

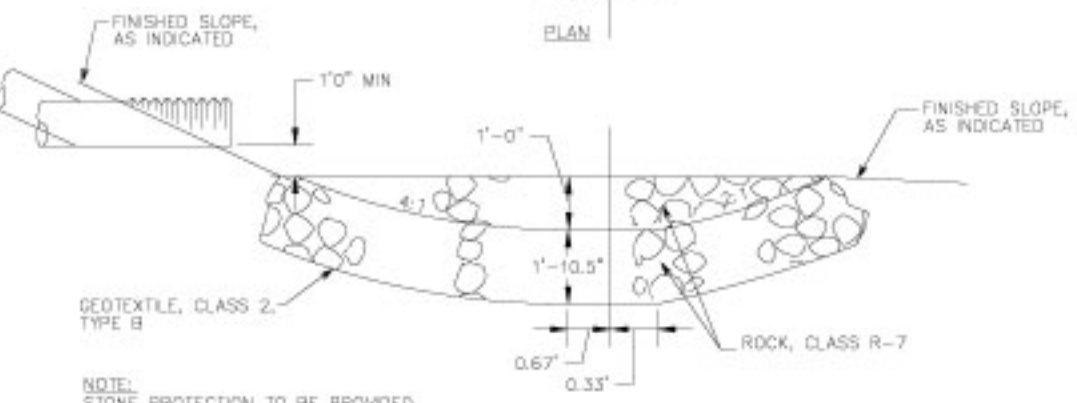
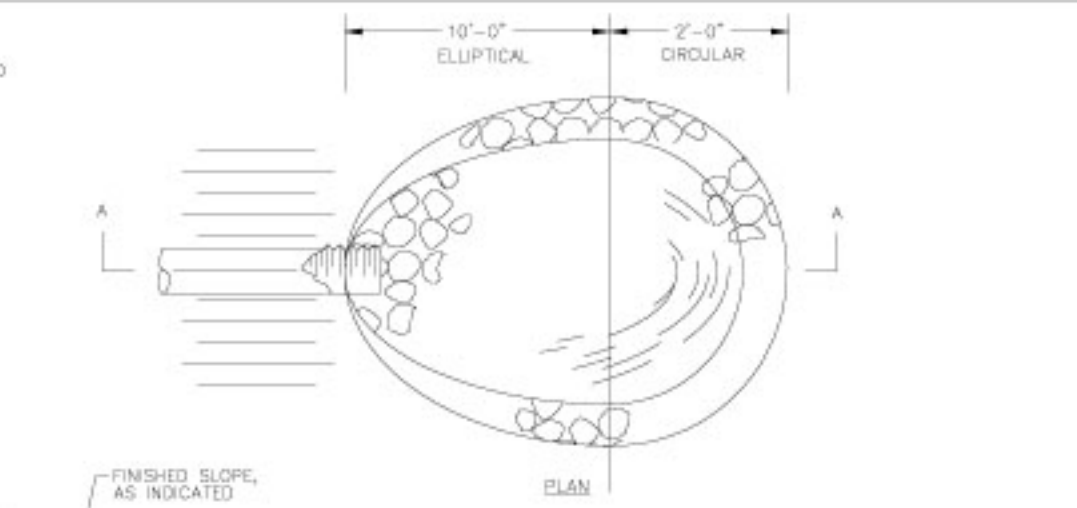
INFILTRATION TRENCH DETAIL
NOT TO SCALE

INFILTRATION TRENCH CONSTRUCTION SEQUENCE:

1. ALL BED BOTTOMS SHOULD BE LEVEL AFTER FINAL GRADING.
2. PRIOR TO INFILTRATION BED GRADING AND PLACEMENT OF GEOTEXTILE, UPGRADIENT AREAS SHALL BE SUFFICIENTLY STABILIZED TO PREVENT THE WASHING OF SEDIMENT INTO THE RECHARGE AREAS. ALTERNATIVELY, THE CONTRACTOR MAY INSTALL COMPOST FILTER SOCKS IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PREVENT THE DEPOSITION OF SEDIMENT OR SEDIMENT-LADEN WATERS INTO THE INFILTRATION STRUCTURES AFTER FINAL GRADING.
3. UPON APPROVAL OF FINAL SUBGRADE PREPARATION, GEOTEXTILE AND INFILTRATION BED AGGREGATE SHALL BE PLACED IMMEDIATELY. ANY ACCUMULATION OF DEBRIS OR SEDIMENT WHICH HAS TAKEN PLACE AFTER APPROVAL OF SUBGRADE SHALL BE REMOVED PRIOR TO INSTALLATION OF GEOTEXTILE AT NO EXTRA COST TO OWNER. WHERE EROSION HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS MATERIAL SHALL BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE AND LIGHT TRACTOR.
4. IF BEDROCK IS ENCOUNTERED AT ANY TIME

DURING EXCAVATION OF THE INFILTRATION BED, EXCAVATION IS TO BE DISCONTINUED IN THE AFFECTED AREA AND THE OWNER AND ENGINEER NOTIFIED AT ONCE.

5. PLACE GEOTEXTILE IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDATIONS. ADJACENT STRIPS OF GEOTEXTILE SHALL OVERLAP A MINIMUM OF TWELVE (12) INCHES. SECURE FABRIC AT LEAST FOUR (4) FEET OUTSIDE OF BED AND TAKE STEPS NECESSARY TO PREVENT ANY SEDIMENT FROM ENTERING TRENCH.
6. AGGREGATE SHALL BE CLEAN WITH A WASH LOSS OF NO MORE THAN 0.5 PERCENT. INSTALLATION OF THE STONE SHOULD BE CHECKED BY THE DESIGN OR SITE ENGINEER PRIOR TO INSTALLATION INTO THE INFILTRATION BMP TO ENSURE THAT IT IS CLEAN WASHED STONE. AGGREGATE THAT DOES NOT MEET THIS CRITERIA WILL BE REMOVED AT NO EXTRA COST TO THE OWNER AND THE BEDS RESTORED TO THE OWNER'S SATISFACTION.
7. FOLLOWING PLACEMENT OF BED AGGREGATE, THE GEOTEXTILE SHALL BE FOLDED OVERTOP THE BED, WITH APPROPRIATE FABRIC OVERLAP, TO PROTECT FROM SEDIMENT WASHOUT ALONG BED EDGES. TOPSOIL (OR APPROPRIATE MATERIAL SPECIFIED BY PARTICULAR DESIGN) WILL BE USED TO FILL ABOVE THE BED TO THE SPECIFIED HEIGHT.

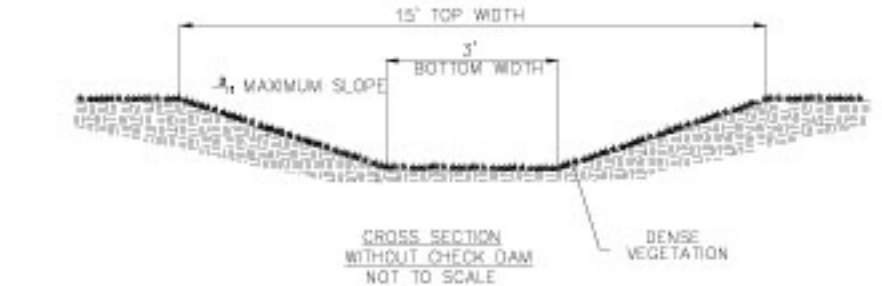


SECTION A-A STILLING BASIN
NOT TO SCALE

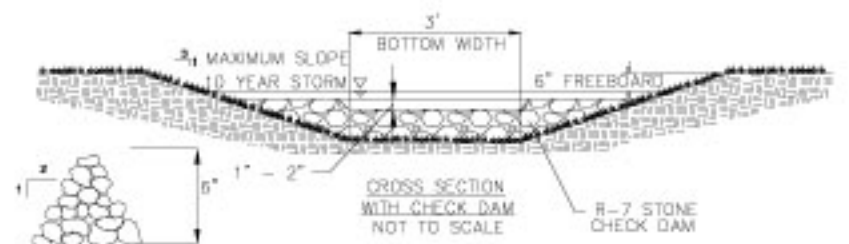
NOTE: STONE PROTECTION TO BE PROVIDED OVER PIPE



VEGETATED SWALE PROFILE
NOT TO SCALE



CROSS SECTION WITHOUT CHECK DAM
NOT TO SCALE

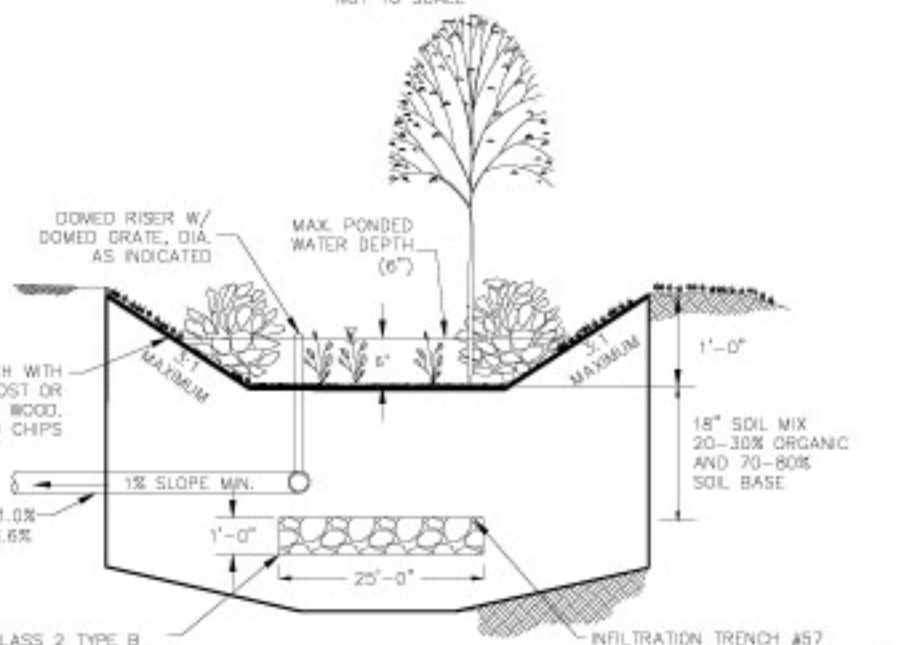


CROSS SECTION WITH CHECK DAM
NOT TO SCALE



CHECK DAM PROFILE
NOT TO SCALE

VEGETATED SWALE DETAIL
NOT TO SCALE



BIORETENTION GARDEN DETAIL
NOT TO SCALE

BIORETENTION GARDEN CONSTRUCTION SEQUENCE:

1. EXCAVATE BIORETENTION GARDEN TO PROPOSED INVERT DEPTH AND SCARIFY THE EXISTING SOIL SURFACES. DO NOT COMPACT IN-SITU SOILS.
2. BACKFILL BIORETENTION GARDEN WITH AMENDED SOIL AS SHOWN ON THE PLANS AND SPECIFICATIONS. OVERFILLING IS RECOMMENDED TO ACCOUNT FOR THE SETTLEMENT. LIGHT HAND TAMPING IS ACCEPTABLE IF NECESSARY.
3. PRESOAK THE PLANTING SOIL PRIOR TO VEGETATION TO AID SETTLEMENT.
4. COMPLETE FINAL GRADING TO ACHIEVE PROPOSED DESIGN ELEVATIONS, LEAVING SPACE FOR UPPER LAYER OF COMPOST, MULCH OR TOPSOIL AS SPECIFIED ON THE PLANS.
5. PLANT VEGETATION ACCORDING TO PLANTING SCHEDULE.
6. MULCH AND INSTALL EROSION PROTECTION A SURFACE FLOW ENTRANCES WHERE NECESSARY.

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL

Pennsylvania One Call System, Inc.
800-242-1776
SERIAL# 20091451767

VEGETATED SWALE MIX - ERMX-123		
%	BOTANICAL NAME	COMMON NAME
20	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
20	SCHIZACHYRIUM SCOPARIUM, EASTERN ECOTYPE	LITTLE BLUESTEM, EASTERN ECOTYPE
10	PANICUM VIRGATUM, 'SHELTER'	'SHELTER' SWITCHGRASS
10	SORGHASTRUM NUTANS, PA ECOTYPE	INDIAN GRASS, PA ECOTYPE
10	TRIPSACUM DACTYLOIDES	EASTERN GAMMA GRASS
6	CHAMAECRISTA FASCICULATA	PATRIDGE PEA
5	COREOPSIS TINCTORIA	PLAINS COREOPSIS
5	PANICUM AMARUM, 'ATLANTIC'	'ATLANTIC' COSTAL PANIC GRASS
5	RUDBECKIA HIRTA	BLACK EYED SUSAN
4	ANDROPOGON GERARDII, 'NIAGARA'	'NIAGARA' BIG BLUESTEM
4	POA PALUSTRIS	FOWL BLUEGRASS
1	ASCLEPIAS SYRIACA	COMMON MILKWEED
100 TOTAL		
PLS = 98%		
SEEDING RATE: 15 LB PER ACRE OR 1/3-1/2 LB PER 1,000 SQ FT		

RAIN GARDEN MIX - ERMX-180		
%	BOTANICAL NAME	COMMON NAME
20	PANICUM RIGIDULUM, PA ECOTYPE	REDTOP PANIC GRASS, PA ECOTYPE
20	SCHIZACHYRIUM SCOPARIUM, EASTERN ECOTYPE	LITTLE BLUESTEM, EASTERN ECOTYPE
10	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
5	CAREX VULPINOIDEA	FOX SEDGE
5	CHASMANTHUM LATIFOLIUM	RIVER OATS
5	ECHINACEA PURPUREA	PURPLE CONEFLOWER
5	LIATRIS SPICATA	MARSH (DENSE) BLAZING STAR
5	RUDBECKIA HIRTA	BLACK EYED SUSAN
3	MONARDA FISTULOSA	WLD BERGAMOT
3	PENSTEMON DIGITALIS	TALL WHITE BEARD TOUNGE
2	ANDROPOGON GERARDII, 'W ECOTYPE'	'W ECOTYPE' BIG BLUESTEM
2	ASCLEPIAS INCARNATA	SWAMP MILKWEED
2	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER
2	BAPTISIA AUSTRALIS	BLUE FALSE INDIGO
2	GEUM LACINIATUM	ROUGH AVENS
2	SENNA HEBCARPA	WLD SENNA
2	TRADESCANTIA CHIENSIS	OHIO SPIDERWORT
2	VERBENA HASTATAZIZIA AUREA	BLUE VERVAIN
2	ZIZIA AUREA	GOLDEN ALEXANDERS
1	AGROSTIS PERENNANS	AUTUMN BENTGRASS
100 TOTAL		
PLS = 98%		
SEEDING RATE: 15 LB PER ACRE OR 1/3-1/2 LB PER 1,000 SQ FT		

ALL OTHER AREAS:
PREFERRED TURF MIX - 33% PENNLAWN CREEPING RED FESCUE + 33% NEWPORT KENTUCKY BLUEGRASS + 34% EXPRESS PERENNIAL RYEGRASS @ 3.5 LBS PER 1000 SQUARE FEET FOR NEW SEEDING

1/05/22/09 PER MEETING WITH CCCD		
NO.	DATE	REVISION
 McCormick Engineers & Planners Since 1946 Taylor Valley Creek Corporate Center 222 Valley Creek Boulevard Suite 120 Exton, PA 19341 FAX (610)640-3503 TEL (610)640-3500		
WARWICK COUNTY PARK - PHASE I SITE IMPROVEMENTS WARWICK TOWNSHIP CHESTER COUNTY, PENNSYLVANIA		
STORMWATER MANAGEMENT DETAILS		
JOB NO: 4748-10-01	SCALE: NOT TO SCALE	DATE: 03/27/09
DRWN: CMP	CHKD: SDA	SHEET: 8 OF 10



ENGINEER

DATE