





**RECORD OWNER:**  
501 & 600 GRIFFIN BROOK DRIVE  
ASSESSOR'S MAP 220 LOTS 9D & 9E  
GRIFFIN BROOK DRIVE OWNER LLC  
55 CAMBRIDGE STREET  
BURLINGTON, MA 01803  
BOOK 16943, PAGE 196

**GENERAL NOTES:**

- THESE PLANS ARE PREPARED FOR OUR CLIENT'S USE ONLY FOR THE PURPOSE OBTAINING PERMITS AND ARE NOT TO BE USED OR RELIED FOR CONSTRUCTION WITHOUT THE WRITTEN CONSENT OF THE MORIN-CAMERON GROUP, INC.
- EXISTING CONDITIONS, WETLAND AND BOUNDARY INFORMATION SHOWN HEREON LOCATED BY FIELD INSTRUMENT SURVEY PERFORMED BY THE MORIN-CAMERON GROUP, INC. IN JULY, 2021.

**FLOOD NOTE:**

THE SUBJECT PROPERTY IS MOSTLY LOCATED IN A ZONE "X" AS ILLUSTRATED ON FLOOD INSURANCE RATE MAP #25009C0203F, WHICH HAS AN EFFECTIVE DATE OF JULY 3, 2012. A SMALL PORTION OF THE PROPERTY IS LOCATED IN A ZONE "AE" AS DEPICTED ON THE PLAN.

**ZONING DISTRICT:**

LIMITED INDUSTRIAL (IL) ZONING DISTRICT

**WETLAND NOTE:**

WETLAND RESOURCE AREA DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. IN MAY 2021. APPROVED UNDER AN ORDER OF RESOURCE AREA DELINEATION DEP FILE #219-1265, DATED OCTOBER 6, 2021.

**GENERAL UTILITY NOTES:**

- THE GENERAL CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE GENERAL CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE GENERAL CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABUSHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
- THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRIC, CABLE AND TELEPHONE COMPANIES, GAS PROVIDER AND METHUEN MUNICIPAL UTILITY DEPARTMENTS TO VERIFY THE LOCATION, SIZE AND TYPE OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- THE EXCAVATING OF TRENCHES, THE METHODS AND MATERIALS OF BACKFILLING, AND ALL OTHER MATTERS RELATING TO THE INSTALLATION OF WATER PIPES, SEWER LINES, STORM DRAINS, SUBSURFACE DRAINS, AND ALL OTHER UNDERGROUND UTILITIES SHALL BE CONSISTENT WITH GOOD CONSTRUCTION PRACTICES AND SHALL AT ALL TIMES BE SUBJECT TO THE INSPECTION BY THE APPLICABLE CITY DEPARTMENTS.
- ALL TRENCHES SHALL BE TAMPED WITH A POWER TAMPER AT INTERVALS NOT GREATER THAN ONE (1) FOOT.
- ALL UTILITY PENETRATIONS AT THE FOUNDATIONS SHALL BE ADJUSTED BASED ON THE FINAL CONSTRUCTION DRAWINGS.

**SITE PREPARATION NOTES:**

- ALL MATERIALS REMOVED FROM THE PREMISES SHALL BE DONE SO IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS FOR HAULING AND DISPOSAL.
- COORDINATE ANY UTILITY DIS-CONNECTIONS WITH APPROPRIATE SERVICE PROVIDERS.
- ALL TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. AVOID HEAVY MACHINERY WITHIN ROOT BALL FOOTPRINT.
- COORDINATE WITH CITY OF METHUEN WATER AND SEWER DIVISION.

**CONSTRUCTION SEQUENCE:**

TO PREVENT EXCESSIVE EROSION AND SILTING, THE FOLLOWING CONSTRUCTION SEQUENCE COUPLED WITH OTHER WIDELY ACCEPTED PRINCIPALS FOR REDUCING EROSION AND SEDIMENTATION SHALL BE IMPLEMENTED IN THE DEVELOPMENT OF THE SITE.

- THE GENERAL CONTRACTOR SHALL COORDINATE A PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY WITH THE OWNER (OWNER'S REPRESENTATIVE), PLANNING DEPARTMENT REPRESENTATIVE AND ANY OTHER INTERESTED CITY DEPARTMENT REPRESENTATIVES.
- STABILIZATION PRACTICES FOR EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. PLACE EROSION CONTROLS AT LOCATIONS INDICATED ON THE SITE DEVELOPMENT PLANS. AN EPA CONSTRUCTION GENERAL PERMIT AND STORMWATER POLLUTION PREVENTION PLAN MUST BE ACTIVATED PRIOR TO CONSTRUCTION ACTIVITIES.
- IN PREPARING TO REMOVE MATERIALS FROM THE WORK AREA ON THE SITE, CAREFUL CONSIDERATION SHOULD BE MADE TO THE EXTENT OF DISTURBANCE SO AS NOT TO DISTURB MORE OF THE SITE THAN WHAT IS INTENDED TO BE IMMEDIATELY DEVELOPED AND RE-STABILIZED.
- LOAM AND TOP SOIL EXCAVATED FROM THE WORK AREA SHALL BE STOCKPILED AT THE LOCATIONS SHOWN ON THE PLANS. IF MATERIALS ARE STOCKPILED ON THE SITE WHERE THEY WILL NOT INTERFERE WITH CONSTRUCTION ACTIVITIES, THEY SHALL BE LOCATED SO AS TO MINIMIZE THE POTENTIAL FOR EROSION INTO EXISTING DRAINAGE INFRASTRUCTURE OR WETLAND RESOURCE AREAS. STOCKPILES SHALL BE STABILIZED WITH STRAW BALES, SILT FENCING OR EQUIVALENT. STOCKPILES LEFT FOR GREATER THAN 14 DAYS SHALL BE SEEDED WITH AN EROSION CONTROL MIX. STOCKPILES SHALL BE SITUATED OUTSIDE THE WETLAND BUFFER ZONES WHEREVER POSSIBLE.
- REMOVAL OF ALL DEBRIS OR MATERIAL FROM THE WORK AREA SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS UNDER THE OVERSIGHT OF A LICENSED SITE PROFESSIONAL (LSP) HIRED BY THE OWNER IF APPLICABLE.
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES AT THE LOCATIONS NOTED.
- ALL CATCH BASINS SHALL BE PROTECTED WITH SILT SACK SEDIMENT TRAPS.
- REMOVAL OF ALL EXISTING UTILITIES TO BE CUT AND CAPPED, AND COORDINATED WITH APPROPRIATE UTILITY COMPANIES.

**CONSTRUCTION PRACTICES:**

ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE FOLLOWING CONDITIONS:

- ALL REASONABLE ACTION SHALL BE TAKEN TO MINIMIZE THE NEGATIVE EFFECTS OF CONSTRUCTION ON ABUTTERS. ADVANCE NOTICE SHALL BE PROVIDED TO ALL ABUTTERS IN WRITING AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION OF THE PROJECT.
- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE COMMUNITY PLANNING COMMISSION, AND IN ACCORDANCE WITH ANY AND ALL RULES, REGULATIONS, AND ORDINANCES OF THE CITY OF METHUEN.
- THE OWNER SHALL PROMPTLY NOTIFY THE BOARD OF HEALTH OF ANY ENVIRONMENTAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION THAT MAY ADVERSELY IMPACT THE ABUTTERS TO THE SITE.
- ALL PROVISIONS IN THE MUNICIPAL CODE OF METHUEN, ARTICLE VI, SECTION 9-62, NOISE POLLUTION CONTROL ORDINANCE, SHALL BE STRICTLY ADHERED TO. IF STRICTER MEASURES ARE REQUIRED BY THIS DECISION, THE STRICTER MEASURES SHALL APPLY.
- WHERE PRACTICAL, ALL ONSITE MATERIAL SHALL BE USED AS BACK FILL AND FOR OTHER USES ON SITE.
- ALL CONSTRUCTION VEHICLES LEFT OVERNIGHT AT THE SITE MUST BE LOCATED COMPLETELY ON THE SITE.
- ALL CONSTRUCTION VEHICLES SHALL BE CLEANED PRIOR TO LEAVING THE SITE SO THAT THEY DO NOT LEAVE DIRT AND/OR DEBRIS ON SURROUNDING ROADWAYS.
- ALL CONSTRUCTION WILL OCCUR ON SITE; NO CONSTRUCTION WILL OCCUR OR BE STAGED WITHIN CITY RIGHT OF WAY. ANY DEVIATION FROM THIS SHALL BE APPROVED BY THE DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT PRIOR TO CONSTRUCTION.
- ANY ROADWAYS, DRIVEWAYS, SIDEWALKS, OR LANDSCAPING DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE OWNER. THE CITY ENGINEER, ALONG WITH THE CLERK OF THE WORKS SHALL DETERMINE THE CONDITION OF THE ROADWAYS DIRECTLY IMPACTED BY CONSTRUCTION AND RELATED TRAFFIC AND DETERMINE THE TYPES OF REPAIRS REQUIRED BY THE OWNER.

**EROSION AND SEDIMENTATION CONTROL:**

WIDELY ACCEPTED PRACTICES FOR REDUCING EROSION AND SEDIMENTATION WILL BE EMPLOYED IN THE DEVELOPMENT OF THIS SITE. REFER TO THE STORMWATER POLLUTION PREVENTION PLAN FOR THE PROJECT.

- THE DEVELOPMENT OF THE SITE HAS BEEN PLANNED TO MATCH EXISTING TOPOGRAPHY AND GROUND COVER. EXISTING DRAINAGE PATTERNS OF THE SITE HAVE BEEN MAINTAINED TO THE EXTENT PRACTICABLE.
- NATURAL WETLANDS WILL BE PRESERVED AND PROTECTED, AND EXISTING VEGETATION WILL BE RETAINED AND PROTECTED TO THE EXTENT POSSIBLE.
- STEEP SLOPES, WHERE POSSIBLE, WILL NOT BE DISTURBED.
- THE CONTRACTOR SHALL MINIMIZE THE AREA OF DISTURBED LAND TO THE EXTENT FEASIBLE.
- SEDIMENT CONTROL MEASURES WILL BE APPLIED TO CONTROL ANY SEDIMENTS THAT MAY BE PRODUCED AS A RESULT OF SITE CONSTRUCTION ACTIVITIES. EROSION AND DEPOSITION OF SEDIMENT WILL BE CLOSELY MONITORED DURING CONSTRUCTION.
- TEMPORARY EROSION CONTROL MEASURES WILL INCLUDE, BUT NOT BE LIMITED TO, FILTER FABRIC SILT FENCES, SEEDING AND MULCHING, SEEDED FILTER STRIPS AND SILT SACKS IN CATCH BASINS(EXISTING AND NEWLY INSTALLED).
- TOPSOIL STRIPPED FROM THE SITE WILL BE STOCKPILED FOR LOAMING AND SEEDING AT LATER CONSTRUCTION STAGES. THE STOCKPILES SHALL BE LOCATED SO AS TO ACT AS TEMPORARY DIVERSIONS, GENERALLY ON AN UPHILL SLOPE.
- SITE DEVELOPMENT WILL NOT COMMENCE UNTIL ALL TEMPORARY EROSION CONTROL MEASURES ARE IN PLACE. THESE MEASURES SHALL BE EMPLOYED UNTIL FINAL PAVING AND ADEQUATE VEGETATION HAS BEEN ESTABLISHED.
- THE CONSTRUCTION PHASE MUST COMPLY WITH THE ENVIRONMENTAL PROTECTION AGENCY(EPA) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROTOCOLS. AN EPA NOTICE OF INTENT SHALL BE FILLED OUT AT LEAST 2 WEEKS PRIOR TO THE START OF CONSTRUCTION.
- NOTIFY THE CITY OF METHUEN AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

**STORM DRAIN NOTES:**

- STORMWATER CONVEYANCE PIPES SHALL BE HDPE (ADS N-12) UNLESS OTHERWISE NOTED.
- BACKFILL SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY BY AASHTO T-180D METHOD.
- SHEETING, IF USED, SHALL BE REMOVED PRIOR TO BACKFILLING TRENCH.
- UNSUITABLE SOIL BELOW THE INVERT (CLAY, ORGANICS, DEBRIS, ETC) SHALL BE REMOVED AND REPLACED WITH APPROVED MATERIAL AND SHALL NOT BE REUSED AS BACKFILL.
- ROOF DRAINS SHALL BE DIRECTED TO THE DRAINAGE SYSTEM IN THE LOCATIONS SHOWN. COORDINATE LOCATIONS WITH THE PROJECT ARCHITECT AND LANDSCAPE ARCHITECT.
- REPAIR BROKEN OR DAMAGED DRAIN PIPES IN KIND.

**RECORD KEEPING, AS-BUILTS & LAYOUT NOTES:**

- THE SITE CONTRACTOR SHALL MAINTAIN TIES AND EXTENSIVE PHOTOS OF ALL BURIED UTILITIES. WHENEVER POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEER OF INSPECTION MILESTONES SO UTILITIES CAN BE INSPECTED PRIOR TO BACKFILLING.
- ALL AS-BUILT SURVEYS AND LAYOUT NECESSARY DURING CONSTRUCTION SHALL BE COORDINATED WITH THE SURVEYOR. PROVIDE AT LEAST 72 HOURS ADVANCED NOTICE.

**SEWER NOTES:**

- A MINIMUM OF 10 FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN SANITARY SEWER PIPES AND WATER PIPES. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER PIPE, THE WATER PIPE SHALL BE SLEEVED FOR A DISTANCE OF AT LEAST 10' ON EACH SIDE.
- ALL GRAVITY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) SDR-35 UNLESS OTHERWISE NOTED.
- WHERE SANITARY SEWERS CROSS WATER SERVICES, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER PIPE. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER PIPE SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER PIPE SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. WHENEVER IT IS IMPOSSIBLE TO OBTAIN VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER PIPE AND THE SEWER PIPE SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
- SANITARY SEWER LINES WITH LESS THAN 4 FEET OF COVER SHALL BE INSULATED TO PREVENT FREEZING.

**DEMOLITION NOTES:**

- CONTRACTOR TO CUT AND CAP ALL EXISTING UTILITY SERVICES PROPOSED TO BE REMOVED AT THE MAIN, IN ACCORDANCE WITH CITY BUILDING DEMOLITION REGULATIONS, PRIOR TO CONSTRUCTION. TEE SERVICE CONNECTIONS SHALL BE REMOVED FROM THE MAIN AND REPLACED WITH A MINIMUM OF 4 FT. OF NEW CLDI PIPE.
- HYDRANT CONNECTIONS FOR WATER USE DURING DEMOLITION SHALL BE COORDINATED WITH THE CITY OF METHUEN ENGINEERING DEPARTMENT

**WATER NOTES:**

- WATER LINES WILL HAVE AT LEAST FIVE (5) FEET OF COVER.
- THERE MUST BE AT LEAST SIX (6) INCHES OF CLEARANCE BETWEEN A NEW WATER LINE AND ANY UNDERGROUND ROCK FORMATION.
- INSTALLATION IN CLAY/SILT SOILS: ALL WATER MAIN COMPONENTS SHALL MEET AWWA STANDARDS. "ALL DUCTILE IRON PIPE SHALL BE COATED WITH A LAYER OF ARC-SPRAYED ZINC PER ISO 8179. THE MASS OF THE ZINC APPLIED SHALL BE 200 G/M<sup>2</sup>. A FINISHING TOPCOAT SHALL BE APPLIED TO THE ZINC. INTERIOR LINING FOR POTABLE WATER MAIN SHALL HAVE AN INTERIOR PROTECTIVE LINING OF CEMENT-MORTAR IN ACCORDANCE WITH ANSI/AWWA A21.4/C104."WATER AND FIRE PROTECTION MAINS FOUR (4) INCH AND GREATER SHALL BE CLASS 52 DUCTILE IRON CEMENT LINED PIPE AND ZINC COATED. WHERE SOIL CONDITIONS ARE DETERMINED BY THE DEPARTMENT TO BE CORROSIVE, POLY WRAP WILL BE INSTALLED AS ADDITIONAL MEANS OF PROTECTION. "POLYETHYLENE ENCASEMENT: POLYETHYLENE ENCASEMENT SHALL BE POLYETHYLENE CONSISTING OF THREE LAYERS OF CO-EXTRUDED LINEAR LOW DENSITY POLYETHYLENE (LLDPE), FUSED INTO A SINGLE THICKNESS OF NOT LESS THAN 8 (EIGHT) MILS."
- ALL MECHANICAL JOINT COMPONENTS WILL BE INSTALLED USING RETAINING GLANDS, SUCH AS, GRIP RING, MEGA LUG OR STAR GRIP. METAL WEDGES MUST BE USED AT ALL BELL JOINTS TO INSURE CONTINUITY FOR TRACING. ALL FITTINGS (TEES, BENDS, SOLID SLEEVE ETC.) WILL BE ZINC COATED AS WELL FOR PROTECTION PER ISO 8179-2, ZINC RICH PAINT SHALL HAVE A ZINC CONTENT OF AT LEAST 85% BY WEIGHT AND SHALL BE FINISHED WITH AN EXTERIOR BITUMINOUS COATING." A MINIMUM 307SS (STAINLESS STEEL) "T" BOLTS WILL BE USED TO CONNECT ANY APPURTENANCE THAT REQUIRES THE USE OF "T" BOLTS FOR ASSEMBLY.
- THE SERVICE CONNECTIONS SHALL BE PERPENDICULAR TO THE MAIN AND FOLLOW A STRAIGHT LINE INTO THE BUILDING.
- INSTALLATION IN CLAY/SILT SOILS: GATE VALVES WILL BE DUCTILE IRON EPOXY COATED (AWWA C550), WITH O-RING SEALS, URETHANE COATED WEDGE, STAINLESS STEEL NUTS AND BOLTS, AND ANTI-ROTATION SEATS TO PREVENT T-BOLTS FROM TURNING. VALVES WILL BE OPEN RIGHT USING A TWO (2) INCH OPERATING NUT WITH AN ARROW CAST IN THE METAL.
- ALL WATER VALVE BOX COVERS SHALL BE LABELED 'WATER'.
- ALL WATER METERS MUST BE PURCHASED FROM THE METHUEN WATER & SEWER DEPARTMENT. SHUT OFF VALVES ARE REQUIRED BOTH BEFORE AND AFTER THE METER. ALL METERS MUST BE INSTALLED OR REMOVED BY AN EMPLOYEE OF THE METHUEN WATER & SEWER DEPARTMENT ONLY. ALL METERS MUST BE LOCATED WITHIN THREE (3) FEET OF WHERE THE SERVICE ENTERS THE BUILDING AND SHALL BE ACCESSIBLE FOR READING, MAINTENANCE AND REPAIR.
- NO WATER WILL BE SUPPLIED TO ANY CONTRACTOR OR BUILDER THROUGH A WATER SERVICE WHICH HAS NOT BEEN PLACED "IN SERVICE" BY THE METHUEN WATER & SEWER DEPARTMENT. NO DISTRIBUTION SYSTEM COMPONENT WILL BE OPERATED BY ANYONE OTHER THAN METHUEN WATER & SEWER DEPARTMENT PERSONNEL.
- WATER LINES (MAINS AND SERVICE CONNECTIONS) SHALL BE PRESSURE TESTED TO 150 PSI AND HELD FOR ONE HOUR AND WITNESSED BY THE METHUEN WATER & SEWER DEPARTMENT CONSTRUCTION FOREMAN OR HIS DESIGNEE. ALL INSTALLATIONS MUST BE INSPECTED BY THE WATER CONSTRUCTION FOREMAN OR HIS DESIGNEE. PROVIDE THE METHUEN WATER & SEWER DEPARTMENT WITH AT LEAST 72 HOURS NOTICE FOR THE INSPECTION.
- AS-BUILT PLANS (HARD COPIES AND DIGITAL) ARE REQUIRED PRIOR TO PLACING A NEW WATER SYSTEM IN SERVICE. AS-BUILT PLANS (CORNER TIES) AND PAYMENTS ARE DUE PRIOR TO TURNING A WATER SERVICE ON. CONTACT THE SURVEYOR AT LEAST 72 HOURS PRIOR TO INSTALLATION TO COORDINATE AN AS-BUILT SURVEY.

**LEGEND:**

	CONTOUR
	SPOT GRADE
	DRAIN LINE
	GAS LINE
	SEWER LINE
	UNDERGROUND ELECTRIC LINE
	WATER LINE
	CHAIN LINK FENCE
	WOOD GUARD RAIL
	VERTICAL GRANITE CURB LINE
	CAPE COD BERM
	SNOW STORAGE AREA
	ACCESSIBLE PARKING SPACE
	PARKING SPACE QUANTITY
	SIGN
	LIGHT POLE
	HYDRANT
	WATER GATE
	SEWER MANHOLE (SMH)
	DRAIN MANHOLE (DMH)
	CATCH BASIN (CB)
	CDS HYDRODYNAMIC SEPARATOR (ST-2)
	TELEPHONE BOX
	TELEPHONE MANHOLE
	SUBSURFACE STRUCTURE
	SOIL TEST PIT

**ABBREVIATION:**

BW	BORDER OF VEGETATED WETLANDS
BW	BOTTOM OF WALL
CCB	CAPE COD BERM
DCGS	DENSE GRADED CRUSHED STONE
EXIST.	EXISTING
DYLL	DOUBLE YELLOW LANE LINE
(M)	MEASURED
OC	OUTLET CONTROL STRUCTURE
PROP.	PROPOSED
(R)	RECORD
#R	CURB RADIUS
DL	STOP LINE
SSA	SNOW STORAGE AREA
TYP	TYPICAL
TW	TOP OF WALL
VGC	VERTICAL GRANITE CURB

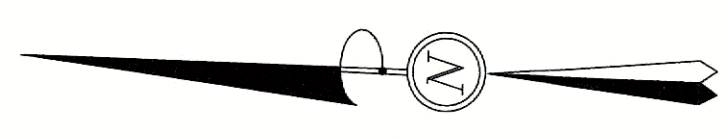
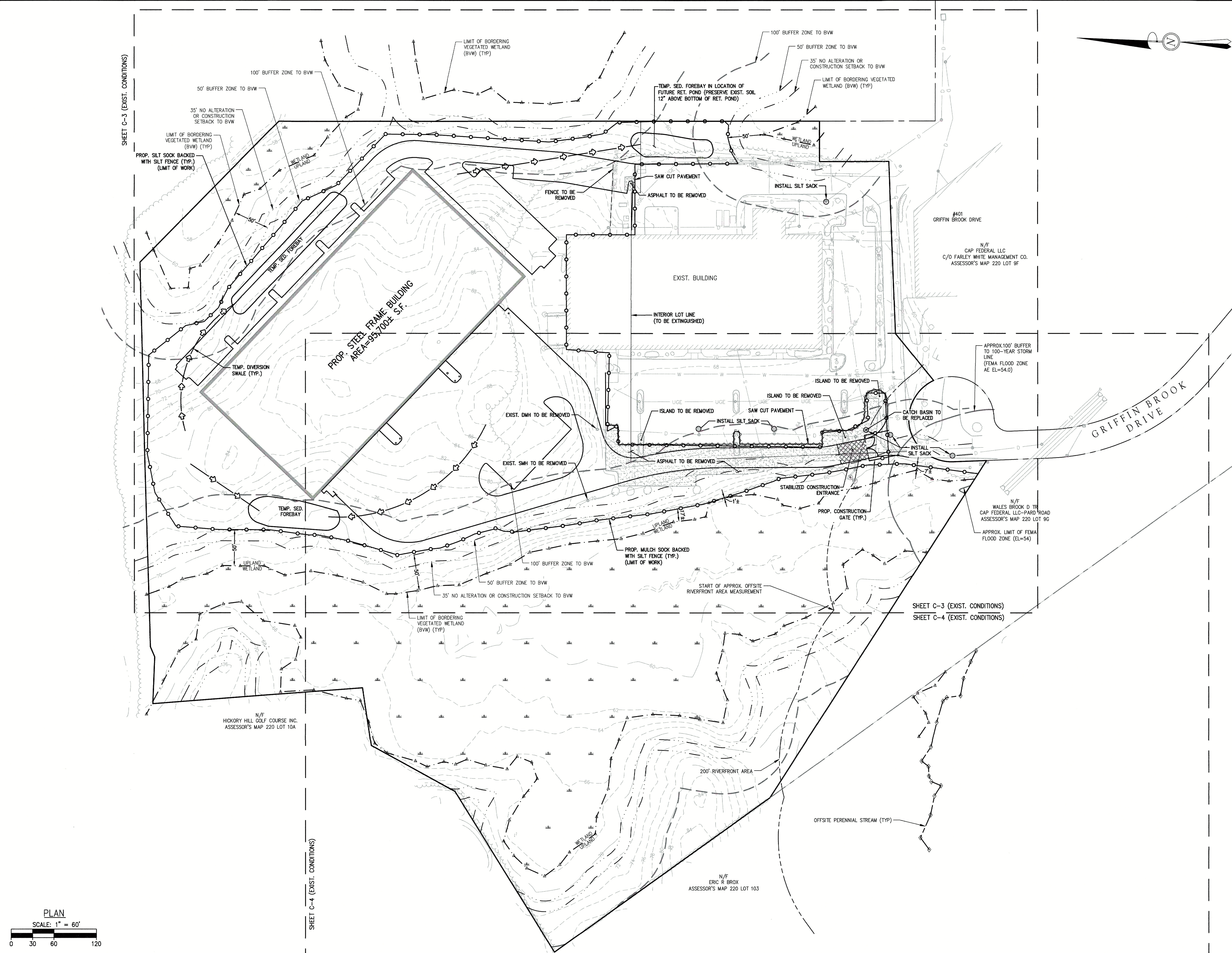


REVISIONS		NO.		DATE	
DESCRIPTION					

SITE DEVELOPMENT PLANS IN METHUEN, MASSACHUSETTS 501 & 600 GRIFFIN BROOK DRIVE (ASSESSOR'S MAP 220, LOTS 9D & 9E)	
PREPARED FOR: GRIFFIN BROOK DRIVE OWNER LLC	

GENERAL NOTES, LEGEND & ABBREVIATION	DRAWING NO. C-1
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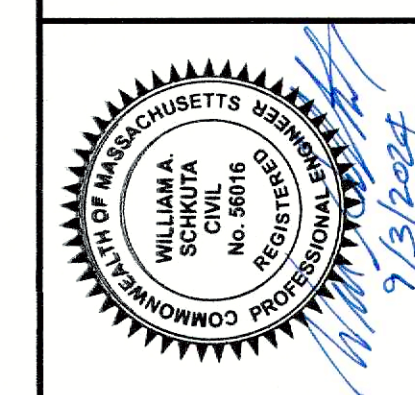




**The.**  
**Morin-Cameron**  
**GROUP, INC.**

**CIVIL ENGINEERS | ENVIRONMENTAL CONSULTANTS**  
**LAND SURVEYORS | LAND USE PLANNERS**

66 ELM STREET, DANVERS, MA 01923  
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R E V I S I O N S		SURVEY BY: MCG
NO.	DESCRIPTION	DRAFTED BY: LNO
		CHECKED BY: WAS
		APPROVED BY: WAS
		SCALE: AS NOTED
		DATE: SEPTEMBER 3, 2024

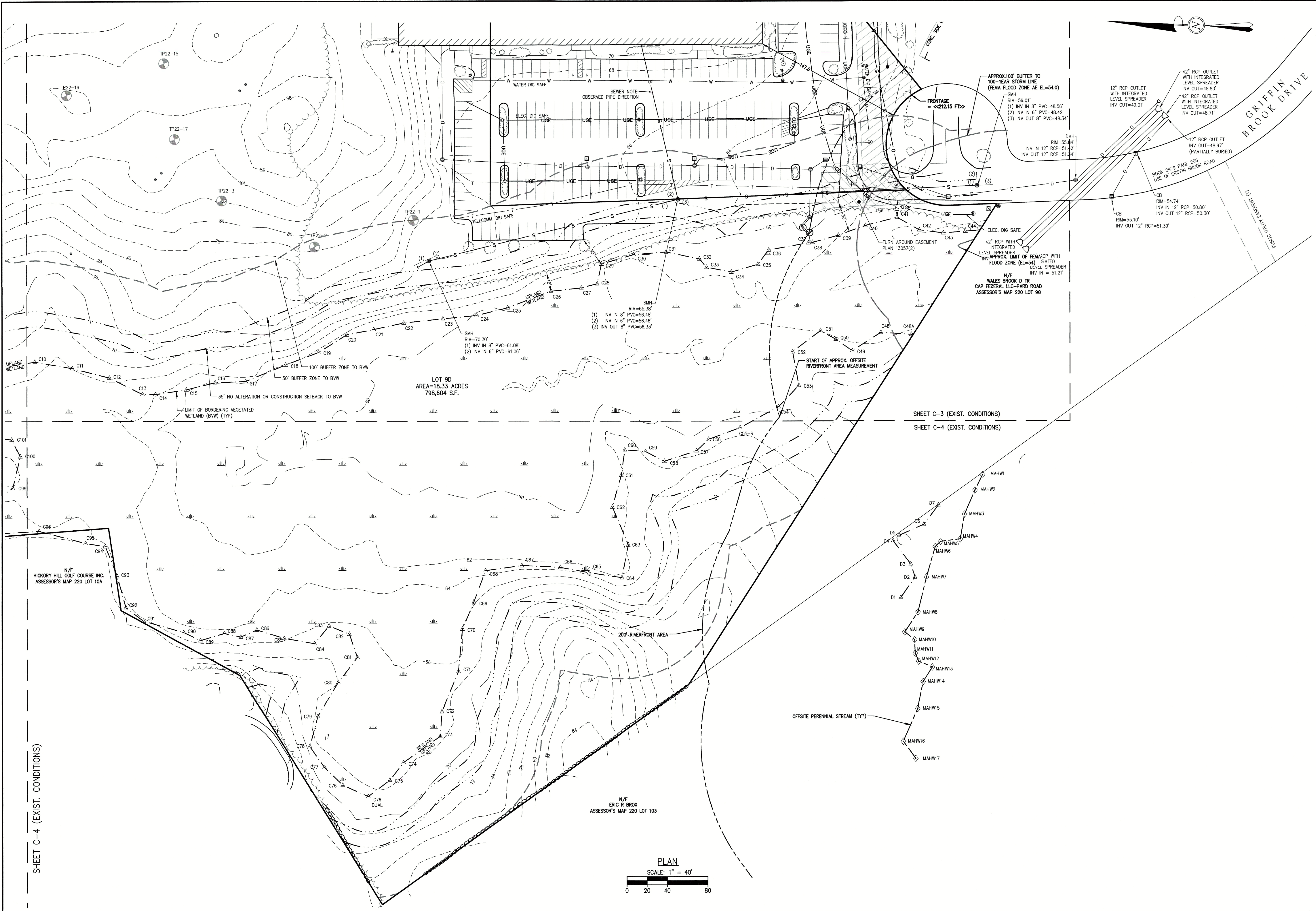
**SITE DEVELOPMENT PLANS**  
IN  
**METHUEN, MASSACHUSETTS**  
**501 & 600 GRIFFIN BROOK DRIVE**  
(ASSESSOR'S MAP 220, LOTS 9D & 9E)  
PREPARED FOR:  
**GRIFFIN BROOK DRIVE OWNER LLC**

SHEET INDEX & EROSION CONTROL	DRAWING NO.
	C-2









EXISTING  
CONDITIONS  
PLAN

DRAWING NO.

C-4

SITE DEVELOPMENT PLANS  
IN  
METHUEN, MASSACHUSETTS  
501 & 600 GRIFFIN BROOK DRIVE  
(ASSESSOR'S MAP 220, LOTS 9D & 9E)  
PREPARED FOR:  
GRIFFIN BROOK DRIVE OWNER LLC

REVISIONS

NO.	DESCRIPTION	DATE

SURVEY BY: MCG

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CHECKED BY: WAS

APPROVED BY: WAS

SCALE: AS NOTED

DATE: SEPTEMBER 3, 2024

The  
Morin-Cameron

GROUP, INC.

CIVIL ENGINEERS / ENVIRONMENTAL CONSULTANTS  
LAND SURVEYING / ENGINEERS  
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SEAL OF MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER  
WILLIAM MORIN  
CIVIL  
No. 96016  
EXPIRATION DATE 12/31/2024  
9/15/2024

PROJ. #A046



ZONING MATRIX: LIMITED INDUSTRIAL DISTRICT (IL)		
SETBACK	REQUIRED	PROPOSED
LOT AREA (SF)	40,000	970,306
FRONTAGE (FT)	100	212.15
LOT WIDTH (FT)	100	318±
YARD SETBACK: FRONT (FT)	60	147±
YARD SETBACK: SIDE (FT)	30	66±
YARD SETBACK: REAR (FT)	30	91±
NUMBER OF STORIES	4 (MAXIMUM)	1
BUILDING HEIGHT (FT)	45 (MAXIMUM)	<40 (EXIST.) 66 (PROP.) *
LOT COVERAGE (%)	35% (MAXIMUM)	39% **

\* HEIGHT MEASURED FROM GRADE AT STREET. ELEV.=58.0  
ACTUAL PROPOSED BUILDING HEIGHT FROM AVERAGE GRADE TO ROOF=45'  
ZONING HEIGHT VARIANCE APPROVED BY METHUEN ZONING BOARD OF APPEALS  
ON FEBRUARY 23, 2022.

\*\* VARIANCE REQUEST TO INCREASE LOT COVERAGE FROM 35% TO 39% (+4%).

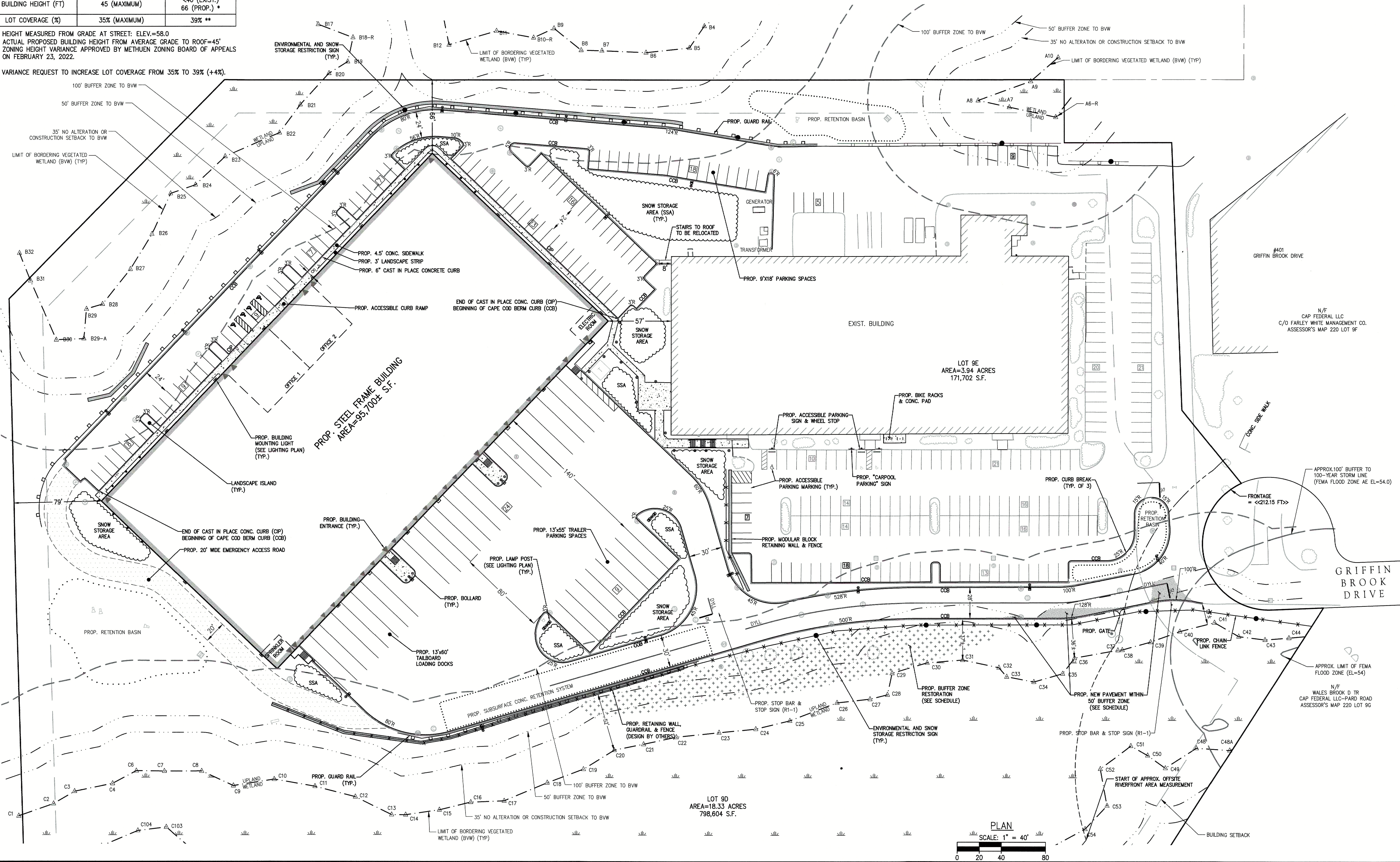
PARKING CALCULATIONS				
BUILDING DESCRIPTION	PARKING EQUATION	BUILDING SIZE (SF)	REQUIRED	PROPOSED
EXIST. BUILDING (RESEARCH AND DEVELOPMENT)	1 SPACE/ 300 SF	59,917	200	201
PROP. BUILDING (WAREHOUSE)	1 SPACE/ 1,200 SF	95,700	80	76 (9'x18' SPACES) 4 (8'x18' ACCESSIBLE SPACES)
TOTAL			280	281

**ACCESSIBLE PARKING:**  
MAAB 521 CMR 23.2.1  
301-400 SURFACE SPACES REQUIRES 8 ACCESSIBLE SPACES (8 PROVIDED)

**LOADING SPACES:**  
24 (60'x13' TAILBOARD LOADING SPACES)  
9 (13'x55' TRAILER SPACES)

SCHEDULE OF BUFFER ZONE IMPACTS & RESTORATION		
WETLAND SETBACK	NEW PAVEMENT (S.F.)	RESTORED BUFFER ZONE (S.F.)
0-35'	205	5,500±
35-50'	965	4,100±
OTHER	---	2,300±

NOTE: 340± S.F. OF EXIST. PAVEMENT REMOVED FROM 0-35' SETBACK  
986± S.F. OF EXIST. PAVEMENT REMOVED FROM 35-50' SETBACK



**The Morin-Cameron GROUP, INC.**  
CIVIL ENGINEERS/ENVIRONMENTAL CONSULTANTS  
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COMMONWEALTH OF MASSACHUSETTS  
WILLIAM A. MORIN  
CIVIL ENGINEER  
No. 58016  
Professional Seal  
Date: 1/15/2024

SURVEY BY: MCG  
DRAFTED BY: LNO  
CHECKED BY: WAS  
APPROVED BY: WAS  
SCALE: AS NOTED  
DATE: SEPTEMBER 3, 2024

REVISIONS	
NO.	DESCRIPTION

**SITE DEVELOPMENT PLANS**  
IN  
**METHUEN, MASSACHUSETTS**  
**501 & 600 GRIFFIN BROOK DRIVE**  
(ASSESSOR'S MAP 220, LOTS 9D & 9E)  
PREPARED FOR:  
**GRIFFIN BROOK DRIVE OWNER LLC**

**SITE LAYOUT PLAN**  
DRAWING NO. **C-5**





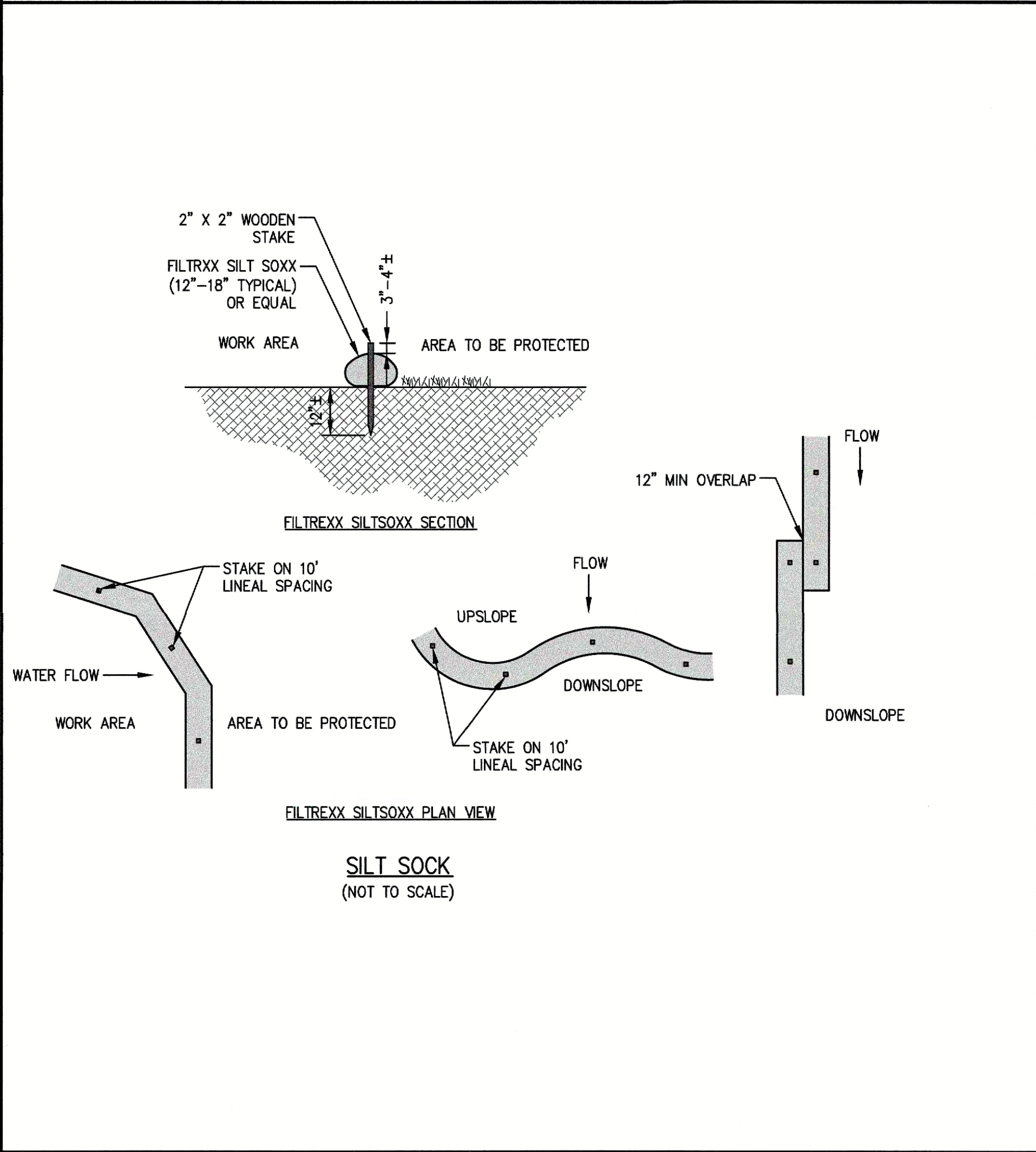
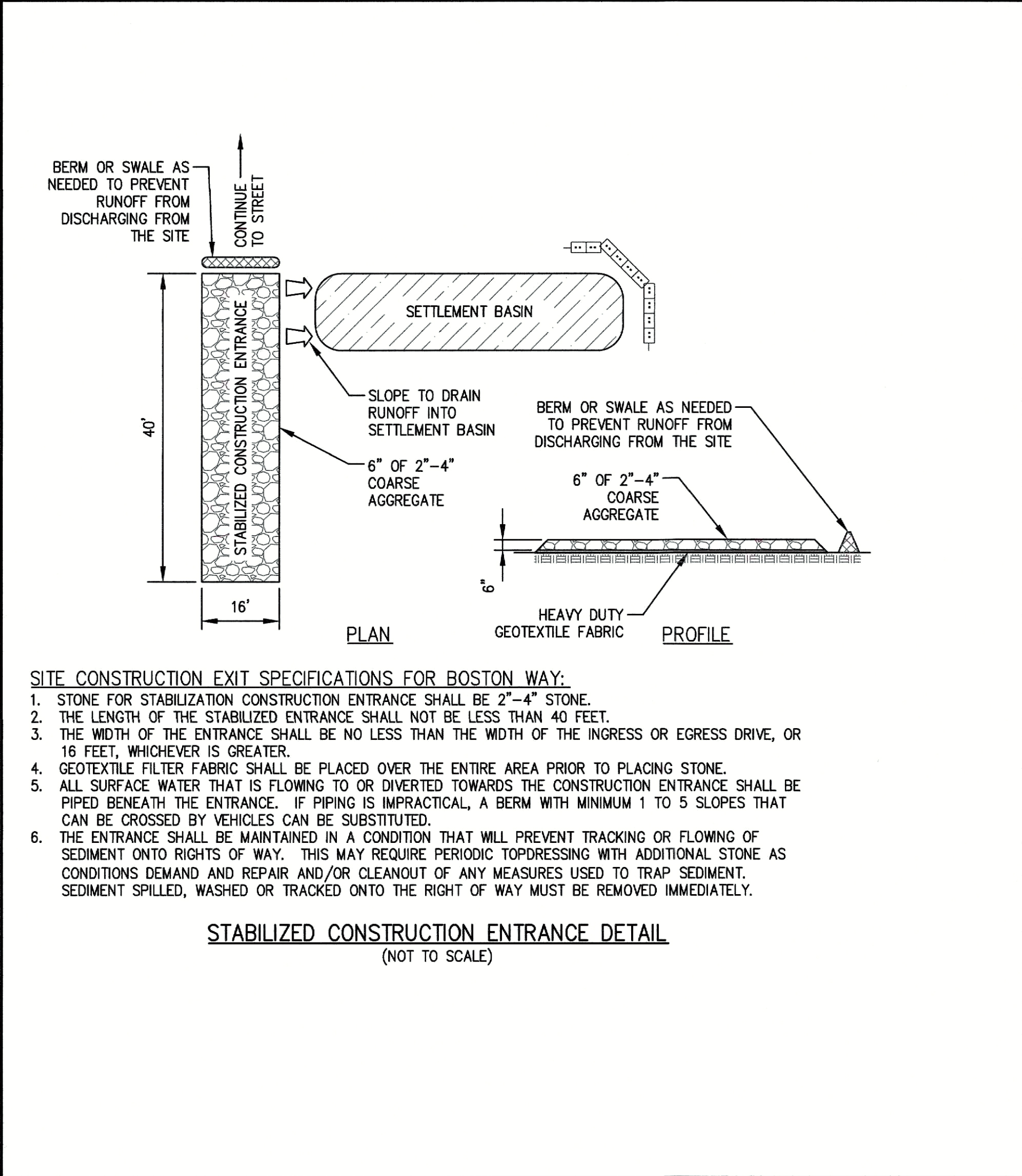






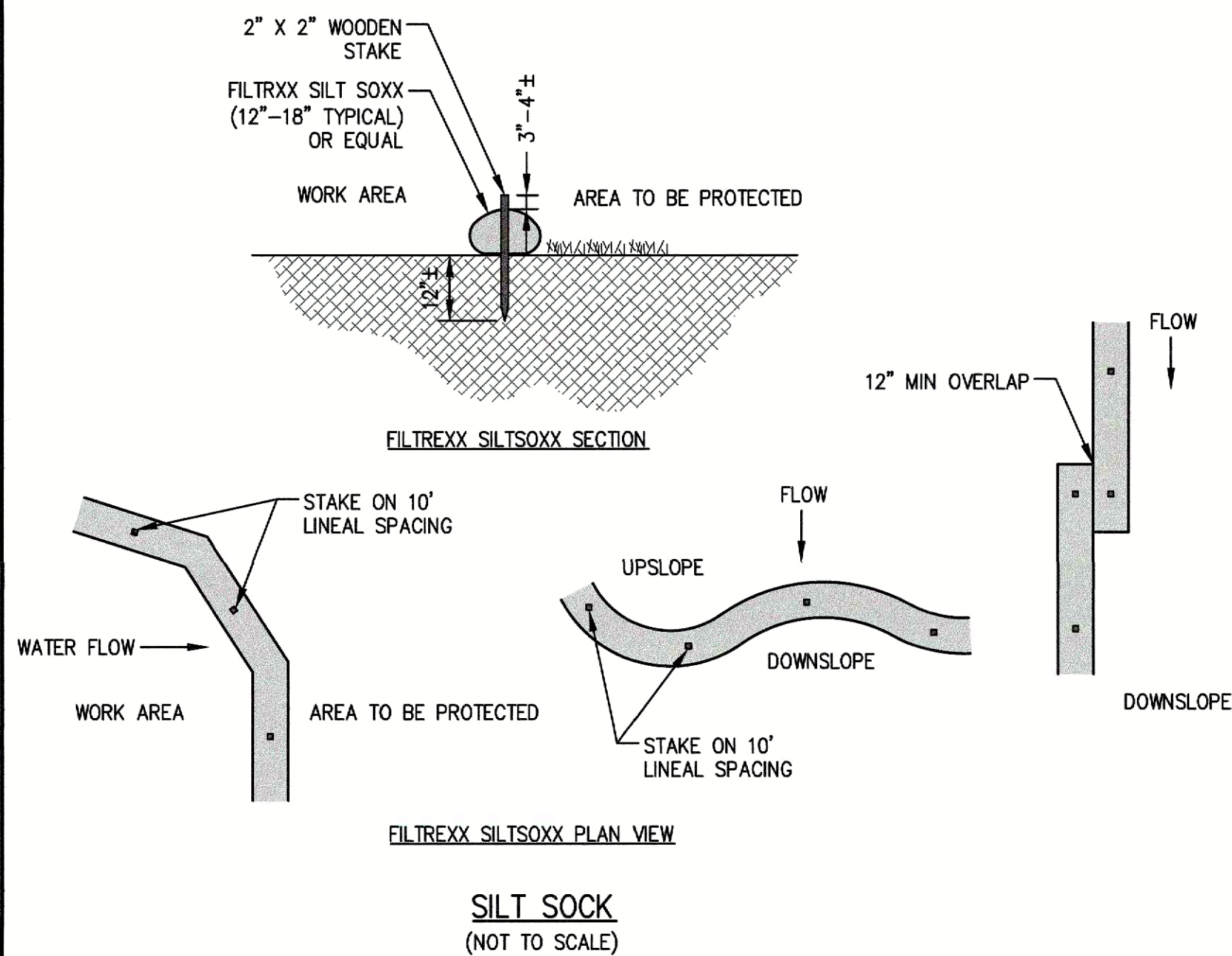




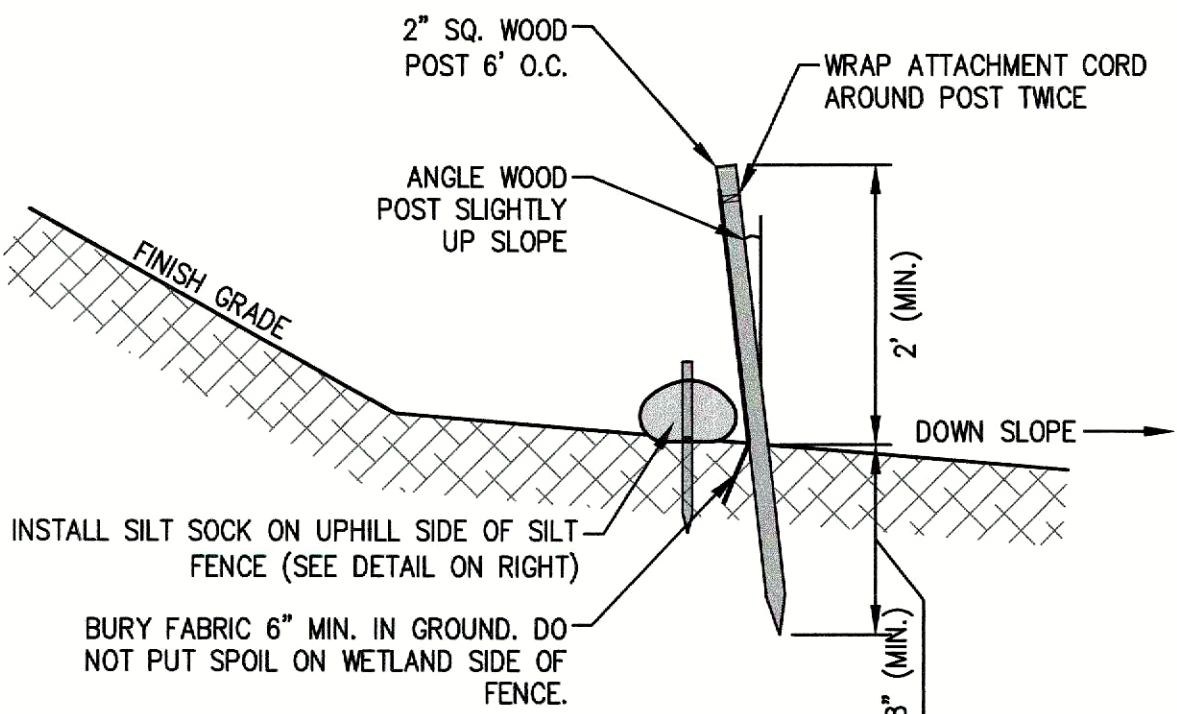


- SITE CONSTRUCTION EXIT SPECIFICATIONS FOR BOSTON WAY:**
1. STONE FOR STABILIZATION CONSTRUCTION ENTRANCE SHALL BE 2"-4" STONE.
  2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 40 FEET.
  3. THE WIDTH OF THE ENTRANCE SHALL BE NO LESS THAN THE WIDTH OF THE INGRESS OR EGRESS DRIVE, OR 16 FEET, WHICHEVER IS GREATER.
  4. GEOTEXTILE FILTER FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
  5. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH MINIMUM 1 TO 5 SLOPES THAT CAN BE CROSSED BY VEHICLES CAN BE SUBSTITUTED.
  6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO RIGHTS OF WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. SEDIMENT SPILLED, WASHED OR TRACKED ONTO THE RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.

**STABILIZED CONSTRUCTION ENTRANCE DETAIL**  
(NOT TO SCALE)

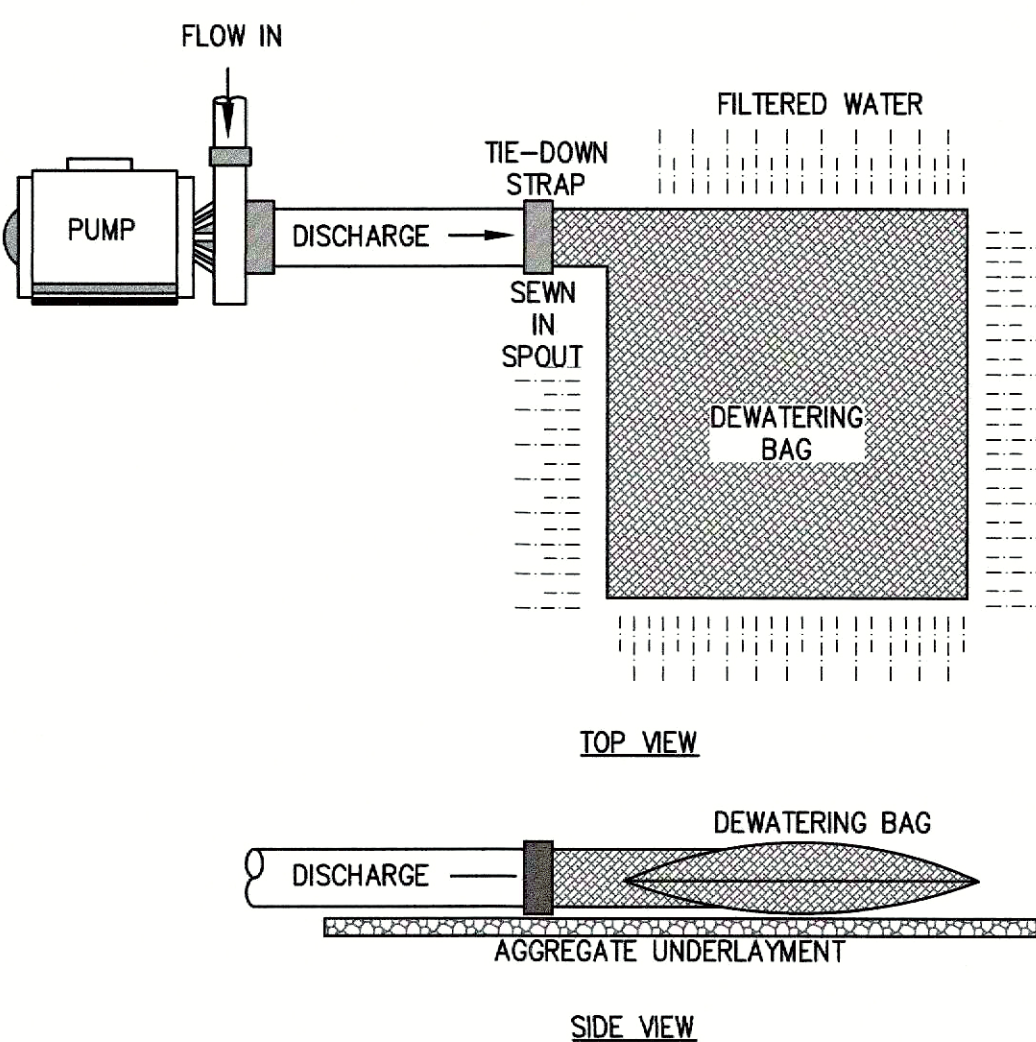


**SILT SOCK**  
(NOT TO SCALE)

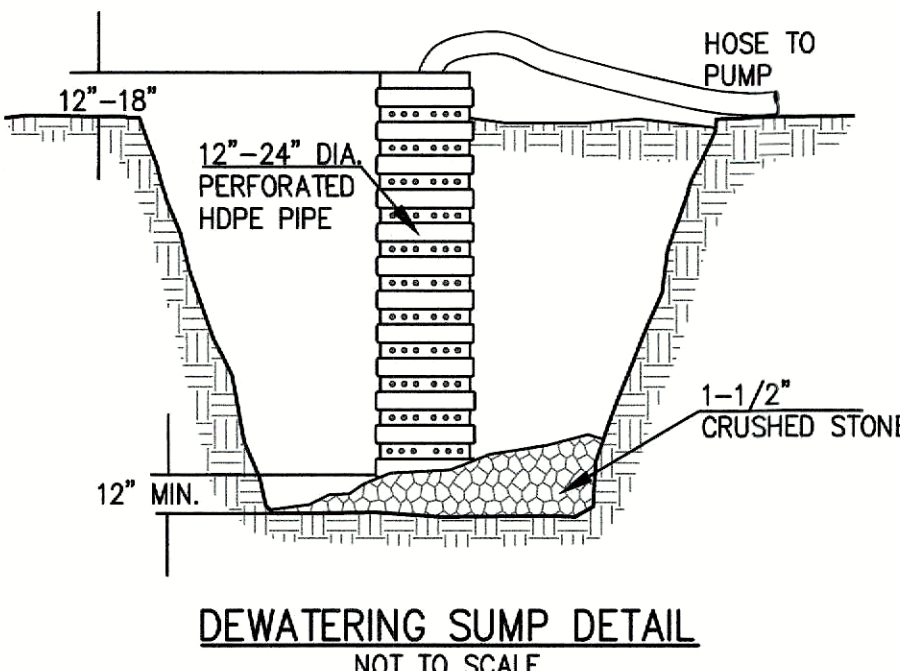


- NOTES**
1. SILT FENCE TO BE INSTALLED AROUND LIMIT OF WORK TO PREVENT OFFSITE MIGRATION OF SEDIMENT DURING CONSTRUCTION.
  2. SILT FENCE TO BE MANUFACTURED BY PROPEX GEOTEX, TENCATE ENVROFENCE, OR APPROVED EQUAL.

**SILT SOCK BACKED WITH SILT FENCE**  
(NOT TO SCALE)

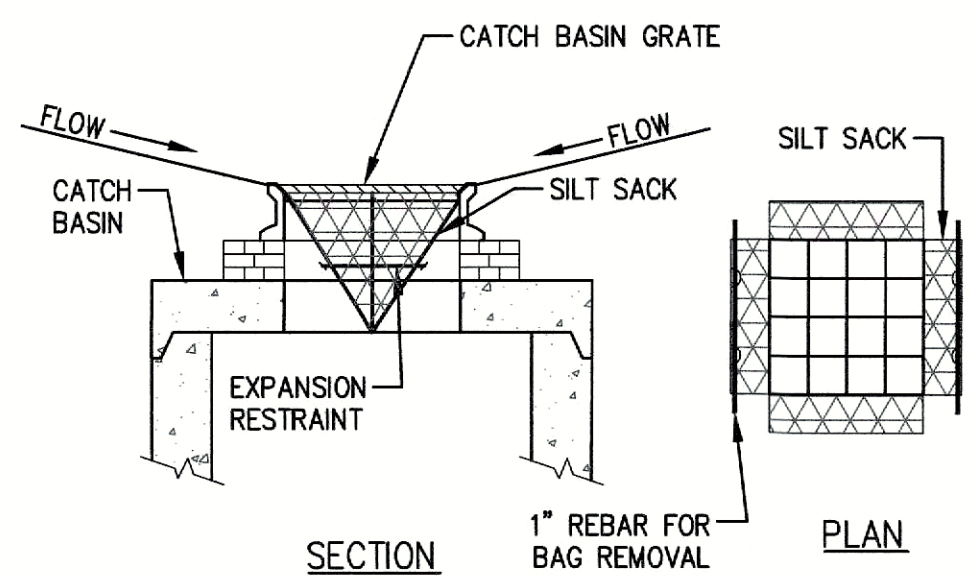


**DEWATERING BAG DETAIL**  
(NOT TO SCALE)

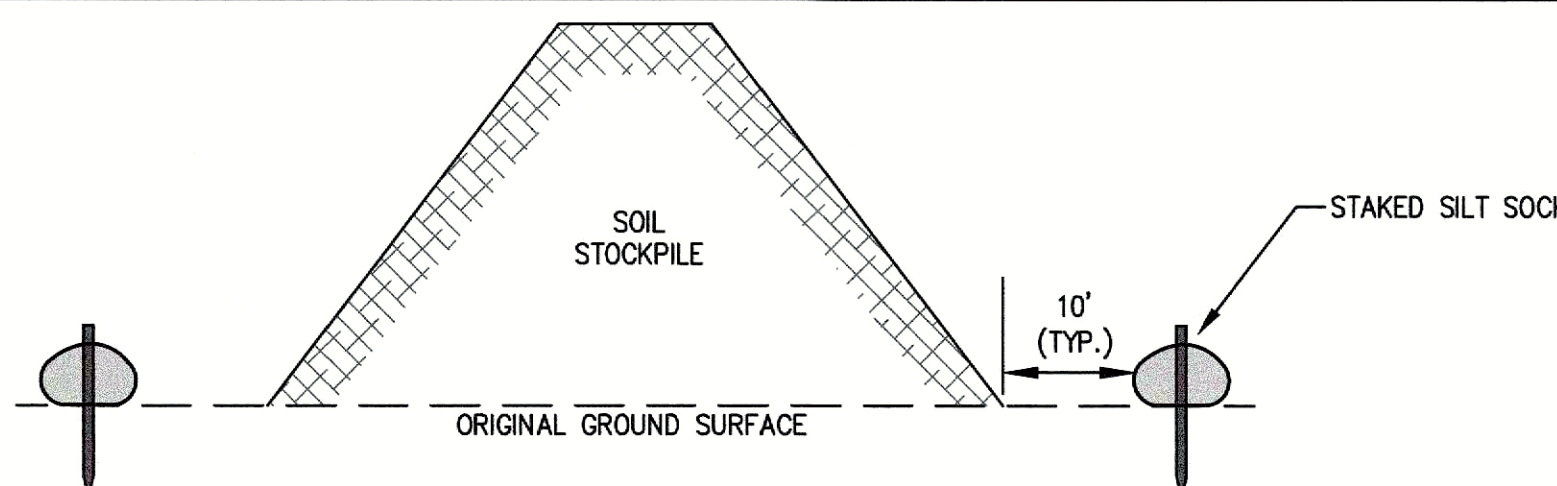


NOTE:  
COORDINATE WITH LSP IF DEWATERING WITHIN A.U.L. AREAS

- SILT SACK NOTES:**
1. INSTALL SILT SACKS IN EXISTING CATCH BASINS. INSTALL SILT SACKS IN NEW CATCH BASINS AFTER INSTALLATION.
  2. GRATES TO BE PLACED OVER SILT SACKS.
  3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED WHEN DEPTH OF SEDIMENT IS WITHIN 6" OF GRATE.

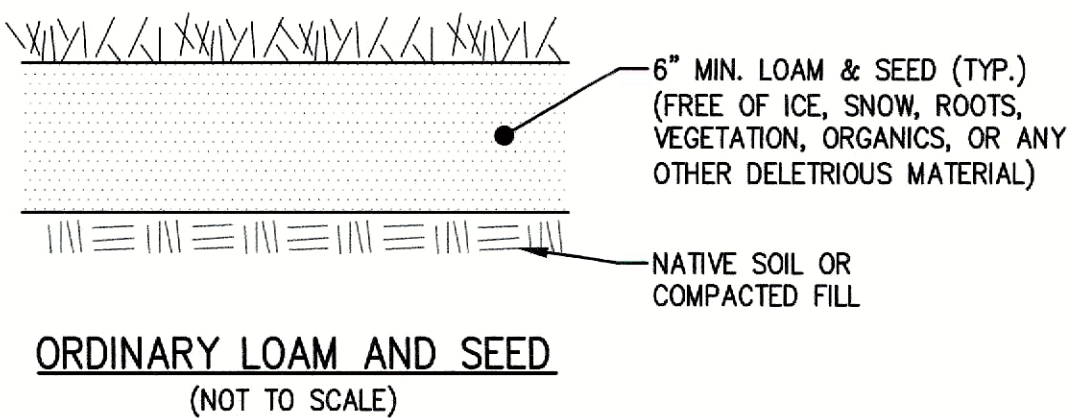


**SILT SACK SEDIMENT TRAP**  
(NOT TO SCALE)



- NOTES:**
1. SILT SOCK TO EXTEND AROUND ENTIRE PERIMETER OF STOCKPILE IF ON LEVEL GROUND OR TO EXTEND AROUND DOWNGRADIENT PORTION STOCKPILE IS ON SLOPE.
  2. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS IT SHALL BE STABILIZED WITH AN EROSION CONTROL BLANKET OR SEEDING (IF LOAM).
  3. INSPECTION OF SILT SOCKS SHALL BE AT LEAST ONCE PER WEEK AND AFTER RAIN EVENTS IN EXCESS OF 1/2". REPAIR OR REPLACEMENT OF SILT SOCK SHALL BE MADE PROMPTLY AS NEEDED.
  4. SEDIMENT TRAPPED BY SILT SOCKS SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN SEDIMENT DEPTH REACHES 12".
  5. SILT SOCKS SHALL BE MAINTAINED UNTIL STOCKPILE IS ELIMINATED.

**TEMPORARY SOIL STOCKPILE**  
(NOT TO SCALE)



**ORDINARY LOAM AND SEED**  
(NOT TO SCALE)

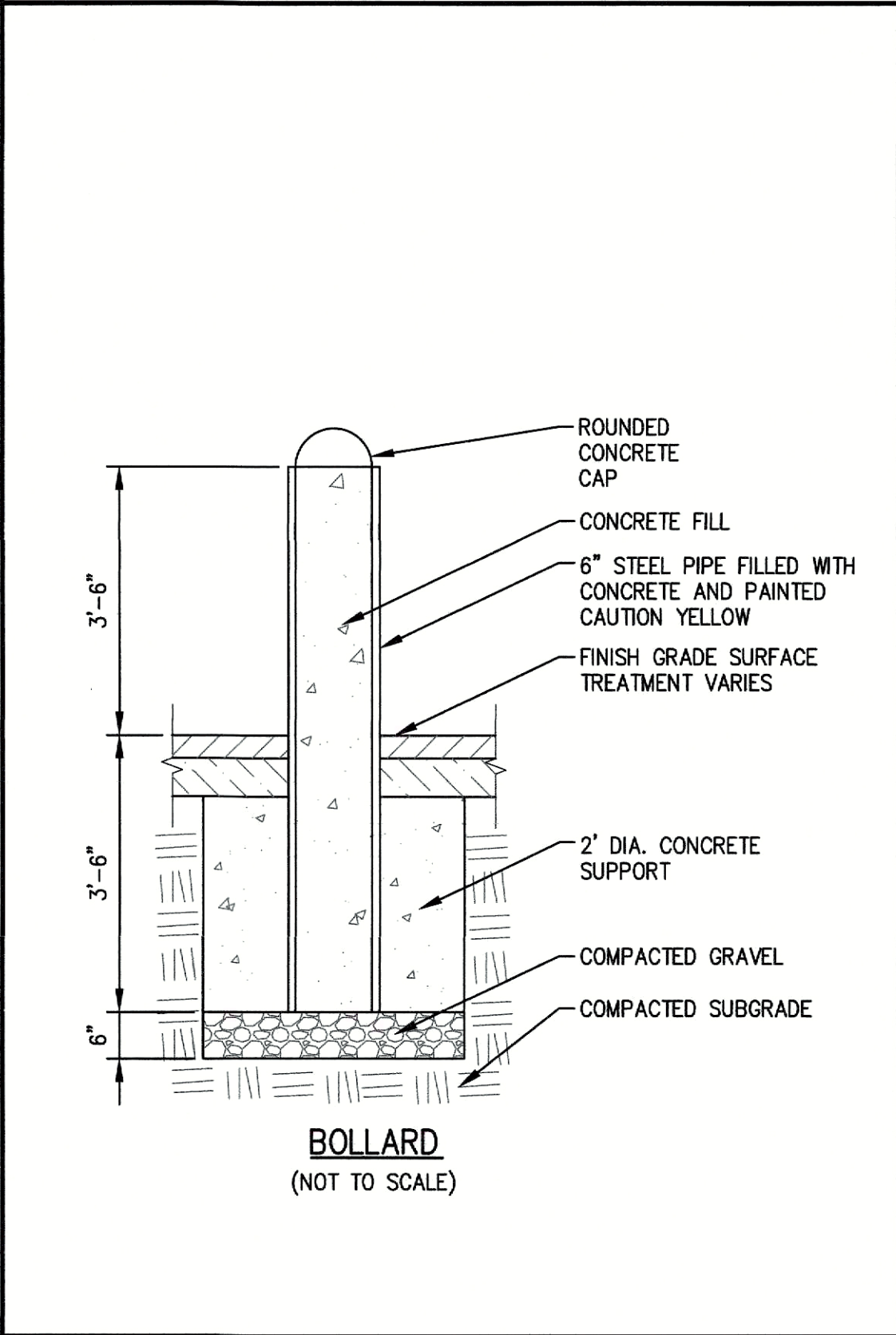
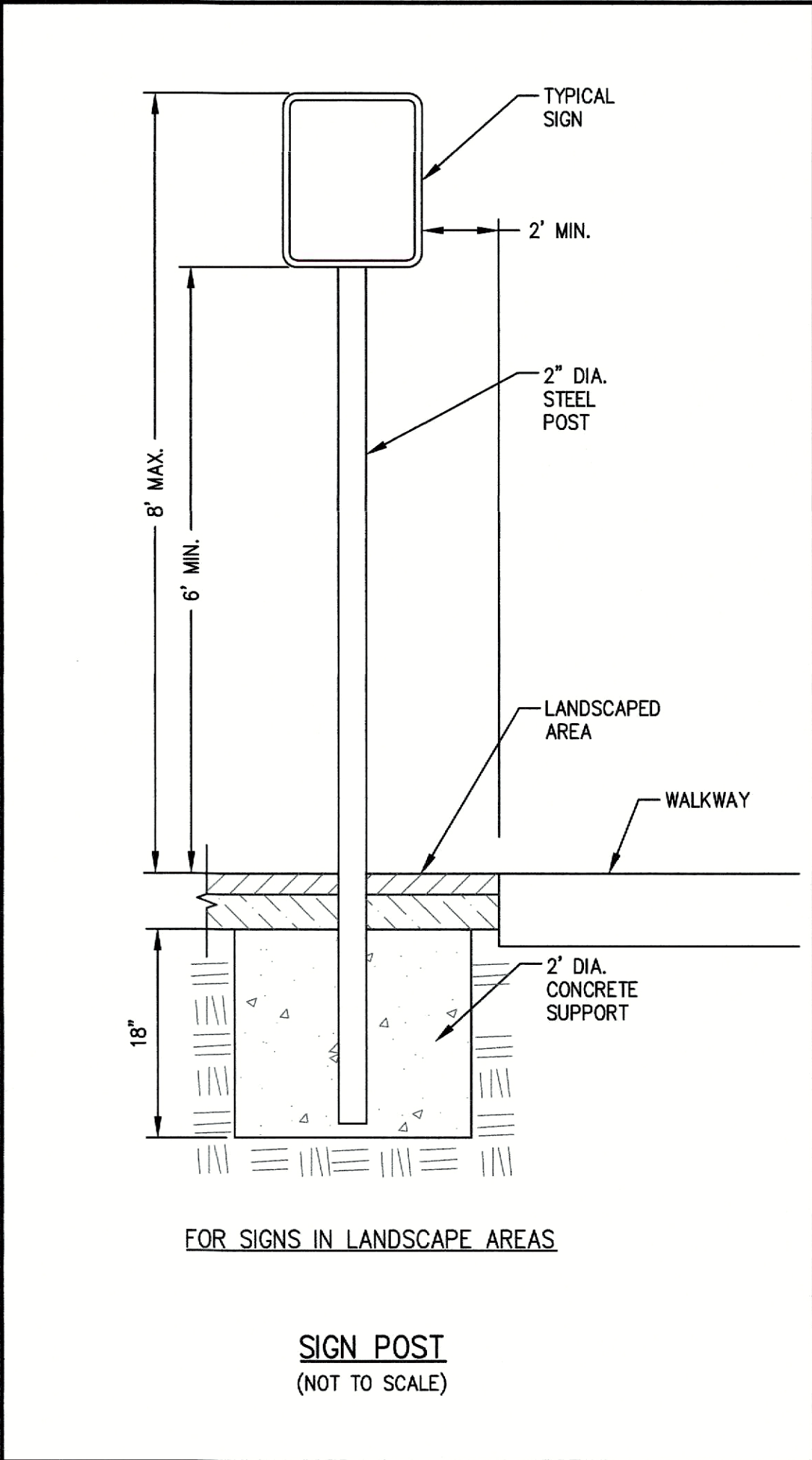
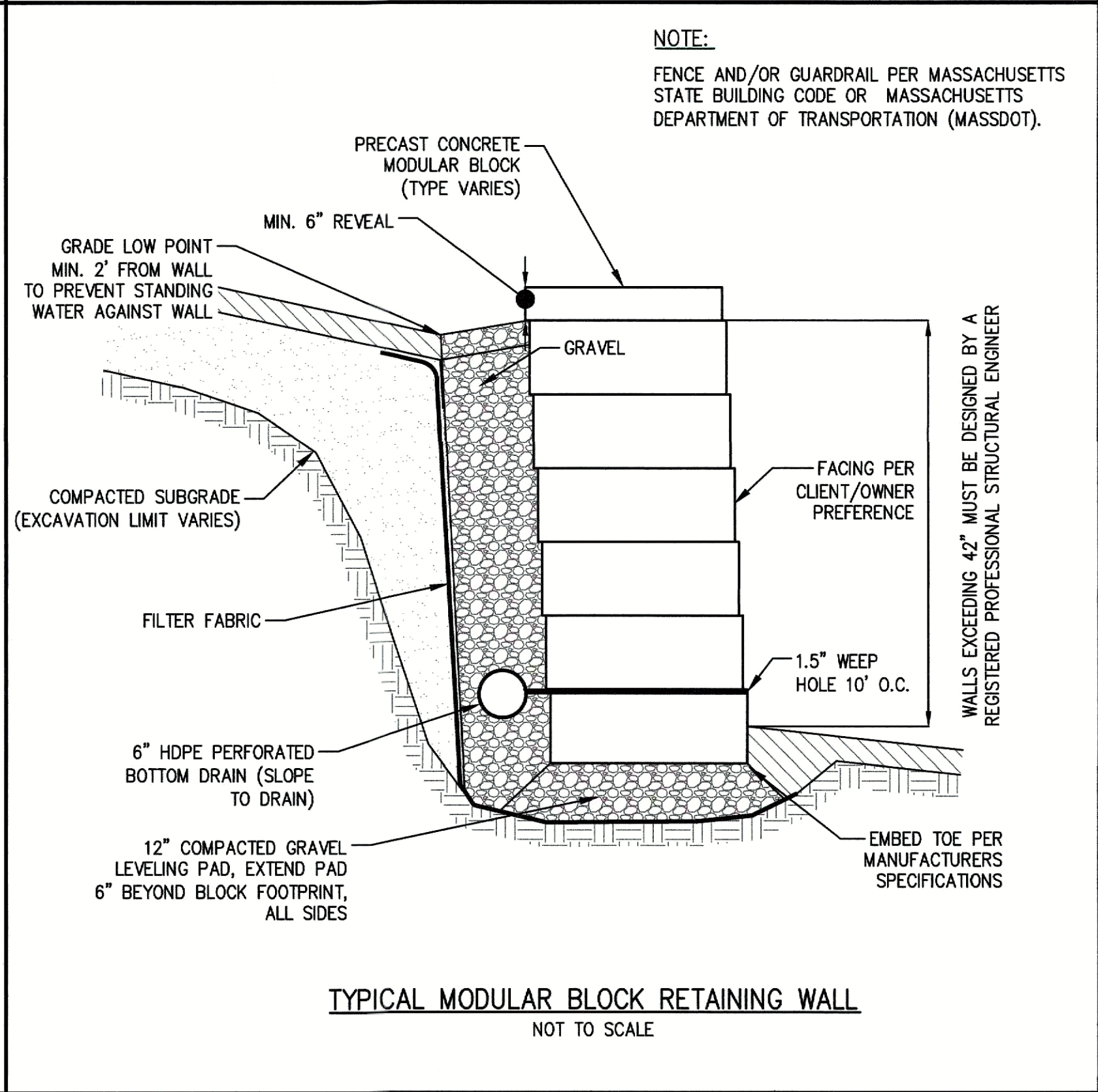
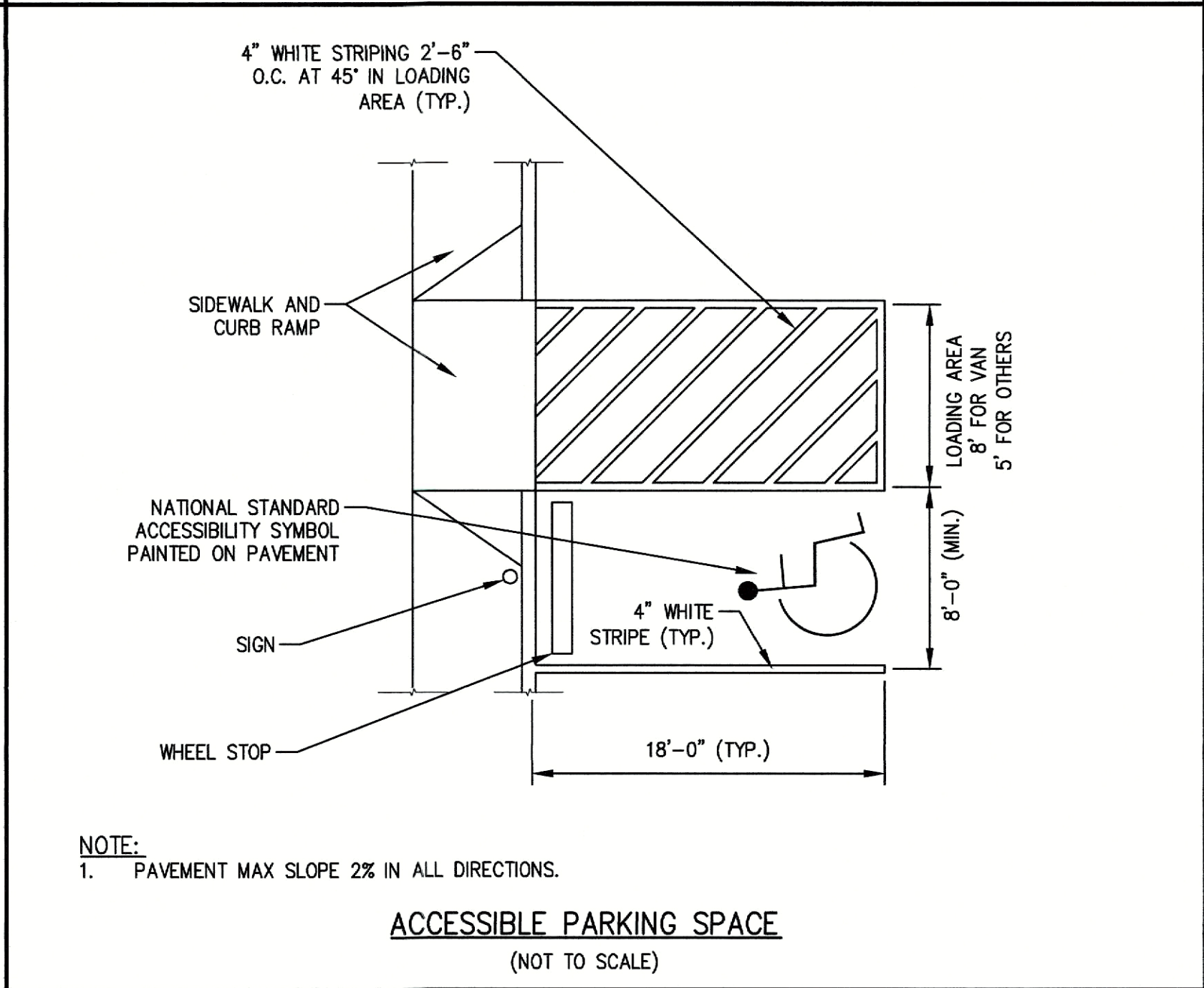
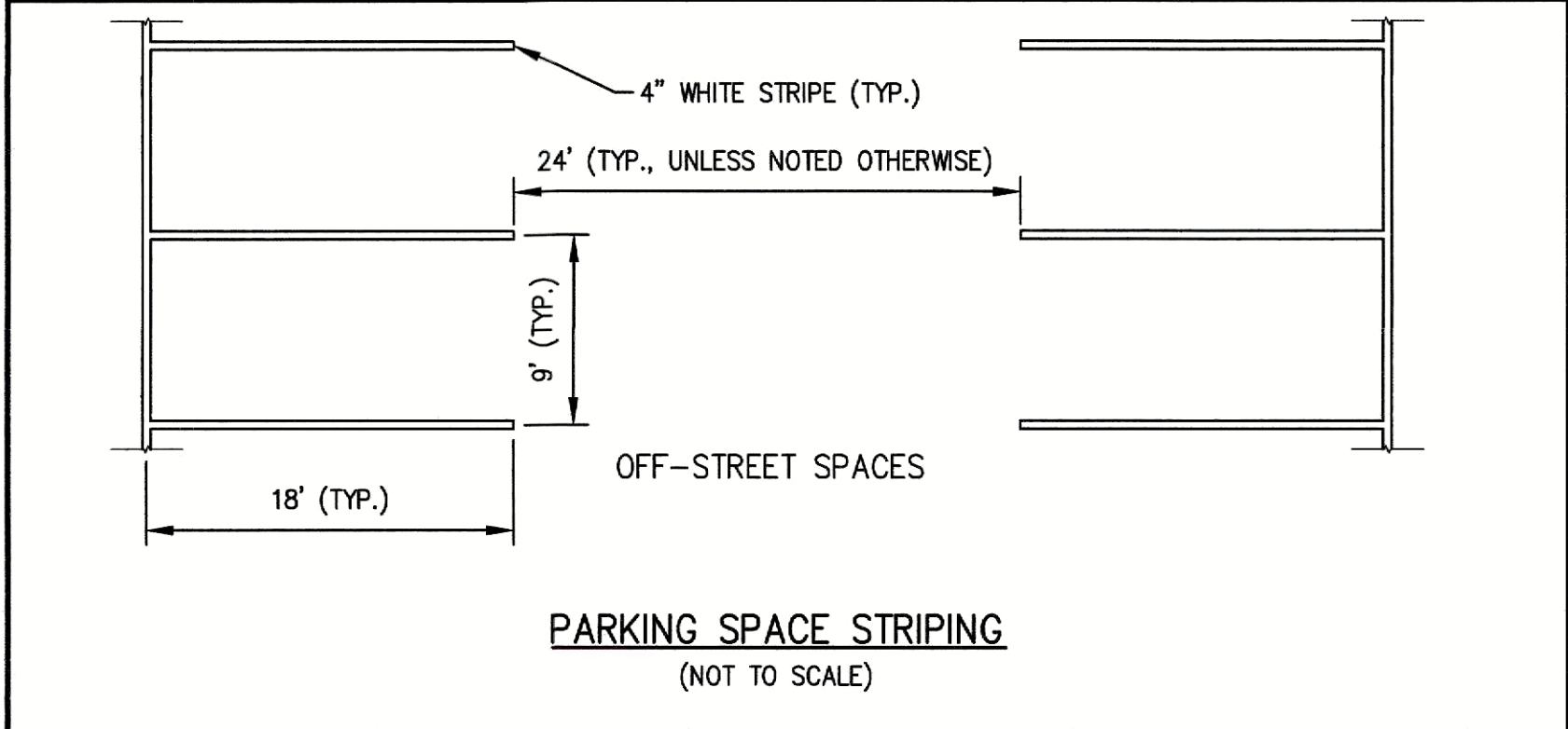
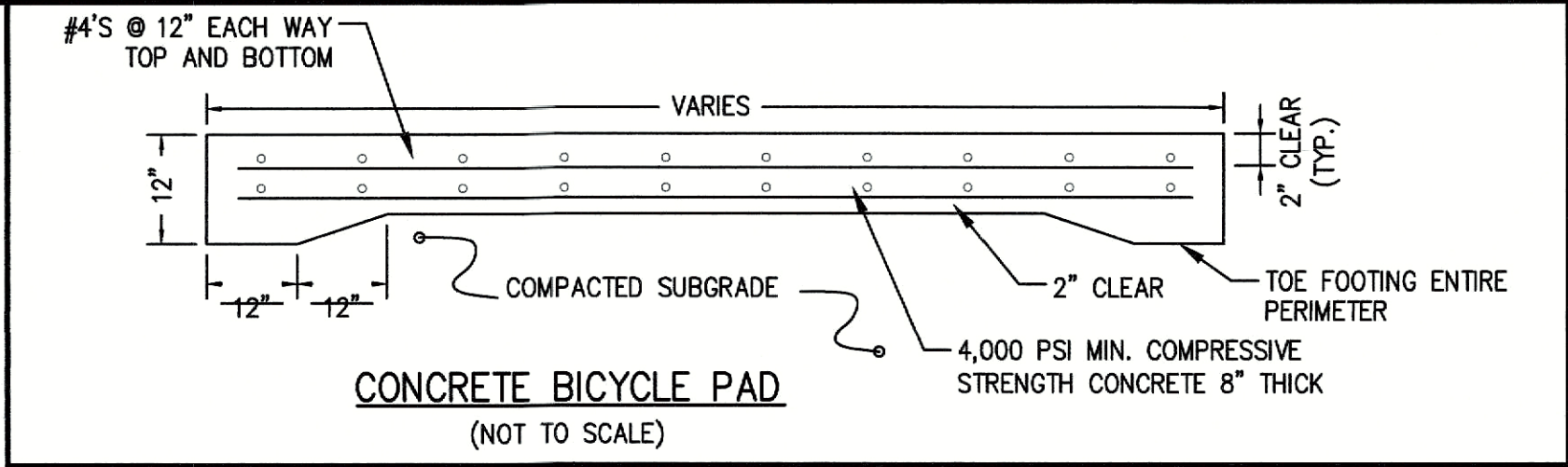
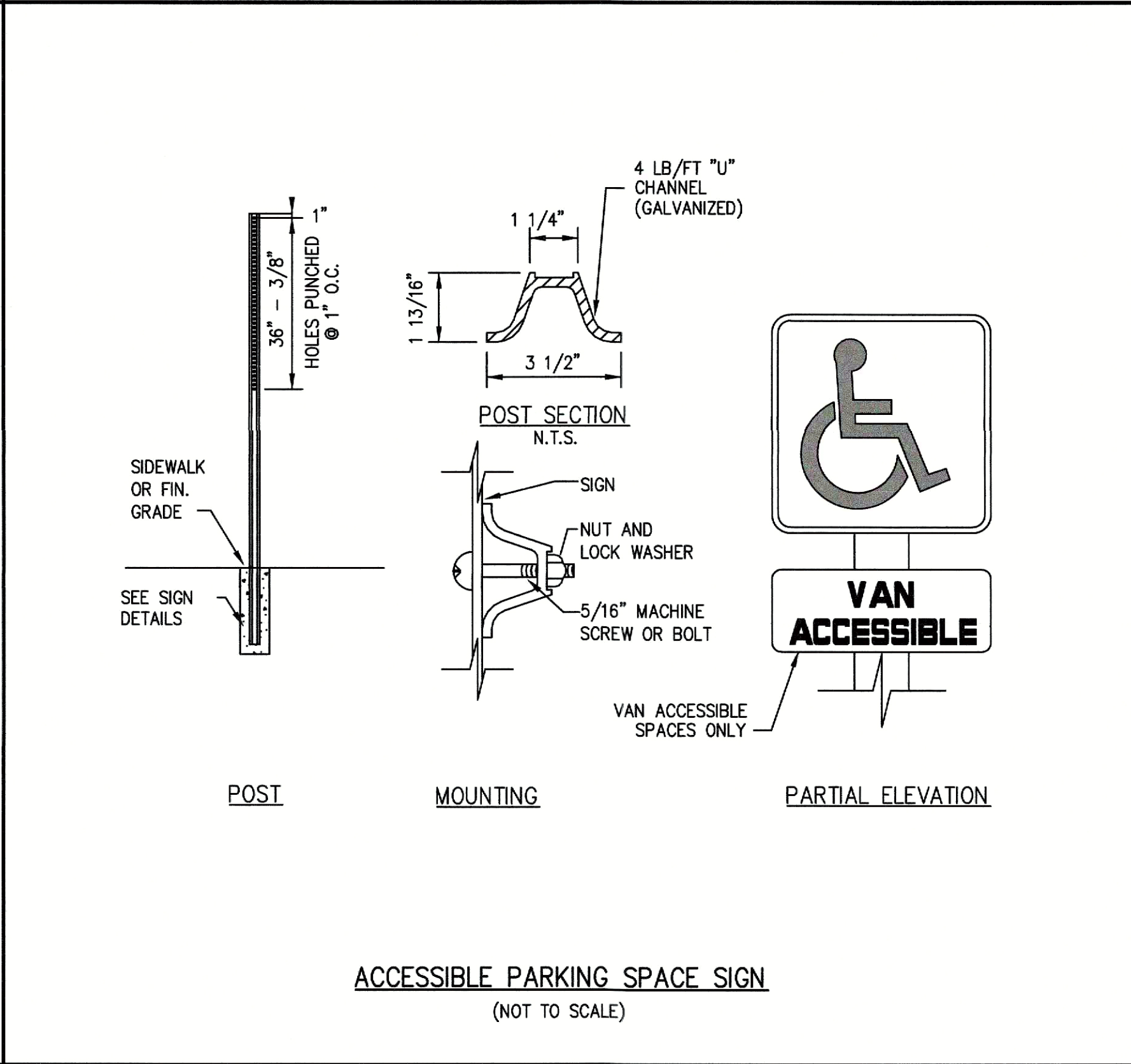
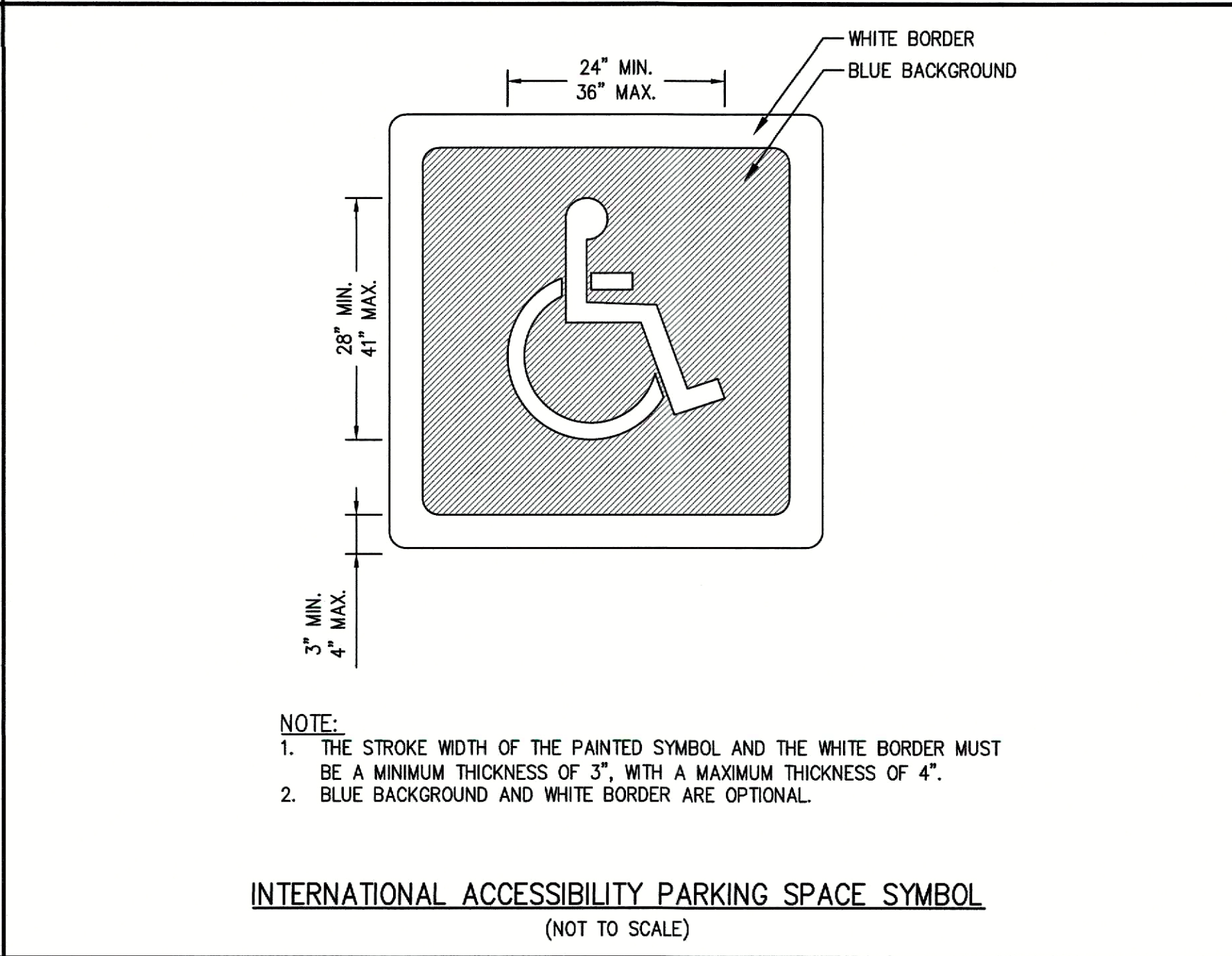
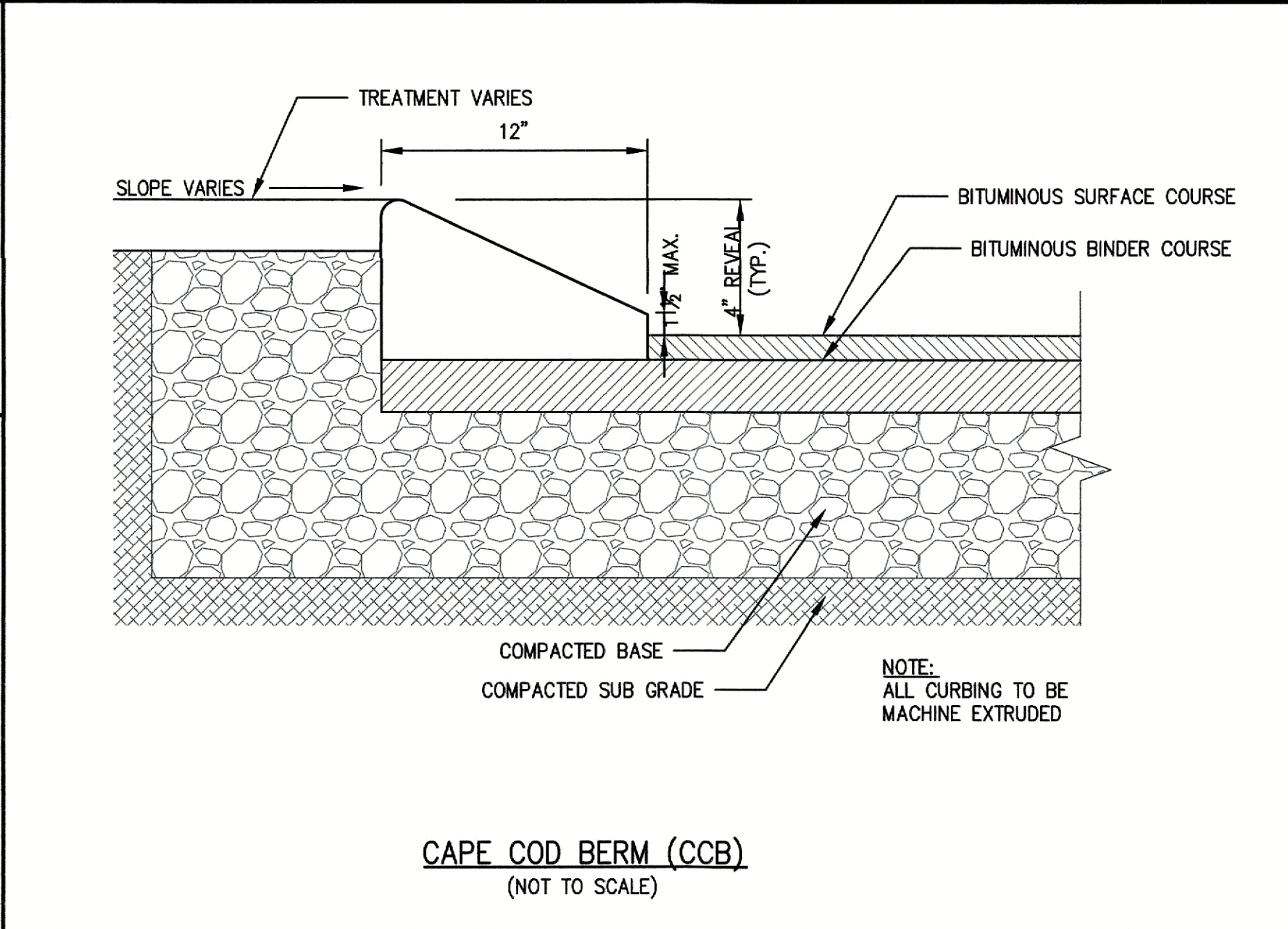
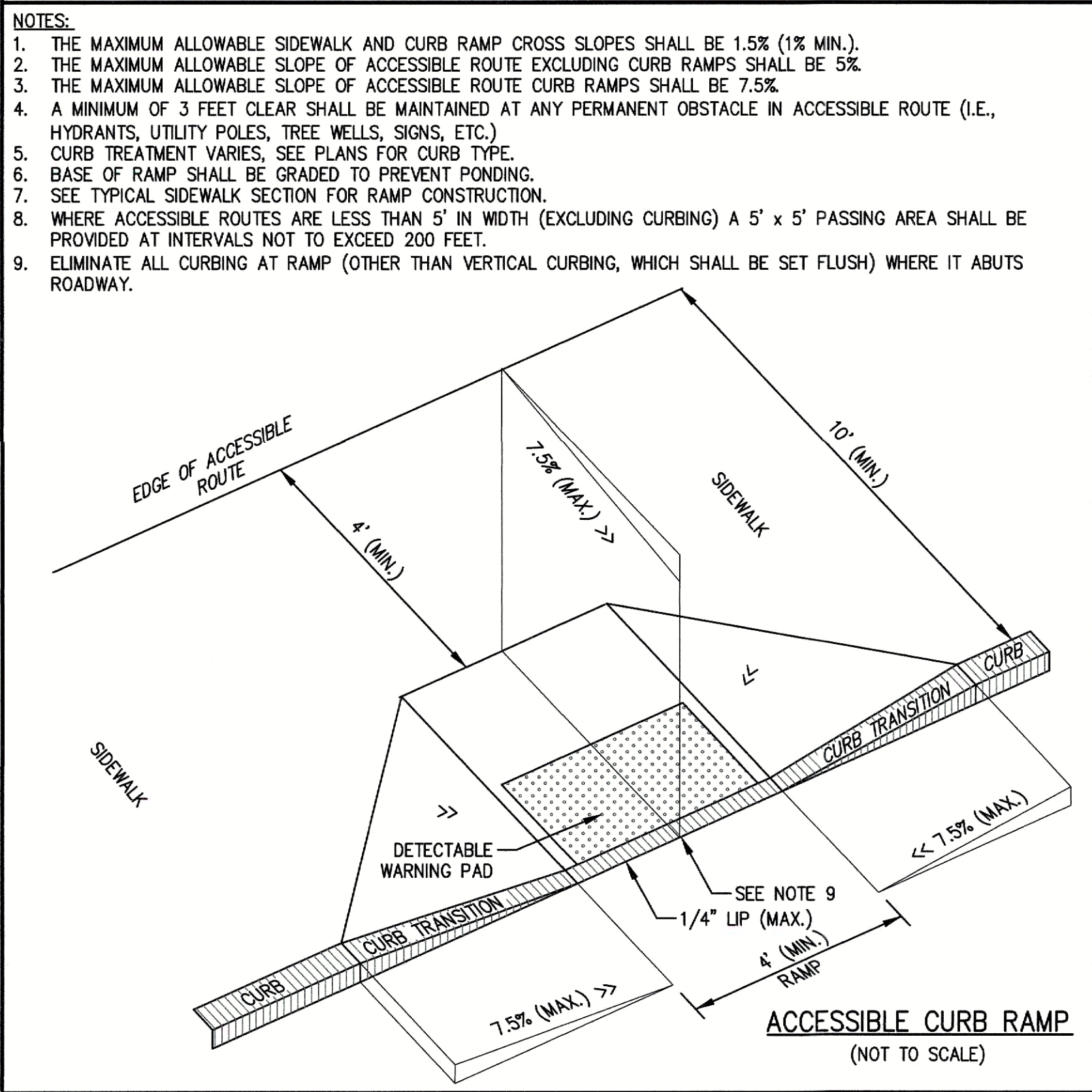
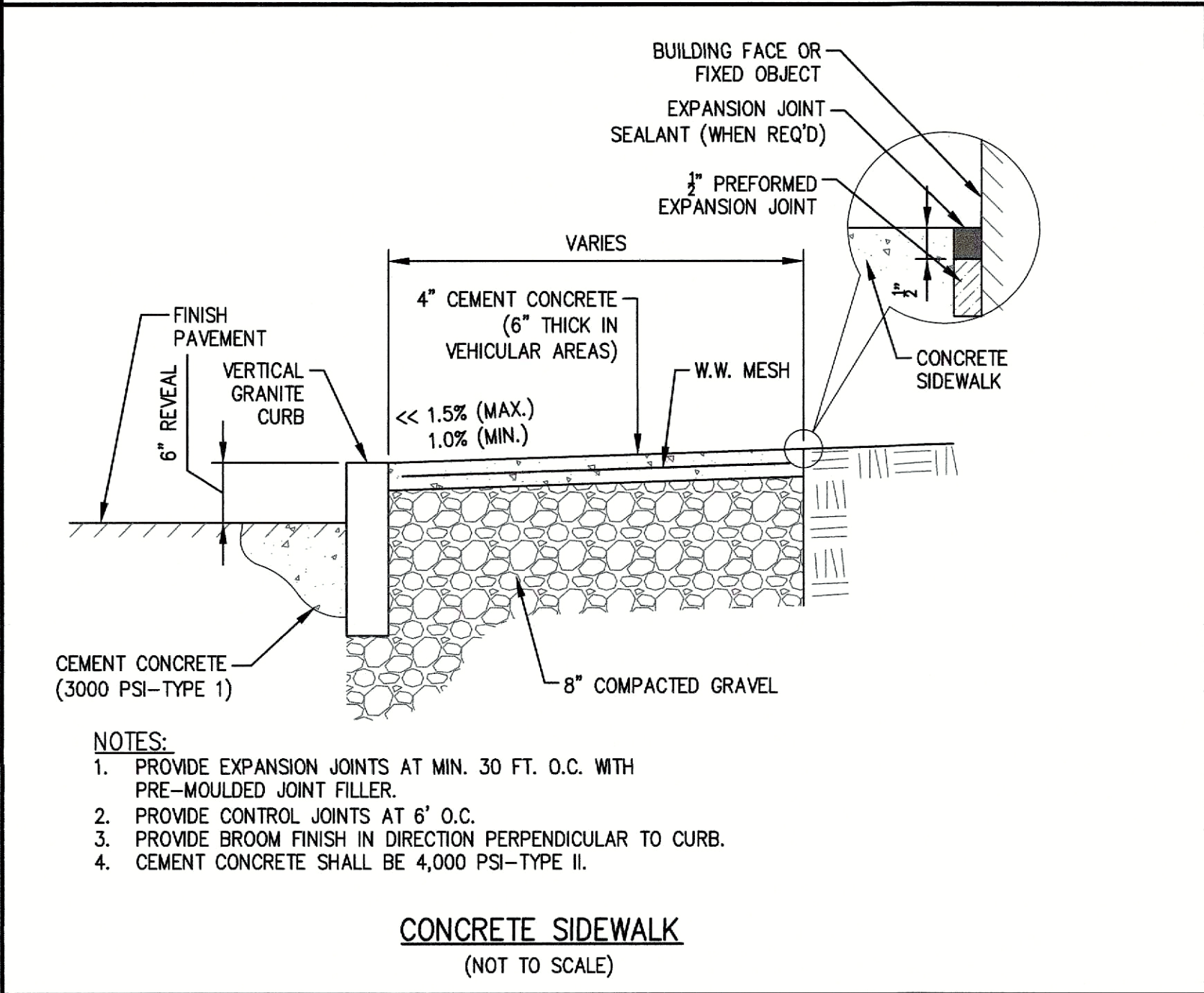
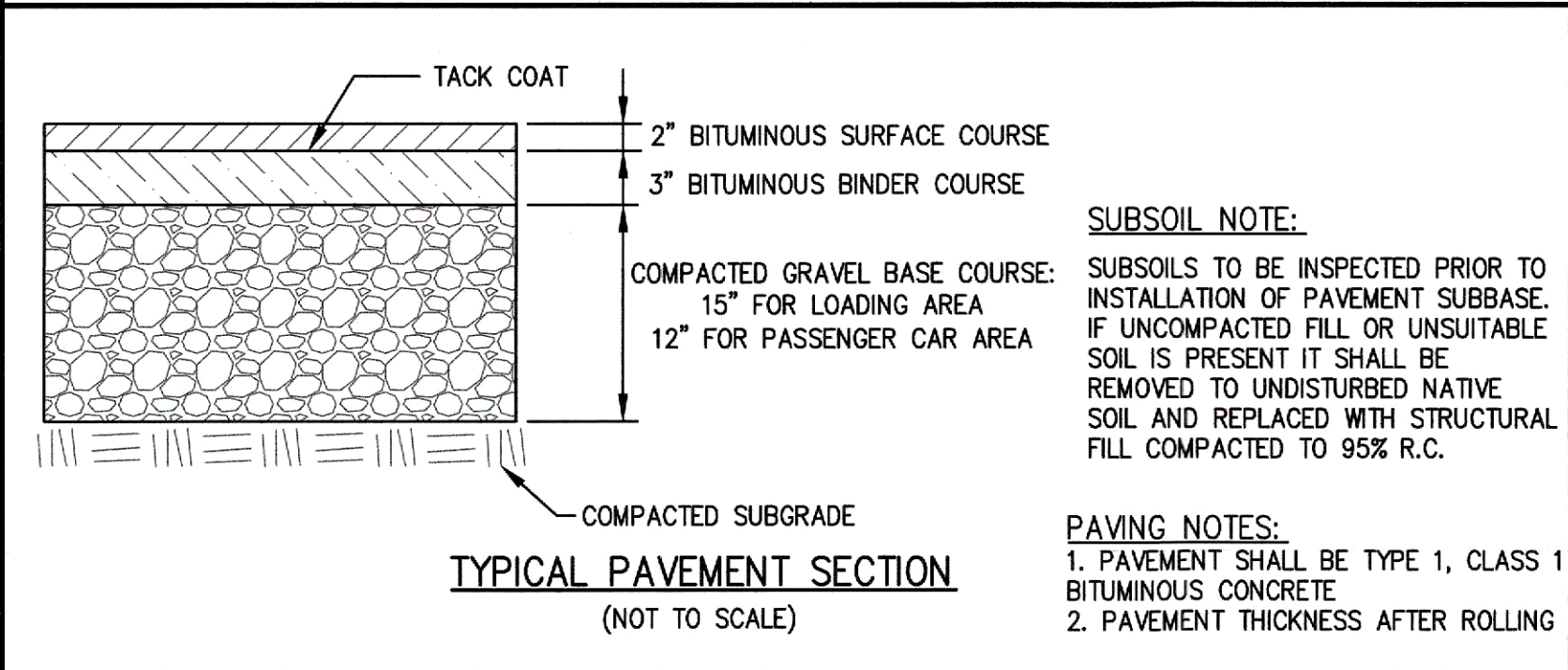
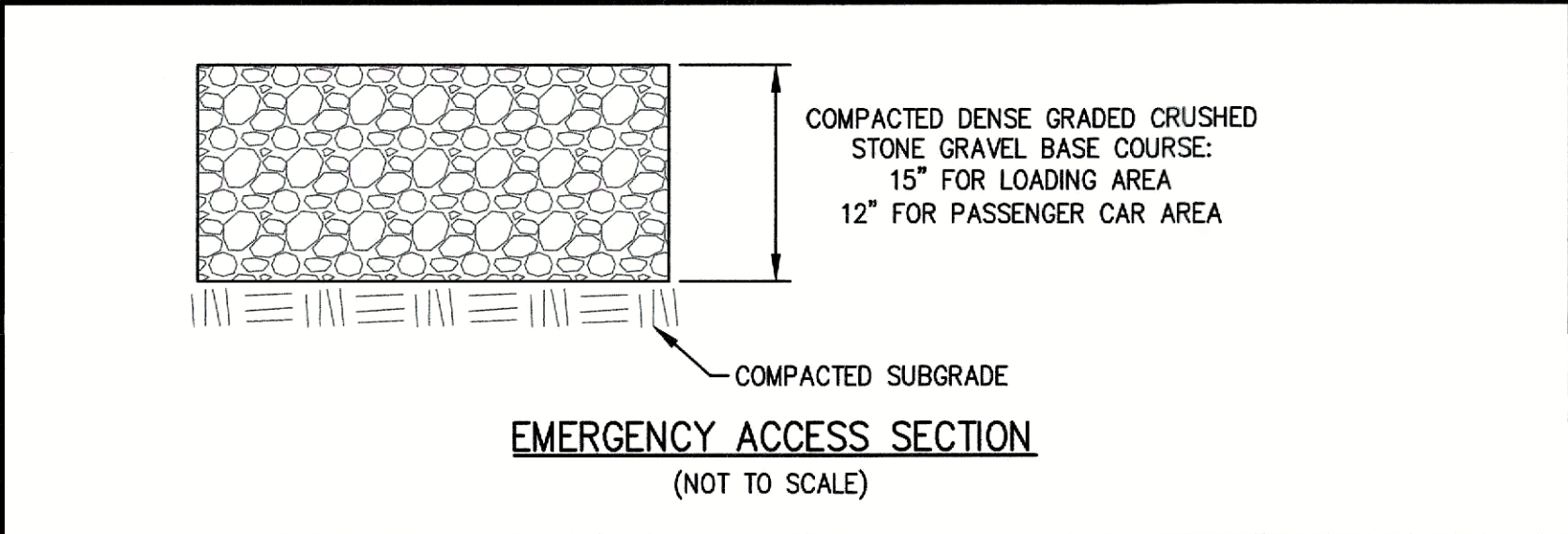


SURVEY BY: MCG  
DRAFTED BY: LNO  
CHECKED BY: WAS  
APPROVED BY: WAS  
SCALE: AS NOTED  
DATE: SEPTEMBER 3, 2024

NO.	REVISIONS	DESCRIPTION	DATE

**SITE DEVELOPMENT PLANS**  
IN  
**METHUEN, MASSACHUSETTS**  
**501 & 600 GRIFFIN BROOK DRIVE**  
(ASSESSOR'S MAP 220, LOTS 90 & 9E)  
PREPARED FOR:  
**GRIFFIN BROOK DRIVE OWNER LLC**





**The Morin-Cameron GROUP, INC.**  
CIVIL ENGINEERS / ENVIRONMENTAL CONSULTANTS  
LAND SURVEYORS / LAND USE PLANNERS  
68 ELM STREET, DANVERS, MA 01923  
P: 978-777-8586, W: WWW.MORINCAMERON.COM

**COMMONWEALTH OF MASSACHUSETTS**  
WILLIAM A. SCHULTZ  
CIVIL ENGINEER  
NO. 94816  
REGISTERED PROFESSIONAL  
9/3/2024

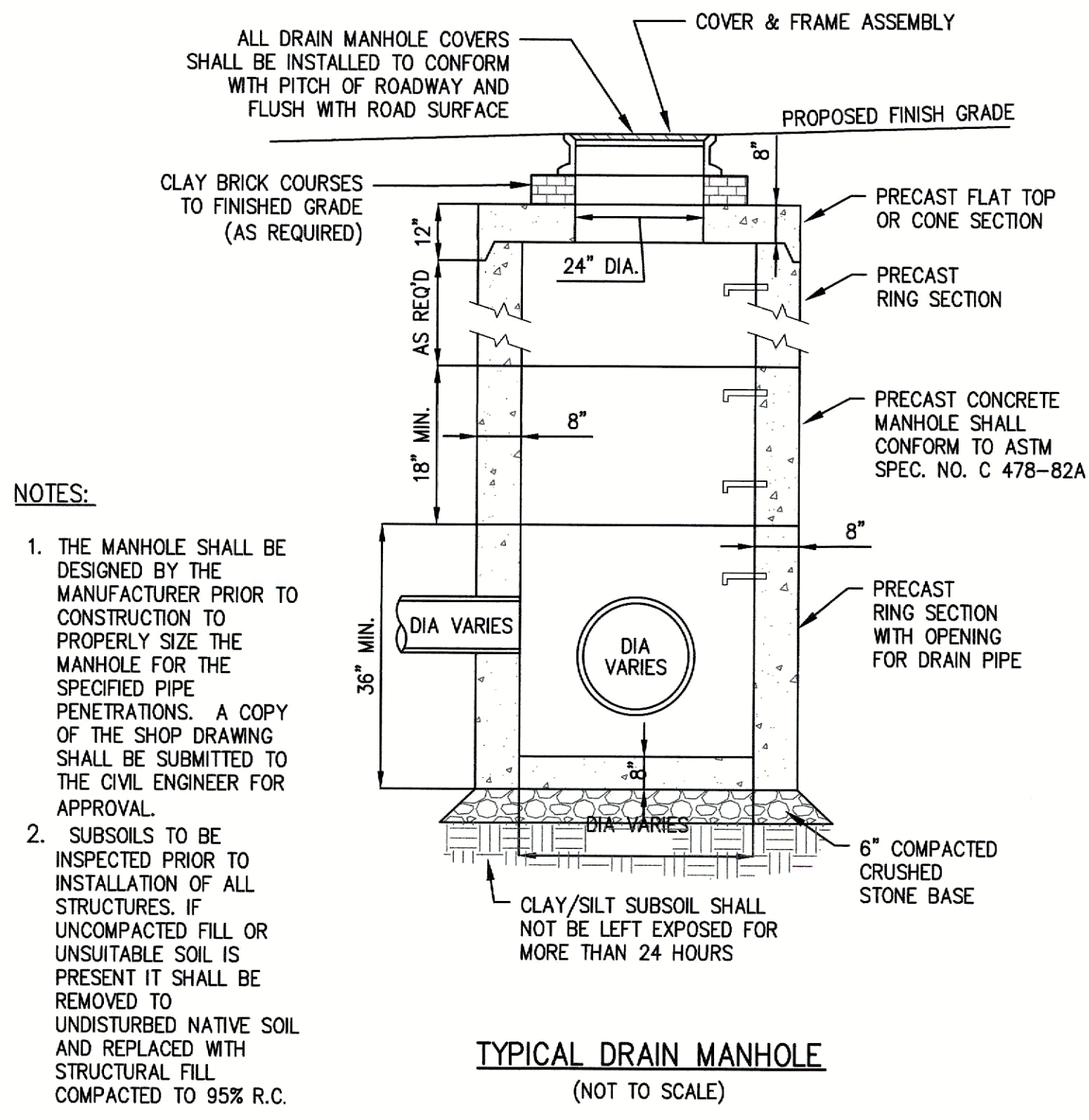
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APPROVED BY: WAS  
SCALE: AS NOTED  
DATE: SEPTEMBER 3, 2024

REVISIONS	
NO.	DESCRIPTION

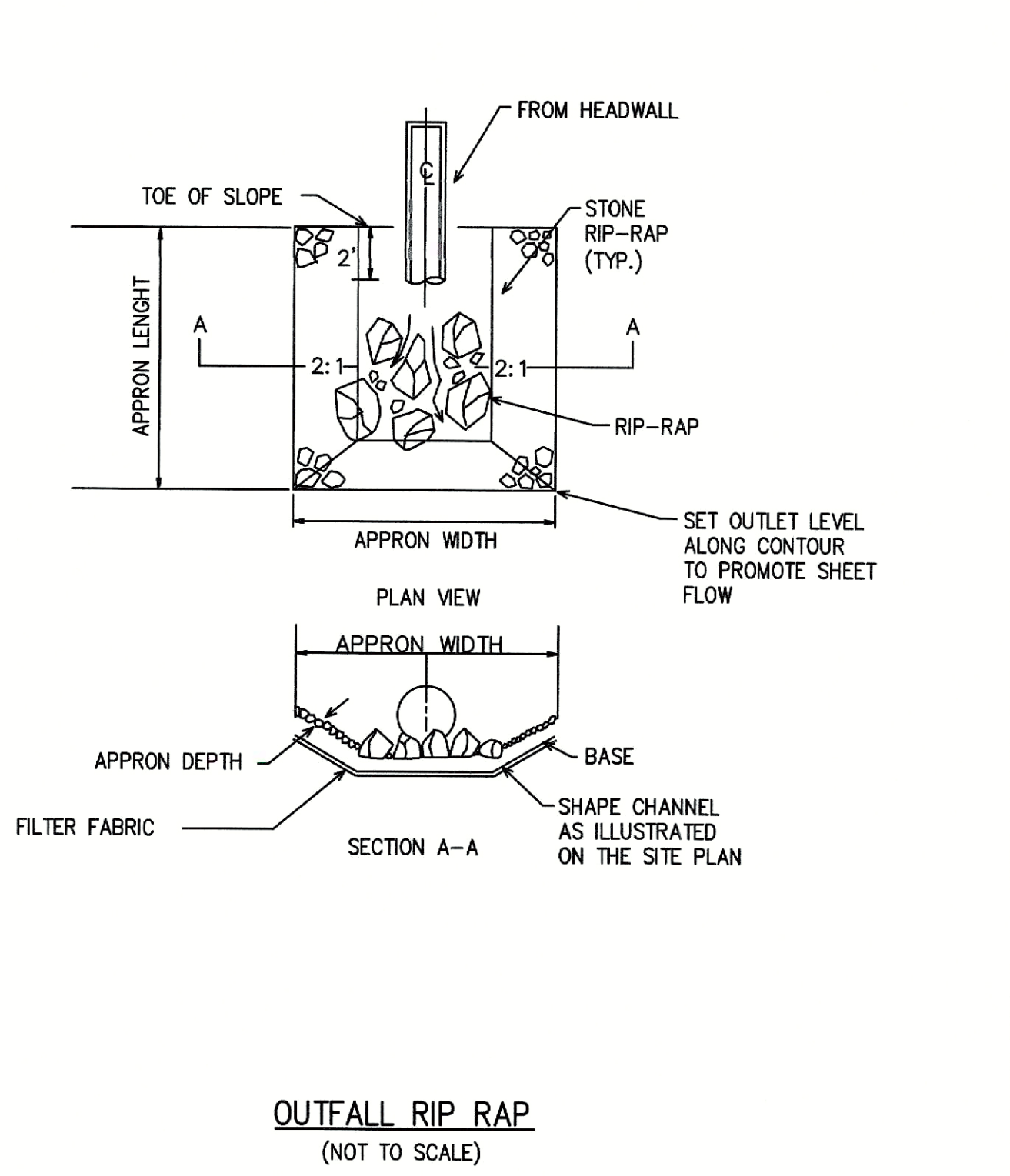
**SITE DEVELOPMENT PLANS**  
IN  
**METHUEN, MASSACHUSETTS**  
**501 & 600 GRIFFIN BROOK DRIVE**  
(ASSESSOR'S MAP 220, LOTS 80 & 9E)  
PREPARED FOR:  
**GRIFFIN BROOK DRIVE OWNER LLC**

**SITE DETAILS**  
DRAWING NO. **C-10**

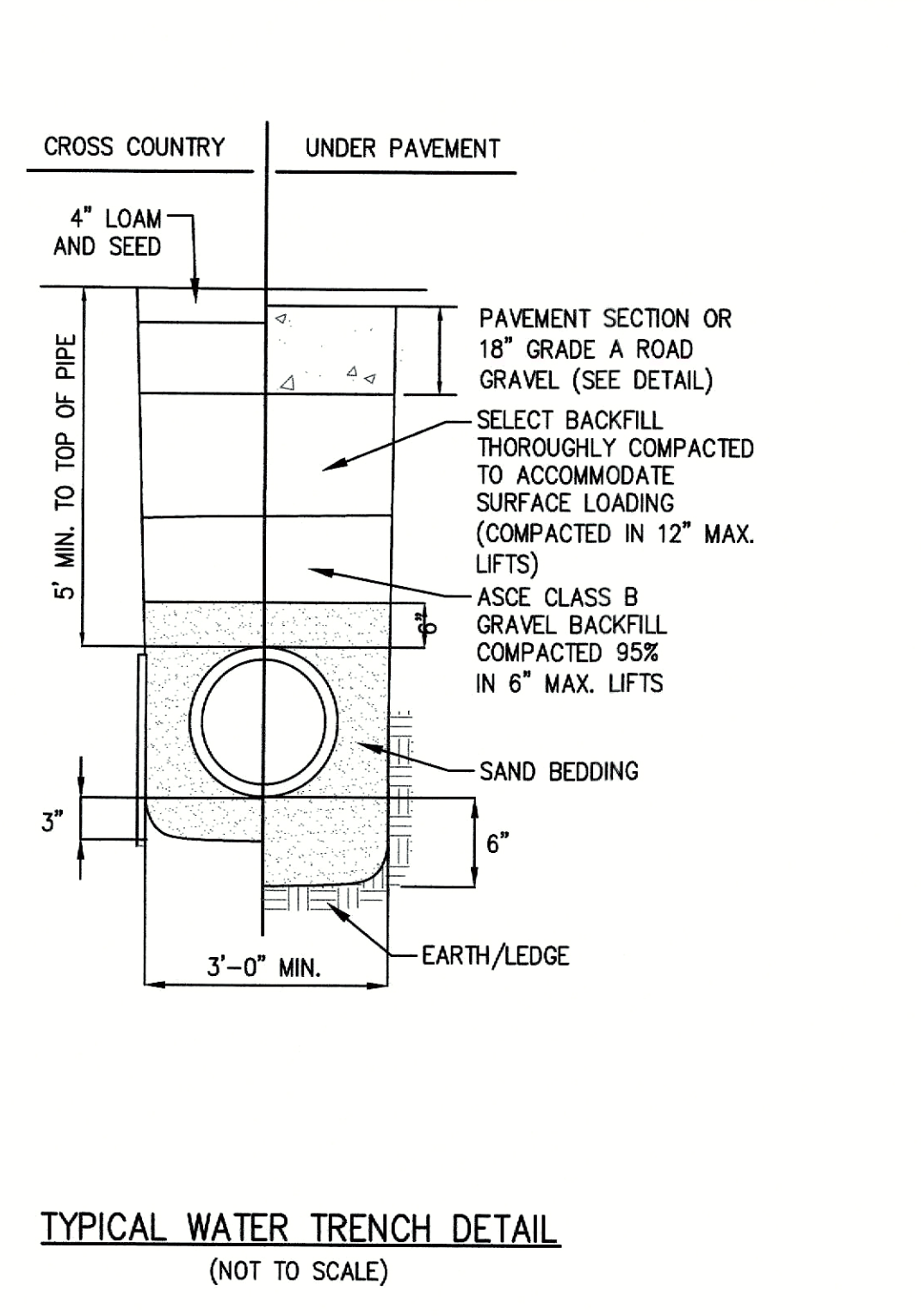




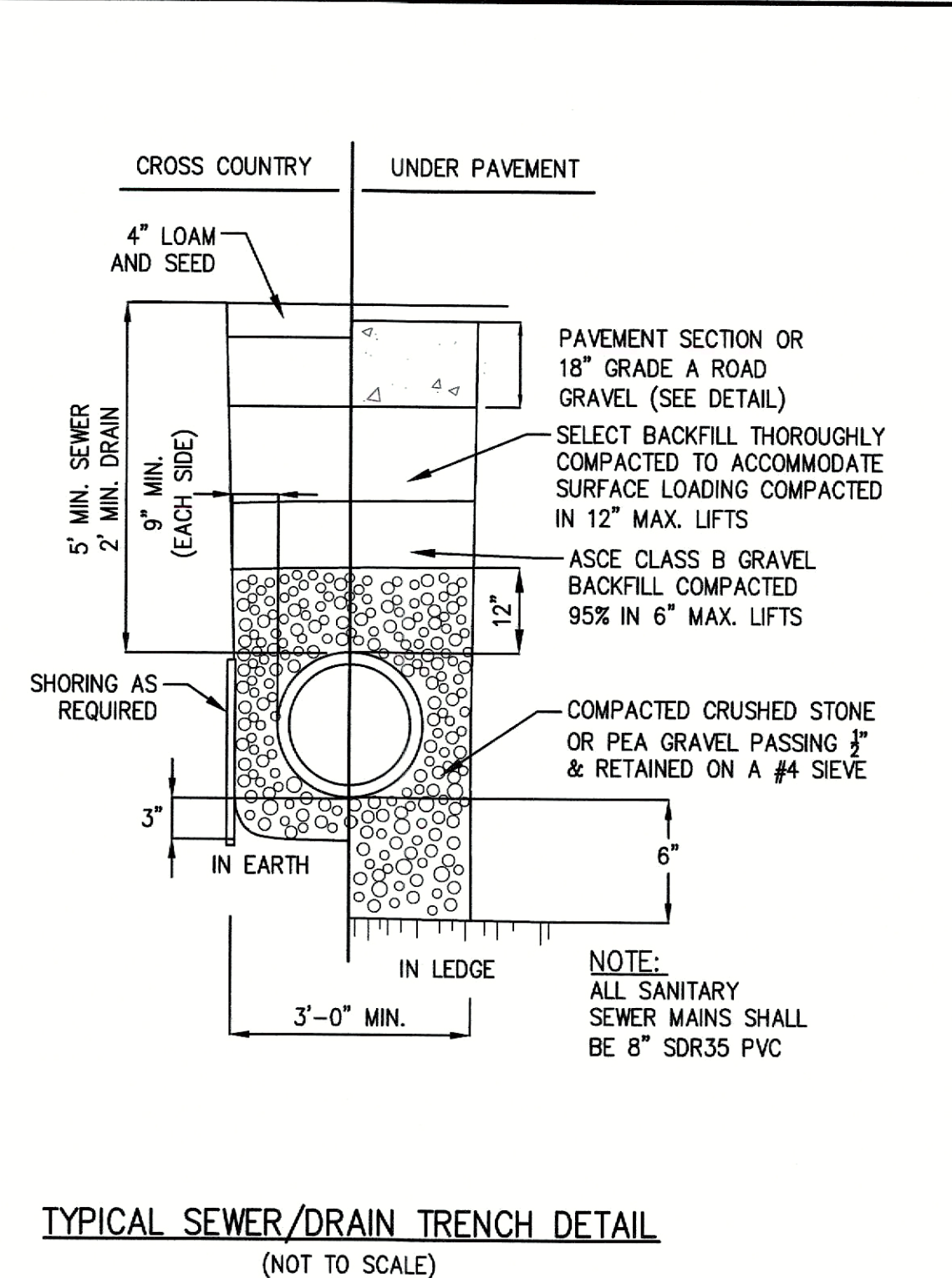
TYPICAL DRAIN MANHOLE  
(NOT TO SCALE)



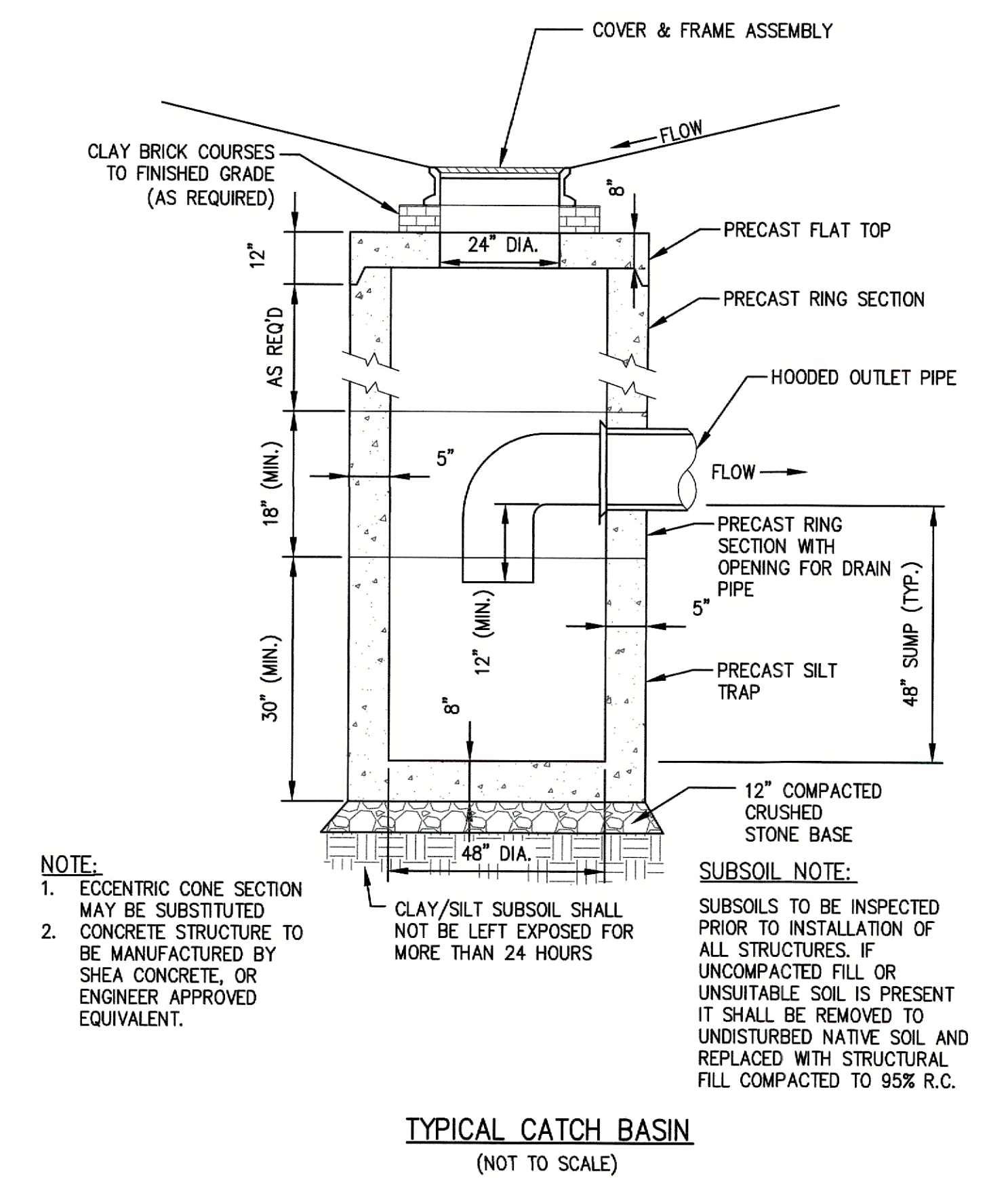
OUTFALL RIP RAP  
(NOT TO SCALE)



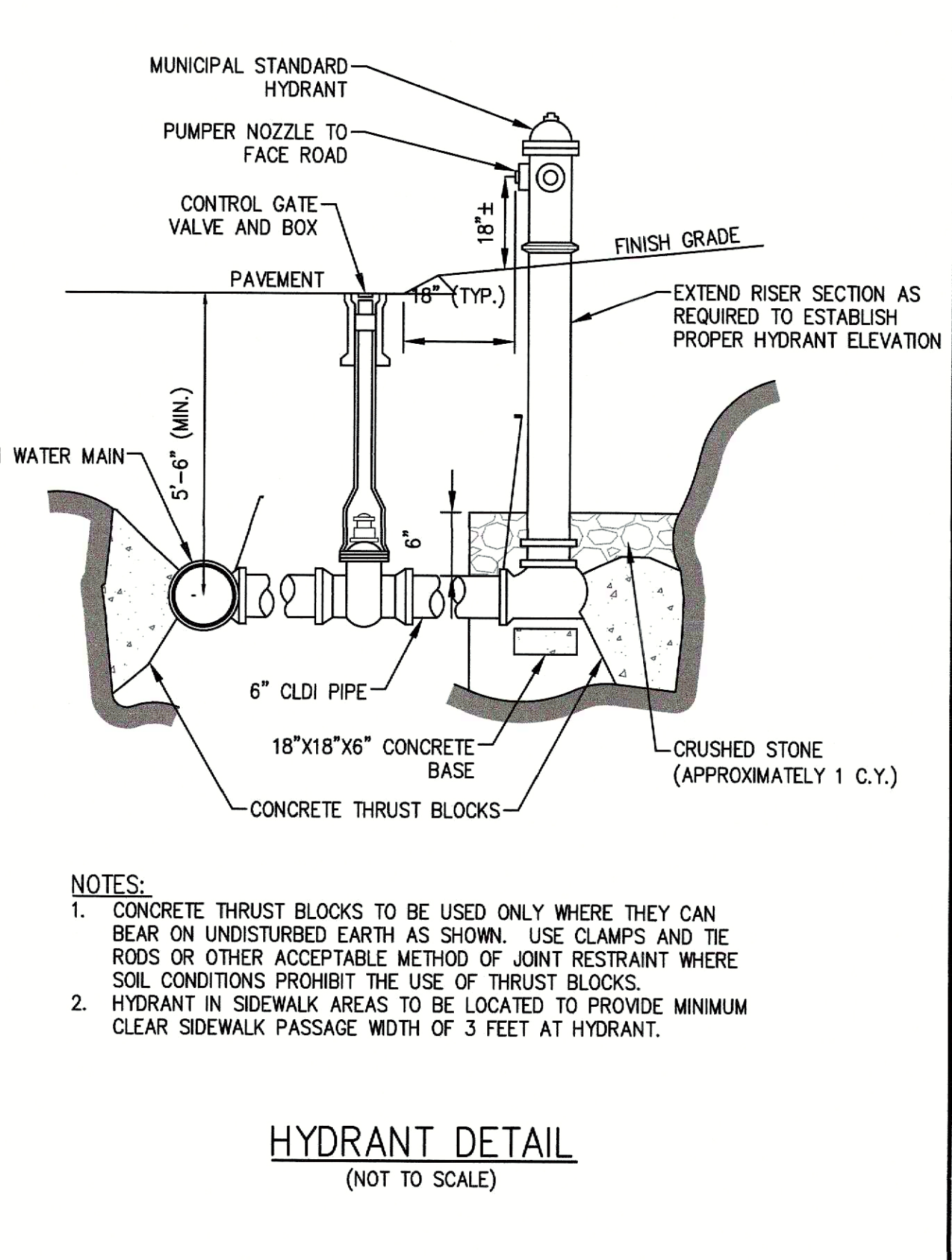
TYPICAL WATER TRENCH DETAIL  
(NOT TO SCALE)



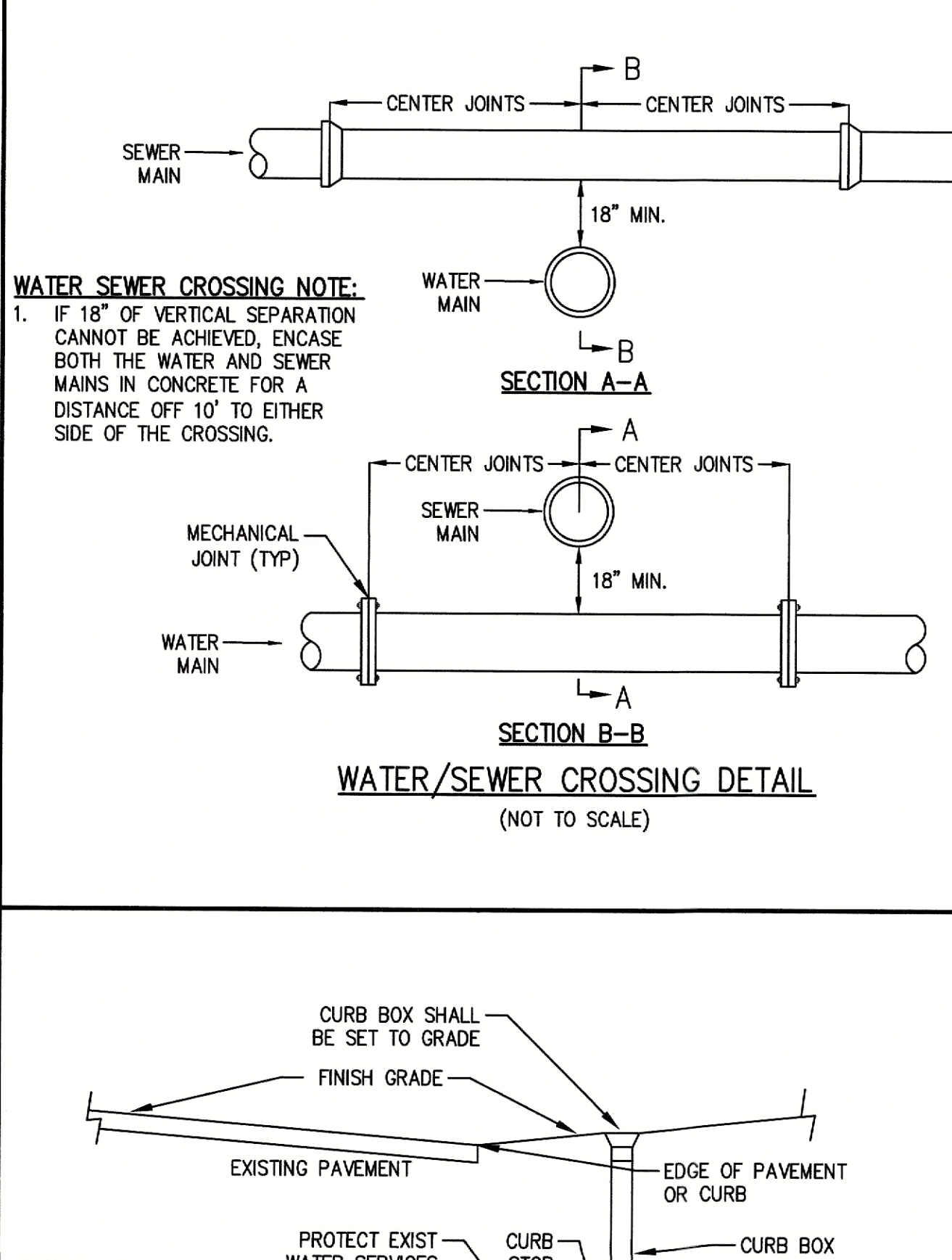
TYPICAL SEWER/DRAIN TRENCH DETAIL  
(NOT TO SCALE)



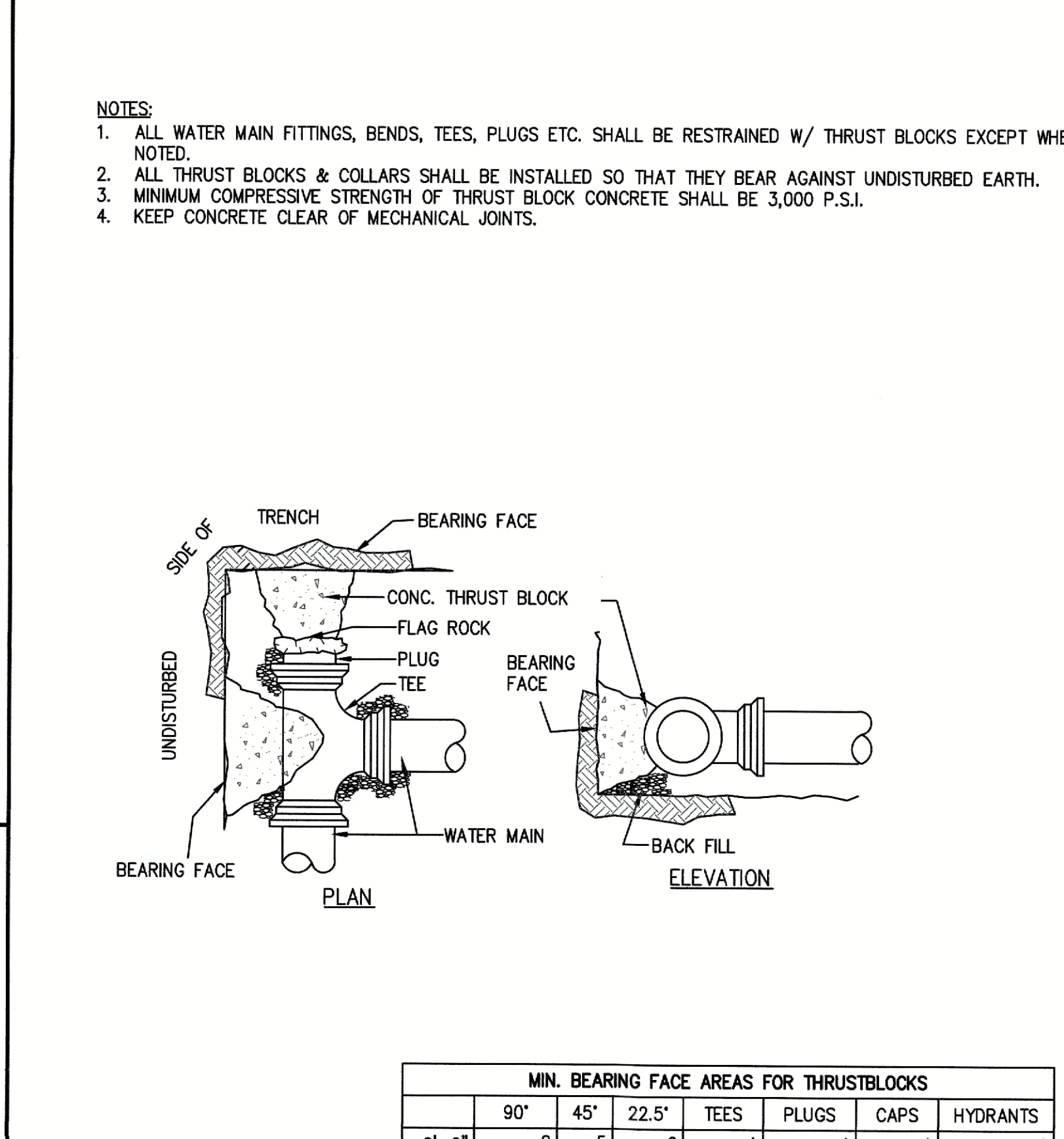
TYPICAL CATCH BASIN  
(NOT TO SCALE)



HYDRANT DETAIL  
(NOT TO SCALE)



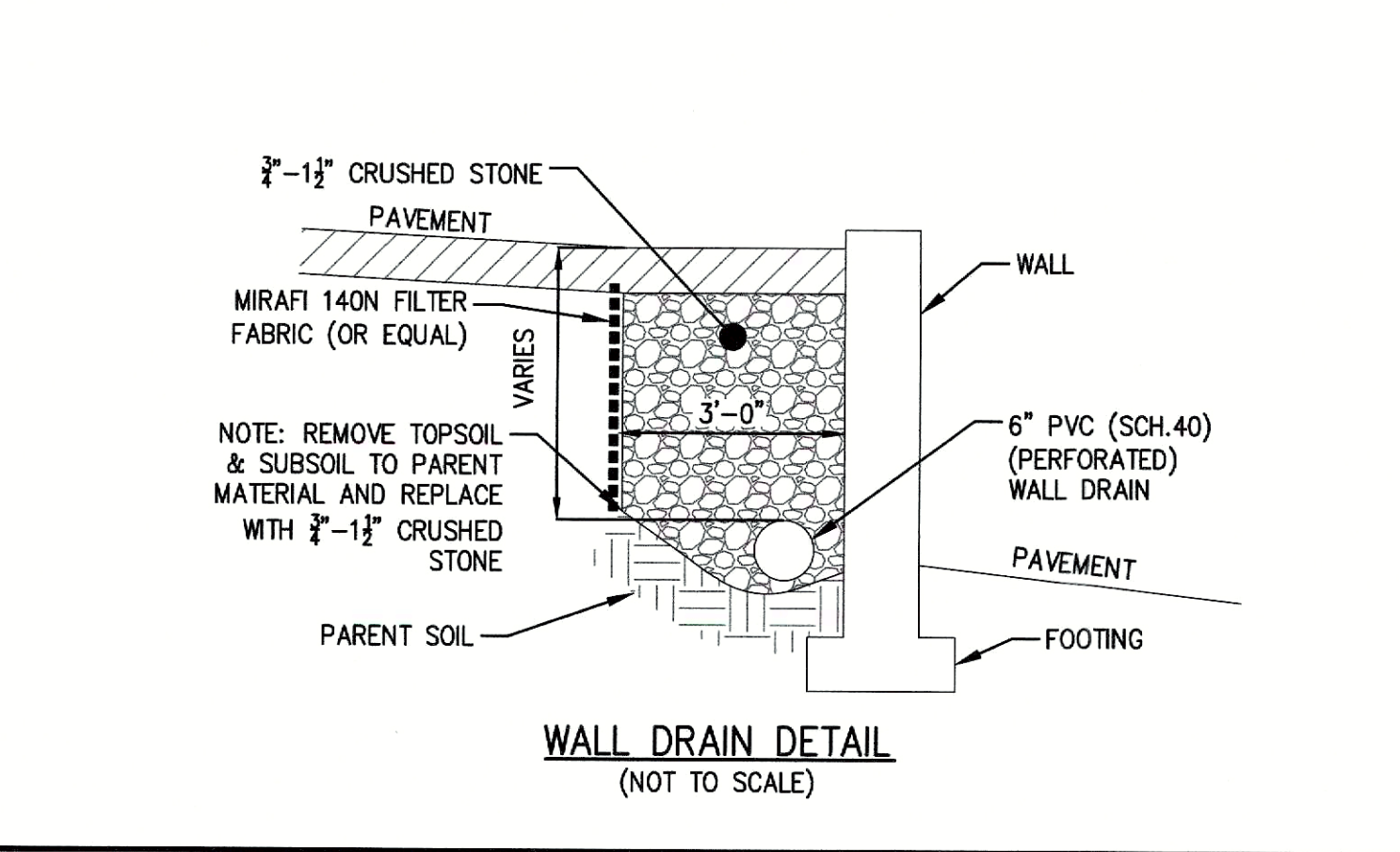
WATER/SEWER CROSSING DETAIL  
(NOT TO SCALE)



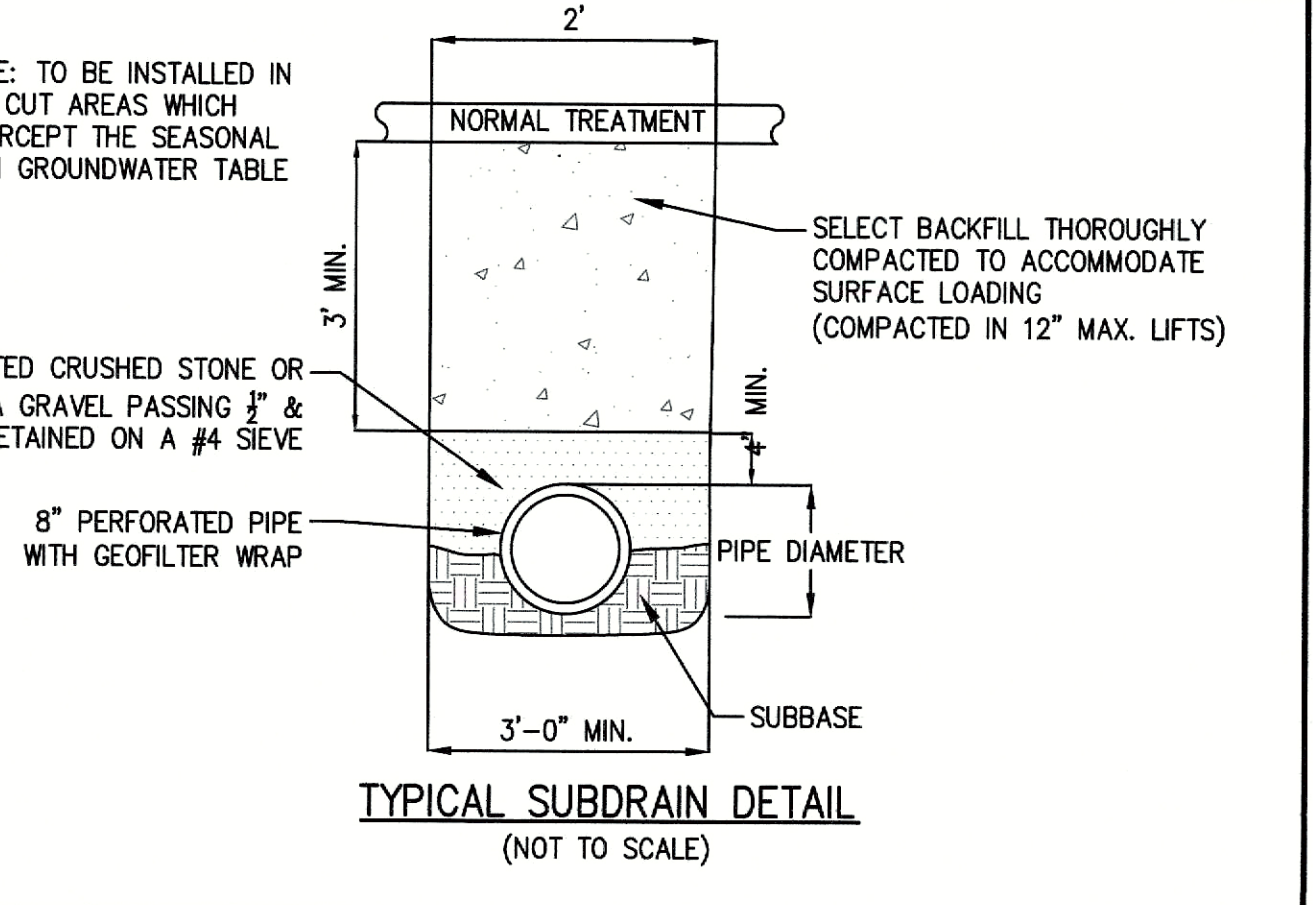
MIN. BEARING FACE AREAS FOR THRUSTBLOCKS							
	90°	45°	22.5°	TEES	PLUGS	CAPS	HYDRANTS
0'-6"	8	5	6	4	4	4	4
0'-8"	12	8	5	6	6	6	6

\*AREAS IN SQUARE FEET

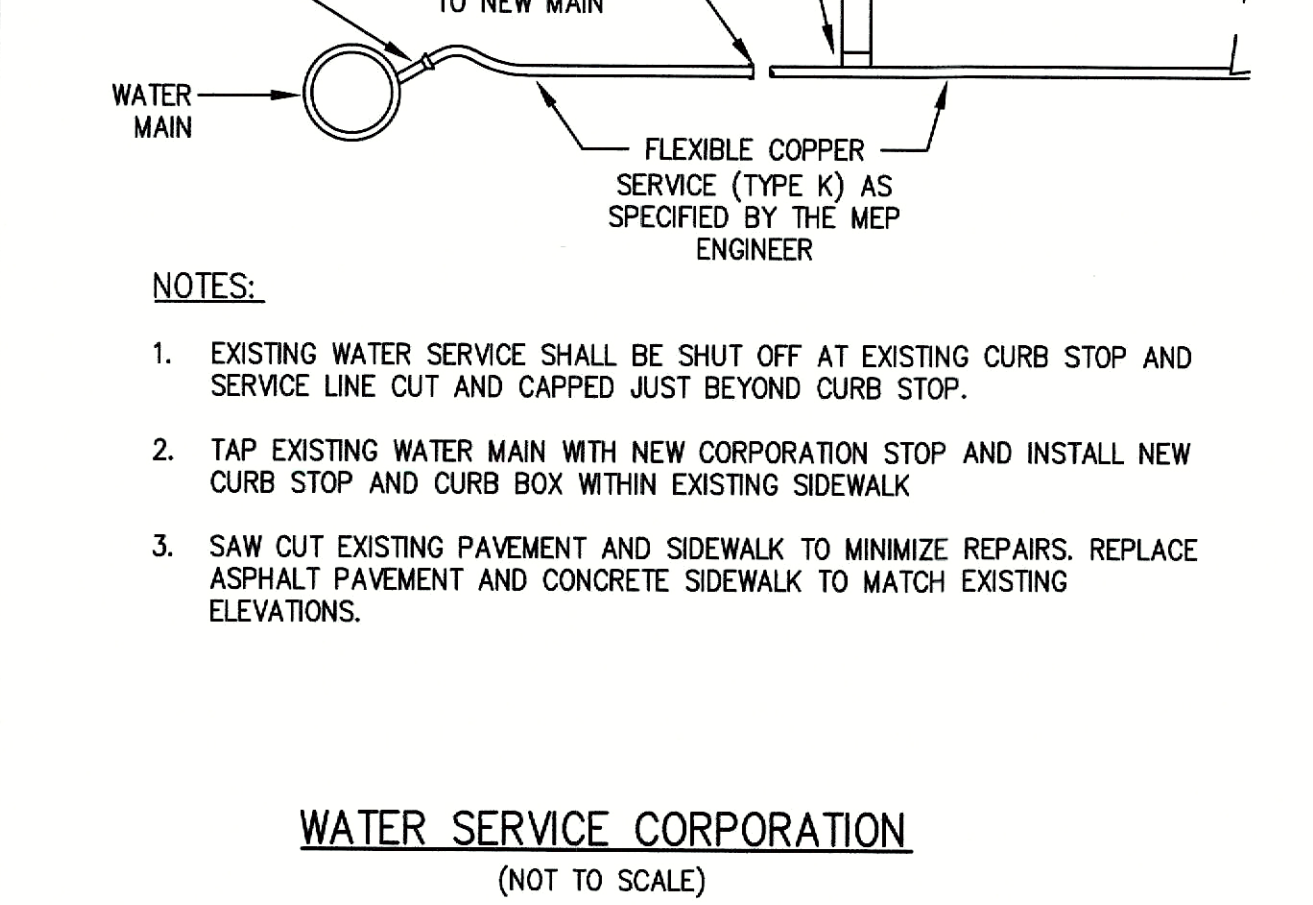
THRUST BLOCK DETAIL  
(NOT TO SCALE)



WALL DRAIN DETAIL  
(NOT TO SCALE)



TYPICAL SUBDRAIN DETAIL  
(NOT TO SCALE)



WATER SERVICE CORPORATION  
(NOT TO SCALE)

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WILLIAM SCHMITTA  
No. 10166  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF MASSACHUSETTS

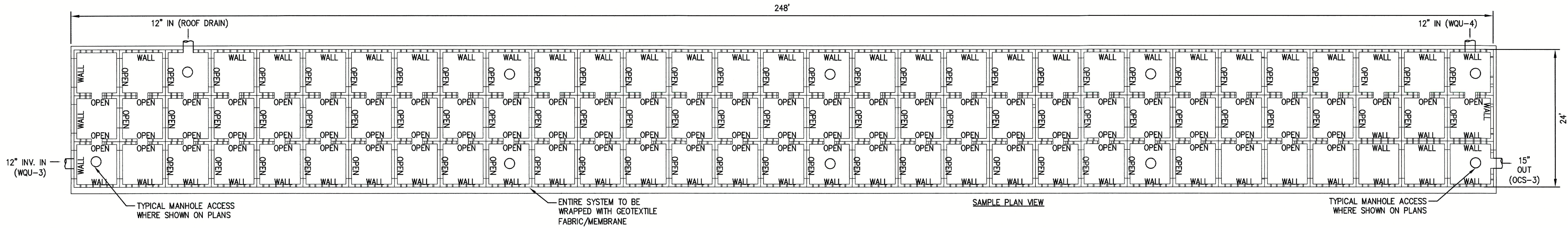
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DRAFTED BY: UNO  
CHECKED BY: WAS  
APPROVED BY: WAS  
SCALE: AS NOTED  
DATE: SEPTEMBER 3, 2024

REVISIONS		DATE
NO.	DESCRIPTION	

**SITE DEVELOPMENT PLANS**  
IN  
**METHUEN, MASSACHUSETTS**  
**501 & 600 GRIFFIN BROOK DRIVE**  
(ASSESSOR'S MAP 220, LOTS 9D & 9E)  
PREPARED FOR:  
**GRIFFIN BROOK DRIVE OWNER LLC**

**UTILITY DETAILS**  
DRAWING NO. **C-11**



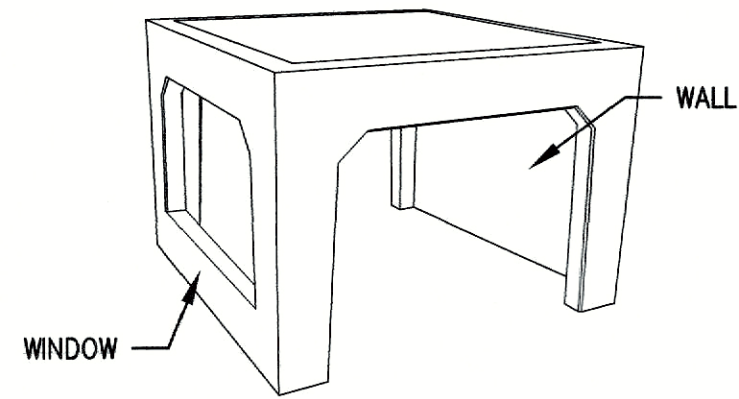


TYPICAL MANHOLE ACCESS  
WHERE SHOWN ON PLANS

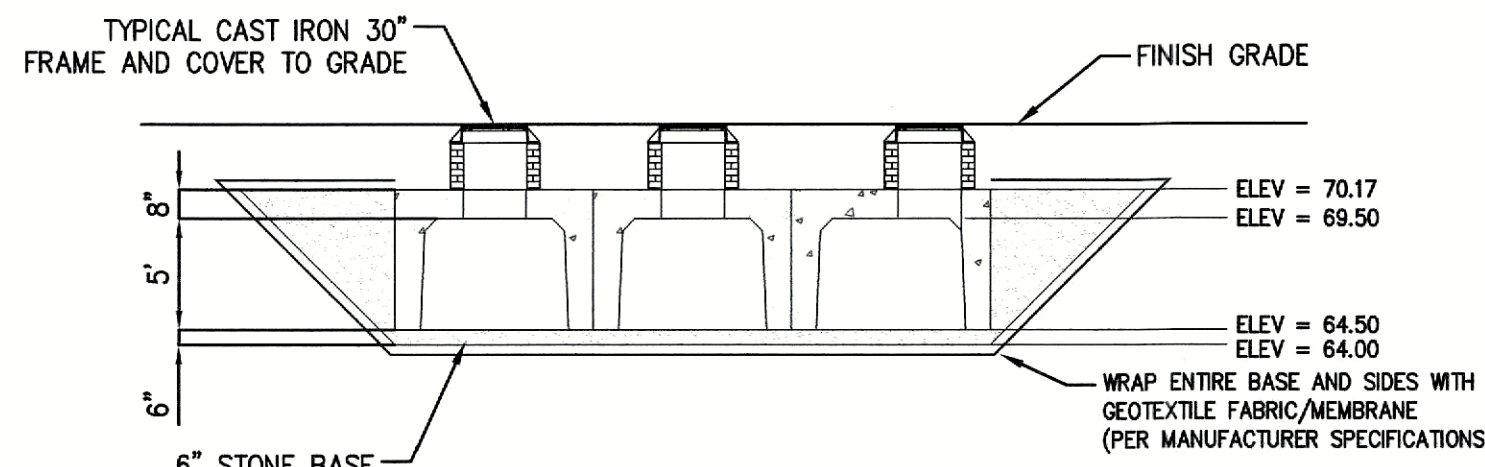
ENTIRE SYSTEM TO BE  
WRAPPED WITH GEOTEXTILE  
FABRIC/MEMBRANE

SAMPLE PLAN VIEW

TYPICAL MANHOLE ACCESS  
WHERE SHOWN ON PLANS



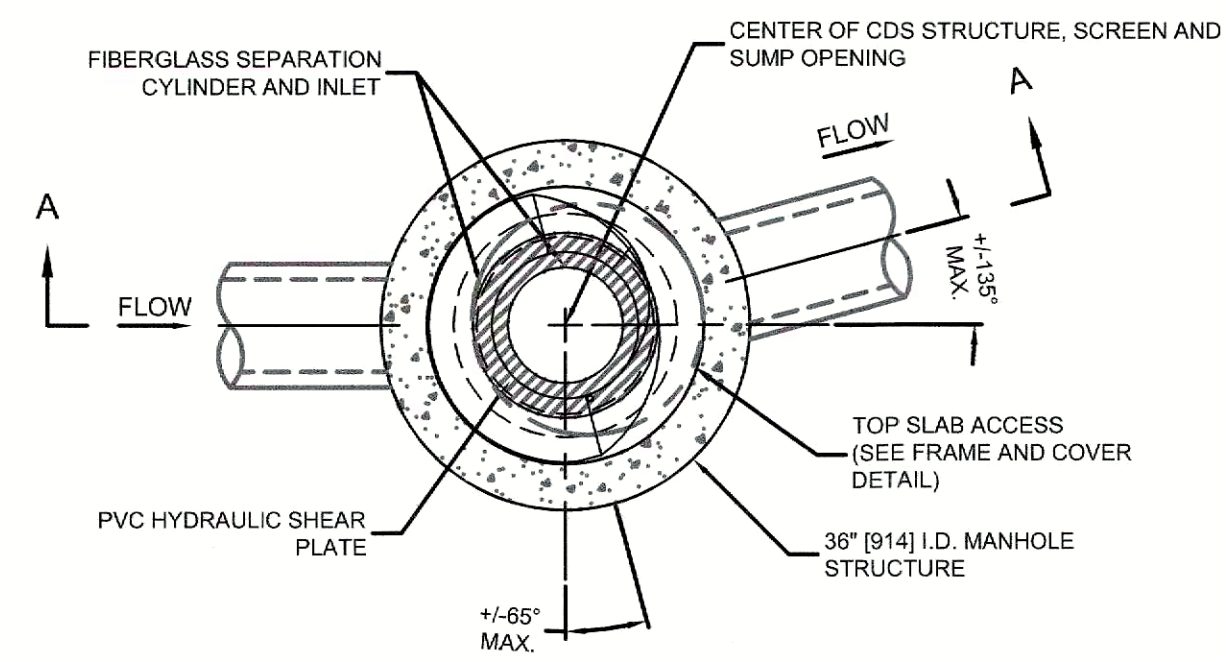
RETAIN-IT CHAMBER COMPONENT DETAIL  
(NOT TO SCALE)



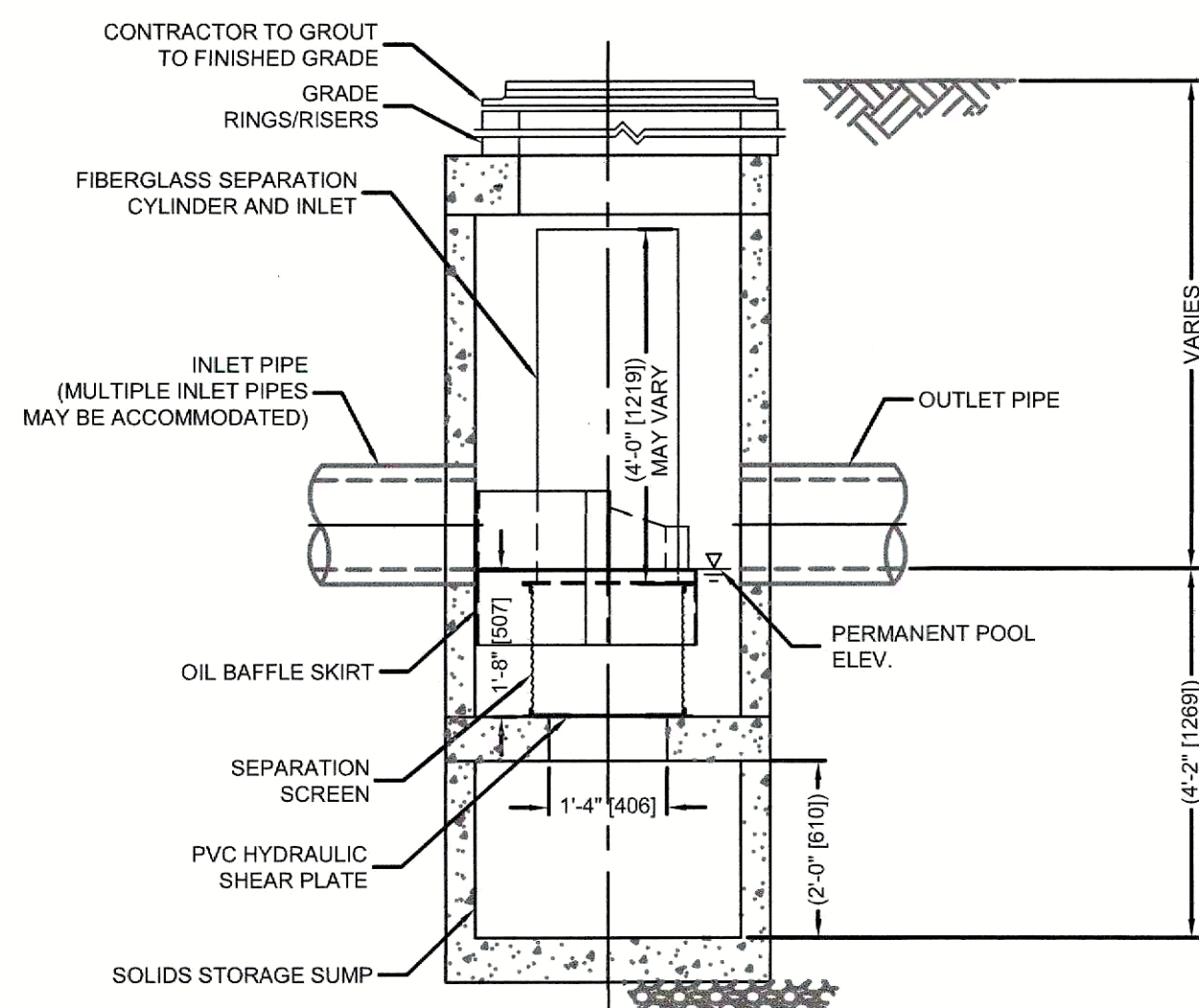
SAMPLE CROSS SECTION

2-YEAR STORM ELEV. = 65.81  
10-YEAR STORM ELEV. = 67.56  
25-YEAR STORM ELEV. = 68.72  
100-YEAR STORM ELEV. = 69.48

SUBSURFACE RETENTION SYSTEM (P3) (RETAIN-IT MODULES)  
(NOT TO SCALE)

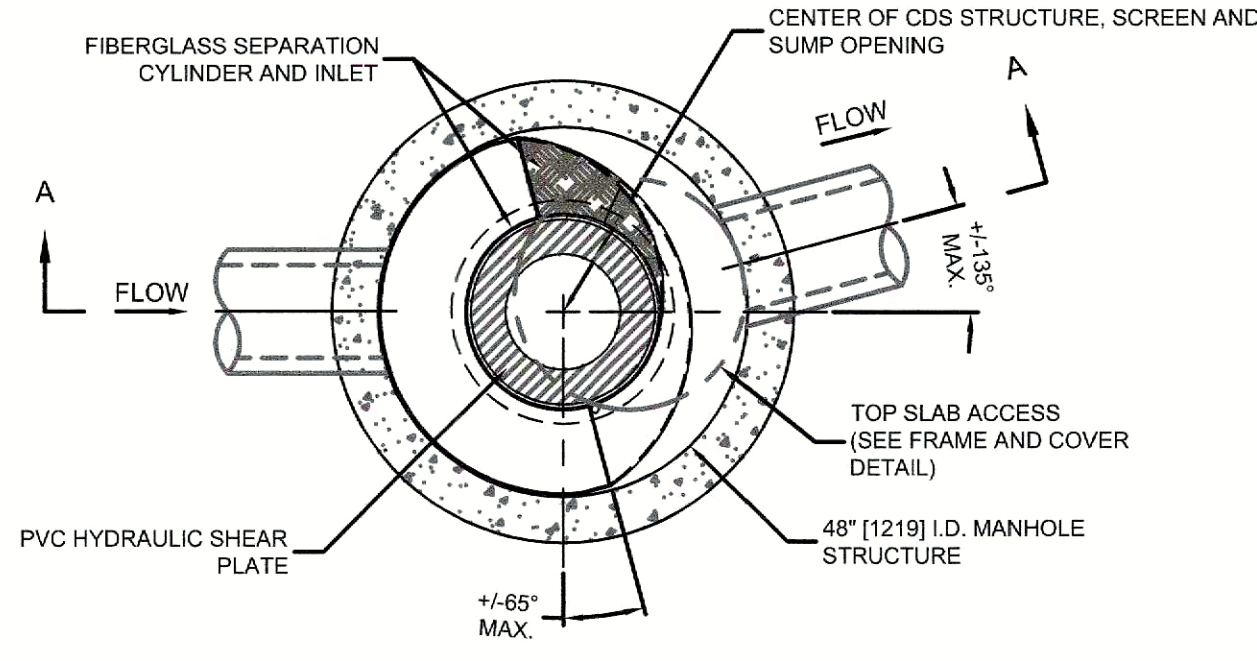


PLAN VIEW B-B  
N.T.S.

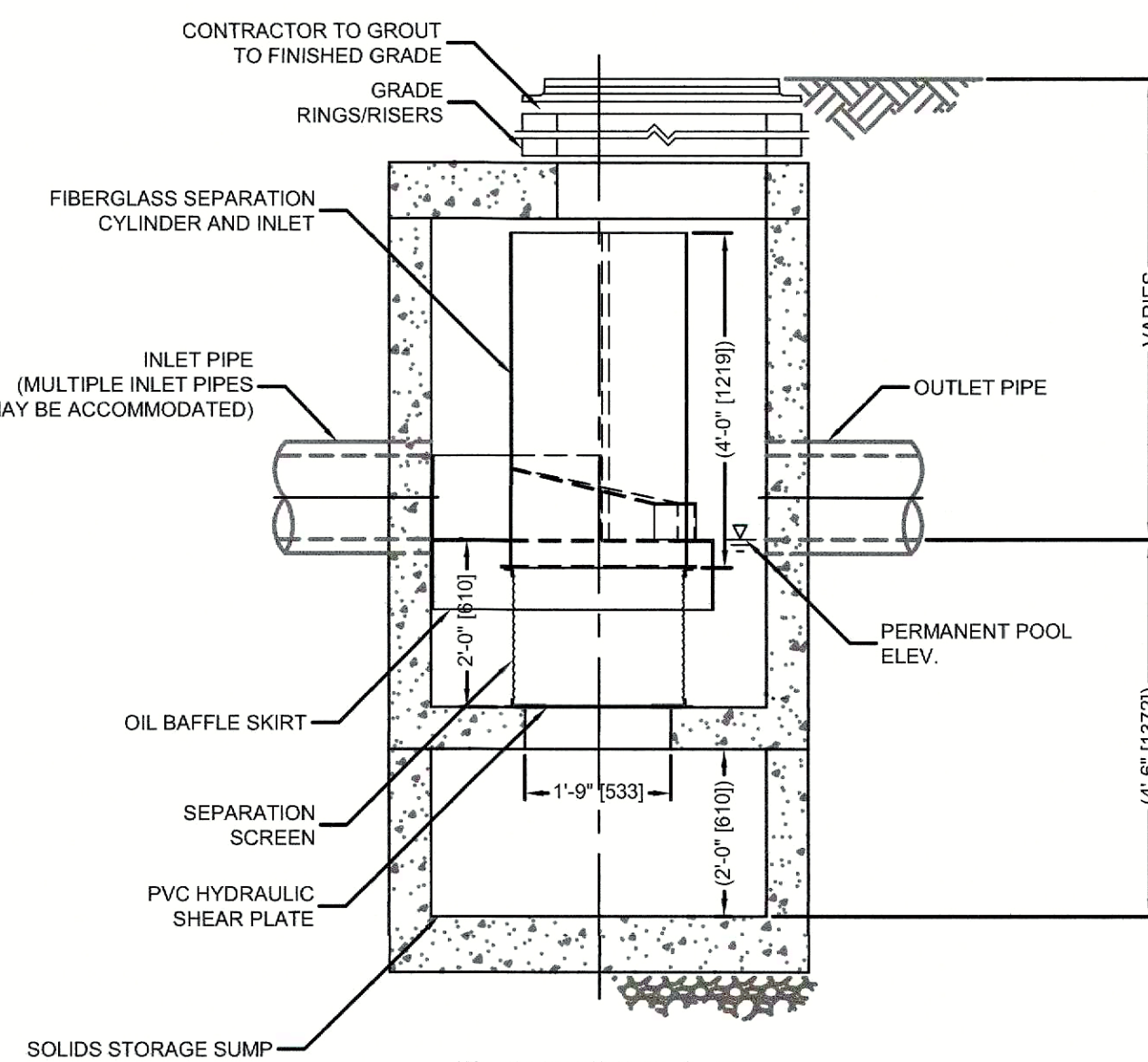


ELEVATION A-A  
N.T.S.

CONTECH CDS1515-3-C (WQU-3)  
(NOT TO SCALE)

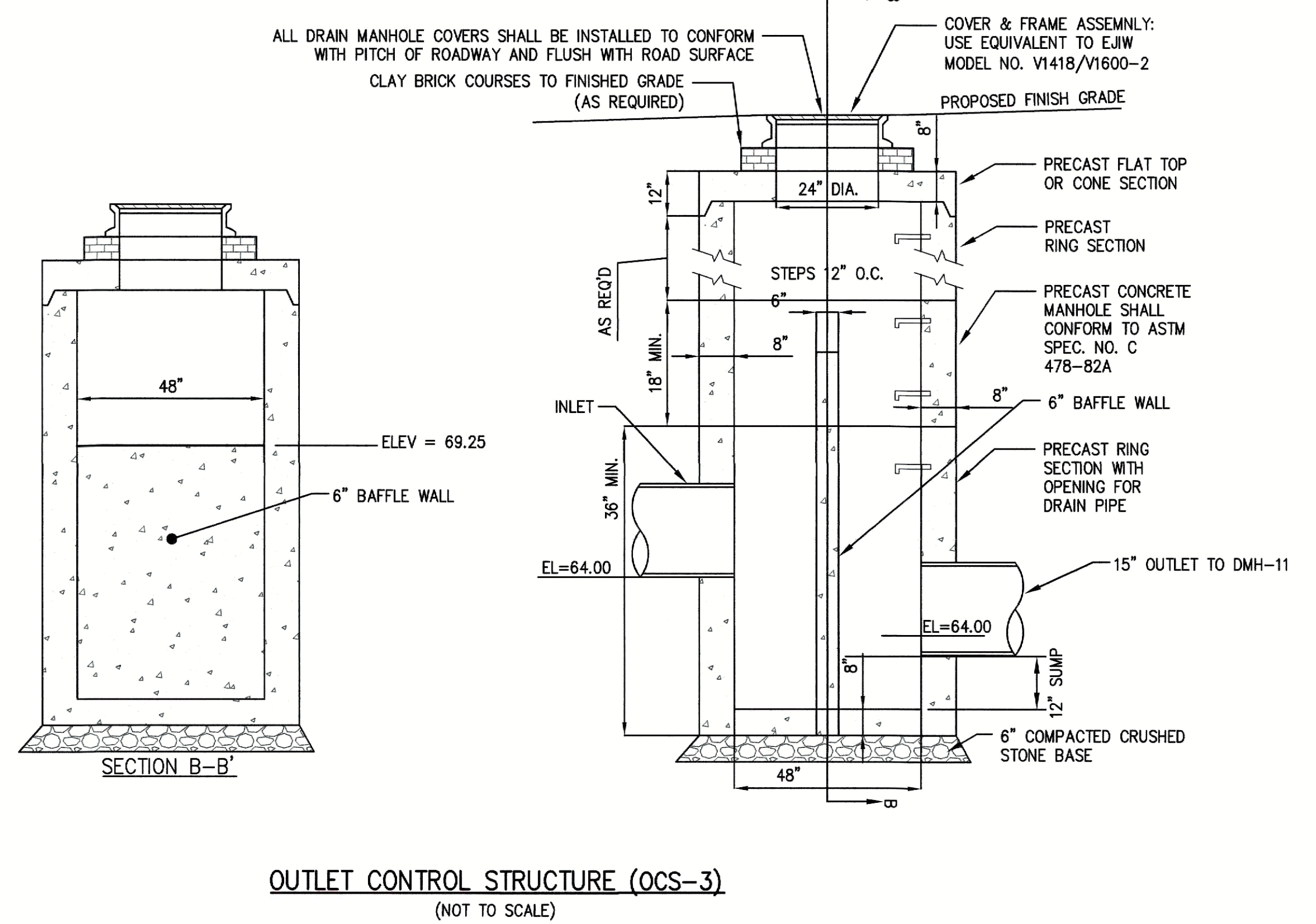


PLAN VIEW B-B  
N.T.S.



ELEVATION A-A  
N.T.S.

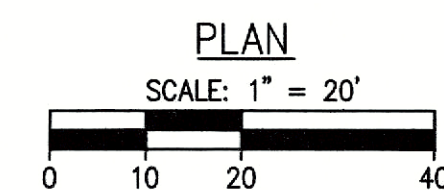
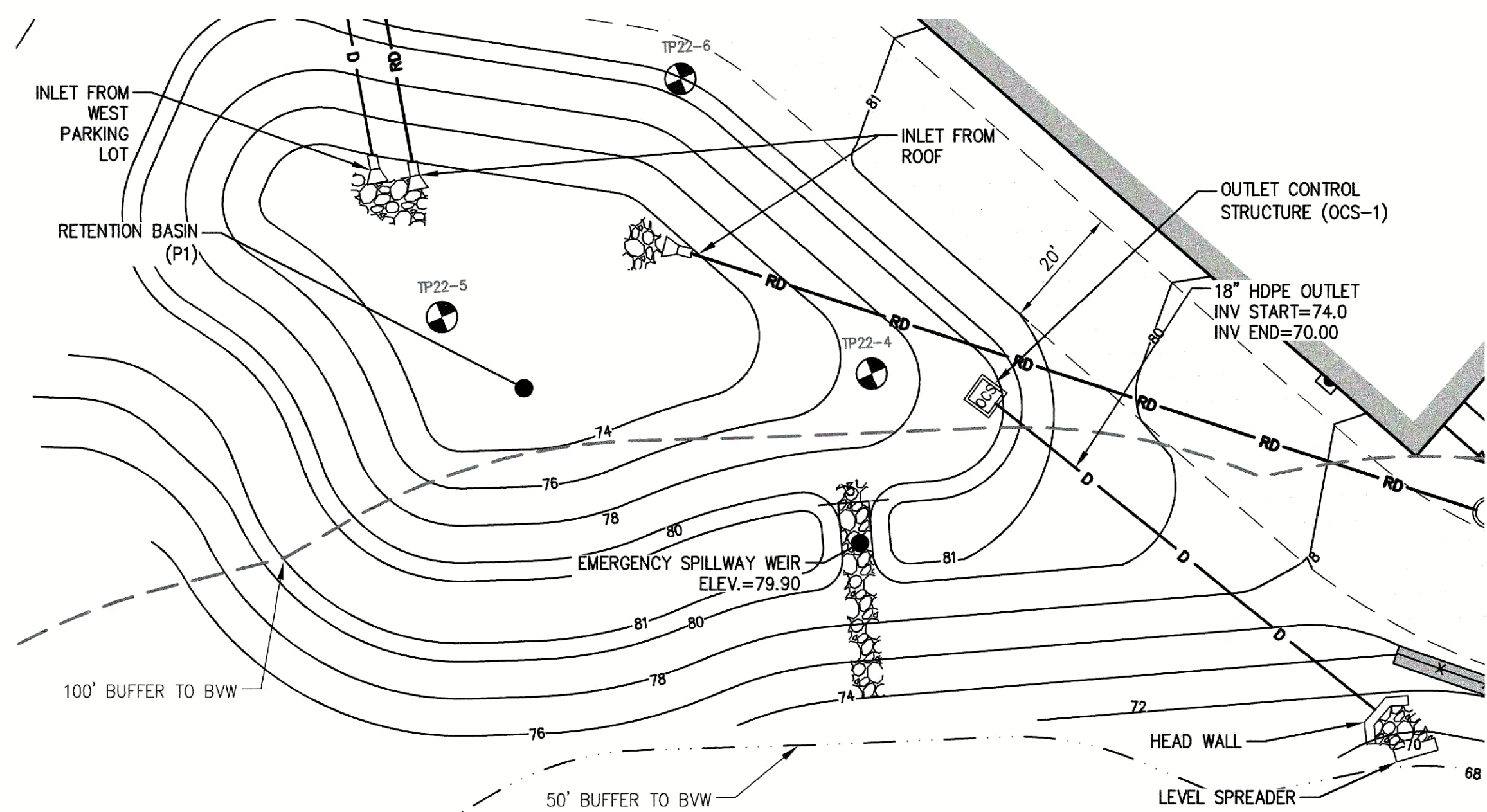
CONTECH CDS2015-4-C (WQU-4)  
(NOT TO SCALE)



OUTLET CONTROL STRUCTURE (OCS-3)  
(NOT TO SCALE)

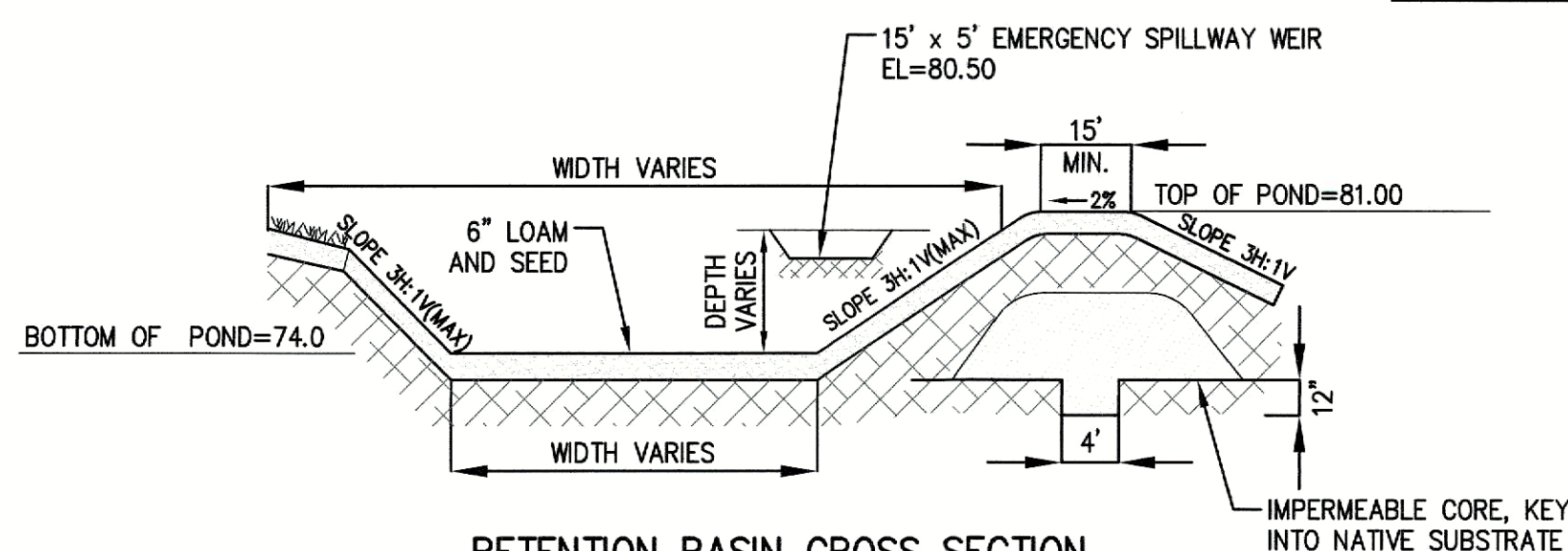
REVISIONS		DATE
NO.	DESCRIPTION	



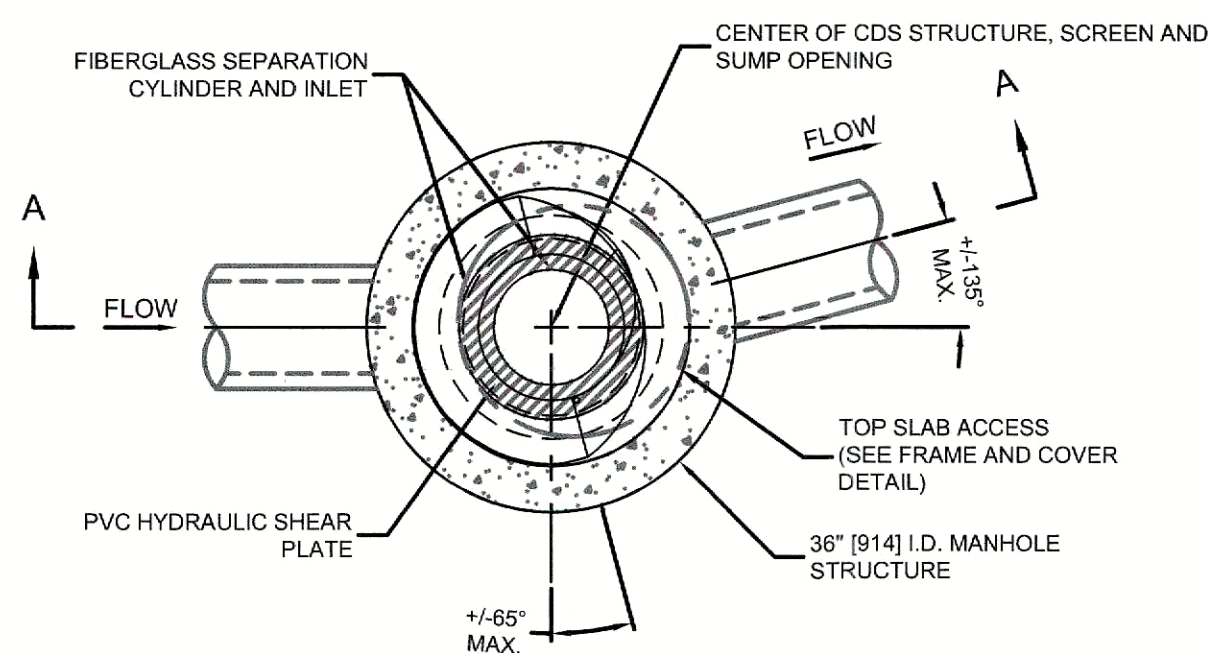


RETENTION BASIN (P1)

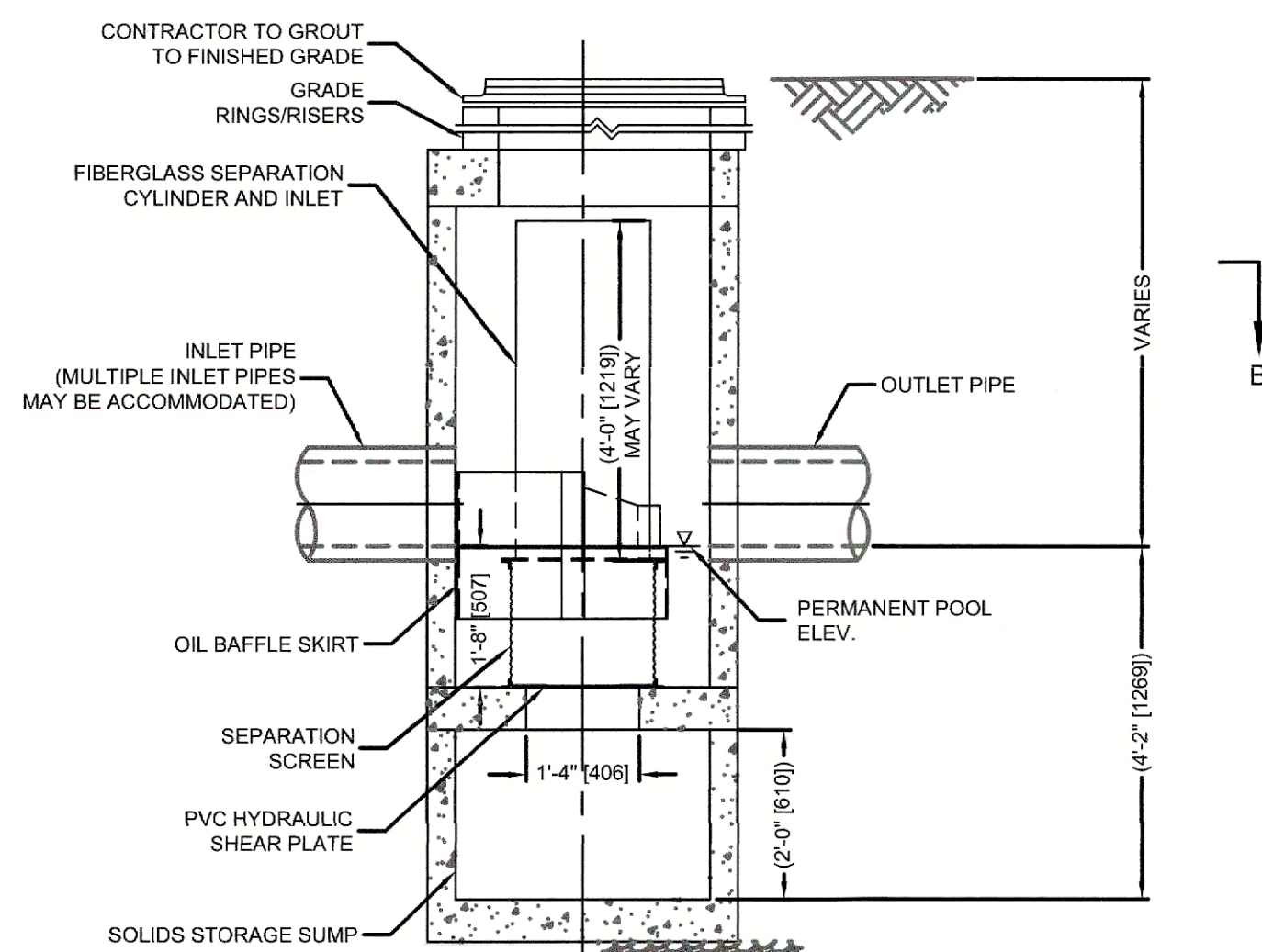
2-YEAR STORM ELEV. = 76.16  
10-YEAR STORM ELEV. = 77.74  
25-YEAR STORM ELEV. = 78.65  
100-YEAR STORM ELEV. = 79.85



RETENTION BASIN CROSS SECTION  
(NOT TO SCALE)



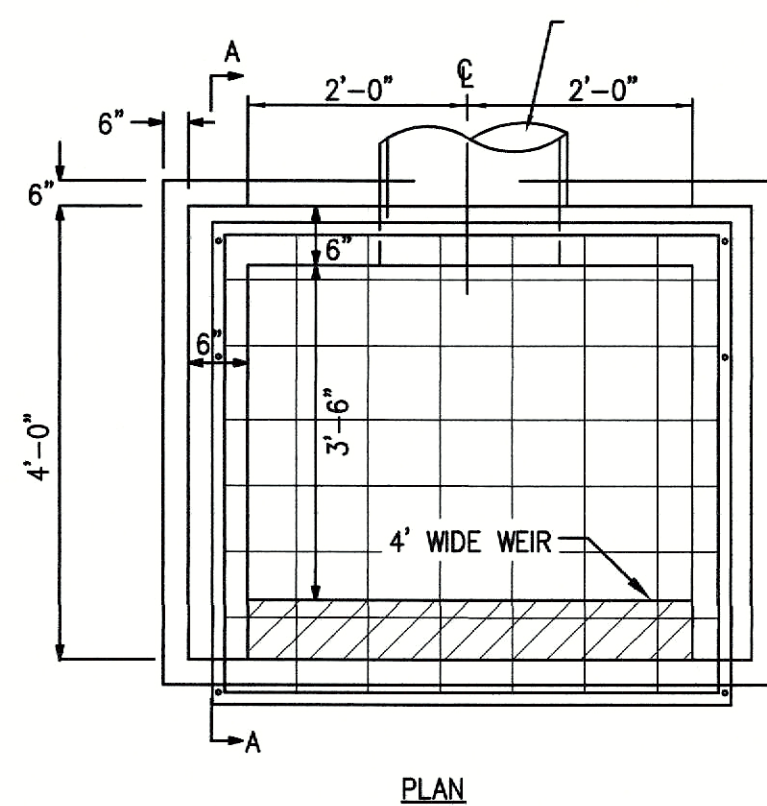
PLAN VIEW B-B  
N.T.S.



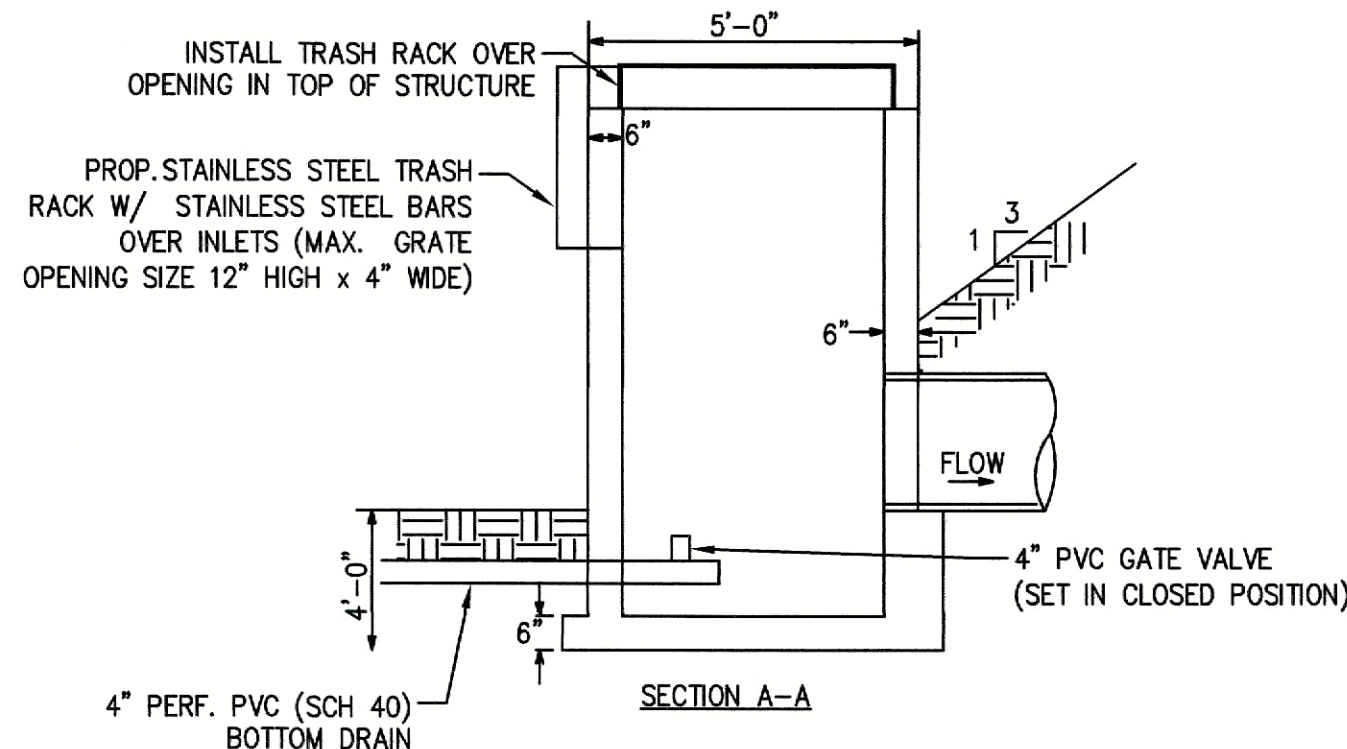
ELEVATION A-A  
CONTECH CDS1515-3-C (WQU-1)  
(NOT TO SCALE)

CONSTRUCTION INSPECTION NOTE:

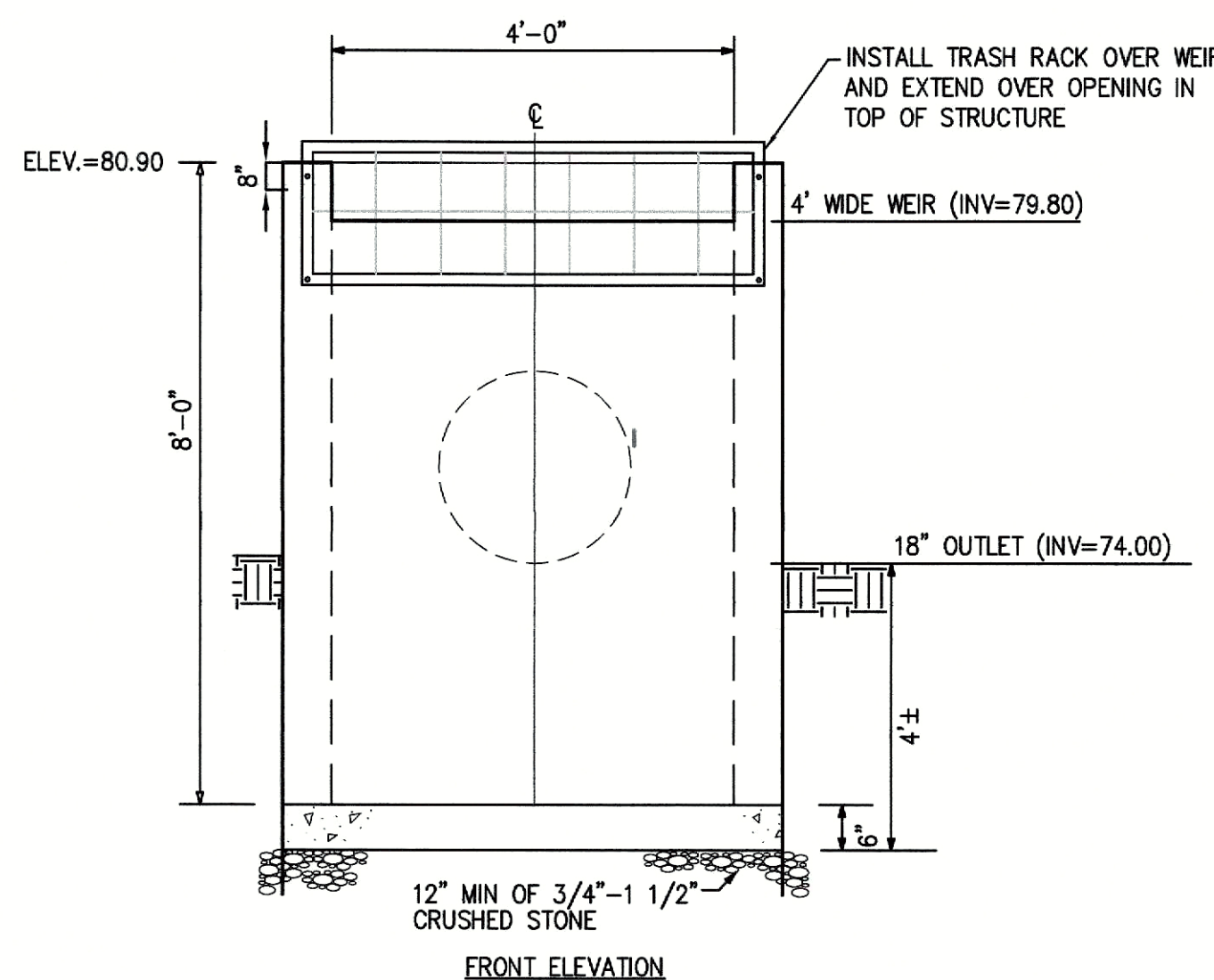
AT LEAST 48-HOURS PRIOR TO FINALIZING BASIN GRADING AND STABILIZATION, CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEER AND METHUEN CITY ENGINEER THAT THE BOTTOM OF BASIN BED IS READY FOR INSPECTION. THE BASIN BOTTOM SHOULD BE SCARIFIED, FREE OF BEDROCK AND STONES OVER 6 INCHES DIAMETER.



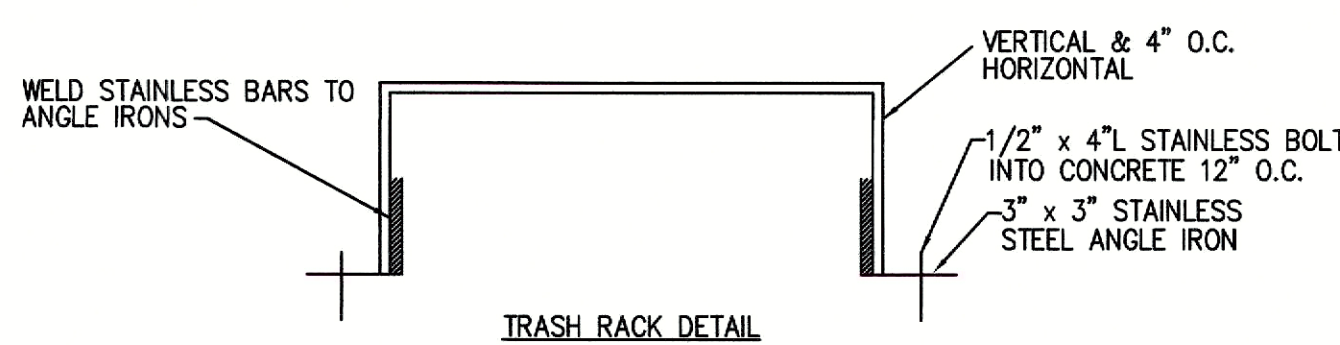
PLAN



SECTION A-A

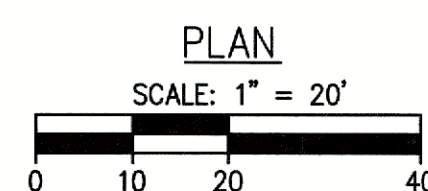
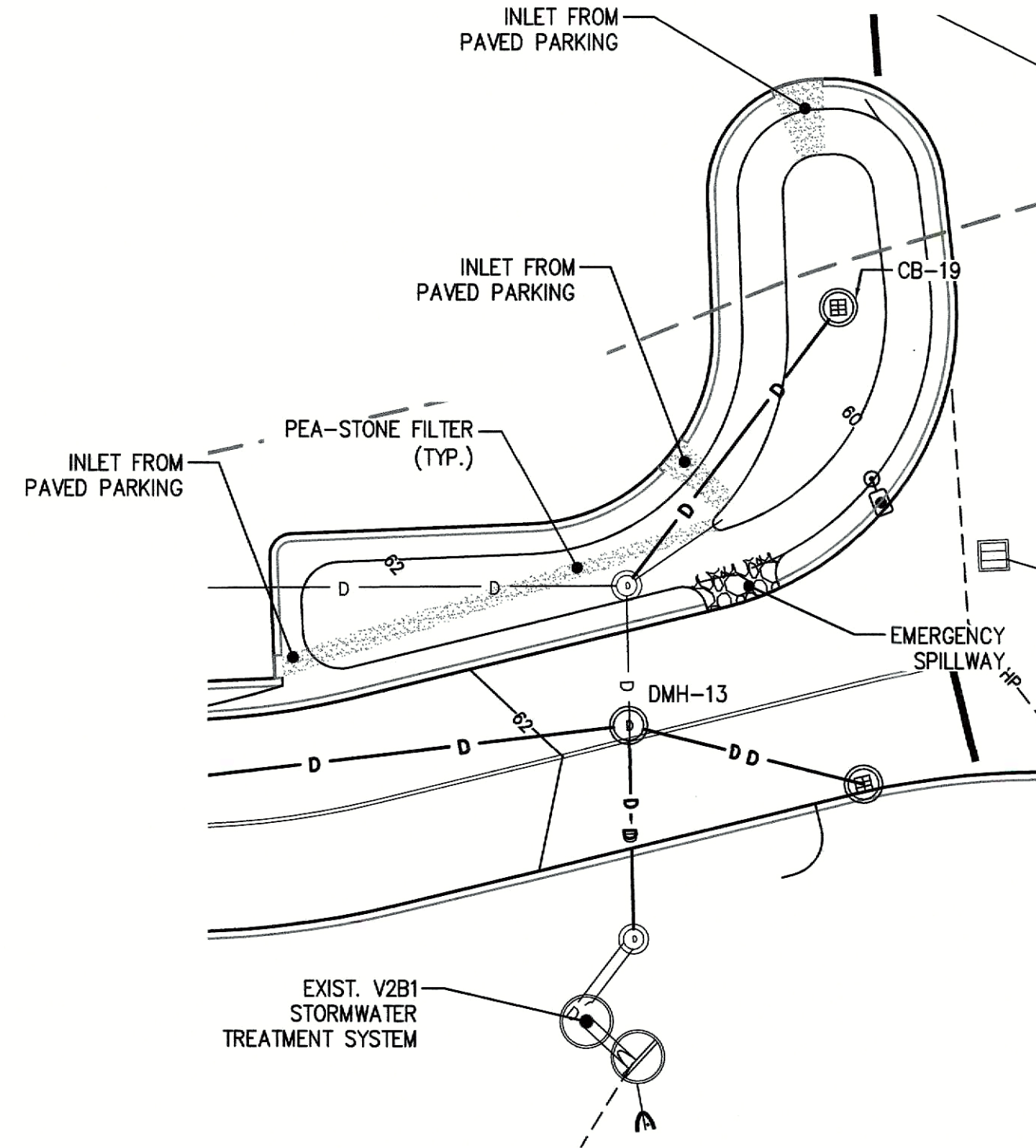


FRONT ELEVATION



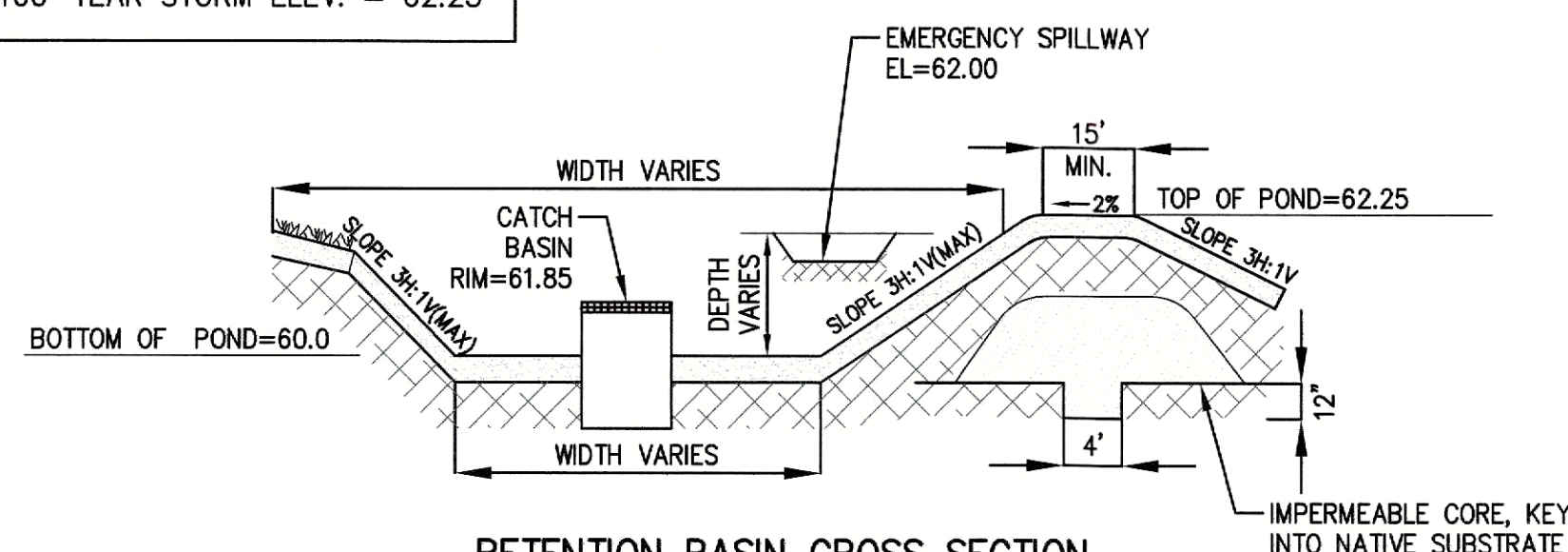
TRASH RACK DETAIL

OUTLET CONTROL STRUCTURE (OCS-1)  
(NOT TO SCALE)

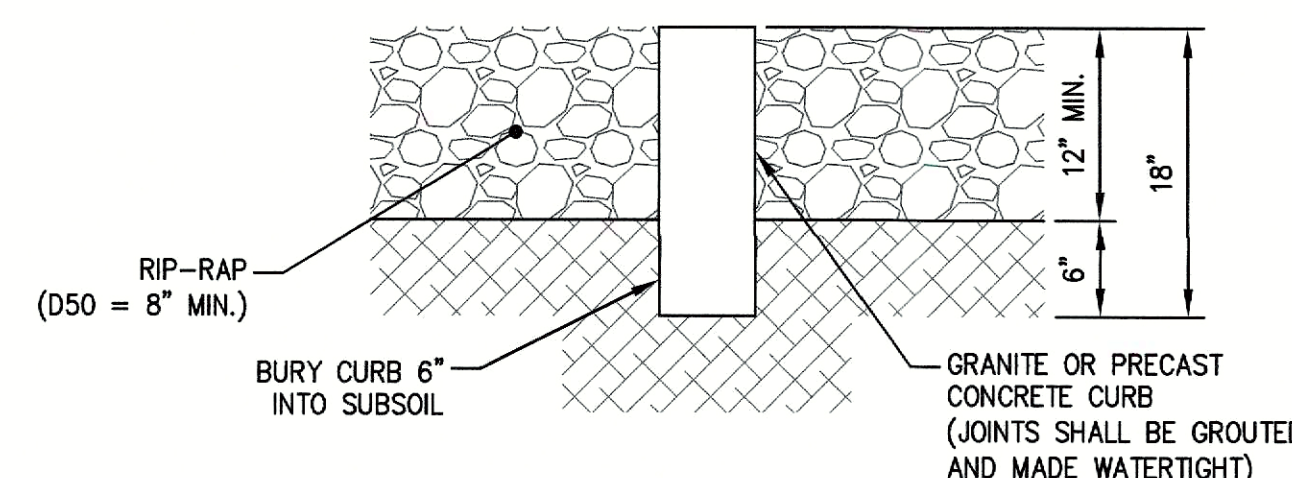
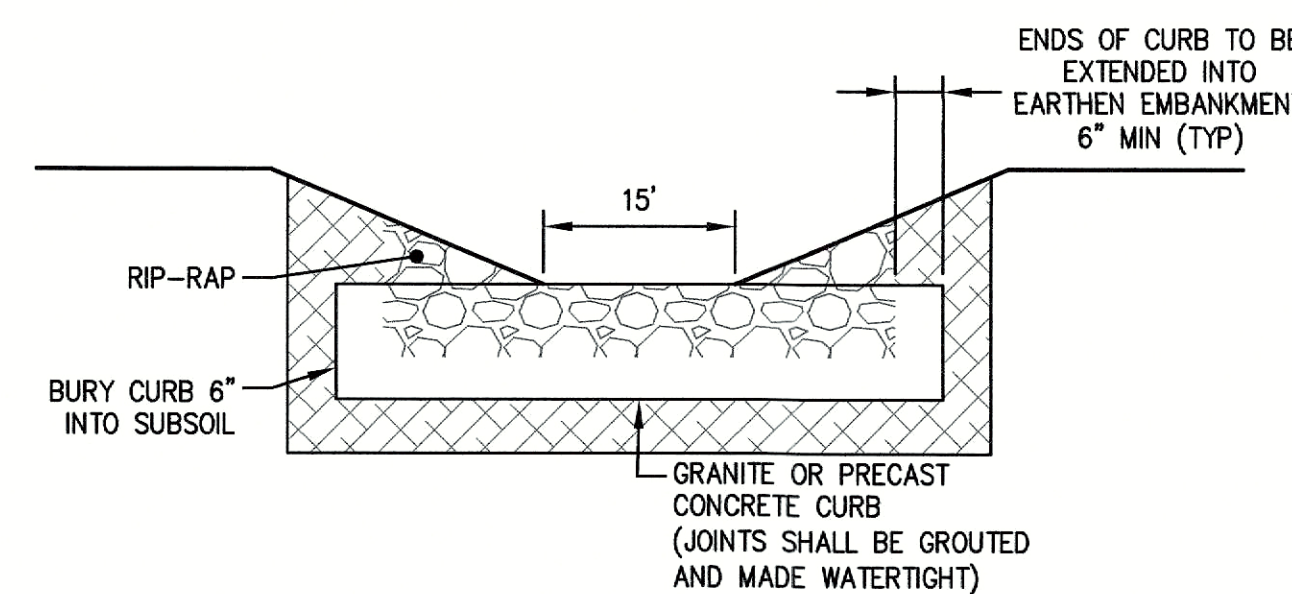


RETENTION BASIN (P5)

2-YEAR STORM ELEV. = 61.47  
10-YEAR STORM ELEV. = 61.97  
10-YEAR STORM ELEV. = 62.08  
100-YEAR STORM ELEV. = 62.23



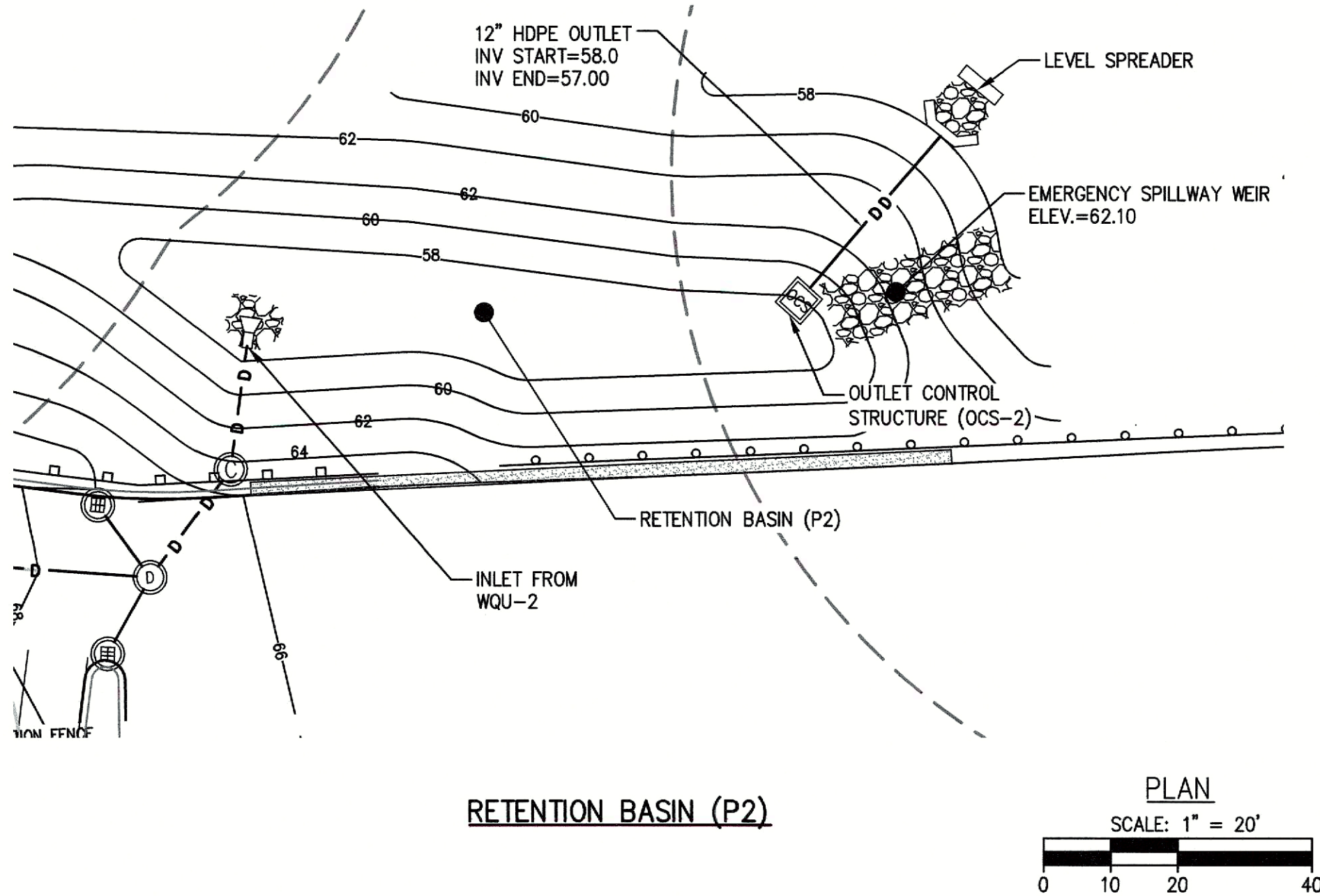
RETENTION BASIN CROSS SECTION  
(NOT TO SCALE)



EMERGENCY SPILLWAY WEIR (P1)  
NOT TO SCALE

NO.	DESCRIPTION	DATE



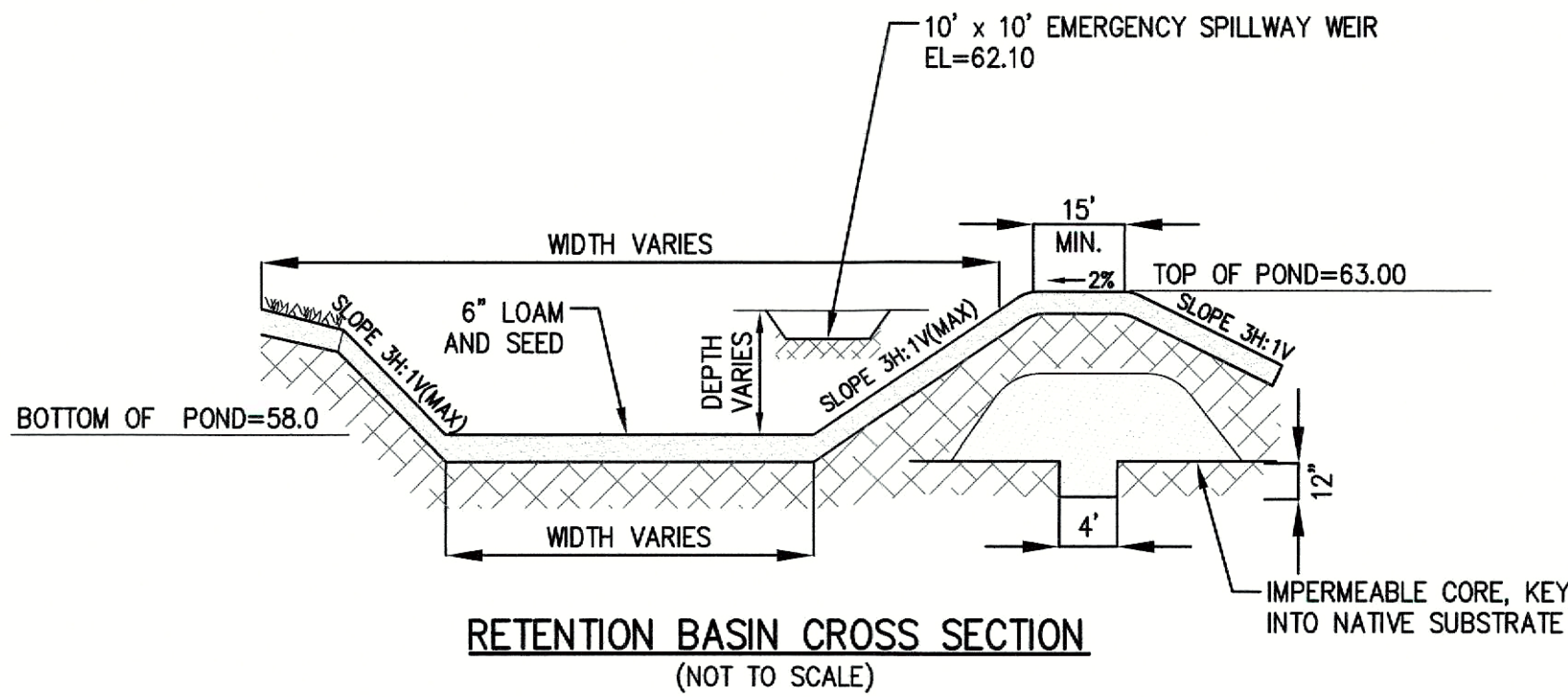


RETENTION BASIN (P2)

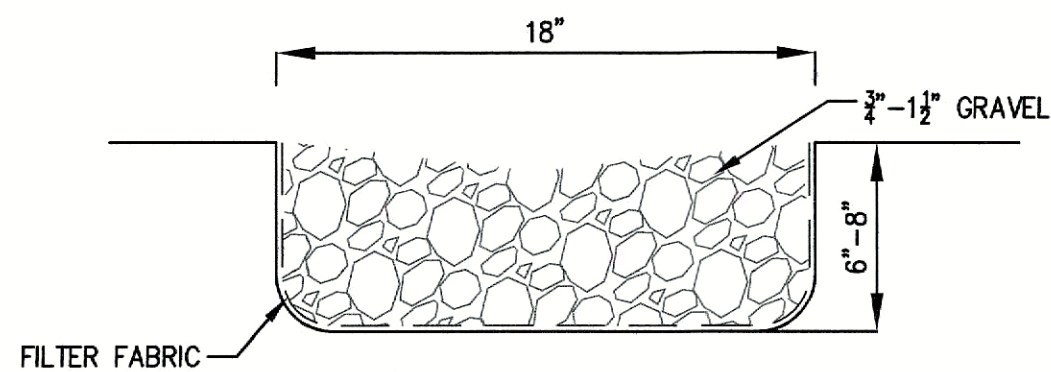
CONSTRUCTION INSPECTION NOTE:

AT LEAST 48-HOURS PRIOR TO FINALIZING BASIN GRADING AND STABILIZATION, CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEER AND METHUEN CITY ENGINEER THAT THE BOTTOM OF BASIN BED IS READY FOR INSPECTION. THE BASIN BOTTOM SHOULD BE SCARIFIED, FREE OF BEDROCK AND STONES OVER 6 INCHES DIAMETER.

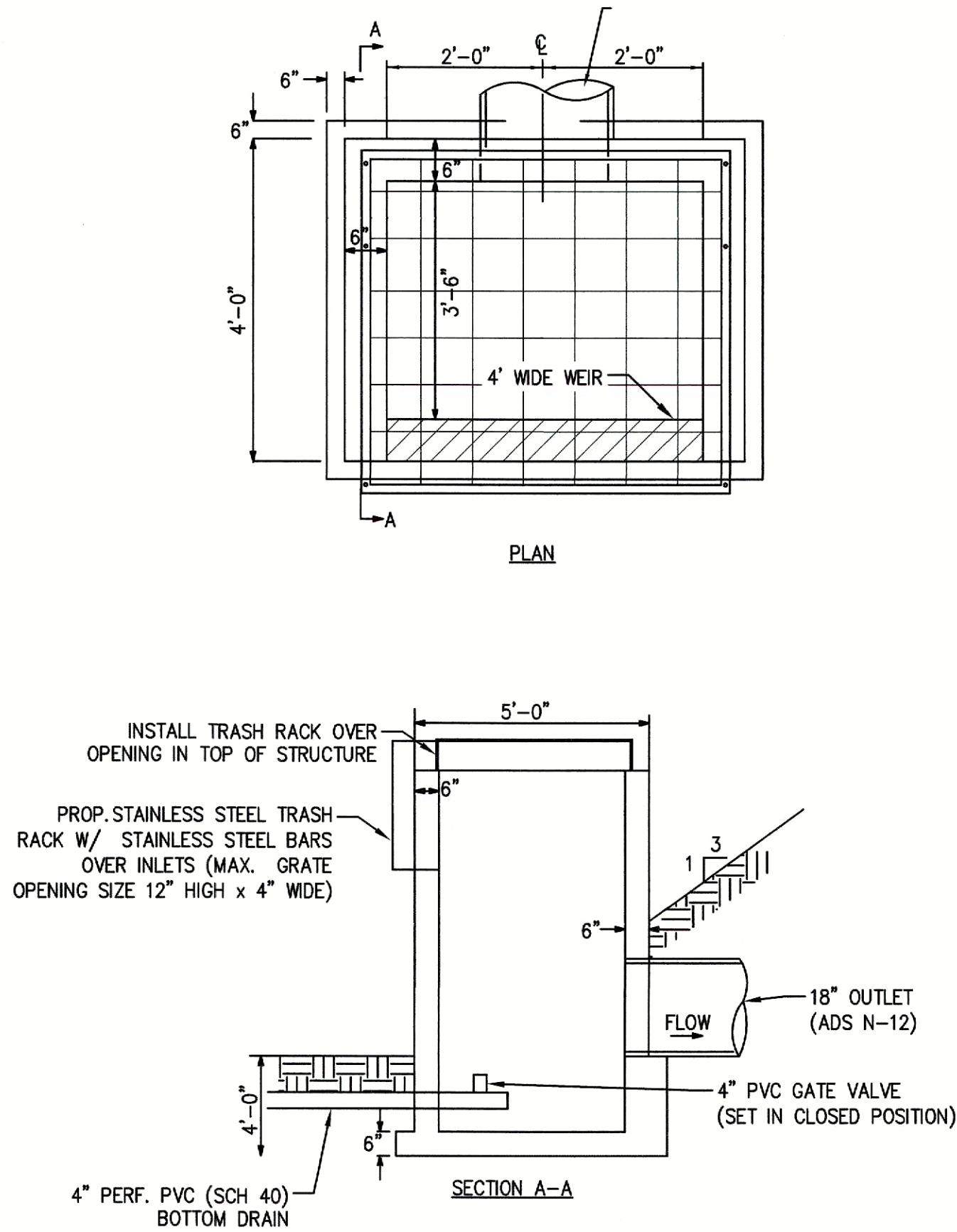
2-YEAR STORM ELEV. = 59.12  
10-YEAR STORM ELEV. = 60.60  
25-YEAR STORM ELEV. = 61.45  
100-YEAR STORM ELEV. = 61.98



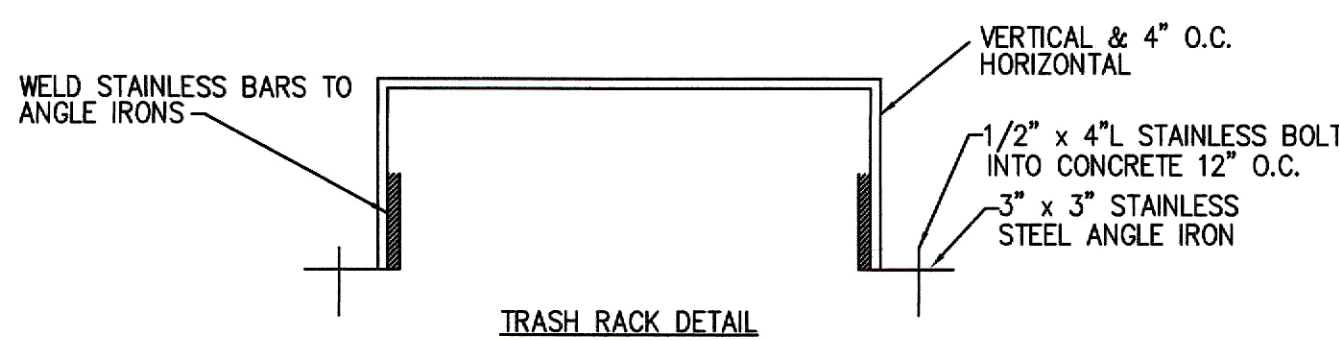
RETENTION BASIN CROSS SECTION  
(NOT TO SCALE)



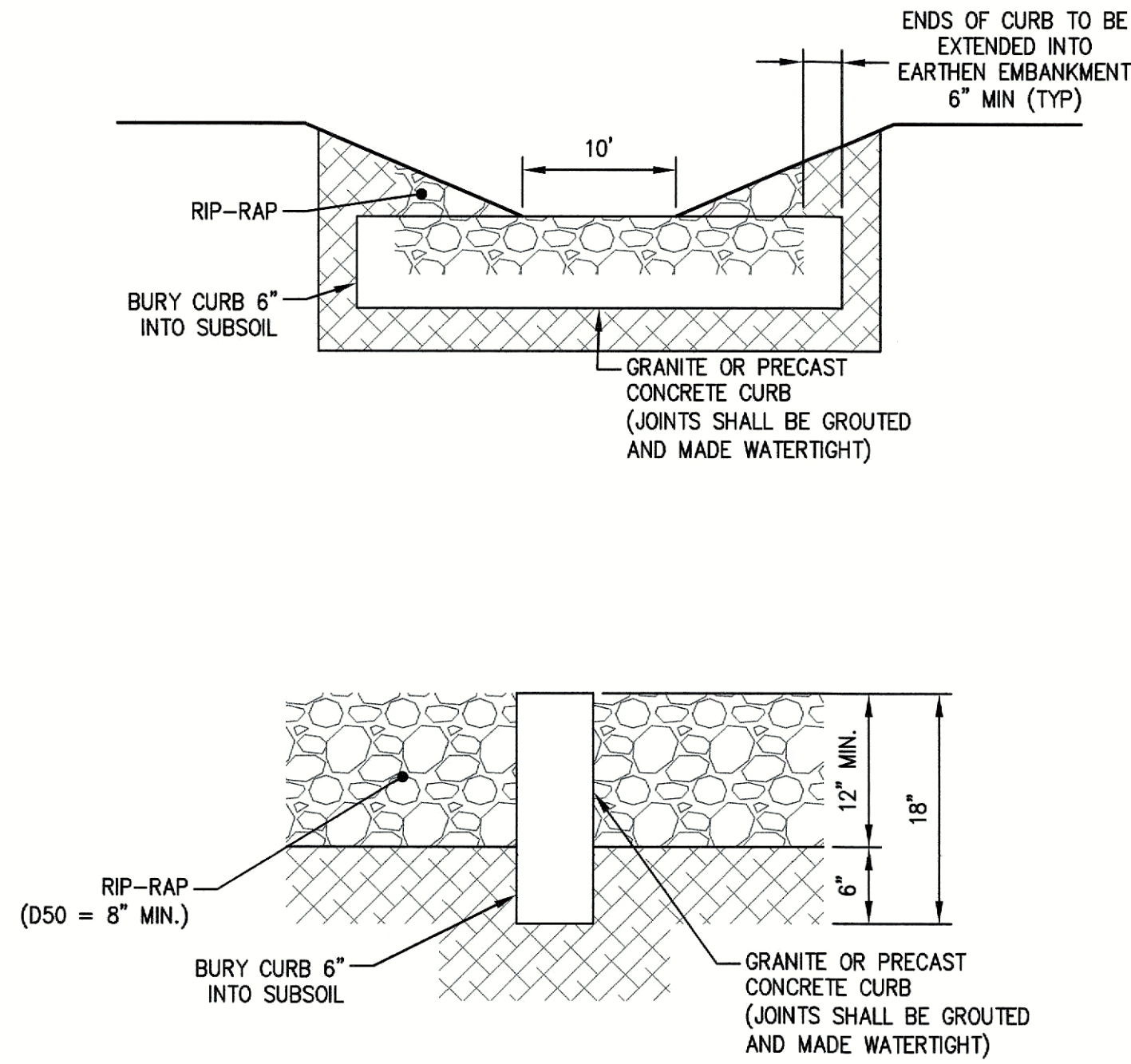
LOW FLOW CHANNEL  
(NOT TO SCALE)



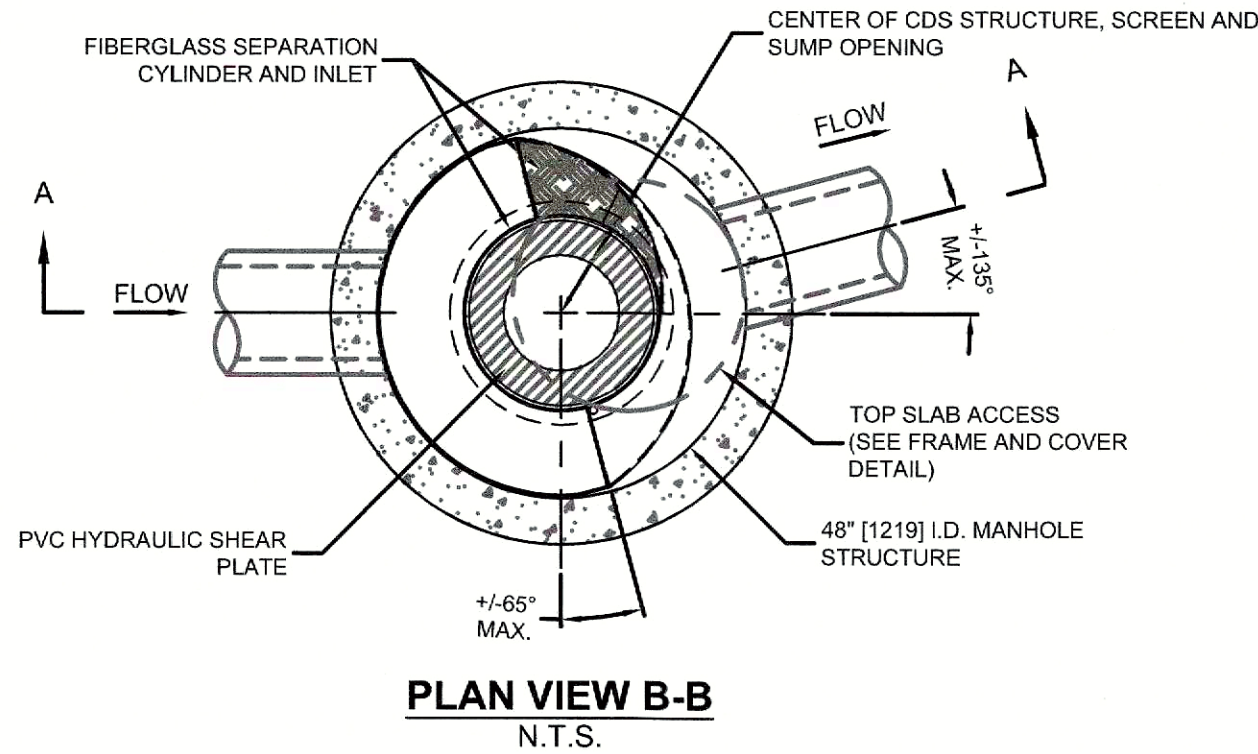
OUTLET CONTROL STRUCTURE (OCS-2)  
(NOT TO SCALE)



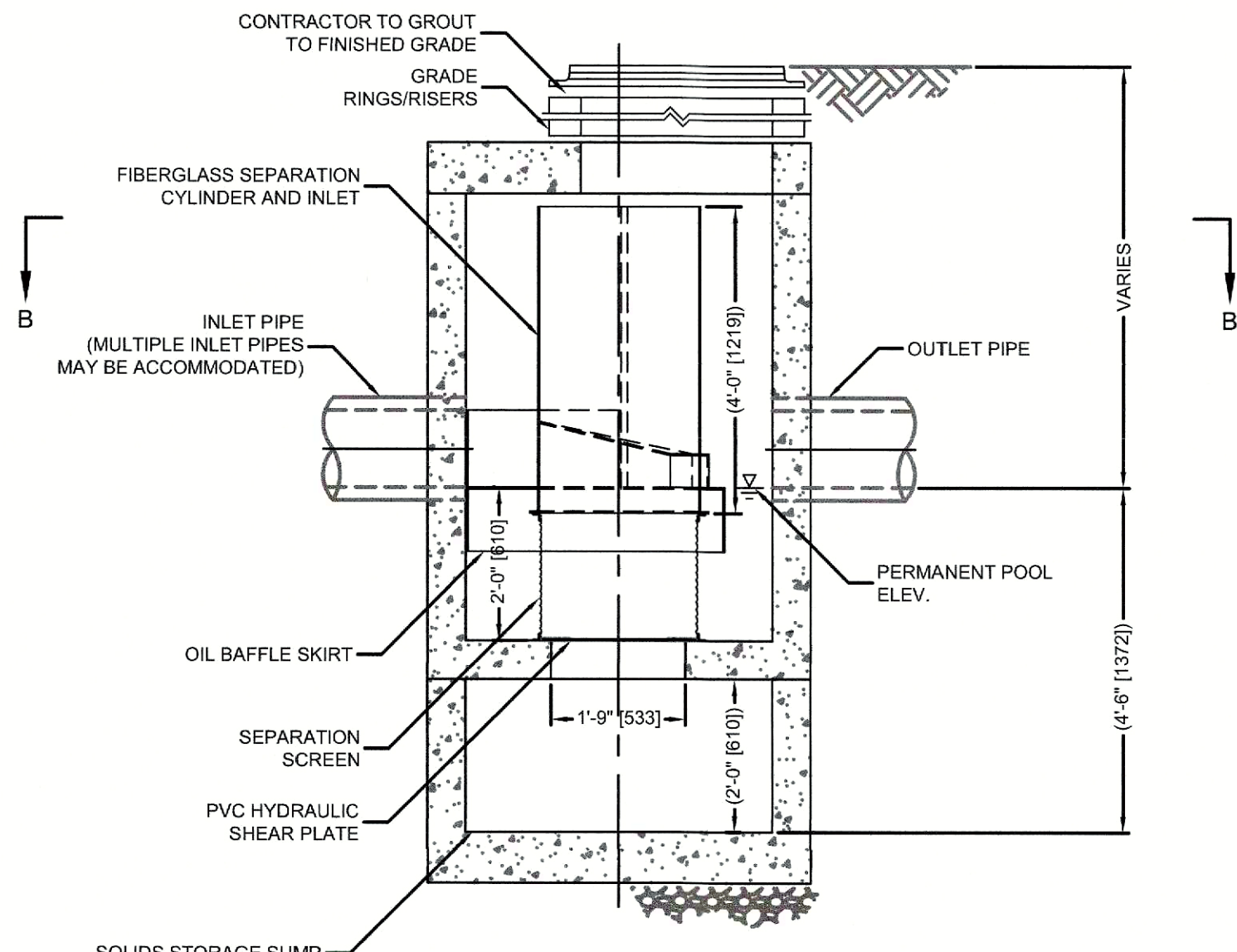
TRASH RACK DETAIL



EMERGENCY SPILLWAY WEIR (P2)  
NOT TO SCALE



PLAN VIEW B-B  
N.T.S.



ELEVATION A-A  
N.T.S.

CONTECH CDS2015-4-C (WQU-2)  
(NOT TO SCALE)

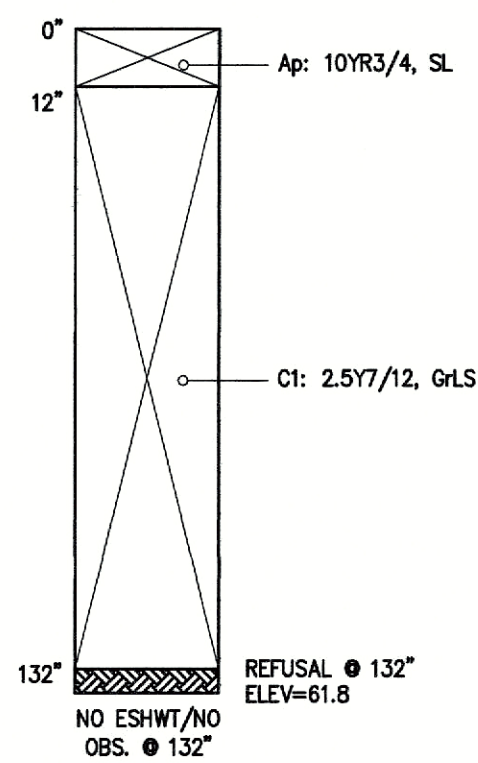
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NO.	DESCRIPTION	



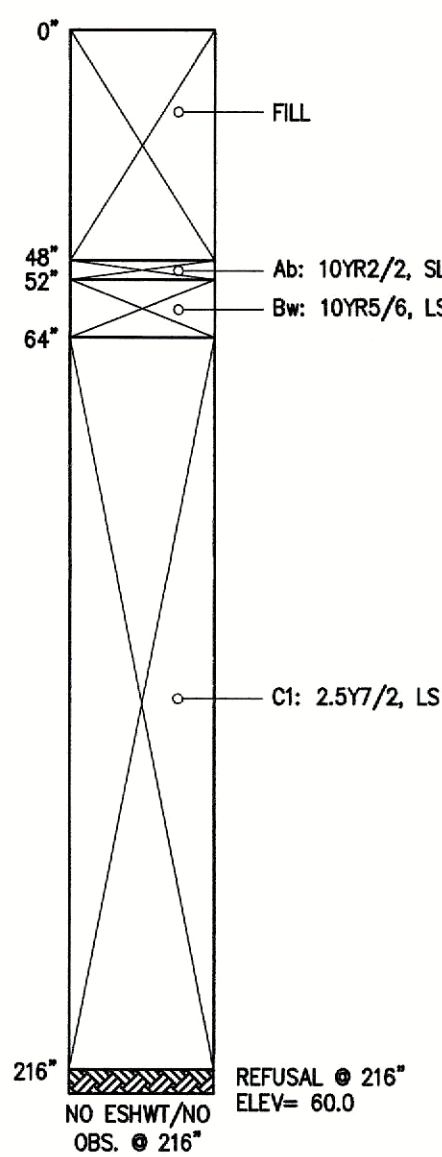
SOIL LOGS

DATE PERFORMED: 02/07/2022 & 02/08/2022  
PERFORMED BY: WILL SCHKUTA, SE #14030

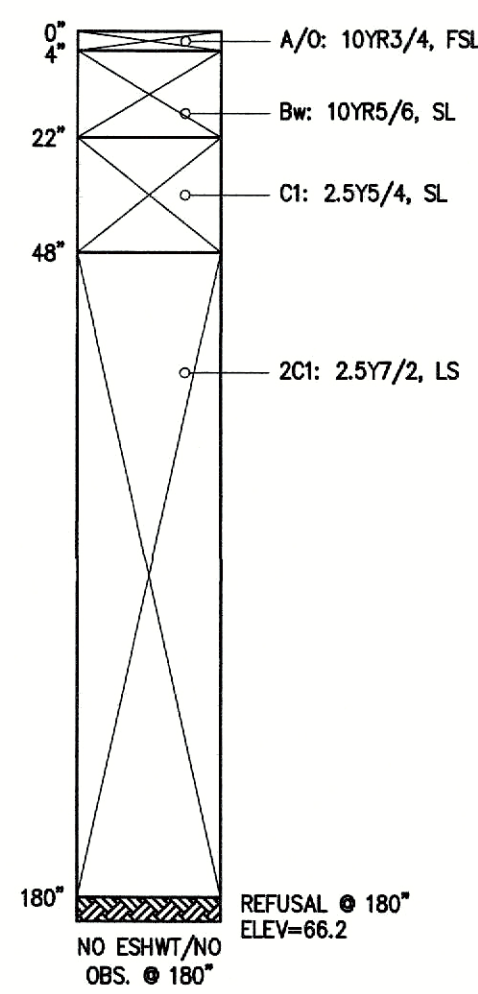
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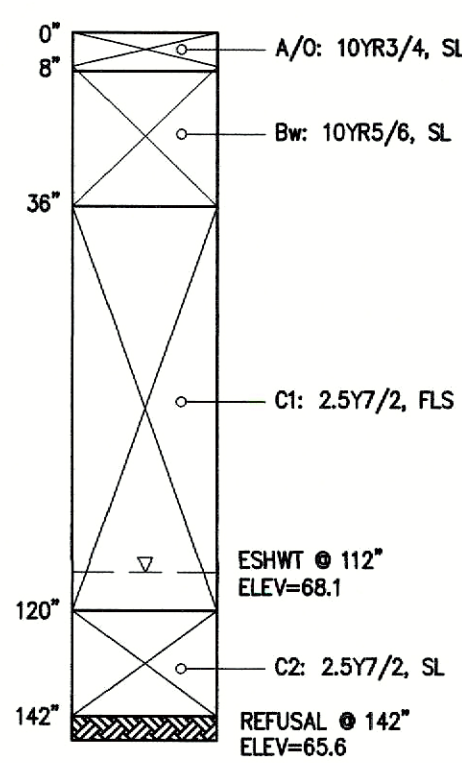
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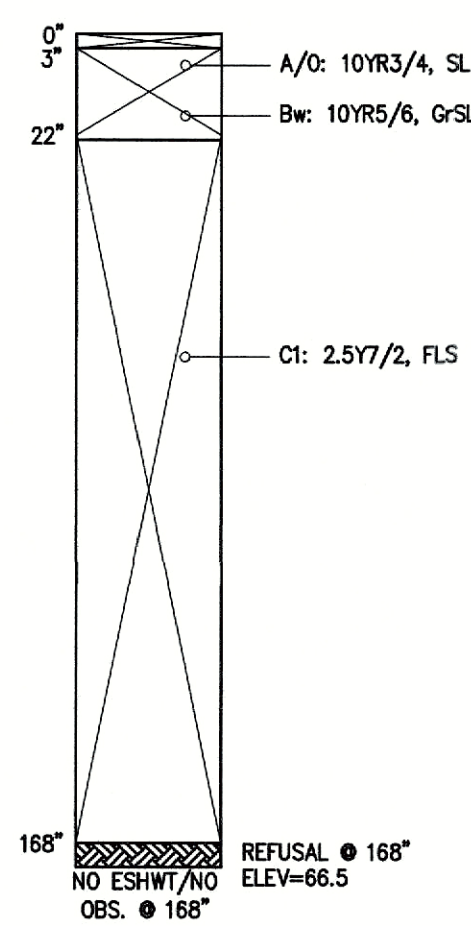
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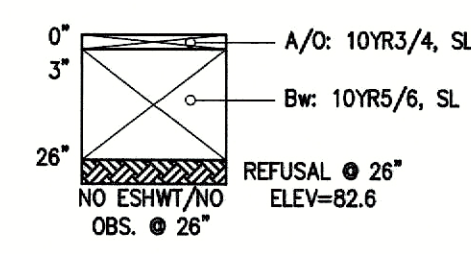
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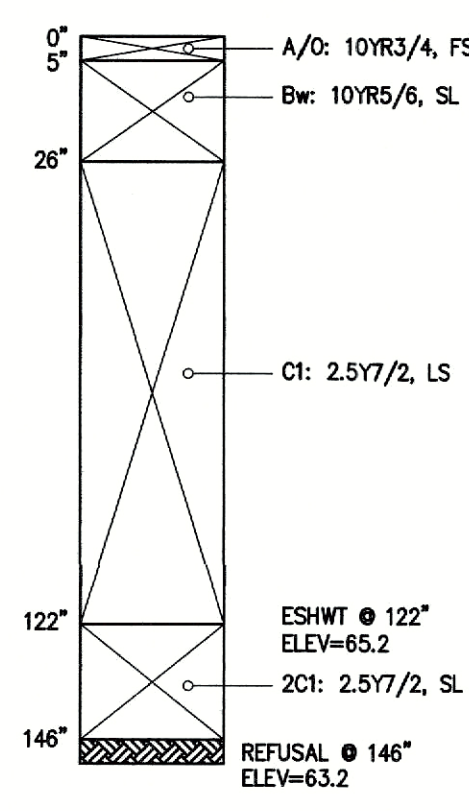
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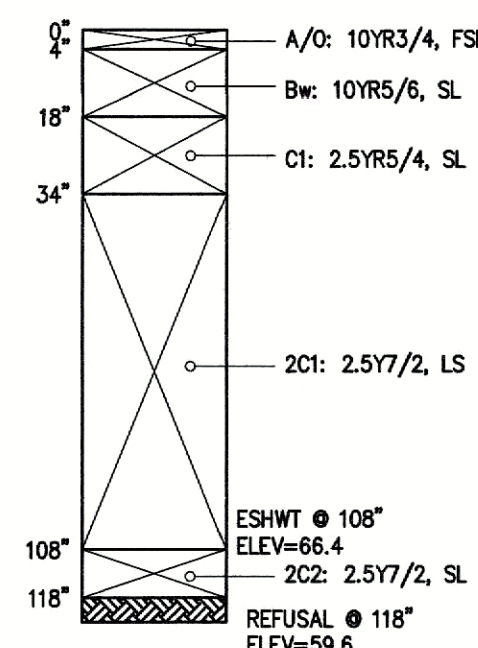
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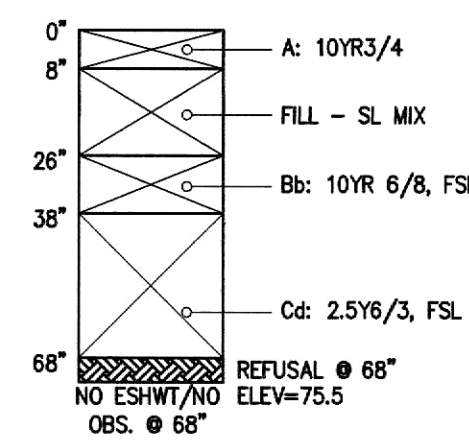
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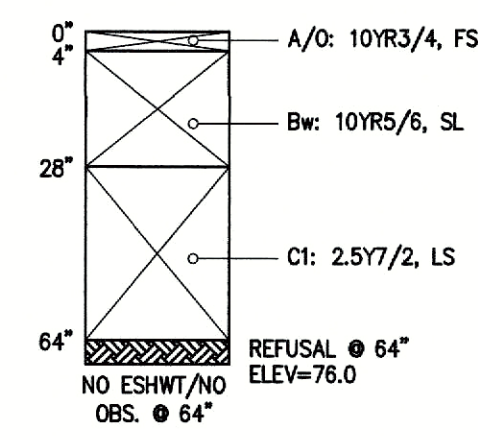
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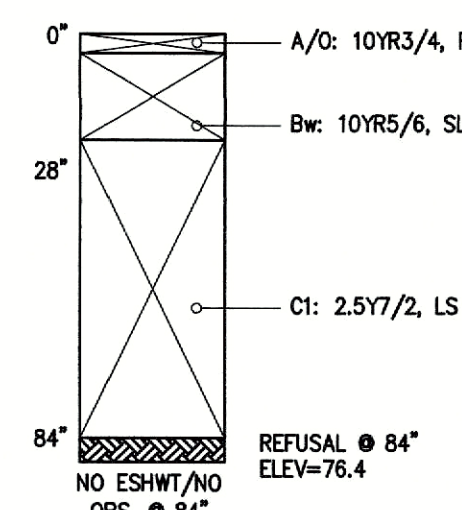
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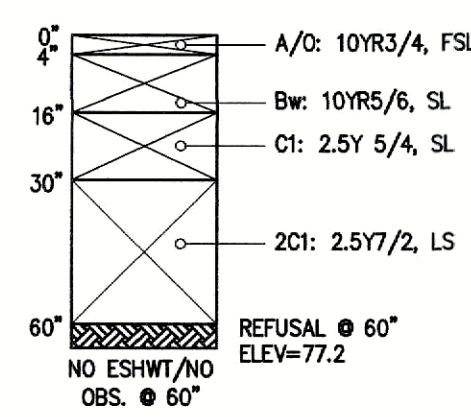
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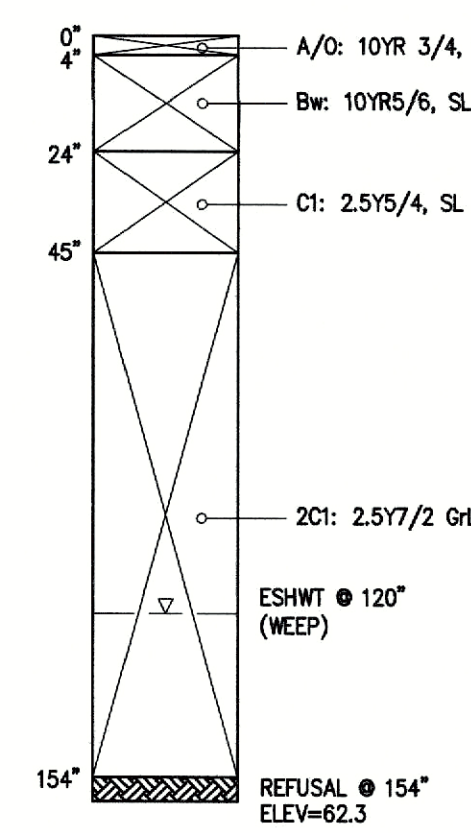
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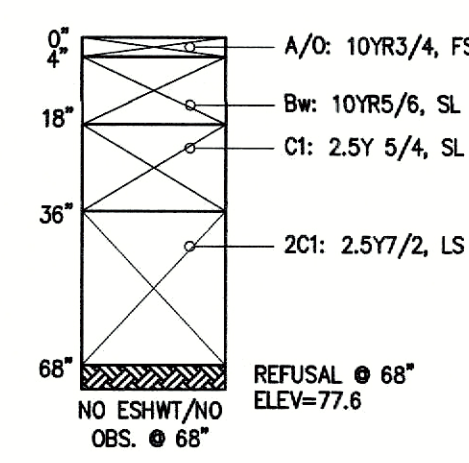
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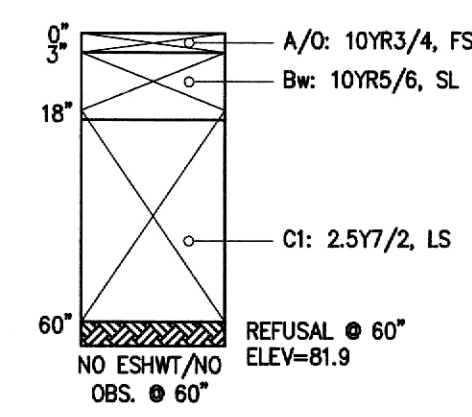
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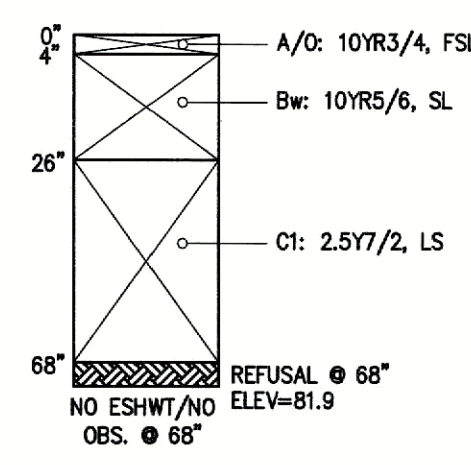
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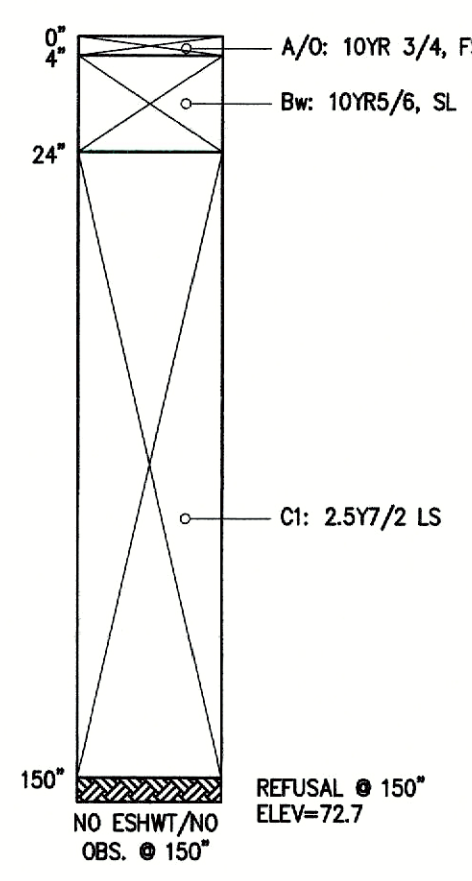
TP 22-15  
ELEV. = 86.9



TP 22-16  
ELEV. = 88.3



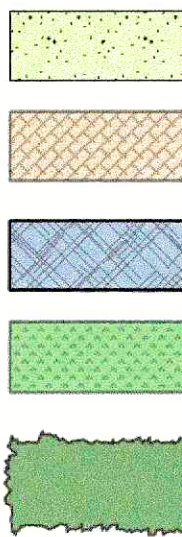
TP 22-17  
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REVISIONS		DATE
NO.	DESCRIPTION	



## LEGEND:



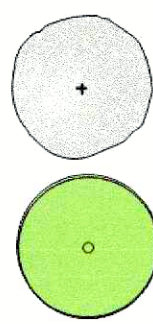
LOAM AND SEED WITH RYE-FESCUE MIX

ERNST CONSERVATION SEEDS: NATIVE STEEP SLOPE MIX W/ANNUAL RYEGRASS - ERNMX 181

ERNST CONSERVATION SEEDS: RETENTION BASIN FLOOR MIX - LOW MAINTENANCE - ERNMX 126

ERNST CONSERVATION SEEDS: SHOWY NORTHEAST NATIVE WILDFLOWER &amp; GRASS MIX - ERNMX 153

PLANTING BED



PROPOSED SHADE TREE

EXISTING TREE

PROPOSED EVERGREEN TREE

## LANDSCAPE CALCULATIONS:

PARKING AREA 'A'	39,500 SF	PARKING AREA 'B'	52,700 SF
LANDSCAPE AREA REQUIRED - 5%	1,975 SF	LANDSCAPE AREA REQUIRED - 5%	2,635 SF
LANDSCAPE AREA PROPOSED - 32%	13,000 SF	LANDSCAPE AREA PROPOSED - 16%	8,630 SF
TREES REQUIRED @ 1 PER 2,000 SF	20	TREES REQUIRED @ 1 PER 2,000 SF	26
TREES PROPOSED	20	TREES PROPOSED INCL. EXISTING	27

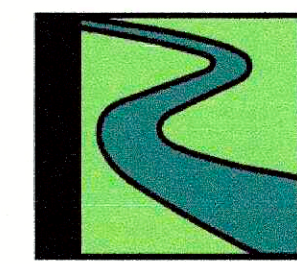


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Issue:

PERMIT SET

Sheet Name:  
Tree and Seeding Plan

Project No.:  
22-02

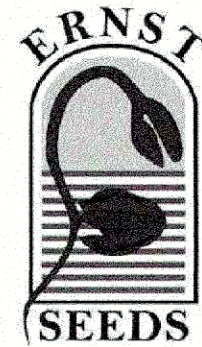
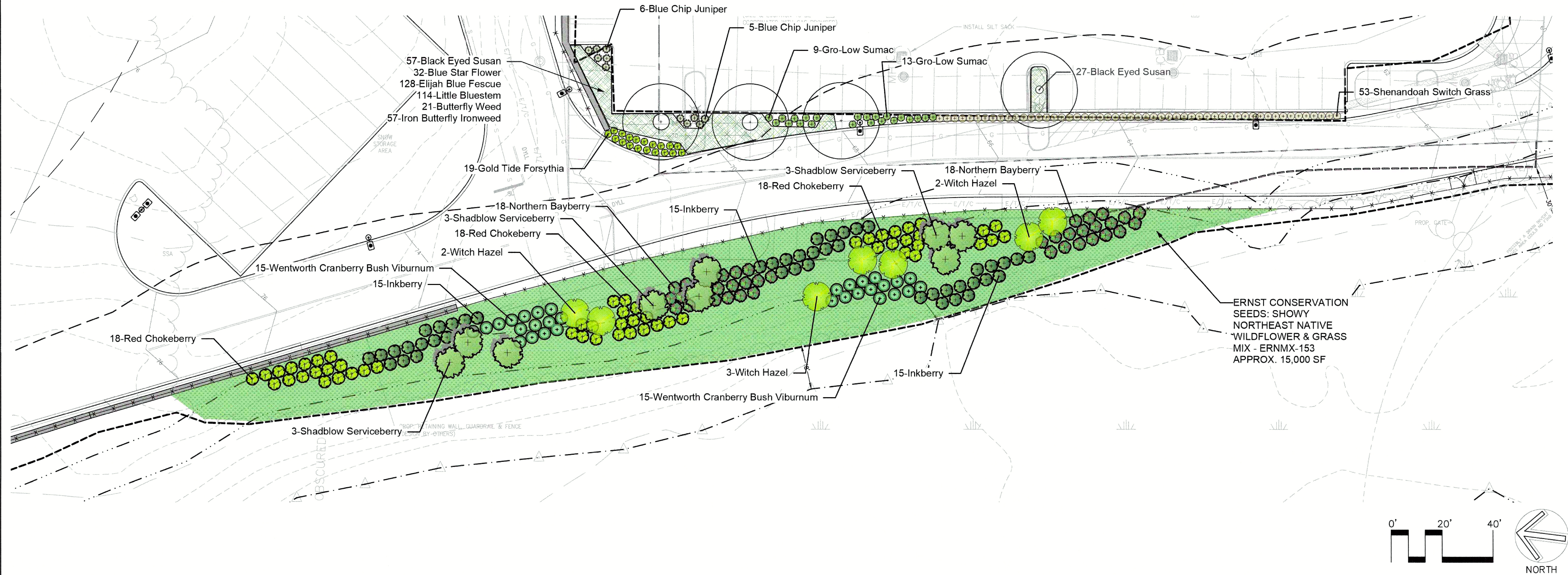
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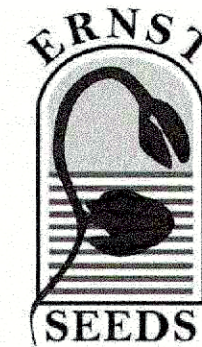




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Date: May 17, 2022

**Native Steep Slope Mix w/Annual Ryegrass - ERNMX-181**

Date: May 17, 2022

**Retention Basin Floor Mix - Low Maintenance - ERNMX-126**

Date: May 17, 2022

**Showy Northeast Native Wildflower & Grass Mix - ERNMX-153**

Botanical Name	Common Name
31.10 % <i>Sorghastrum nutans</i> , NY4 Ecotype	Indiangrass, NY4 Ecotype
20.00 % <i>Lolium multiflorum</i>	Annual Ryegrass
14.00 % <i>Andropogon gerardii</i> , 'Niagara'	Big Bluestem, 'Niagara'
10.00 % <i>Elymus canadensis</i>	Canada Wildrye
7.00 % <i>Elymus virginicus</i> , Madison-NY Ecotype	Virginia Wildrye, Madison-NY Ecotype
4.00 % <i>Agrostis perennans</i> , Albany Pine Bush-NY Ecotype	Autumn Bentgrass, Albany Pine Bush-NY Ecotype
4.00 % <i>Panicum virgatum</i> , 'Shawnee'	Switchgrass, 'Shawnee'
3.00 % <i>Panicum clandestinum</i> , Tioga	Deertongue, Tioga
1.50 % <i>Echinacea purpurea</i>	Purple Coneflower
1.30 % <i>Chamaecrista fasciculata</i> , PA Ecotype	Partridge Pea, PA Ecotype
1.20 % <i>Heliopsis helianthoides</i> , PA Ecotype	Oxeye Sunflower, PA Ecotype
1.00 % <i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis
1.00 % <i>Rudbeckia hirta</i>	Blackeyed Susan
0.30 % <i>Monarda fistulosa</i> , Fort Indiantown Gap-PA Ecotype	Wild Bergamot, Fort Indiantown Gap-PA Ecotype
0.20 % <i>Asclepias syriaca</i>	Common Milkweed
0.20 % <i>Solidago rugosa</i> , PA Ecotype	Wrinkleleaf Goldenrod, PA Ecotype
0.10 % <i>Aster lateriflorus</i>	Calico Aster
0.10 % <i>Aster pilosus</i> , PA Ecotype	Heath Aster, PA Ecotype

100.00 %

**Seeding Rate:** 60 lb per acre, or 1.5 lb per 1,000 sq ft  
Erosion Control & Revegetation

Botanical Name	Common Name
20.00 % <i>Panicum clandestinum</i> , Tioga	Deertongue, Tioga
20.00 % <i>Puccinellia distans</i> , Fufts	Alkali Grass, Fufts
18.00 % <i>Elymus virginicus</i> , Madison-NY Ecotype	Virginia Wildrye, Madison-NY Ecotype
15.00 % <i>Agrostis stolonifera</i> , 'Penncross'	Creeping Bentgrass, 'Penncross'
15.00 % <i>Poa palustris</i>	Fowl Bluegrass
10.00 % <i>Carex vulpinoidea</i> , PA Ecotype	Fox Sedge, PA Ecotype
1.00 % <i>Carex scoparia</i> , PA Ecotype	Blunt Broom Sedge, PA Ecotype
1.00 % <i>Juncus effusus</i>	Soft Rush

100.00 %

**Seeding Rate:** 20-40 lbs per acre, or 0.5-1 lb/1,000 sq ft with a cover crop. For a cover crop use one of the following: grain rye (1 Sep to 30 Apr; 30 lbs/acre), Japanese millet (1 May to 31 Aug; 10 lbs/acre), or barnyard grass (1 May to 31 Aug; 10 lbs/acre).

Stormwater Management

Botanical Name	Common Name
34.00 % <i>Bouteloua curtipendula</i> , Butte	Sideoats Grama, Butte
20.80 % <i>Schizachyrium scoparium</i> , Fort Indiantown Gap-PA Ecotype	Little Bluestem, Fort Indiantown Gap-PA Ecotype
16.00 % <i>Elymus virginicus</i> , PA Ecotype	Virginia Wildrye, PA Ecotype
8.00 % <i>Echinacea purpurea</i>	Purple Coneflower
3.00 % <i>Chamaecrista fasciculata</i> , PA Ecotype	Partridge Pea, PA Ecotype
3.00 % <i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis
3.00 % <i>Rudbeckia hirta</i>	Blackeyed Susan
2.00 % <i>Heliopsis helianthoides</i> , PA Ecotype	Oxeye Sunflower, PA Ecotype
1.40 % <i>Liatris spicata</i> , PA Ecotype	Marsh Blazing Star, PA Ecotype
1.20 % <i>Asclepias tuberosa</i> , PA Ecotype	Butterfly Milkweed, PA Ecotype
1.10 % <i>Tradescantia ohiensis</i> , PA Ecotype	Ohio Spiderwort, PA Ecotype
1.00 % <i>Penstemon digitalis</i> , PA Ecotype	Tall White Beardtongue, PA Ecotype
1.00 % <i>Zizia aurea</i> , PA Ecotype	Golden Alexanders, PA Ecotype
0.90 % <i>Pycnanthemum tenuifolium</i>	Narrowleaf Mountainmint
0.70 % <i>Senna hebecarpa</i> , VA & WV Ecotype	Wild Senna, VA & WV Ecotype
0.50 % <i>Baptisia australis</i> , Southern WV Ecotype	Blue False Indigo, Southern WV Ecotype
0.40 % <i>Monarda fistulosa</i> , Fort Indiantown Gap-PA Ecotype	Wild Bergamot, Fort Indiantown Gap-PA Ecotype
0.30 % <i>Aster oblongifolius</i> , PA Ecotype	Aromatic Aster, PA Ecotype
0.30 % <i>Oenothera fruticosa</i> var. <i>fruticosa</i>	Smooth Blue Aster, NY Ecotype
0.20 % <i>Aster laevis</i> , NY Ecotype	New England Aster, NY Ecotype
0.20 % <i>Aster novae-angliae</i> , PA Ecotype	Heath Aster, PA Ecotype
0.20 % <i>Aster pilosus</i> , PA Ecotype	Gray Goldenrod, PA Ecotype
0.20 % <i>Solidago nemoralis</i> , PA Ecotype	Zigzag Aster, PA Ecotype
0.10 % <i>Aster prenanthoides</i> , PA Ecotype	Hairy Beardtongue
0.10 % <i>Penstemon hispidus</i>	Maryland Senna
0.10 % <i>Senna marilandica</i>	White Goldenrod, PA Ecotype
0.10 % <i>Solidago bicolor</i> , PA Ecotype	Early Goldenrod, PA Ecotype
0.10 % <i>Solidago juncea</i> , PA Ecotype	Licorice Scented Goldenrod, PA Ecotype
0.10 % <i>Solidago odora</i> , PA Ecotype	

100.00 %

**Seeding Rate:** 20 lbs/acre with 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 Jul) or grain rye (1 Aug to 31 Dec).

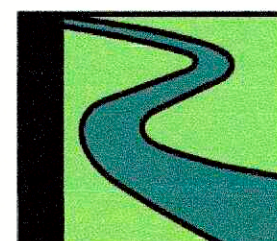
Pollinator Favorites; Uplands & Meadows

501 & 600 Griffin  
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Enlargement 1

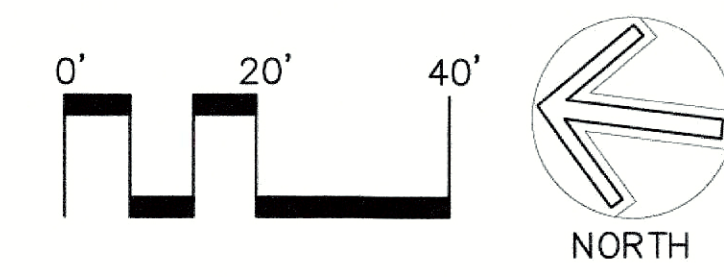
Project No.:  
22-02

Issue Date:  
09/03/2024

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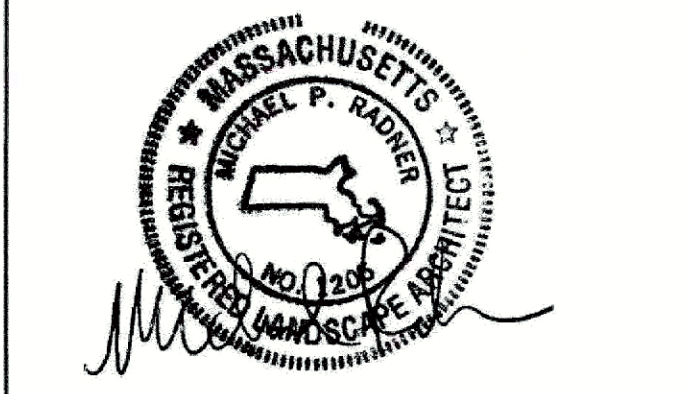




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Landscape Plan  
Enlargement 2

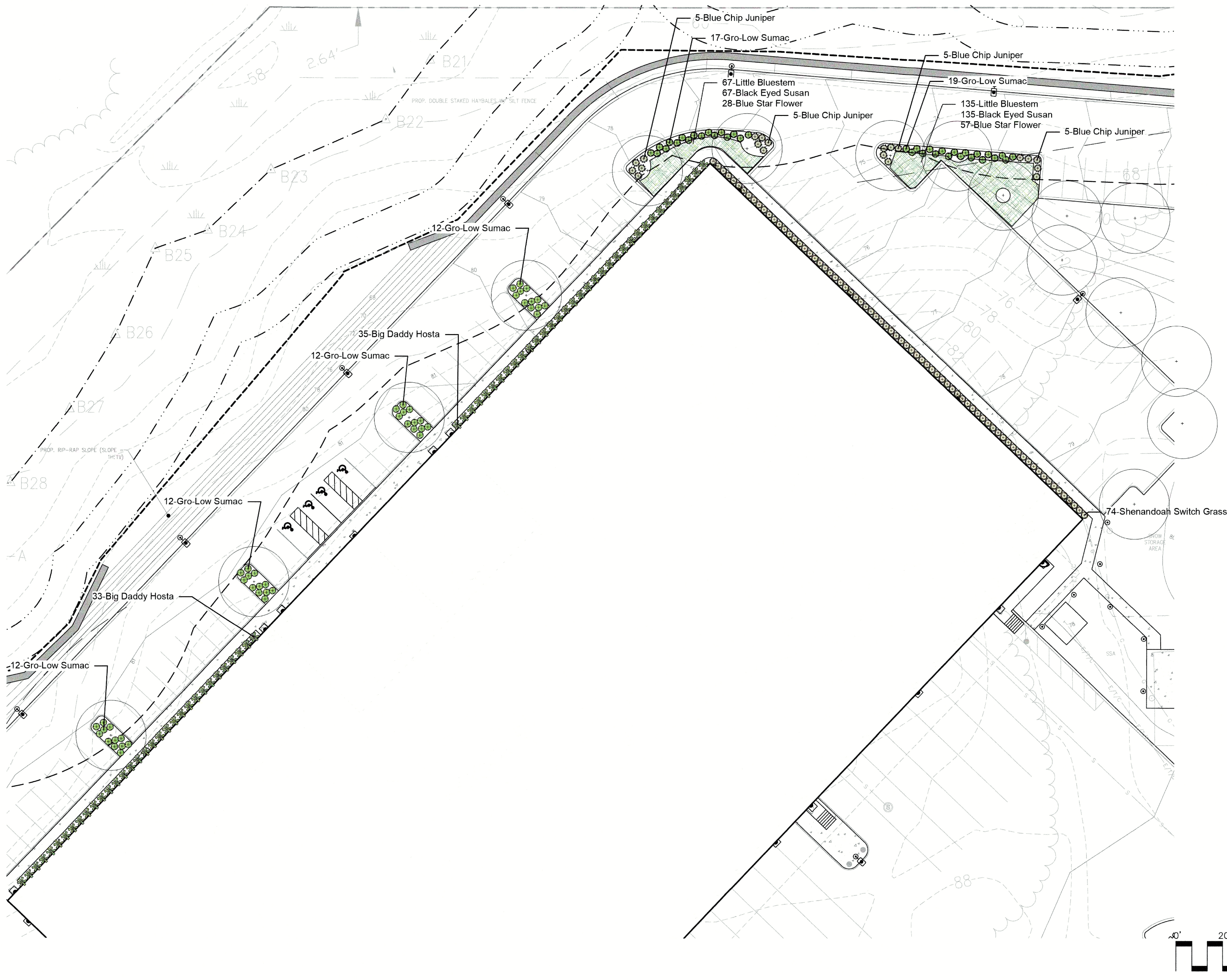
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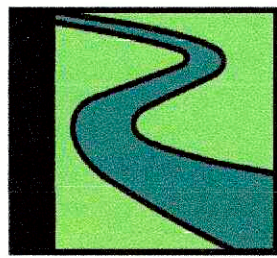


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Landscape Plan  
Enlargement 3

Project No.:  
22-02

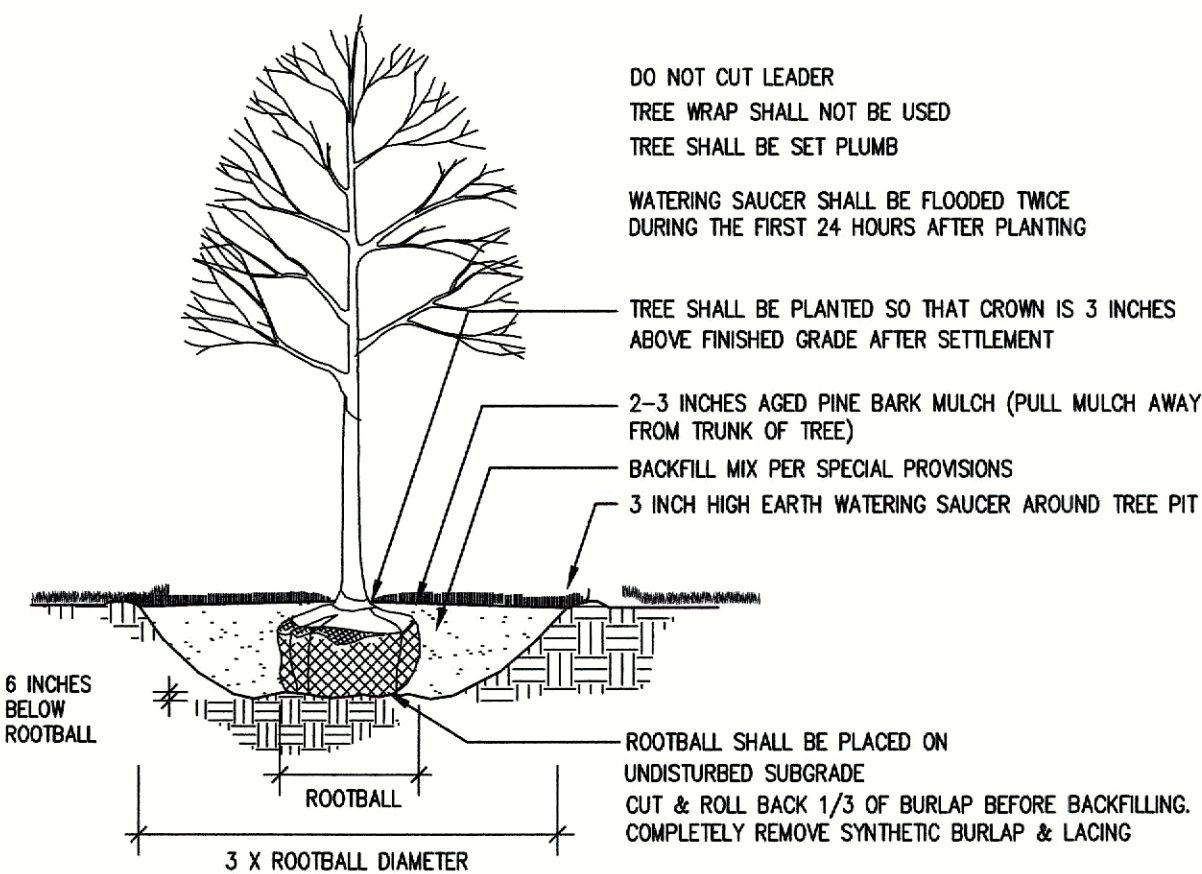
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09/03/2024

Sheet No.:

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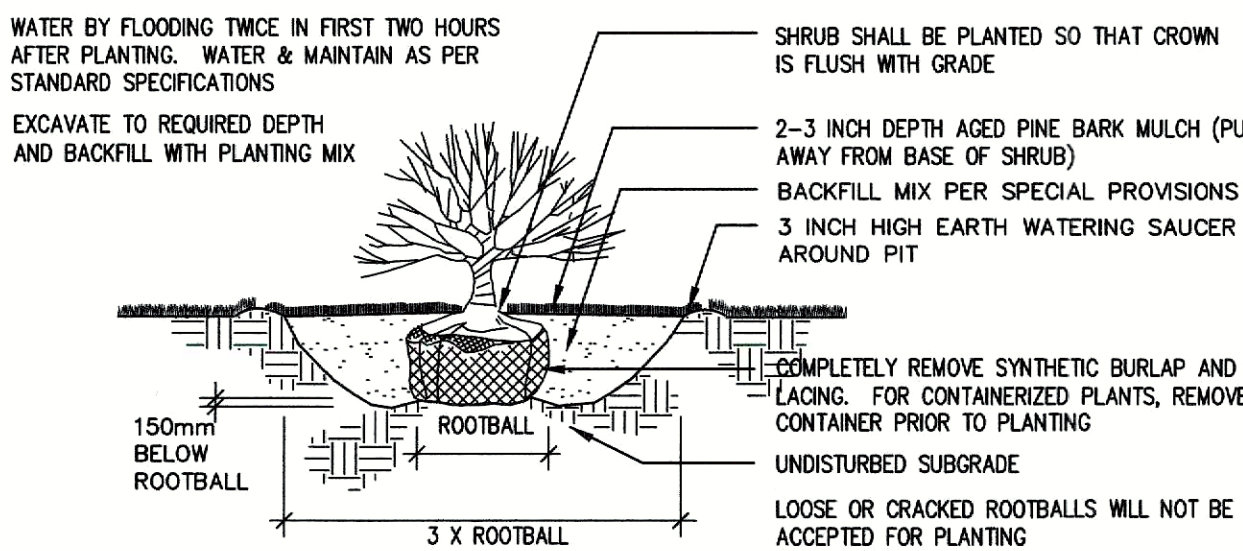
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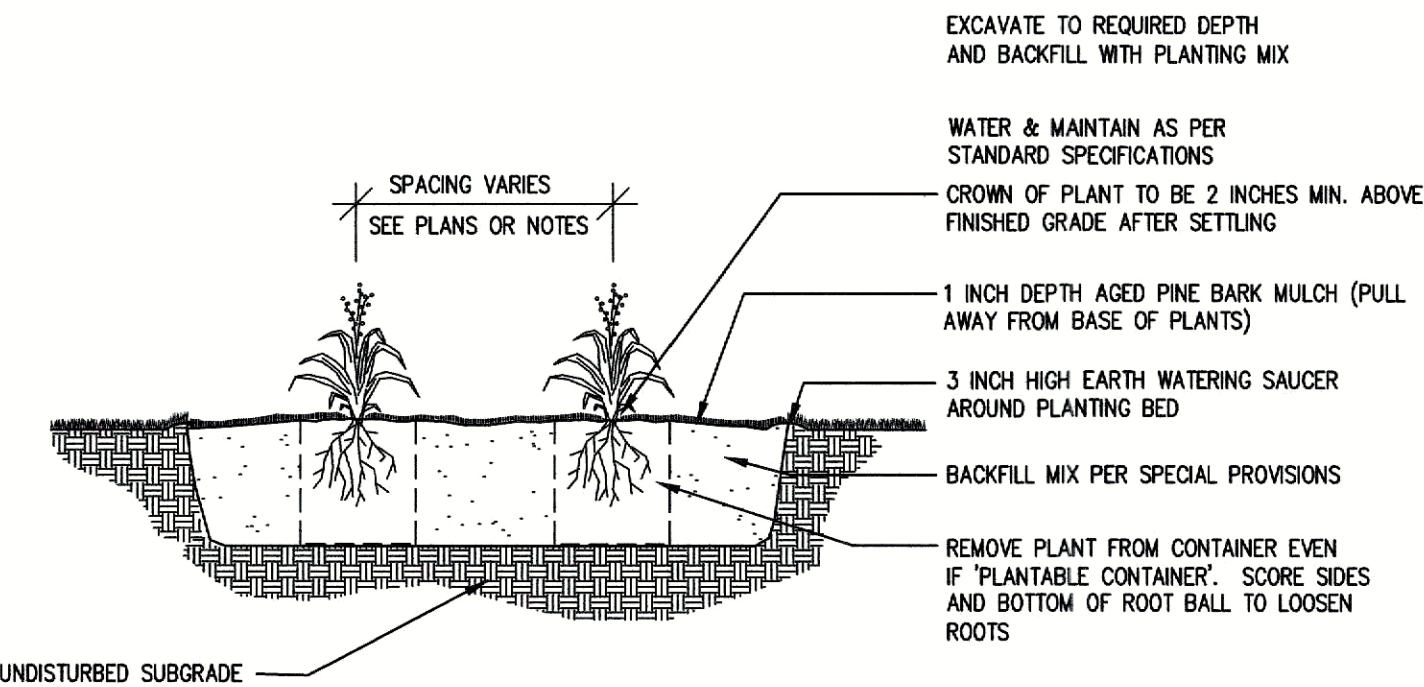


DECIDUOUS TREE PLANTING  
NOT TO SCALE

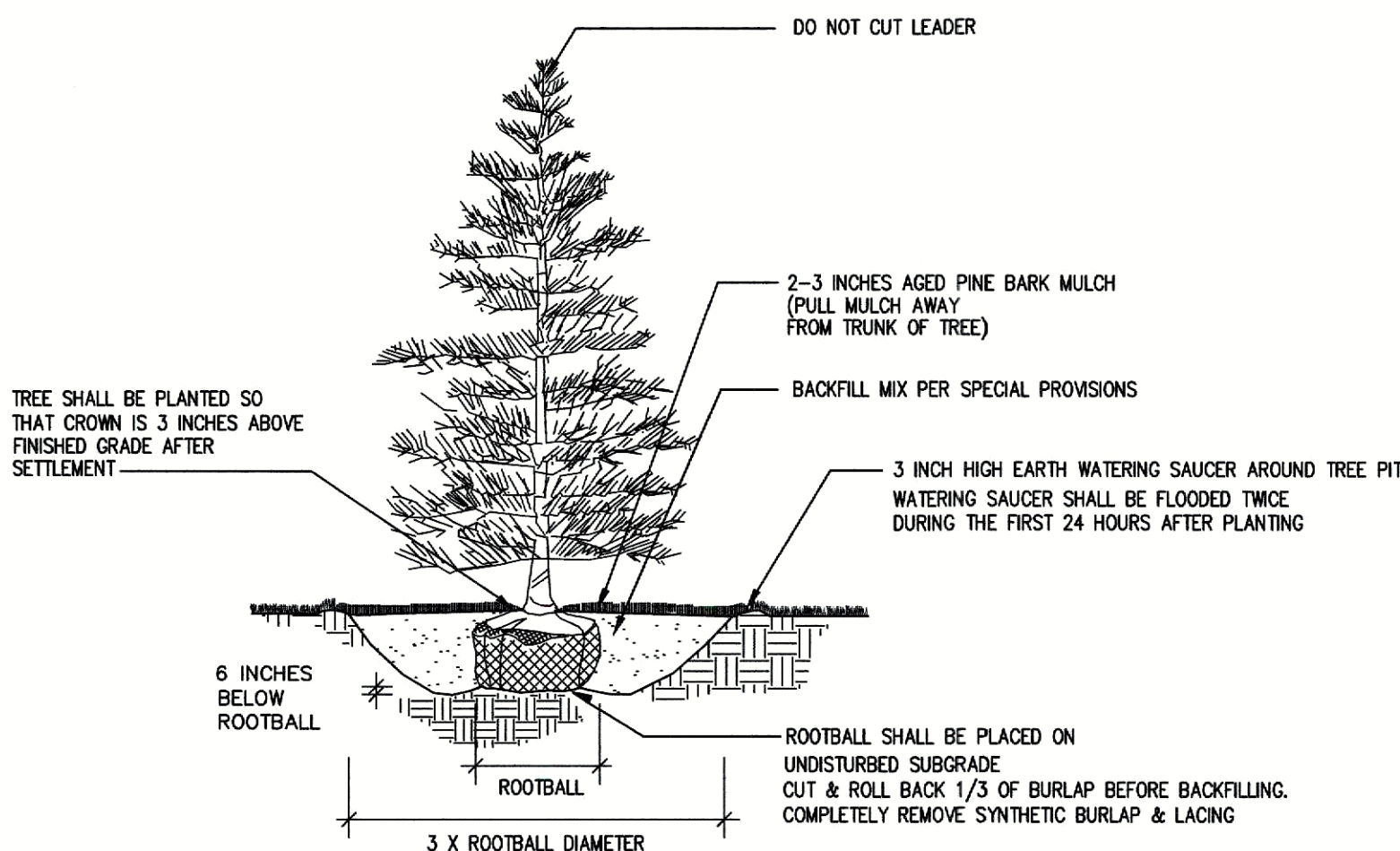
RAISE AND REPLANT ANY SHRUBS WHICH SETTLE MORE THAN 2 INCHES AFTER PLANTING & WATERING IN  
SHRUBS SHALL BE SET PLUMB



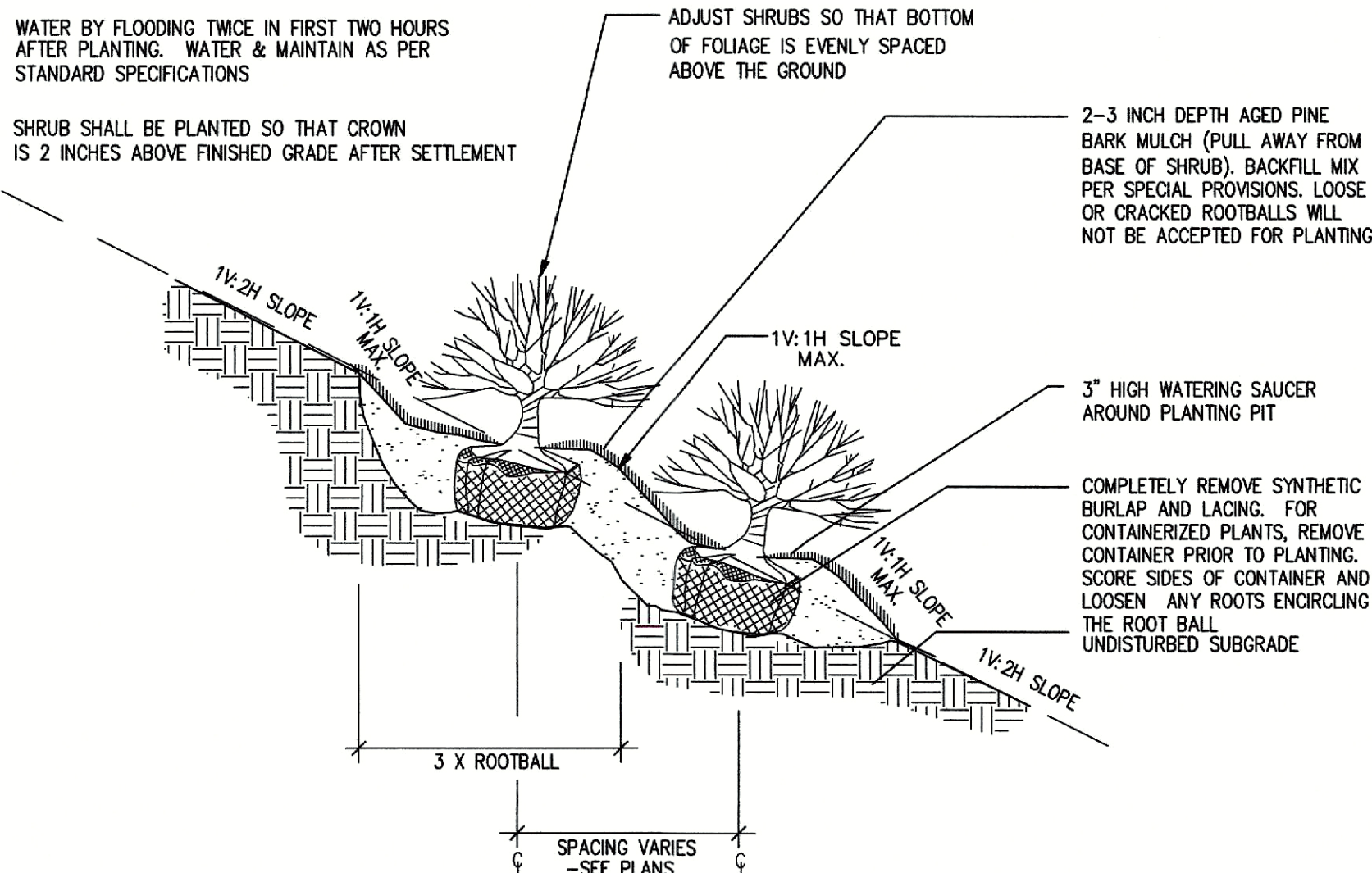
SHRUB PLANTING  
NOT TO SCALE



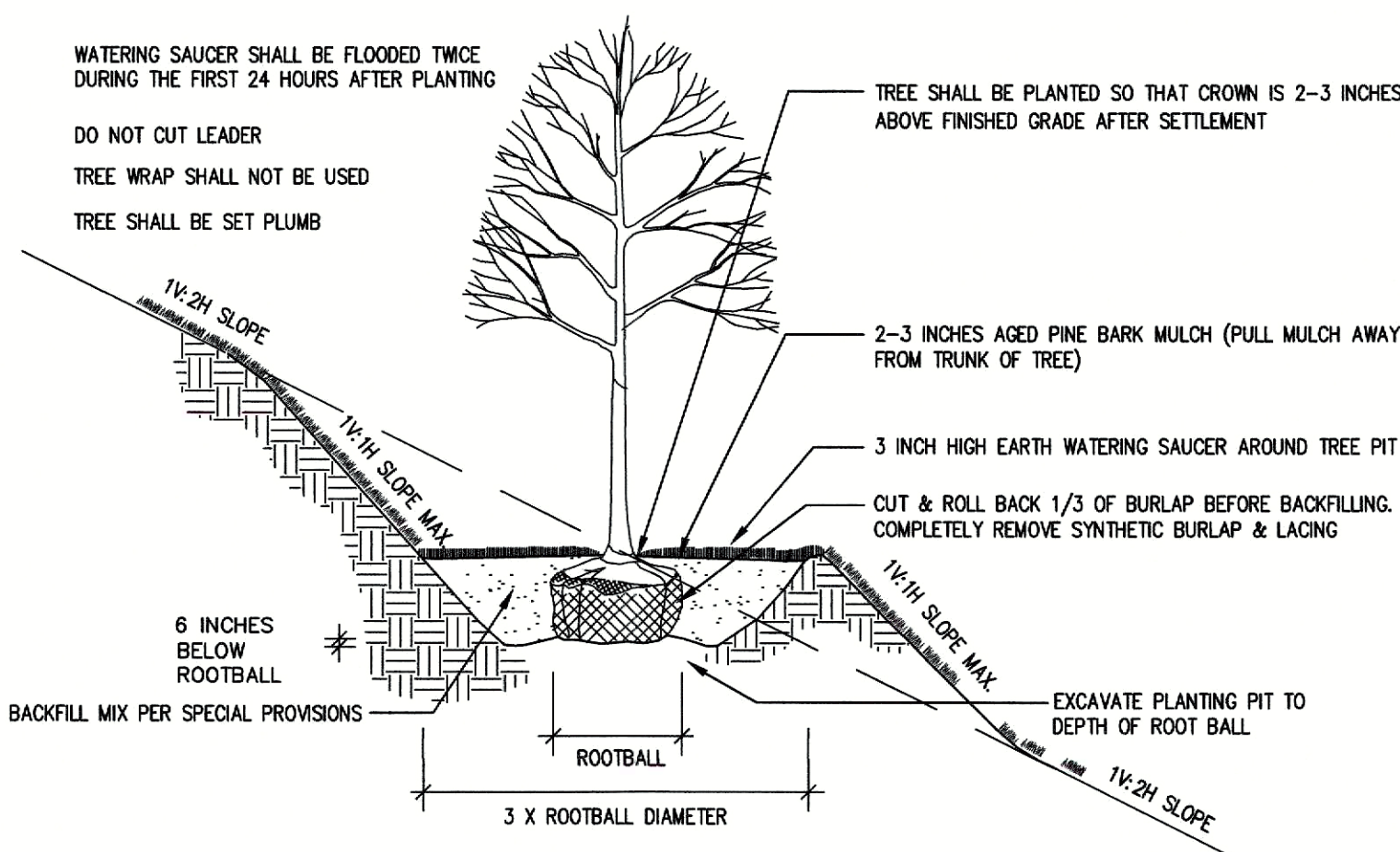
PERENNIAL PLANTING  
NOT TO SCALE



EVERGREEN TREE PLANTING  
NOT TO SCALE



CONTAINERIZED SHRUB PLANTING (SLOPE) DETAIL  
NOT TO SCALE



DECIDUOUS TREE PLANTING (SLOPE)  
NOT TO SCALE

#### PLANTING NOTES

- FURNISH AND INSTALL PLANTS AS SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR QUANTITY OF SHRUBS GRAPHICALLY SHOWN ON PLANS. IF THERE IS A DISCREPANCY BETWEEN PLANT LIST QUANTITIES AND GRAPHICS, THE GRAPHIC SHALL TAKE PRECEDENCE.
- PRIOR TO THE START OF EXCAVATION FOR THE PROJECT BOTH ON AND OF THE SITE, THE CONTRACTOR SHALL NOTIFY DIGSAFE AND BE PROVIDED A DIGSAFE NUMBER INDICATING THAT EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED.
- CONTRACTOR SHALL BEGIN 90 DAY MAINTENANCE PERIOD IMMEDIATELY UPON PLANTING AND WILL CONTINUE UNTIL FINAL ACCEPTANCE.
- CONTRACTOR SHALL VERIFY TREE REMOVALS WITH LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION START.
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS, STRUCTURES, AND PLANTING BEDS.
- MAXIMUM SLOPE WITHIN DISTURBED AREAS SHALL NOT EXCEED 3:1, UNLESS OTHERWISE NOTED.
- PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS TO ORIGINAL GRADES BEFORE DIGGING.
- PLANT MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY "THE AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- PLANTS TO BE BALLED IN BURLAP OR CONTAINERIZED.
- MULCH FOR PLANTED AREAS TO BE AGED PINE BARK: PARTIALLY DECOMPOSED, DARK BROWN IN COLOR AND FREE OF WOOD CHIPS THICKER THAN 1/4 INCH.
- PLANTING SOIL MIX: LOAM THOROUGHLY INCORPORATED WITH ROTTED MANURE PROPORTIONED 5 C.Y. TO 1 C.Y. OR EQUIVALENT. USE OF PEAT MOSS IS PROHIBITED.
- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF ACCEPTANCE. REQUEST THE LANDSCAPE ARCHITECT PROVIDE A WRITTEN LETTER OF ACCEPTANCE UPON COMPLETION OF EACH PHASE.
- PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT, AT THE NURSERY, AND AT THE SITE.
- LANDSCAPE ARCHITECT TO FLAG TREES TO BE TRANSPLANTED PRIOR TO CONSTRUCTION START.
- AREAS OF THE SITE WHICH HAVE BEEN DISTURBED AND NOT OTHERWISE DEVELOPED SHALL BE LOAMED WITH TOPSOIL TO A MINIMUM DEPTH OF 6", AND SEEDED WITH A MIX CONSISTING OF 40% PERENNIAL RYE GRASS; 30% CHEWINGS FESCUE; 30% KENTUCKY BLUEGRASS.
- SCREENED IMAGES SHOW EXISTING CONDITIONS. WHERE EXISTING CONDITIONS LIE UNDER OR ARE IMPINGED UPON BY PROPOSED BUILDINGS AND/OR SITE ELEMENTS, THE EXISTING CONDITION WILL BE REMOVED, ABANDONED AND/OR CAPPED OR DEMOLISHED AS REQUIRED.
- PROVIDE AUTOMATIC IRRIGATION SYSTEM FOR PLANTINGS AND LAWN AREAS UNLESS OTHERWISE NOTED. SUBMIT DESIGN PLANS AND PRODUCT LITERATURE PER THE SPECIFICATIONS.
- THERE SHALL BE NO SUBSTITUTION OF PLANT SPECIES WITHOUT AUTHORIZATION BY THE LANDSCAPE ARCHITECT.
- NO PLANTING SHALL BE INSTALLED BEFORE ACCEPTANCE OF ROUGH GRADING.
- PLANTS TO BE THOROUGHLY WATERED AFTER INSTALLATION, AT LEAST TWICE WITHIN THE FIRST 24 HOURS.
- PLANT SELECTION SUBJECT TO CHANGE DEPENDING ON PLANT AVAILABILITY AT THE TIME OF PLANTING, WITH APPROVAL OF LANDSCAPE ARCHITECT OR WETLAND SCIENTIST ONLY.

#### Suggested Plant Palette

Quantity	Latin Name	Common Name	Size	Spacing	Remarks
<b>Deciduous Shade Trees</b>					
13	Acer rubrum 'October Glory'	October Glory Red Maple	3-3.5" Cal.	AS SHOWN	B&B, full, round, symmetrical, high-branched
11	Ostrya virginiana	American Hophornbeam	3-3.5" Cal.	AS SHOWN	B&B, full, round, symmetrical, high-branched
9	Quercus palustris 'Pacific Brilliance'	Pacific Brilliance Pin Oak	3-3.5" Cal.	AS SHOWN	B&B, full, round, symmetrical, high-branched
10	Ulmus americana 'Princeton'	Princeton Elm	3-3.5" Cal.	AS SHOWN	B&B, full, round, symmetrical, high-branched

#### Coniferous Trees

5	Picea glauca	White Spruce	8-10'	15' O.C.	B&B, full, symmetrical
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#### Shrubs

7	Calliarpia dichotoma 'Early Amethyst'	Early Amethyst Beautyberry	3 Gal.	4' O.C.	Container
17	Diervilla 'Kodiak Orange'	Kodiak Orange Diervilla	5 Gal.	4' O.C.	Container
38	Forsythia x intermedia 'Courtasol'	Gold Tide Forsythia	5 Gal.	4' O.C.	Container
6	Hydrangea paniculata 'Limelight'	Limelight Panicle Hydrangea	5 Gal.	5' O.C.	Container
36	Ilex glabra 'Compacta'	Compact Inkberry Holly	5 Gal.	4' O.C.	Container
61	Juniperus horizontalis 'Blue Chip'	Blue Chip Juniper	3 Gal.	3' O.C.	Container
151	Rhus aromatica 'Gro-Low'	Gro-Low Sumac	3 Gal.	3' O.C.	Container
15	Spiraea betulifolia 'Tor Gold'	Glow Girl® Birchleaf Spirea	3 Gal.	3' O.C.	Container

#### Perennials, Grasses and Groundcovers

298	Amsonia x 'Blue Ice'	Blues Star Flower	4" POT	2' O.C.	Container
237	Asclepias tuberosa	Butterfly Weed	4" POT	1.5' O.C.	Container
854	Festuca glauca 'Elijah Blue'	Elijah Blue Fescue	4" POT	1' O.C.	Container
68	Hosta 'Big Daddy'	Big Daddy Hosta	1 Gal.	3' O.C.	Container
174	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	2 Gal.	3' O.C.	Container
961	Schizachyrium scoparium	Little Bluestem	4" POT	1.5' O.C.	Container
609	Rudbeckia 'American Gold Rush'	American Gold Rush Black-Eyed Susan	4" POT	1.5' O.C.	Container
380	Vernonia lettermannii 'Iron Butterfly'	Iron Butterfly Ironweed	4" POT	1.5' O.C.	Container

#### Buffer Zone Restoration, Slope Stabilization Planting and Stormwater Basins

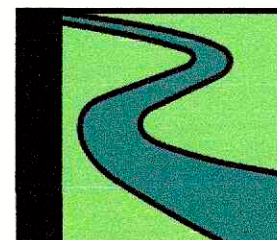
Quantity	Latin Name	Common Name	Size	Spacing	Remarks
<b>Ornamental Flowering Trees</b>					
9	Amelanchier canadensis	Shadblow Serviceberry	6-8'	AS SHOWN	B&B, multitrunk
7	Hamamelis virginiana	Witch Hazel	6-8'	AS SHOWN	B&B, multitrunk
<b>Shrubs</b>					
54	Aronia arbutifolia	Red Chokeberry	7 Gal.	5' O.C.	Container
45	Ilex glabra	Inkberry Holly	5 Gal.	5' O.C.	Container
36	Myrica pensylvanica	Northern Bayberry	7 Gal.	5' O.C.	Container
30	Viburnum trilobum 'Wentworth'	Wentworth Cranberry Bush Viburnum	7 Gal.	5' O.C.	Container
<b>Perennials, Grasses and Groundcovers</b>					
Ernst Conservation Seeds: Showy Northeast Native Wildflower & Grass Mix - ERNMX-153			Seeds		Apply 20 lbs per acre @ Bufferzone Restoration Area
Ernst Conservation Seeds: Native Steep Slope Mix w/Annual Ryegrass - ERNMX-181			Seeds		Apply 60 lbs per acre @ Stormwater Detention Basins - Slope
Ernst Conservation Seeds: Retention Basin Floor Mix - Low Maintenance - ERNMX-126			Seeds		Apply 20-40 lbs per acre @ Stormwater Detention Basins - Bottom

501 & 600 Griffin  
Brook Drive  
Owner LLC  
Methuen, MA

Civil Engineer

The Morin-Cameron Group, Inc.  
25 Kenoza Avenue  
Haverhill, MA

Landscape Architect



Radner Design  
Associates, Inc.

3 Allied Drive, Suite 303  
Dedham, MA 02026  
508.736.6144  
www.RadnerDesign.com



Revision:

Drawn: kc

Checked by: mr

Scale: AS SHOWN

Issue:

PERMIT SET

Sheet Name:  
Landscape Details,  
Planting Notes  
and Planting Schedule

Project No.:  
22-02

Issue Date:  
09/03/2024

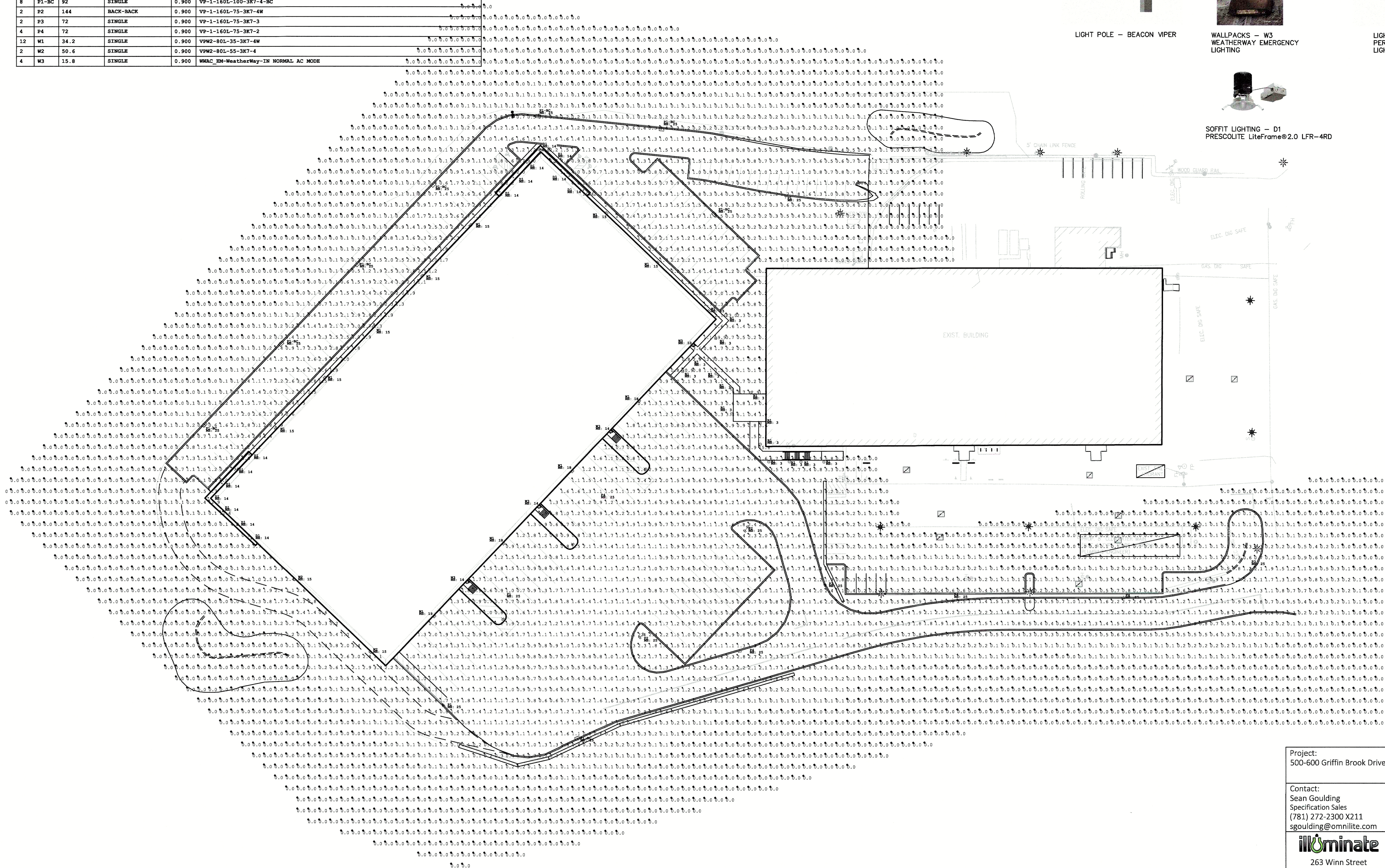
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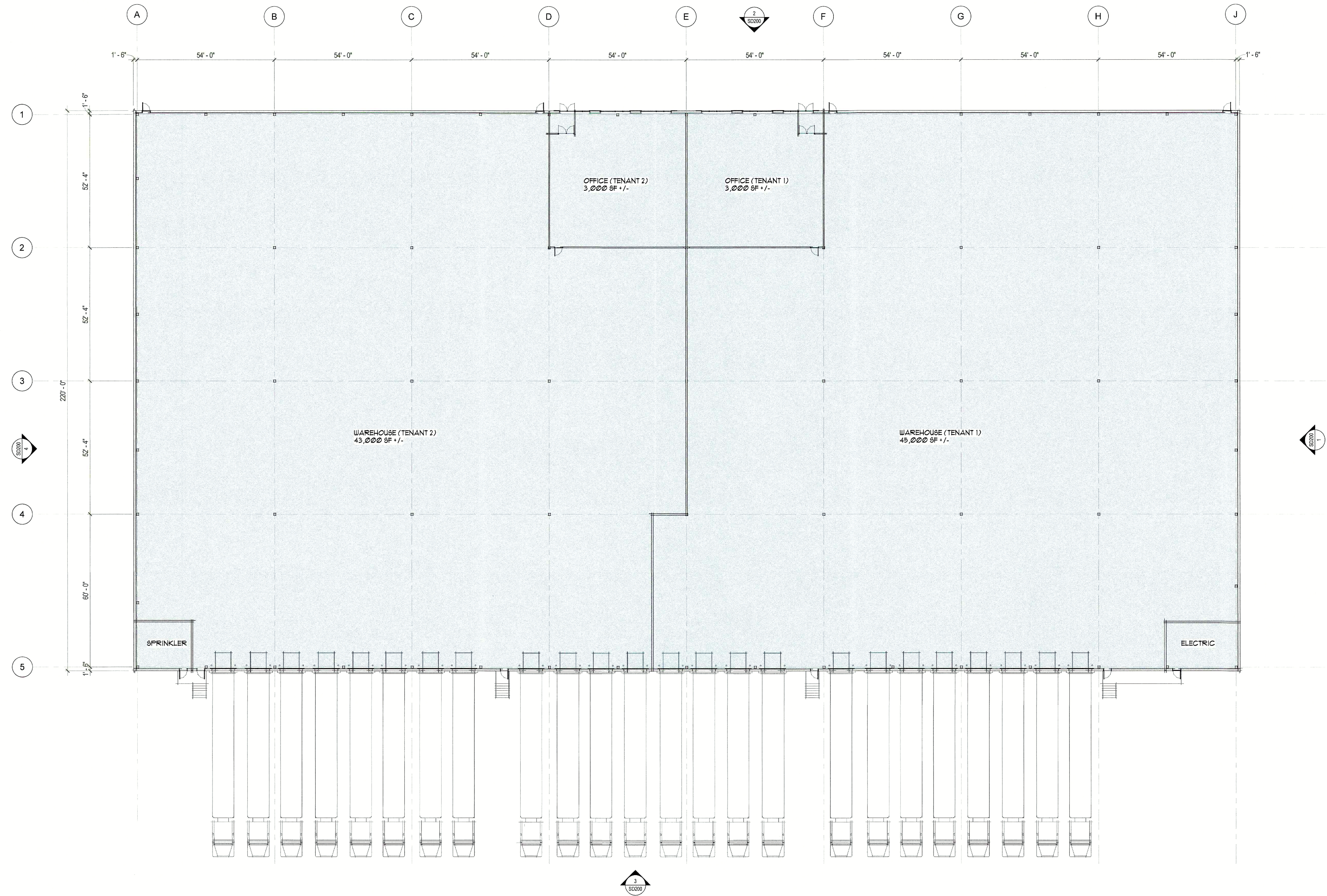
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Luminaire Schedule				
Qty	Label	Arr. Watts	Arrangement	LLF Description
14	B1	30.6	SINGLE	0.900 GEM1-27L3K
14	D1	11.8	SINGLE	0.900 LFR-4RD-W-15L35K8MD-DM1_LFR-4RD-T-CL-S
4	F1	72	SINGLE	0.900 VP-1-160L-75-3K7-4W
8	F1-BC	92	SINGLE	0.900 VP-1-160L-100-3K7-4-BC
2	F2	144	BACK-BACK	0.900 VP-1-160L-75-3K7-4W
2	F3	72	SINGLE	0.900 VP-1-160L-75-3K7-3
4	P4	72	SINGLE	0.900 VP-1-160L-75-3K7-2
12	W1	34.2	SINGLE	0.900 VPW2-80L-35-3K7-4W
2	W2	50.6	SINGLE	0.900 VPW2-80L-55-3K7-4
4	W3	15.8	SINGLE	0.900 WWAC_RM-WeatherWay-IN NORMAL AC MODE







# PROPOSED WAREHOUSE

600 GRIFFIN BROOK DRIVE, METHUEN, MA

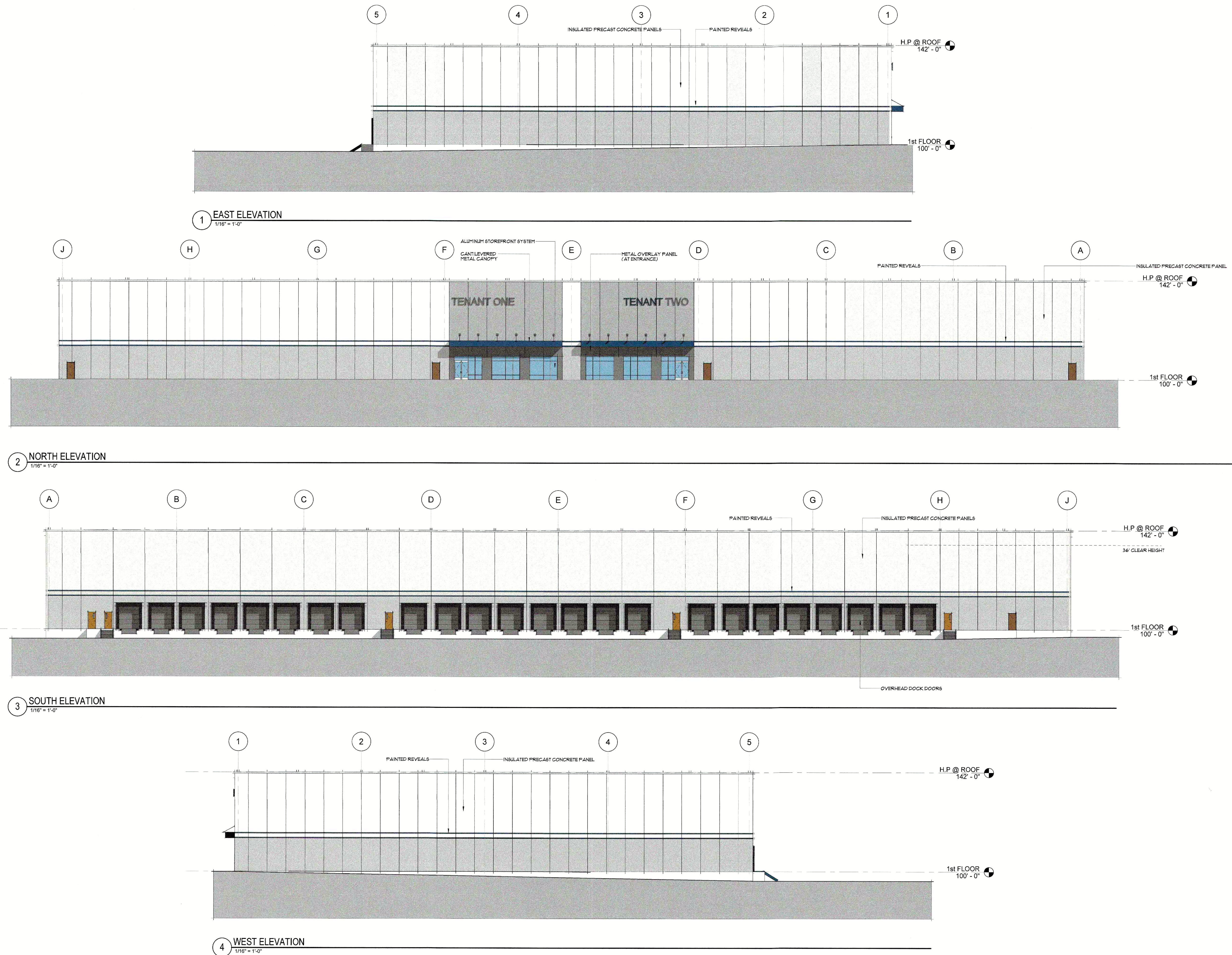
4284

NO	DATE	ISSUE
0	240627	UPDATED PLANS

SD101  
SCHEMATIC FLOOR  
PLAN







**PROPOSED WAREHOUSE**  
600 GRIFFIN BROOK DRIVE, METHUEN, MA

4284

NO.	DATE	ISSUE
1	240907	UPDATED PLANS

SD200  
SCHEMATIC  
ELEVATIONS

