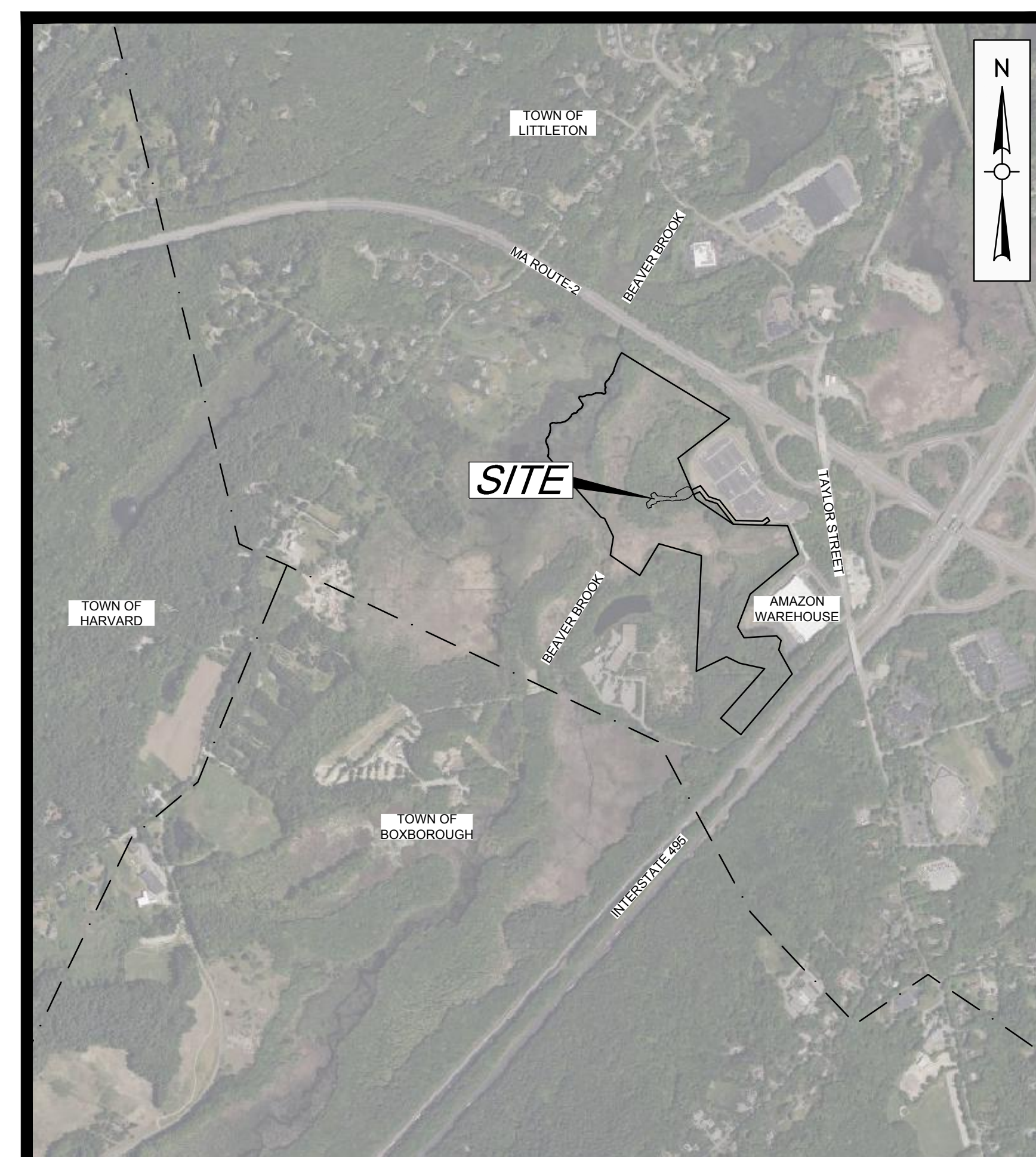


TAYLOR STREET WELL

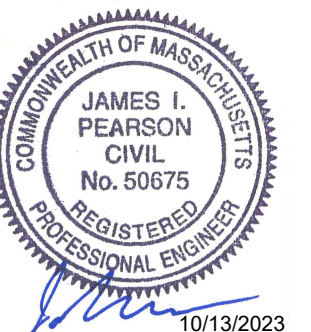


LITTLETON WATER DEPARTMENT
39 AYER ROAD
LITTLETON, MA 01460
COREY GODFREY, WATER SUPERINTENDENT
978-540-2222

DRAWING INDEX	
SHEET	TITLE
C001	ABBREVIATIONS, NOTES, AND LEGEND
C100	EXISTING CONDITIONS PLAN
C101	SITE PREPARATION & EROSION CONTROL PLAN
C102	ACCESS ROAD GRADING & DRAINAGE PLAN
C103	WELL SITE AND ACCESS ROAD GRADING & DRAINAGE PLAN
C501	CONSTRUCTION DETAILS
C502	CONSTRUCTION DETAILS
C503	CONSTRUCTION DETAILS



LOCUS MAP
SCALE : 1"=1000'

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Call before you dig.

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FILE NO. -

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER		
FORCE MAIN		
WATER MAIN		
TEMPORARY WATER		
STORM DRAIN		
GAS		
ELECTRIC		
OVERHEAD WIRE		
TELEPHONE		
CABLE TELEVISION		
GRINDER PUMP		
SANITARY SEWER MANHOLE		
STORM DRAIN MANHOLE		
ELECTRICAL MANHOLE		
TELEPHONE MANHOLE		
AIR RELEASE VALVE MANHOLE		
FORCE MAIN CLEANOUT MANHOLE		
CLEANOUT		
CATCH BASIN		
CATCH BASIN (CURB INLET)		
HYDRANT		
TEMPORARY HYDRANT		
GATE VALVE		
CHECK VALVE		
CURB STOP		
BUTTERFLY VALVE		
BALL VALVE		
REDUCER		
CAP OR PLUG		
GAS GATE VALVE		
UTILITY POLE		
GUY POLE		
LIGHT POST		
EDGE OF PAVEMENT		
EDGE OF UNPAVED ROAD		
CURB		
SIDEWALK		
RAILROAD		
STONE WALL		
RETAINING WALL		
FENCE		
INDIVIDUAL DECIDUOUS TREE		
INDIVIDUAL EVERGREEN TREE		
TREE LINE		
SURVEY MARKER		
PROPERTY LINE		
EASEMENT LINE		
LIMIT OF WORK		
APPROX. LIMIT OF REFUSE		
SPOT ELEVATIONS		
CONTOUR LINES		
DEPRESSION CONTOUR LINES		
HOUSE NUMBER		
FLOOR ELEVATION		
SILL ELEVATION		
WETLAND		
WETLAND FLAGS		
RIP RAP		
DRAINAGE DITCH / SWALE		
STATE HIGHWAY STATION		
GUARD POST		
BOLLARD		
SIGN		
BENCH MARK		
PERCOLATION TEST		
TEST PIT		
BORING		
PROBE		
GROUNDWATER MONITORING WELL		
GAS MONITORING WELL		
GAS VENT		
HAY BALES		
ROCK OUTCROP		

NOTE: ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS

ABBREVIATIONS

ACCPM	ASBESTOS CEMENT PIPE
ARV	ASPHALT COATED CORRUGATED METAL PIPE
ASTM	AIR RELEASE VALVE
BC	ASTM INTERNATIONAL
BIT	BITUMINOUS CONCRETE
BLDG	BITUMINOUS
BM	BUILDING
BO	BENCH MARK
BV	BLOW OFF
CATV	BUTTERFLY VALVE
CB	CABLE TELEVISION
CC	CATCH BASIN
CI	CONCRETE CURB
CL	CAST IRON
CMP	CENTERLINE
CONC	CEMENT LINED
CU FT	CORRUGATED METAL PIPE
CY	CONCRETE
D	CUBIC FEET
DI	CUBIC YARD
DIA	STORM DRAIN, DEPTH FROM RIM TO INVERT
DMH	DROP INLET, DUCTILE IRON
DWG	DIAMETER
E	DRAIN MANHOLE
EA	DRAWING
EF	EAST, ELECTRIC
ELEV	EACH
EOP	EACH FACE
EW	ELEVATION
EXIST	EDGE OF PAVEMENT
FLG	EACH WAY
FT	EXISTING
G	FLANGE
GALV	FEET, FOOT
GC	NATURAL GAS
GR	GALVANIZED
HC	GRANITE CURB
HORIZ	GRANITE
HP	HOUSE CONNECTION
HYD	HORIZONTAL
I	HIGH PRESSURE
INV	FIRE HYDRANT
ID	INVERT
IP	INVERT
LB	INSIDE DIAMETER
LF	IRON PIPE
LS	POUND
MAX	LINEAR FEET
MB	LUMP SUM
MECH	MAXIMUM
MH	MAIL BOX
MassDOT	MECHANICAL
MISC	MANHOLE
MJ	MINIMUM
MWRA	MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
NE	MISCELLANEOUS
NW	MISCELLANEOUS
NF	MECHANICAL JOINT
NO OR #	MASSACHUSETTS WATER RESOURCES AUTHORITY
OD	NORTH
PCCP	NORTH EAST
PE	NORTH WEST
PL	NOT FOUND
PVC	NUMBER
PVMT	OUTSIDE DIAMETER
RCP	PRESTRESSED CONCRETE CYLINDER PIPE
ROW	PLAIN END, POLYETHYLENE
RQD	PROPERTY LINE
S	PLATE
SE	POLYVINYL CHLORIDE
SECT	MOLECULARLY ORIENTED POLYVINYL CHLORIDE
SF	PAVEMENT
SHT	REINFORCED CONCRETE PIPE
SPEC	RIGHT-OF-WAY
SQ FT	ROCK QUALITY
SS	SEWER, SOUTH
STA	SOUTH EAST
STL	SECTION
SW	SQUARE FEET
T	SHEET
TBM	SPECIFICATIONS
THK	SQUARE FEET
TYP	SEWER SERVICE, STAINLESS STEEL
UP	STATION
VC	STEEL
VERT	SIDEWALK, SOUTH WEST
W	HYDROSTATIC THRUST, TELEPHONE
W/	TEMPORARY BENCH MARK
W/O	THICK (NESS)
	TYPICAL
	UTILITY POLE
	VITRIFIED CLAY
	VERTICAL
	WATER, WEST
	WITH
	WITHOUT

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL CALL DIGSAFE CALL AT 1-888-344-7233 AND CITY/TOWN DEPARTMENTS AS APPROPRIATE AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
2. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
3. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER TO DETERMINE WHETHER TO RAISE OR LOWER THE PROPOSED WATER MAIN TO CLEAR EXISTING UTILITIES OR VERIFY EXISTING UTILITY LOCATION, SIZE AND TYPE.
4. STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES, ETC. SHALL BE REMOVED AS NECESSARY TO PERFORM THE WORK AND REPLACED TO A CONDITION AT LEAST EQUAL TO THAT BEFORE CONSTRUCTION BEGAN. UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
5. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.
6. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
7. UNLESS OTHERWISE INDICATED, CONCRETE USED FOR PIPE ANCHOR BLOCKS, BACKING, PIPE CRADLES, ARCHES, AND FILL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
8. APPROVED JOINT RESTRAINT METHODS SHALL BE PROVIDED FOR WATER MAINS WHERE ANY BENDS, TEES, PLUGS, OR WYES ARE INSTALLED. CONCRETE THRUST BLOCKS, ANCHOR BLOCKS AND THE RODS MAY BE USED FOR 6-INCH AND 8-INCH PIPE WHERE JOINT RESTRAINT IS NOT FEASIBLE UPON APPROVAL OF THE ENGINEER. SEE TABLE 1 DETAIL FOR REQUIRED RESTRAINING LENGTHS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
9. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WETLANDS.
10. NEW WATER MAINS AND SERVICES SHALL BE INSTALLED AT THE MINIMUM DEPTH FROM FINISH GRADE TO TOP OF PIPE AS SHOWN ON THE DRAWINGS. WHERE NECESSARY, NEW WATER MAINS SHALL BE INSTALLED AT A GREATER DEPTH TO CLEAR OBSTACLES SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER. MINIMUM CLEARANCES TO UTILITIES, AS SHOWN ON THE DRAWINGS SHALL BE MAINTAINED.
11. EXISTING SERVICES SHALL NOT BE CONNECTED TO THE PROPOSED WATER MAIN UNTIL THAT MAIN HAS PASSED PRESSURE TEST AND DISINFECTION REQUIREMENTS.
12. EXISTING WATER MAINS OR SERVICES SHALL NOT BE ABANDONED WITHOUT THE APPROVAL OF THE OWNER. WATER SERVICE SHALL NOT BE INTERRUPTED MORE THAN 4 HOURS WITHOUT PRIOR APPROVAL OF THE OWNER.
13. ALL HYDRANTS REMOVED SHALL BE SALVAGED AND DELIVERED TO A LOCATION TO BE DETERMINED BY THE OWNER. SURFACE RESTORATION SHALL BE IN KIND UNLESS OTHERWISE NOTED.
14. ANY HYDRANT WHICH IS NOT IN SERVICE SHALL BE COVERED WITH A SECURELY FASTENED AND APPROVED BAG.
15. THE LOCATION OF PIPES, CAPS, REDUCERS, BENDS, AND OTHER FITTINGS AT POINTS OF CONNECTIONS TO EXISTING MAINS IS APPROXIMATE. CONTRACTOR SHALL DIG A TEST PIT AT EACH LOCATION TO DETERMINE THE DIAMETER AND MATERIAL OF THE EXISTING PIPE AND THE LOCATION OF THE TIE-IN POINT.
16. ALL CATCH BASINS WITHIN PROJECT LIMITS SHALL BE PROTECTED AS SHOWN ON DETAIL SHEET.
17. THE CONTRACTOR SHALL NOTIFY THE MassDOT DISTRICT PERMITS ENGINEER AT 857-368-3000 TWO (2) DAYS PRIOR TO THE START OF WORK IN A STATE ROADWAY.
18. ALL STREET EXCAVATIONS SHALL BE COMPLETELY CLOSED AT THE END OF EACH WORKING DAY BY BACKFILLING. COVERING WITH STEEL PLATES MAY BE ALLOWED IF APPROVED BY THE ENGINEER.
19. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF MASSACHUSETTS GENERAL LAW CHAPTER 82A, TRENCH EXCAVATION AND SAFETY REQUIREMENTS, TO PREVENT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES.
20. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES WHICH HOLD WATER IN THE SYSTEM. THE OWNER WILL, ON 72 HOURS NOTICE FROM THE CONTRACTOR, OPEN AND/OR CLOSE ANY VALVES REQUIRED FOR DRAINING OR ADMITTING WATER TO THE VARIOUS SECTIONS OF THE WATER MAINS. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY IN WRITING 48 HOURS IN ADVANCE, ANY OCCUPANT THAT WILL BE WITHOUT WATER DUE TO A SHUTDOWN.
21. SOME WATER SERVICE CONNECTIONS MAY NOT BE SHOWN ON THE DRAWINGS. THE OWNER WILL MARK THE LOCATION OF SUCH CONNECTIONS, PROVIDED THE CONTRACTOR GIVES THE OWNER AT LEAST 72 HOURS ADVANCE NOTICE.
22. ALL NEW WATER SERVICES SHALL BE THE SAME SIZE AS THE EXISTING WATER SERVICE, EXCEPT THAT NO SERVICE SHALL BE LESS THAN 1" DIAMETER. COORDINATE THIS WORK WITH THE WATER DEPARTMENT.
23. ELEVATIONS REFERENCED ARE NAD83 MASSACHUSETTS STATE PLANES, MAINLAND ZONE, US FOOT.
24. EXISTING UTILITY INFORMATION, TOPOGRAPHIC INFORMATION, EDGE OF PAVEMENT, UTILITY POLE LOCATIONS, AND LOCATIONS OF EXISTING ABOVE GROUND STRUCTURES WERE TAKEN FROM PLANS PREPARED BY BEALS AND THOMAS, INC., KELLY ENGINEERING GROUP, GIS DATA, AND GROUND SURVEY CONDUCTED BY WESTON & SAMPSON.
25. ASSESSORS INFORMATION REPRESENTED ON THESE DRAWINGS IS TAKEN FROM THE CITY/TOWN ASSESSOR'S PARCEL MAPS, MASS GIS DATA AND IS INCLUDED FOR ILLUSTRATIVE PURPOSES ONLY. ASSESSORS INFORMATION IS NOT INTENDED TO BE AN AUTHORITY RECORD OF PROPERTY BOUNDARIES OR A SOURCE OF INFORMATION FOR AN ACTUAL SURVEY OR LEGAL DESCRIPTION OF THE PROPERTY. NO WORK HAS BEEN PERFORMED TO DETERMINE THE DEPICTED PROPERTY LINES AND THEREFORE, THESE DRAWINGS ARE NOT INTENDED BE USED TO DELINEATE ANY EXISTING OR PROPOSED STRUCTURES, FEATURES OR BOUNDARIES RELATIVE TO PROPERTY LINES. AUTHORITY RECORDS OF PROPERTY LINES MAY BE LOCATED AT THE STATE OR MUNICIPAL AGENCY RESPONSIBLE FOR MAINTAINING PUBLIC RECORDS IN WHICH THE PARCEL IS LOCATED. LEGALLY AUTHORITY MAPS OF PROPERTY LINES MAY ONLY BE PRODUCED BY A PROFESSIONAL LAND SURVEYOR.

Project:

TAYLOR STREET WELL

LITTLETON WATER
DEPARTMENT

39 AYER ROAD
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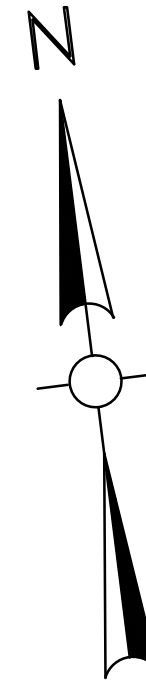
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Drawing Title:

ABBREVIATIONS, NOTES, & LEGEND

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C001



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DEPARTMENT

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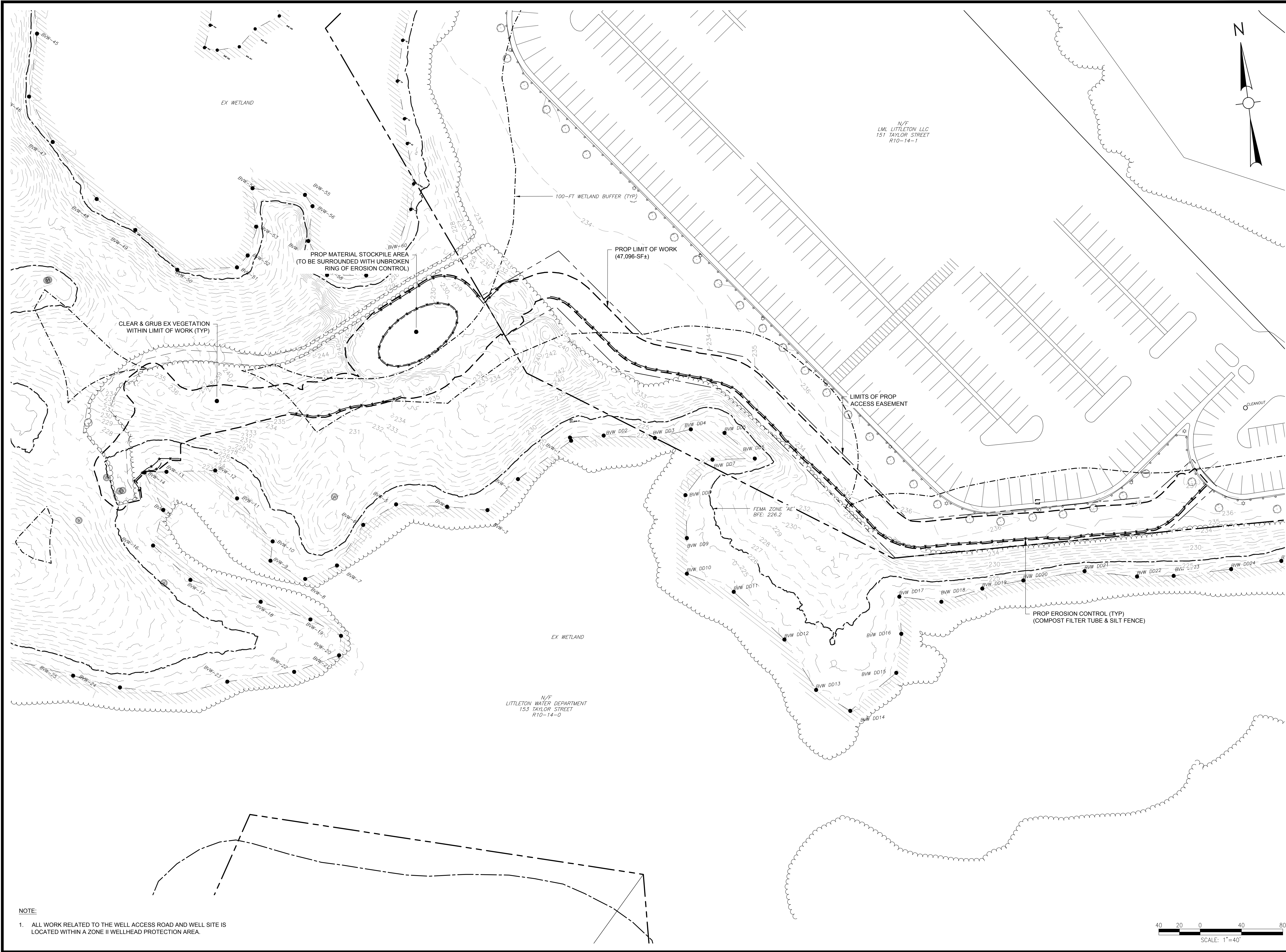
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EXISTING CONDITIONS PLAN

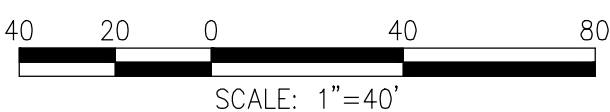
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C100



NOTE:

1. ALL WORK RELATED TO THE WELL ACCESS ROAD AND WELL SITE IS LOCATED WITHIN A ZONE II WELLHEAD PROTECTION AREA.



Project: TAYLOR STREET WELL

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ELECTRIC, LIGHT & WATER DEPARTMENTS

LITTLETON WATER DEPARTMENT

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Approved By: TEM

W&S Project No.: ENG23-0679

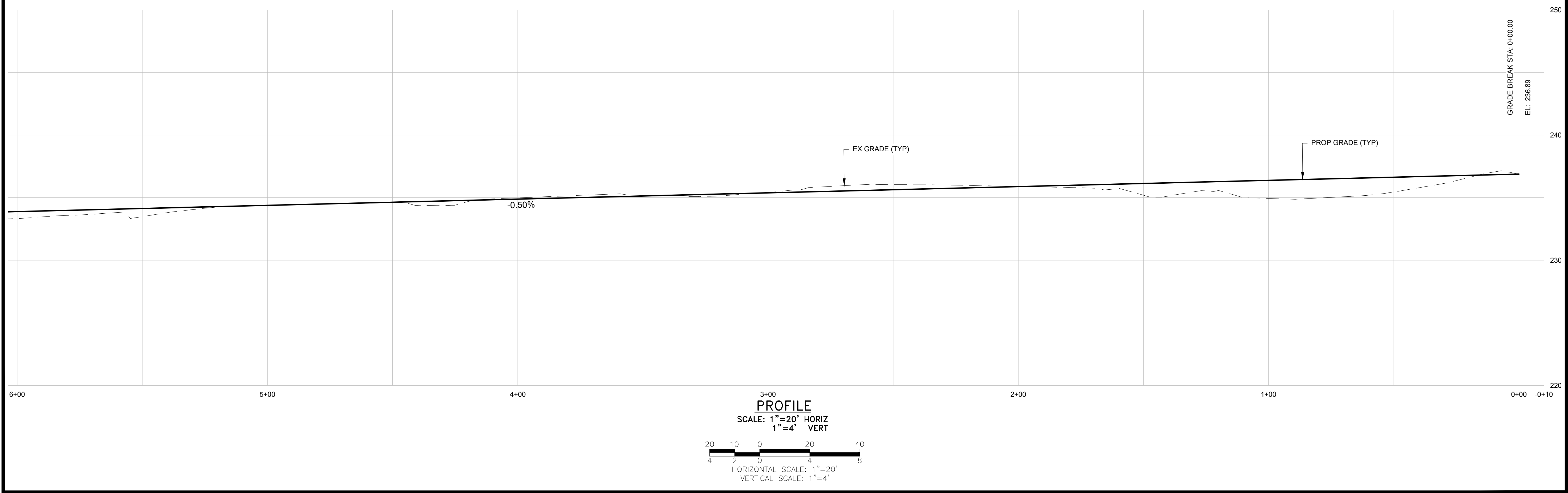
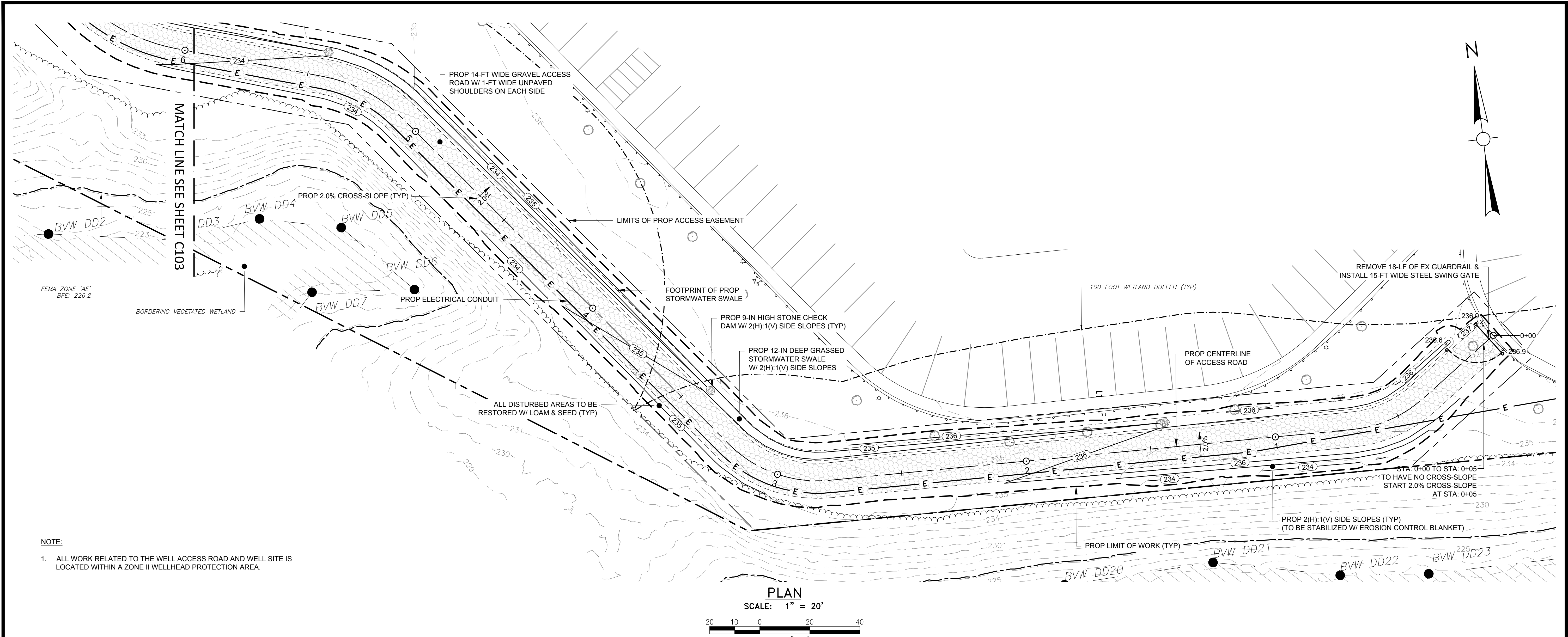
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Drawing Title:

SITE PREPARATION & EROSION CONTROL PLAN

Sheet Number:

C101



Project:
TAYLOR STREET WELL

ELECTRIC, LIQUID & WATER DEPARTMENTS

LITTLETON WATER
DEPARTMENT

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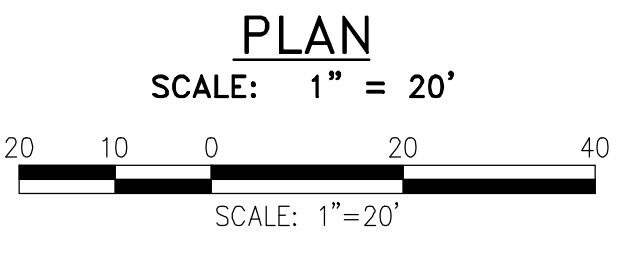
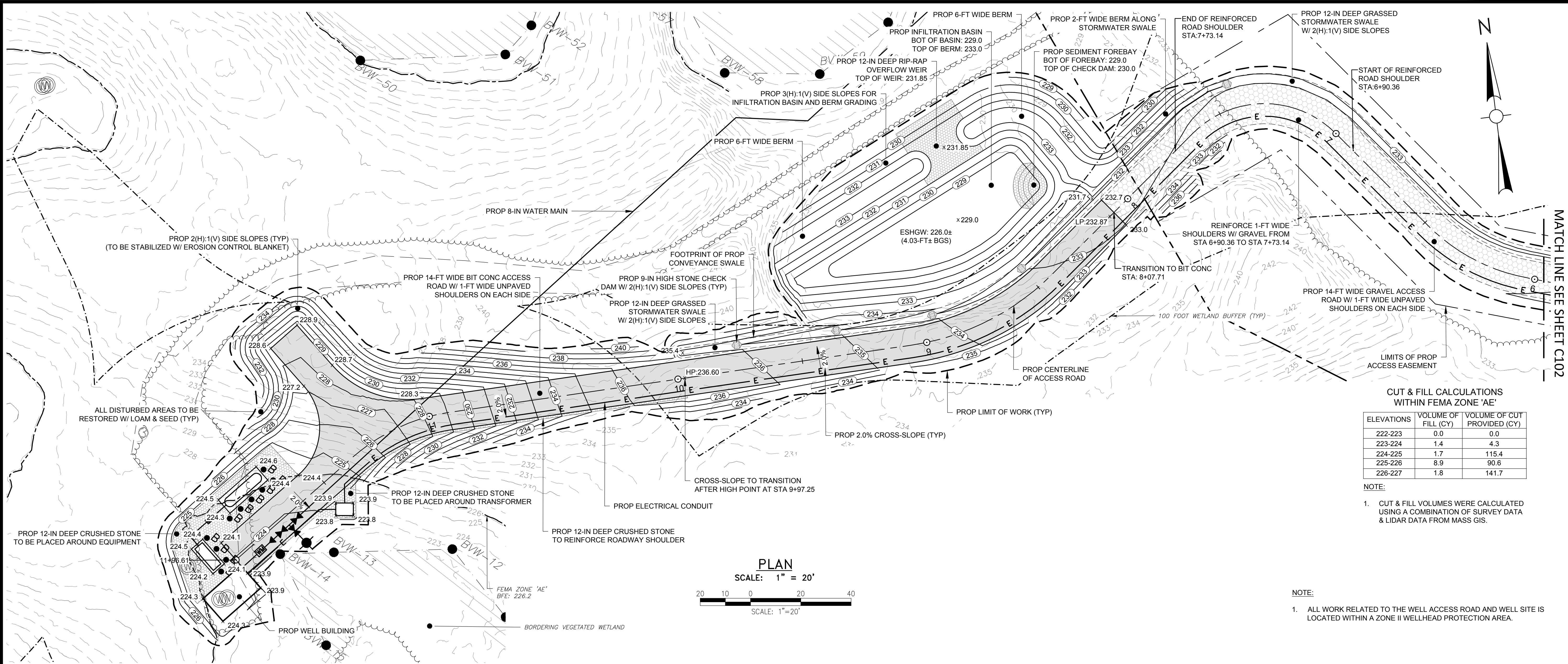
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W&S File No.:

Drawing Title:
ACCESS ROAD
GRADING &
DRAINAGE PLAN

Sheet Number:
C102

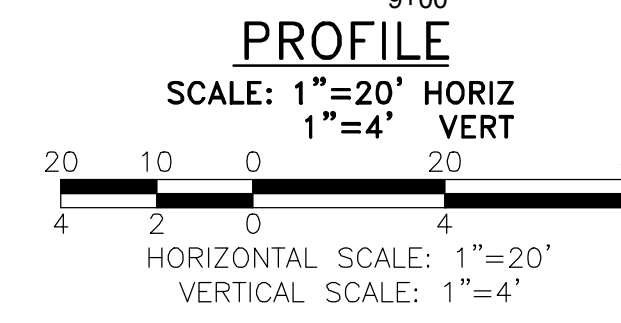
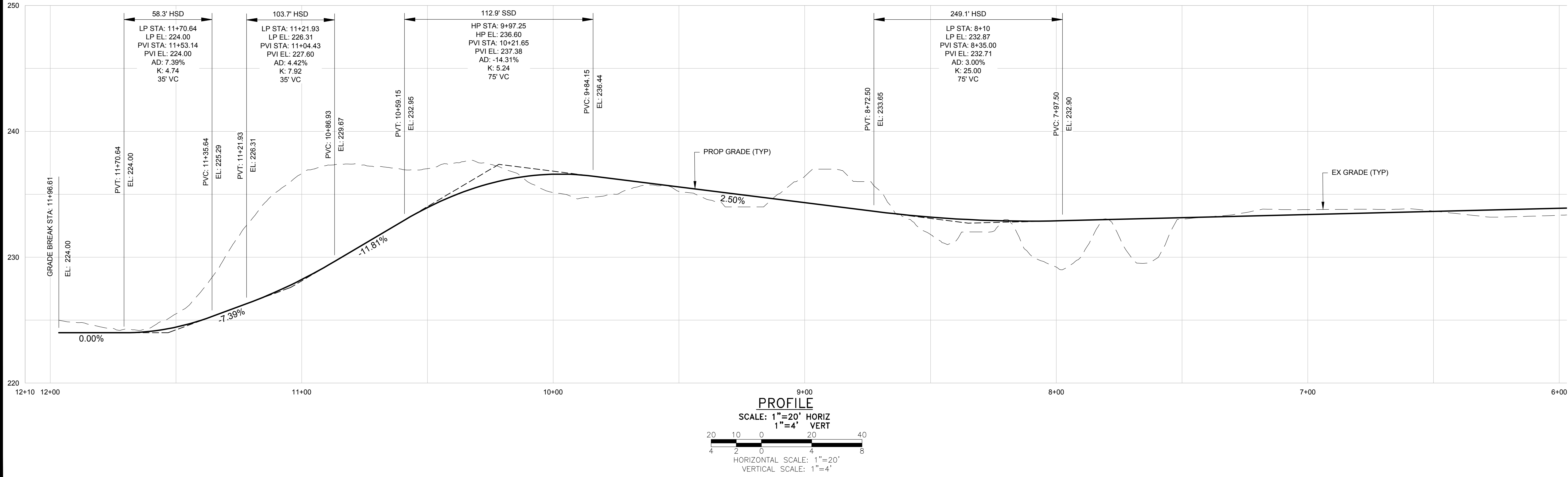


CUT & FILL CALCULATIONS
WITHIN FEMA ZONE 'AE'

ELEVATIONS	VOLUME OF FILL (CY)	VOLUME OF CUT PROVIDED (CY)
222-223	0.0	0.0
223-224	1.4	4.3
224-225	1.7	115.4
225-226	8.9	90.6
226-227	1.8	141.7

NOTE:
1. CUT & FILL VOLUMES WERE CALCULATED USING A COMBINATION OF SURVEY DATA & LIDAR DATA FROM MASS GIS.

NOTE:
1. ALL WORK RELATED TO THE WELL ACCESS ROAD AND WELL SITE IS LOCATED WITHIN A ZONE II WELLHEAD PROTECTION AREA.



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TAYLOR STREET WELL
LITTLETON LELWD
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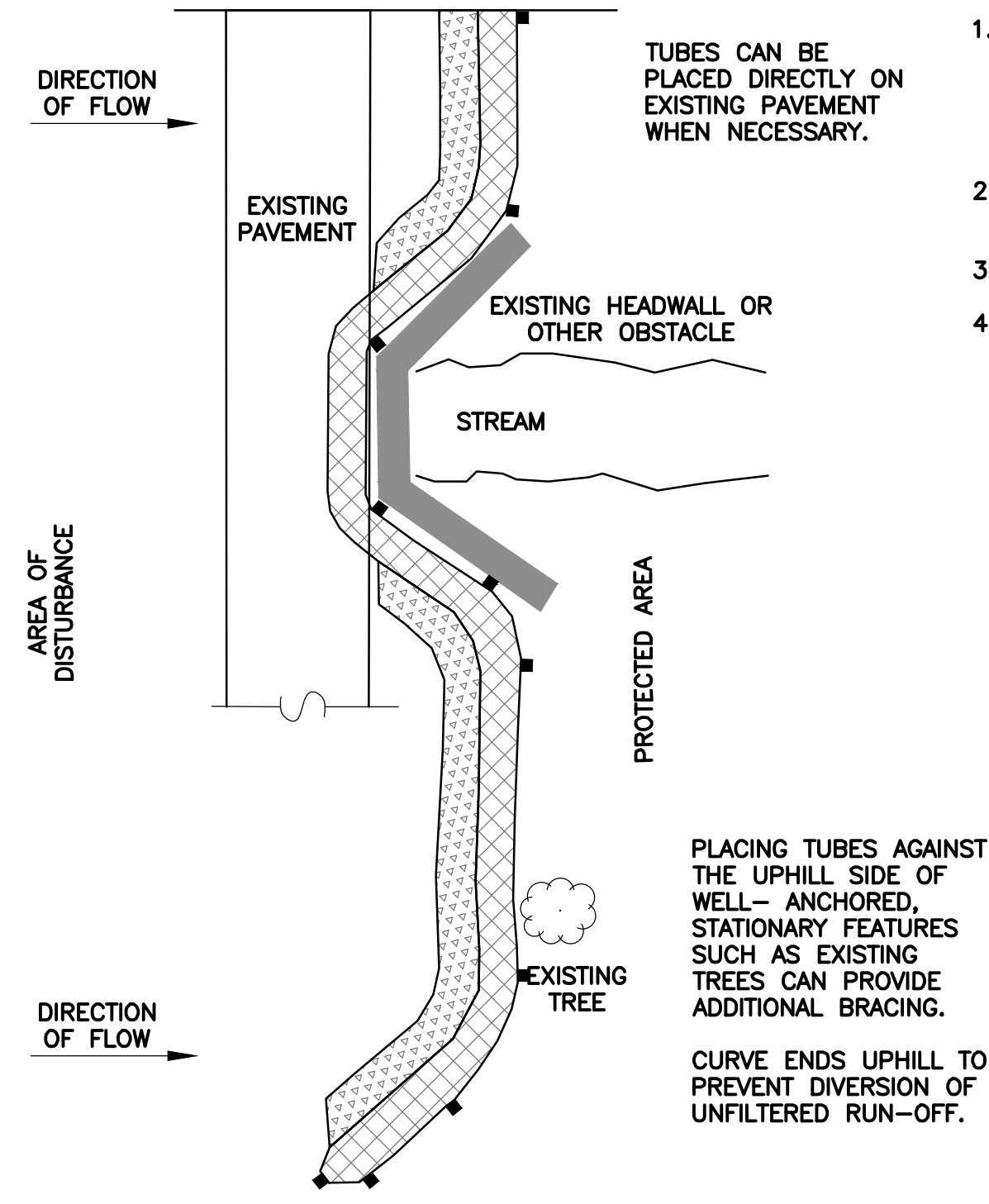
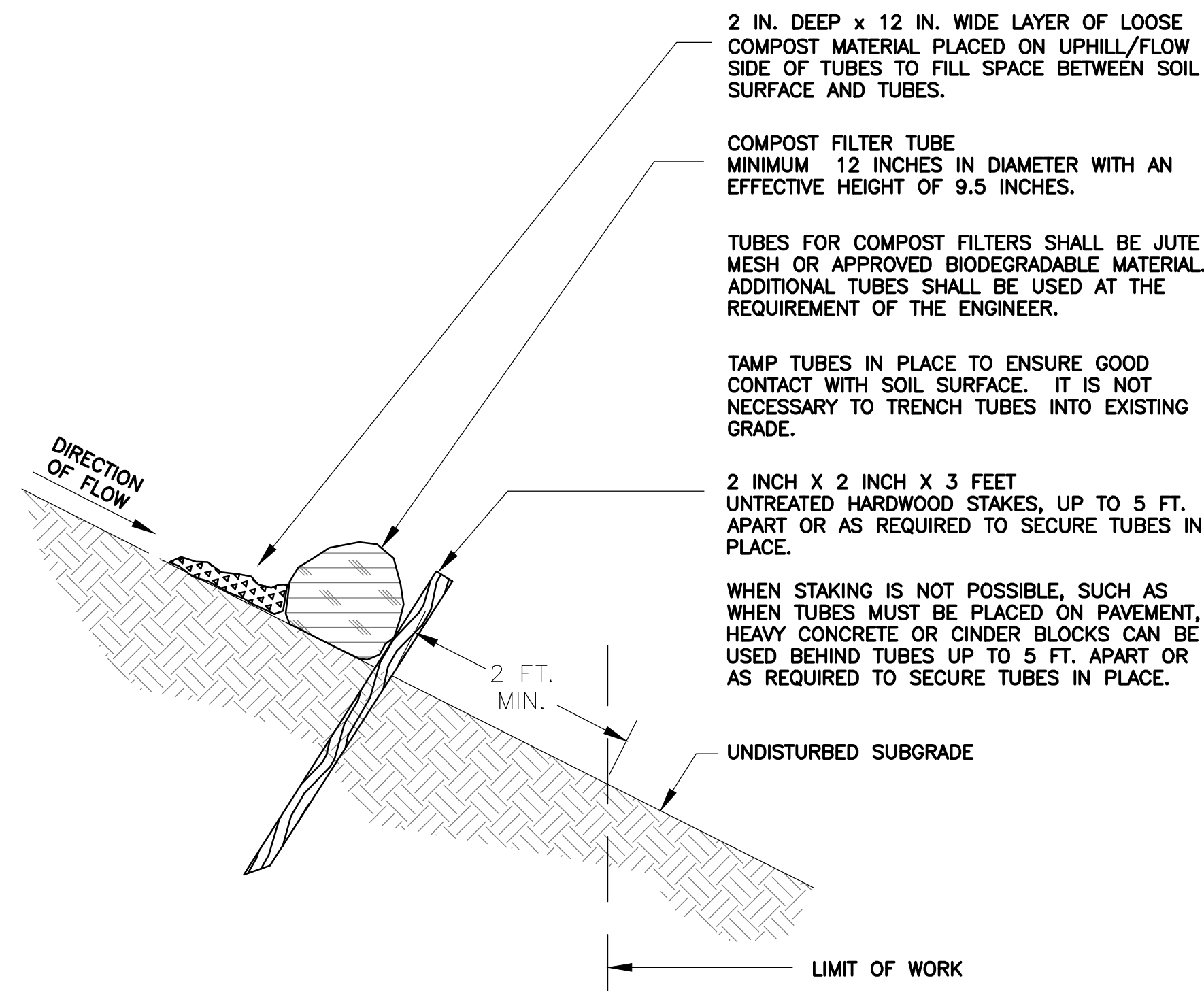
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Drawing Title:
WELL SITE AND ACCESS ROAD GRADING & DRAINAGE PLAN

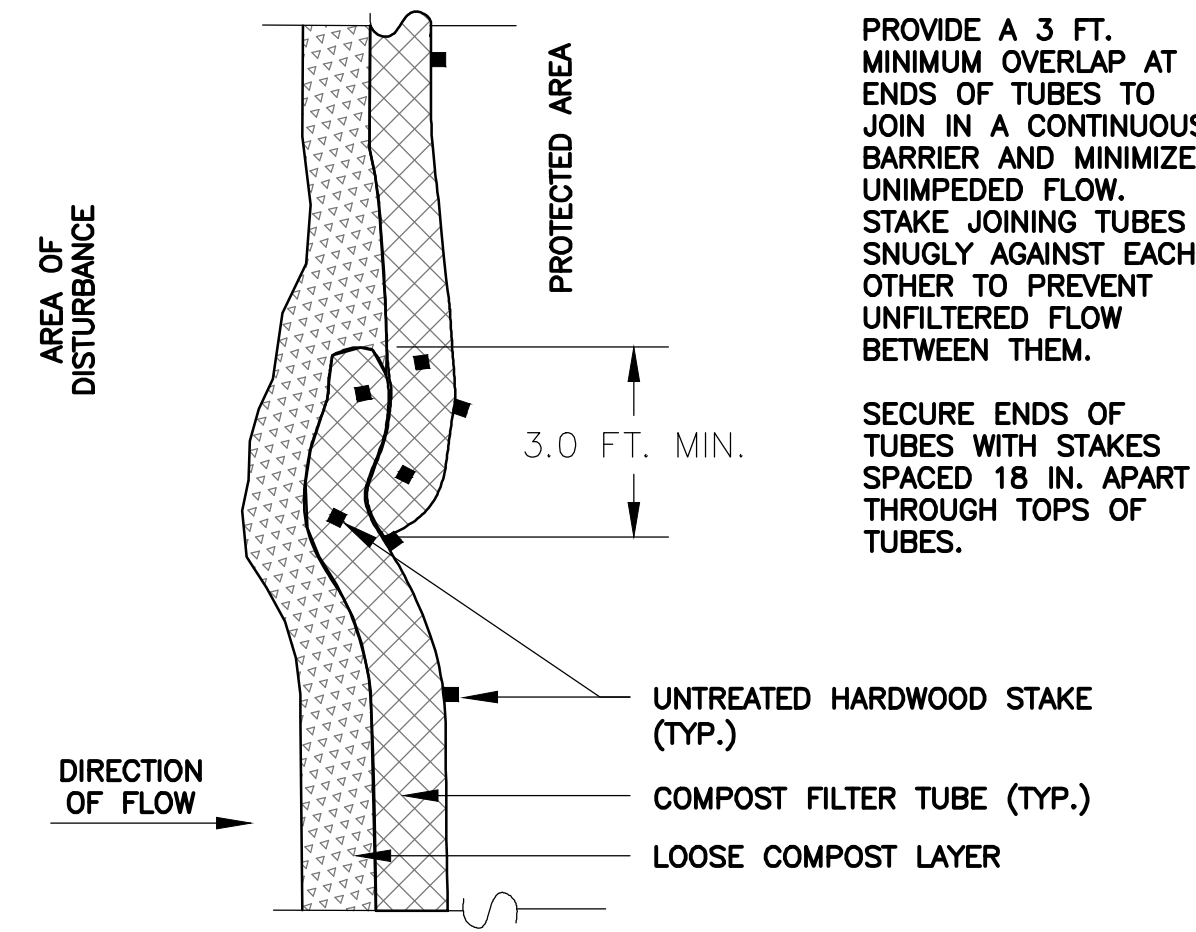
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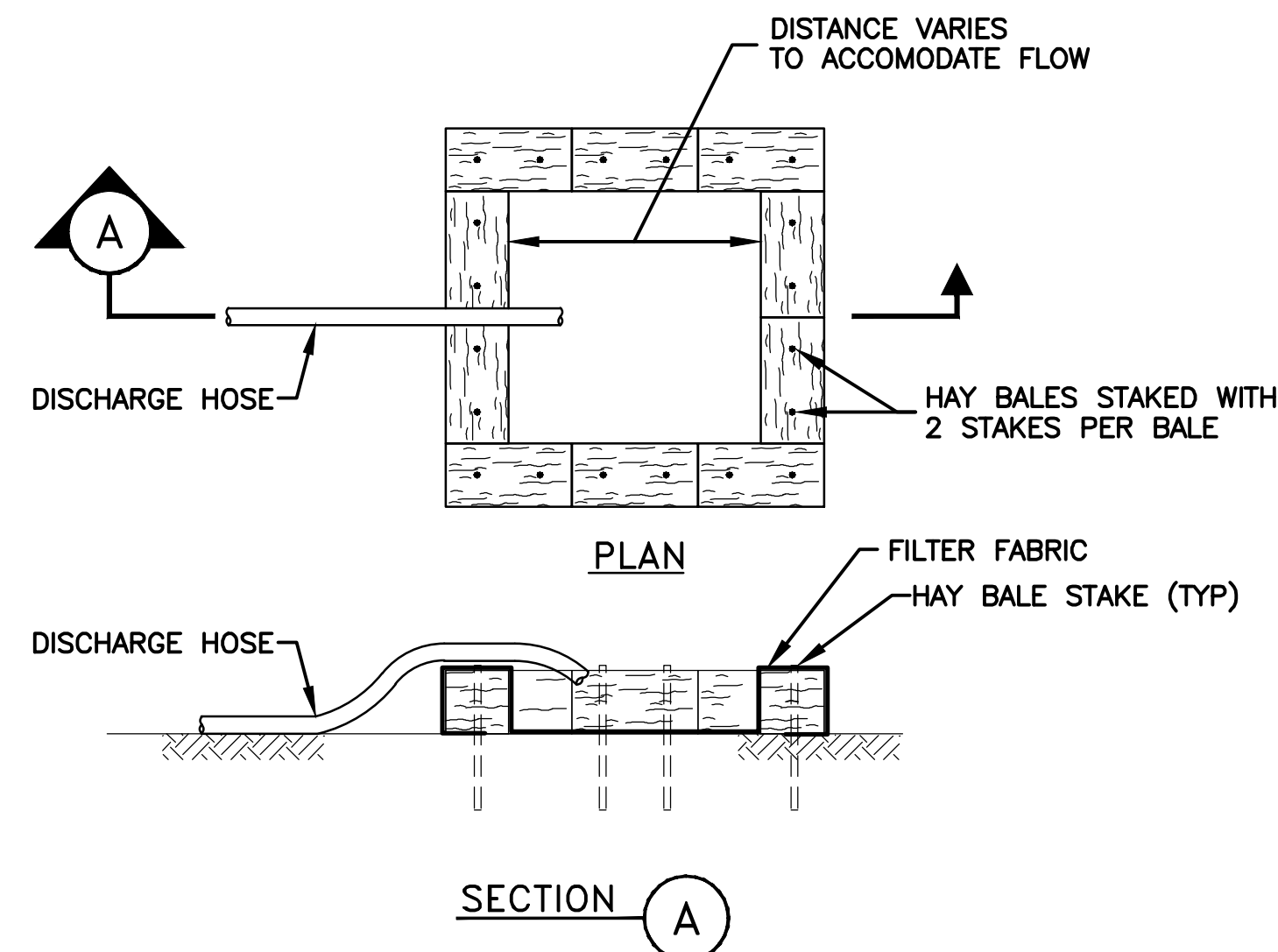
PLAN VIEW
SINGLE COMPOST FILTER TUBE DETAIL
NOT TO SCALE

GENERAL NOTES:

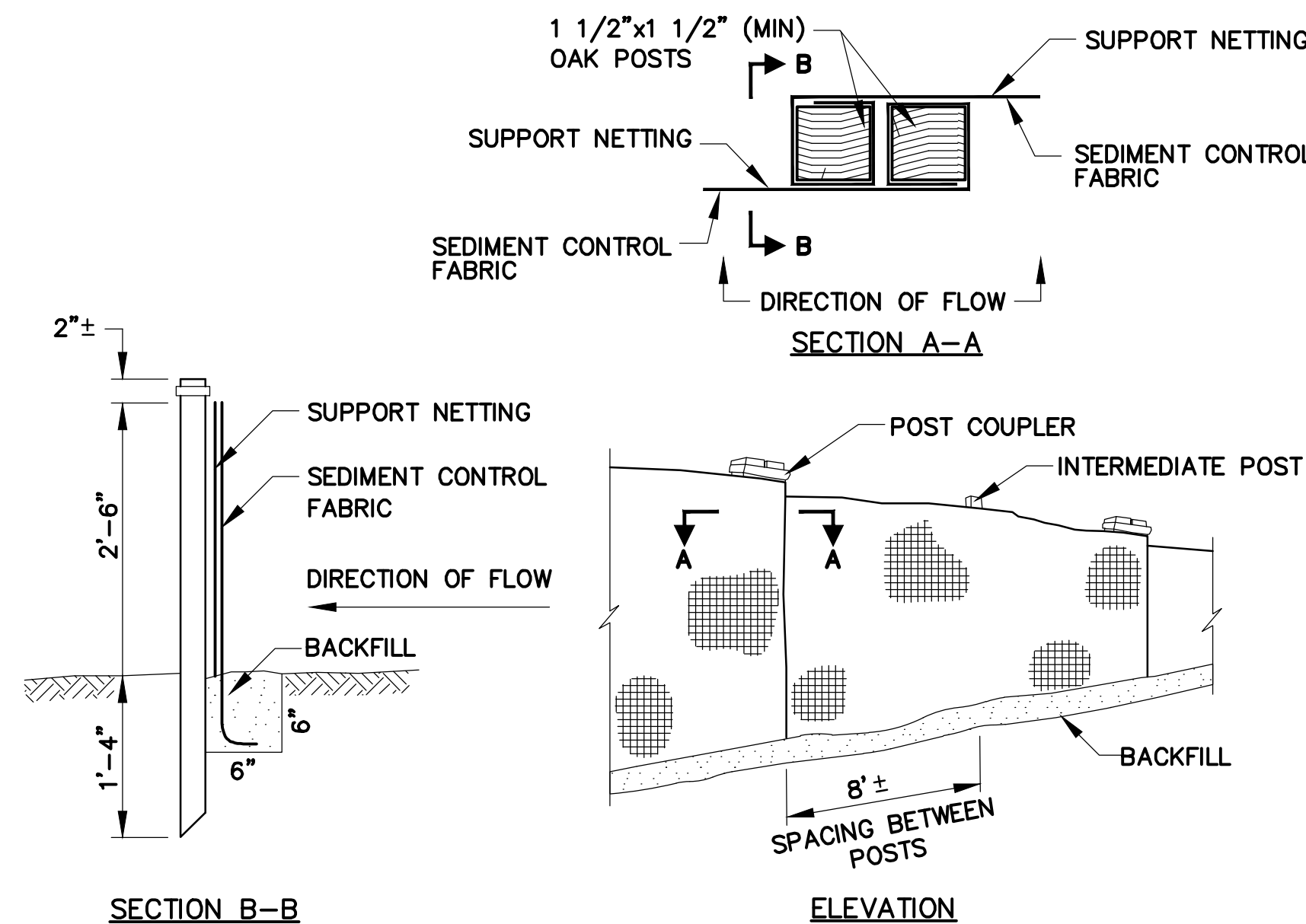
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.



PLAN VIEW - JOIN DETAIL



DEWATERING DISCHARGE DISPOSAL DETAIL
N.T.S.



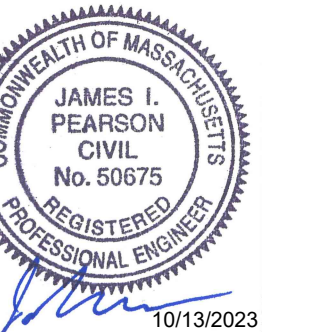
SILT FENCE DETAIL
N.T.S.

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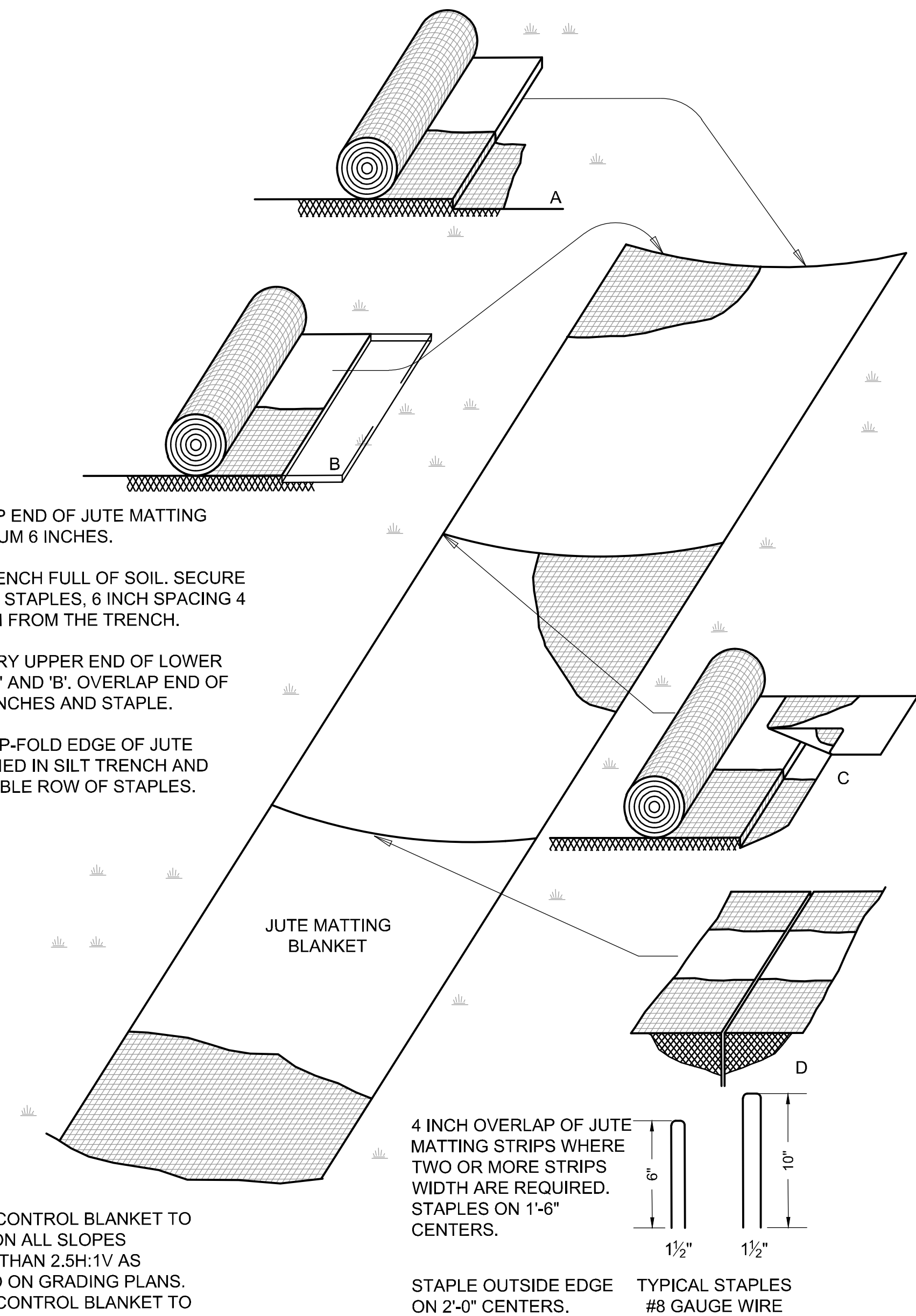
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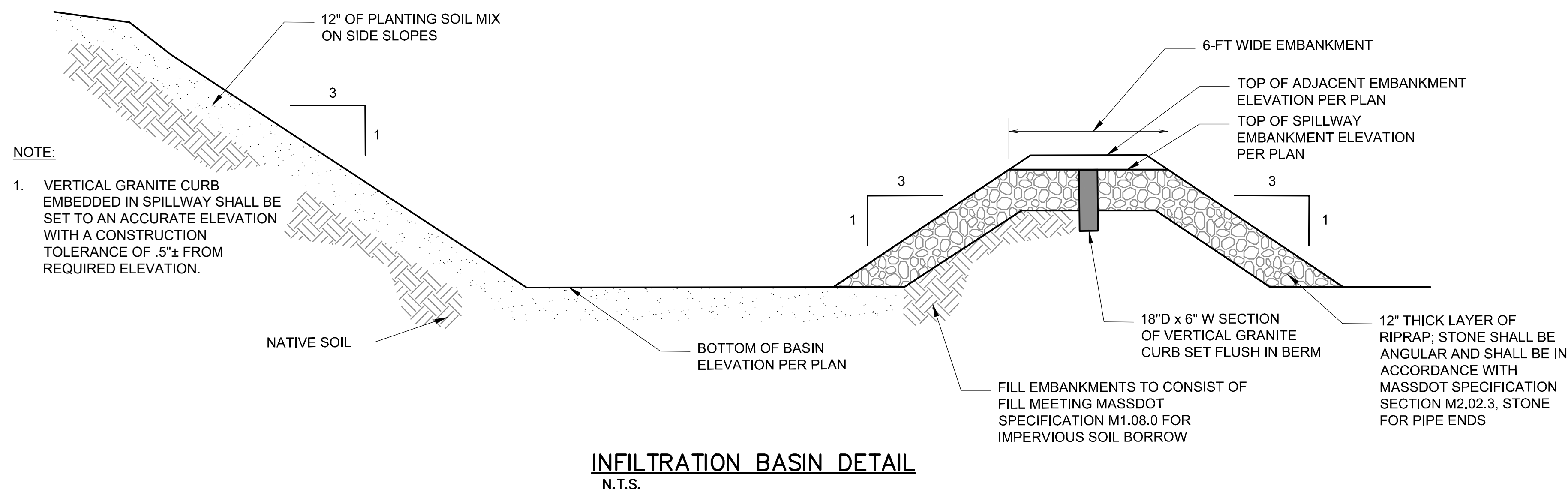
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CONSTRUCTION DETAILS

Sheet Number:
C501

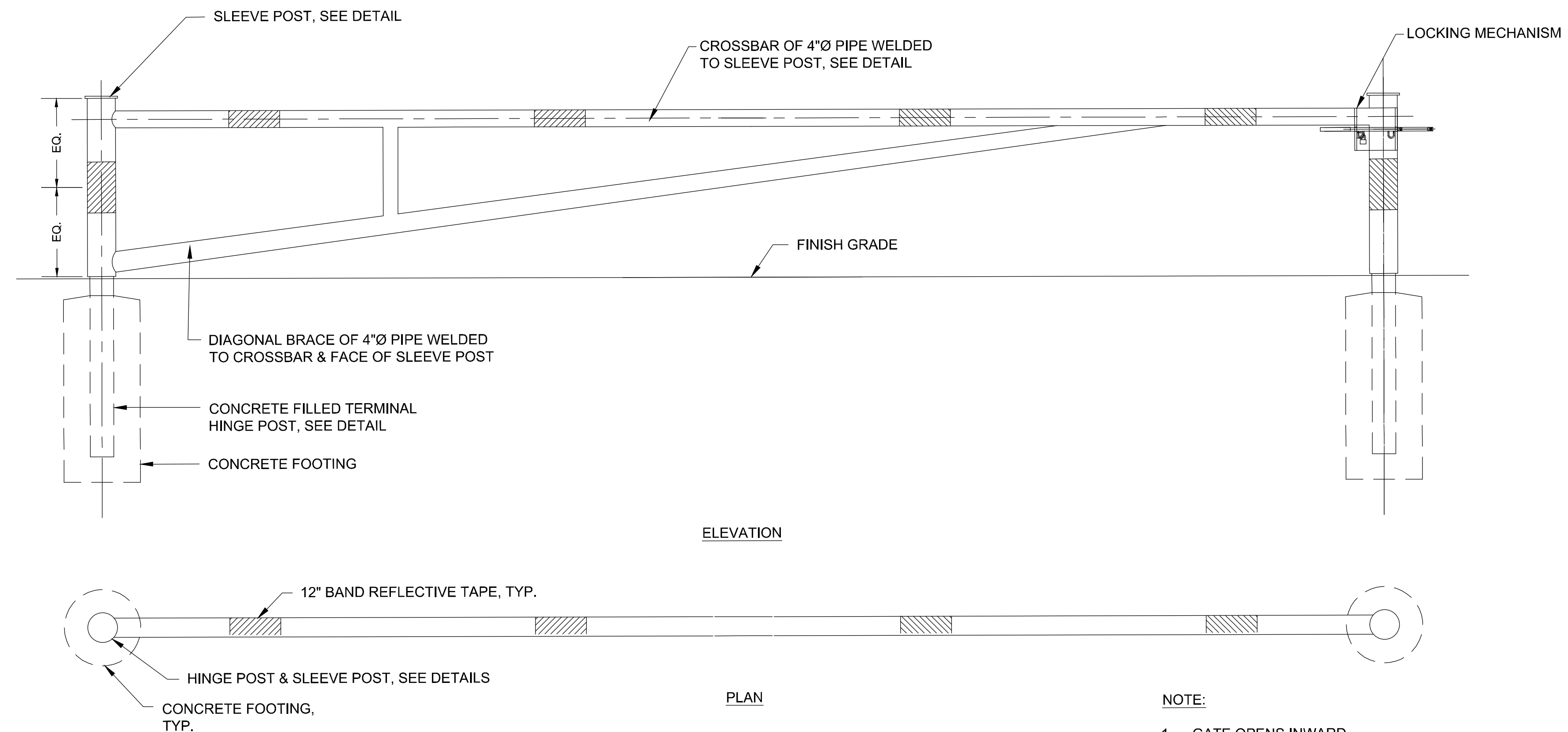


- NOTES:
1. EROSION CONTROL BLANKET TO BE USED ON ALL SLOPES GREATER THAN 2.5H:1V AS INDICATED ON GRADING PLANS. EROSION CONTROL BLANKET TO BE PRODUCED FROM BIODEGRADABLE JUTE OR COIR MATTING AND IS NOT TO CONTAIN PLASTICS.

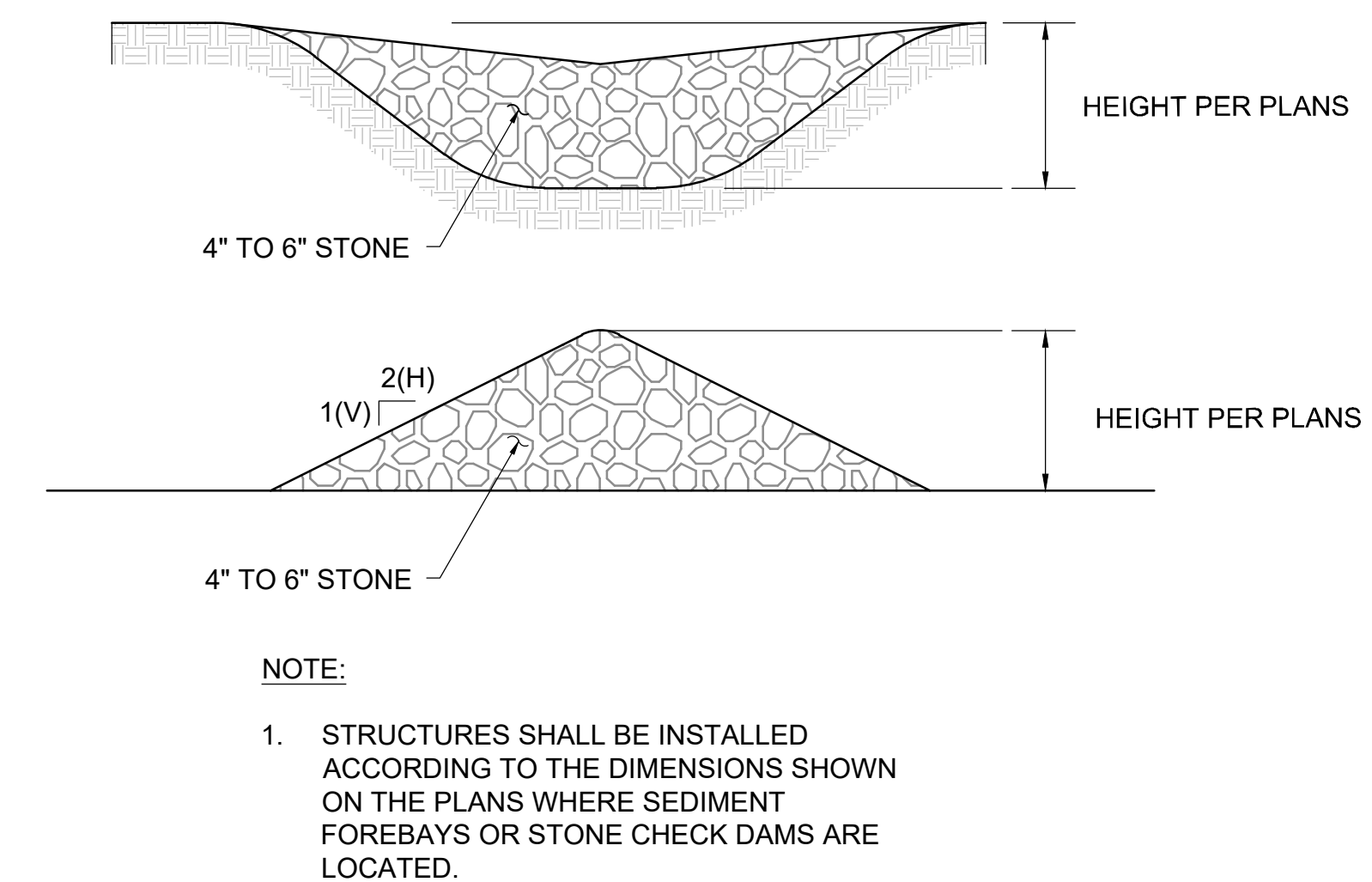
EROSION CONTROL BLANKET DETAIL
N.T.S.



INFILTRATION BASIN DETAIL
N.T.S.



STEEL SWING ARM GATE
N.T.S.



SEDIMENT FOREBAY / STONE CHECKDAM DETAIL
N.T.S.

Consultants:

Revisions:

No.	Date	Description

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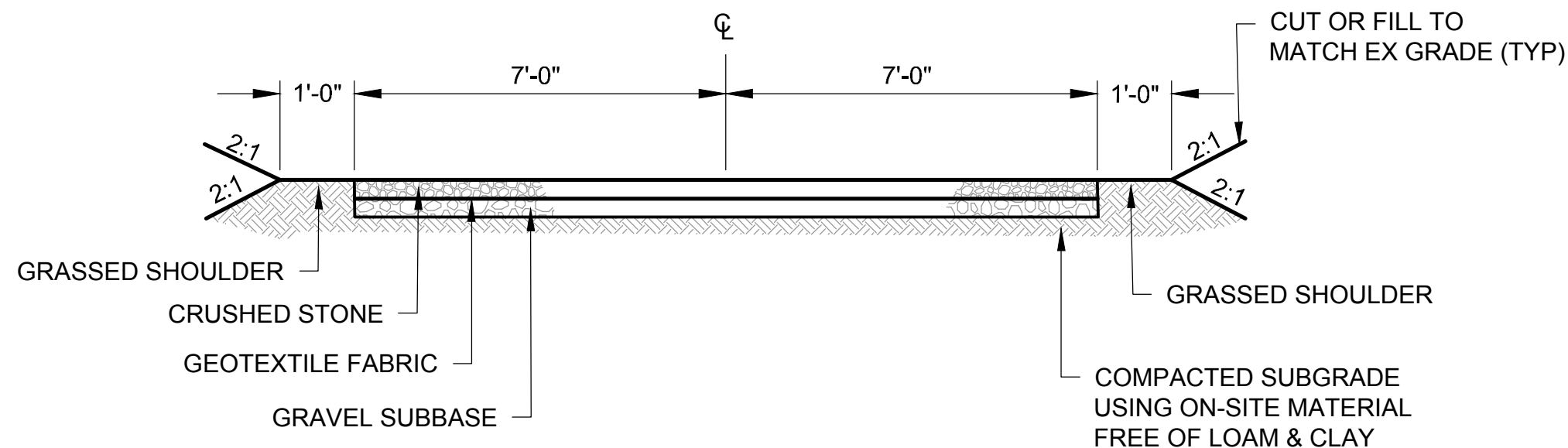
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CIVIL
No. 50675
REGISTERED
PROFESSIONAL ENGINEER
10/13/2023

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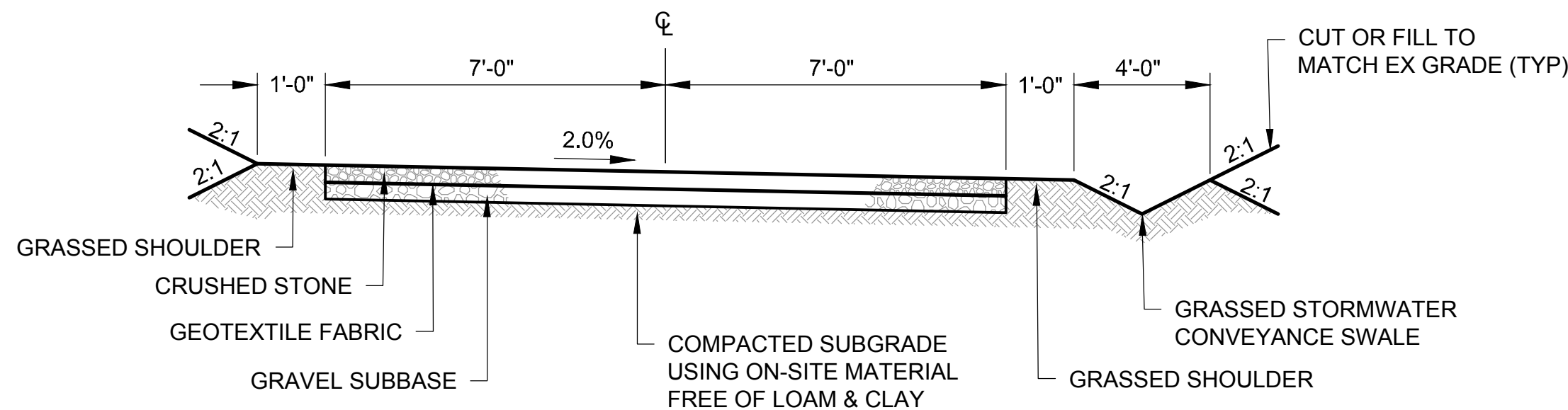
Drawing Title: CONSTRUCTION DETAILS

Sheet Number: C502



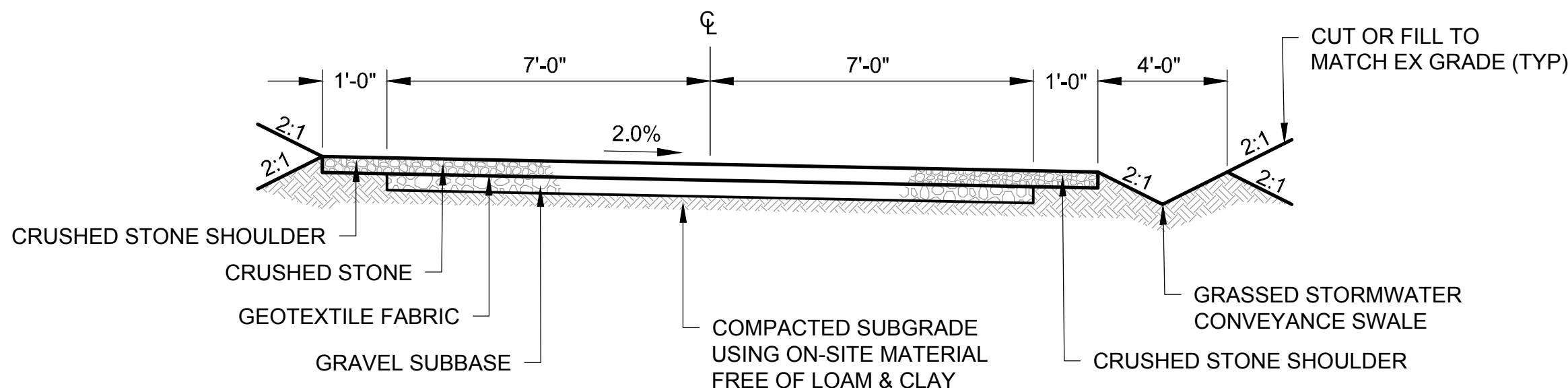
GRAVEL ROAD - TYPICAL SECTION 'A'

STA 0+00.00 - 0+05.00



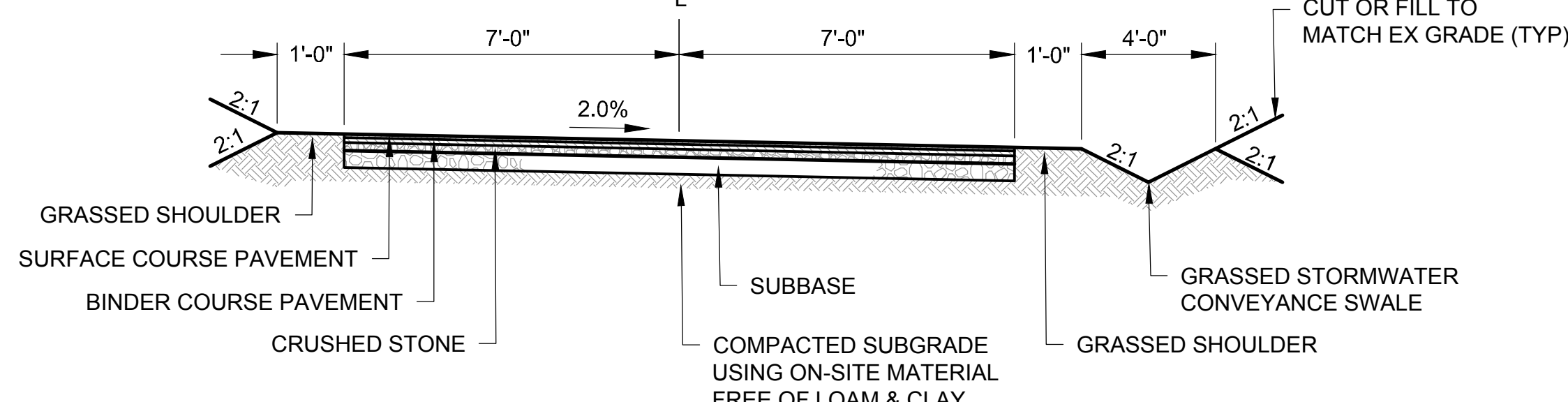
GRAVEL ROAD - TYPICAL SECTION 'B'

STA 0+05.00 - 6+90.36
STA 7+73.14 - 8+07.71



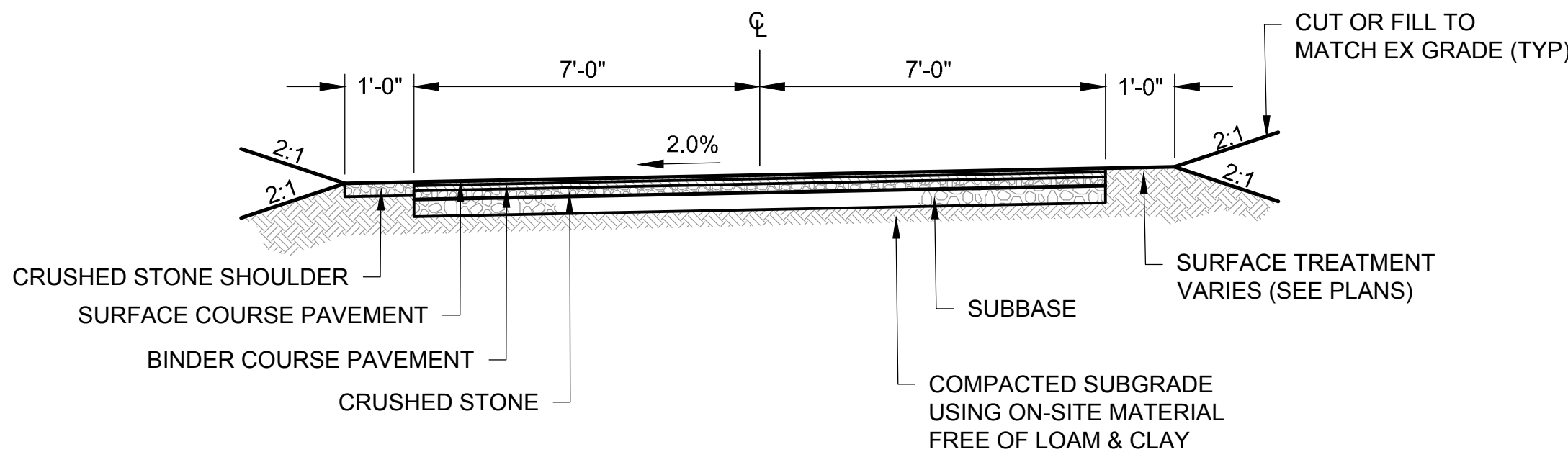
GRAVEL ROAD - TYPICAL SECTION 'C'

STA 6+90.36 - 7+73.14



PAVED ROAD - TYPICAL SECTION 'D'

STA 8+07.71 - 9+97.25



PAVED ROAD - TYPICAL SECTION 'E'

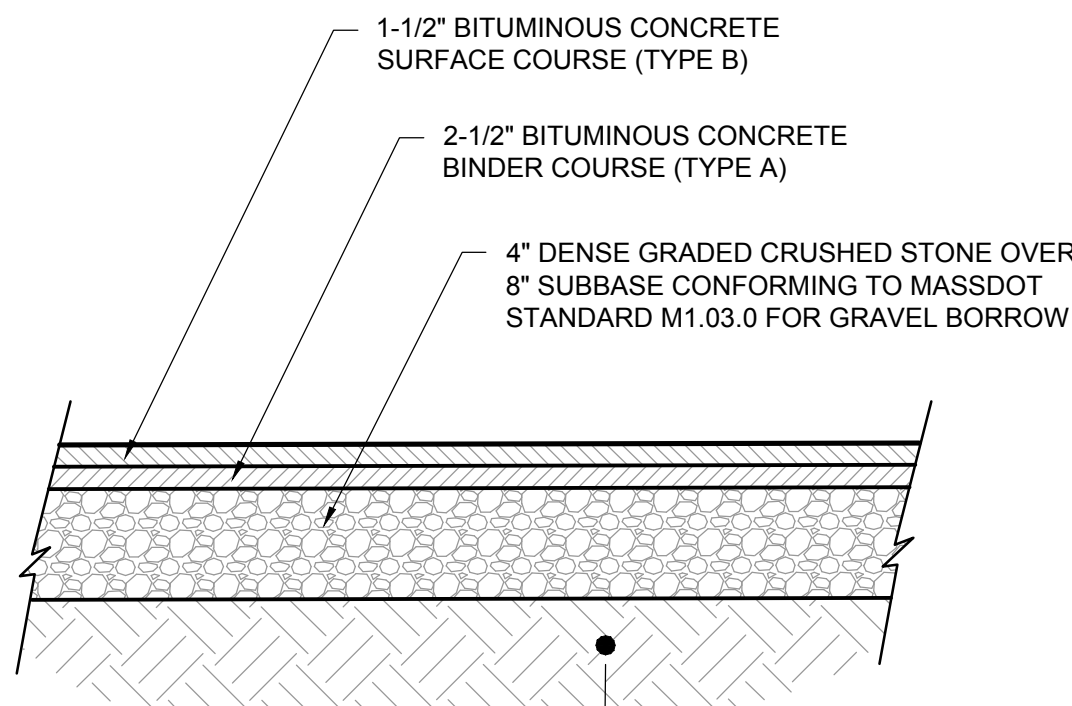
STA 9+97.25 - 11+96.61

NOTE:

- SEE BITUMINOUS CONCRETE AND GRAVEL ACCESS ROADWAY CROSS-SECTIONS FOR INFORMATION ON MATERIAL DEPTHS AND ADDITIONAL REQUIREMENTS.

ACCESS ROADWAY CROSS-SECTIONS

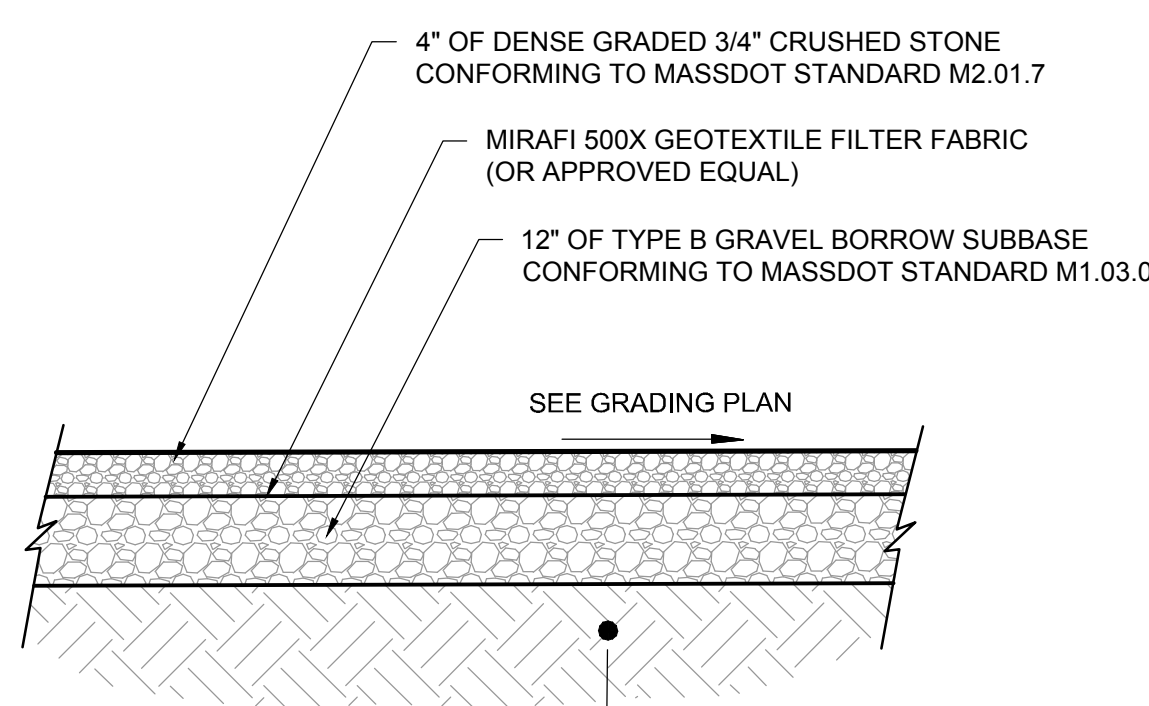
N.T.S.



- NOTE:
- SEE HOT MIX ASPHALT SPECIFICATIONS (SECTION 32 12 00) FOR PAVING MATERIAL REQUIREMENTS.

SECTION VIEW

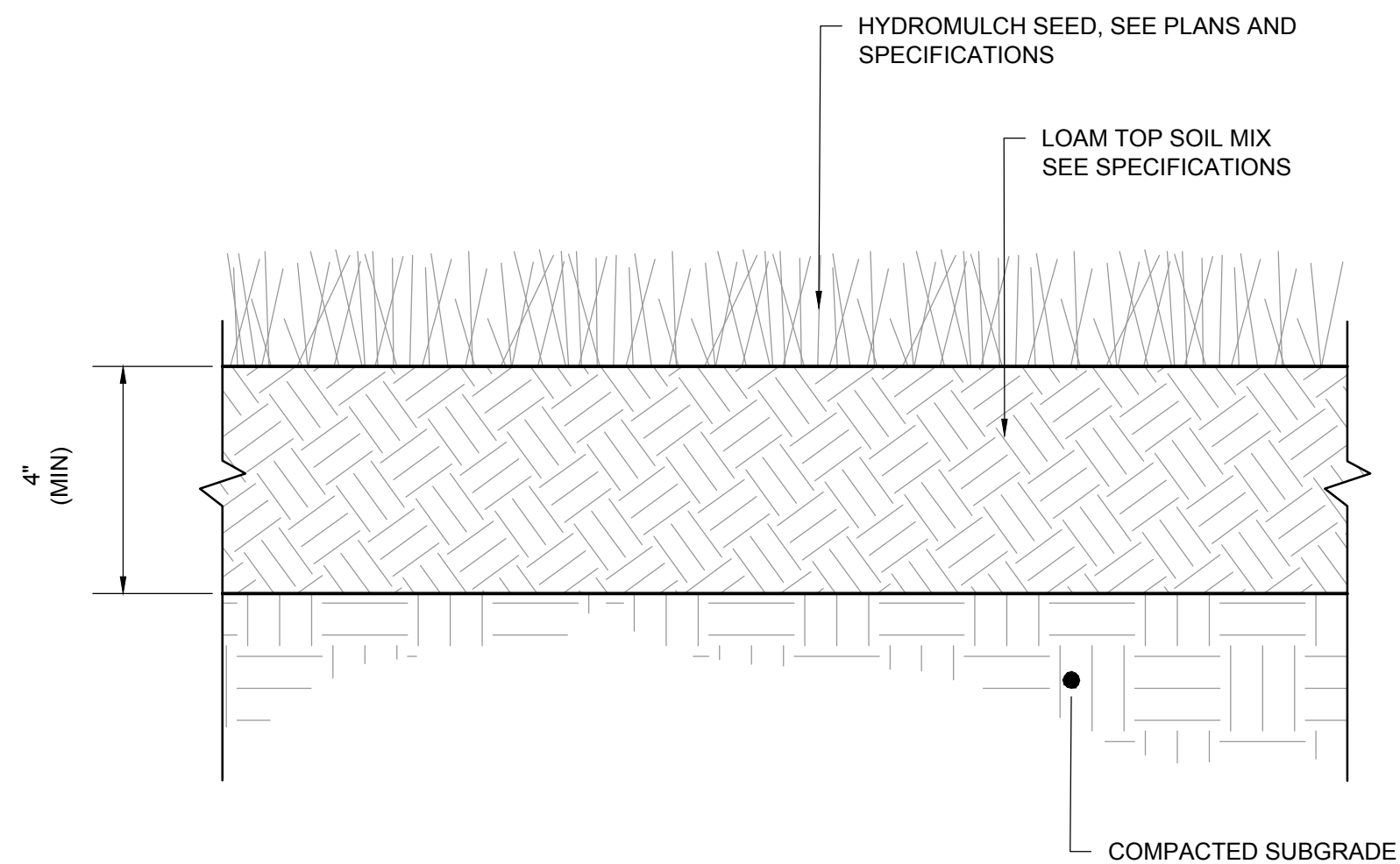
COMPACTED SUBGRADE USING ON-SITE MATERIAL FREE OF LOAM & CLAY



- NOTE:
- SEE GRAVEL SURFACE SPECIFICATIONS (SECTION 32 11 23) FOR MATERIAL REQUIREMENTS.

SECTION VIEW

COMPACTED SUBGRADE USING ON-SITE MATERIAL FREE OF LOAM & CLAY



LOAM & SEED DETAIL

N.T.S.

BITUMINOUS CONCRETE ACCESS ROADWAY CROSS-SECTION

N.T.S.

GRAVEL ACCESS ROADWAY CROSS-SECTION

N.T.S.

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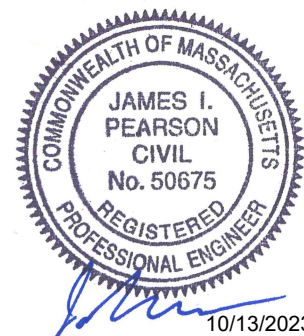
Consultants:

Revisions:

No.	Date	Description

COA:

Seal:



Issued For:

PERMITTING - NOT
FOR
CONSTRUCTION

Scale:

AS NOTED

Date: OCTOBER 2023
Drawn By: GJK/RWS
Reviewed By: SBR
Approved By: TEM

W&S Project No.: ENC23-0679
W&S File No.:

Drawing Title:

CONSTRUCTION
DETAILS

Sheet Number:

C503