



**SOIL EROSION AND SEDIMENTATION CONTROL NOTES:**

1. THE "LOD" LINE ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED FRESHWATER WETLAND AREAS
2. SILT SOCKS AND/OR SILT FENCE SHALL BE INSTALLED ON THE DOWNGRADE SLOPES WITHIN THE LIMIT OF DISTURBANCE WITHIN THE VICINITY OF ANY WETLAND AREA; SEE THE PLAN FOR LOCATION OF SOIL EROSION CONTROL FENCES.
3. 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 AND TO REMAIN IN NATURAL CONDITION.
4. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDING AREAS TO ENSURE THAT A GOOD STAND OF VEGETATION IS MAINTAINED.
5. ALL STRAW BALES, SILT SOCKS, SILT FENCES, TEMPORARY TREATMENT (STRAW, ETC.) AND TEMPORARY EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE AFTER CONSTRUCTION IS COMPLETE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
6. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLAND EDGES. THEY SHALL HAVE SIDE SLOPES OF NOT GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.
7. THE EROSION CONTROL FENCE SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE THE EROSION CONTROL FENCE AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE EROSION CONTROL FENCE BECOMES FILLED WITH SEDIMENTS.
8. 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 ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE.
9. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (STRAW BALES, 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.
10. ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK", UPDATED 2016.
11. 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 1/2 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 COMPLETED PROMPTLY.

**SITE PLAN NOTES:**

1. 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.
2. THE SUBJECT SITE LIES WITHIN "ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN" AS PER THE FEMA FLOOD INSURANCE RATE MAP NUMBER 44007C0179G PANEL 179 OF 451 IN PROVIDENCE COUNTY, RHODE ISLAND, EFFECTIVE DATE MARCH 2, 2009.

**ESTABLISHMENT OF VEGETATIVE COVER:**

1. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I. STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 202.
2. SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
3. 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.
4. 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.
5. EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. LIME AND FERTILIZE AS REQUIRED BY SOIL TESTING TO COMPLIMENT OR UPGRADE EXISTING CONDITIONS.

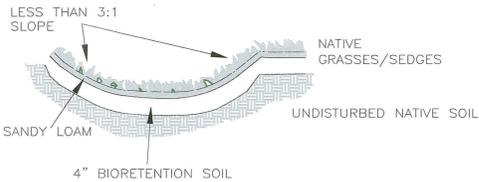
**STORMWATER CALCULATIONS**

**PROPOSED VEGETATED SWALE SIZING:**  
 (AS PER THE STATE OF RHODE ISLAND STORMWATER MANAGEMENT GUIDANCE FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL LOT DEVELOPMENT)  
**PROPOSED SOUTH HALF HOUSE ROOFTOP:**  
 IMPERVIOUS AREA: 1250SF  
 SOIL TEXTURE: SILTY  
 VEGETATED SWALE DEPTH: 8"  
 REQ'D VEG.SWALE SURFACE AREA: 1600 X 160 = 200 SF

- PROPOSED:**
- 40' LONG X 5' WIDE BOTTOM AREA = 200 SF
  - 8" MIN. DEPTH
  - (3H:1V SIDE SLOPES)

**QPA NOTES:**

1. CONSTRUCTION VEHICLES SHALL AVOID DRIVING OVER QPA AREAS TO THE MAXIMUM EXTENT POSSIBLE. IF QPA ARE COMPACTED, THEN THE SOIL MUST BE SUITABLE AMENDED, TILLED, AND RE-VEGETATED ONCE CONSTRUCTION IS COMPLETE TO RESTORE INFILTRATION CAPACITY.
2. THE SLOPE OF THE QPA MUST BE LESS THAN OR EQUAL TO 5.0%
3. THE QPA MUST BE INSPECTED YEARLY TO ENSURE NO BUILD-UP OF SEDIMENT. IF THERE IS ACCUMULATION OF SEDIMENT, THEN THE SEDIMENT SHALL BE REMOVED AND THE QPA SHALL BE RESTORED.
4. FERTILIZERS, PESTICIDES, OR HERBICIDES SHALL NOT BE APPLIED WITHIN THE QPA AREA
5. QPA AREAS MAY NOT BE USED AS GRASSSED LAWN AREA AND SHALL BE ALLOWED TO VEGETATE NATURALLY.



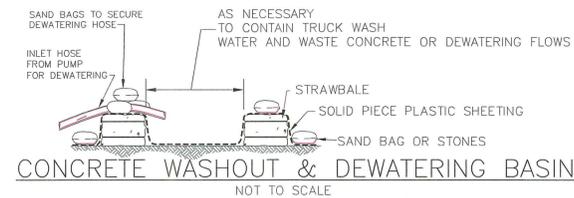
**VEGETATED SWALE SIZING SCHEDULE:**  
 VEG.SWALE-1: BOTTOM WIDTH=5', LENGTH=40', DEPTH=8"  
**VEGETATED SWALE DETAIL**  
 NOT TO SCALE

**BMP NOTES:**

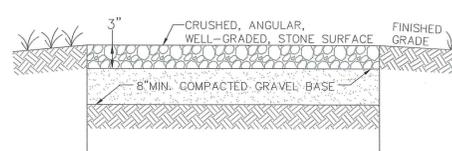
1. DO NOT COMPACT SOILS IN VEGETATED SWALE AREA. TILL BOTTOM OF VEGETATED SWALE PRIOR TO PLACEMENT OF SANDY LOAM TOPSOIL AND BIORETENTION SOIL TO PROMOTE GOOD INFILTRATION RATES.
2. DIRECT IMPERVIOUS AREAS (TO THE MAXIMUM EXTENT POSSIBLE) TO FLOW INTO VEGETATED SWALE.
3. **BIORETENTION SOIL MIX (BY VOLUME):**  
 SAND 85 TO 88%  
 SILT 0 TO 12%  
 CLAY 0 TO 2%  
 ORGANIC MATTER 3 TO 5%
4. THE BIORETENTION SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OTHER WOODY MATERIAL OVER 1" IN DIAMETER, OR BRUSH/SEEDS FROM NOXIOUS WEEDS. PLACEMENT OF THE SOIL SHOULD BE IN LIFTS OF 6 INCHES, LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET).
5. SURFACE OF VEGETATED SWALE SHALL NOT BE MULCH OR ANY OTHER SURFACE PRONE TO FLOATING AWAY.

**BMP MAINTENANCE:**

1. SEDIMENT SHALL BE REMOVED FROM THE VEGETATED SWALE BED WHEN THE ACCUMULATION EXCEEDS 1"
2. WHEN THE FILTERING CAPACITY OF THE FILTER DIMINISHES SUBSTANTIALLY, THE TOP FEW INCHES OF MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. DURING THE SIX MONTHS IMMEDIATELY AFTER CONSTRUCTION, THE RAIN GARDEN AND VEGETATED SWALES SHALL BE INSPECTED FOLLOWING AT LEAST THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0" TO ENSURE THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, INSPECTIONS SHALL BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS OF GREATER THAN OR EQUAL TO 2.7" OF RAINFALL IN A 24-HOUR PERIOD.
3. PRUNING OR REPLACEMENT OF WOODY VEGETATION SHALL OCCUR WHEN DEAD OR DYING VEGETATION IS OBSERVED. FERTILIZER OR PESTICIDES SHALL NOT BE APPLIED TO PLANTS WITHIN THE VEGETATED SWALE.
4. PERENNIAL PLANTS AND GROUND COVERS SHALL BE REPLACED AS NECESSARY TO MAINTAIN AN ADEQUATE VEGETATED GROUND COVER. ANNUAL PLANTS MAY ALSO BE USED TO MAINTAIN GROUND COVER.

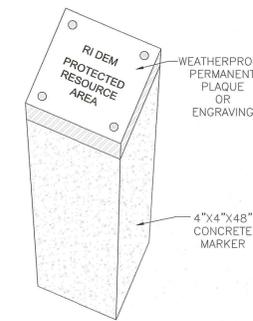


**CONCRETE WASHOUT & DEWATERING BASIN**  
 NOT TO SCALE



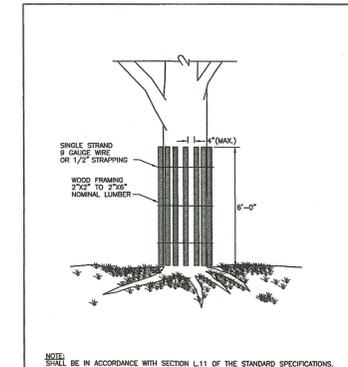
- DRIVEWAY MAINTENANCE NOTES:**
1. THE SURFACE OF THE DRIVEWAY SHALL BE MONITORED AFTER STORMS TO ENSURE IT DRAINS PROPERLY. THE SURFACE SHALL BE INSPECTED ANNUALLY FOR DETERIORATION AND REPAIRED AS NEEDED.
  2. USE OF SAND AND SALT ON DRIVEWAY SHALL BE MINIMIZED.
  3. DRIVEWAY SHALL NOT BE REPAVED OR RESEALED WITH IMPERMEABLE PRODUCTS.
  4. PEASTONE/CRUSHED STONE SHALL BE REPLACED OR RE-GRADING PERFORMED AS NECESSARY TO MAINTAIN THE MINIMUM DEPTH OF STONE AND A LEVEL BOTTOM SURFACE.

**PROPOSED DRIVEWAY SECTION DETAIL**  
 NOT TO SCALE

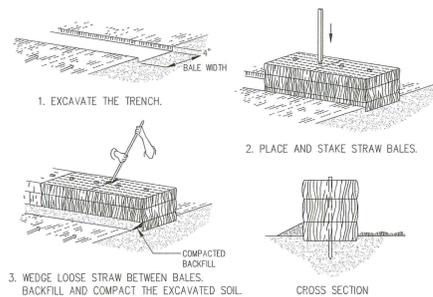


**WETLAND BUFFER MARKER DETAIL**  
 NOT TO SCALE

**RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED: APR 24 2023 FILE #: 23-0001  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE**



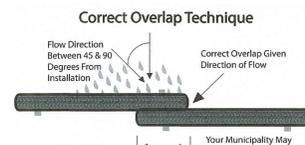
**RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
 TREE PROTECTION DEVICE**  
 NOT TO SCALE



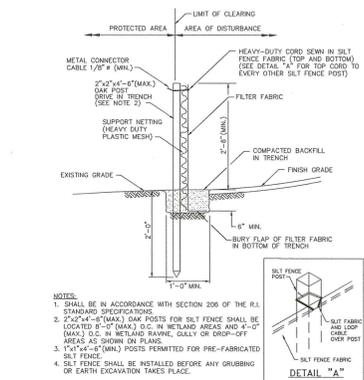
**PLACEMENT AND CONSTRUCTION OF STRAWBALE EROSION CHECK**  
 NOT TO SCALE



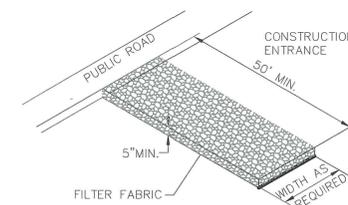
**SILT SOCK DETAIL**  
 NOT TO SCALE



**Correct Overlap Technique**



**SILT FENCE DETAIL**  
 R.I. STANDARD 9.2.D



MATERIALS SIZE			
SQUARE MESH SIEVES	2" CRUSHED STONE OR GRAVEL	ASTM C-33 NO. 2	ASTM C-33 NO. 3
	% FINER	% FINER	% FINER
2-1/2 INCHES	100	90-100	
2 INCHES	95-100	35-70	90-100
1-1/2 INCHES	30-55	0-15	35-70
1-1/4 INCHES	0-25	-	
1 INCH	0-5	-	0-15
3/4 INCH	-	0-5	
1/2 INCH			
3/8 INCH			

**CONSTRUCTION ACCESS**  
 SCALE: NOT TO SCALE

OWNER/APPLICANT  
 BIRCHWOOD PROPERTIES LLC  
 1400 EAST WALLUM LAKE RD.  
 PASCOAG, RI 02859

REVISIONS:		BY:
DATE	DESCRIPTION	DKM
1. 2-13-23	DEM COMMENTS	

REGISTRATION:  
 DAVID KENNETH MANONI  
 REGISTERED PROFESSIONAL ENGINEER  
 (CIVIL)

**GROUND BREAKING DESIGNS, LLC**  
 CIVIL ENGINEERING SOLUTIONS  
 90 HIGHLAND AVE., SOUTH KINGSTOWN, RI 02879 || PHONE: (401) 622-2932