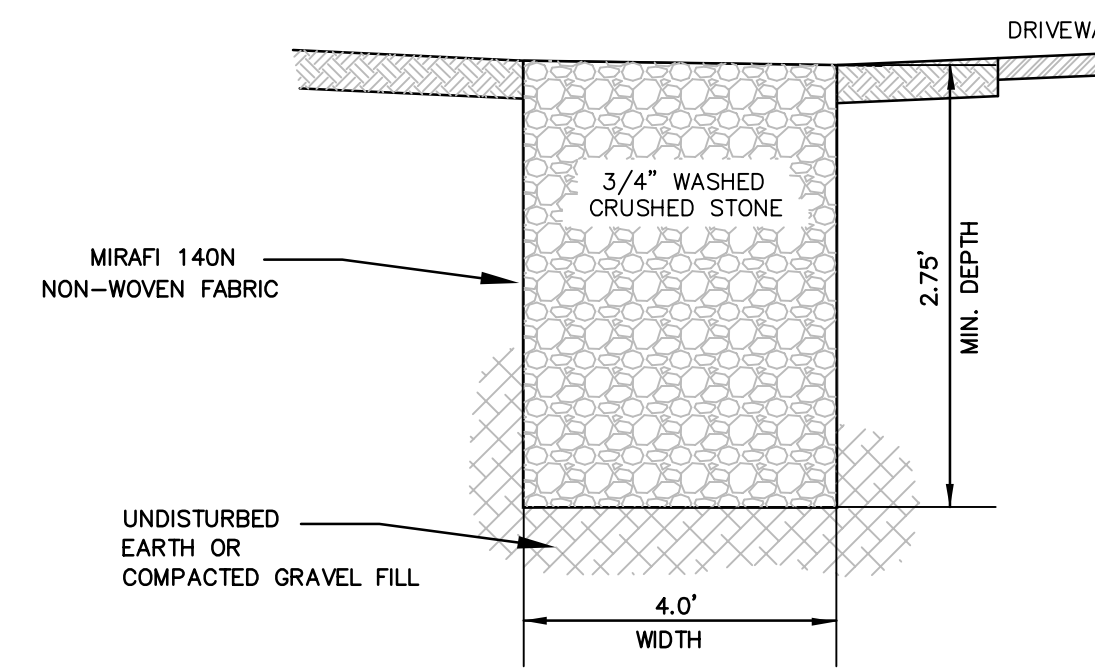


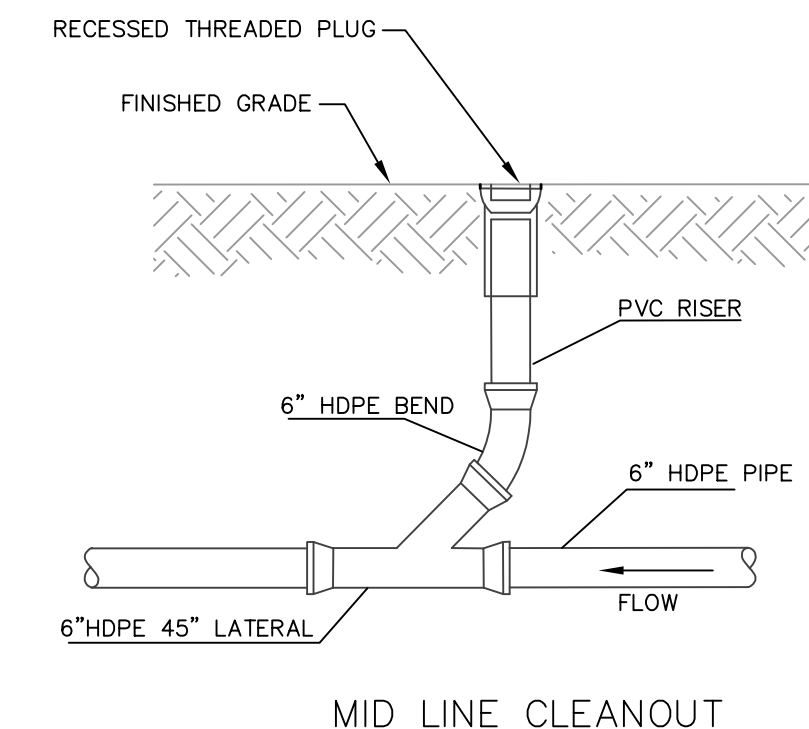
**GENERAL NOTES**  
 RECHARGER 150XLHD BY CULTEC, INC. OF BROOKFIELD, CT. STORAGE PROVIDED = 4.89 CF/FT PER DESIGN UNIT. REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES. MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12' THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.

ALL RECHARGER 150XLHD HEAVY DUTY UNITS ARE MARKED WITH A COLORED STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER. ALL RECHARGER 150XLHD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

**CROSS SECTION**  
**CULTEC RECHARGER 150XLHD-TYP. SECTION**  
 (Not to scale)



**DRIVEWAY TRENCH**  
 (Not to scale)



**MID LINE CLEANOUT**  
**ROOF DRAIN LEADER CLEANOUT**  
 (Not to scale)

**EROSION CONTROL NOTES**

**EROSION CONTROL PRINCIPLES**

A. THE FOLLOWING EROSION CONTROL PRINCIPLES SHALL APPLY TO THE LAND GRADING AND CONSTRUCTION PHASES:

- 1) STRIPPING OF VEGETATION, GRADING, OR OTHER SOIL DISTURBANCE SHALL BE DONE IN A MANNER WHICH WILL MINIMIZE SOIL EROSION.
- 2) WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.
- 3) EXTENT OF AREA WHICH IS EXPOSED AND FREE OF VEGETATION AND DURATION OF ITS EXPOSURE SHALL BE KEPT WITHIN PRACTICAL LIMITS.
- 4) TEMPORARY SEEDING, MULCHING, OR OTHER SUITABLE STABILIZATION MEASURES SHALL BE USED TO PROTECT EXPOSED CRITICAL AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE.
- 5) 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.
- 6) SEDIMENT SHALL BE RETAINED ON-SITE.
- 7) 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.

B. 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 18).

- 1) PERMANENT EROSION PROTECTION SHALL BE ACCOMPLISHED BY SEEDING WITH GRASS AND COVERING WITH AN EROSION PROTECTION MATERIAL, AS APPROPRIATE FOR PREVAILING CONDITIONS.
- 2) 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.

**LOAM & SEED NOTES**

**LOAMING, SEEDING AND FERTILIZING**

1. 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.
2. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED ON THE DESIGNATED AREAS AND IT SHALL BE A MINIMUM DEPTH OF 6-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 LOAMING 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.
3. AFTER LOAM HAS BEEN PLACED, LIME AND FERTILIZER SHALL BE UNIFORMLY MIXED INTO THE TOP 4-INCHES OF SOIL BY DIGGING, HARROWING OR USING OTHER APPROVED METHODS.
4. 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.
5. 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 FALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING OR MAINTENANCE OPERATIONS.
6. 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 FIRMLY ESTABLISHED.

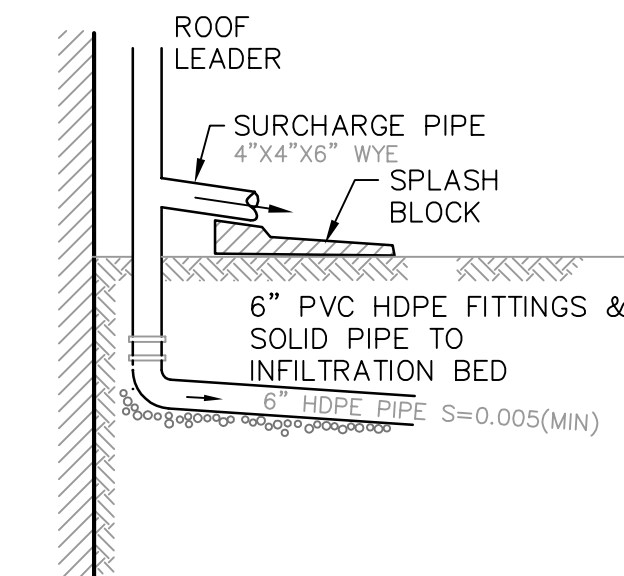
**SURFACE PREPARATION**

1. STRIP AND STOCKPILE ALL EXISTING LOAM FROM PROPOSED WORK AREAS.
2. PROTECT LOAM FROM EROSION. ALL LOAM WILL REMAIN ON-SITE UNLESS THE OWNER APPROVES OFF-SITE REMOVAL.
3. 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.
4. AFTER THE AREAS TO BE LOAMED HAVE BEEN APPROVED BY THE OWNER OR ENGINEER, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENEED BY ROUGHENING TO THE DEPTH OF AT LEAST 2-INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL AND TO INCORPORATE THE LIME.
5. 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.

**DRAINAGE SYSTEM MAINTENANCE PLAN**

REGULAR INSPECTION AND ROUTINE MAINTENANCE ARE NECESSARY TO ENSURE THAT THE STORMWATER MANAGEMENT SYSTEM CONTINUES TO CONTROL AND TREAT RUNOFF. STRUCTURAL COMPONENTS OF THE SITE'S DRAINAGE SYSTEM WILL BE INSPECTED AND MAINTAINED ON A YEARLY BASIS.

THE INLETS & OUTLETS OF THE STORMWATER MANAGEMENT SYSTEM WILL BE INSPECTED TWICE PER YEAR (SPRING/FALL). ALL INLETS & OUTFALLS SHALL BE CLEANED OF ALL SILTATION AND DEBRIS AT THE COMPLETION OF THE CONSTRUCTION PROCESS WHEN THE SITE HAS BEEN STABILIZED WITH LOAM, SEED, AND LANDSCAPING. ANY EVIDENCE OF EROSION, STRUCTURAL DAMAGE TO THE OUTLETS, OR OTHER DAMAGE WILL BE REPORTED TO THE APPROPRIATE ON-SITE HOME OWNER AND TOWN REPRESENTATIVE AND REPAIRED AS SOON AS POSSIBLE. ANY SEDIMENT AND/OR TRASH SHOULD BE REMOVED FROM THE OUTLET STRUCTURES AND PIPES CLEANED OF ALL SILT. ALL SWALES AND INFILTRATION TRENCH HAS BE CLEAN OF ALL DEBRIS LEAVES AND VEGETATION AT ALL TIMES.



NOTE: PLACE SCREEN AT INLET OF ROOF LEADER TO PREVENT LEAVES AND OTHER DEBRIS FROM DISCHARGING INTO THE ROOF LEADER.

**ROOF DRAIN TO INFILTRATOR**  
 (Not to scale)

**STORMWATER DETAILS**  
 AT  
**4 THOMPSON LANE**  
 IN  
**TOPSFIELD, MA**

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 73 CHELSEA STREET  
 CHARLESTOWN, MA 02129  
 PHONE: (508)454-2100

ENGINEER:  
**THOMAS MANNETTA INCORPORATED**  
 15 BOARDMAN LANE - TOPSFIELD MA 01983  
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DRAWING FILE: C:\TCMDRAW2016\4THOMPSON-STORMWATER

TCL # 1747 DATE: 3/5/2017

revision #	date	description

20 0 20 40 Scale: 1"= 20'