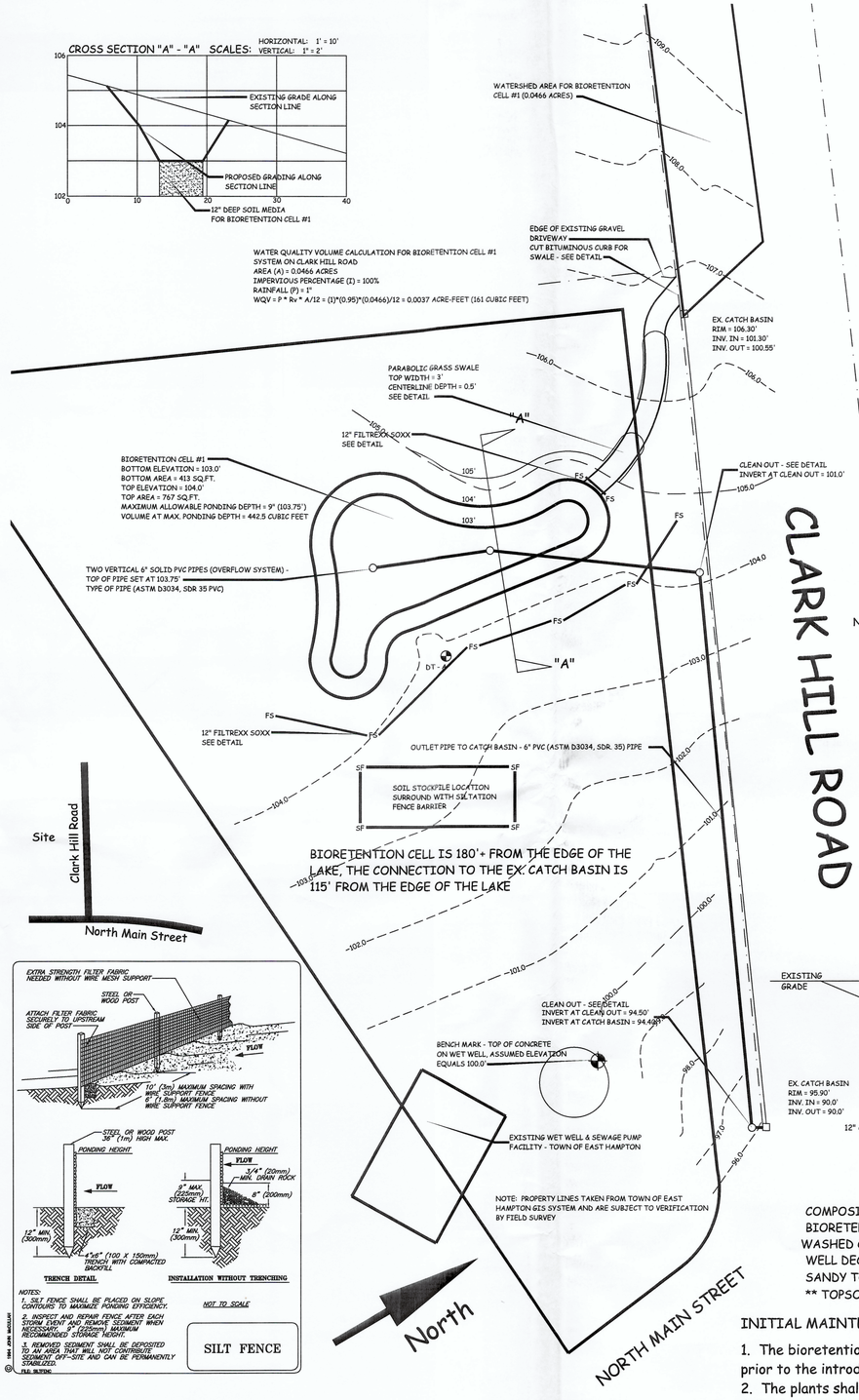
WATER QUALITY VOLUME CALCULATION FOR BIORETENTION CELL #1
SYSTEM ON CLARK HILL ROAD
AREA (A) = 0.0466 ACRES
IMPERVIOUS PERCENTAGE (I) = 100%
RAINFALL (P) = 1"
WQV = P * Rv * A/12 = (1)*(0.95)*(0.0466)/12 = 0.0037 ACRE-FEET (161 CUBIC FEET)



RESULTS OF SOIL TESTS BY TRINKAUS ENGINEERING, LLC
DATE: NOVEMBER 28, 2918
CLARK HILL ROAD (DT - A)
0 - 13" TOPSOIL
13 - 28" ORANGE BROWN FINE SAND AND SILT LOAM
28 - 72" ORANGE BROWN MEDIUM TO FINE SAND
LEDGE > 72", NO MOTTLING, NO WATER, ROOTS TO 40"
OLA AVENUE (DT - B)
0 - 21" TOPSOIL
21 - 48" ORANGE BROWN FINE SAND AND SILT LOAM
48 - 73" ORANGE BROWN SANDY LOAM WITH LARGE ROUNDED ROCKS
LEDGE > 73", NO MOTTLING, NO WATER, ROOTS TO 48"
BOULDER LANE (SOUTH) (DT - C)
0 - 18" TOPSOIL
18 - 47" ORANGE BROWN FINE SAND AND SILT LOAM
47 - 72" ORANGE BROWN COARSE SAND AND GRAVEL
LEDGE > 72", NO MOTTLING, WATER AT 47", ROOTS TO 47"
BOULDER LANE (NORTH) (DT - D)
0 - 16" TOPSOIL
16 - 48" ORANGE BROWN FINE SAND AND SILT LOAM
48 - 71" ORANGE BROWN COARSE SAND AND GRAVEL
LEDGE > 71", NO MOTTLING, WATER AT 48", ROOTS TO 42"
MOTT HILL ROAD (DT - E)
0 - 12" TOPSOIL
12 - 25" GREY BROWN COMPACT VERY SILTY SAND, SOME CLAY
25 - 65" BROWN MEDIUM COMPACT SILTY LOAM
LEDGE > 65", MOTTLING AT 30", NO WATER, ROOTS TO 25"
MOHICAN TRAIL (DT - F)
0 - 13" TOPSOIL
13 - 35" ORANGE BROWN FINE SANDY LOAM
35 - 60" GREY BROWN MEDIUM COMPACT SILTY SAND
60 - 73" GREY MEDIUM SAND
LEDGE > 73", NO MOTTLING, WATER AT 35", NO ROOTS

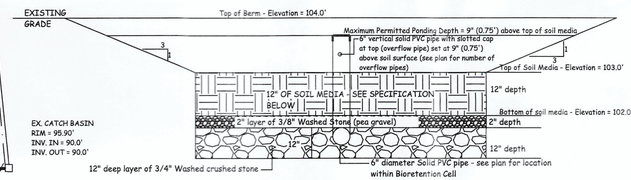
INFILTRATION TEST RESULTS
CLARK HILL ROAD
EQUIPMENT: TURF TECH INFILTROMETER
DEPTH OF TEST = 23"
TEST #1: 2"/15 MINUTES (8"/HOUR)
TEST #2: 1-3/4"/15 MINUTES (7"/HOUR)
TEST #3: 1-3/4"/15 MINUTES (7"/HOUR)
OLA LANE
DEPTH OF TEST = 18"
TEST #1: 1-5/8"/10 MINUTES (9.75"/HOUR)
TEST #2: 1-3/8"/10 MINUTES (8.25"/HOUR)
TEST #3: 1-1/2"/12 MINUTES (7.5"/HOUR)
TEST #4: 1-1/4"/10 MINUTES (7.5"/HOUR)
MOHICAN TRAIL
TEST #1: 7/8"/10 MINUTES (5.25"/HOUR)
TEST #2: 7/8"/10 MINUTES (5.25"/HOUR)
TEST #3: 3/4"/10 MINUTES (4.5"/HOUR)

SEED MIXTURES FOR BIORETENTION CELL

NEW ENGLAND CONSERVATION/WILDLIFE SEED MIXTURE BY NEW ENGLAND WETLAND PLANTS (www.newp.com):
VIRGINIA WILD RYE
LITTLE BLUESTEM
BIG BLUESTEM
RED FESCUE
SWITCH GRASS
PARTRIDGE PEA
INDIAN GRASS
SHOWY TICK TREFOIL
BUTTERFLY MILKWEED
BEGGAR TICKS
PURPLE JOE PYE WEED
BLACK EYED SUSAN
HEATH (OR HAIRY) ASTER
EARLY GOLDENROD
1 POUND PER 1,750 SQUARE FEET (APPLICATION RATE)

NEW ENGLAND SHOWY WILDFLOWER SEED MIXTURE BY NEW ENGLAND WETLAND PLANTS:
LITTLE BLUESTREM
PARTRIDGE PEA
INDIAN GRASS
RED FESCUE
CANADA WILD RYE
RIVERBANK WILD RYE
OX EYE SUNFLOWER
LANCE LEAVED COREOPSIS
BLACK EYED SUSAN
SPIKED GRAYFEATHER/MARSH BLAZING STAR
COMMON MILKWEED
NEW YORK IRONWEED
NEW ENGLAND ASTER
PURPLE JOE PYE WEED
BUTTERFLY MILKWEED
EARLY GOLDENROD
BONESET
1 POUND PER 1,900 SQUARE FEET (APPLICATION RATE)

NOTE: GRASS SWALE SHALL ALSO BE SEEDED WITH CONSERVATION/WILDLIFE SEED MIXTURE AT THE SAME APPLICATION RATE SHOWN ABOVE.



Cross Section of Bioretention System
Not to scale

COMPOSITION OF SOIL MEDIA FOR BIORETENTION SYSTEM:
WASHED CONCRETE COARSE SAND (85% by volume)
WELL DECOMPOSED LEAF COMPOST (11% by volume)
SANDY TOPSOIL OR LOAM (4% by volume)**
** TOPSOIL OR LOAM SHALL HAVE LESS THAN 2.0% CLAY CONTENT

INITIAL MAINTENANCE REQUIREMENTS FOR BIORETENTION:

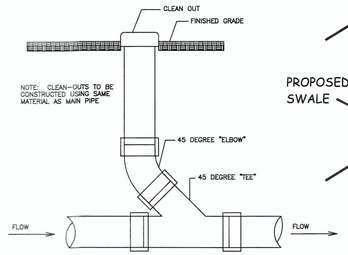
1. The bioretention system must be installed and fully vegetated prior to the introduction of stormwater,
2. The plants shall be watered as needed after seeding to fully establish themselves,
3. System shall be inspected twice a year and non-native plants and weeds shall be removed as needed,

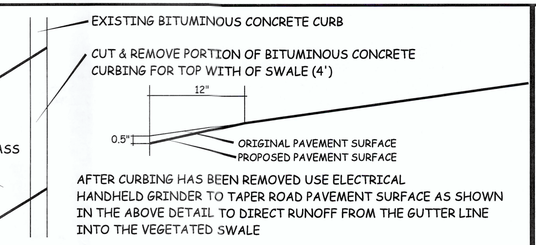
LONG TERM MAINTENANCE REQUIREMENTS FOR BIORETENTION:

1. System shall be inspected twice a year and non-native plants and weeds shall be removed as needed,
2. The perennial vegetation shall be cut back in Late October and the cut vegetation removed from the bioretention system and disposed off in a proper manner,
3. Accumulated leaves shall be removed from the bioretention system in the fall and spring as needed,
4. If there is visible accumulation of sediment on the surface of the soil media which is deeper than 1 cm, then the accumulated sediment shall be removed by hand using a rake and shovel and disposed of away from the Bioretention facility. The surface of the Bioretention media shall be lightly raked to loosen the soil surface and restore the infiltrative surface.

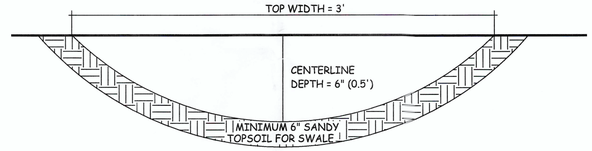
MAINTENANCE REQUIREMENTS FOR BIORETENTION:
NOTE: BIORETENTION SYSTEMS ARE INFILTRATIVE STORMWATER MANAGEMENT SYSTEMS, WHOSE FUNCTIONALITY REQUIRES THAT THE SOIL SURFACE INTERFACE REMAINS PERMEABLE AND NOT CLOGGED BY A BUILD UP OF SEDIMENT OR ORGANIC DEBRIS ON THE SURFACE WHICH CAN REDUCE OR PREVENT THE INFILTRATION OF RAINFALL RUNOFF. TO MAINTAIN THE FUNCTIONALITY OF A BIORETENTION SYSTEM, THE FOLLOWING MAINTENANCE PROTOCOL IS DEFINED TO ENSURE THE LONG-TERM FUNCTIONALITY OF THE BIORETENTION SYSTEM.

CLEAN-OUT DETAIL
NOT TO SCALE





DETAIL OF CURB REMOVAL AND GRINDING OF ROAD SURFACE ON CLARK HILL ROAD - NOT TO SCALE

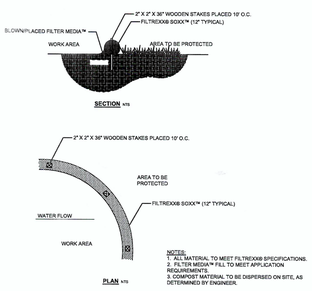


TYPICAL CROSS SECTION OF PARABOLIC GRASS SWALE
NOT TO SCALE

CONSTRUCTION SEQUENCE FOR BIORETENTION SYSTEM:

1. Contractor to mark limits of Bioretention system and grass swale in the field.
2. Installation of erosion control measures per the plan and in accord with the submitted detail.
3. Excavate the Bioretention cell to the required subgrade elevation. Place the excavated material in the stockpile location or remove from the site. After the required subgrade has been excavated, the sidewalls of the excavation shall be scarified by using a metal garden rake to remove any smeared soil surface. The bottom of the excavation shall be scarified using the teeth on a hydraulic excavator. The excavator and any other equipment are NOT permitted in the excavation area after the subgrade has been reached. The depth of the bottom scarification shall be 4-6" in depth. This must be done prior to the placement of the washed gravel layer.
4. Place the 3/4" washed gravel into the bottom of the excavation from beyond the edge of the excavation. The gravel shall be spread and leveled approximately by the excavator and then hand raked to be level. Use a hand roller to lightly compact this gravel layer.
5. Install the 6" PVC overflow pipe in the top of the 3/4" washed stone layer within the Bioretention cell and temporarily end the pipe just outside the limit of the Bioretention Cell. Install the two vertical 6" PVC pipes per the plan and detail.
6. Install the 2" layer of 3/8" pea gravel on top of the 3/4" washed stone. After being hand raked to be level, use hand roller to lightly compact the pea gravel layer.
7. Install soil media which has been premixed outside the Bioretention cell. Place the soil media using the hydraulic excavator. Use the excavator to roughly level the surface of the soil media. Hand rake the soil media to be level at the required design elevation. Use hand roller to lightly compact the soil media mix.
8. Grade the side slopes of the Bioretention cell in accordance with the site plan. The grading shall allow for the placement of 3" of topsoil on the side slopes to provide a growing medium for the seed mixture.
9. Seed the bottom and side slopes with one of the seed mixtures specified for the Bioretention cell. The Town of East Hampton Parks and Recreation department shall decide which seed mixture shall be used. The seed shall be installed per the requirements of New England Wetland Plants. A shredded straw mulch shall be placed on top of the seed mixture and watered as necessary to ensure germination of the seeds.
10. A short section of 6" Filtrexx Soxx shall be placed at the edge of the Bioretention cell at the end of the vegetated swale to prevent the movement of soil from the construction of the vegetated swale into the Bioretention cell.
11. The vegetated swale shall be excavated to the required subgrade based upon the cross section shown on this plan. Once the excavation has been made, the bottom of the swale shall be scarified using a metal garden rake to remove smeared soil.
12. After the scarification has been done the 6" of sandy topsoil shall be placed and lightly compacted by hand. The vegetated swale shall be seeded the same seed mixture as the Bioretention cell, covered with straw mulch and watered as necessary to ensure germination of the seed mixture.
13. The bituminous concrete curb shall NOT be removed until vegetation has been established in both the vegetated swale and Bioretention cell.
14. After the vegetation has been established, the bituminous concrete curbing shall be removed and the pavement ground down per the detail.
15. Install solid 6" PVC pipe to catch basin to function as overflow pipe. Backfill trench with excavated material. No stones larger than 4" shall be placed in the trench when backfilling.
16. After all disturbed areas are stable, the erosion control measures shall be removed.

NOTE: PROPERTY LINES WERE TAKEN FROM TOWN OF EAST HAMPTON GIS SYSTEM. TOPOGRAPHIC INFORMATION WAS OBTAINED IN THE FIELD BY DUBIEL ASSOCIATES AND TRINKAUS ENGINEERING, LLC. BENCH MARK IS SHOWN ON SITE PLAN



FILTREXX® SEDIMENT CONTROL
NTS

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LOW IMPACT • SUSTAINABLE
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LISD STORMWATER RETROFITS
SHEET 1 of 4
PROJECT #037-2018
SCALE: 1" = 10'
DATE: 5/14/19

PREPARED FOR
TOWN OF EAST HAMPTON
CLARK HILL ROAD
EAST HAMPTON, CONNECTICUT