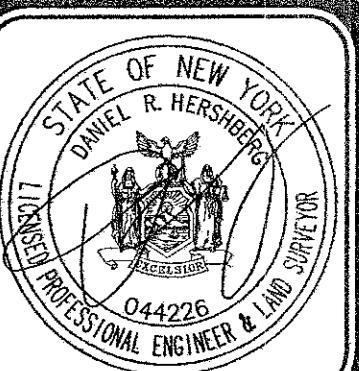


HERSHBERG
&
HERSHBERG
Consulting Engineers
and Land Surveyors

18 Locust Street
Albany, New York 12203

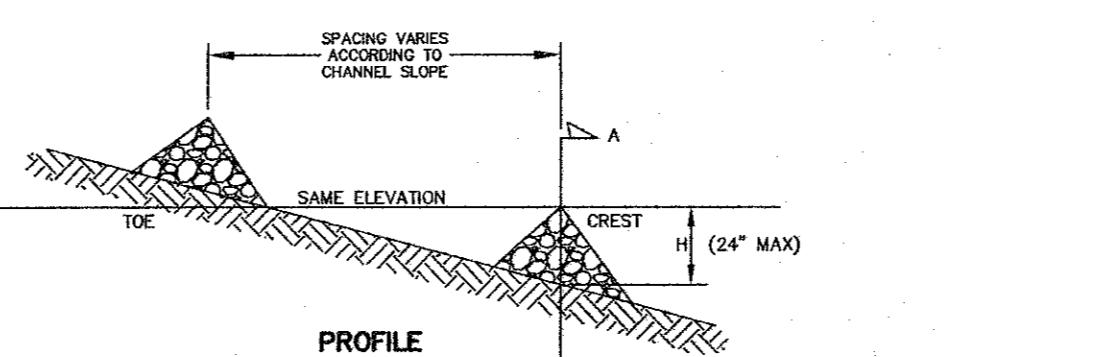
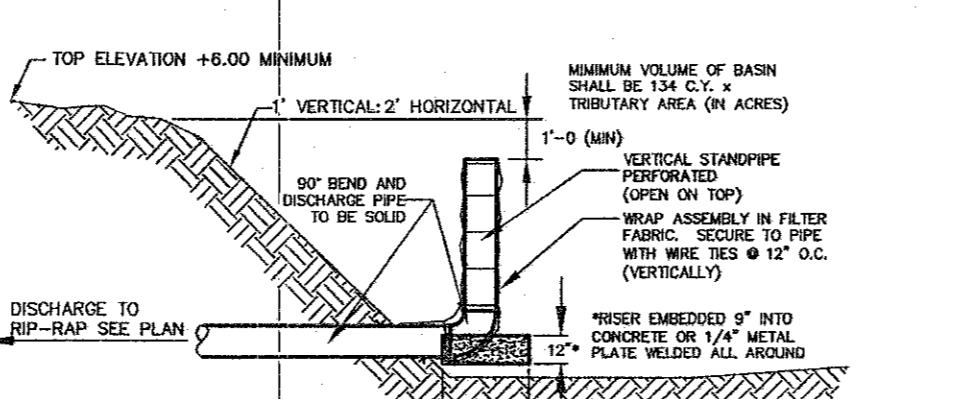
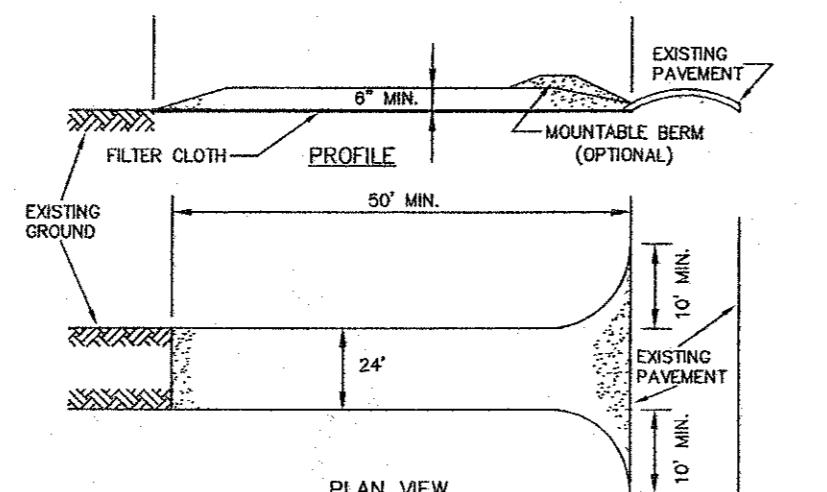
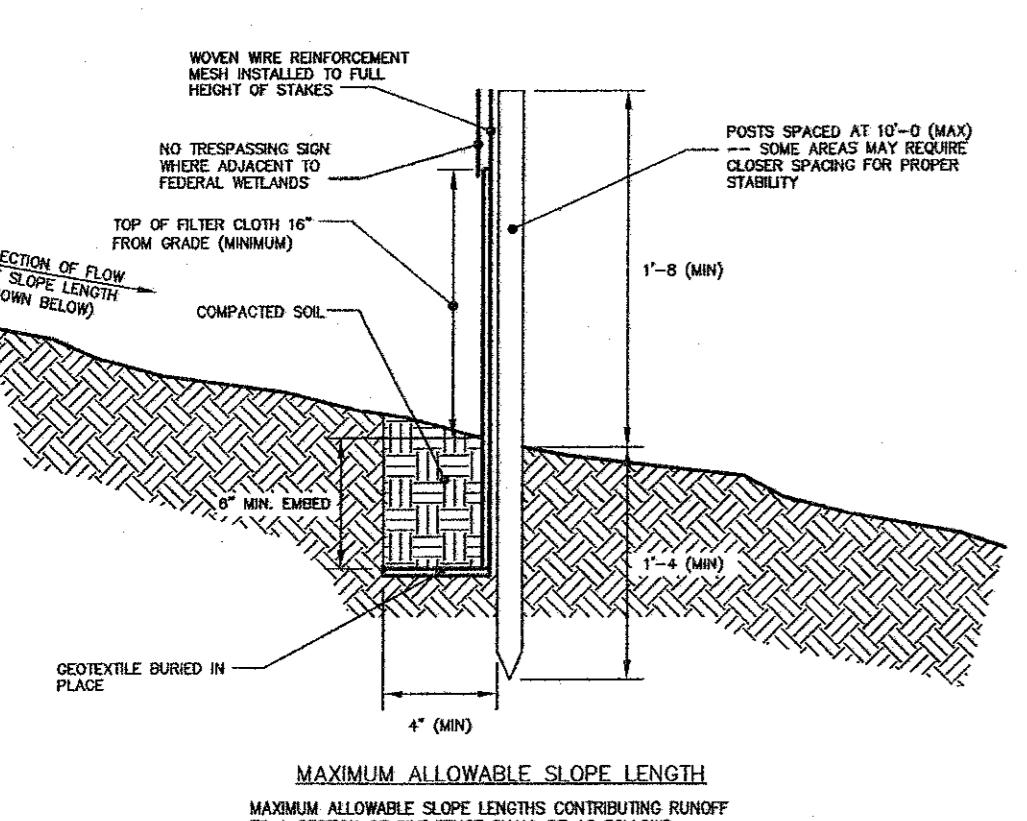
ALTERATION OF THIS
DOCUMENT EXCEPT BY A
LICENSED PROFESSIONAL
ENGINEER OR LAND
SURVEYOR, IS ILLEGAL



REMARKS	DATE
TOWN COMMENT LETTER #1	1/15/13
TOWN REVIEW COMMENTS	11/25/12
REVISIONS	

PROPOSED EROSION AND SEDIMENT CONTROL DETAILS	DATE: 9/26/13
BLESSINGS CORNER	DATE: 9/26/13
No. 572 RUSSELL ROAD	DATE: 9/26/13
TOWN OF BETHLEHEM, ALBANY COUNTY, NEW YORK	DATE: 9/26/13
APPLICANT: MARINI LAND 1, INC.	SCALE: 1"=50'
TOWN OF BETHLEHEM PLANNING BOARD APPROVAL	FILE: 080032

C6



Design Criteria

1. Stabilization of the swale shall be completed within 7 days of installation in accordance with the appropriate standards and specifications for vegetative stabilization or stabilization with mulch as determined by the time of year.
2. In highly erodible soils, as defined by the local approving agency, refer to the next higher slope grade for type of stabilization.

3. Recycled Concrete Equivalent shall be concrete broken into the required size, and shall contain no sharp fragments. It shall be placed in a sediment trap.

4. Swale shall have an outlet that functions with a minimum of 10' of fall, and dissipates runoff velocity prior to discharge off the site.

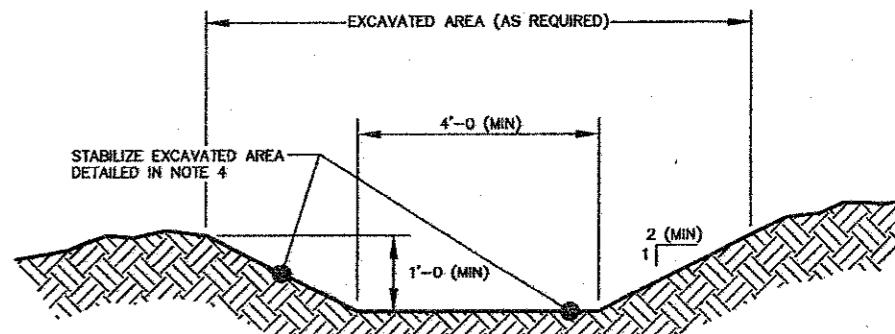
5. Runoff shall be conveyed to a sediment trapping device, such as a sediment trap or sediment basin until the drainage area above the check dam shall not exceed two (2) acres.

6. The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet condition.

7. If a swale is used to divert clean water flows from entering a disturbed area, a sediment trapping device may not be needed.

8. RECP (ROLLED EROSION CONTROL PRODUCT) SHALL BE JUTE OR EXCELSOR MATTING. PROVIDE 4" MIN TOPSOIL AND SEED WITH KENTUCKY BLUEGRASS, CREEPING RED FESCUE AND PERENNIAL RYGRASS AT A RATE OF 25, 20 AND 10 LBS PER ACRE RESPECTIVELY.

9. AS AN ALTERNATE PRACTICE TO TEMPORARY SWALES, EARTH DIKES MAY BE USED. SEE DETAIL THIS SHEET.



NOTES:

1. INSTALL TEMPORARY SWALE IN ACCORDANCE WITH NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, SECTION 7A AS SHOWN ON THE EROSION CONTROL PLAN OR WORKER'S INSTRUCTION.
2. TEMPORARY SWALES DIVERTING RUNOFF FROM A DISTURBED AREA SHALL OUTLET DIRECTLY TO AN UNDISTURBED, STABILIZED AREA AT A NON-ERODIBLE VELOCITY.
3. THE MINIMUM SURFACE TREATMENT OF THE TEMPORARY SWALE SHALL BE RECP AND AS DETERMINED AS FOLLOWS:

SWALE A	SWALE B
<5 ACRES	5-10 ACRES
CHANNEL GRADE: 5-10 ACRES	5-10 ACRES
CONDITION: 0.3 - 3.0%	0.3 - 3.0%
RECP (SEE DESIGN CRITERIA)	RECP (SEE DESIGN CRITERIA)
SEED & STRAW MULCH	SEED & STRAW MULCH
RECP & SEED & STRAW MULCH	RECP & SEED & STRAW MULCH
WITH PLASTIC OR 2" STONE	WITH PLASTIC OR 2" STONE
LINE WITH 4-8 IN. OR STONE RECYCLED CONCRETE EQUIVALENT OR GEOTEXTILE	LINE WITH 4-8 IN. OR STONE RECYCLED CONCRETE EQUIVALENT OR GEOTEXTILE
3. 5.1 - 8.0%	5.1 - 8.0%
SEED AND COVER WITH JUTE, SOD OR LINE WITH 2" STONE	SEED AND COVER WITH JUTE, SOD OR LINE WITH 2" STONE
4. 8.1 - 20%	8.1 - 20%
LINE WITH LIGHT STONE FILL	LINE WITH LIGHT STONE FILL

SITE SPECIFIC ENGINEERING DESIGN

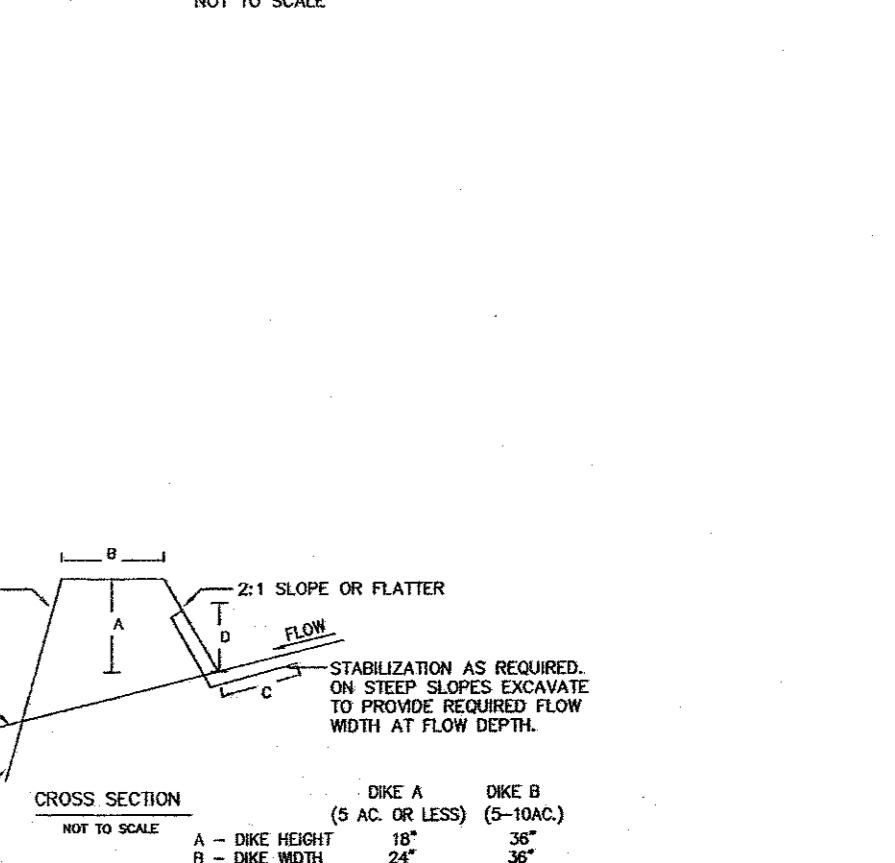
* IN HIGHLY ERODIBLE SOILS, THE ENGINEER MAY REQUEST AN ALTERNATE PRACTICE.

5. ALL TREES, BRUSH, STAMPS AND OTHER OBSTRUCTIONS SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTION OF THE SWALE.

6. THE SWALE SHALL BE EXCAVATED OR SHAPED TO MEET THE CROSS SECTION SHOWN ABOVE AND SHALL BE FREE OF BANK PROJECTIONS OR OTHER IRRREGULARITIES THAT MAY IMPEDE FLOW.

TEMPORARY SWALE DETAIL

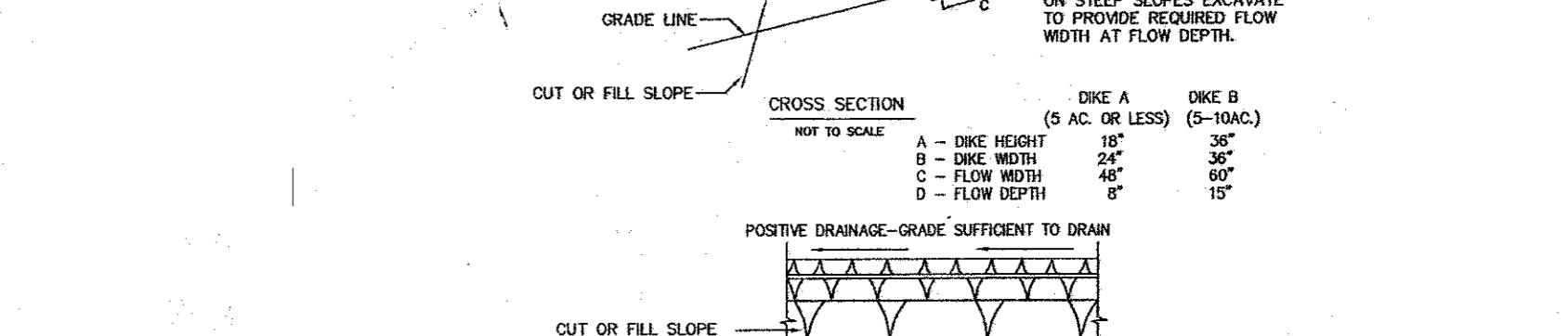
NOT TO SCALE



NOTES:

1. INSTALL STONE CHECK DAM IN ACCORDANCE WITH THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", SECTION 7A IN ALL TEMPORARY OR PERMANENT DRAINAGE SWALES ON SITE.
2. CHECK DAMS SHALL REMAIN IN PLACE UNTIL THE DRAINAGE SWALE IS STABILIZED.
3. LIGHT STONE FILL (NSD01 ITEM #20203) SHALL BE PLACED ON FILTER FABRIC ACCORDING TO THE DESIGN CRITERIA FOR EROSION AND SEDIMENT CONTROL.
4. SET SPACING OF CHECK DAMS SO THAT THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
5. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
6. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
7. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO BLOCKAGE OR DAMAGE FROM DISPLACED STONE.
8. MAXIMUM DRAINAGE AREA 2 ACRES.
9. LOCATION OF CHECK DAMS SHALL BE AS REQUIRED TO PROVIDE ADEQUATE EROSION CONTROL AND MAY BE DIRECTED BY THE ENGINEER IN AREAS OTHER THAN SHOWN ON THIS PLAN DURING CONSTRUCTION AND UNTIL SITE IS STABILIZED.

STONE CHECK DAM DETAIL

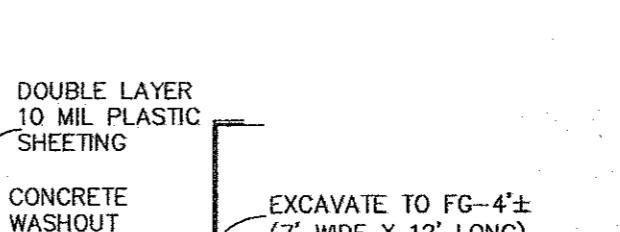


NOTES:

1. ALL DRAINS SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DRAINS SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATIONS SHALL BE ADJUSTED AS NEEDED TO UTILIZE A TERRAIN THAT SUITS OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF 10' OF FLOW. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SWALE, EARTH DIKE, OR CHECK DAM. THE DRAINAGE AREA ABOVE THE DIKE OR THE DRAINAGE AREA OF THE SWALE OR CHECK DAM IS NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL FOR THE CURRENT SEEDING SEASON (B) FLOW CHANNEL AS PER THE CHART ON THE PREVIOUS PAGE.
7. AS AN ALTERNATE PRACTICE TO EARTH DIKES, TEMPORARY SWALES MAY BE USED. SEE DETAIL THIS SHEET.

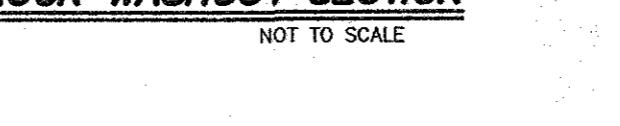
EARTH DIKE

NOT TO SCALE



CONCRETE TRUCK WASHOUT SECTION

NOT TO SCALE



CONSTRUCTION DETAILS

NOT TO SCALE

INCHES

TOWN OF BETHLEHEM, NY

FOR MUNICIPAL APPROVAL ONLY-NOT INTENDED FOR CONSTRUCTION