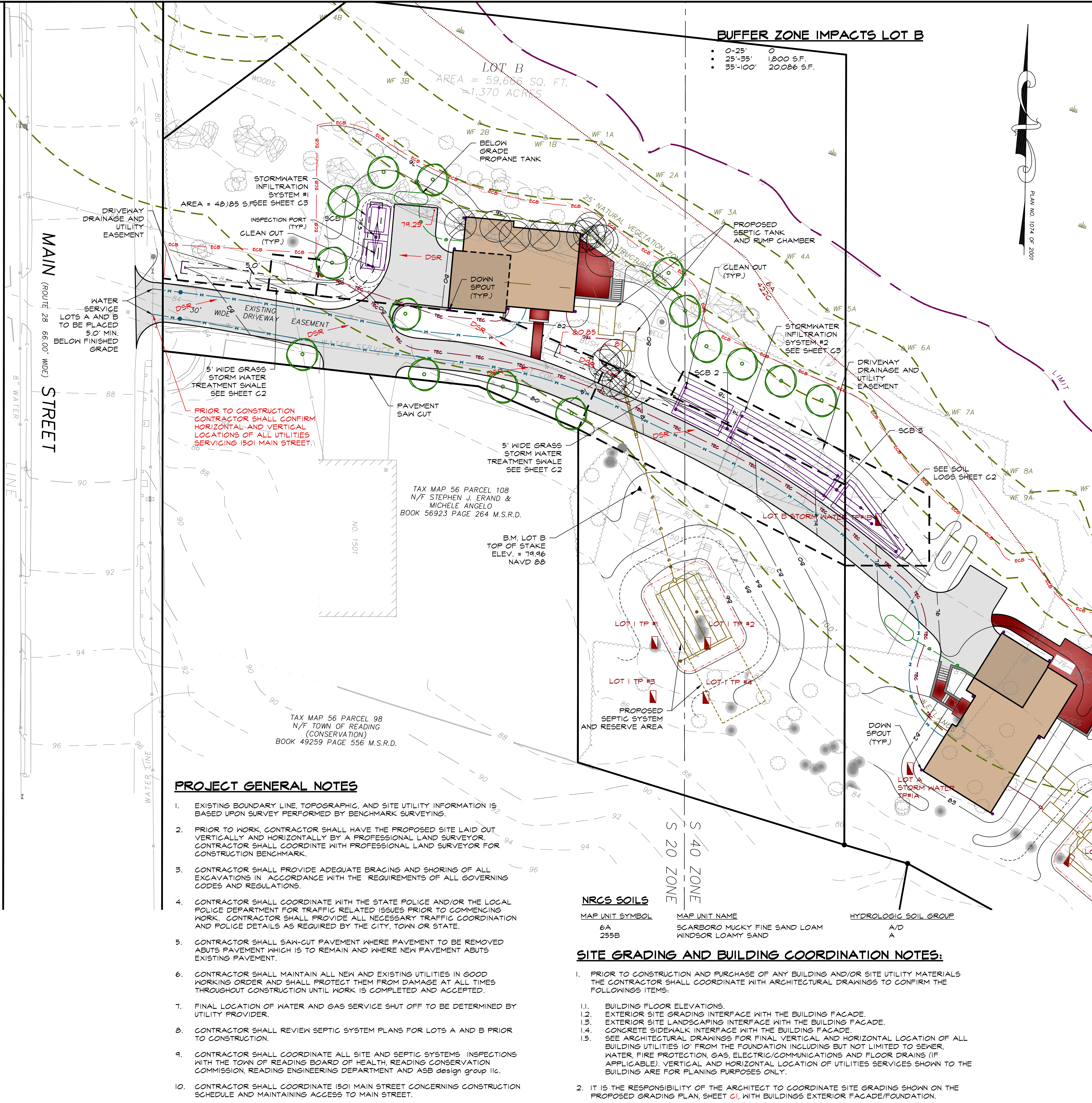
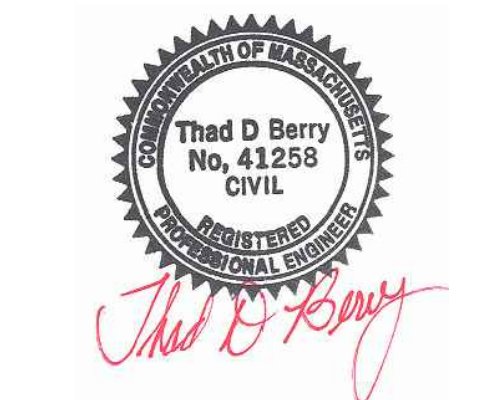
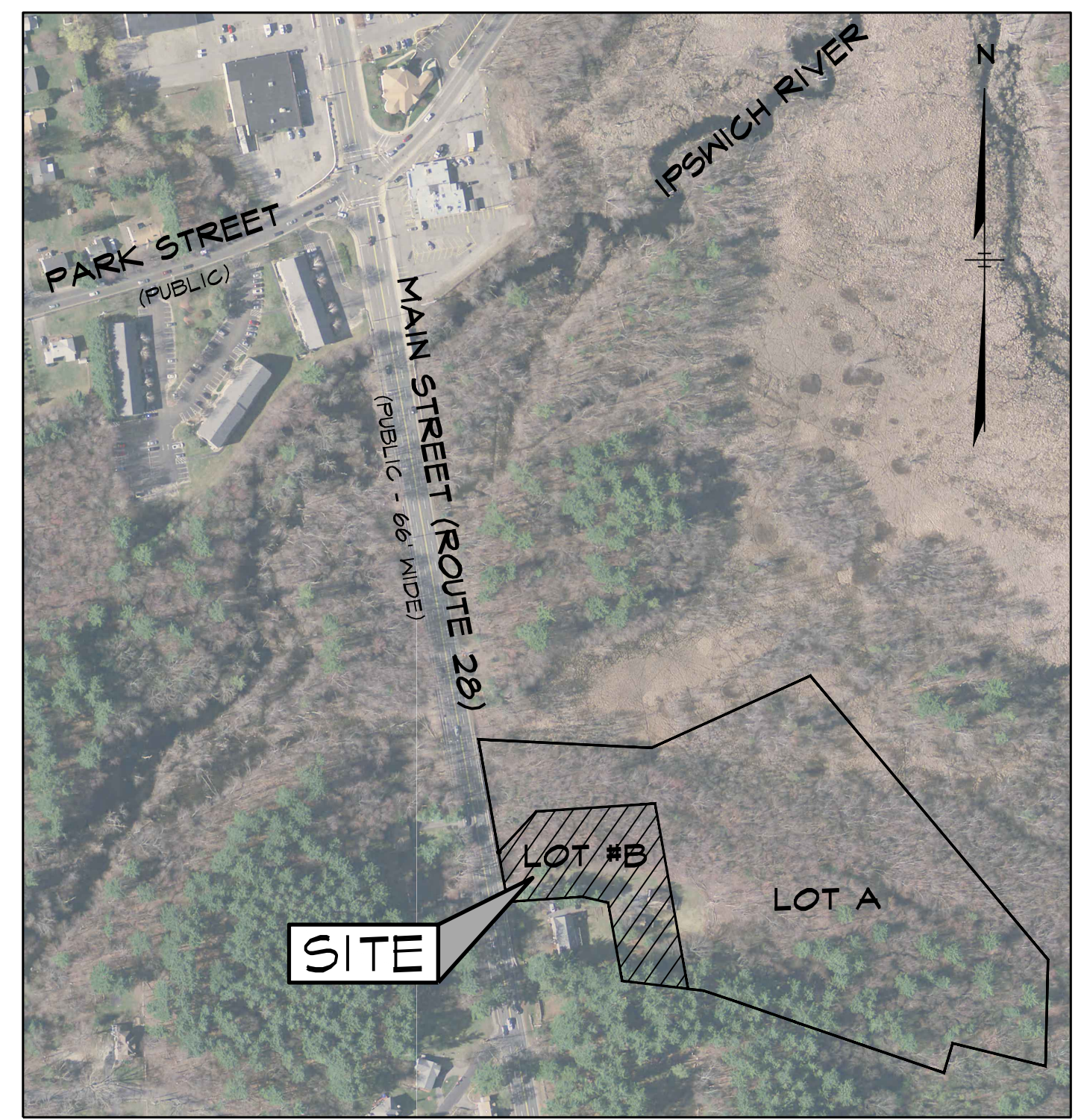


no.	date	description
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INDEX OF SHEETS

- C1 SHEET 1 OF 4 SITE PLAN
- C2 SHEET 2 OF 4 SITE DETAILS
- C3 SHEET 3 OF 4 DRAINAGE DETAILS
- C4 SHEET 4 OF 4 EROSION CONTROL DETAILS



LOCATION PLAN

SCALE: 1" = 250' ±
SOURCE: MA GIS DIGITAL RASTER GRAPHIC (DRG)

DIG SAFE NOTES

- IN ACCORDANCE WITH CHAPTER 82 SECTION 40 INCLUDING AMENDMENTS, THE CONTRACTOR SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO EXCAVATION WORK AND CALL DIG-SAFE AT 1-800-DIG-SAFE PRIOR TO COMMENCING WORK.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATIONS, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

BEFORE CONSTRUCTION CALL (12 HOURS IN ADVANCE):
 • "DIG SAFE" AT 1-800-DIG SAFE
 • 1-888-344-1233



LEGEND

- DIRECTION OF STORMWATER RUNOFF (DSR)
- FINISH GRADE SPOT ELEVATION

TREES ON LOT A TO BE REMOVED

- ⊗ DECIDUOUS = 15
- DECIDUOUS REPLACED = 15

PROJECT GENERAL NOTES

- EXISTING BOUNDARY LINE, TOPOGRAPHIC, AND SITE UTILITY INFORMATION IS BASED UPON SURVEY PERFORMED BY BENCHMARK SURVEYING.
- PRIOR TO WORK, CONTRACTOR SHALL HAVE THE PROPOSED SITE LAID OUT VERTICALLY AND HORIZONTALLY BY A PROFESSIONAL LAND SURVEYOR. CONTRACTOR SHALL COORDINATE WITH PROFESSIONAL LAND SURVEYOR FOR CONSTRUCTION BENCHMARK.
- CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING OF ALL EXCAVATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNING CODES AND REGULATIONS.
- CONTRACTOR SHALL COORDINATE WITH THE STATE POLICE AND/OR THE LOCAL POLICE DEPARTMENT FOR TRAFFIC RELATED ISSUES PRIOR TO COMMENCING WORK. CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC COORDINATION AND POLICE DETAILS AS REQUIRED BY THE CITY, TOWN OR STATE.
- CONTRACTOR SHALL SAW-CUT PAVEMENT WHERE PAVEMENT TO BE REMOVED ABUTS PAVEMENT WHICH IS TO REMAIN AND WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT.
- CONTRACTOR SHALL MAINTAIN ALL NEW AND EXISTING UTILITIES IN GOOD WORKING ORDER AND SHALL PROTECT THEM FROM DAMAGE AT ALL TIMES THROUGHOUT CONSTRUCTION UNTIL WORK IS COMPLETED AND ACCEPTED.
- FINAL LOCATION OF WATER AND GAS SERVICE SHUT OFF TO BE DETERMINED BY UTILITY PROVIDER.
- CONTRACTOR SHALL REVIEW SEPTIC SYSTEM PLANS FOR LOTS A AND B PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE ALL SITE AND SEPTIC SYSTEMS INSPECTIONS WITH THE TOWN OF READING BOARD OF HEALTH, READING CONSERVATION COMMISSION, READING ENGINEERING DEPARTMENT AND ASB design group llc.
- CONTRACTOR SHALL COORDINATE 1501 MAIN STREET CONCERNING CONSTRUCTION SCHEDULE AND MAINTAINING ACCESS TO MAIN STREET.

NRCs SOILS

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP
6A 255B	SCARBORO MUCKY FINE SAND LOAM WINDSOR LOAMY SAND	A/D A

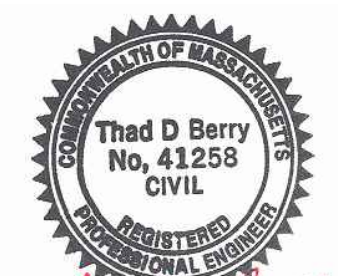
SITE GRADING AND BUILDING COORDINATION NOTES:

- PRIOR TO CONSTRUCTION AND PURCHASE OF ANY BUILDING AND/OR SITE UTILITY MATERIALS THE CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS TO CONFIRM THE FOLLOWINGS ITEMS:
 - BUILDING FLOOR ELEVATIONS.
 - EXTERIOR SITE GRADING INTERFACE WITH THE BUILDING FACADE.
 - EXTERIOR SITE LANDSCAPING INTERFACE WITH THE BUILDING FACADE.
 - CONCRETE SIDEWALK INTERFACE WITH THE BUILDING FACADE.
 - SEE ARCHITECTURAL DRAWINGS FOR FINAL VERTICAL AND HORIZONTAL LOCATION OF ALL BUILDING UTILITIES 10' FROM THE FOUNDATION INCLUDING BUT NOT LIMITED TO SEWER, WATER, FIRE PROTECTION, GAS, ELECTRIC/COMMUNICATIONS AND FLOOR DRAINS (IF APPLICABLE). VERTICAL AND HORIZONTAL LOCATION OF UTILITIES SERVICES SHOWN TO THE BUILDING ARE FOR PLANING PURPOSES ONLY.
- IT IS THE RESPONSIBILITY OF THE ARCHITECT TO COORDINATE SITE GRADING SHOWN ON THE PROPOSED GRADING PLAN, SHEET C1, WITH BUILDINGS EXTERIOR FACADE/FOUNDATION.

SCALE BAR 0 20' 40' 60'
SCALE: 1"=20'

revisions

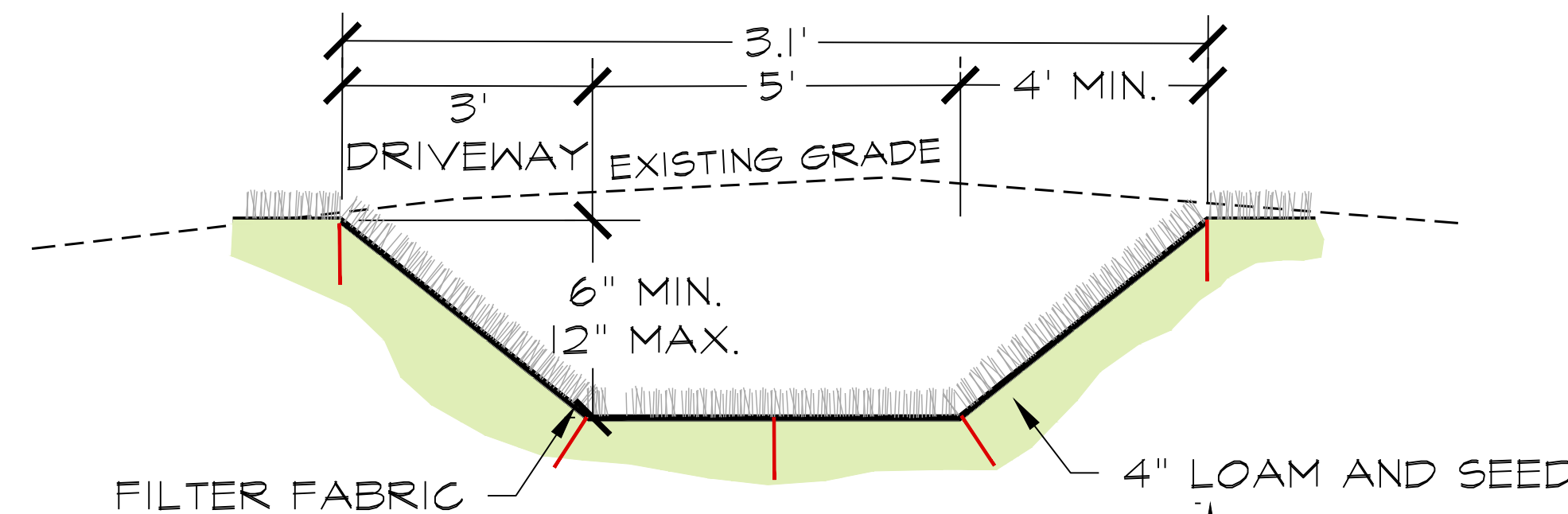
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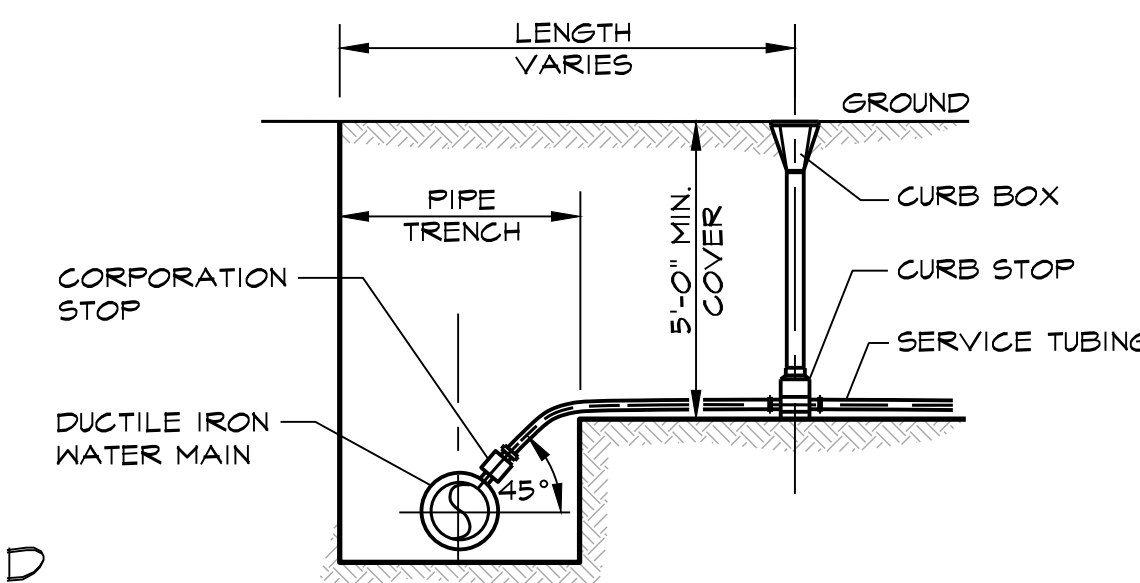
DATE OF SOIL TESTING: SEPTEMBER 7, 2016

STORM WATER TP IA		STORM WATER TP IB	
A ELE. = 81.75	0 - 10" S.L. 10YR 5/2 ROOTS	A ELE. = 76.25	0 - 10" S.L. 10YR 5/2 ROOTS
B ELE. = 80.92	10" - 24" S.L. 10YR 5/8 ROOTS COBBLES/STONES	B ELE. = 75.42	10" - 24" S.L. 10YR 6/6 ROOTS
C ELE. = 74.75	24" - 46" F.S.L. 2.5Y 7/3 COBBLES/STONES	C ELE. = 74.25	24" - 46" F.S.L. 2.5Y 7/4 COBBLES/STONES
S.H.W.T = 78.25	S.H.W.T @ 42" 7.5YR 5/8	S.H.W.T = 73.25	S.H.W.T @ 36" 7.5YR 5/6
ELE. = 73.75		ELE. = 68.25	



DRIVEWAY SWALE DETAIL

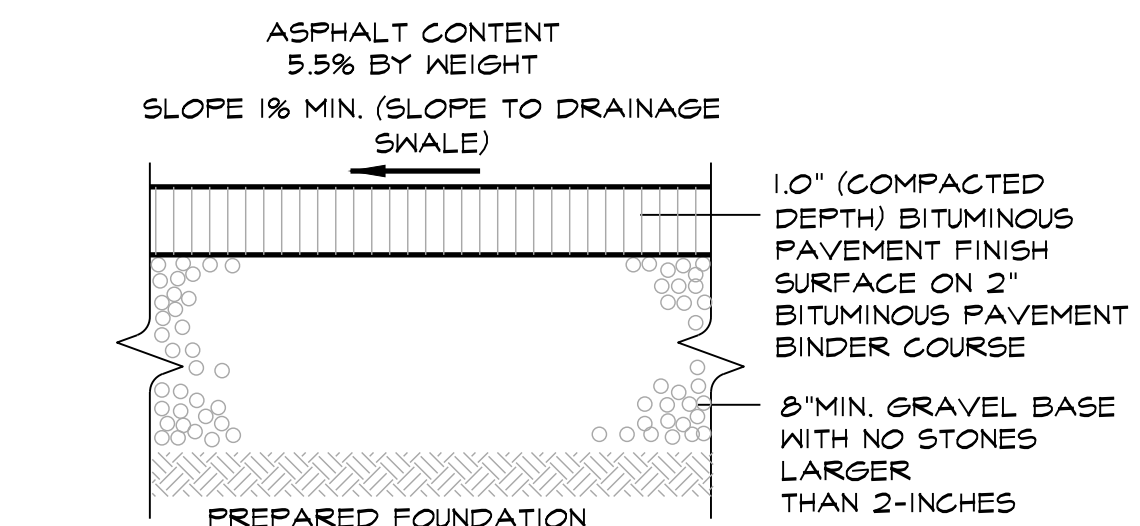
NOT TO SCALE



TYPICAL WATER SERVICE

NOT TO SCALE

NOTE: FINAL SIZE AND LOCATION OF SUB-SURFACE WATER SERVICES SHALL BE APPROVED BY THE TOWN OF READING PUBLIC WORKS DEPARTMENT

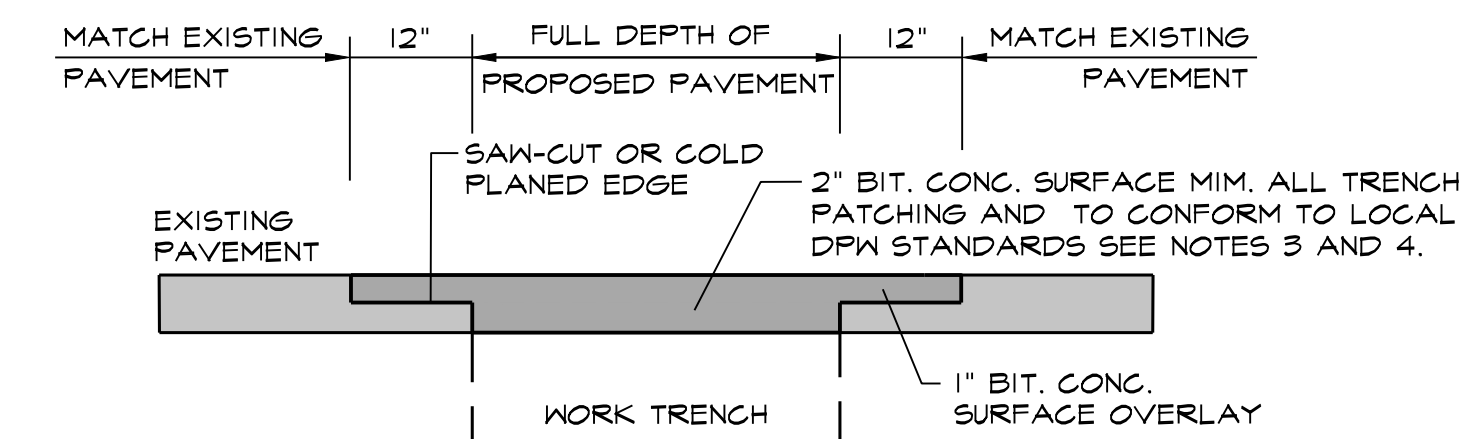


DRIVEWAY DRAINAGE LONG TERM MAINTENANCE

NOT TO SCALE

DRIVEWAY DRAINAGE LONG TERM MAINTENANCE

- CATCH BASINS RIMS SHALL BE KEPT CLEAN OF LEAVES AND DEBRIS. PUMPS TO BE CLEANED ONCE A YEAR IN THE FALL AFTER THE TREES LOSE THEIR LEAVES (NOVEMBER).
- GRASS WITHIN THE DRAINAGE SWALE CAN BE MOWED ON A WEEKLY OR MONTHLY BASIS. REMOVE GRASS CLIPPINGS, LEAVES AND DEBRIS FROM THE DRAINAGE SWALE AS MAYBE REQUIRED.
- RESEED AND STABILIZE ANY AREA OF EROSION THAT MAY OCCUR WITHIN THE DRAINAGE SWALE.

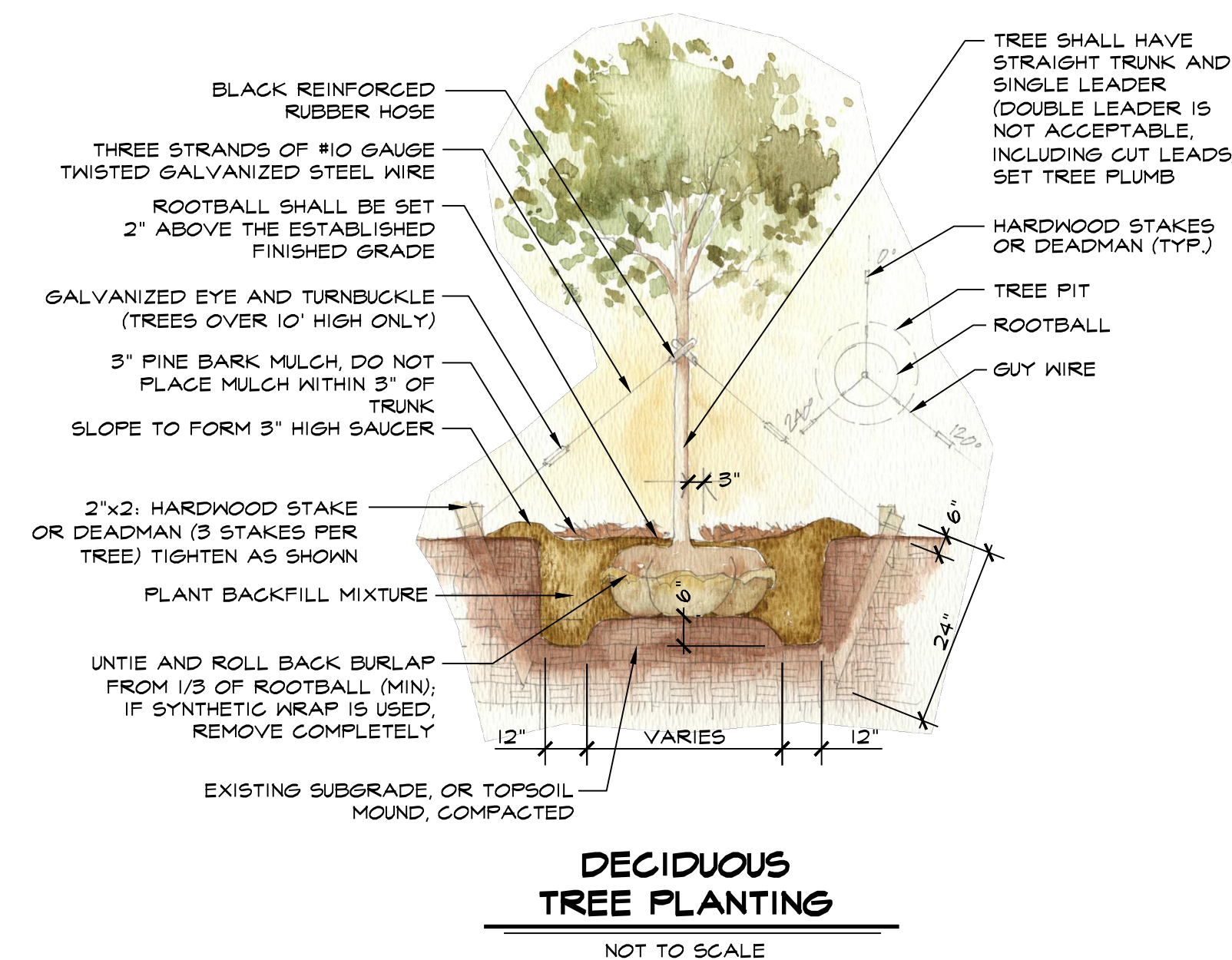


NOTES:

- CLEAN AREA OF ANY LOOSE DEBRIS. AREA SHOULD BE FREE OF DUST OR DIRT, AND THOROUGHLY DRIED.
- A TACK COAT OF EMULSIFIED ASPHALT SHALL BE APPLIED TO THE SAW CUT AREA PRIOR TO PAVING.
- FINAL PAVEMENT LIMIT/MILL AND OVERLAY AND DEPTH OF PAVEMENT SHALL BE DETERMINED BY THE TOWN OF READING MA. DPW. ADDITIONAL MILLING AND OVERLAY MAYBE REQUIRED. CONTRACTOR SHALL COORDINATE WITH THE READING DPW PRIOR TO THE START OF CONSTRUCTION.
- BACKFILLING OF UTILITY TRENCH SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE TOWN OF READING MA. DPW.

PAVEMENT SAW-CUT

NOT TO SCALE



DECIDUOUS TREE PLANTING

NOT TO SCALE

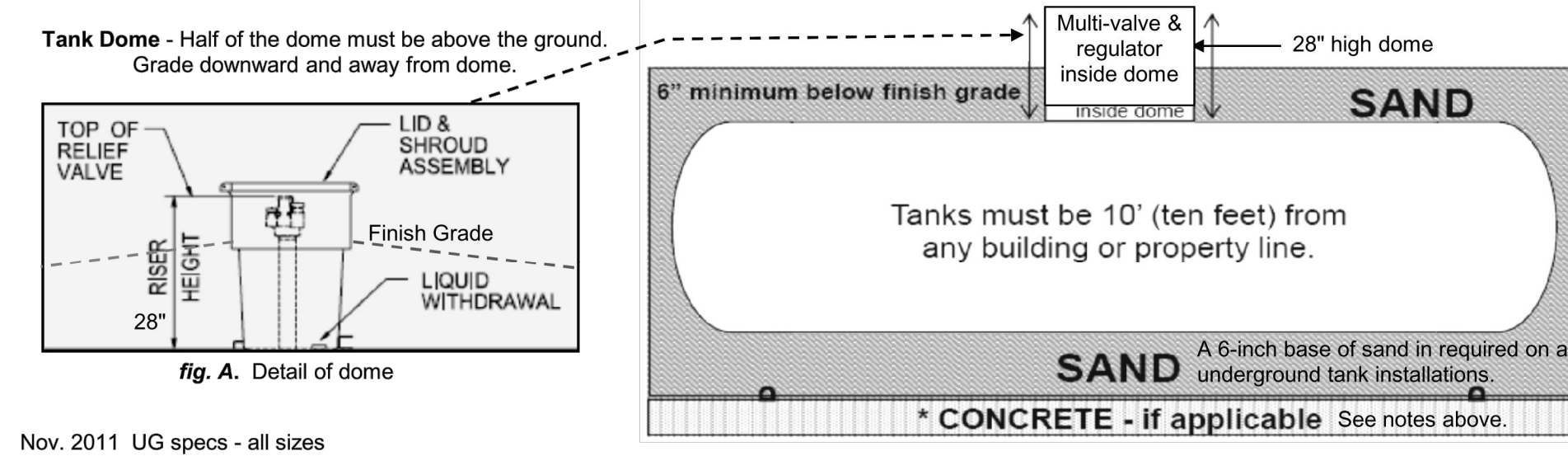


Excavation Guidelines for Underground Propane Tanks

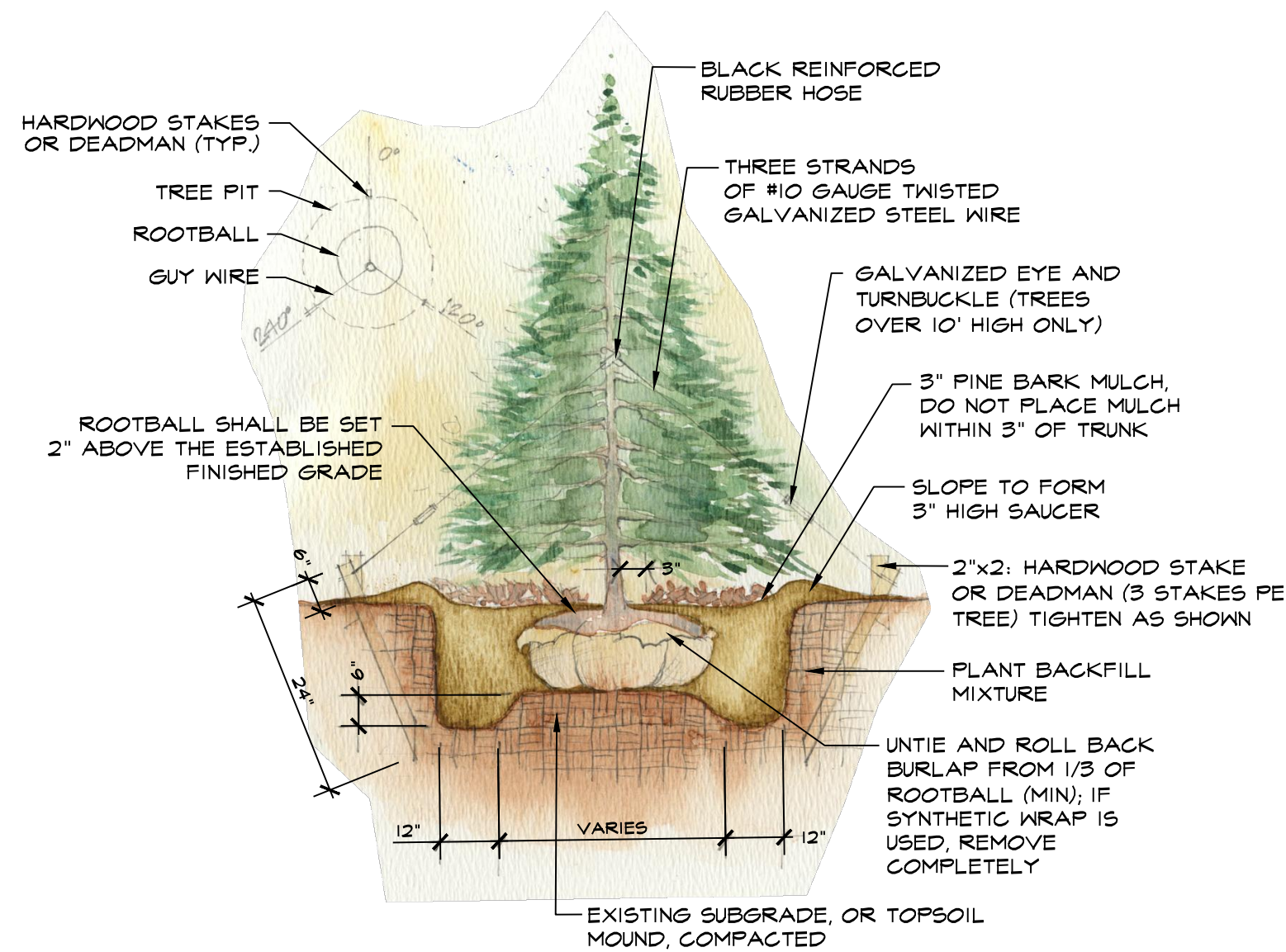
Proper excavation is the essential first step in the proper installation of an underground tank. Improper excavation can jeopardize the installation and can potentially lead to a hazardous gas leak.

Warning: The installation of underground LP gas tanks is governed by the LP Gas Code (NFPA 58) and must always be done by a qualified professional. Installation of tanks by unqualified persons can potentially lead to a hazardous gas leak. Be sure to call Digsafe before digging: 888-DIG-SAFE (334-7233).

Tank Size	120 Gal.	320 Gal.	500 Gal.	1000 Gal.
Tank Dimensions	5' 6" x 24" diameter	9' x 32" diameter	10' x 38" diameter	16' x 41" diameter
Weight (approx.)	252 lb.	588 lb.	921 lb.	1731 lb.
Hole Dimensions *	9' 6" L x 4' W x 44" Deep	13' L x 4' 6" W x 52" Deep	14' L x 5' W x 4' 6" Deep	20' L x 5' 6" W x 4' 6" Deep
Below the Tank-all sizes	Six inches of sand in the bottom of the hole.			
Prior to Back-filling	One 17 lb. Anode bag connected to tank. Place at least 2' away from tank and low in the hole. Pour 1 gallon of water on bag and immediately cover with sand.		Same procedure - using 2 Anode bags.	
Back-fill **	Once tank is place and inspected by the local AHJ, if required, back-fill the entire hole with sand. Grade downward and away from housing dome. This prevents water from collecting and running into or standing around the housing dome.			
* If a concrete pad is required, depth of hole must be 6" deeper to accommodate a 6" concrete pad in the dimensions of the tank with 4 anchor eye bolts (one in each corner of the pad). Attach stainless steel or similar strapping from lifting lugs down to eye bolts.				
** Touch up any scratches or marks on tanks or lifting lugs with proper coating materials before back-filling. Be sure to keep at least half of riser (dome) above ground. Marking the halfway point before back-filling is helpful, especially if finishing with top soil. Filling in more than halfway can cause future water/freezing problems and must be avoided.				

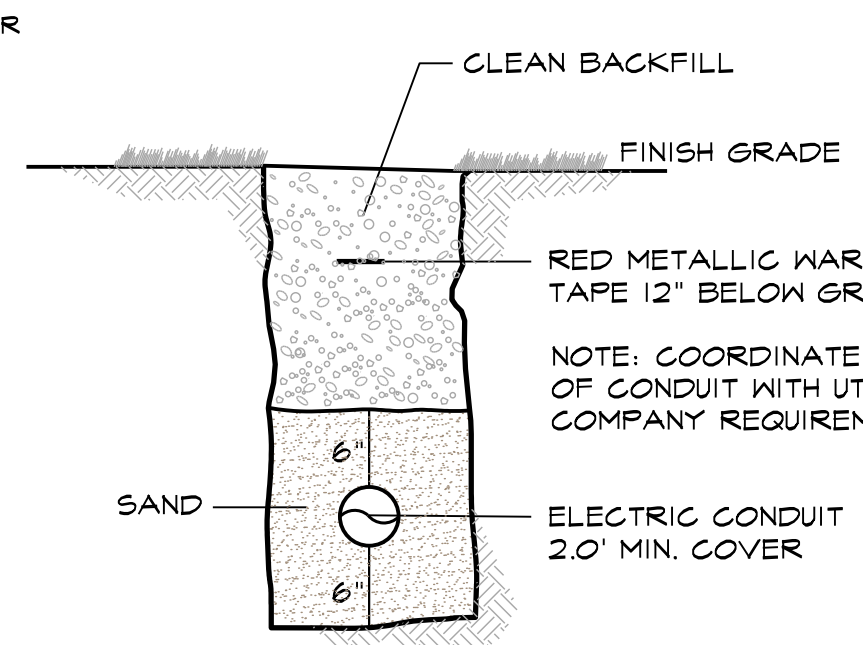


Nov. 2011 UG specs - all sizes



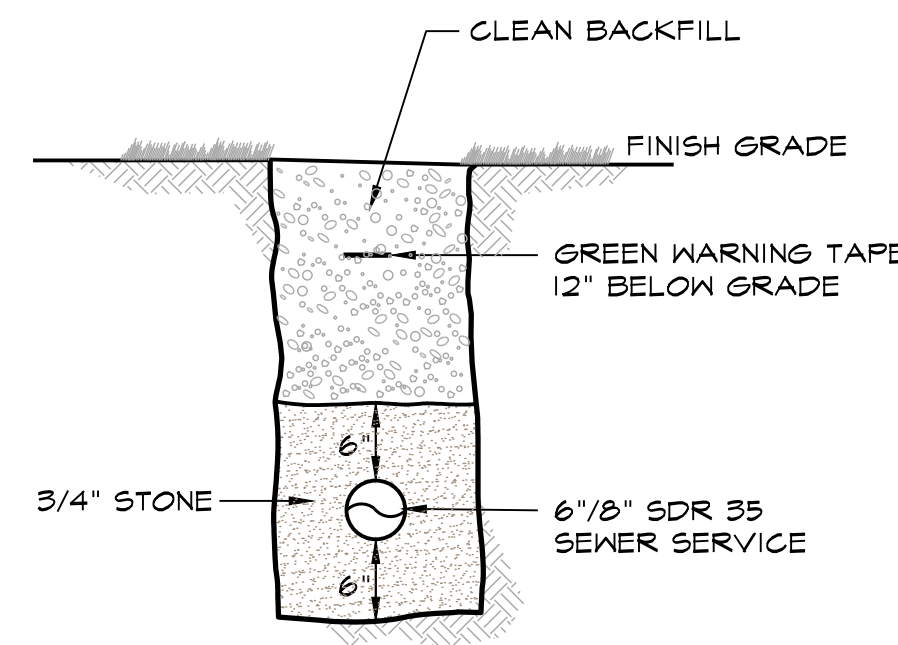
CONIFER TREE PLANTING

NOT TO SCALE



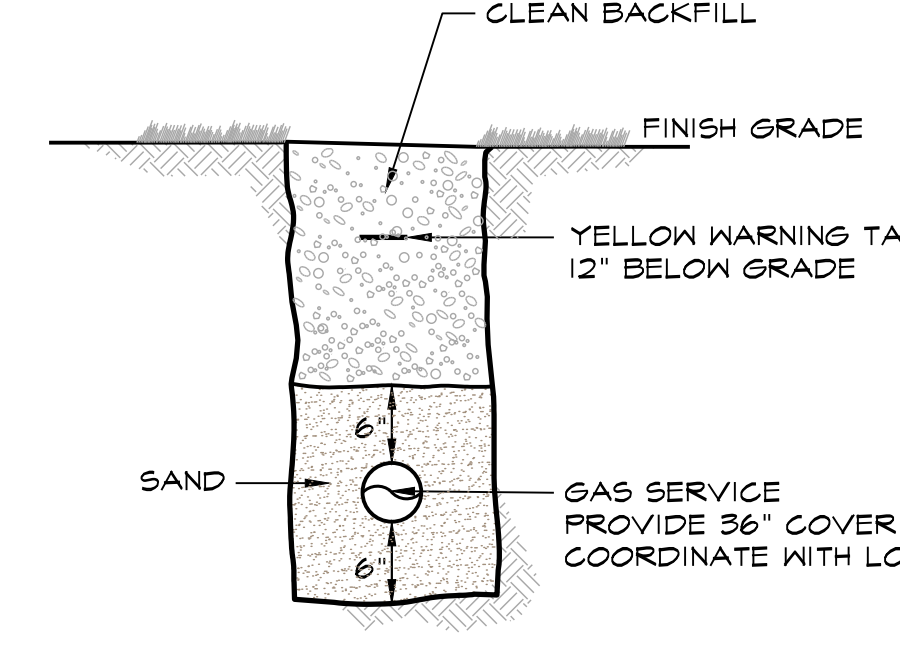
ELECTRIC SERVICE TRENCH

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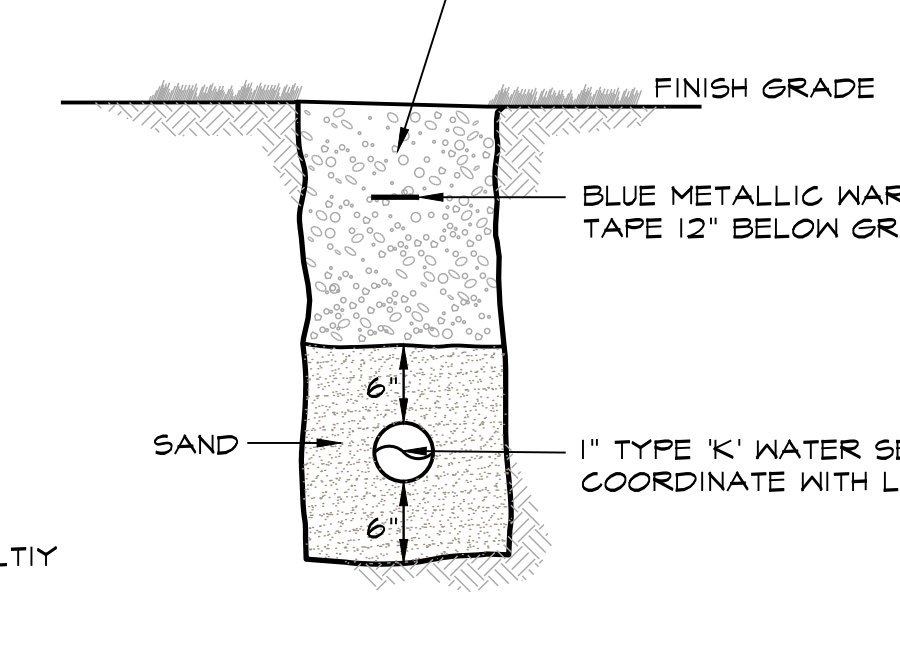
SEWER SERVICE TRENCH

NOT TO SCALE



PROPANE SERVICE TRENCH

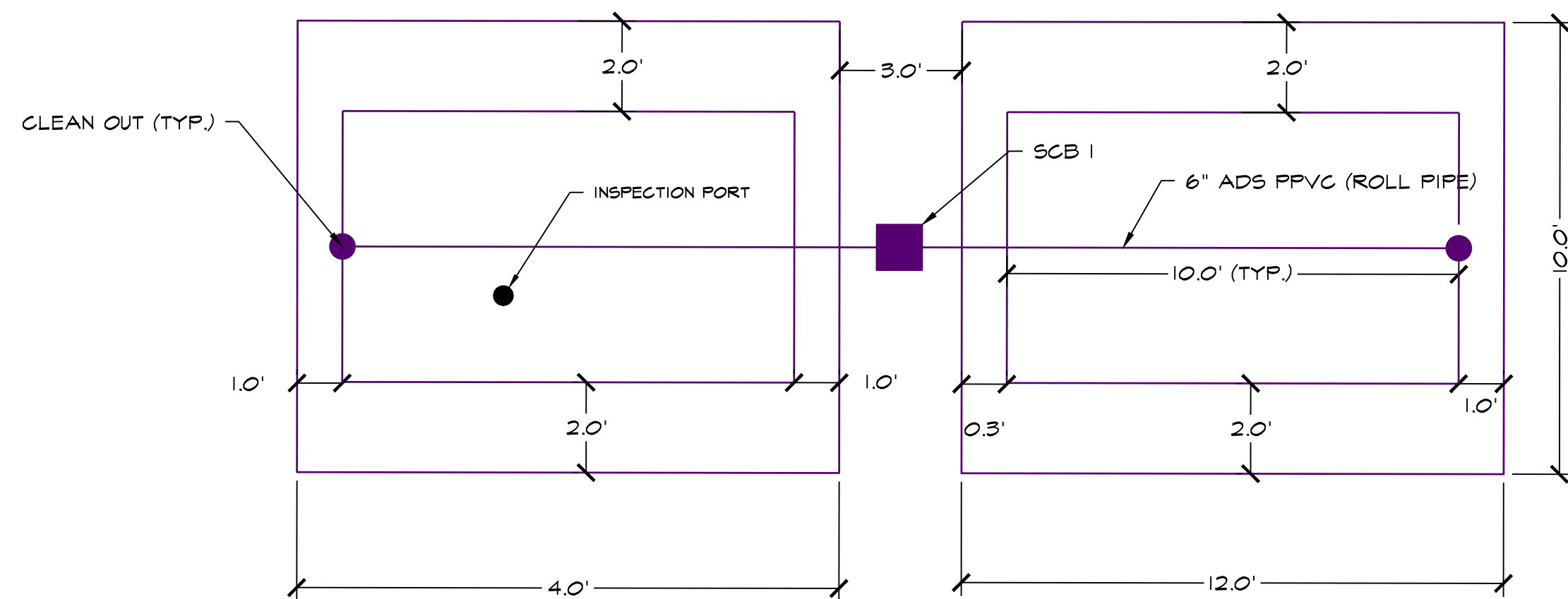
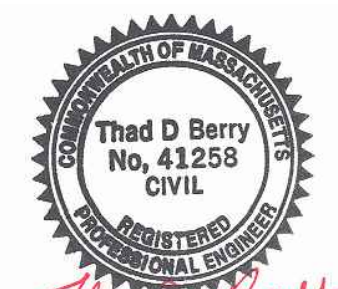
NOT TO SCALE



WATER SERVICE TRENCH

NOT TO SCALE

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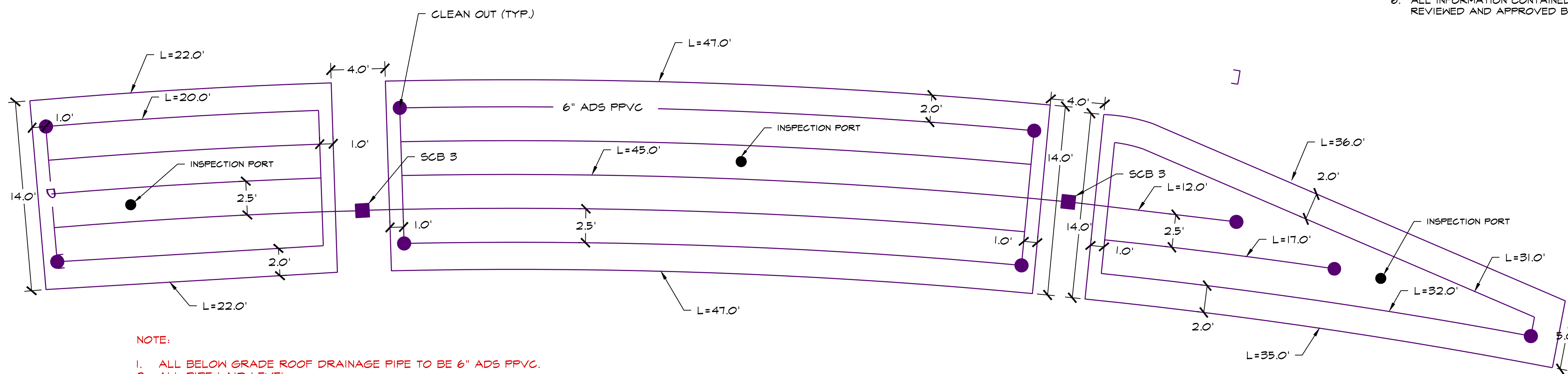


NOTE:

1. ALL BELOW GRADE ROOF DRAINAGE PIPE TO BE 6" ADS PPVC.
2. ALL PIPE LAID LEVEL.

INFILTRATION SYSTEM I LOT B

NOT TO SCALE



NOTE:

1. ALL BELOW GRADE ROOF DRAINAGE PIPE TO BE 6" ADS PPVC.
2. ALL PIPE LAID LEVEL.

INFILTRATION SYSTEM I LOT A AND B

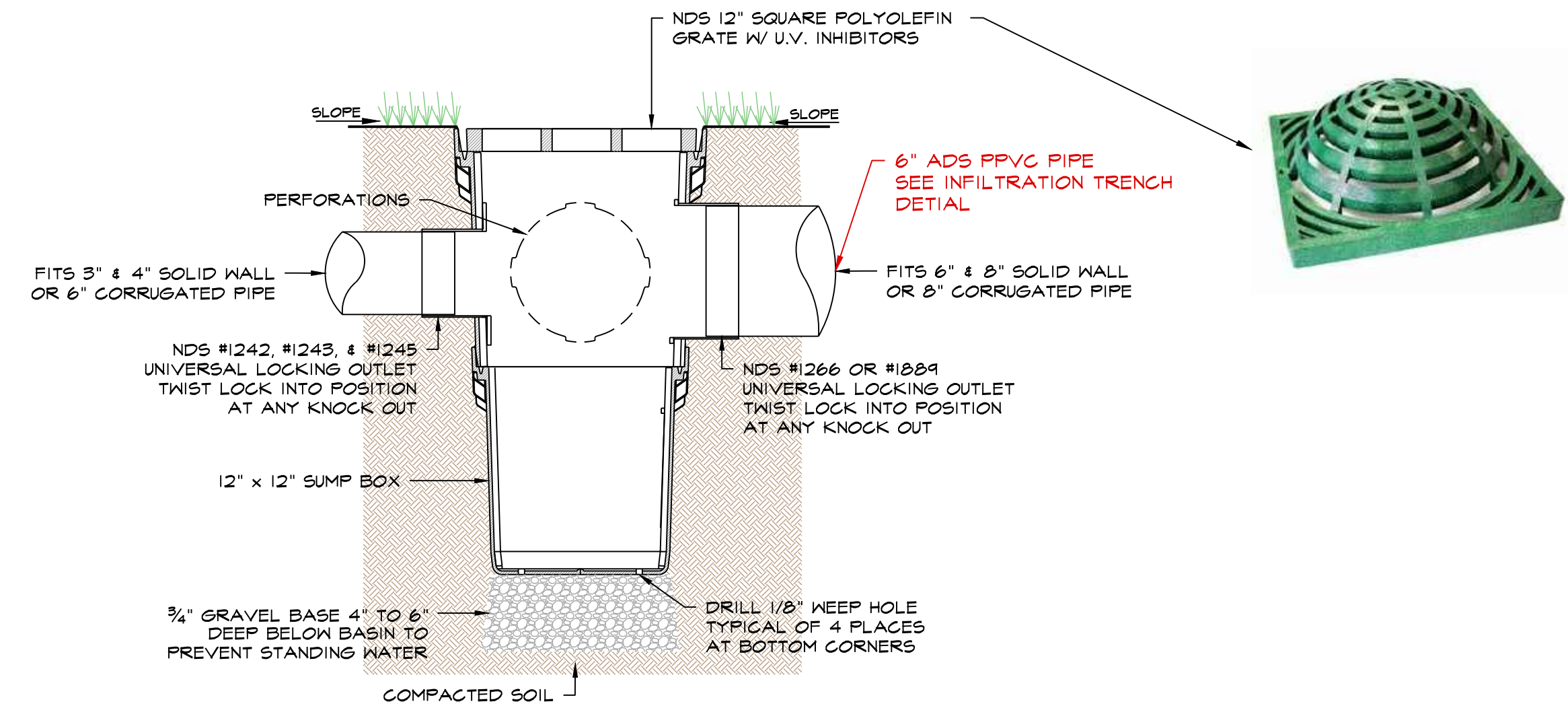
NOT TO SCALE

12" SQUARE CATCH BASIN 1 (SCB 1)

RIM = 78.75
INVERT OUT (6" ADS PPVC) = 77.25

INFILTRATION SYSTEM DESIGN DATA

DESIGN ELEVATION = 78.00
SEASONAL HIGH WATER TABLE (S.H.W.T.) = 75.00 (- 3.0')
BOTTOM OF INFILTRATION SYSTEM = 77.00 (+2.0')
INVERT 6" ADS PPVC = 77.25
TOP OF INFILTRATION SYSTEM = 78.00
FINISH GRADE = 78.75 +



12" SQUARE CATCH BASIN WITH RISER & SUMP BOX

NOT TO SCALE

NOTES:

1. CONTRACTOR TO INSTALL NDS 12" SQUARE CATCH BASIN & SUMP BOX OR APPROVED EQUAL.
2. GRATE TO BE ATTACHED TO CATCH BASIN WITH SCREW PROVIDED AT TIME OF INSTALLATION.
3. RISER CAN BE CUT TO ACHIEVE EXACT ELEVATION.
4. DO NOT USE OVER 5 RISERS WITH CATCH BASIN.
5. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH NDS MANUFACTURER'S SPECIFICATIONS.
6. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER BEFORE INSTALLATION.

12" SQUARE CATCH BASIN 2 (SCB 1)

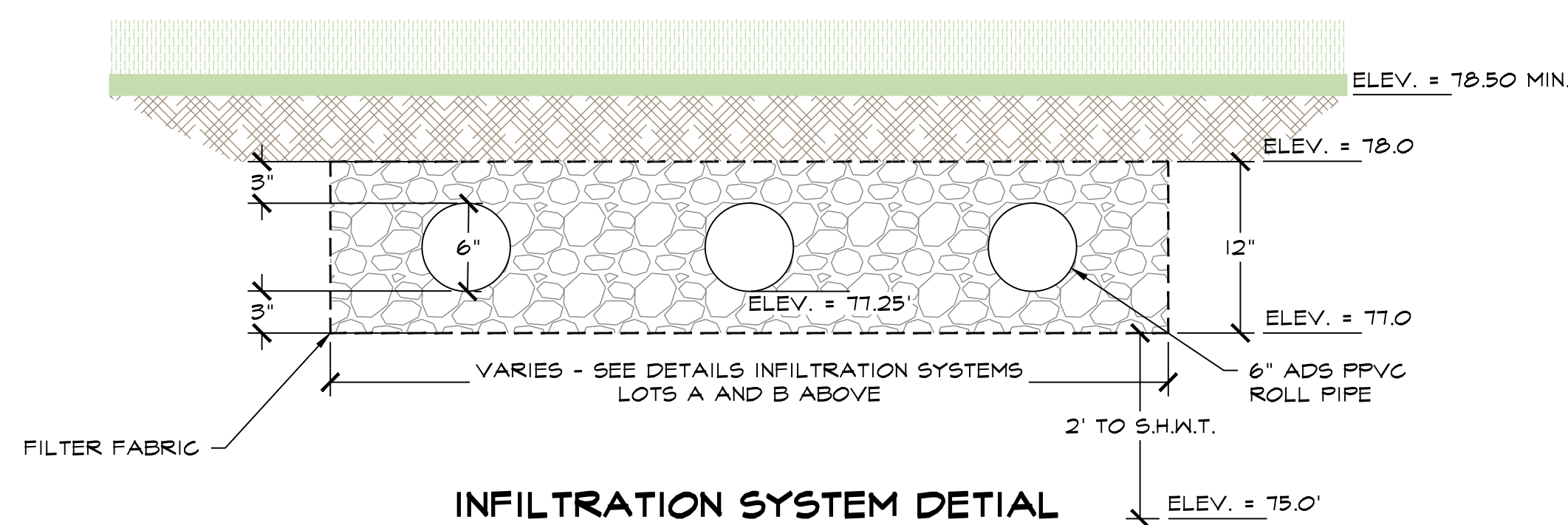
RIM = 78.50
INVERT OUT (6" ADS PPVC) = 77.25

12" SQUARE CATCH BASIN 3 (SCB 1)

RIM = 78.50
INVERT OUT (6" ADS PPVC) = 77.25

INFILTRATION SYSTEM DESIGN DATA

DESIGN ELEVATION = 78.00
SEASONAL HIGH WATER TABLE (S.H.W.T.) = 75.00 (- 3.0')
BOTTOM OF INFILTRATION SYSTEM = 77.00 (+2.0')
INVERT 6" ADS PPVC = 77.25
TOP OF INFILTRATION SYSTEM = 78.00
FINISH GRADE = 78.50 +



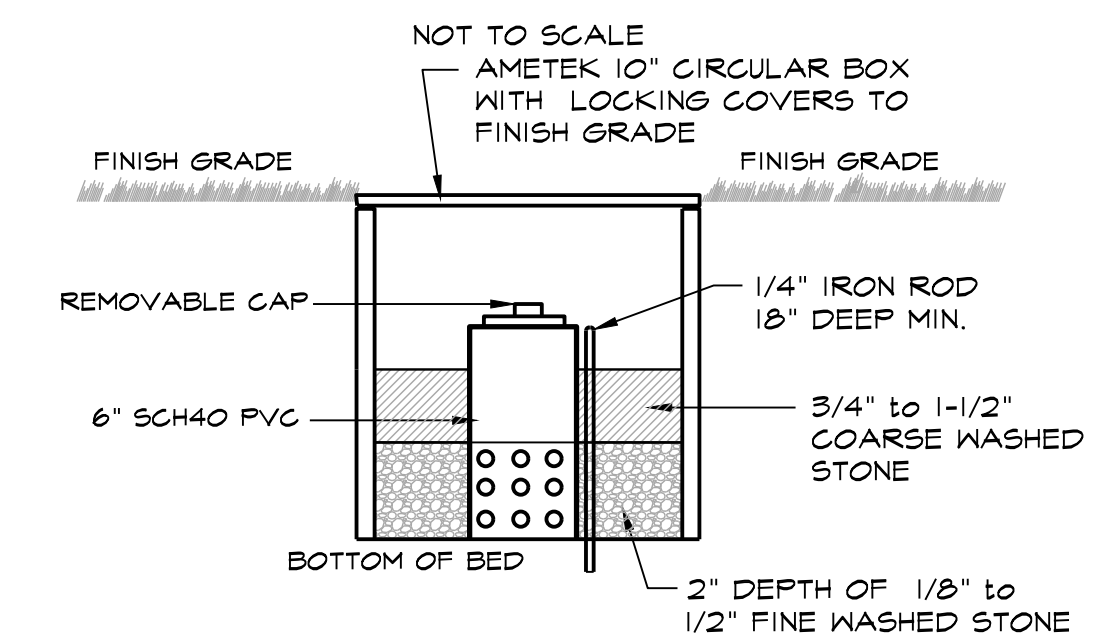
INFILTRATION SYSTEM DETAIL

NOT TO SCALE

DATE OF SOIL TESTING: SEPTEMBER 7, 2016

	STORM WATER TP 1A
A ELE. = 81.75	0' - 10" S.L. 10YR 5/2 ROOTS
B ELE. = 80.92	10" - 24" S.L. 10YR 5/8 ROOTS COBBLES/STONES
C ELE. = 79.15	24" - 96" F.S.L. 2.5Y 7/8 COBBLES/STONES
S.H.W.T. = 78.25	S.H.W.T. @ 42" 7.5YR 5/8
ELE. = 73.75	

	STORM WATER TP 1B
A ELE. = 76.25	0' - 10" S.L. 10YR 5/2 ROOTS
B ELE. = 75.42	10" - 24" S.L. 10YR 6/6 ROOTS
C ELE. = 74.25	24" - 96" F.S.L. 2.5Y 7/4 COBBLES/STONES
S.H.W.T. = 73.25	S.H.W.T. @ 36" 7.5YR 5/6
ELE. = 68.25	



INSPECTION PORT DETAIL

NOT TO SCALE

no.	date	description
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Thad D. Berry

EROSION CONTROL NOTES

EROSION CONTROL PRINCIPLES

- THE FOLLOWING EROSION CONTROL PRINCIPLES SHALL APPLY TO THE LAND GRADING AND CONSTRUCTION PHASES:
 - STRIPPING OF VEGETATION, GRADING, OR OTHER SOIL DISTURBANCE SHALL BE DONE IN A MANNER WHICH WILL MINIMIZE SOIL EROSION.
 - WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.
 - EXTENT OF AREA WHICH IS EXPOSED AND FREE OF VEGETATION AND DURATION OF ITS EXPOSURE SHALL BE KEPT WITHIN PRACTICAL LIMITS.
 - TEMPORARY SEEDING, MULCHING, OR OTHER SUITABLE STABILIZATION MEASURES SHALL BE USED TO PROTECT EXPOSED CRITICAL AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE.
 - DRAINAGE PROVISIONS SHALL ACCOMMODATE INCREASED RUNOFF RESULTING FROM MODIFICATIONS OF SOIL AND SURFACE CONDITIONS DURING AND AFTER DEVELOPMENT OR DISTURBANCE. SUCH PROVISIONS SHALL BE IN ADDITION TO EXISTING REQUIREMENTS.
 - SEDIMENT SHALL BE RETAINED ON-SITE.
 - EROSION CONTROL DEVICES SHALL BE INSTALLED AS EARLY AS POSSIBLE IN THE CONSTRUCTION SEQUENCE PRIOR TO START OF CLEARING AND GRUBBING OPERATIONS AND EXCAVATION WORK.
- CUT AND FILL SLOPES AND STOCKPILED MATERIALS SHALL BE PROTECTED TO PREVENT EROSION. SLOPES SHALL BE PROTECTED WITH PERMANENT EROSION PROTECTION WHEN EROSION EXPOSURE PERIOD IS GREATER THAN OR EQUAL TO SIX MONTHS, AND TEMPORARY EROSION PROTECTION WHEN EROSION EXPOSURE PERIOD IS EXPECTED TO BE LESS THAN SIX MONTHS (SEE NOTE 1B).
 - PERMANENT EROSION PROTECTION SHALL BE ACCOMPLISHED BY SEEDING WITH GRASS AND COVERING WITH AN EROSION PROTECTION MATERIAL, AS APPROPRIATE FOR PREVAILING CONDITIONS.
 - EXCEPT WHERE SPECIFIED SLOPE IS INDICATED ON DRAWINGS, FILL SLOPES SHALL BE LIMITED TO A GRADE OF 3:1 (HORIZONTAL:VERTICAL) AND CUT SLOPES SHALL BE LIMITED TO A GRADE OF 3:1.

SILTATION SOCK

INSTALL SILTATION SOCK IN ACCORDANCE WITH THE PLAN DETAIL.

MAINTENANCE AND REMOVAL OF CONTROL DEVICES

- WETLAND AREAS, WATER COURSES, AND DRAINAGE SWALES ADJACENT TO CONSTRUCTION ACTIVITIES SHALL BE MONITORED TWICE EACH MONTH FOR EVIDENCE OF SILT INTRUSION AND OTHER ADVERSE ENVIRONMENTAL IMPACTS, WHICH SHALL BE CORRECTED IMMEDIATELY UPON DISCOVERY.
- CULVERTS AND DRAINAGE DITCHES SHALL BE KEPT CLEAN AND CLEAR OF OBSTRUCTIONS DURING CONSTRUCTION PERIOD.
- EROSION CONTROL DEVICES:
 - SEDIMENT BEHIND THE EROSION CONTROL DEVICE SHALL BE CHECKED TWICE EACH MONTH AND AFTER EACH HEAVY RAIN. SILT SHALL BE REMOVED IF GREATER THAN 6-INCHES DEEP.
 - CONDITION OF EROSION CONTROL DEVICE SHALL BE CHECKED TWICE EACH MONTH OR MORE FREQUENTLY AS REQUIRED. DAMAGED AND/OR DETERIORATED ITEMS SHALL BE REPLACED. EROSION CONTROL DEVICES SHALL BE MAINTAINED IN-PLACE AND IN EFFECTIVE CONDITION.
 - HAY BALES SHALL BE INSPECTED FREQUENTLY AND MAINTAINED OR REPLACED AS REQUIRED TO MAINTAIN BOTH EFFECTIVENESS AND INSTALLED CONDITION. UNDERSIDE OF BALES SHALL BE KEPT IN CLOSE CONTACT WITH THE EARTH BELOW AT ALL TIMES, AS REQUIRED TO PREVENT WATER FROM WASHING BENEATH BALES.
 - SEDIMENT SHALL BE REMOVED FROM THE RETENTION PONDS AT THE COMPLETION OF THE PROJECT AND PERIODICALLY DURING CONSTRUCTION. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO A DEPTH OF 6 INCHES, OR AS DIRECTED.
 - SEDIMENT DEPOSITS SHALL BE DISPOSED OF OFF-SITE, IN A LOCATION AND MANNER WHICH WILL NOT CAUSE SEDIMENT NUISANCE ELSEWHERE.
- REMOVAL OF EROSION CONTROL DEVICES:
 - THE CONSERVATION COMMISSION AGENT MUST INSPECT THE SITE AND APPROVE REMOVAL OF ANY EROSION CONTROL DEVICE.
 - EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL ALL DISTURBED EARTH HAS BEEN PAVED OR VEGETATED, AT WHICH TIME THEY SHALL BE REMOVED. AFTER REMOVAL, AREAS DISTURBED BY THESE DEVICES SHALL BE RE-GRADED AND SEEDDED.
 - EROSION CONTROL NETTING SHALL BE KEPT SECURELY ANCHORED UNTIL START OF PERMANENT TURF CONSTRUCTION.
 - EROSION PROTECTION MATERIAL SHALL BE KEPT SECURELY ANCHORED UNTIL ACCEPTANCE OF COMPLETED SLOPE OR ENTIRE PROJECT, WHICHEVER IS LATER.

LOAM & SEEDING NOTES

LOADING, SEEDING AND FERTILIZING

- IF REQUIRED THE CONTRACTOR SHALL FURNISH ALL TOPSOIL OR ADDITIONAL TOPSOIL NEEDED TO COMPLETE THE JOB. IF THE EXISTING TOPSOIL IS SUFFICIENT TO COMPLETE THE JOB, ANY EXCESS TOPSOIL WILL REMAIN ON SITE. AN AREA WILL BE PROVIDED ON SITE FOR FINAL STORAGE.
- THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED ON THE DESIGNATED AREAS AND IT SHALL BE A MINIMUM DEPTH OF SIX INCHES AFTER FIRING. SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SEEDING.
- AFTER LOAM HAS BEEN PLACED, LIME AND FERTILIZER SHALL BE UNIFORMLY MIXED INTO THE TOP FOUR INCHES OF SOIL BY DISCING, HARROWING OR USING OTHER APPROVED METHODS.
- ANY UNDULATIONS OR IRREGULARITIES IN THE SURFACE RESULTING FROM FERTILIZING, LIMING, SURFACE ROUGHENING OR OTHER CAUSES SHALL BE LEVELED PRIOR TO SEEDING. FLOODED, WASHED-OUT OR OTHERWISE DAMAGED AREAS SHALL BE RECONSTRUCTED AND ALL GRADES RE-ESTABLISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE DRAWINGS AND/ OR OTHER APPLICABLE SPECIFICATIONS.
- PRIOR TO SEEDING THE SURFACE SHALL BE CLEARED OF ALL TRASH, DEBRIS AND STONES LARGER THAN ONE AND ONE-HALF INCHES IN DIAMETER, AND OF ALL ROOTS, BRUSH, WIRE, GRADE, OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING OR MAINTENANCE OPERATIONS.
- BROADCAST SEED AND MULCH. PLACE STRAW AND ANCHOR IT TO TOPSOIL. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDLINGS WITH ADEQUATE WATER FOR PLANT GROWTH. (1/2"-1" EVERY 3-4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED.

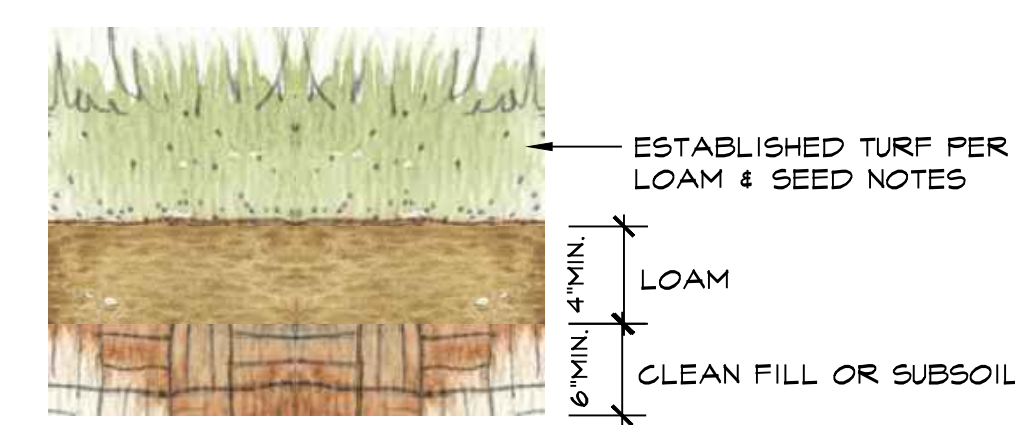
REPAIRS AND MAINTENANCE

INSPECT ALL SEEDED AREAS FOR FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND RESEEDINGS WITHIN THE PLANTING SEASON.

- ONCE THE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 95% GROUND COVER TO BE CONSIDERED ADEQUATELY STABILIZED.
- IF THE STAND PROVIDES LESS THAN 40% GROUND COVER, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS.
- IF THE STAND PROVIDES BETWEEN 40% AND 94% GROUND COVER AGE, OVERSEEDING AND FERTILIZING USING HALF OF THE RATES ORIGINALLY APPLIED MAY BE NECESSARY.

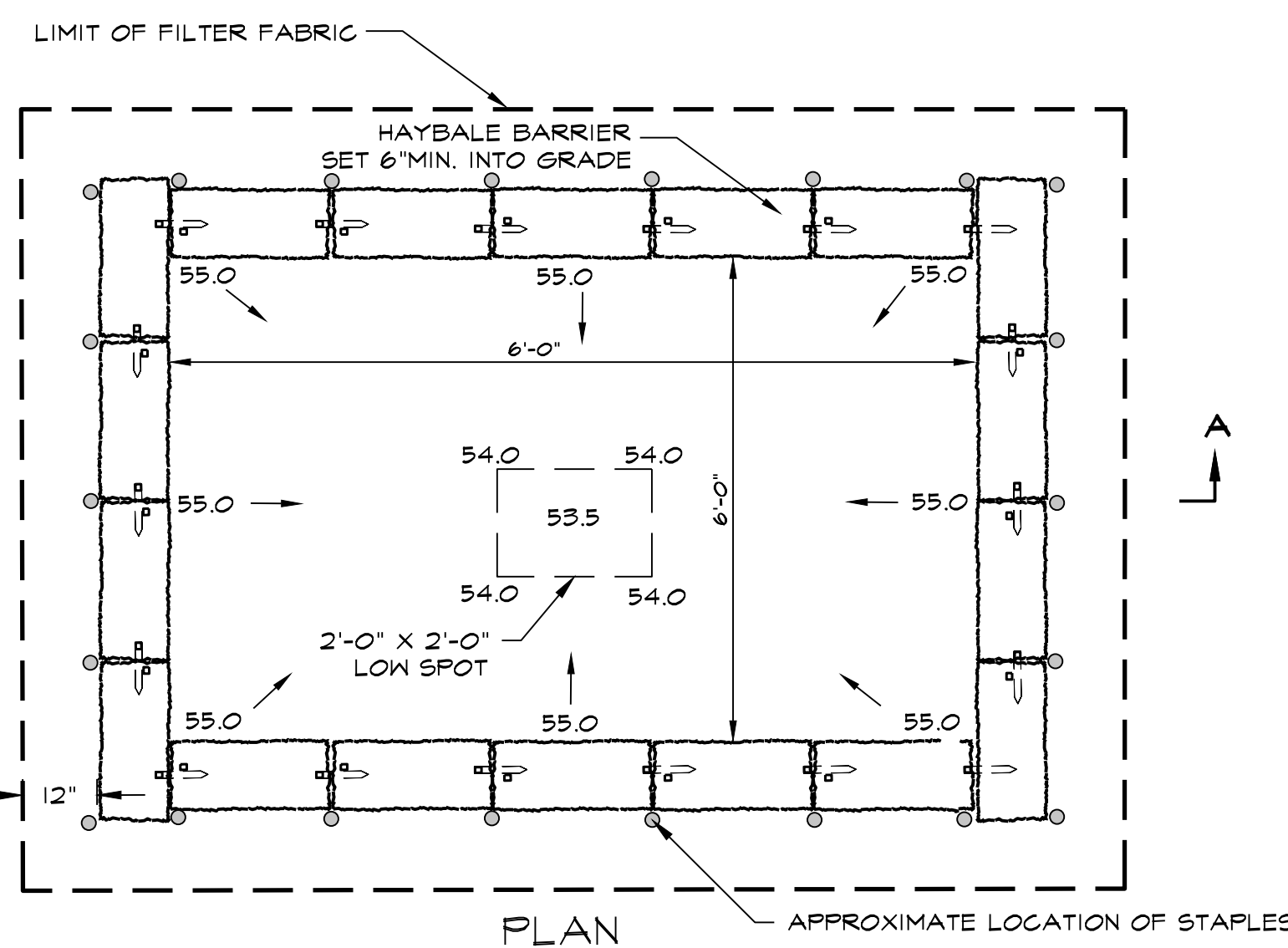
SURFACE PREPARATION

- STRIP AND STOCKPILE ALL EXISTING LOAM FROM PROPOSED WORK AREAS. PROTECT LOAM FROM EROSION. ALL LOAM WILL REMAIN ON SITE UNLESS THE OWNER APPROVES OFF SITE REMOVAL.
- SET FIELD GRADES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. PROVIDE PROPER SURVEY CONTROL AND MAINTAIN THROUGHOUT CONSTRUCTION. PROVIDE ENGINEER WITH COPIES OF ALL SURVEY NOTES AND LOCATIONS OF BOTH VERTICAL AND HORIZONTAL CONTROL.
- BRING BASE MATERIAL TO FINISH GRADE. PROVIDE ENGINEER WITH AS-BUILT DRAWINGS SHOWING FINISH ELEVATIONS AND CONTOURS PRIOR TO PLACEMENT OF LOAM.
- SOIL TESTS SHALL BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER. SOIL TESTS SHALL BE CONDUCTED BY A STATE LABORATORY OR RECOGNIZED COMMERCIAL LABORATORY. PROVIDE ENGINEER WITH COPY OF TEST RESULTS AND RECOMMENDATIONS FOR LIMING AND FERTILIZING.
- AFTER THE AREAS TO BE TOPSOILED HAVE BEEN APPROVED BY THE OWNER OR ENGINEER, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSEND BY ROUGHENING TO THE DEPTH OF AT LEAST TWO INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL AND TO INCORPORATE THE LIME.
- ACCEPTANCE SHALL BE GIVEN BY THE OWNER OR ENGINEER UPON SATISFACTORY COMPLETION OF EACH SECTION OR AREA AS INDICATED ON THE DRAWINGS OR AS OTHERWISE SPECIFIED BEFORE PLACEMENT OF TOPSOIL.



LOAM & SEED DETAIL

NOT TO SCALE

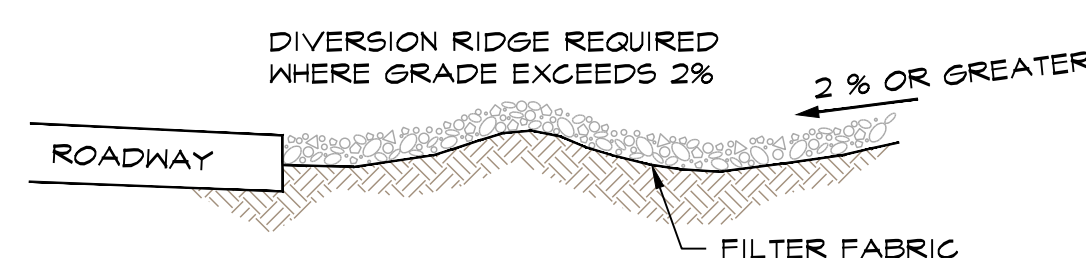


SECTION A-A

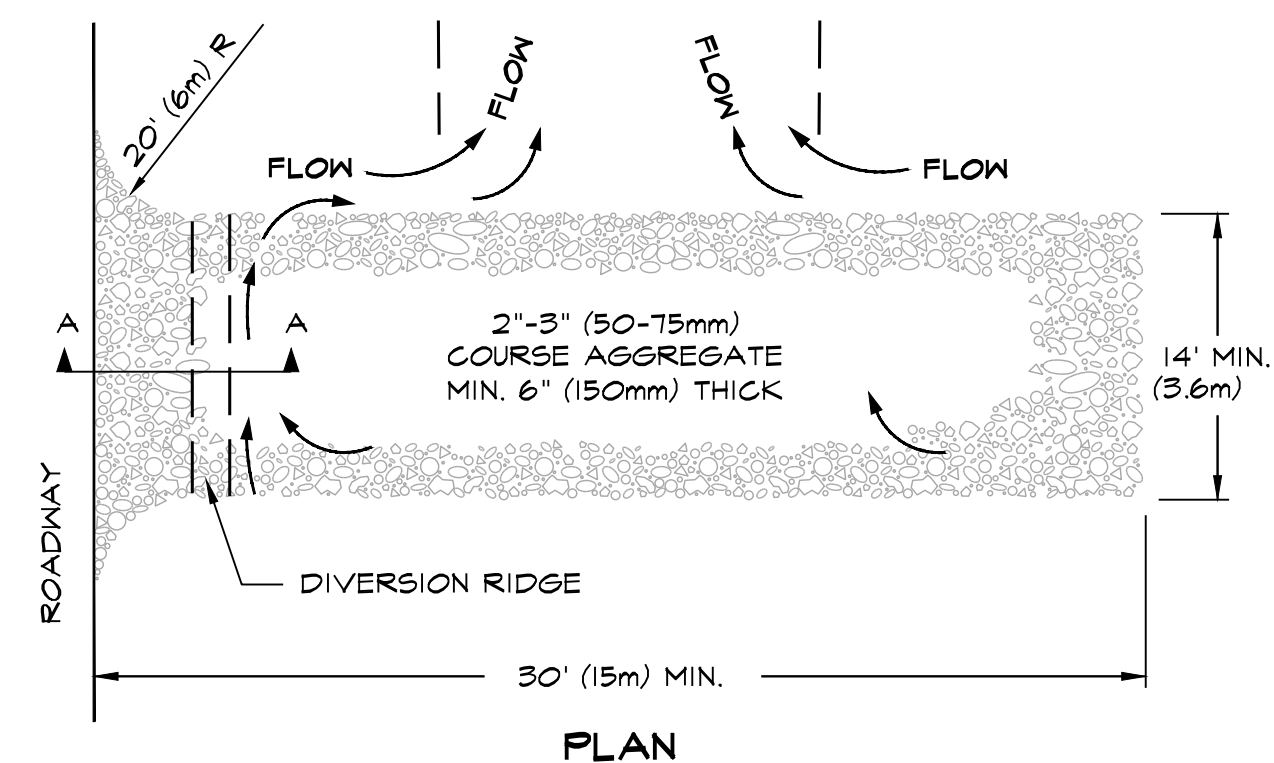
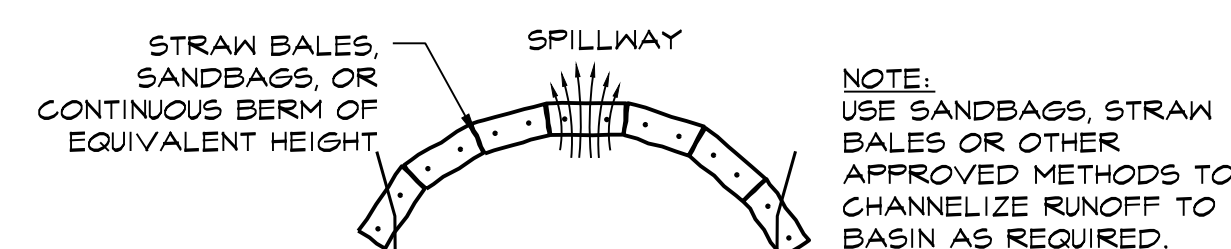
CONCRETE WASH OUT BASIN

NOT TO SCALE

ALL CONCRETE WASTE TO BE REMOVED AND DISPOSED OF OFF SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL RULES AND REGULATIONS



SECTION A - A

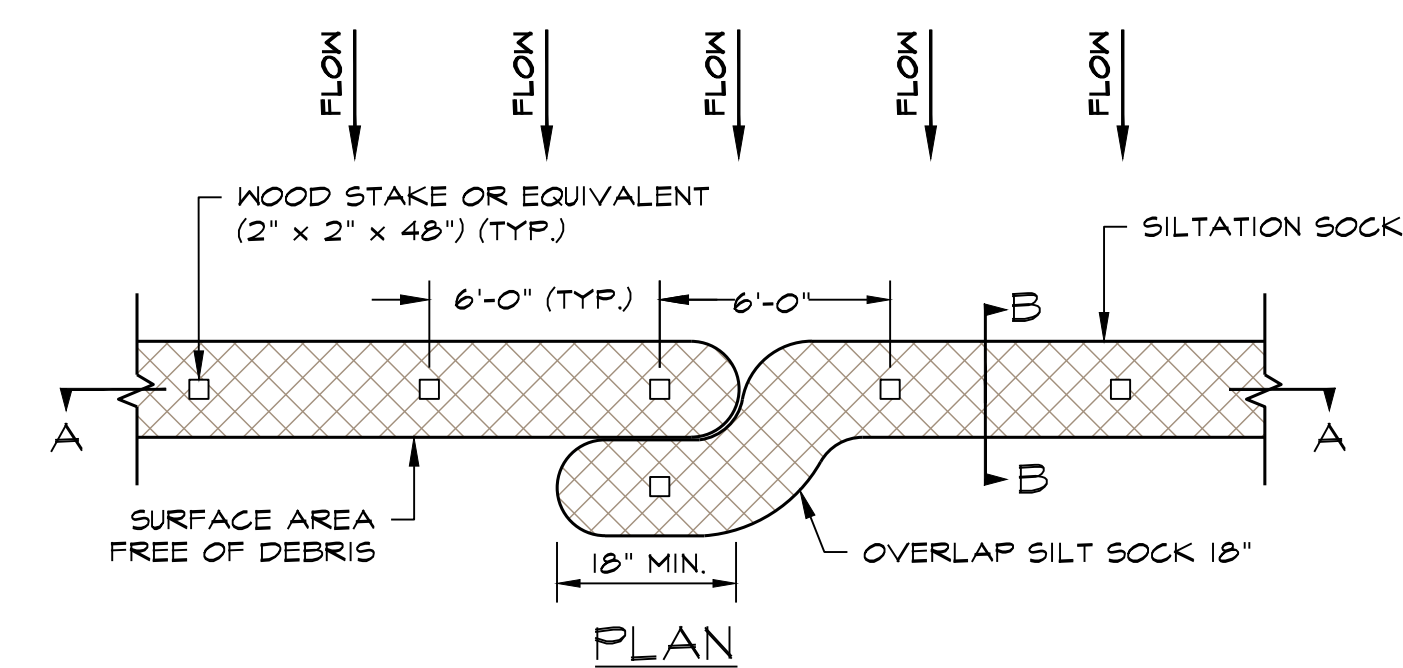


NOTES:

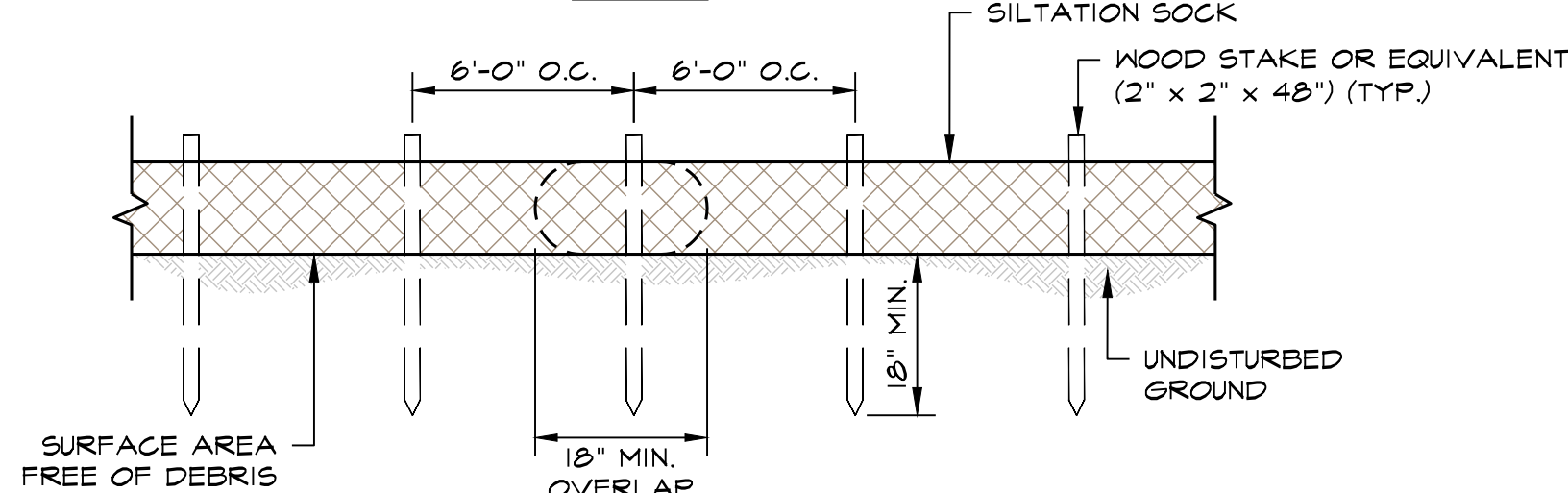
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- ADJACENT STREETS SHALL BE SWEEPED.

TEMPORARY CONSTRUCTION ENTRANCE

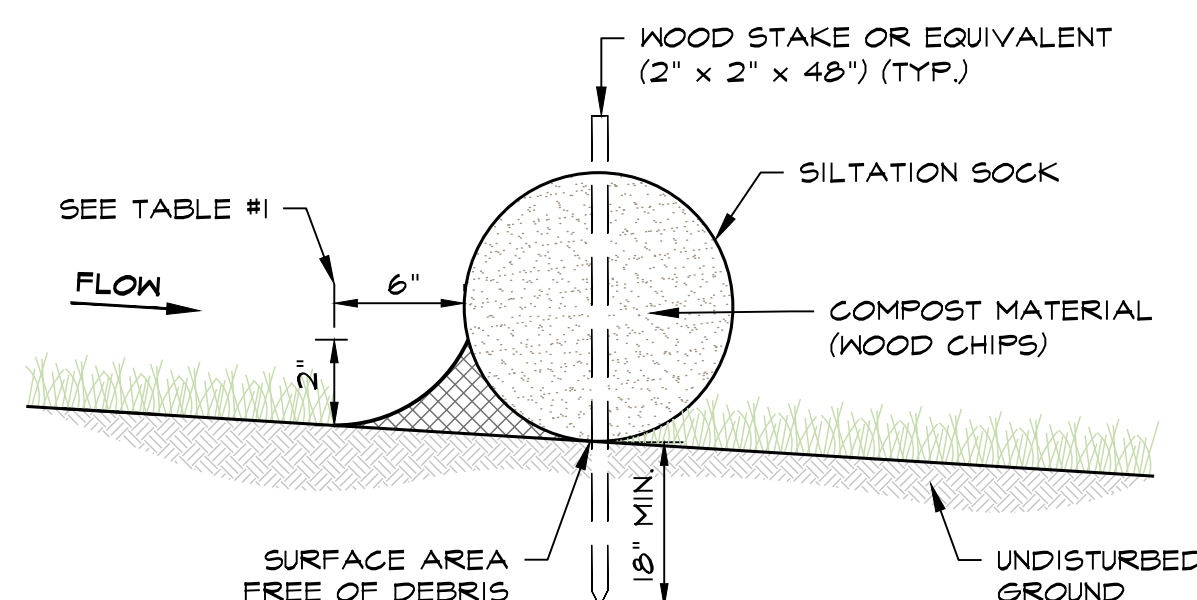
NOT TO SCALE



PLAN



SECTION A-A



SECTION B-B

SILTATION SOCK DETAIL

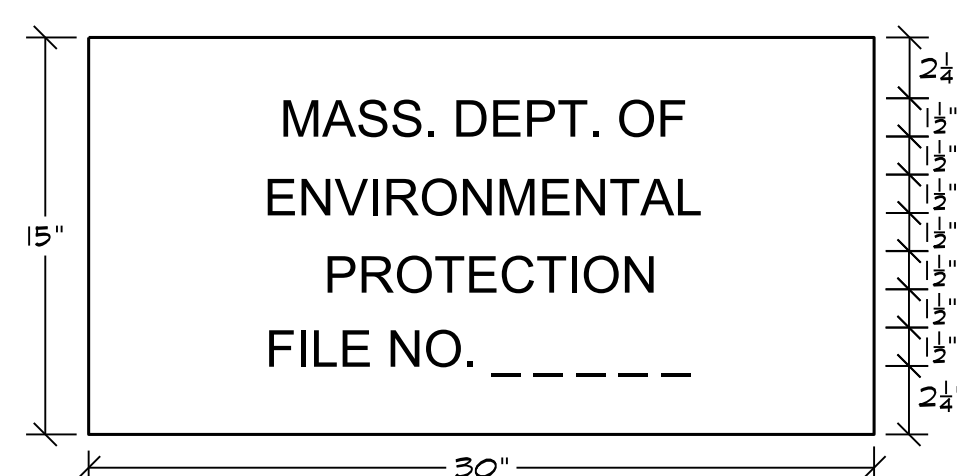
NOT TO SCALE

INSTALLATION NOTES:

- INSTALL SILT SOCK ON A SURFACE CLEAR OF DEBRIS.
- OVERLAP ENDS BY A MINIMUM OF 18-INCHES.
- END OF SILT SOCK TO BE DIRECTED UP SLOPE.
- PLACE STAKES THROUGH SILT SOCK OR ON DOWNSTREAM SIDE.
- ON SLOPES GREATER THAN 2:1 (2:1) SEED COMPOST SOCK IS RECOMMENDED.

TABLE #1

SLOPE	SOCK DIAMETER (MIN.)	STAKING	2" COMPOST BARRIER (WOOD CHIPS)
< 50:1	9"	6' O.C.	---
50:1 TO 10:1	9"	6' O.C.	RECOMMENDED
10:1 TO 5:1	12"	6' O.C.	---
3:1 TO 2:1	12"	4' O.C.	---
> 2:1	18"	4' O.C.	---



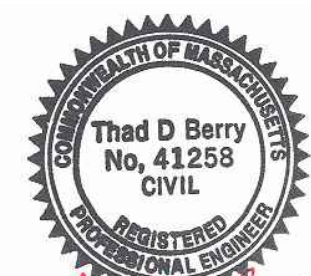
NOTES:

- COLOR:** LETTERING = BLACK
BACKGROUND = WHITE
- THE SIGN IS TO BE PLACED ON ALL PROJECTS SUBJECT TO THE PROVISIONS OF THE MASSACHUSETTS WETLAND PROTECTION ACT.
- THE LOCATION OF THE SIGN IS TO BE DETERMINED BY THE ENGINEER.

MASSDEP SIGN DETAIL

NOT TO SCALE

no.	date	description
0	05/23/18	ISSUED FOR REVIEW
1	11.11.2018	REVIEW COMMENTS
2	11.14.2019	REVIEW COMMENTS



Thad D. Berry

INDEX OF SHEETS

C1	SHEET 1 OF 4	SITE PLAN
C2	SHEET 2 OF 4	SITE DETAILS
C3	SHEET 3 OF 4	DRAINAGE DETAILS
C4	SHEET 4 OF 4	EROSION CONTROL DETAILS

LEGEND

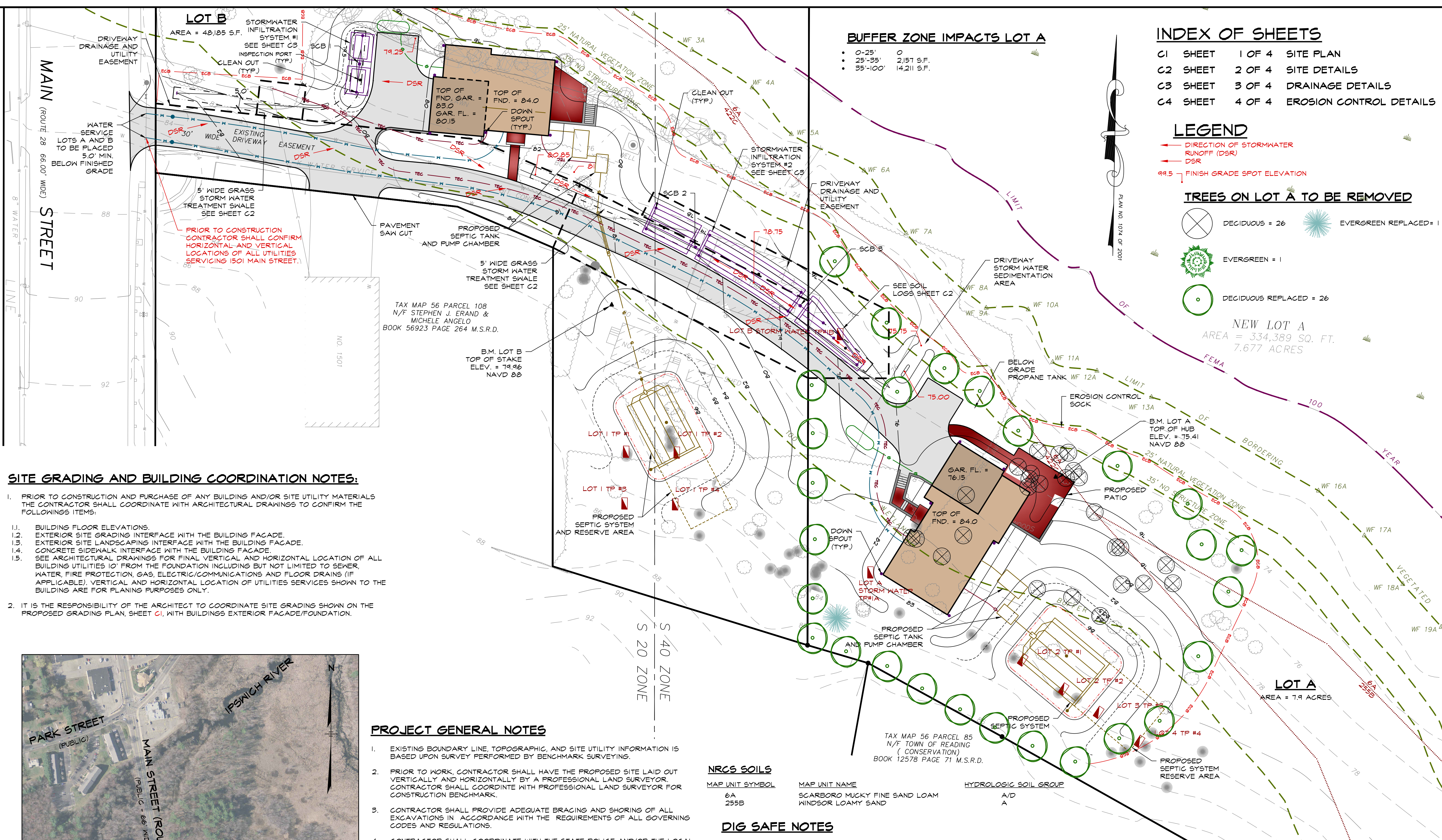
- DIRECTION OF STORMWATER RUNOFF (DSR)
- DSR
- FINISH GRADE SPOT ELEVATION

TREES ON LOT A TO BE REMOVED

- DECIDUOUS = 26
- EVERGREEN REPLACED = 1
- EVERGREEN = 1
- DECIDUOUS REPLACED = 26

BUFFER ZONE IMPACTS LOT A

- 0'-25' 0
- 25'-35' 2,157 S.F.
- 35'-100' 14,211 S.F.



SITE GRADING AND BUILDING COORDINATION NOTES:

- PRIOR TO CONSTRUCTION AND PURCHASE OF ANY BUILDING AND/OR SITE UTILITY MATERIALS THE CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS TO CONFIRM THE FOLLOWING ITEMS:
 - BUILDING FLOOR ELEVATIONS.
 - EXTERIOR SITE GRADING INTERFACE WITH THE BUILDING FACADE.
 - EXTERIOR SITE LANDSCAPING INTERFACE WITH THE BUILDING FACADE.
 - CONCRETE SIDEWALK INTERFACE WITH THE BUILDING FACADE.
 - SEE ARCHITECTURAL DRAWINGS FOR FINAL VERTICAL AND HORIZONTAL LOCATION OF ALL BUILDING UTILITIES 10' FROM THE FOUNDATION INCLUDING BUT NOT LIMITED TO SEWER, WATER, FIRE PROTECTION, GAS, ELECTRIC/COMMUNICATIONS AND FLOOR DRAINS (IF APPLICABLE). VERTICAL AND HORIZONTAL LOCATION OF UTILITIES SERVICES SHOWN TO THE BUILDING ARE FOR PLANNING PURPOSES ONLY.
- IT IS THE RESPONSIBILITY OF THE ARCHITECT TO COORDINATE SITE GRADING SHOWN ON THE PROPOSED GRADING PLAN, SHEET C1, WITH BUILDINGS EXTERIOR FACADE/FOUNDATION.

PROJECT GENERAL NOTES

- EXISTING BOUNDARY LINE, TOPOGRAPHIC, AND SITE UTILITY INFORMATION IS BASED UPON SURVEY PERFORMED BY BENCHMARK SURVEYING.
- PRIOR TO WORK, CONTRACTOR SHALL HAVE THE PROPOSED SITE LAID OUT VERTICALLY AND HORIZONTALLY BY A PROFESSIONAL LAND SURVEYOR. CONTRACTOR SHALL COORDINATE WITH PROFESSIONAL LAND SURVEYOR FOR CONSTRUCTION BENCHMARK.
- CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING OF ALL EXCAVATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNING CODES AND REGULATIONS.
- CONTRACTOR SHALL COORDINATE WITH THE STATE POLICE AND/OR THE LOCAL POLICE DEPARTMENT FOR TRAFFIC RELATED ISSUES PRIOR TO COMMENCING WORK. CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC COORDINATION AND POLICE DETAILS AS REQUIRED BY THE CITY, TOWN OR STATE.
- CONTRACTOR SHALL SAW-CUT PAVEMENT WHERE PAVEMENT TO BE REMOVED ABUTS PAVEMENT WHICH IS TO REMAIN AND WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT.
- CONTRACTOR SHALL MAINTAIN ALL NEW AND EXISTING UTILITIES IN GOOD WORKING ORDER AND SHALL PROTECT THEM FROM DAMAGE AT ALL TIMES THROUGHOUT CONSTRUCTION UNTIL WORK IS COMPLETED AND ACCEPTED.
- FINAL LOCATION OF WATER AND GAS SERVICE SHUT OFF TO BE DETERMINED BY UTILITY PROVIDER.
- CONTRACTOR SHALL REVIEW SEPTIC SYSTEM PLANS FOR LOTS A AND B PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE ALL SITE AND SEPTIC SYSTEMS INSPECTIONS WITH THE TOWN OF READING BOARD OF HEALTH, READING CONSERVATION COMMISSION, READING ENGINEERING DEPARTMENT AND ASB design group llc.
- CONTRACTOR SHALL COORDINATE 1501 MAIN STREET CONCERNING CONSTRUCTION SCHEDULE AND MAINTAINING ACCESS TO MAIN STREET.

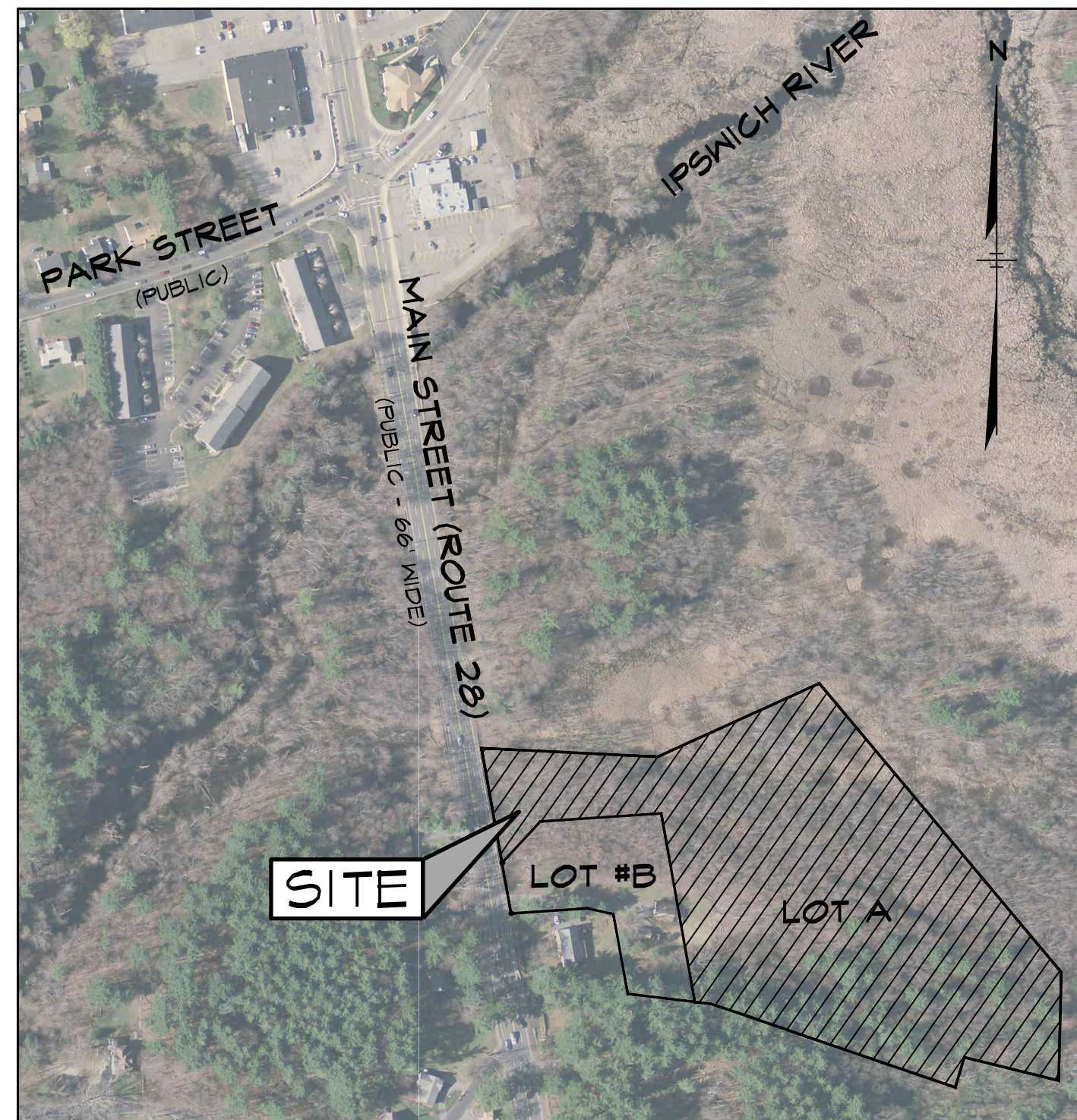
NRCS SOILS

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP
6A 255B	SCARBORO MUCKY FINE SAND LOAM WINDSOR LOAMY SAND	A/D A

DIG SAFE NOTES

- IN ACCORDANCE WITH CHAPTER 82 SECTION 40 INCLUDING AMENDMENTS, THE CONTRACTOR SHALL NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO EXCAVATION WORK AND CALL DIG-SAFE AT 1-800-DIG-SAFE PRIOR TO COMMENCING WORK.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATIONS, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.

BEFORE CONSTRUCTION CALL (72 HOURS IN ADVANCE):
• "DIG SAFE" AT 1-800-DIG SAFE
• 1-800-344-1233

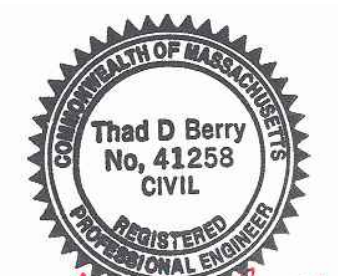


LOCATION PLAN

SCALE: 1" = 250' ±
SOURCE: MA GIS DIGITAL RASTER GRAPHIC (DRG)

SCALE BAR
0 20' 40' 60'
SCALE: 1"=20'

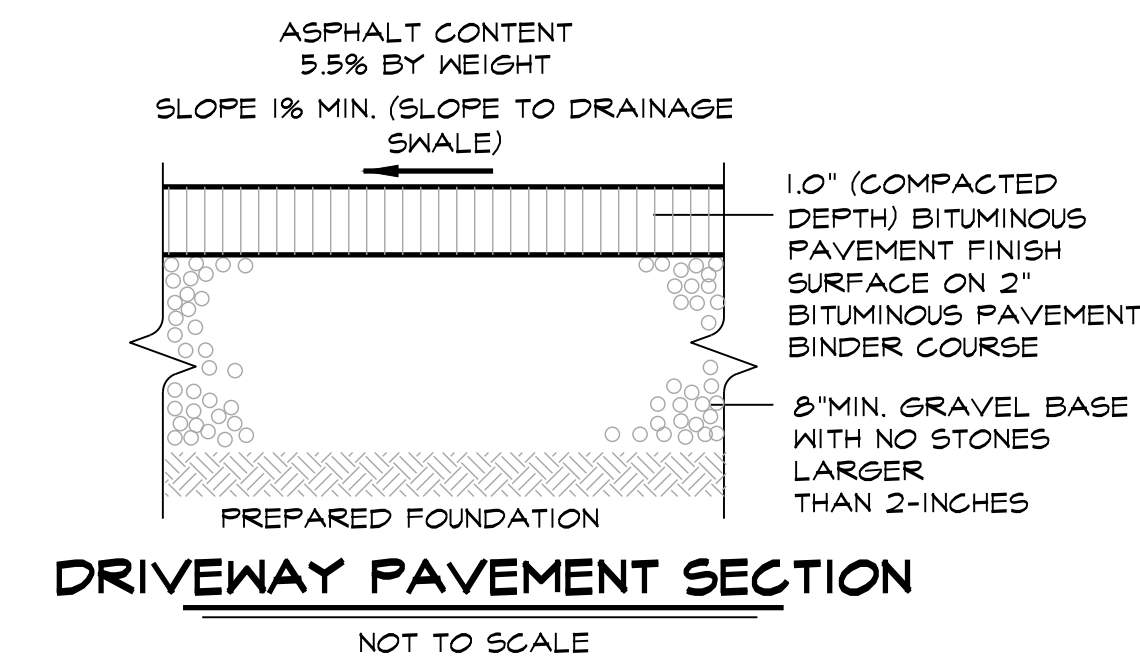
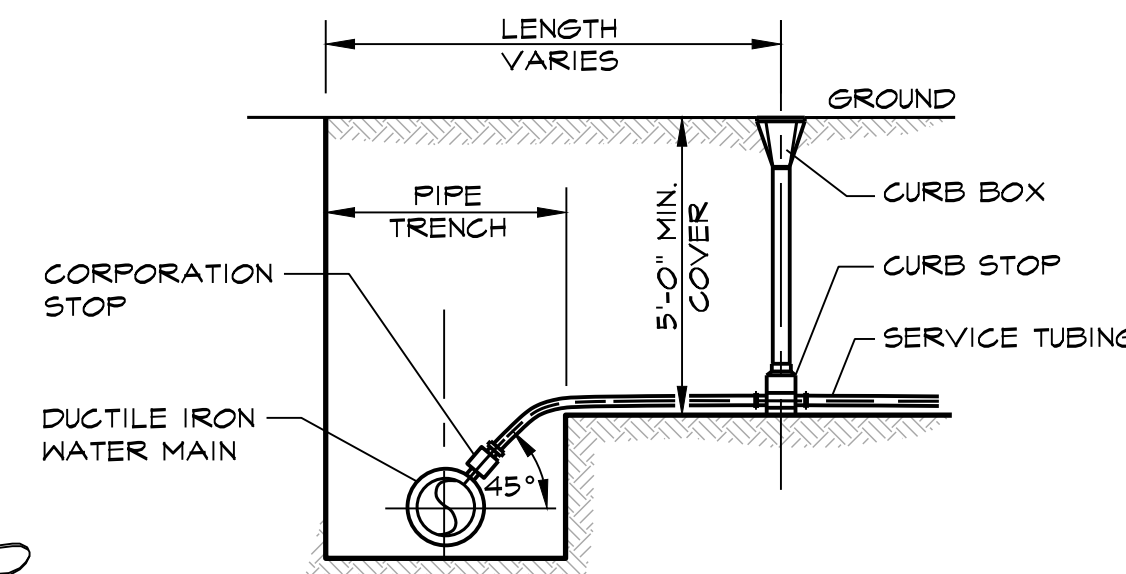
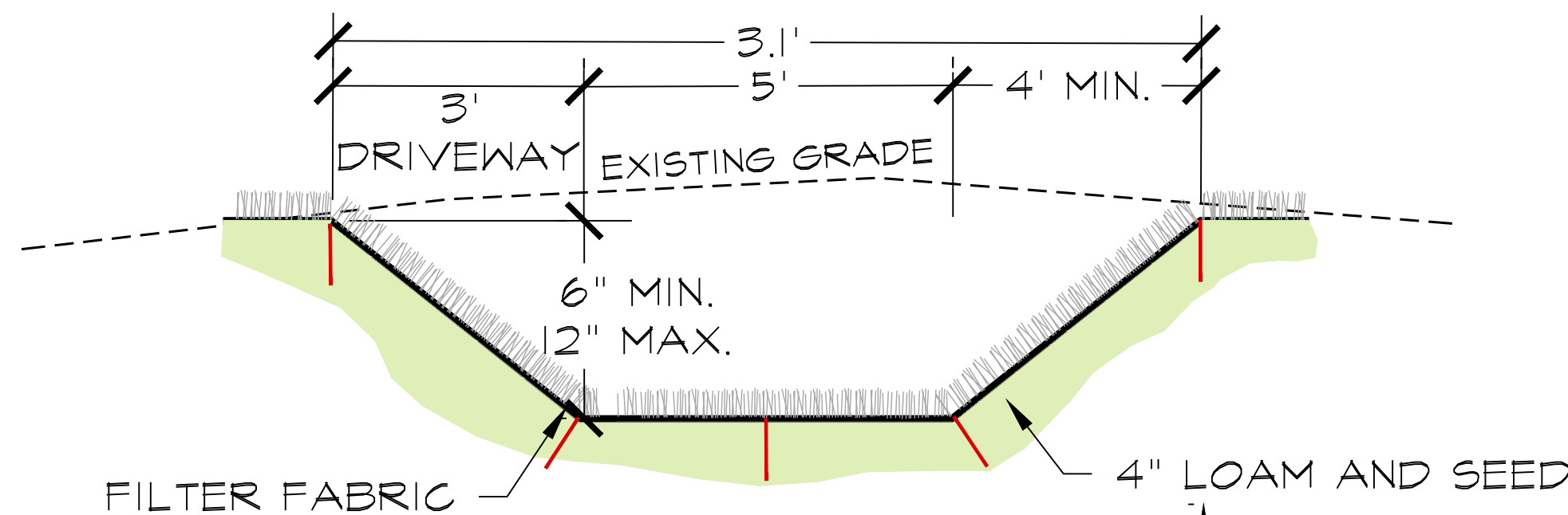
no.	date	description
0	05/21/18	ISSUED FOR REVIEW
1	11.11.2018	REVIEW COMMENTS
2	11.14.2019	REVIEW COMMENTS



Thad D. Berry

DATE OF SOIL TESTING: SEPTEMBER 7, 2016

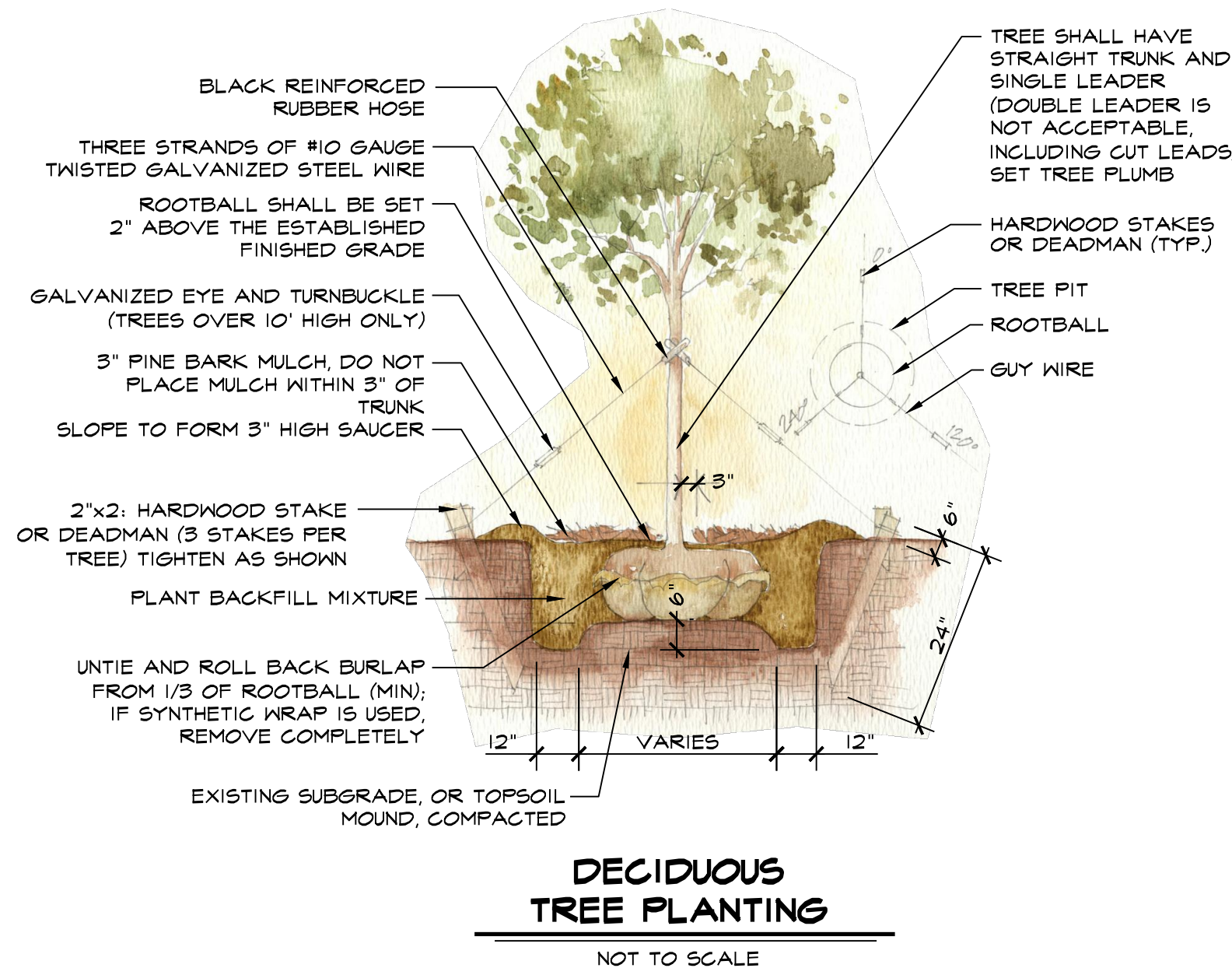
STORM WATER TP IA		STORM WATER TP IB	
A ELE. = 81.75	0 - 10" S.L. 10YR 5/2 ROOTS	A ELE. = 76.25	0 - 10" S.L. 10YR 5/2 ROOTS
B ELE. = 80.92	10" - 24" S.L. 10YR 5/8 ROOTS COBBLES/STONES	B ELE. = 75.42	10" - 24" S.L. 10YR 6/6 ROOTS
C ELE. = 74.75	24" - 46" F.S.L. 2.5Y 7/3 COBBLES/STONES	C ELE. = 74.25	24" - 46" F.S.L. 2.5Y 7/4 COBBLES/STONES
S.H.W.T = 78.25	S.H.W.T @ 42" 7.5YR 5/8	S.H.W.T = 73.25	S.H.W.T @ 36" 7.5YR 5/6
ELE. = 73.75		ELE. = 68.25	



NOTE: FINAL SIZE AND LOCATION OF SUB-SURFACE WATER SERVICES SHALL BE APPROVED BY THE TOWN OF READING PUBLIC WORKS DEPARTMENT

DRIVEWAY DRAINAGE LONG TERM MAINTENANCE

- CATCH BASINS RIMS SHALL BE KEPT CLEAN OF LEAVES AND DEBRIS. SUMPS TO BE CLEANED ONCE A YEAR IN THE FALL AFTER THE TREES LOSE THEIR LEAVES (NOVEMBER).
- GRASS WITHIN THE DRAINAGE SWALE CAN BE MOWED ON A WEEKLY OR MONTHLY BASIS. REMOVE GRASS CLIPPINGS, LEAVES AND DEBRIS FROM THE DRAINAGE SWALE AS MAYBE REQUIRED.
- RESEED AND STABILIZE ANY AREA OF EROSION THAT MAY OCCUR WITHIN THE DRAINAGE SWALE.



Excavation Guidelines for Underground Propane Tanks

Propane & Oil Since 1932

Proper excavation is the essential first step in the proper installation of an underground tank. Improper excavation can jeopardize the installation and can potentially lead to a hazardous gas leak.

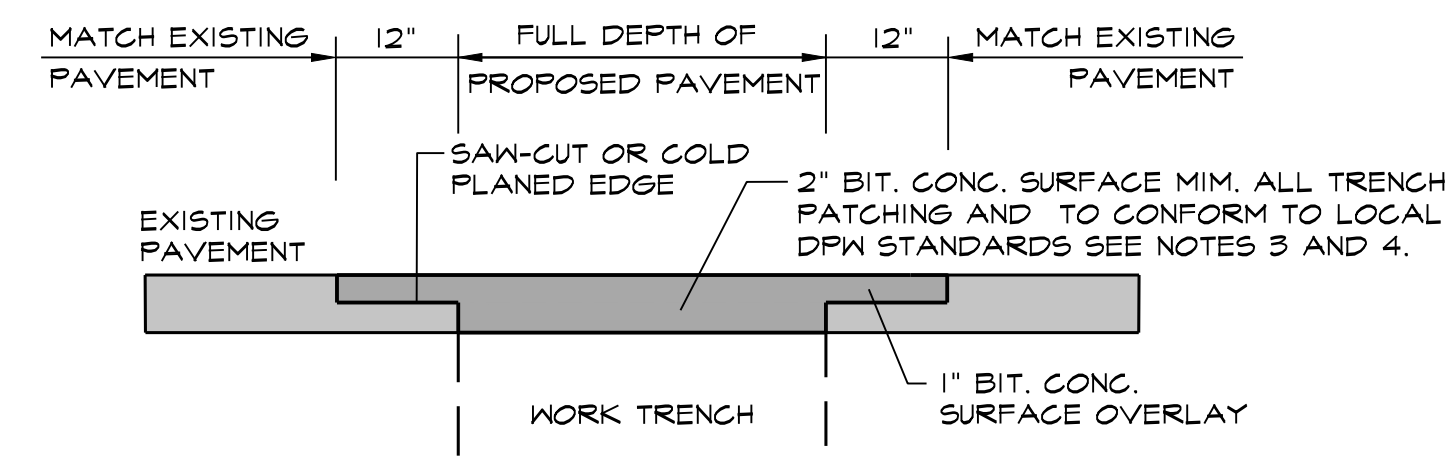
Warning: The installation of underground LP gas tanks is governed by the LP Gas Code (NFPA 58) and must always be done by a qualified professional. Installation of tanks by unqualified persons can potentially lead to a hazardous gas leak. Be sure to call Digsafe before digging: 888-DIG-SAFE (334-7233).

Tank Size	120 Gal.	320 Gal.	500 Gal.	1000 Gal.
Tank Dimensions	5' 6" x 24" diameter	9' x 32" diameter	10' x 38" diameter	16' x 41" diameter
Weight (approx.)	252 lb.	588 lb.	921 lb.	1731 lb.
Hole Dimensions *	9' 6" L x 4' W x 44" Deep	13' L x 4' 6" W x 52" Deep	14' L x 5' W x 4' 6" Deep	20' L x 5' 6" W x 4' 6" Deep
Below the Tank-all sizes	Six inches of sand in the bottom of the hole.			
Prior to Back-filling	One 17 lb. Anode bag connected to tank. Place at least 2' away from tank and low in the hole. Pour 1 gallon of water on bag and immediately cover with sand.		Same procedure - using 2 Anode bags.	
Back-fill **	Once tank is place and inspected by the local AHJ, if required, back-fill the entire hole with sand. Grade downward and away from housing dome. This prevents water from collecting and running into or standing around the housing dome.			

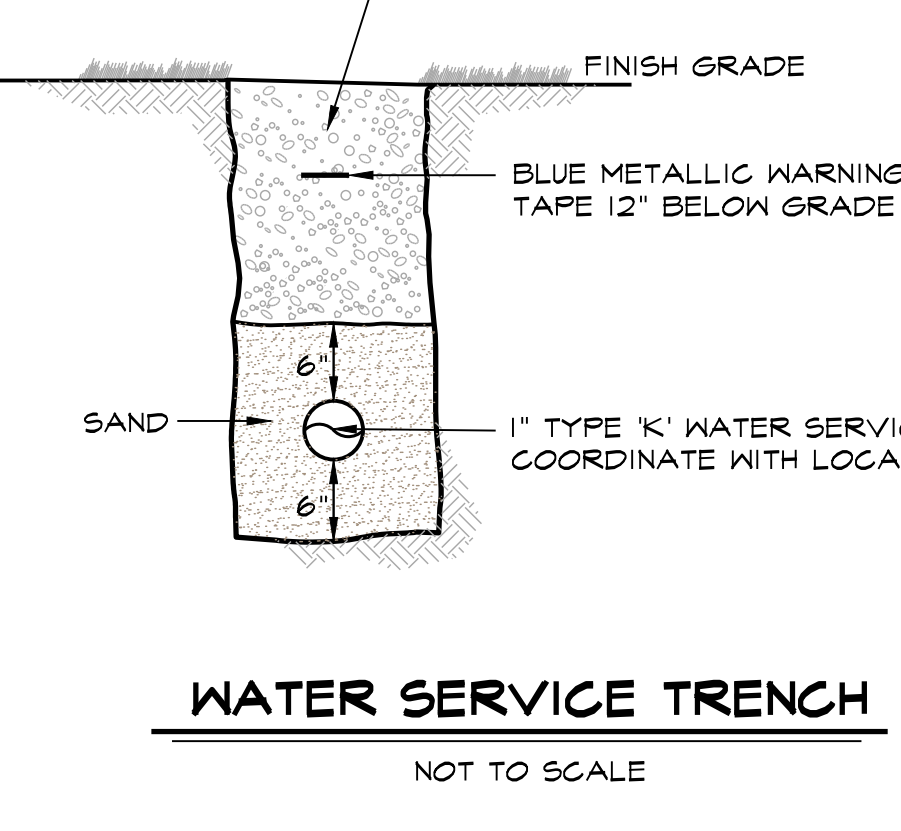
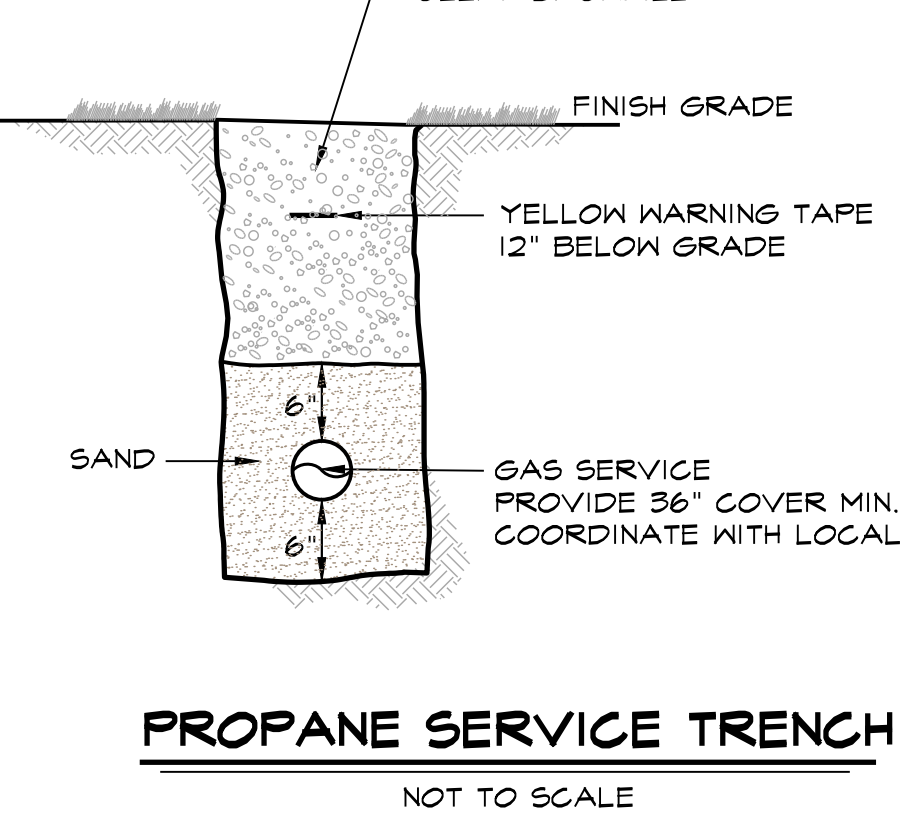
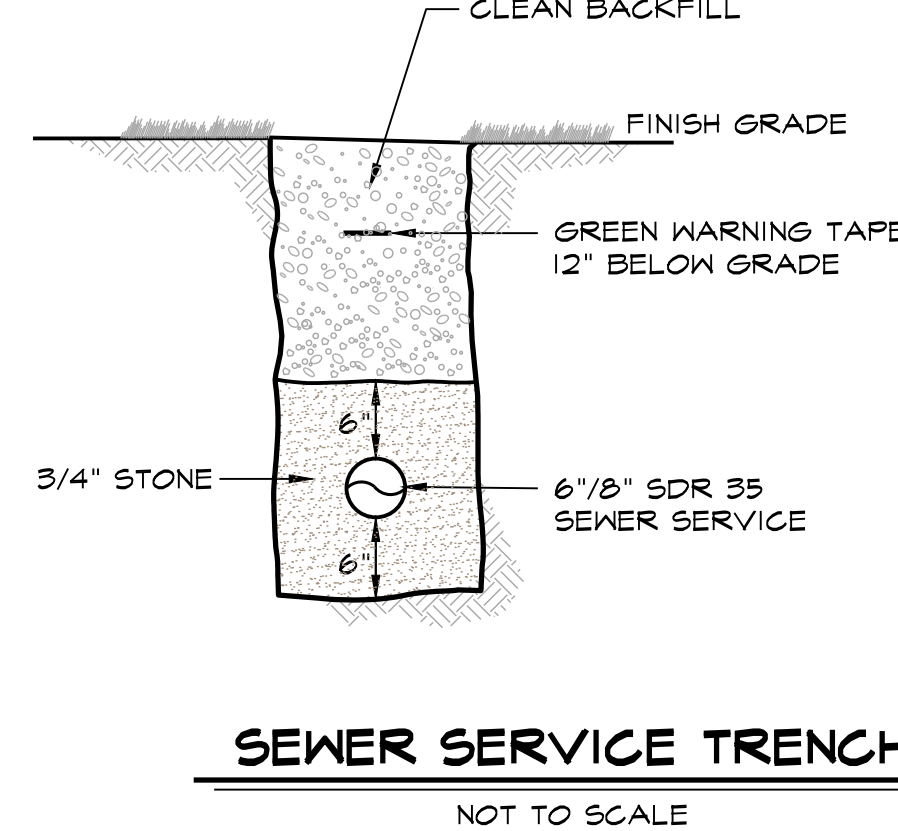
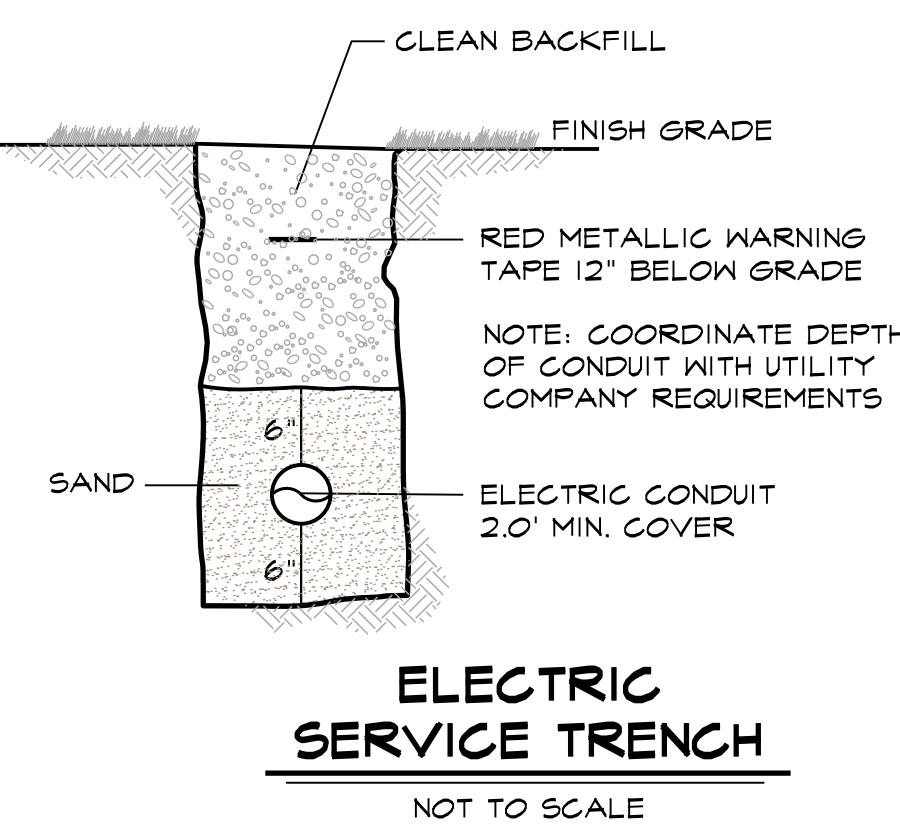
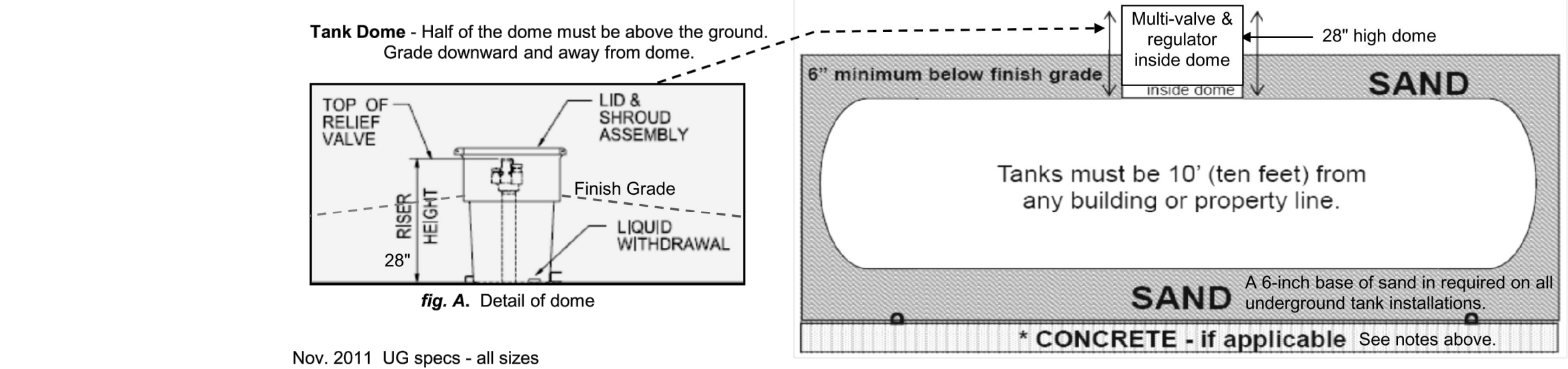
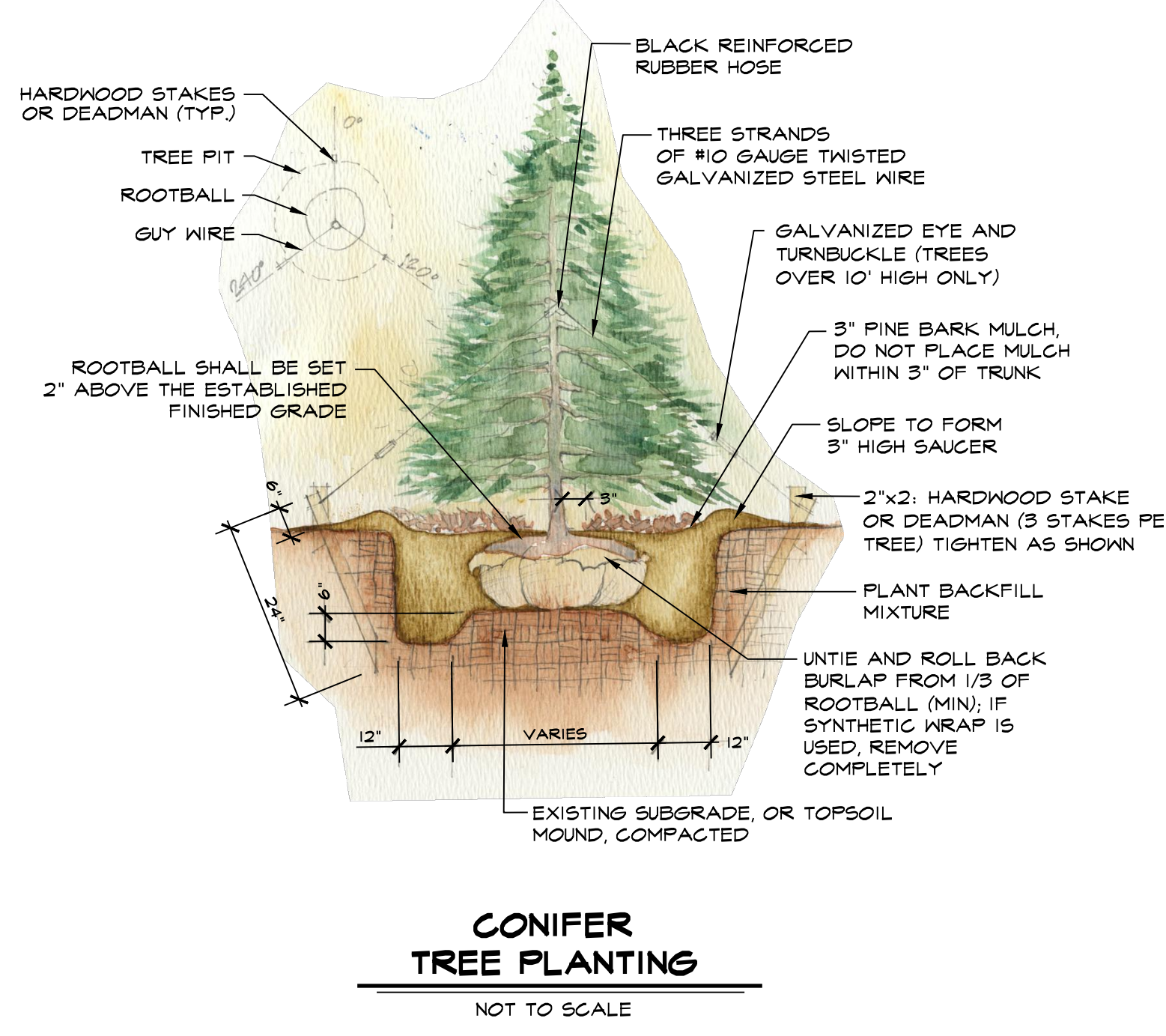
* If a concrete pad is required, depth of hole must be 6" deeper to accommodate a 6" concrete pad in the dimensions of the tank with 4 anchor eye bolts (one in each corner of the pad). Attach stainless steel or similar strapping from lifting lugs down to eye bolts.

** Touch up any scratches or marks on tanks or lifting lugs with proper coating materials before back-filling. Be sure to keep at least half of riser (dome) above ground. Marking the halfway point before back-filling is helpful, especially if finishing with top soil. Filling in more than halfway can cause future water/freezing problems and must be avoided.

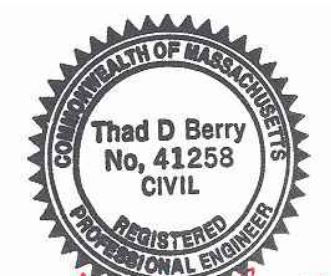
Gas Line Trench Specifications: The trench for buried coated copper tubing or polyethylene pipe and tubing shall be installed with a minimum 12 in. of clean fill or sand. Do not backfill until inspected by the local AHJ, if required. The minimum cover shall be increased to 18 in. if external damage to the pipe or tubing from vehicles is likely to result. Tracer wire (required for PE pipe & tubing only) along with yellow caution tape (Caution Gas Line Buried Below) shall be properly installed by a qualified service technician.



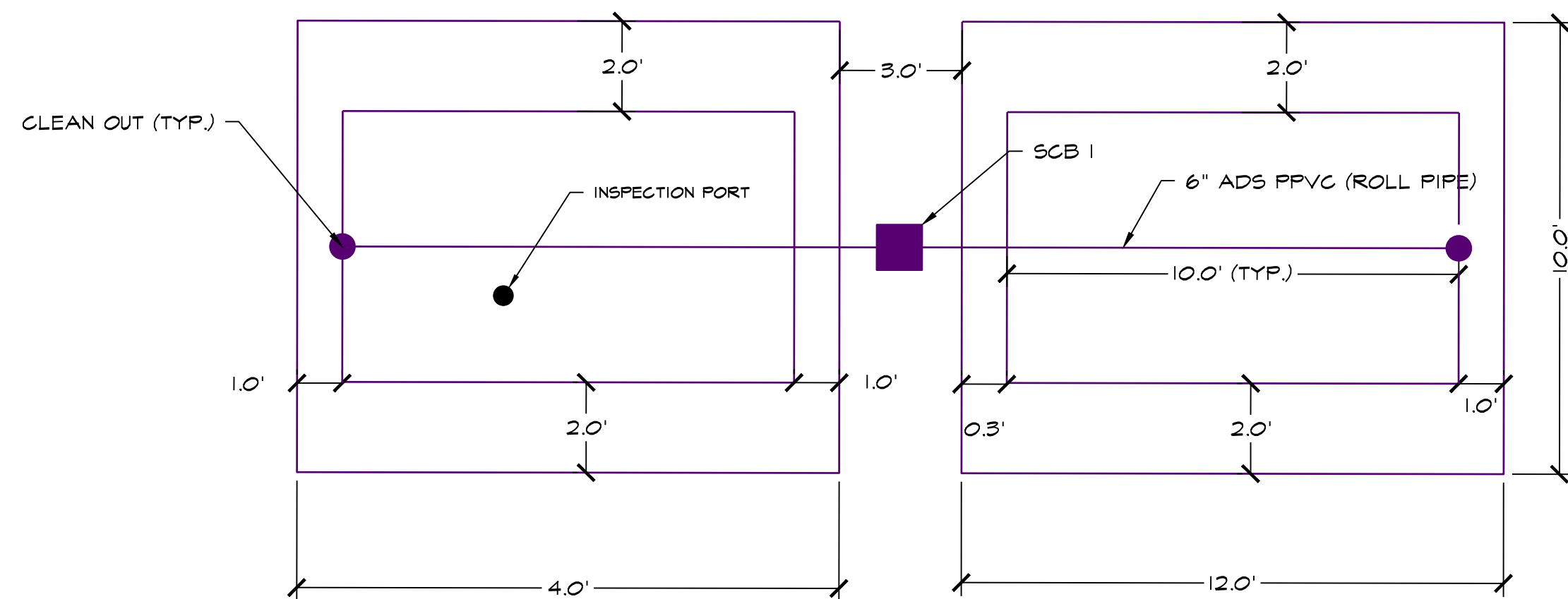
- NOTES:
- CLEAN AREA OF ANY LOOSE DEBRIS. AREA SHOULD BE FREE OF DUST OR DIRT, AND THOROUGHLY DRIED.
 - A TACK COAT OF EMULSIFIED ASPHALT SHALL BE APPLIED TO THE SAW CUT AREA PRIOR TO PAVING.
 - FINAL PAVEMENT LIMIT/MILL AND OVERLAY AND DEPTH OF PAVEMENT SHALL BE DETERMINED BY THE TOWN OF READING MA. DPW. ADDITIONAL MILLING AND OVERLAY MAYBE REQUIRED. CONTRACTOR SHALL COORDINATE WITH THE READING DPW PRIOR TO THE START OF CONSTRUCTION.
 - BACKFILLING OF UTILITY TRENCH SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE TOWN OF READING MA. DPW.



no.	date	description
0	05/31/18	ISSUED FOR REVIEW
1	11/11/2018	REVIEW COMMENTS
2	11/4/2019	REVIEW COMMENTS



Thad D. Berry

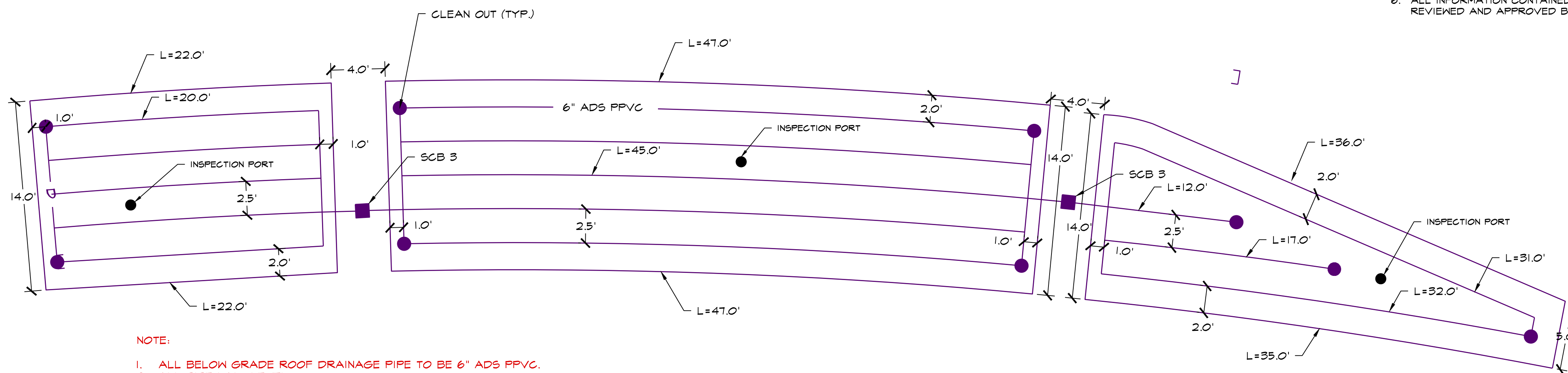


NOTE:

1. ALL BELOW GRADE ROOF DRAINAGE PIPE TO BE 6" ADS PPVC.
2. ALL PIPE LAID LEVEL.

INFILTRATION SYSTEM I LOT B

NOT TO SCALE

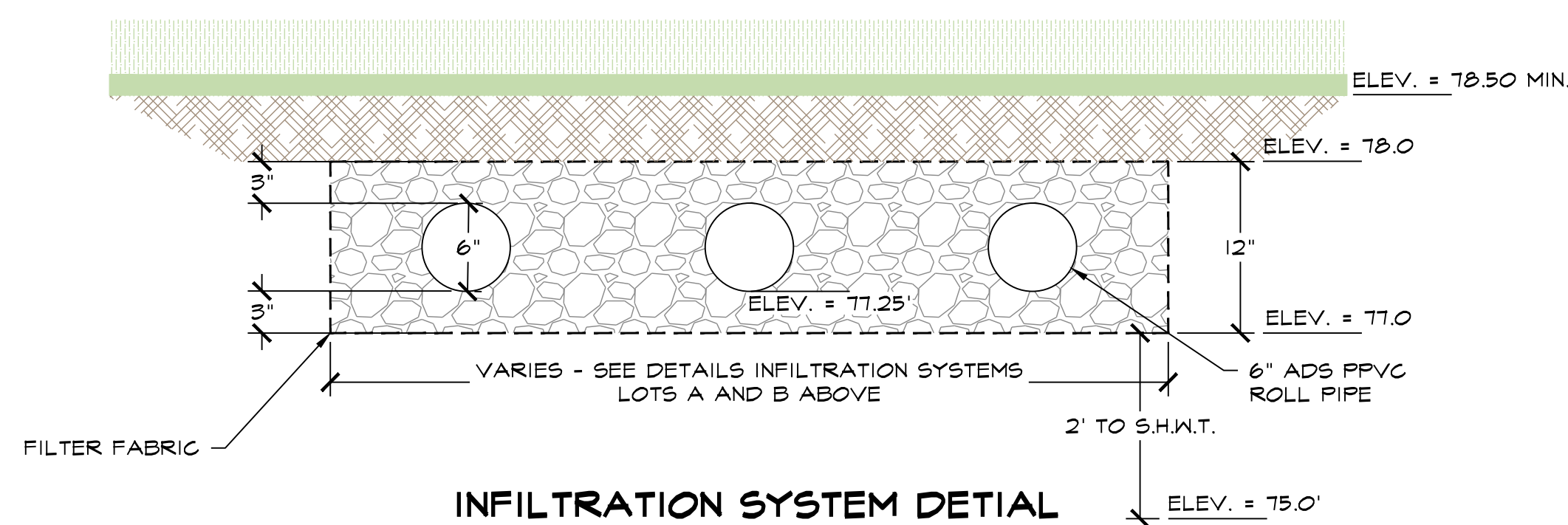


NOTE:

1. ALL BELOW GRADE ROOF DRAINAGE PIPE TO BE 6" ADS PPVC.
2. ALL PIPE LAID LEVEL.

INFILTRATION SYSTEM I LOT A AND B

NOT TO SCALE



INFILTRATION SYSTEM DETAIL

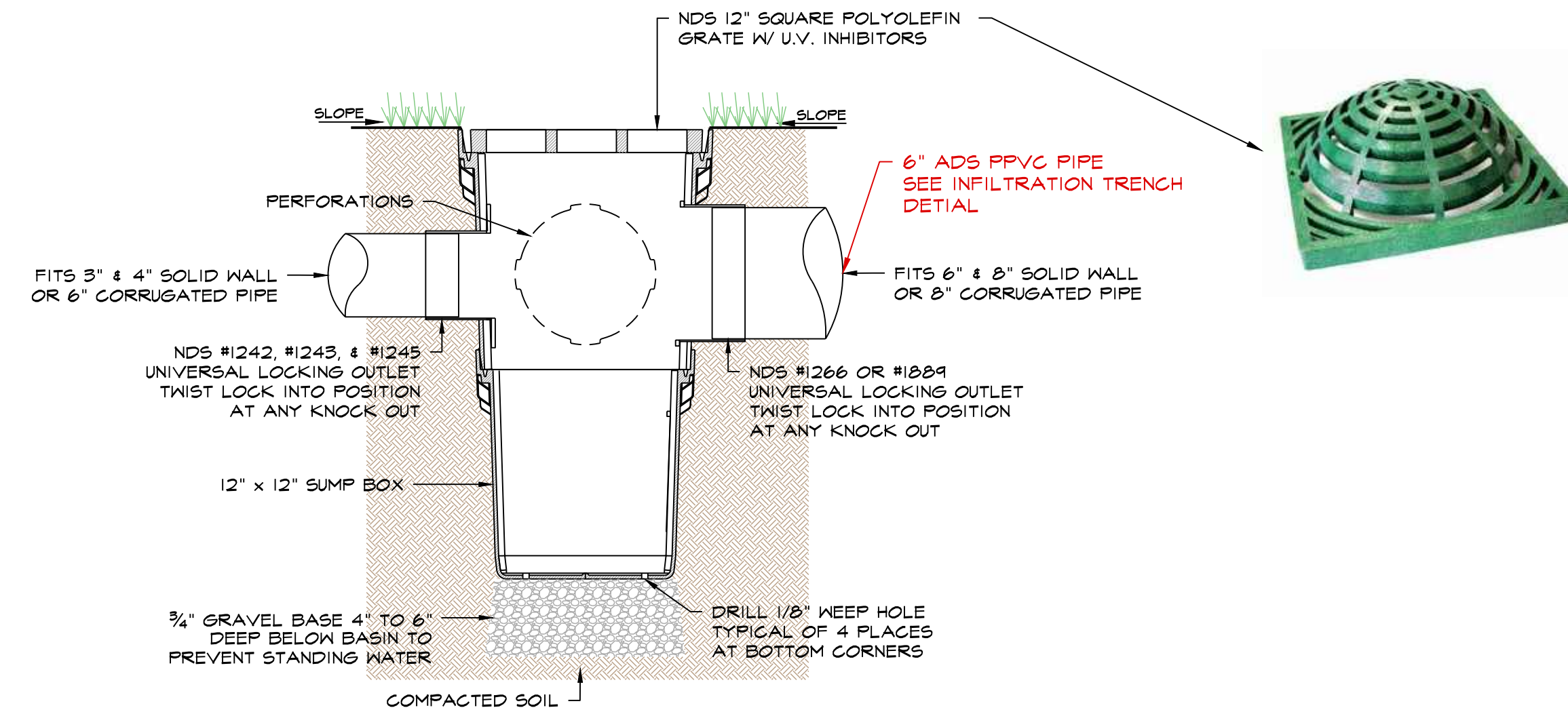
NOT TO SCALE

12" SQUARE CATCH BASIN I (SCB 1)

RIM = 78.75
INVERT OUT (6" ADS PPVC) = 77.25

INFILTRATION SYSTEM DESIGN DATA

DESIGN ELEVATION = 78.00
SEASONAL HIGH WATER TABLE (S.H.W.T.) = 75.00 (- 3.0')
BOTTOM OF INFILTRATION SYSTEM = 77.00 (+2.0')
INVERT 6" ADS PPVC = 77.25
TOP OF INFILTRATION SYSTEM = 78.00
FINISH GRADE = 78.75 +



12" SQUARE CATCH BASIN WITH RISER & SUMP BOX

NOT TO SCALE

NOTES:

1. CONTRACTOR TO INSTALL NDS 12" SQUARE CATCH BASIN & SUMP BOX OR APPROVED EQUAL.
2. GRATE TO BE ATTACHED TO CATCH BASIN WITH SCREW PROVIDED AT TIME OF INSTALLATION.
3. RISER CAN BE CUT TO ACHIEVE EXACT ELEVATION.
4. DO NOT USE OVER 5 RISERS WITH CATCH BASIN.
5. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH NDS MANUFACTURER'S SPECIFICATIONS.
6. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER BEFORE INSTALLATION.

12" SQUARE CATCH BASIN 2 (SCB 1)

RIM = 78.50
INVERT OUT (6" ADS PPVC) = 77.25

12" SQUARE CATCH BASIN 3 (SCB 1)

RIM = 78.50
INVERT OUT (6" ADS PPVC) = 77.25

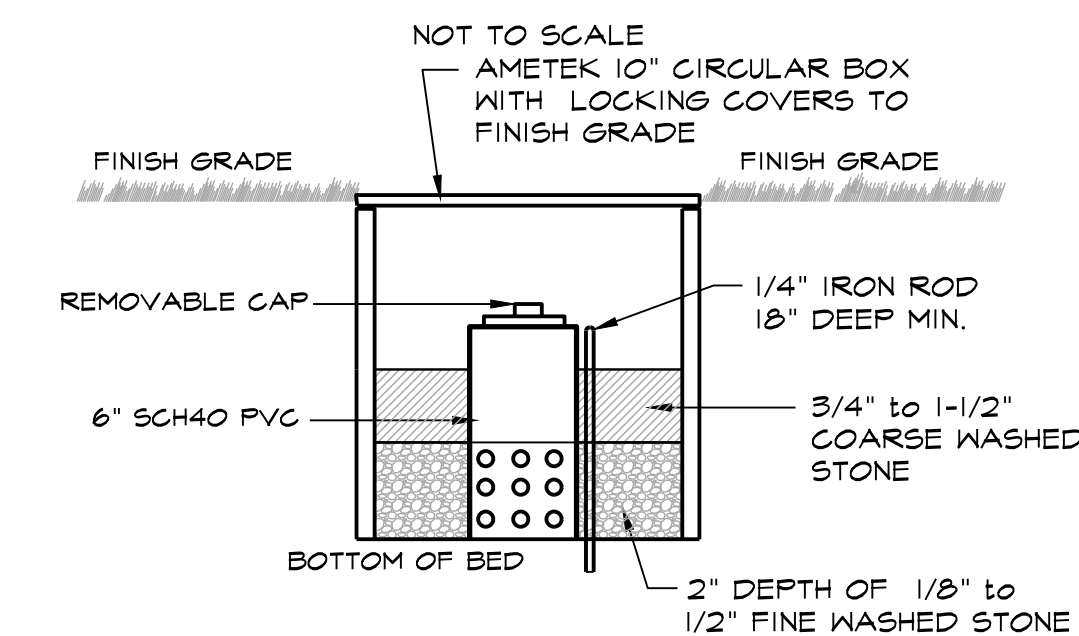
INFILTRATION SYSTEM DESIGN DATA

DESIGN ELEVATION = 78.00
SEASONAL HIGH WATER TABLE (S.H.W.T.) = 75.00 (- 3.0')
BOTTOM OF INFILTRATION SYSTEM = 77.00 (+2.0')
INVERT 6" ADS PPVC = 77.25
TOP OF INFILTRATION SYSTEM = 78.00
FINISH GRADE = 78.50 +

DATE OF SOIL TESTING: SEPTEMBER 7, 2016

	STORM WATER TP 1A
A ELE. = 81.75	0 - 10" S.L. 10YR 5/2 ROOTS
B ELE. = 80.92	10" - 24" S.L. 10YR 5/8 ROOTS COBBLES/STONES
C ELE. = 79.15	24" - 96" F.S.L. 2.5Y 7/3 COBBLES/STONES
S.H.W.T. = 78.25	S.H.W.T. @ 42" 7.5YR 5/8
ELE. = 73.75	

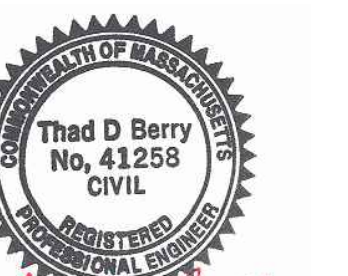
	STORM WATER TP 1B
A ELE. = 76.25	0 - 10" S.L. 10YR 5/2 ROOTS
B ELE. = 75.42	10" - 24" S.L. 10YR 6/6 ROOTS
C ELE. = 74.25	24" - 96" F.S.L. 2.5Y 7/4 COBBLES/STONES
S.H.W.T. = 73.25	S.H.W.T. @ 36" 7.5YR 5/6
ELE. = 68.25	



INSPECTION PORT DETAIL

NOT TO SCALE

no.	date	description
0	05/21/18	ISSUED FOR REVIEW
1	11.11.2018	REVIEW COMMENTS
2	11.14.2019	REVIEW COMMENTS



EROSION CONTROL NOTES

EROSION CONTROL PRINCIPLES

- THE FOLLOWING EROSION CONTROL PRINCIPLES SHALL APPLY TO THE LAND GRADING AND CONSTRUCTION PHASES:
 - STRIPPING OF VEGETATION, GRADING, OR OTHER SOIL DISTURBANCE SHALL BE DONE IN A MANNER WHICH WILL MINIMIZE SOIL EROSION.
 - WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.
 - EXTENT OF AREA WHICH IS EXPOSED AND FREE OF VEGETATION AND DURATION OF ITS EXPOSURE SHALL BE KEPT WITHIN PRACTICAL LIMITS.
 - TEMPORARY SEEDING, MULCHING, OR OTHER SUITABLE STABILIZATION MEASURES SHALL BE USED TO PROTECT EXPOSED CRITICAL AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE.
 - DRAINAGE PROVISIONS SHALL ACCOMMODATE INCREASED RUNOFF RESULTING FROM MODIFICATIONS OF SOIL AND SURFACE CONDITIONS DURING AND AFTER DEVELOPMENT OR DISTURBANCE. SUCH PROVISIONS SHALL BE IN ADDITION TO EXISTING REQUIREMENTS.
 - SEDIMENT SHALL BE RETAINED ON-SITE.
 - EROSION CONTROL DEVICES SHALL BE INSTALLED AS EARLY AS POSSIBLE IN THE CONSTRUCTION SEQUENCE PRIOR TO START OF CLEARING AND GRUBBING OPERATIONS AND EXCAVATION WORK.
- CUT AND FILL SLOPES AND STOCKPILED MATERIALS SHALL BE PROTECTED TO PREVENT EROSION. SLOPES SHALL BE PROTECTED WITH PERMANENT EROSION PROTECTION WHEN EROSION EXPOSURE PERIOD IS GREATER THAN OR EQUAL TO SIX MONTHS, AND TEMPORARY EROSION PROTECTION WHEN EROSION EXPOSURE PERIOD IS EXPECTED TO BE LESS THAN SIX MONTHS (SEE NOTE 1B).
 - PERMANENT EROSION PROTECTION SHALL BE ACCOMPLISHED BY SEEDING WITH GRASS AND COVERING WITH AN EROSION PROTECTION MATERIAL, AS APPROPRIATE FOR PREVAILING CONDITIONS.
 - EXCEPT WHERE SPECIFIED SLOPE IS INDICATED ON DRAWINGS, FILL SLOPES SHALL BE LIMITED TO A GRADE OF 3:1 (HORIZONTAL:VERTICAL) AND CUT SLOPES SHALL BE LIMITED TO A GRADE OF 3:1.

SILTATION SOCK

INSTALL SILTATION SOCK IN ACCORDANCE WITH THE PLAN DETAIL.

MAINTENANCE AND REMOVAL OF CONTROL DEVICES

- WETLAND AREAS, WATER COURSES, AND DRAINAGE SWALES ADJACENT TO CONSTRUCTION ACTIVITIES SHALL BE MONITORED TWICE EACH MONTH FOR EVIDENCE OF SILT INTRUSION AND OTHER ADVERSE ENVIRONMENTAL IMPACTS, WHICH SHALL BE CORRECTED IMMEDIATELY UPON DISCOVERY.
- CULVERTS AND DRAINAGE DITCHES SHALL BE KEPT CLEAN AND CLEAR OF OBSTRUCTIONS DURING CONSTRUCTION PERIOD.
- EROSION CONTROL DEVICES:
 - SEDIMENT BEHIND THE EROSION CONTROL DEVICE SHALL BE CHECKED TWICE EACH MONTH AND AFTER EACH HEAVY RAIN. SILT SHALL BE REMOVED IF GREATER THAN 6-INCHES DEEP.
 - CONDITION OF EROSION CONTROL DEVICE SHALL BE CHECKED TWICE EACH MONTH OR MORE FREQUENTLY AS REQUIRED. DAMAGED AND/OR DETERIORATED ITEMS SHALL BE REPLACED. EROSION CONTROL DEVICES SHALL BE MAINTAINED IN-PLACE AND IN EFFECTIVE CONDITION.
 - HAY BALES SHALL BE INSPECTED FREQUENTLY AND MAINTAINED OR REPLACED AS REQUIRED TO MAINTAIN BOTH EFFECTIVENESS AND INSTALLED CONDITION. UNDERSIDE OF BALES SHALL BE KEPT IN CLOSE CONTACT WITH THE EARTH BELOW AT ALL TIMES, AS REQUIRED TO PREVENT WATER FROM WASHING BENEATH BALES.
 - SEDIMENT SHALL BE REMOVED FROM THE RETENTION PONDS AT THE COMPLETION OF THE PROJECT AND PERIODICALLY DURING CONSTRUCTION. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO A DEPTH OF 6 INCHES, OR AS DIRECTED.
 - SEDIMENT DEPOSITS SHALL BE DISPOSED OF OFF-SITE, IN A LOCATION AND MANNER WHICH WILL NOT CAUSE SEDIMENT NUISANCE ELSEWHERE.
- REMOVAL OF EROSION CONTROL DEVICES:
 - THE CONSERVATION COMMISSION AGENT MUST INSPECT THE SITE AND APPROVE REMOVAL OF ANY EROSION CONTROL DEVICE.
 - EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL ALL DISTURBED EARTH HAS BEEN PAVED OR VEGETATED, AT WHICH TIME THEY SHALL BE REMOVED. AFTER REMOVAL, AREAS DISTURBED BY THESE DEVICES SHALL BE RE-GRADED AND SEEDDED.
 - EROSION CONTROL NETTING SHALL BE KEPT SECURELY ANCHORED UNTIL START OF PERMANENT TURF CONSTRUCTION.
 - EROSION PROTECTION MATERIAL SHALL BE KEPT SECURELY ANCHORED UNTIL ACCEPTANCE OF COMPLETED SLOPE OR ENTIRE PROJECT, WHICHEVER IS LATER.

LOAM & SEEDING NOTES

LOADING, SEEDING AND FERTILIZING

- IF REQUIRED THE CONTRACTOR SHALL FURNISH ALL TOPSOIL OR ADDITIONAL TOPSOIL NEEDED TO COMPLETE THE JOB. IF THE EXISTING TOPSOIL IS SUFFICIENT TO COMPLETE THE JOB, ANY EXCESS TOPSOIL WILL REMAIN ON SITE. AN AREA WILL BE PROVIDED ON SITE FOR FINAL STORAGE.
- THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED ON THE DESIGNATED AREAS AND IT SHALL BE A MINIMUM DEPTH OF SIX INCHES AFTER FIRING. SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SEEDING.
- AFTER LOAM HAS BEEN PLACED, LIME AND FERTILIZER SHALL BE UNIFORMLY MIXED INTO THE TOP FOUR INCHES OF SOIL BY DISCING, HARROWING OR USING OTHER APPROVED METHODS.
- ANY UNDULATIONS OR IRREGULARITIES IN THE SURFACE RESULTING FROM FERTILIZING, LIMING, SURFACE ROUGHENING OR OTHER CAUSES SHALL BE LEVELED PRIOR TO SEEDING. FLOODED, WASHED-OUT OR OTHERWISE DAMAGED AREAS SHALL BE RECONSTRUCTED AND ALL GRADES RE-ESTABLISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE DRAWINGS AND/ OR OTHER APPLICABLE SPECIFICATIONS.
- PRIOR TO SEEDING THE SURFACE SHALL BE CLEARED OF ALL TRASH, DEBRIS AND STONES LARGER THAN ONE AND ONE-HALF INCHES IN DIAMETER, AND OF ALL ROOTS, BRUSH, WIRE, GRADE, OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING OR MAINTENANCE OPERATIONS.
- BROADCAST SEED AND MULCH. PLACE STRAW AND ANCHOR IT TO TOPSOIL. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDLINGS WITH ADEQUATE WATER FOR PLANT GROWTH. (1/2"-1" EVERY 3-4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED.

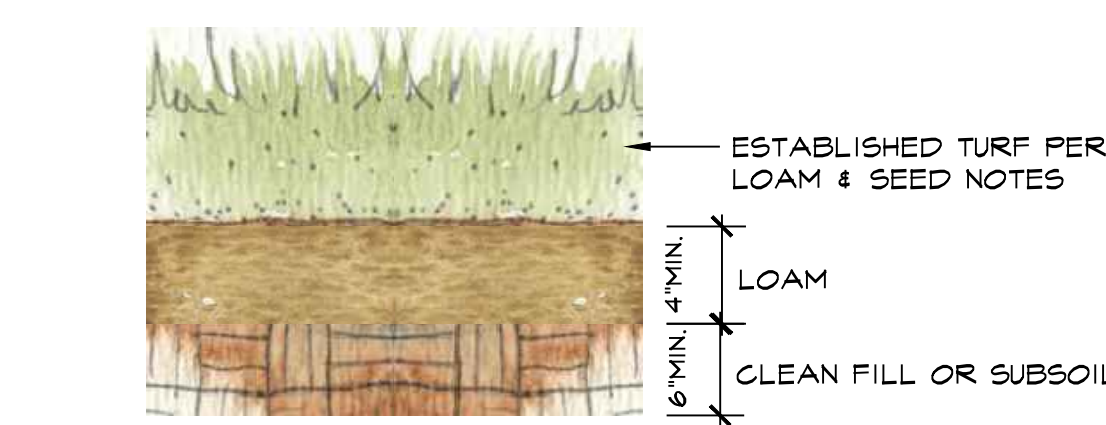
REPAIRS AND MAINTENANCE

INSPECT ALL SEEDED AREAS FOR FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND RESEEDINGS WITHIN THE PLANTING SEASON.

- ONCE THE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 95% GROUND COVER TO BE CONSIDERED ADEQUATELY STABILIZED.
- IF THE STAND PROVIDES LESS THAN 40% GROUND COVER, RE-ESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS.
- IF THE STAND PROVIDES BETWEEN 40% AND 94% GROUND COVER AGE, OVERSEEDING AND FERTILIZING USING HALF OF THE RATES ORIGINALLY APPLIED MAY BE NECESSARY.

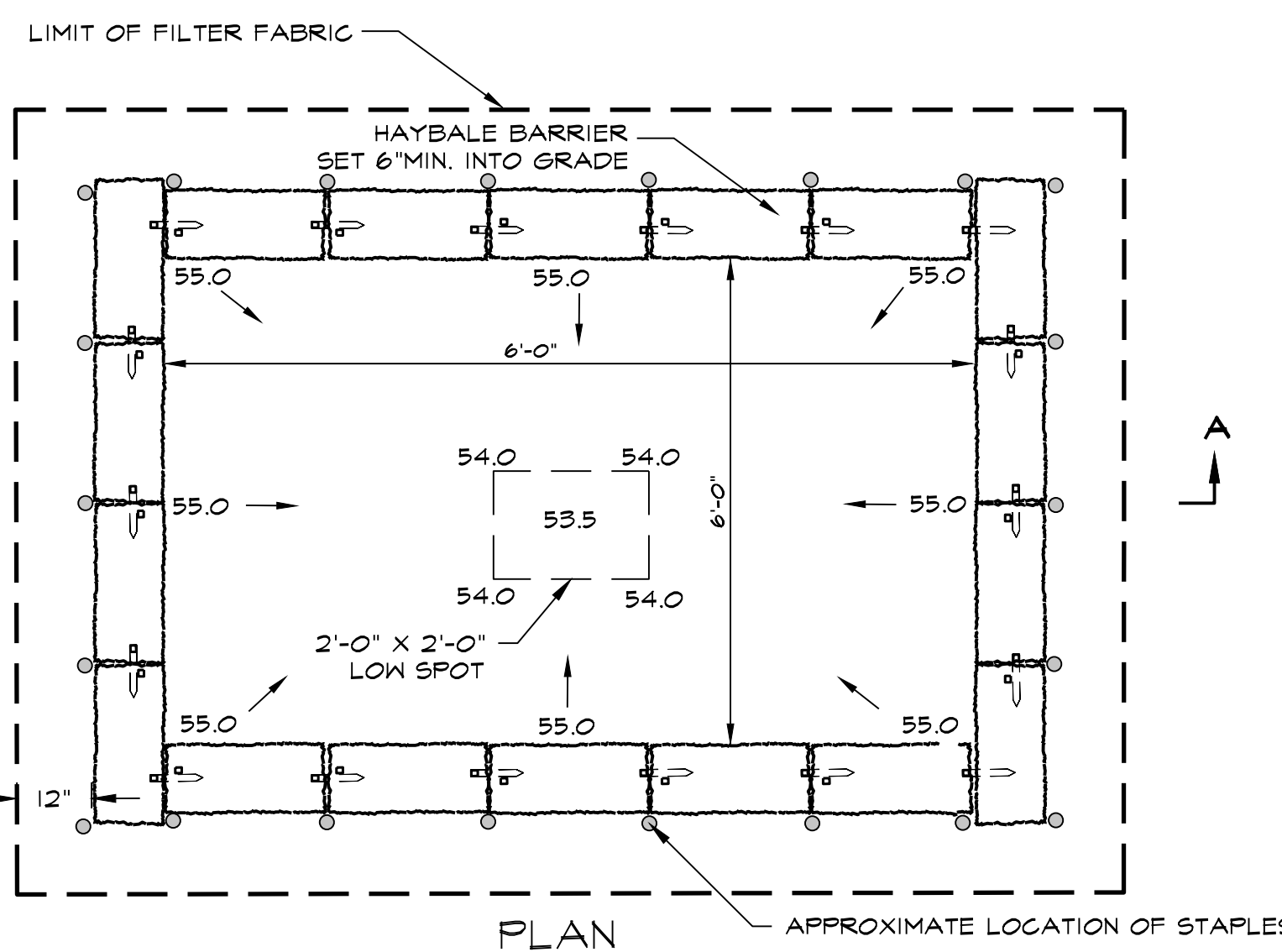
SURFACE PREPARATION

- STRIP AND STOCKPILE ALL EXISTING LOAM FROM PROPOSED WORK AREAS. PROTECT LOAM FROM EROSION. ALL LOAM WILL REMAIN ON SITE UNLESS THE OWNER APPROVES OFF SITE REMOVAL.
- SET FIELD GRADES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. PROVIDE PROPER SURVEY CONTROL AND MAINTAIN THROUGHOUT CONSTRUCTION. PROVIDE ENGINEER WITH COPIES OF ALL SURVEY NOTES AND LOCATIONS OF BOTH VERTICAL AND HORIZONTAL CONTROL.
- BRING BASE MATERIAL TO FINISH GRADE. PROVIDE ENGINEER WITH AS-BUILT DRAWINGS SHOWING FINISH ELEVATIONS AND CONTOURS PRIOR TO PLACEMENT OF LOAM.
- SOIL TESTS SHALL BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER. SOIL TESTS SHALL BE CONDUCTED BY A STATE LABORATORY OR RECOGNIZED COMMERCIAL LABORATORY. PROVIDE ENGINEER WITH COPY OF TEST RESULTS AND RECOMMENDATIONS FOR LIMING AND FERTILIZING.
- AFTER THE AREAS TO BE TOPSOILED HAVE BEEN APPROVED BY THE OWNER OR ENGINEER, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSEND BY ROUGHENING TO THE DEPTH OF AT LEAST TWO INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL AND TO INCORPORATE THE LIME.
- ACCEPTANCE SHALL BE GIVEN BY THE OWNER OR ENGINEER UPON SATISFACTORY COMPLETION OF EACH SECTION OR AREA AS INDICATED ON THE DRAWINGS OR AS OTHERWISE SPECIFIED BEFORE PLACEMENT OF TOPSOIL.



LOAM & SEED DETAIL

NOT TO SCALE

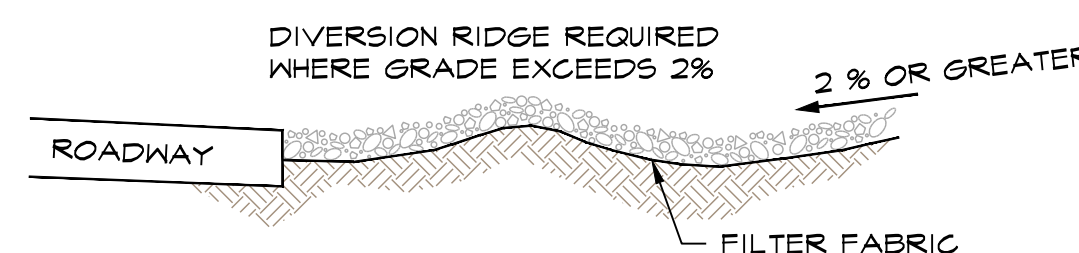


SECTION A-A

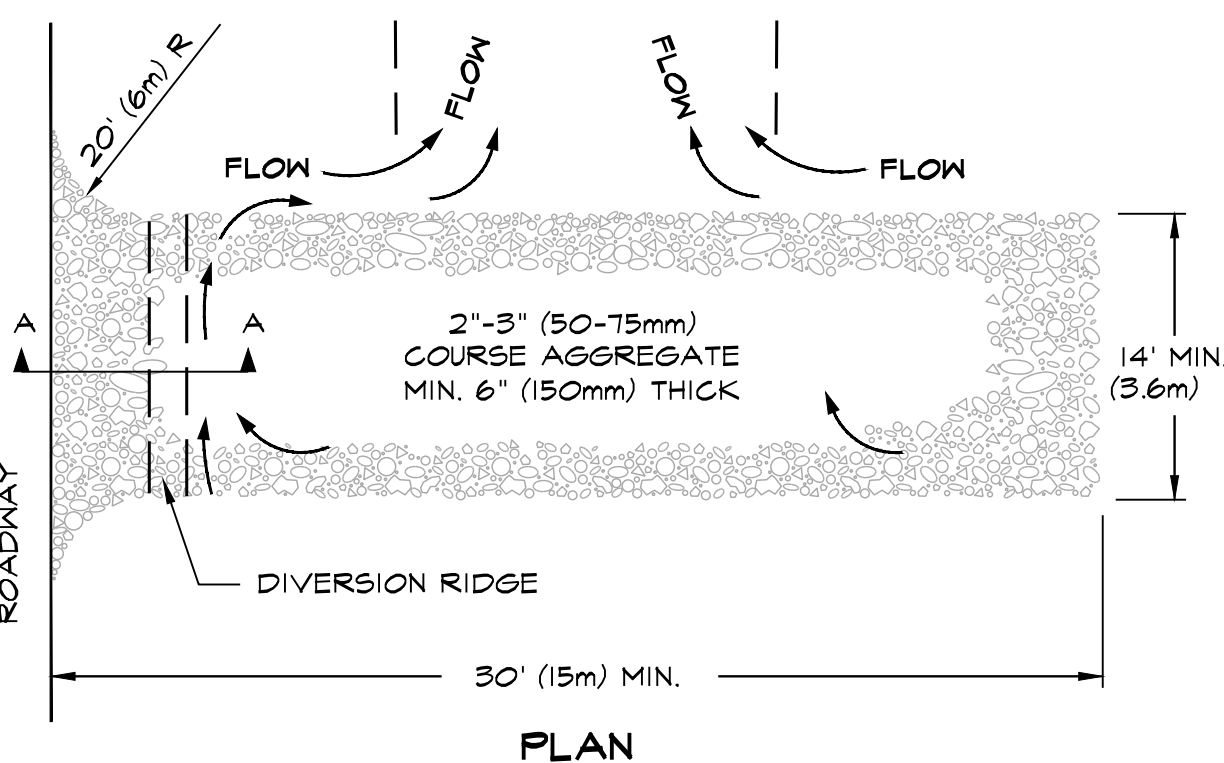
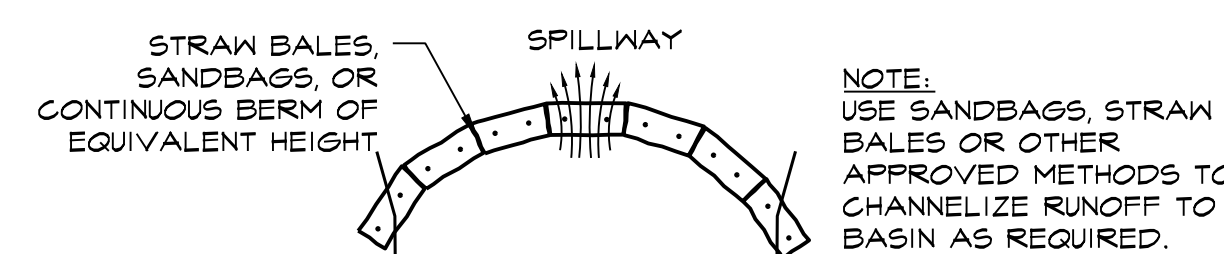
CONCRETE WASH OUT BASIN

NOT TO SCALE

ALL CONCRETE WASTE TO BE REMOVED AND DISPOSED OF OFF SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL RULES AND REGULATIONS



SECTION A - A

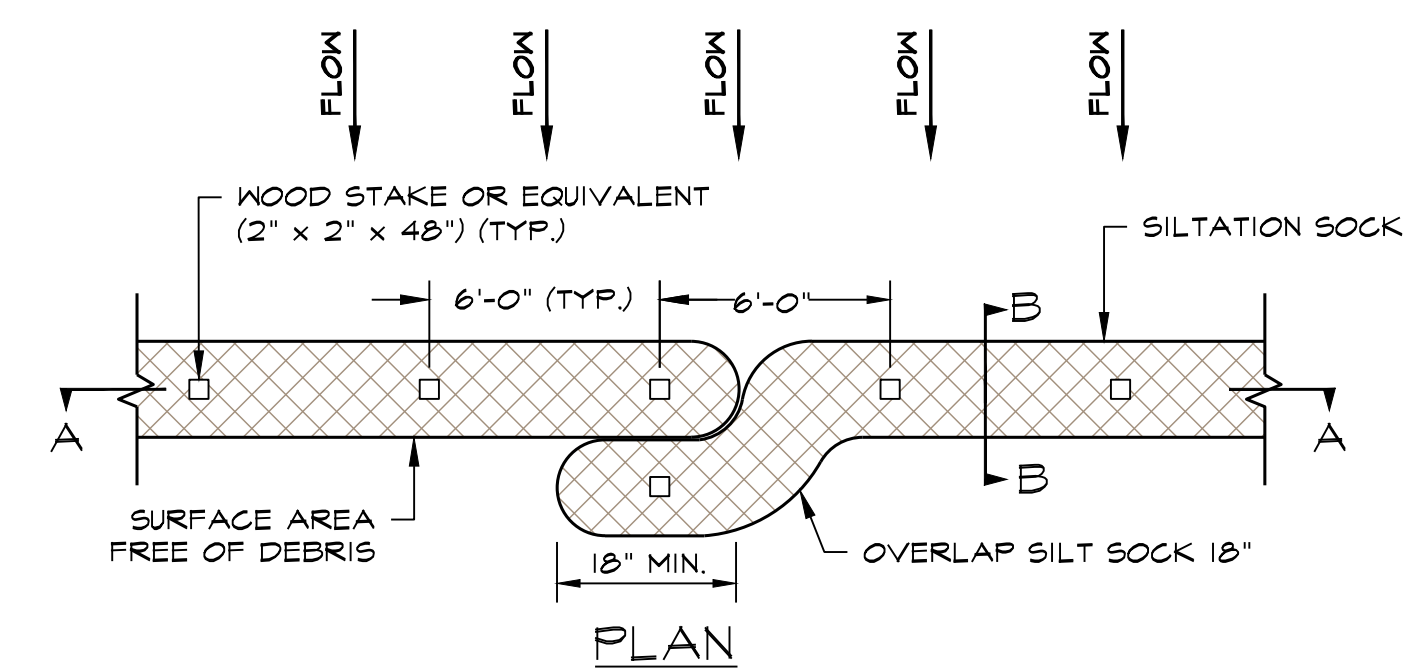


NOTES:

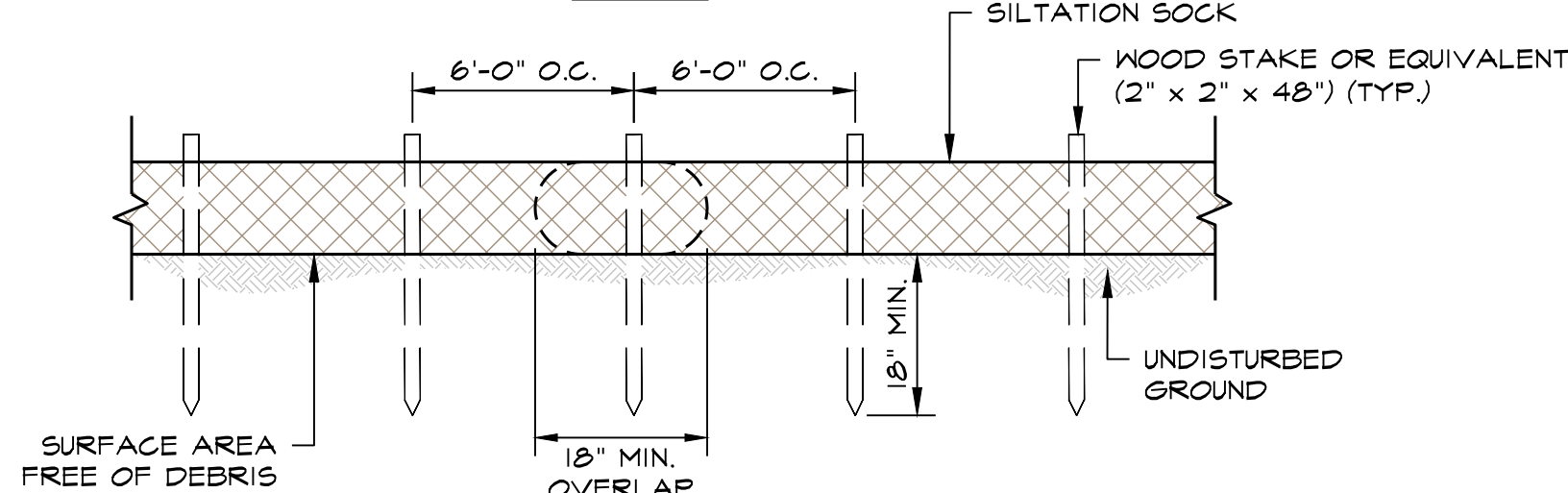
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- ADJACENT STREETS SHALL BE SWEEPED.

TEMPORARY CONSTRUCTION ENTRANCE

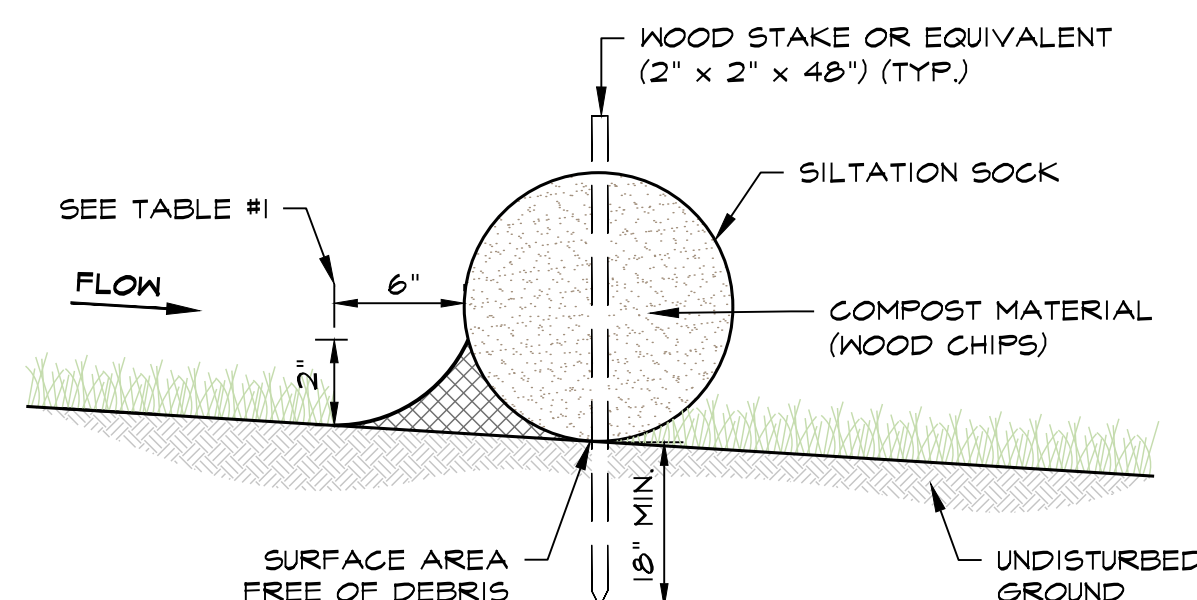
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PLAN



SECTION A-A



SECTION B-B

SILTATION SOCK DETAIL

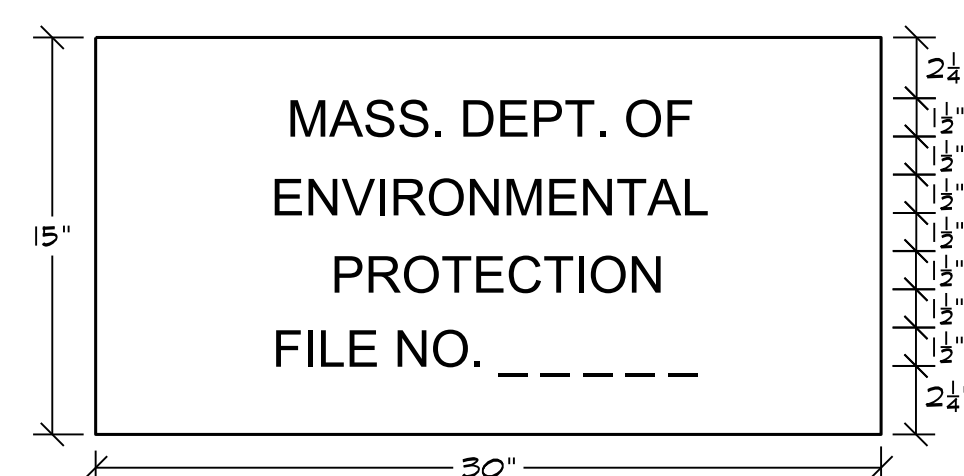
NOT TO SCALE

INSTALLATION NOTES:

- INSTALL SILT SOCK ON A SURFACE CLEAR OF DEBRIS.
- OVERLAP ENDS BY A MINIMUM OF 18-INCHES.
- END OF SILT SOCK TO BE DIRECTED UP SLOPE.
- PLACE STAKES THROUGH SILT SOCK OR ON DOWNSTREAM SIDE.
- ON SLOPES GREATER THAN 2:1 (2:1) SEED COMPOST SOCK IS RECOMMENDED.

TABLE #1

SLOPE	SOCK DIAMETER (MIN.)	STAKING	2" COMPOST BARRIER (WOOD CHIPS)
< 50:1	9"	6' O.C.	---
50:1 TO 10:1	9"	6' O.C.	RECOMMENDED
10:1 TO 5:1	12"	6' O.C.	---
3:1 TO 2:1	12"	4' O.C.	---
> 2:1	18"	4' O.C.	---



NOTES:

- COLOR:** LETTERING = BLACK
BACKGROUND = WHITE
- THE SIGN IS TO BE PLACED ON ALL PROJECTS SUBJECT TO THE PROVISIONS OF THE MASSACHUSETTS WETLAND PROTECTION ACT.
- THE LOCATION OF THE SIGN IS TO BE DETERMINED BY THE ENGINEER.

MASSDEP SIGN DETAIL

NOT TO SCALE