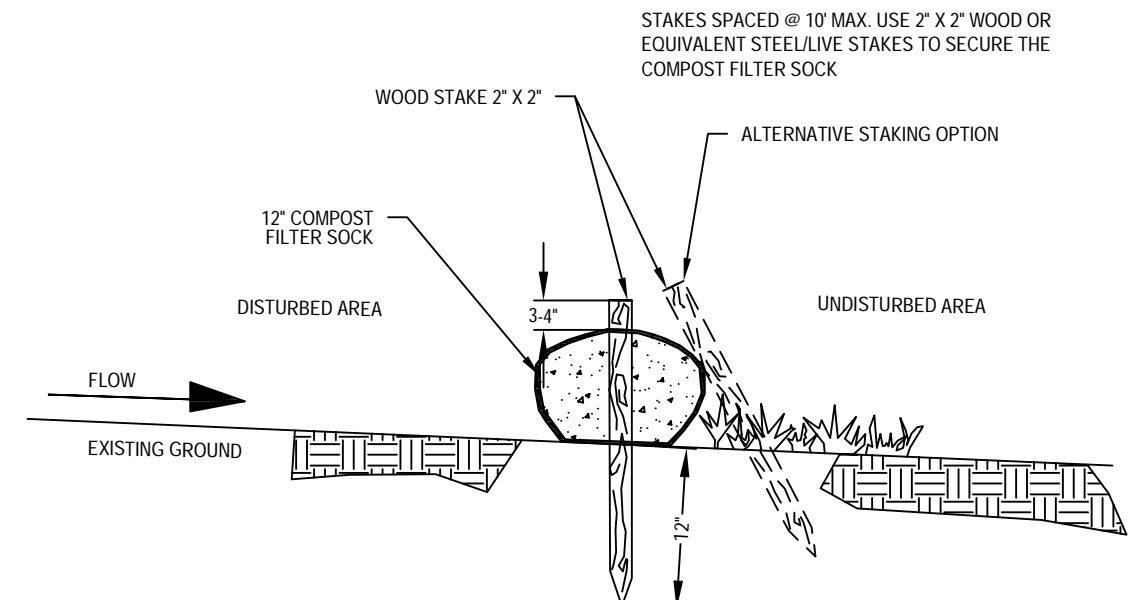


- GENERAL NOTES:**
1. Base map contours derived from a 2006 bare-earth digital elevation model constructed from PAMAP LIDAR elevation points by PA DCNR, Bureau of Topographic and Geologic Survey (PA State Plane - South (US Survey Foot) NAD83 (Vertical datum - NAVD88)). Roads and surface water features from PASDA breakline features. All existing conditions are to be field verified by the Contractor as needed.
 2. Pond dimensions are based on LIDAR contours and interpreted data from *Design Plan SR85 & SR86*, Pennsylvania Department of Environmental Protection, Knox District Office, July 1996, Revised October 1996. Pond geometry and volumes are representative and may not depict actual field dimensions.
 3. All dimensions are in feet unless otherwise noted. All slope designations are H:V.
 4. The entirety of the project is located on Pennsylvania Game Commission Property, Gamelands No. 95
 5. Proposed structures may be altered as approved by the Project Engineer as needed to suit field conditions.
 6. PA One Call notification for the site will be required prior to commencing system construction.
 7. Tree line is not represented on the plan for clarity purposes. Tree removal is not anticipated or shall be minimal.
 8. Access road shall be maintained and left in equal-to or better-than condition.
 9. Construction activities on PA State Gamelands is subject to a Special Use Permit that is to be acquired by BioMost, Inc. Any requirements or construction "blackout" dates described within the permit are to be adhered to.

- CONSTRUCTION SEQUENCE:**
1. Install dual 24" (Beaver Deceiver) culvert pipes in existing treatment wetland, install compost filter sock, (or approved equivalent) where indicated, and install Surface Water Diversion Ditch.
 2. Clear & Grub only the area that is to be disturbed. Place any trees in window / brush piles along outside edge of limits of disturbance or site access as needed. Excess woody debris may be burned in accordance with local regulations.
 3. Divert water as needed
 4. Remove and place used treatment media from East Pond into fill placement area
 5. Clean AASHTO #1 limestone from West Pond and gravel from East Pond
 6. Install treatment components associated with East and West Ponds
 7. Install TIF
 8. Grade all affected areas to blend with surrounding topography to promote positive drainage.
 9. Place and spread best on-site soil material, as needed, to ensure successful revegetation.
 10. Seed entire affected area as per permanent seeding specifications as soon as possible or within 7 days after construction.
 11. Remove all temporary BMPs upon establishing permanent, uniform, 70% perennial vegetative cover.

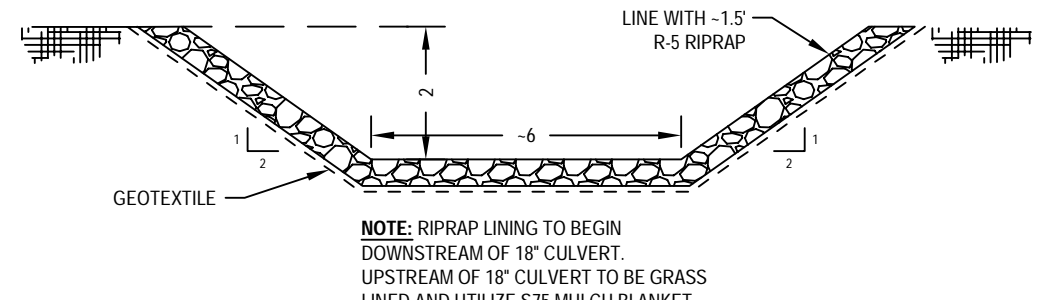
- EROSION & SEDIMENTATION CONTROL PLAN NOTES**
1. Only limited disturbance will be permitted to provide access to install rock construction entrance and compost filter sock.
 2. Erosion and sediment control Best Management Practices (BMPs) must be constructed, stabilized, and functional before site disturbance begins within the BMP contributory drainage area.
 3. After final site stabilization has been achieved (uniform 70% perennial vegetative cover or better where revegetated), temporary erosion and sediment control BMPs must be removed. Areas disturbed during removal of BMPs must be stabilized immediately.
 4. Stockpile heights must not exceed 35 feet. Stockpile slopes must be 2:1 or flatter.
 5. Until the site is stabilized, all erosion and sediment control BMPs must be maintained properly. Maintenance must include inspection of all erosion and sediment control BMPs after each runoff event and on at least a weekly basis (see details for additional requirements). All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching and renetting must be performed within 48 hours or sooner if so specified for a given BMP. If erosion and sediment control BMPs fail to perform as expected, replacement BMPs or modifications of those installed will be required. The Site Construction Foreman or his designee must ensure that weekly and post-runoff inspections are completed and shall oversee any required preventative and remedial maintenance work.
 6. Sediment removed from BMPs must be placed within the limits of disturbance in an area protected by BMPs and promptly stabilized to avoid future re-entrainment.
 7. Any waste materials generated by (including wastes associated with the operation and maintenance of earthmoving equipment and construction materials such as geotextile, pipe, revegetation supplies, etc.) or encountered during construction will be recycled, scrapped, or disposed of in permitted facilities in accordance with all applicable state and federal regulations as needed.
 8. Area affected during construction shall be only within the limits of disturbance as shown and shall be kept to the minimum area needed to implement the reclamation project.
 9. Though all cut and fill material will be used and placed on site, it is the responsibility of the operator to perform due diligence and determine if any fill material imported from off site is Clean Fill. Clean Fill is defined as: Uncontaminated, non-water soluble, non-decomposable, inert, solid material. The term includes soil, rock, stone, dredged material, used asphalt, and brick, block or concrete from construction and demolition activities that is separate from other waste and is recognizable as such. The term does not include materials placed in or on the waters of the commonwealth unless otherwise authorized. (The term "used asphalt" does not include milled asphalt or asphalt that has been processed for re-use.)

- TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS**
- Temporary** - To be applied within four (4) days if construction activities are to be suspended more than 14 days.
- Species: Annual Ryegrass
 Pure Live Seed: 88% Application Rate: 48 LB./AC.
 Fertilizer Type: None Liming Rate: 0 T./AC.
 Mulch Type: Hay or Straw Mulching Rate: 3.0 T./AC.
- Permanent** - To be applied within four (4) days of completion of construction activities
- (Species - Application Rate): Orchard Grass - 10 LB./AC.; Timothy - 10 LB./AC.; White Dutch Clover - 3 LB./AC.; Alsike Clover - 3 LB./AC.; Ladino Clover 3 LB./AC.; Birdsfoot Trefoil (Empire Variety) - 13 LB./AC.; Winter Wheat - 60 LB./AC. (Winter wheat for fall planting or spring oats at 34 LB./AC. for spring planting. Winter rye or annual rye grass at 25 LB./AC. may also be used.) Kentucky 31 Tall Fescue shall not be used.
 Min. Purity: 90% Min. Germination: 80%
 Fertilizer Type: 10-20-20 Fertilizer Appl. Rate: 500 LB./AC.
 Liming Rate: 3.0 T./AC. Mulch Type: Hay or Straw Mulching Rate: 3.0 T./AC.
 Preferred Seeding Season Dates: 3/15 to 6/1; 8/1 to 10/15

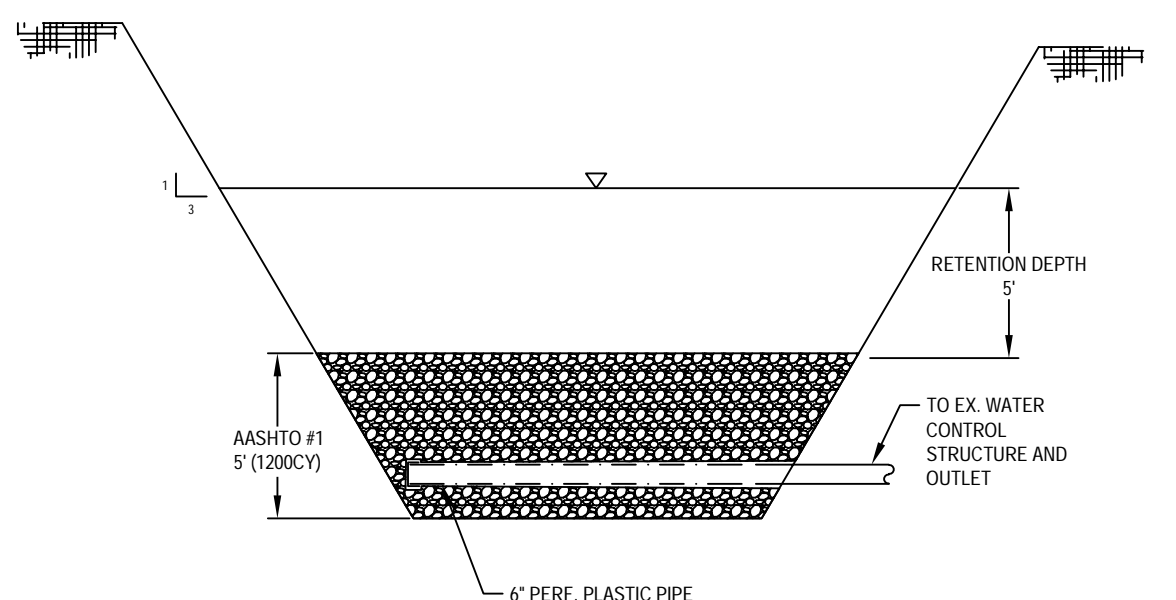


COMPOST FILTER SOCK MUST BE INSTALLED AT EXISTING LEVEL GRADE. BOTH ENDS OF EACH FILTER SOCK SECTION MUST EXTEND AT LEAST 8 FEET UPSLOPE AT 45° TO THE MAIN FILTER SOCK ALIGNMENT. SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FILTER SOCK. ANY SECTION WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE REPAIRED/REPLACED WITHIN 24 HOURS. FOR WOOD STAKES, 2" X 2" (+/- .38") ACTUAL SIZE, NOT NOMINAL. REPLACE BIODEGRADABLE FILTER SOCK AFTER 6 MONTHS; PHOTODEGRADABLE AFTER 12 MONTHS.

12" COMPOST FILTER SOCK DETAIL



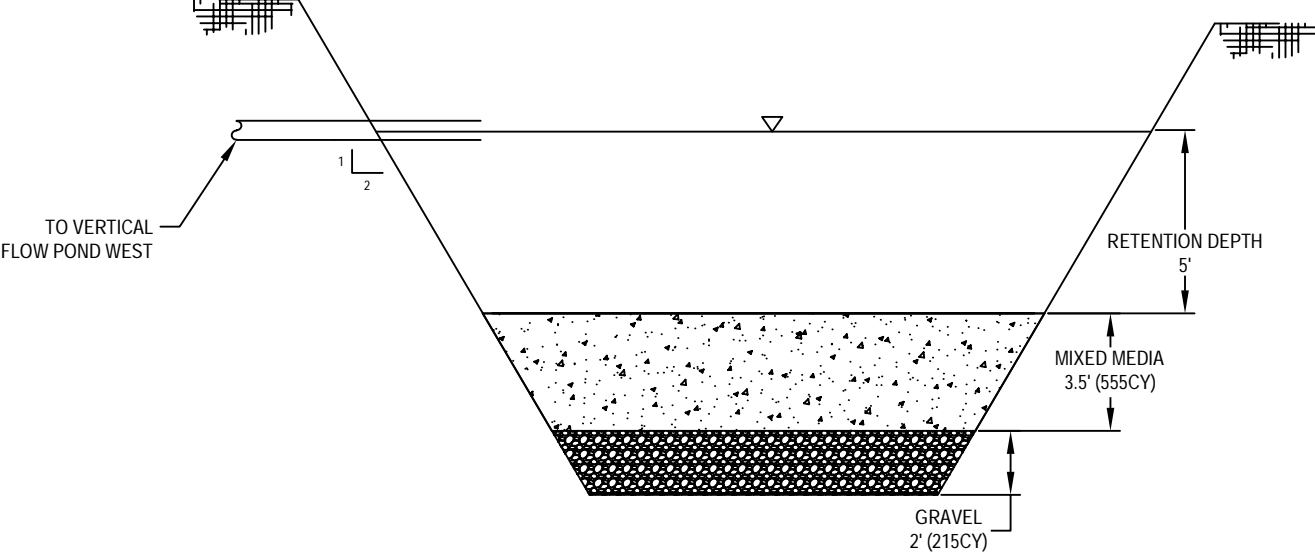
SURFACE WATER DIVERSION CHANNEL



AS-BUILT PER PADEP / VERTICAL FLOW POND WEST

NOTES:

- AS-BUILT PER PADEP DETAILS ARE DISPLAYED TO PROVIDE AN APPROXIMATION OF THE QUANTITIES OF MATERIALS TO BE REMOVED OR AVAILABLE WITHIN EACH OF THE EXISTING PONDS.
- BIOMOST, INC. HAS NOT CONFIRMED THE EXACT VOLUME OR THE NATURE OF MATERIALS SHOWN WITHIN THE DETAILS.
- PER PADEP: WEST POND CURRENTLY CONTAINS APPROXIMATELY 1500 TONS (1200 CY) OF AASHTO #1 LIMESTONE. ALL STONE IS TO BE WASHED TO WITHIN 0.5' OF POND BOTTOM. AN APPROXIMATE 1" LAYER OF STONE IS TO BE LEFT IN BOTTOM OF POND AS BEDDING STONE ON WHICH THE NEW UNDERDRAIN PIPE WILL BE PLACED. CLEANED AASHTO #1 STONE IS TO BE USED AS FILTER STONE.
- EXISTING TREATMENT MEDIA IS TO BE REMOVED FROM EAST POND AND THE EXISTING GRAVEL CLEANED TO WITHIN 0.5' OF POND BOTTOM OR REMOVED AND REPLACED WITH CLEAN AGGREGATE FROM WEST POND TO BE USED AS BEDDING STONE. AFTER PIPES ARE PLACED IN EAST POND, CLEAN AASHTO #1 STONE FROM WEST POND IS TO BE USED.



AS-BUILT PER PADEP / JENNINGS VERTICAL FLOW POND EAST

LEGEND

[Red Line]	EX. PASSIVE TREATMENT COMPONENT
[Green Line]	PIPE 4" PERF. SDR35
[Blue Line]	PIPE 6" SDR35
[Purple Line]	PIPE 4" SCH40
[Yellow Line]	PIPE 10" SCH40
[Orange Line]	PONDS
[Light Blue Line]	LIMITS OF DISTURBANCE (0.97 ACRES)
[Dark Blue Line]	SLUDGE DISPOSAL AREA
[Dashed Blue Line]	EX. ACCESS ROAD (DIRTY)
[Dotted Blue Line]	PROP. INDEX CONTOUR
[Dash-dot Blue Line]	PROP. INTERMEDIATE CONTOUR
[Long-dash Blue Line]	EX. INTERMEDIATE CONTOUR
[Short-dash Blue Line]	PROP. RIPRAP CHANNEL/OUTLET

SHEET 1 OF 2 PLAN VIEW

DESIGN and EROSION & SEDIMENTATION CONTROL PLAN

FERRIS PASSIVE TREATMENT SYSTEM

REHABILITATION

A Design-Build Project

Venango Township
 Butler County, Pennsylvania
Stream Restoration Incorporated
 Scale: As Shown March 2021
BioMost, Inc. Mining and Reclamation Services
 Marc DA www.biomost.com

