

Z:\Land Projects 2004\OE-2765-Medway\DWG\FINAL PLANS - CUT SHEETS\Current Cut Sheets\OE2765 Cut Sheets-13 forway lane.dwg

THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREAS ARE DETAILED IN TABLE 1.

2. PLANTING SOILS
THE SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. NO OTHER MATERIALS OR SUBSTANCES SHOULD BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHOULD BE FREE OF NOXIOUS WEEDS.

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THE BIORETENTION SYSTEM SHALL UTILIZE PLANTING SOIL HAVING A COMPOSITION AS SHOWN IN TABLE 1. THE BIORETENTION APPLICATIONS WITH A PLANTING SOIL DEPTH OF 12 INCHES, OR LESS, ADD 20% (BY VOLUME) OF WELL AGED (6-12 MONTHS), WELL AERATED, LEAF COMPOST (OR APPROVED EQUIVALENT) TO THE ABOVE PLANTING SOIL MIXTURE.

THE PLANTING SOIL SHOULD BE TESTED AND SHOULD MEET THE FOLLOWING CRITERIA:

PH RANGE 5.2-7.0
ORGANIC MATTER 1.5-4%
MAGNESIUM 35 LB/AC
PHOSPHORUS P205 75 LB/AC
POTASSIUM K2O 85 LB/AC
SOLUBLE SALTS NOT TO EXCEED 500 PPM

ALL BIORETENTION AREAS SHOULD HAVE A MINIMUM OF ONE TEST. EACH TEST SHOULD CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE'S STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHOULD BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL IS EXCAVATED.

SINCE DIFFERENT LABS CALIBRATE THEIR EXISTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHOULD COME FROM THE SAME TESTING FACILITY.

SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

MULCH AROUND INDIVIDUAL PLANTS ONLY. SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE.

SHREDDED MULCH MUST BE WELL AGED (6-12 MONTHS) FOR ACCEPTANCE.

MIX APPROPRIATELY HALF OF THE SPECIFIED MULCH LAYER INTO THE PLANTING SOIL TO A DEPTH OF APPROXIMATELY 4 INCHES TO HELP FOSTER A HIGHLY ORGANIC SURFACE LAYER.

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL IF BIORETENTION AREA IS EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND STORAGE VOLUMES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER, ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS OF 12 INCHES OR GREATER. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION AREA. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SANDS. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

THE PLANT ROOT BALL SHOULD BE PLANTED SO 3/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. ROOT STOCK OF THE PLANT MATERIAL SHOULD BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE DIAMETER OF THE PLANTING PIT SHOULD BE AT LEAST 6 INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

GRASSES AND LEGUME SEED SHOULD BE TILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHOULD BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE PLANTING SOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATTER TO ADEQUATELY SUPPLY NUTRIENTS FROM THE NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF COMPOST OR MULCH IS USED TO AMEND THE SOIL. ROTOTILL AREA FERTILIZER AT A RATE OF 2 LB/1,000 S.F..

A. THE BIORETENTION FACILITY SHALL BE PROTECTED WITH SEDIMENT CONTROL DEVICES AS SHOWN IN THE EROSION & SEDIMENT CONTROL PLANS AND SHALL REMAIN OFFLINE AND INOPERATIONAL UNTIL ALL VEGETATION IS ESTABLISHED WITHIN THE BIORETENTION AREA AND THE CONTRIBUTING DRAINAGE AREA IS STABILIZED.

B. THE PURPOSE OF THESE BIORETENTION AREAS IS TO PROVIDE SOME INCREASED RUNOFF WATER QUALITY AND INFILTRATION OF RUNOFF (FROM IMPERVIOUS AREAS; THE RAIN GARDEN IS DESIGNED TO INFILTRATE WITH AN EMERGENCY OVERFLOW.

<u>SHRUB SPECIES</u>					QUANTITY
PLAN SYMBOL	COMMON NAME (SCIENTIFIC NAME)	SIZE & FORM	IND. STATUS	SIZE @ PURCHASE	BIO-1
	HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM)	MED-SIZED SHRUB (6-10')	FACW-	2-3 FEET	3
	SPICE BUSH (LINDERA BEZOIN)	MED-SIZED SHRUB (6-10')	FAC-	2-3 FEET	3
	SILKY DOGWOOD (CORMUS AMOMUM)	MED-SIZED SHRUB	FACW	2-3 FEET	3

PLAN SYMBOL	COMMON NAME (SCIENTIFIC NAME)	SIZE & FORM	IND. STATUS	SIZE @ PURCHASE	BIO-1
	NEW YORK FERN (THELYPTERIS NOVEBORACENSIS)	FLOWER (1-3')	FAC	1 GAL.	3
	THREE-SQUARE BULRUSH (SCIRPUS PUNGENS)	FLOWER (1-3')	FACW+	1 GAL.	3
	BLACK-EYED SUSAN (RUDBECKIA HIRTA)	FLOWER (1-3')	FAC	1 GAL.	3



(REQUIRED WHEN OUTSIDE 50' OF BORDERING VEGETATED WETLANDS)



(REQUIRED WHEN WORKING WITHIN 50' OF BORDERING VEGETATED WETLANDS)

NOTE
USE ON 2:1 SLOPES AND WHERE
NECESSARY TO PREVENT EROSION.



NOT TO SCALE

PERC. RATE : SIEVE SAMPLE TAKEN @ 62"
DATE OF TEST : 2/18/18
SOIL EVALUATOR: GREGORY A BUNAVICZ, BORDERLAND
WITNESS BETH HALLAL ENGINEERING
(MEDWAY BOARD OF HEALTH

N.T.S.

OWNERS

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ASSESSORS PARCEL ID 9-044

SEAN CORBETT
15 FAIRWAY LANE
ASSESSORS PARCEL ID 9-042

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DATE: MARCH 15, 2018

DRAWN BY: CJV	CHECKED BY: JA
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NOT TO SCALE	SHEET 2 OF 2
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