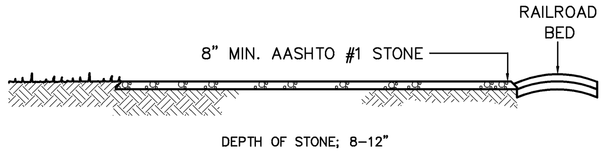
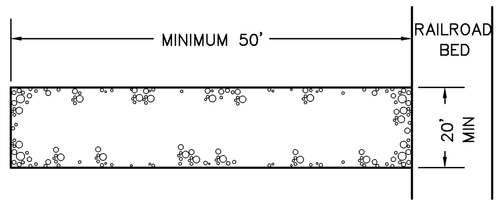


SECTION

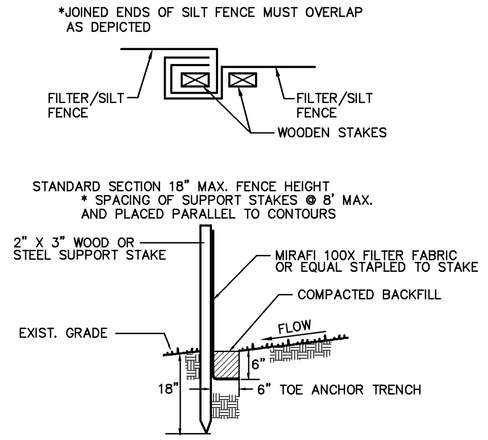


PLAN

STABILIZED CONSTRUCTION ENTRANCE

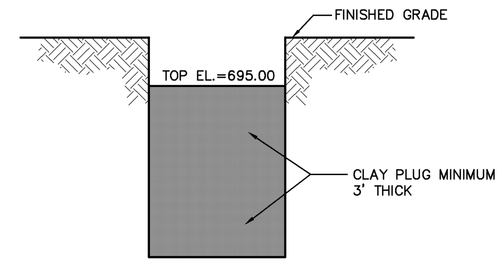
NO SCALE

MAINTENANCE- OVER TIME THE VOIDS WITHIN THE STONED CONSTRUCTION ENTRANCE WILL FILL WITH SEDIMENTS, RENDERING THE CONSTRUCTION ENTRANCE USELESS FOR TIRE SCRUBBING. WHEN THIS CONDITION OCCURS, THE EXISTING STONE MUST BE WORKED WITH A RAKE OR SIMILAR DEVICE SO THAT CAPTURED SEDIMENTS WORK THROUGH THE STONE VOIDS THUS PRODUCING A "CLEAN" STONE SURFACE. ADDITIONAL STONE MAY NEED TO BE ADDED TO ACHIEVE A SEDIMENT FREE 8-12" THICK STONE TOP NECESSARY FOR ADEQUATE TIRE SCRUBBING.



SILT FENCE DETAIL

NO SCALE



TEMPORARY TRENCH PLUG DETAIL

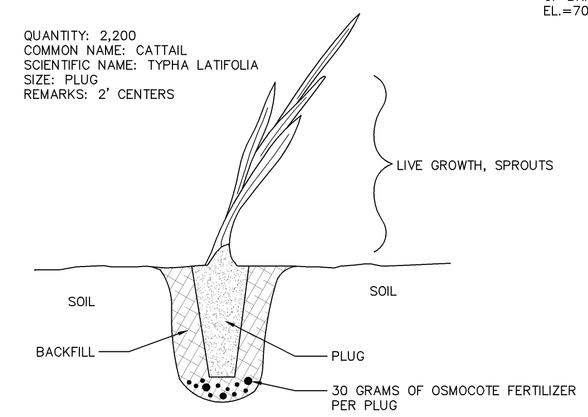
NO SCALE

PLUG PLANTING NOTES:

1. PLUGS TYPICALLY GROWN AND SHIPPED IN FLATS. KEEP PLUGS IN FLATS AND SATURATED IN 1-2" OF WATER UNTIL PLANTING.
2. BEST WHEN PLANTED IN FALL OR MID-MARCH TO MID-APRIL WHILE PLANT IS DORMANT. SOME LIVE GROWTH IN SPRING OF YEAR ACCEPTABLE PROVIDED PLANT IS HANDLED CAREFULLY AND LIVE GROWTH SPROUTS ARE NOT DAMAGED DURING TRANSPLANT.
3. SOILS IN PLANTING AREA SHOULD BE SATURATED-DO NOT PLANT IN DRY SOIL CONDITIONS.
4. PLANTING HOLE SHOULD BE TWICE THE DIAMETER OF THE PLUG.
5. PLACE 30 GRAMS OF OSMOCOTE SLOW RELEASE FERTILIZER INTO BOTTOM OF PLANTING HOLE.
6. CAREFULLY REMOVE PLUG FROM FLAT AND SET IN PLANTING HOLE SO THAT THE TOP OF THE PLUG IS LEVEL WITH SURROUNDING GROUND.
7. BACKFILL PLANTING HOLE BY HAND MAKING SURE ANY LIVE TOP GROWTH IS ABOVE GROUND. FIRMLY COMPRESS SOILS BY HAND.

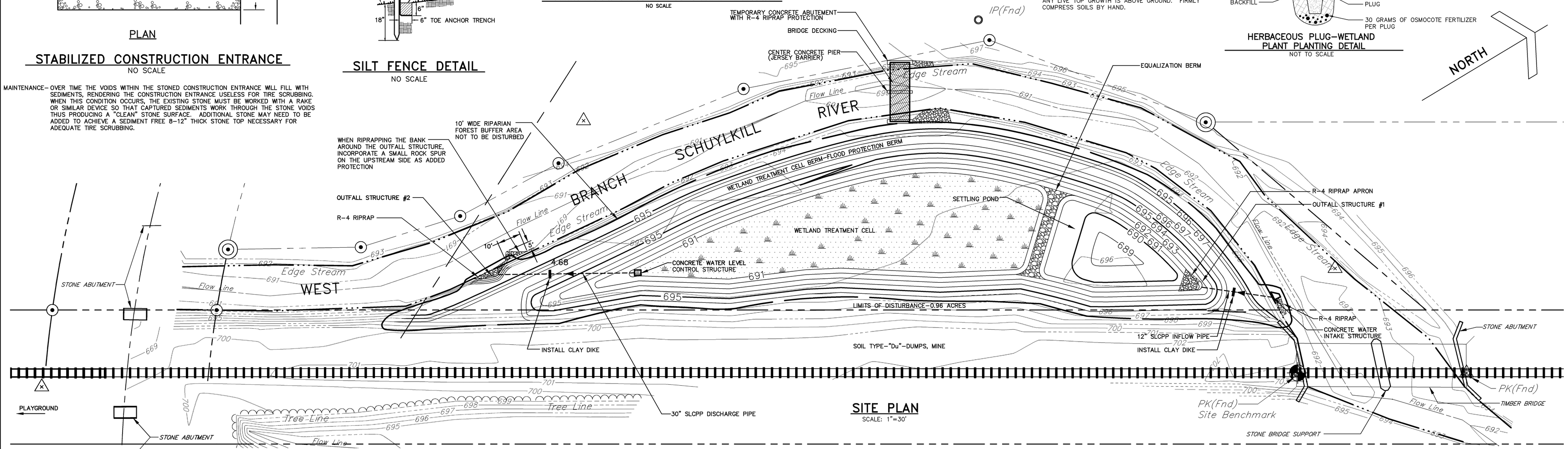
BENCHMARK= PK NAIL ON SOUTHWEST CORNER OF BRIDGE ABUTMENT. EL.=703.53

QUANTITY: 2,200
COMMON NAME: CATTAIL
SCIENTIFIC NAME: TYPHA LATIFOLIA
SIZE: PLUG
REMARKS: 2' CENTERS



HERBACEOUS PLUG-WETLAND PLANT PLANTING DETAIL

NOT TO SCALE



SITE PLAN

SCALE: 1"=30'

NOTE: THE CONTRACTOR IS RESPONSIBLE FOR THIS DISPOSAL AND WILL NEED TO SECURE THE APPROVAL OF THE SCHUYLKILL COUNTY CONSERVATION DISTRICT IN REGARDS TO EROSION AND SEDIMENT POLLUTION CONTROL FOR THE DISPOSAL SITE.

CONSTRUCTION SEQUENCE:

* NOTIFY THE SCHUYLKILL COUNTY CONSERVATION DISTRICT (DAVE HUNTZINGER AT 570-622-3742) AND THE PENNSYLVANIA FISH AND BOAT COMMISSION (717-626-0228) 10 DAYS IN ADVANCE OF COMMENCEMENT OF WORK. (CONTRACTOR'S RESPONSIBILITY)

1. BEGIN BY PREPARING THE ACCESS TO THE SITE PROJECT.

   INSTALL THE STABILIZED CONSTRUCTION ENTRANCE FROM THE EDGE OF MACADAM IN THE MINERSVILLE BOROUGH COMPOSTING/RECYCLING CENTER.

2. INSTALL THE TEMPORARY STREAM CROSSING FROM THE EASTERN PORTION OF THE BANK FIRST. A LARGE CONCRETE SLAB SHALL BE UTILIZED TO STABILIZE THE BRIDGE DECKING ON THE SHORE OF BOTH SIDES OF THE TEMPORARY BRIDGE. INSTALL RIPRAP ON THE UPSTREAM AND DOWNSTREAM SIDES OF THE CONCRETE SLABS TO PROTECT AGAINST EROSION BEHIND THE STRUCTURES. A SUPPORT STRUCTURE SHALL BE INSTALLED IN CENTER OF THE RIVER TO ASSIST IN SUPPORTING THE BRIDGE DECKING. ALL STRUCURES SHALL BE SET FROM THE TOP OF STREAM BACK. AFTER THE STRUCTURES ARE IN PLACE THE DECKING MAY BE INSTALLED.

3. BEGIN CONSTRUCTION OF THE PROPOSED WETLAND TREATMENT CELL BERM/FLOOD PROTECTION BERM AND BOTH THE INTAKE AND OUTFALL PIPING SYSTEM. CARE MUST BE TAKEN TO AVOID DAMAGE OF THE TEN FOOT WIDE RIPARIAN FOREST BUFFER LOCATED AROUND THE PERIMETER OF THE PROJECT SITE.

   BEGIN CONSTRUCTION OF THE BERM BY CLEARING AND GRUBBING THE BERM'S FOOTPRINT. SITE DISTURBANCE AT THIS TIME SHOULD BE LIMITED TO THE BERM CONSTRUCTION AND INTAKE AND OUTFALL PIPING SYSTEM INSTALLATION.

   CONSTRUCT THE WETLAND TREATMENT CELL BERM/FLOOD PROTECTION BERM AS PORTRAYED IN THE PLAN VIEW AND AS DESCRIBED IN THE BERM DETAIL. EXISTING ON-SITE SOILS ARE NOT SUITABLE FOR CONSTRUCTING THE BERM AND AS A RESULT THE CONTRACTOR WILL NEED TO BRING IN SUITABLE SOILS COMPRISED OF A MINIMUM 20% CLAY.

   COMPLETELY INSTALL THE ENTIRE BERM AND INTAKE AND OUTFALL PIPING SYSTEMS INCLUDING THE INTAKE AND OUTFALL STRUCTURES AND THE RIPRAP ROCK PROTECTION. INSTALL THE RIPRAP ROCK PROTECTION ON THE STREAMBANK IMMEDIATELY UPON INSTALLATION OF THE INTAKE AND OUTFALL STRUCTURES.

   TOPSOIL, SEED AND MULCH THE WETLAND TREATMENT CELL BERM/FLOOD PROTECTION BERM AS INDICATED IN THE SEEDING SPECIFICATIONS.

   IT IS VITAL THE CONTRACTOR PAY CLOSE ATTENTION TO THE POTENTIAL DISCHARGE OF SEDIMENT WHILE IN THE MIDST OF INSTALLING THE PIPE WORK (BECAUSE OF THE OPEN TRENCH LEADING DIRECTLY TO THE RIVER). IN ORDER TO PREVENT A SEDIMENT DISCHARGE DURING THIS OPEN TRENCH STAGE OF INSTALLATION, THE CONTRACTOR MUST EMPLOY THE USE OF A TRENCH PLUG AFTER EACH DAY'S WORK UNTIL PIPE INSTALLATION IS COMPLETE. THE CONTRACTOR SHOULD ALSO USE SAND BAGS TO FORM TEMPORARY COFFERDAMS WHEN WORKING AT THE RIVER'S EDGE.

   THE IDEA AT THIS POINT IN CONSTRUCTION IS TO QUICKLY INSTALL THE BERM AND INTAKE AND OUTFALL PIPES THUS PROVIDING A PHYSICAL BARRIER TO SERVE AS A MEANS OF SEDIMENT CONTROL FOR WHEN THE BULK OF EXCAVATION TAKES PLACE (I.E. THE EXCAVATION OF THE WETLAND TREATMENT CELL AND SETTLING POND).

   BOTH THE INTAKE AND OUTFALL PIPING SYSTEMS SHOULD BE BLOCKED AT THIS TIME SO THAT NO RIVER WATER ENTERS THE CONSTRUCTION SITE AND NO ACCUMULATED WATER LEAVES THE CONSTUCTION SITE (OTHER THAN THROUGH INTENDED PUMPING AND THE UTILIZATION OF A "DIRT BAG").

4. AFTER THE BERM AND INTAKE AND OUTFALL PIPING SYSTEMS ARE INSTALLED, CLEAR AND GRUB THE REMAINDER OF THE SITE. ALL CLEARED AND GRUBBED SOIL MATERIALS ARE TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. THE RIPARIAN FOREST BUFFER AREA IS NOT AN AREA SUITABLE FOR THE DISPOSAL OF TREE LIMBS, ROOTS, ETC. THE ONLY ENCROACHMENT PERMITTED WITHIN THE DESIGNATED RIPARIAN FOREST BUFFER INVOLVES THE INSTALLATION OF THE INTAKE AND OUTFALL STRUCTURES AND THE LANDING AREA OF THE TEMPORARY CROSSING..

5. BEGIN EXCAVATION OF THE WETLAND TREATMENT CELL PORTION OF THE PROJECT. THE EXISTING SOIL MATERIAL IS NOT SUITABLE FOR THE PROPOSED CONSTRUCTION (SPECIFICALLY NOT SUITABLE FOR CONSTRUCTING THE WETLAND TREATMENT CELL AND WETLAND TREATMENT CELL BERM/FLOOD PROTECTION BERM). FOR THIS REASON, THE BULK OF EXCAVATED SOIL MATERIALS ARE TO BE DISPOSED OF OFFSITE. THE CONTRACTOR IS RESPONSIBLE FOR THIS DISPOSAL AND WILL NEED TO SECURE THE APPROVAL OF THE SCHUYLKILL COUNTY CONSERVATION DISTRICT IN REGARDS TO EROSION AND SEDIMENT POLLUTION CONTROL FOR THE DISPOSAL SITE.

6. DURING EXCAVATION OF THE WETLAND TREATMENT CELL, THE CELL CAN SERVE AS ITS OWN SEDIMENT TRAP. SHOULD IT RAIN AND WATER COLLECT WITHIN THE TREATMENT CELL, DO NOT DRAIN THE CELL BY UNBLOCKING THE OUTFALL STRUCTURE. RATHER, UTILIZE A TRASH PUMP AND "DIRT BAG" FOR DE-WATERING PURPOSES (SEE "DIRT BAG" DETAIL). THE "DIRT BAG" DEWATERING FILTER MUST BE PLACED ADJACENT TO THE RIVER ON STABLE, UNDISTURBED SOIL.

7. EXCAVATE THE SETTLING POND TO ROUGH GRADE.

8. FINAL GRADE THE WETLAND TREATMENT CELL AND SETTLING POND AREAS. INSTALL THE EQUALIZATION BERM BETWEEN THE TREATMENT CELL AND SETTLING POND. LINE THE WETLAND TREATMENT CELL AREA WITH BENTONITE CLAY AS INDICATED IN THE PLAN DETAILS AND INSTALL A 50/50 MIXTURE OF TOPSOIL AND MUSHROOM COMPOST.

9. SEED AND MULCH ALL REMAINING DISTURBED AREAS (INCLUDING REMAINDER OF TREATMENT CELL NOT PLANTED IN CATTAIL AND THE SETTLING POND).

10. PLANT THE TREATMENT CELL/WETLAND WITH CATTAIL TUBERS AS INDICATED IN THE PLAN DETAILS.

11. REMOVE THE PLUG/CAP ON THE 12" INTAKE PIPE AND FILL THE TREATMENT SYSTEM.

12. MONITOR WATER ELEVATIONS AND MAKE ANY NECESSARY ADJUSTMENTS AT THE CONCRETE WATER LEVEL CONTROL STRUCTURE.

SOIL TYPE:

Du-DUMPS, MINE. THIS MAP UNIT CONSISTS OF COAL REFUSE FROM UNDERGROUND MINES. IT IS MAINLY VERY POOR QUALITY COAL AND ROCK MATERIALS THAT WERE STOCKPILED DURING MINING OPERATIONS. INCLUDED WITH THIS UNIT IN MAPPING ARE SMALL AREAS OF UNDORTHENTS, STRIP MINE, AND DUMPS, COAL WASH. THE INCLUDED AREAS MAKE UP AS MUCH AS 10% OF THE MAP UNIT. RUNOFF AND SEEPAGE FORM THESE DUMPS ARE A SOURCE OF ACID WATER POLLUTION TO STREAMS. NATURAL FERTILITY IS VERY LOW. UNLESS LIMED, THESE MATERIALS ARE VERY STRONGLY ACID AND EXTREMELY ACID. THE HAZARD OF EROSION IS VERY SEVERE. THIS UNIT HAS POOR POTENTIAL FOR CULTIVATED CROPS, PASTURE, AND TREES AND FOR MOST NONFARM USES.

PLANTING/SEEDING/MULCHING:

*WETLAND TREATMENT CELL TO BE PLANTED SOLELY WITH CATTAILS.

*CATTAIL TUBERS (ROOTS) TO BE PLANTED ON 2 FOOT CENTERS ACROSS ENTIRE BOTTOM OF THE WETLAND TREATMENT CELL.

**IMPORTANT: REGULATE WATER LEVEL IN WETLAND TREATMENT CELL DURING CATTAIL ESTABLISHMENT. MAKE SURE TUBERS ARE SPROUTED AND SPROUTS ARE ABOVE THE WATER LINE BEFORE RAISING WATER ELEVATION. NEVER RAISE THE WATER ABOVE THE LIVE SPROUTS. ALWAYS KEEP WATER AT A MINIMUM OF 4" BELOW THE TOP OF THE CATTAIL PLANTS UNTIL FULLY MATURED.

*ALL OTHER DISTURBED LOCATIONS (INCLUDING THE WETLAND TREATMENT CELL BERM/FLOOD PROTECTION BERM, AND SETTLING POND AND INTAKE AND OUTFALL AREAS) ARE TO BE BROADCAST SEEDED WITH THE LISTED "FLOOD PLAIN WILDLIFE MIX" AVAILABLE THROUGH ERNST CONSERVATION SEEDS AT 30LBS/ACRE, AND 15 LBS/ACRE OF ANNUAL RYEGRASS.

*IMMEDIATELY AFTER SEEDING, STRAW OR HAY MULCH ALL SEEDED AREAS AT 3 TONS/ACRE. (SEE CHART)

SEEDING NOTES: PERMANENT

1. ALL TOPSOIL SHALL BE LOOSENED TO A DEPTH OF AT LEAST 4". ALL OBJECTIONABLE MATERIAL LARGER THAN 2" SHALL BE REMOVED.

2. A SOIL TEST SHALL BE PERFORMED PRIOR TO FINAL SEEDING. LIMING AND FERTILIZING SHALL BE BASED ON RESULTS OF SOIL TEST.

   SOILS WILL LIKELY BE ACIDIC AND THE CONTRACTOR SHOULD LIKELY ANTICIPATE LIMING AND FERTILIZING AS BEING A NECESSITY.

FLOOD PLAIN WILDLIFE MIX:

ANDROPOGON GERARDII	BIG BLUESTEM	15%
SILPHIUM PERFOLIATUM	CUP PLANT	10%
ELYMUS CANADENSIS	CANADA WILD RYE	10%
PANICUM CLANDESTINUM	TIOGA DEERTONGUE	10%
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	10%
SORGHASTRUM NUTANS	INDIANGRASS	10%
PENSTEMON DIGITALIS	BEARD-TONGUE	5%
VERBESINA ALTERNIFOLIA	WINGSTEM	5%
BIDENS CONNATA	BEGGAR-TICKS	4%
RATIBIDA CONNATA	GREY-HEADED CONEFLOWER	4%
ELYMUS VILLOSUS	EASTERN BLUE WILD RYE	3%
RUDBECKIA HIRTA	BLACK-EYED SUSAN	2%
VERNONIA NOVEBORACENSIS	IRONWEED	2%
EUPATORIUM FISTULOSUM	JOE-PYE WEED	2%
PANICUM VIRGATUM	SWITCHGRASS	2%
MONARDA FISTULOSA	WILD BERGAMOT	2%
ZIZIA AUREA	GOLDEN ALEXANDERS	1%
ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1%
SOLIDAGO RUGOSA	ROUGH STEMMED GOLDENROD	1%
DESMODIUM CANADENSE	SHOWY TICK TREFOIL	1%

AVAILABLE AT:

EARNST CONSERVATION SEEDS
9006 MERCER PIKE
MEADVILLE, PA 16335
*ORDER BY PHONE (800) 873-3321 *BY FAX (814) 336-5191
*BY E-MAIL: earnstsales@earnstseed

SEED ANNUAL RYEGRASS AT 15 LBS/ACRE ALONG WITH FLOOD PLAIN WILDLIFE MIX. THE ANNUAL RYEGRASS WILL SERVE AS A "NURSE CROP" AND PROVIDE TEMPORARY COVER UNTIL THE WILDLIFE MIX BECOMES ESTABLISHED.

CONSTRUCTION SCHEDULE:

BEGIN APRIL 2002
END MAY 2002 } SPRING 2002

MULCH APPLICATION RATES:

MULCH TYPE	APPLICATION RATE (MIN.)			NOTES
	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	
STRAW	3 TONS	140 LBS	1,240 LBS	EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN
HAY	3 TONS	140 LBS.	1,240 LBS.	TIMOTHY, MIXED CLOVER AND TIMOTHY OR OTHER NATIVE FORAGE GRASSES

DIRT BAG NOTES:

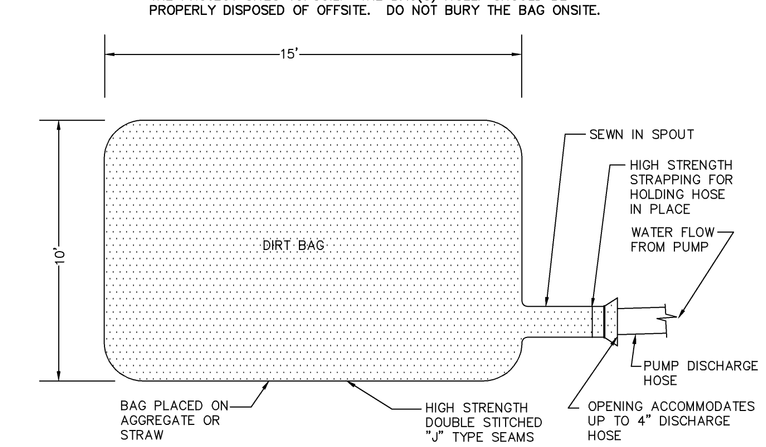
*USE "STYLE 53" DIRT BAG

*USE A BAG MEASURING 10'X15'

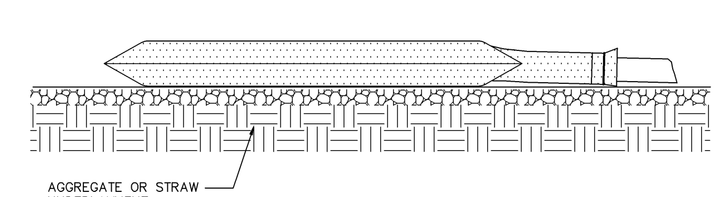
*TRASH PUMP FLOW RATE NOT TO EXCEED 100 GAL/MIN/SQ. FT

*"DIRT BAG" A PRODUCT OF ACF ENVIRONMENTAL, INC.
PHONE 1-800-448-3636 FAX 1-804-743-7779
WEB SITE WWW.ACFENVIRONMENTAL.COM

*PROPER DISPOSAL OF USED DIRT BAG(S) AND CAPTURED SILTS AND SEDIMENTS IS NECESSARY. THE BAG(S) CAN BE CUT OPEN AND THE CAPTURED SILTS AND SEDIMENTS INCORPORATED INTO THE PROJECT SITES TOPSOIL. THE BAG(S) ITSELF SHOULD BE PROPERLY DISPOSED OF OFFSITE. DO NOT BURY THE BAG ONSITE.



TOP VIEW



SIDE VIEW

DIRT BAG DETAIL

NO SCALE

NO.	DATE	REVISION
1	10/12/01	REVISED AS PER SCHUYLKILL COUNTY CONSERVATION DISTRICT RECCOMENDATIONS

FOR RETTEW ASSOCIATES BY:

FIELDBOOK NO: DATA COLLECTOR
CHKD BY: C.E.B.
SURV. CHIEF:
DRAWN BY: N.W.S.
MANAGER: DANIEL J. BECKER, P.E.
CHKD BY: D.J.B.
DESIGN BY: C. BUBECK
DRAWING REFERENCE:
XREFS:

CLIENT
SCHUYLKILL HEADWATERS ASSOCIATION
P.O. BOX 1385
POTTSVILLE, PA 17901
(507) 385-2122

SCALE 1"=30' 0 15 30 60 90

RETTEW ASSOCIATES, INC.
Union Street Station, 101 East Union Street
Pottsville, PA 17901
Phone (570) 622-8222 - Fax (570) 622-4260
Email: rettew@rettew.com Website: www.rettew.com
Bethlehem, PA - Camp Hill, PA - Lancaster, PA - York, PA
Engineers - Planners - Scientists - Landscape Architects - Surveyors

CONSTRUCTION PLAN
MINERSVILLE WETLAND
FOR
SCHUYLKILL HEADWATERS ASSOCIATION
EROSION & SEDIMENTATION POLLUTION CONTROL & LANDSCAPING/PLANTING
NORWEGIAN TOWNSHIP SCHUYLKILL COUNTY

DATE: 7/30/01
SHEET NO. 3 OF 3
DWG. NO. 00423401