



**SOIL EROSION AND SEDIMENTATION CONTROL NOTES:**

THE HAYBALE AND SILT FENCE LINE ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED FRESHWATER WETLAND AREAS.

THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.

ALL CATCH BASINS SHALL BE PROTECTED WITH STAKED HAYBALES (R.I. STD. 9.8.0) DURING CONSTRUCTION ACTIVITIES. ALL PROPOSED STORMWATER DISCHARGE AREAS SHALL BE LINED WITH A RIPRAP SPLASH PAD AND PROTECTED WITH STAKED HAYBALE OUTLET PROTECTION (R.I. STD. 9.1.0), OR STAKED HAYBALE WITH SILT FENCE (R.I. STD. 9.3.0) SHALL ALSO BE INSTALLED AT ALL EXISTING STORMWATER DISCHARGE LOCATIONS WHERE DISTRIBUTING PIPES, CATCH BASINS, AND MANHOLES ARE TO BE CLEANED AND FLUSHED.

ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STAND OF VEGETATION IS MAINTAINED.

ALL HAYBALES, TEMPORARY TREATMENT (HAY, STRAW, ETC.) AND TEMPORARY EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.

STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLAND EDGES. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.

THE HAYBALES SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY HAYBALES AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE BALES BECOMES FILLED WITH SEDIMENTS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE RESIDENT ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (HAYBALES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RESEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.

ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993.

**BMP MAINTENANCE SCHEDULE:**

ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL INCLUDE:

INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES (INCLUDING ROADWAY SIDE SLOPES, FOR STRUCTURAL INTEGRITY/STABILITY AND EVIDENCE OF SOIL EROSION PROCESSES, AND MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/4 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BI-MONTHLY IF NO RAINFALL EVENT OCCURS.

REPLANTING, REGRADING, OR OTHER REPAIRS NEEDED AS A RESULT OF SOIL EROSION AND SEDIMENTATION PROCESSES SHALL BE DONE PROMPTLY.

**SITE PLAN NOTES:**

DETAILED ENGINEERING REVIEW FOR PROPOSED UTILITIES COVERED UNDER SEPARATE SUBMISSION, TO GOVERNING AGENCIES. THE DETAILED ENGINEERING PLANS FOR UTILITIES INSTALLATION AND CONNECTION HAVE NOT BEEN PROVIDED UNDER THIS SUBMISSION.

THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR TOWN WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.

**MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY AND VEHICULAR SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISIONS OF MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)

TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DIVIDES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.

THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS WILL NOT BE PARKED IN THE STATE RIGHT-OF-WAY.

ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS CHANNELING DEVICES, ETC. SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. 1988 EDITION, INCLUDING REVISION 3, SEPTEMBER 3, 1993 AND SUBSEQUENT ADDENDA.

SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T. SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

**ESTABLISHMENT OF VEGETATIVE COVER:**

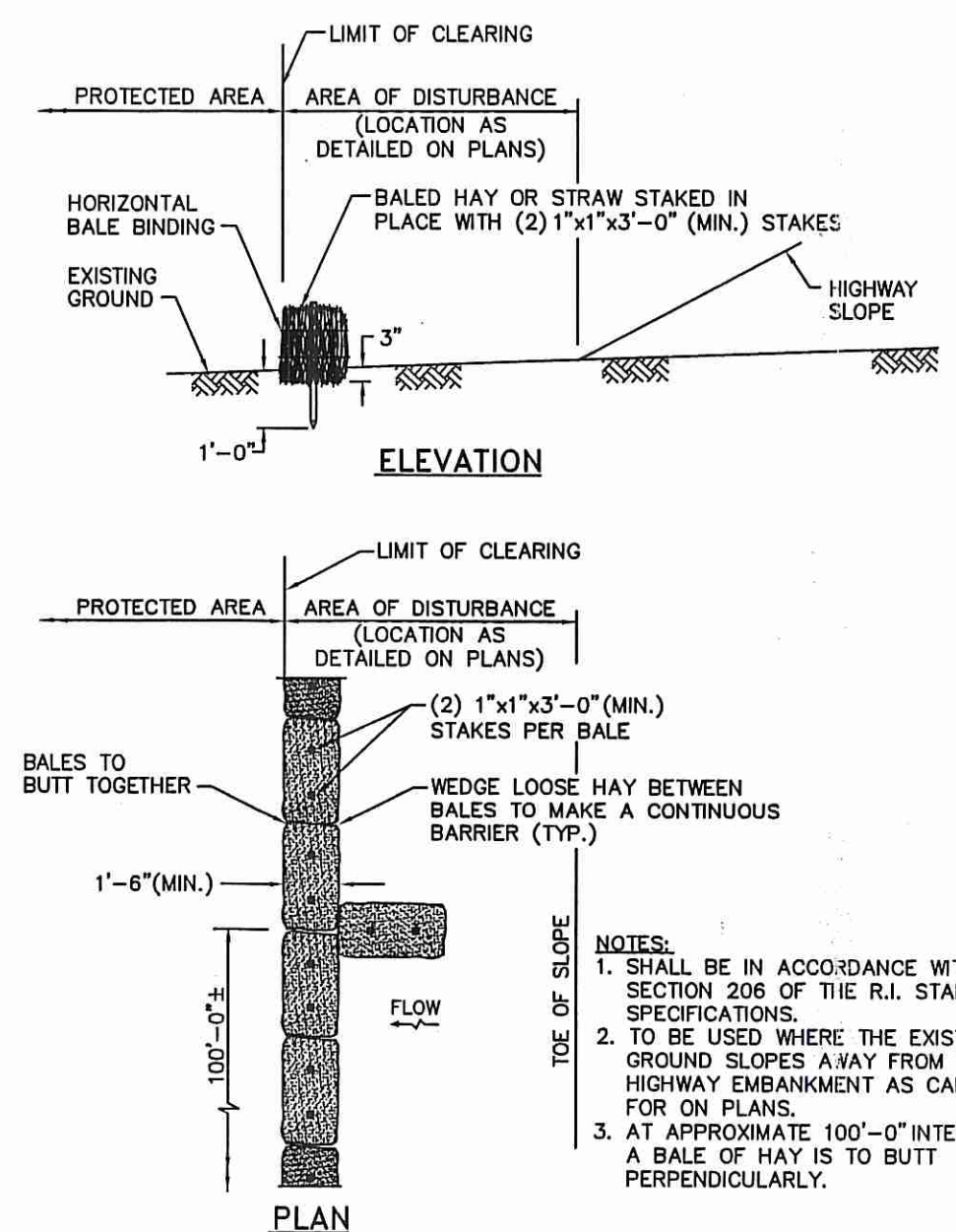
ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I. STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 202.

SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.

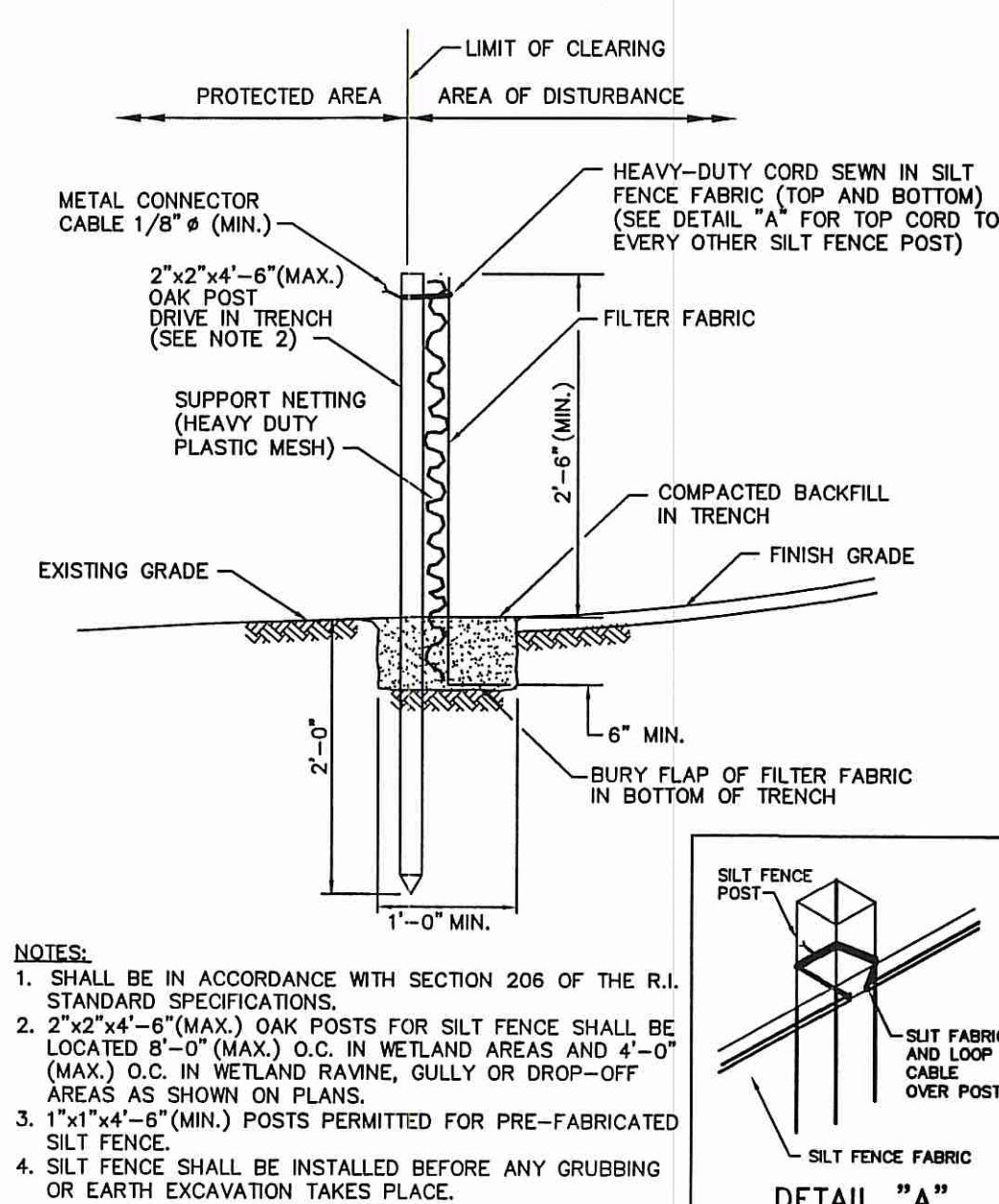
THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM TO RHODE ISLAND STANDARD SPECIFICATION M.20.

THE SEED MIX TO BE USED ON SLOPE APPROACHING WETLAND SHALL BE THE NEW ENGLAND CONSERVATION/WILDLIFE MIX FROM NEW ENGLAND WETLAND PLANTS, INC. OR APPROVED EQUAL APPLIED AT A RATE OF 25 LBS. PER ACRE AND MULCHED WITH STRAW.

EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. LIME AND FERTILIZER AS REQUIRED BY SOIL TESTING TO COMPLIMENT OR UPGRADE EXISTING CONDITIONS.



BALED HAY EROSION CHECK (R.I. STANDARD 9.1.0)



SILT FENCE DETAIL (R.I. STANDARD 9.2.0)

Drainage Area (Square feet)	Rain Garden Surface Area in Silty Soils (Loams and Silt Loams) (square feet)		
	for 4 inch deep garden	for 6 inch deep garden	for 8 inch deep garden
100	34	25	16
200	68	50	32
300	102	75	48
400	136	100	64
500	170	125	80
600	204	150	96
700	238	175	112
800	272	200	128
900	306	225	144
1000	340	250	160

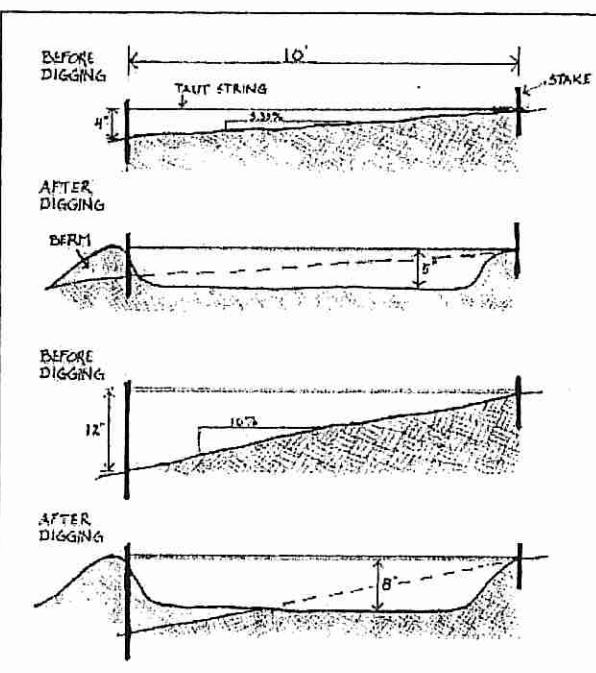
**Rain Garden Dimensions and Shape**

The length of the rain garden should be perpendicular to the slope of the lawn, and overall it should be twice as long as it is wide. This allows the garden to catch as much runoff as possible. Rounded or curvy shapes are the most effective, just be sure to approximate the required area from the table. Depending upon your site, it may be easier to break up stormwater flows to create multiple, smaller rain gardens than one larger one.

**Rain Garden Installation**

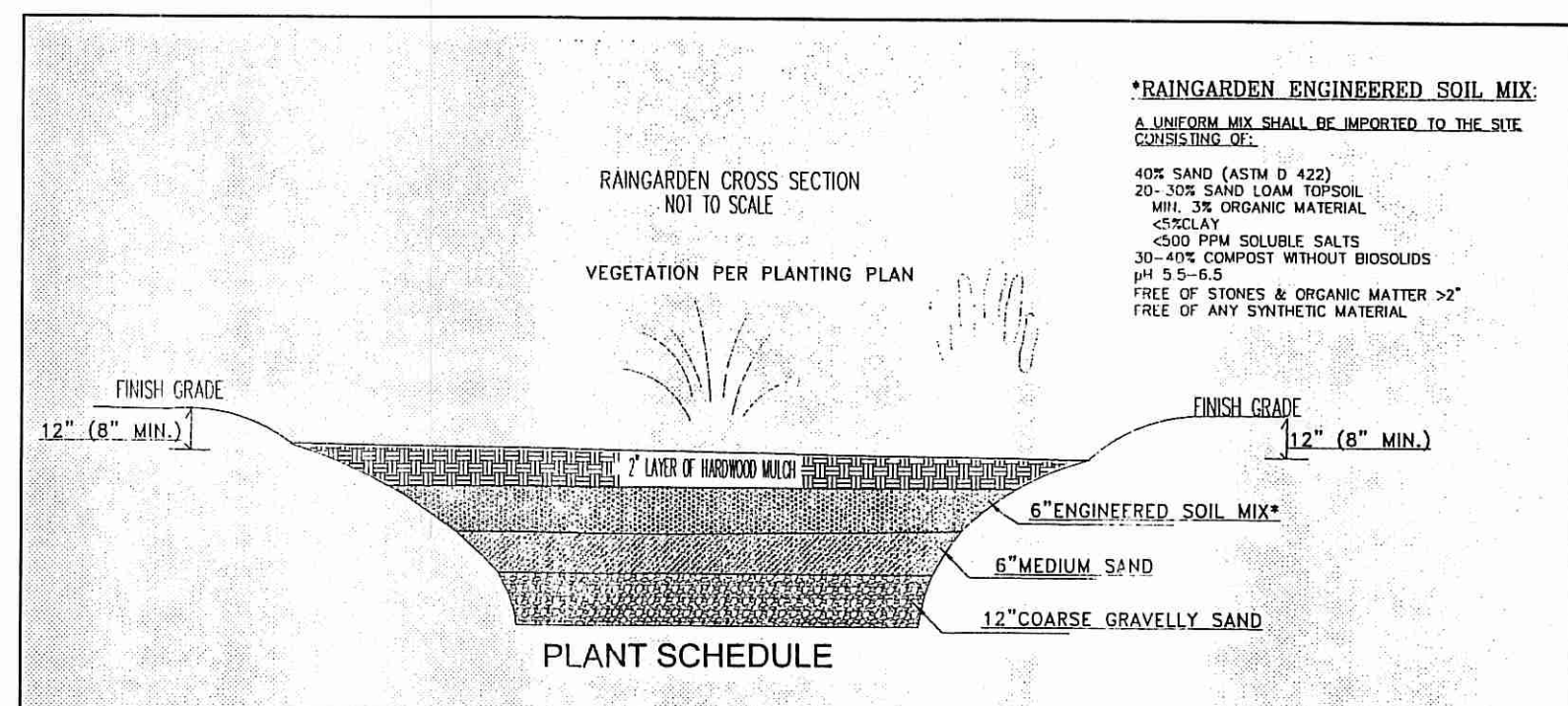
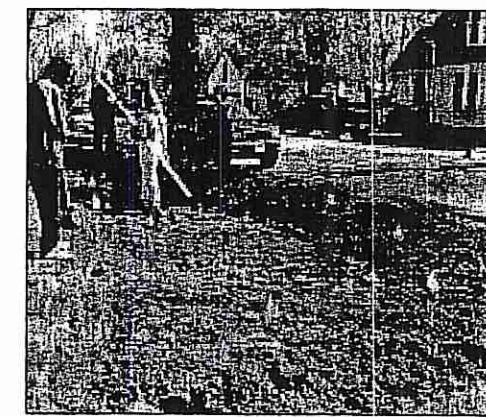
The best time to install a rain garden is in the spring, when digging will be easier and plants will be more likely to thrive. Be sure that the bottom of the rain garden is level and at the appropriate depth, and that you create a berm on the downhill side to retain stormwater (see Figure 3, below).

Figure Digging the Rain Garden and Creating a Berm



**Rain Garden Plant Selection**

Plants that tend to do well in rain gardens are those that tolerate wet conditions, but also very dry conditions. Use the Rhode Island Coastal Plant Guide ([www.uri.edu/cels/coastal/Plants/CoastalPlantGuide.htm](http://www.uri.edu/cels/coastal/Plants/CoastalPlantGuide.htm)) to select appropriate species (filter your selection for "Rain Garden") then create a planting plan to lay out where each plant will go. Below are two example planting plans for residential rain gardens, but feel free to create your own.



SYMBOL	SPECIES NAME	COMMON NAME	TYPICAL PLANT SPECIES:
AD	ASTER DIVARICATUS	WHITE WOOD ASTER	
CC	CAREX CRINITA	FRINGED SEDGE	
CS	CAREX STRICTA	TUSsock SEDGE	
IV	IRIS VERSICOLOR	BLUE FLAG IRIS	
LC	LOBELIA CARDINALIS	CARDINAL FLOWER	
MS	MATTEUCCIA STRUTHIOPTERIS	OSTRICH FERN	
OC	OSMUNDA CINNAMOMEA	CINNAMON FERN	
PC	PONTEDERIA CORDATA	PICKEREL PLANT	

**RAIN GARDEN REQUIRED MAINTENANCE:**

**MONTHLY:**

INSPECT AND REMOVE ANY TRASH  
REMOVE AND INVASIVE SPECIES PLANTS

**ANNUALLY:**

MULCH-SPRING, AS NEEDED  
REPLACE ANY DEAD VEGETATION-SPRING  
REMOVE DEAD VEGETATION-FALL OR SPRING  
PRUNE-SPRING

**AS NEEDED:**

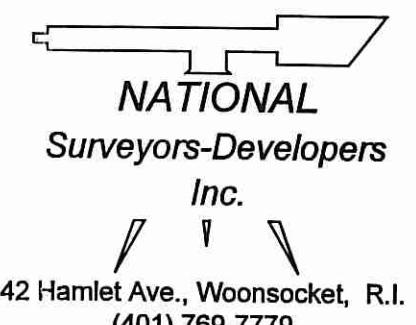
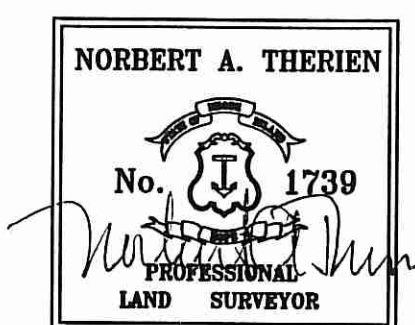
REPLACE SOIL MEDIA AND PLANTS WHEN PONDING DOES NOT SUBSIDE WITHIN 72 HOURS  
(CAREFUL MAINTENANCE SHOULD PROLONG THIS REQUIREMENT)

\* ALL PLANT MATERIAL SHALL BE WATERED AND MAINTAINED BY THE OWNER TO ASSURE THAT SUITABLE GROWTH HAS BEEN ESTABLISHED.

NO.	DATE	DESCRIPTION	BY

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED MAY 18 2015 FILE # 15-0016  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Therien



**MICHAEL CARPENTER**  
ASSESSORS PLAT 110 LOT 27  
155 WHITE ROCK ROAD  
BURRILLVILLE, RHODE ISLAND

**DETAILS**

DRAWN BY: W.C.R.	CHECKED BY: N.A.T.	FIELD BY: C.S.
DECEMBER 2014	JOB No. 2014-170	SHEET 2 OF 2