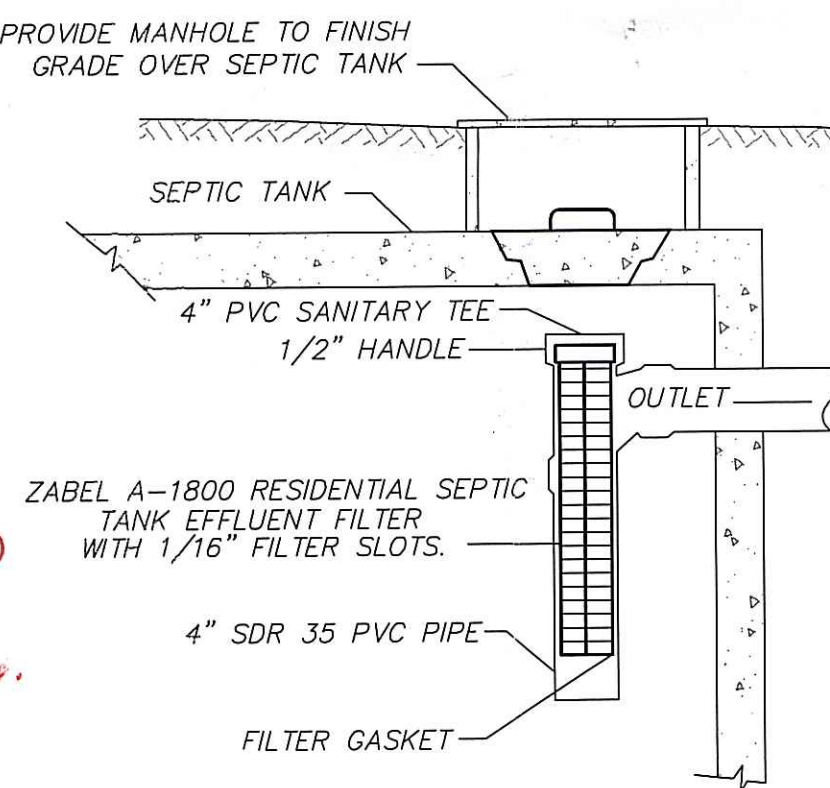
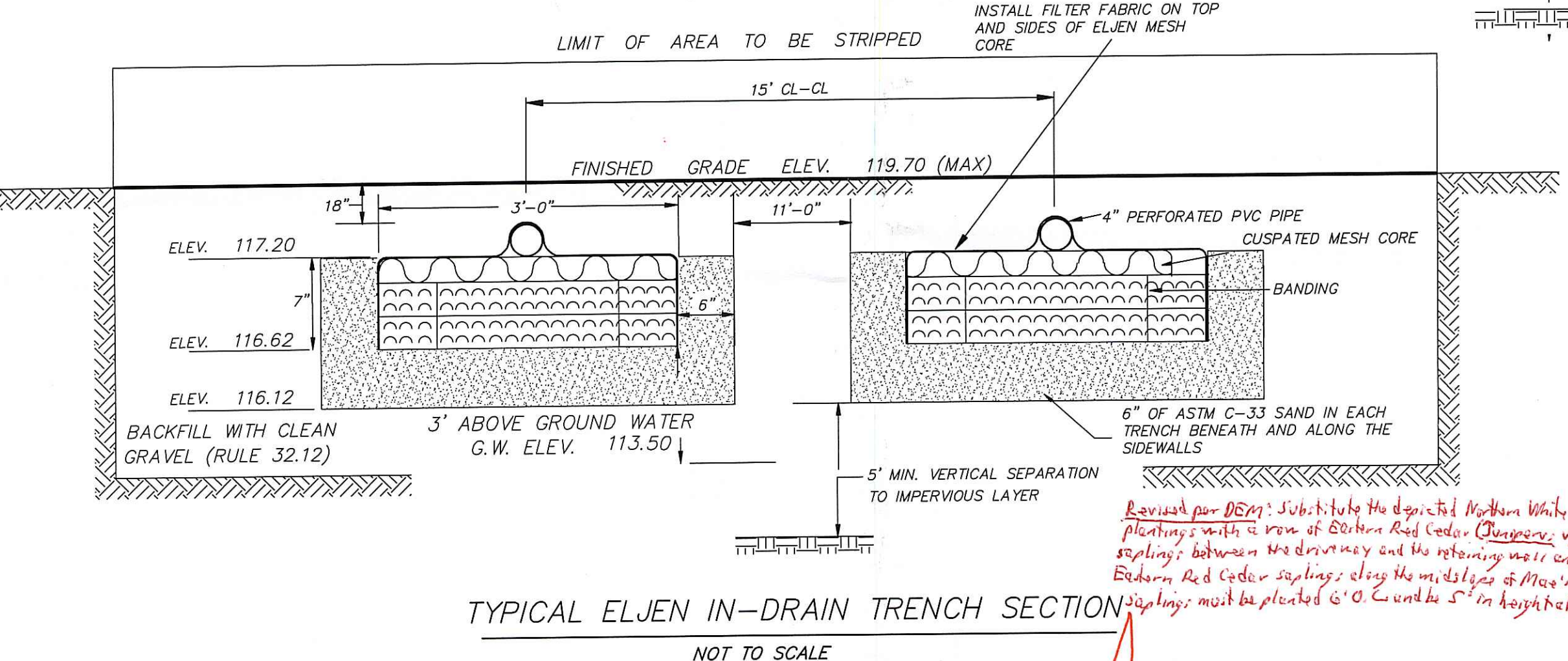
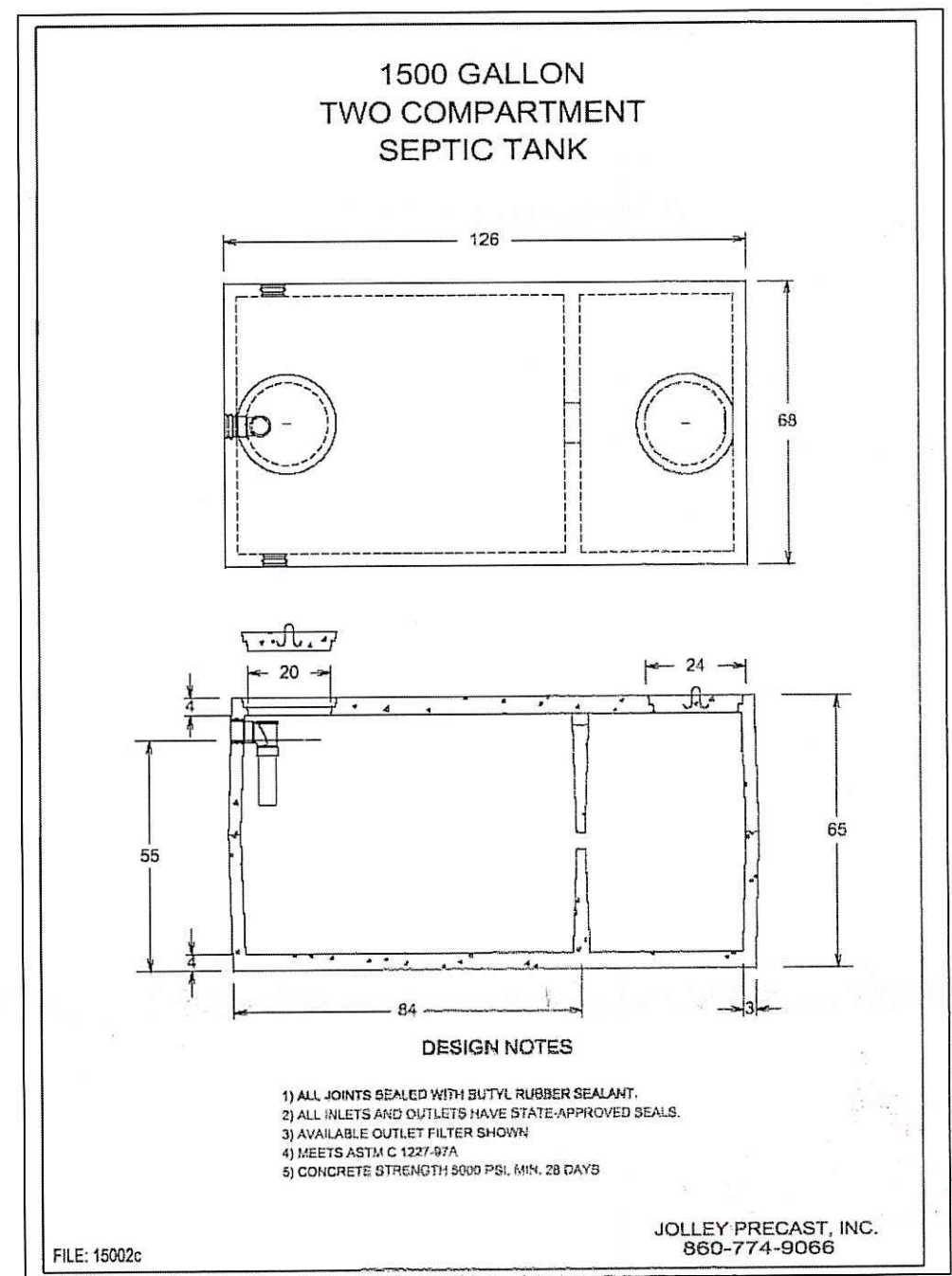


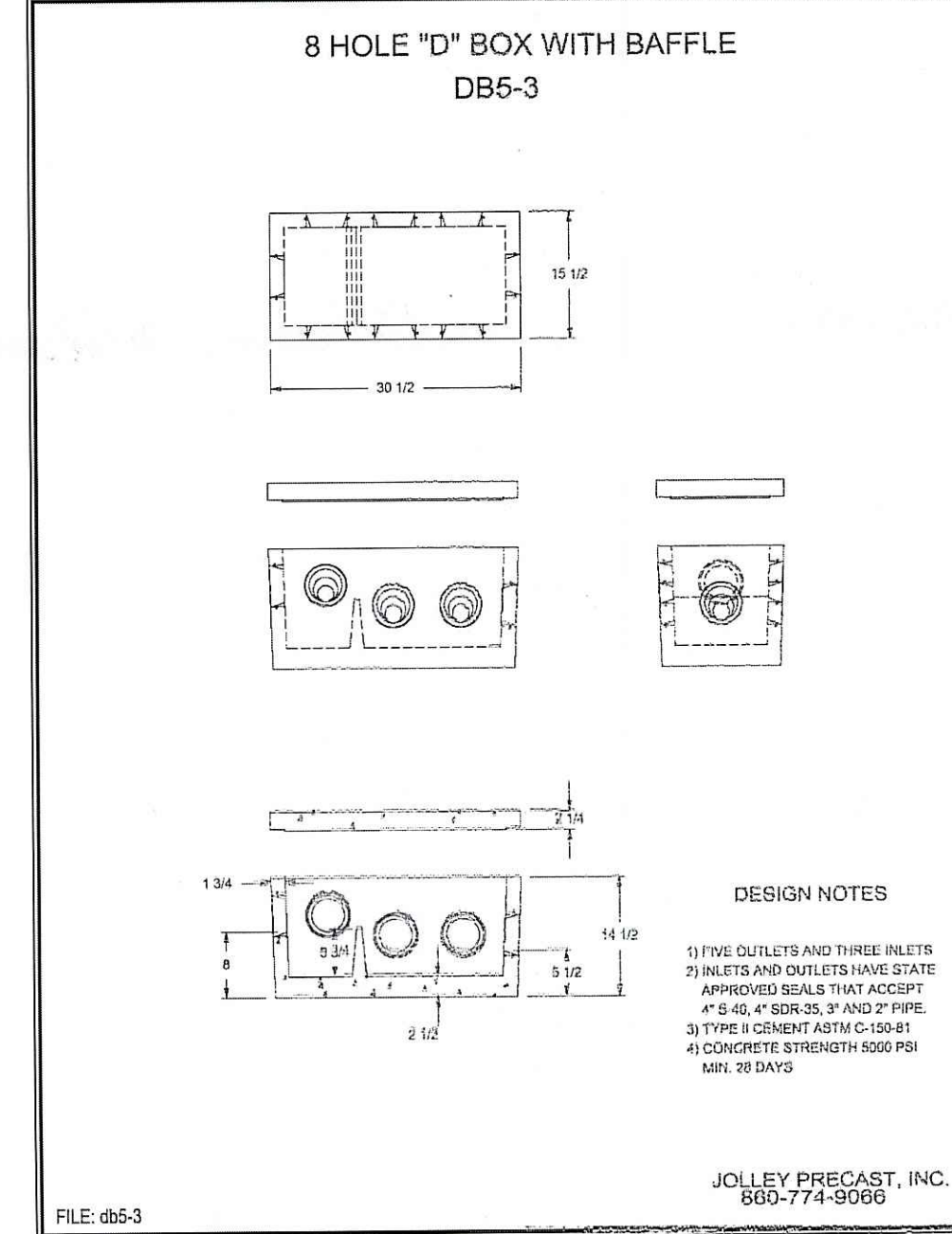
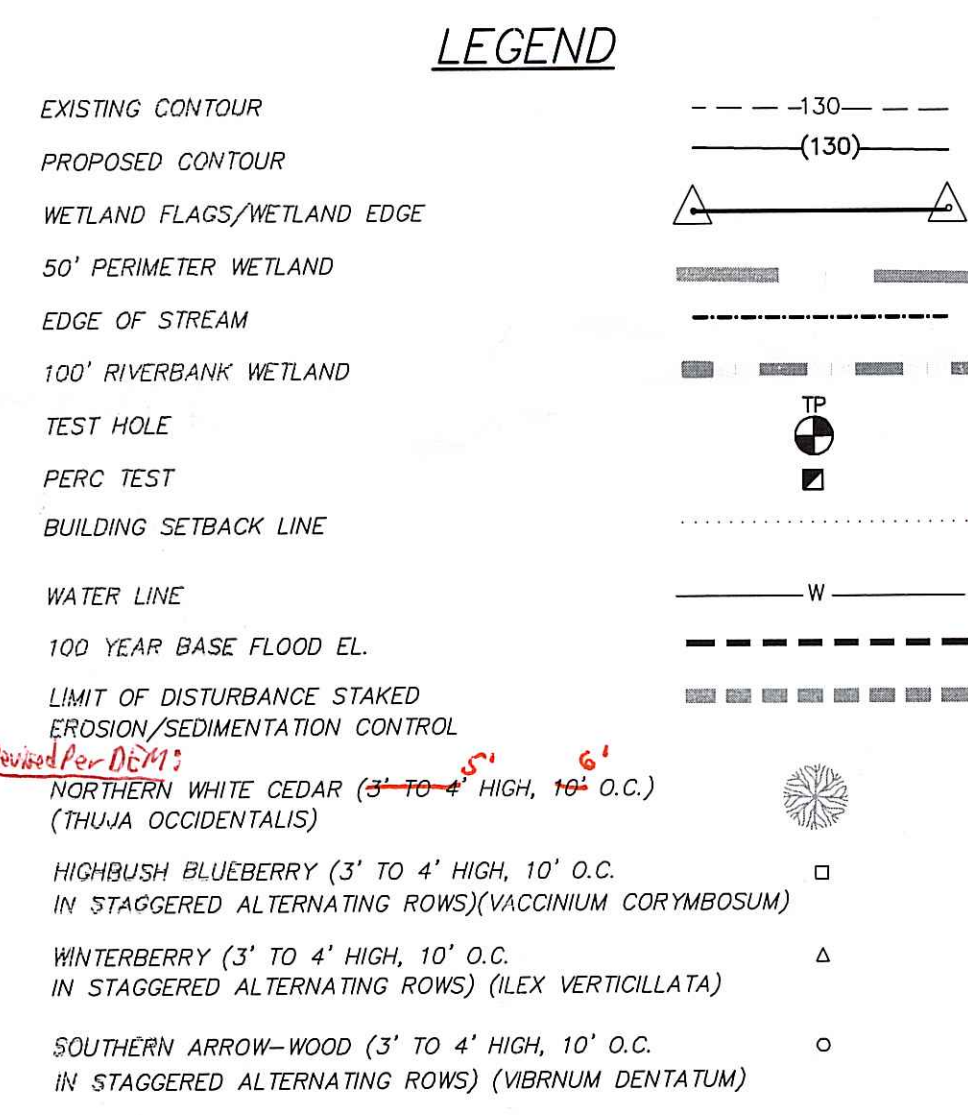
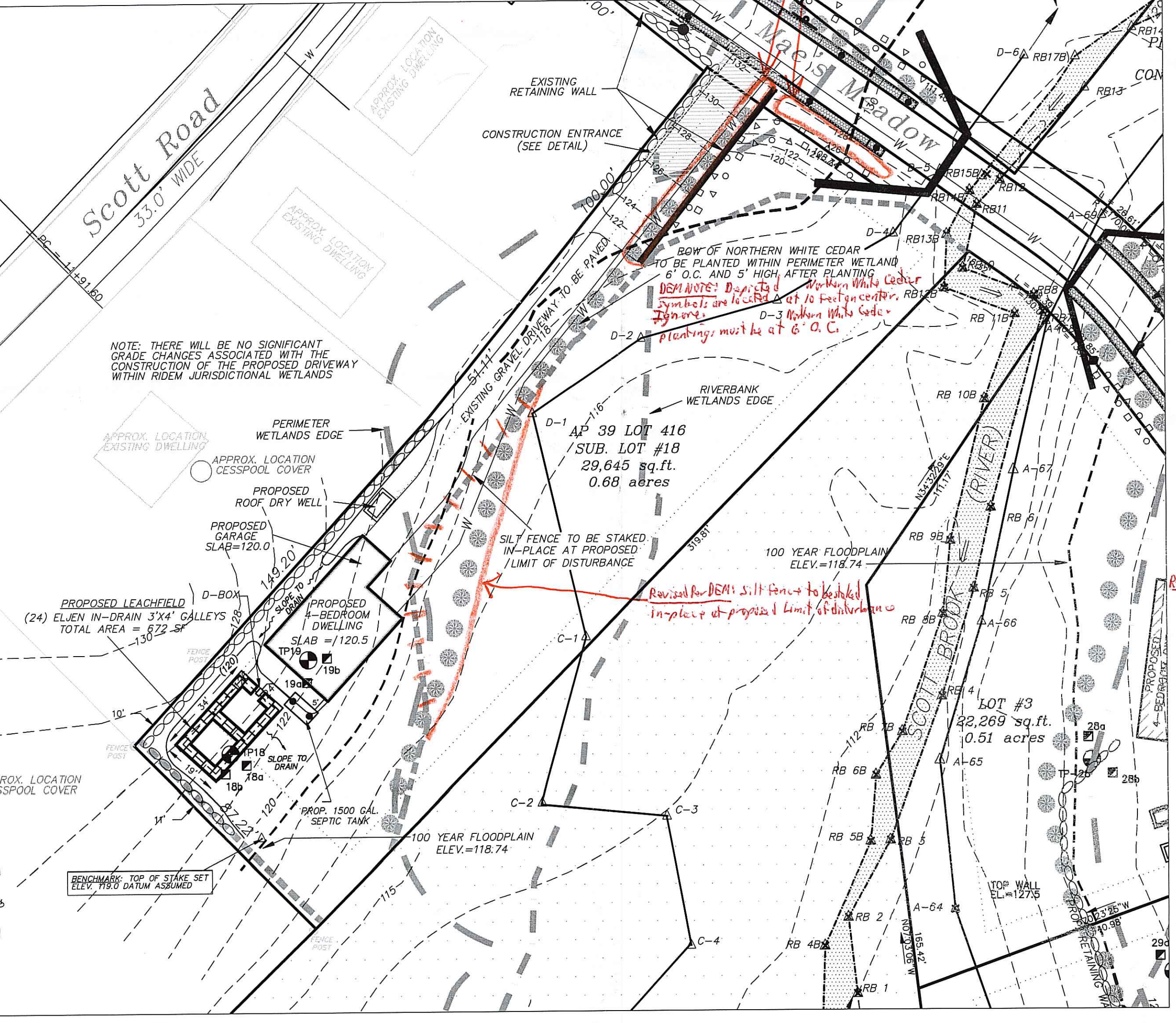
**DESIGN DATA**  
 PROPOSED 4 BEDROOM DWELLING  
 4 BEDROOMS @ 115 GPD/BEDROOM = 460 GPD  
 USING A DESIGN PERC RATE OF 10 MPI AND A LOADING RATE 0.70 GAL/SF/DAY  
 460 GPD/0.70 GAL/SF/DAY = 658 SF REQUIRED  
 24 ELJEN IN-DRAIN UNITS @ 28 SF/UNIT = 672 SF PROVIDED  
 672 SF PROVIDED > 658 SF REQUIRED OK



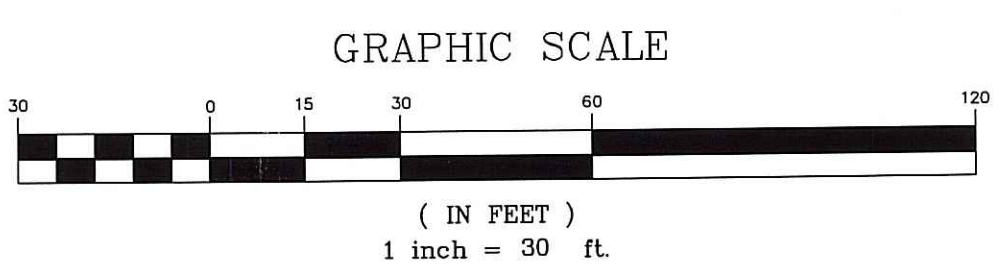
1-800-221-5742  
 ZABEL A-1800 RESIDENTIAL SEPTIC TANK EFFLUENT FILTER WITH 1/16\"/>



**DESIGN NOTES**  
 1) ALL JOINTS SEALED WITH BUTYL RUBBER SEALANT.  
 2) ALL INLETS AND OUTLETS HAVE STATE APPROVED SEALS.  
 3) AVAILABLE OUTLET FILTER SHOWN.  
 4) SHEETS ASTM C 1237 201A  
 5) CONCRETE STRENGTH 3000 PSI MIN. 28 DAYS



**DESIGN NOTES**  
 1) FIVE OUTLETS AND THREE INLETS  
 2) INLETS AND OUTLETS HAVE STATE APPROVED SEALS THAT ACCEPT #3 4\"/>

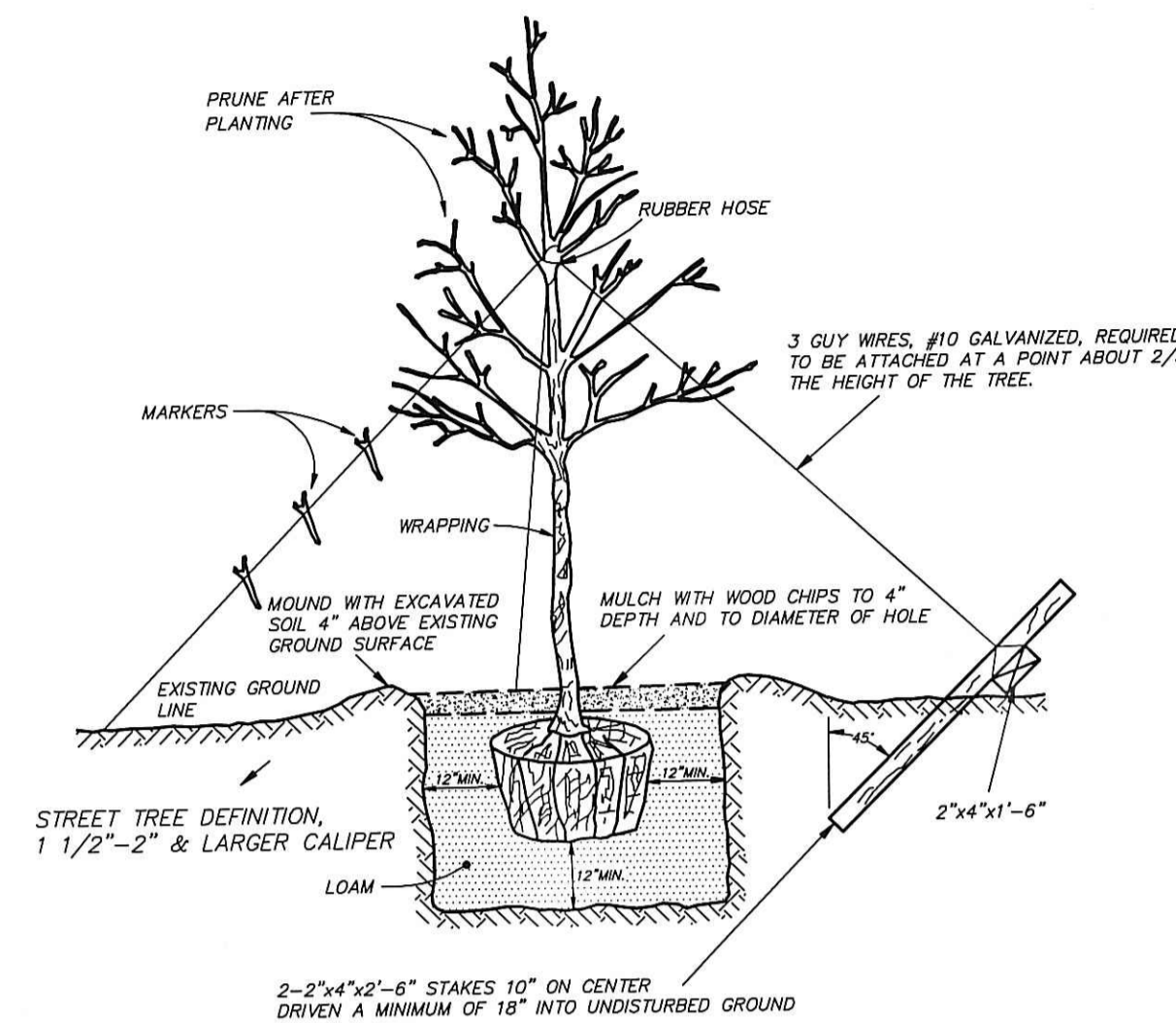


DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED NOV 12 2010 FILE # 10-0197  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

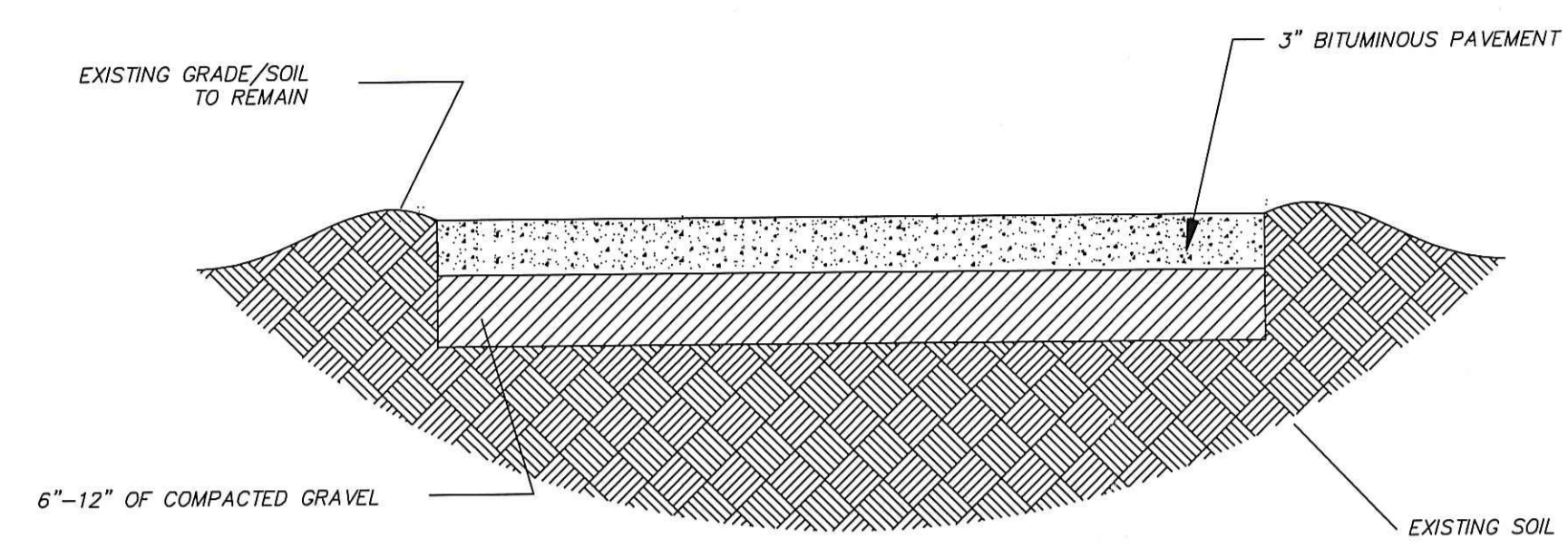
- NOTES**
- ALL OTHER DESIGN, CONSTRUCTION AND MAINTENANCE REQUIREMENTS WHETHER NOTED HEREON, OR NOT, SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ONSITE WASTEWATER TREATMENT SYSTEMS, JANUARY 1, 2008 AS AMENDED.
  - SEE OWTS SPECIFICATIONS ATTACHED.
  - WHEN FEASIBLE, CLEAR ALL BRUSH, TREES AND STUMPS WITHIN 10' OF THE PROPOSED OWTS. WHERE IT IS NOT FEASIBLE TO REMOVE TREES OR BRUSH WITHIN 10' OF THE SYSTEM, ROOT BARRIER FABRIC SHALL BE PLACED ALONG WALL OF EXCAVATION BETWEEN THE PROPOSED DRAINFIELD AND THE TREES/BRUSH.
  - THERE SHALL BE NO SURFACE, FOUNDATION OR STORM DRAINS WITHIN 25' OF THE OWTS.
  - COMPLY WITH ALL ADDITIONAL TERMS OF THE APPROVAL AS REQUIRED BY THE RIDEM.
  - TOPOGRAPHY AND SITE PLAN BASED ON PLAN ENTITLED "PROPOSED INDIVIDUAL SEWAGE DISPOSAL SYSTEM, BRITTS RIDGE-PHASE III, (RIDEM SUBDIVISION SUITABILITY #508-132), SUBDIVISION LOT #18, MAE'S MEADOW, CUMBERLAND, RHODE ISLAND" PREPARED BY CATALDO ASSOCIATES, INC., AUGUST 11, 2004.
  - PROPERTY LINE BASED ON PLAN ENTITLED "PROPOSED INDIVIDUAL SEWAGE DISPOSAL SYSTEM, BRITTS RIDGE-PHASE III, (RIDEM SUBDIVISION SUITABILITY #508-132), SUBDIVISION LOT #18, MAE'S MEADOW, CUMBERLAND, RHODE ISLAND" PREPARED BY CATALDO ASSOCIATES, INC., AUGUST 11, 2004.
  - THE DISTRIBUTION BOX SHALL HAVE A MINIMUM BOTTOM AREA OF 3 SF AND HAVE LOADING CAPACITY OF 300 LBS./SF. IN ADDITION, D-BOX SHALL BE FITTED WITH FLOW EQUALIZERS.
  - PIPING FROM THE BUILDING TO THE SEPTIC TANK SHALL BE SCHEDULE 40 PVC. THE REMAINING GRAVITY PIPING SHALL BE INTERCONNECTED SDR-35.
  - BENCHMARK IS SET WITHIN 150' OF THE PROPOSED OWTS.
  - THERE ARE NO EXISTING OR PROPOSED PRIVATE DRINKING WATER SUPPLY WELLS WITHIN 200' OF THE PROPOSED OWTS AND ALTERNATE AREA EXCEPT AS SHOWN.
  - THERE ARE NO EXISTING OR PROPOSED PUBLIC DRINKING WATER SUPPLY WELLS WITHIN 500' OF THE PROPOSED OWTS AND ALTERNATE AREA EXCEPT AS SHOWN.
  - THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED PLAN ON-SITE AT ALL TIMES.
  - MAINTAIN INVERT ELEVATION OF 117.20 FOR 10' AROUND THE PERIMETER OF THE DRAINFIELD.
  - ALL SOILS CONTAINING FINES BELOW THE DRAINFIELD AND 0' ON ALL SIDES SHALL BE STRIPPED DOWN TO ELEVATION 115.62. THE BOTTOM AND SIDES OF THE EXCAVATION SHALL BE SCARIFIED PRIOR TO PLACEMENT OF THE GRAVEL MEETING THE SPECIFICATIONS OF RULE 32.12. AFTER PLACEMENT OF THE ASTM C-33 SAND AND ELJEN IN-DRAIN UNITS, THE SYSTEM SHALL BE BACKFILLED WITH GRAVEL MEETING THE SPECIFICATIONS OF RULE 32.12 TO 2" ABOVE THE DISTRIBUTION LINES (ELEV. 117.53).
  - THE PROPOSED SEPTIC TANK SHALL BE PROVIDED WITH A PVC INLET TEE AND AN EFFLUENT FILTER IN THE OUTLET TEE. ACCESS RISERS SHALL BE INSTALLED DIRECTLY ABOVE THE INLET AND OUTLET TEES.
  - THE CONTRACTOR MUST NOTIFY THE LICENSED DESIGNER 48 HOURS PRIOR TO THE START OF CONSTRUCTION WITH VALID INSTALLER'S LICENSE NUMBER. DESIGNER MUST NOTIFY THE RIDEM AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION.
  - THE CONTRACTOR MUST FOLLOW ALL ITEMS CIRCLED IN THE LOWER RIGHT AREA OF THE OWTS APPLICATION LABELED-IMPORTANT AND NOTIFY THE ENGINEER DURING THE DIFFERENT STAGES OF CONSTRUCTION TO ALLOW THE ENGINEER TO OBSERVE COMPLIANCE WITH THE APPROVED PLANS (AS REQUIRED BY THE RIDEM).
  - IF CONTRACTOR ENCOUNTERS UNANTICIPATED CONDITIONS DURING CONSTRUCTION WHICH INDICATE THAT THE SYSTEM CANNOT BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS, INSTALLER SHALL STOP CONSTRUCTION AND NOTIFY THE DESIGNER RESPONSIBLE FOR WITNESSING AND INSPECTING THE INSTALLATION.
  - THE LICENSED DESIGNER SHALL WITNESS AND INSPECT ALL ASPECTS OF THE INSTALLATION, KEEP RECORDS, PREPARE THE CERTIFICATE OF CONSTRUCTION AND PROVIDE O & M INFORMATION AND RECOMMENDATIONS TO THE OWNER, IN ACCORDANCE WITH RIDEM REGULATIONS.
  - THE DESIGNER IS NOT RESPONSIBLE FOR ANY NEGLIGENT ACT OR OMISSION OF A USER, INCLUDING BUT NOT LIMITED TO, FAILURE TO PROPERLY USE AND MAINTAIN THE SYSTEM, WHICH CAUSES DAMAGE TO THE OWTS.
  - THE CONTRACTOR SHALL NOTIFY DIG-SAFE AT LEAST 72 HOURS PRIOR TO CONSTRUCTION AND VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO EXCAVATION.
  - THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH MATERIAL RECEIPTS FOR ALL CONSTRUCTION MATERIALS PRIOR TO THE DESIGNER ISSUING THE CERTIFICATE OF CONSTRUCTION.
  - THE ESTIMATED SEASONAL HIGH GROUNDWATER TABLE AND DEPTH TO IMPERVIOUS MATERIAL ARE BASED ON PLAN ENTITLED "PROPOSED INDIVIDUAL SEWAGE DISPOSAL SYSTEM, BRITTS RIDGE-PHASE III, (RIDEM SUBDIVISION SUITABILITY #508-132), SUBDIVISION LOT #18, MAE'S MEADOW, CUMBERLAND, RHODE ISLAND" PREPARED BY CATALDO ASSOCIATES, INC., AUGUST 11, 2004. THE GROUNDWATER TABLE FLUCTUATES ANNUALLY AND NO GUARANTEE OF A DRY BASEMENT IS EXPRESSED OR IMPLIED.
  - THE PROPOSED OWTS IS NOT DESIGNED TO HANDLE A GARBAGE DISPOSAL OR OTHER HIGH WATER USE DEVICES.
  - THE CONTRACTOR SHALL COMPACT ALL SOILS BENEATH TRANSPORT LINES TO ENSURE THAT SETTLING DOES NOT OCCUR.
  - THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO STARTING WORK AND SHALL NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE PLANS IN WRITING 5 DAYS PRIOR TO CONSTRUCTION.
  - HEAVY EQUIPMENT SHALL NOT BE PERMITTED TO PASS OVER THE DRAINFIELD AREA BEFORE OR AFTER CONSTRUCTION. THE OWTS AREA SHALL NOT BE PAVED FOR VEHICULAR TRAFFIC OR PARKING.
  - CARE SHALL BE TAKEN TO ENSURE THAT THE SOIL AT THE BOTTOM AND SIDES OF THE DRAINFIELD ARE NOT COMPACTED OR SMEARED.
  - THERE ARE NO EXISTING OR PROPOSED STORM OR SUBSURFACE DRAINS WITHIN 50 FEET OF THE PROPOSED OWTS EXCEPT AS SHOWN.

	TITLE: <b>OWTS DESIGN PLAN</b>	PRT. NO. 2009029
	PROJECT: <b>AP 39 LOT 416 (SUB. LOT 18) #12 MAE'S MEADOW CUMBERLAND, RHODE ISLAND</b>	DATE: 12/29/2009
CLIENT: <b>ROBERT GEDDES</b>	1 OF 3	
<b>GARY C. LAMOND, P.E., LLC</b> 194 HATCHERY ROAD NORTH KINGSTOWN, RI 02882	REV. 9/21/10	

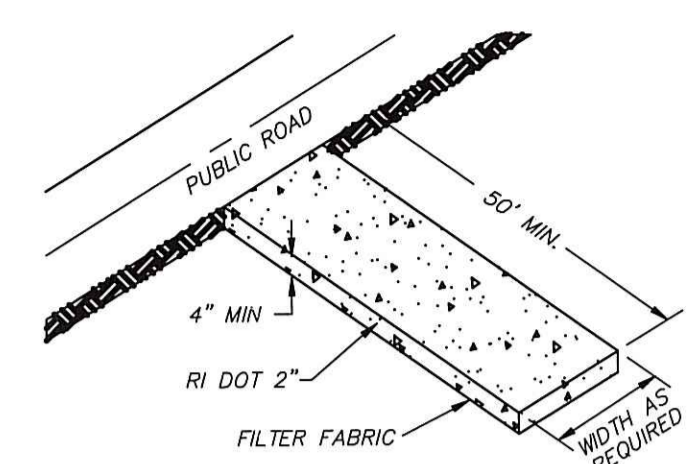




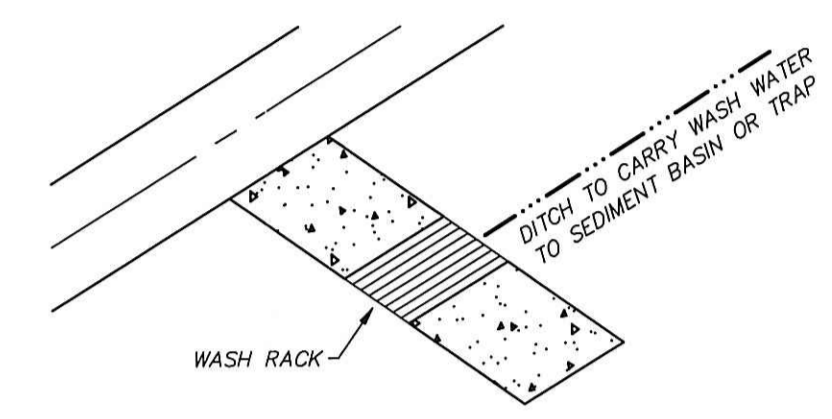
TYPICAL TREE PLANTING DETAIL  
NOT TO SCALE



PROPOSED DRIVEWAY DETAIL  
NOT TO SCALE



CONSTRUCTION ENTRANCE

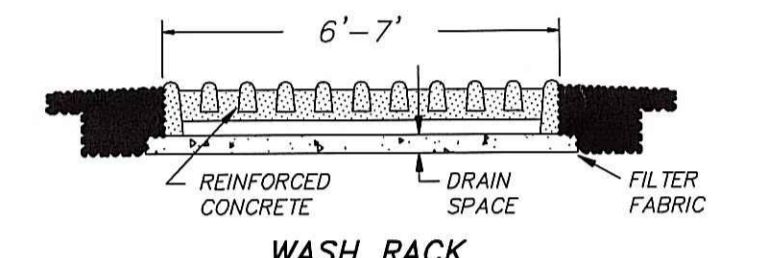


CONSTRUCTION ENTRANCE WITH WASH RACK

MATERIALS SIZE			
SQUARE MESH SIEVES (INCHES)	RIDOT 2\"/>		
2-1/2	100	90-100	100
2	95-100	35-70	90-100
1-1/2	30-55	0-15	35-70
1-1/4	0-25	0-25	—
1	0-5	0-5	0-15
3/4	—	—	0-5
1/2	—	—	—
3/8	—	—	—

INSTALLATION REQUIREMENTS  
THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL. A STABILIZATION FILTER CLOTH CAN BE PLACED ON THE SUBGRADE PRIOR TO THE GRAVEL PLACEMENT TO PREVENT PUMPING. THE GRAVEL SHALL BE PLACED TO THE SPECIFIED DIMENSIONS. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS. IF WASH RACKS ARE USED, THEY SHOULD BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

MAINTENANCE  
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.



WASH RACK

CONSTRUCTION ENTRANCE DETAIL  
NOT TO SCALE

GENERAL LANDSCAPING NOTES:

1. ALL DISTURBED AREAS ARE TO BE REVEGETATED AS SOON AS POSSIBLE. ALL BANKS AND SLOPING AREAS ARE TO RECEIVE A MINIMUM OF 4\"/>
- 2. SEED AND SOD SHALL CONSIST OF A BLEND OF KENTUCKY BLUE GRASSES. PLANT BY SUPPLIERS SPECIFICATIONS.
- 3. LIME SHALL BE APPLIED AS NECESSARY.
- 4. USE HAY OR STRAW MULCH DURING SLOPE STABILIZATION IN CONJUNCTION WITH TEMPORARY SEEDING. APPLY MULCH AT A RATE OF 75 TO 100 LBS. PER 1000 SQUARE FEET.
- 5. STOCKPILE ALL STRIPPED TOPSOIL FOR LATER USE. THE LOCATION IS TO BE APPROVED BY THIS ENGINEER. MULCH AND TEMPORARY SEED THE STOCKPILE.
- 6. REMOVE ALL ROCKS 3\"/>
- 7. ALL CLEARING SHALL CONFORM TO THE LIMITS AS SHOWN ON PLANS. CLEARING LIMITS ARE TO BE MARKED IN THE FIELD BY THE ENGINEER.

WETLAND PLANTING NOTES:

1. TREES SHALL BE PLANTED 6\"/>
- 2. ALL DISTURBED AREAS SHALL BE LOAMED IF NECESSARY SEEDED WITH A WILDLIFE/CONSERVATION GRASS MIXTURE AND MULCHED WITH A MAT OF LOOSE HAY.
- 3. PLANTINGS WHICH DO NOT SURVIVE ONE GROWING SEASON FROM THE DATE OF PLANTING SHALL BE REPLACED BY THE CONTRACTOR.
- 4. ALL EXCAVATED MATERIAL SHALL BE STORED ON A SUITABLE UPLAND SITE FROM ANY AND ALL WETLANDS.

EROSION CONTROL PROGRAM

PRIOR TO START OF CONSTRUCTION, HAYBALES, SILT FENCES AND ALL OTHER SPECIFIED EROSION CONTROL FENCES SHALL BE IN PLACE.  
CRITICAL AREAS SUCH AS WETLAND AREAS, SLOPES AND STREAMS SHALL BE PROTECTED AS PER PLAN AND, IN THE PRESENCE OF WETLANDS, THE CONDITIONS OF THE RIDEM PERMIT SHALL BE ADHERED TO.  
THE CONTRACTOR SHALL BE REQUIRED TO ESTABLISH AND FULLY MAINTAIN ALL REQUIRED EROSION AND SEDIMENTATION CONTROLS.

SEDIMENTATION CONTROL PROGRAM

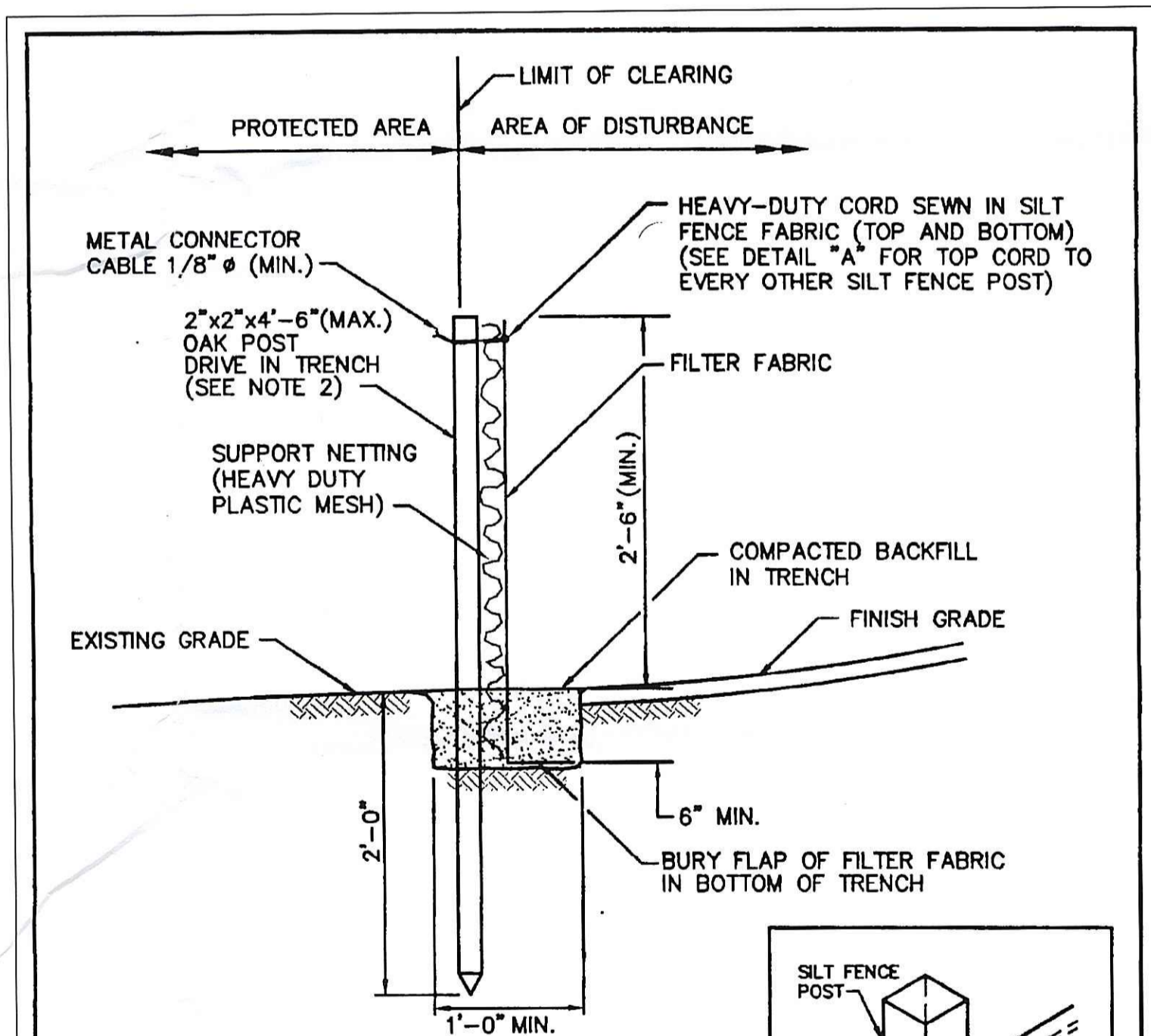
ALL EXPOSED SLOPES, INCLUDING STOCKPILES OF MATERIAL, SHALL RECEIVE TEMPORARY SEDIMENTATION AND EROSION CONTROLS. THIS WILL INCLUDE LOAMING AND SEEDING, MULCHING, HAYMATS, ETC., TO STABILIZE THE AREA.  
ALL DRAINAGE STRUCTURES SHALL BE SURROUNDED BY HAYBALES TO PREVENT INFILTRATION OF SEDIMENTS.  
DRYWELLS, GALLEYS, FLOW DIFFUSERS, AND OTHER LEACHING FACILITIES SHALL BE THOROUGHLY PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION. IF SEDIMENTS ENTER FACILITIES DURING CONSTRUCTION, THE STRUCTURES SHALL BE CLEARED AND, IF NECESSARY, REMOVED AND REINSTALLED WITH ALL EXPENSE TO BE BORNE BY CONTRACTOR.  
SHOULD SEDIMENTS ENTER A CRITICAL AREA, (WETLAND, BUFFER ZONE, ABUTTING PROPERTY) THE CONTRACTOR SHALL IMMEDIATELY CLEAN AND RESTORE THE EFFECTED AREA.

GENERAL CONSTRUCTION NOTES

1. DISTURBED AREAS ARE TO BE LOAMED A MINIMUM OF 4\"/>
- 2. ALL CONTROL PRACTICES MUST BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE "RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK".
- 3. ALL MATERIAL UNDER THE PROPOSED DRIVEWAY SHALL BE FREE OF DEBRIS, STONES LARGER THAN 6\"/>

SOIL STABILIZATION & PLANTING PROGRAM

ACCEPTABLE PLANTING MATERIALS:  
LOAM - THE MATERIAL TO BE FURNISHED SHALL CONSIST OF LOOSE, FRIABLE, SANDY LOAM OR LOAM TOPSOIL FREE OF A MIXTURE OF SUBSOIL, REFUSE, STUMPS, ROOTS, ROCKS, BRUSH, WEEDS AND OTHER MATERIAL WHICH WILL PREVENT THE FORMATION OF A SUITABLE SEED BED.  
SEED MIXTURES - ALL LEGUME SEED SHALL BE INOCULATED WITHIN 24 HOURS BEFORE MIXING AND PLANTING WITH THE APPROPRIATE INOCULUM FOR EACH VARIETY. ALL INOCULA SHALL BE FRESH AND SHALL BE USED WITHIN THE DATE LIMIT PRESCRIBED BY THE MANUFACTURER.  
FOR RELATIVELY FLAT SLOPES:  
MIX % BY WEIGHT  
RED FESCUE - CHEWING'S PENNLAWN OR CREEPING 70  
KENTUCKY BLUEGRASS 15  
COLONIAL BENTGRASS - ASTORIA OR EXETER 5  
PERENNIAL RYEGRASS 10  
- SEEDING RATE = 100 LBS. PER ACRE  
FOR STEEP SLOPES 3:1 OR GREATER  
MIX % BY WEIGHT  
RED FESCUE - PENNLAWN OR CREEPING 75  
PERENNIAL RYEGRASS 5  
COLONIAL BENTGRASS - ASTORIA OR EXETER 5  
BIRDSFOOT TREFOIL - EMPIRE 15  
- SEEDING RATE: 100 LBS. PER ACRE  
THE ACCEPTED PLANTING SEASON SHALL BE BETWEEN APRIL 1ST AND OCTOBER 15TH (CONTRACTOR SHOULD COORDINATE). ON ALL DISTURBED AREAS, THE CONTRACTOR SHALL PROVIDE A MINIMUM OF FOUR (4) INCHES OF LOAM ON AREAS UP TO 10% IN GRADE. ALL AREAS OVER 10% SHALL RECEIVE A MINIMUM OF SIX (6) INCHES.  
REFERENCE IS HEREBY MADE TO THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK PUBLISHED BY THE SOIL CONSERVATION SERVICE. THE GUIDELINES SHOWN THEREIN SHOULD BE INCORPORATED INTO THE CONSTRUCTION PRACTICES ON SITE.



NOTES:  
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.  
2. 2\"/>

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

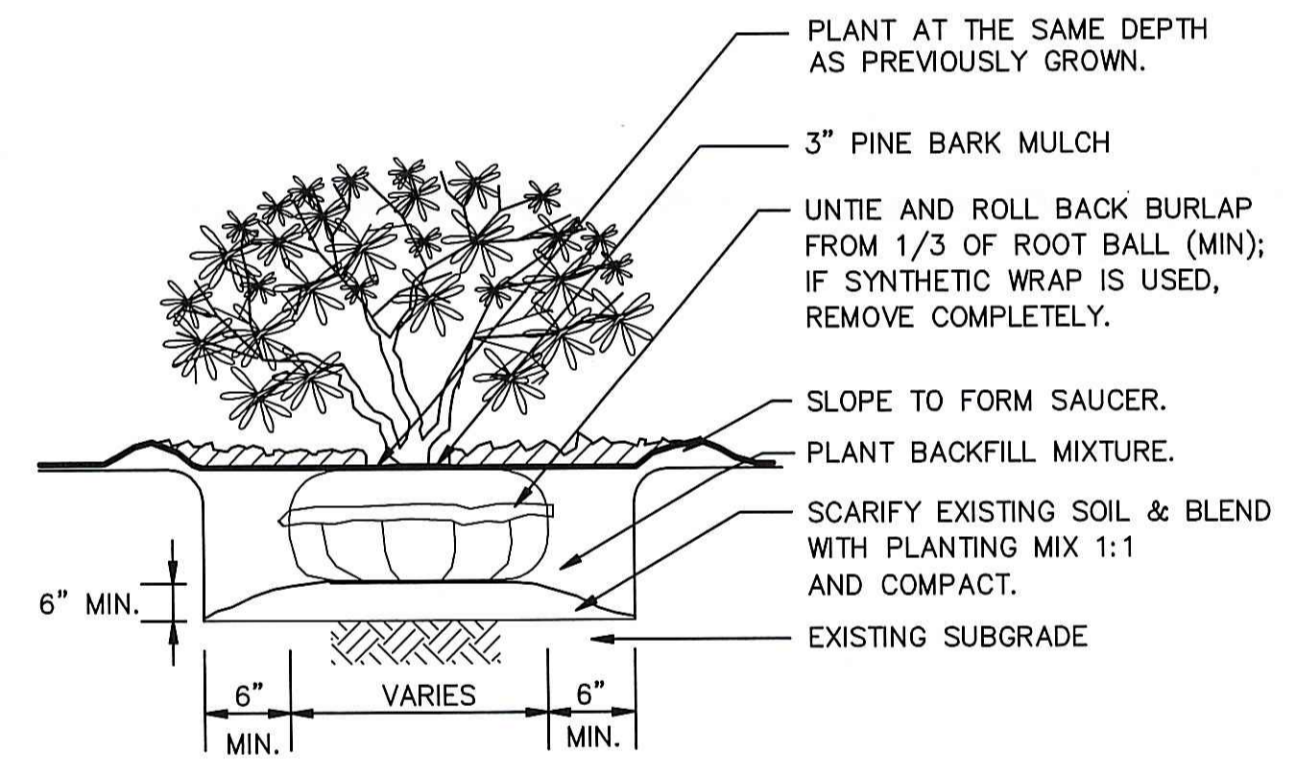
SILT FENCE DETAIL

REVISIONS

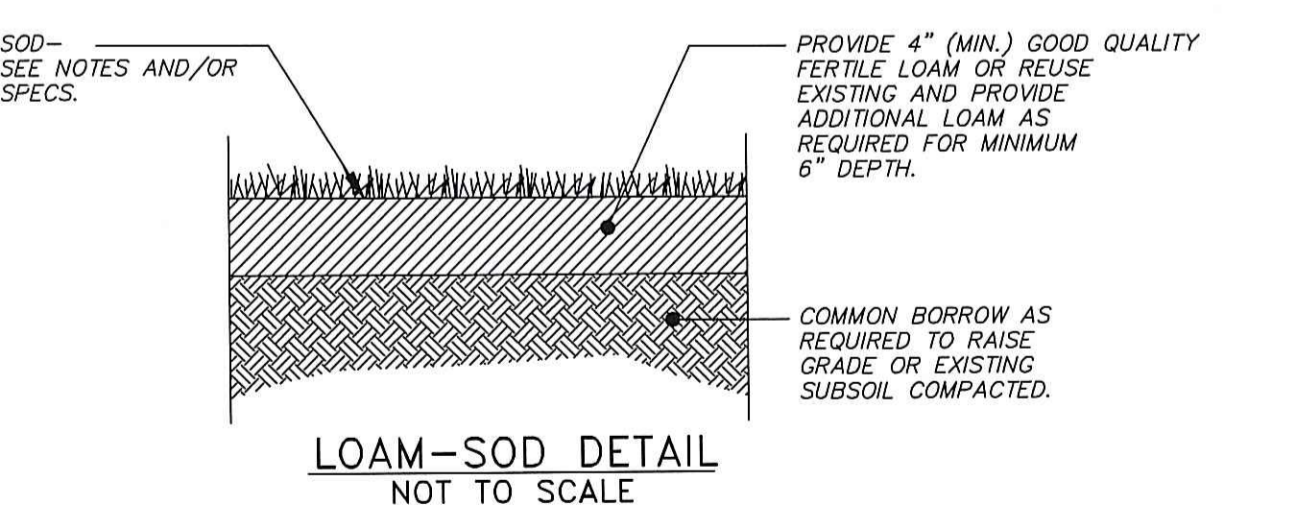
NO.	BY	DATE

JUNE 15, 1998

R.I. STANDARD 9.2.0



TYPICAL SHRUB PLANTING DETAIL  
NOT TO SCALE



LOAM-SOD DETAIL  
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED NOV 12 2010 FILE # 10-0197  
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

GARY C. LAMOND  
REGISTERED PROFESSIONAL ENGINEER CIVIL  
No. 7123  
9/21/10

TITLE: OWTS DESIGN PLAN  
PROJECT: AP 39 LOT 416 (SUB. LOT 18)  
#12 MAE'S MEADOW  
CUMBERLAND, RHODE ISLAND  
CLIENT: ROBERT GEDDES  
GARY C. LAMOND, PE, LLC  
194 HATCHERY ROAD  
NORTH KINGSTOWN, RI 02852

PRT. NO. 2009029  
DATE: 12/29/2009  
3 OF 3  
REV. 9/21/10