

# Mystic Water Works at Capen Court

**Client**  
Somerville Housing Authority

**Historical Consultant**  
MacRostie Historic Advisors  
07 Consultant Street Address  
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VJ Associates  
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R.W. Sullivan Engineering  
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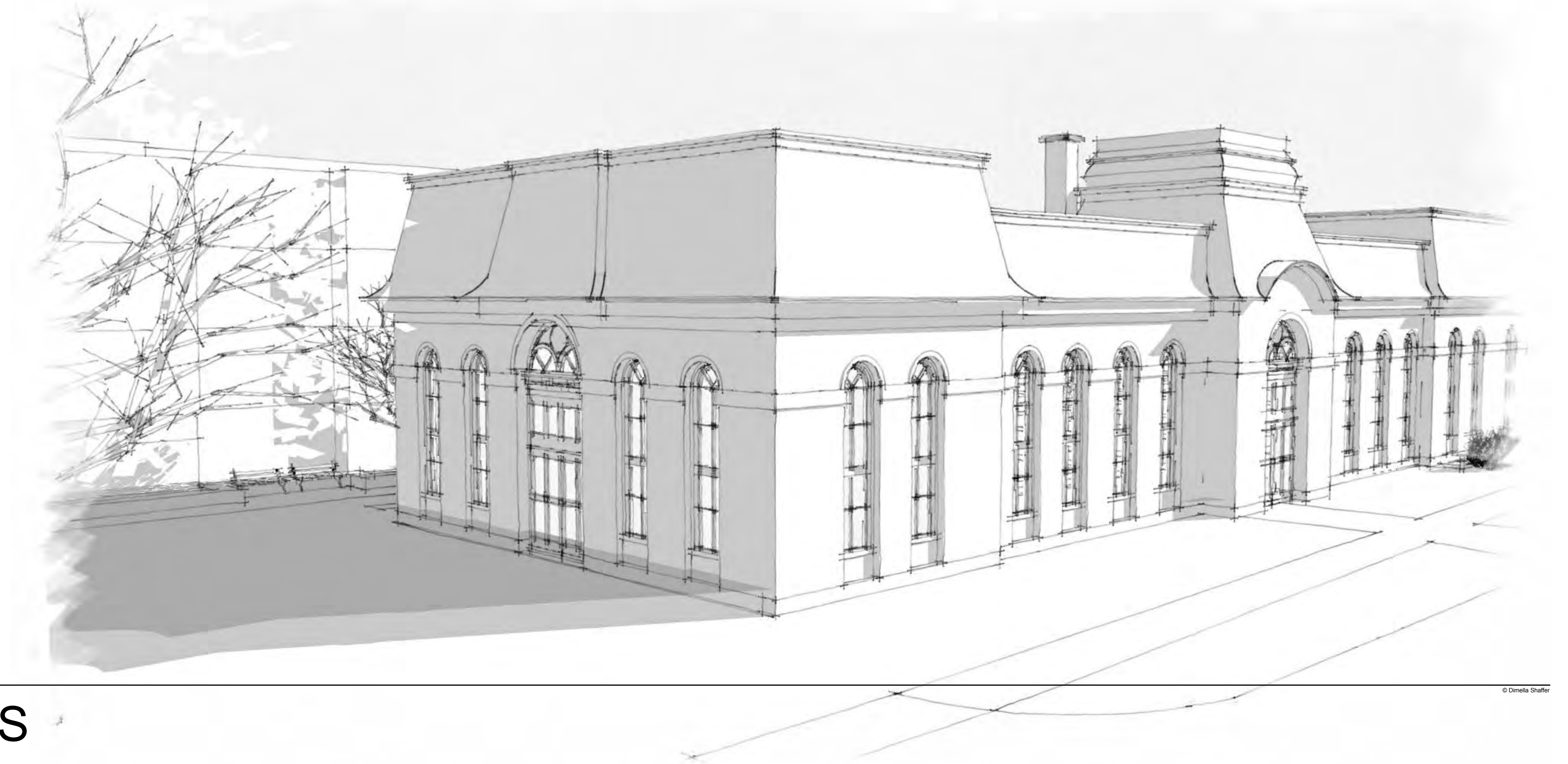
**Landscape Consultant**  
Copley Wolff Design Group  
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**Civil Engineer**  
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**Structural Engineer**  
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**MEP/FP Engineer**  
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**DiMella  
Shaffer**  
Architecture | Interior Design | Planning  
281 Summer Street  
Boston, MA 02210  
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[www.dimellashaffer.com](http://www.dimellashaffer.com)



CIVIL & LANDSCAPE DRAWINGS

**COMPREHENSIVE PERMIT SUBMISSION SET**

SEPTEMBER 16, 2011

<b>Client</b> Somerville Housing Authority	Tel: 617-625-1125
<b>MEP/FP Engineer</b> R.W. Sullivan Engineering	Tel: 617-523-8227 Fax: 617-523-8016
<b>Structural Engineer</b> L.A. Fuess Partners	Tel: 617-948-5700 Fax: 617-948-5710
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Comprehensive Permit Submission	Sept. 16, 2011
<b>Issue Description</b>	<b>Date</b>

Scale:

<b>Drawn By:</b> Author	<b>Checked By:</b> Checker	<b>Reviewed By:</b>
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Project No. 2010080.00

Mystic Water  
Works at Capen  
Court

Capen St.  
Somerville, MA 02144

DRAWING LIST - CIVIL  
AND LANDSCAPE

CIVIL AND LANDSCAPE DRAWINGS	
Sheet Number	Sheet Name
0.1	DRAWING LIST - CIVIL AND LANDSCAPE
C1.00	EXISTING CONDITIONS PLAN
L1.00	SITE MATERIALS PLAN
L2.00	CONCEPTUAL GRADING PLAN
L3.00	LANDSCAPE PLAN
L4.00	DETAILS
L5.00	DETAILS
C1.01	EROSION AND SEDIMENTATION CONTROL PLAN
C1.02	EROSION AND SEDIMENTATION CONTROL DETAILS
C1.03	SITE DEMOLITION PLAN
C2.01	SITE UTILITY PLAN
C3.01	SITE UTILITY DETAILS
C3.02	SITE UTILITY DETAILS
C3.03	SITE UTILITY DETAILS



MERIDIAN OF  
PLAN 498 OF 1932

**DiMella  
Shaffer**  
Architecture | Interior Design | Planning

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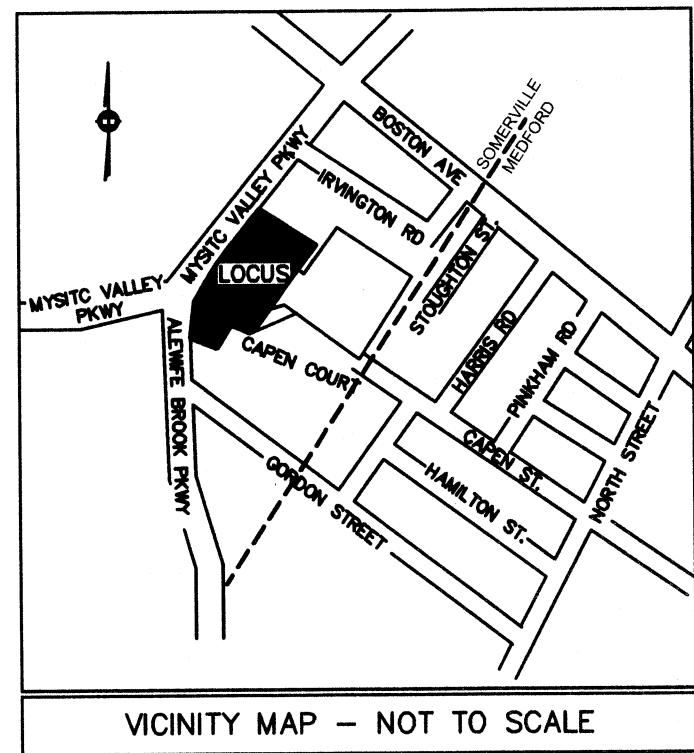
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#### LEGEND

CLF	CHAIN LINK FENCE
S	SANITARY SEWER
CS	COMBINED SEWER & DRAIN
D	DRAIN LINE
W	WATER LINE
E	ELECTRIC LINE
G	GAS LINE
SM	SANITARY SEWER MANHOLE
DM	DRAIN MANHOLE
UM	UNKNOWN MANHOLE
EP	ELECTRIC MANHOLE
LP	LIGHT POLE
FP	FIRE HYDRANT
UP	UTILITY POLE
GW	GUY WIRE
WG	WATER GATE
GG	GAS GATE
DT	DECIDUOUS TREE
CT	CONIFEROUS TREE
WP	DETECTABLE WARNING PANEL
SE	SPOT ELEVATION

#### NOTES

LOCATION OF UTILITIES SHOWN HEREON ARE THE RESULT OF SURFACE EVIDENCE, AS LOCATED BY FIELD SURVEY, PLANS OF RECORD, INFORMATION FURNISHED BY THE RESPECTIVE UTILITY COMPANIES, AND OTHER AVAILABLE SOURCES IN POSSESSION OF DESIGN CONSULTANTS INC. AS OF THIS DATE. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME WITHIN THE PREMISES SURVEYED.

THIS PLAN IS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY TO DEPICT THE PROPERTY LINES AND THE EXISTING CONDITIONS FOR DESIGN PURPOSES, AND WAS PERFORMED BETWEEN FEBRUARY 7, 2008 AND JUNE 22, 2011, BY DESIGN CONSULTANTS, INC. (DCI).

THE CITY OF SOMERVILLE MUNICIPAL UTILITIES (WATER, SEWER & DRAIN) ARE NOT PART OF DIG-SAFE. CONTACT THE CITY OF SOMERVILLE FOR THE MARKING OF SOMERVILLE MUNICIPAL UTILITIES, CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.

OWNERSHIP INFORMATION USED IN THE PREPARATION OF THIS PLAN WAS OBTAINED FROM THE CITY OF SOMERVILLE ASSESSOR'S OFFICE.

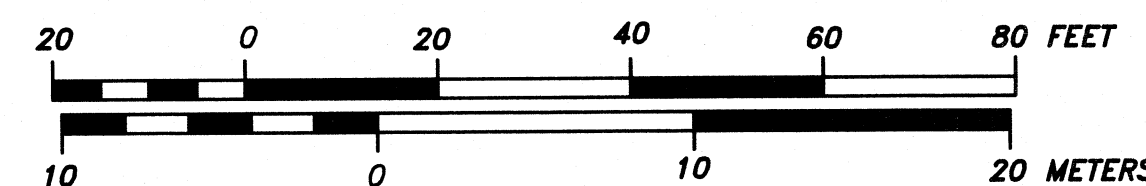
TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THIS PLAN CONFORMS TO THE TECHNICAL AND PROCEDURAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

P.L.S. EVERETT J. CHANDLER, P.L.S. MASS. REGISTRATION NO. 41783

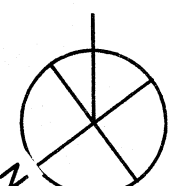
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#### LOCUS TITLE INFORMATION

OWNER: COMMONWEALTH OF MASSACHUSETTS  
DEED REFERENCE:  
PLAN REFERENCE: PLAN No. 258 of 1958  
ADDRESS: 149 CAPEN STREET  
ASSESSORS: MAP 2, BLOCK A, LOT 31



REV	DATE	BY	COMMENT
2	10-24-11	ML	Added Building Offsets to Property Lines
1	6-24-11	ML	Added Utility Inverts and Road Baseline



**C100**



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Approved by the Somerville Zoning Board of Appeals pursuant to the Comprehensive Permit issued under M.G.L. Chapter 40B, Sections 20-23

Date of Comprehensive Permit: \_\_\_\_\_

Date of Plan Endorsement: \_\_\_\_\_

Somerville Zoning Board of Appeals: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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PROPOSED CONDITIONS:

Pervious Area:	20,263 sf (33.12%)
Impervious Area:	40,916sf (66.88%)
Total Area:	61,179sf
Parking Space Count:	17 (.28 per unit)

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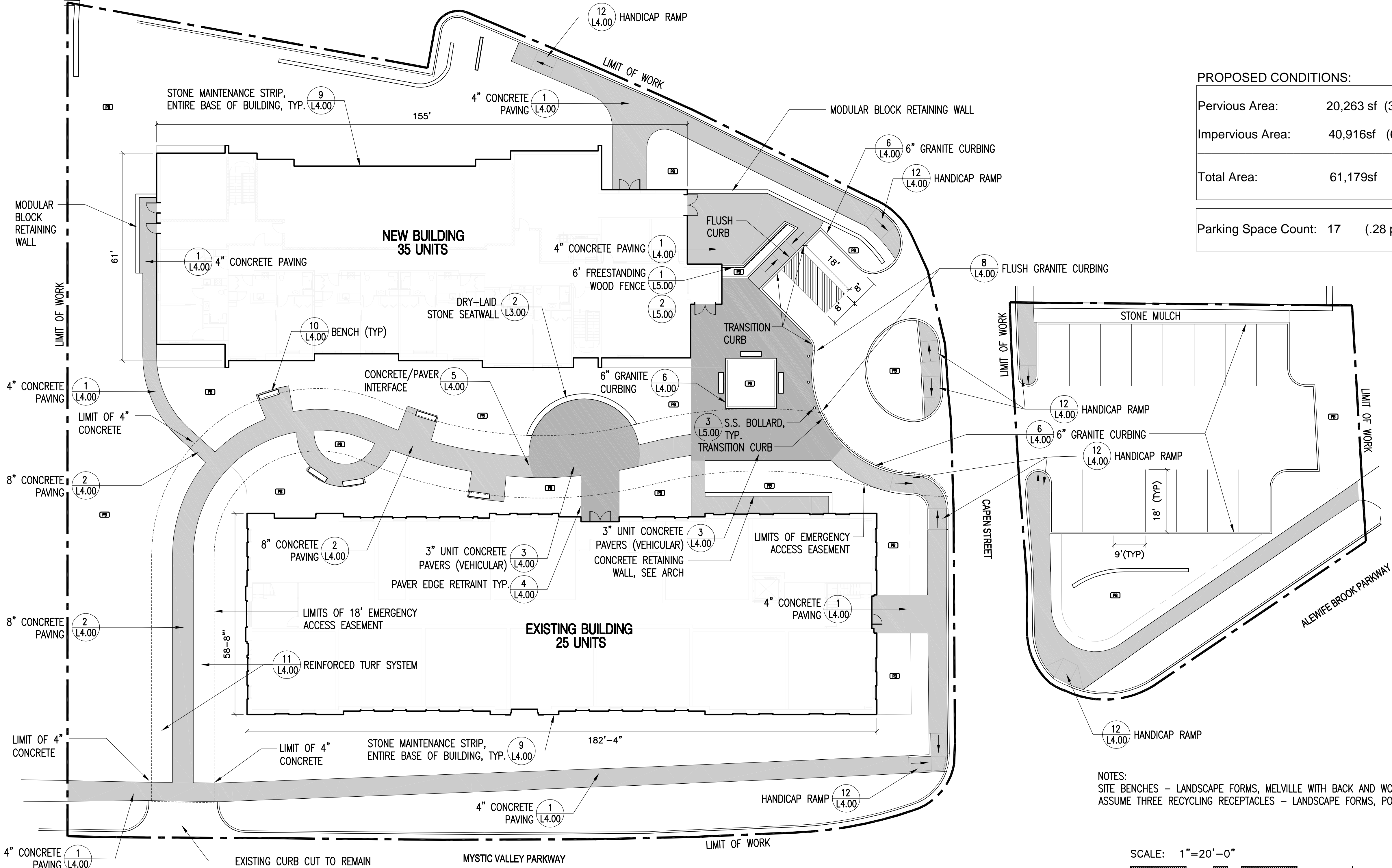
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Author	Checker	

Project No. 2010080.00

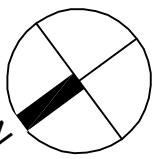
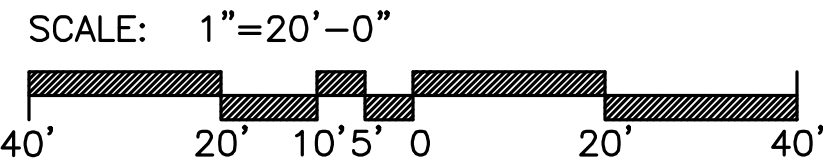
Mystic Water  
Works at Capen  
Court

Capen St.  
Somerville, MA 02144

Site Materials Plan



NOTES:  
SITE BENCHES - LANDSCAPE FORMS, MELVILLE WITH BACK AND WOOD SEAT PANEL  
ASSUME THREE RECYCLING RECEPTACLES - LANDSCAPE FORMS, POE





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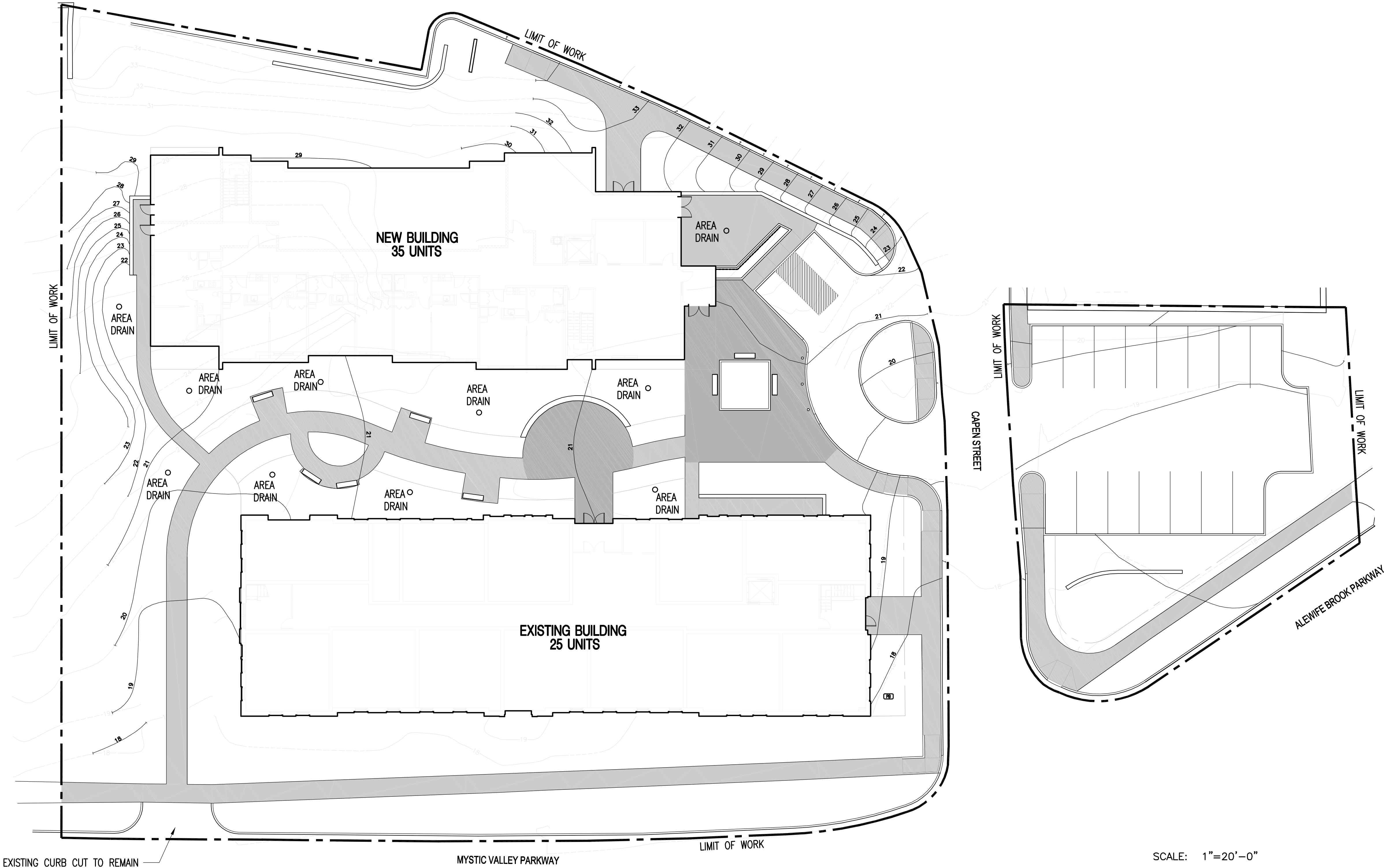
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Conceptual Grading  
Plann



EXISTING CURB CUT TO REMAIN

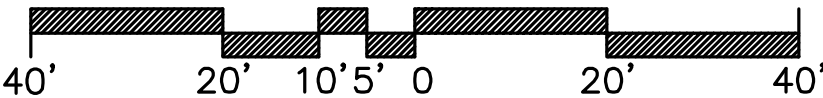
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LIMIT OF WORK

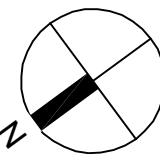
CAPEN STREET

ALEWIFE BROOK PARKWAY

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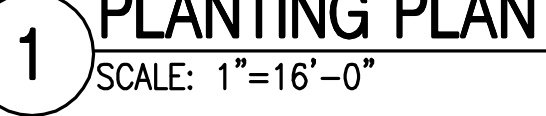
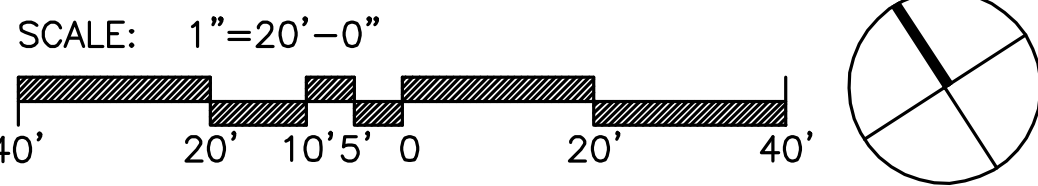
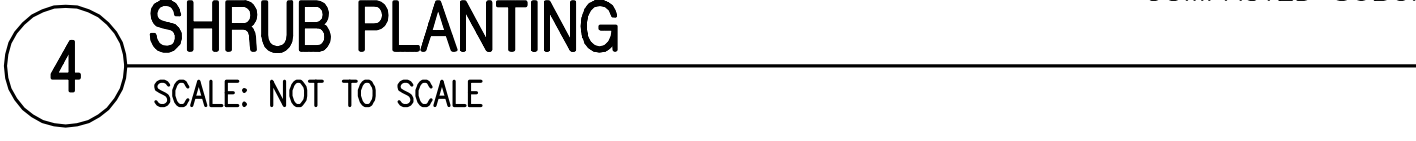
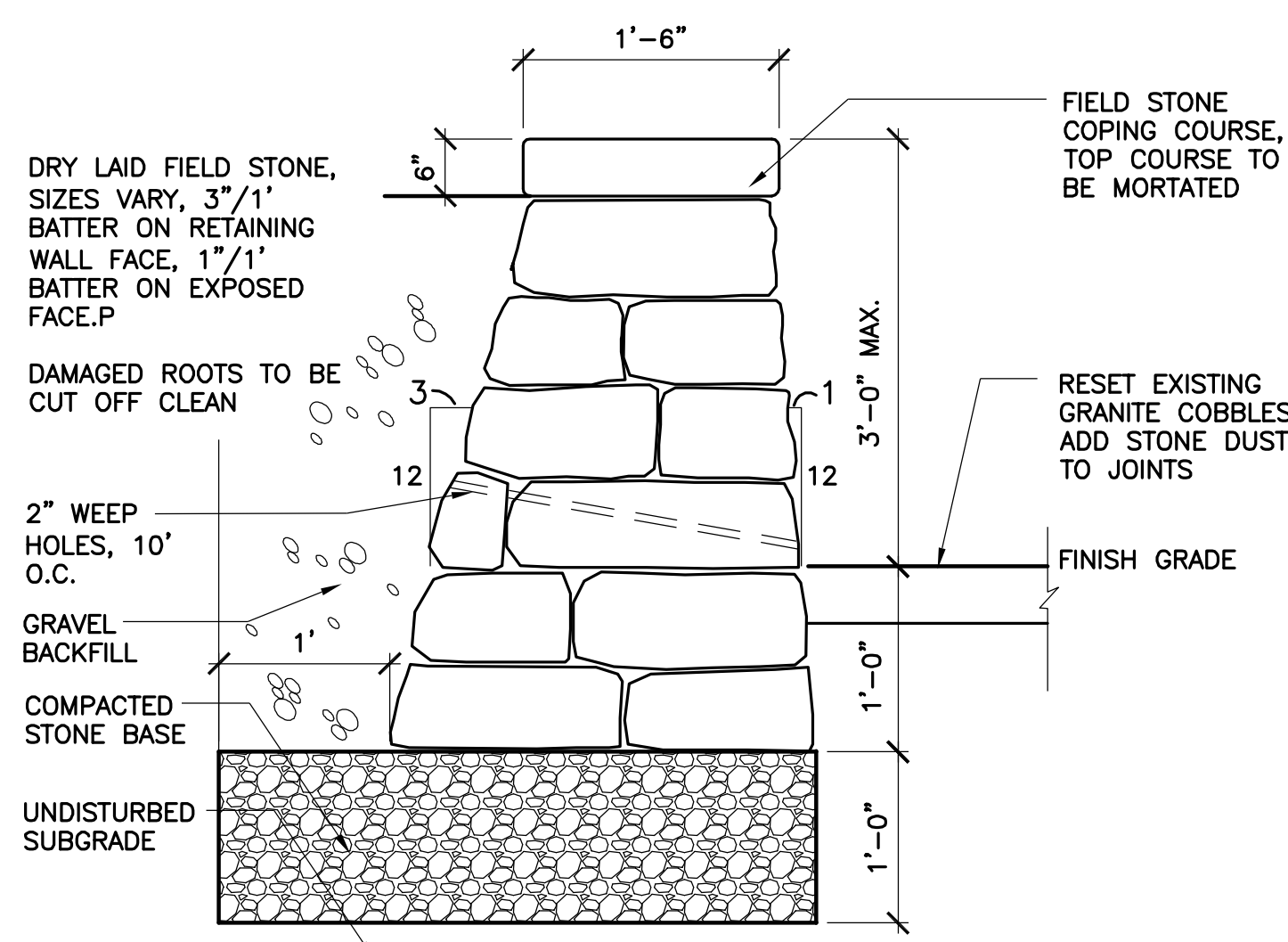


1 GRADING PLAN  
SCALE: 1"=16'-0"



L2.00



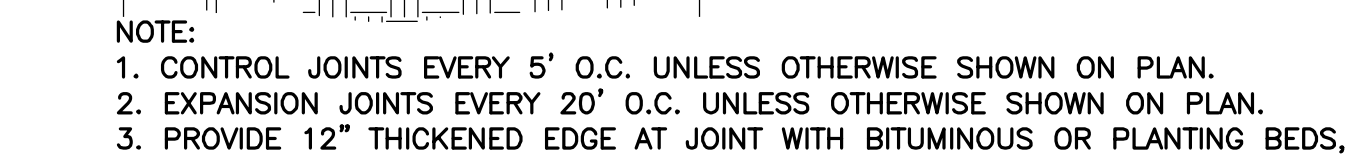


**L3.00**





SCALE: 1-1/2"=1'-0"



2 SCALE: 1-1/2"=1'-0"



3 SCALE: 1-1/2"=1'-0"



4 SCALE: 1-1/2"=1'-0"



(5) SCALE: 1-1/2"=1'-0"



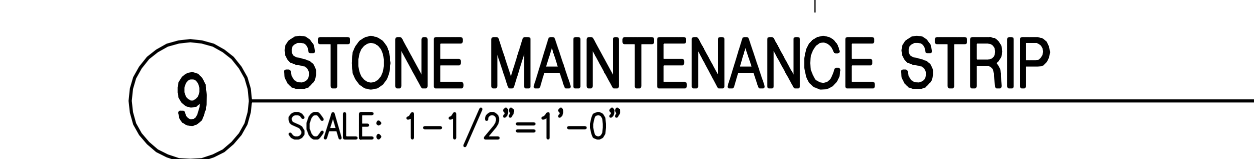
6 SCALE: 1"=1'-0"



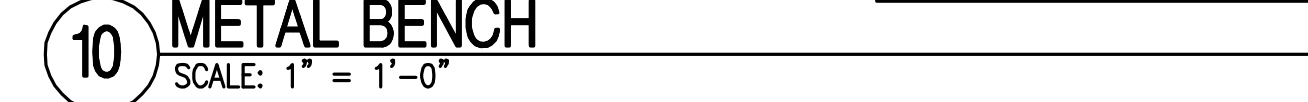
SCALE: 1"=1'-0"



8 SCALE: 1"=1'-0"



9 SCALE: 1-1/2"=1'-0"



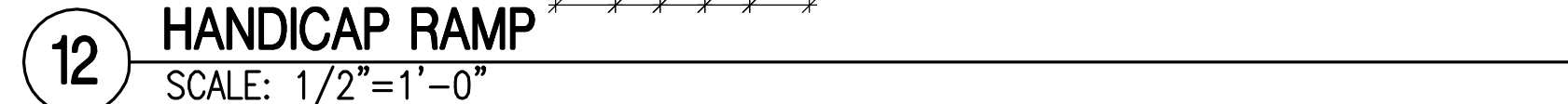
10 SCALE: 1" = 1'-0"



SCALE: 1-1/2"=1'-0"



### PLAN



12 SCALE: 1/2"=1'-0"

**Tel**  
**817.428.5004**  
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**817.428.0046**

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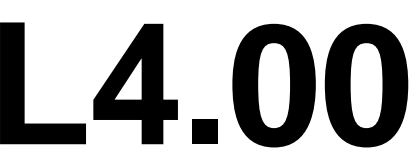
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## Mystic Water Works at Capen Court

## DETAILS





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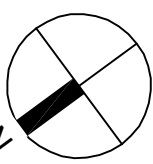
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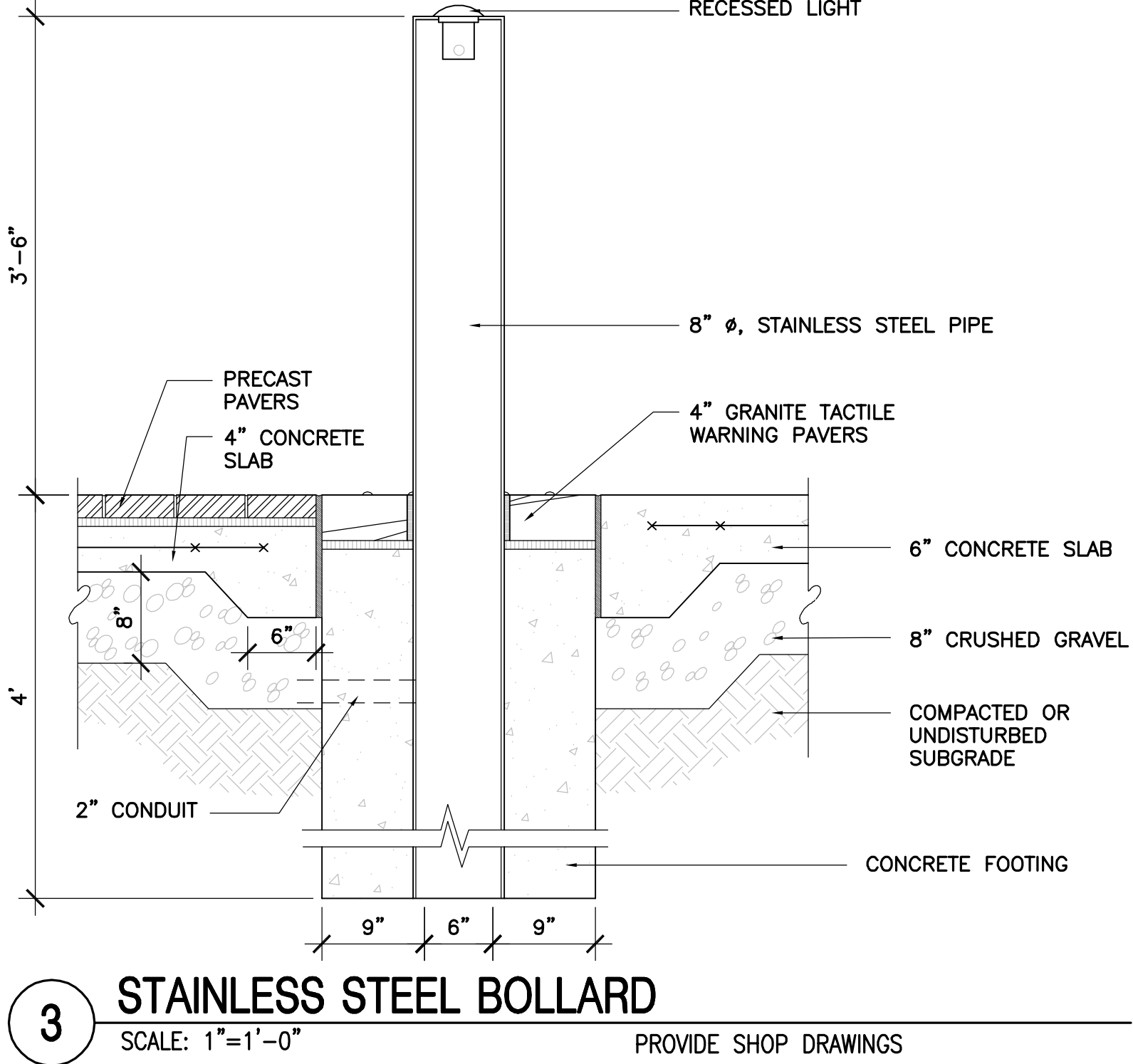
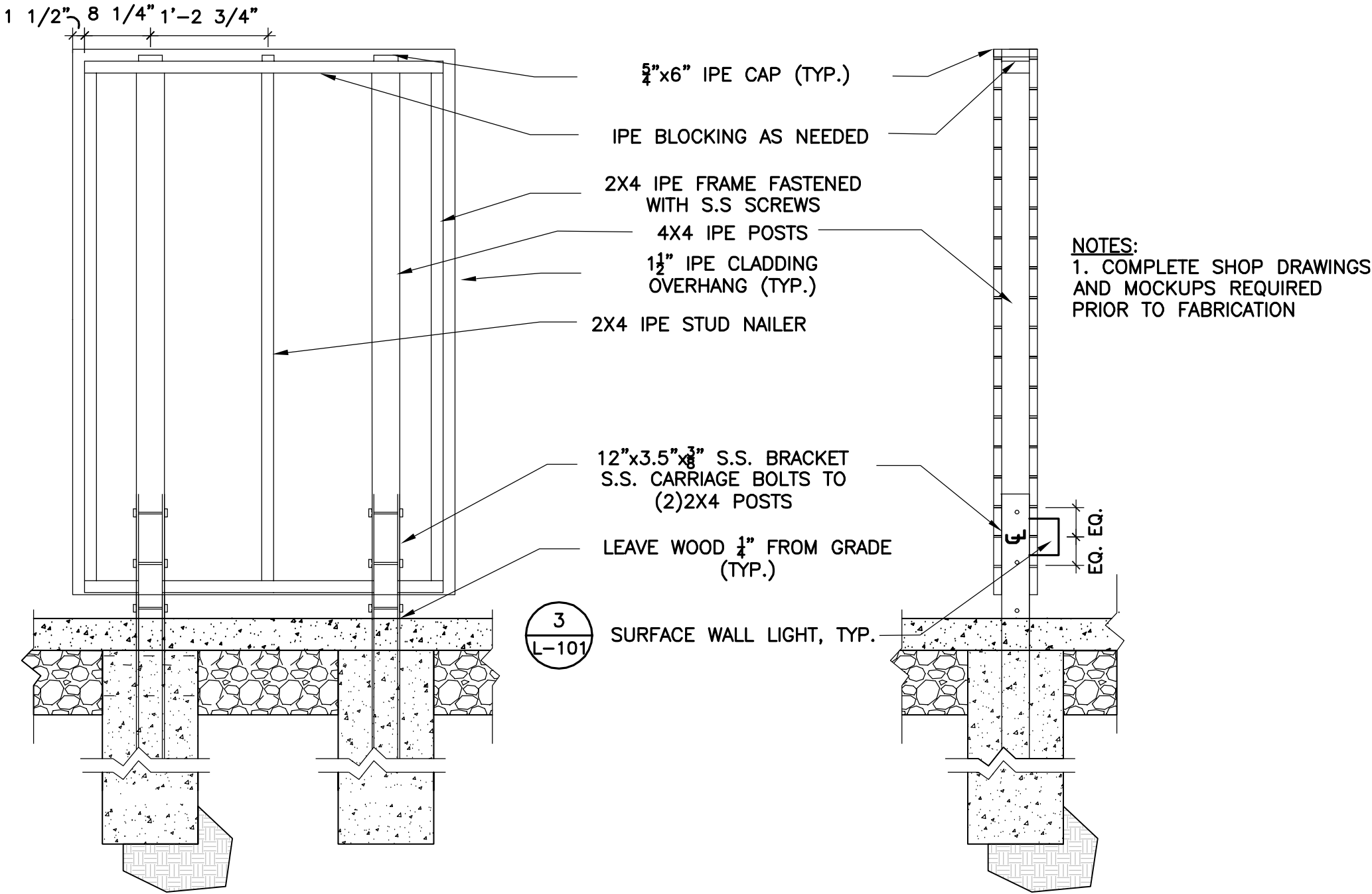
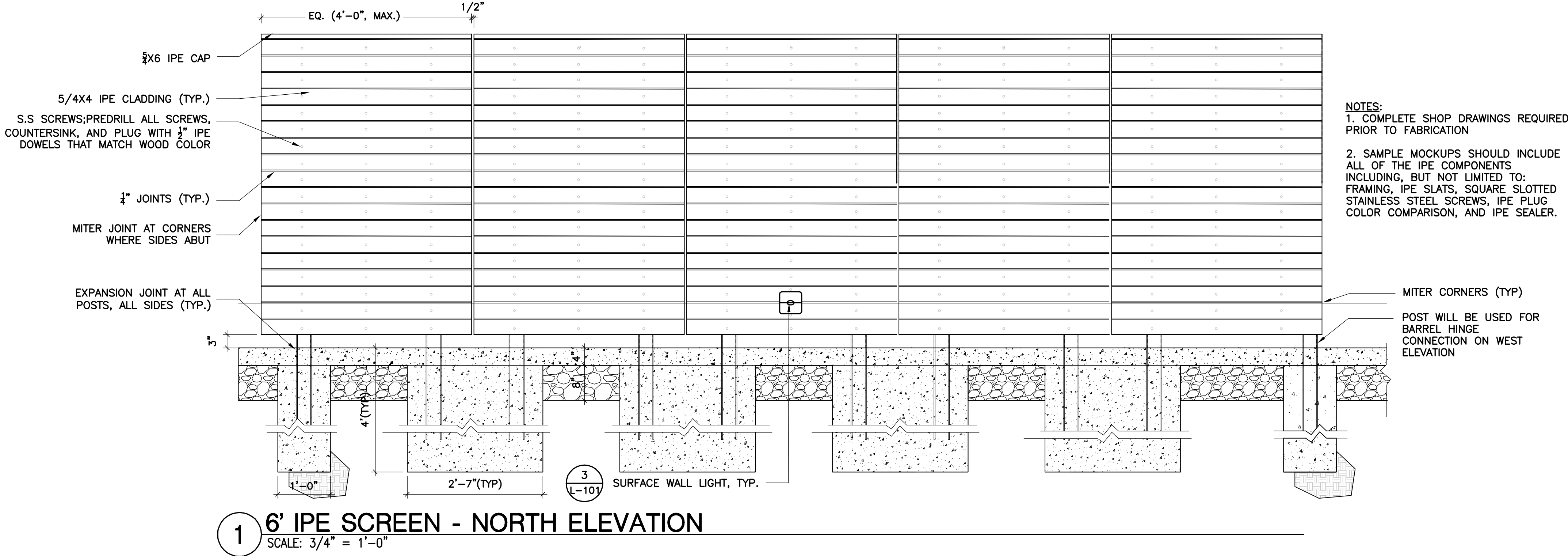
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Details



L5.00





1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH PUBLISHED EROSION CONTROL AND SEDIMENT GUIDELINES FOR MASSACHUSETTS (SEE REFERENCE BELOW, NOTE #6).
2. SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF AND DURING ALL PHASES OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO AND IMMEDIATELY AFTER ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE BALANCE OF THE SITE.
3. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES SHALL BE PROVIDED TO INSURE THAT THE INTENDED PURPOSE IS ACCOMPLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT LEAVING THE LIMIT OF WORK. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
4. ALL POINTS OF CONSTRUCTION INGRESS OR EGRESS WILL BE PROTECTED TO PREVENT TRACKING OF MUD ONTO PUBLIC WAYS.
5. ALL SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAINAGE SYSTEM (I.E. THROUGH THE USE OF HAY BALES, CATCH BASIN SEDIMENT TRAPS, GRAVEL, BOARDS OR OTHER APPLICABLE METHODS).
6. THE CONTRACTOR INSTALLING THE ABOVE SHALL OBTAIN AND FOLLOW THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS" PREPARED BY DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF RESOURCE PROTECTION, DATED MAY 1997, REPRINTED MAY 2003.
7. ALL DRAINAGE SWALES AND GROUND SURFACES WITHIN THE LIMIT OF WORK SHALL BE PROTECTED.
8. AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
9. ALL STOCK PILES SHALL BE PROTECTED AND LOCATED AWAY FROM EXISTING WATER BODIES & WITHIN THE LIMIT OF WORK.
10. ANY SEDIMENT TRACKED ONTO PAVED AREAS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY.
11. ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFF-SITE.
12. ALL TOPSOIL ENCOUNTERED WITHIN THE WORK AREA SHALL BE STRIPPED TO ITS FULL DEPTH AND STOCKPILED FOR REUSE. EXCESS TOPSOIL SHALL BECOME THE PROPERTY OF THE OWNER AND SHALL BE STOCKPILED AS DIRECTED BY THE OWNER. TOPSOIL PILES SHALL REMAIN SEGREGATED FROM EXCAVATED SUBSURFACE SOIL MATERIALS.
13. TEMPORARY DIVERSION DITCHES, PERMANENT DITCHES, CHANNELS, EMBANKMENTS AND ANY DENUDED SURFACE WHICH WILL BE EXPOSED FOR A PERIOD OF ONE MONTH OR MORE SHALL BE CONSIDERED CRITICAL VEGETATION AREAS. THESE AREAS SHALL BE MULCHED WITH STRAW. MULCH SHALL BE SPREAD UNIFORMLY IN CONTINUOUS BLANKET OF SUFFICIENT THICKNESS TO COMPLETELY HIDE THE SOIL FROM VIEW.
14. AN EROSION CONTROL BARRIER SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED DEVELOPMENT AS INDICATED IN THE PLAN PRIOR TO COMMENCEMENT OF DEMOLITION OR CONSTRUCTION OPERATIONS.
15. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL EROSION AND SEDIMENT CONTROLS AT THE COMPLETION OF SITE CONSTRUCTION.
16. MEANS OF EROSION AND SEDIMENT PROTECTION AS NOTED ON THE DRAWINGS INDICATE THE MINIMUM PROVISIONS NECESSARY. ADDITIONAL MEANS OF PROTECTION SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED FOR CONTINUED OR UNFORESEEN EROSION PROBLEMS, AT NO ADDITIONAL EXPENSE TO THE OWNER.
17. THE CONTRACTOR SHALL USE TEMPORARY SEEDING, MULCHING OR OTHER APPROVED STABILIZATION MEASURES TO PROTECT EXPOSED AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE. STOCKPILES THAT WILL BE EXPOSED FOR LONGER THAN 15 DAYS SHALL BE SEEDDED WITH AN ANNUAL RYE.
18. ALL STOCKPILED MATERIALS SHALL BE LOCATED AT LEAST 100'-FEET FROM THE WETLANDS/RIVERFRONT. EXCESS EXCAVATED MATERIALS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF WITHIN 20 DAYS AFTER EXCAVATION.

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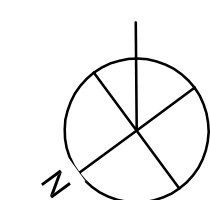
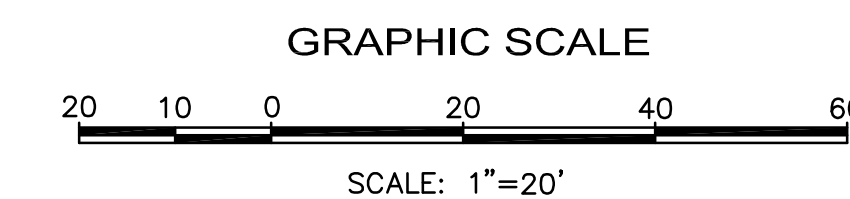
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Reviewed By:

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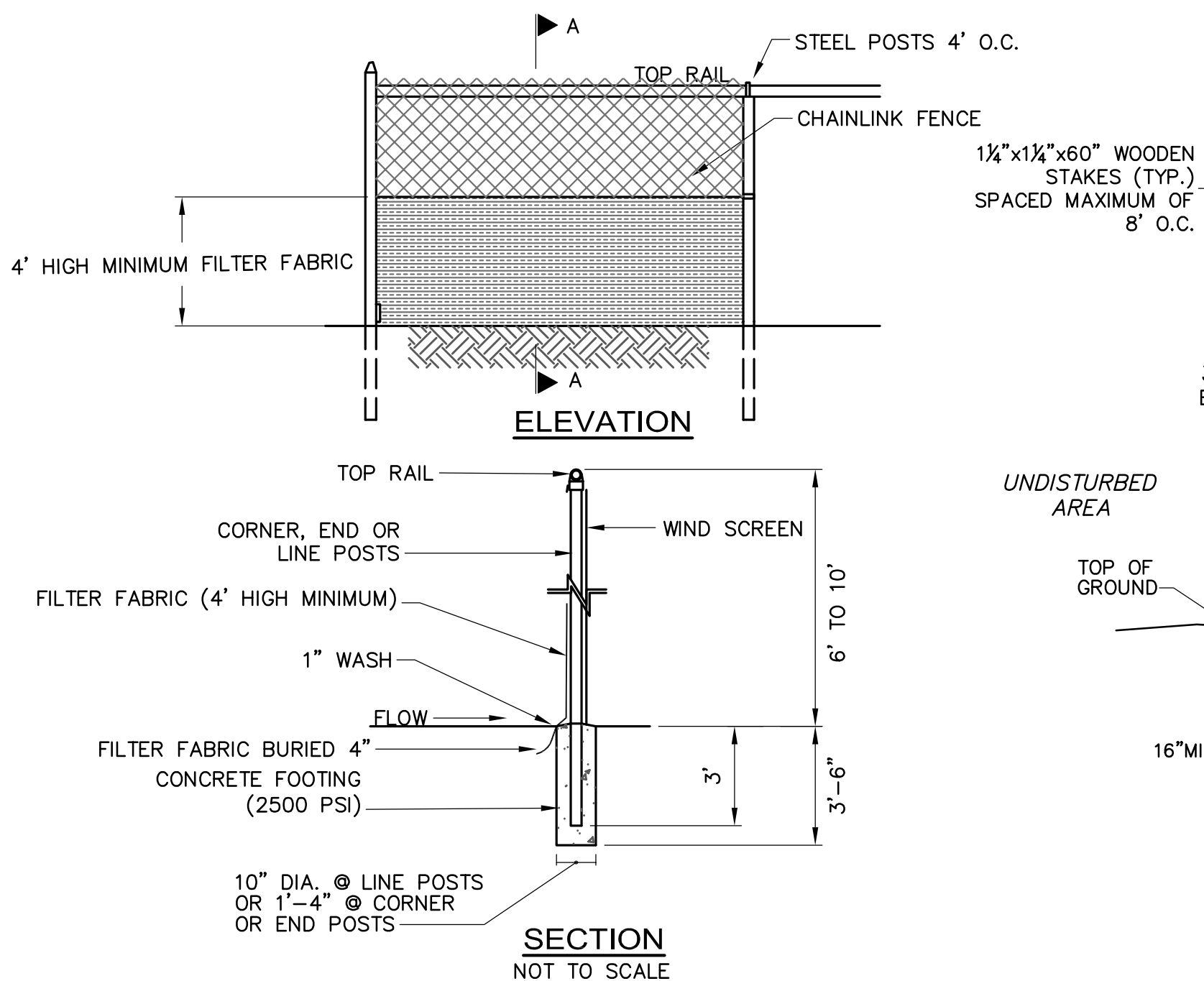
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# EROSION AND SEDIMENTATION CONTROL PLAN

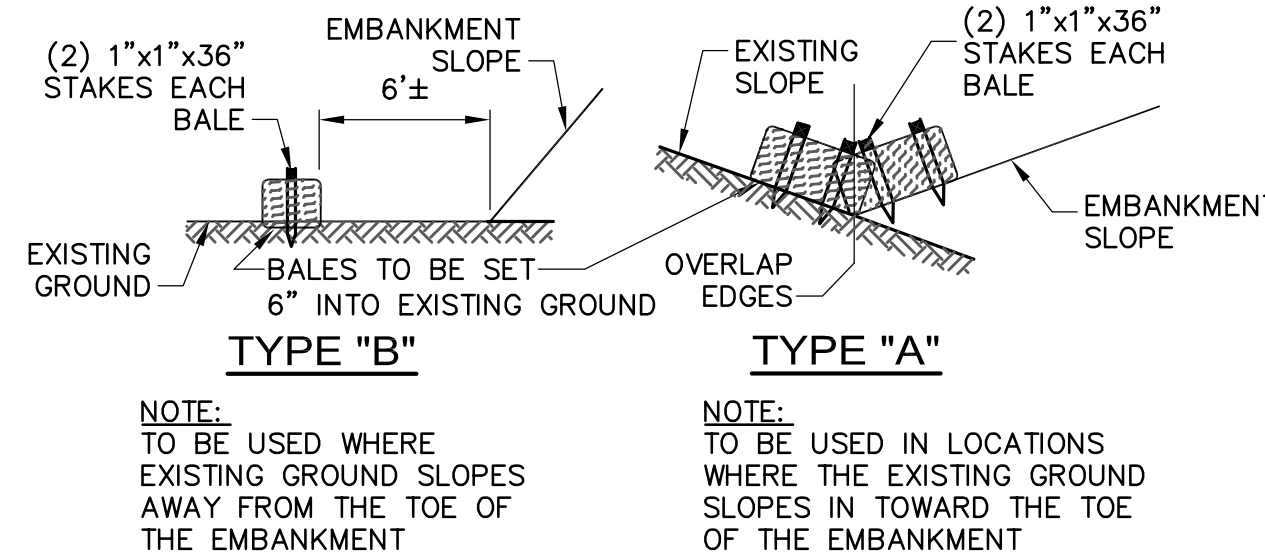
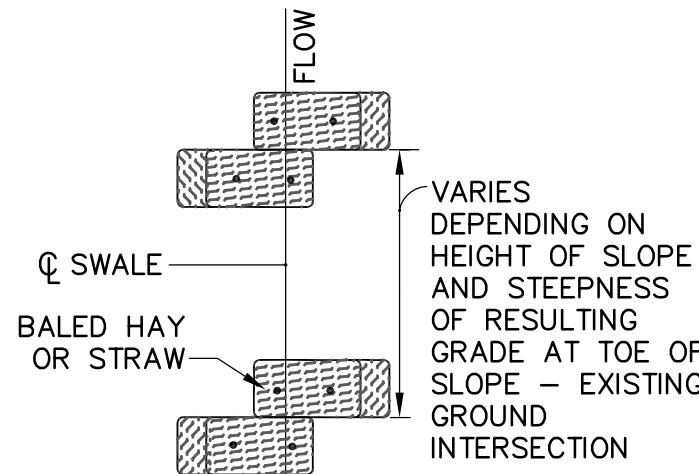
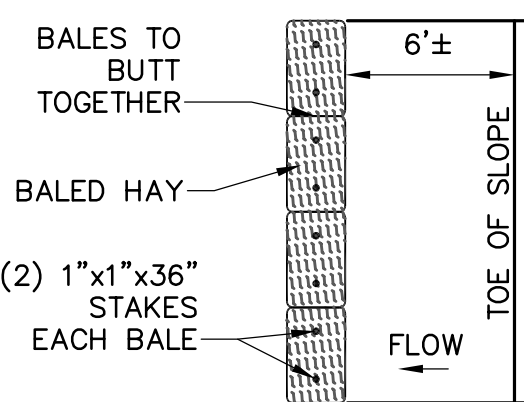
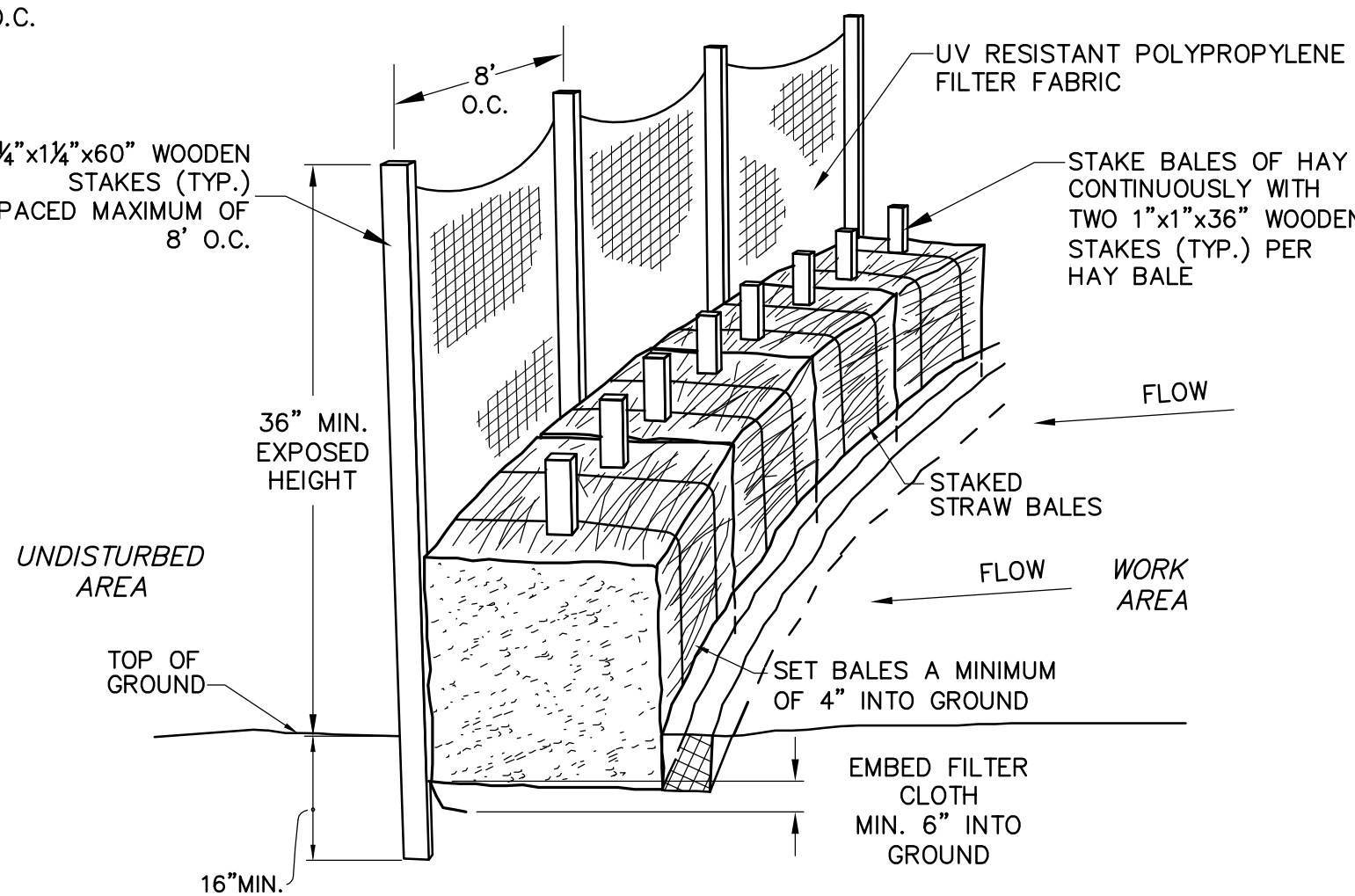


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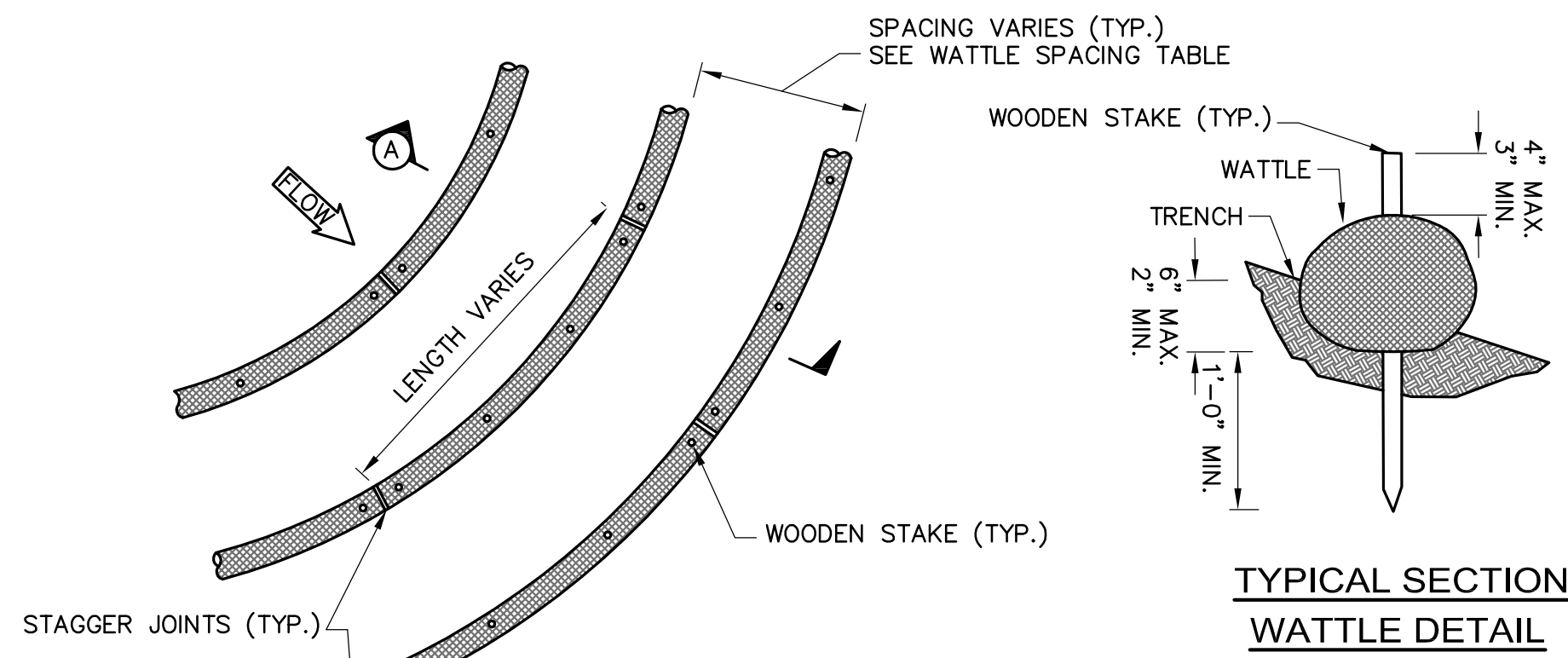




### EROSION CONTROL - TYPE 1 SILT FENCE & STRAWBALES



### EROSION CONTROL - TYPE 4 BALED HAY EROSION CHECKS



### TYPICAL SECTION WATTLE DETAIL

WATTLE SPACING TABLE	
SLOPE	MAX. SPACING
1:1	10'-0"
2:1	20'-0"
3:1	30'-0"
4:1	40'-0"

#### WATTLE SLOPE PROTECTION NOTES:

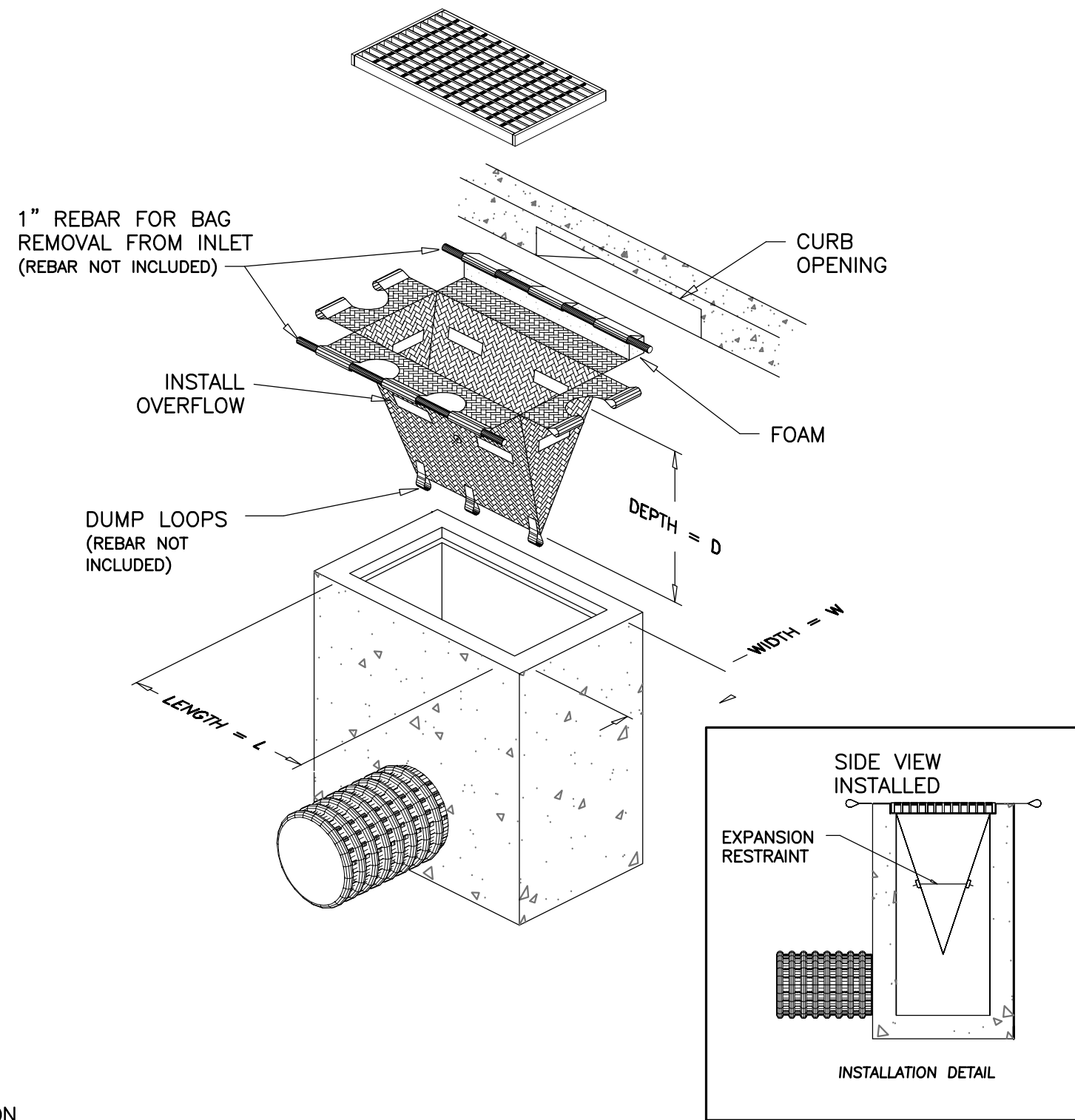
- SECURELY KNOT EACH END OF WATTLE. ABUT ADJACENT WATTLES TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
- PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLES AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE
- WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.

#### TYPES OF WATTLES

- COIR (COCONUT FIBER)
- COMPOST
- STRAW

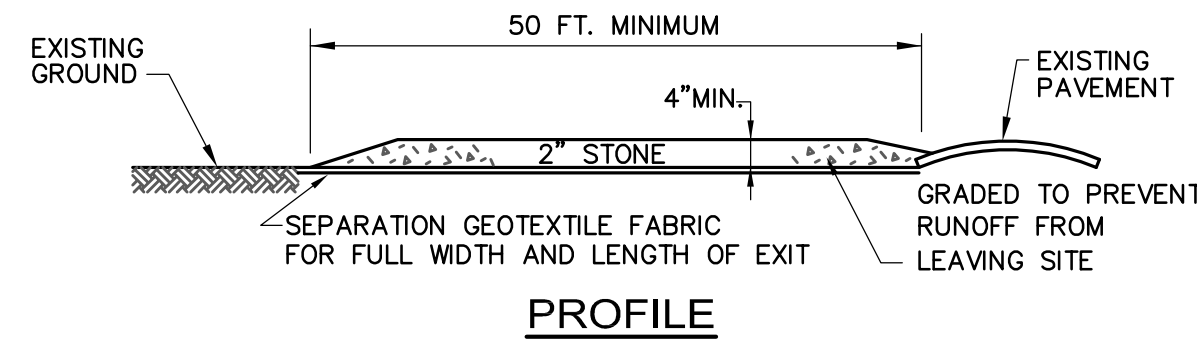
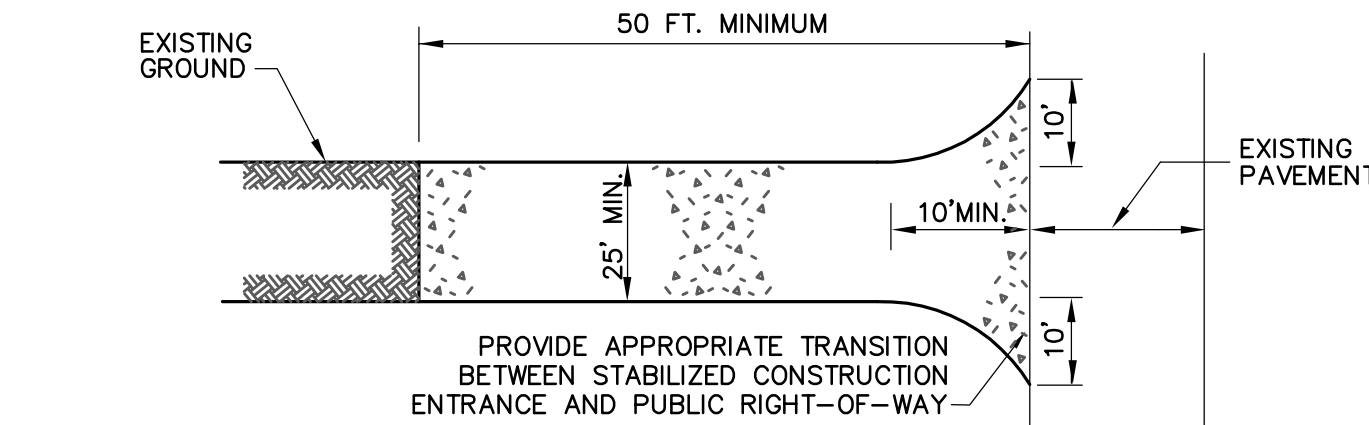
### EROSION CONTROL - TYPE 3 WATTLES - SLOPE PROTECTION OR CHECK DAMS

NOT TO SCALE



### INLET PROTECTION - TYPE 1 CATCH BASIN W/ WATER QUALITY INSERT

NOT TO SCALE

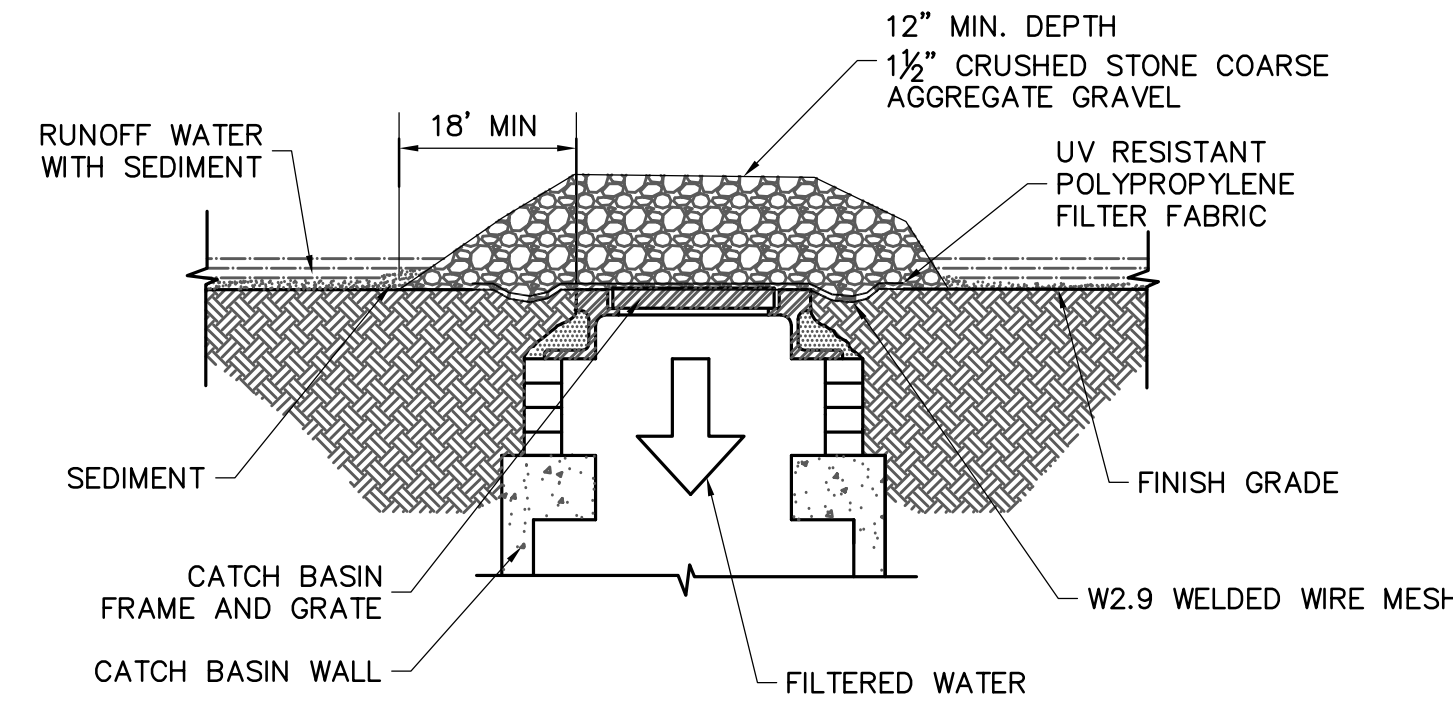


#### CONSTRUCTION SPECIFICATIONS

- STONE SIZE - USE 2" STONE.
- LENGTH - GREATER THAN OR EQUAL TO 50 FEET
- THICKNESS - 4"
- WIDTH - TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHALL BE PERMITTED.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL 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 OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.

### STABILIZED CONSTRUCTION ENTRANCE

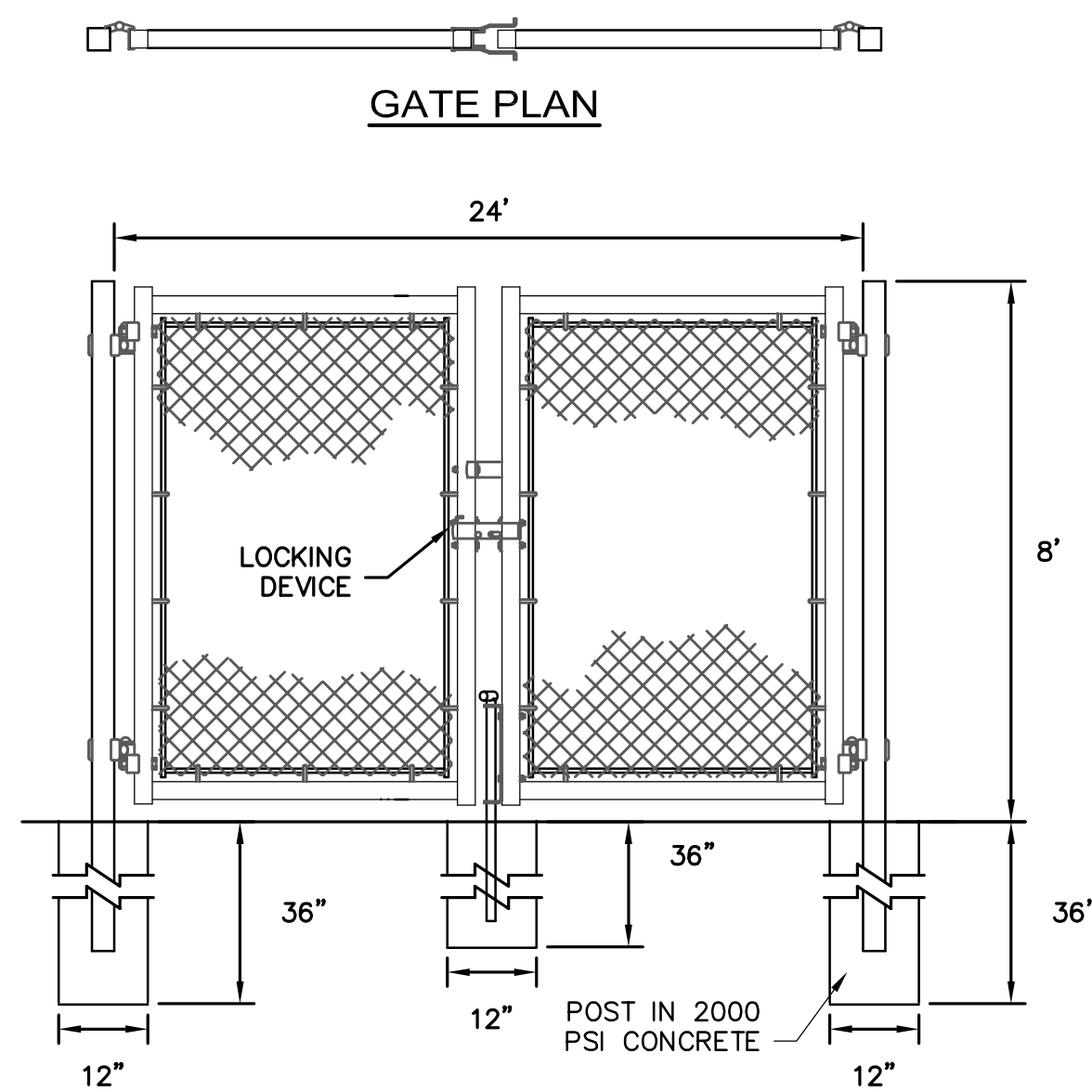
NOT TO SCALE



THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

### GRAVEL AND WIRE MESH INLET PROTECTION - TYPE 3

NOT TO SCALE

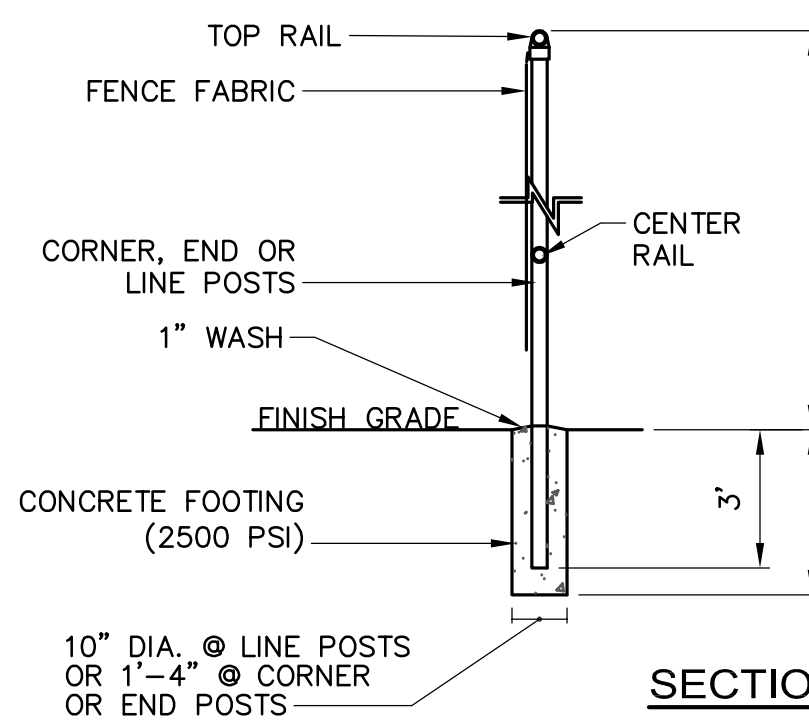
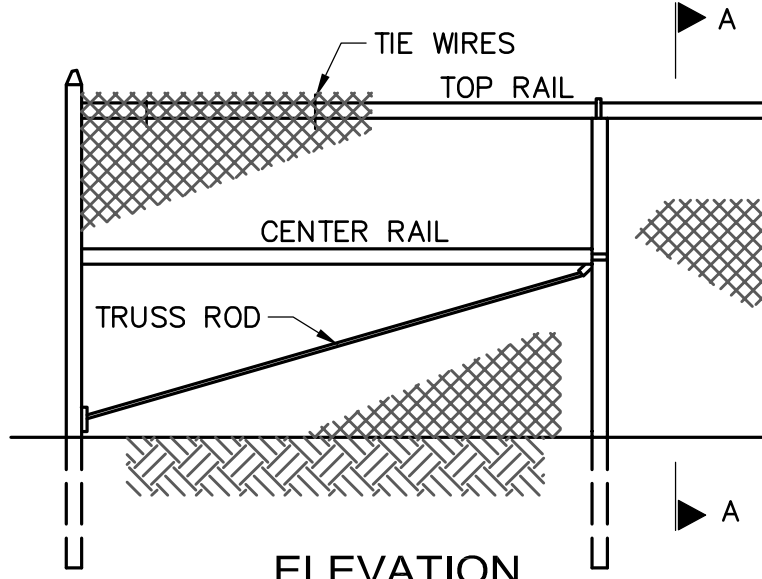


### INLET PROTECTION - TYPE 2 HAYBALE CATCH BASIN

NOT TO SCALE

#### NOTES:

- ENCLOSE STRUCTURE WITH HAY BALES IMMEDIATELY AFTER CONSTRUCTION. MAINTAIN UNTIL REMOVAL IS AUTHORIZED BY ENGINEER.
- IF GRATE IS AGAINST AN EXISTING CURB THEN HAY BALES ARE TO BE PLACED AROUND THREE SIDES OF THE GRATE ONLY.
- WHEN STAKES MUST BE DRIVEN INTO PAVEMENT THE CONTRACTOR SHALL USE METAL STAKES OR DRILL HOLES AND INSTALL WOOD STAKES.
- BALE STRINGS SHALL BE PARALLEL TO BUT NOT RESTING ON THE GROUND.
- PROVIDE FILTER FABRIC BETWEEN GRATE & FRAME. MAINTAIN UNTIL REMOVAL IS AUTHORIZED BY ENGINEER.



### CHAIN LINK FENCE

NOT TO SCALE

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## Project Status

Comprehensive Permit Submission Sept. 16, 2011  
Issue Description Date

Scale: NOT TO SCALE

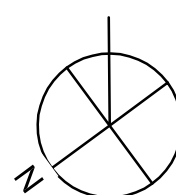
Drawn By: OMW  
Checked By: AD  
Reviewed By:

Project No. 2010080.00

## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

## EROSION AND SEDIMENTATION CONTROL DETAILS



**C102**

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NITSCH PROJECT NO: 8398



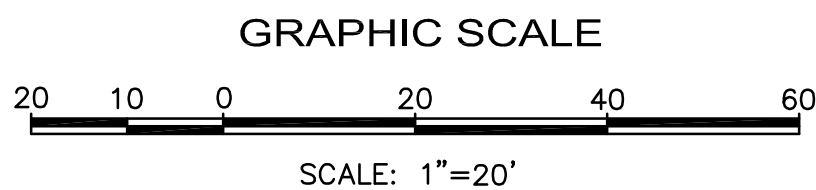




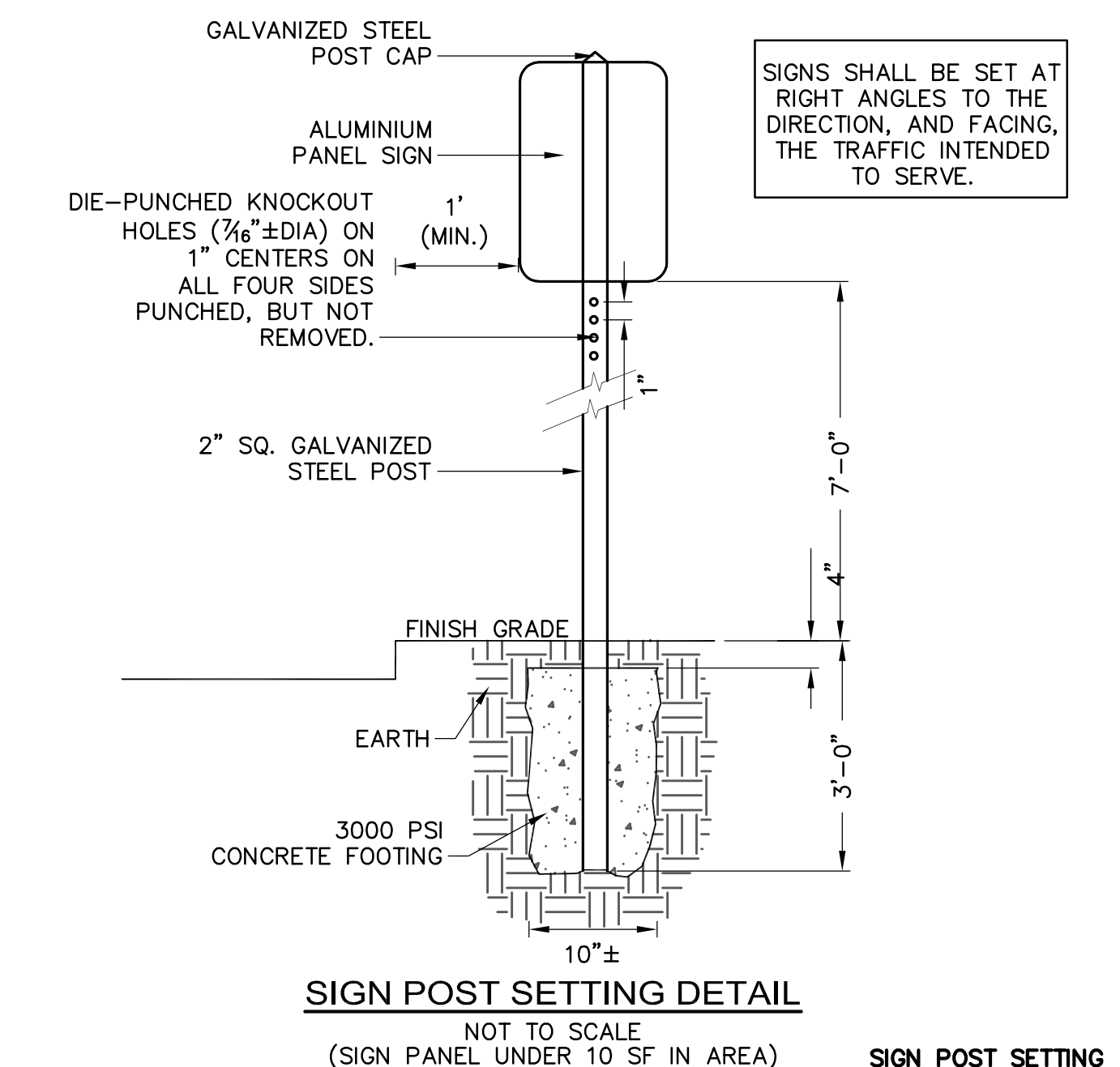
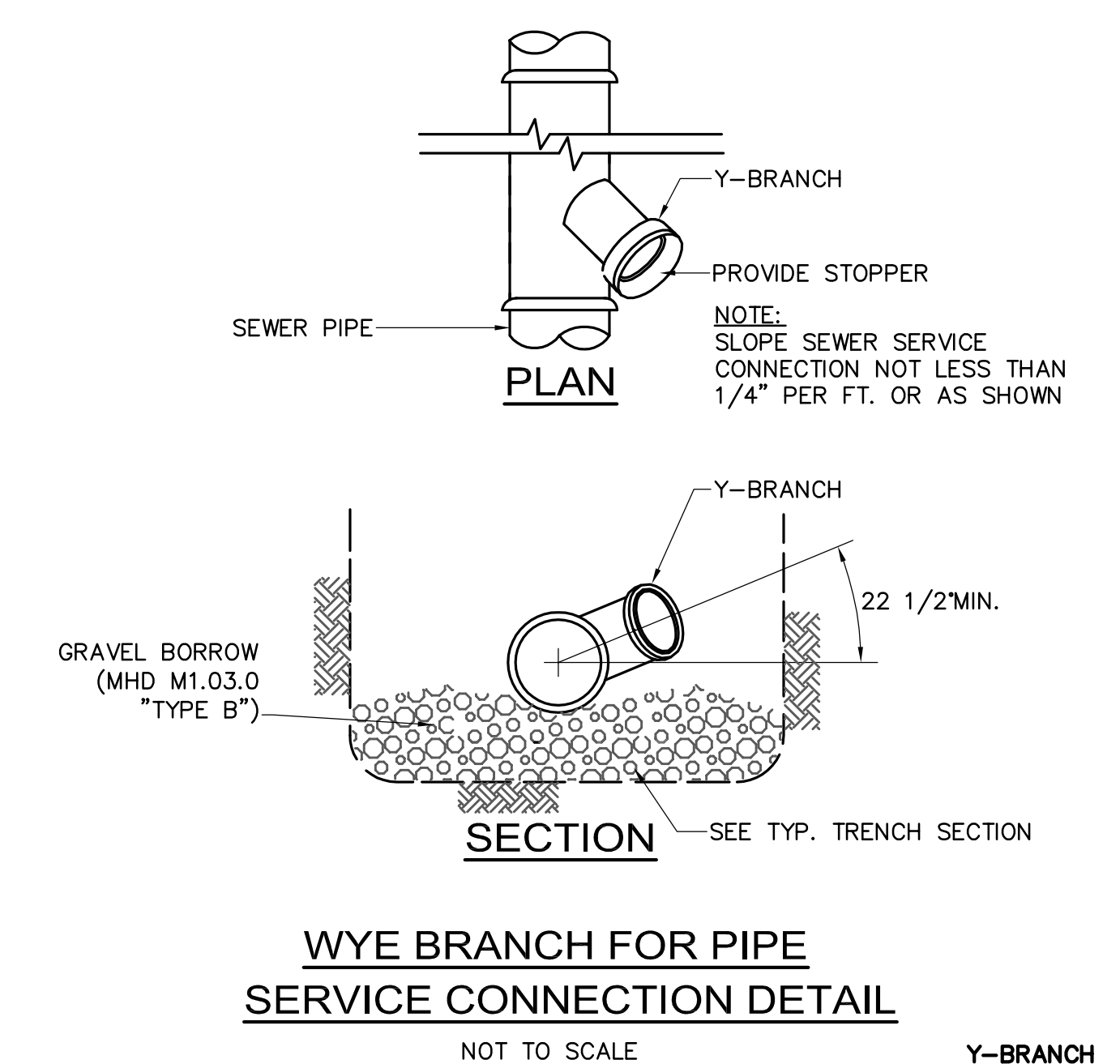
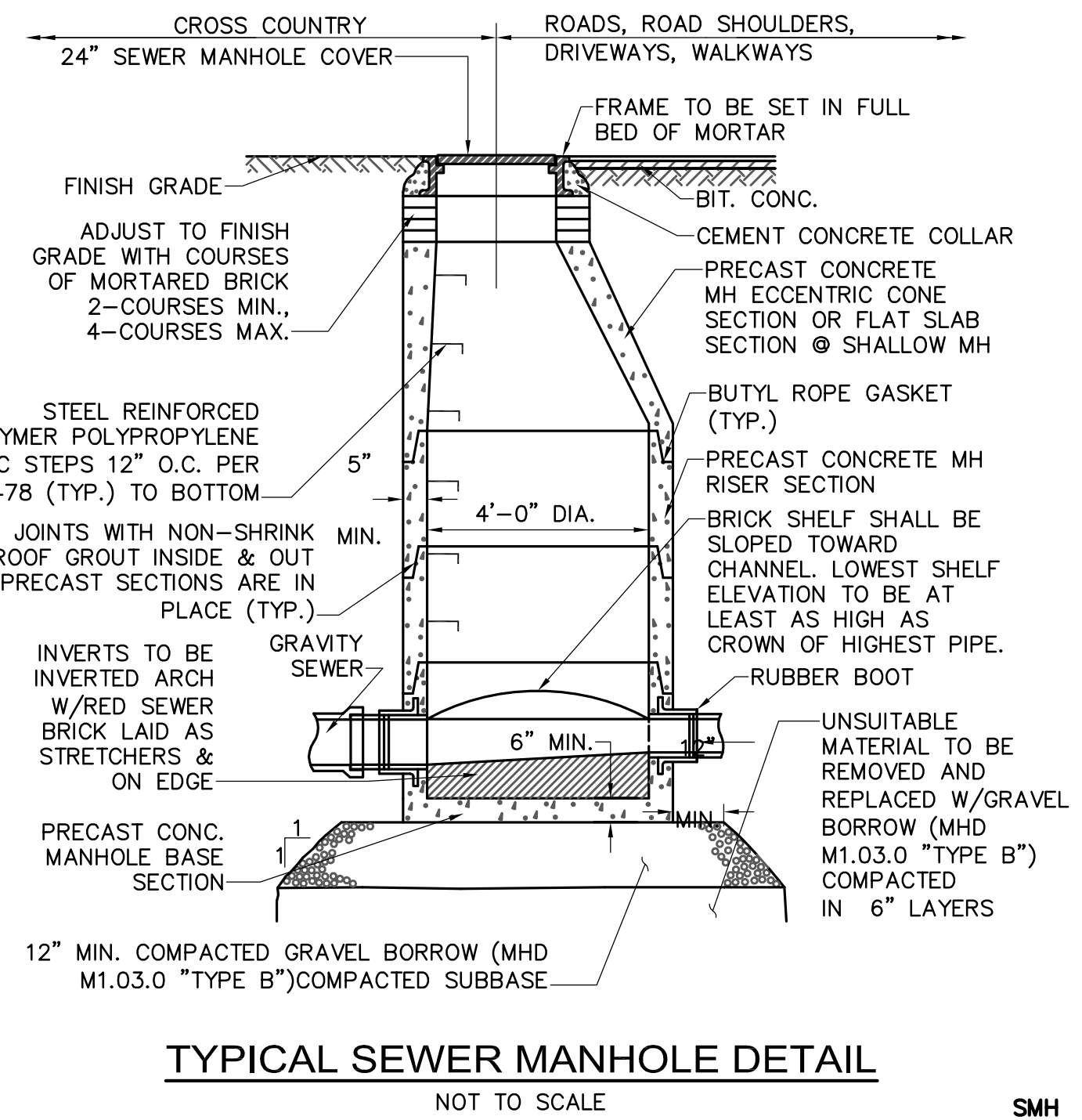
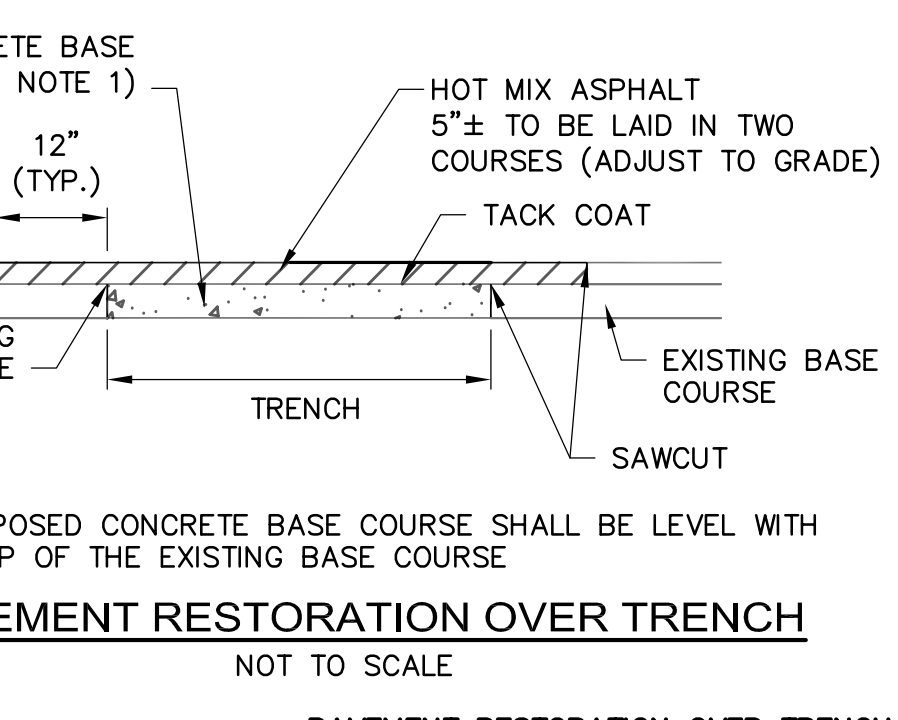
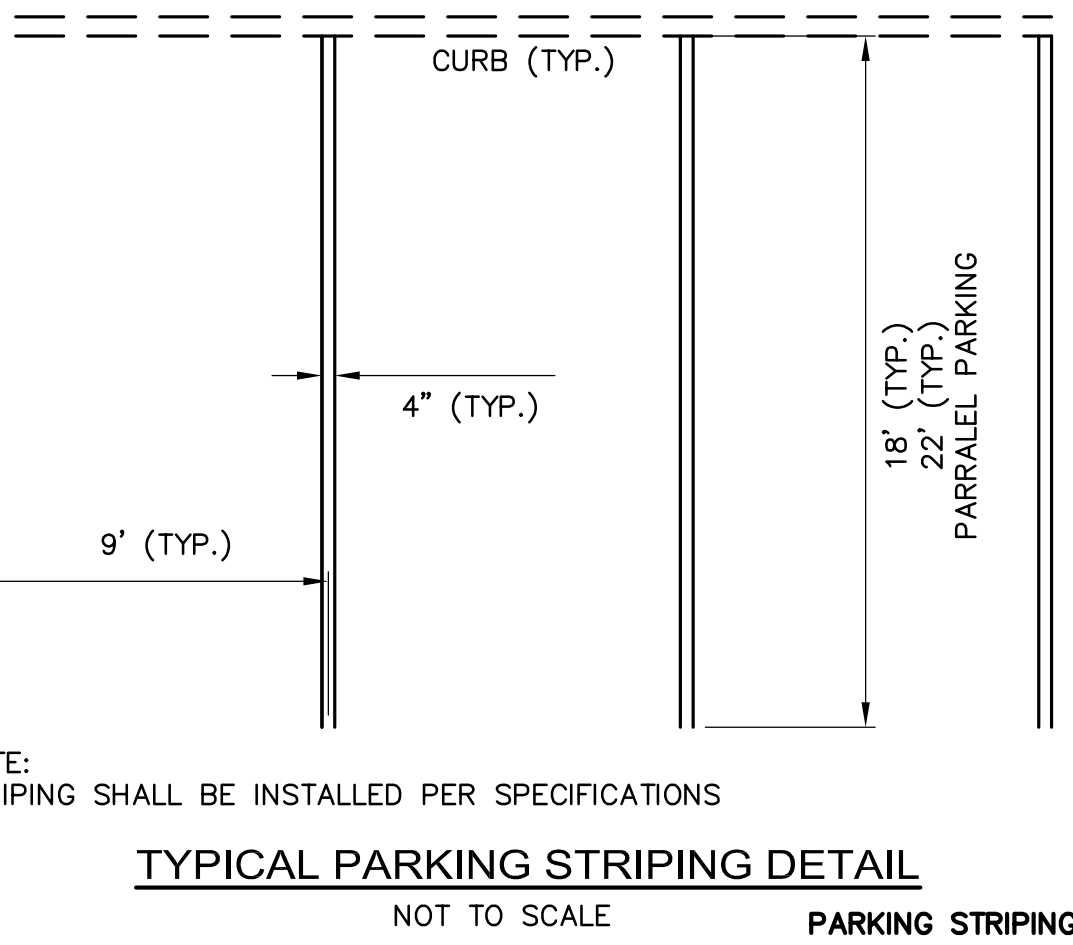
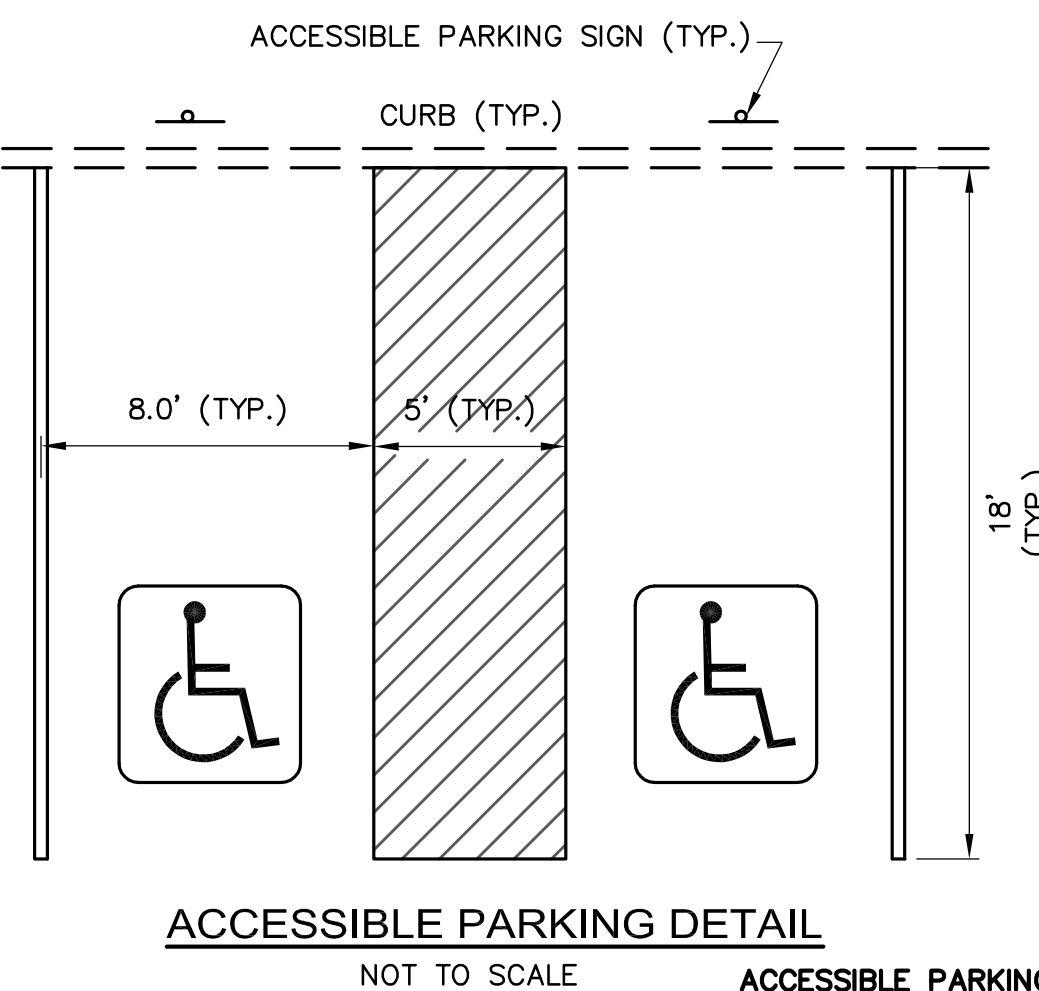
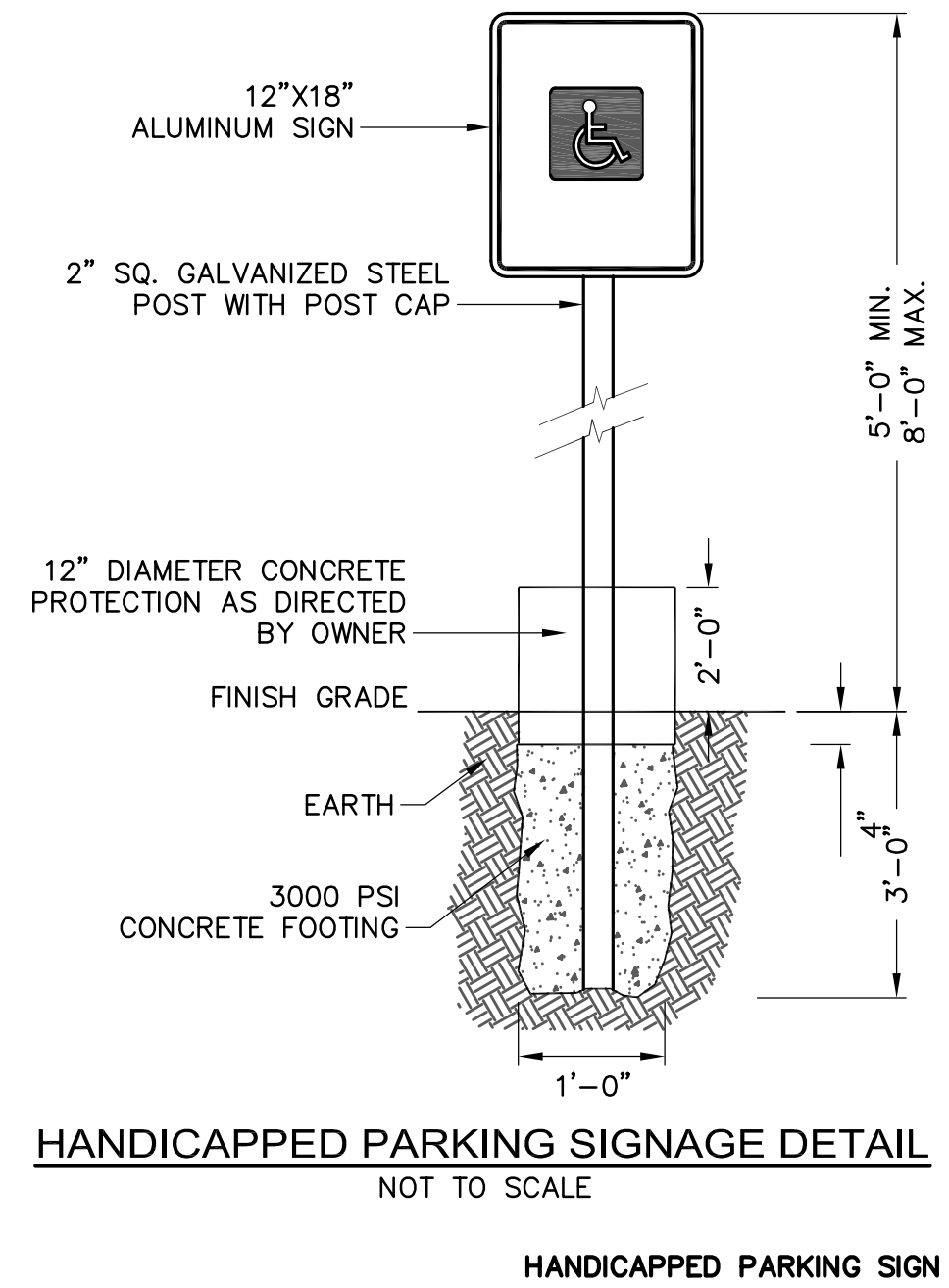
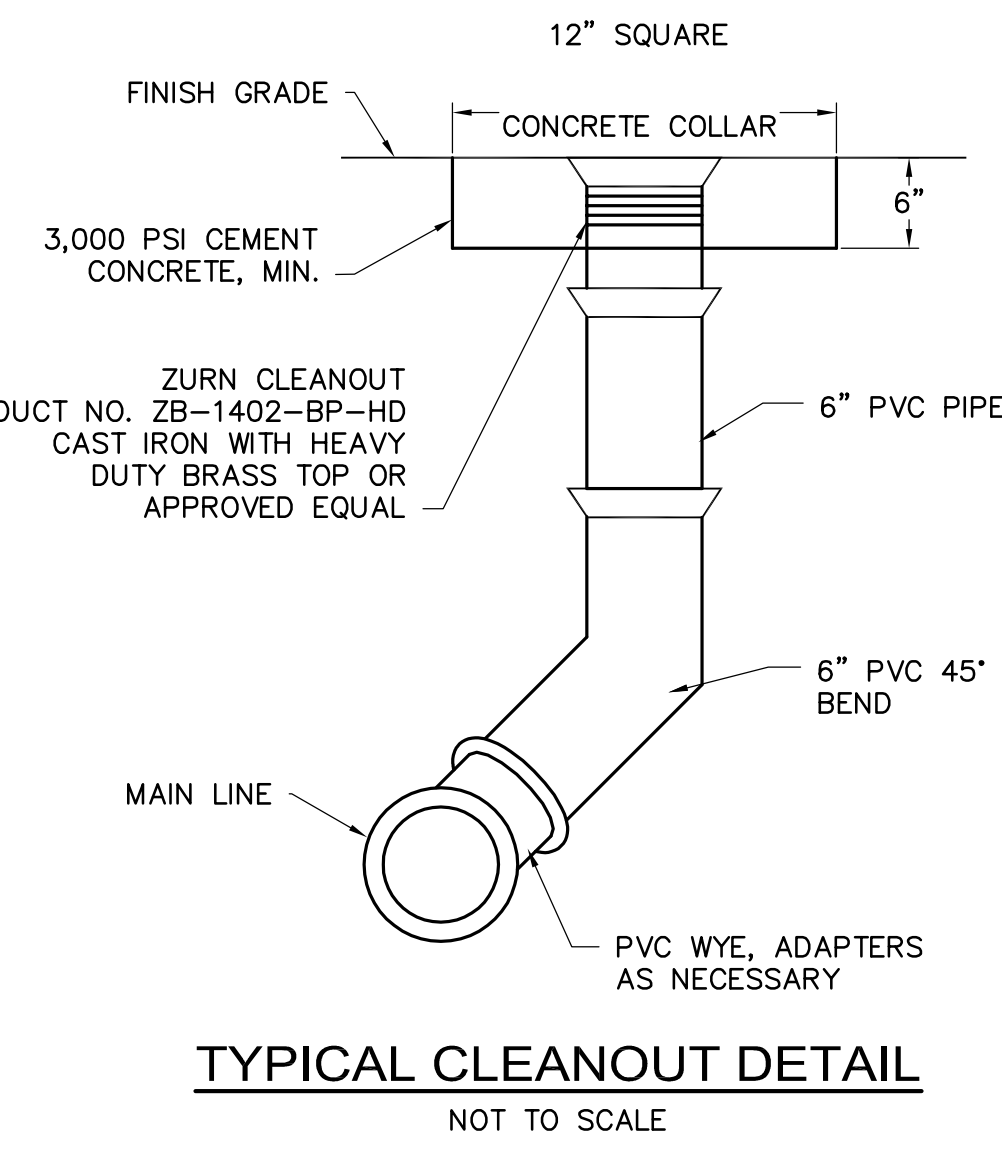
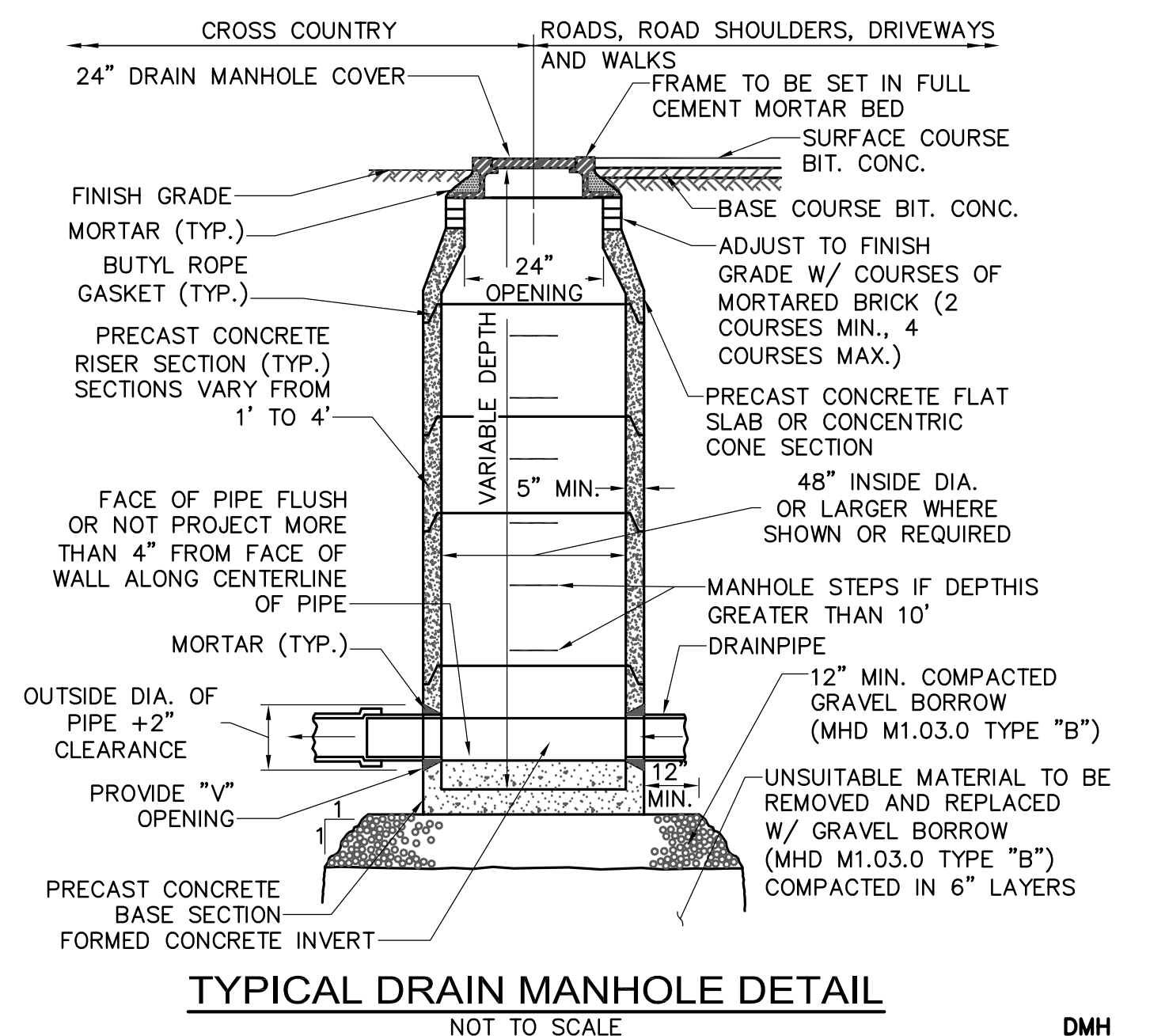
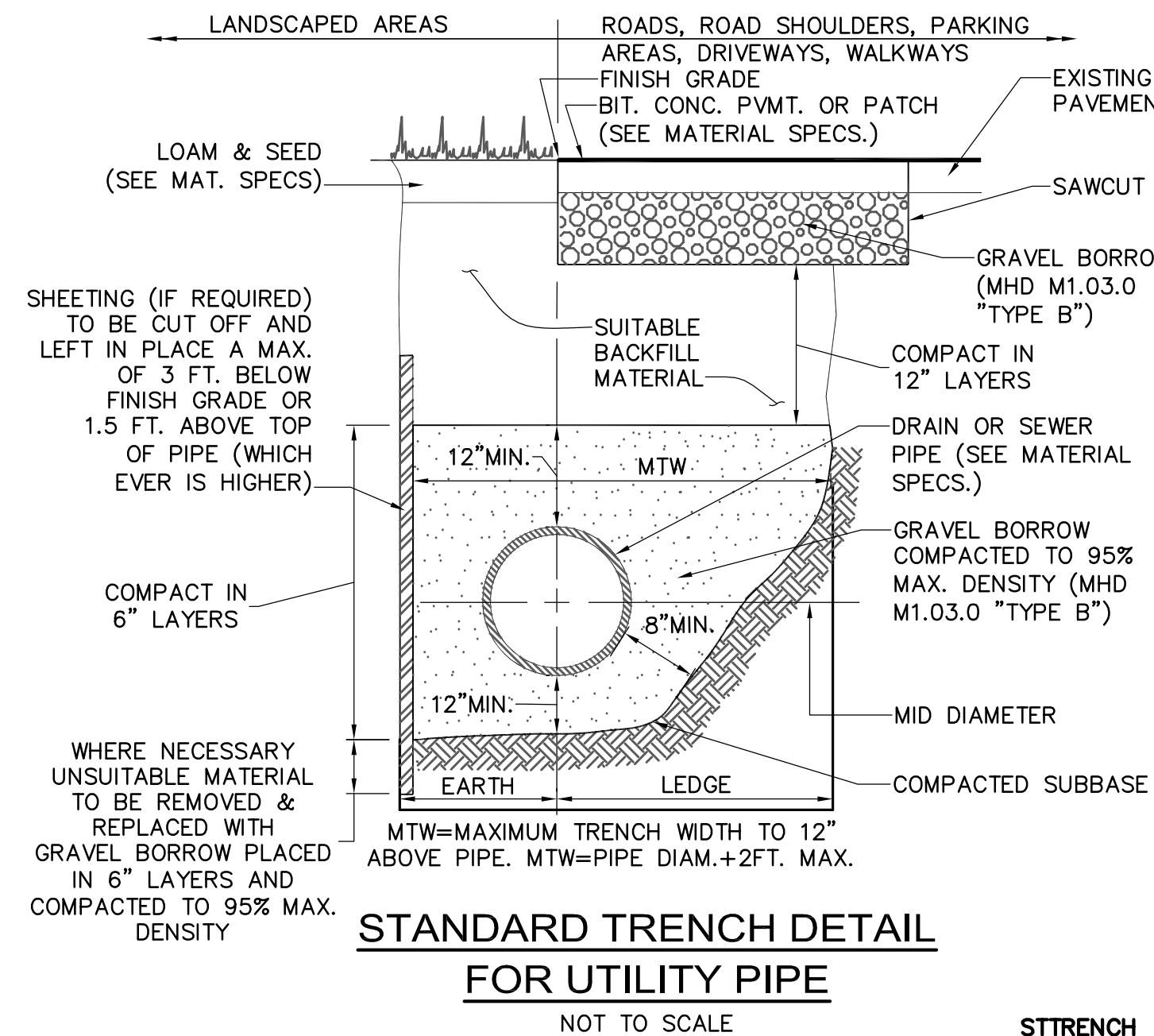
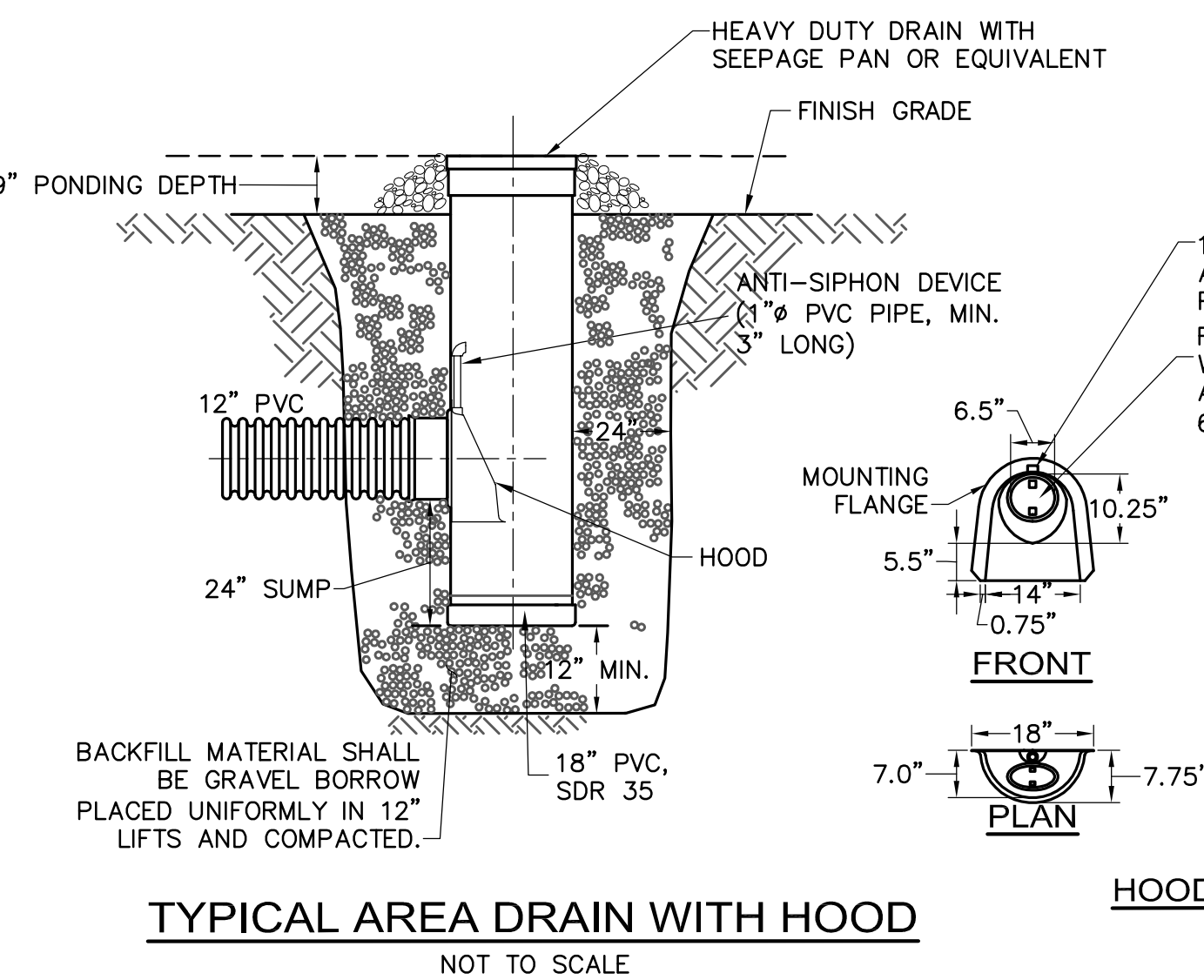
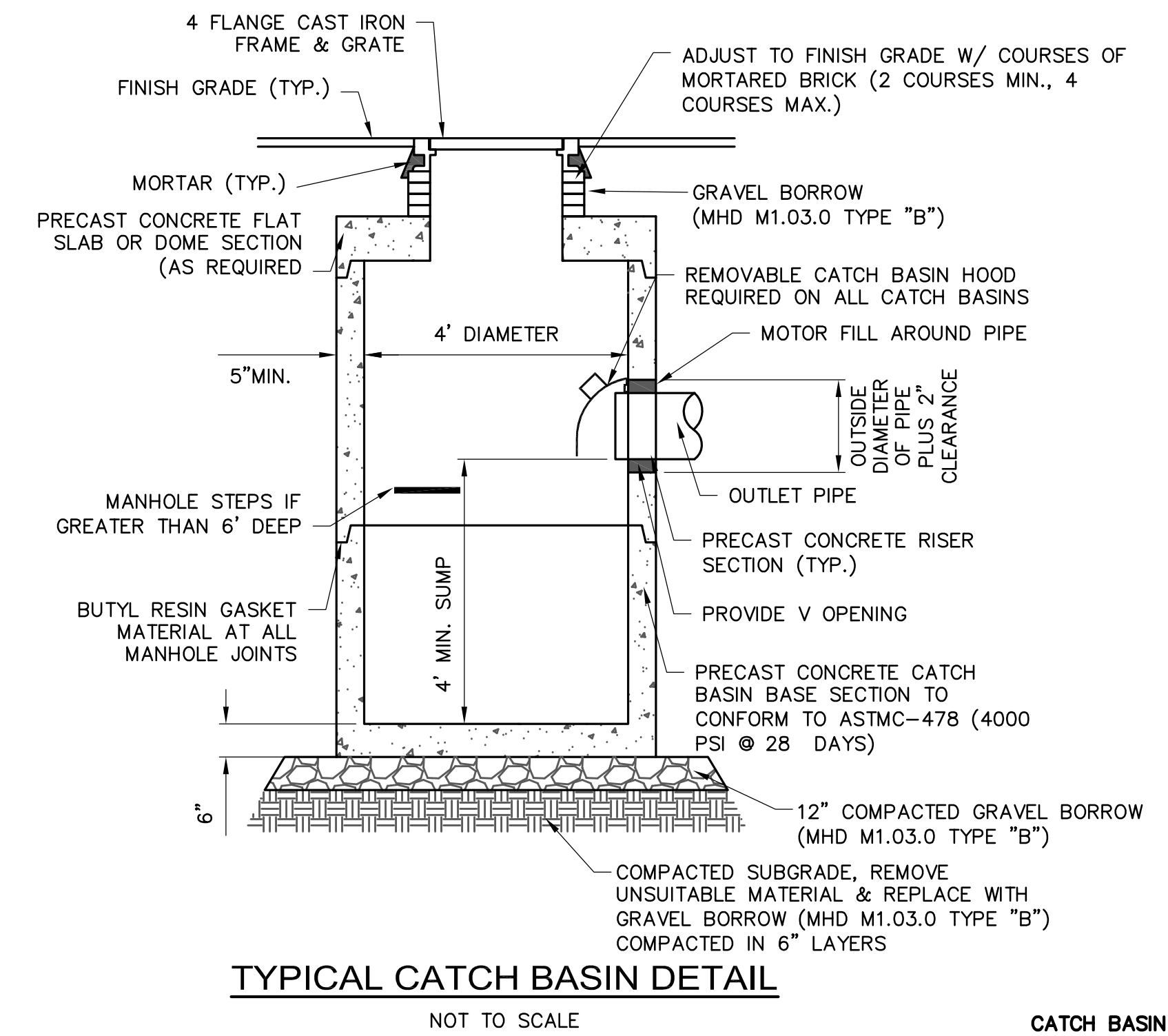
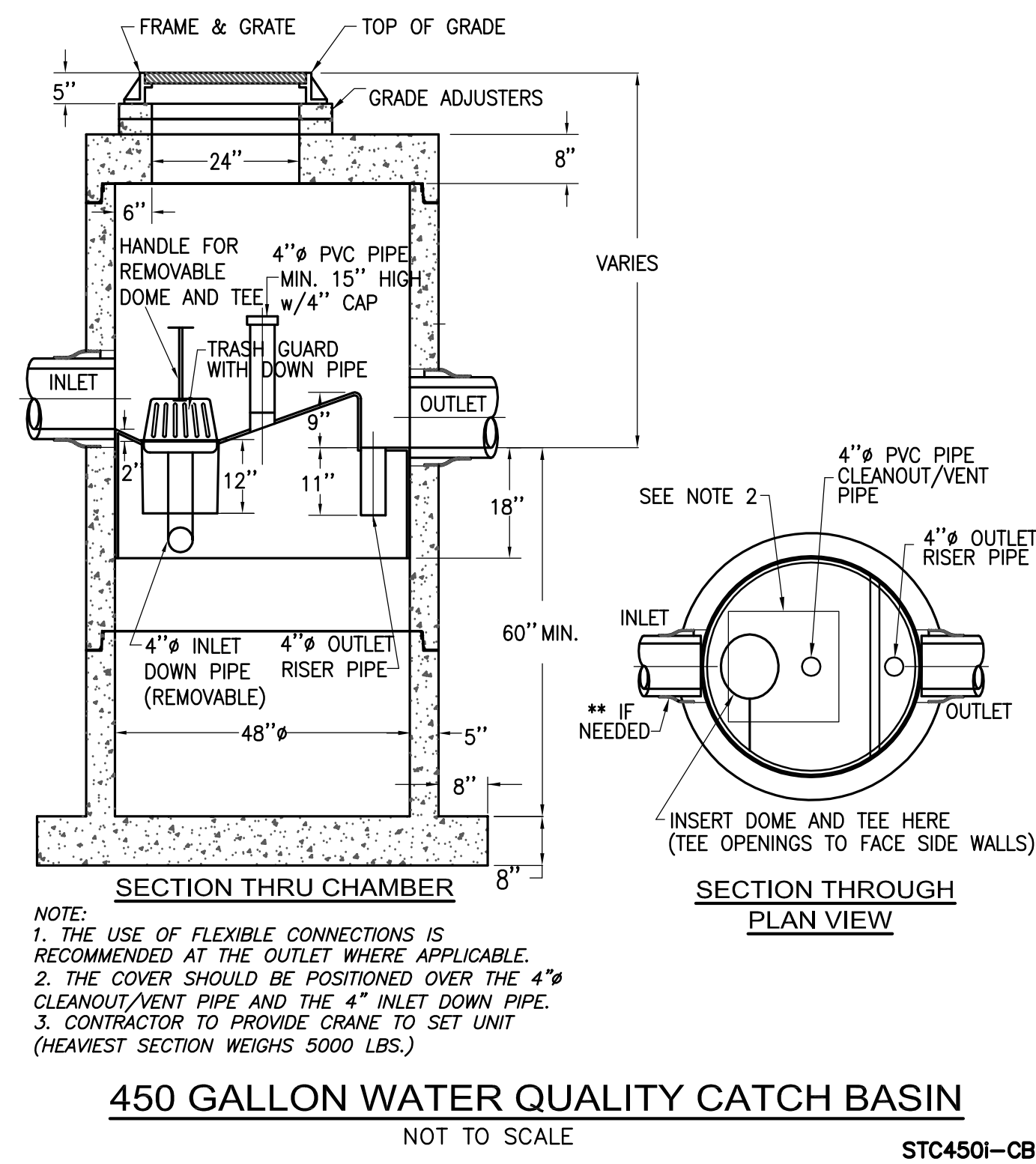


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# C201







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**Project Status**

Issue Description	Date
Comprehensive Permit Submission	Sept. 16, 2011

**Scale: 1"=20'**

**Drawn By: OMW** **Checked By: AD** **Reviewed By:**

**Project No. 2010080.00**

**Mystic Water Works at Capen Court**

Capen St.  
Somerville, MA 02144

**SITE UTILITY DETAILS**

**C301**





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[illegible]

**Scale:** 1"=20'

**Drawn By:** OMW      **Checked By:** AD      **Reviewed By:**

# Mystic Water Works at Capen Court

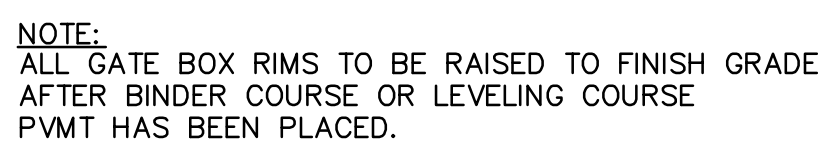
Capen St.  
Somerville, MA 02144

NOT TO SCALE



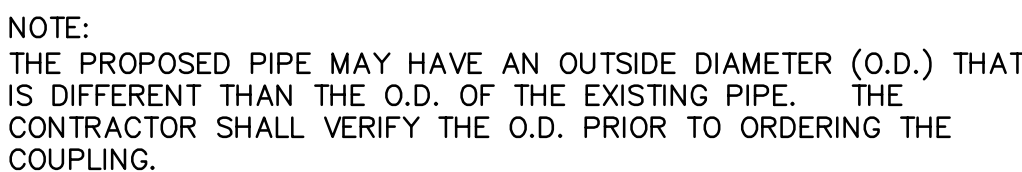
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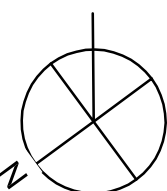
**WGBX**



NOT TO SCALE

NOTES:

1. WATER METER TO BE APPROVED BY THE CITY OF SOMERVILLE WATER DIVISION.
2. ALL HYDRANTS AND GATE VALVES SHALL OPEN XXXX.



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NITSCH PROJECT NO: 8398

# C302



WTRENCH



NOTES:

1. THRUST BLOCKS TO BE USED ON ALL PRESSURE PIPES AT HORIZONTAL AND VERTICAL BENDS GREATER OR EQUAL TO 45°, TEES AND DEAD ENDS.
2. FOR FITTINGS WITH LESS THAN 45° DEFLECTION USE BEARING AREAS FOR 45° BEND.
3. BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 PSF AND A MINIMUM INTERNAL WATER PRESSURE OF 175 PSIG. JOINTS SHALL NOT BE ENCASED IN CONCRETE, BEARING AREAS MAY BE DISTRIBUTED IN TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND ROCK FACE.

TABLE OF BEARING AREAS IN SQUARE FEET  
AGAINST UNDISTURBED MATERIAL FOR FITTING.\*

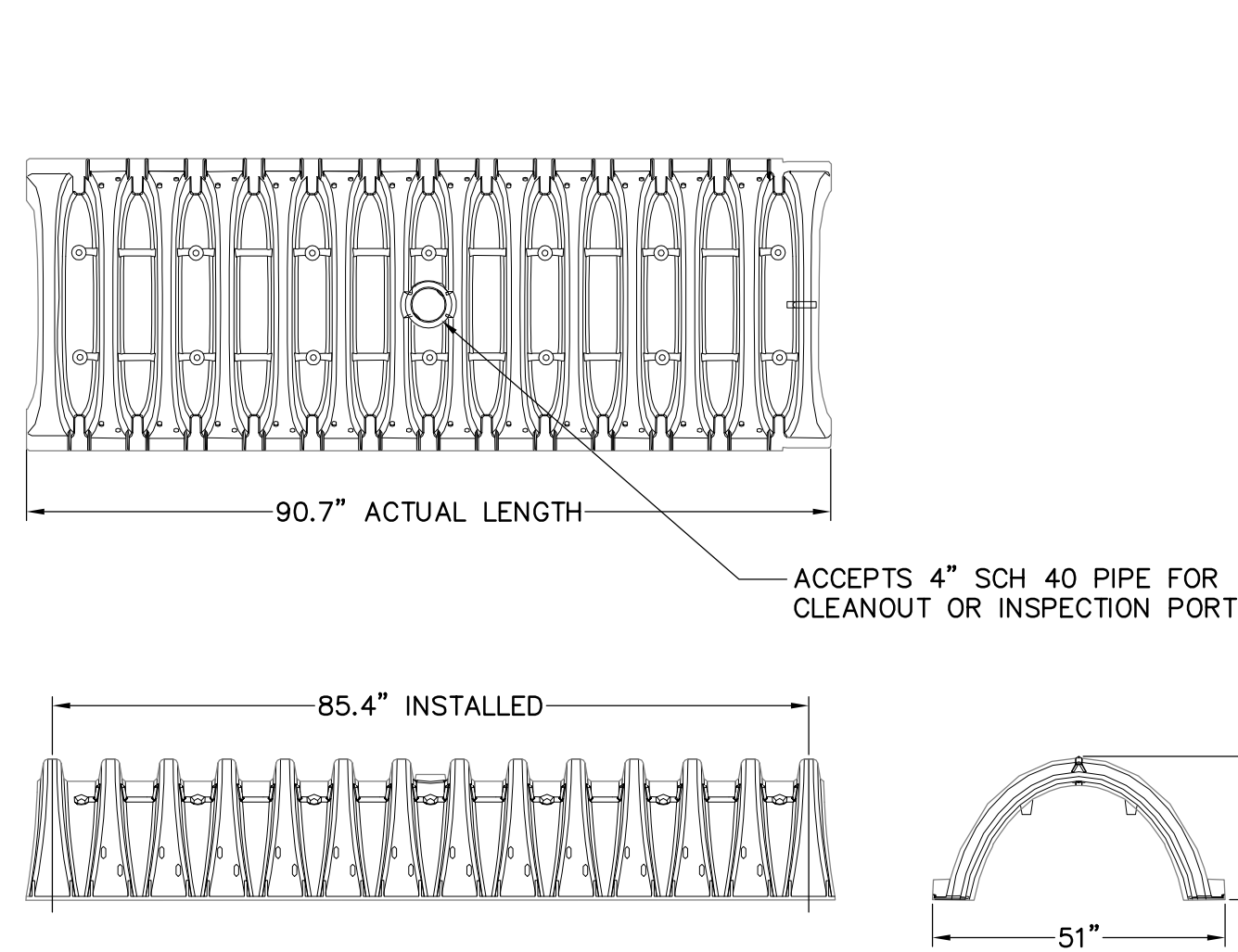
SIZE OF MAIN (INCHES)	90° BEND (S.F.)	45° BEND (S.F.)	DEAD END (S.F.)
4	2.3	1.3	1.6
6	4.7	2.5	3.3
8	8.0	4.5	6.0
12	17.0	9.5	12.0

NOT TO SCALE



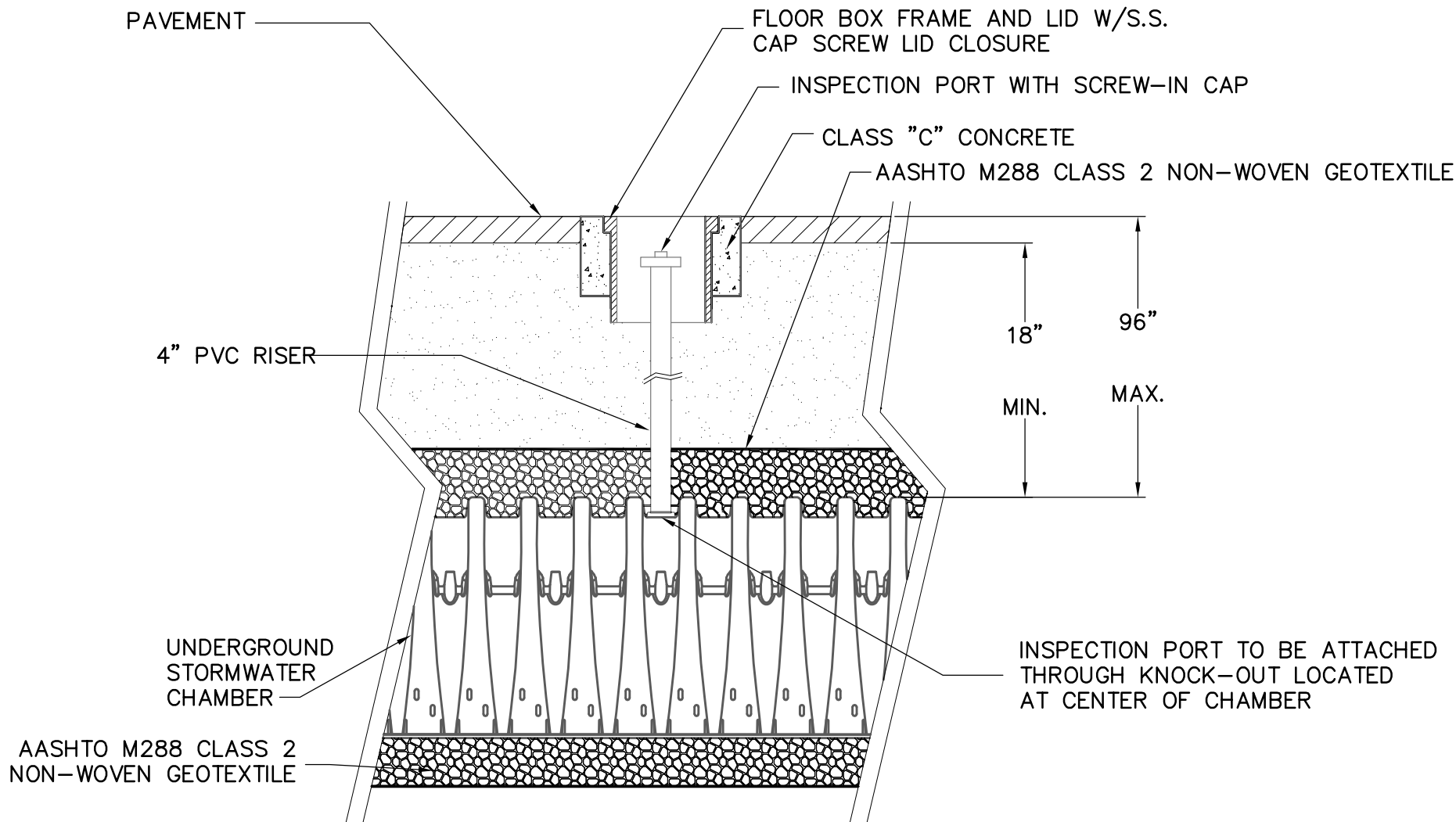
STTRENCH



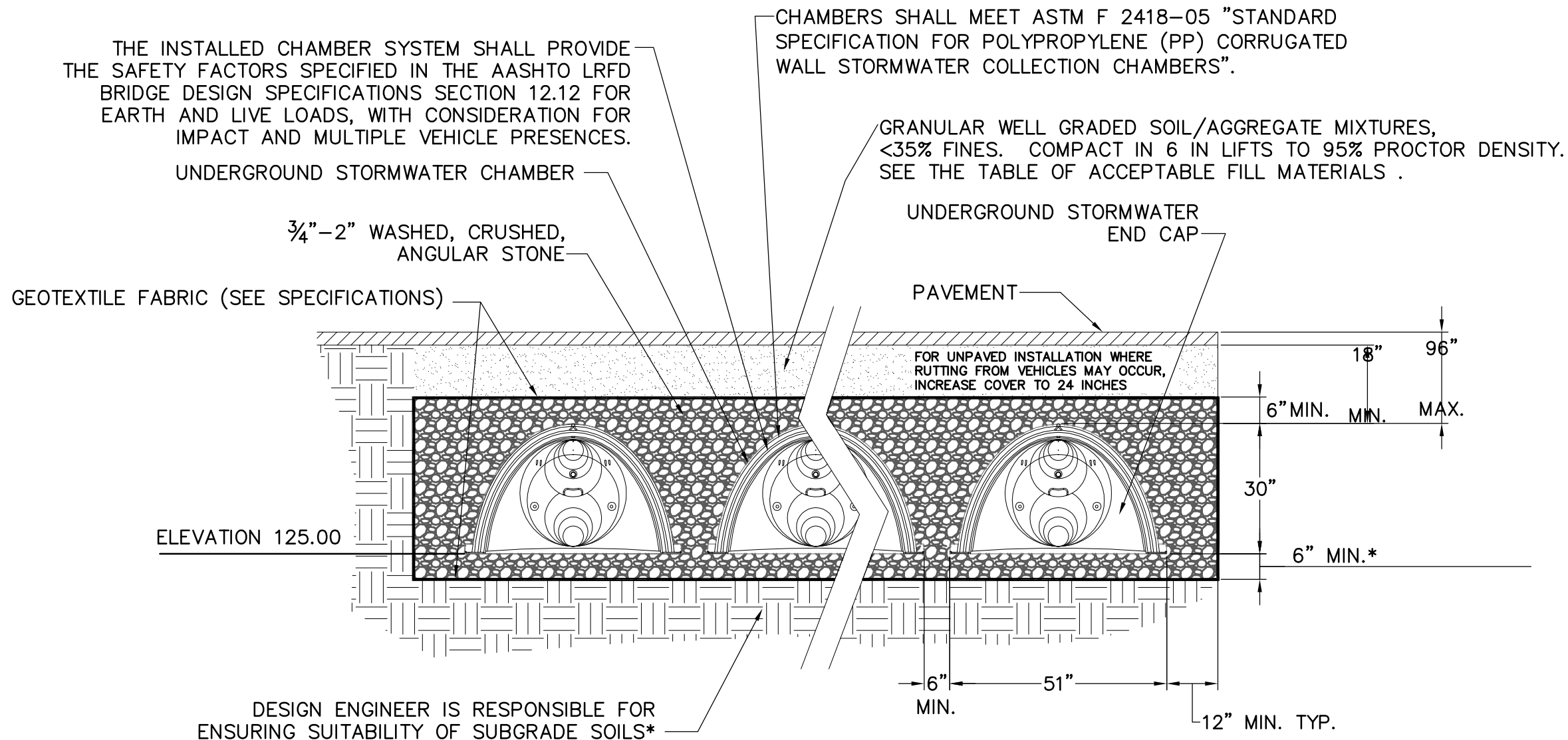


UNDERGROUND STORMWATER CHAMBER  
NOT TO SCALE

NOMINAL CHAMBER SPECIFICATIONS  
SIZE (W x H x INSTALLED LENGTH) 51.0" x 30.0" x 85.4"  
CHAMBER STORAGE 45.9 CUBIC FEET  
MINIMUM INSTALLED STORAGE 74.9 CUBIC FEET  
WEIGHT 74 LBS.



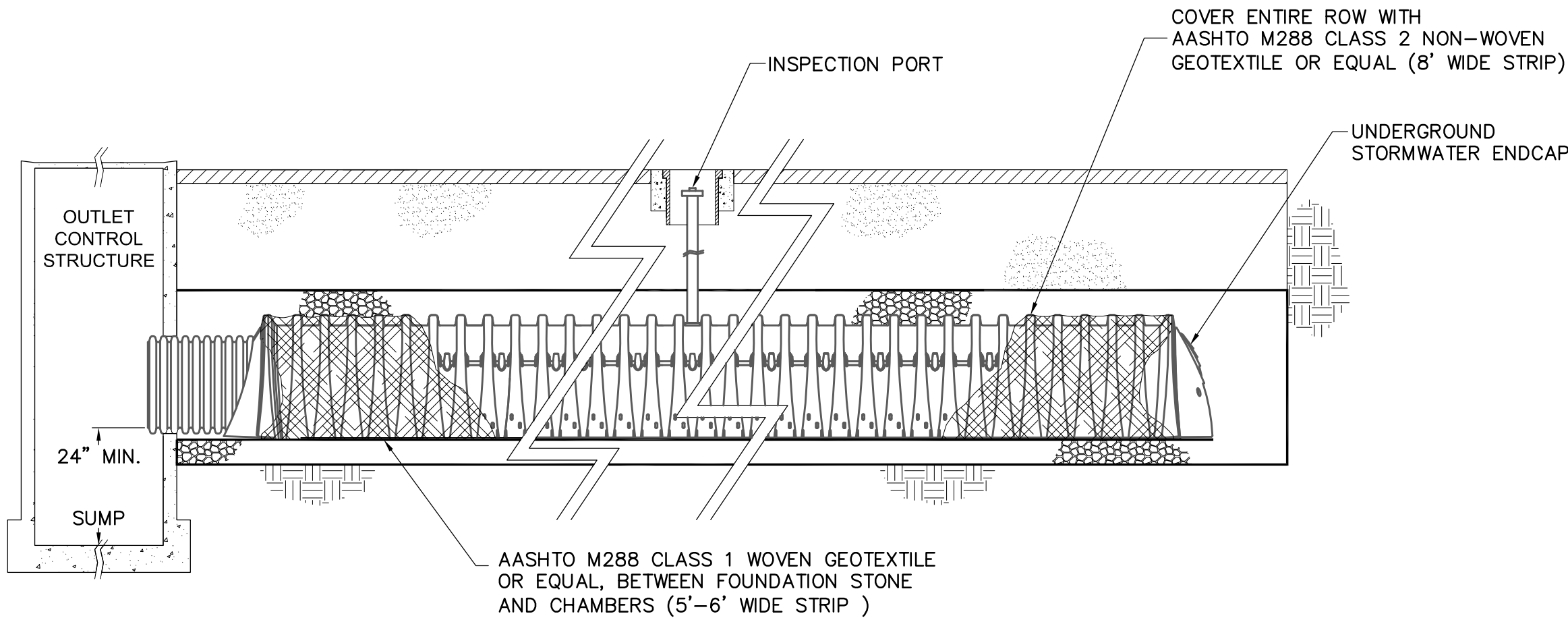
UNDERGROUND STORMWATER INSPECTION PORT DETAIL  
NOT TO SCALE



NOTE:  
CONTRACTOR TO REMOVE EXISTING TOPSOIL, SUBSOIL, FILL AND ANY OTHER IMPERVIOUS LAYERS WITHIN THE LAYOUT OF THE SYSTEM TO THE BOTTOM OF STONE ELEVATION OF SYSTEM. INSTALL SAND FILL IN ACCORDANCE WITH TITLE V REQUIREMENTS

THIS CROSS SECTION DETAILS THE REQUIREMENTS NECESSARY TO SATISFY THE SAFETY FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS USING STORMTECH CHAMBERS

UNDERGROUND STORMWATER SECTION  
NOT TO SCALE



UNDERGROUND STORMWATER ISOLATION ROW DETAIL  
NOT TO SCALE

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## Project Status

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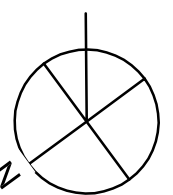
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Project No. 2010080.00

## Mystic Water Works at Capen Court

Capen St.  
Somerville, MA 02144

## SITE UTILITY DETAILS



**C303**