development, will be demonstrated by attenuating the Type III 10-year, 24-hour peak discharge rate to pre-development conditions. The overbank flood criteria can be waived if the project site discharges to a tidal water or fifth order stream.

The extreme flood control (Q_f) criteria, intended to prevent the increased risk of flood damage from large storm events, maintain the boundaries of pre-development conditions, and protect the physical integrity of stormwater management practices, will be demonstrated by attenuating the Type III 100-year, 24 hour peak discharge rate to pre-development conditions. The extreme flood control criteria can be waived if the project site discharges to a tidal water or fifth order stream. The use of on-site green infrastructure stormwater treatment practices can mitigate post-developed Q_p and Q_f rates and volumes.

The pre and post-development runoff rates will be compared utilizing the Type III 1-year (channel protection), 10-year (overbank flood control), and 100-year (extreme flood control) year, 24-hour

storm events. Although not required, the pre versus post-development analysis will include the analysis of the Qp and Qf storm events.

The proposed drainage conveyance system will be designed utilizing the Type III, 25-year storm event.

6.0 STORMWATER ANALYSIS AND MANAGEMENT

6.1 Methodology

6.1.1 Hydrologic Analysis

The HydroCAD stormwater modeling system computer program by Applied Microcomputer Systems was used to analyze, design and document the complete drainage system. The program uses standard hydrograph generation and routing techniques based on the USDA-NRCS Technical Releases TR-20 and TR-55 to develop stormwater runoff rates and volumes.

The program determines the rate and volume of runoff based on inputs of the watershed area, and characteristics of the land including vegetative coverage, slope, soil type, and impervious area.

6.1.2 Stormwater Design Points

Design Points represent the location where the majority of runoff from an area exits the site. The same design points are identified in post-development conditions so that a comparison can be made between the pre-development and post-development conditions. One design point for the project was selected, as follows:

Stormwater Discharge Points	
SDP	Description
1	Fishkill Creek

6.2 Pre-Development Watershed Conditions

Subcatchment 1 is comprised of 2.07 acres of onsite area plus an additional 1.62 acres of offsite area that flows onto the site. Land cover consists primarily of impervious areas, meadow and wooded areas, a portion of Creek Drive and the unused train tracks. The subcatchment area contains predominantly soils in hydrologic soil group A. Runoff from the subcatchment travels via sheet flow and shallow concentrated flow to the SDP.

Detailed stormwater calculations and routing for the pre-development condition have been included in Appendix D.

The following table summarizes the pre-development watershed conditions:

Pre-Development Watershed Conditions					
Subcatchment	Area (ac)	Cover	Average Curve #	Hydrologic Soil Group(s)	Time of Concentration
1	3.69	Impervious, meadow, and wooded areas	51	A	6.0 minutes

6.3 Post-Development Watershed Conditions

The proposed development will result in a disturbance of approximately 2.60 total acres. The site is broken into three subcatchments, one of which does not require stormwater infrastructure for treatment, while the other two will be treated by surface infiltration basin or an underground infiltration chamber system. The following is a description of the three subcatchments:

Subcatchment 10 is comprised of approximately 0.613 acres of offsite area and 1.146 acres of onsite area totaling 1.759 acres located in the southern portion of the site. Land cover consists mainly of wooded and grass areas and some gravel area for the Greenway Trail. The entire subcatchment area contains soils in hydrologic soil group A. Runoff from the subcatchment travels overland via sheet flow, shallow concentrated flow and to SDP1.

Subcatchment 11 is comprised of approximately 0.343 acres of offsite area and 0.605 acres of onsite area totaling 0.949 acres located in the middle portion of the site. Land cover consists mainly of impervious paved surfaces, wooded offsite area and some grass areas. The entire subcatchment area contains soils in hydrologic soil group A. Runoff from the subcatchment travels overland via sheet flow, shallow concentrated flow and pipe flow to the proposed infiltration basin. Overflow from the infiltration basin will travel via shallow concentrated flow to SDP1.

Subcatchment 12 is comprised of approximately 0.133 acres of offsite area and 0.589 acres of onsite area totaling 0.723 acres located in the northern portion of the site. Land cover consists mainly of impervious paved surfaces, wooded offsite area and some grass areas. The entire subcatchment area contains soils in hydrologic soil group A. Runoff from the subcatchment travels overland via sheet flow, shallow concentrated flow and pipe flow to the proposed underground infiltration basin. Overflow from the underground infiltration basin will travel via shallow concentrated flow to SDP1.

Detailed stormwater calculations and routing for the post-development condition have been included in Appendix E.

The following table summarizes the post-development watershed conditions:

Post-Development Watershed Conditions					
Subcatchment	Area (ac)	Cover	Average Curve #	Hydrologic Soil Group(s)	Time of Concentration
10	1.759	Woods, grass, gravel, and a small amount of impervious areas	41	A	6.0 minutes
11	1.206	Impervious, woods, grass and small amount of gravel area	63	A	6.0 minutes
12	0.723	Impervious, woods, and grass	79	A	6.0 minutes

6.4 Hydrologic Review

The stormwater runoff rates at each discharge point under pre-development and post-development conditions are summarized below.

SDP	1 - Year		10 - Year		100 - Year	
	Pre	Post	Pre	Post	Pre	Post
1	0.02	0.00	1.57	0.80	10.35	11.97

As shown above, post-development peak flow rates for all storms area greater than the pre-development peak flow rates with the exception of the 100-year storm which is slightly higher than pre-conditions.

A downstream analysis has been conducted by using the 10% rule in accordance with §4.10 of the Stormwater Design Manual, where the stream watershed is analyzed at a point downstream from the site where the site represents 10% of the entire watershed area. The site watershed area of 3.688 acres is 0.006 square miles which is less than 0.1% of the entire creek watershed of 192 square miles. The peak flows associated with the creek at the site are 2,270 cfs, 6,560 cfs and 12,500 cfs for the 1-year, 10-year and 100-year storm respectively.

It is worth noting that the peak flows associated with the site will occur at a much earlier time than the peak flow associated with the creek, so the peak flow from the site will “beat the peak” of the stream; thus, creating no impact to the creek.

Supporting hydrologic analyses for pre-development and post-development conditions are included in Appendices D and E, respectively. A “Stream Stats” analysis report of Fishkill Creek is included within Appendix E.

6.5 Quantity and Quality Sizing Criteria for Re-development Projects

For re-development projects, sizing criteria shall be computed in accordance with §9.3.2 of the NYSDEC SWDM. The project at full build out will result in no increase in impervious or changes to hydrology that increases the discharge rate from the site when compared to pre-development conditions. The re-development of the project will reduce the overall site runoff curve number by restoring the soils beneath the compacted gravel areas that are proposed to be landscaped to their natural state. Based upon the reduction in impervious surface, the re-development project meets the criteria for A. I (Qp and Qf) and A. II (Cpv) of §9.3.2, where Qp, Qf and Cpv are waived. The soil restoration techniques are described in further detail within section 6.10 of this report.

Stormwater management areas (infiltration) shall be sized to provide runoff reduction for 25% minimum of the site’s impervious area; however, have been sized to provide 100% runoff reduction of the site’s impervious area.

6.6 Stormwater Management System

The stormwater management system will consist of a series of catch basins and associated piping that will collect site runoff from impervious and pervious surfaces and convey it to infiltration practices prior to discharge to the Fishkill Creek. The proposed catch basins will be equipped with deep sumps to provide for capture of sediment from parking areas.

6.7 Green Infrastructure for Stormwater Management

The SDM encourages the use of green infrastructure (GI) practices for stormwater management. Green infrastructure approach for stormwater management reduces a site's impact on an aquatic ecosystem through the use of site planning techniques, runoff reduction techniques, and certain standard stormwater management practices. The objective is to replicate the pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, and minimizing concentrated runoff by use of runoff control techniques. When implemented, green infrastructure can reduce volume, peak flow, and flow duration, promote infiltration and evapotranspiration, improve groundwater recharge, reduce downstream flooding, and protect downstream water and wetlands.

6.7.1 Green Infrastructure Practices

Green infrastructure consists of implementing several techniques during the site planning process which are:

- Preservation of Natural Resources – Preservation of undisturbed areas; preservation of buffers; reduction of clearing and grading; locating development in less sensitive areas; open space (park) design; soil restoration.
- Reduction of Impervious Cover – Roadway reduction; sidewalk reduction; driveway reduction; building footprint reduction; parking reduction.
- Runoff Reduction Techniques – Conservation of natural areas; sheet flow to riparian buffers or filter strips; vegetated open swale; tree planting/tree box; disconnection of roof runoff; stream daylighting for redevelopment projects; bioretention areas; rain gardens; green roofs; stormwater planters; rain tank/cistern; pervious pavement.

During the planning process, the above techniques are implemented to the greatest extent possible to reduce runoff developed by the site. The following summarizes the GI techniques implemented on the site:

- Most of the site has been disturbed from previous development. Maintaining the stream riparian zone will help prevent stream bank erosion.
- Impervious cover has been reduced wherever possible and when the project is complete the total amount of impervious area will be just 0.02 acres less than pre-development conditions.

6.7.2 Five Step Process for Stormwater Site Planning and Selection Design

Stormwater management using GI is summarized in the five step process described below.

Step 1: Site Planning

The site design will incorporate the preservation of natural resources including protection of natural areas, avoidance of sensitive areas, minimizing grading and soil disturbance, minimizing impervious areas on roads, driveways and parking lots. The site layout will avoid wetlands, waterways, buffers, areas of highly erodible soils and critical areas. The site design will also maintain natural drainage design points.

Step 2: Determine Water Quality Volume (WQv)

The WQv will be calculated for the site prior to implementation of GI practices. The calculated WQv must be reduced by implementation of GI & SMP's.

Step 3: Runoff Reduction by Applying Green Infrastructure Techniques

Green infrastructure practices will be implemented wherever possible to reduce runoff from the site. GI for this site will consist of reduction of roadway widths, providing parking beneath buildings and the use of infiltration practices.

Step 4: Apply Standard SMP's to Address Remaining Wq

Standard SMP's such as ponds, filtering practices or stormwater wetlands to meet additional water quality volume requirements. It is not anticipated that additional standard SMP's will be required for this project based upon the reduction of impervious surfaces.

Step 5: Apply Volume and Peak Rate Control Practices (if needed)

Cpv, Qp and Qf must also be met, either by standard practices, or other accepted techniques such as meeting criteria set forth in the NYS SWDM §9.3.2, where Cpv, Qp and Qf are not required when impervious surfaces are reduced by more than 25% resulting in lower discharge rates to the SDP. Since post-developed impervious surface areas are slightly less than pre-developed conditions but not reduced by 25%, Cpv, Qp, and Qf shall be met by the implementation of SMP's.

6.8 Qualitative Practices

Qualitative practices are required since the re-development project meets the criteria set forth in the NYS SWDM §9.3.3. Two infiltration areas are proposed to manage and treat the runoff generated from the sites impervious areas.

Small sized, frequently occurring storms account for the majority of runoff events that generate stormwater runoff. As a result, the runoff from these storms is recognized as a major contributor of pollutants. Therefore, treating these frequently occurring smaller rainfall events and a portion of the larger events offers an opportunity to minimize the water quality impacts associated with developed areas.

The water quality volume, denoted as WQ_v, specifies a treatment volume required to be captured and treated by intercepting 90% of the average annual stormwater runoff volume. This criterion strives to achieve an 80% Total Suspended Solids (TSS) removal and 40% Total Phosphorous (TP) removal on an annual basis.

In numerical terms, it is calculated using the formula below which was obtained from Section 4.2 of the New York State Stormwater Management Design Manual, January 2015:

$$WQ_v = (P \times R_v \times A) / 12$$

Where:

WQ_v = Water Quality Volume (acre-feet)

P = 90% Rainfall Event Number

R_v = 0.05+0.009 x I, where I is percent impervious (minimum R_v = 0.2)

A = Site area in acres (contributing area)

The following table has been developed summarizing the pre-treatment volume, water quality volume and treatment practices for the main project area.

Watershed	Total Required WQv (cf)	Required Pre-Treatment Volume (cf)	Pre-Treatment Practice	Treatment Practice	WQv Provided (cf)
11	2,713	2,713	Hydrodynamic	Infiltration	2,875
12	2,489	2,489	Hydrodynamic	Infiltration	2,526

*A large portion of Area 10 will remain undisturbed. All asphalt will be removed and the ground restored to landscaped areas; therefore, this area is not subject to water quality requirements. The watersheds will achieve water quality volume goals by sheet flow through landscaped and wooded areas.

All water quality volumes are calculated using the total contributing area. Offsite contributing areas that do not require treatment are diverted as much as possible. Infiltration rates are expected to be greater than 5 inches per hour, thus requiring 100% pre-treatment at both infiltration areas. The above volumes are total for the entire watershed. The infiltration practices have been sized to capture and infiltrate 100% of the WQv, even though per NYS SWDM §9.3.2, only treatment of 25% of the site's impervious area is required.

A major concern with runoff into waterbodies is phosphorus loading. Phosphorus, like nitrogen, is an essential nutrient for aquatic life in waterbodies. However, increased amounts of phosphorus entering surface waters promotes excessive algae growth, which decreases water clarity, causes variations in dissolved oxygen, disagreeable odors, habitat loss and fish kills. The protection of waterbodies from the harmful effects of phosphorus can be accomplished from reducing the runoff volume entering surface waters. Reduction of runoff volume reduces the concentrations of pollutants entering the surface water and thus decreases harmful effects. The removal of enhanced phosphorus can be accomplished using stormwater management practices. Whether in particulate or dissolved speciation, phosphorus can be removed using unit operations. Particulate phosphorus in particular can be removed using infiltration basins and through sedimentation of runoff before entering surface water. Primarily, reducing the WQv entering a surface water body will lower phosphorus pollutant loading. All of the onsite bioretention areas and the infiltration basin have been sized to infiltrate the entire WQv and 1-year storm.

6.8.2 Pre-Treatment Practices

The following pre-treatment practices have been incorporated into the design of this project. Preventative and corrective maintenance measures to provide long-term effectiveness of stormwater attenuation practices if properly implemented will be included in Appendix F.

6.8.2.1 Overland Flow

A significant portion of the runoff will flow overland to receiving water bodies. Much of the site's existing natural vegetation is proposed to remain, and the post developed land cover will be restored to meadow and landscaped areas. The meadow and landscaped areas will capture more

sediment and floatables than the pre-conditions impervious surfaces, construction material and vehicle storage.

6.8.2.2 Hydrodynamic Devices

Hydrodynamic devices are designed to intercept and store pollutants such as sediment and floatables for later removal and safe disposal.

Two hydrodynamic devices have been included in the design of this project.

6.8.3 Treatment Practices

The following treatment practices have not been incorporated into the design of this project, but are discussed should they are found to be required. Preventative and corrective maintenance measures to provide long-term effectiveness of stormwater attenuation practices if properly implemented will be included in Appendix F.

6.8.3.1 Infiltration Basins

Stormwater infiltration practices capture and temporarily store the water quality volume before allowing it to infiltrate through the floor of each practice into the soil over a two-day period. In areas where the subsurface soils exhibit high infiltration rates, the channel protection volume may also be infiltrated. Infiltration facilities are not typically capable of infiltrating the overbank flood or extreme flood volumes. Adequate outflows are required for these larger storm events. Soil testing to obtain infiltration rates are required as part of the design of infiltration facilities. Varying degrees of pre-treatment of the water quality are required based on the field determined infiltration rate of the subsurface soils. 100% of the water quality volume is required where the infiltration rate exceeds 5 inches per hour, 50% for infiltration rates between 2 and 5 inches per hour, and 25% for infiltration rates less than 2 inches per hour. Pre-treatment is typically accomplished through installation of plunge pools and other filtering methods. Infiltration practices must be isolated and protected from stormwater run-off during construction. The contributory drainage area shall be completely constructed and stabilized before connection of the stormwater conveyance system to the infiltration practice. Infiltration basins are typically landscaped by providing a hardy, drought tolerant grass species that is capable of tolerating periodic inundation. The established grass requires mowing twice annually (or as needed). Proper maintenance of the contributing conveyance system and pre-treatment practice are important in maintaining infiltration rates.

6.9 Runoff Reduction Volume (RRv)

RRv is met with the use of individual treatment practices since the re-development project meets the criteria set forth in the NYS SWDM §9.3.3. Two infiltration areas are proposed to manage and treat the runoff generated from the sites impervious areas.

RRv (measured in acre-feet) is reduction of the total WQv by application of GI techniques and SMP's to replicate the pre-development hydrology. The minimum required RRv is defined as the specified Reduction Factor (S), provided objective technical justification is documented.

RRv must be achieved by infiltration, groundwater recharge, reuse, recycle, evaporation/evapotranspiration of 100% of the post-developed WQv's to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow by using runoff control techniques to provide treatment in a distributed manner before runoff reaches the collection system.

RRv is calculated based upon three methods:

1. Reduction of the practice contributing area in WQv computation.
2. Reduction of runoff volume by storage capacity of the practice.
3. Reduction using standard SMP's with runoff reduction capacity.

Projects that cannot meet 100% of the runoff reduction requirement must provide a justification that evaluates each of the GI planning and reduction techniques, and identify the specific limitations of the site according to which application of this criterion is technically infeasible. Projects that do not achieve runoff reduction to pre-construction must, at a minimum, reduce a percentage of the runoff from impervious areas to be constructed on the site. The percent reduction is based on the Hydrologic Soil Group(s) (HSG) of the site and is defined as Specific Reduction Factor (S).

The following lists the specific reduction factors for the HSG's.

$$\text{HSG A} = 0.55$$

$$\text{HSG B} = 0.40$$

$$\text{HSG C} = 0.30$$

$$\text{HSG D} = 0.20$$

The specific reduction factor (S) is based on the HSG's present at the site. The values are defined based on a hydrology analysis of low, medium, and high imperviousness. The reduction is achieved when runoff from a percentage of the impervious area on a site is captured, routed through GI or an SMP, infiltrated to the ground, reused, reduced by evapotranspiration, and eventually removed from the stormwater discharge from the site.

The following equation is used to determine the minimum RRv:

$$\text{RRv (in acre-feet of storage)} = [(P)(Rv^*)(Ai)]/12$$

$$Ai = (S)(Aic)$$

Ai = impervious cover targeted for runoff reduction

(Aic) = total area of new impervious cover

$Rv^* = 0.05 + 0.009(I)$ where I is 100% impervious

S = Hydrologic Soil Group (HSG) Specific Reduction Factor (S)

The goal of the SWPPP is to utilize as many runoff reduction methods as possible on a site. All GI practices will be quantified and compared to the overall WQv for the site. If the RRv is greater than or equal to the WQv, then standard SMP's can be implemented to control peak rate leaving the site if applicable.

The following table summarizes required 100% RRv, minimum RRv, RRv reduced by use of runoff reduction techniques, RRv provided by standard SMP's with RRv and provided RRv for the main project area.

Watershed	Required Total RRv (cf)	Required Minimum RRv (cf)	RRv reduced by use of runoff reduction techniques (cf)	RRv provided by standard SMP with RRv (cf)*	RRv (cf) Provided
11	2,713	1,397	0	2,875	2,713*
12	2,489	1,338	0	2,526	2,489

* Treatment practices can be oversized to provide additional runoff reduction (RRv); however, they can only be oversized to provide up to 100% of the RRv. No additional credit can be taken for RRv for practices that provide greater than 100% RRv. The infiltration practices have been sized to infiltrate the 1-year storm.

6.10 Soil Restoration

Soils within disturbed areas tend to over compact as a result of heavy construction traffic; thus limiting their infiltrative capacity. The existing soils and gravel areas around the site have been compacted by DPW vehicle storage and periodic movement of vehicles and machinery throughout the site. Under the GP 0-015-002 permit, soil restoration is required in disturbed areas that will be vegetated in order to recover the original properties and porosity of the soil, especially in areas that receive high construction traffic, or areas that have soils that are poorly drained.

Many runoff reduction practices need Soil Restoration measures applied over and adjacent to the practice to achieve runoff reduction performance. Some key benefits of soil restoration are less runoff, better water quality; healthier, aesthetically pleasing landscapes; increased porosity on redevelopment sites where impervious cover is converted to converted to pervious; decreases runoff volume generated and lowers the demand on runoff control structures; enhances direct groundwater recharge; promotes successful long-term re-vegetation by restoring soil organic matter, permeability, drainage and water holding capacity for healthy root system development of trees, shrubs and deep-rooted ground covers, minimizing lawn chemical requirements, plant drowning during wet periods, and burnout during dry periods.

Soil restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.

6.10.1 Soil Restoration Methods

- Topsoil Application – Applying 6” of topsoil in soils with an HSG of A & B and have only been stripped, cut or filled. Soils with HSG of C or D that have only been stripped require aeration in addition to topsoil.
- Aeration - Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.

- Tilling – Tilling includes the use of a cat-mounted ripper, tractor mounted disc, or tiller in order to expose the compacted soil devoid of oxygen to air and recreates temporary air space which allows for infiltration.
- Full Soil Restoration - Consists of Deep Ripping and De-Compaction, Compost Enhancement, and/or Deep Subsoiling. Deep Ripping includes the use of a cat mounted ripper, and is typically done at 12” to 24” depths. Compost Enhancement is done by using a deep subsoiler after topsoil has been applied. The goal is to alleviate the compaction that may have occurred during the placement of topsoil. This method mixes the topsoil and compost with subsoils.

Restoration techniques shall not be done until construction is complete and traffic will not travel through green areas. It is expected that deep ripping will be required in areas that the compacted gravel existed proposed to landscaped. These areas will be shown on the erosion and sediment control plan.

7.0 EROSION AND SEDIMENT CONTROL

7.1 Overview

The most sensitive stage of the development cycle is the period when vegetation is cleared and a site is graded. The potential impacts to on-site and off-site receiving waters and adjoining properties are particularly high at this stage. For example, trees and topsoil are removed, soils are exposed to erosion, and natural topography and drainage patterns are altered. Control of erosion and sediment during these periods is an essential function of this SWPPP and accompanying plans.

Effective and practical measures employed to minimize the erosion potential and prevent sediment from leaving the construction site and reaching streams or other water bodies have been recommended in accordance with:

- New York State Standards and Specifications for Erosion and Sediment Control, November, 2016

In order to ensure the effectiveness of the measures recommended herein, routine inspections and documentation, along with procedures for monitoring the findings, maintenance, and corrective actions resulting from each inspection are outlined within this section of the SWPPP.

7.2 Temporary Erosion and Sediment Control Measures

The following temporary measures have been incorporated into the erosion and sediment control plans for the site construction activities. These measures are also detailed on the site plans.

7.2.1 Silt Fence

A silt fence is a temporary sediment barrier consisting of a filter fabric stretched across and attached to supporting posts, entrenched, and supported with woven wire fence. Silt fences are installed on the contours across a slope and used to trap sediment by intercepting and detaining sediment laden runoff from disturbed areas in order to promote sedimentation on the uphill side of the fence.

Silt fences are suitable for perimeter and interior control, placed below areas where runoff may occur in the form of sheet flow. It should not be placed in channels or areas where flow is concentrated. In addition to interior and perimeter control a silt fence can be applied in the following applications:

- Below the toe or down slope of exposed and erodible slopes.
- Along streams and channels banks.
- Around temporary spoil area and stockpiles.

7.2.2 Stabilized Construction Entrance

A stabilized construction entrance consists of a pad of aggregate overlaying a geotextile fabric located at a point where construction vehicles enter or exit a site to reduce or eliminate the tracking of sediment onto public right of ways, street, alleys or parking areas, thereby preventing the transportation of sediment into local stormwater collection systems. Efficiency is greatly increased when a washing area is included as part of a stabilized construction entrance.

Stabilized construction entrances shall be a minimum of fifty (50) feet long and twelve (12) feet wide, but not less than the full width of points where vehicles enter and exit the site. Where there is only one access point to the site, the stabilized construction entrance shall be a minimum of twenty-four (24) feet wide. Stabilized construction entrances shall be a minimum of six (6) inches in depth consisting of one (1) to four (4) inch stone, or reclaimed or recycled equivalent.

7.2.3 Check Dams

Check dams shall be placed in channels to reduce scour and erosion by reducing flow velocity and promoting sediment settlement. Check dams shall be spaced in the channel so that the crest of the downstream dam is at the elevation of the toe of the upstream dam. Check dams, consisting of a well-graded stone two (2) – nine (9) inches in size (NYSDOT – Light Stone) shall maintain a height of two (2) feet with side slopes of 2:1 extending beyond the bank of the channel by a minimum of one and a half (1.5) feet. Check dams shall be anchored in the channel by a cutoff trench of one and a half (1.5) feet in width by a half (0.5) foot in depth.

7.2.4 Inlet Protection

Inlet protection consists of a filtering measure placed around or upstream of a storm drain used to trap sediment by temporary ponding runoff before it enters the storm drain. Inlet protection is not considered to be a primary means of sediment control and should be used with an overall integrated sediment control program. There are four types of storm drain inlet protection consisting of: excavated drop inlet protection, fabric drop inlet protection, stone and block drop inlet protection and curb drop inlet protection.

Inlet protection shall be implemented for all inlets that could potentially be impacted by sediment laden runoff.

7.2.5 Temporary Channels

Temporary channels in the form of diversion swales or berms may be used to intercept and direct runoff under the following applications:

- Above disturbed areas in order to direct and prevent clean runoff from flowing over disturbed areas until the area is permanently stabilized.
- Below disturbed areas to convey sediment laden runoff to sediment traps.
- Across disturbed slopes to reduce slope lengths.

Where used to convey sediment laden runoff, temporary channels shall be equipped with check dams.

7.2.6 Water Bars

Water bars are temporary earth barriers constructed across construction roads used to intercept and divert roadway runoff toward temporary sediment traps or channels, prevent runoff from concentrating, and minimize the potential of gullies from forming. Spacing of water bars is dependent upon the road slope, and shall be installed in accordance with the schedule depicted on the Erosion and Sediment Control detail sheet.

7.2.7 Straw Bale Barriers

Straw bale barriers are used to intercept and contain sediment from disturbed areas of limited size in order to prevent sediment from exiting the site. Bales should be placed in a single row lengthwise along the contour, with ends abutting one another. Straw bales shall be bound and installed so that the bindings are oriented around the sides. Straw bales shall be entrenched a minimum of four (4) inches, backfilled, and anchored using either two stakes or rebar driven through the straw bales to a depth of one and a half (1.5) to two (2) feet below grade.

Straw bales shall be used where no other measure is feasible. They shall not be used where there is a concentration of flow within a channel or other area.

The useful life of a straw bale barrier is three (3) months.

7.2.8 Temporary Soil Stockpiles

Stockpiling of soil is a method of preserving soil and topsoil for regrading and vegetating disturbed areas. Stockpiles shall be located away from environmentally sensitive areas (i.e. wetlands and associated buffers, streams, water bodies) and shall be protected with a peripheral silt fence. Slopes of stockpiles shall not exceed 2:1. Temporary stabilization measures shall be completed within fourteen (14) days of stockpile formation.

7.2.9 Dust Control

Dust control measures reduce the surface and air transport of dust, thereby preventing pollutants from mixing into stormwater. Dust control measures for the construction activities associated within this project consist of windbreaks, minimization of soil disturbance (preserving buffer areas of vegetation where practical), mulching, temporary and permanent vegetation cover, barriers (i.e. geotextile on driving surfaces) and water spraying.

Construction activities shall be scheduled to minimize the amount of area disturbed at any one time.

7.2.10 Temporary Soil Stabilization Practices

Stabilization practices reduce the potential for soil detachment by shielding the soil surface from the impact of rainfall and reducing overland flow velocity.

The Contractor shall initiate stabilization measures as soon as possible in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions.

Temporary stabilization practices may include:

7.2.10.1 Mulching

Mulching is a temporary soil stabilization practice. Mulching prevents erosion by protecting soil from raindrop impact and by reducing the velocity of overland flow. Mulching also retains moisture within the soil surface and prevents germination. Where mulching consists of wood chips or shavings, it shall be applied at a rate of 500-900 lbs per 1000 s.f. Where mulching consists of straw, it shall be applied at a rate of 90-100 lbs. per 1000 s.f. All temporary grass areas shall receive a standard application of mulch consisting of straw, unless the area is hydro-seeded.

7.2.10.2 Temporary Seeding

Temporary seeding provides additional benefits over other stabilization practices by creating a vegetation system holding soil particles in place with root systems and maintaining the soils capacity to absorb runoff. Temporary vegetation shall be placed in accordance with project plans. Irrigation shall be used when the soil is dry or when summer plantings are done.

7.2.10.3 Temporary Erosion Control Blanket

A temporary erosion control blanket is a degradable erosion control blanket used to hold seed and soil in place until vegetation is established in disturbed areas. Temporary erosion control blankets insulate and conserve seed moisture thus reducing evaporation and increasing germination rates, and protect seeds from birds. Temporary erosion control blankets may consist of straw blankets, excelsior blankets (curled wood excelsior), coconut fiber blankets, or wood fiber blankets (reprocessed wood fibers which do not possess or contain any growth or germination inhibiting factors).

7.3 Permanent Erosion and Sediment Control Measures

The following permanent measures have been incorporated into the erosion and sediment control plans for the site construction activities.

7.3.1 Outlet Protection

Outlet protection is used to reduce stormwater velocity and dissipate the energy of flow exiting a culvert before discharging into receiving channels. Rip-rap treatment extends between the point where flows exit the culvert and where the velocity and/or energy from runoff is dissipated to a degree where there is minimal erosion downstream of the discharge point.

A geotextile fabric shall be placed beneath the rip-rap to prevent soil movement into and through the rip-rap.

7.3.2 Permanent Soil Stabilization Practices

Stabilization practices reduce the potential for soil detachment by shielding the soil surface from the impact of rainfall and reducing overland flow velocity.

The Contractor shall initiate stabilization measures as soon as possible in portions of the site where construction activities have permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has permanently ceased.

Permanent stabilization practices may include:

7.3.2.1 Sod

Where exposed soils have the potential to generate off-site sediment loading, sod can provide an immediate form of stabilization and extra protection to a disturbed area. Where applied, sod shall be blue grass or a bluegrass/red fescue mixture or a perennial ryegrass and machine cut with a uniform soil thickness of $\frac{3}{4}$ inch, plus or minus $\frac{1}{4}$ inch. Sod shall be used at the discretion of the Owner, unless specifically required by the plans.

7.3.2.2 Permanent Vegetation

Permanent vegetation shall be used to provide a protective cover for exposed areas that have received final grading. Permanent stabilization shall be applied where topsoil has been placed or returned and incorporated into the soil surface. When used, this process shall be followed with the application of straw mulch to protect soil from erosion and seed from drying out. Irrigation shall be used when the soil is dry or when summer plantings are done. Permanent vegetation shall be placed in accordance with project plans.

7.3.2.3 Hydroseeding

Hydroseeding is the hydraulic application of seed and fertilizer onto prepared seed beds. When used, this process shall be followed with the application of straw mulch to protect soil from erosion and seed from drying out. Irrigation shall be used when the soil is dry or when summer plantings are done. Hydroseeding shall be used at the discretion of the Contractor, unless specifically required by the plans.

7.3.2.4 Permanent Erosion Control Blankets

Permanent erosion control blankets are comprised of synthetic materials that form a high strength mat that helps prevent soil erosion in channels and on steep slopes. Stems and roots become intertwined within the matrix, thus reinforcing the vegetation and anchoring the mat. Permanent erosion control blankets insulate and conserve seed moisture thus reducing evaporation and increasing germination rates, and protect seeds from birds. When used within channels, permanent erosion control blankets can aid in the establishment of vegetation and increase the maximum permissible velocity of the given channel by reinforcing the soil and vegetation to resist the forces of erosion during runoff events.

7.4 Erosion and Sediment Control Sequencing Schedule

Implementation schedules for the installation of erosion and sediment control measures prior to and during the course of construction will depend greatly on the actual construction schedule and the varying field conditions that may warrant temporary construction stops and/or work commencing in other locations. The plans include an anticipated construction sequence schedule, of which temporary and permanent erosion and sediment control practices will be required and inspected.

The construction sequencing schedule is as follows:

1. Schedule a pre-construction meeting which shall include the city engineer, owner or owner's representative, project engineer, contractor and subcontractors (if necessary) who are to perform the construction.
2. Establish the limit of disturbance for proposed clearing and grading associated with the proposed parking areas and stormwater management area.
3. Install stabilized construction entrance as depicted on the plan.
4. Clear locations for installation of proposed erosion and sediment control measures.
5. Install silt fence as shown on this plan and in other areas that become apparent following clearing activities.
6. Prior to further construction activities, contractor shall contact the project engineer to conduct a pre-construction site assessment to verify that the appropriate erosion and sediment controls shown on this plan have been adequately installed ensuring overall preparedness of this site for the commencement of construction.
7. Commence mass grading activities on project area.
8. Install underground detention system. Install silt fence surrounding underground detention footprint. Use orange construction fence in addition to the silt fence if necessary.
9. Construct storm sewer system.
10. Construct curbing and parking areas to binder course.
11. Till soil in all landscaped areas that have previously been disturbed.
12. Install all proposed landscaping.
13. Pave top course on parking areas.
14. Install infiltration basin.
15. Remove erosion and sediment controls when contributing drainage areas have become stabilized.

Erosion control measures shall be inspected and repaired as needed during construction activities and based on the maintenance schedule. Additional erosion control measures based on site conditions shall be provided as necessary in order to protect adjacent parcels and waters.

7.5 Maintenance Schedules

Maintenance of the erosion and sediment controls incorporated into this project shall be performed on a regular basis to assure continued effectiveness. This includes repairs and replacement to all erosion and sediment control practices, including cleanout of all sediment retaining measures. Those measures found to be ineffective during routine inspections shall be repaired or replaced and cleaned out (where applicable) before the next anticipated storm event or within 24-hours of being notified, whichever comes first. A more detailed description of the maintenance procedures for the site specific erosion and sediment control practices has been provided on the plan set.

7.6 Construction Staging Areas

Construction staging areas are areas designated within construction sites where most equipment and materials are stored. The locations of the construction staging areas for this project have been shown on the plan set.

7.7 Site Assessments, Inspections and Reporting

Regular inspections of the construction site shall be performed by a qualified professional who is familiar with all aspects of the SWPPP and the implemented control practices. Inspections are intended to identify areas where the pollutant control measures at the site are ineffective and have the potential to allow pollutants to enter water bodies or adjoining properties.

7.7.1 Prior to Construction

Prior to the commencement of construction, a qualified professional shall conduct an inspection of the site and certify in an inspection report that the appropriate erosion and sediment control measures have been installed as indicated by the project plan set and SWPPP. This certification shall be forwarded to the Owner's Representative and Contractor for filing in the construction log book.

A copy of the "Pre-Construction Site Assessment Checklist" has been provided in Appendix G.

7.7.2 During Construction

Following the commencement of construction, a qualified professional shall perform inspections of site construction activities in accordance with the SPDES General Permit. Inspections shall occur every seven (7) calendar days. Refer to Section 1.2 of this SWPPP for additional inspection requirements associated with disturbance of greater than five (5) acres at any time.

For project areas where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days. The owner or operator shall notify the Regional Office stormwater contact person in writing prior to reducing the frequency of inspections.

For project areas where soil disturbance activities have been shut down with partial project completion, the qualified inspector can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The owner or operator shall notify the Regional Office stormwater contact person in writing prior to the shutdown.

The inspections shall include observation of installed and maintained erosion and sediment control measures for consistency with project specifications and documentation of items to be corrected and recommendations for mitigating concerns. The following information, at minimum, shall be recorded during each inspection:

- Date and time of inspection;
- Name and title of person(s) performing inspection;
- A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody;
- Identification of all erosion and sediment control practices that need repair or maintenance;
- Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
- Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
- Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water (where applicable);
- Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume;

- Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
- Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report being maintained on site within seven (7) calendar days of the date of the inspection. The qualified inspector shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection
- A brief description of any erosion and sediment control practice repairs, maintenance or installations made as a result of previous inspection; and
- All deficiencies that are identified with the implementation of the SWPPP.

Summary reports shall be forwarded to the Owner's Representative and Contractor. Reports shall be incorporated into the construction log book. Within one business day of the completion of an inspection, the qualified inspector shall notify the owner or operator and appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

A copy of the "Construction" inspection report has been provided in Appendix M.

7.7.3 Quarterly Report

The Owner shall prepare a written summary of its status with respect to compliance with the SPDES General Permit at a minimum frequency of every three months during which coverage under the permit exists. The summary should address the status of achieving each component of the SWPPP. The report shall include the overall performance of the stormwater facilities, average, minimum and maximum depths of sediment within the stormwater facilities, the physical condition of all drainage structures, maintenance reports from the previous year, and any recommendations for any repairs, modifications or adjustments to the stormwater facilities.

7.7.4 End of Term

Termination of coverage under SPDES General Permit is accomplished by filing a Notice of Termination with the NYSDEC. Prior to the filing of the Notice of Termination (NOT), the Owner shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods, that all temporary erosion and sediment control structures have been removed, and that all permanent erosion control and stormwater facilities have been installed and are operational in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The owner

or operator shall then submit the completed NOT form to the NYSDEC. “Final stabilization” means that all soil disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextile) have been employed on all unpaved areas and area not covered by permanent structures.

A NOT is provided in Appendix N.

7.8 Construction Log Book

The construction log book shall be maintained on-site from the date of initiation of construction activities to the date of final stabilization and shall be made available to the permitting authority upon request. The construction log book shall contain a record of all inspections; preparer’s, qualified professional’s, owner’s/operator’s, contractor’s, and sub-contractor’s (if applicable) certifications; and weekly and quarterly reports.

7.9 Long Term Operation and Maintenance Plan of Stormwater System and Landscape Areas

A separate Long Term Operation and Maintenance (O&M) Plan will be provided within Appendix O in the final SWPPP.

7.9.1 Deep Sump Catch Basins and Piping

All catch basins shall be inspected after each storm event for sediment accumulation, and debris, and remove as necessary. When sediment accumulation within the catch basin sump reaches 1/2 of the sump depth, it shall be removed. Associated piping shall be inspected annually, and accumulated sediment shall be removed as needed.

7.9.2 Infiltration Basins

Infiltration basins shall be inspected monthly for sediment and debris accumulation. Inflow pipes, outlet structures and spillways should also be inspected for sediment and debris monthly. Any accumulated sediment or debris should be removed as necessary. After storm events, the infiltration basin’s dewatering duration should also be monitored. The basin floor shall be mowed when the grass reaches a height of 18”. Sediment shall be cleaned out of the basin annually.

7.9.3 Underground Infiltration System

The underground infiltration system shall be inspected monthly for sediment and debris accumulation. Inflow pipes, outlet structures and spillways should also be inspected for sediment and debris monthly. Any accumulated sediment or debris should be removed as necessary. After storm events, the underground infiltration system dewatering duration should also be monitored. Sediment shall be cleaned out of the system annually.

7.9.4 Hydrodynamic Pretreatment Devices

The hydrodynamic pretreatment devices (HPD) require regular inspection and maintenance to ensure optimal performance. Maintenance frequency will be driven by upstream conditions (contributing drainage area stabilization) and proper maintenance of upstream structures and culvert pipes. The manufacturer recommends that the HPD units be inspected quarterly (at each change of season). The structure shall be visually inspected for blockages or obstructions in the inlet or separation screen. The inspection should also quantify accumulation of hydrocarbons, sediment and trash within the system. Inspections and maintenance shall be performed by qualified personnel with adequate training in these types of units. The units shall be cleaned by vacuum truck once a year (except for the first year where more frequent cleanings may be required).

8.0 GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES

The following good housekeeping and material management practices shall be followed to reduce the risk of spills or exposure of materials to stormwater runoff.

8.1 Waste Materials

All waste material, including but not limited to trash and construction debris, generated during construction shall be collected and stored in a proper receptacle in accordance with Federal, State, County and Local regulations. No waste material shall be buried on-site. All collected waste material shall be hauled to an approved waste disposal facility.

8.2 Chemical

Chemicals used on-site shall be kept in small quantities and stored in closed water tight containers undercover in a neat and orderly manner and kept out of direct contact with stormwater. Chemical products shall not be mixed with one another unless recommended by manufacturer.

All on-site personnel shall have access to material safety data sheets (MSDS) and National Institute for Occupational Safety and Health (NIOSH) Guide to Chemical Hazards (latest edition) for all chemicals stored and used on-site.

Manufacturer's and/or Federal, State, County and Local guidelines for proper use and disposal shall be followed. Any spills or contamination of runoff with chemicals shall be contained, collected, cleaned up immediately and disposed of in accordance with Federal, State, County and Local regulations.

8.3 Fuels and Oil

All on-site vehicles, tools, and construction equipment shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. On-site vehicle and equipment refueling shall be conducted at a location away from access to surface waters and runoff. Any on-site storage tanks shall have a means of secondary containment. Oil products shall be kept in their original containers with original manufacturer's label. In the event of a spill, it shall be contained,

cleaned up immediately and the material, including any contaminated soil, shall be disposed of in accordance with Federal, State, County and Local regulations.

Fuel and oil spills in excess of reportable quantities shall be reported to the NYSDEC as soon as the discharge is discovered.

8.4 Fertilizers

Fertilizers used on-site shall be stored in closed water tight containers undercover in a neat orderly manner and kept out of direct contact with stormwater. Manufacturer's and/or Federal, State, County and Local guidelines for proper use and disposal shall be followed. Any spills or contamination of runoff with fertilizers shall be contained, collected, cleaned up immediately, and disposed of in accordance with Federal, State, County and Local regulations.

8.5 Paint

Paints used on-site shall be stored in closed, water tight containers undercover in a neat and orderly manner and kept out of direct contact with stormwater. Manufacturer's and/or Federal, State, County and Local guidelines for proper use and disposal shall be followed. Any spills or contamination of runoff with paint shall be contained, collected, cleaned up immediately, and disposed of in accordance with Federal, State, County and Local regulations.

8.6 Sanitary Waste Facilities

Should portable units be located on-site, they shall be placed in upland areas away from direct contact with surface waters. They shall be serviced and cleaned on a weekly basis by a licensed portable toilet and septic disposal service. Any spills occurring during service shall be cleaned up immediately and disposed of in accordance with Federal, State, County, and Local regulations.

8.7 Container Disposal

All of a product shall be used up before disposal of the container. Empty containers that may contain chemical residue shall be disposed of in accordance with Federal, State, County and Local regulations.

8.8 Concrete and Asphalt Trucks

Concrete and asphalt trucks shall not be allowed to wash out or discharge surplus material on-site.

8.9 Site Supervisor

It shall be the responsibility of the Contractor's Site Supervisor to inspect daily and ensure the proper use, storage and disposal of all on-site materials.

9.0 SWPPP AMENDMENT

The SWPPP shall be updated by a licensed professional engineer whenever any of the following apply:

- 1) There is a significant change in design, construction, operation or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP.

- 2) The SWPPP proves to be ineffective in:
 - Eliminating or significantly minimizing pollutants from sources identified in the SWPPP required by the SPDES Permit; or
 - Achieving the general objective of controlling pollutants in stormwater discharges from permitted construction activity.
- 3) Identify any new contractor or subcontractor that will implement any measure of the SWPPP.
- 4) NYSDEC notifies the Permittee that the SWPPP does not meet one or more of the minimum requirements of the SPDES Permit. Within seven (7) days of such notification or as provided for by the NYSDEC, the Permittee shall make amendments to the SWPPP and submit to the NYSDEC a written certification that the requested changes have been made.

Since this project is subject to the requirements of a regulated, traditional land use control MS4, the owner or operator shall notify the MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP. Unless otherwise notified by the MS4, the owner or operator shall have the SWPPP amendments or modifications reviewed and accepted by the MS4 prior to commencing construction of the post-construction stormwater management practice.

10.0 CONTRACTOR CERTIFICATIONS

All contractors and subcontractors that have any responsibility to install, inspect or maintain erosion or sediment control measures shall sign a copy of the certification statement included in Appendix I before undertaking any construction activity at the site identified in the SWPPP.

11.0 OWNER/OPERATOR CERTIFICATION

The Owner/Operator must review and sign the owner/operator certification statement included in Appendix K.

12.0 CONCLUSIONS

This SWPPP demonstrates that the proposed project generally meets the requirements of SPDES GP-0-015-002, as follows:

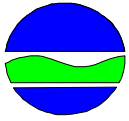
- An erosion and sediment control plan in accordance with the latest revision to the New York State Standards and Specifications for Erosion and Sediment Control, November 2016, has been developed for the project and is included in the site plan set.
- Hydrologic and Hydraulic calculations for all storm events modeled will demonstrate that the resulting stormwater runoff from the development, exiting the site will not adversely impact offsite properties, stormwater conveyance systems or receiving water bodies. Temporary and permanent stormwater systems and facilities are designed in accordance with the latest revision to the New York State Stormwater Management Design Manual, January 2015.

- The project has been designed to capture and treat 90% of the average annual stormwater runoff from the development through approved water quality measures in all available areas.
- The green infrastructure practices capture a minimum of 25% of the required runoff reduction volume (RRv).

APPENDIX A

NOTICE OF INTENT AND MS4 ACCEPTANCE

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-0-10-001
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)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State Zip -

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

Email (Owner/Operator)

FED TAX ID - (not required for individuals)

Project Site Information

Project/Site Name

[Grid for Project/Site Name]

Street Address (NOT P.O. BOX)

[Grid for Street Address]

Side of Street

North South East West

City/Town/Village (THAT ISSUES BUILDING PERMIT)

[Grid for City/Town/Village]

State

[Grid for State]

Zip

[Grid for Zip]

-

[Grid for Zip continuation]

County

[Grid for County]

DEC Region

[Grid for DEC Region]

Name of Nearest Cross Street

[Grid for Name of Nearest Cross Street]

Distance to Nearest Cross Street (Feet)

[Grid for Distance to Nearest Cross Street]

Project In Relation to Cross Street

North South East West

Tax Map Numbers

Section-Block-Parcel

[Grid for Tax Map Numbers Section-Block-Parcel]

Tax Map Numbers

[Grid for Tax Map Numbers]

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you must go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

[Grid for X Coordinates (Easting)]

Y Coordinates (Northing)

[Grid for Y Coordinates (Northing)]

2. What is the nature of this construction project?

- New Construction
- Redevelopment with increase in impervious area
- Redevelopment with no increase in impervious area

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

**Pre-Development
Existing Land Use**

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

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

**Post-Development
Future Land Use**

- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- 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																				
<table border="1" style="display: inline-table; width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>						<table border="1" style="display: inline-table; width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>						<table border="1" style="display: inline-table; width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>						<table border="1" style="display: inline-table; width: 60px; height: 25px;"> <tr> <td></td><td></td><td></td><td></td><td></td> </tr> </table>					

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

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

A	B	C	D												
<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> %				<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> %				<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> %				<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> %			

7. Is this a phased project? Yes No

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

Start Date	End Date																									
<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> / <table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> / <table border="1" style="display: inline-table; width: 60px; height: 25px;"><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>													-	<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> / <table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> / <table border="1" style="display: inline-table; width: 60px; height: 25px;"><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>												

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 25 empty rectangular 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

. **acre-feet**

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

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

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

If Yes, go to question 36.

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

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

CPv Required	CPv Provided
<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> acre-feet	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> 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	Post-development
<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> CFS	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> CFS

Total Extreme Flood Control Criteria (Qf)

Pre-Development	Post-development
<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> CFS	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> CFS



Department of
Environmental
Conservation

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit
*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information

1. Owner/Operator Name:

2. Contact Person:

3. Street Address:

4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by:

9. Title/Position:

10. Date Final SWPPP Reviewed and Accepted:

IV. Regulated MS4 Information

11. Name of MS4:

12. MS4 SPDES Permit Identification Number: NYR20A

13. Contact Person:

14. Street Address:

15. City/State/Zip:

16. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).
Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

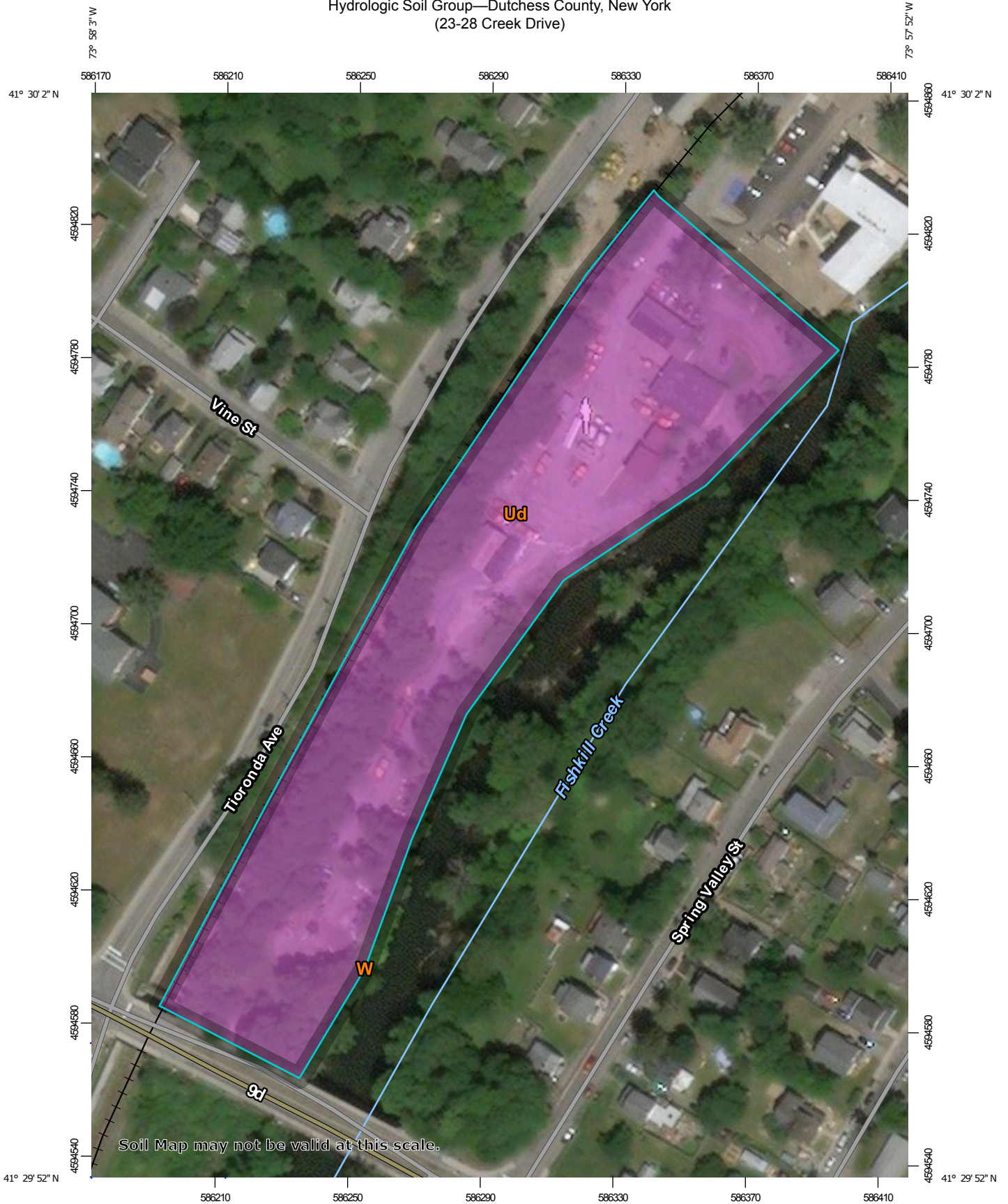
Signature:

Date:

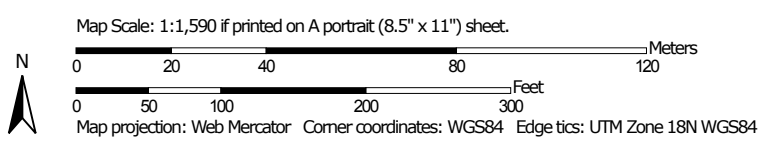
VI. Additional Information

APPENDIX B
SOILS DATA

Hydrologic Soil Group—Dutchess County, New York
(23-28 Creek Drive)




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





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

Soil Rating Lines


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

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Dutchess County, New York
 Survey Area Data: Version 15, Sep 2, 2018

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

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ud	Udorthents, smoothed	A	3.6	100.0%
W	Water		0.0	0.0%
Totals for Area of Interest			3.6	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

APPENDIX C

**RAINFALL DATA, NYSDEC ERM, FLOOD MAP AND
WETLAND MAP**

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	Yes
State	New York
Location	
Longitude	73.966 degrees West
Latitude	41.500 degrees North
Elevation	0 feet
Date/Time	Mon, 22 Oct 2018 17:12:12 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.33	0.50	0.62	0.82	1.02	1.27	1yr	0.88	1.20	1.45	1.77	2.15	2.61	2.96	1yr	2.31	2.85	3.29	3.96	4.59	1yr
2yr	0.39	0.60	0.74	0.98	1.23	1.53	2yr	1.06	1.43	1.75	2.15	2.61	3.17	3.57	2yr	2.80	3.44	3.94	4.64	5.29	2yr
5yr	0.46	0.71	0.89	1.19	1.52	1.92	5yr	1.32	1.76	2.20	2.70	3.29	3.97	4.53	5yr	3.51	4.35	5.01	5.79	6.54	5yr
10yr	0.51	0.80	1.02	1.38	1.79	2.27	10yr	1.55	2.07	2.62	3.22	3.91	4.71	5.42	10yr	4.17	5.21	6.01	6.84	7.69	10yr
25yr	0.60	0.95	1.21	1.67	2.23	2.85	25yr	1.92	2.56	3.30	4.06	4.94	5.92	6.87	25yr	5.24	6.61	7.65	8.53	9.53	25yr
50yr	0.68	1.09	1.39	1.95	2.62	3.38	50yr	2.26	3.00	3.93	4.84	5.87	7.04	8.23	50yr	6.23	7.91	9.19	10.09	11.21	50yr
100yr	0.77	1.24	1.60	2.27	3.10	4.03	100yr	2.68	3.53	4.68	5.78	7.00	8.37	9.86	100yr	7.41	9.48	11.04	11.94	13.20	100yr
200yr	0.87	1.43	1.85	2.65	3.67	4.79	200yr	3.16	4.15	5.58	6.90	8.35	9.96	11.82	200yr	8.81	11.37	13.28	14.13	15.55	200yr
500yr	1.05	1.73	2.25	3.27	4.59	6.03	500yr	3.96	5.15	7.04	8.71	10.54	12.55	15.03	500yr	11.10	14.46	16.96	17.67	19.33	500yr

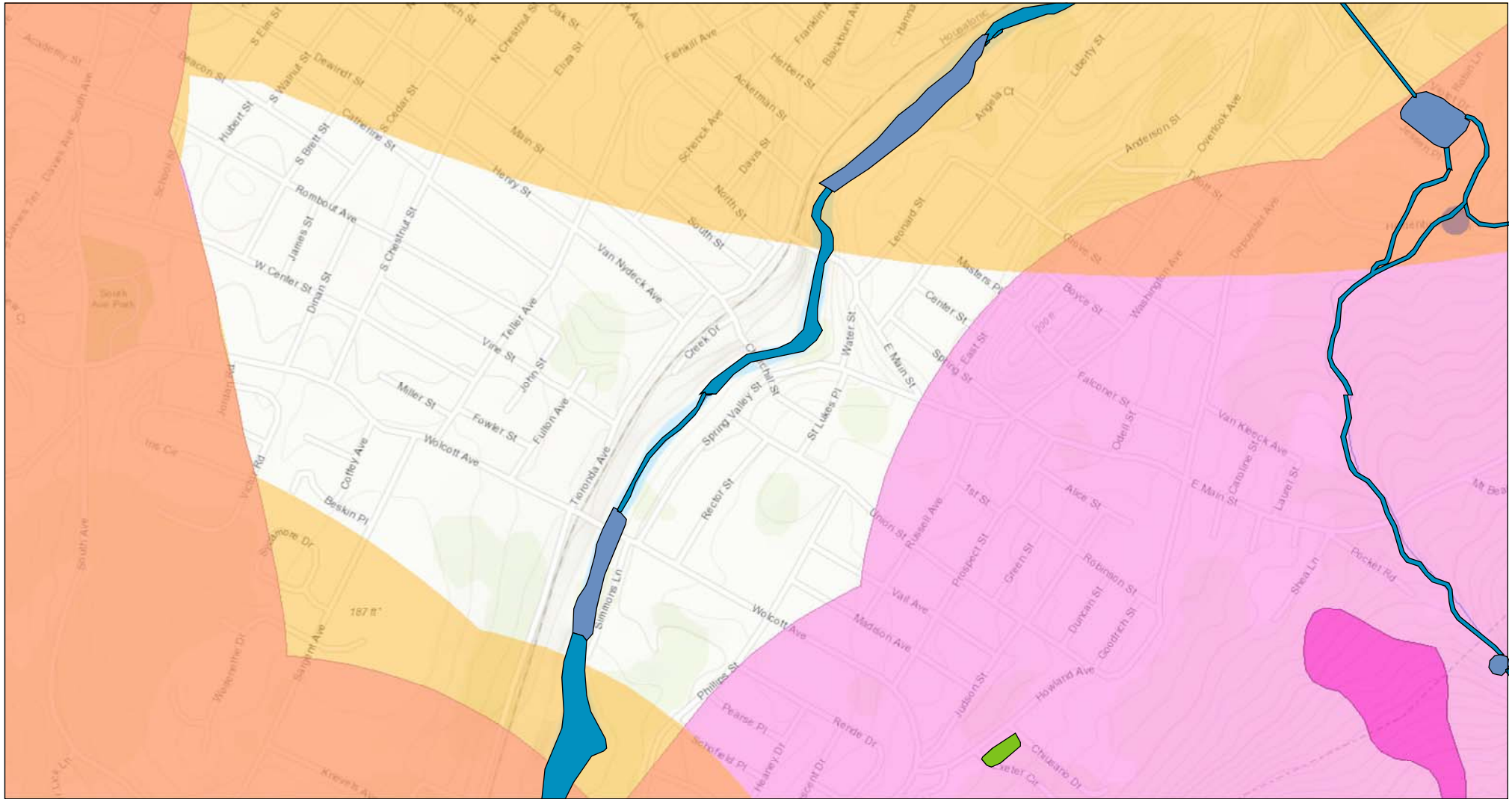
Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.53	0.72	0.88	1.09	1yr	0.76	1.06	1.25	1.60	2.01	2.08	2.36	1yr	1.84	2.27	2.59	3.32	4.16	1yr
2yr	0.37	0.58	0.71	0.96	1.19	1.42	2yr	1.03	1.39	1.61	2.06	2.59	3.08	3.46	2yr	2.72	3.33	3.79	4.49	5.14	2yr
5yr	0.42	0.65	0.81	1.11	1.41	1.66	5yr	1.22	1.62	1.88	2.42	3.01	3.67	4.18	5yr	3.25	4.02	4.59	5.31	6.09	5yr
10yr	0.47	0.72	0.90	1.25	1.62	1.85	10yr	1.40	1.81	2.12	2.72	3.38	4.16	4.83	10yr	3.69	4.65	5.28	6.02	6.92	10yr
25yr	0.54	0.82	1.03	1.46	1.93	2.14	25yr	1.66	2.09	2.46	3.06	3.94	4.89	5.85	25yr	4.33	5.63	6.36	7.10	8.19	25yr
50yr	0.60	0.92	1.15	1.65	2.22	2.38	50yr	1.91	2.33	2.77	3.42	4.44	5.54	6.77	50yr	4.91	6.51	7.32	8.05	9.33	50yr
100yr	0.68	1.03	1.29	1.87	2.56	2.68	100yr	2.21	2.62	3.13	3.81	5.02	6.24	7.85	100yr	5.53	7.55	8.43	9.11	10.63	100yr
200yr	0.77	1.16	1.47	2.13	2.98	2.99	200yr	2.57	2.93	3.54	4.28	5.67	6.99	9.12	200yr	6.19	8.77	9.72	10.30	12.13	200yr
500yr	0.92	1.37	1.76	2.56	3.65	3.49	500yr	3.15	3.41	4.19	4.99	6.70	8.13	11.14	500yr	7.20	10.72	11.73	12.10	14.45	500yr

Upper Confidence Limits

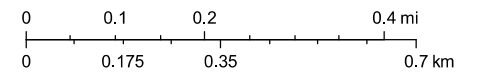
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.36	0.56	0.68	0.92	1.13	1.36	1yr	0.97	1.33	1.53	1.97	2.43	2.82	3.20	1yr	2.49	3.08	3.57	4.25	4.93	1yr
2yr	0.40	0.62	0.77	1.04	1.28	1.54	2yr	1.10	1.51	1.74	2.25	2.80	3.34	3.71	2yr	2.95	3.56	4.10	4.82	5.47	2yr
5yr	0.49	0.76	0.94	1.29	1.64	1.96	5yr	1.42	1.91	2.26	2.89	3.66	4.26	4.88	5yr	3.77	4.70	5.41	6.28	7.01	5yr
10yr	0.58	0.89	1.11	1.55	2.00	2.37	10yr	1.72	2.31	2.74	3.53	4.49	5.21	6.01	10yr	4.61	5.78	6.70	7.69	8.48	10yr
25yr	0.72	1.10	1.37	1.95	2.57	3.05	25yr	2.22	2.98	3.57	4.73	5.88	6.79	7.92	25yr	6.01	7.62	8.92	10.04	10.93	25yr
50yr	0.85	1.29	1.61	2.32	3.12	3.70	50yr	2.69	3.62	4.35	5.83	7.21	8.32	9.76	50yr	7.37	9.39	11.09	12.30	13.24	50yr
100yr	1.01	1.52	1.91	2.75	3.78	4.50	100yr	3.26	4.40	5.30	7.20	8.83	10.20	12.02	100yr	9.03	11.56	13.78	15.10	16.05	100yr
200yr	1.19	1.79	2.26	3.28	4.57	5.45	200yr	3.94	5.33	6.47	8.86	10.82	12.52	14.82	200yr	11.08	14.25	17.15	18.53	19.46	200yr
500yr	1.49	2.22	2.85	4.14	5.89	7.05	500yr	5.08	6.89	8.41	11.70	14.17	16.44	19.52	500yr	14.55	18.77	22.91	24.33	25.10	500yr

23-28 Creek Drive



October 23, 2018

1:9,028



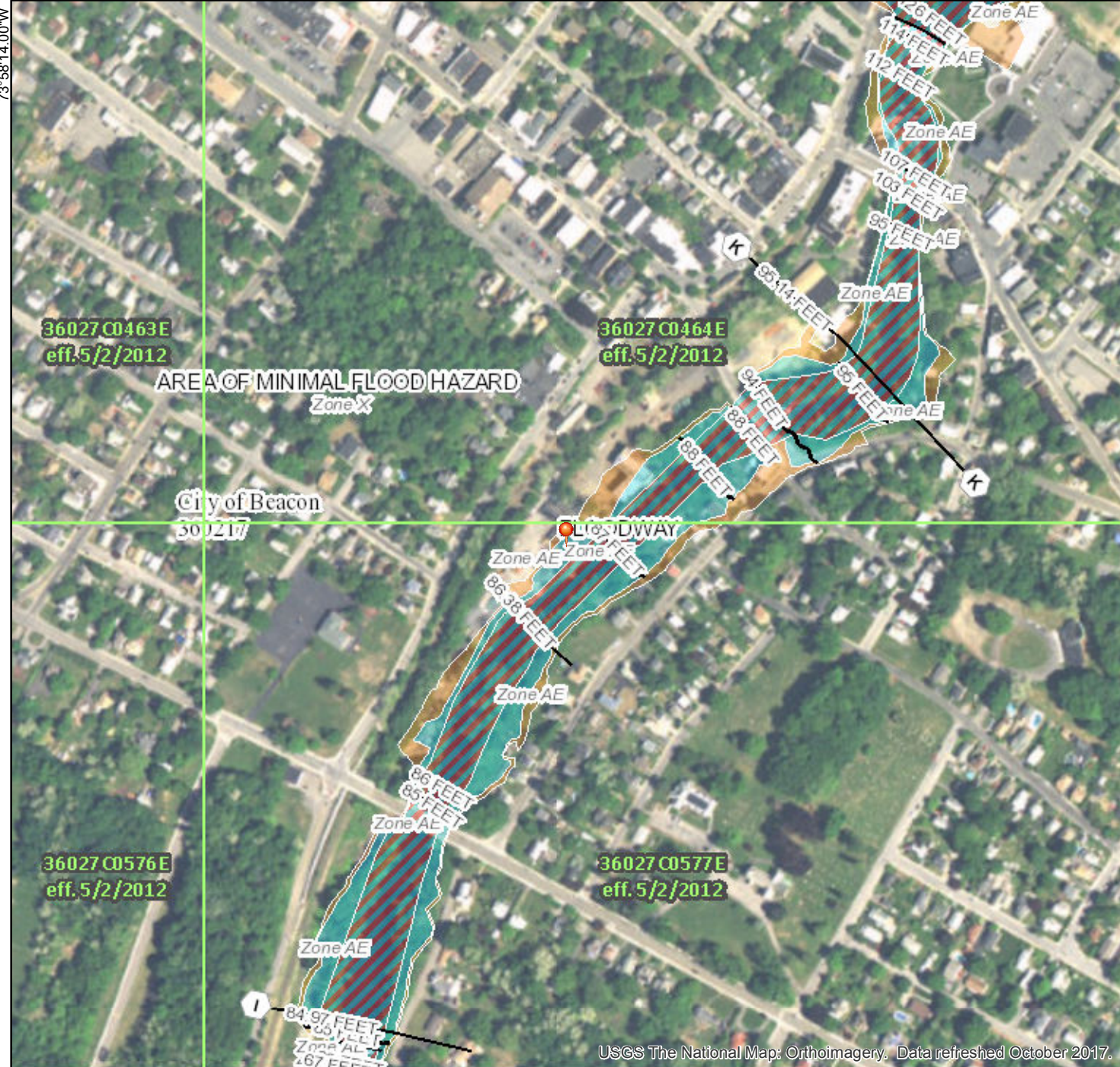
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

Author: HLD
Not a legal document

National Flood Hazard Layer FIRMette



41°30'13.18"N



Legend

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

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

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

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

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

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

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/23/2018 at 9:53:29 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

73°58'14.00"W









73°57'36.54"W



U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov

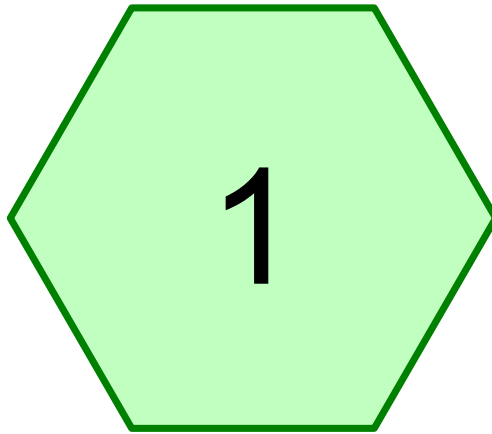
October 22, 2018

Wetlands

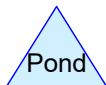
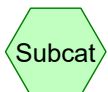
- | | | |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland |  Lake |
|  Estuarine and Marine Wetland |  Freshwater Forested/Shrub Wetland |  Other |
| |  Freshwater Pond |  Riverine |

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.

APPENDIX D
PRE-DEVELOPMENT HYDROCAD MODEL



SUBCATCHMENT 1



Summary for Subcatchment 1: SUBCATCHMENT 1

Runoff = 0.02 cfs @ 15.08 hrs, Volume= 0.010 af, Depth> 0.03"

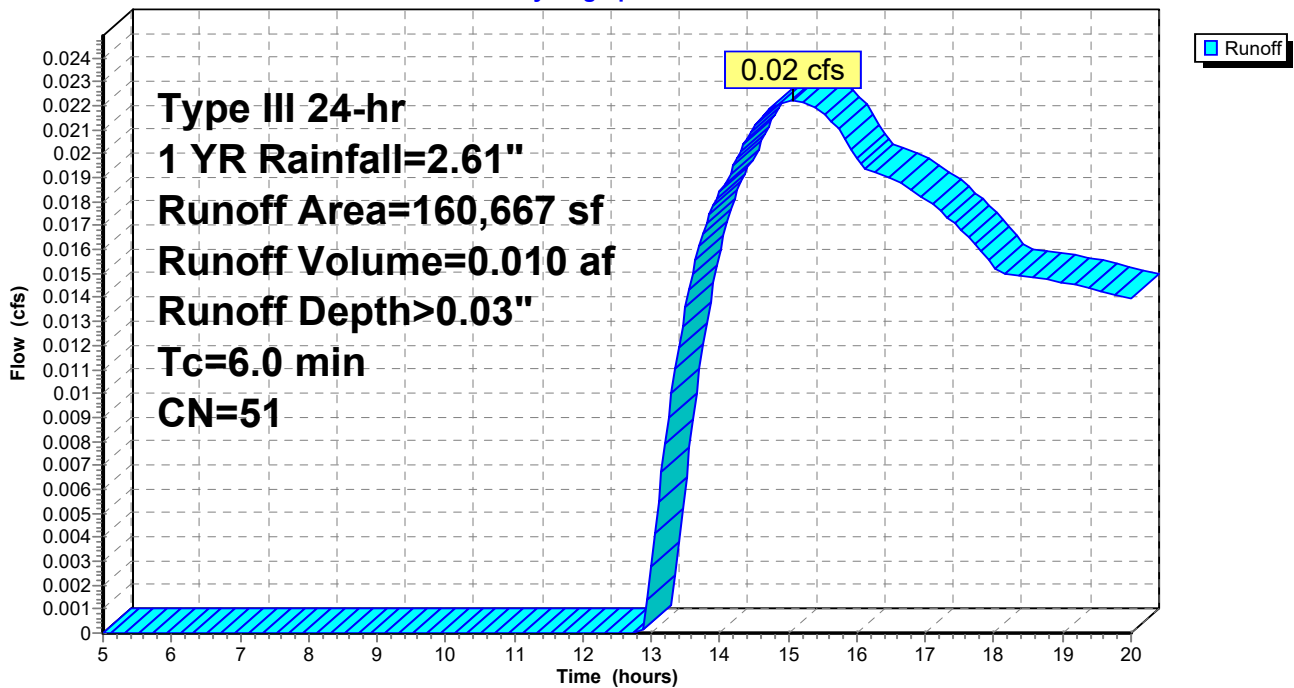
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 1 YR Rainfall=2.61"

Area (sf)	CN	Description
48,660	98	Paved parking, HSG A
58,238	30	Woods, Good, HSG A
53,769	30	Meadow, non-grazed, HSG A
160,667	51	Weighted Average
112,007		69.71% Pervious Area
48,660		30.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 1: SUBCATCHMENT 1

Hydrograph



Summary for Subcatchment 1: SUBCATCHMENT 1

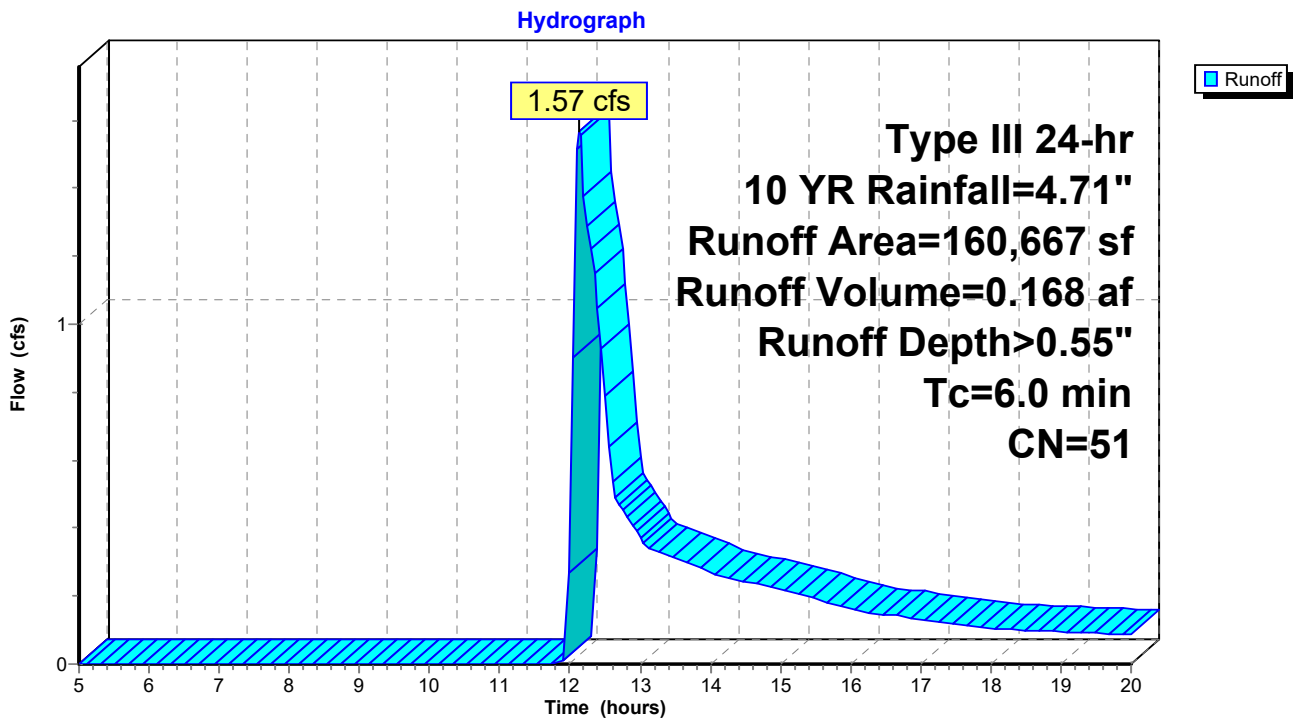
Runoff = 1.57 cfs @ 12.13 hrs, Volume= 0.168 af, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YR Rainfall=4.71"

Area (sf)	CN	Description
48,660	98	Paved parking, HSG A
58,238	30	Woods, Good, HSG A
53,769	30	Meadow, non-grazed, HSG A
160,667	51	Weighted Average
112,007		69.71% Pervious Area
48,660		30.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 1: SUBCATCHMENT 1



Summary for Subcatchment 1: SUBCATCHMENT 1

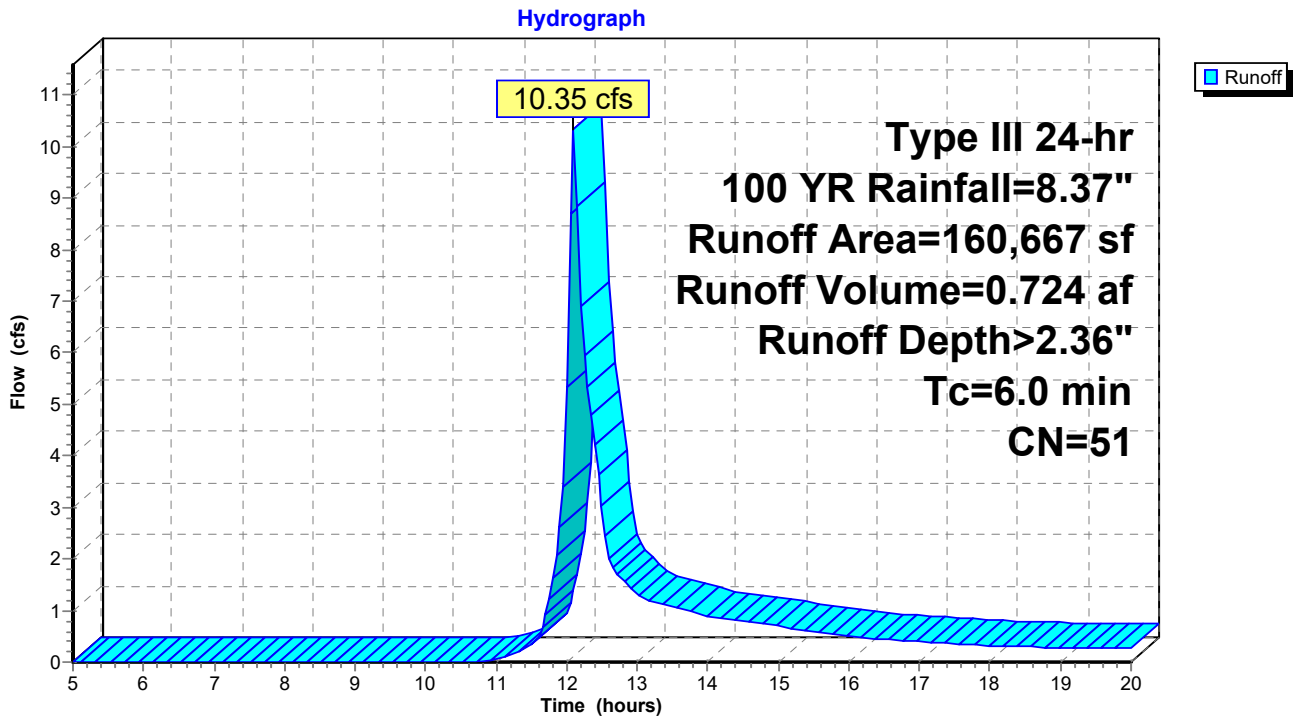
Runoff = 10.35 cfs @ 12.10 hrs, Volume= 0.724 af, Depth> 2.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=8.37"

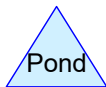
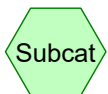
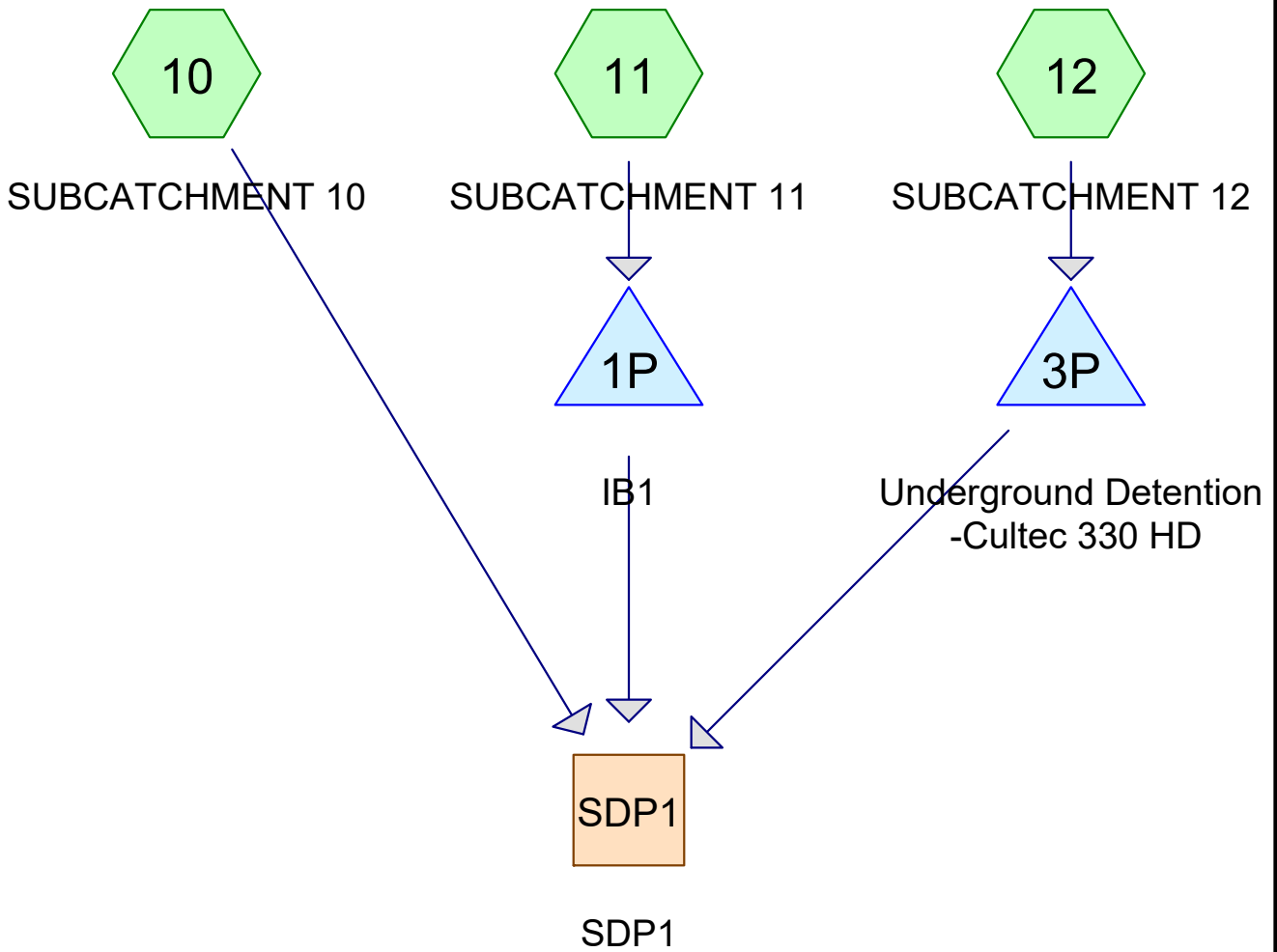
Area (sf)	CN	Description
48,660	98	Paved parking, HSG A
58,238	30	Woods, Good, HSG A
53,769	30	Meadow, non-grazed, HSG A
160,667	51	Weighted Average
112,007		69.71% Pervious Area
48,660		30.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 1: SUBCATCHMENT 1



APPENDIX E
POST-DEVELOPMENT HYDROCAD MODEL



POST2

Type III 24-hr 1 YR Rainfall=2.61"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 2

Summary for Subcatchment 10: SUBCATCHMENT 10

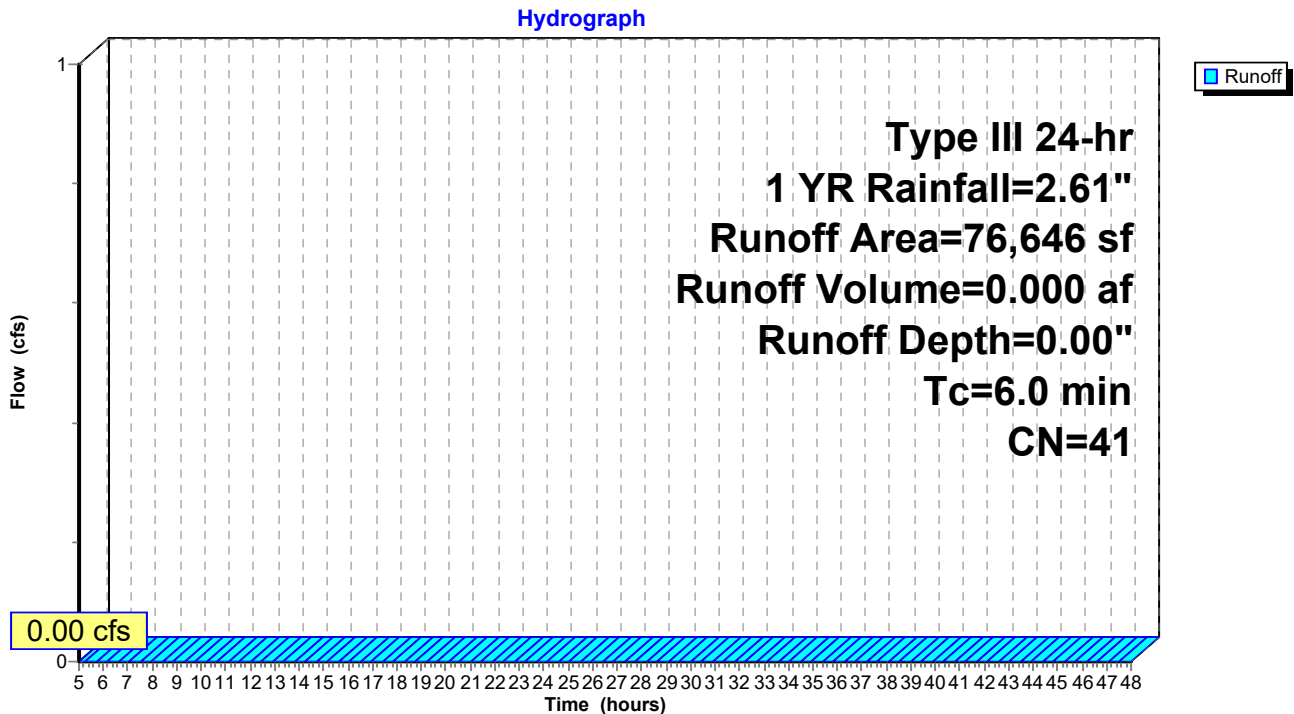
Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type III 24-hr 1 YR Rainfall=2.61"

Area (sf)	CN	Description
740	98	Paved parking, HSG A
37,514	30	Woods, Good, HSG A
30,748	39	>75% Grass cover, Good, HSG A
7,644	96	Gravel surface, HSG A
76,646	41	Weighted Average
75,906		99.03% Pervious Area
740		0.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, s1

Subcatchment 10: SUBCATCHMENT 10



POST2

Type III 24-hr 1 YR Rainfall=2.61"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 11: SUBCATCHMENT 11

Runoff = 0.19 cfs @ 12.16 hrs, Volume= 0.028 af, Depth= 0.28"

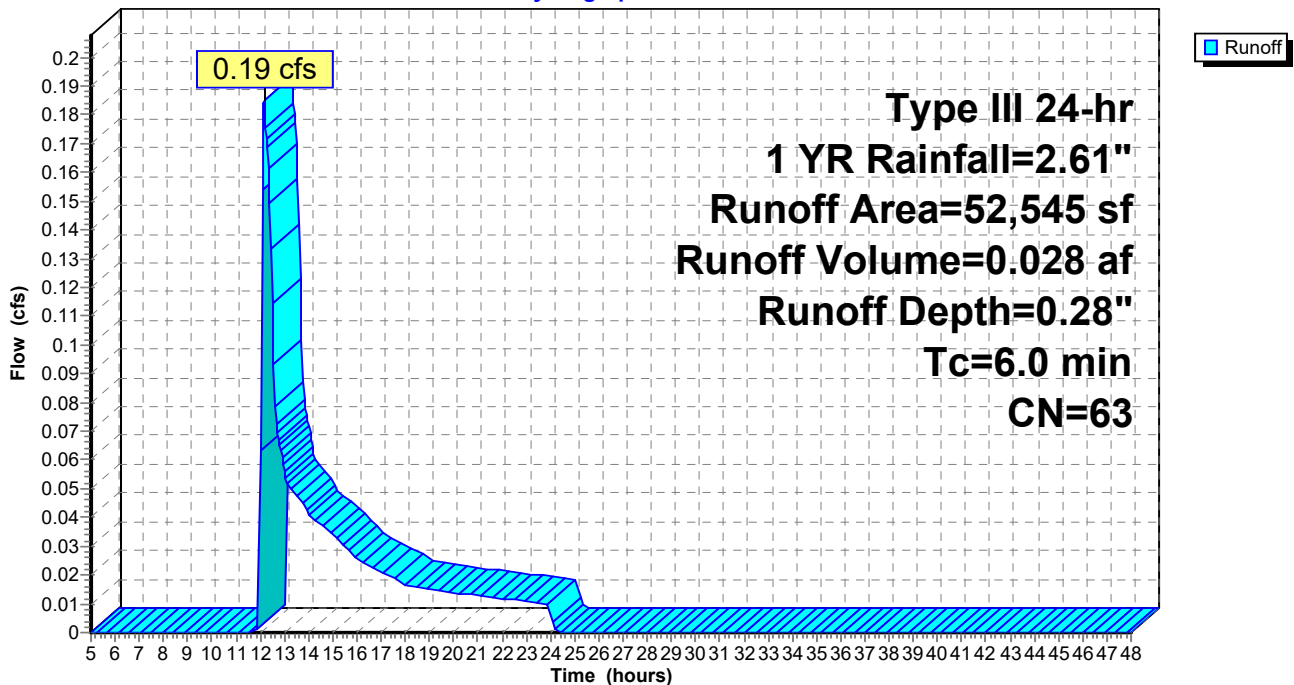
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YR Rainfall=2.61"

Area (sf)	CN	Description
22,913	98	Paved parking, HSG A
14,078	30	Woods, Good, HSG A
14,970	39	>75% Grass cover, Good, HSG A
584	96	Gravel surface, HSG A
52,545	63	Weighted Average
29,632		56.39% Pervious Area
22,913		43.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 11: SUBCATCHMENT 11

Hydrograph



POST2

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Type III 24-hr 1 YR Rainfall=2.61"

Summary for Subcatchment 12: SUBCATCHMENT 12

Runoff = 0.73 cfs @ 12.10 hrs, Volume= 0.055 af, Depth= 0.91"

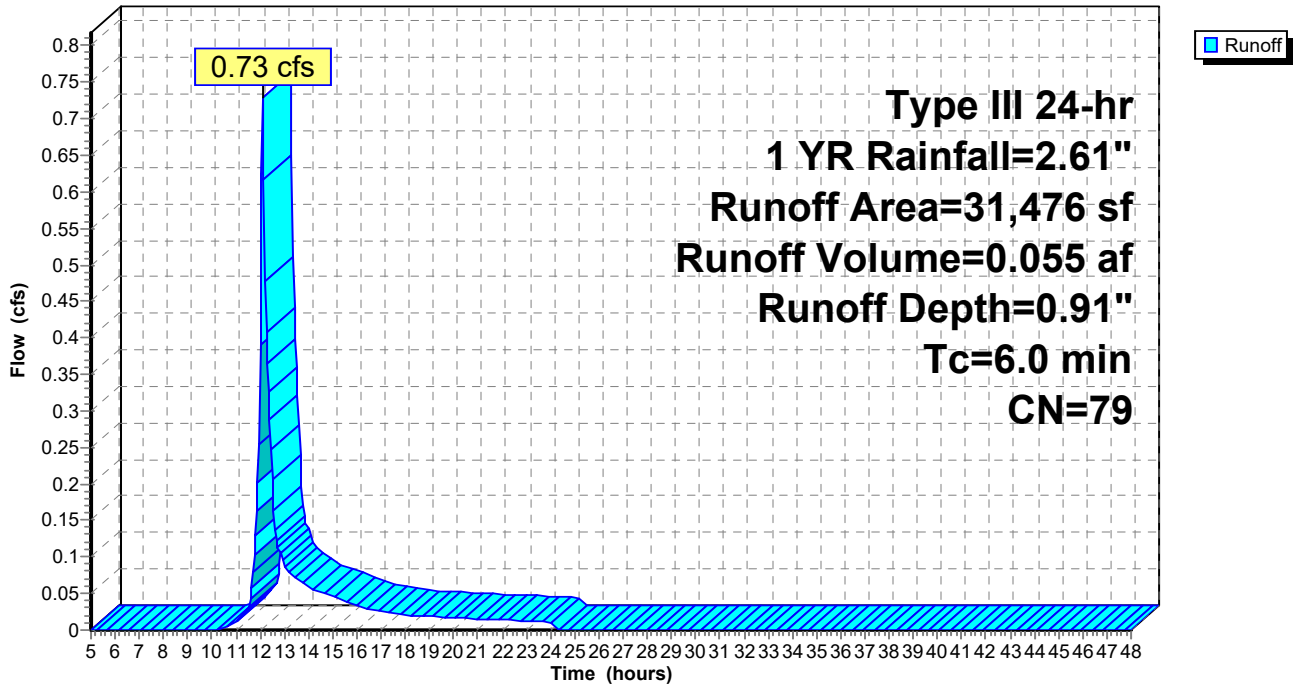
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 YR Rainfall=2.61"

Area (sf)	CN	Description
21,963	98	Paved parking, HSG A
5,758	30	Woods, Good, HSG A
3,755	39	>75% Grass cover, Good, HSG A
31,476	79	Weighted Average
9,513		30.22% Pervious Area
21,963		69.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 12: SUBCATCHMENT 12

Hydrograph



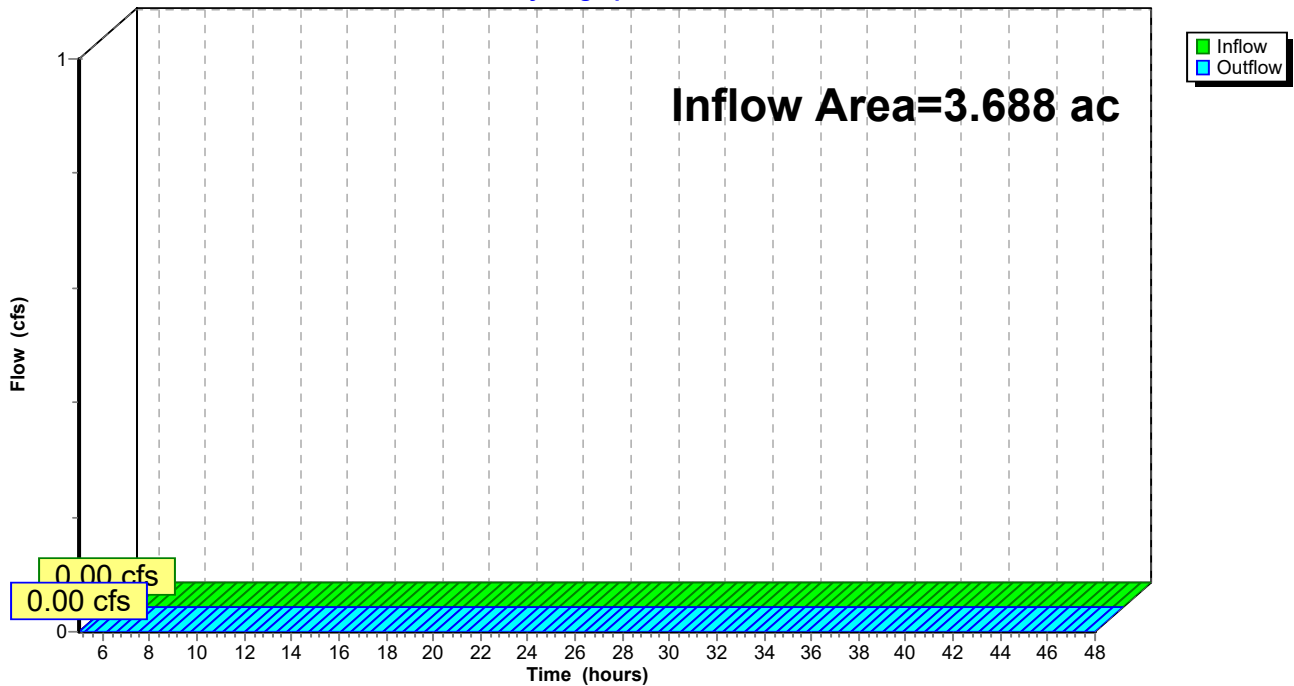
Summary for Reach SDP1: SDP1

Inflow Area = 3.688 ac, 28.39% Impervious, Inflow Depth = 0.00" for 1 YR event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Reach SDP1: SDP1

Hydrograph



POST2

Type III 24-hr 1 YR Rainfall=2.61"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Pond 1P: IB1

Inflow Area = 1.206 ac, 43.61% Impervious, Inflow Depth = 0.28" for 1 YR event
 Inflow = 0.19 cfs @ 12.16 hrs, Volume= 0.028 af
 Outflow = 0.03 cfs @ 15.60 hrs, Volume= 0.028 af, Atten= 84%, Lag= 206.3 min
 Discarded = 0.03 cfs @ 15.60 hrs, Volume= 0.028 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 88.61' @ 15.60 hrs Surf.Area= 867 sf Storage= 458 cf

Plug-Flow detention time= 251.0 min calculated for 0.028 af (100% of inflow)
 Center-of-Mass det. time= 250.8 min (1,182.7 - 931.9)

Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	4,980 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	622	0	0
89.00	1,021	822	822
90.00	2,152	1,587	2,408
91.00	2,991	2,572	4,980

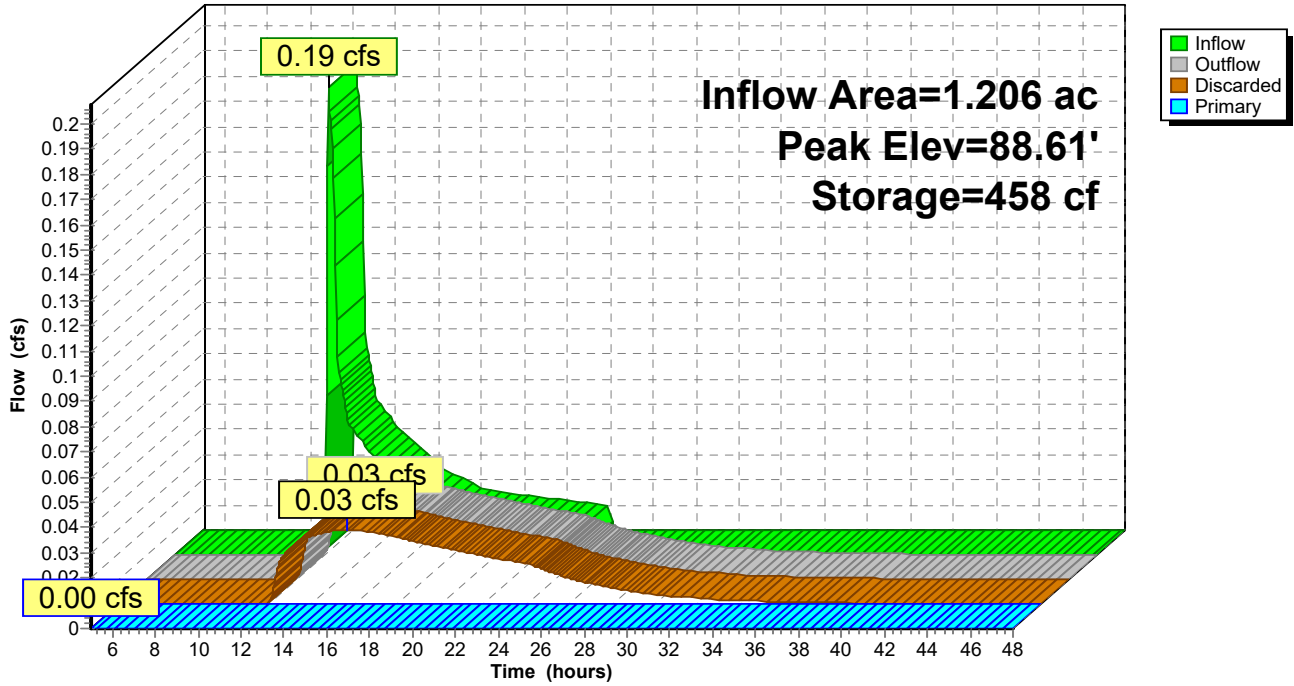
Device	Routing	Invert	Outlet Devices
#1	Primary	88.00'	15.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 76.00' S= 0.3000 1/8" Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	89.30'	3.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	89.90'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	90.00'	6.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#5	Discarded	88.00'	5.000 in/hr Exfiltration over Surface area above 88.00' Conductivity to Groundwater Elevation = 78.00' Excluded Surface area = 622 sf

Discarded OutFlow Max=0.03 cfs @ 15.60 hrs HW=88.61' (Free Discharge)
 ↳5=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=88.00' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Controls 0.00 cfs)
 ↳2=Orifice/Grate (Controls 0.00 cfs)
 ↳3=Orifice/Grate (Controls 0.00 cfs)
 ↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: IB1

Hydrograph



POST2

Type III 24-hr 1 YR Rainfall=2.61"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 8

Summary for Pond 3P: Underground Detention -Cultec 330 HD

Inflow Area = 0.723 ac, 69.78% Impervious, Inflow Depth = 0.91" for 1 YR event
 Inflow = 0.73 cfs @ 12.10 hrs, Volume= 0.055 af
 Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Discarded = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 83.35' @ 24.40 hrs Surf.Area= 1,599 sf Storage= 2,392 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	2,136 cf	35.66'W x 44.84'L x 4.71'H Prismatic 7,531 cf Overall - 2,191 cf Embedded = 5,341 cf x 40.0% Voids
#2	82.00'	2,191 cf	Cultec R-330XLHD x 42 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
		4,327 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	82.00'	18.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 82.00' / 70.00' S= 0.3000 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	83.70'	9.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#3	Device 1	85.10'	21.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#4	Discarded	81.00'	5.000 in/hr Exfiltration over Surface area above 81.00' Conductivity to Groundwater Elevation = 70.00' Excluded Surface area = 1,599 sf

Discarded OutFlow Max=0.00 cfs @ 5.00 hrs HW=81.00' (Free Discharge)

↳4=Exfiltration (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=81.00' TW=0.00' (Dynamic Tailwater)

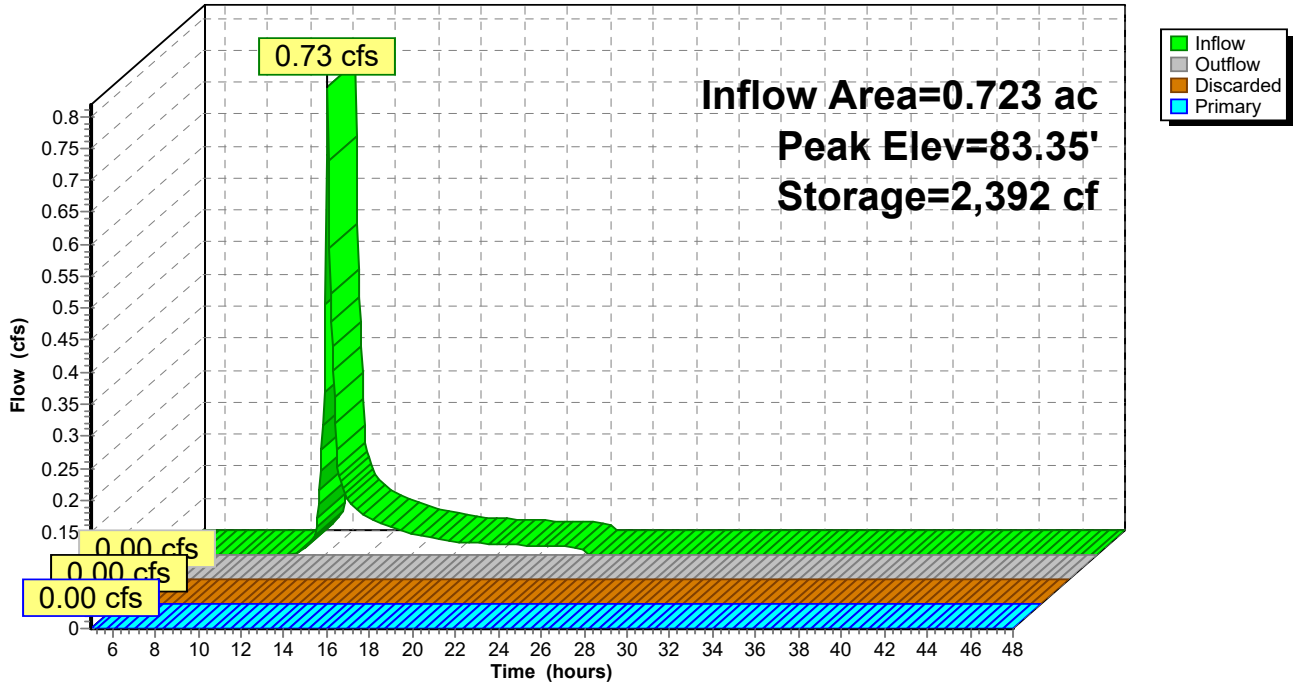
↳1=Culvert (Controls 0.00 cfs)

↳2=Orifice/Grate (Controls 0.00 cfs)

↳3=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: Underground Detention -Cultec 330 HD

Hydrograph



POST2

Type III 24-hr 10 YR Rainfall=4.71"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 10: SUBCATCHMENT 10

Runoff = 0.08 cfs @ 12.46 hrs, Volume= 0.030 af, Depth= 0.21"

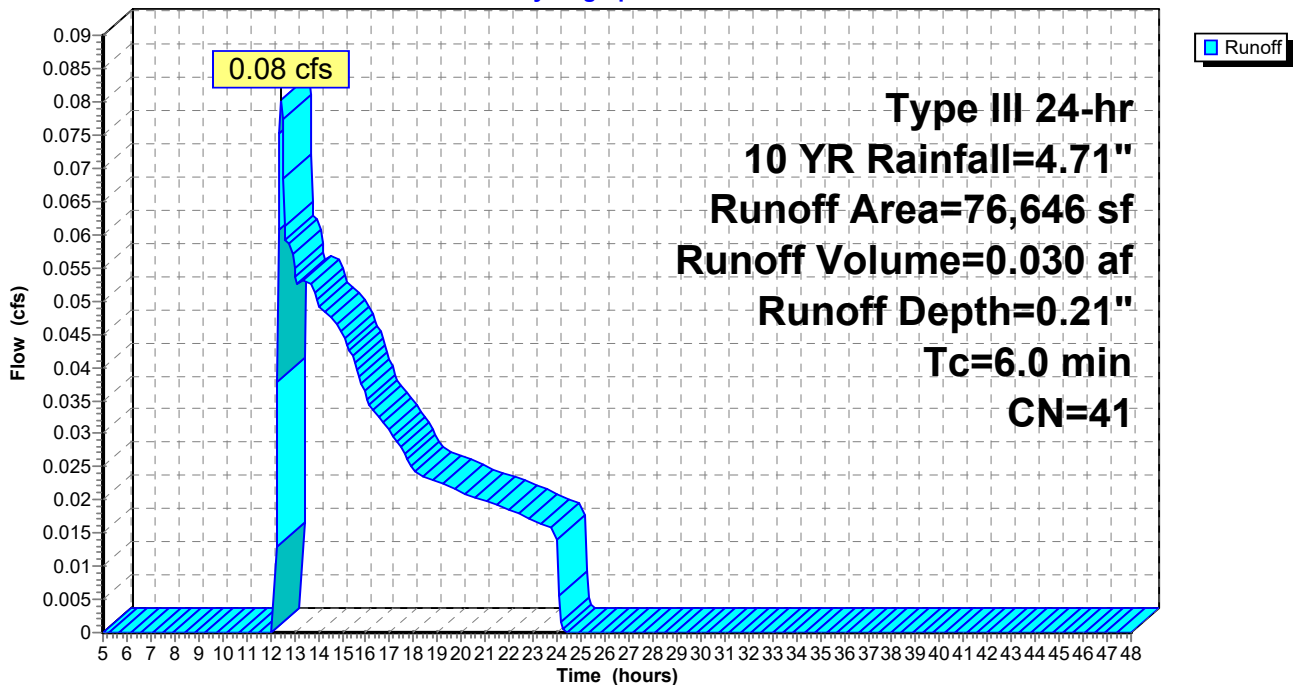
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.71"

Area (sf)	CN	Description
740	98	Paved parking, HSG A
37,514	30	Woods, Good, HSG A
30,748	39	>75% Grass cover, Good, HSG A
7,644	96	Gravel surface, HSG A
76,646	41	Weighted Average
75,906		99.03% Pervious Area
740		0.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, s1

Subcatchment 10: SUBCATCHMENT 10

Hydrograph



POST2

Type III 24-hr 10 YR Rainfall=4.71"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 11: SUBCATCHMENT 11

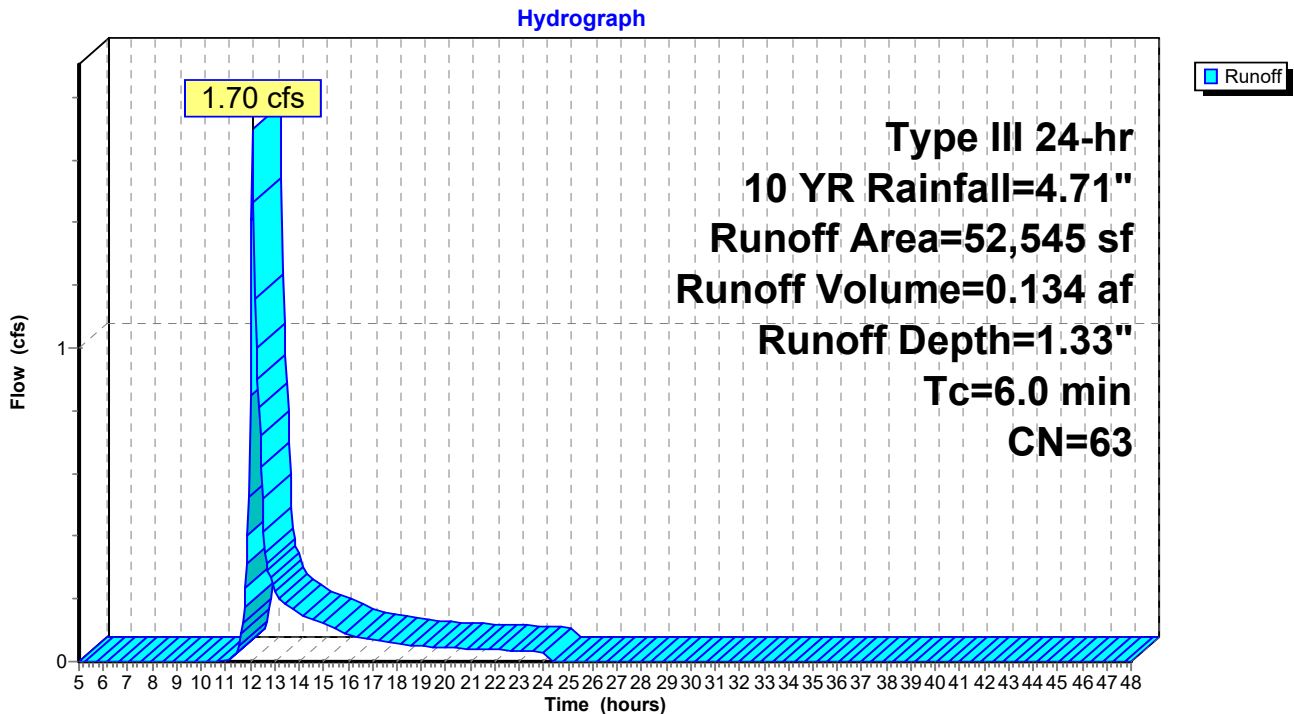
Runoff = 1.70 cfs @ 12.10 hrs, Volume= 0.134 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.71"

Area (sf)	CN	Description
22,913	98	Paved parking, HSG A
14,078	30	Woods, Good, HSG A
14,970	39	>75% Grass cover, Good, HSG A
584	96	Gravel surface, HSG A
52,545	63	Weighted Average
29,632		56.39% Pervious Area
22,913		43.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 11: SUBCATCHMENT 11



POST2

Type III 24-hr 10 YR Rainfall=4.71"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 12: SUBCATCHMENT 12

Runoff = 2.12 cfs @ 12.09 hrs, Volume= 0.154 af, Depth= 2.55"

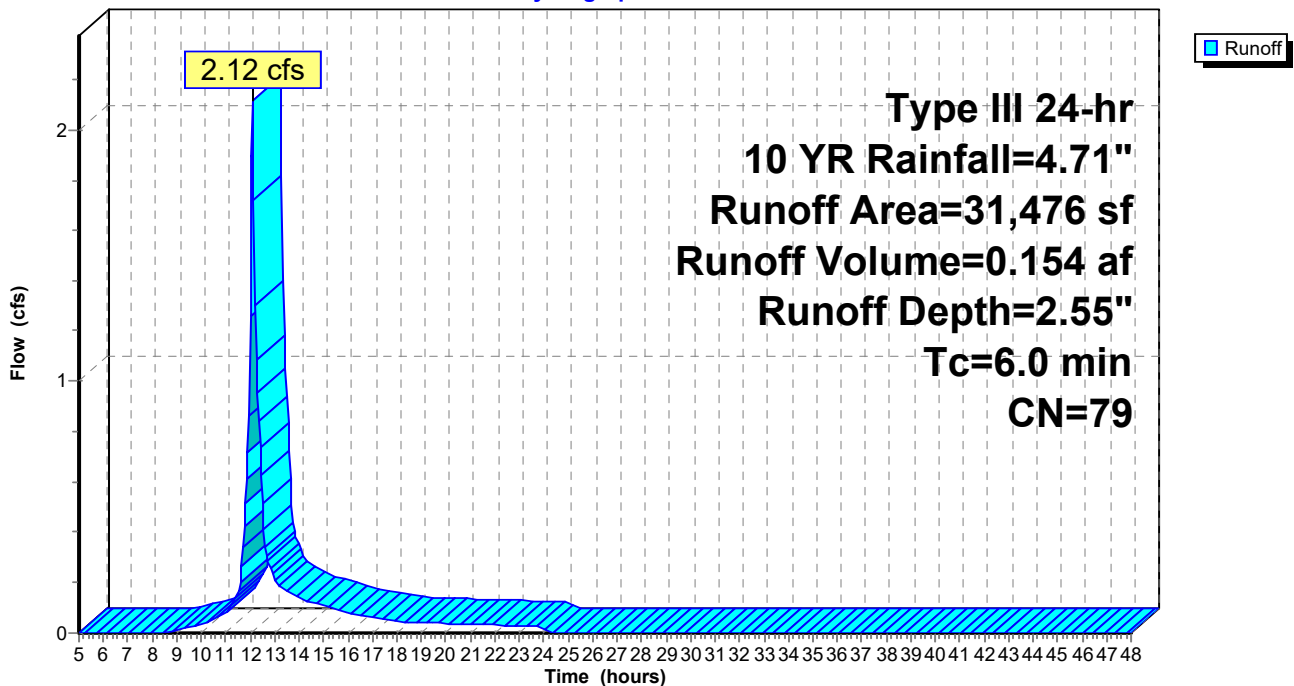
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.71"

Area (sf)	CN	Description
21,963	98	Paved parking, HSG A
5,758	30	Woods, Good, HSG A
3,755	39	>75% Grass cover, Good, HSG A
31,476	79	Weighted Average
9,513		30.22% Pervious Area
21,963		69.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 12: SUBCATCHMENT 12

Hydrograph



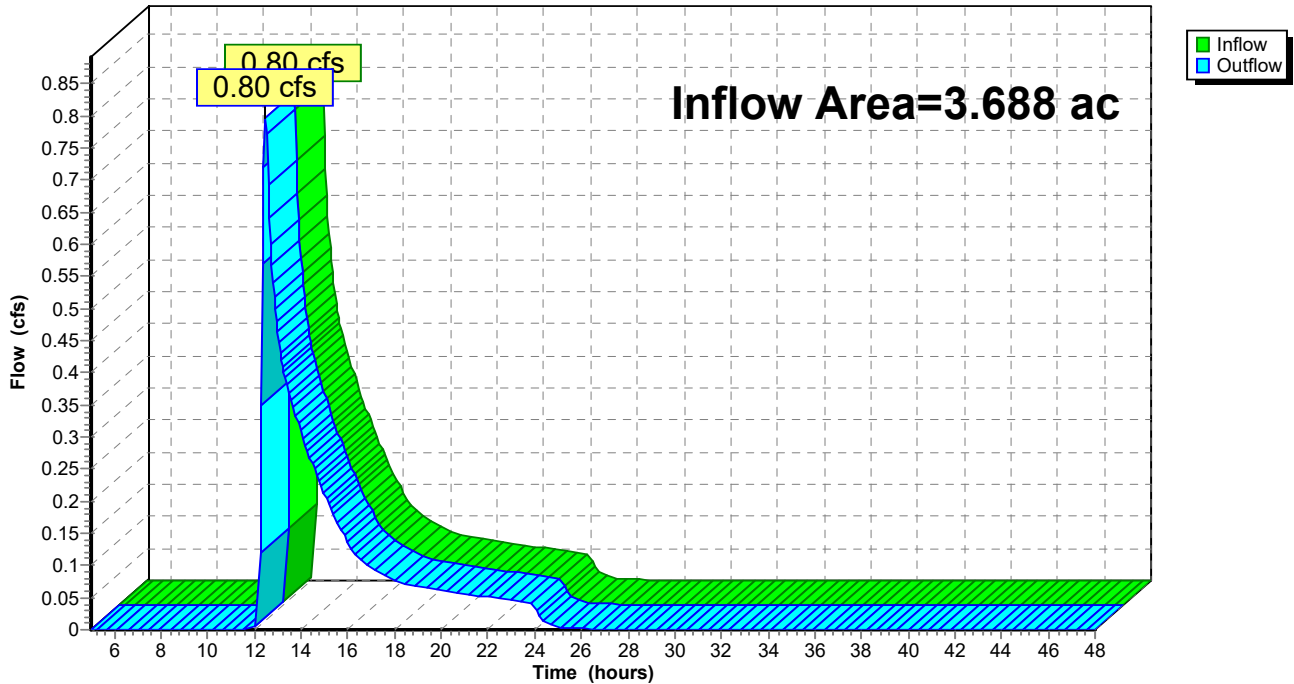
Summary for Reach SDP1: SDP1

Inflow Area = 3.688 ac, 28.39% Impervious, Inflow Depth = 0.48" for 10 YR event
Inflow = 0.80 cfs @ 12.48 hrs, Volume= 0.149 af
Outflow = 0.80 cfs @ 12.48 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Reach SDP1: SDP1

Hydrograph



POST2

Type III 24-hr 10 YR Rainfall=4.71"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Pond 1P: IB1

Inflow Area = 1.206 ac, 43.61% Impervious, Inflow Depth = 1.33" for 10 YR event
 Inflow = 1.70 cfs @ 12.10 hrs, Volume= 0.134 af
 Outflow = 0.31 cfs @ 12.66 hrs, Volume= 0.134 af, Atten= 82%, Lag= 33.4 min
 Discarded = 0.16 cfs @ 12.66 hrs, Volume= 0.104 af
 Primary = 0.15 cfs @ 12.66 hrs, Volume= 0.029 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 89.82' @ 12.66 hrs Surf.Area= 1,949 sf Storage= 2,040 cf

Plug-Flow detention time= 179.2 min calculated for 0.133 af (100% of inflow)
 Center-of-Mass det. time= 180.2 min (1,050.8 - 870.5)

Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	4,980 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	622	0	0
89.00	1,021	822	822
90.00	2,152	1,587	2,408
91.00	2,991	2,572	4,980

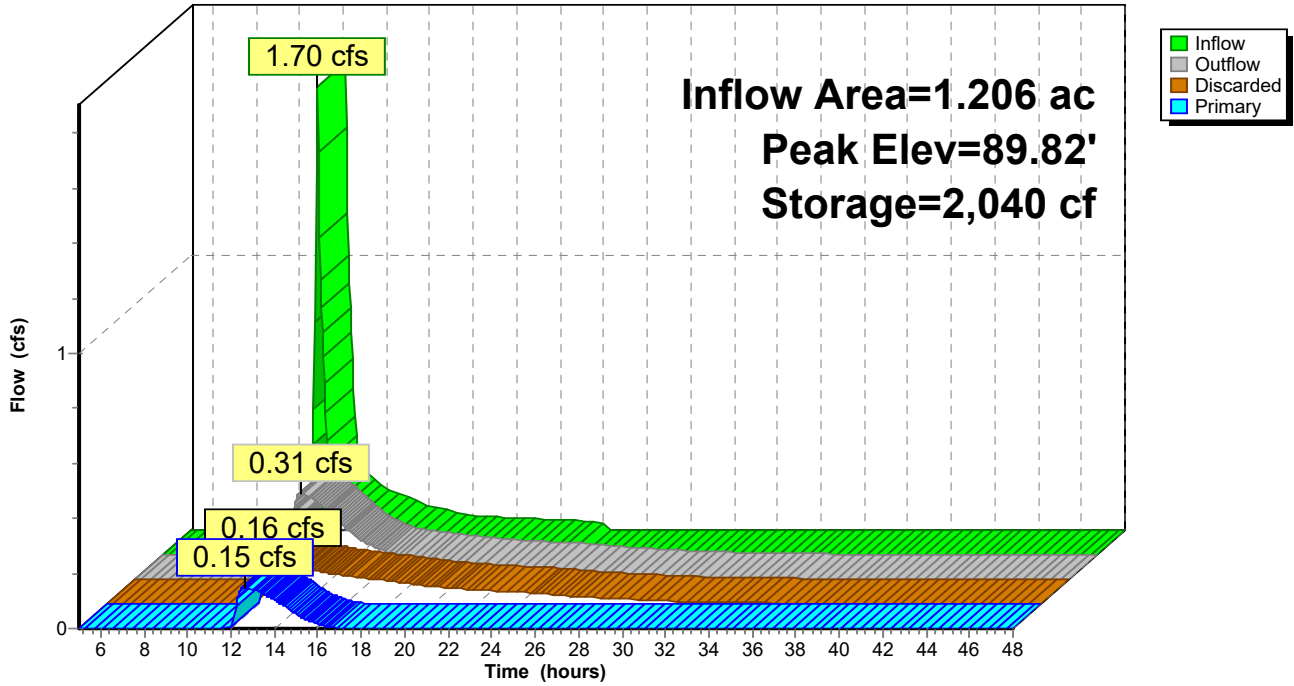
Device	Routing	Invert	Outlet Devices
#1	Primary	88.00'	15.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 76.00' S= 0.3000 1/'' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	89.30'	3.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	89.90'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	90.00'	6.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#5	Discarded	88.00'	5.000 in/hr Exfiltration over Surface area above 88.00' Conductivity to Groundwater Elevation = 78.00' Excluded Surface area = 622 sf

Discarded OutFlow Max=0.16 cfs @ 12.66 hrs HW=89.82' (Free Discharge)
 ↳5=Exfiltration (Controls 0.16 cfs)

Primary OutFlow Max=0.15 cfs @ 12.66 hrs HW=89.82' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Passes 0.15 cfs of 6.46 cfs potential flow)
 ↳2=Orifice/Grate (Orifice Controls 0.15 cfs @ 3.03 fps)
 ↳3=Orifice/Grate (Controls 0.00 cfs)
 ↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: IB1

Hydrograph



POST2

Type III 24-hr 10 YR Rainfall=4.71"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 16

Summary for Pond 3P: Underground Detention -Cultec 330 HD

Inflow Area = 0.723 ac, 69.78% Impervious, Inflow Depth = 2.55" for 10 YR event
 Inflow = 2.12 cfs @ 12.09 hrs, Volume= 0.154 af
 Outflow = 0.57 cfs @ 12.48 hrs, Volume= 0.089 af, Atten= 73%, Lag= 23.0 min
 Discarded = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Primary = 0.57 cfs @ 12.48 hrs, Volume= 0.089 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 84.08' @ 12.48 hrs Surf.Area= 1,599 sf Storage= 3,213 cf

Plug-Flow detention time= 218.7 min calculated for 0.089 af (58% of inflow)
 Center-of-Mass det. time= 109.4 min (936.5 - 827.1)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	2,136 cf	35.66'W x 44.84'L x 4.71'H Prismatic 7,531 cf Overall - 2,191 cf Embedded = 5,341 cf x 40.0% Voids
#2	82.00'	2,191 cf	Cultec R-330XLHD x 42 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
		4,327 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	82.00'	18.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 82.00' / 70.00' S= 0.3000 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	83.70'	9.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#3	Device 1	85.10'	21.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#4	Discarded	81.00'	5.000 in/hr Exfiltration over Surface area above 81.00' Conductivity to Groundwater Elevation = 70.00' Excluded Surface area = 1,599 sf

Discarded OutFlow Max=0.00 cfs @ 5.00 hrs HW=81.00' (Free Discharge)

↳4=Exfiltration (Controls 0.00 cfs)

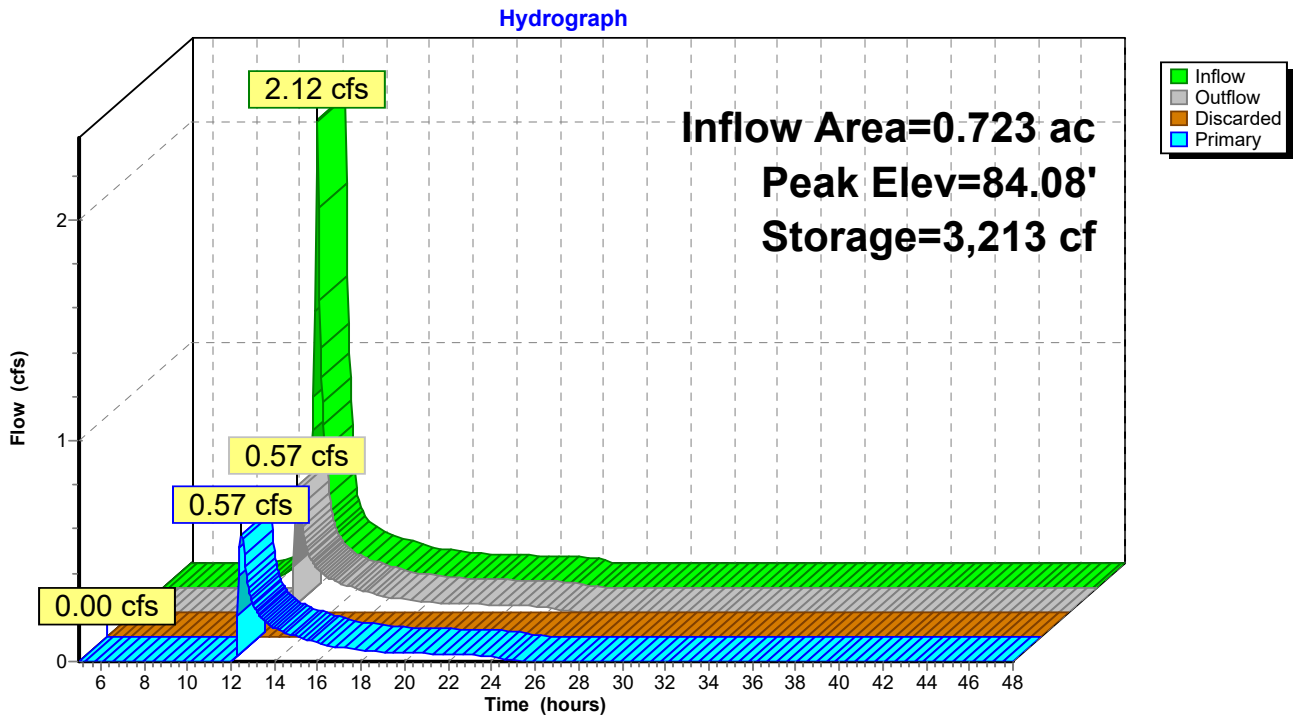
Primary OutFlow Max=0.57 cfs @ 12.48 hrs HW=84.08' TW=0.00' (Dynamic Tailwater)

↳1=Culvert (Passes 0.57 cfs of 9.82 cfs potential flow)

↳2=Orifice/Grate (Orifice Controls 0.57 cfs @ 1.99 fps)

↳3=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: Underground Detention -Cultec 330 HD



POST2

Type III 24-hr 100 YR Rainfall=8.37"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 10: SUBCATCHMENT 10

Runoff = 2.37 cfs @ 12.11 hrs, Volume= 0.222 af, Depth= 1.52"

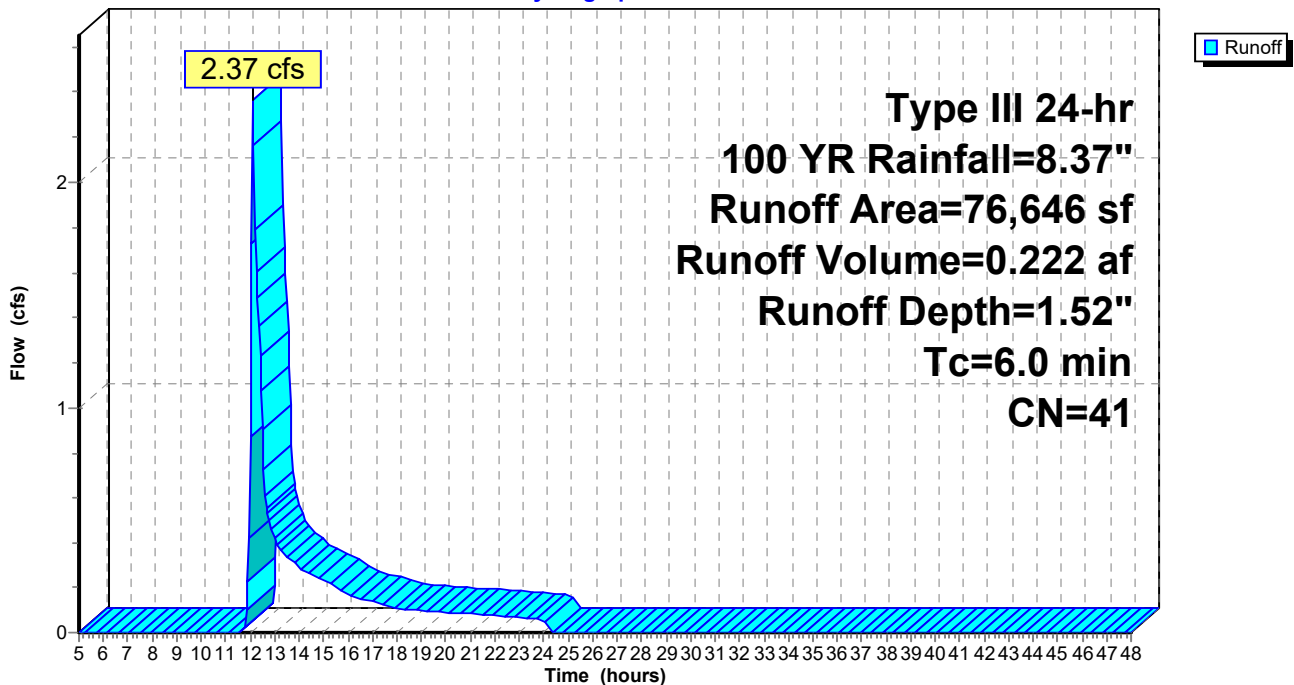
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=8.37"

Area (sf)	CN	Description
740	98	Paved parking, HSG A
37,514	30	Woods, Good, HSG A
30,748	39	>75% Grass cover, Good, HSG A
7,644	96	Gravel surface, HSG A
76,646	41	Weighted Average
75,906		99.03% Pervious Area
740		0.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, s1

Subcatchment 10: SUBCATCHMENT 10

Hydrograph



POST2

Type III 24-hr 100 YR Rainfall=8.37"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 11: SUBCATCHMENT 11

Runoff = 5.47 cfs @ 12.09 hrs, Volume= 0.398 af, Depth= 3.96"

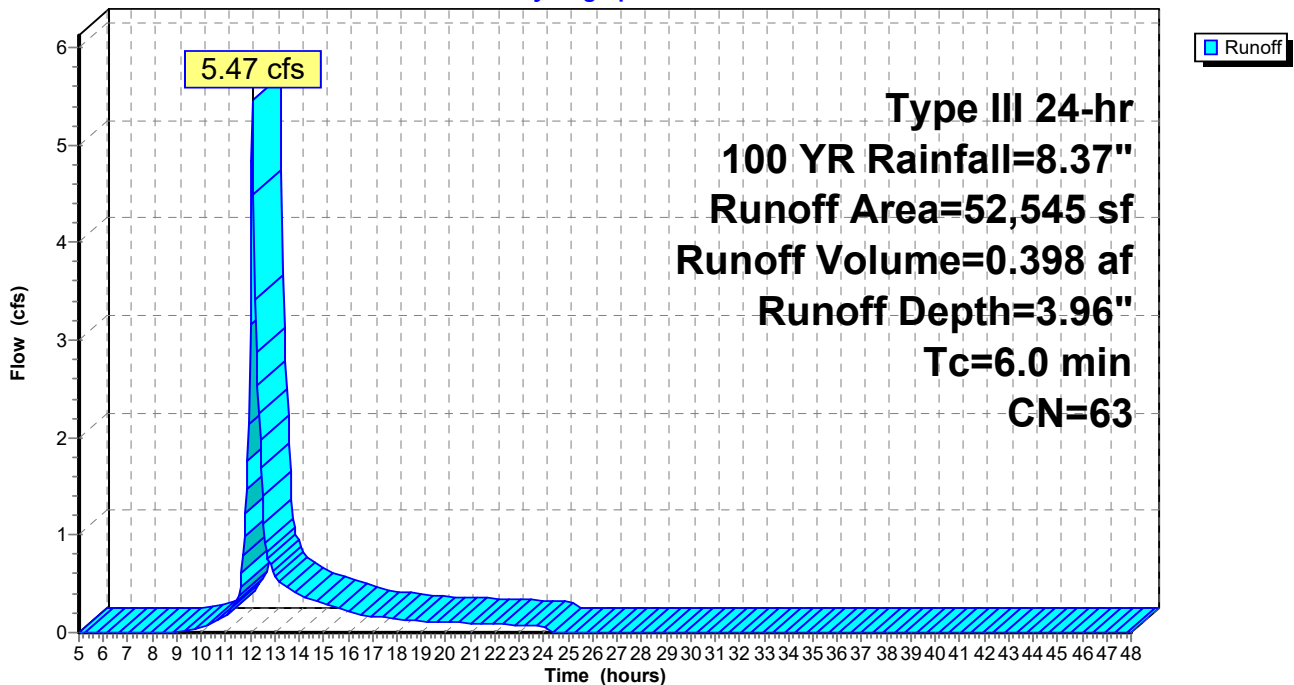
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=8.37"

Area (sf)	CN	Description
22,913	98	Paved parking, HSG A
14,078	30	Woods, Good, HSG A
14,970	39	>75% Grass cover, Good, HSG A
584	96	Gravel surface, HSG A
52,545	63	Weighted Average
29,632		56.39% Pervious Area
22,913		43.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 11: SUBCATCHMENT 11

Hydrograph



POST2

Type III 24-hr 100 YR Rainfall=8.37"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 12: SUBCATCHMENT 12

Runoff = 4.78 cfs @ 12.09 hrs, Volume= 0.352 af, Depth= 5.85"

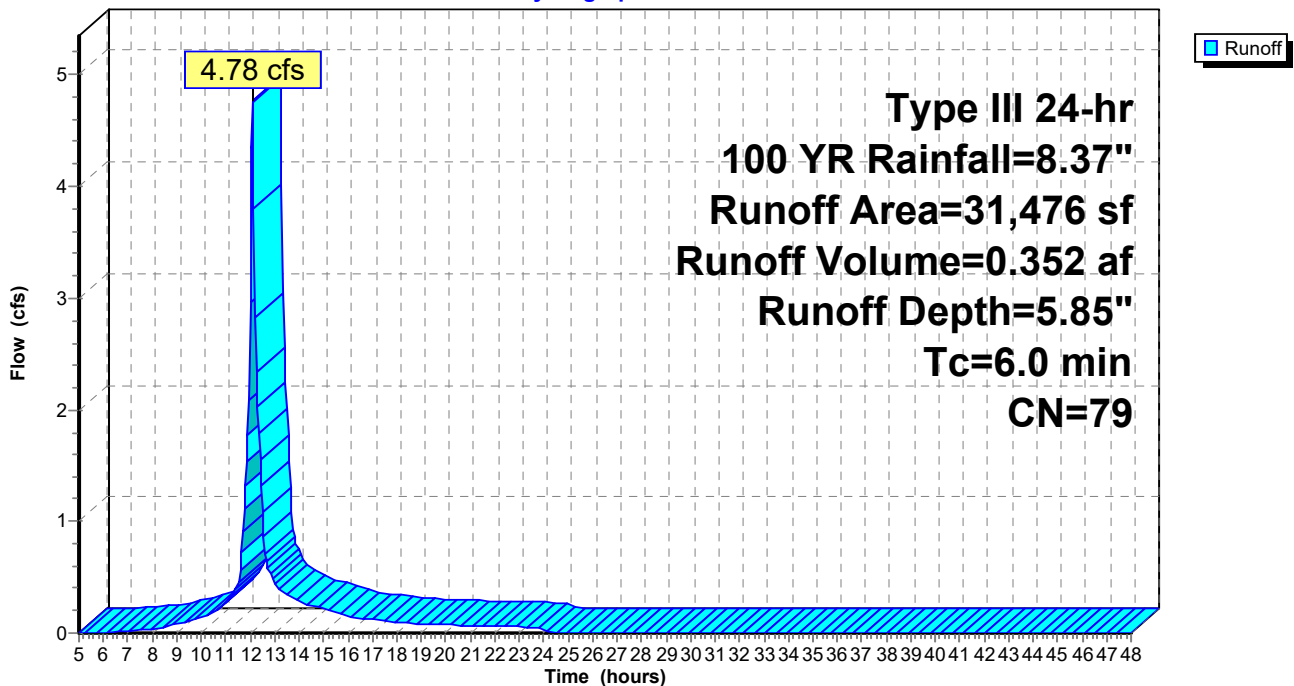
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=8.37"

Area (sf)	CN	Description
21,963	98	Paved parking, HSG A
5,758	30	Woods, Good, HSG A
3,755	39	>75% Grass cover, Good, HSG A
31,476	79	Weighted Average
9,513		30.22% Pervious Area
21,963		69.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 12: SUBCATCHMENT 12

Hydrograph



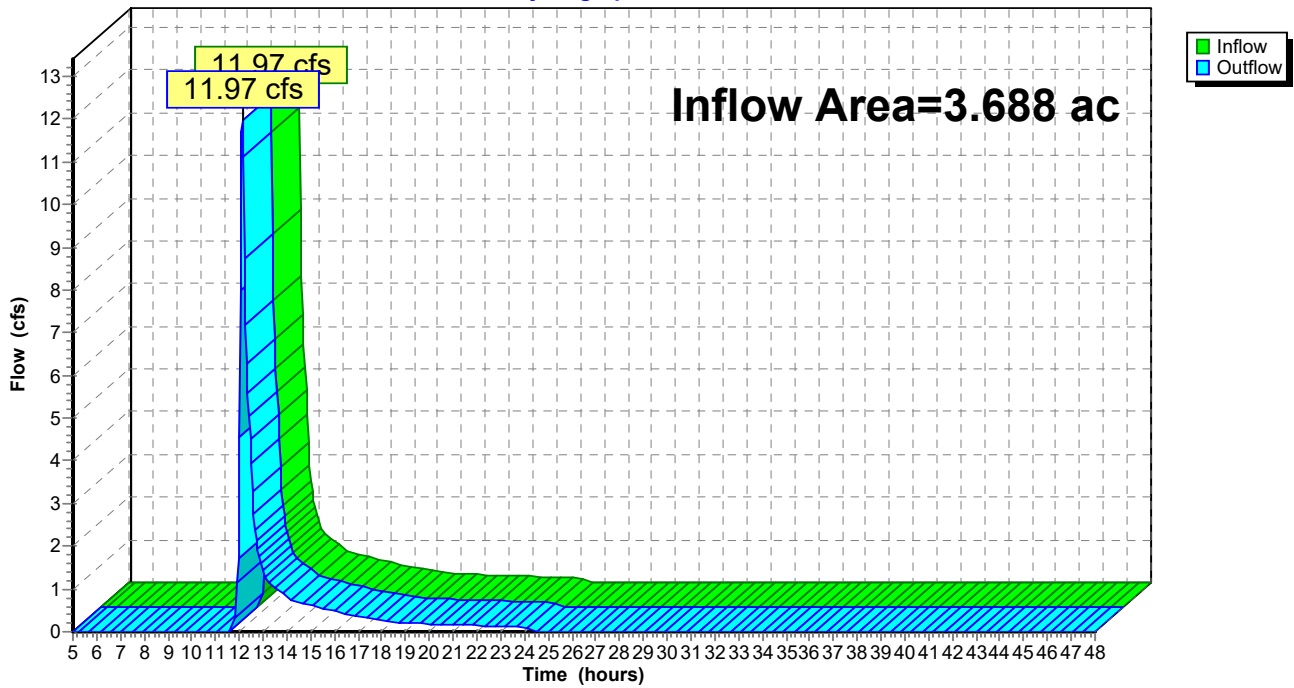
Summary for Reach SDP1: SDP1

Inflow Area = 3.688 ac, 28.39% Impervious, Inflow Depth = 2.43" for 100 YR event
Inflow = 11.97 cfs @ 12.12 hrs, Volume= 0.745 af
Outflow = 11.97 cfs @ 12.12 hrs, Volume= 0.745 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Reach SDP1: SDP1

Hydrograph



POST2

Type III 24-hr 100 YR Rainfall=8.37"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Pond 1P: IB1

Inflow Area = 1.206 ac, 43.61% Impervious, Inflow Depth = 3.96" for 100 YR event
 Inflow = 5.47 cfs @ 12.09 hrs, Volume= 0.398 af
 Outflow = 5.39 cfs @ 12.11 hrs, Volume= 0.398 af, Atten= 2%, Lag= 0.9 min
 Discarded = 0.20 cfs @ 12.11 hrs, Volume= 0.163 af
 Primary = 5.19 cfs @ 12.11 hrs, Volume= 0.235 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 90.10' @ 12.11 hrs Surf.Area= 2,233 sf Storage= 2,620 cf

Plug-Flow detention time= 88.6 min calculated for 0.398 af (100% of inflow)
 Center-of-Mass det. time= 89.7 min (927.0 - 837.4)

Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	4,980 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	622	0	0
89.00	1,021	822	822
90.00	2,152	1,587	2,408
91.00	2,991	2,572	4,980

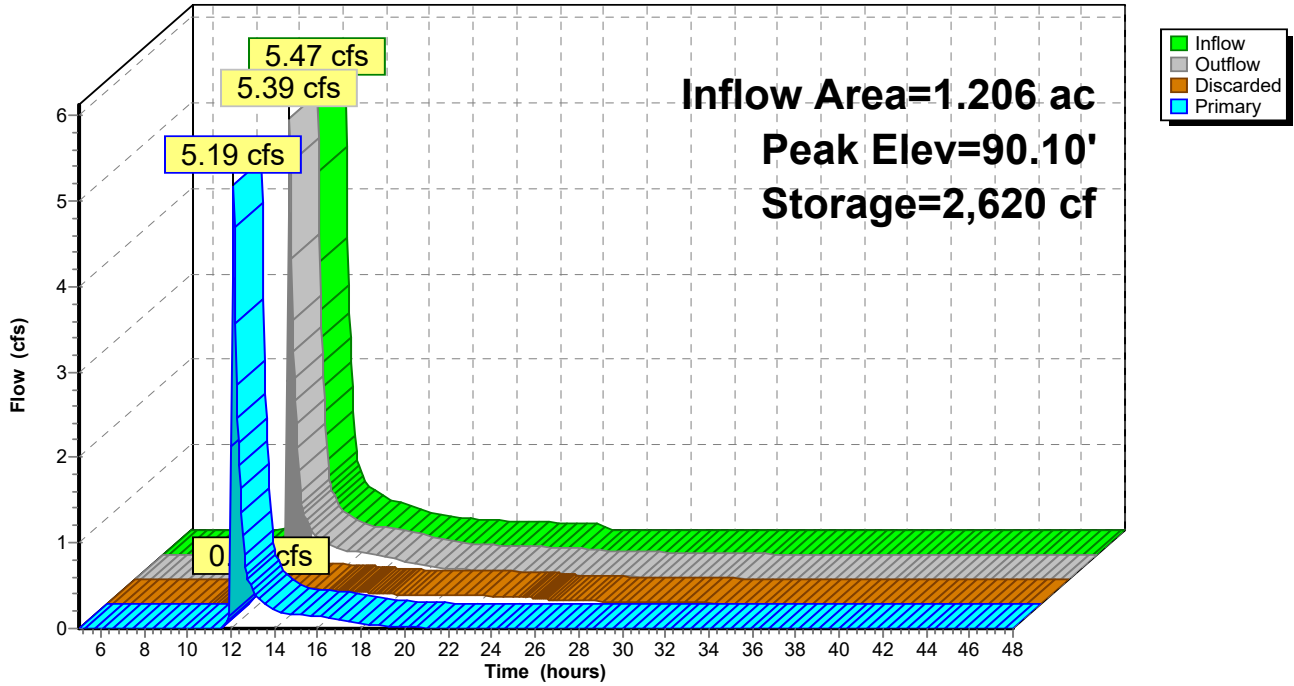
Device	Routing	Invert	Outlet Devices
#1	Primary	88.00'	15.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 76.00' S= 0.3000 1/'' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	89.30'	3.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	89.90'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	90.00'	6.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#5	Discarded	88.00'	5.000 in/hr Exfiltration over Surface area above 88.00' Conductivity to Groundwater Elevation = 78.00' Excluded Surface area = 622 sf

Discarded OutFlow Max=0.20 cfs @ 12.11 hrs HW=90.09' (Free Discharge)
 ↳5=Exfiltration (Controls 0.20 cfs)

Primary OutFlow Max=5.06 cfs @ 12.11 hrs HW=90.09' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Passes 4.64 cfs of 7.16 cfs potential flow)
 ↳2=Orifice/Grate (Orifice Controls 0.19 cfs @ 3.94 fps)
 ↳3=Orifice/Grate (Weir Controls 4.45 cfs @ 1.44 fps)
 ↳4=Broad-Crested Rectangular Weir (Weir Controls 0.42 cfs @ 0.74 fps)

Pond 1P: IB1

Hydrograph



POST2

Type III 24-hr 100 YR Rainfall=8.37"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 24

Summary for Pond 3P: Underground Detention -Cultec 330 HD

Inflow Area = 0.723 ac, 69.78% Impervious, Inflow Depth = 5.85" for 100 YR event
 Inflow = 4.78 cfs @ 12.09 hrs, Volume= 0.352 af
 Outflow = 4.36 cfs @ 12.13 hrs, Volume= 0.288 af, Atten= 9%, Lag= 2.4 min
 Discarded = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Primary = 4.36 cfs @ 12.13 hrs, Volume= 0.288 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 85.61' @ 12.13 hrs Surf.Area= 1,599 sf Storage= 4,262 cf

Plug-Flow detention time= 122.5 min calculated for 0.288 af (82% of inflow)
 Center-of-Mass det. time= 51.2 min (854.7 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	2,136 cf	35.66'W x 44.84'L x 4.71'H Prismatic 7,531 cf Overall - 2,191 cf Embedded = 5,341 cf x 40.0% Voids
#2	82.00'	2,191 cf	Cultec R-330XLHD x 42 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
		4,327 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	82.00'	18.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 82.00' / 70.00' S= 0.3000 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	83.70'	9.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#3	Device 1	85.10'	21.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#4	Discarded	81.00'	5.000 in/hr Exfiltration over Surface area above 81.00' Conductivity to Groundwater Elevation = 70.00' Excluded Surface area = 1,599 sf

Discarded OutFlow Max=0.00 cfs @ 5.00 hrs HW=81.00' (Free Discharge)

↳4=Exfiltration (Controls 0.00 cfs)

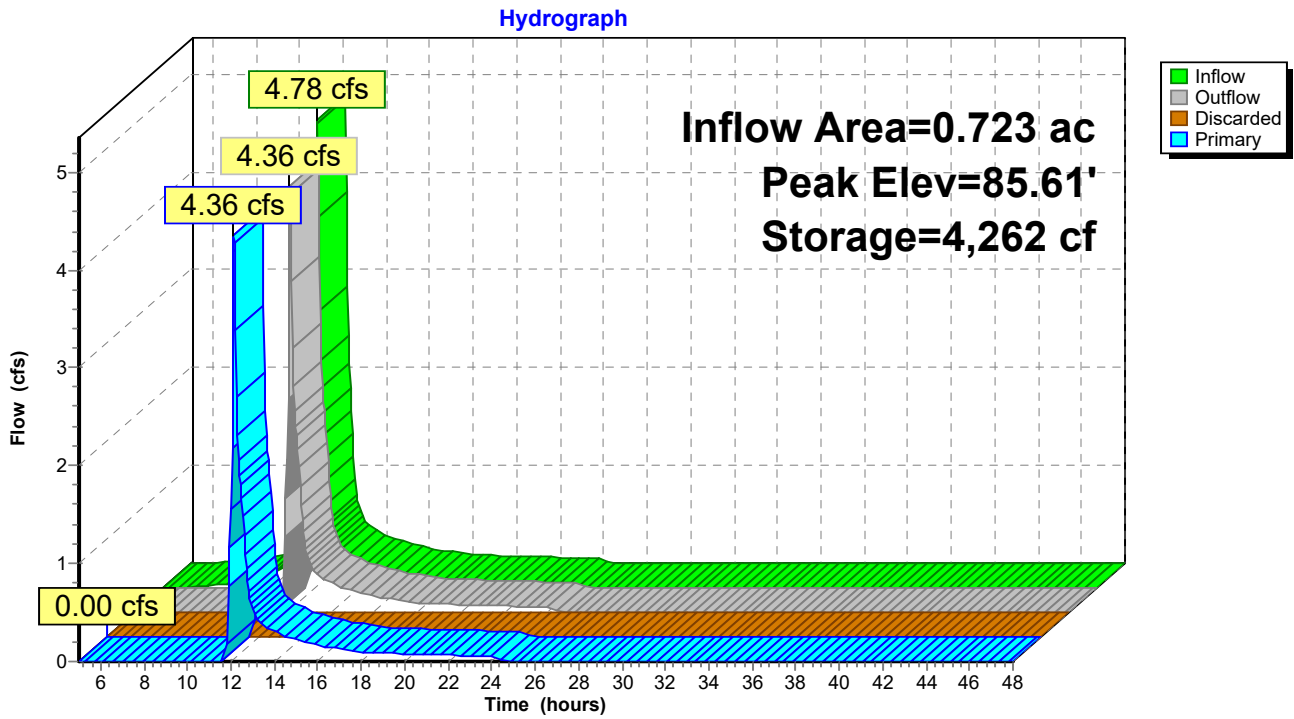
Primary OutFlow Max=4.24 cfs @ 12.13 hrs HW=85.59' TW=0.00' (Dynamic Tailwater)

↳1=Culvert (Passes 4.24 cfs of 14.34 cfs potential flow)

↳2=Orifice/Grate (Orifice Controls 2.31 cfs @ 6.16 fps)

↳3=Orifice/Grate (Orifice Controls 1.93 cfs @ 2.25 fps)

Pond 3P: Underground Detention -Cultec 330 HD



APPENDIX F
STORMWATER MANAGEMENT PRACTICE DESIGN

Project: 21-28 Creek Drive (Former DPW Site)
 Description: Stormwater Management Design
 By/Date: AG 12/10/2018 Reviewed/Date: MAB 12/13/2018



STORMWATER MANAGEMENT PRACTICE:
Subcatchment 11

1) Determine Required Water Quality Volume & Stormwater Management Practice

Water quality volume to be treated will be calculated using the 90% rule from Section 4.2 of the New York State Storm Water Design Manual (January 2015), hereinafter referred to as NYSSDM.

$WQv = 43,560 \times [P \times Rv \times A] / 12$

Where:
 WQv = Water quality volume (cf)
 P = 90 % Rainfall Event Number (in), per Figure 4.1
 $Rv = 0.05 + 0.009 \times I$, where I is % impervious area*
 A = Watershed (ac)
 * A minimum Rv of 0.2 will be applied to regulated sites.

Watershed	P (in)	Impervious Area (ac)	Impervious (Coverage %)	Rv	Total Area (ac)	WQv (cf)	Pre-Treatment Practice	Treatment Practice
Subcatchment 11	1.40	0.526	43.5	0.44	1.210	2,713	Hydrodynamic	Infiltration

Note: Pretreatment will be handled via a hydrodynamic device.

2) Subsurface soil conditions

Design Infiltration Rate (i_c): 5.00 inches per hour

3) Determine Required Pre-Treatment Volume

Determine Pre-Treatment Volume

Design Infiltration Rate: 5.00 inches per hour
 Required Minimum Pretreatment Volume: 100%

Watershed	Required WQv (cf)	Required Pre-Treatment Volume (cf)	Pre-Treatment Practice	Treatment Practice
Subcatchment 11	2,713	2,713	Hydrodynamic	Infiltration

Notes:
 1) Pretreatment volumes per § 6.3.3 of the NYSSDM (January 2015).

4) Determine Runoff Reduction Volume (RR_v)

Goal: Provide 100% RR_v by implementing Green Infrastructure techniques and Stormwater Management Practices

$RR_v = 43,560 \times [P \times Rv \times A] / 12$

Where:
 RR_v = Runoff Reduction Volume (cf)
 P = 90 % Rainfall Event Number (in), per Figure 4.1
 $Rv = 0.05 + 0.009 \times I$, where I is % impervious area
 A = Watershed (ac)
 R_v: 0.44
 100% RR_v: 2,713 cf
 * Minimum Rv of 0.2 not applicable to RR_v calculations (use actual calculated Rv).

For projects that cannot meet 100% RR_v: Implement Specific Reduction Factor (S), which provides an absolute minimum acceptable RR_v.

Drainage Area with Hydrologic Soil Group A:	1.210 acres	Corresponding S: 0.55
Drainage Area with Hydrologic Soil Group B:	0.000 acres	Corresponding S: 0.40
Drainage Area with Hydrologic Soil Group C:	0.000 acres	Corresponding S: 0.30
Drainage Area with Hydrologic Soil Group D:	0.000 acres	Corresponding S: 0.20
Total Area:	1.210 acres	Calculated S: 0.55
Total Area Matches		

Minimum RR_v (acre-feet) = $[(P)(Rv)(Ai)]/12$
 Calculated Ai: 0.289
 Calculated Rv*: 0.95
 Calculated Minimum RR_v: 1397 cf

Where:
 P = 90 % Rainfall Event Number (in), per Figure 4.1
 $Rv^* = 0.05 + 0.009 \times I$, where I is % impervious area (100%)
 Ai = (S)(A_{ic})
 A_{ic} = Total area of new impervious cover

5) Stormwater Management Practice Design

Consider infiltrating RR_v

100% RR_v = 2,713 cf
 RR_v Infiltrated in Basin = 2,875 cf From HydroCAD Model
 Is RR_v 100% infiltrated? yes - acceptable
 The WQv storm inflow volume is less than the calculated 100% RR_v.
 Therefore a Test Storm for RR_v with a depth of 3.5 inches was used to demonstrate that the infiltration basin will infiltrate 2,875cf of volume without flowing through any orifices.

Consider infiltrating CP_v:

Determine Stream Channel Protection Volume (C_p_v)

* 1-Year Storm Runoff Volume 0.001 acre-feet From C_p_v calculations below
 C_p_v Infiltrated in Basin = 0.066 acre-feet From HydroCAD Model
 Is C_p_v 100% infiltrated? yes - acceptable The basin infiltrates the entire 1-year storm.

Project: 21-28 Creek Drive (Former DPW Site)
 Description: Stormwater Management Design
 By/Date: AG 12/10/2018 Reviewed/Date: MAB 12/13/2018

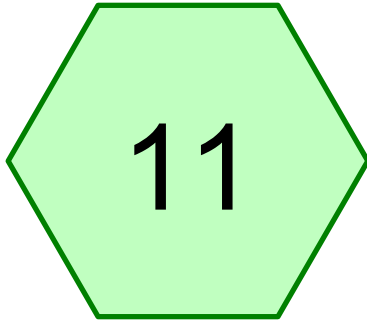


STORMWATER MANAGEMENT PRACTICE:
Subcatchment 11

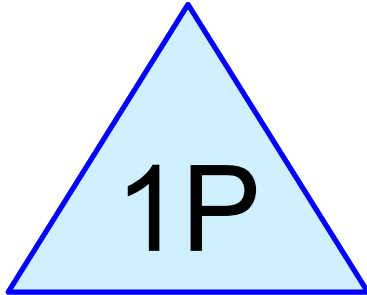
5.1) Determine Stream Channel Protection Volume (Cpv)

- Post Developed Runoff Curve Number (CN) = 63 From HydroCAD model
- Computed Initial Abstraction (Ia)
 - Ia = 200/CN-2 = 1.175
 - 1 Year Rainfall; P = 2.6 inches
 - Ia/P = 0.45 (use minimum Ia/P=0.1, maximum Ia/P=0.5)
 - Tc = 0.1 hours From HydroCAD model
- Compute Unit Peak Discharge (qu) From Exhibit 4-III of TR-55, Second Edition June 1986
 - qu = 350 csm/in
- Find qo/qi using Figure 8.5 from Chapter 8 of the New York State Stormwater Design Manual (August 2003)
 - Peak outflow discharge/peak inflow discharge (qo/qi) = 0.050
- Vs/Vr=0.682-1.43(qo/qi)+1.64(qo/qi)²-0.804(qo/qi)³ = 0.61 Where Vs equals the channel protection storage (Cpv) and Vr equals the volume of runoff in inches
- From HydroCAD find the runoff depth (Q) = 0.02 inches
- Solve for Vs; Vs=Cpv=(Vs/Vr)(Q)(1/12)(A)
 - Watershed Area (A) = 1.21 acres
 - or 0.001 acre feet
 - or 54 cubic feet
 - 0.001 acre-feet

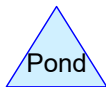
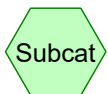
6) See HydroCAD model for Overbank Flood Control (Qp) and Extreme Flood Control (Qf) computations



SUBCATCHMENT 11



IB1



POST2

Type III 24-hr Custom 3.5 Rainfall=3.50"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 2

Summary for Subcatchment 11: SUBCATCHMENT 11

Runoff = 0.72 cfs @ 12.11 hrs, Volume= 0.066 af, Depth= 0.66"

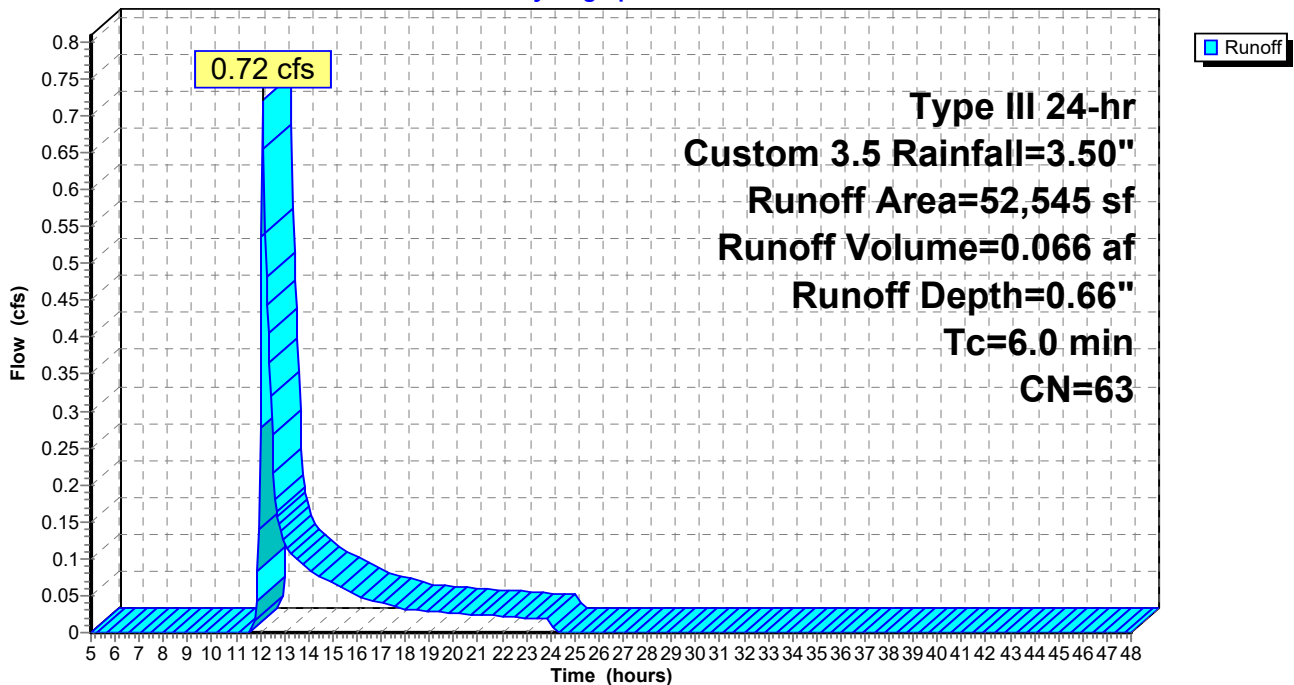
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom 3.5 Rainfall=3.50"

Area (sf)	CN	Description
22,913	98	Paved parking, HSG A
14,078	30	Woods, Good, HSG A
14,970	39	>75% Grass cover, Good, HSG A
584	96	Gravel surface, HSG A
52,545	63	Weighted Average
29,632		56.39% Pervious Area
22,913		43.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 11: SUBCATCHMENT 11

Hydrograph



POST2

Type III 24-hr Custom 3.5 Rainfall=3.50"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Pond 1P: IB1

Inflow Area = 1.206 ac, 43.61% Impervious, Inflow Depth = 0.66" for Custom 3.5 event
 Inflow = 0.72 cfs @ 12.11 hrs, Volume= 0.066 af
 Outflow = 0.08 cfs @ 14.08 hrs, Volume= 0.066 af, Atten= 89%, Lag= 118.2 min
 Discarded = 0.08 cfs @ 14.08 hrs, Volume= 0.066 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 89.25' @ 14.08 hrs Surf.Area= 1,305 sf Storage= 1,113 cf

Plug-Flow detention time= 248.0 min calculated for 0.066 af (100% of inflow)
 Center-of-Mass det. time= 249.0 min (1,144.0 - 895.1)

Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	4,980 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	622	0	0
89.00	1,021	822	822
90.00	2,152	1,587	2,408
91.00	2,991	2,572	4,980

Device	Routing	Invert	Outlet Devices
#1	Primary	88.00'	15.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 76.00' S= 0.3000 1/'' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	89.30'	3.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	89.90'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	90.00'	6.0' long x 8.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#5	Discarded	88.00'	5.000 in/hr Exfiltration over Surface area above 88.00' Conductivity to Groundwater Elevation = 78.00' Excluded Surface area = 622 sf

Discarded OutFlow Max=0.08 cfs @ 14.08 hrs HW=89.25' (Free Discharge)
 ↳5=Exfiltration (Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=88.00' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Controls 0.00 cfs)
 ↳↳2=Orifice/Grate (Controls 0.00 cfs)
 ↳↳↳3=Orifice/Grate (Controls 0.00 cfs)
 ↳↳↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

POST2

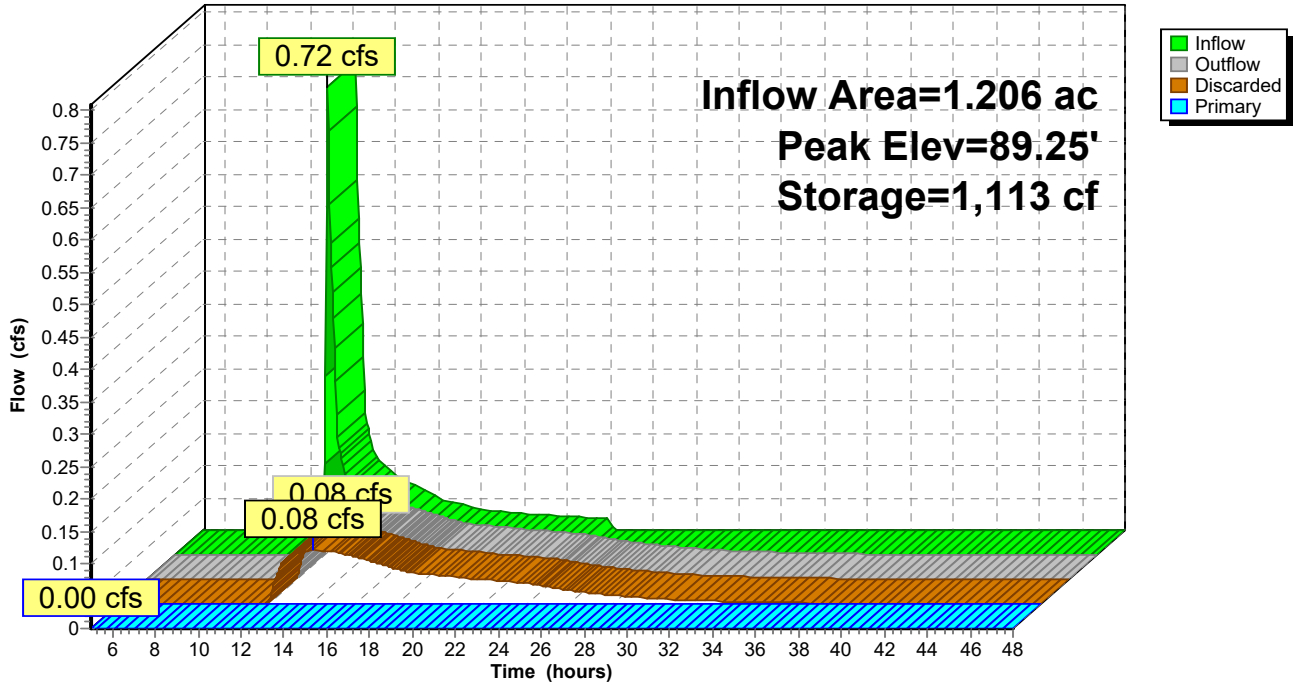
Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Type III 24-hr Custom 3.5 Rainfall=3.50"

Pond 1P: IB1

Hydrograph



Project: 21-28 Creek Drive (Former DPW Site)
 Description: Stormwater Management Design
 By/Date: AG 12/10/2018 Reviewed/Date: MAB 12/13/2018



STORMWATER MANAGEMENT PRACTICE:
Subcatchment 12

1) Determine Required Water Quality Volume & Stormwater Management Practice

Water quality volume to be treated will be calculated using the 90% rule from Section 4.2 of the New York State Storm Water Design Manual (January 2015), hereinafter referred to as NYSSDM.

$WQv = 43,560 \times [P \times Rv \times A] / 12$

Where:
 WQv = Water quality volume (cf)
 P = 90 % Rainfall Event Number (in), per Figure 4.1
 Rv = $0.05 + 0.009 \times I$, where I is % impervious area*
 A = Watershed (ac)
 * A minimum Rv of 0.2 will be applied to regulated sites.

Watershed	P (in)	Impervious Area (ac)	Impervious (Coverage %)	Rv	Total Area (ac)	WQv (cf)	Pre-Treatment Practice	Treatment Practice
Subcatchment 12	1.40	0.504	69.7	0.68	0.723	2,489	Hydrodynamic	Underground Infiltration

Note: Pretreatment will be handled via a hydrodynamic device.

2) Subsurface soil conditions

Design Infiltration Rate (i_d): 5.00 inches per hour

3) Determine Required Pre-Treatment Volume

Determine Pre-Treatment Volume

Design Infiltration Rate: 5.00 inches per hour
 Required Minimum Pretreatment Volume: 100%

Watershed	Required WQv (cf)	Required Pre-Treatment Volume (cf)	Pre-Treatment Practice	Treatment Practice
Subcatchment 12	2,489	2,489	Hydrodynamic	Underground Infiltration

Notes:
 1) Pretreatment volumes per § 6.3.3 of the NYSSDM (January 2015).

4) Determine Runoff Reduction Volume (RR_v)

Goal: Provide 100% RR_v by implementing Green Infrastructure techniques and Stormwater Management Practices

$RR_v = 43,560 \times [P \times Rv \times A] / 12$

Where:
 RR_v = Runoff Reduction Volume (cf)
 P = 90 % Rainfall Event Number (in), per Figure 4.1
 Rv = $0.05 + 0.009 \times I$, where I is % impervious area
 A = Watershed (ac)
 R_v: 0.68
 100% RR_v: 2,489 cf
 * Minimum Rv of 0.2 not applicable to RR_v calculations (use actual calculated Rv).

For projects that cannot meet 100% RR_v: Implement Specific Reduction Factor (S), which provides an absolute minimum acceptable RR_v.

Drainage Area with Hydrologic Soil Group A:	0.723 acres	Corresponding S: 0.55
Drainage Area with Hydrologic Soil Group B:	0.000 acres	Corresponding S: 0.40
Drainage Area with Hydrologic Soil Group C:	0.000 acres	Corresponding S: 0.30
Drainage Area with Hydrologic Soil Group D:	0.000 acres	Corresponding S: 0.20
Total Area:	0.723 acres	Calculated S: 0.55
Total Area Matches		

Minimum RR_v (acre-feet) = $[(P)(Rv)(Ai)]/12$
 Calculated Ai: 0.277
 Calculated Rv*: 0.95
 Calculated Minimum RR_v: 1338 cf

Where:
 P = 90 % Rainfall Event Number (in), per Figure 4.1
 Rv* = $0.05 + 0.009 \times I$, where I is % impervious area (100%)
 Ai = (S)(Aic)
 Aic = Total area of new impervious cover

5) Stormwater Management Practice Design

Consider infiltrating RR_v

100% RR_v = 2,489 cf
 RR_v Infiltrated in Basin = 2,526 cf From HydroCAD Model
 Is RR_v 100% infiltrated? yes - acceptable The WQv storm inflow volume is less than the calculated 100% RR_v.
 Therefore a Test Storm for RR_v with a depth of 2.68 inches was used to demonstrate that the underground infiltration will infiltrate 2,489 cf of volume without flowing through any orifices.

Consider infiltrating CP_v:

Determine Stream Channel Protection Volume (C_p_v)

* 1-Year Storm Runoff Volume 0.008 acre-feet From C_p_v calculations below
 C_p_v Infiltrated in Basin = 0.049 acre-feet From HydroCAD Model
 Is C_p_v 100% infiltrated? yes - acceptable The basin infiltrates the entire 1-year storm.

Project: 21-28 Creek Drive (Former DPW Site)
 Description: Stormwater Management Design
 By/Date: AG 12/10/2018 Reviewed/Date: MAB 12/13/2018

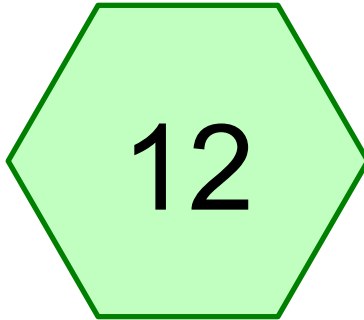


STORMWATER MANAGEMENT PRACTICE:
Subcatchment 12

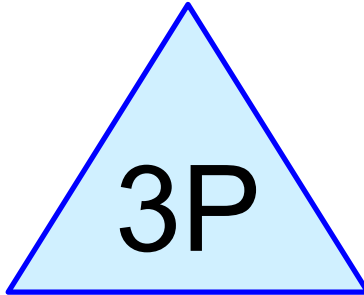
5.1) Determine Stream Channel Protection Volume (Cpv)

- Post Developed Runoff Curve Number (CN) = 79 From HydroCAD model
- Computed Initial Abstraction (Ia)
 - Ia = 200/CN-2 = 0.532
 - 1 Year Rainfall; P = 2.6 inches
 - Ia/P = 0.20 (use minimum Ia/P=0.1, maximum Ia/P=0.5)
 - Tc = 0.1 hours From HydroCAD model
- Compute Unit Peak Discharge (qu) From Exhibit 4-III of TR-55, Second Edition June 1986
 - qu = 625 csm/in
- Find qo/qi using Figure 8.5 from Chapter 8 of the New York State Stormwater Design Manual (August 2003)
 - Peak outflow discharge/peak inflow discharge (qo/qi) = 0.030
- $V_s/V_r = 0.682 - 1.43(q_o/q_i) + 1.64(q_o/q_i)^2 - 0.804(q_o/q_i)^3$ 0.64 Where Vs equals the channel protection storage (Cpv) and Vr equals the volume of runoff in inches
- From HydroCAD find the runoff depth (Q) = 0.21 inches
- Solve for Vs; $V_s = C_{pv} = (V_s/V_r)(Q)(1/12)(A)$
 - Watershed Area (A) = 0.72 acres
 - or 0.008 acre feet
 - or 353 cubic feet 0.008 acre-feet

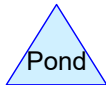
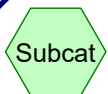
6) See HydroCAD model for Overbank Flood Control (Qp) and Extreme Flood Control (Qf) computations



SUBCATCHMENT 12



Underground Detention
-Cultec 330 HD



POST2

Type III 24-hr Custom 2.68 Rainfall=2.68"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 12: SUBCATCHMENT 12

Runoff = 0.77 cfs @ 12.10 hrs, Volume= 0.058 af, Depth= 0.96"

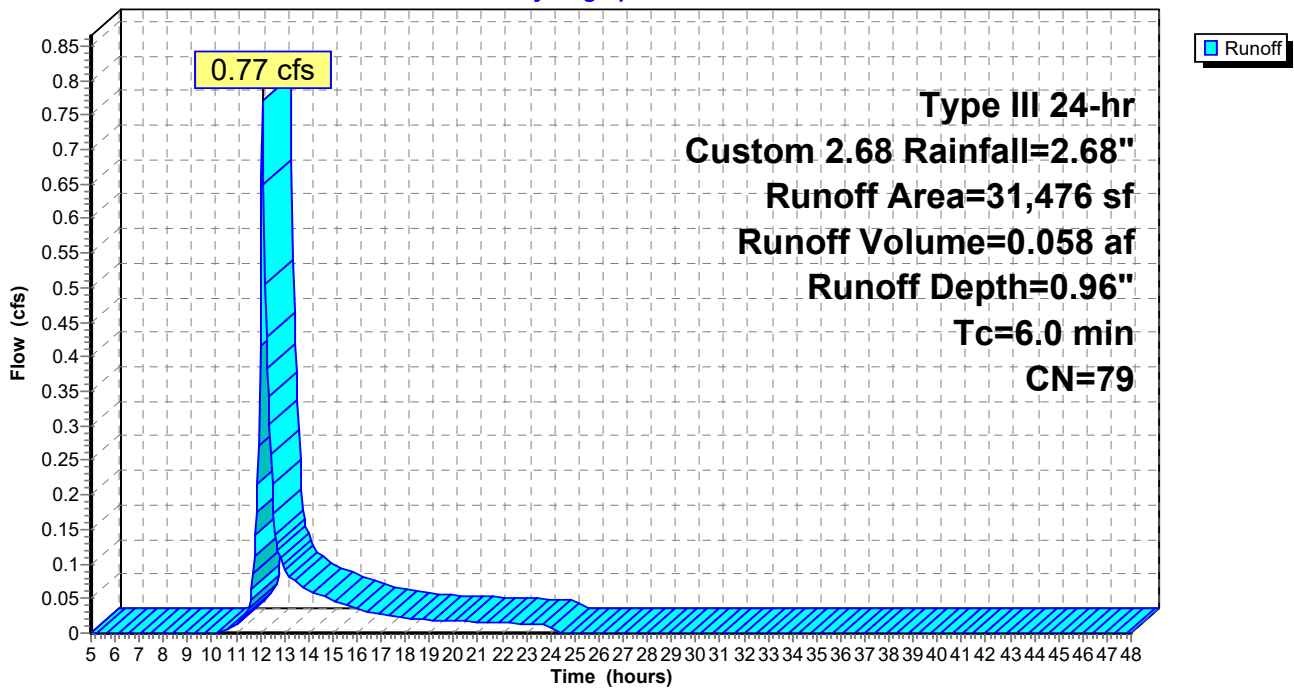
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type III 24-hr Custom 2.68 Rainfall=2.68"

Area (sf)	CN	Description
21,963	98	Paved parking, HSG A
5,758	30	Woods, Good, HSG A
3,755	39	>75% Grass cover, Good, HSG A
31,476	79	Weighted Average
9,513		30.22% Pervious Area
21,963		69.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, S1

Subcatchment 12: SUBCATCHMENT 12

Hydrograph



POST2

Type III 24-hr Custom 2.68 Rainfall=2.68"

Prepared by Hudson Land Design

HydroCAD® 10.00-20 s/n 04797 © 2017 HydroCAD Software Solutions LLC

Page 3

Summary for Pond 3P: Underground Detention -Cultec 330 HD

Inflow Area = 0.723 ac, 69.78% Impervious, Inflow Depth = 0.96" for Custom 2.68 event
 Inflow = 0.77 cfs @ 12.10 hrs, Volume= 0.058 af
 Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Discarded = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 83.46' @ 24.40 hrs Surf.Area= 1,599 sf Storage= 2,519 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	2,136 cf	35.66'W x 44.84'L x 4.71'H Prismatic 7,531 cf Overall - 2,191 cf Embedded = 5,341 cf x 40.0% Voids
#2	82.00'	2,191 cf	Cultec R-330XLHD x 42 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
		4,327 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	82.00'	18.0" Round Culvert L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 82.00' / 70.00' S= 0.3000 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	83.70'	9.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#3	Device 1	85.10'	21.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#4	Discarded	81.00'	5.000 in/hr Exfiltration over Surface area above 81.00' Conductivity to Groundwater Elevation = 70.00' Excluded Surface area = 1,599 sf

Discarded OutFlow Max=0.00 cfs @ 5.00 hrs HW=81.00' (Free Discharge)

↳4=Exfiltration (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=81.00' TW=0.00' (Dynamic Tailwater)

↳1=Culvert (Controls 0.00 cfs)

↳2=Orifice/Grate (Controls 0.00 cfs)

↳3=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: Underground Detention -Cultec 330 HD

Hydrograph

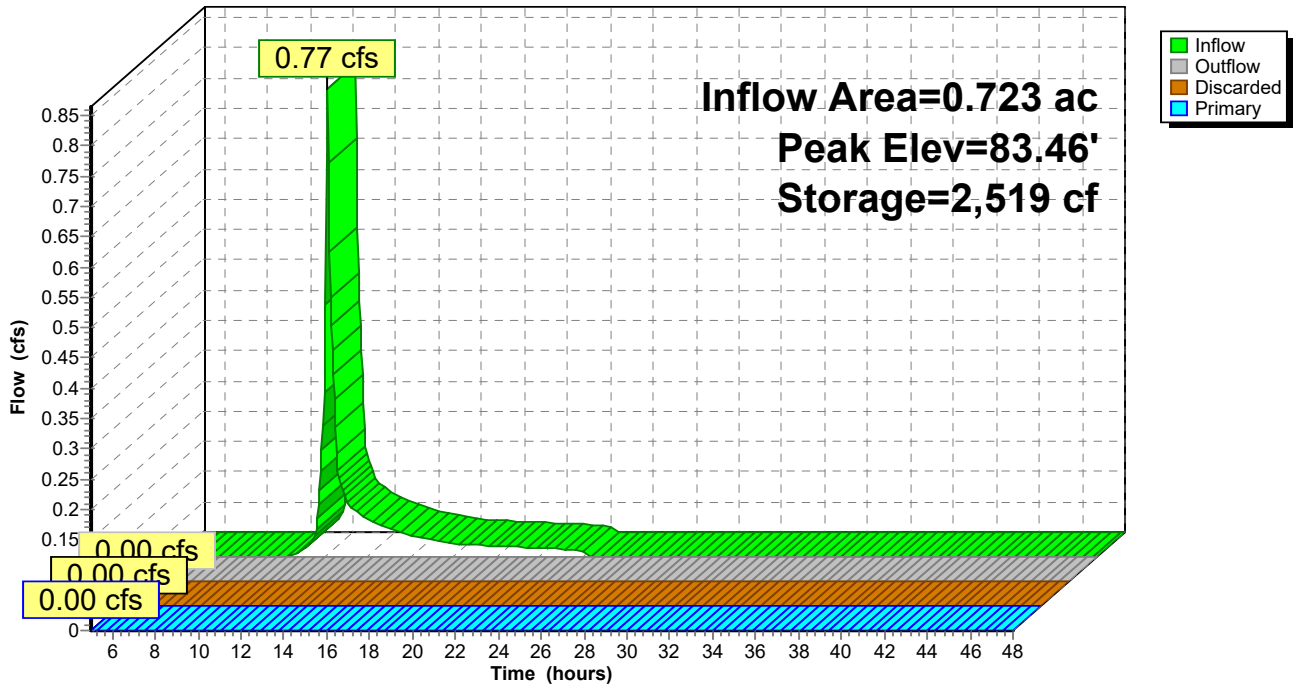
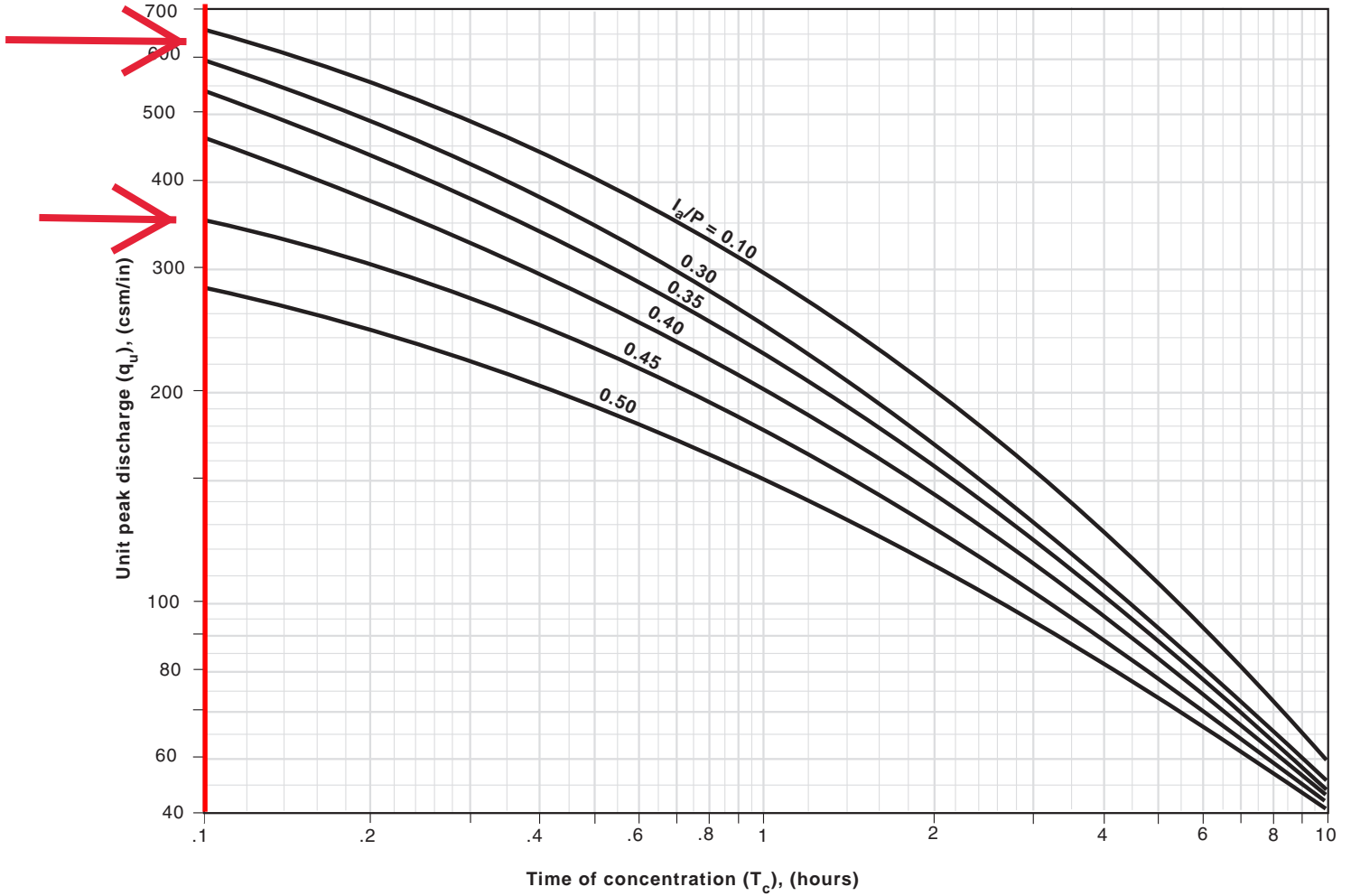


Exhibit 4-III Unit peak discharge (q_u) for NRCS (SCS) type III rainfall distribution



Compute Stream Channel Protection Volume, (C_{pv}) (see Section 4.3 and Appendix B)

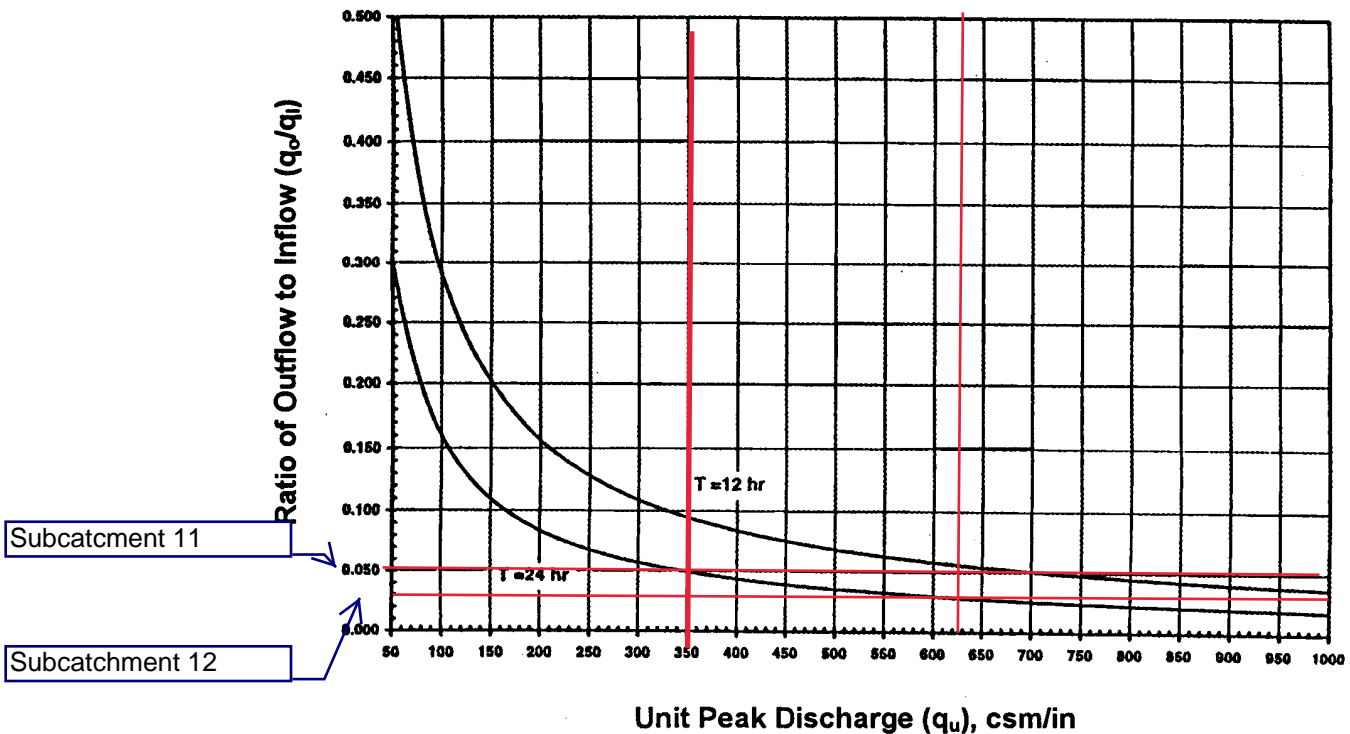
For stream channel protection, provide 24 hours of extended detention (T) for the one-year event.

Compute Channel Protection Storage Volume

First, determine the value of the unit peak discharge (q_u) using TR-55 and Type II Rainfall Distribution

- Initial abstraction (I_a) for CN of 78 is 0.564: [$I_a = (200/CN - 2)$]
- $I_a/P = (0.564)/ 2.3 \text{ inches} = 0.245$
- $T_c = 0.35 \text{ hours}$
- Using the above data and Exhibit 4-II from TR-55 (NRCS, 1986), $q_u = 570 \text{ csm/in}$ (cubic feet per second per square mile per year)
- Knowing q_u and $T = 24 \text{ hours}$, find q_o/q_i using Figure 8.5 (also see methodology in Appendix B)
- Peak outflow discharge/peak inflow discharge (q_o/q_i) = 0.035
- $V_s/V_r = 0.683 - 1.43(q_o/q_i) + 1.64(q_o/q_i)^2 - 0.804(q_o/q_i)^3$ (from Appendix B)
Where V_s equals channel protection storage (C_{pv}) and V_r equals the volume of runoff in inches.

Figure 8.5 Detention Time vs. Discharge Ratios (Source: MDE, 2000)



APPENDIX G

PRE-CONSTRUCTION SITE ASSESSMENT CHECKLIST

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _____
Permit No. _____ **Date of Authorization** _____
Name of Operator _____
Prime Contractor _____

a. Preamble to Site Assessment and Inspections

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified professional¹ conduct an assessment of the site prior to the commencement of construction² and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization³ using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Name (please print): _____

Title _____ **Date:** _____

Address: _____

Phone: _____ **Email:** _____

Signature: _____

c. Qualified Professional's Credentials & Certification

"I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (please print): _____

Title _____ **Date:** _____

Address: _____

Phone: _____ **Email:** _____

Signature: _____

d. Pre-construction Site Assessment Checklist

(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

- Has a Notice of Intent been filed with the NYS Department of Conservation?
- Is the SWPPP on-site? Where? _____
- Is the Plan current? What is the latest revision date? _____
- Is a copy of the NOI (with brief description) onsite? Where? _____
- Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

- Are construction limits clearly flagged or fenced?
- Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
- Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

- Clean stormwater runoff has been diverted from areas to be disturbed.
- Bodies of water located either on site or in the vicinity of the site have been identified and protected.
- Appropriate practices to protect on-site or downstream surface water are installed.
- Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Entrance

Yes No NA

- A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
- Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
- Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Perimeter Sediment Controls

Yes No NA

- Silt fence material and installation comply with the standard drawing and specifications.
- Silt fences are installed at appropriate spacing intervals
- Sediment/detention basin was installed as first land disturbing activity.
- Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

- The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
- The plan is contained in the SWPPP on page _____
- Appropriate materials to control spills are onsite. Where? _____

APPENDIX H
INFILTRATION BASIN INSPECTION CHECKLIST

Infiltration Basin Construction Inspection Checklist

Project:
 Location:
 Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Embankment		
Barrel		
Anti-seep collar or Filter diaphragm		
Fill material		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Final Excavation		
Drainage area stabilized		
Sediment removed from facility		
Basin floor tilled		
Facility stabilized		
5. Final Inspection		
Pretreatment facility in place		
Inlets / outlets		
Contributing watershed stabilized before flow is routed to the facility		

Comments:

Actions to be Taken:

Open Channel System Construction Inspection Checklist

Project:
 Location:
 Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Facility location staked out		
2. Excavation		
Size and location		
Side slope stable		
Soil permeability		
Groundwater / bedrock		
Lateral slopes completely level		
Longitudinal slopes within design range		
Excavation does not compact subsoils		
3. Check dams		
Dimensions		
Spacing		
Materials		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
4. Structural Components		
Underdrain installed correctly		
Inflow installed correctly		
Pretreatment devices installed		
5. Vegetation		
Complies with planting specifications		
Topsoil adequate in composition and placement		
Adequate erosion control measures in place		
6. Final inspection		
Dimensions		
Check dams		
Proper outlet		
Effective stand of vegetation and stabilization		
Contributing watershed stabilized before flow is routed to the facility		

Comments:

APPENDIX I
CONTRACTOR AND SUBCONTRACTOR
CERTIFICATIONS

CERTIFICATION STATEMENT

“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.”

Contractor:

Name: _____

Signature: _____

Title: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Site Address: _____

Specific SWPPP Responsibilities:

Date of Certification: _____

Name and Title of Trained Contractor for SWPPP
Implementation: _____

CERTIFICATION STATEMENT

“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.”

Sub-Contractor:

Name: _____

Signature: _____

Title: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Site Address: _____

Specific SWPPP Responsibilities:

Date of Certification: _____

Name and Title of Trained Contractor for SWPPP
Implementation: _____

APPENDIX J

QUALIFIED PROFESSIONAL'S CERTIFICATION

QUALIFIED PROFESSIONAL’S CERTIFICATION

“ I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the Pre-Construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction.”

Name (Print): _____

Title: _____

Date: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Company Email: _____

Signature: _____

APPENDIX K
OWNER / OPERATOR CERTIFICATION

CERTIFICATION STATEMENT

“ I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that that this document and the corresponding documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 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. Further, I am acknowledging that this SWPPP has been developed and will be implemented as the first element of construction and agree to comply with all the terms and conditions of the general permit for which the NOI is being submitted.”

Name (Print): _____

Title: _____

Date: _____

Company Name: _____

Company Address: _____

Company Phone Number: _____

Company Email: _____

Signature: _____

APPENDIX L

**POST DEVELOPMENT MAINTENANCE AND
INSPECTION CHECKLIST**

Infiltration Trench Operation, Maintenance, and Management Inspection Checklist

Project:
 Location:
 Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Trench surface clear of debris		
Inflow pipes clear of debris		
Overflow spillway clear of debris		
Inlet area clear of debris		
2. Sediment Traps or Forebays (Annual)		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
3. Dewatering (Monthly)		
Trench dewateres between storms		
4. Sediment Cleanout of Trench (Annual)		
No evidence of sedimentation in trench		
Sediment accumulation doesn't yet require cleanout		
5. Inlets (Annual)		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
Good condition		
No evidence of erosion		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repair		
No evidence of erosion		
7. Aggregate Repairs (Annual)		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Trench does not need rehabilitation		

Comments:

Actions to be Taken:

Open Channel Operation, Maintenance, and Management Inspection Checklist

Project:
 Location:
 Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Contributing areas clean of debris		
2. Check Dams or Energy Dissipators (Annual, After Major Storms)		
No evidence of flow going around structures		
No evidence of erosion at downstream toe		
Soil permeability		
Groundwater / bedrock		
3. Vegetation (Monthly)		
Mowing done when needed		
Minimum mowing depth not exceeded		
No evidence of erosion		
Fertilized per specification		
4. Dewatering (Monthly)		
Dewaterers between storms		

MAINTENANCE ITEM	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Sediment deposition (Annual)		
Clean of sediment		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repairs		
No evidence of erosion		

Comments:

Actions to be Taken:

APPENDIX M
CONSTRUCTION INSPECTION REPORT

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

- (1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;
- (2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;
- (3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;
- (4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);
- (5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and
- (6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)

Date of Inspection

Qualified Professional (print name)

Qualified Professional Signature

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

- Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- All disturbance is within the limits of the approved plans.
- Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

- Is construction site litter and debris appropriately managed?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

- Maximum diameter pipes necessary to span creek without dredging are installed.
- Installed non-woven geotextile fabric beneath approaches.
- Is fill composed of aggregate (no earth or soil)?
- Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

- Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
- Clean water from upstream pool is being pumped to the downstream pool.
- Sediment laden water from work area is being discharged to a silt-trapping device.
- Constructed upstream berm with one-foot minimum freeboard.

2. Level Spreader

Yes No NA

- Installed per plan.
- Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
- Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

- Installed per plan with minimum side slopes 2H:1V or flatter.
- Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
- Sediment-laden runoff directed to sediment trapping structure

CONSTRUCTION DURATION INSPECTIONS
Runoff Control Practices (continued)

4. Stone Check Dam

Yes No NA

- Is channel stable? (flow is not eroding soil underneath or around the structure).
- Check is in good condition (rocks in place and no permanent pools behind the structure).
- Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

- Installed per plan.
- Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

- Stockpiles are stabilized with vegetation and/or mulch.
- Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

- Temporary seedings and mulch have been applied to idle areas.
- 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Stabilized Construction Entrance

Yes No NA

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence

Yes No NA

- Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
 - Joints constructed by wrapping the two ends together for continuous support.
 - Fabric buried 6 inches minimum.
 - Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated practices)

Yes No NA

- Installed concrete blocks lengthwise so open ends face outward, not upward.
 - Placed wire screen between No. 3 crushed stone and concrete blocks.
 - Drainage area is 1acre or less.
 - Excavated area is 900 cubic feet.
 - Excavated side slopes should be 2:1.
 - 2" x 4" frame is constructed and structurally sound.
 - Posts 3-foot maximum spacing between posts.
 - Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
 - Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation ___% of design capacity.

4. Temporary Sediment Trap

Yes No NA

- Outlet structure is constructed per the approved plan or drawing.
 - Geotextile fabric has been placed beneath rock fill.
- Sediment accumulation is ___% of design capacity.

5. Temporary Sediment Basin

Yes No NA

- Basin and outlet structure constructed per the approved plan.
 - Basin side slopes are stabilized with seed/mulch.
 - Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
- Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design.
 Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

III. Monthly Summary of Site Inspection Activities

Name of Permitted Facility:	Today's Date:	Reporting Month:
Location:	Permit Identification #:	
Name and Telephone Number of Site Inspector:		

Date of Inspection	Regular / Rainfall based Inspection	Name of Inspector	Items of Concern

Owner/Operator Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signature of Permittee or Duly Authorized Representative

Name of Permittee or Duly Authorized Representative Date

Duly authorized representatives must have written authorization, submitted to DEC, to sign any permit documents.

APPENDIX N
NOTICE OF TERMINATION

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

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

Please indicate your permit identification number: NYR _____

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

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

9b. Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _____

(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. Other (Explain on Page 2)

IV. Final Site Information:

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

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

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

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

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

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

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

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

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

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

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

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

Printed Name:

Title/Position:

Signature:

Date:

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

VII. Qualified Inspector Certification - Final Stabilization:

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

Printed Name:

Title/Position:

Signature:

Date:

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

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

Printed Name:

Title/Position:

Signature:

Date:

IX. Owner or Operator Certification

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

Printed Name:

Title/Position:

Signature:

Date:

(NYS DEC Notice of Termination - January 2015)

LEGEND:

DRAINAGE BOUNDARY



SUBCATCHMENT ID



DESIGN POINT



PRE-DRAINAGE
SUBCATCHMENT 1
TOTAL AREA = 160,667 SQFT

IMPERVIOUS = 48,660 SQFT
WOODS A = 58,238 SQFT
MEADOW A = 53,769 SQFT

TIME OF CONCENTRATION, T_c:
1. DIRECT ENTRY = 6 MINUTES

DRAINAGE
BOUNDARY (TYP.)

SUBCATCHMENT ID (TYP.)



PRE-DEVELOPMENT DRAINAGE PLAN

SCALE: 1" = 100'

GRAPHIC SCALE



(IN FEET)
1 inch = 100 ft.

PRE-DEVELOPMENT DRAINAGE PLAN

23-28 CREEK DRIVE

CREEK DRIVE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID:
SCALE: 1" = 100'
OCTOBER 22, 2018



SEAL

HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN STREET
BEACON, NEW YORK 12508
PH: 845-440-6926 F: 845-440-6637

JON D. BODENDORF, P.E.
NYS LICENSE NO. 076245
DANIEL G. KOEHLER, P.E.
NYS LICENSE NO. 082716

SHEET: 1 OF 1

DRAWN BY: AG	CHECKED BY: DGK	JOB NO.: 2018-043	
REVISIONS:			
NO.	DATE	DESCRIPTION	BY

STORMWATER
DISCHARGE POINT

Wolcott Avenue Bridge (NYS Route 92)

New or Formerly
Water Projects, L.L.C.
Water, Gas, Sewer & Storm
Drain. Est. # 12119
Tax ID: 130200-0022-37-068770

New or Formerly
Water Projects, L.L.C.
Water, Gas, Sewer & Storm
Drain. Est. # 12119
Tax ID: 130200-0022-37-068770

LEGEND:

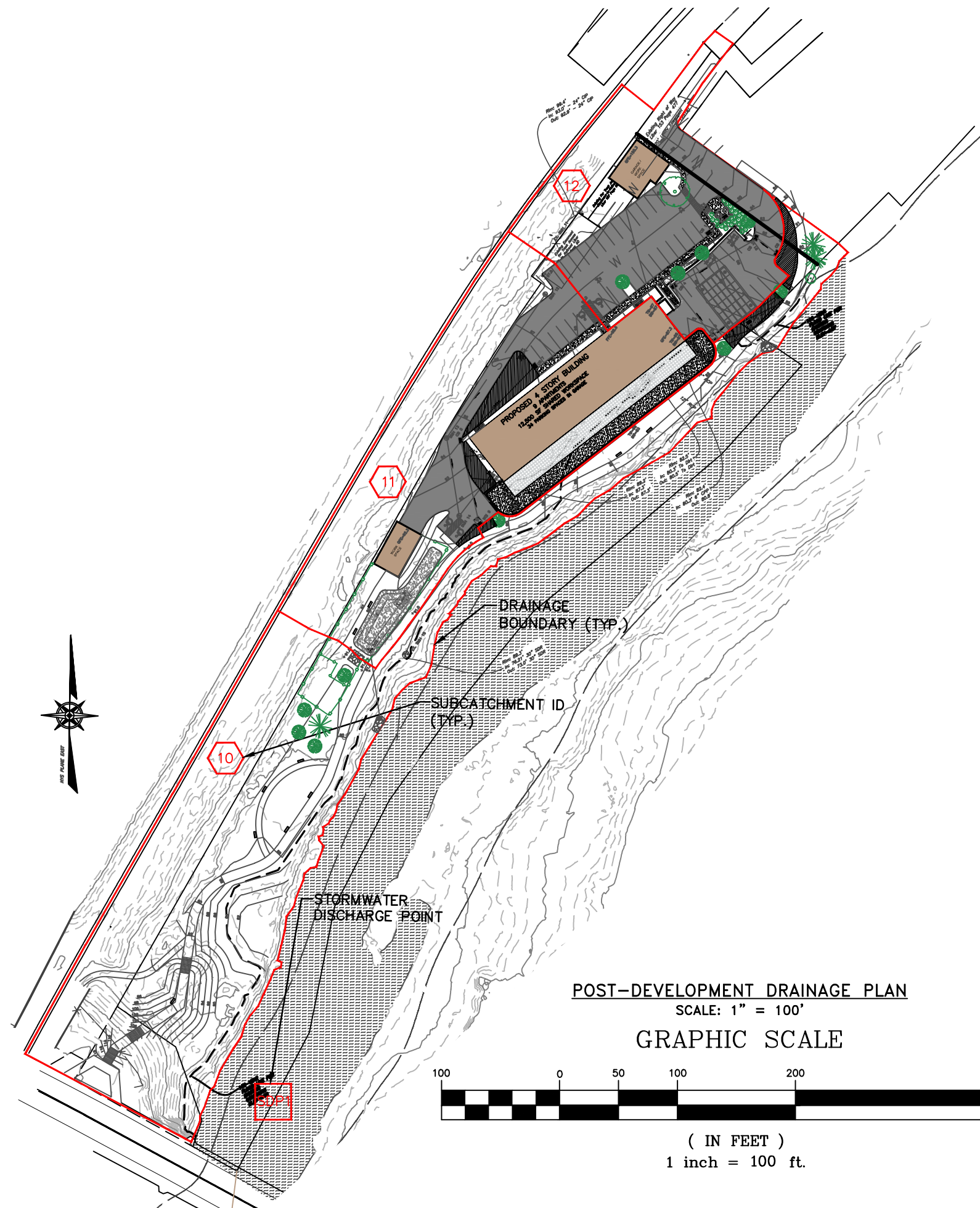
DRAINAGE BOUNDARY



SUBCATCHMENT ID



DESIGN POINT



POST-DRAINAGE
SUBCATCHMENT 10
TOTAL AREA = 76,646 SQFT

IMPERVIOUS = 740 SQFT
WOODS A = 37,514 SQFT
GRASS A = 30,748 SQFT
GRAVEL A = 7,644 SQFT

TIME OF CONCENTRATION, T_c:
1. DIRECT ENTRY = 6 MINUTES

POST-DRAINAGE
SUBCATCHMENT 11
TOTAL AREA = 52,545 SQFT

IMPERVIOUS = 22,913 SQFT
WOODS A = 14,078 SQFT
GRASS A = 14,970 SQFT
GRAVEL A = 584 SQFT

TIME OF CONCENTRATION, T_c:
1. DIRECT ENTRY = 6 MINUTES

POST-DRAINAGE
SUBCATCHMENT 12
TOTAL AREA = 31,476 SQFT

IMPERVIOUS = 21,963 SQFT
WOODS A = 5,758 SQFT
GRASS A = 3,755 SQFT

TIME OF CONCENTRATION, T_c:
1. DIRECT ENTRY = 6 MINUTES

POST-DEVELOPMENT DRAINAGE PLAN
23-28 CREEK DRIVE

CREEK DRIVE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID:
SCALE: 1" = 100'
OCTOBER 22, 2018



HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN STREET
BEACON, NEW YORK 12508
PH: 845-440-6926 F: 845-440-6637

SEAL
JON D. BODENDORF, P.E.
NYS LICENSE NO. 076245
DANIEL G. KOEHLER, P.E.
NYS LICENSE NO. 082716

DRAWN BY: AG		CHECKED BY: DGK		JOB NO.: 2018-043	
REVISIONS:					
NO.	DATE	DESCRIPTION			BY

APPENDIX O
OPERATION AND MAINTENANCE PLAN



Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

400 Columbus Avenue
Valhalla, NY 10595
T: 914.347.7500
F: 914.347.7266
www.maserconsulting.com

July 26, 2018

VIA E-MAIL

Mr. Rodney Weber
Weber Projects III, LLC
494 Main Street
Beacon, NY 12508

Re: 23-28 Creek Drive LLC
Churchill Street at Creek Drive
City of Beacon, Dutchess County, New York
MC Project No. 14000477B

Dear Mr. Weber:

This report has been prepared to evaluate the potential traffic impacts associated with the proposed 23-28 Creek Drive development, which is planned to be developed on property located on the south side of Churchill Street west of Creek Drive and east of the Fishkill Creek in the City of Beacon, New York. The site, which was formerly occupied by the City of Beacon Department of Public Works, is proposed to consist of a live/work environment with a total of 9 apartment units and 12,000 square feet of office space, which are to be incorporated into the previously approved and currently under construction and/or partially occupied 7 Creek Drive (aka Churchill Street Apartments) and 11 Creek Drive (aka Factory Lofts) developments. It should be noted that the 7 Creek Drive development is now anticipated to have 10 fewer apartment units than what was previously approved.

This report provides a full analysis of the traffic impacts associated with the full development proposed for the site. As shown on Figure No. 1, access to the development is proposed via the driveway connection to Churchill Street to be constructed as part of the 7 Creek Drive project aligning opposite the driveway to the municipal parking lot on the north side of Churchill Street. Under future conditions Creek Drive will provide emergency access to all three properties.

A Design Year of 2022 has been utilized in completing the traffic analysis in order to evaluate future traffic conditions associated with this proposed development.



1. Existing and Future Traffic Conditions Without the Project (Figures No. 2 through 9)

Manual traffic counts were collected by representatives of Maser Consulting, P.A. on Wednesday March 1 and Thursday March 2, 2017 for the AM and PM Peak Hours to determine the existing traffic volume conditions at the intersections of East Main Street at Churchill Street and Churchill Street at Creek Drive. These traffic counts were then compared to traffic volume data from the previous traffic studies conducted by our office for the 7 Creek Drive project. The resulting Year 2017 Existing Traffic Volumes are shown on Figures No. 2 and 3 for the Weekday Peak AM Hour and Weekday Peak PM Hour, respectively.

Main Street is a City street that consists of one lane in each direction. The roadway intersects with both Tioronda Avenue and Churchill Street at two unsignalized “T” shaped intersections separated by approximately 75 ft. Sidewalks and on-street parking are provided on both sides of the roadway. In the vicinity of the Tioronda Avenue and Churchill Street intersections Main Street has a sharp horizontal curve where parking is not permitted on the east side of the roadway.

Churchill Street is a City street that consists of one lane in each direction and traverses in a northwest/southeast direction between unsignalized intersections with Main Street and Spring Valley Road. The roadway also has an unsignalized intersection with Creek Drive that is located approximately 150 ft. southeast of the Main Street intersection. Immediately west of the Creek Drive intersection there is also an exempt railroad crossing of Churchill Street. There is a sidewalk on the south side of Churchill Street beginning at Spring Valley Road and continuing for a distance of approximately 265 ft terminating in the area of the 7 Creek Drive site.

Creek Drive is an existing roadway that begins at its unsignalized intersection with Churchill Street. The roadway runs in a southwesterly direction from this intersection to the access of the former City of Beacon Department of Public Works Property where the roadway terminates. The roadway width varies between 18 ft. and 24 ft. This roadway is currently utilized to access the 11 Creek Drive site. Under future conditions upon completion of the 7 Creek Drive development, Creek Drive will be utilized for emergency access only.

In order to assess future traffic conditions both with and without the project, the existing traffic volumes were projected to a 2022 Design Year using a background growth factor of 4.0% per year to account for any additional traffic generated by projects in the area. In addition, traffic for the 11 Creek Drive and 7 Creek Drive projects were also accounted for as well as traffic for other proposed or approved projects along Main Street. The future



2022 No-Build Traffic Volumes are shown on Figures No. 8 and 9 for each of the peak hours.

2. Future Traffic Conditions with Proposed Project (Figures No. 10 through 15, Tables 1 and 2)

Estimates of the amount of traffic to be generated by the proposed development were made based on data provided by the Institute of Transportation Engineers in their publication entitled Trip Generation, 10th Edition dated 2017 using average rates. These estimates are summarized in Table No. 1 and indicate that the 23-28 Creek Drive development can be expected to generate approximately 19 total trips (13 entering/6 exiting) during the AM Peak Hour and approximately 21 total trips (6 entering/15 exiting) the PM Peak Hour. As previously indicated, the 7 Creek Drive project will have 10 fewer apartments than previously planned and approved. The 9 apartments proposed as part of the 23-28 Creek Drive project will replace these 10 previously approved apartments, generally resulting in similar trip generation to the previously approved 7 Creek Drive development. As a result, only the office space traffic generation will be new to the site and the roadway system. However, for the purpose of the capacity analysis, this reduction in the number of apartments in the 7 Creek Drive development has not been considered and therefore provides a somewhat conservative analysis.

The estimated site generated traffic volumes were applied to the roadway network based on the Arrival and Departure distributions identified on Figures No. 10 and 11. The resulting Site Generated Traffic Volumes, summarized on Figures No. 12 and 13, were added to the No-Build Traffic Volumes to obtain the 2022 Build Traffic Volumes shown on Figures No. 14 and 15 for each of the peak hours.

Capacity analyses were conducted utilizing the Existing, No-Build and Build Traffic Volumes to determine the existing and future operating conditions in the vicinity of the site. The results of these analyses are shown in Table No. 2, which indicates that the site generated traffic can be accommodated on the area roadways without significant impacts to operating conditions at the study area intersections.



3. Recommendations

Our observations of existing roadway conditions in the vicinity of the site as well as our analysis of existing and future traffic volumes indicate several potential area improvements. These improvements were also recommended as part of the 7 Creek Drive project but have yet to be completed. These include the following.

- Install a “Stop” sign along with a stop bar and double yellow centerline striping on Creek Road at the intersection with Churchill Street.
- Restripe the existing faded double yellow centerline for the length of Churchill Street
- Install an “Intersection Ahead” sign on the westbound Churchill Street approach in advance of Creek Road.
- Restripe the existing faded crosswalk crossing Churchill Street at the Main Street intersection.

4. Other Considerations

In addition to the above recommendations, and not specific to this development, based on observed traffic volumes and operating conditions other potential future improvements have been identified. The potential exists to create an all-way stop intersection at the intersection of Main Street & Tioronda Avenue since the existing peak hour traffic volumes indicate that the intersection currently meets the requirements provided in the Manual for Uniform Traffic Control Devices (MUTCD). This would be the logical location for an all-way stop intersection since it is the current location of the pedestrian crosswalk crossing Main Street. A new sidewalk bump out, which would require the elimination of 1 to 2 parking spaces, would have to be constructed on the north side of Main Street in order to provide a place to post the new stop sign in the westbound direction and could be used as a landing for a second crosswalk on this westbound intersection approach.

In addition, it should be noted that although right turns are prohibited from Churchill Street onto Main Street, this movement is regularly made by motorists. Based on a review of the intersection there may be some opportunity to modify the northern curb line on Churchill Street in order to formally permit his movement, however the availability of Right-of-Way would have to be determined if such a modification was considered. If the No Right Turn restriction is to remain it should be better enforced with additional signage and pavement markings.



Mr. Rodney Weber
MC Project No. 14000477B
July 26, 2018
Page 5 of 5

Regardless of the above recommendations for potential future improvements in the vicinity of the Project, the site generated traffic resulting from the 9 newly proposed apartment units and 12,000 square feet of office space can be accommodated on the area roadways without significant impacts to operating conditions in the vicinity of the site. The minor signing and striping improvements identified in Item 3 above should be completed prior to completion of this development.

Very truly yours,

MASER CONSULTING P.A.

A handwritten signature in black ink, appearing to read 'Philip J. Gready', written over a circular stamp.

Philip J. Gready, Ph.D., P.E.
Principal Associate/Department Manager

A handwritten signature in blue ink, appearing to read 'Richard G. D'Andrea', written over a circular stamp.

Richard G. D'Andrea, P.E., PTOE
Project Engineer

PJG/rgd
Enclosures

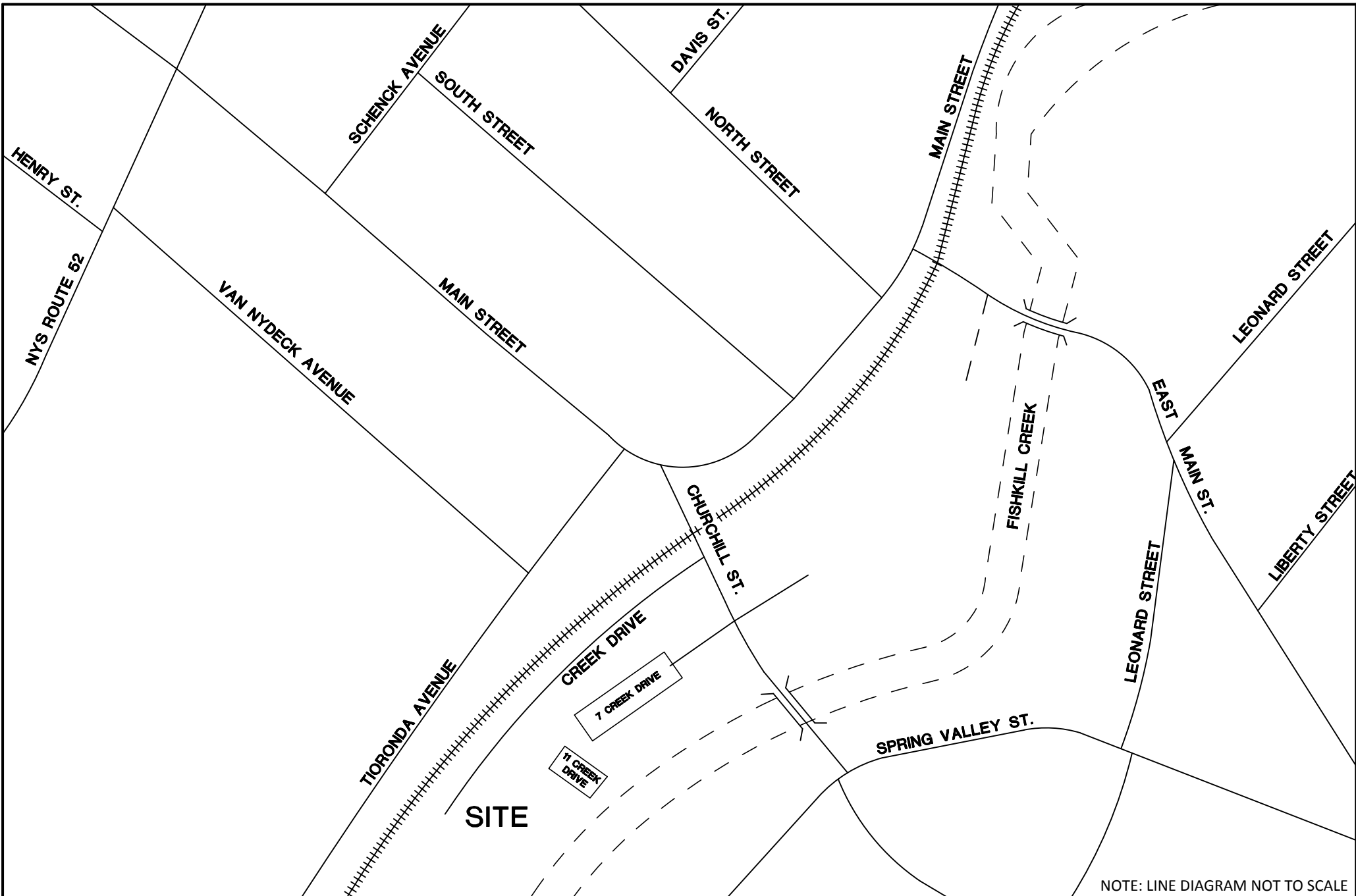
cc:
R:\Projects\2014\14000477B_13 Creek Drive\Reports\Traffic\Word\180726JFM_Weber_Ltr Rpt.docx



23-28 CREEK DRIVE

APPENDIX A

FIGURES



Consulting, Municipal & Environmental Engineers
 Planners ■ Surveyors ■ Landscape Architects
 State of N.Y. Certificate of Authorization: 0008671

WESTCHESTER OFFICE

11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266

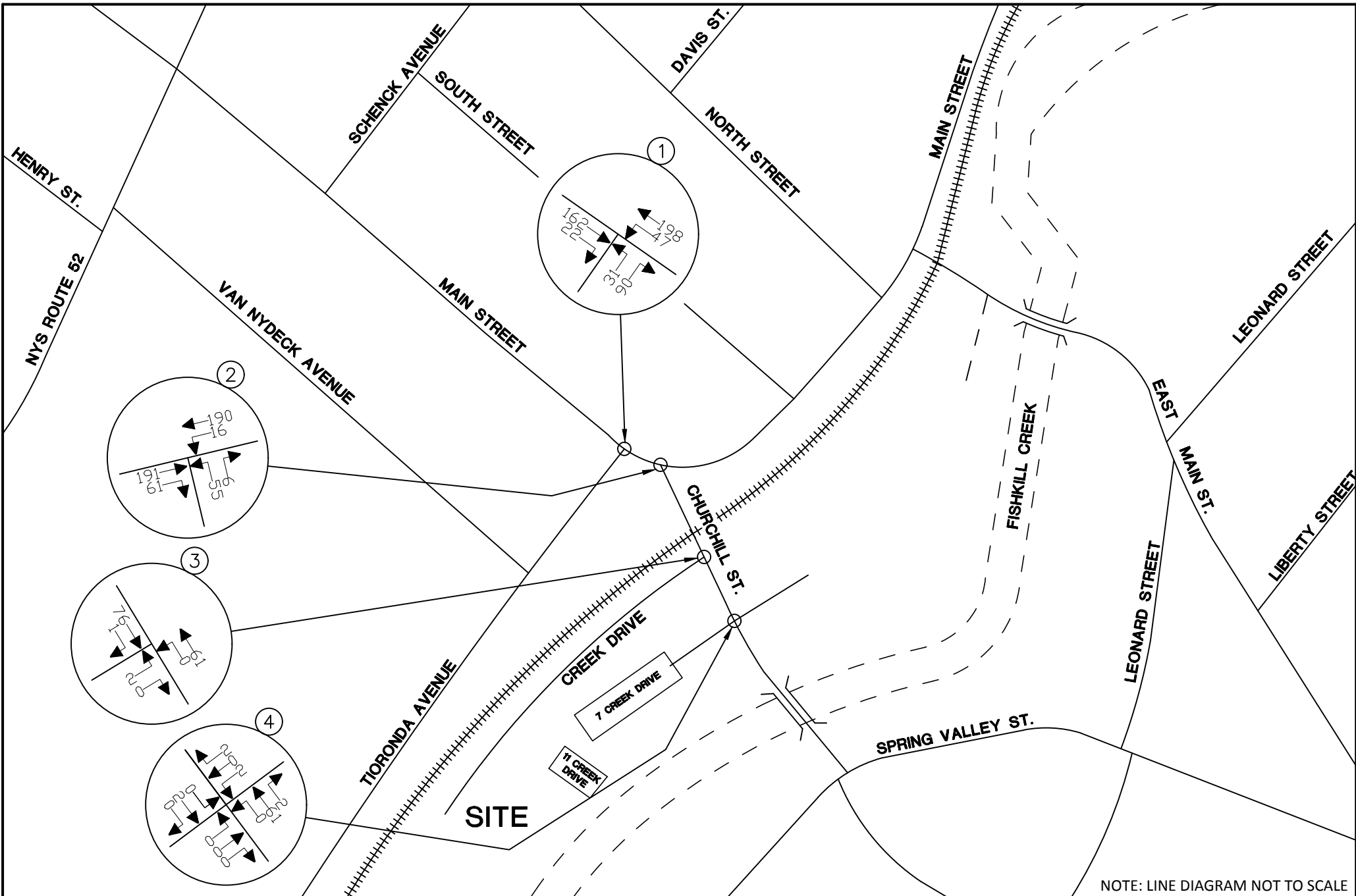
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

SITE LOCATION MAP



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
1	



NOTE: LINE DIAGRAM NOT TO SCALE



Consulting, Municipal & Environmental Engineers
 Planners ■ Surveyors ■ Landscape Architects
 State of N.Y. Certificate of Authorization: 0008671

WESTCHESTER OFFICE

11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266

email: solutions @ maserconsulting.com

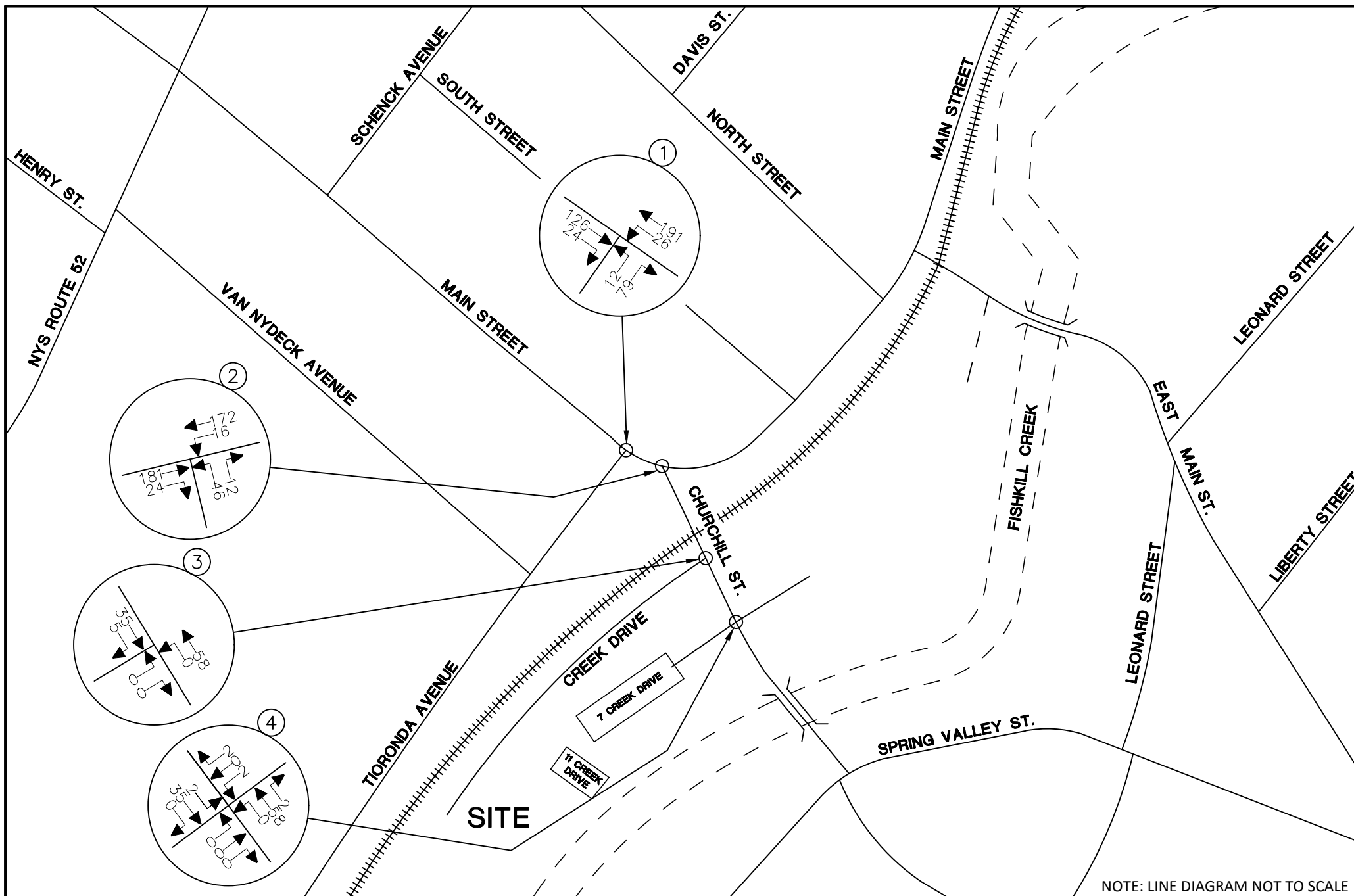
23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

2017 EXISTING TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17

FIGURE NUMBER:



NOTE: LINE DIAGRAM NOT TO SCALE



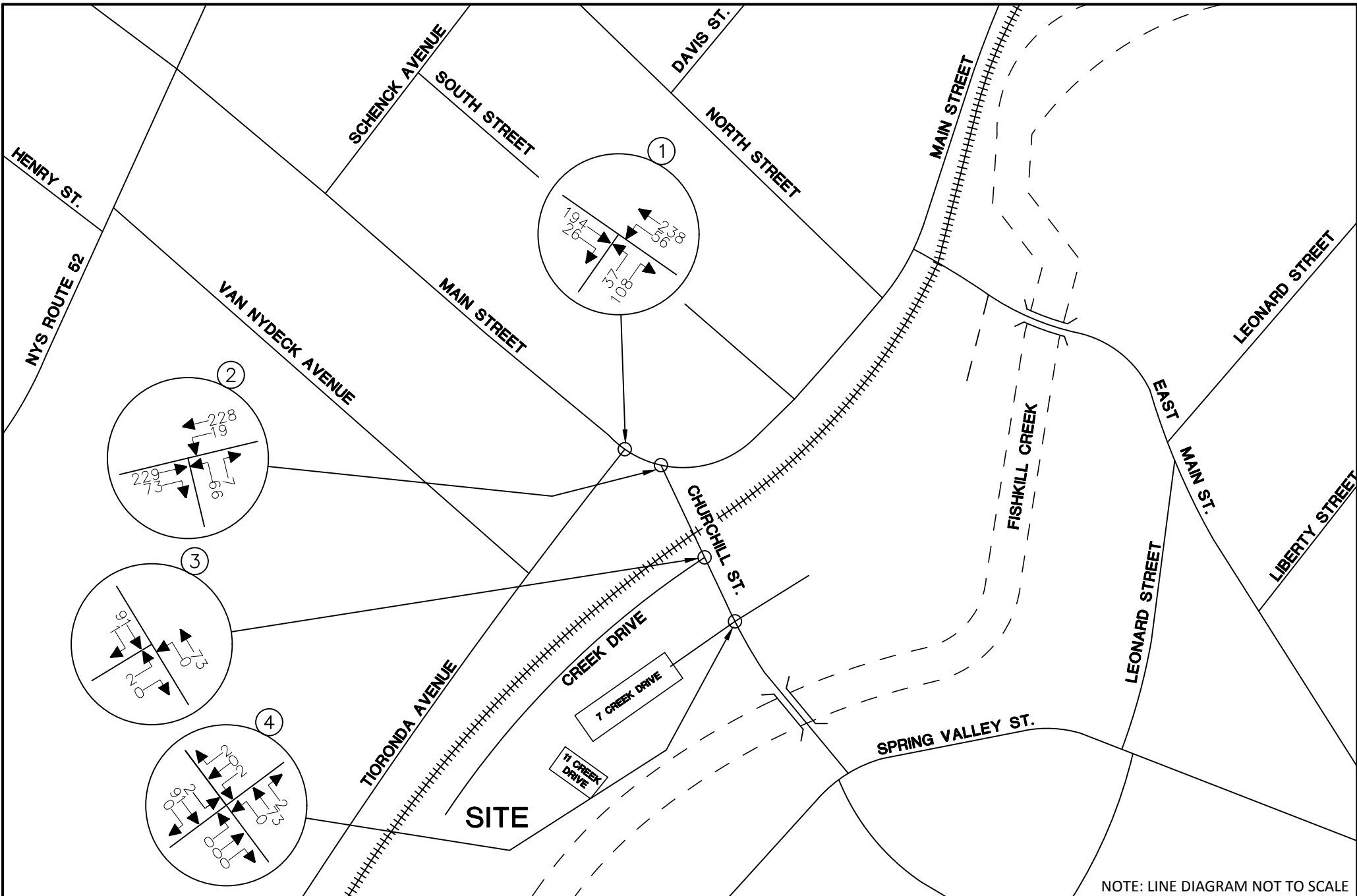
WESTCHESTER OFFICE
 11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266
 email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

2022 PROJECTED TRAFFIC VOLUMES
 WEEKDAY PEAK AM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
4	



NOTE: LINE DIAGRAM NOT TO SCALE



Consulting, Municipal & Environmental Engineers
 Planners ■ Surveyors ■ Landscape Architects
 State of N.Y. Certificate of Authorization: 0008671

WESTCHESTER OFFICE

11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266

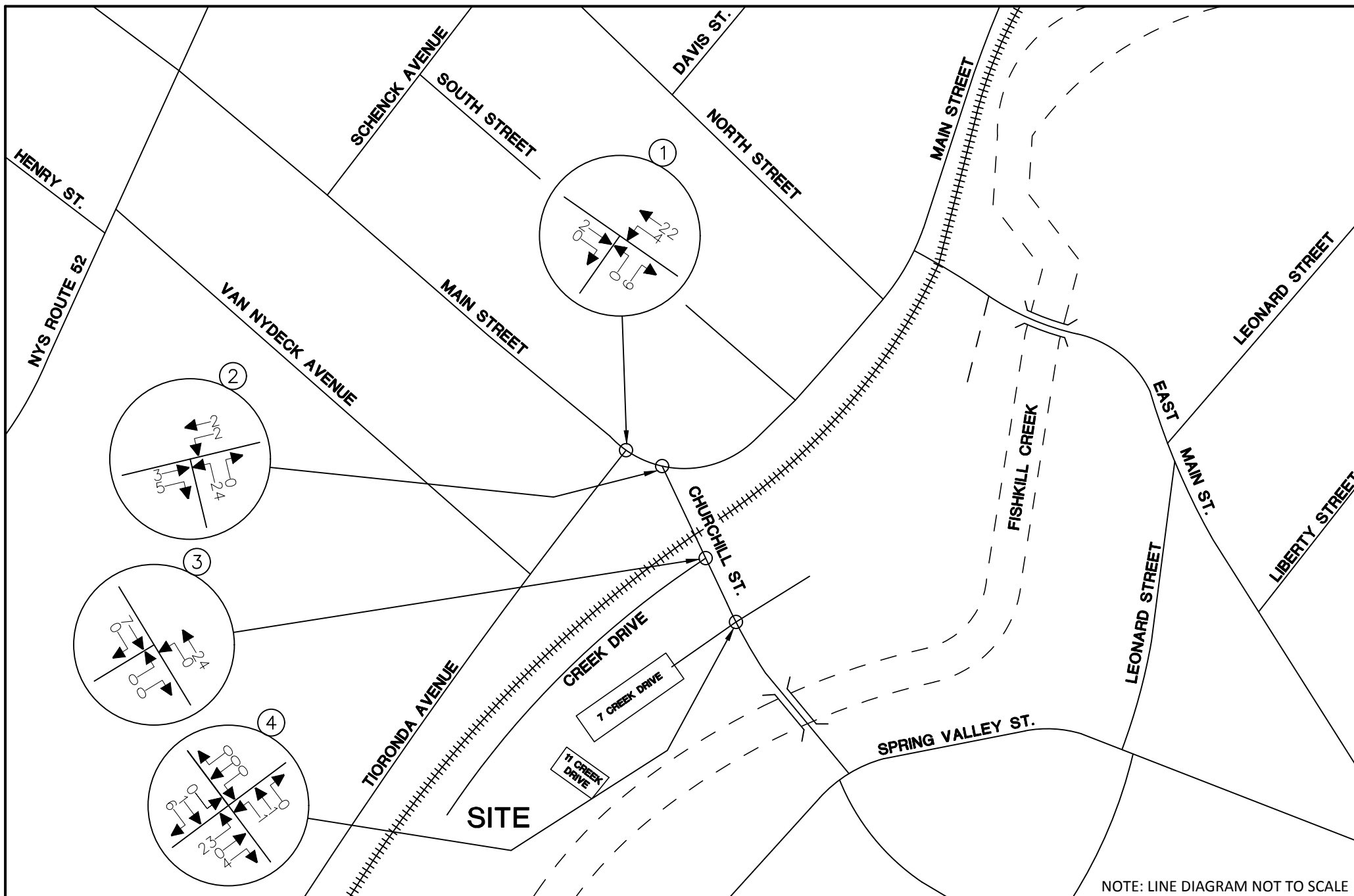
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

2022 PROJECTED TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
5	



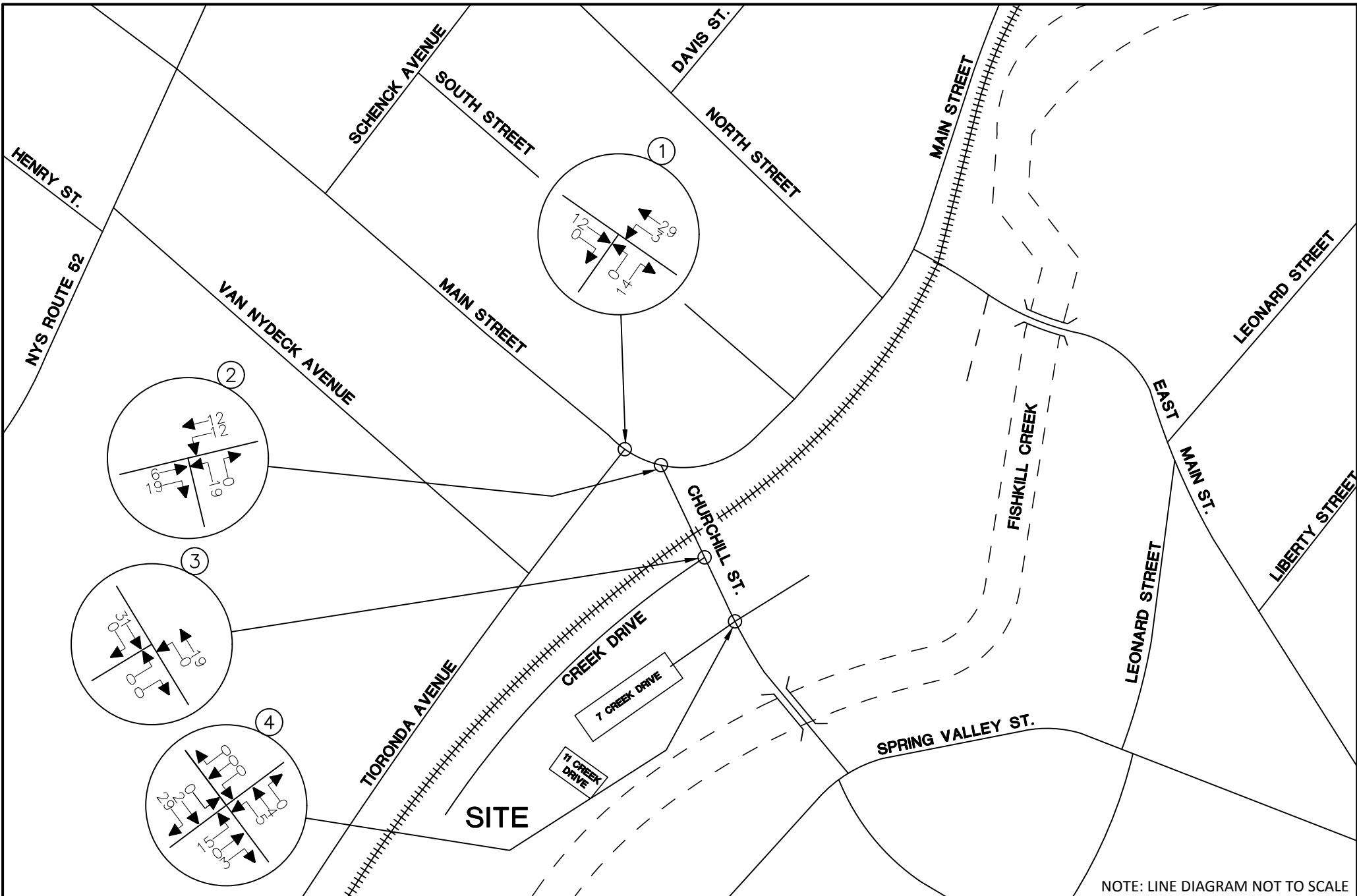
WESTCHESTER OFFICE
11 Bradhurst Avenue
Hawthorne, NY 10532
Phone: 914.347.7500
Fax: 914.347.7266
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

TOTAL OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
6	



NOTE: LINE DIAGRAM NOT TO SCALE



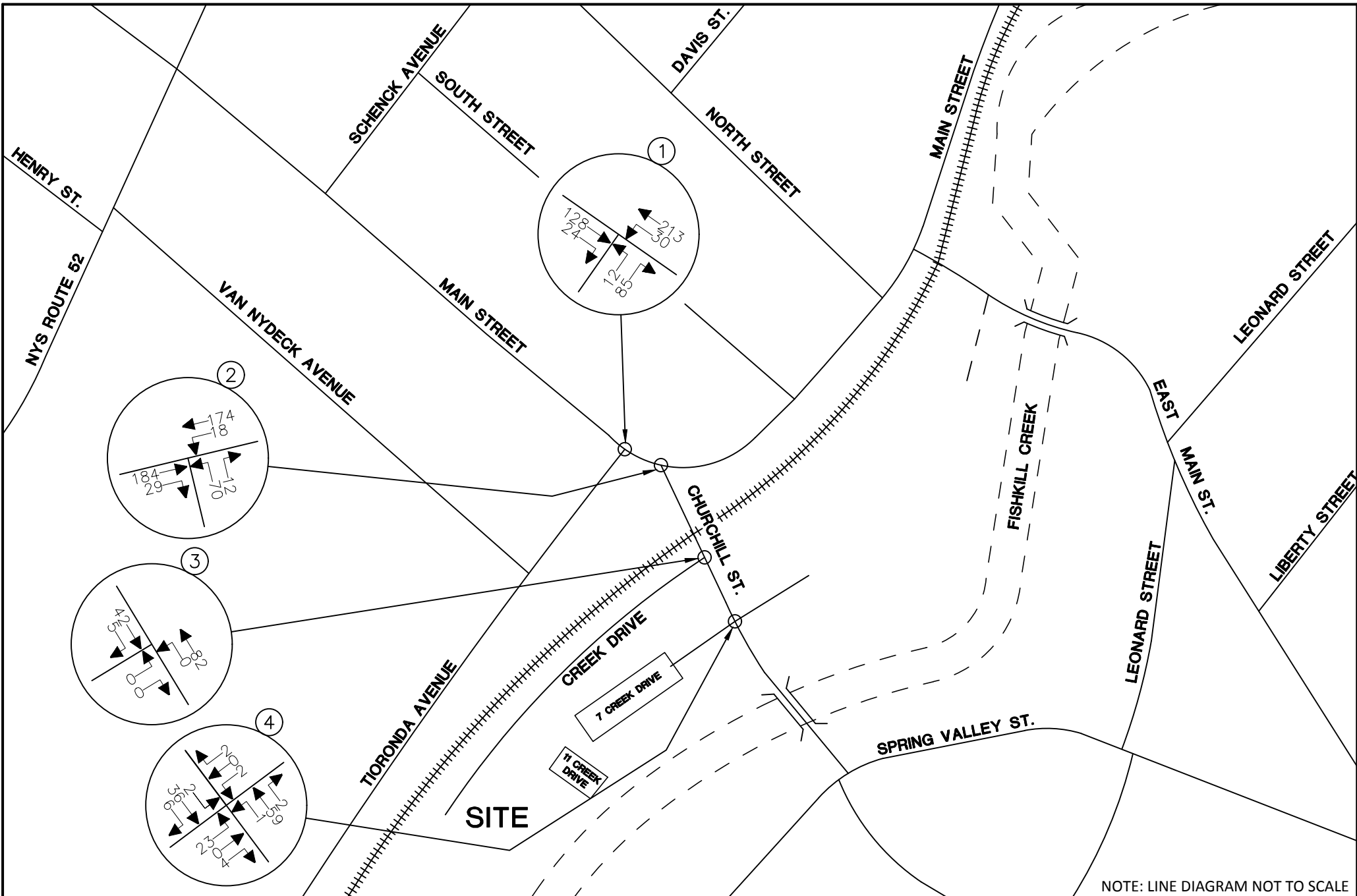
WESTCHESTER OFFICE
11 Bradhurst Avenue
Hawthorne, NY 10532
Phone: 914.347.7500
Fax: 914.347.7266
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

TOTAL OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
7	



NOTE: LINE DIAGRAM NOT TO SCALE



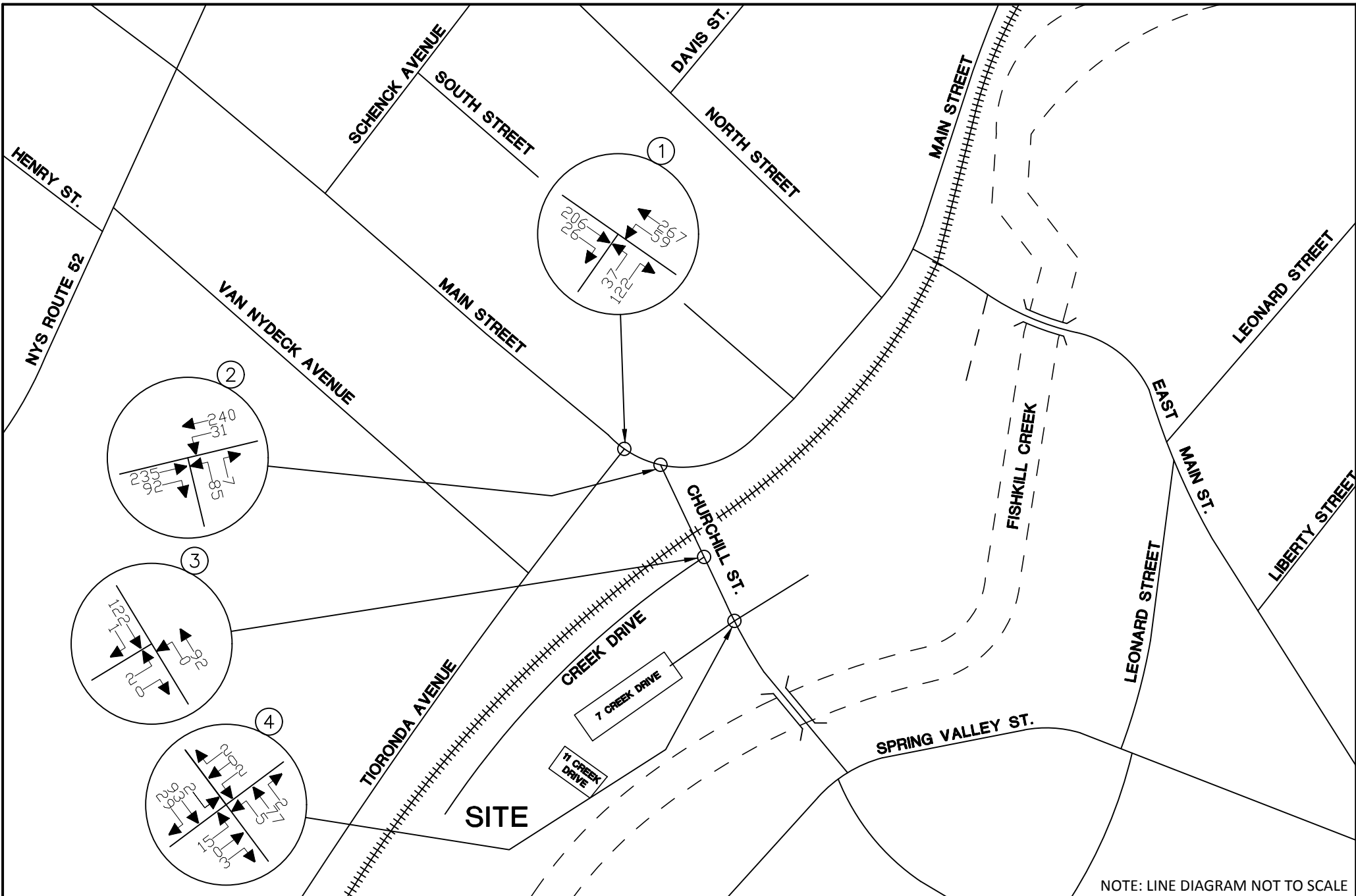
WESTCHESTER OFFICE
 11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266
 email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

2022 NO-BUILD TRAFFIC VOLUMES
 WEEKDAY PEAK AM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
8	



NOTE: LINE DIAGRAM NOT TO SCALE



Consulting, Municipal & Environmental Engineers
 Planners ■ Surveyors ■ Landscape Architects
 State of N.Y. Certificate of Authorization: 0008671

New Jersey New York Pennsylvania Virginia
 Customer Loyalty through Client Satisfaction

WESTCHESTER OFFICE

11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266

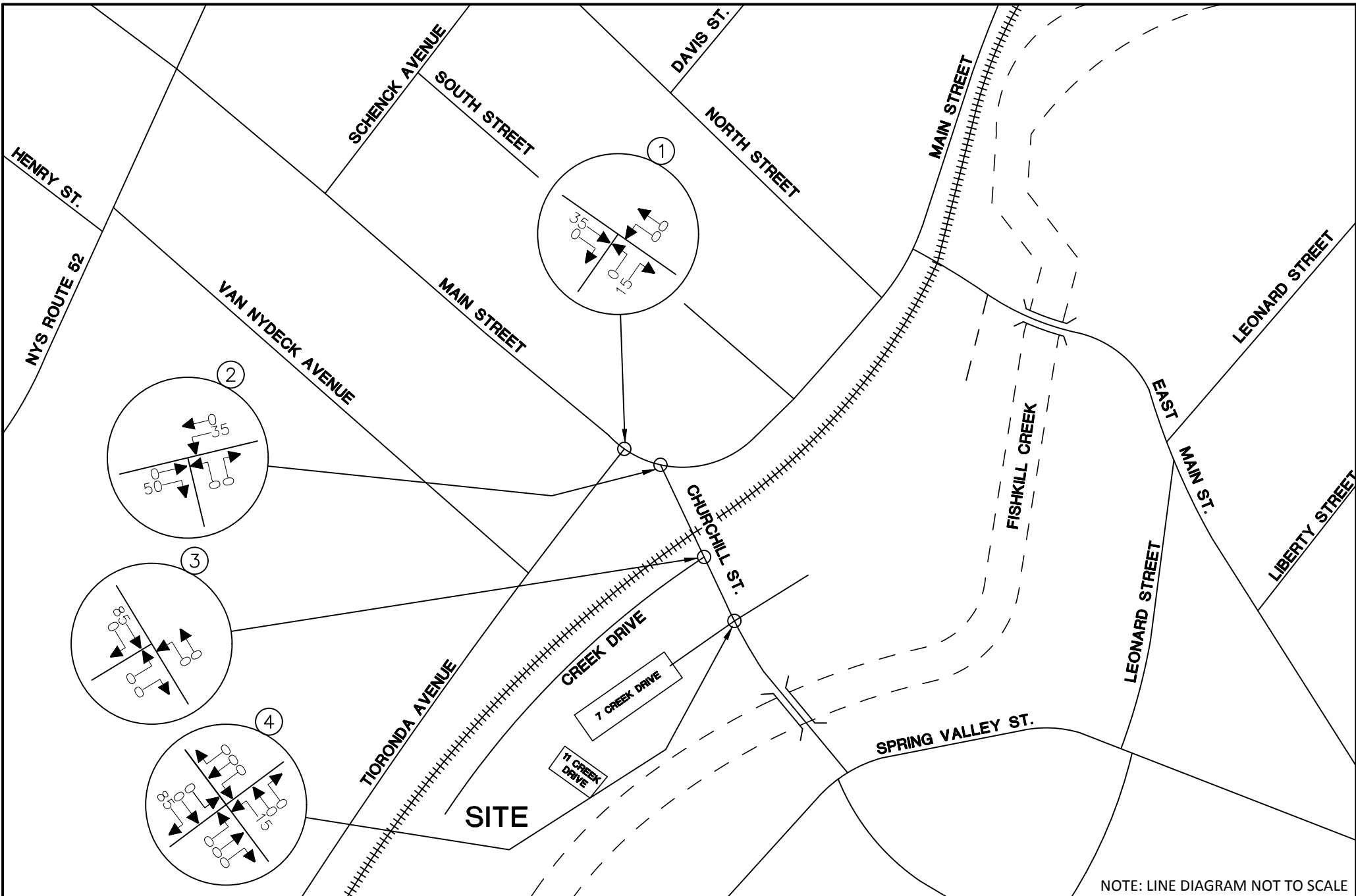
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

2022 NO-BUILD TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
9	



NOTE: LINE DIAGRAM NOT TO SCALE



Consulting, Municipal & Environmental Engineers
 Planners ■ Surveyors ■ Landscape Architects
 State of N.Y. Certificate of Authorization: 0008671

WESTCHESTER OFFICE

11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266

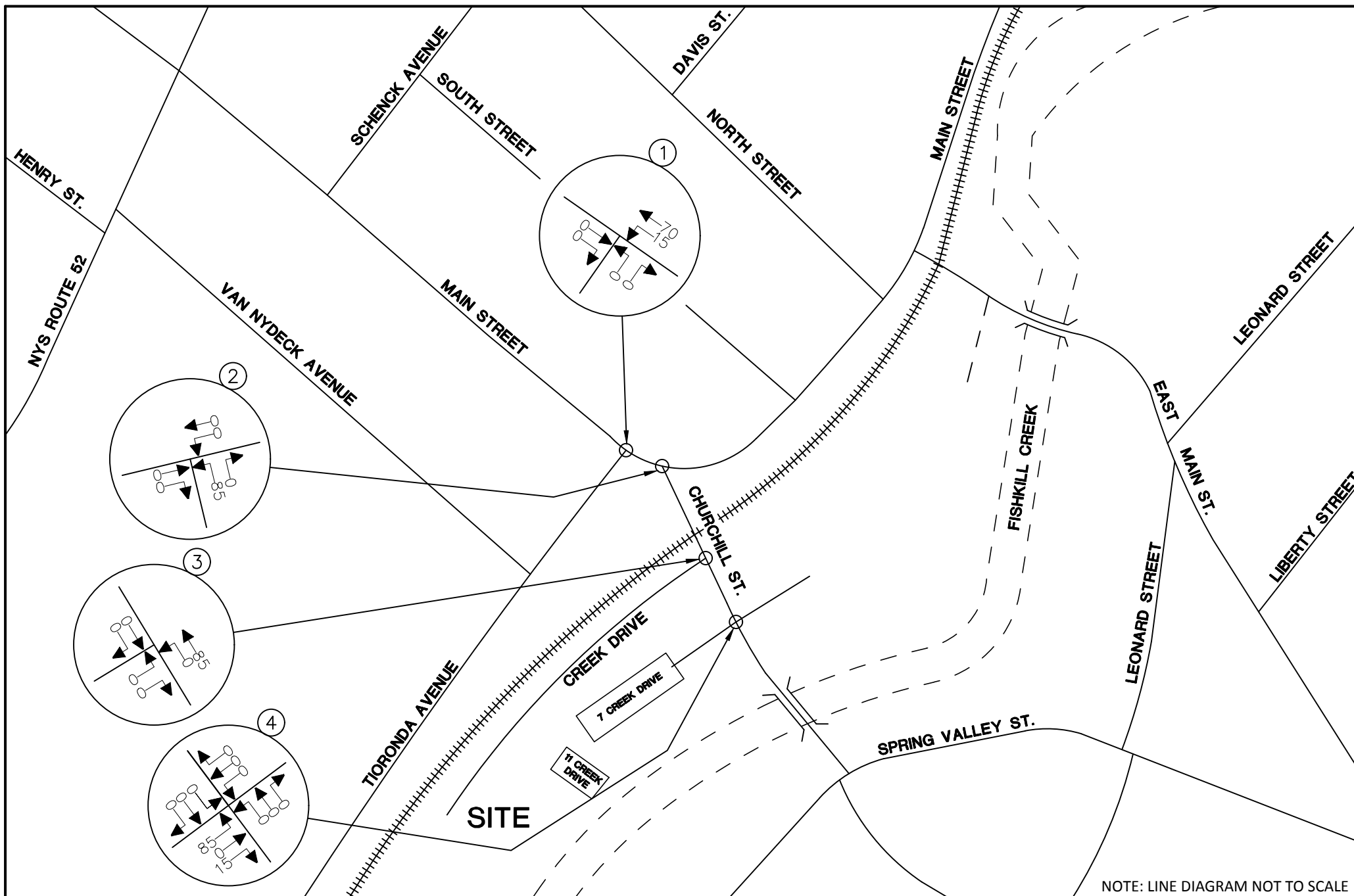
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

ARRIVAL DISTRIBUTION
 (EXPRESSED AS A %)



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
10	



NOTE: LINE DIAGRAM NOT TO SCALE



WESTCHESTER OFFICE
11 Bradhurst Avenue
Hawthorne, NY 10532
Phone: 914.347.7500
Fax: 914.347.7266

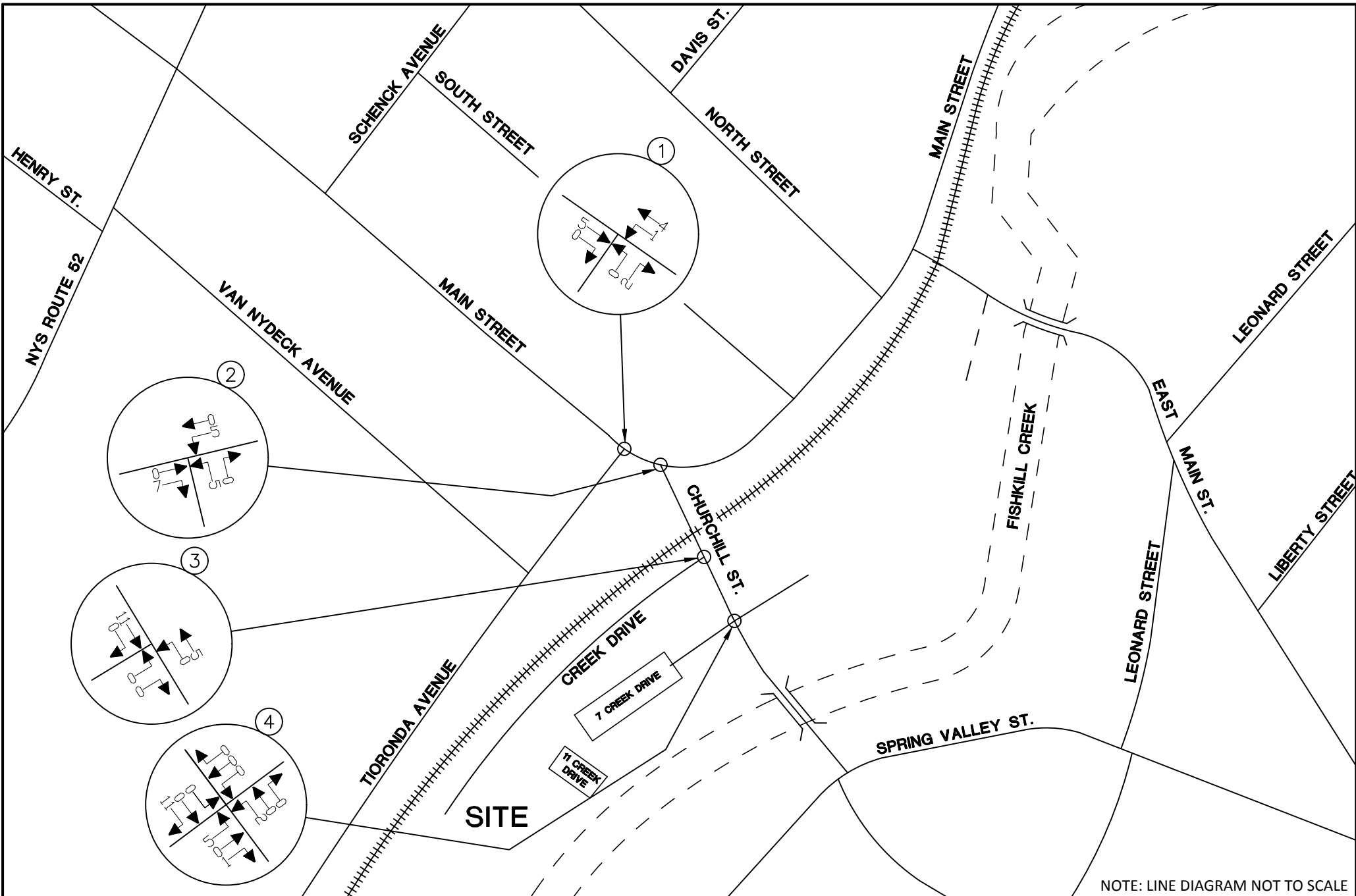
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

DEPARTURE DISTRIBUTION
(EXPRESSED AS A %)



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
11	



NOTE: LINE DIAGRAM NOT TO SCALE



Consulting, Municipal & Environmental Engineers
 Planners ■ Surveyors ■ Landscape Architects
 State of N.Y. Certificate of Authorization: 0008671

WESTCHESTER OFFICE

11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266

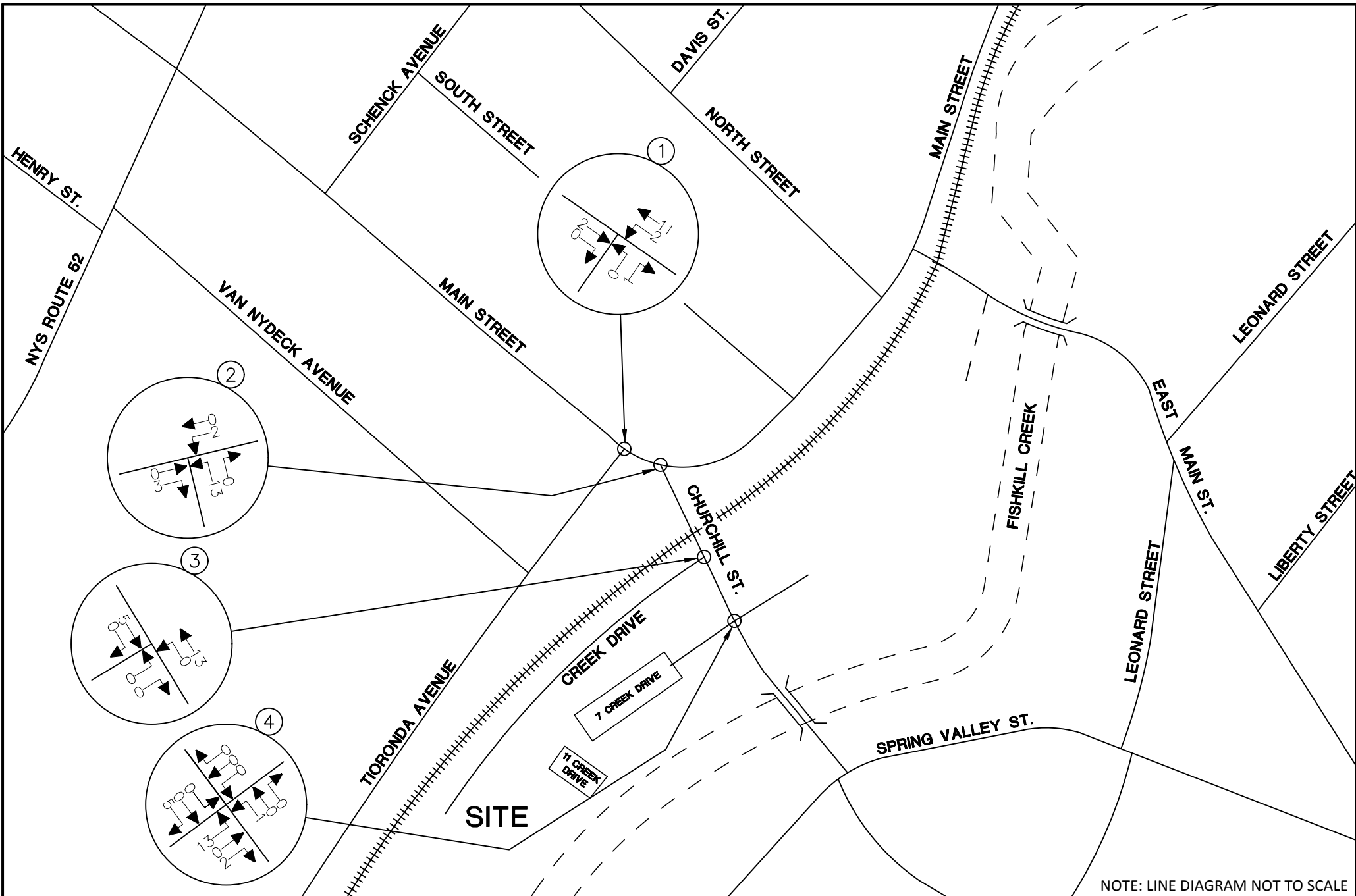
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

SITE GENERATED TRAFFIC VOLUMES
 WEEKDAY PEAK AM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
12	



NOTE: LINE DIAGRAM NOT TO SCALE



Consulting, Municipal & Environmental Engineers
 Planners ■ Surveyors ■ Landscape Architects
 State of N.Y. Certificate of Authorization: 0008671

WESTCHESTER OFFICE

11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266

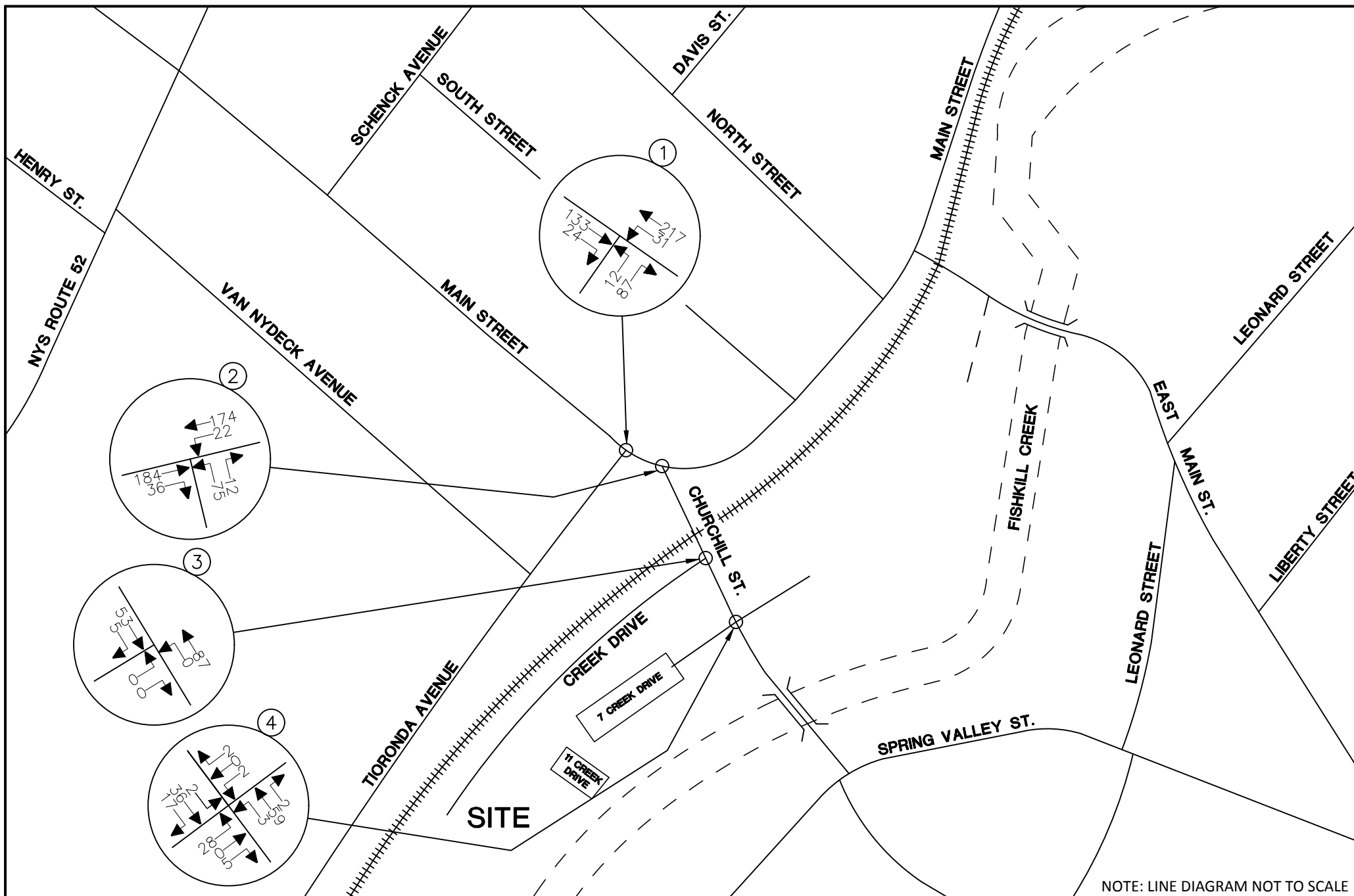
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

SITE GENERATED TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
13	



NOTE: LINE DIAGRAM NOT TO SCALE



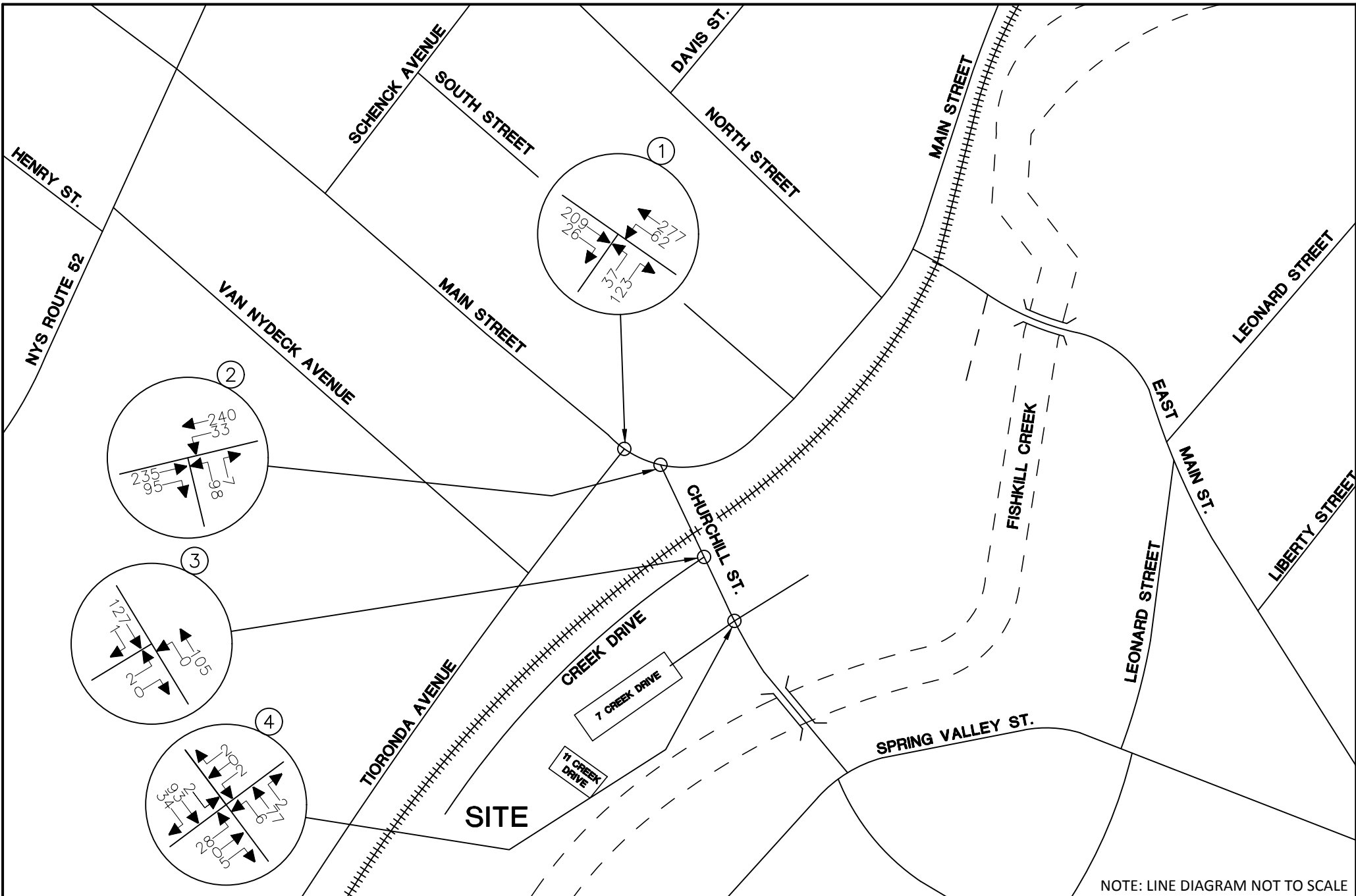
WESTCHESTER OFFICE
11 Bradhurst Avenue
Hawthorne, NY 10532
Phone: 914.347.7500
Fax: 914.347.7266
email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

2022 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
14	



NOTE: LINE DIAGRAM NOT TO SCALE



Consulting, Municipal & Environmental Engineers
 Planners ■ Surveyors ■ Landscape Architects
 State of N.Y. Certificate of Authorization: 0008671

WESTCHESTER OFFICE

11 Bradhurst Avenue
 Hawthorne, NY 10532
 Phone: 914.347.7500
 Fax: 914.347.7266

email: solutions @ maserconsulting.com

23-28 CREEK DRIVE
 CITY OF BEACON, DUTCHESS COUNTY, NEW YORK

2022 BUILD TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR



JOB NUMBER:	DATE:
14000477B	9/18/17
FIGURE NUMBER:	
15	



23-28 CREEK DRIVE

APPENDIX B

TABLES

TABLE NO. 1

HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

23-28 CREEK DRIVE BEACON, NY	ENTRY		EXIT	
	HTGR*	VOLUME	HTGR*	VOLUME
APARTMENT (9 DWELLING UNITS)				
PEAK AM HOUR	0.11	1	0.44	4
PEAK PM HOUR	0.44	4	0.33	3
COMMERCIAL OFFICE (12,000 SQUARE FEET)				
PEAK AM HOUR	1.00	12	0.17	2
PEAK PM HOUR	0.17	2	1.00	12
TOTAL				
PEAK AM HOUR	-	13	-	6
PEAK PM HOUR	-	6	-	15

NOTES:

- 1) * HTGR-HOURLY TRIP GENERATION RATES EXPRESSED IN TERMS OF TRIPS PER DWELLING UNIT FOR LAND USE - 220 APARTMENT AND EXPRESSED IN TERMS OF TRIPS PER 1,000 SQUARE FEET FOR LAND USE - 710 GENERAL OFFICE BUILDING BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION ENTITLED "TRIP GENERATION", 10TH EDITION, 2017

TABLE NO. 2
LEVEL OF SERVICE SUMMARY TABLE

					2017 EXISTING		2022 NO BUILD		2022 BUILD		
					AM	PM	AM	PM	AM	PM	
1	TIORONDA AVENUE & MAIN STREET			UN SIGNALIZED							
		TIORONDA AVENUE	NEB	LR	A [9.8]	B [12.0]	B [10.3]	B [14.3]	B [10.4]	B [14.4]	
		MAIN STREET	WB	LT	A [7.6]	A [7.8]	A [7.6]	A [7.9]	A [7.7]	A [8.0]	
2	CHURCHILL STREET & MAIN STREET			UN SIGNALIZED							
		CHURCHILL STREET	NB	LR	B [12.1]	B [14.7]	B [14.7]	C [21.3]	C [15.2]	C [24.6]	
		MAIN STREET	WB	LT	A [7.7]	A [7.9]	A [7.8]	A [8.1]	A [7.8]	A [8.2]	
3	CREEK ROAD & CHURCHILL STREET			UN SIGNALIZED							
		CREEK ROAD	NEB	LR	A [8.7]	A [9.4]	A [8.9]	B [10.0]	A [9.0]	B [10.1]	
		CHURCHILL STREET	NB	LT	A [7.3]	A [7.4]	A [7.3]	A [7.5]	A [7.4]	A [7.5]	
4	CHURCHILL STREET & BEACON CITY MUNICIPAL LOT/SITE ACCESS			UN SIGNALIZED							
		SITE ACCESS	NEB	LTR	A [0.0]	A [0.0]	A [9.3]	B [10.1]	A [9.4]	B [10.2]	
		CHURCHILL STREET	NB	LTR	A [0.0]	A [0.0]	A [7.3]	A [7.5]	A [7.3]	A [7.5]	
		CHURCHILL STREET	SB	LTR	A [7.3]	A [7.4]	A [7.4]	A [7.4]	A [7.4]	A [7.4]	
		BEACON CITY MUNICIPAL LOT	SWB	LTR	A [8.8]	A [9.1]	A [9.0]	A [9.5]	A [9.0]	A [9.5]	

NOTES:

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR DETAILS OF LEVEL OF SERVICE AND DELAY.



23-28 CREEK DRIVE

APPENDIX C

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

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

LOS A describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.

LOS D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.

LOS E describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.

LOS F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

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

The Level of Service Criteria for signalized intersections are given in Exhibit 18-4 from the *Highway Capacity Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 18-4

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤1.0	v/c >1.0
≤10	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

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

LEVEL OF SERVICE CRITERIA

FOR TWO-WAY STOP-CONTROLLED (TWSC) UNSIGNALIZED INTERSECTIONS

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

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 19-1 from the *Highway Capacity Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 19-1

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤1.0	v/c >1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

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

As Exhibit 19-1 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

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



LEVEL OF SERVICE CRITERIA

FOR ALL-WAY STOP-CONTROLLED (AWSC) UNSIGNALIZED INTERSECTIONS

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 20-2. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

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

Exhibit 20-2

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤1.0	v/c >1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection wide assessment, LOS is defined solely by control delay.



23-28 CREEK DRIVE

APPENDIX D

CAPACITY ANALYSIS

2017 Existing Traffic Volumes
1: Tioronda Avenue & Main Street

AM Peak Hour
9/20/2017



Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	105	20	22	159	10	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12
Grade (%)	0%			0%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.979				0.883	
Flt Protected				0.994	0.993	
Satd. Flow (prot)	1436	0	0	1458	1303	0
Flt Permitted				0.994	0.993	
Satd. Flow (perm)	1436	0	0	1458	1303	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	458			77	419	
Travel Time (s)	10.4			1.8	9.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Parking (#/hr)	5			5	5	
Adj. Flow (vph)	122	23	26	185	12	77
Shared Lane Traffic (%)						
Lane Group Flow (vph)	145	0	0	211	89	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	13	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.35	1.14	1.14	1.35	1.33	1.17
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
Control Type: Unsignalized

2017 Existing Traffic Volumes
1: Tioronda Avenue & Main Street

AM Peak Hour
9/20/2017

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NEL	NER
Vol, veh/h	105	20	22	159	10	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	4	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	23	26	185	12	77

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	145
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1437
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1437
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0.9	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	837	-	-	1437	-
HCM Lane V/C Ratio	0.106	-	-	0.018	-
HCM Control Delay (s)	9.8	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

2017 Existing Traffic Volumes
2: Churchill Street & Main Street

AM Peak Hour
9/20/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	151	20	13	143	38	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.984				0.972	
Flt Protected				0.996	0.962	
Satd. Flow (prot)	1650	0	0	1670	1513	0
Flt Permitted				0.996	0.962	
Satd. Flow (perm)	1650	0	0	1670	1513	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	77			535	147	
Travel Time (s)	1.8			12.2	3.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	180	24	15	170	45	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	204	0	0	185	57	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.20	1.20
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: CBD
Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	151	20	13	143	38	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	7	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	24	15	170	45	12










Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	204
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1368
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1368
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	562	-	-	1368	-
HCM Lane V/C Ratio	0.102	-	-	0.011	-
HCM Control Delay (s)	12.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

2017 Existing Traffic Volumes
3: Creek Road & Churchill Street

AM Peak Hour
9/20/2017

						
Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Volume (vph)	1	48	29	4	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.983		0.932	
Flt Protected		0.999			0.976	
Satd. Flow (prot)	0	1833	1877	0	1694	0
Flt Permitted		0.999			0.976	
Satd. Flow (perm)	0	1833	1877	0	1694	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		82	147		244	
Travel Time (s)		1.9	3.3		5.5	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	1	58	35	5	1	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	59	40	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.3

Movement	NBL	NBT	SBT	SBR	NEL	NER
Vol, veh/h	1	48	29	4	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	58	35	5	1	1

















Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	40	0	97
Stage 1	-	-	37
Stage 2	-	-	60
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1570	-	902
Stage 1	-	-	985
Stage 2	-	-	963
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1570	-	901
Mov Cap-2 Maneuver	-	-	901
Stage 1	-	-	985
Stage 2	-	-	962

Approach	NB	SB	NE
HCM Control Delay, s	0.1	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	963	1570	-	-	-
HCM Lane V/C Ratio	0.003	0.001	-	-	-
HCM Control Delay (s)	8.7	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

2017 Existing Traffic Volumes
 4: Site Access/One East Main Street Access & Churchill Street

AM Peak Hour
 9/20/2017

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	48	2	2	29	0	0	0	0	2	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			0%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995									0.932	
Flt Protected					0.997						0.976	
Satd. Flow (prot)	0	1881	0	0	1829	0	0	1863	0	0	1694	0
Flt Permitted					0.997						0.976	
Satd. Flow (perm)	0	1881	0	0	1829	0	0	1863	0	0	1694	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			82			214			133	
Travel Time (s)		5.3			1.9			4.9			3.0	
Peak Hour Factor	0.83	0.83	0.92	0.92	0.83	0.83	0.83	0.92	0.83	0.92	0.92	0.92
Adj. Flow (vph)	0	58	2	2	35	0	0	0	0	2	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	60	0	0	37	0	0	0	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

2017 Existing Traffic Volumes
 4: Site Access/One East Main Street Access & Churchill Street

AM Peak Hour
 9/20/2017

Intersection													
Int Delay, s/veh	0.5												

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	0	48	2	2	29	0	0	0	0	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	83	83	92	92	83	83	83	92	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	58	2	2	35	0	0	0	0	2	0	2

Major/Minor	Major1			Major2			Minor2			Minor1		
Conflicting Flow All	35	0	0	60	0	0	99	99	35	98	98	59
Stage 1	-	-	-	-	-	-	39	39	-	59	59	-
Stage 2	-	-	-	-	-	-	60	60	-	39	39	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1576	-	-	1544	-	-	883	791	1038	883	791	1007
Stage 1	-	-	-	-	-	-	976	862	-	953	846	-
Stage 2	-	-	-	-	-	-	951	845	-	976	862	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1576	-	-	1544	-	-	880	790	1038	883	791	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	880	790	-	883	791	-
Stage 1	-	-	-	-	-	-	976	861	-	953	846	-
Stage 2	-	-	-	-	-	-	949	845	-	975	861	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	0	0.4	0	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NBL	NBT	NBR	SBL	SBT	SBRSWLn1
Capacity (veh/h)	-	1576	-	-	1544	-	-
HCM Lane V/C Ratio	-	-	-	-	0.001	-	-
HCM Control Delay (s)	0	0	-	-	7.3	0	-
HCM Lane LOS	A	A	-	-	A	A	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-

2017 Existing Traffic Volumes
1: Tioronda Avenue & Main Street

PM Peak Hour
9/20/2017



Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Volume (vph)	162	22	47	198	31	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12
Grade (%)	0%			0%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.984				0.899	
Flt Protected				0.991	0.987	
Satd. Flow (prot)	1443	0	0	1454	1318	0
Flt Permitted				0.991	0.987	
Satd. Flow (perm)	1443	0	0	1454	1318	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	458			77	419	
Travel Time (s)	10.4			1.8	9.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Parking (#/hr)	5			5	5	
Adj. Flow (vph)	191	26	55	233	36	106
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	0	0	288	142	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	13	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.35	1.14	1.14	1.35	1.33	1.17
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	43.5%
Analysis Period (min)	15
	ICU Level of Service A

2017 Existing Traffic Volumes
1: Tioronda Avenue & Main Street

PM Peak Hour
9/20/2017

Intersection

Int Delay, s/veh 3.3

Movement	EBT	EBR	WBL	WBT	NEL	NER
Vol, veh/h	162	22	47	198	31	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	4	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	191	26	55	233	36	106

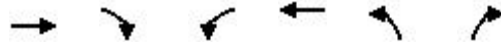
Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	216
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1354
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1354
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	1.5	12
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	658	-	-	1354	-
HCM Lane V/C Ratio	0.216	-	-	0.041	-
HCM Control Delay (s)	12	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

2017 Existing Traffic Volumes
2: Churchill Street & Main Street

PM Peak Hour
9/20/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	191	61	16	190	55	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.967				0.986	
Flt Protected				0.996	0.957	
Satd. Flow (prot)	1621	0	0	1670	1527	0
Flt Permitted				0.996	0.957	
Satd. Flow (perm)	1621	0	0	1670	1527	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	77			535	147	
Travel Time (s)	1.8			12.2	3.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	220	70	18	218	63	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	290	0	0	236	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.20	1.20
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	36.3%
Analysis Period (min)	15
	ICU Level of Service A

Intersection

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	191	61	16	190	55	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	7	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	220	70	18	218	63	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	290
Stage 1	-	-	255
Stage 2	-	-	255
Critical Hdwy	-	4.12	7.82
Critical Hdwy Stg 1	-	-	6.82
Critical Hdwy Stg 2	-	-	6.82
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1272	429
Stage 1	-	-	713
Stage 2	-	-	713
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1272	422
Mov Cap-2 Maneuver	-	-	422
Stage 1	-	-	713
Stage 2	-	-	702

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	441	-	-	1272	-
HCM Lane V/C Ratio	0.159	-	-	0.014	-
HCM Control Delay (s)	14.7	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

2017 Existing Traffic Volumes
3: Creek Road & Churchill Street

PM Peak Hour
9/20/2017



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Volume (vph)	1	61	76	1	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1833	1907	0	1770	0
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1833	1907	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		82	147		244	
Travel Time (s)		1.9	3.3		5.5	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	1	75	94	1	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	76	95	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	14.1%
Analysis Period (min)	15
	ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

Movement	NBL	NBT	SBT	SBR	NEL	NER
Vol, veh/h	1	61	76	1	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	75	94	1	2	0

















Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	95	0	94
Stage 1	-	-	94
Stage 2	-	-	78
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1499	-	963
Stage 1	-	-	930
Stage 2	-	-	945
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1499	-	963
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	930
Stage 2	-	-	944

Approach	NB	SB	NE
HCM Control Delay, s	0.1	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	817	1499	-	-	-
HCM Lane V/C Ratio	0.003	0.001	-	-	-
HCM Control Delay (s)	9.4	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

2017 Existing Traffic Volumes
 4: Site Access/One East Main Street Access & Churchill Street

PM Peak Hour
 9/20/2017

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	61	2	2	76	0	0	0	0	2	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			0%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996									0.932	
Flt Protected					0.999						0.976	
Satd. Flow (prot)	0	1883	0	0	1833	0	0	1863	0	0	1694	0
Flt Permitted					0.999						0.976	
Satd. Flow (perm)	0	1883	0	0	1833	0	0	1863	0	0	1694	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			82			214			120	
Travel Time (s)		5.3			1.9			4.9			2.7	
Peak Hour Factor	0.81	0.81	0.92	0.92	0.81	0.81	0.81	0.92	0.81	0.92	0.92	0.92
Adj. Flow (vph)	0	75	2	2	94	0	0	0	0	2	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	96	0	0	0	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	15.6%
Analysis Period (min)	15
	ICU Level of Service A

2017 Existing Traffic Volumes
 4: Site Access/One East Main Street Access & Churchill Street

PM Peak Hour
 9/20/2017

Intersection													
Int Delay, s/veh	0.3												

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Vol, veh/h	0	61	2	2	76	0	0	0	0	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	81	81	92	92	81	81	81	92	81	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	75	2	2	94	0	0	0	0	2	0	2

Major/Minor	Major1			Major2			Minor2			Minor1		
Conflicting Flow All	94	0	0	77	0	0	175	175	94	174	174	76
Stage 1	-	-	-	-	-	-	98	98	-	76	76	-
Stage 2	-	-	-	-	-	-	77	77	-	98	98	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1500	-	-	1522	-	-	788	718	963	789	719	985
Stage 1	-	-	-	-	-	-	908	814	-	933	832	-
Stage 2	-	-	-	-	-	-	932	831	-	908	814	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1500	-	-	1522	-	-	786	717	963	788	718	985
Mov Cap-2 Maneuver	-	-	-	-	-	-	786	717	-	788	718	-
Stage 1	-	-	-	-	-	-	908	813	-	933	832	-
Stage 2	-	-	-	-	-	-	930	831	-	907	813	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	0	0.2	0	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NBL	NBT	NBR	SBL	SBT	SBRSWLn1
Capacity (veh/h)	-	1500	-	-	1522	-	-
HCM Lane V/C Ratio	-	-	-	-	0.001	-	-
HCM Control Delay (s)	0	0	-	-	7.4	0	-
HCM Lane LOS	A	A	-	-	A	A	-
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-

2022 No-Build Traffic Volumes
1: Tioronda Avenue & Main Street

AM Peak Hour
07/26/2018



Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	128	24	30	213	12	85
Future Volume (vph)	128	24	30	213	12	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12
Grade (%)	0%			0%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.979				0.882	
Flt Protected				0.994	0.994	
Satd. Flow (prot)	1436	0	0	1458	1302	0
Flt Permitted				0.994	0.994	
Satd. Flow (perm)	1436	0	0	1458	1302	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	458			77	419	
Travel Time (s)	10.4			1.8	9.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Parking (#/hr)	5			5	5	
Adj. Flow (vph)	149	28	35	248	14	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	0	0	283	113	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	13	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.35	1.14	1.14	1.35	1.33	1.17
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	40.0%
Analysis Period (min)	15
	ICU Level of Service A

2022 No-Build Traffic Volumes
1: Tioronda Avenue & Main Street

AM Peak Hour
07/26/2018

Intersection

Int Delay, s/veh 2.5

Movement EBT EBR WBL WBT NEL NER

Lane Configurations						
Traffic Vol, veh/h	128	24	30	213	12	85
Future Vol, veh/h	128	24	30	213	12	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	4	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	28	35	248	14	99

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	177	0	481	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	318	-
Critical Hdwy	-	-	4.12	-	7.22	6.62
Critical Hdwy Stg 1	-	-	-	-	6.22	-
Critical Hdwy Stg 2	-	-	-	-	6.22	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1399	-	489	866
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	687	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1399	-	475	866
Mov Cap-2 Maneuver	-	-	-	-	475	-
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	687	-

Approach EB WB NE

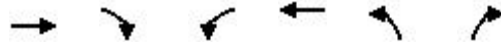
HCM Control Delay, s	0	0.9	10.3
HCM LOS			B

Minor Lane/Major Mvmt NELn1 EBT EBR WBL WBT

Capacity (veh/h)	786	-	-	1399	-
HCM Lane V/C Ratio	0.143	-	-	0.025	-
HCM Control Delay (s)	10.3	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

2022 No-Build Traffic Volumes
2: Churchill Street & Main Street

AM Peak Hour
07/26/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	184	29	18	174	70	12
Future Volume (vph)	184	29	18	174	70	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.981				0.981	
Flt Protected				0.995	0.959	
Satd. Flow (prot)	1645	0	0	1668	1522	0
Flt Permitted				0.995	0.959	
Satd. Flow (perm)	1645	0	0	1668	1522	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	77			535	147	
Travel Time (s)	1.8			12.2	3.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	219	35	21	207	83	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	254	0	0	228	97	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.20	1.20
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	38.6%
Analysis Period (min)	15
	ICU Level of Service A

Intersection

Int Delay, s/veh 2.8

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	184	29	18	174	70	12
Future Vol, veh/h	184	29	18	174	70	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	7	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	219	35	21	207	83	14

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	254	0	486	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	249	-
Critical Hdwy	-	-	4.12	-	7.82	6.92
Critical Hdwy Stg 1	-	-	-	-	6.82	-
Critical Hdwy Stg 2	-	-	-	-	6.82	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1311	-	447	766
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1311	-	439	766
Mov Cap-2 Maneuver	-	-	-	-	439	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	719	-

Approach EB WB NB

HCM Control Delay, s	0	0.7	14.7
HCM LOS			B

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	468	-	-	1311	-
HCM Lane V/C Ratio	0.209	-	-	0.016	-
HCM Control Delay (s)	14.7	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

2022 No-Build Traffic Volumes
3: Creek Road & Churchill Street

AM Peak Hour
07/26/2018



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	1	82	42	5	1	1
Future Volume (vph)	1	82	42	5	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.986		0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	1835	1883	0	1694	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	1835	1883	0	1694	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		82	147		244	
Travel Time (s)		1.9	3.3		5.5	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	1	99	51	6	1	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	100	57	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	15.1%
Analysis Period (min)	15
	ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

Movement NBL NBT SBT SBR NEL NER

Lane Configurations		4	1		4	
Traffic Vol, veh/h	1	82	42	5	1	1
Future Vol, veh/h	1	82	42	5	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	99	51	6	1	1

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	57	0	-	0	155	54
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1547	-	-	-	836	1013
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1547	-	-	-	835	1013
Mov Cap-2 Maneuver	-	-	-	-	835	-
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	923	-

Approach NB SB NE

















HCM Control Delay, s	0.1	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt NELn1 NBL NBT SBT SBR

Capacity (veh/h)	915	1547	-	-	-
HCM Lane V/C Ratio	0.003	0.001	-	-	-
HCM Control Delay (s)	8.9	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

2022 No-Build Traffic Volumes
 4: Site Access/One East Mains Street Access & Churchill Street

AM Peak Hour
 07/26/2018

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	59	2	2	36	6	23	0	4	2	0	2
Future Volume (vph)	1	59	2	2	36	6	23	0	4	2	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			0%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.982			0.980			0.932	
Flt Protected		0.999			0.998			0.959			0.976	
Satd. Flow (prot)	0	1881	0	0	1798	0	0	1751	0	0	1694	0
Flt Permitted		0.999			0.998			0.959			0.976	
Satd. Flow (perm)	0	1881	0	0	1798	0	0	1751	0	0	1694	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			82			214			159	
Travel Time (s)		5.3			1.9			4.9			3.6	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	1	71	2	2	43	7	28	0	5	2	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	74	0	0	52	0	0	33	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.6%
Analysis Period (min)	15
	ICU Level of Service A

2022 No-Build Traffic Volumes
 4: Site Access/One East Mains Street Access & Churchill Street

AM Peak Hour
 07/26/2018

Intersection												
Int Delay, s/veh	2.2											
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	59	2	2	36	6	23	0	4	2	0	2
Future Vol, veh/h	1	59	2	2	36	6	23	0	4	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	71	2	2	43	7	28	0	5	2	0	2

Major/Minor	Major1		Major2			Minor2			Minor1			
Conflicting Flow All	50	0	0	73	0	0	126	126	47	127	128	72
Stage 1	-	-	-	-	-	-	51	51	-	74	74	-
Stage 2	-	-	-	-	-	-	75	75	-	53	54	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1557	-	-	1527	-	-	848	764	1022	846	763	990
Stage 1	-	-	-	-	-	-	962	852	-	935	833	-
Stage 2	-	-	-	-	-	-	934	833	-	960	850	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1557	-	-	1527	-	-	845	762	1022	841	761	990
Mov Cap-2 Maneuver	-	-	-	-	-	-	845	762	-	841	761	-
Stage 1	-	-	-	-	-	-	961	851	-	934	832	-
Stage 2	-	-	-	-	-	-	931	832	-	955	849	-

Approach	NB		SB			NE			SW			
HCM Control Delay, s	0.1		0.3			9.3			9			
HCM LOS						A			A			

Minor Lane/Major Mvmt	NELn1	NBL	NBT	NBR	SBL	SBT	SBR	SWLn1
Capacity (veh/h)	867	1557	-	-	1527	-	-	909
HCM Lane V/C Ratio	0.038	0.001	-	-	0.002	-	-	0.005
HCM Control Delay (s)	9.3	7.3	0	-	7.4	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

2022 No-Build Traffic Volumes
 1: Tioronda Avenue & Main Street

PM Peak Hour
 07/26/2018



Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	206	26	59	267	37	122
Future Volume (vph)	206	26	59	267	37	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12
Grade (%)	0%			0%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985				0.897	
Flt Protected				0.991	0.988	
Satd. Flow (prot)	1445	0	0	1454	1316	0
Flt Permitted				0.991	0.988	
Satd. Flow (perm)	1445	0	0	1454	1316	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	458			77	419	
Travel Time (s)	10.4			1.8	9.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Parking (#/hr)	5			5	5	
Adj. Flow (vph)	242	31	69	314	44	144
Shared Lane Traffic (%)						
Lane Group Flow (vph)	273	0	0	383	188	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	13	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.35	1.14	1.14	1.35	1.33	1.17
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	53.7%
ICU Level of Service	A
Analysis Period (min)	15

2022 No-Build Traffic Volumes
1: Tioronda Avenue & Main Street

PM Peak Hour
07/26/2018

Intersection

Int Delay, s/veh 3.8

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	206	26	59	267	37	122
Future Vol, veh/h	206	26	59	267	37	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	4	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	242	31	69	314	44	144

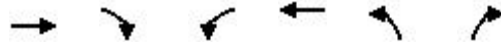
Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	273	0	710
Stage 1	-	-	-	-	258
Stage 2	-	-	-	-	452
Critical Hdwy	-	-	4.12	-	7.22
Critical Hdwy Stg 1	-	-	-	-	6.22
Critical Hdwy Stg 2	-	-	-	-	6.22
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1290	-	342
Stage 1	-	-	-	-	741
Stage 2	-	-	-	-	580
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1290	-	320
Mov Cap-2 Maneuver	-	-	-	-	320
Stage 1	-	-	-	-	693
Stage 2	-	-	-	-	580

Approach	EB	WB	NE
HCM Control Delay, s	0	1.4	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	575	-	-	1290	-
HCM Lane V/C Ratio	0.325	-	-	0.054	-
HCM Control Delay (s)	14.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.2	-

2022 No-Build Traffic Volumes
2: Churchill Street & Main Street

PM Peak Hour
07/26/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	235	92	31	240	85	7
Future Volume (vph)	235	92	31	240	85	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962				0.990	
Flt Protected				0.994	0.956	
Satd. Flow (prot)	1613	0	0	1666	1531	0
Flt Permitted				0.994	0.956	
Satd. Flow (perm)	1613	0	0	1666	1531	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	77			535	147	
Travel Time (s)	1.8			12.2	3.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	270	106	36	276	98	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	376	0	0	312	106	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.20	1.20
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	51.6%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	235	92	31	240	85	7
Future Vol, veh/h	235	92	31	240	85	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	7	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	270	106	36	276	98	8

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	376	0	671 323
Stage 1	-	-	-	-	323 -
Stage 2	-	-	-	-	348 -
Critical Hdwy	-	-	4.12	-	7.82 6.92
Critical Hdwy Stg 1	-	-	-	-	6.82 -
Critical Hdwy Stg 2	-	-	-	-	6.82 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1182	-	325 674
Stage 1	-	-	-	-	647 -
Stage 2	-	-	-	-	624 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1182	-	313 674
Mov Cap-2 Maneuver	-	-	-	-	313 -
Stage 1	-	-	-	-	624 -
Stage 2	-	-	-	-	624 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	326	-	-	1182	-
HCM Lane V/C Ratio	0.324	-	-	0.03	-
HCM Control Delay (s)	21.3	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.1	-

2022 No-Build Traffic Volumes
3: Creek Road & Churchill Street

PM Peak Hour
07/26/2018



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	1	92	122	1	2	0
Future Volume (vph)	1	92	122	1	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				
Flt Protected					0.950	
Satd. Flow (prot)	0	1835	1907	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1835	1907	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		82	147		244	
Travel Time (s)		1.9	3.3		5.5	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	1	114	151	1	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	115	152	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	16.5%
Analysis Period (min)	15
	ICU Level of Service A

2022 No-Build Traffic Volumes
3: Creek Road & Churchill Street

PM Peak Hour
07/26/2018

Intersection

Int Delay, s/veh 0.1

Movement NBL NBT SBT SBR NEL NER

Lane Configurations		4	1		4	
Traffic Vol, veh/h	1	92	122	1	2	0
Future Vol, veh/h	1	92	122	1	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	114	151	1	2	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	152	0	-	0	268	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1429	-	-	-	721	894
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1429	-	-	-	720	894
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	909	-

Approach NB SB NE

















HCM Control Delay, s	0.1	0	10
HCM LOS			B

Minor Lane/Major Mvmt NELn1 NBL NBT SBT SBR

Capacity (veh/h)	720	1429	-	-	-
HCM Lane V/C Ratio	0.003	0.001	-	-	-
HCM Control Delay (s)	10	7.5	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

2022 No-Build Traffic Volumes
 4: Site Access/One East Main Street Access & Churchill Street

PM Peak Hour
 07/26/2018

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	5	77	2	2	93	29	15	0	3	2	0	2
Future Volume (vph)	5	77	2	2	93	29	15	0	3	2	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			0%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.968			0.977			0.932	
Flt Protected		0.997			0.999			0.960			0.976	
Satd. Flow (prot)	0	1879	0	0	1774	0	0	1747	0	0	1694	0
Flt Permitted		0.997			0.999			0.960			0.976	
Satd. Flow (perm)	0	1879	0	0	1774	0	0	1747	0	0	1694	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			82			214			165	
Travel Time (s)		5.3			1.9			4.9			3.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	6	95	2	2	115	36	19	0	4	2	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	153	0	0	23	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	17.3%
Analysis Period (min)	15
	ICU Level of Service A

2022 No-Build Traffic Volumes
 4: Site Access/One East Main Street Access & Churchill Street

PM Peak Hour
 07/26/2018

Intersection												
Int Delay, s/veh	1.2											
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	77	2	2	93	29	15	0	3	2	0	2
Future Vol, veh/h	5	77	2	2	93	29	15	0	3	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	95	2	2	115	36	19	0	4	2	0	2

Major/Minor	Major1		Major2		Minor2		Minor1					
Conflicting Flow All	151	0	0	97	0	0	246	246	133	247	263	96
Stage 1	-	-	-	-	-	-	137	137	-	108	108	-
Stage 2	-	-	-	-	-	-	109	109	-	139	155	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1430	-	-	1496	-	-	708	656	916	707	642	960
Stage 1	-	-	-	-	-	-	866	783	-	897	806	-
Stage 2	-	-	-	-	-	-	896	805	-	864	769	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1430	-	-	1496	-	-	704	653	916	701	639	960
Mov Cap-2 Maneuver	-	-	-	-	-	-	704	653	-	701	639	-
Stage 1	-	-	-	-	-	-	863	782	-	893	803	-
Stage 2	-	-	-	-	-	-	890	802	-	860	768	-

Approach	NB		SB		NE		SW	
HCM Control Delay, s	0.4		0.1		10.1		9.5	
HCM LOS					B		A	

Minor Lane/Major Mvmt	NELn1	NBL	NBT	NBR	SBL	SBT	SBRSWLn1
Capacity (veh/h)	732	1430	-	-	1496	-	810
HCM Lane V/C Ratio	0.03	0.004	-	-	0.002	-	0.006
HCM Control Delay (s)	10.1	7.5	0	-	7.4	0	9.5
HCM Lane LOS	B	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

2022 Build Traffic Volumes
 1: Tioronda Avenue & Main Street

AM Peak Hour
 07/26/2018



Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	133	24	31	217	12	87
Future Volume (vph)	133	24	31	217	12	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12
Grade (%)	0%			0%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.979				0.881	
Flt Protected				0.994	0.994	
Satd. Flow (prot)	1436	0	0	1458	1301	0
Flt Permitted				0.994	0.994	
Satd. Flow (perm)	1436	0	0	1458	1301	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	458			77	419	
Travel Time (s)	10.4			1.8	9.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Parking (#/hr)	5			5	5	
Adj. Flow (vph)	155	28	36	252	14	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	183	0	0	288	115	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	13	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.35	1.14	1.14	1.35	1.33	1.17
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	40.7%
Analysis Period (min)	15
	ICU Level of Service A

2022 Build Traffic Volumes
1: Tioronda Avenue & Main Street

AM Peak Hour
07/26/2018

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	133	24	31	217	12	87
Future Vol, veh/h	133	24	31	217	12	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	4	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	28	36	252	14	101

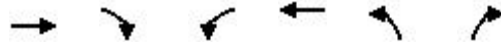
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	183	0	493
Stage 1	-	-	-	-	169
Stage 2	-	-	-	-	324
Critical Hdwy	-	-	4.12	-	7.22
Critical Hdwy Stg 1	-	-	-	-	6.22
Critical Hdwy Stg 2	-	-	-	-	6.22
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1392	-	480
Stage 1	-	-	-	-	829
Stage 2	-	-	-	-	682
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1392	-	466
Mov Cap-2 Maneuver	-	-	-	-	466
Stage 1	-	-	-	-	804
Stage 2	-	-	-	-	682

Approach	EB	WB	NE
HCM Control Delay, s	0	1	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	779	-	-	1392	-
HCM Lane V/C Ratio	0.148	-	-	0.026	-
HCM Control Delay (s)	10.4	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

2022 Build Traffic Volumes
2: Churchill Street & Main Street

AM Peak Hour
07/26/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	184	36	22	174	75	12
Future Volume (vph)	184	36	22	174	75	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.978				0.982	
Flt Protected				0.994	0.959	
Satd. Flow (prot)	1640	0	0	1666	1524	0
Flt Permitted				0.994	0.959	
Satd. Flow (perm)	1640	0	0	1666	1524	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	77			535	147	
Travel Time (s)	1.8			12.2	3.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	219	43	26	207	89	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	262	0	0	233	103	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.20	1.20
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	40.1%
Analysis Period (min)	15
	ICU Level of Service A

2022 Build Traffic Volumes
2: Churchill Street & Main Street

AM Peak Hour
07/26/2018

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	184	36	22	174	75	12
Future Vol, veh/h	184	36	22	174	75	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	7	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	219	43	26	207	89	14

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	262	0	500 241
Stage 1	-	-	-	-	241 -
Stage 2	-	-	-	-	259 -
Critical Hdwy	-	-	4.12	-	7.82 6.92
Critical Hdwy Stg 1	-	-	-	-	6.82 -
Critical Hdwy Stg 2	-	-	-	-	6.82 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1302	-	437 761
Stage 1	-	-	-	-	728 -
Stage 2	-	-	-	-	709 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1302	-	427 761
Mov Cap-2 Maneuver	-	-	-	-	427 -
Stage 1	-	-	-	-	711 -
Stage 2	-	-	-	-	709 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	455	-	-	1302	-
HCM Lane V/C Ratio	0.228	-	-	0.02	-
HCM Control Delay (s)	15.2	-	-	7.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

2022 Build Traffic Volumes
3: Creek Road & Churchill Street

AM Peak Hour
07/26/2018



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	1	87	53	5	1	1
Future Volume (vph)	1	87	53	5	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.988		0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	1835	1886	0	1694	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	1835	1886	0	1694	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		82	147		244	
Travel Time (s)		1.9	3.3		5.5	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	1	105	64	6	1	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	106	70	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	15.4%
Analysis Period (min)	15
	ICU Level of Service A

Intersection

















Int Delay, s/veh 0.2

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		4	1		4	
Traffic Vol, veh/h	1	87	53	5	1	1
Future Vol, veh/h	1	87	53	5	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	105	64	6	1	1

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	70	0	-	0	174 67
Stage 1	-	-	-	-	67 -
Stage 2	-	-	-	-	107 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1531	-	-	-	816 997
Stage 1	-	-	-	-	956 -
Stage 2	-	-	-	-	917 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1531	-	-	-	815 997
Mov Cap-2 Maneuver	-	-	-	-	815 -
Stage 1	-	-	-	-	955 -
Stage 2	-	-	-	-	917 -

Approach	NB	SB	NE
HCM Control Delay, s	0.1	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	897	1531	-	-	-
HCM Lane V/C Ratio	0.003	0.001	-	-	-
HCM Control Delay (s)	9	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	59	2	2	36	17	28	0	5	2	0	2
Future Volume (vph)	3	59	2	2	36	17	28	0	5	2	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			0%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.958			0.980			0.932	
Flt Protected		0.997			0.998			0.959			0.976	
Satd. Flow (prot)	0	1877	0	0	1754	0	0	1751	0	0	1694	0
Flt Permitted		0.997			0.998			0.959			0.976	
Satd. Flow (perm)	0	1877	0	0	1754	0	0	1751	0	0	1694	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			82			214			159	
Travel Time (s)		5.3			1.9			4.9			3.6	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	4	71	2	2	43	20	34	0	6	2	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	65	0	0	40	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	14.4%
Analysis Period (min)	15
	ICU Level of Service A

2022 Build Traffic Volumes
 4: Site Access/One East Mains Street Access & Churchill Street

AM Peak Hour
 07/26/2018

Intersection												
Int Delay, s/veh	2.4											
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	59	2	2	36	17	28	0	5	2	0	2
Future Vol, veh/h	3	59	2	2	36	17	28	0	5	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	71	2	2	43	20	34	0	6	2	0	2

Major/Minor	Major1		Major2		Minor2		Minor1					
Conflicting Flow All	63	0	0	73	0	0	138	138	53	140	147	72
Stage 1	-	-	-	-	-	-	57	57	-	80	80	-
Stage 2	-	-	-	-	-	-	81	81	-	60	67	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1540	-	-	1527	-	-	833	753	1014	830	744	990
Stage 1	-	-	-	-	-	-	955	847	-	929	828	-
Stage 2	-	-	-	-	-	-	927	828	-	951	839	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1540	-	-	1527	-	-	829	750	1014	823	741	990
Mov Cap-2 Maneuver	-	-	-	-	-	-	829	750	-	823	741	-
Stage 1	-	-	-	-	-	-	952	846	-	926	826	-
Stage 2	-	-	-	-	-	-	922	826	-	944	838	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	0.3	0.3	9.4	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NBL	NBT	NBR	SBL	SBT	SBRSWLn1
Capacity (veh/h)	853	1540	-	-	1527	-	899
HCM Lane V/C Ratio	0.047	0.002	-	-	0.002	-	0.005
HCM Control Delay (s)	9.4	7.3	0	-	7.4	0	9
HCM Lane LOS	A	A	A	-	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

2022 Build Traffic Volumes
1: Tioronda Avenue & Main Street

PM Peak Hour
07/26/2018



Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	209	26	62	277	37	123
Future Volume (vph)	209	26	62	277	37	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12
Grade (%)	0%			0%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985				0.896	
Flt Protected				0.991	0.989	
Satd. Flow (prot)	1445	0	0	1454	1316	0
Flt Permitted				0.991	0.989	
Satd. Flow (perm)	1445	0	0	1454	1316	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	458			77	419	
Travel Time (s)	10.4			1.8	9.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Parking (#/hr)	5			5	5	
Adj. Flow (vph)	243	30	72	322	43	143
Shared Lane Traffic (%)						
Lane Group Flow (vph)	273	0	0	394	186	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	13	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.35	1.14	1.14	1.35	1.33	1.17
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	54.7%
Analysis Period (min)	15
	ICU Level of Service A

2022 Build Traffic Volumes
1: Tioronda Avenue & Main Street

PM Peak Hour
07/26/2018

Intersection						
Int Delay, s/veh	3.8					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	209	26	62	277	37	123
Future Vol, veh/h	209	26	62	277	37	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	4	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	243	30	72	322	43	143

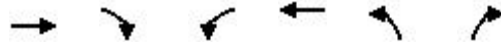
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	273	0	724
Stage 1	-	-	-	-	258
Stage 2	-	-	-	-	466
Critical Hdwy	-	-	4.12	-	7.22
Critical Hdwy Stg 1	-	-	-	-	6.22
Critical Hdwy Stg 2	-	-	-	-	6.22
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1290	-	334
Stage 1	-	-	-	-	741
Stage 2	-	-	-	-	569
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1290	-	311
Mov Cap-2 Maneuver	-	-	-	-	311
Stage 1	-	-	-	-	691
Stage 2	-	-	-	-	569

Approach	EB	WB	NE
HCM Control Delay, s	0	1.5	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	569	-	-	1290	-
HCM Lane V/C Ratio	0.327	-	-	0.056	-
HCM Control Delay (s)	14.4	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.2	-

2022 Build Traffic Volumes
2: Churchill Street & Main Street

PM Peak Hour
07/26/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	235	95	33	240	98	7
Future Volume (vph)	235	95	33	240	98	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.961				0.991	
Flt Protected				0.994	0.955	
Satd. Flow (prot)	1611	0	0	1666	1531	0
Flt Permitted				0.994	0.955	
Satd. Flow (perm)	1611	0	0	1666	1531	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	77			535	147	
Travel Time (s)	1.8			12.2	3.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	280	113	39	286	117	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	393	0	0	325	125	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.20	1.20
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	CBD
Control Type:	Unsignalized
Intersection Capacity Utilization	52.7%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	235	95	33	240	98	7
Future Vol, veh/h	235	95	33	240	98	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	7	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	280	113	39	286	117	8

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	393	0	701
Stage 1	-	-	-	-	337
Stage 2	-	-	-	-	364
Critical Hdwy	-	-	4.12	-	7.82
Critical Hdwy Stg 1	-	-	-	-	6.82
Critical Hdwy Stg 2	-	-	-	-	6.82
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1166	-	308
Stage 1	-	-	-	-	634
Stage 2	-	-	-	-	610
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1166	-	296
Mov Cap-2 Maneuver	-	-	-	-	296
Stage 1	-	-	-	-	609
Stage 2	-	-	-	-	610

Approach	EB	WB	NB
HCM Control Delay, s	0	1	24.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	307	-	-	1166	-
HCM Lane V/C Ratio	0.407	-	-	0.034	-
HCM Control Delay (s)	24.6	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.1	-

2022 Build Traffic Volumes
 3: Creek Road & Churchill Street

PM Peak Hour
 07/26/2018



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	1	105	127	1	2	0
Future Volume (vph)	1	105	127	1	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	-5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				
Flt Protected					0.950	
Satd. Flow (prot)	0	1835	1907	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1835	1907	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		82	147		244	
Travel Time (s)		1.9	3.3		5.5	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	1	127	153	1	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	128	154	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	0.97	0.97	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	16.7%
Analysis Period (min)	15
	ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement NBL NBT SBT SBR NEL NER

Lane Configurations		4	1		4	
Traffic Vol, veh/h	1	105	127	1	2	0
Future Vol, veh/h	1	105	127	1	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	3	-5	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	127	153	1	2	0

Major/Minor Major1 Major2 Minor2

















Conflicting Flow All	154	0	-	0	283	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	129	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1426	-	-	-	707	892
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	897	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1426	-	-	-	706	892
Mov Cap-2 Maneuver	-	-	-	-	706	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	897	-

Approach NB SB NE

HCM Control Delay, s 0.1 0 10.1
HCM LOS B

Minor Lane/Major Mvmt NELn1 NBL NBT SBT SBR

Capacity (veh/h)	706	1426	-	-	-
HCM Lane V/C Ratio	0.003	0.001	-	-	-
HCM Control Delay (s)	10.1	7.5	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	77	2	2	93	34	28	0	5	2	0	2
Future Volume (vph)	6	77	2	2	93	34	28	0	5	2	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			0%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.964			0.980			0.932	
Flt Protected		0.997			0.999			0.959			0.976	
Satd. Flow (prot)	0	1879	0	0	1767	0	0	1751	0	0	1694	0
Flt Permitted		0.997			0.999			0.959			0.976	
Satd. Flow (perm)	0	1879	0	0	1767	0	0	1751	0	0	1694	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			82			214			159	
Travel Time (s)		5.3			1.9			4.9			3.6	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	7	93	2	2	112	41	34	0	6	2	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	155	0	0	40	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	17.6%
Analysis Period (min)	15
	ICU Level of Service A

2022 Build Traffic Volumes
 4: Site Access/One East Mains Street Access & Churchill Street

PM Peak Hour
 07/26/2018

Intersection

Int Delay, s/veh 1.7

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	77	2	2	93	34	28	0	5	2	0	2
Future Vol, veh/h	6	77	2	2	93	34	28	0	5	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	3	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	93	2	2	112	41	34	0	6	2	0	2

Major/Minor	Major1	Major2	Minor2	Minor1
Conflicting Flow All	153	0	0	95
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1428	-	-	1499
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1428	-	-	1499
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	0.5	0.1	10.2	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NELn1	NBL	NBT	NBR	SBL	SBT	SBR	SWLn1
Capacity (veh/h)	729	1428	-	-	1499	-	-	809
HCM Lane V/C Ratio	0.055	0.005	-	-	0.002	-	-	0.006
HCM Control Delay (s)	10.2	7.5	0	-	7.4	0	-	9.5
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

APPLICATION FOR SITE PLAN APPROVAL - FCD ZONING DISTRICT

Submit to Planning Board Secretary, One Municipal Plaza, Suite One, Beacon, New York 12508

IDENTIFICATION OF APPLICANT

Name: 23-28 Creek Drive, LLC

Address: 11 Creek Drive, Beacon, NY 12508

Signature: 

Date: December 21, 2018

Phone: (845) 440-6520

(For Official Use Only)

Application & Fee Rec'd

Initial Review

Public Hearing

Conditional Approval

Final Approval

Date Initials

IDENTIFICATION OF REPRESENTATIVE / DESIGN PROFESSIONAL

Name: Aryeh Siegel Architect

Address: 84 Mason Circle, Beacon, NY 12508

Phone: 845-838-2490

Fax: 845-838-2657

Email address: ajs@ajsarch.com

IDENTIFICATION OF SUBJECT PROPERTY:

Property Address: 23-28 Creek Drive

Tax Map Designation: Section 6054

Block 37

Lot(s) 037625

Land Area: 2.807 acres

Zoning District(s) FCD

DESCRIPTION OF PROPOSED DEVELOPMENT:

Proposed Use: Commercial and Multi-family residential

Gross Non-Residential Floor Space: Existing 0 - existing to be demolished Proposed 13,771

TOTAL: 13,771

Dwelling Units (by type): Existing 0

Proposed 9

TOTAL: 9

ITEMS TO ACCOMPANY THIS APPLICATION

- a. One electronic and five (5) folded paper copies of a site location sketch showing the location of the subject property and the proposed development with respect to neighboring properties and developments.
- b. One electronic and five (5) folded paper copies of the proposed site development plan, consisting of sheets, showing the required information as set forth on the back of this form and other such information as deemed necessary by the City Council or the Planning Board to determine and provide for the property enforcement of the Zoning Ordinance.
- c. One electronic and five (5) folded paper copies of additional sketches, renderings or other information.

- d. An application fee, payable to the City of Beacon, computed per the attached fee schedule.
- e. An initial escrow amount, payable to the City of Beacon, as set forth in the attached fee schedule.

INFORMATION TO BE SHOWN ON SITE LOCATION SKETCH

- a. Property lines, zoning district boundaries and special district boundaries affecting all adjoining streets and properties, including properties located on the opposite sides of adjoining streets.
- b. Any reservations, easements or other areas of public or special use which affect the subject property.
- c. Section, block and lot numbers written on the subject property and all adjoining properties, including the names of the record owners of such adjoining properties.

INFORMATION TO BE SHOWN ON THE SITE DEVELOPMENT PLAN

- a. Title of development, date and revision dates if any, north point, scale, name and address of record owner of property, and of the licensed engineer, architect, landscape architect, or surveyor preparing the site plan.
- b. Existing and proposed contours at a maximum vertical interval of two (2) feet.
- c. Location and identification of natural features including rock outcrops, wooded areas, single trees with a caliper of six (6) or more inches measured four (4) feet above existing grade, water bodies, water courses, wetlands, soil types, etc.
- d. Location and dimensions of all existing and proposed buildings, retaining walls, fences, septic fields, etc.
- e. Finished floor level elevations and heights of all existing and proposed buildings.
- f. Location, design, elevations, and pavement and curbing specifications, including pavement markings, of all existing and proposed sidewalks, and parking and truck loading areas, including access and egress drives thereto.
- g. Existing pavement and elevations of abutting streets, and proposed modifications.
- h. Location, type and design of all existing and proposed storm drainage facilities, including computation of present and estimated future runoff of the entire tributary watershed, at a maximum density permitted under existing zoning, based on a 100 year storm.
- i. Location and design of all existing and proposed water supply and sewage disposal facilities.
- j. Location of all existing and proposed power and telephone lines and equipment, including that located within the adjoining street right-of-way. All such lines and equipment must be installed underground.
- k. Estimate of earth work, including type and quantities of material to be imported to or removed from the site.
- l. Detailed landscape plan, including the type, size, and location of materials to be used.
- m. Location, size, type, power, direction, shielding, and hours of operation of all existing and proposed lighting facilities.
- n. Location, size, type, and design of all existing and proposed business and directional signs.
- o. Written dimensions shall be used wherever possible.
- p. Signature and seal of licensed professional preparing the plan shall appear on each sheet.
- q. Statement of approval, in blank, as follows:

Approved by Resolution of the Beacon City Council
on the _____ day of _____, 20_____
subject to all conditions as stated therein

Mayor

Date

APPLICATION FEES

Site Plan & Concept Plan	Residential \$500 + \$250 per dwelling unit
	Commercial \$500 + \$250 per 1,000 s.f.
Special Use Permit	Residential \$500 + \$250 per dwelling unit
	Commercial \$500 + \$250 per 1,000 s.f.
Subdivision	\$ 750 for 2-4 lots + \$100 per lot
	\$1,000 for 5 or more lots + \$300 per lot
Zoning Board of Appeals	Use Variance \$500
	Area Variance \$250
	Interpretation \$250

ESCROW FEES**ALL SUBDIVISIONS, AND RESIDENTIAL SITE PLAN AND SUP APPLICATIONS**

No. of Lots or Dwelling Units	Initial Deposit	Depleted to	Replenishment
1-5 (including lot-line reassignment)	\$ 2,500	\$ 1,000	Current bills + \$1,000
6-15	\$ 7,500	\$ 2,500	Current bills + \$1,000
Over 15	\$ 15,000	\$ 5,000	Current bills + \$5,000

NON-RESIDENTIAL SITE PLAN AND SUP APPLICATIONS

	Initial Deposit	Depleted to	Replenishment
Existing Buildings/Change of Use with no site development	\$ 1,500	\$ 1,000	Current bills + \$500
Up to 3,000 s.f. gross floor area	\$ 2,500	\$ 1,000	Current bills + \$1,000
3,000 to 10,000 s.f. gross floor area	\$ 2,500 + \$0.50 per sq.ft. over 3,000	\$ 2,500	Current bills + \$2,500
Over 10,000 s.f. gross floor area	\$ 7,500 + \$0.50 per sq.ft. over 10,000	\$ 2,500	Current bills + \$2,500

ZONING

<i>* If required by Chairman</i>	Initial Deposit	Depleted to	Replenishment
Use Variance*	\$ 1,000	\$500	Current bills + \$500
Area Variance*	\$ 1,000	\$500	Current bills + \$500
Interpretation*	\$ 1,000	\$500	Current bills + \$500

ARCHITECTURAL REVIEW OR CERTIFICATE OF APPROPRIATENESS (if not currently before PB)

<i>* If required by Chairman</i>	Initial Deposit	Depleted to	Replenishment
Single Family House*	\$500	\$250	Current bills + \$250
All others*	\$500	\$250	Current bills + \$250

APPLICATION PROCESSING RESTRICTION LAW Affidavit of Property Owner

Property Owner: 23-28 Creek Drive, LLC

If owned by a corporation, partnership or organization, please list names of persons holding over 5% interest.

List all properties in the City of Beacon that you hold a 5% interest in:

Applicant Address: 11 Creek Drive

Project Address: 23-28 Creek Drive

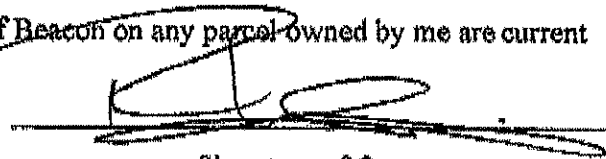
Project Tax Grid # 6054-37-037625

Type of Application Site Plan Approval - FCD Zoning District

Please note that the property owner is the applicant. "Applicant" is defined as any individual who owns at least five percent (5%) interest in a corporation or partnership or other business.

I, Rodney Weber, the undersigned owner of the above referenced property, hereby affirm that I have reviewed my records and verify that the following information is true.

- 1. No violations are pending for ANY parcel owned by me situated within the City of Beacon X
- 2. Violations are pending on a parcel or parcels owned by me situated within the City of Beacon _____
- 3. ALL tax payments due to the City of Beacon are current X
- 4. Tax delinquencies exist on a parcel or parcels owned by me within the City of Beacon _____
- 5. Special Assessments are outstanding on a parcel or parcels owned by me in the City of Beacon _____
- 6. ALL Special Assessments due to the City of Beacon on any parcel owned by me are current X



 Signature of Owner
PRESIDENT

Title if owner is corporation

Office Use Only:	NO	YES	Initial
Applicant has violations pending for ANY parcel owned within the City of Beacon (Building Dept.)	---	---	---
ALL taxes are current for properties in the City of Beacon are current (Tax Dept.)	---	---	---
ALL Special Assessments, i.e. water, sewer, fines, etc. are current (Water Billing)	---	---	---

**CITY OF BEACON
SITE PLAN SPECIFICATION FORM**

Name of Application: 23-28 Creek Drive

PLEASE INDICATE WHETHER THE SITE PLAN DRAWINGS SHOW THE SUBJECT INFORMATION BY PLACING A CHECK MARK IN THE APPROPRIATE BOXES BELOW.

	YES	NO
The site plan shall be clearly marked "Site Plan", it shall be prepared by a legally certified individual of firm, such as a Registered Architect or Professional Engineer, and it shall contain the following information:	X	
LEGAL DATA		
Name and address of the owner of record.	X	
Name and address of the applicant (if other than the owner).	X	
Name and address of person, firm or organization preparing the plan.	X	
Date, north arrow, and written and graphic scale.	X	
NATURAL FEATURES		
Existing contours with intervals of two (2) feet, referred to a datum satisfactory to the Planning Board.	X	
Approximate boundaries of any areas subject to flooding or stormwater overflows.	X	
Location of existing watercourses, wetlands, wooded areas, rock outcrops, isolated trees with a diameter of eight (8) inches or more measured three (3) feet above the base of the trunk, and any other significant existing natural features.	X	
EXISTING STRUCTURES, UTILITIES, ETC.		
Outlines of all structures and the location of all uses not requiring structures.	X	
Paved areas, sidewalks, and vehicular access between the site and public streets.	X	
Locations, dimensions, grades, and flow direction of any existing sewers, culverts, water lines, as well as other underground and above ground utilities within and adjacent to the property.	X	
Other existing development, including fences, retaining walls, landscaping, and screening.	X	
Sufficient description or information to define precisely the boundaries of the property.	X	
The owners of all adjoining lands as shown on the latest tax records.	X	
The locations, names, and existing widths of adjacent streets and curb lines.	X	
Location, width, and purpose of all existing and proposed easements, setbacks, reservations, and areas dedicated to private or public use within or adjacent to the properties.	X	

PROPOSED DEVELOPMENT	YES	NO
The location, use and design of proposed buildings or structural improvements.	X	
The location and design of all uses not requiring structures, such as outdoor storage (if permitted), and off-street parking and unloading areas.	X	
Any proposed division of buildings into units of separate occupancy.	X	
The location, direction, power, and time of use for any proposed outdoor lighting.	X	
The location and plans for any outdoor signs.		X
The location, arrangement, size(s) and materials of proposed means of ingress and egress, including sidewalks, driveways, or other paved areas.	X	
Proposed screening and other landscaping including a planting plan and schedule prepared by a qualified individual or firm.	X	
The location, sizes and connection of all proposed water lines, valves, and hydrants and all storm drainage and sewer lines, culverts, drains, etc.	X	
Proposed easements, deed restrictions, or covenants and a notation of any areas to be dedicated to the City.	X	
Any contemplated public improvements on or adjoining the property.	X	
Any proposed new grades, indicating clearly how such grades will meet existing grades of adjacent properties or the street.	X	
Elevations of all proposed principal or accessory structures.	X	
Any proposed fences or retaining walls.	X	
MISCELLANEOUS		
A location map showing the applicant's entire property and adjacent properties and streets, at a convenient scale.	X	
Erosion and sedimentation control measures.	X	
A schedule indicating how the proposal complies with all pertinent zoning standards, including parking and loading requirements.	X	
An indication of proposed hours of operation.	X	
If the site plan only indicates a first stage, a supplementary plan shall indicate ultimate development.		X

FOR OFFICE USE ONLY
Application #

CITY OF BEACON
1 Municipal Plaza, Beacon, NY
Telephone (845) 838-5000 * <http://cityofbeacon.org/>

INDIVIDUAL DISCLOSURE FORM

(This form must accompany every land use application and every application for a building permit or certificate of occupancy submitted by any person(s))

Disclosure of the names and addresses of all persons filing a land-use application with the City is required pursuant to Section 223-62 of the City Code of the City of Beacon. Applicants shall submit supplemental sheets for any additional information that does not fit within the below sections, identifying the Section being supplemented.

SECTION A

Name of Applicant: 23-28 Creek Drive, LLC

Address of Applicant: 11 Creek Drive, Suite 102A, Beacon, New York 12508

Telephone Contact Information: 845-202-7271

SECTION B. List all owners of record of the subject property or any part thereof.

Name	Residence or Business Address	Telephone Number	Date and Manner title was acquired	Date and place where the deed or document of conveyance was recorded or filed.
Rodney Weber	11 Creek Drive, Suite 102A, Beacon, NY	845-202-7271	*Contract Vendee (5/11/18)	TBD

SECTION B. Is any owner of record an officer, elected or appointed, or employee of the City of Beacon or related, by marriage or otherwise, to a City Council member, planning board member, zoning board of appeals member or employee

of the City of Beacon?

YES

NO

If yes, list every Board, Department, Office, agency or other position with the City of Beacon with which a party has a position, unpaid or paid, or relationship and identify the agency, title, and date of hire.

Agency	Title	Date of Hire, Date Elected, or Date Appointed	Position or Nature of Relationship

SECTION C. If the applicant is a contract vendee, a duplicate original or photocopy of the full and complete contract of purchase, including all riders, modification and amendments thereto, shall be submitted with the application.

SECTION D. Have the present owners entered into a contract for the sale of all or any part of the subject property and, if in the affirmative, please provide a duplicate original or photocopy of the fully and complete contract of sale, including all riders, modifications and amendments thereto.

YES

NO

I, being first duly sworn, according to law, deposes and says that the statements made herein are true, accurate, and complete.

(Print) Rodney Weber, Managing Member

(Signature) _____



FOR OFFICE USE ONLY

Application #

CITY OF BEACON
1 Municipal Plaza, Beacon, NY
Telephone (845) 838-5000 *<http://cityofbeacon.org/>

ENTITY DISCLOSURE FORM

(This form must accompany every land use application and every application for a building permit or certificate of occupancy submitted by any entity)

Disclosure of the names and addresses of all persons or entities owning any interest or controlling position of any Limited Liability Company, Partnership, Limited Partnership, Joint Venture, Corporation or other business entity (hereinafter referred to as the "Entity") filing a land-use application with the City is required pursuant to Section 223-62 of the City Code of the City of Beacon. If any Member of the Entity is not a natural person, then the names and addresses as well as all other information sought herein must be supplied about the non-natural person member of that Entity, including names, addresses and formation filing documents. Applicants shall submit supplemental sheets for any additional information that does not fit within the below sections, identifying the Section being supplemented.

SECTION A.**IF AFFIANT IS A PARTNERSHIP, JOIN VENTURE OR OTHER BUSINESS ENTITY, EXCEPT A CORPORATION:**

Name of Entity	Address of Entity
Place where such business entity was created	Official Registrar's or Clerk's office where the documents and papers creating entity were filed
Date such business entity or partnership was created	Telephone Contact Information

IF AFFIANT IS A CORPORATION:

Name of Entity 23-28 Creek Drive, LLC	Telephone Contact Information 845-202-7271
Principal Place of Business of Entity New York	Place and date of incorporation 10/5/16
Method of Incorporation LLC	Official place where the documents and papers of incorporation were filed NYS Department of State

SECTION B. List all persons, officers, limited or general partners, directors, members, shareholders, managers, and any others with any interest in or with the above referenced Entity. List all persons to whom corporate stock has been pledged,

SECTION C. List all owners of record of the subject property or any part thereof.

Name	Residence or Business Address	Telephone Number	Date and Manner title was acquired	Date and place where the deed or document of conveyance was recorded or filed.
City of Beacon	One Municipal Plaza, Beacon, NY 12508	845-838-5000	In Contract with Applicant	

SECTION D. Is any owner, of record or otherwise, an officer, director, stockholder, agent or employee of any person listed in Section B-C?

YES

NO

Name	Employer	Position

SECTION G. List the names and addresses of each person, business entity, partnership and corporation in the chain of title of the subject premises for the five (5) years next preceding the date of the application.

Name	Address
City of Beacon	One Municipal Plaza, Beacon, NY 12508

SECTION H. If the applicant is a contract vendee, a duplicate original or photocopy of the full and complete contract of purchase, including all riders, modification and amendments thereto, shall be submitted with the application.

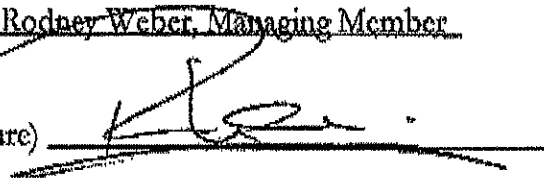
SECTION I. Have the present owners entered into a contract for the sale of all or any part of the subject property and, if in the affirmative, please provide a duplicate original or photocopy of the fully and complete contract of sale, including all riders, modifications and amendments thereto.

YES NO

I, Rodney Weber, being first duly sworn, according to law, deposes and says that I am the Managing Member an active and qualified member of the 23-28 Creek Drive, LLC, a business duly authorized by law to do business in the State of New York, and that the statements made herein are true, accurate, and complete.

(Print) Rodney Weber, Managing Member

(Signature)



Zoning District	Required Setbacks			Proposed Setbacks			Minimum frontage on public street right-of-way	Proposed frontage on public street right-of-way	Minimum Site Area	Existing Site Area	Maximum Residential Development Potential	Proposed Number of Residential Units	Required Commercial Space	Proposed Commercial Space	Maximum Dwelling Size	Proposed Dwelling Size	Maximum Building Coverage	Proposed Building Coverage	Minimum Open Space	Proposed Open Space	Maximum Building Height	Proposed Building Height	Minimum setback from and buffer width along Fishkill Creek	Proposed setback from and buffer width along Fishkill Creek
	Front	Side	Rear	Front	Side	Rear																		
FCD	12'	12'	12'	19.4'	23.8'	65.2'	50 feet	157.5 feet	2 acres	2.08 acres existing 3.246 acres with lot line realignment	16	9	25%	40%	2,000 sf	3,200 sf for 2 out of 9 units	35%	17%	30%	11%	3 stories / 40'	4 stories / 52' from 1st floor to roof	An average of 50 feet, but not less than 25 feet at any point	An average of 50 feet, but not less than 25 feet at any point



Location Map
Scale: 1" = 400'

Zoning Summary

Zoning District:	FCD (FISHKILL CREEK DEVELOPMENT)
Tax Map No.:	0054-37-037625
Lot Area:	2.807 acres (80,605 sf)
Building Area:	40,496 square feet (13,771 sf commercial + 20,000 Residential)
Historical Overlay District:	No
Parking Overlay District:	No
Existing Use:	Industrial (Vacant)
Proposed Uses:	Commercial (Shared Workspace) / Residential

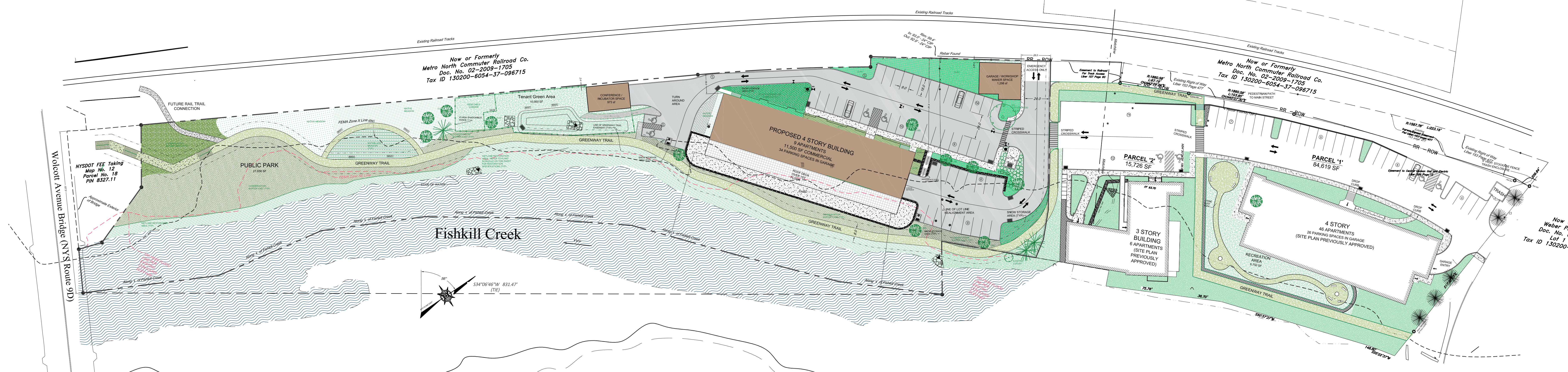
Land Use Compliance

Use	Permitted / Required	Proposed
Commercial	25% of building area	40% of building area
Residential	Maximum number of dwelling units per acre of lot area, after deducting on all development proposals involving a total lot area of more than three acres any lot area with existing, predevelopment very steep slopes of 20% or more as defined in covered by surface water, within a federal regulatory floodway, or within a state or federally regulated wetland: 11	2,807 x 11 = 30,877 Dwelling Units 9 Dwelling Units

Parking & Loading

Use & Parking Requirements	Area / Count	Parking Requirement
Residential 1 space for each dwelling unit plus 1/4 space per bedroom	9 apartments + 20 bedrooms	14 spaces
Office (Shared Workspace) 1 space for each 200 square feet	13,771 sf	69 spaces
Total Required Parking Spaces		83 spaces required
Total Proposed Parking Spaces		84 spaces proposed

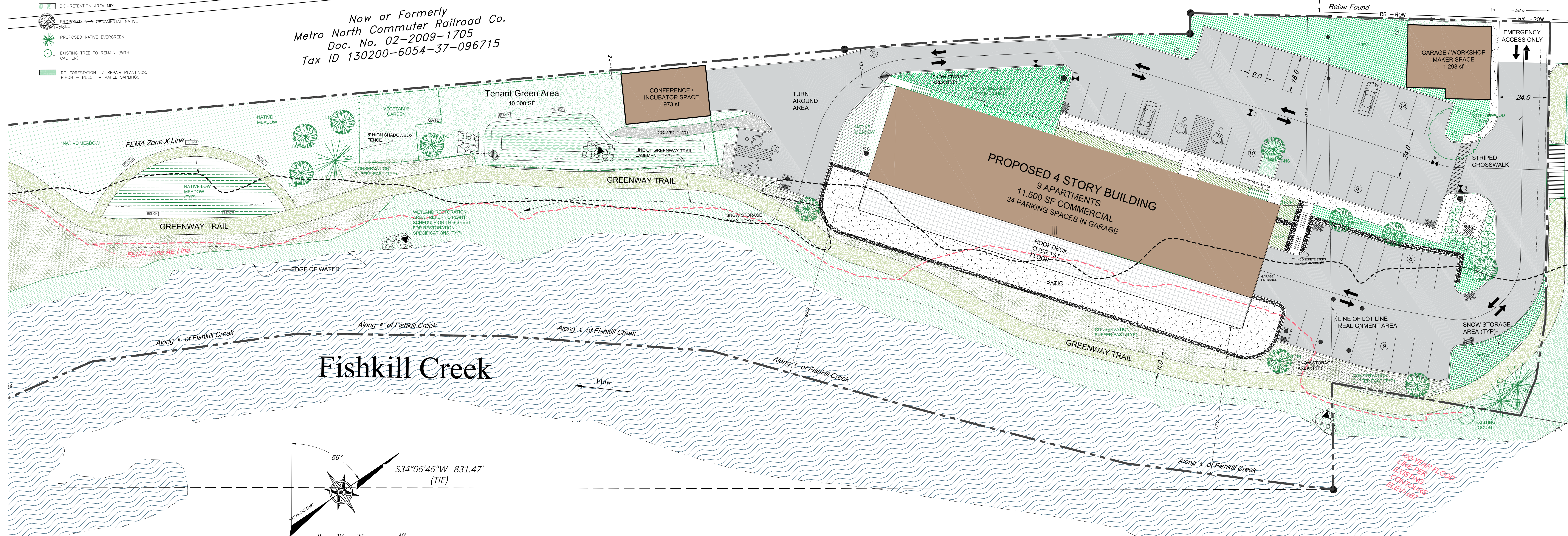
- Notes:**
- A variance to exceed the maximum height will be requested from the Zoning Board of Appeals
 - A variance to exceed the maximum number of stories will be requested from the Zoning Board of Appeals
 - A variance to exceed the maximum apartment area for 2 apartments will be requested from the Zoning Board of Appeals
 - A variance allow 42.5' of street frontage where 50' of street frontage is required may be requested from the Zoning Board of Appeals, pending a determination from the Building Inspector.



Area Plan
Scale: 1" = 40'

HATCHING & LANDSCAPE LEGEND

- CONCRETE SIDEWALK
- ASPHALT PAVING
- GRAVEL PATH (STEEL EDGING)
- CONSERVATION BUFFER - WEST
- CONSERVATION BUFFER - EAST
- WETLAND RESTORATION AREA
- NATIVE MEADOW
- INDIAN SWITCHGRASS (S-IPV)
- CUSTOM GRASS MIX - (ERMAX-CUST1)
- SEDGE (S-CP)
- EVERGREEN SHRUB (S-ES)
- BIO-RETENTION AREA MIX
- BIODIVERSITY AND ENVIRONMENTAL NATIVE PLANTS
- PROPOSED NATIVE EVERGREEN
- EXISTING TREE TO REMAIN (WITH CALIPER)
- RE-FORESTATION / REPAIR PLANTINGS: BRUSH - SEEDS - WIPES SAPLINGS



Site Plan
Scale: 1" = 20'

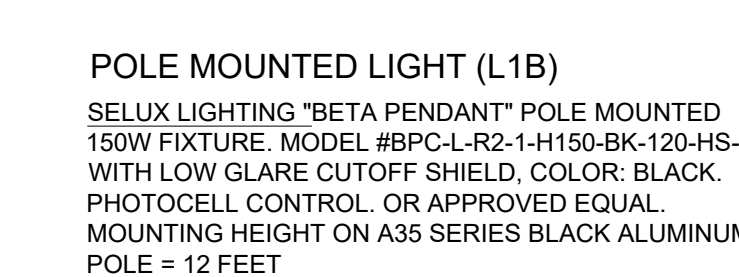
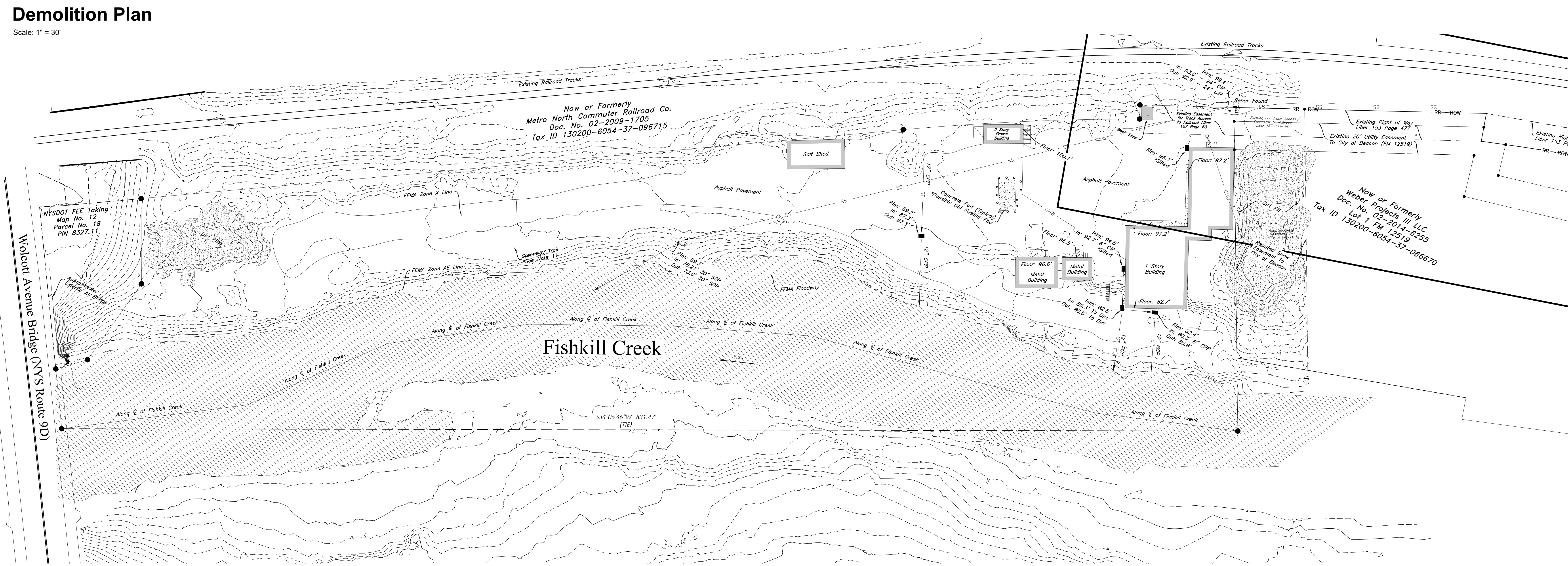
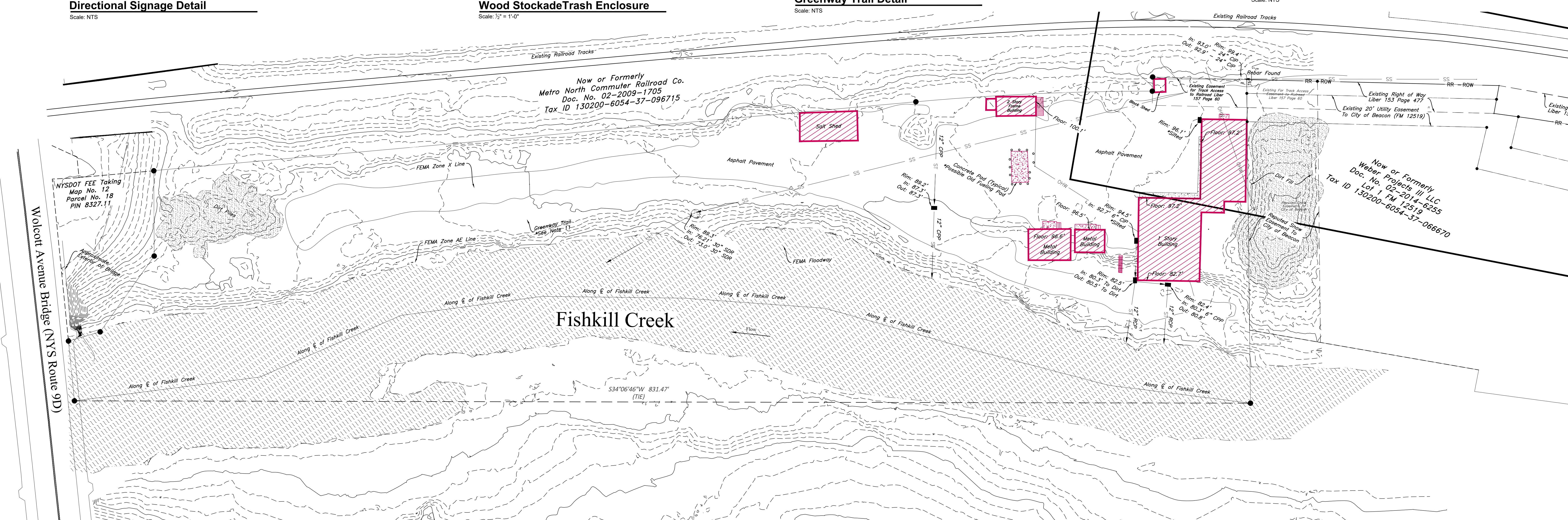
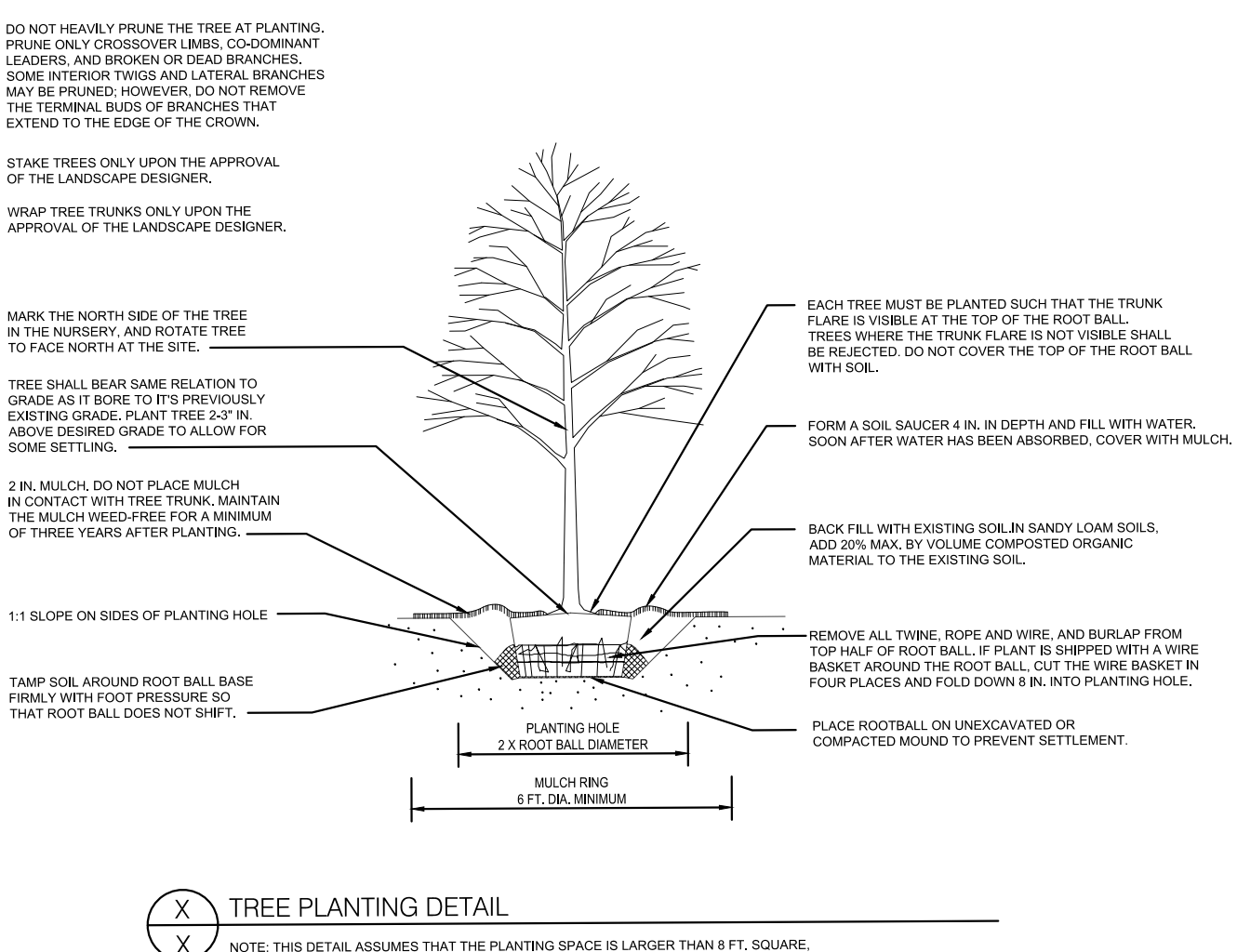
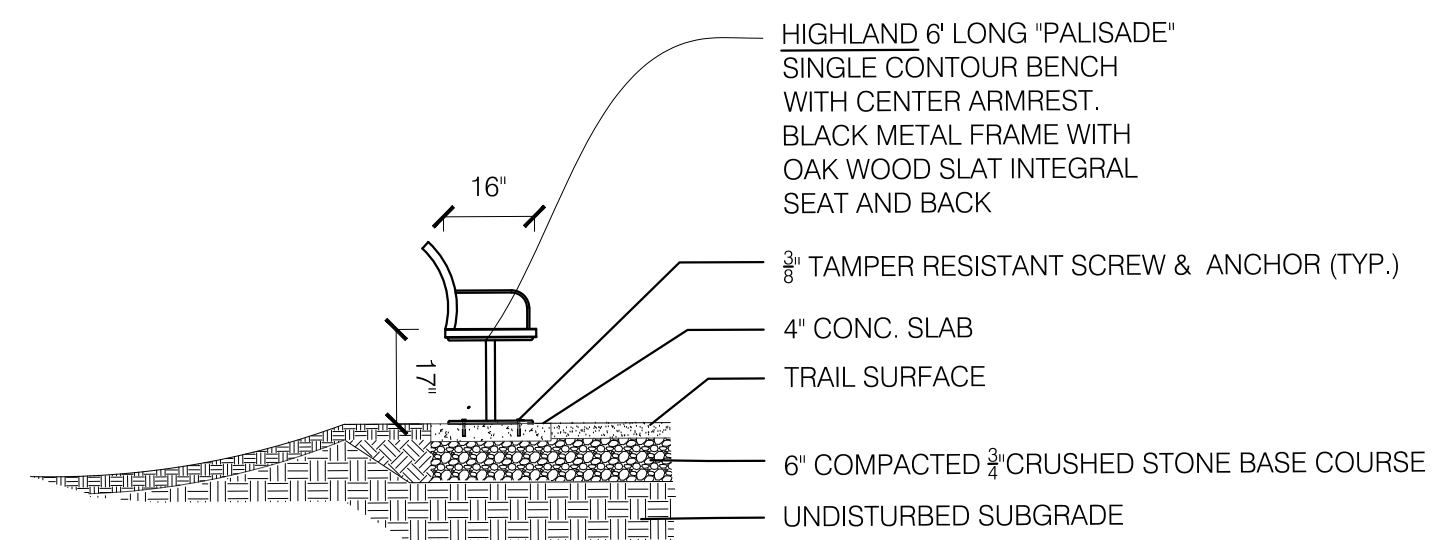
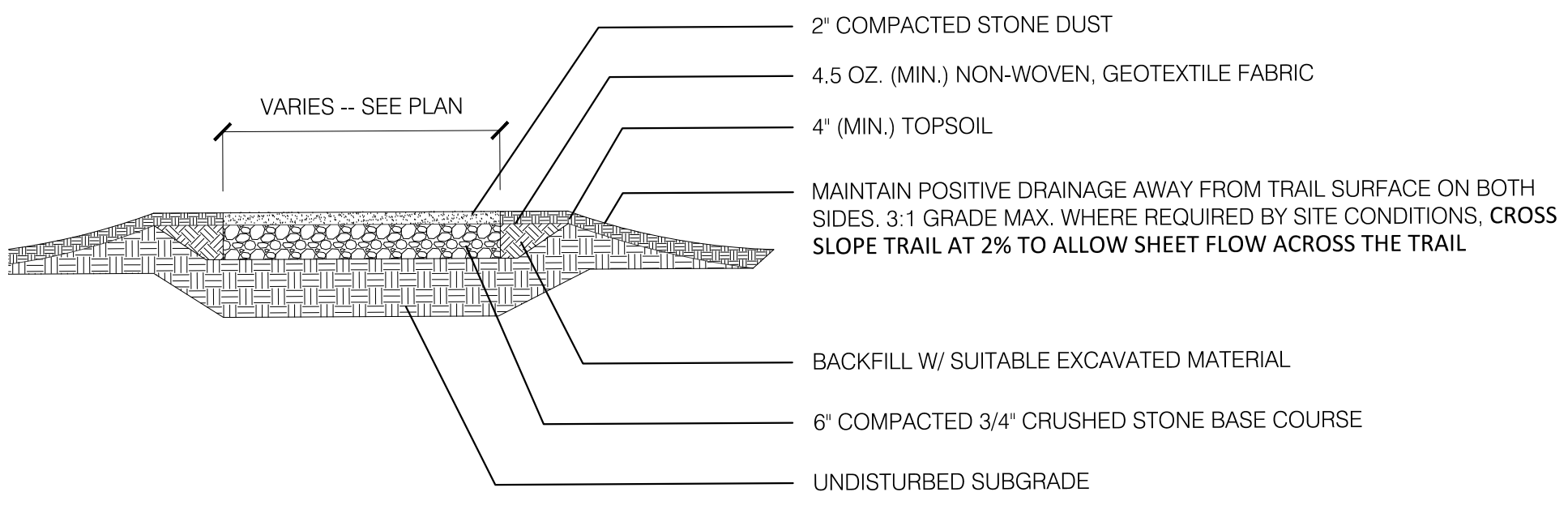
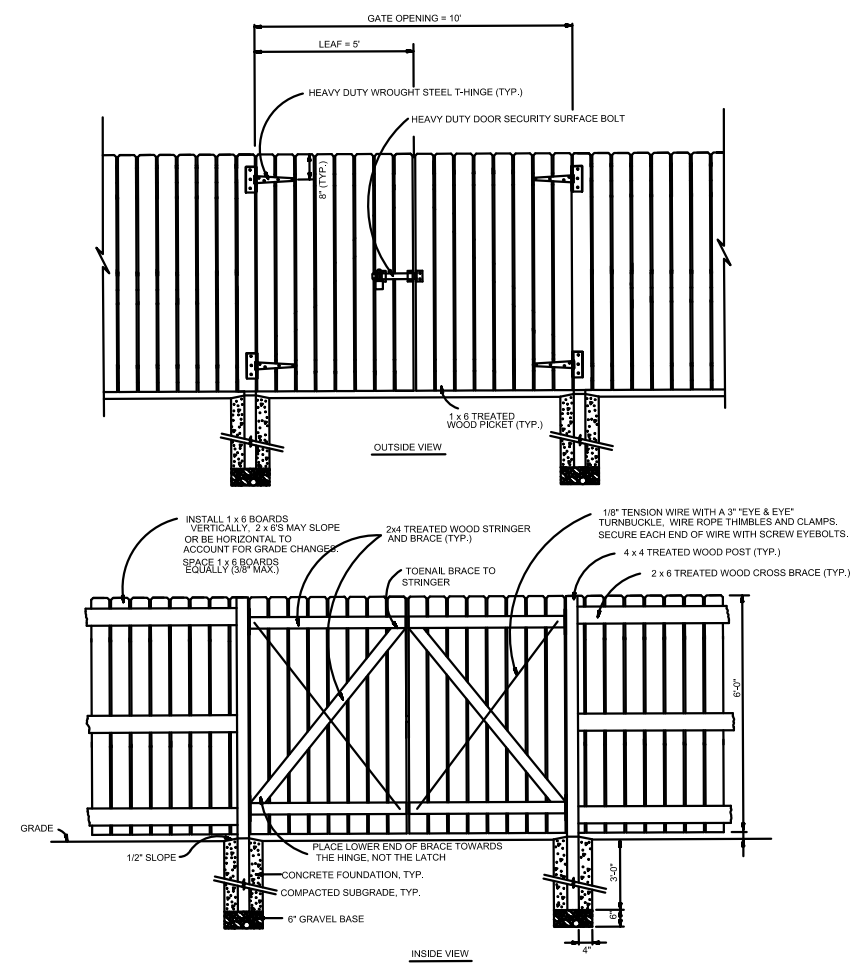
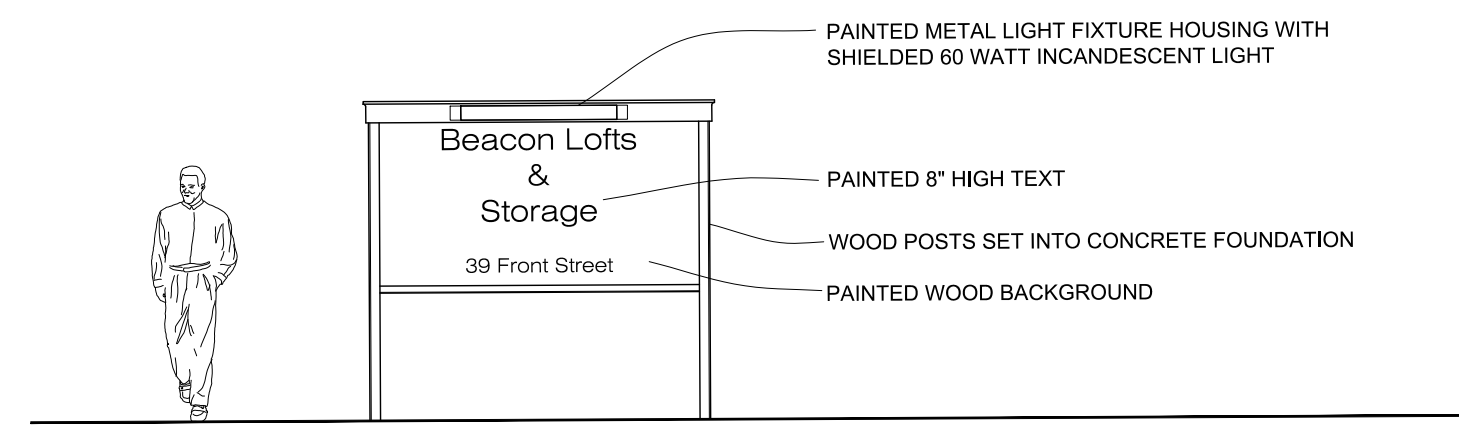
REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS

Index of Drawings

Sheet 1 of 12	Site Plan
Sheet 2 of 12	Existing Conditions & Demolition Plan
Sheet 3 of 12	Site Section Diagram
Sheet 4 of 12	Landscape Plan & Planting Schedule
Sheet 5 of 12	Building Plans
Sheet 6 of 12	Renderings
Sheet 7 of 12	Grading & Utility Plan
Sheet 8 of 12	Erosion and Sediment Control Plan
Sheet 9 of 12	Profiles
Sheet 10 of 12	Site & Erosion Sediment Control Details
Sheet 11 of 12	Stormwater Details
Sheet 12 of 12	Water and Sewer Details

Site Plan Application
Sheet 1 of 11 - Site Plan



NOTE: AS AN ALTERNATE, THE OWNER MAY INSTALL EQUIVALENT WATTAGE LED FIXTURES IN PLACE OF THE INCANDESCENT FIXTURES SHOWN. LED LIGHTING WILL MEET THE SAME SPECIFICATIONS FOR LOW GLARE CUTOFF CONTROLS, EITHER BY SHIELDING OR INTERNAL CONTROLS.

NOTE: ALL EXTERIOR LIGHTING ON THE SITE SHALL BE DIRECTED AND/OR SHIELDED SO AS NOT TO CAUSE ANY OBJECTIONABLE GLARE OBSERVABLE FROM NEIGHBORING STREETS AND PROPERTIES. THE SOURCE (BULBS) OF SUCH LIGHTING SHALL NOT BE VISIBLE FROM SAID NEIGHBORING STREETS AND PROPERTIES. PHOTOMETRIC DIAGRAMS ARE SHOWN WITH SHIELDED CONDITIONS.



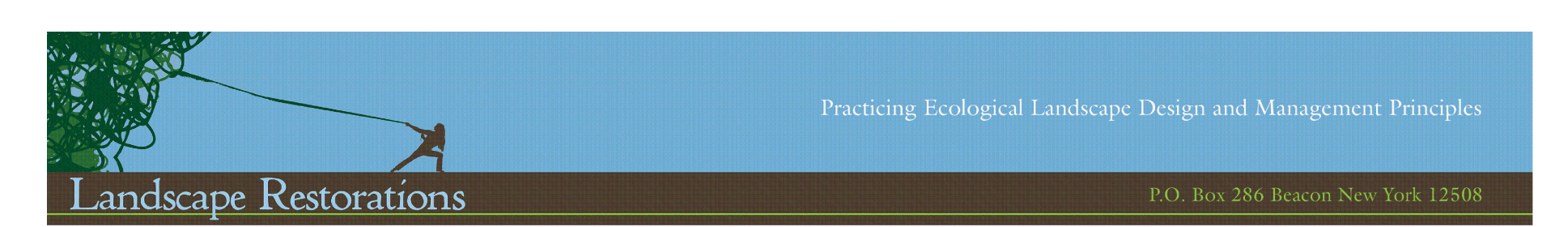
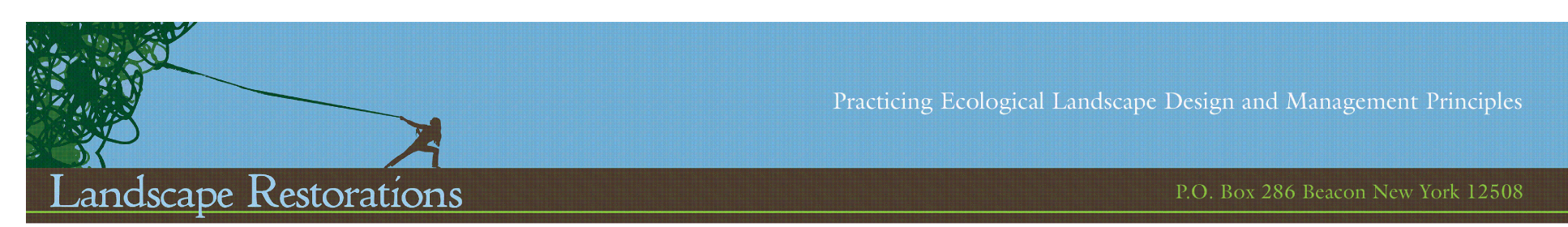
NOTE: THE MANUFACTURER DOES NOT PROVIDE FOOTCANDLE DIAGRAMS FOR THIS FIXTURE. THE FIXTURE IS SHADIC AND DOES NOT EMIT GLARE.

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	12/25/18	NO CHANGE	AJS

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	12/25/18	REVISED PER PLANNING BOARD COMMENTS	AJS

PLANT SCHEDULE		PHASE ONE		23-28 Creek Drive	
Beacon					
QUANTITY	KEY	BOTANIC NAME	COMMON NAME	SIZE	Planting Time
<i>Created and compiled by D. Adamsons December 15 2018</i>					
FERNS					
Trays	F-DP	<i>Demissa punctilobula</i>	Hay-scented fern	Plugs	Spring Fall
Trays	F-DI	<i>Dryopteris intermedia</i>	Evergreen Wood Fern	Plugs	Spring Fall
Trays	F-OC	<i>Osmunda cinnamomea</i>	Cinnamon Fern	Quarts	Spring Fall
Trays	F-PA	<i>Polystichum acrostichoides</i>	Christmas Fern	Plugs	Spring Fall
GRASSES					
Trays	G-AG	<i>Andropogon gerardii</i>	Big Bluestem	Plugs	Spring Summer
Trays	ECO-LAWN	<i>Buchloe dactyloides 'Texoka'</i>	Eco Lawn	Seed	Spring Summer
Trays	G-CA	<i>Carex appalachica</i>	Appalachian Sedge	Plugs	Spring Summer
Trays	G-CB	<i>Carex bromoides</i>	Bromoides Sedge	Plugs	Spring Summer
Trays	G-CP	<i>Carex pensylvanica</i>	Sedge	Plugs	Spring Summer
HERBACEOUS					
Trays	G-CL	<i>Chasmanthium latifolia</i>	Northern Sea Oats	Plugs	Spring Summer
Trays	G-IV	<i>Indian Switchgrass</i>	Indian Switchgrass	Plugs	Spring Summer
Trays	G-SS	<i>Schizachyrium scoparium</i>	Little Bluestem	Plugs	Spring Summer
HERBACEOUS					
Trays	H-AI	<i>Asclepias incarnata</i>	Swamp Milkweed	Plugs	Spring Summer
Trays	H-AI	<i>Asclepias tuberosa</i>	Butterfly Milkweed	Plugs	Spring Summer
Trays	H-AI	<i>Amonia tabernaemontana</i>	Common Bluestar	Plugs	Spring Summer
Trays	H-A	<i>Aster (NY and Woodland)</i>	Aster (NY and Woodland)	Plugs	Spring Summer
Trays	H-C	<i>Iris cristata</i>	Crested Iris	Plugs	Spring Summer
Trays	H-PR	<i>Polemonium reptans</i>	Jacob's Ladder	Plugs	Spring Summer
Trays	H-S	<i>Solidago</i>	Goldenrod	Plugs	Spring Summer
Trays	H-T	<i>Trillium</i>	Trillium	Plugs	Spring Summer
Trays	H-V	<i>Viola</i>	Viola	Plugs	Spring Summer
SHRUBS					
S-AA	<i>Amorpha fruticosa</i>	Indigo Bush	5 gal	Spring Fall	WR,CBE,CBW
S-AA	<i>Aronia arbutifolia</i>	Red Chokeberry	3 gal	Spring Fall	WR,BE
S-AM	<i>Aronia melanocarpa</i>	Black Chokeberry	3 gal	Spring Fall	WR,BE
S-CP	<i>Comptonia peregrina</i>	Sweetfern	1 gal	Spring Fall	ALL
S-DL	<i>Diervilla lonicera</i>	Bush Honeysuckle	3 gal	Spring Fall	WR,NM,CBE,CB
S-HM	<i>Hamamelis virginiana</i>	Witch Hazel	10 gal	Spring Fall	CBE,CBW
S-IG	<i>Ilex glabra</i>	Inkberry	10 gal	Spring Fall	BE,CBW,WR
S-IVf	<i>Ilex verticillata female</i>	Winterberry	7 gal	Spring Fall	WR,CNE,CBW,NM
S-IVm	<i>Ilex verticillata male</i>	Winterberry	7 gal	Spring Fall	WR,CBE,CBW,NM
S-LB	<i>Lindera benzoin</i>	Spicebush	10 gal	Spring Fall	WR
S-MP	<i>Myrica pensylvanica</i>	Bayberry	5 gal	Spring Fall	WR,BE,NM
S-RA	<i>Rhus aromatica</i>	Aromatic sumac	3 gal	Spring Fall	BE,NM,HCS
S-RC	<i>Rosa carolina</i>	Carolina Rose	3 gal	Spring Fall	CBE,CBW,NM
S-RO	<i>Rubus odoratus</i>	Flowering Raspberry	3 gal	Spring Fall	CBE,NM,WR
S-XS	<i>Xanthorhiza simplicissima</i>	Yellowroot	Plugs	Spring Fall	WR,NM,CBE,CB
TREES					
T-AB	<i>Abies balsamea</i>	Balsam Fir	5-7'	Spring Fall	CBW,NM
T-AR	<i>Acer rubrum</i>	Red Maple	5-7'	Spring Fall	WR,BE
T-AC	<i>Amelanchier canadensis</i>	Serviceberry	5-6'	Spring Fall	WR,CBE,CBW,BE
T-BL	<i>Betula lenta</i>	Black Birch	4-5'	Spring Fall	WR,CBW
T-BP	<i>Betula populifolia</i>	Gray Birch	4-5'	Spring Fall	ALL
T-CC	<i>Carpinus caroliniana</i>	American Hornbeam	5-7'	Spring Fall	CBW,CBE
T-CT	<i>Chamaecyparis thyoides</i>	Atlantic White Cedar	5-7'	Spring Fall	WR
T-CF	<i>Cornus florida</i>	Flowering Dogwood	5-7'	Spring Fall	BE,NM
T-CP	<i>Crotaegus phaenopyrum</i>	Washington Hawthorn	5-7'	Spring Fall	BE
T-IO	<i>Ilex opaca</i>	American Holly	5-7'	Spring Fall	BE,CBW
T-JV	<i>Juniperus virginiana</i>	Eastern Red Cedar	5'	Spring Fall	BE,NM
T-NS	<i>Nyssa sylvatica</i>	Blackgum	6-7'	Spring Fall	BE,NM
T-OV	<i>Ostrya virginiana</i>	Eastern Hop-Hornbeam	5-7'	Spring Fall	WR
T-PR	<i>Prinos rubens</i>	Red Spruce	5-9'	Spring Fall	BE,CBW
T-PV	<i>Pinus virginiana</i>	Scrub Pine	5-9'	Spring Fall	BE,CBW
T-PO	<i>Plantanus occidentalis</i>	American Sycamore	7'	Spring Fall	WR
T-PA	<i>Prunus serotina</i>	Wild Black Cherry	3-4'	Spring Fall	NM,WR,CBE,CB
T-SD	<i>Salix discolor</i>	Pussy Willow	5'	Spring Fall	WR,CBE
T-OJ	<i>Quercus ilicifolia</i>	Scrub Oak	8-10'	Spring Fall	NM,BE
T-VP	<i>Viburnum prunifolium</i>	Blackhaw	6-7'	Spring Fall	NM
VINES					
V-PQ	<i>Parthenocissus quinquefolia</i>	Virginia Creeper	3 gal	Spring Fall	BE

SEED MIXES		PHASE TWO	
lbs	ERNMX-105	Native Meadow	Northeastern Native Mix
lbs	ERNMX-120	Native Wetland Restoration	Northeastern Grass and Forb
lbs	ERNMX-126	Native Meadow	Retention Basin Low Maint Mix
lbs	ERNMX-132-1	Native Meadow	Native Woods w Rye
lbs	ERNMX-140	Native Meadow	Partially Shaded Native Mix
lbs	ERNMX-153-1	Native Meadow	Showy NE Native Mix
lbs	ERNMX-155	Native Meadow	Deer Resistant Native Meadow Mix
lbs	ERNMX-180-1	Native Meadow	Rain Garden Mix
lbs	ERNMX-181-1	Native Meadow	Native Steep Slope with Rye
lbs	ERNMX-181-2	Native Meadow	Native Steep Slope with Oats
lbs	ERNMX-183	Native Meadow	Native Detention Area Mix
lbs	ERNMX	Custom Mix	Salt-tolerant, Shady Mix
lbs	ERNMX	Custom Mix	Native Low Meadow
AREA LEGEND			
BE	Building Envelope	cover	
CE	Conservation Buffer EAST of GT (Greenway)	Young trees, shrubs, ferns, grasses, sedges and herbaceous flowering layer and groundcover to stabilize	
CBW	Conservation Buffer WEST of GT (Greenway)	Young trees, shrubs, ferns, grasses, sedges and herbaceous flowering layer and groundcover to stabilize	
HCS	Half Circle Seating Area	Short native meadow species (grasses and herbaceous flowering layer)	
NM	Native Meadow	Grasses, sedges, herbaceous flowering layer and ground cover	
WR	Wetland Restoration	Young trees, shrubs, ferns, grasses, sedges and herbaceous flowering layer and groundcover to stabilize	



TREE PROTECTION

- Tree Protection shall be built around all trees designated by Owner. See LEGEND. This task shall be performed and/or supervised by an arborist associated with Landscape Designer.
- Tree Protection shall be honored by General Contractor, and all Contractors, and remain in place for life of project development.
- A penalty for tree damage and non-compliance with Tree Protection shall be discussed at first Site Meeting and written into GC contract and each penalty shall be billed to General Contractor.
- Tree Protection is defined as sturdy stakes every 4' connected by strong fencing (not orange nylon fencing) built outside each CRZ (Critical Root Zone), with KEEP OUT: PROTECTED TREE signs.
- CRZ is defined as extending from the trunk to just outside the Drip Line, or a distance of 1.5" per inch of DSH (Diameter at Standard Height), whichever is greater.
- Under Penalty, the following activities are not allowed within the CRZ:
 - Stockpiling of construction materials or demo debris
 - Vehicle or equipment parking
 - Trenching for utility installation or repair (unless pre-approved)
 - Changing soil grade by cutting or filling
 - Damaging of roots by grading, tearing or grubbing
 - Compaction of soil by equipment, vehicles, material storage and/or foot traffic
 - Contaminating soil from washing out equipment (especially concrete) and vehicle maintenance
 - Attaching anything to trees with nails, screws and/or spikes
 - Wound or break tree trunks or branches through contact with vehicles and heavy equipment
 - Wound trunks by string weed trimmers and lawn mowers
 - Cause injury by fire or excessive heat
- Most tree roots over 4" are likely to be structural roots. Cutting these roots could cause future catastrophic failure.
- Make all needed cuts to tree roots cleanly with sharp tools to encourage good wound closure; never tear with a backhoe.
- After project completion, maintain an "invisible" passive TPZ (Tree Protection Zone) around all important trees though-out their lives by maintaining a mulched, grass-free area around the tree so weed-trimmers and mowers are always kept at bay and foot traffic is kept off the inner CRZ.

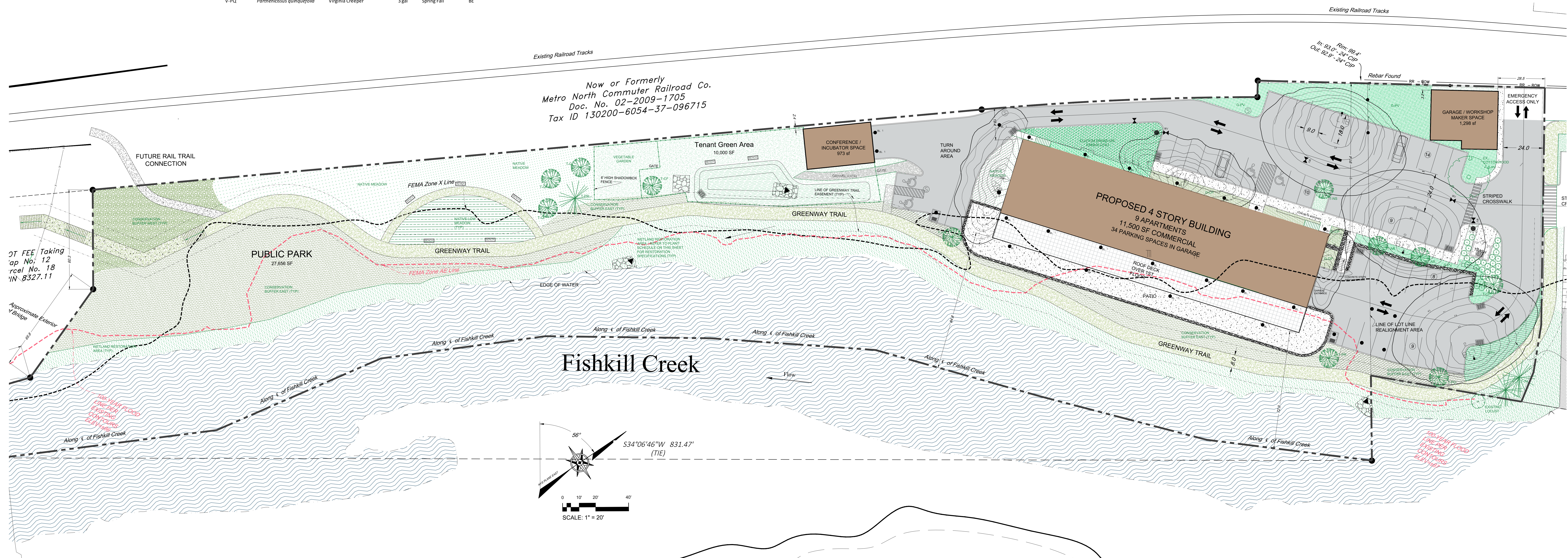
PLANTING and LANDSCAPE NOTES

- Tree Protection shall be honored and respected during construction phase (see separate Tree Protection Notes).
- Woodland Area outside of work-scope shall be left intact other than the removal of dead, diseased and damaged trees in Phase One. In Phase Two (date to be determined), invasive management shall be implemented to begin select-removal of Black Locusts, Norway Maples, Ailanthus, Japanese Knotweed, Barberry, Rosa multiflora, Bittersweet and all invasive plant species.
- Utmost care will be undertaken to protect the integrity of Fishkill Creek banks and steep slopes.
- Absolutely no materials or liquids shall be dumped into Fishkill Creek or drains.
- No non-native plant species shall be introduced onto the site. All species shall be indigenous to the northeast region of North America.
- Disturbance of wild areas on the bank of Fishkill Creek created by construction of Greenway Trail require Conservation Buffers in order to help the areas heal and revert to native habitats. These areas are labeled as CBE (Conservation Buffer east of GT) and CBW (Conservation Buffer west of GT) and WR (Wetland Restoration).
- If a straight specie is specified, no cultivars will be accepted without prior approval of designer.
- In level graded areas, soil shall be prepped by removing all construction debris, loose roots and stones larger than 3". In steep slope areas, do not remove any naturally-occurring stones or rocks, as these aid in stabilizing the slope. All duff, plant debris and material such as leaves, twigs, etc. shall remain in soil.
- Areas to be planted shall be marked and labeled by designer.
- Each new tree hole tree shall be twice the width of the rootball.
- Plant all plants so top of rootball is slightly above surrounding native earth (or brought-in soil).
- Burlap, wire, cords, ties and any wrapping materials must be removed from all rootballs before backfilling.
- No planting shall be done in muddy, rainy or frozen conditions.
- Test tree-pit for drainage before planting. Do not plant tree in pit if water is still evident after one hour. Contact site engineer or landscape designer if this condition is encountered.
- No plants will be accepted that display mechanical injury or specie irregularities.
- All plants must be labeled when delivered to site.
- If planting is delayed for more than 6 hours after delivery, set plants in shade. Protect from weather and mechanical damage. Keep roots moist and cover with mulch.
- All tree-planting to be coordinated with as-built utilities. Trees to be located minimum of 5' from active lines.
- All trees shall be balled and burlap unless otherwise specified on Plant List.
- Contractor shall stake all plant locations and orientations in the field and obtain approval prior to installation.
- Contractor shall leave site neat and orderly during course of project, and store materials and equipment in owner-approved locations away from all trees and plants.
- If site conditions conflict with intended design, contractor shall alert Owner.
- Contractor shall enter and exit site through pre-approved routes only.
- No substitutions are to be made without the written or verbal consent of landscape designer and owner.
- Contractor shall leave site neat and orderly during course of project, and store materials and equipment in owner-approved locations away from all trees and plants.
- If site conditions conflict with intended design, contractor shall alert Owner.
- Contractor shall enter and exit site through pre-approved routes only.
- No substitutions are to be made without the written or verbal consent of landscape designer and owner.
- Create a size-specific water-well around each plant, 3'- from center of tree, and mulch from the outside. Do not mulch crown.
- Water thoroughly after planting each plant. Water schedule to be determined.
- Spray for deer if planted in fall. Sometimes bucks mark their territory with their antlers.
- Keep Bed weed-free until plant is established.

NOTE: REFER TO SHEET 2 FOR LIGHTING AND LANDSCAPE DETAILS

HATCHING & LANDSCAPE LEGEND

- CONCRETE SIDEWALK
- ASPHALT PAVING
- GRAVEL PATH (STEELED EROSION)
- CONSERVATION BUFFER - WEST
- CONSERVATION BUFFER - EAST
- WETLAND RESTORATION AREA
- NATIVE MEADOW
- INDIAN SWITCHGRASS (S-IV)
- CUSTOM GRASS MIX - (ERNMX-CUST)
- SEEDS (G-CP)
- EVERGREEN SHRUB (S-IG)
- WETLAND RESTORATION AREA MIX
- PROPOSED NEW ORNAMENTAL NATIVE PLANT
- PROPOSED NATIVE EVERGREEN
- EXISTING TREE TO REMAIN (WITH CALCFP)
- RE-FORESTATION / REPAIR PLANTINGS: BROWN - BERRY / WHITE - SPICEWOOD



Site Plan
Scale: 1" = 20'

Site Plan Application
Sheet 4 of 12 - Landscape & Lighting Plan

Owner:
Weber Projects III, LLC
11 Creek Drive
Beacon, New York 12508

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

Site / Civil Engineer:
Hudson Land Design
174 Main Street
Beacon, New York 12508

Surveyor:
TEC Land Surveying, P.C.
15C Tioronda Avenue
Beacon, New York 12508

Landscape Designer:
Landscape Restorations
P.O. Box 286
Beacon, New York 12508

23 - 28 Creek Drive
Beacon, New York
Scale: As Noted
October 23, 2018

LEGEND:

- EXISTING ROOF LEADER LOCATION
- SEWER MANHOLE
- UNKNOWN MANHOLE
- GUY WIRE ANCHOR
- UTILITY POLE
- ELECTRIC BOX
- HYDRANT
- WATER VALVE
- ROUND DROP INLET
- ELECTRIC WATER
- UTILITY POLE WITH LIGHT
- COMMUNICATION BOX
- OVERHEAD WIRES
- GAS METER
- LAMP
- UNKNOWN VALVE
- EXISTING WATER EDGE
- EXISTING PROPERTY LINE
- 100-YEAR FLOOD LINE
- 100-YEAR FLOODWAY LINE
- PROPOSED EASEMENT LINE
- PROPOSED CATCH BASIN WITH INLET PROTECTION
- PROPOSED CLEANOUT
- PROPOSED HYDRANT
- PROPOSED WATER VALVE
- PROPOSED SANITARY MANHOLE
- PROPOSED RETAINING WALL
- PROPOSED CULVERT
- PROPOSED UNDERDRAIN
- PROPOSED ROOF LEADER PIPE
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING CATCH BASIN
- EXISTING UTILITY POLE
- PROPOSED CLEANOUT
- PROPOSED SEWER SERVICE LINE
- PROPOSED WATER SUPPLY LINE
- PROPOSED FENCE
- IMPERVIOUS SURFACE
- PROPOSED RIP RAP
- UTILITY CROSSING LOCATION
- PROPOSED ROOF LEADER LOCATION
- PROPOSED WATER SERVICE LINE
- PROPOSED WATER SHUT-OFF VALVE

INSPECTION SCHEDULE & LONG TERM MAINTENANCE OF STORMWATER STRUCTURES

CATCH BASINS AND PIPING:
ALL CATCH BASINS SHALL BE INSPECTED AFTER EACH STORM EVENT FOR SEDIMENT ACCUMULATION, AND DEBRIS, AND REMOVE AS NECESSARY. WHEN SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN SUMP REACHES 1/2 OF THE SUMP DEPTH, IT SHALL BE REMOVED. ASSOCIATED PIPING SHALL BE INSPECTED ANNUALLY AND ACCUMULATED SEDIMENT SHALL BE REMOVED AS NEEDED.

HYDRODYNAMIC DEVICES:
THE VORTEX UNITS SHALL BE INSPECTED QUARTERLY DURING THE FIRST YEAR OF OPERATION. THE MANUFACTURER RECOMMENDS THAT THE CDS UNITS BE INSPECTED BI-ANNUALLY (ONCE IN THE SPRING AND ONCE IN THE FALL). THE STRUCTURE SHALL BE VISUALLY INSPECTED FOR BLOCKAGES OR OBSTRUCTIONS IN THE INLET OR SEPARATION SCREEN. THE INSPECTION SHOULD ALSO QUANTIFY ACCUMULATION OF HYDROCARBONS, SEDIMENT AND TRASH WITHIN THE SYSTEM. INSPECTIONS AND MAINTENANCE SHALL BE PERFORMED BY QUALIFIED PERSONNEL WITH ADEQUATE TRAINING IN THESE TYPES OF UNITS. THE UNITS SHALL BE CLEANED BY VACUUM TRUCK ONCE A YEAR (EXCEPT FOR THE FIRST YEAR WHERE MORE FREQUENT CLEANINGS MAY BE REQUIRED).

INFILTRATION BASIN:
THE INFILTRATION BASIN SHALL BE INSPECTED MONTHLY FOR SEDIMENT AND DEBRIS ACCUMULATION. INFLOW PIPES, OUTLET STRUCTURES AND SPILLWAYS SHOULD ALSO BE INSPECTED FOR SEDIMENT AND DEBRIS MONTHLY. ANY ACCUMULATED SEDIMENT OR DEBRIS SHOULD BE REMOVED AS NECESSARY. PLANTINGS SHALL BE INSPECTED MONTHLY FOR HEIGHT, FERTILIZER, QUANTITY AND UNAUTHORIZED INVASIVE OR INAPPROPRIATE SPECIES. AFTER STORM EVENTS, THE INFILTRATION BASIN DRAINING DURATION SHOULD ALSO BE MONITORED. THE BASIN FLOOR SHALL BE MOWED AS REQUIRED; HOWEVER, THE GRASS HEIGHT SHALL NOT EXCEED 18". SEDIMENT SHALL BE CLEANED OUT OF THE INFILTRATION BASIN ANNUALLY.

EXISTING UNDERGROUND UTILITY NOTES:

- CONTRACTOR SHALL DIG TEST PITS TO VERIFY LOCATION, SIZE AND PIPE MATERIAL OF EXISTING UNDERGROUND UTILITIES. IF ANY EXISTING UTILITIES ARE NOT IN THE LOCATION WHERE THEY ARE SHOWN ON THE PLAN, IT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY.

GENERAL CONSTRUCTION NOTES:

- ALL OTHER UTILITIES (TELEPHONE, ELECTRIC, GAS, CABLE, ETC.) SHALL BE INCORPORATED PRIOR TO CONSTRUCTION. ALL SUCH UTILITY DESIGNS SHALL BE DEVELOPED IN COOPERATION WITH THE RESPECTIVE UTILITY COMPANIES.
- THE CONTRACTOR SHALL PERFORM A UTILITIES CALL-OUT PRIOR TO CONSTRUCTION TO VERIFY ALL UNDERGROUND UTILITY LOCATIONS BY CONTACTING UPFO @ 1-800-962-7962.
- THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND INVERTS OF ALL CATCH BASINS & STORM SEWER LINES, SANITARY MANHOLES & SEWER LINES, WATERLINES AND OTHER UNDERGROUND UTILITY LINES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOT ASSUME THAT ALL LOCATIONS AS SHOWN ON THE PLAN ARE CORRECT. INVESTIGATIVE TEST PITS MAY BE REQUIRED TO VERIFY LOCATIONS.
- PIPE CONNECTIONS TO ALL CATCH BASINS SHALL BE MADE WATER TIGHT, WITH PARTICULAR ATTENTION BEING PAID TO CONNECTIONS LOCATED WITHIN 10 FEET OF SEWER MAINS (AND SERVICE LATERALS).

POST CONSTRUCTION NOTES:

- UPON COMPLETION OF CONSTRUCTION OF THE STORMWATER FACILITIES, AS-BUILT DRAWINGS OF ALL STORMWATER PRACTICES AND AN OPERATION AND MAINTENANCE PLAN MANUAL SHALL BE PROVIDED TO THE CITY OF BEACON.

WATER AND SEWER MAIN RELOCATION NOTES:

- THE SECTIONS OF SEWER MAIN TO REMAIN IN-PLACE ON SITE SHALL BE TV INSPECTED AND CLEANED TO VERIFY THE CONDITION OF THE PIPE. THIS WORK SHALL BE COORDINATED WITH THE CITY ENGINEER AND SEWER DEPARTMENT. THE PIPES TO REMAIN IN-PLACE SHALL THEN BE SUP-LINED BETWEEN EXISTING MANHOLE 11 TO PROPOSED SEWER MANHOLE 12, AND BETWEEN PROPOSED SEWER MANHOLE 14 AND EXISTING SEWER MANHOLE 15.
- UPON COMPLETION OF CONSTRUCTION OF THE WATER AND SEWER FACILITIES, AS-BUILT DRAWINGS OF FINAL WATER AND SEWER MAIN LOCATIONS SHALL BE PROVIDED TO THE CITY OF BEACON.
- THE COMPLETED WATER MAIN EXTENSION AND SEWER MAIN RE-LOCATION SHALL BE CERTIFIED BY THE LICENSED PROFESSIONAL OBSERVING CONSTRUCTION TO THE CITY OF BEACON. THE WATER AND SEWER MAINS SHALL BE DEDICATED TO THE CITY OF BEACON UPON ACCEPTANCE OF THE CERTIFICATION.

SNOW REMOVAL AND STORAGE NOTES:

- THE SITE OWNER WILL UTILIZE A LOADER TO MOVE SNOW TO THE AREAS DESIGNATED FOR SNOW STORAGE.
- SNOW SHALL BE REMOVED WITHIN 8 HOURS AFTER A SNOW EVENT.

SITE CLEARING NOTES:

- SITE CLEARING SHALL OCCUR BETWEEN OCTOBER 1ST THROUGH MARCH 31ST IN ACCORDANCE WITH NYSDEC REGULATIONS.

ROCK REMOVAL NOTES:

- ROCK REMOVAL (IF NECESSARY) SHALL BE ACCOMPLISHED BY MECHANICAL METHODS AS MUCH AS POSSIBLE AND SHALL ONLY BE PERMITTED BETWEEN 8:00AM AND 5:00 PM ON ANY DAY WHICH ROCK REMOVAL IS PERMITTED.
- ACCEPTABLE ROCK REMOVAL METHODS ARE RIPPING, HYDRAULIC HAMMER OR DRILLING HOLES WITH USE OF EXPANSIVE TOOLS AND/OR WEDGES.
- IF MECHANICAL METHODS BECOME INEFFECTIVE DUE TO HARD ROCK, AND IT IS DETERMINED THAT BLASTING IS REQUIRED, IT SHALL BE BROUGHT TO THE ATTENTION OF THE CITY OF BEACON BUILDING DEPARTMENT. NO BLASTING SHALL CONSTITUTE UNITS. A BLASTING PROTOCOL IS SUBMITTED TO THE CITY OF BEACON BUILDING DEPARTMENT FOR REVIEW AND APPROVAL. BLASTING PROTOCOL SHALL BE IN ACCORDANCE WITH §111 OF THE CITY OF BEACON CODE.

PRESSURE REDUCING VALVE AND BACKFLOW PREVENTION NOTES:

- HYDRANT FLOW TESTS IN THE VICINITY OF THE PROJECT REVEALED STATIC PRESSURES RANGING FROM 88 PSI TO 100 PSI. THEREFORE PRESSURE REDUCING VALVES WILL BE REQUIRED AT ALL PROPOSED DOMESTIC WATER CONNECTIONS TO BUILDINGS.
- PRESSURE REDUCING VALVES (PRV) SHALL BE FURNISHED BY MUELLER OR WATTS AND COORDINATED WITH THE MECHANICAL ENGINEERING CONSULTANT AS TO TYPE AND SIZE.
- SPECIFICATIONS FOR THE PROPOSED PRV SHALL BE PROVIDED TO THE CITY OF BEACON BUILDING DEPARTMENT PRIOR TO INSTALLATION.
- DOUBLE CHECK VALVES SHALL BE PROVIDED ON ALL SERVICE CONNECTIONS TO THE ON-SITE BUILDINGS.
- DOUBLE CHECK VALVES SHALL BE WATTS SERIES 309 OR APPROVED EQUAL ON DOMESTIC CONNECTIONS AND COORDINATED WITH THE MECHANICAL ENGINEERING CONSULTANT AS TO TYPE AND SIZE.
- SPECIFICATIONS FOR THE PROPOSED DOUBLE CHECK VALVES SHALL BE PROVIDED TO THE CITY OF BEACON PRIOR TO INSTALLATION.

RETAINING WALL NOTES:

- ALL RETAINING WALLS SHOWN ON THIS PLAN SHALL BE DESIGNED BY A NEW YORK STATE LICENSED ENGINEER AND PLANS SHALL BE SUBMITTED TO THE BEACON BUILDING DEPARTMENT PRIOR TO CONSTRUCTION.

LOT LINE RE-ALIGNMENT NOTES:

- PARCEL 6054-37-066670 (7-15 CREEK DRIVE) IS CONVEYING 14,700.76 SQFT. (0.337 AC.) TO THIS PARCEL 6054-37-037625 (23-28 CREEK DRIVE).
- THE RESULTANT AREA FOR PARCEL 6054-37-066670 (7-15 CREEK DRIVE) AFTER THE LOT LINE RE-ALIGNMENT IS 469,918.03 SQFT, OR 10,695 AC.
- THE RESULTANT AREA FOR PARCEL 6054-37-037625 (23-28 CREEK DRIVE) AFTER THE LOT LINE RE-ALIGNMENT IS 1,136,953.88 SQFT, OR 25,144 AC.

STRUCTURE	STRUCTURE DETAILS
CB1	RM = 98.23 SUMP = 97.50 PIPE 1 RW OUT = 93.50
CB2	RM = 98.01 SUMP = 97.50 PIPE 1 RW OUT = 93.50 PIPE 2 RW OUT = 93.50
CB3	RM = 98.26 SUMP = 97.50 PIPE 2 RW OUT = 93.50 PIPE 3 RW OUT = 93.50
CB4	RM = 98.26 SUMP = 97.50 PIPE 3 RW OUT = 93.50 PIPE 4 RW OUT = 93.50
CB6	RM = 98.15 SUMP = 97.50 PIPE 5 RW OUT = 93.50 PIPE 6 RW OUT = 93.50
W05	RM = 98.26 SUMP = 97.50 PIPE 3 RW OUT = 93.50 PIPE 5 RW OUT = 93.50

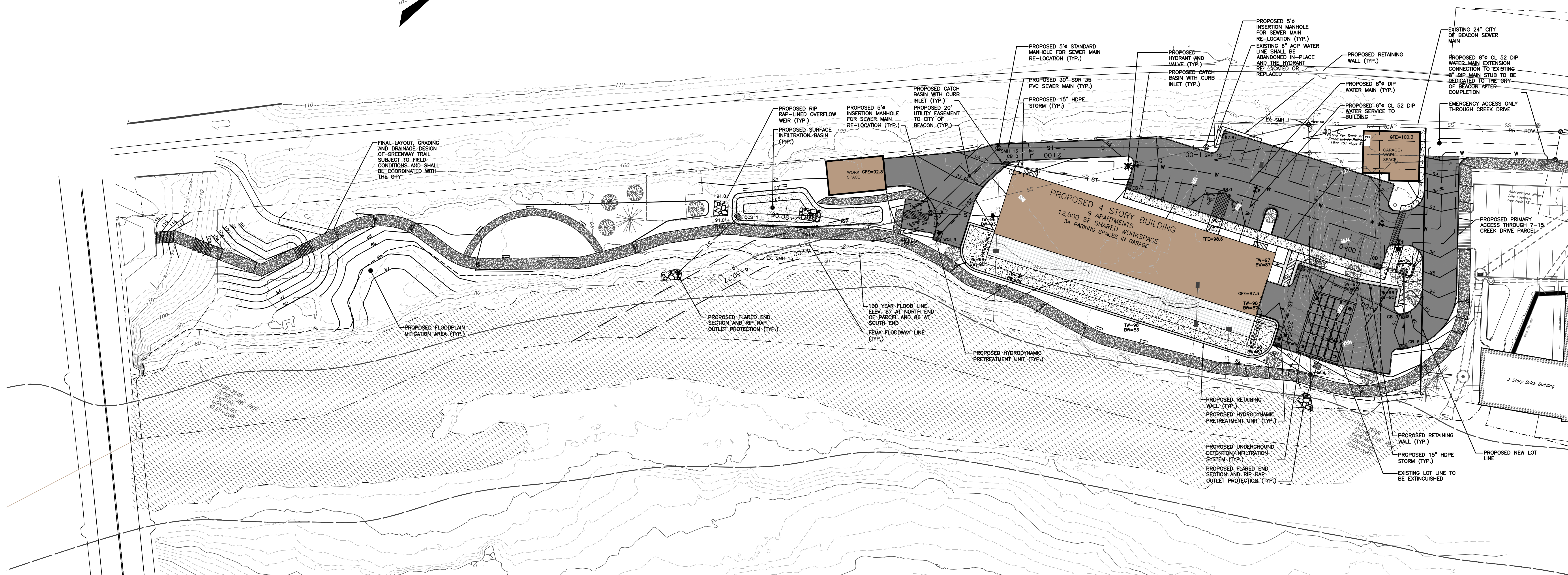
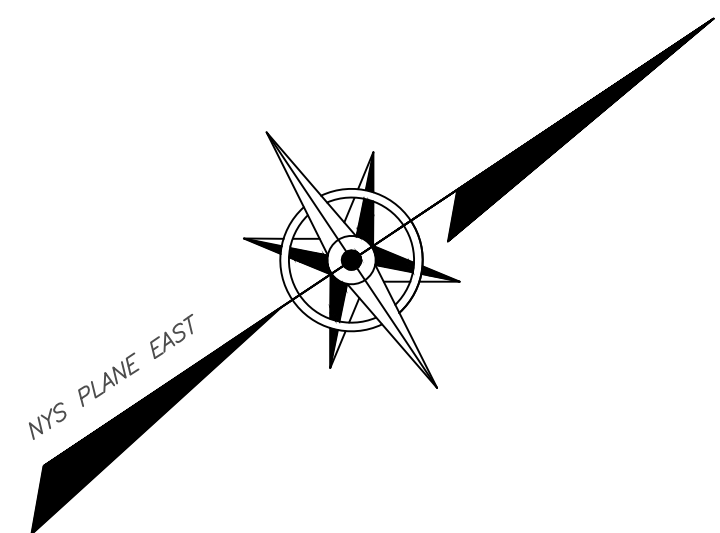
STRUCTURE	STRUCTURE DETAILS
CB7	RM = 98.27 SUMP = 97.50 PIPE 7 RW OUT = 93.50
CB8	RM = 98.25 SUMP = 97.50 PIPE 7 RW OUT = 93.50 PIPE 8 RW OUT = 89.50
FES 10	RM = 98.27 SUMP = 97.50 PIPE 9 RW OUT = 88.00
W08	RM = 98.27 SUMP = 97.50 PIPE 8 RW OUT = 88.50 PIPE 9 RW OUT = 88.50

STRUCTURE	STRUCTURE DETAILS
EX SHW 11	RM = 98.33 SUMP = 97.50
EX SHW 15	RM = 98.33 SUMP = 97.50
SHW 13	RM = 98.33 SUMP = 97.50 PIPE 1 RW OUT = 82.00 PIPE 2 RW OUT = 82.00
SHW 12	RM = 98.33 SUMP = 97.50 PIPE 1 RW OUT = 82.00 PIPE 2 RW OUT = 82.00
SHW 14	RM = 98.33 SUMP = 97.50 PIPE 1 RW OUT = 82.00 PIPE 2 RW OUT = 82.00

PIPE NAME	LENGTH	SIZE AND MATERIAL	SLOPE
PIPE 1	19 LF	15" x CORR HDPE	1.08%
PIPE 2	31 LF	15" x CORR HDPE	1.441%
PIPE 3	81 LF	15" x CORR HDPE	1.487%
PIPE 4	52 LF	15" x CORR HDPE	1.05%
PIPE 5	17 LF	15" x CORR HDPE	1.18%
PIPE 6	22 LF	15" x CORR HDPE	1.37%

PIPE NAME	LENGTH	SIZE AND MATERIAL	SLOPE
PIPE 7	18 LF	15" x CORR HDPE	2.91%
PIPE 8	72 LF	15" x CORR HDPE	1.80%
PIPE 9	89 LF	15" x CORR HDPE	0.56%

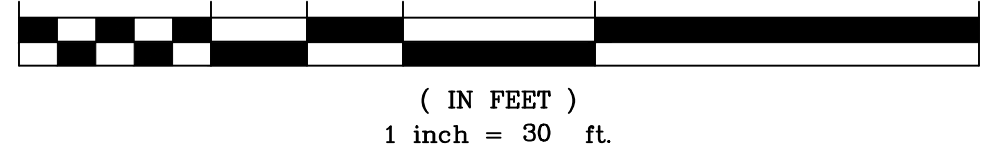
PIPE NAME	LENGTH	SIZE AND MATERIAL	SLOPE
PIPE 10	71 LF	24 INCH PVC	4.35%
PIPE 11	147 LF	24 INCH PVC	1.88%
PIPE 12	47 LF	24 INCH PVC	7.21%
PIPE 13	138 LF	24 INCH PVC	4.28%



EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 30'

GRAPHIC SCALE



DRAWN BY: MAB				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	16/25/18	REVISED FOR PLANNING BOARD SUBMISSION	MAB				

DigiSafely
New York
800-962-7962
www.digisafely.com
Call before You Dig
Plan The Required Ties
Obtain Utility Response
Protect The Marks
Dig With Care

HUDSON
LAND DESIGN



HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
P/E: 845-440-8826
P: 845-440-8837

GRADING AND UTILITY PLAN
23-28 CREEK DRIVE
23-28 CREEK ROAD
CITY OF BEACON, NEW YORK
TAX ID: 6054-37-037625

JOB #: 2018-029
DATE: 10/23/2018
SCALE: SCALE: 1" = 30'
TITLE: GU-1
SHEET: 7 OF 12

LEGEND:

- EXISTING ROOF LEADER LOCATION
- SEWER MANHOLE
- UNIONMAN MANHOLE
- GUY WIRE ANCHOR
- UTILITY POLE
- ELECTRIC BOX
- HYDRANT
- WATER VALVE
- ROUND DROP INLET
- ELECTRIC METER
- UTILITY POLE WITH LIGHT
- OVERHEAD WIRES
- FENCE
- DROP INLET
- GAS METER
- LAMP
- UNIONMAN VALVE
- EXISTING WATER EDGE
- EXISTING PROPERTY LINE
- 100-YEAR FLOOD LINE
- 100-YEAR FLOODWAY LINE
- PROPOSED EASEMENT LINE
- PROPOSED CATCH BASIN WITH INLET PROTECTION
- PROPOSED CLEANOUT
- PROPOSED HYDRANT
- PROPOSED WATER VALVE
- PROPOSED SANITARY MANHOLE
- PROPOSED RETAINING WALL
- PROPOSED CULVERT
- PROPOSED UNDERDRAIN
- PROPOSED ROOF LEADER PIPE
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING CATCH BASIN
- EXISTING UTILITY POLE
- PROPOSED CLEANOUT
- PROPOSED SEWER SERVICE LINE
- PROPOSED WATER SUPPLY LINE
- PROPOSED FENCE
- IMPERVIOUS SURFACE
- PROPOSED RIP RAP
- UTILITY CROSSING LOCATION
- PROPOSED ROOF LEADER LOCATION
- PROPOSED WATER SERVICE LINE
- PROPOSED WATER SHUT-OFF VALVE

EROSION AND SEDIMENT CONTROL NOTES

1. ALL EROSION CONTROL MEASURES EMPLOYED DURING THE CONSTRUCTION PROCESS SHALL BE INSPECTED BY THE CONTRACTOR IN ACCORDANCE WITH THE MAINTENANCE SCHEDULE PROVIDED ON THIS SHEET. ALL EROSION CONTROL STRUCTURES SHALL BE REPAIRED AND MAINTAINED AS NECESSARY BY THE CONTRACTOR.
2. ALL STORMWATER MANAGEMENT STRUCTURES (E.G., SWALES, CULVERTS) SHALL BE REGULARLY INSPECTED FOR SEDIMENT ACCUMULATIONS.
3. ALL EROSION CONTROL INSTALLATION AND MAINTENANCE MEASURES SHALL MEET THE REQUIREMENTS OF THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
4. ANY PILE OF POTENTIALLY ERODIBLE MATERIAL TEMPORARILY STOCKPILED ON THE SITE DURING THE CONSTRUCTION PROCESS SHALL BE LOCATED IN AN AREA AWAY FROM STORM DRAINAGE AND SHALL BE PROTECTED FROM EROSION BY A SURROUNDING SILT FENCE.
5. PERMANENT SEEDING AREAS FOR EROSION CONTROL SHALL BE IN ACCORDANCE WITH DETAIL AND SPECIFICATIONS ON THE DETAIL SHEET.
6. AREAS UNDERGOING CLEARING OR GRADING WORKS SHALL BE RESTORED FOR A PERIOD OF 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATIVE COVER WITHIN 14 DAYS.
7. STABILIZATION SHALL BE ACCOMPLISHED BY STANDARD METHODS OF LIGHTLY WATERING ALL EXPOSED SOIL AND RAPIDLY STABILIZING THE REGRADED AREAS WITH TOPSOIL, LOAM AND/OR SEEDING.
8. THE PROJECT ENGINEER SHALL BE NOTIFIED NO LESS THAN 48 HOURS PRIOR TO THE START OF ANY SITE WORK, AND BY SUCH NOTIFICATION, SHALL BE PROVIDED WITH THE NAME AND TELEPHONE NUMBER OF THE GENERAL CONTRACTOR RESPONSIBLE FOR SUCH WORK.
9. THE CITY MAY INSPECT EROSION AND SEDIMENT CONTROL STRUCTURES ON THE SITE DURING CONSTRUCTION AND RECOMMEND THAT THE CONTRACTOR INSTALL ADDITIONAL EROSION CONTROL MEASURES IF DEEMED NECESSARY TO PROTECT ANY UNDISTURBED AREAS OF THE SITE. ANY SUCH REQUESTS SHALL BE MADE DIRECTLY TO THE CONTRACTOR AND SHARED PROFESSIONAL, AND FOLLOWED UP WITH A WRITTEN NOTIFICATION TO THE DEVELOPER. IN ADDITION, THE CITY SHALL BE CONSULTED ON ANY SPECIAL ADDITIONS OR DELETIONS OF EROSION CONTROL MEASURES WARRANTED BY CHANGING FIELD CONDITIONS. THE NOTICE OF INTENT (NOI) MAY NEED TO BE UPDATED AS A RESULT OF THE CHANGES.
10. THE CONTRACTOR/OWNER SHALL MAINTAIN A RECORD OF ALL EROSION AND SEDIMENT CONTROL INSPECTION REPORTS AT THE SITE IN A LOG BOOK. THE SITE LOG BOOK SHALL BE MAINTAINED ON SITE AND BE MADE AVAILABLE TO THE PERMITTING AUTHORITY. THE OWNER/CONTRACTOR SHALL ON A MONTHLY BASIS, POST AT THE SITE A SUMMARY OF THE SITE INSPECTION ACTIVITIES IN A PUBLICLY ACCESSIBLE LOCATION.
11. THE OWNER SHALL FILE A NOI WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES AND A NOTICE OF TERMINATION (NOTI) WITH THE NYSDEC FOLLOWING CONSTRUCTION ACTIVITIES.
12. IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL CONSTRUCT A DEWATERING PIT IN ACCORDANCE WITH NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (AKA SWAMP PIT) TO FILTER WATER FOR PUMPING TO A SATISFACTORY LOCATION.
13. WHEN ALL DISTURBED AREAS ARE STABLE, ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED PER THE APPROVAL OF THE CITY AND QUALIFIED PROFESSIONAL.
14. UPON COMPLETION OF CONSTRUCTION, THE PARCEL OWNER(S) AND SUBSEQUENTLY THE HOMEOWNERS ASSOCIATION SHALL BE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM. THE STORMWATER MANAGEMENT SYSTEM SHALL BE INSPECTED QUARTERLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT. THE OWNER(S) SHALL MAINTAIN A RECORD OF INSPECTION AND MAINTENANCE REPORTS AT THE SITE. REFER TO THE SWPPP FOR INSPECTION REQUIREMENTS AND FUTURE MAINTENANCE.

SOIL RESTORATION NOTES:

1. THE CONTRACTOR SHALL EMPLOY SOIL RESTORATION TO ALL DISTURBED AREAS THAT WILL REMAIN LANDSCAPED.
2. FOR HEAVY TRAFFIC AREAS, FULL SOIL RESTORATION WILL BE REQUIRED. FULL SOIL RESTORATION CONSISTS OF USE OF A BULLDOZER WITH A DEEP RIPPER ATTACHED TO IT. THE RIPPERING SHALL BE DONE TO A DEPTH OF 12"-24". COMPOST IS PLACED OVER THE RIPPERED SOIL, THEN WORKED INTO THE SOIL WITH A DEEP SUB-SOILER.
3. FOR LIGHT TRAFFIC AREAS, SOIL RESTORATION MAY BE ACCOMPLISHED BY MEANS OF TILLING THE SOIL WITH A DISK TYPE TILLER PULLED BY A TRACTOR OR PLACEMENT OF TOPSOIL OVER THE EXISTING SOIL A.D.B.L.E.

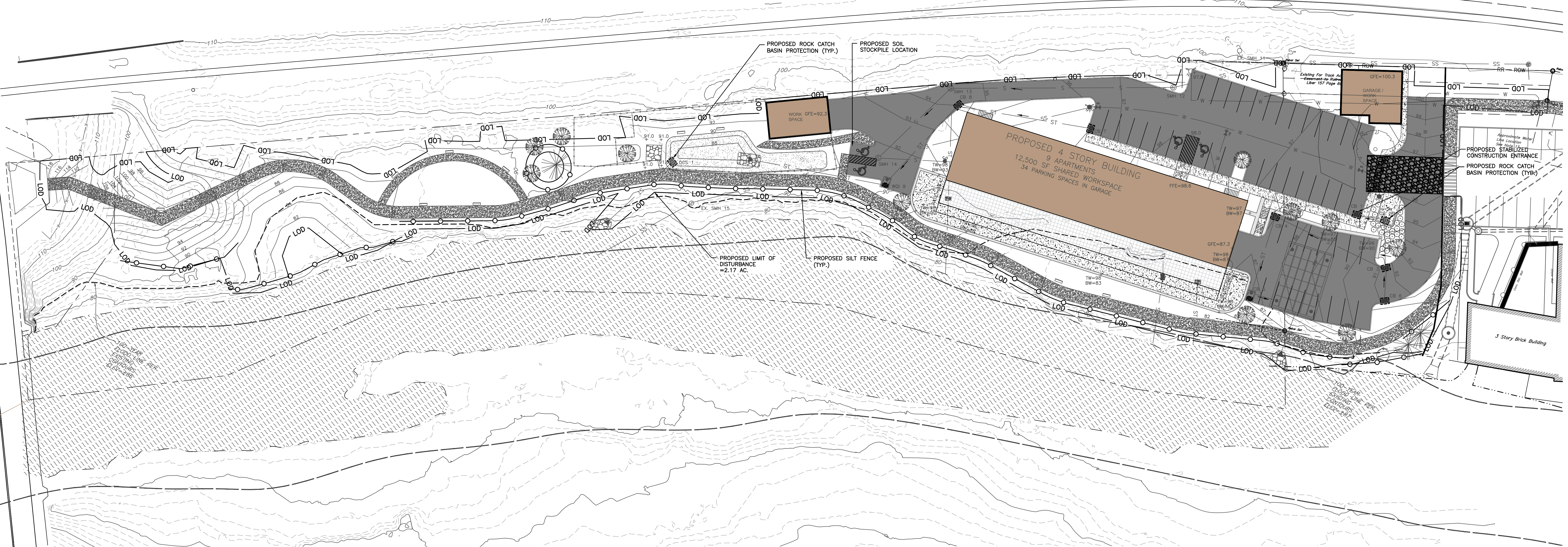
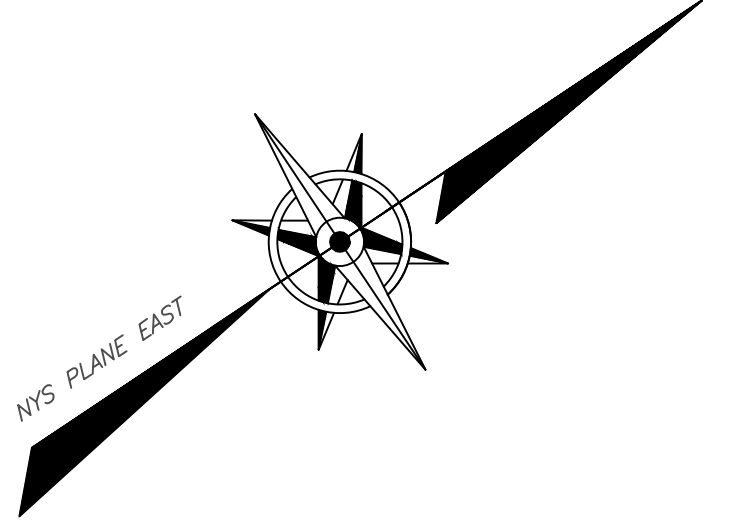
CONSTRUCTION SEQUENCING NOTES:

- DISTURBED AREA = 2.17 AC.**
1. SCHEDULE A PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE THE CITY ENGINEER, OWNER OR OWNER'S REPRESENTATIVE, PROJECT ENGINEER, CONTRACTOR AND SUBCONTRACTORS (IF NECESSARY) WHO ARE TO PERFORM THE CONSTRUCTION.
 2. ESTABLISH THE LIMIT OF DISTURBANCE FOR PROPOSED CLEARING AND GRADING ASSOCIATED WITH THE PROPOSED PARKING AREAS AND STORMWATER MANAGEMENT AREA.
 3. INSTALL STABILIZED CONSTRUCTION ENTRANCE AS DETICED ON THE PLAN.
 4. CLEAR LOCATIONS FOR INSTALLATION OF PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.
 5. INSTALL SILT FENCE AS SHOWN ON THIS PLAN AND IN OTHER AREAS THAT BECOME APPARENT FOLLOWING CLEARING ACTIVITIES.
 6. PRIOR TO FURTHER CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER TO CONDUCT A PRE-CONSTRUCTION SITE ASSESSMENT TO VERIFY THAT THE APPROPRIATE EROSION AND SEDIMENT CONTROL STRUCTURES SHOWN ON THIS PLAN HAVE BEEN ADEQUATELY INSTALLED ENSURING OVERALL PREPAREDNESS OF THIS SITE FOR THE COMMENCEMENT OF CONSTRUCTION.
 7. COMMENCE MASS GRADING ACTIVITIES ON PROJECT AREA.
 8. INSTALL UNDERGROUND DETENTION SYSTEM. INSTALL SILT FENCE SURROUNDING UNDERGROUND DETENTION FOOTPRINT. USE ORANGE CONSTRUCTION FENCE IN ADDITION TO THE SILT FENCE IF NECESSARY.
 9. CONSTRUCT STORM SEWER SYSTEM.
 10. CONSTRUCT CURBING AND PARKING AREAS TO BINDER COURSE.
 11. TILL SOIL IN ALL LANDSCAPED AREAS THAT HAVE PREVIOUSLY BEEN DISTURBED.
 12. INSTALL ALL PROPOSED LANDSCAPING.
 13. PAVE TOP COURSE ON PARKING AREAS.
 14. INSTALL INFILTRATION BASIN.
 15. REMOVE EROSION AND SEDIMENT CONTROLS WHEN CONTRIBUTING DRAINAGE AREAS HAVE BECOME STABILIZED.

GENERAL NOTE: EROSION CONTROL MEASURES SHALL BE INSPECTED AND REPAIRED AS NEEDED DURING CONSTRUCTION ACTIVITIES AND BASED ON THE MAINTENANCE SCHEDULE. ADDITIONAL EROSION CONTROL MEASURES BASED ON SITE CONDITIONS SHALL BE PROVIDED AS NECESSARY IN ORDER TO PROTECT ADJACENT PARCELS AND WATERS.

INSPECTION SCHEDULE & MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES

- PERMANENT AND TEMPORARY VEGETATION:**
INSPECT ALL AREAS THAT HAVE RECEIVED VEGETATION EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. ALL AREAS DAMAGED BY EROSION OR WHERE SEED HAS NOT ESTABLISHED SHALL BE REPAIRED AND RESTABILIZED IMMEDIATELY.
- STABILIZED CONSTRUCTION ENTRANCE:**
INSPECT THE ENTRANCE PAD EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. CHECK FOR MUD, SEDIMENT BUILD-UP AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING WET WEATHER. REPAIR PAD AS NEEDED FOR RUNOFF CONTROL. WASH AND REPLACE STONE AS NEEDED. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF SITE BY VEHICLES. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. REMOVE TEMPORARY CONSTRUCTION ENTRANCE AS SOON AS THEY ARE NO LONGER NEEDED TO PROVIDE ACCESS TO THE SITE AS DIRECTED BY PROJECT ENGINEER.
- SILT FENCE:**
INSPECT FOR DAMAGE EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE FENCE BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO ONE-QUARTER THE HEIGHT OF THE FENCE. IF FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF FENCE IMMEDIATELY.
- SOIL STOCKPILE:**
INSPECT SEDIMENT CONTROL BARRIERS (SILT FENCE) AND VEGETATION FOR DAMAGE EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT WITH RAINFALL THAT EQUALS OR EXCEEDS 0.5 INCH. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE SEDIMENT CONTROL BARRIER BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO ONE-QUARTER THE HEIGHT OF THE SEDIMENT CONTROL BARRIER. IF SEDIMENT CONTROL BARRIER TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF SEDIMENT CONTROL BARRIER IMMEDIATELY. REVEGETATE DISTURBED AREA TO STABILIZE SOIL STOCKPILE. REMOVE THE SEDIMENT CONTROL BARRIER WHEN THE SOIL STOCKPILE HAS BEEN REMOVED.
- DUST CONTROL:**
SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORKS. APPLY TEMPORARY SOIL STABILIZATION PRACTICES SUCH AS MULCHING, SEEDING, AND SPRAYING (MATERIAL). STRUCTURAL MEASURES (MULCH, SEEDING) SHALL BE INSTALLED IN DISTURBED AREAS BEFORE SIGNIFICANT BLOWING PROBLEMS DEVELOP. WATER SHALL BE SPRAYED AS NEEDED. REPEAT AS NEEDED, BUT AVOID EXCESSIVE SPRAYING, WHICH COULD CREATE RUNOFF AND EROSION PROBLEMS.
- DEWATERING PITS:**
(IF REQUIRED) - INSPECT DAILY DURING OPERATION FOR CLOGGING OR OVERFLOW. CLEAR INLET AND DISCHARGE PIPES OF OBSTRUCTIONS. IF A FILTER MATERIAL BECOMES CLOGGED WITH SEDIMENT, PIT SHALL BE DISMANTLED AND NEW PITS SHALL BE CONSTRUCTED AS NEEDED.
- CATCH BASINS:**
ALL CATCH BASINS SHALL BE INSPECTED AFTER EACH STORM EVENT FOR SEDIMENT ACCUMULATION, AND DEBRIS, AND REMOVE AS NECESSARY. THE INLET PROTECTION SHALL BE INSPECTED FOR SEDIMENT ACCUMULATION AND REPLACED AS NECESSARY. WHEN SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN SLUMP REACHES 1/2 OF THE SLUMP DEPTH, IT SHALL BE REMOVED.



EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1" = 30'
GRAPHIC SCALE

DRAWN BY: MAB				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	12/28/16	REVISED FOR PLANNING BOARD SUBMISSION	MAB				

Dig Safely.
New York
800-962-7962
www.digsafelynewyork.org

- Call Before You Dig
- Mark The Required Time
- Confirm Utility Responses
- Respect the Marks
- Dig With Care

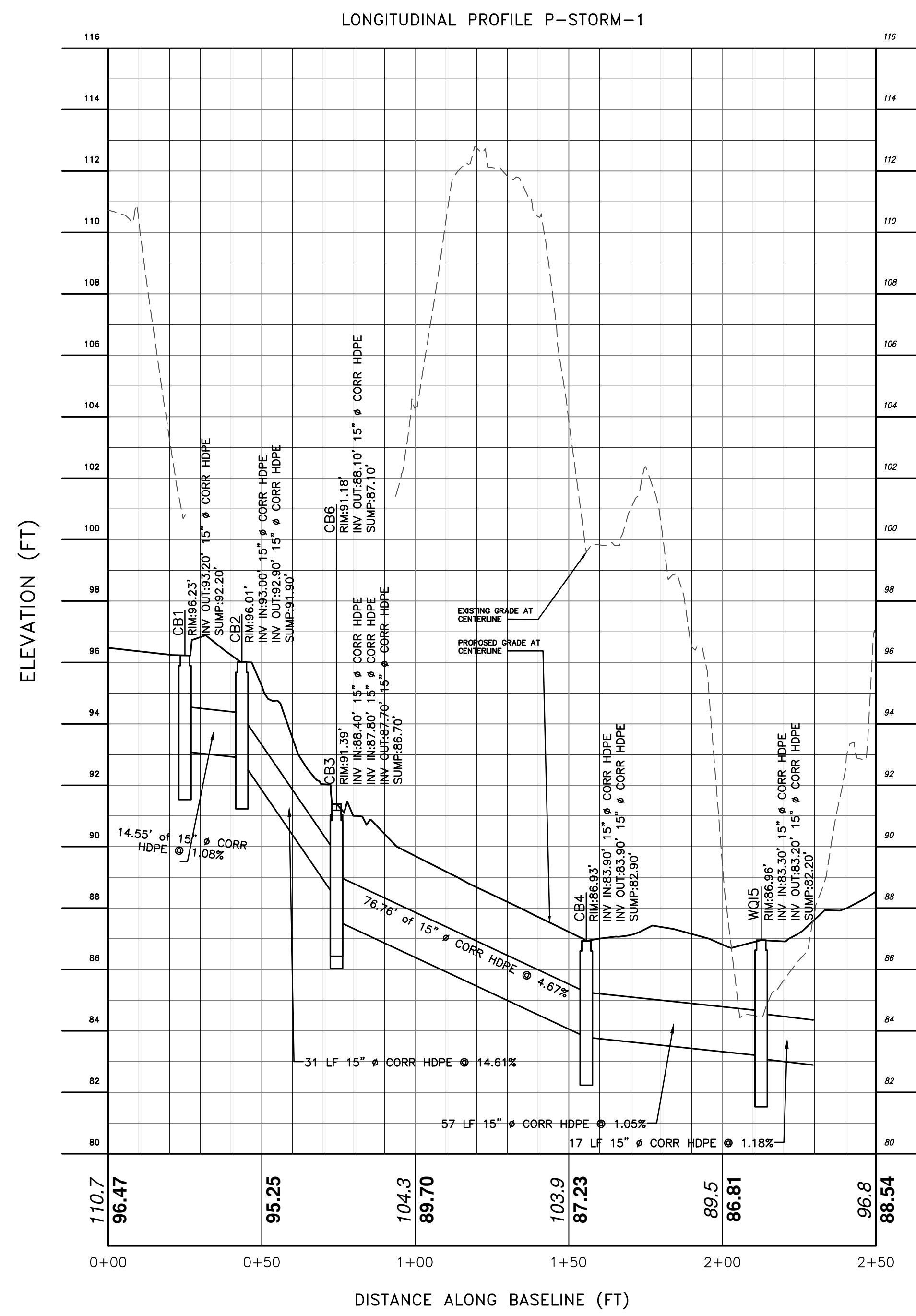
HUDSON
LAND DESIGN



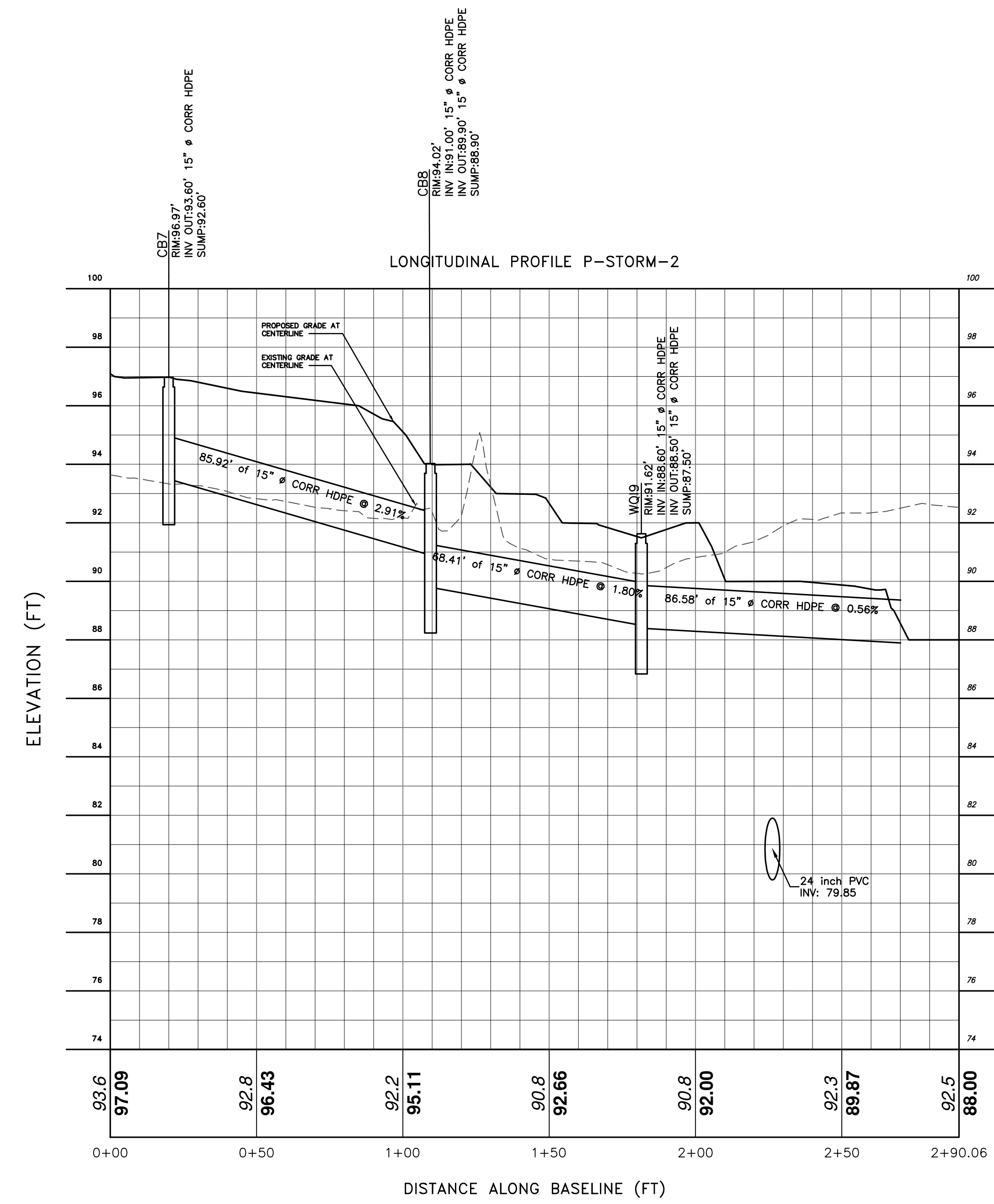
HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6925
F: 845-440-6637

EROSION AND SEDIMENT CONTROL PLAN
23-28 CREEK DRIVE
23-28 CREEK ROAD
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6054-37-037625

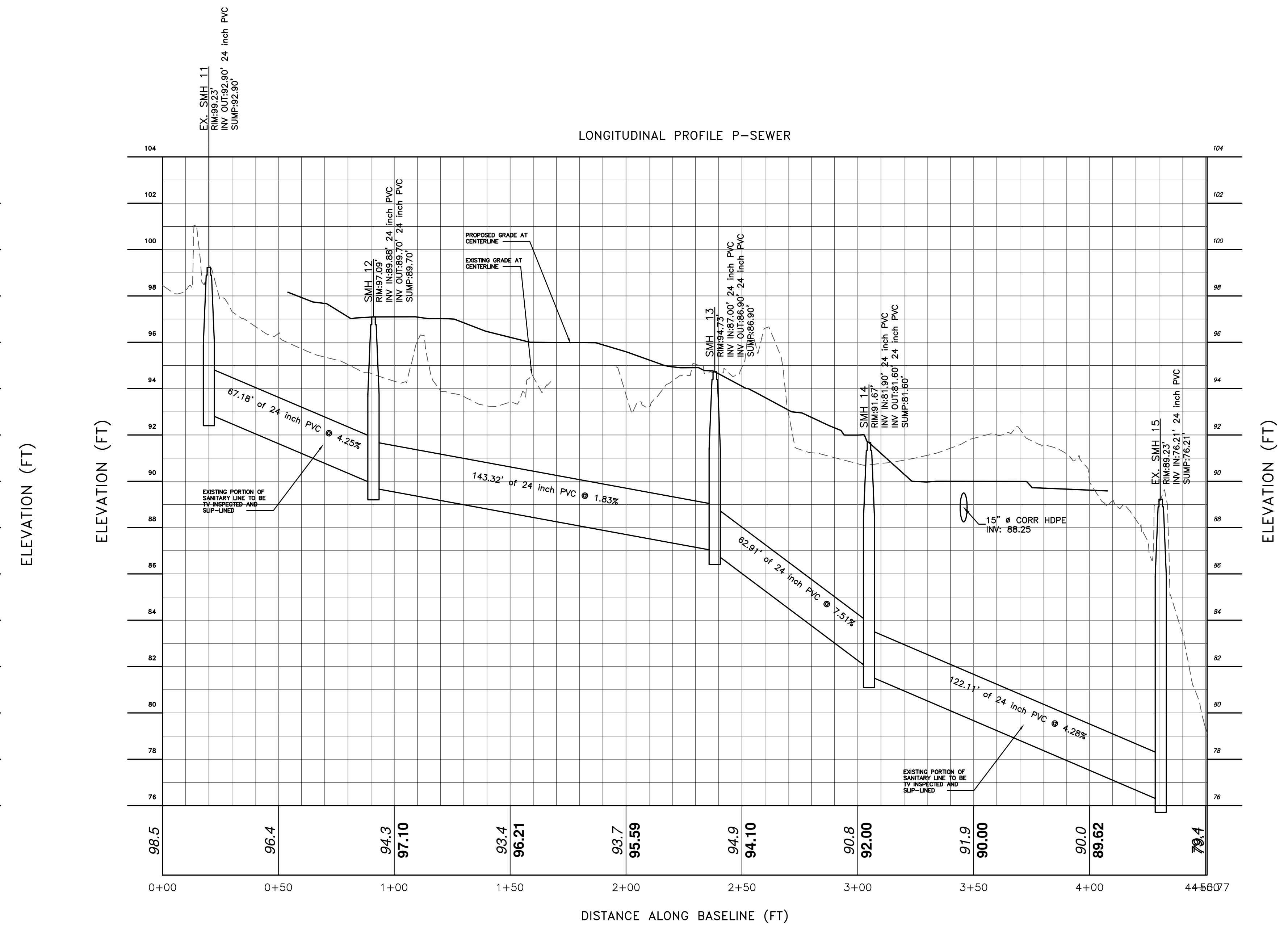
JOB #:	2018-029
DATE:	10/23/2016
SCALE:	SCALE: 1" = 30'
TITLE:	EC-1
SHEET:	8 OF 12



STORM LINE 1 PROFILE
SCALE: 1" = 3'V
1" = 30'H



STORM LINE 2 PROFILE
SCALE: 1" = 3'V
1" = 30'H



SEWER LINE PROFILE
SCALE: 1" = 3'V
1" = 30'H

DRAWN BY: MAB				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	12/25/16	REVISED FOR PLANNING BOARD SUBMISSION	MAB				

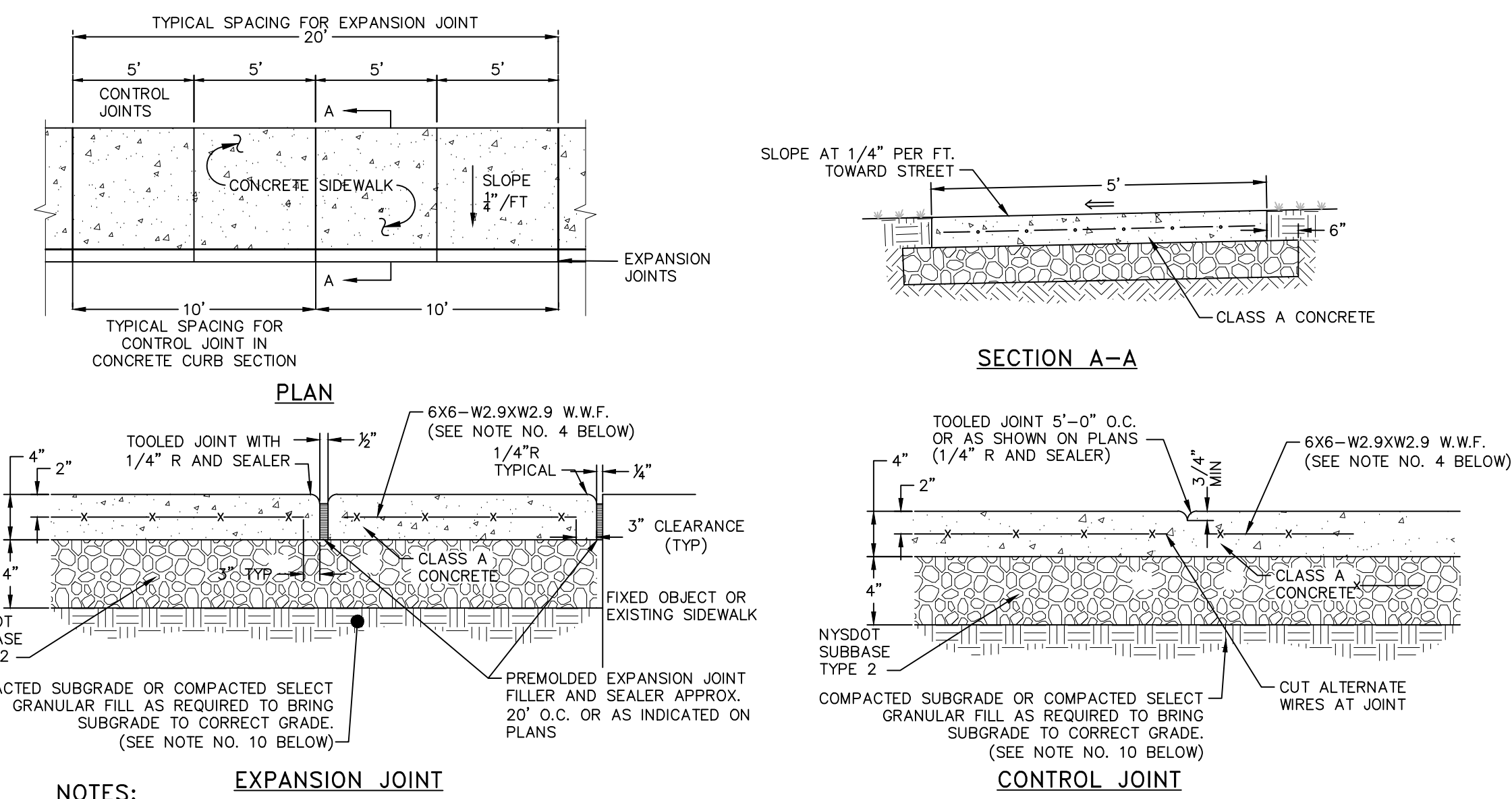


HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6925
F: 845-440-6637

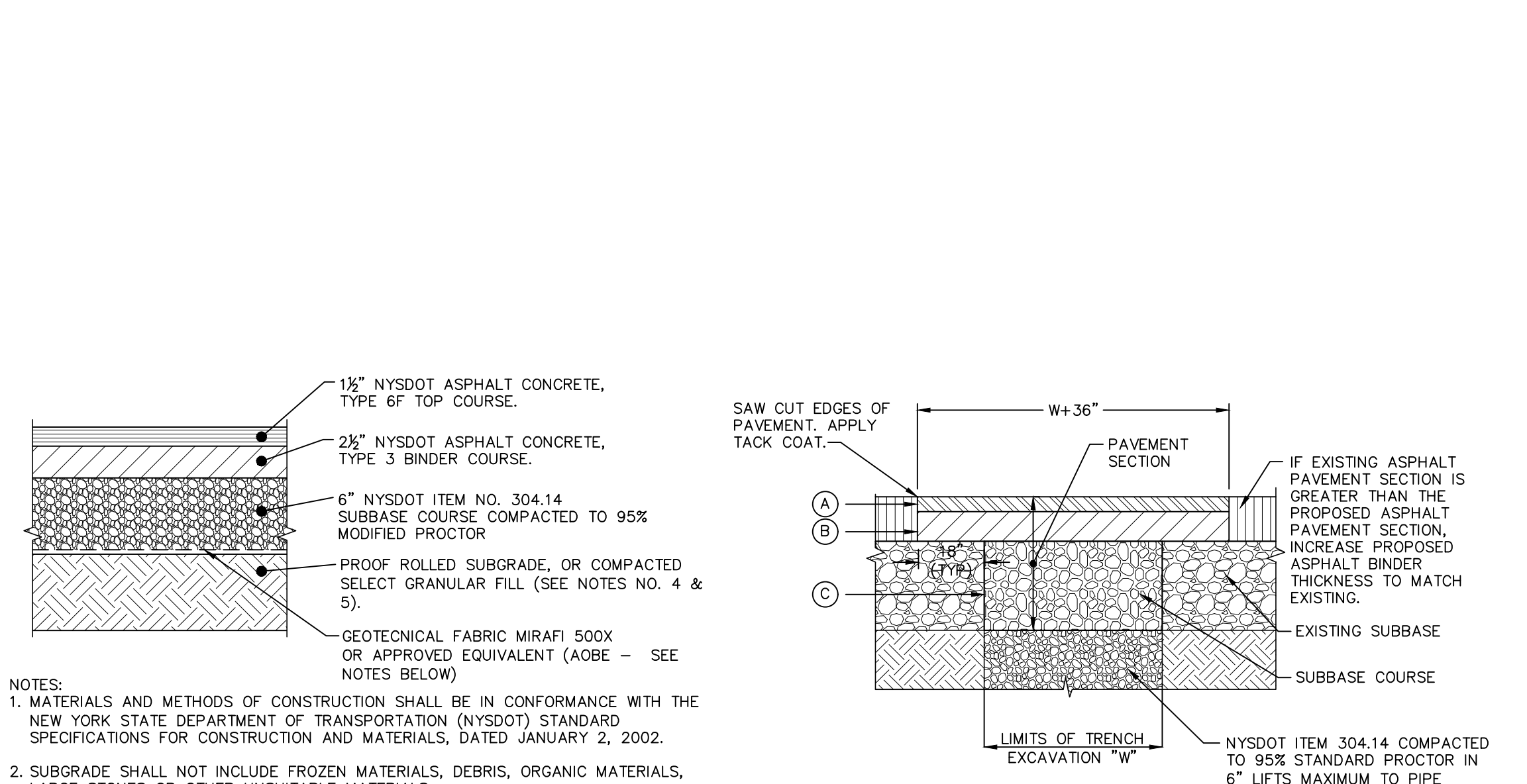
PROFILES
23-28 CREEK DRIVE
23-28 CREEK ROAD
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6054-37-037625

JOB #: 2016-029
DATE: 10/23/2016
SCALE: AS SHOWN
TITLE: P-1
SHEET: 9 OF 12

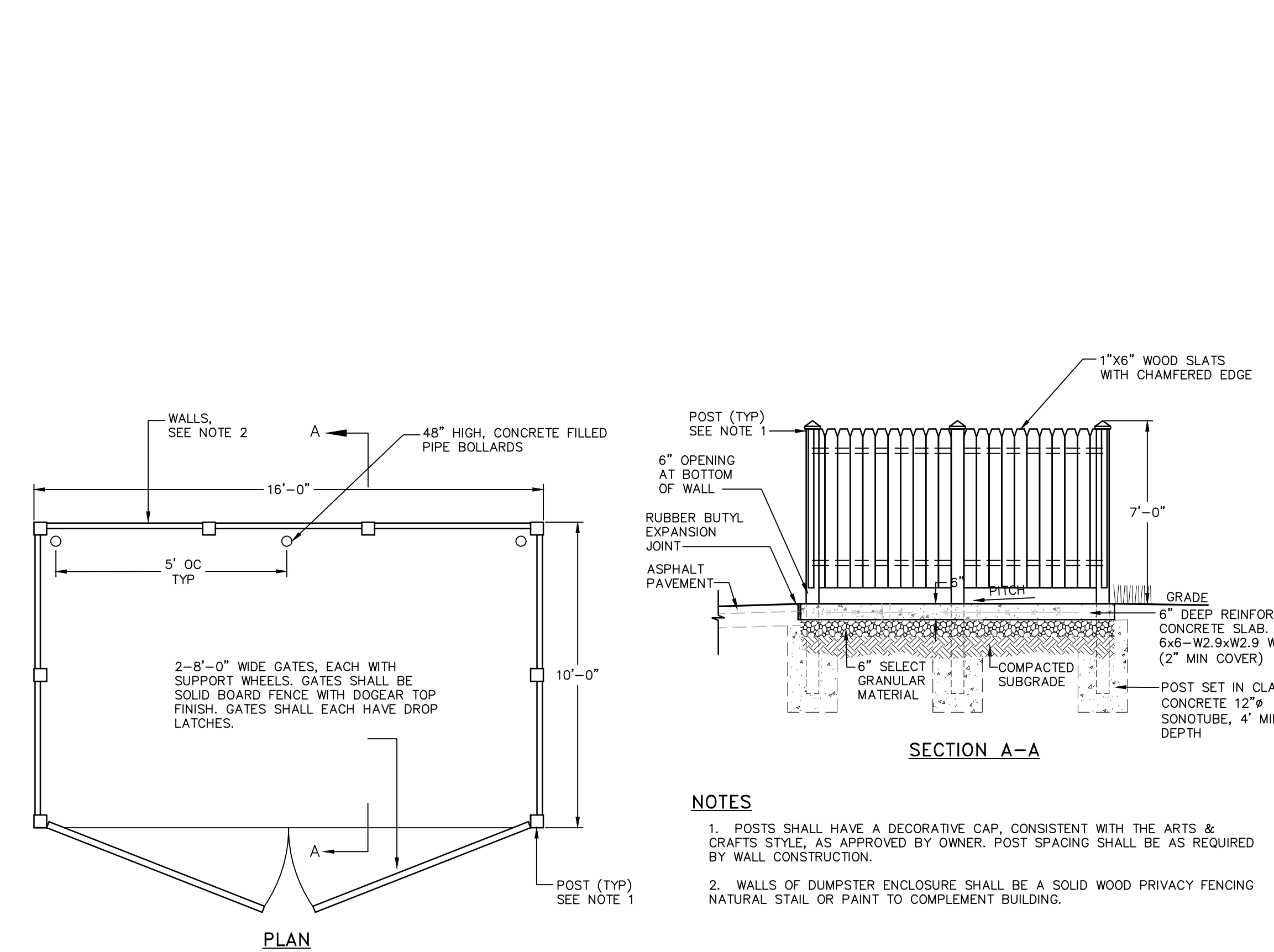
SITE DETAILS



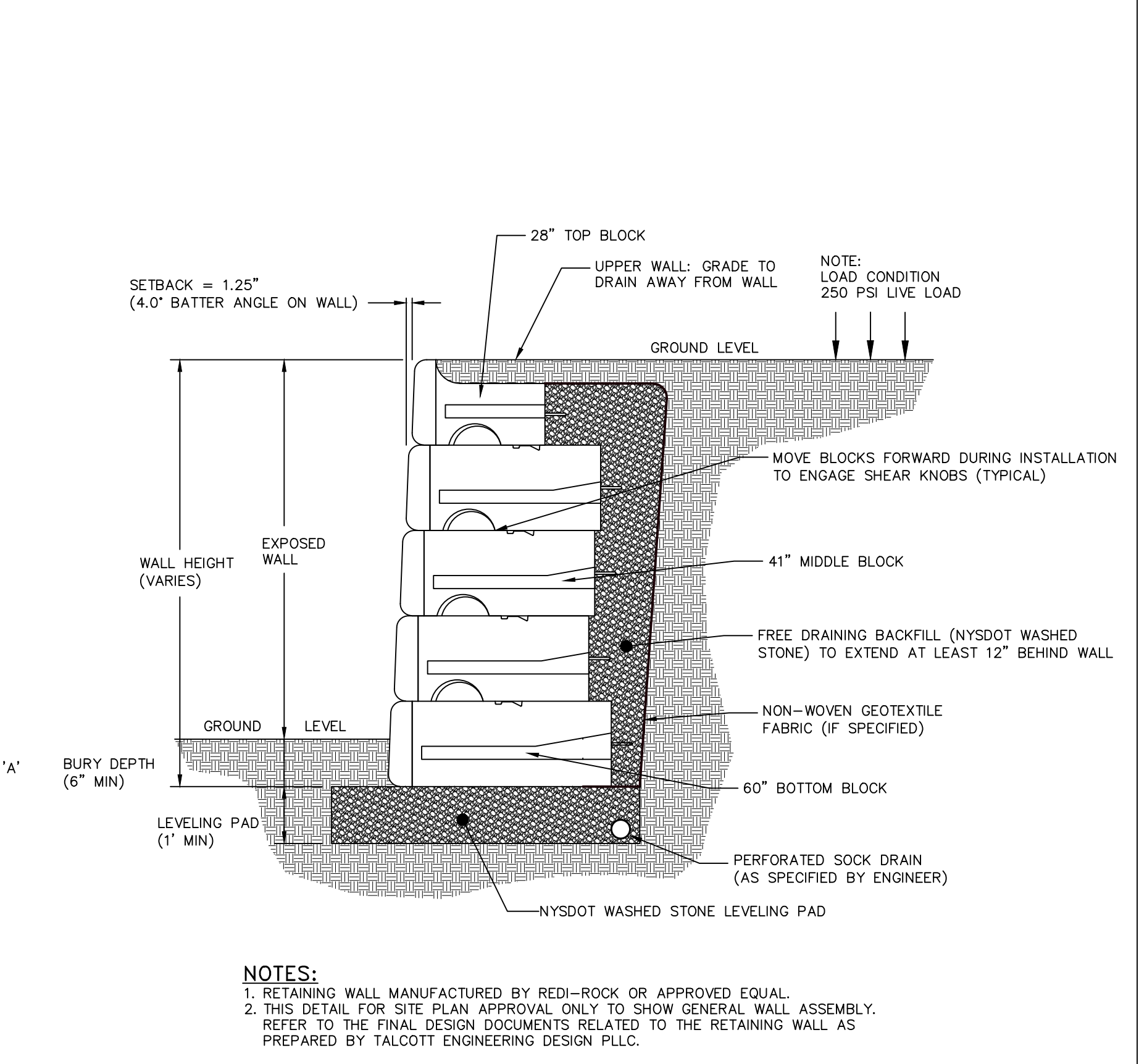
- NOTES:**
- 10' SPACING OF CONTROL JOINTS SHALL BE USED FOR CAST IN PLACE CONCRETE CURBS.
 - MATERIAL AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JANUARY 2, 2002, AND ALL ADDENDA THEREIN, THE ONLY EXCEPTION BEING THAT THE WORK OF THIS CONTRACT SHALL BE MEASURED IN ENGLISH UNITS.
 - ALL CONCRETE SHALL BE 4000 PSI CLASS A CONCRETE. MATERIALS, PLACEMENT, AND CONSTRUCTION SHALL CONFORM WITH SECTION 500 OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 - REINFORCING STEEL SHALL CONFORM WITH SECTION 556 - REINFORCING STEEL FOR CONCRETE STRUCTURES OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND AS SPECIFICALLY CALLED OUT IN THE DRAWINGS.
 - ALL EXPOSED SURFACES SHALL HAVE A BROOM TEXTURED FINISH.
 - EXPANSION JOINTS SHALL BE LOCATED A MAXIMUM OF 20' ON CENTER, OR AS INDICATED ON PLANS.
 - JOINTS SHALL NOT BE SAW CUT.
 - EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH "SUREBOND"/"SAFERBOND" 98-7000 INTENSIFIER BRIGHT PROTECTOR AND SIDEWALK SEALER, OR EQUAL. RATE AND METHOD OF APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - SUBBASE MATERIAL SHALL CONFORM WITH SECTION 304 OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 - WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSES OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMANCE WITH SECTION 203-EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 - ALL WORK SHALL CONFORM WITH SECTION 608-SIDEWALK, DRIVEWAYS, AND BICYCLE PATHS OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.



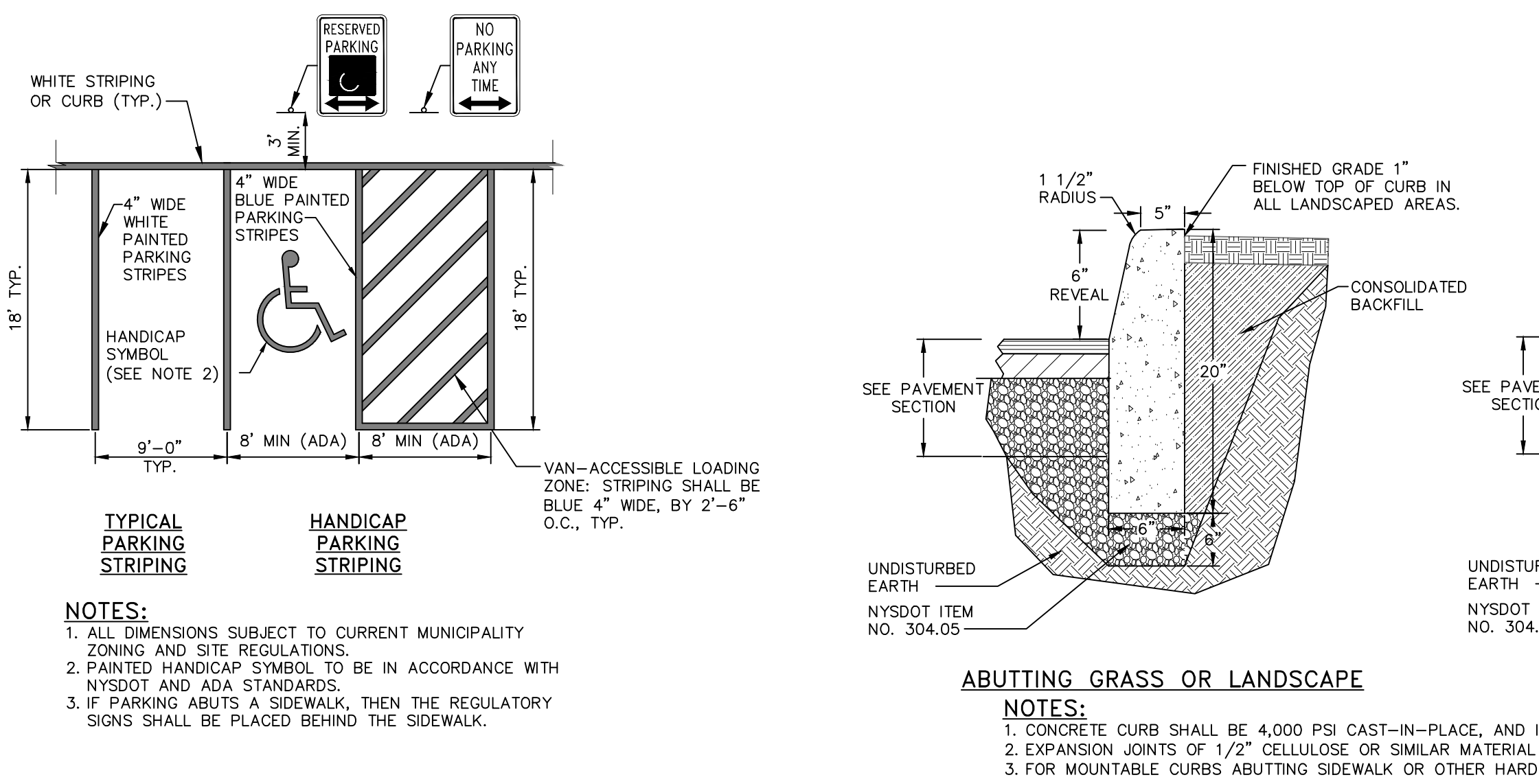
- NOTES:**
- MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JANUARY 2, 2002.
 - SUBGRADE SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS.
 - TACK COAT WHEN SPECIFIED OR CALLED OUT IN THESE DRAWINGS OR REQUIRED BY THE REFERENCED SPECIFICATIONS SHALL CONFORM WITH SECTION 407-TACK COAT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 - WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSES OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMANCE WITH SECTION 203-EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
 - IT IS EXPECTED THAT THE EXISTING SITE SUB-SOILS ARE SAND AND GRAVEL IN NATURE (CALIFORNIA BEARING RATIO RANGE BETWEEN 40 AND 80) - IF UNSUITABLE SOILS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR POSSIBLE MODIFICATIONS TO THE PAVEMENT DETAIL.



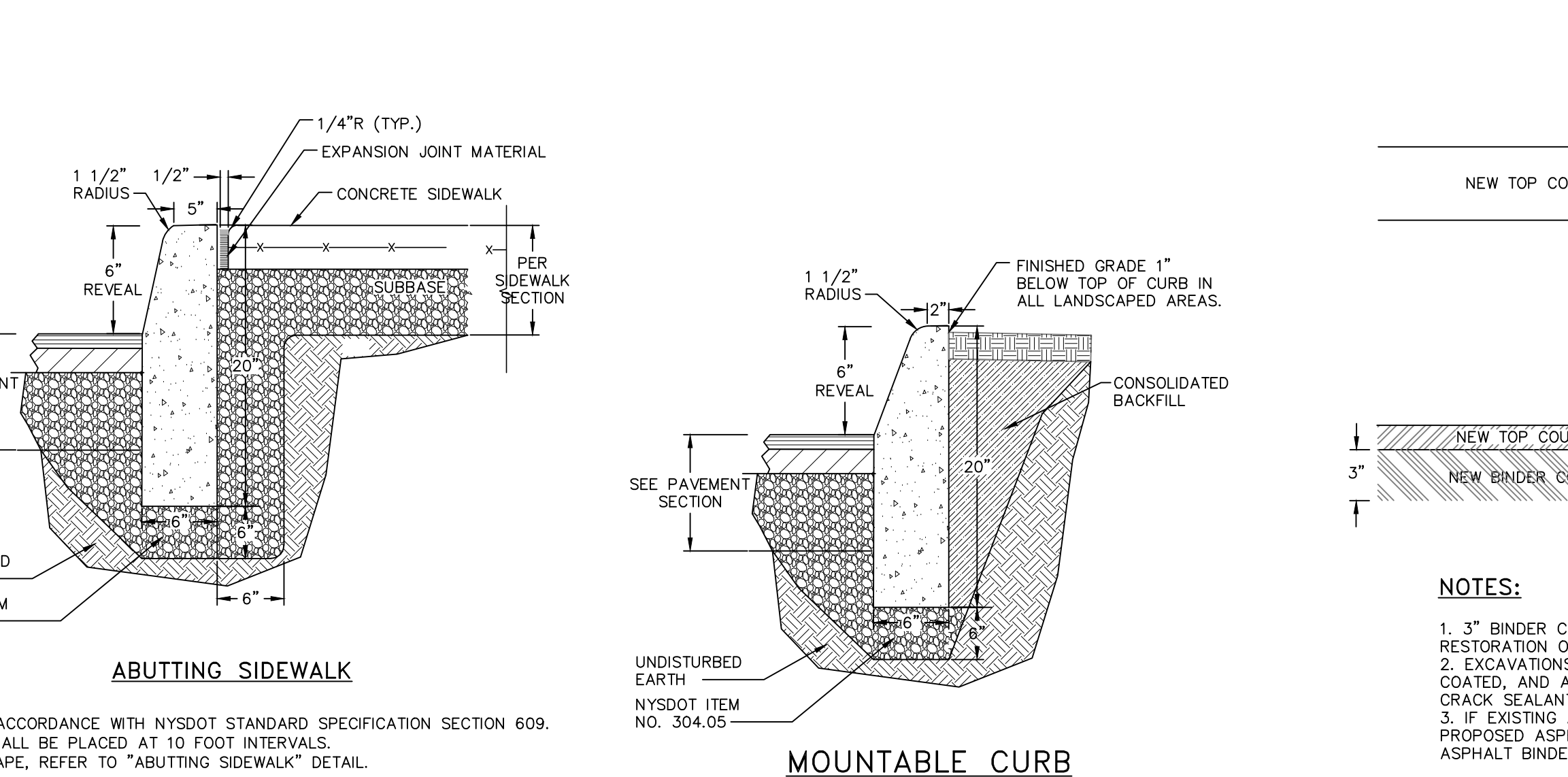
- NOTES:**
- SAW CUT MIN. 18" BEYOND EXCAVATION WITH SMOOTH EDGES.
 - 18" JOINT BETWEEN EXISTING AND NEW TOP COURSE TO BE MILLED. JOINT TO BE SEALED WITH POLYMER MODIFIED SEALER.
 3. TACK COAT IN ACCORDANCE WITH NYSDOT STANDARD SPEC.
 - FURNISH AND PLACE ASPHALT CONCRETE PAVEMENT AS SPECIFIED.



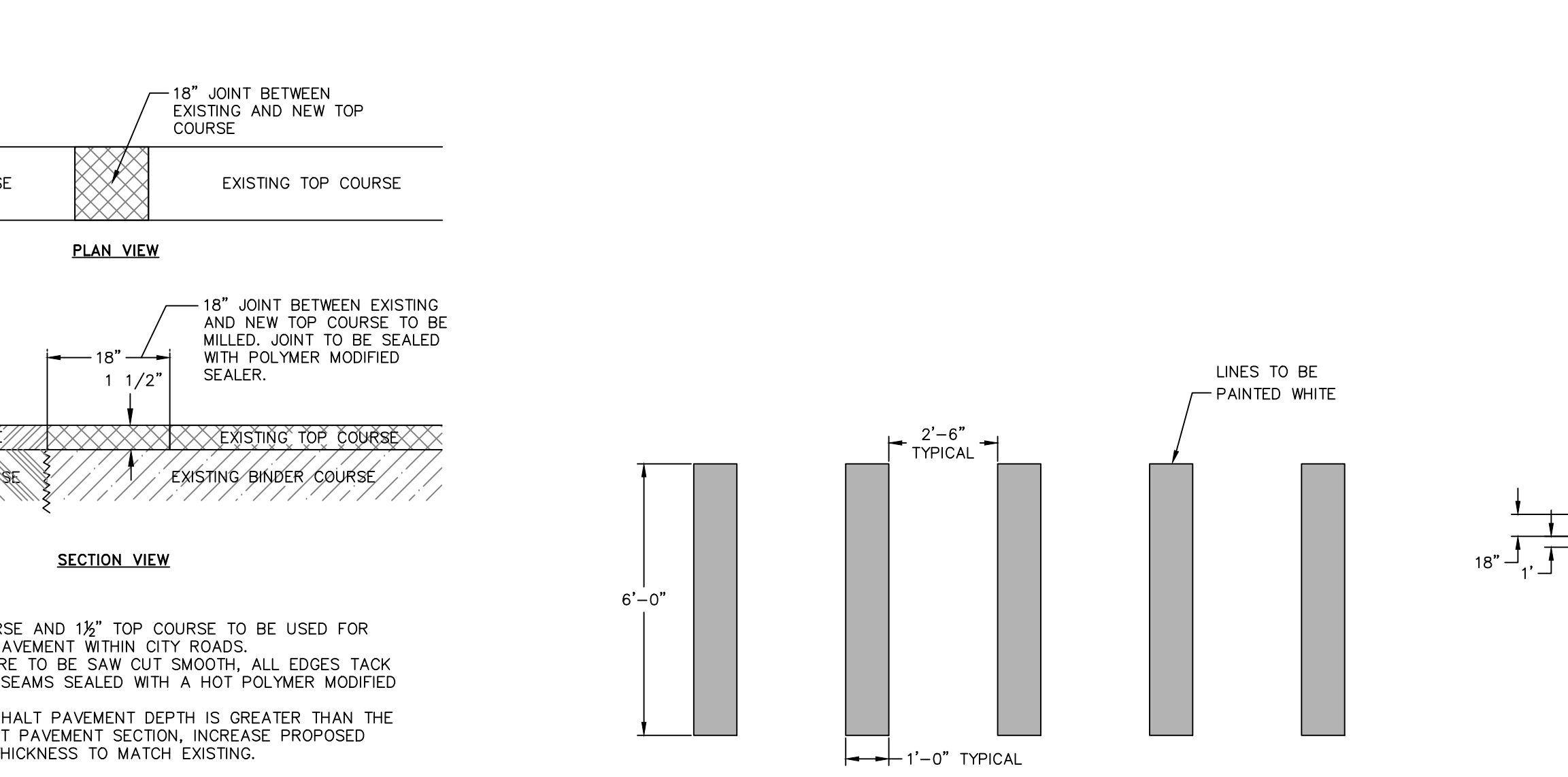
- NOTES:**
- RETAINING WALL MANUFACTURED BY REDI-ROCK OR APPROVED EQUAL.
 - THIS DETAIL FOR SITE PLAN APPROVAL ONLY TO SHOW GENERAL WALL ASSEMBLY. REFER TO THE FINAL DESIGN DOCUMENTS RELATED TO THE RETAINING WALL AS PREPARED BY TALCOTT ENGINEERING DESIGN PLLC.



- NOTES:**
- ALL DIMENSIONS SUBJECT TO CURRENT MUNICIPALITY ZONING AND SITE REGULATIONS.
 - PAINTED HANDCAP SYMBOL TO BE IN ACCORDANCE WITH NYSDOT AND ADA STANDARDS.
 - IF PARKING ADJACENT TO SIDEWALK, THEN THE REGULATORY SIGNS SHALL BE PLACED BEHIND THE SIDEWALK.

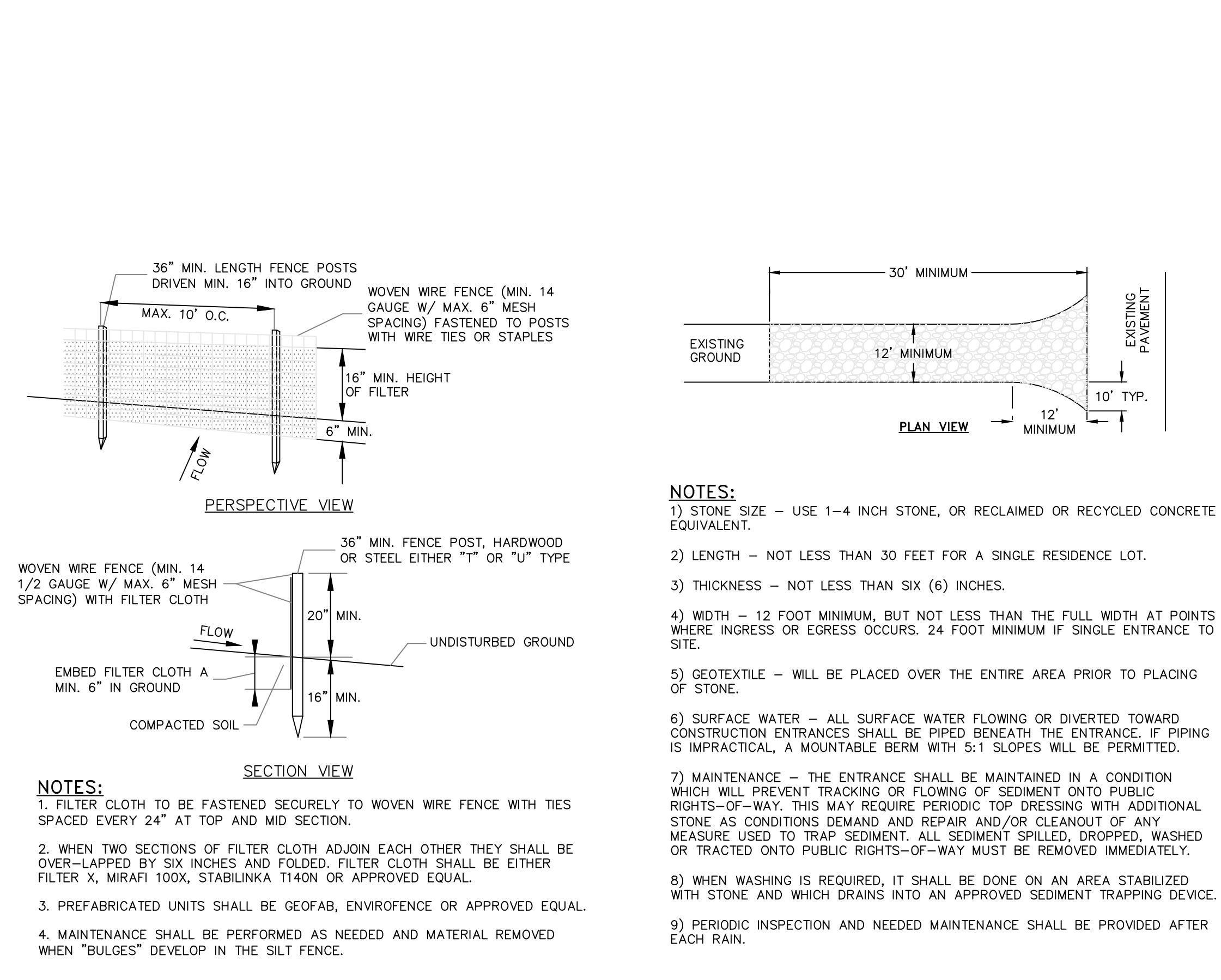


- NOTES:**
1. 3" TOP COURSE AND 1 1/2" TOP COURSE TO BE USED FOR RESTORATION OF PAVEMENT WITHIN CITY ROADS.
 - EXCAVATIONS ARE TO BE SAW CUT SMOOTH. ALL EDGES TACK COATED, AND ALL SEAMS SEALED WITH A HOT POLYMER MODIFIED SEALER.
 - IF EXISTING ASPHALT PAVEMENT DEPTH IS GREATER THAN THE PROPOSED ASPHALT PAVEMENT SECTION, INCREASE PROPOSED ASPHALT BINDER THICKNESS TO MATCH EXISTING.

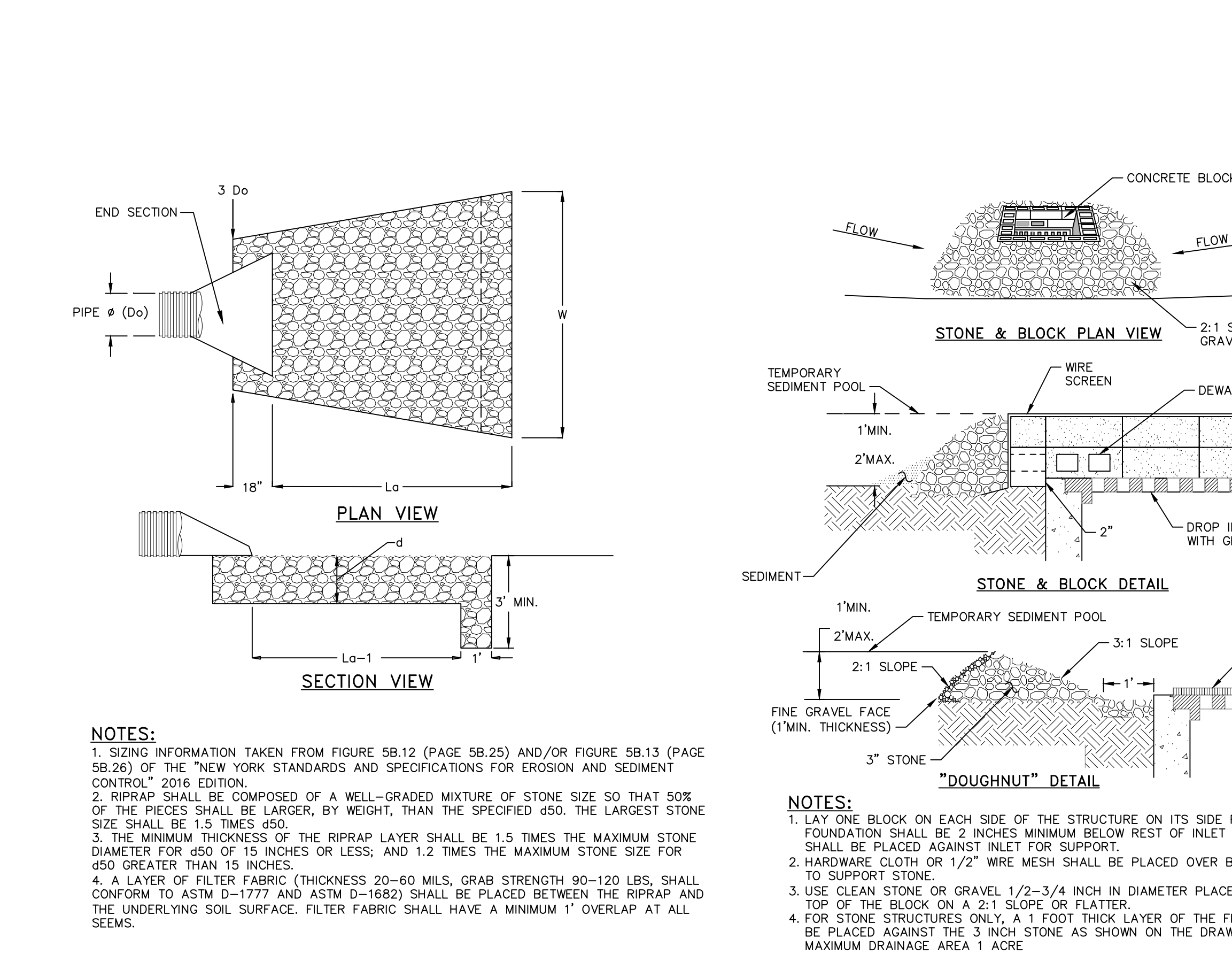


- NOTES:**
- SIGN MOUNTING HEIGHT SHALL BE A MINIMUM OF 7'. MINIMUM MOUNTING HEIGHT MAY BE ADJUSTED ONLY IN ACCORDANCE WITH PROVISIONS OUTLINED IN NYSDOT CHAPTER V-UNIFORM TRAFFIC CONTROL DEVICES.
 - SIGN POST SHALL BE IN ACCORDANCE W/ NYSDOT STANDARD SPEC SECTION 730.
 - SIGN BRACKETS PER NYSDOT STANDARD SHEETS.
 - SIGN POSTS WITHIN THE COUNTY RIGHT-OF-WAY SHALL BE BREAKAWAY TYPE MEETING THE REQUIREMENTS OF THE NYSDOT.

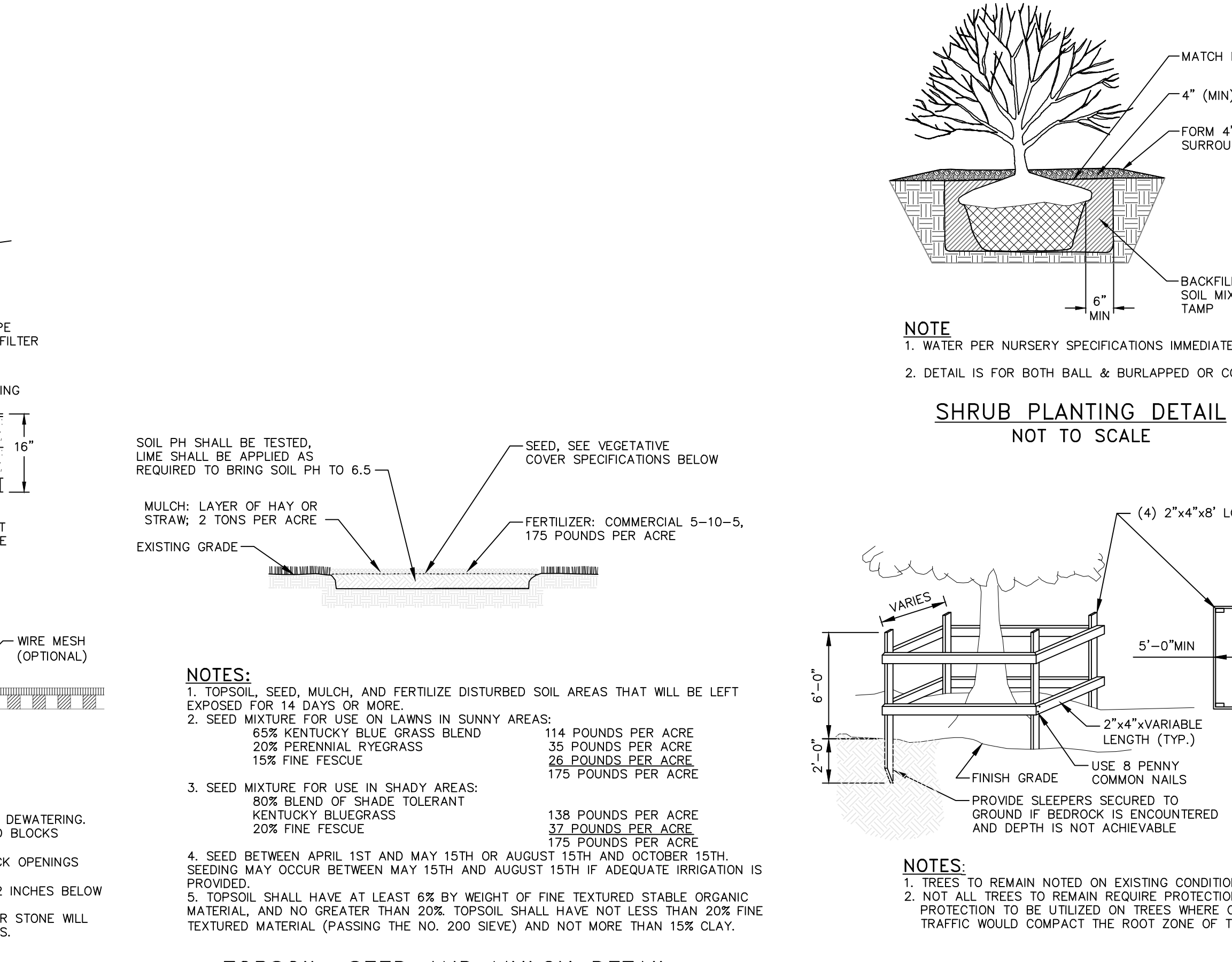
EROSION AND SEDIMENT CONTROL DETAILS



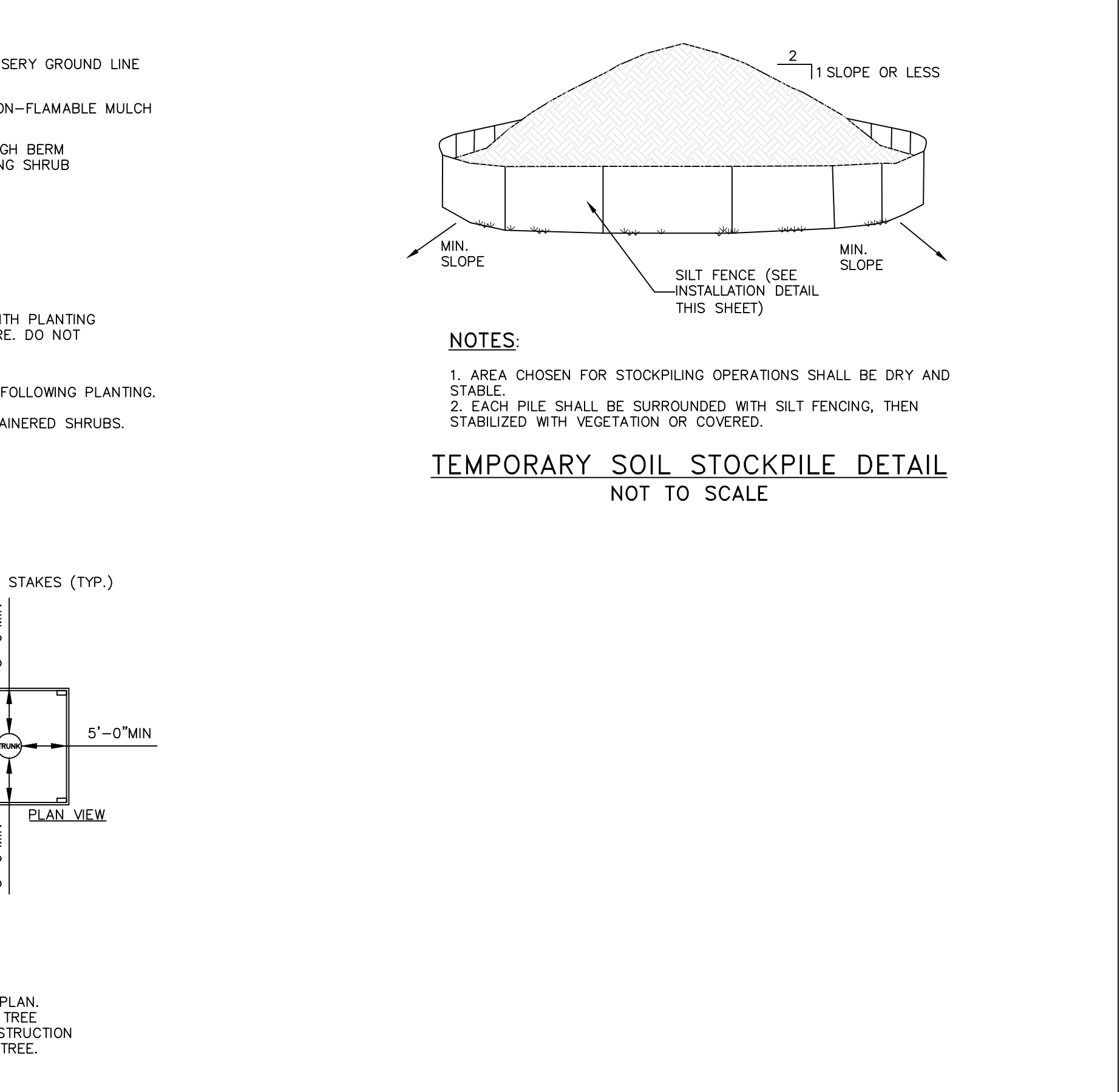
- NOTES:**
- STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
 - LENGTH - NOT LESS THAN 30 FEET FOR A SINGLE RESIDENCE LOT.
 - THICKNESS - NOT LESS THAN SIX (6) INCHES.
 - WIDTH - 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24 FOOT MINIMUM IF SINGLE ENTRANCE TO SITE.
 - GEOTEXTILE - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
 - SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE CURB WITH 5:1 SLOPES WILL BE PERMITTED.
 - MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURE USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
 - PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



- NOTES:**
- SOUND INFORMATION TAKEN FROM FIGURE 58.12 (PAGE 58.25) AND/OR FIGURE 58.13 (PAGE 58.26) OF THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" 2018 EDITION.
 - RRIPAP SHALL BE COMPOSED OF A WELL-GRADED MIXTURE OF STONE SIZE 50 THAT 50% OF THE PIECES SHALL BE LARGER, BY HEIGHT, THAN THE SPECIFIED SIZE. THE LARGEST STONE SIZE SHALL BE 1.5 TIMES SIZE 50.
 - THE MINIMUM THICKNESS OF THE RRIPAP LAYER SHALL BE 1.5 TIMES THE MAXIMUM STONE SIZE FOR 450 GREATER THAN 18 INCHES.
 - A LAYER OF FILTER FABRIC (THICKNESS 20-60 MILS, GRAB STRENGTH 90-120 LBS, SHALL CONFORM TO ASTM D-1777 AND ASTM D-1682) SHALL BE PLACED BETWEEN THE RRIPAP AND THE UNDERLYING SOIL SURFACE. FILTER FABRIC SHALL HAVE A MINIMUM 1' OVERLAP AT ALL SEAMS.



- NOTES:**
- TOPSOIL, SEED, MULCH, AND FERTILIZE DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 14 DAYS OR MORE.
 - SEED MIXTURE FOR USE ON LAWNS IN SUNNY AREAS: 60% KENTUCKY BLUE GRASS BLEND 14 POUNDS PER ACRE 20% PERENNIAL Ryegrass 30 POUNDS PER ACRE 15% FINE FESCUE 175 POUNDS PER ACRE
 - SEED MIXTURE FOR USE IN SHADY AREAS: 60% BLEND OF SHADE TOLERANT KENTUCKY BLUEGRASS 130 POUNDS PER ACRE 20% FINE FESCUE 175 POUNDS PER ACRE
 - SEED BETWEEN APRIL 1ST AND MAY 15TH OR AUGUST 15TH AND OCTOBER 15TH. SEEDING MAY OCCUR BETWEEN MAY 15TH AND AUGUST 15TH IF ADEQUATE IRRIGATION IS PROVIDED.
 - TOPSOIL SHALL HAVE AT LEAST 6% BY WEIGHT OF FINE TEXTURED STABLE ORGANIC MATERIAL, AND NO GREATER THAN 20%. TOPSOIL SHALL HAVE NOT LESS THAN 20% FINE TEXTURED MATERIAL (PASSING THE NO. 200 SIEVE) AND NOT MORE THAN 15% CLAY. MAXIMUM DRAINAGE AREA 1 ACRE.



- NOTES:**
- TREES TO REMAIN NOTED ON EXISTING CONDITIONS PLAN.
 - NOT ALL TREES TO REMAIN REQUIRE PROTECTION. TREE PROTECTION TO BE UTILIZED ON TREES WHERE CONSTRUCTION TRAFFIC WOULD COMPACT THE ROOT ZONE OF THE TREE.

DRAWN BY: MAB				CHECKED BY: DGK			
REVISIONS:				REVISIONS:			
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	12/28/16	REVISED FOR PLANNING BOARD SUBMISSION	MAB				

Dig Safely. New York
800-962-7962
www.digsafelynewyork.org

HUDSON LAND DESIGN

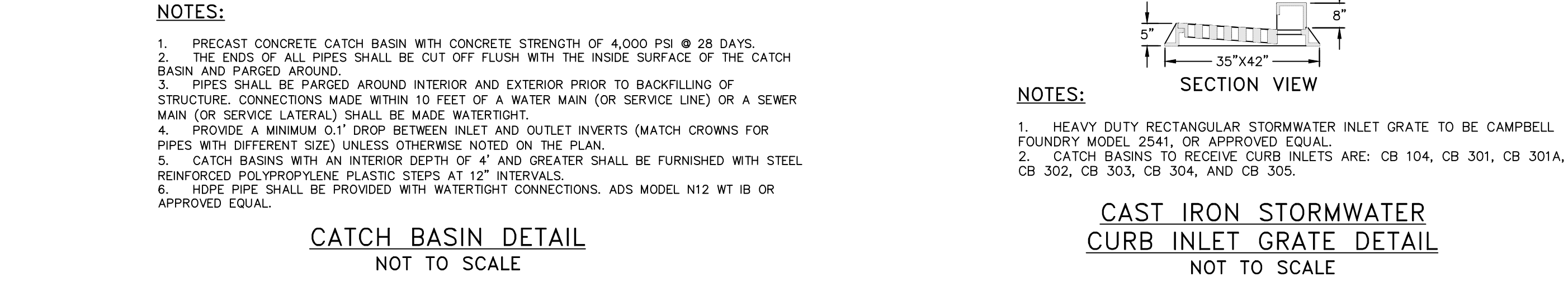
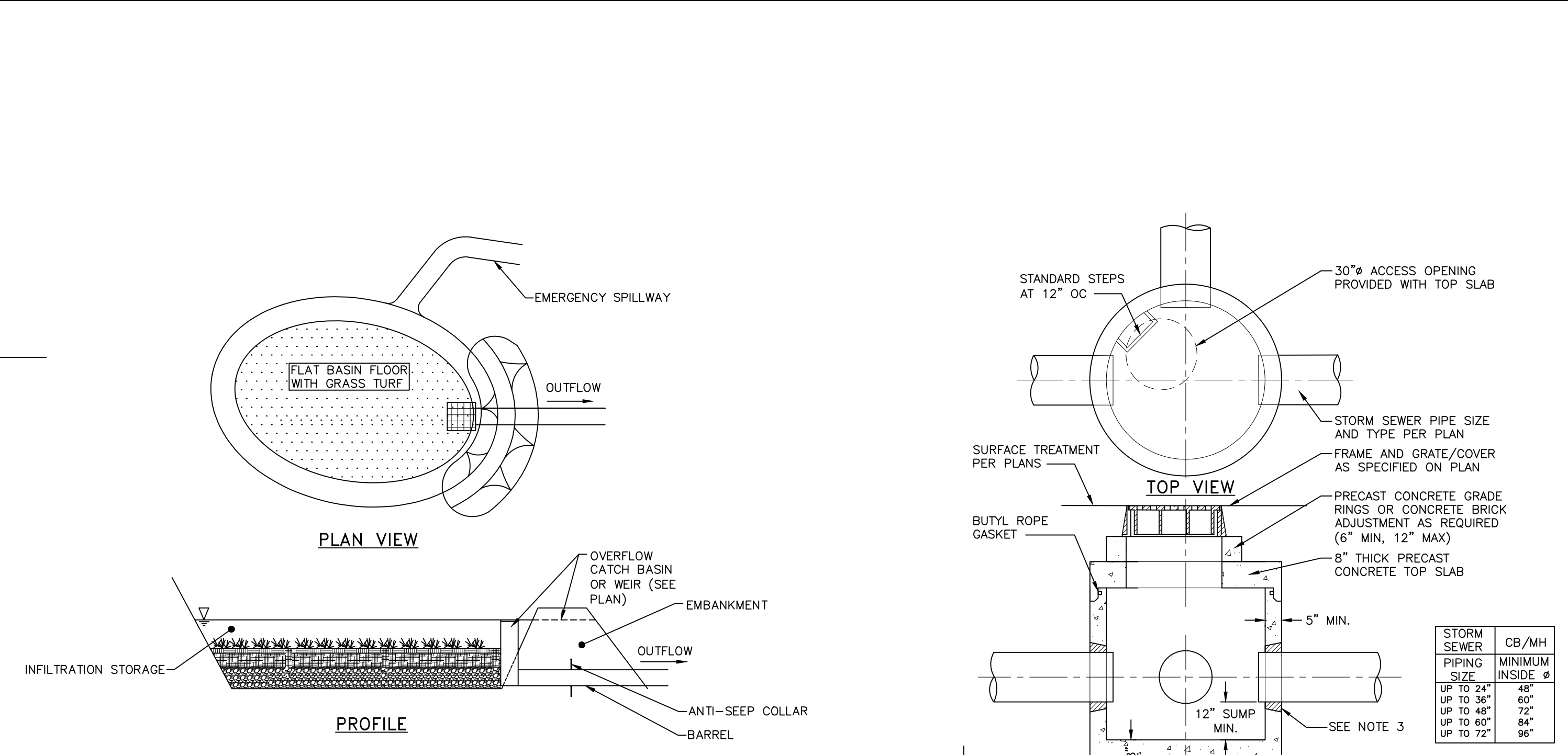
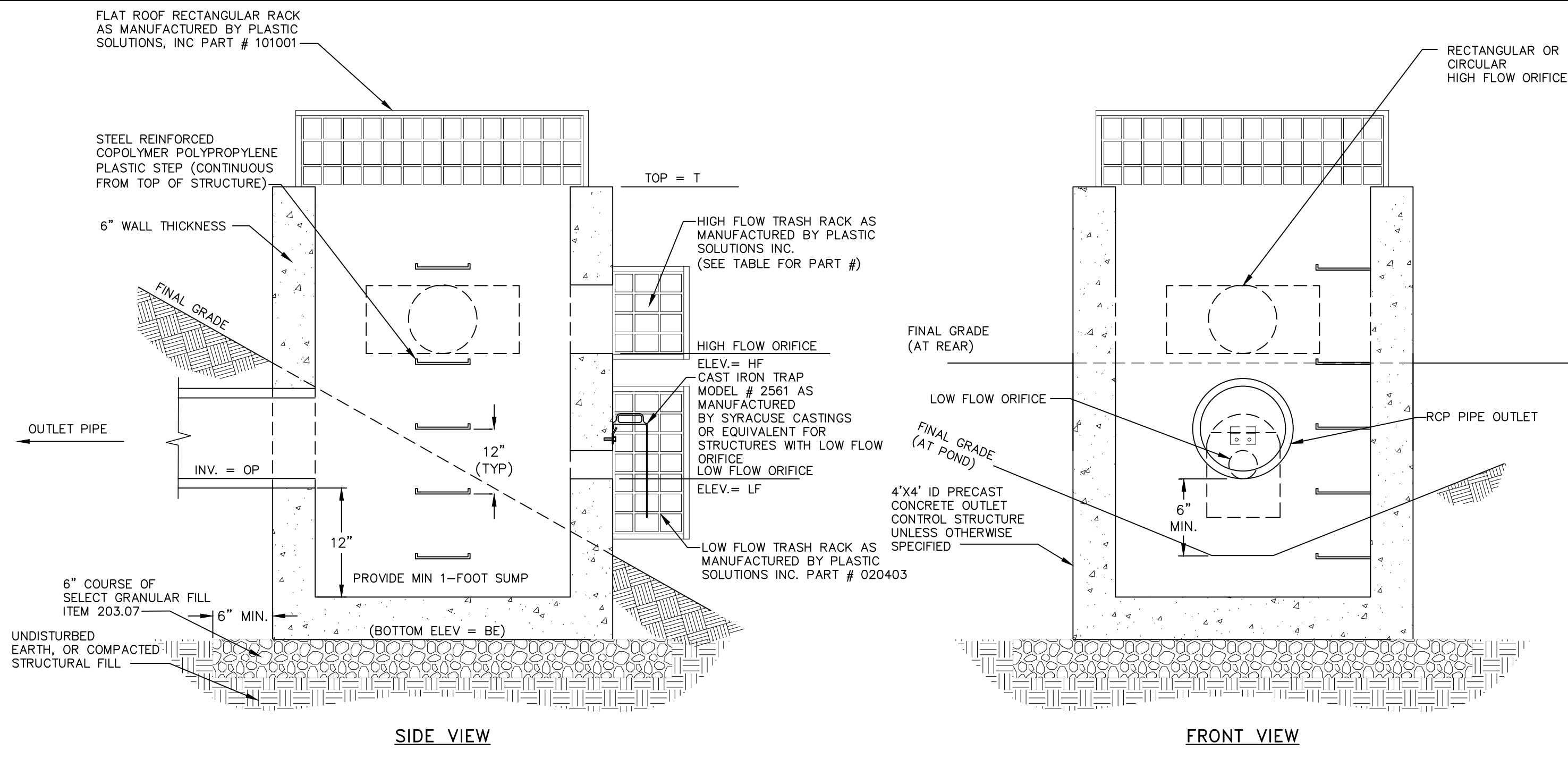
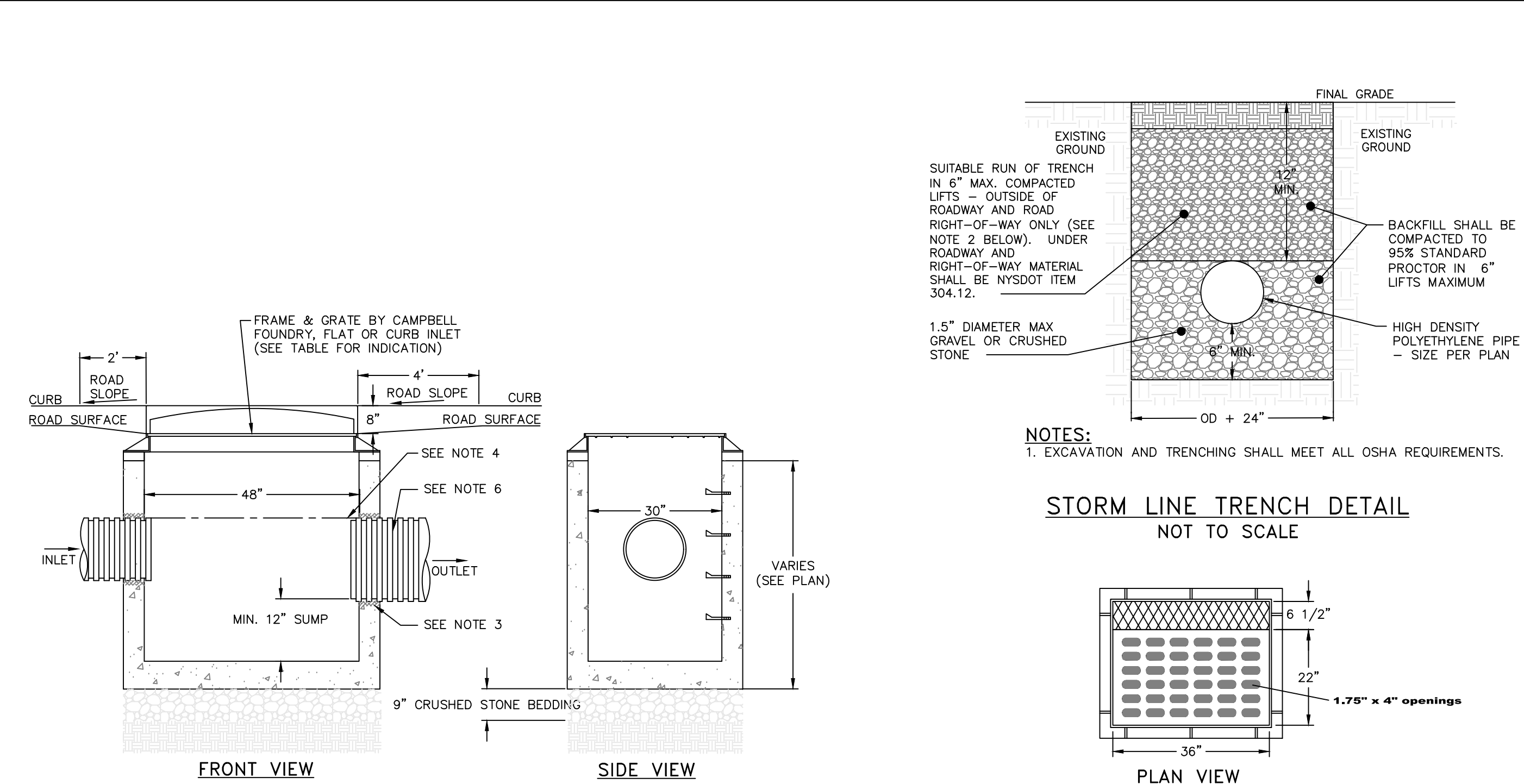
SEAL

HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6925
F: 845-440-6637

SITE AND E&S DETAILS
23-28 CREEK DRIVE

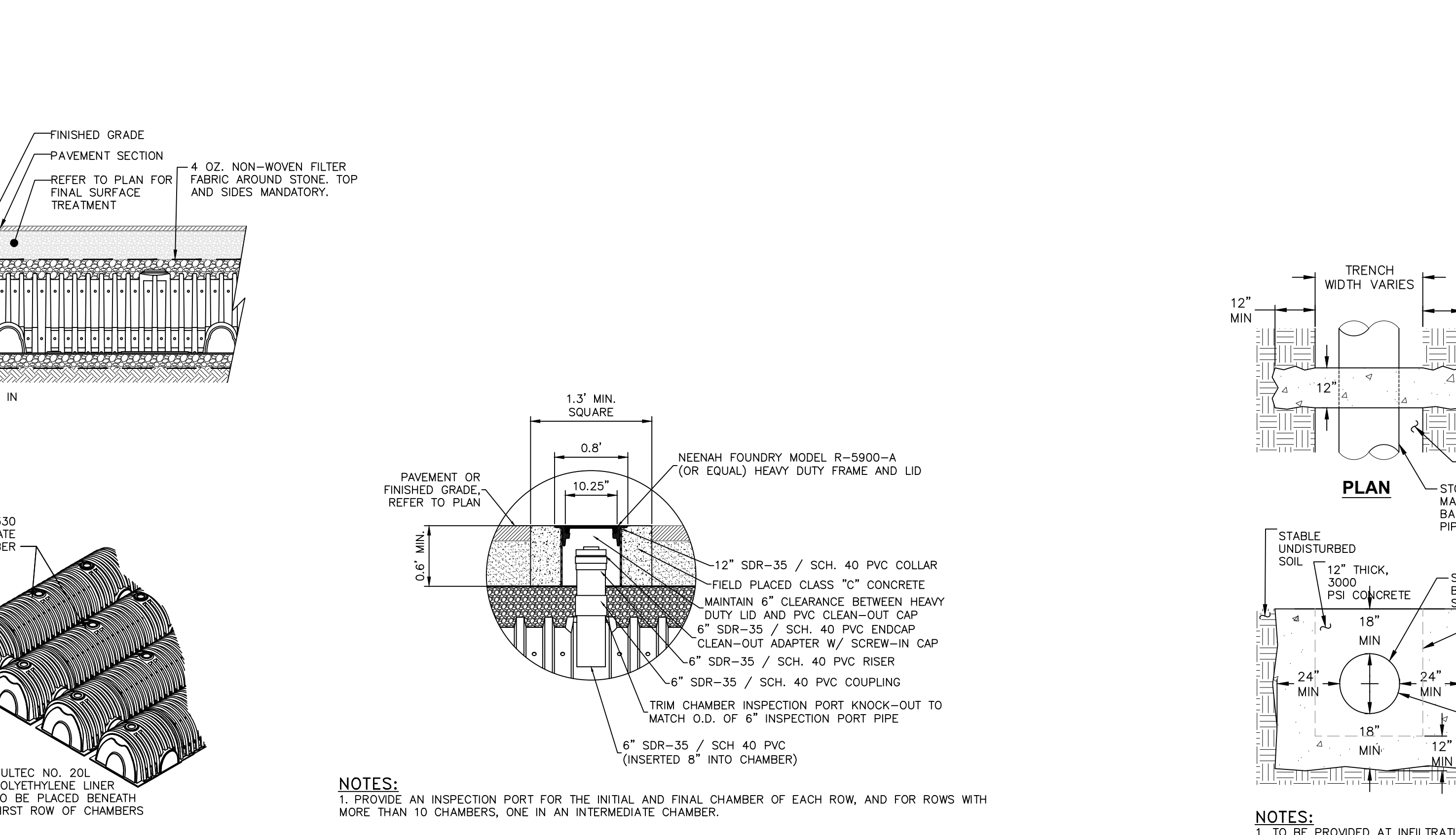
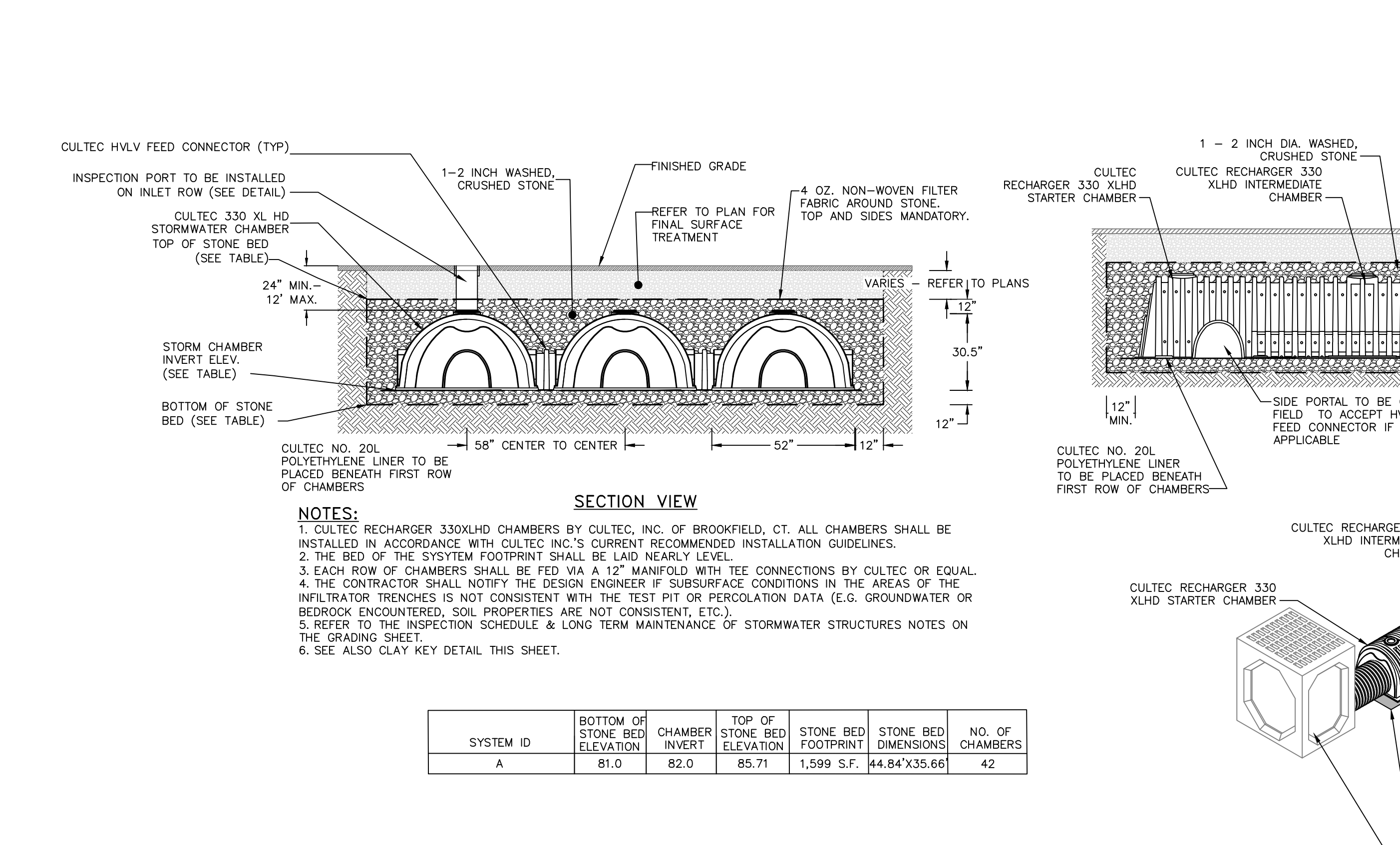
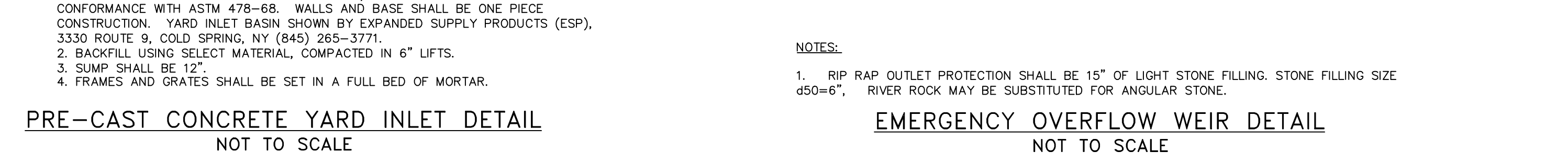
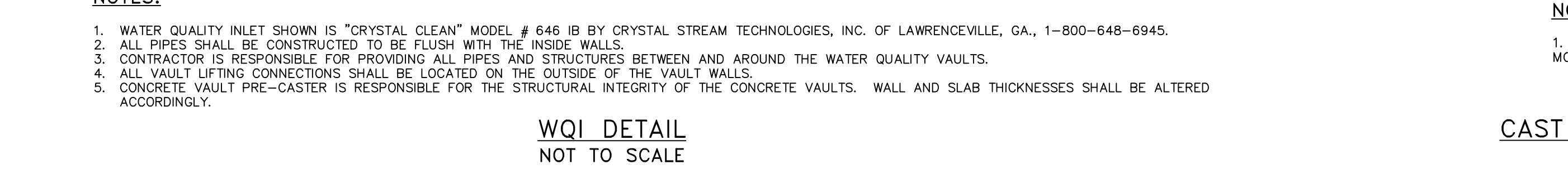
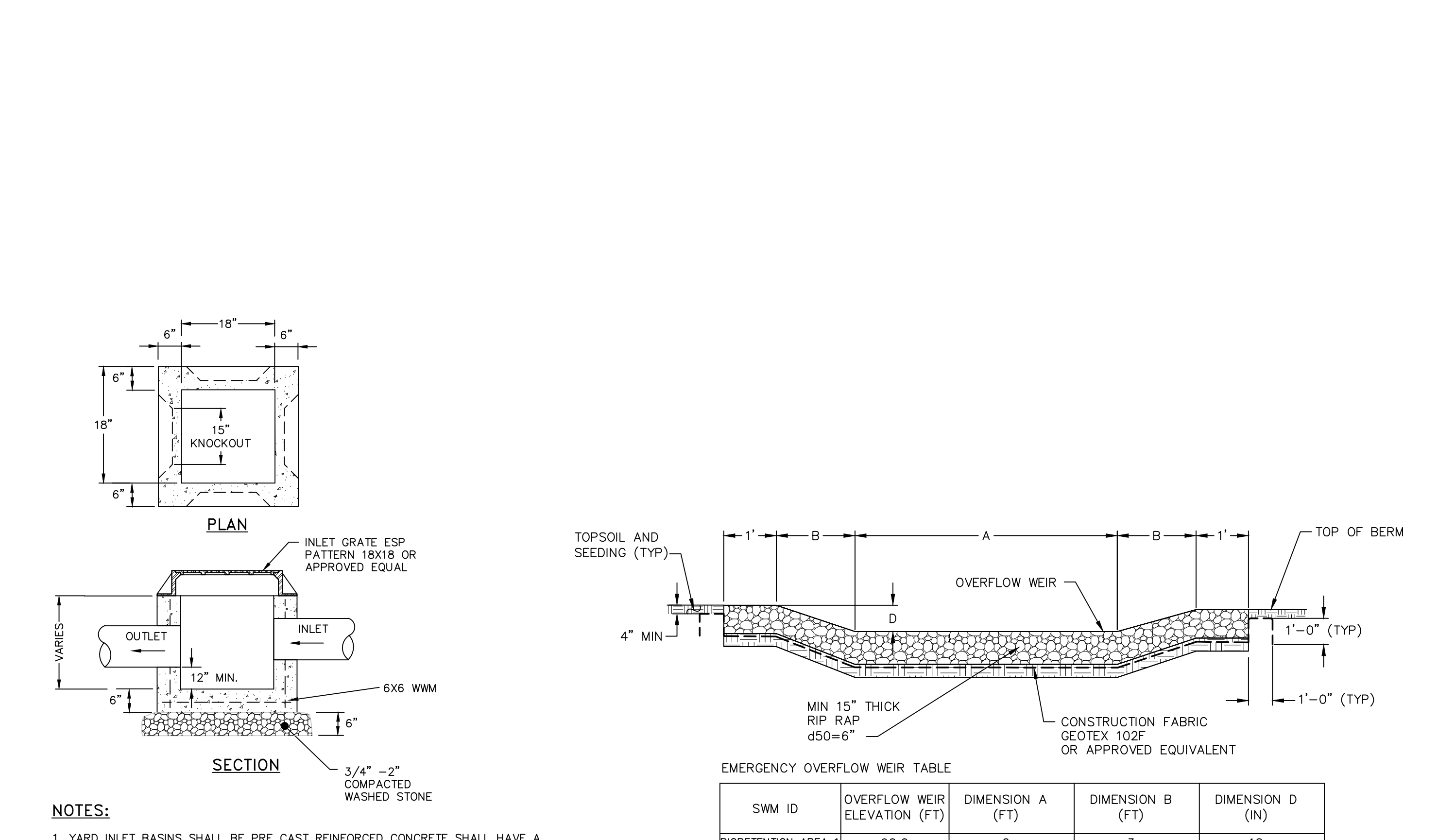
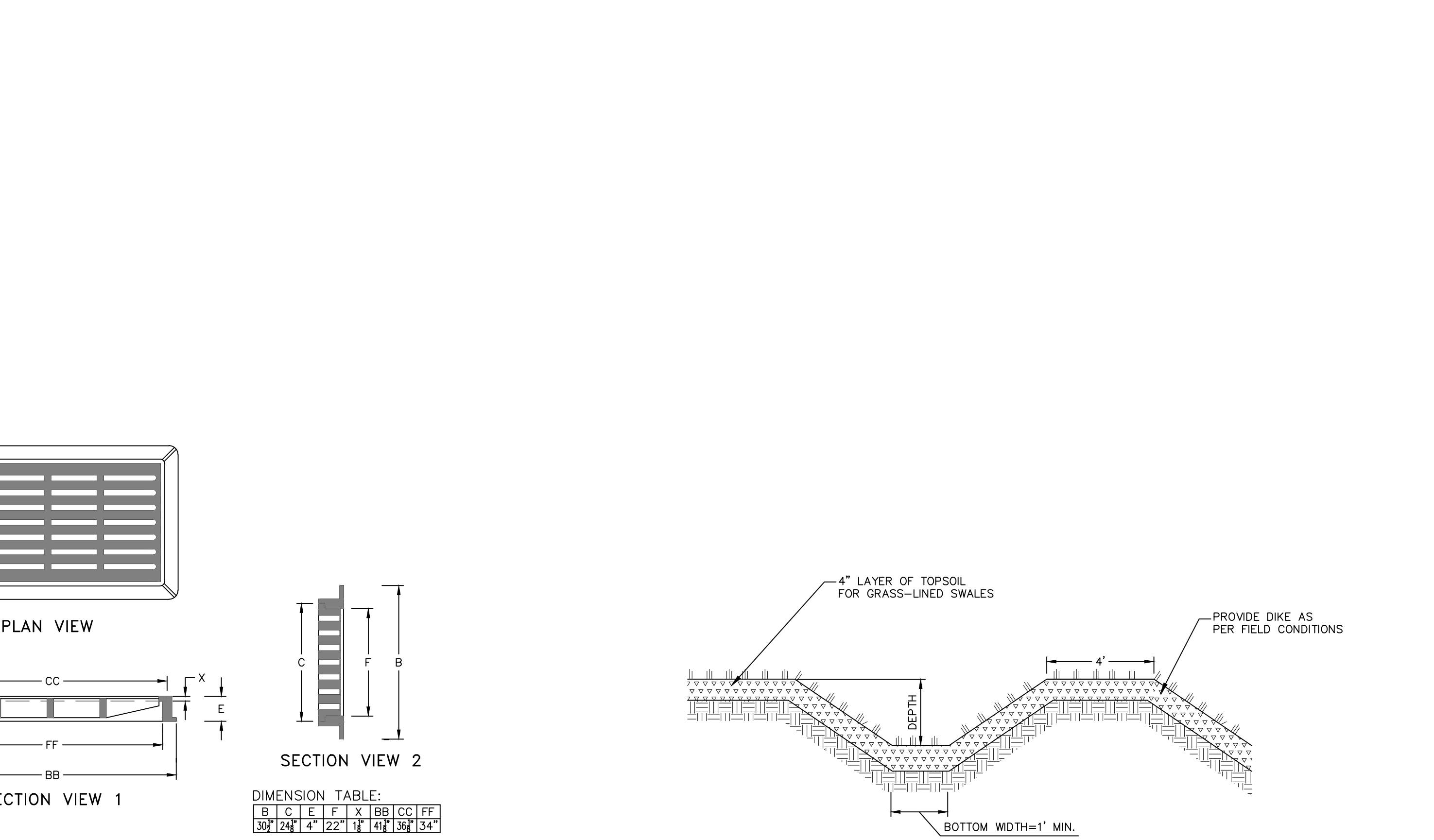
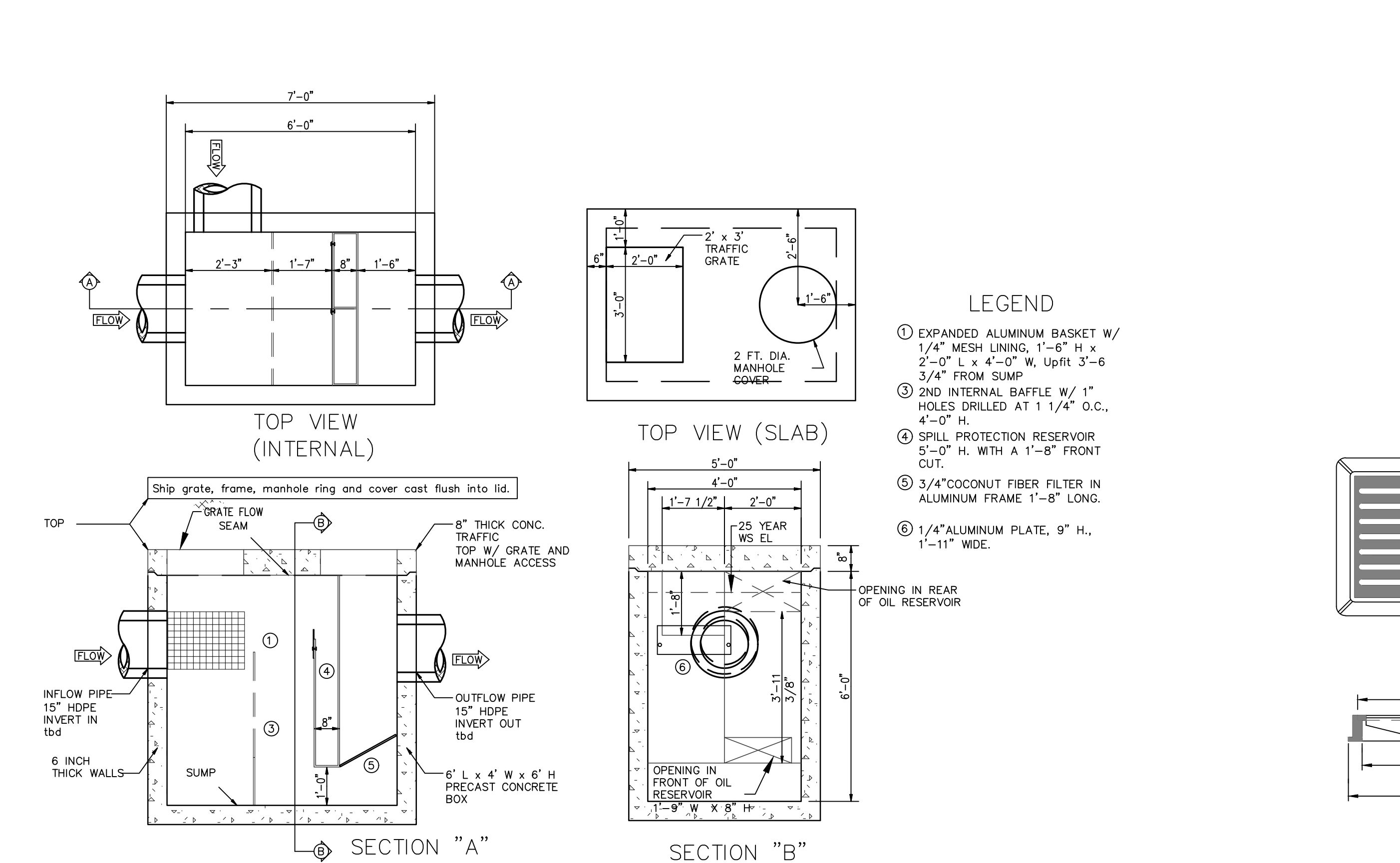
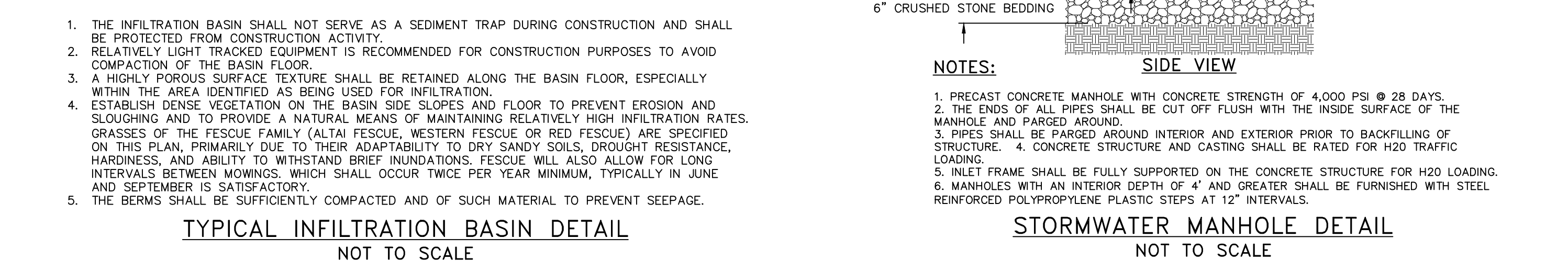
23-28 CREEK ROAD
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6054-37-037825

JOB #: 2018-029
DATE: 10/23/2018
SCALE: AS SHOWN
TITLE: D-1
SHEET: 10 OF 12



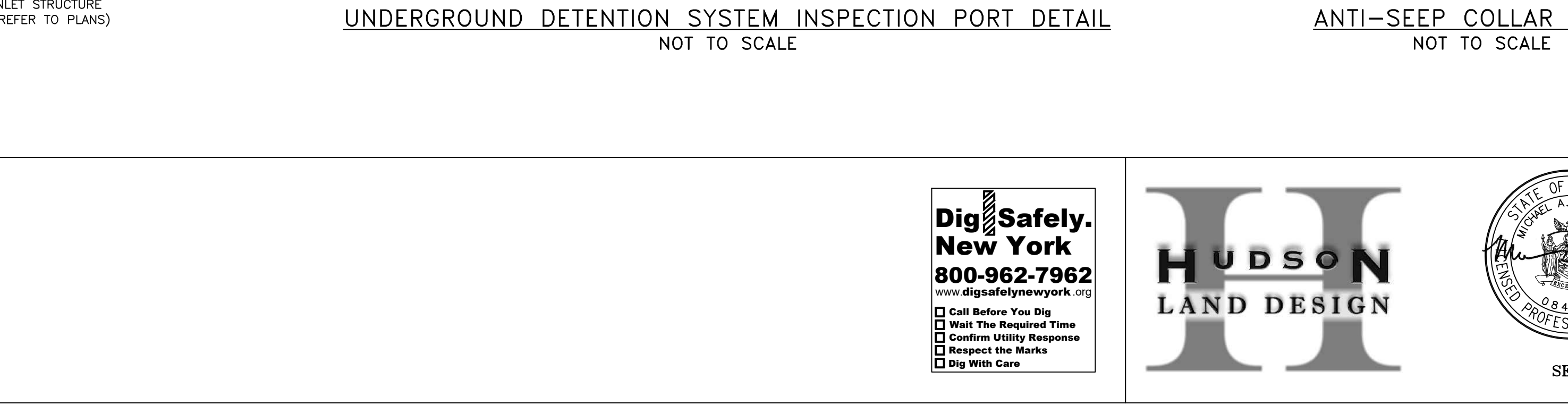
OUTLET CONTROL STRUCTURE DATA

OCS ID	STRUCTURE DIMENSIONS	LOW FLOW ORIFICE DIM	"L" (FT)	HIGH FLOW ORIFICE DIM	"H" (FT)	"H" (FT)	"H" (FT)	OUTLET PIPE # (IN)	"D" (FT)	HIGH FLOW ORIFICE TRASH RACK PART #
1	4'x4' I.D.	3" x 3"	89.3	NONE	NONE	N/A	89.9	12	88.0	N/A
2	4'x4' I.D.	9" W x 6" H	89.7	21" W x 6" H	1	85.10	88.0	18	82.0	020601



UNDERGROUND DETENTION SYSTEM DETAIL
NOT TO SCALE

SYSTEM ID	BOTTOM OF STONE BED ELEVATION	CHAMBER ELEVATION	TOP OF STONE BED ELEVATION	STONE BED FOOTPRINT DIMENSIONS	NO. OF CHAMBERS	
A	81.0	82.0	85.71	1.599 S.F.	44-84X35.66	42



STORMWATER DETAILS

23-28 CREEK DRIVE

HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6926
F: 845-440-6637

STORMWATER MANAGEMENT BASIN OUTLET PIPE

23-28 CREEK ROAD
CITY OF BEACON
DUTCH COUNTY, NEW YORK
TAX ID: 6054-37-037825

JOB #: 2018-029
DATE: 10/23/2018
SCALE: AS SHOWN
TITLE: D-2
SHEET: 11 OF 12

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	10/25/18	REVISED FOR PLANNING BOARD SUBMISSION	MAB

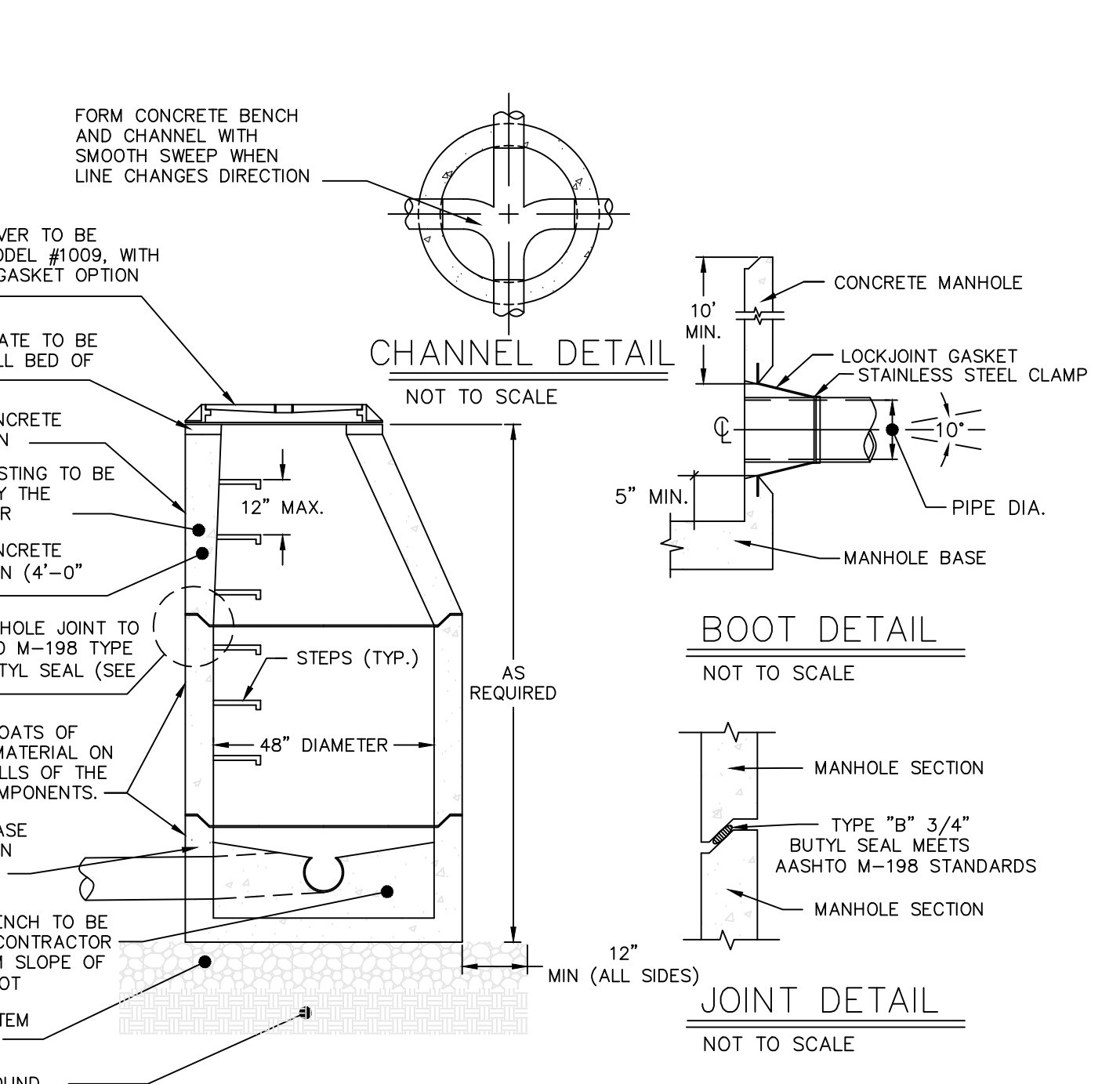
Checked by: DGK

REVISIONS:

NO.	DATE	DESCRIPTION	BY
-----	------	-------------	----

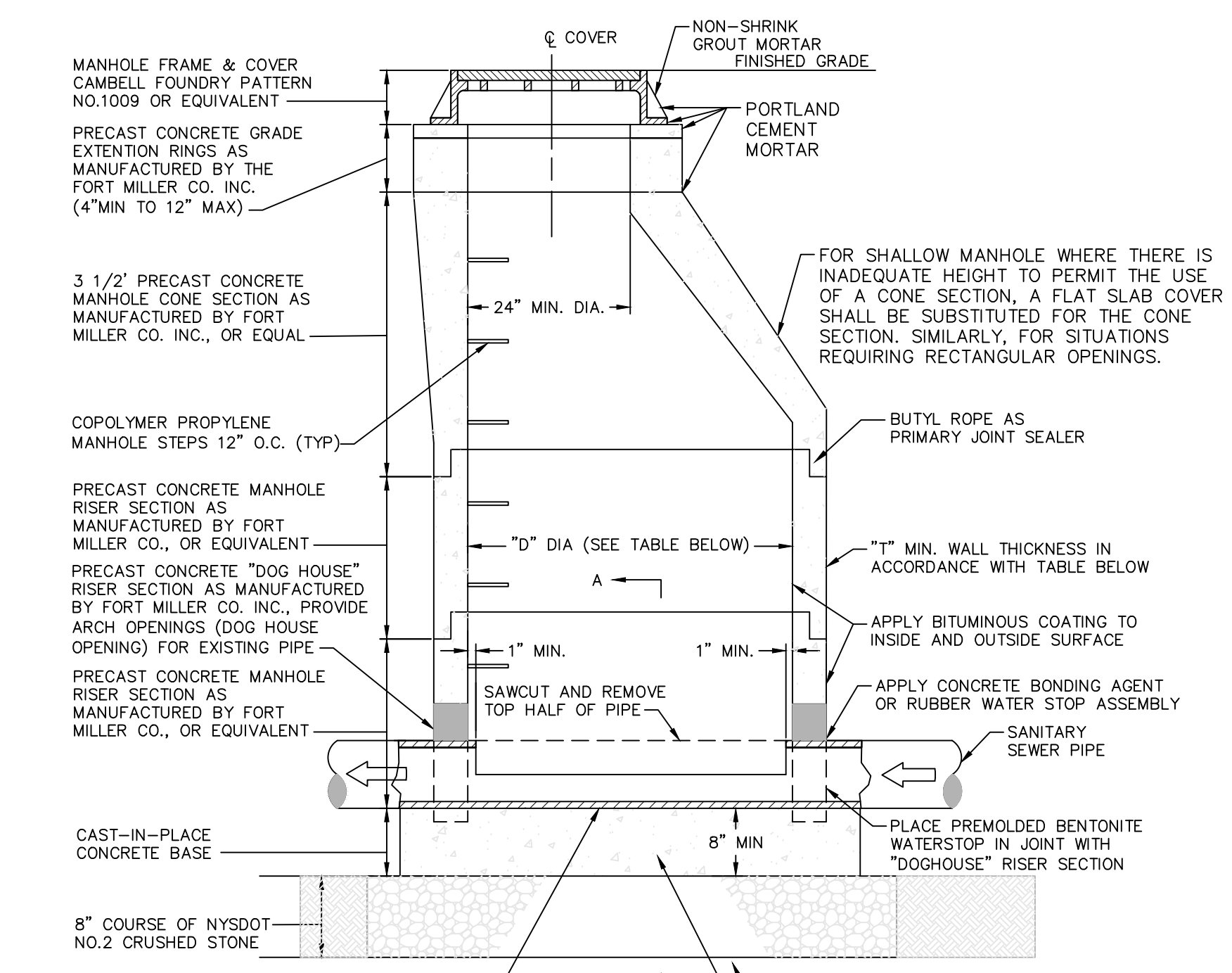
UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK EDUCATION LAW

SEWER DETAILS



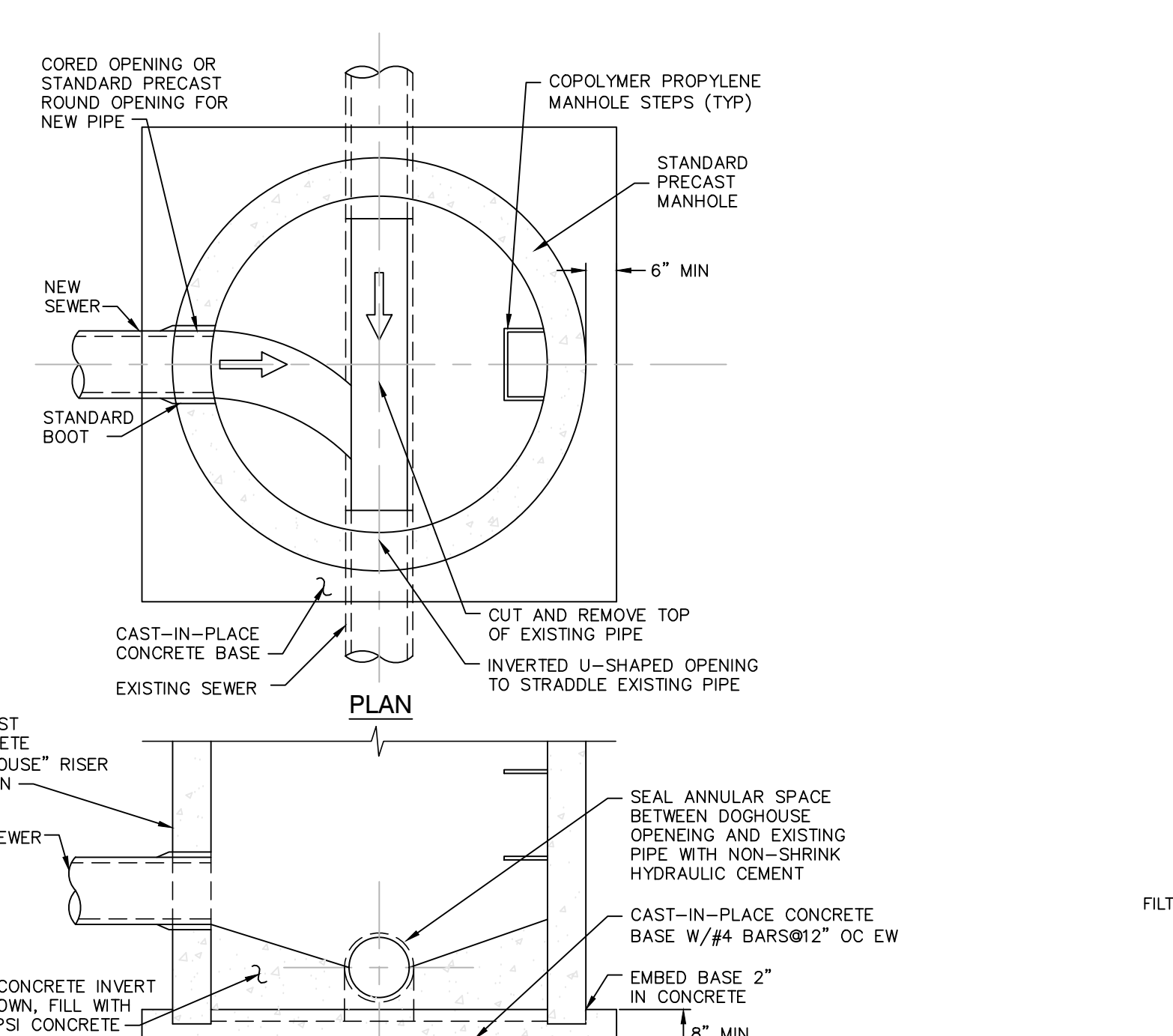
- NOTES:**
- PIPE CONNECTION TO BE STANDARD "LOCKJOINT" BOOT 5" OFF BASE OF MANHOLE (SEE DETAILS).
 - CONCRETE STRENGTH OF MANHOLE COMPONENTS TO BE 4000 PSI @ 28 DAYS IN ACCORDANCE WITH ASTM C-478-86.
 - STEEL REINFORCEMENT OF MANHOLE COMPONENTS TO MEET ASTM A615-A497 REQUIREMENTS.
 - LOADING OF MANHOLE COMPONENTS TO MEET H-20 REQUIREMENTS.
 - CONCRETE USED IN MANHOLE COMPONENTS TO CONTAIN 6% AIR ENTRAINMENT.
 - 4" MAXIMUM FROM MANHOLE TO PIPE JOINT.

PRE-CAST CONCRETE SANITARY MANHOLE DETAIL
NOT TO SCALE



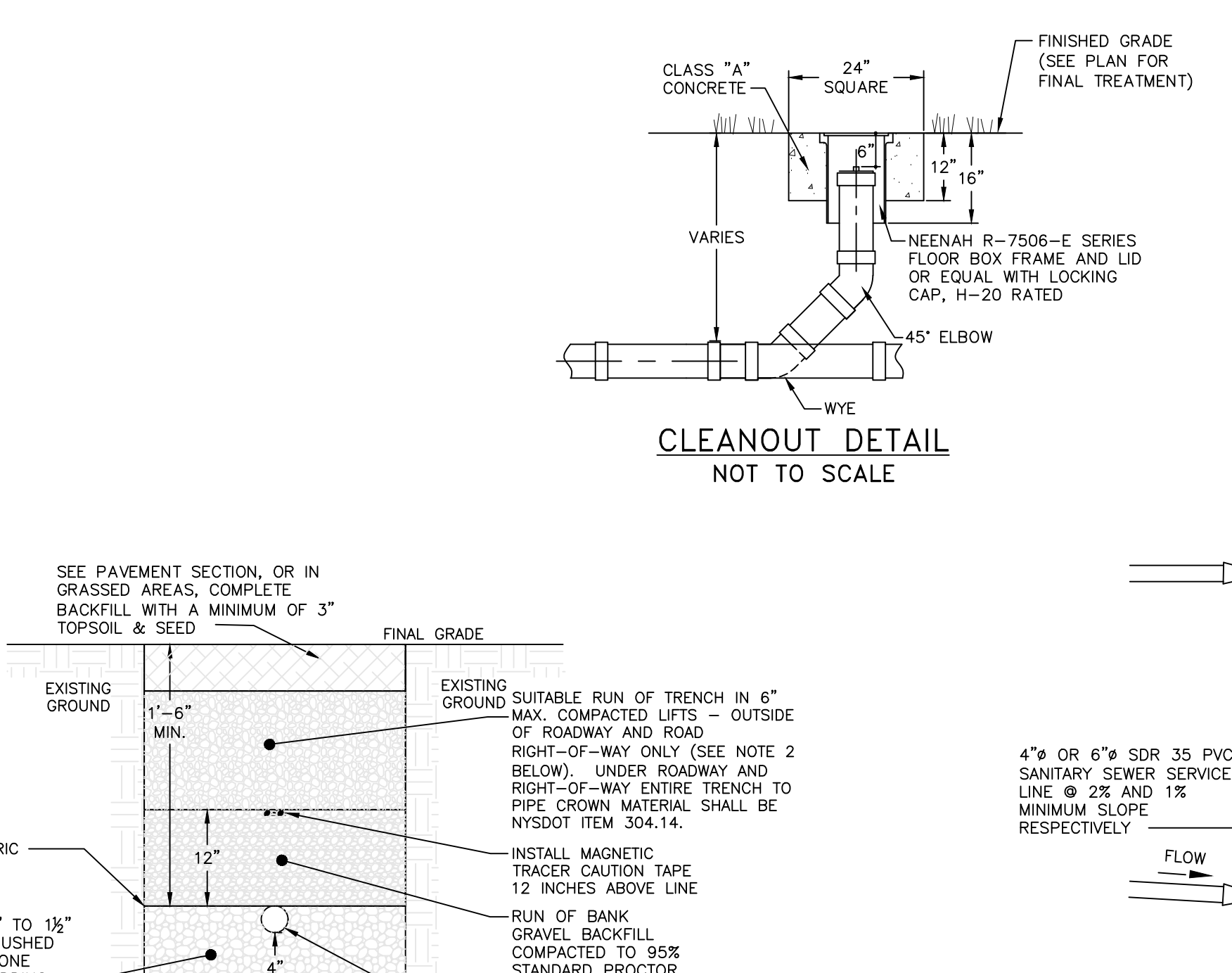
- NOTES:**
- USE ONLY WET-CAST UNITS. DRY-CAST NOT ACCEPTABLE.
 - MANUFACTURER TO VERIFY REQUIRED "T" DIMENSION ASSOCIATED WITH DEPTH OF INDIVIDUAL MANHOLES.
- | OUTLET SEWER SIZE | "T" DIA. MIN. | "T" WALL THICKNESS MIN. |
|-------------------|---------------|-------------------------|
| 8" THRU 24" | 4'-0" | 5" |
| 30" | 5'-0" | 6" |

PRE-CAST CONCRETE INSERTION "DOGHOUSE" MANHOLE DETAIL
NOT TO SCALE



- NOTES:**
- EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.
 - SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

SANITARY SEWER SERVICE LINE TRENCH DETAIL
NOT TO SCALE



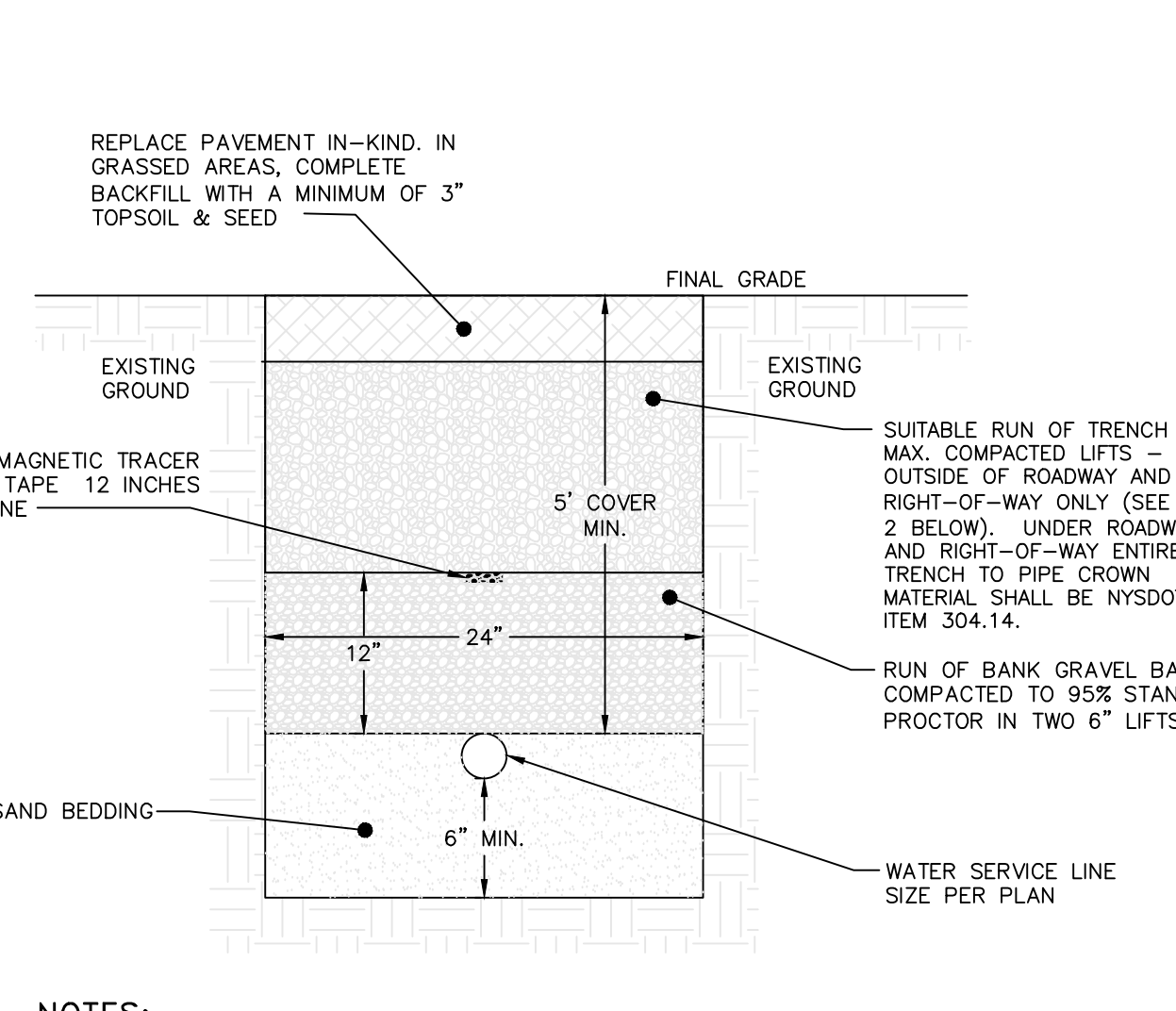
- NOTES:**
- EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.
 - SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

SANITARY SEWER SERVICE CONNECTION DETAIL
NOT TO SCALE

SANITARY SEWER NOTES:

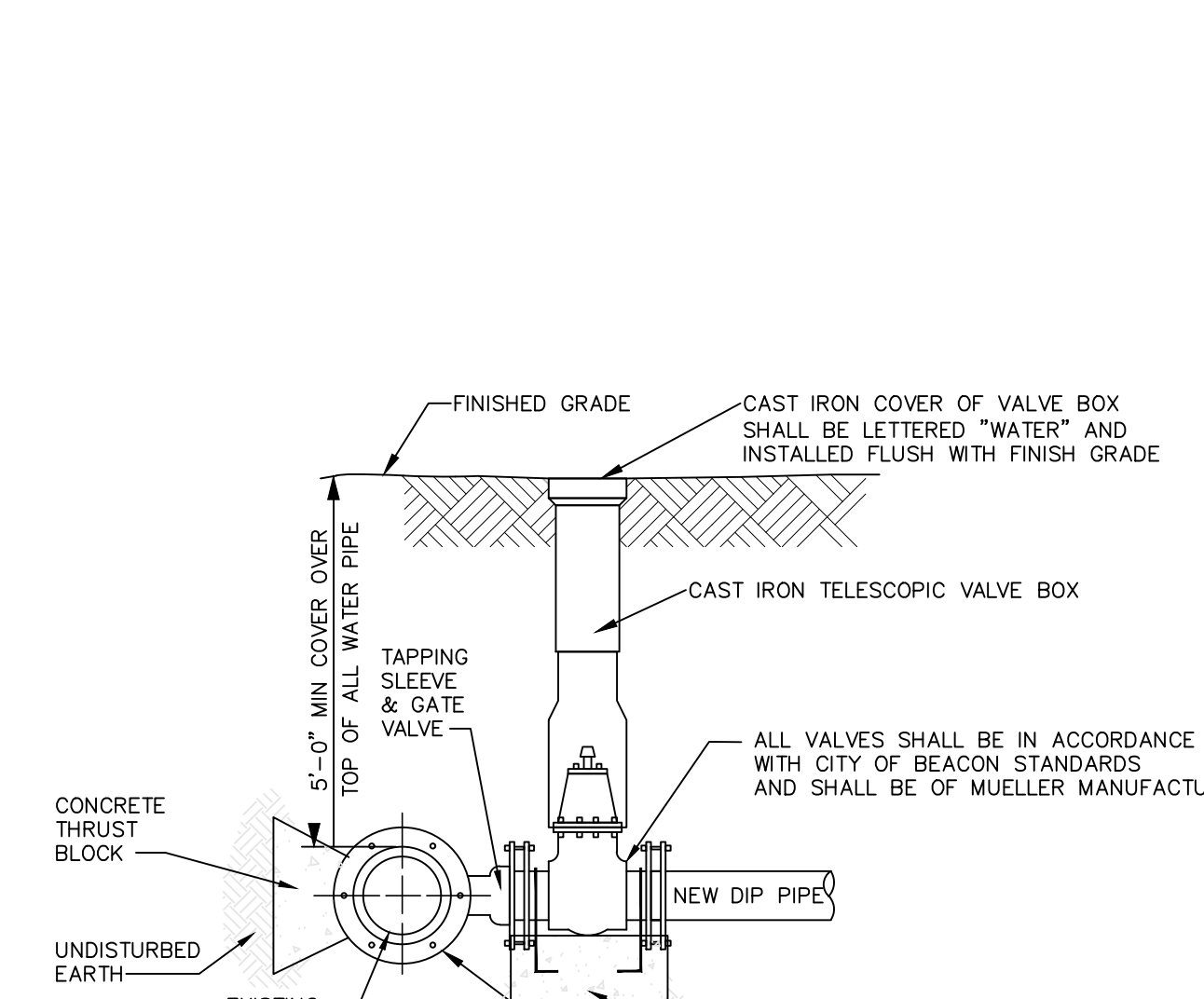
- THE PROPOSED APARTMENTS ARE TO BE SERVED BY THE CITY OF BEACON MUNICIPAL SEWER SYSTEM. INSTALLATION OF ALL COMPONENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY CODE, CHAPTER 179.
- REFER TO THE DUTCHESS COUNTY DEPARTMENT OF HEALTH STANDARD NOTES FOR ADDITIONAL PERTINENT INFORMATION.
- THE DUTCHESS COUNTY DEPARTMENT OF HEALTH, CITY OF BEACON, CHIEF SEWER OPERATOR, AND THE CERTIFYING PROFESSIONAL ENGINEER SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF THE SEWER MAIN INSTALLATION.
- SEWER MAIN MATERIAL SHALL BE 8" DIAMETER SDR-35 OR SDR-26 PVC BELL AND SPIGOT GRAVITY SEWER PIPE, WITH GASTIGHT AND WATER-TIGHT JOINTS.
- SEWER MAIN SHALL BE LAID IN STRAIGHT ALIGNMENT. MANHOLES SHALL BE CONSTRUCTED AT ALL CHANGES IN SLOPE, ALIGNMENT OR AT INTERVALS NOT EXCEEDING 400 LINEAR FEET. STRAIGHT ALIGNMENT SHALL BE VERIFIED BY DEFLECTION TESTING.
- THE SEWER MAIN SHALL BE INSTALLED AND TESTED FOR INFILTRATION PRIOR TO BEING PERMITTED TO OPERATE. ALL NEW SANITARY SEWER GRAVITY LINES SHALL PASS A LOW PRESSURE AIR TEST IN ACCORDANCE WITH ASTM C-828 AT A PRESSURE OF 3.5 PSI.
- MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C-1244. IF PRESSURE DROP EXCEEDS THE SPECIFIED AMOUNT, THE NECESSARY REPAIRS OR REPLACEMENTS REQUIRED SHALL BE MADE TO REDUCE THE PRESSURE DROP TO WITHIN THE SPECIFIED LIMIT, AND THE TESTS SHALL BE REPEATED UNTIL THE REQUIREMENT IS MET.
- SEWER LATERALS SHALL BE 4" DIAMETER SDR-35 PVC WITH A MINIMUM SLOPE OF 2% UNLESS OTHERWISE NOTED ON THE PLAN.
- ALL SANITARY SEWER MAINS AND MANHOLES UP TO, BUT NOT INCLUDING, THE EXISTING MANHOLE SHALL BE OWNED, OPERATED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.

WATER DETAILS



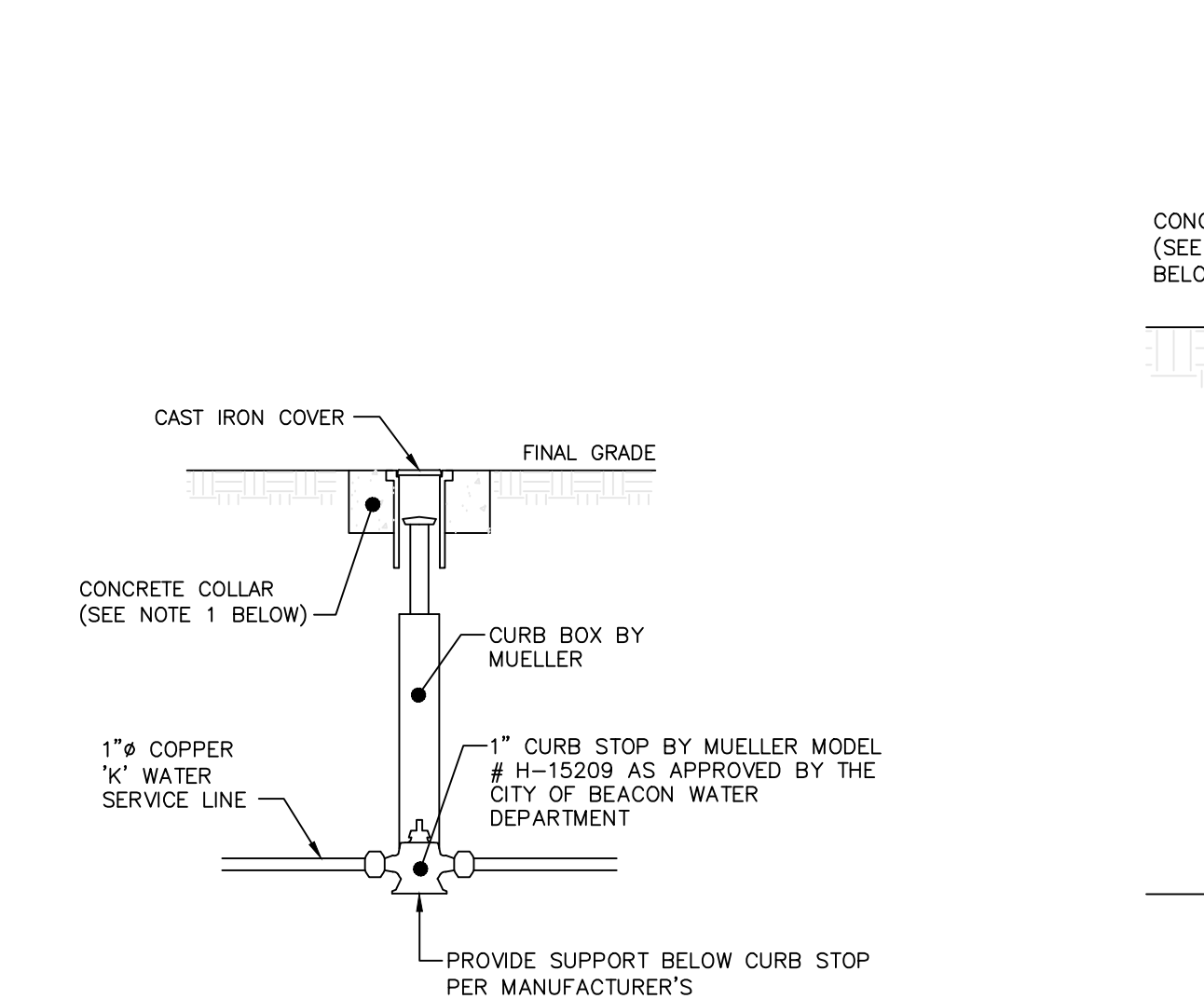
- NOTES:**
- EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.
 - SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, ENCAUSTED PARTICLES, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.
 - IN AREAS WHERE 5' COVER REQUIREMENT CANNOT BE MET, THE CONTRACTOR SHALL PROVIDE PIPE INSULATION TO PREVENT FREEZING.

WATER SERVICE LINE TRENCH DETAIL
NOT TO SCALE



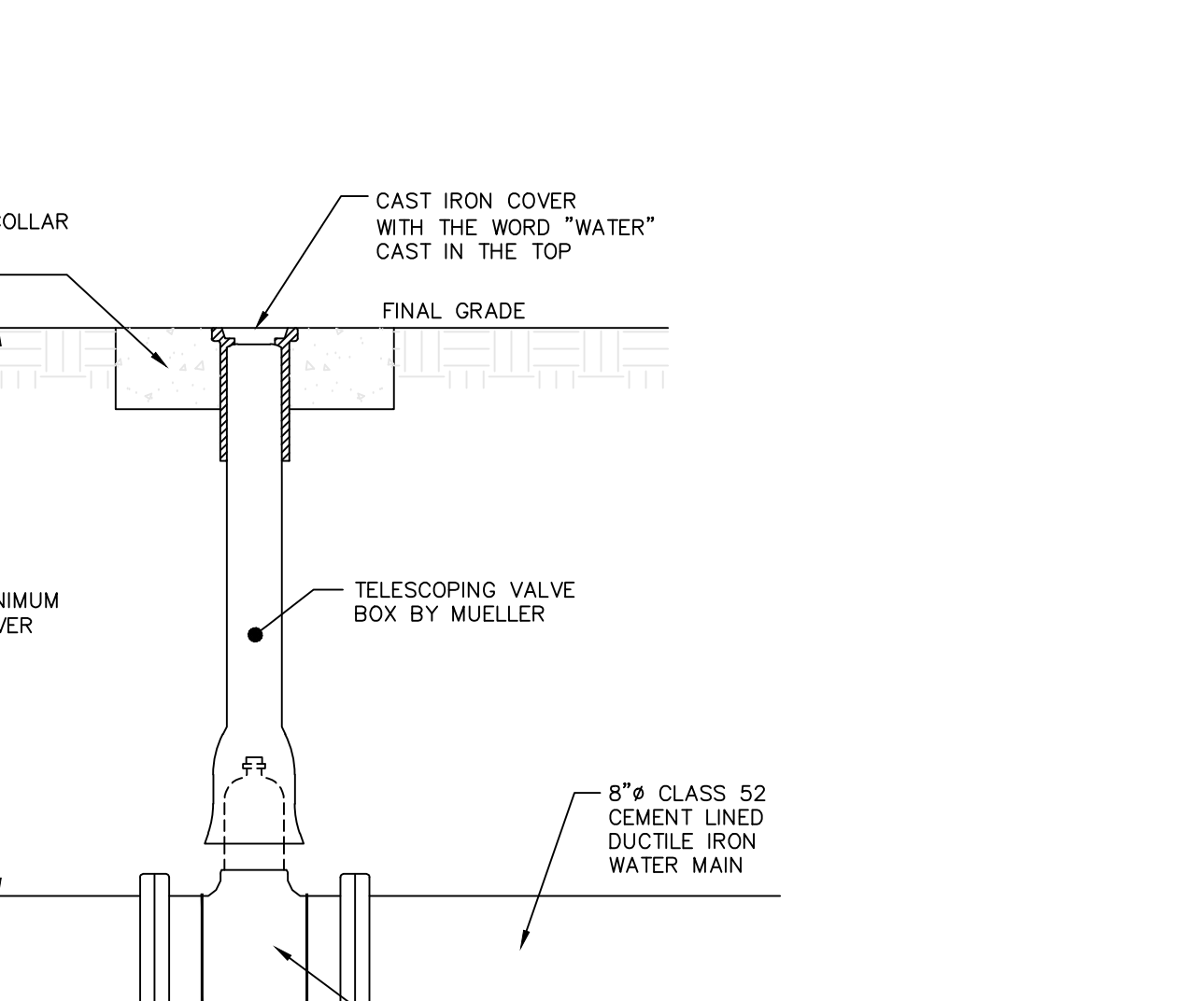
- NOTES:**
- ALL VALVES SHALL OPEN BY TURNING LEFT (COUNTERCLOCKWISE) AND HAVE A 2-INCH SQUARE OPERATING NOT PAINTED RED.
 - ALL VALVES SHALL BE M.J. RESISTENT WEDGE TYPE WITH "N" RING PACKING DESIGNED FOR A WORKING PRESSURE OF 150 PSI AND BE IN FULL CONFORMANCE WITH AWWA C500.
 - TAPPING SLEEVES AND GATE VALVE SHOWN ARE MUELLER H-615, AND H-2630 RESPECTIVELY.

TAPPING SLEEVE DETAIL
NOT TO SCALE



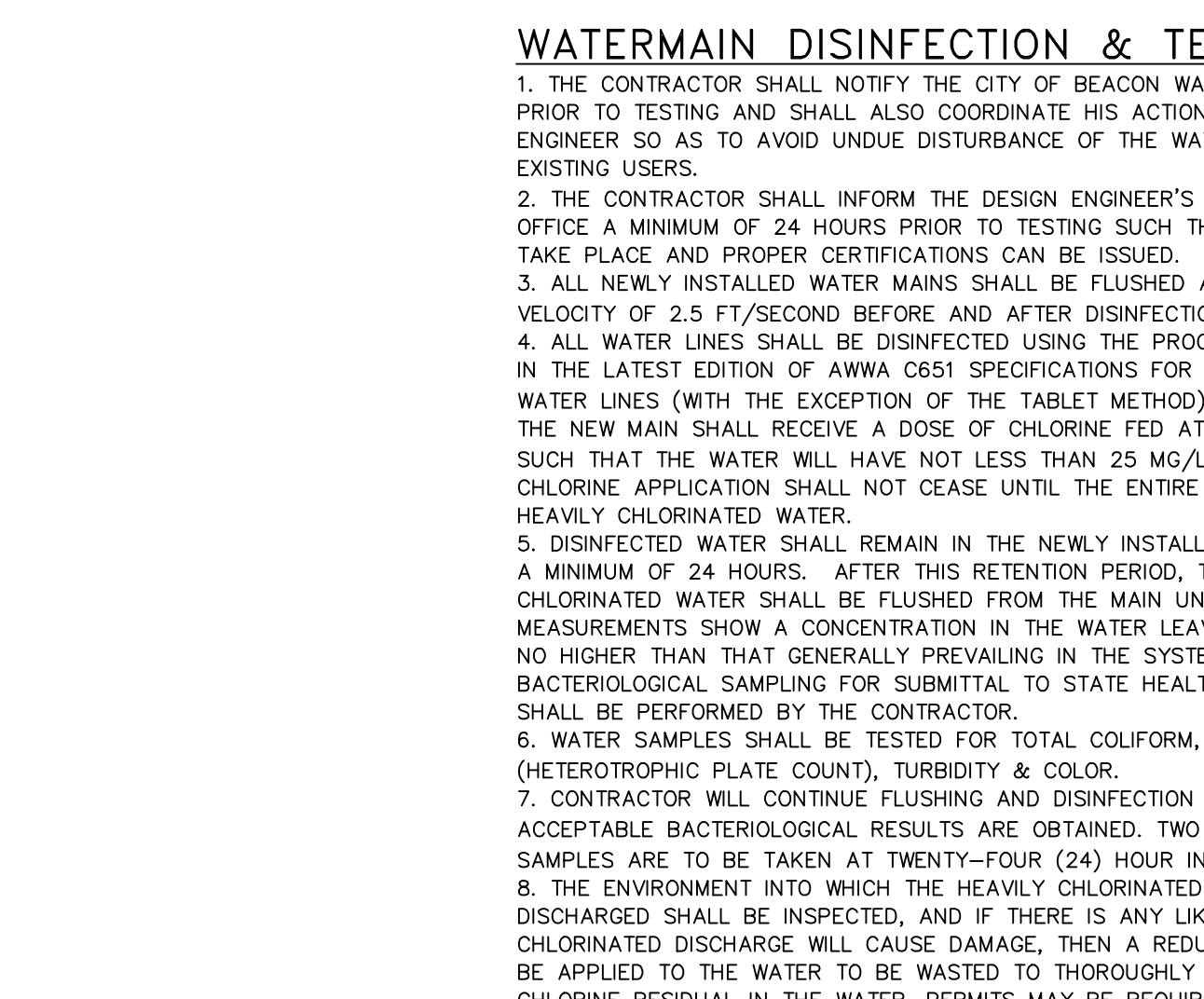
- NOTES:**
- CONCRETE COLLAR TO BE PROVIDED IN AREAS THAT ARE NOT PAVED. THE COLLAR SHALL BE 6" FROM THE COVER AND SHALL EXTEND 6" BELOW FINAL GRADE.
 - CURB STOP TO BE COMPRESSION TYPE BY MUELLER.
 - AREA AROUND CURB BOX TO BE BACKFILLED WITH GRAVELLY MATERIAL.

WATER SHUT-OFF VALVE DETAIL
NOT TO SCALE



- NOTES:**
- CONCRETE COLLAR TO BE PROVIDED IN AREAS THAT ARE NOT PAVED. THE COLLAR SHALL BE 6" FROM THE COVER AND SHALL EXTEND 6" BELOW FINAL GRADE.

GATE VALVE DETAIL
NOT TO SCALE



- NOTES:**
- THE GATE VALVE SHALL BE LOCATED THIRTY SIX (36) INCHES FROM THE HYDRANT CENTER LINE.
 - 3/4" STEEL RODS TO BE PROVIDED BETWEEN THE GATE VALVE AND THE HYDRANT.

HYDRANT DETAIL
NOT TO SCALE

WATER MAIN PRESSURE & LEAKAGE TESTING

- THE CONTRACTOR SHALL NOTIFY THE CITY OF BEACON WATER DEPARTMENT PRIOR TO TESTING AND SHALL ALSO COORDINATE HIS ACTIONS WITH THE CITY ENGINEER SO AS TO AVOID UNDUE DISTURBANCE OF THE WATER SUPPLY TO ANY EXISTING USERS.
- THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND CITY ENGINEER'S OFFICE A MINIMUM OF 24 HOURS PRIOR TO TESTING SUCH THAT WITNESSING CAN TAKE PLACE AND PROPER CERTIFICATIONS CAN BE ISSUED.
- ALL NEWLY INSTALLED WATER MAINS SHALL BE FLUSHED AT A MINIMUM VELOCITY OF 2.5 FT/SECOND BEFORE AND AFTER DISINFECTION.
- ALL WATER LINES SHALL BE DISINFECTED USING THE PROCEDURES DESCRIBED IN THE LATEST EDITION OF AWWA C651 SPECIFICATIONS FOR DISINFECTION OF WATER LINES (WITH THE EXCEPTION OF THE TABLET METHOD). WATER ENTERING THE NEW MAIN SHALL RECEIVE A DOSE OF CHLORINE FED AT A CONSTANT RATE SUCH THAT THE WATER WILL HAVE NOT LESS THAN 25 MG/L FREE CHLORINE. CHLORINE APPLICATION SHALL NOT CEASE UNTIL THE ENTIRE MAIN IS FILLED WITH HEAVILY CHLORINATED WATER.
- DISINFECTED WATER SHALL REMAIN IN THE NEWLY INSTALLED WATER LINE FOR A MINIMUM OF 24 HOURS. AFTER THIS RETENTION PERIOD, THE HEAVILY CHLORINATED WATER SHALL BE FLUSHED FROM THE MAIN UNTIL CHLORINE MEASUREMENTS SHOW A CONCENTRATION IN THE WATER LEAVING THE MAIN HAS NO HIGHER THAN THAT GENERALLY PREVAILING IN THE SYSTEM. AT SUCH TIME, BACTERIOLOGICAL SAMPLING FOR SUBMITTAL TO STATE HEALTH LABORATORIES SHALL BE PERFORMED BY THE CONTRACTOR.
- WATER SAMPLES SHALL BE TESTED FOR TOTAL COLIFORM, TPC (HETEROTROPHIC PLATE COUNT), TURBIDITY & COLOR.
- CONTRACTOR WILL CONTINUE FLUSHING AND DISINFECTION OPERATION UNTIL ACCEPTABLE BACTERIOLOGICAL RESULTS ARE OBTAINED TWO (2) SUCCESSIVE SAMPLES ARE TO BE TAKEN AT TWENTY-FOUR (24) HOUR INTERVALS.
- THE ENVIRONMENT INTO WHICH THE HEAVILY CHLORINATED WATER IS TO BE DISCHARGED SHALL BE INSPECTED, AND IF THERE IS ANY LIKELIHOOD THAT THE CHLORINATED DISCHARGE WILL CAUSE DAMAGE, THEN A REDUCING AGENT SHALL BE APPLIED TO THE WATER TO BE WASTED TO THOROUGHLY NEUTRALIZE THE CHLORINE RESIDUAL IN THE WATER. PERMITS MAY BE REQUIRED. THE CITY ENGINEER SHALL BE NOTIFIED PRIOR TO DISPOSAL OF HEAVILY CHLORINATED WATER.

WATER MAIN PRESSURE & LEAKAGE TESTING

- GENERAL: ALL PIPING SHALL BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF AWWA C600, EXCEPT AS ADDED OR AMENDED BELOW:
- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR ANY AND ALL REQUIRED PIPE TAPS FOR TESTING, AND AS NECESSARY FOR TESTING AS SPECIFIED. EQUIPMENT WILL BE SUCH THAT THE ENGINEER MAY INSTALL HIS OWN PRESSURE GAUGE.
 - A PRESSURE TEST AND LEAKAGE TEST ARE REQUIRED FOR ALL PIPE.
 - TESTING TO BE PERFORMED ONLY AFTER PARTIAL OR COMPLETE BACKFILL AND RESTRAINT BLOCKING (USING HIGH EARLY CEMENT) HAS HAD 36 HOURS TO CURE OR BLOCKING USING STANDARD CEMENT HAS HAD 7 DAYS TO CURE.
 - THE MAIN SHALL BE PARTIALLY BACKFILLED OR BRACED AGAINST MOVEMENT DURING THE TEST. ALL AIR MUST BE BLEED OUT OF THE SECTION TO BE TESTED. IF NECESSARY, CONTRACTOR SHALL INSTALL CORPORATION STOPS AT THE HIGH POINTS FOR BLEW-OFFS. AFTER ALL AIR HAS BEEN EXPELLLED, THE CORPORATION COOKS SHALL BE CLOSED AND THE PRESSURE TEST APPLIED. AFTER EXAMINATION OF EXPOSED PARTS OF THE SYSTEM, THE TEST PRESSURE SHALL BE INCREASED TO 1 1/2 TIMES THE NORMAL PRESSURE, BASED UPON THE ELEVATION OF THE LOWEST POINT IN THE LINE OR SECTION UNDER TEST, BUT SUCH PRESSURE SHALL NOT BE LESS THAN 150 PSI NOR MORE THAN 200 PSI, AND EXPOSED PARTS AGAIN EXAMINED. THE MINIMUM DURATION OF THE LEAKAGE TEST SHALL BE TWO (2) HOURS.
 - ALLOWABLE SYSTEM LEAKAGE AS SPECIFIED IN THE REFERENCED STANDARDS. IF LEAKAGE IN SYSTEM IS GREATER THAN ALLOWABLE, CONTRACTOR WILL LOCATE AND REPAIR SYSTEM AT HIS EXPENSE AND RETEST. CONTINUE TO TEST AND REPAIR THE SYSTEM UNTIL LEAKAGE IS WITHIN ACCEPTABLE LIMITS.
 - NO DUCTILE IRON PIPE INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE IS GREATER THAN THAT DETERMINED BY THE FOLLOWING FORMULA:
L = (SDP / TEST) WHERE:
L = LEAKAGE IN GALLONS PER HOUR
S = LENGTH OF PIPE TESTED, IN FEET
D = NOMINAL DIAMETER OF PIPE IN INCHES
P = AVERAGE TEST PRESSURE DURING LEAKAGE TEST, IN PSI (GAUGE)

DRAWN BY: MAB			CHECKED BY: DKG				
REVISIONS:			REVISIONS:				
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
1	12/28/18	REVISED FOR PLANNING BOARD SUBMISSION	MAB				

Dig Safely. New York
800-962-7962
www.digsafelynewyork.com

HUDSON LAND DESIGN

SEAL

HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN ST., BEACON, NEW YORK 12508
13 CHAMBERS ST., NEWBURGH, NEW YORK 12550
PH: 845-440-6930
F: 845-440-6637

WATER AND SEWER DETAILS

23-28 CREEK DRIVE

23-28 CREEK ROAD
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6054-37-037825

JOB #: 2018-029
DATE: 10/23/2018
SCALE: AS SHOWN
TITLE: D-3
SHEET: 12 OF 12

City of Beacon Planning Board
1/8/2019

Title:

Zoning Board of Appeals

Subject:

Zoning Board of Appeals – January Agenda

Background:

City of Beacon Planning Board
1/8/2019

Title:

Review Local Law

Subject:

City Council request to review proposed Local Law to amend Section 223-24.5 of City Code concerning Wireless Telecommunication Services Facilities

Background:

ATTACHMENTS:

Description	Type
DOCS-#624386-v4- Local_Law_Telecommunication_Facilities_	Local Law
Memo-Wireless_telecommunicaiton_facilities_	Cover Memo/Letter
DC Referral Response Telecommunications	Backup Material

DRAFT LOCAL LAW NO. ____ OF 2018

**CITY COUNCIL
CITY OF BEACON**

**PROPOSED LOCAL LAW TO
AMEND SECTION 223-24.5 OF THE CODE OF THE
CITY OF BEACON**

A LOCAL LAW to amend Section 223-24.5 of Code of the City of Beacon, concerning Wireless Telecommunication Services Facilities.

BE IT ENACTED by the City Council of the City of Beacon as follows:

SECTION 1. Section 223-24.5 of the Code of the City of Beacon entitled “Wireless telecommunication services facilities” is amended as follows:

A. Statement of intent and objectives.

- (1) The City Council has determined that the establishment of zoning provisions to institute minimum standards for wireless telecommunications services facilities shall be among the legislative purposes of the Zoning Law of the City of Beacon and is in accordance with the goals, objectives and policies of the City's Development Plan.
- (2) The purpose of these special regulations is to reasonably control the location, construction and maintenance of wireless telecommunications services facilities in order to encourage the siting of said facilities in nonresidential areas and to protect, to the maximum extent practicable, aesthetic impacts, the open space character of portions of the City of Beacon, the property values of the community, and the health and safety of citizens, while not unreasonably limiting competition among telecommunication providers.

B. Use. Except as provided hereinafter, no wireless telecommunication services facility shall be located, constructed or maintained on any lot, building, structure or land area in the City of Beacon unless a special use permit has been issued in conformity with the requirements of this chapter and all other applicable regulations.

C. Exemptions. The provisions of this section shall not apply to (1) wireless telecommunication facilities that obtain a small cell permit from the Planning Board pursuant to § 223-26.4, or (2) unlicensed wireless telecommunication services facilities installed wholly within a principal or accessory building, such as but not limited to baby monitors, garage door openers and burglar alarm transmitters, and serving only that building.

D. Location and access.

(1) Subject to the City Council's review and evaluation of technological, structural, safety and financial considerations associated with alternative locations for the siting of wireless telecommunication services facilities, the following locational priorities shall apply in the order specified, consistent with the City's obligation to create the least amount of adverse aesthetic impact and to preserve the scenic values of the City:

(a) Location of small cell facilities shall comply with the locational priorities set forth in § 223-26.4D.

(b) Locational priorities for all other wireless telecommunication service facilities

~~(a) On City-owned or City Housing Authority-owned sites, buildings and structures.~~

~~(b) Co-location Collocation on an existing wireless telecommunication services facility or radio tower in nonresidential zoning districts, as identified on an inventory of existing facilities which shall be maintained by the City (the "existing facilities inventory"). Co-location Collocation shall be required unless it has been demonstrated to the satisfaction of the City Council that:~~

~~[1] None of the sites identified on the existing facilities inventory within the service area can accommodate the proposed wireless telecommunication services facility in a reasonable financially and technologically feasible manner consistent with the wireless communications service carrier's system requirements;~~

~~[2] None of the sites identified on the existing facilities inventory within the service area can accommodate the proposed wireless telecommunications services facility with respect to structural or other engineering limitations, including frequency incompatibilities; or~~

- ~~{3}(c)~~ ~~The owners of the sites identified on the existing facilities inventory within the service area lawfully refuse to permit the applicant's use of the site.~~
- ~~(e)(i)~~ On sites, buildings and structures located in the HI and LI Zoning Districts.
- ~~(d)(ii)~~ On sites, buildings and structures in the PB, HB, OB, LB and GB Zoning Districts.
- ~~(e)(iii)~~ On sites, buildings and structures in the CB Zoning District.
- (2) Except for collocation on an existing wireless telecommunication services facility or radio tower identified on the existing facilities inventory and except for location on a building (and the premises thereof) which is at least nine stories in height, new wireless telecommunication services facilities shall not be located in the WD, WP and Residential Zoning Districts, nor in the Historic District and Landmark Overlay Zone.
- (3) Wherever possible, new wireless telecommunication services facilities shall be in the form of antennas attached to an existing building or structure and/or shall be in the form of stealth structures. Lattice towers shall be the structures of last resort.
- (4) All new wireless telecommunication services facilities and premises shall be of proper size, location and design to accommodate ~~co-location~~ collocation of other service providers' facilities, unless otherwise permitted by the City Council. To the maximum extent practicable, existing roadways shall be used to provide access to the site of a wireless telecommunication services facility.
- (5) If the proposed property site is not the highest priority listed above, then a detailed explanation must be provided as to why a site of a higher priority was not selected. The person seeking such an exemption must satisfactorily demonstrate the reason or reasons why such a permit should be granted for the proposed site and the hardship that would be incurred by the applicant if the permit were not granted for the proposed use.
- (6) An applicant may not bypass a site of higher priority by stating the site presented is the only site leased or selected. An application shall address collocation as an option and, if such option is not proposed, the applicant must explain why collocation is commercially or otherwise impracticable.
- ~~(5)(7)~~ Notwithstanding the above, the City Council may approve any site located within the City, provided the City Council finds that the proposed site is in the best interest of the health, safety and welfare of the City and its inhabitants.

E. Setbacks. Wireless telecommunication services facilities, except those structurally mounted to an existing building or structure, shall be located not less than two times the otherwise applicable setback requirements for principal structures for the district in which the property is located, or not less than the height of the facility plus the otherwise applicable setback requirements for principal structures for the zoning district in which the property is located, whichever shall be greater. Wireless telecommunication services facilities structurally mounted to the roof of an existing building or structure shall be set back from the side of the building or structure so as to minimize its visibility, but in no case less than 10 feet unless a stealth design is proposed, in which case the City Council may waive or modify this requirement.

F. Height limitations. Notwithstanding the following height limitations, in no case shall a wireless telecommunication services facility exceed the minimum height reasonably necessary to accomplish the purpose it is proposed to serve.

(1) The height of any antennas, or other associated equipment, structurally mounted as part of a wireless telecommunication services facility shall not exceed by more than 15 feet above the highest point of the existing structure on which such antennas or equipment is affixed.

(2) The height of any monopole or tower utilized in a wireless telecommunication services facility shall not exceed 150 feet in height measured from the highest point of such facility to the finished grade elevation of the ground immediately adjacent to the structure.

(3) Applicants must submit documentation justifying the total height.

G. Visual mitigation. The applicant/provider shall prepare a visual impact assessment of the proposed wireless telecommunication services facility based upon appropriate modeling, photographic simulation and other pertinent analytical techniques as required by the City Council.

(1) Landscaping and/or other screening and mitigation, including but not limited to architectural treatment, stealth design, use of neutral or compatible coloring and materials, or alternative construction and transmission technologies, shall be required to minimize the visual impact of such facility from public thoroughfares, important viewsheds, vantage points and surrounding properties to the extent practicable, as determined by the City Council.

(2) No signs shall be erected on any wireless telecommunication services facility except as may be required by the City Council for security or safety purposes.

(3) All equipment enclosures and storage buildings associated with the wireless telecommunication services facilities shall be consistent or compatible with

adjacent buildings in terms of design, materials and colors and shall be appropriately landscaped.

- ~~G.~~(4) All special use permit applications for wireless telecommunication facilities shall contain a demonstration that the facility is sited as to have the least adverse visual effect on the environment and its character, on existing vegetation on the residences in the area of the wireless telecommunication facilities.
- H. Materials. A wireless telecommunication services facility shall be of galvanized finish or painted gray or another neutral or compatible color determined to be appropriate for the proposed location of such facility in the reasonable judgment of the City Council. The mountings of wireless telecommunication antennas shall be nonreflective and of the appropriate color to blend with their background.
- I. Lighting. The wireless telecommunication services facility shall not be artificially lighted unless otherwise required by the Federal Aviation Administration or other federal, state or local authority.
- J. Operational characteristics. Unless otherwise superseded by the Federal Communications Commission (FCC), the design and use of the proposed wireless telecommunication services facility, including its cumulative impact with other existing and approved facilities, shall be certified to conform to the maximum NIER exposure standards promulgated by the FCC, as amended. Said certification shall include a report by a licensed professional electrical engineer with expertise in radio communication facilities and/or health physicist acceptable to the City Council. A copy of such certification report shall be submitted to the City Council prior to commencing operation of such facility and a copy shall be filed with the Building Inspector. The City Council may require annual certification of conformance with the applicable emission standards. Additionally, copies of certification reports shall be submitted to the City Council whenever they are required to be submitted to the FCC. The City Council may hire a qualified professional of its choosing to review and confirm such initial and subsequent certification report(s), the cost of which shall be reimbursed by the applicant in accordance with the escrow account procedures established by the City for the reimbursement of professional review fees for subdivision, site plan and special use permit applications. Any violation of the emissions standards shall require immediate discontinuation and correction of the use responsible for the violation.
- K. Noise. Noise-producing equipment shall be sited and/or insulated to prevent any detectable increase in noise above ambient levels as measured at the property line.
- L. Utility service. Electrical and land-based telephone lines extended to serve the wireless telecommunication services facility sites shall be installed underground. If the wireless telecommunication services facility is attached to a building, and if determined practical and economically feasible by the City Council, all wires from the ground to said facility

shall be located within the building. If permitted to be located outside said building, the wires shall be enclosed in a conduit whose materials and colors are consistent or compatible with the building.

M. Safety provisions. A wireless telecommunication services facility shall be designed and erected so that in the event of structural failure it will fall within the required setback area and, to the maximum extent possible, away from adjacent development.

N. Security provisions. A security program shall be formulated and implemented for the site of a wireless telecommunication services facility. Such program may include physical features such as fencing, anti-climbing devices or elevating ladders on monopoles and towers, and/or monitoring either by staff or electronic devices to prevent unauthorized access and vandalism.

O. Annual structural/safety inspection and report.

(1) A monopole or tower over 50 feet in height shall be inspected annually from a structural and safety perspective at the expense of the service provider by a licensed professional engineer, or at any other time upon a determination by the Building Inspector that the monopole or tower may have sustained structural damage, and a copy of the inspection report shall be submitted to the Building Inspector.

(2) The City of Beacon reserves the right to inspect any wireless telecommunication facility to ensure compliance with the provisions of this section and any other provisions found within the City of Beacon Code, State or Federal Law. The City of Beacon and/or its agents shall have the authority to enter the property upon which a wireless telecommunication facility is located at any time, upon reasonable notice to the operate, to ensure such compliance.

P. Lease agreement. In the case of an application for approval of a wireless telecommunication services facility to be located on lands owned by a party other than the applicant or the City, a copy of the lease agreement with the property owner, absent the financial terms of such agreement, together with any subsequent modifications thereof, shall be provided to the City Council and a copy shall be filed with the City Clerk and the Building Inspector.

Q. Interference. In the event that the wireless telecommunication services facility causes interference with the radio or television reception within the City of Beacon, the applicant, at the applicant's sole expense, shall thereafter ensure that any interference problems are promptly corrected.

~~S. Removal. A wireless telecommunication services facility shall be dismantled and removed from the property on which it is located within 60 days when it has been inoperative or~~

~~abandoned for a period of one year or more from the date on which it ceased operation. The applicant shall provide to the City written notification, including identification of the date the use of the facility was discontinued or abandoned by one or more of the service providers, acknowledgment of the requirement to remove the facility, and identification of plans for the future of the facility. The applicant shall post a bond to ensure that the wireless telecommunication services facility shall be removed upon abandonment as set forth herein at the applicant's sole expense.~~

R. ~~Application procedure~~ Special use permit application.

~~(1)~~ An application for approval of a wireless telecommunication services facility shall be submitted on the relevant forms for special use permit approval and shall be jointly filed by the operator of the wireless telecommunication services facility and the owner of the property on which such facility is proposed to be located.

~~(2)~~ The special use permit application shall contain the following:

~~a.~~ A site plan drawing showing the location of the proposed facility shall accompany the application for special use permit approval;

~~b.~~ The applicant's name, address, telephone number, and e-mail address;

~~c.~~ The names, addresses, telephone numbers, and email addresses of all consultants, if any, acting on behalf of the applicant with respect to the filing of the special use permit application;

~~d.~~ A general description of the proposed work and the purpose of the work proposed.

~~e.~~ Documentation that demonstrates the need for the wireless telecommunications facility to provide service primarily within the City.

~~f.~~ Identify and disclose the number and locations of wireless telecommunication facilities that the applicant has installed or locations the applicant has considered in the past year within the City.

~~g.~~ A description of the anticipated maintenance needs, including frequency of service, personnel needs and equipment needs, and the potential traffic safety and noise impact of such maintenance.

~~(1)h.~~ Any amendment to information contained in a special use permit application shall be submitted in writing to the City within 30 days after the change necessitating the amendment. ~~Special use approval by the City Council in accordance with §§ 223-18 and 223-19 of this chapter shall be required. The City may enlist the services of a~~

~~radio frequency (RF) engineer and/or other relevant consultants, at the applicant's cost, for the review of the application.~~

~~(2)~~(3) The operator of the wireless telecommunication service shall submit a certificate of public utility, unless it can be demonstrated to the satisfaction of the City Council that the operator of such facility is exempt from such requirement pursuant to New York State law. The operator of such facility shall also demonstrate to the satisfaction of the City Council that there is a compelling public need for such facility at the location(s) proposed by the applicant. Such demonstration shall include the preparation of existing and master effective service area plans which:

- (a) Minimize the number of such facilities within the service area(s);
- (b) Maximize ~~co-location~~ collocation of wireless telecommunication service facilities;
- (c) Identify all existing and proposed wireless telecommunication facilities which impact upon the service area covering the City of Beacon, including but not limited to topographic maps of the City with service coverage and service gap grids and all proposed as well as other functionally acceptable locations for such facility(ies); and
- (d) Analyze feasible alternatives to reasonably minimize the visual impacts and exposure levels.

~~(3)~~(4) Where the owner of the property on which a wireless telecommunication services facility is proposed contemplates that such property may be used for the installation of two or more such facilities, the property owner shall submit a conceptual master plan identifying the total number and location of such facilities.

~~(4)~~(5) Any application for a wireless telecommunication services facility shall include a statement and appropriate documentation demonstrating that City-owned sites, buildings and structures and the City's existing facilities inventory have been reviewed to the extent relevant to provide wireless telecommunication services in the area which is the subject of such application and that all reasonable efforts have been made to locate or co-locate such facility on all City-owned sites, buildings and structures and on all sites identified in such existing facilities inventory within the service area.

(6) The City may reject applications not meeting the requirements stated herein or which are otherwise incomplete.

(7) No wireless telecommunication facilities shall be installed, constructed or modified until the application is reviewed and approved by the City Council and the special use permit has been issued.

(5)(8) As a condition of special use permit approval, the applicant shall be required to provide a written agreement, in recordable form suitable for filing and prepared to the satisfaction of the City Attorney, acknowledging that it shall be required to allow the ~~co-location~~ collocation of other future wireless telecommunication service facilities at fair market cost, unless otherwise unreasonably limited by technological, structural or other engineering considerations.

(6)(9) The applicant and all future owners of the premises and the wireless telecommunication services facility shall at all times keep on file in the office of the City Clerk the name, address, and telephone number of the owner and operator of such facility and of at least one individual who shall have authority to arrange for the maintenance of the premises and facility and who shall be authorized to accept service of notices and legal process on behalf of the owner and operator(s) of the premises and facility and to bind the owner to any settlement, fine, judgment, or other disposition (other than incarceration) which may result from any civil or criminal action or proceeding instituted by the City against such owner and/or operator(s).

S. The City Clerk shall forward a copy of the City Council special use permit decision to the City Tax Assessor to allow the City to better assess the utility infrastructure for wireless telephone facilities.

T. Removal, relocation or modification of wireless telecommunication facilities in the public right of way

(1) Notice. Within ninety (90) days following written notice from the City , the wireless provider shall, at its own expense, protect, support, temporarily or permanently disconnect, remove, relocate, change or alter the position of any wireless telecommunication facility within the public right-of-way whenever the City has determined that such removal, relocation, change or alteration, is necessary for the construction, repair, maintenance, or installation of any City improvement in or upon, or the operations of the City in or upon, the public right-of-way.

(2) Abandonment of Facilities. Upon abandonment of a wireless telecommunication service facility within a public right-of-way of the City, the wireless provider shall notify the City within ninety (90) days. Following receipt of such notice the City may direct the wireless provider to remove all or any portion of the small cell facility if the City, or any of its departments,

determines that such removal will be in the best interest of the public health, safety and welfare.

Section 3. Ratification, Readoption and Confirmation

Except as specifically modified by the amendments contained herein, Chapter 223 of the City of Beacon Code is otherwise to remain in full force and effect and is otherwise ratified, readopted and confirmed.

Section 4. Severability

The provisions of this Local Law are separable and if any provision, clause, sentence, subsection, word or part thereof is held illegal, invalid or unconstitutional, or inapplicable to any person or circumstance, such illegality, invalidity or unconstitutionality, or inapplicability shall not affect or impair any of the remaining provisions, clauses, sentences, subsections, words or parts of this Local Law or their petition to other persons or circumstances. It is hereby declared to be the legislative intent that this Local law would have been adopted if such illegal, invalid or unconstitutional provision, clause, sentence, subsection, word or part had not been included therein, and if such person or circumstance to which the Local Law or part hereof is held inapplicable had been specifically exempt there from.

Section 5. Effective Date

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

Dutchess County Department of Planning and Development	To	Date <u>12/27/18</u> # pgs <u>1</u>
	Dept	From
	Fax #	Phone #

239 Planning/Zoning Referral - Exemption Communities

Municipality: City of Beacon

Referring Agency: Planning Board Zoning Board of Appeals Municipal Board

Tax Parcel Number(s): _____

Project Name: LL Wireless Telecommunication service facilities

Applicant: City Council

Address of Property: _____

Please fill in this section

<p>Parcel(s) within 500 feet of:</p> <p><input type="checkbox"/> State Road _____</p> <p><input type="checkbox"/> County Road _____</p> <p><input type="checkbox"/> State Property (w/public building or recreation area)</p> <p><input type="checkbox"/> County Property (w/public building or recreation area)</p> <p><input checked="" type="checkbox"/> Municipal Boundary</p> <p><input type="checkbox"/> Farm operation in an Agricultural District</p>	<p>Actions Requiring 239 Review</p> <p><input type="checkbox"/> Comprehensive/Master Plans</p> <p><input checked="" type="checkbox"/> Zoning Amendments (standards, uses, definitions, district regulations, etc.)</p> <p><input type="checkbox"/> Rezoning Involving all map changes</p> <p><input checked="" type="checkbox"/> Other Local Laws associated with zoning (wetlands, historic preservation, affordable housing, architectural review, etc.)</p> <p><input type="checkbox"/> Site Plans (all)</p> <p><input type="checkbox"/> Special Permits for all non-residential uses</p> <p><input type="checkbox"/> Use Variances for all non-residential uses</p> <p><input type="checkbox"/> Area Variances for all non-residential uses</p>	<p>Exempt Actions* 239 Review is NOT Required</p> <ul style="list-style-type: none"> • Administrative Amendments (fees, procedures, penalties, etc.) • Special Permits for residential uses (accessory apts, home occupations, etc.) • Use Variances for residential uses • Area Variances for residential uses • Renewals/Extension of Site Plans or Special Permits that have no changes from previous approvals • Subdivisions / Lot Line Adjustments • Interpretations <p><input checked="" type="checkbox"/> Exempt Action submitted for informal review</p>
--	--	---

Date Response Requested (if less than 30 days): _____

If subject of a previous referral, please note County referral number(s): _____

* These actions are only exempt in municipalities that signed an intermunicipal agreement with Dutchess County to that effect.

FOR COUNTY OFFICE USE ONLY

Response from Dutchess County Department of Planning and Development

<p>No Comments:</p> <p><input checked="" type="checkbox"/> Matter of Local Concern</p> <p><input type="checkbox"/> No Jurisdiction</p> <p><input type="checkbox"/> No Authority</p> <p><input type="checkbox"/> Project Withdrawn</p> <p><input type="checkbox"/> Exempt from 239 Review</p>	<p>Comments Attached:</p> <p><input type="checkbox"/> Local Concern with Comments</p> <p><input type="checkbox"/> Conditional</p> <p><input type="checkbox"/> Denial</p> <p><input type="checkbox"/> Incomplete — municipality must resubmit to County</p> <p><input type="checkbox"/> Incomplete with Comments — municipality must resubmit to County</p> <p><input type="checkbox"/> Informal Comments Only (Action Exempt from 239 Review)</p>
---	--

Date Submitted: <u>12/24/18</u>	Notes: <u>Received by Fox on 12/24/18</u>	<input type="checkbox"/> Major Project
Date Received: <u>12/24/18</u>		Referral #: <u>ZK18-405</u>
Date Requested: <u>2/4/18</u>		
Date Required: <u>1/22/19</u>	<input type="checkbox"/> Also mailed hard copy	Reviewer: <u>Jennifer Flanagan</u>
Date Response Faxed: <u>12/27/18</u>		

City of Beacon Planning Board
1/8/2019

Title:

Meeting Date Change

Subject:

Change meeting date – Wednesday, February 13, 2019 (*due to Lincoln's Birthday Holiday*)

Background:

City of Beacon Planning Board
1/8/2019

Title:

412 Main Street

Subject:

Certificate of Appropriateness – 412 Main Street; sign

Background:

ATTACHMENTS:

Description	Type
412 Main Street Application	Application
412 Main Street Sign	Backup Material
412 Main Street Application	Application
412 Main Street Sign	Backup Material

ARCHITECTURAL REVIEW BOARD APPLICATION

Date: 12 December 2018

Project Address: 412 Main Street, Beacon, NY 12508

Project Architect/Engineer: N/A

Owner/Builder: Owner: Donna Hardisty, Sam's Realty, 412 Main St, Beacon, NY 12508

Approval Requested: [X] Certificate of Appropriateness [] New Single Family House

Color/Materials:

Siding: Application to hang a business sign on the front of the building. See appended material.

Roofing:

Windows: Color: Type:

Trim:

Garage Door:

Stone/Brick:

Signature of Owner: Donna Hardisty

FOR OFFICE USE ONLY:

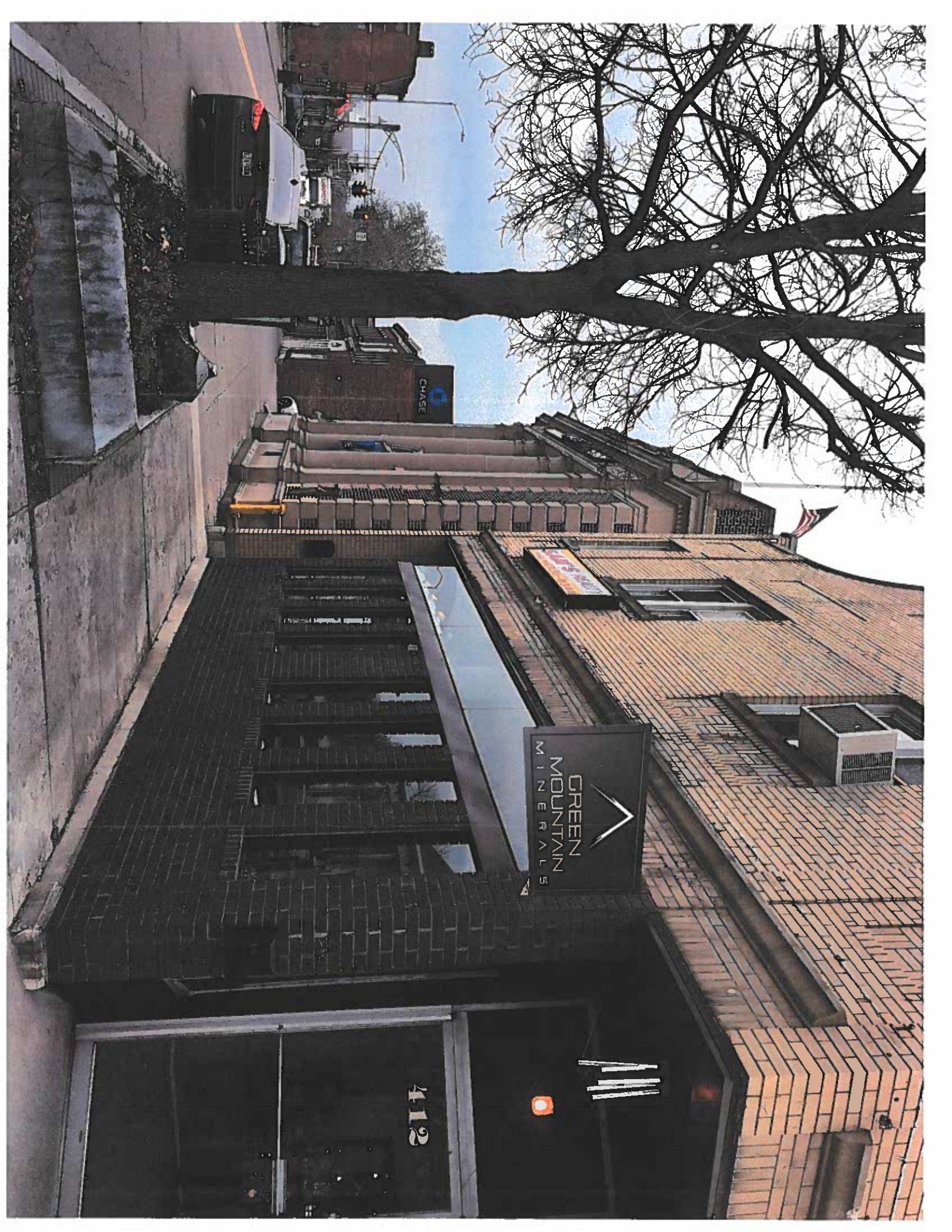
The Architectural Review Board has reviewed the plans submitted for approval for the project listed above and has determined:

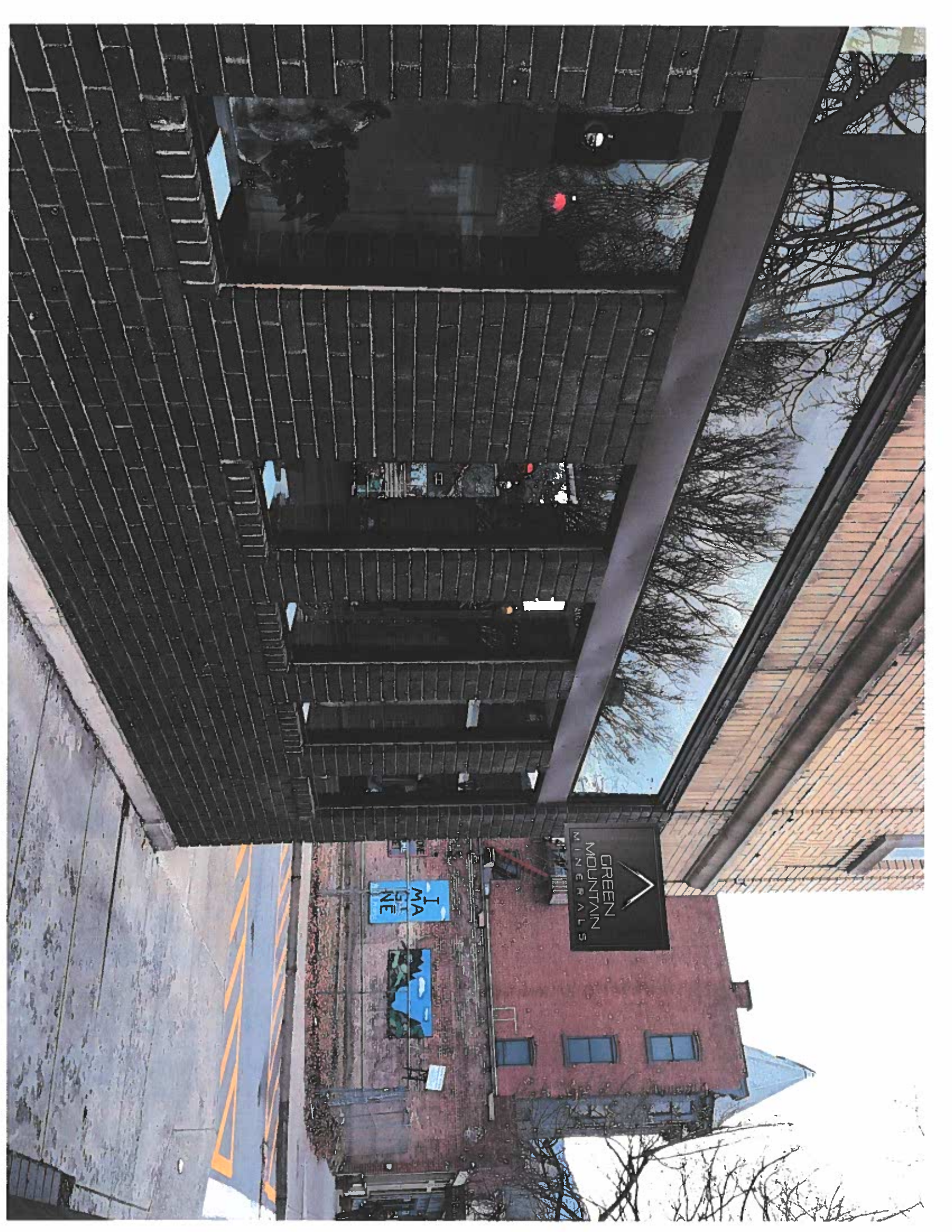
Plan Denied (Date)

Plan Approved (Date)

Subject to the following:

FEE: \$100.00



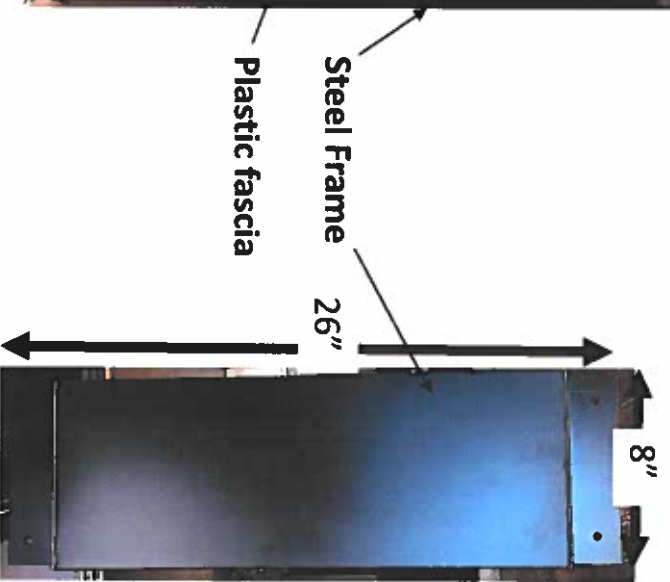
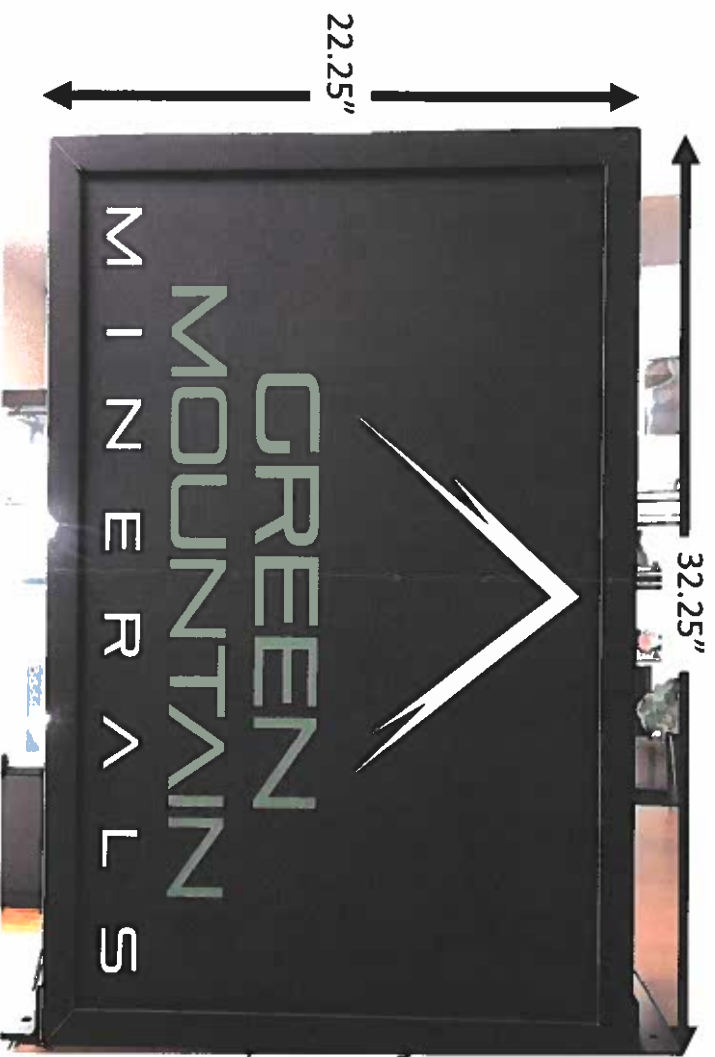


GREEN
MOUNTAIN
MINERALS

I
AM
A
MINE

GREEN MOUNTAINS MINERALS SIGN PERMIT

Total Area (32.25 x 22.25) = 717.5 sq in (5 sq feet)



ARCHITECTURAL REVIEW BOARD APPLICATION

Date: 12 December 2018

Project Address: 412 Main Street, Beacon, NY 12508

Project Architect/Engineer: N/A

Owner/Builder: Owner: Donna Hardisty, Sam's Realty, 412 Main St, Beacon, NY 12508

Approval Requested: [X] Certificate of Appropriateness [] New Single Family House

Color/Materials:

Siding: Application to hang a business sign on the front of the building. See appended material.

Roofing:

Windows: Color: Type:

Trim:

Garage Door:

Stone/Brick:

Donna Hardisty
Signature of Owner

FOR OFFICE USE ONLY:

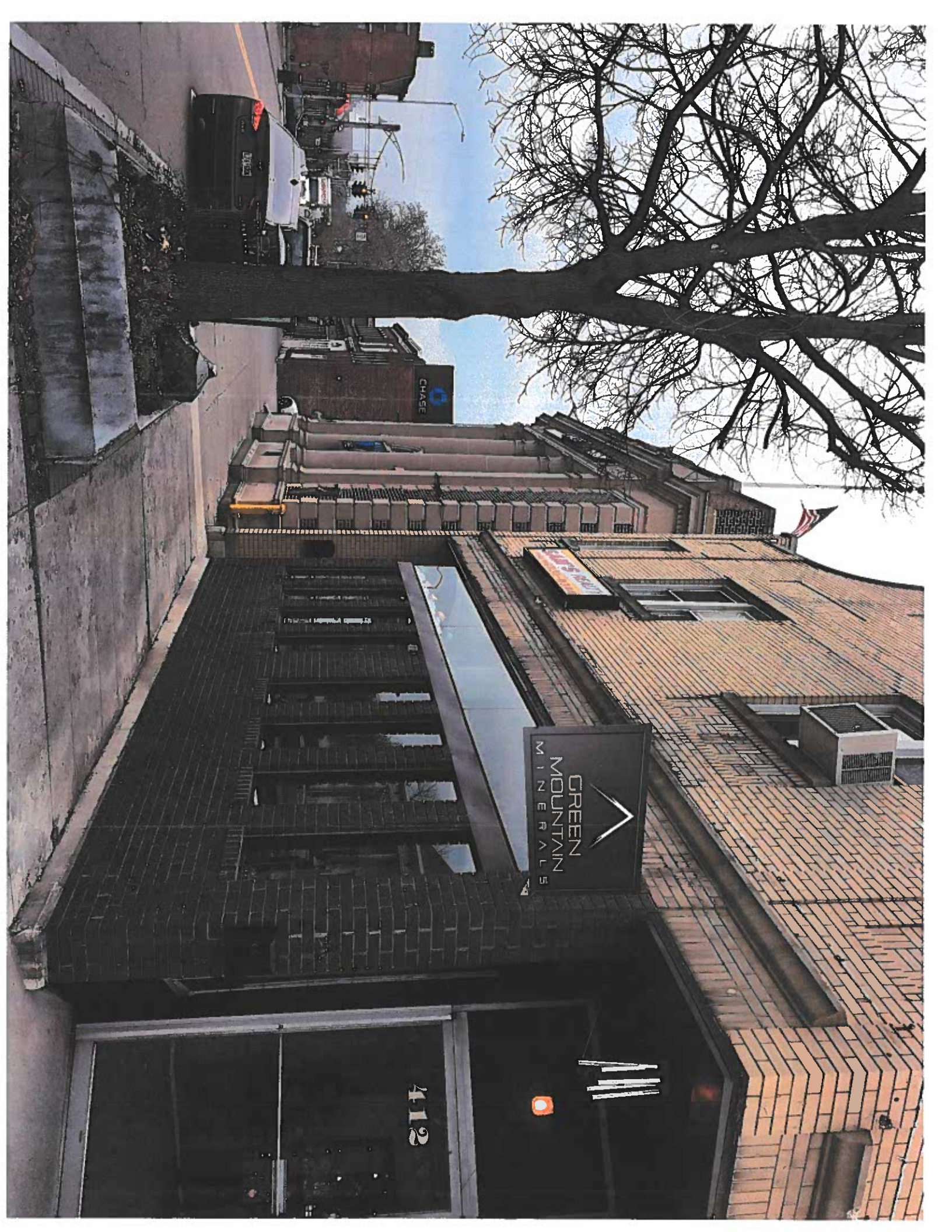
The Architectural Review Board has reviewed the plans submitted for approval for the project listed above and has determined:

Plan Denied (Date)

Plan Approved (Date)

Subject to the following:

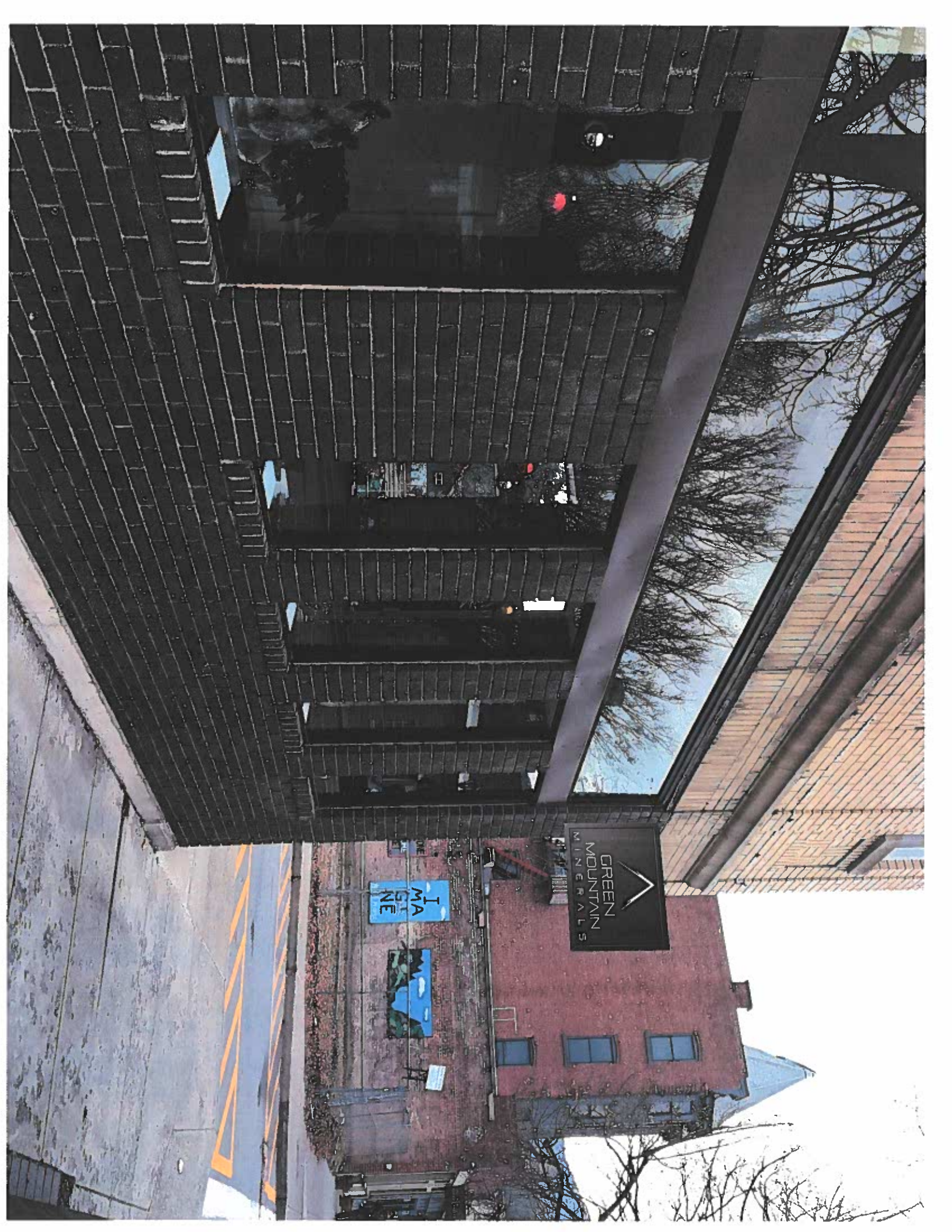
FEE: \$100.00



GREEN
MOUNTAIN
MINERALS

412

CHASE



GREEN
MOUNTAIN
MINERALS

I
MA
ST
NE



GREEN MOUNTAINS MINERALS SIGN PERMIT

Total Area (32.25 x 22.25) = 717.5 sq in (5 sq feet)

