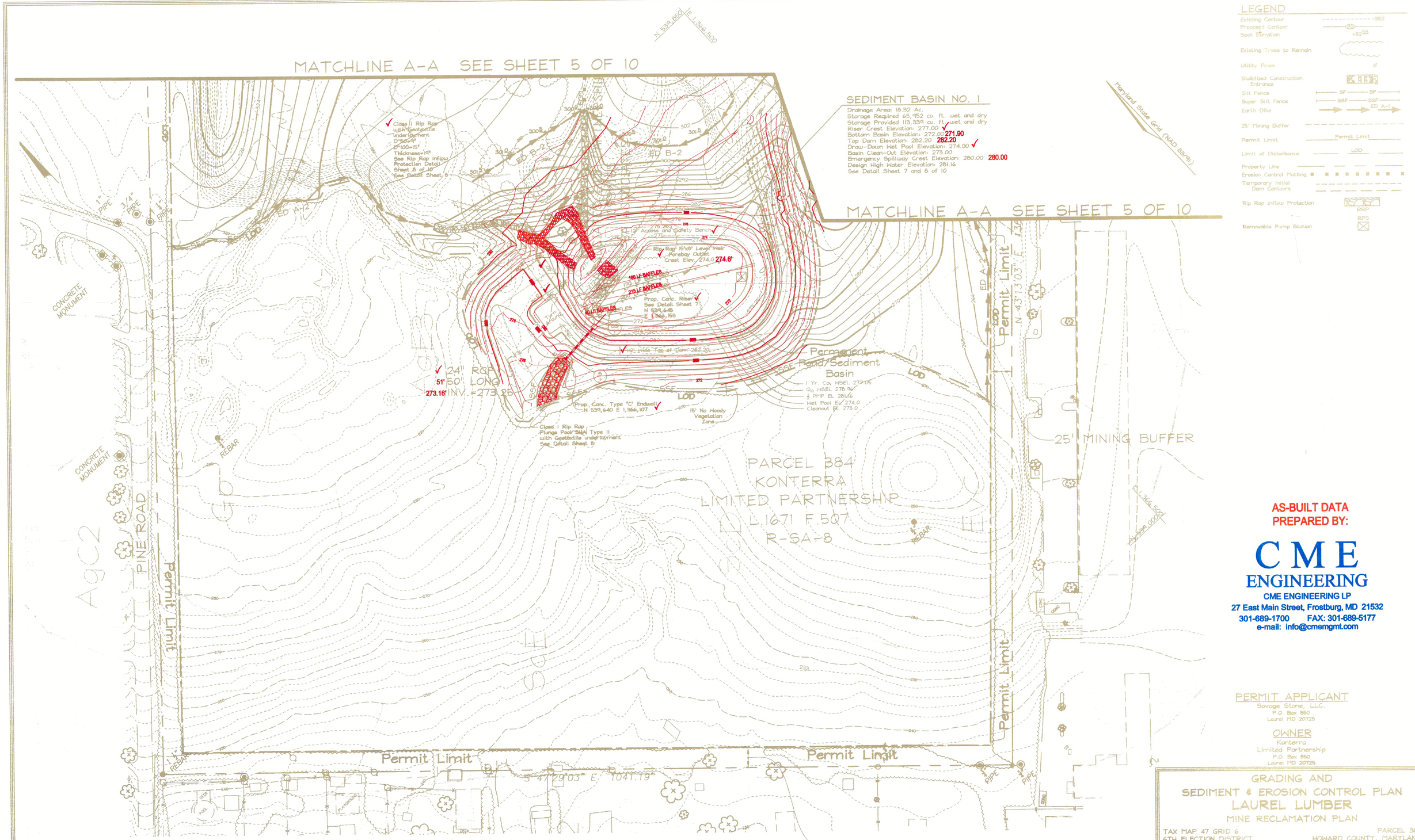

LEGEND

- Existing Contour — 362
- Proposed Contour — 362
- Spot Elevation — +82.53
- Existing Trees to Remain
- Utility Poles
- Stabilized Construction Entrance — SCE
- Silt Fence — SF
- Super Silt Fence — SSF
- Earth Dike — ED A-1
- 25' Mining Buffer
- Permit Limit — Permit Limit
- Limit of Disturbance — LOD
- Property Line
- Erosion Control Matting
- Temporary Initial Dam Contours
- Rip Rap Inflow Protection — RRP
- Removable Pump Station — RPS

AS-BUILT DATA PREPARED BY:

CME ENGINEERING

CME ENGINEERING LP
27 East Main Street, Frostburg, MD 21532
301-689-1700 FAX: 301-689-5177
e-mail: info@cmemgmt.com

PERMIT APPLICANT
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Laurel MD 20725

OWNER
Konterra
Limited Partnership
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GRADING AND SEDIMENT & EROSION CONTROL PLAN
LAUREL LUMBER
MINE RECLAMATION PLAN

TAX MAP 47 GRID 6 — PARCEL 384
6TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Myers 11/17/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

John R. Robertson 11/17/06
HOWARD SCD — DATE

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch 11/15/06
SIGNATURE OF ENGINEER — DATE
ZACHARIA Y. FISCH

PERMITTEE'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 11/16/06
SIGNATURE OF PERMITTEE — DATE

STATE OF MARYLAND ZACHARIA YOSEF FISCH 22418 PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
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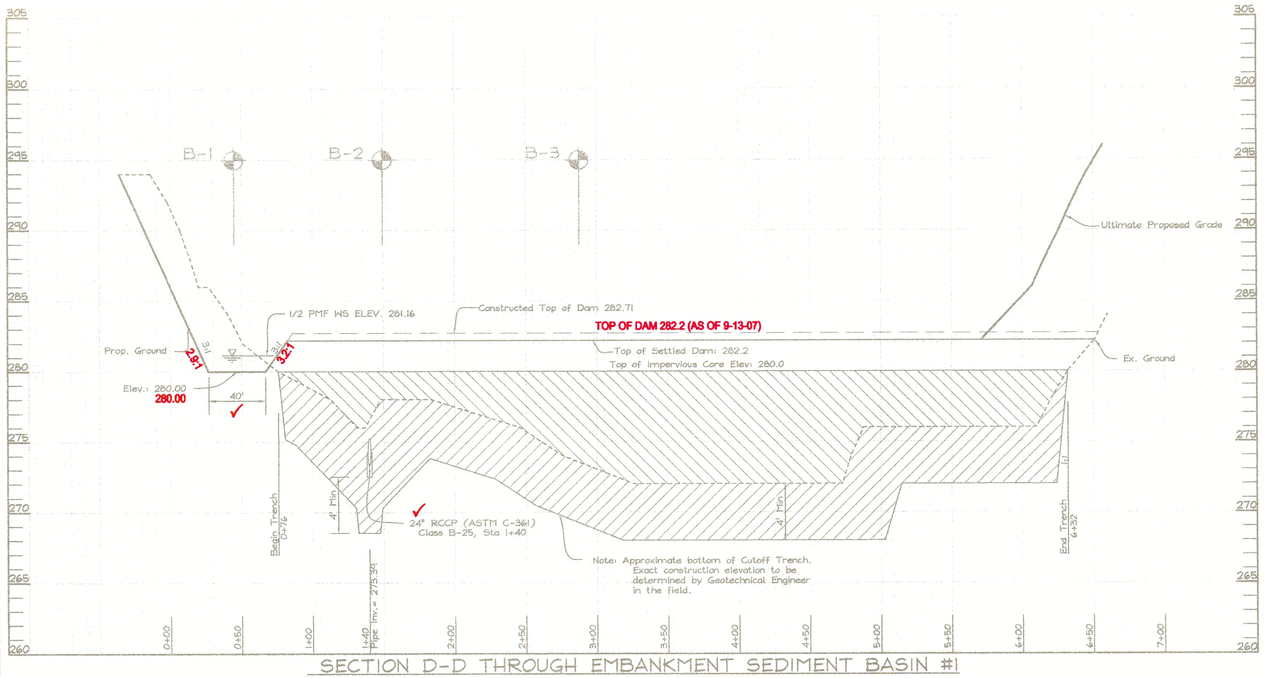
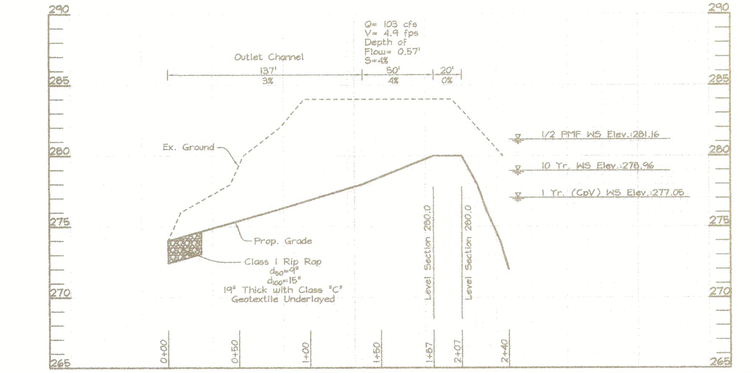
E-mail: info@fshnet.com

DESIGN BY:	SH
DRAWN BY:	CRH2/RL
CHECKED BY:	SH
SCALE:	AS SHOWN
DATE:	Nov. 16, 2006
W.O. No.:	3248
SHEET No.:	4 OF 10



SECTION D-D THROUGH EMBANKMENT SEDIMENT BASIN #1

SCALE: Hor.: 1"=50'
Vert.: 1"=5'



SECTION C-C THROUGH EMERGENCY SPILLWAY SEDIMENT BASIN #1

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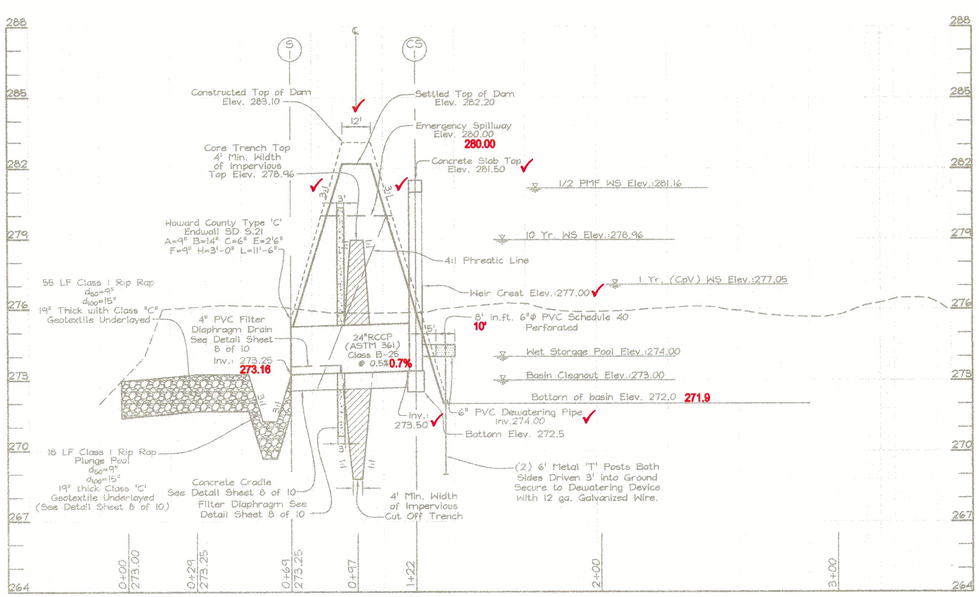
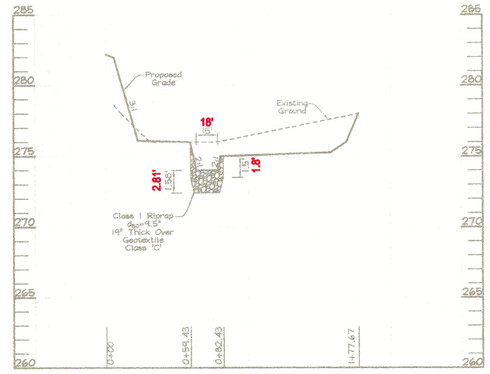
Vert.: 1"=5'



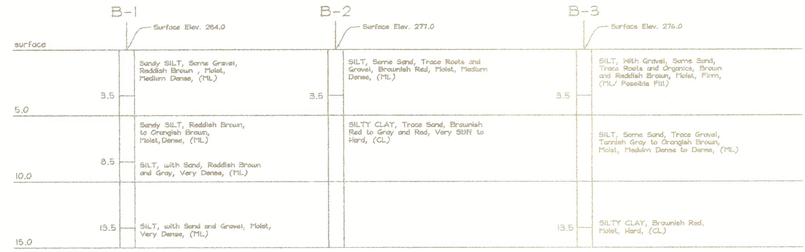
SECTION B-B THROUGH SEDIMENT BASIN

SCALE: Hor.: 1"=30'
Vert.: 1"=3'



SECTION A-A THROUGH FOREBAY SEDIMENT BASIN #1

SCALE: Hor.: 1"=50'
Vert.: 1"=5'



S.W.M. BORING PROFILES

NOT TO SCALE

SEDIMENT BASIN SCHEDULE

1 Yr. WSEL = 277.07
10 Yr. WSEL = 279.94
1/2 PMF WSEL = 281.16
Top of Basin Dam Elevation = 282.20
Bottom of Basin Elevation: 272.0
Drainage Area to Basin = 18.32 ac.
Wet Storage Required = 1,800 cu. ft. x 18.32 ac. = 32,976 cu. ft.
Wet Storags Provided = 34,119 cu. ft. @ 274.0
Dry Storage Required = 32,976 cu. ft.
Dry Storage Provided = 79,220 @ 277.0
Clean-out elevation at 900 cu. ft. per ac. (16,488 cu. ft.) @ 403.0

AS-BUILT DATA PREPARED BY:

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PERMIT APPLICANT
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Laurel MD 20725

OWNER
Kanterra
Limited Partnership
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Laurel MD 20725

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS #

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 11/17/06

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT #

HOWARD SCD — DATE 11/17/06

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch — 11/16/06
SIGNATURE OF ENGINEER — DATE
ZACHARIA Y. FISCH

PERMITTEE'S CERTIFICATE

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Timothy L. Schmidt — 11/16/06
SIGNATURE OF PERMITTEE — DATE

SEDIMENT BASIN PROFILES
LAUREL LUMBER

TAX MAP 47 GRID 6
6TH ELECTION DISTRICT

PARCEL 384
HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER — 11/16/06

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DESIGN BY: SH
DRAWN BY: CRH2/RL
CHECKED BY: SH
SCALE: AS SHOWN
DATE: Nov. 16, 2006
W.O. No.: 3249
SHEET No.: 7 OF 10

MARYLAND 378
STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the tow of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +\-2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter.
The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operated closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of the structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill (flowable fill)zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE M.D.E. DAM SAFETY DIVISION OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" -10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction Materials, Section 311.

Geotexile shall be placed under all riprap and shall meet requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

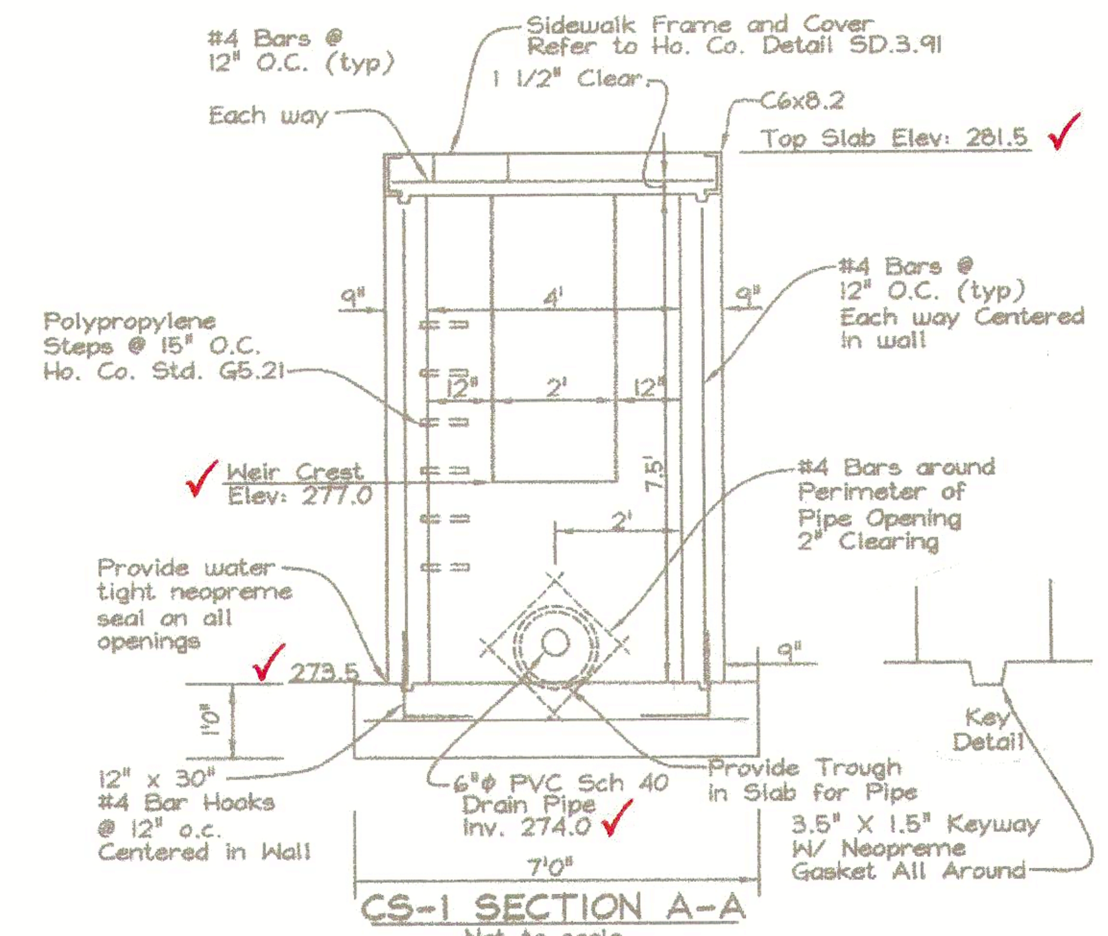
All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.



CS-1 SECTION A-A
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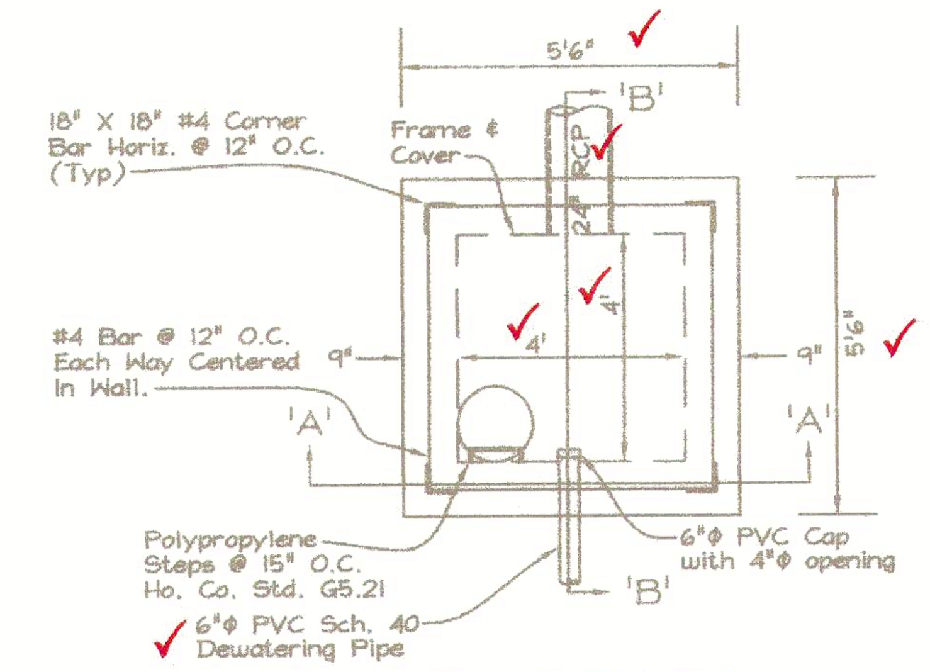
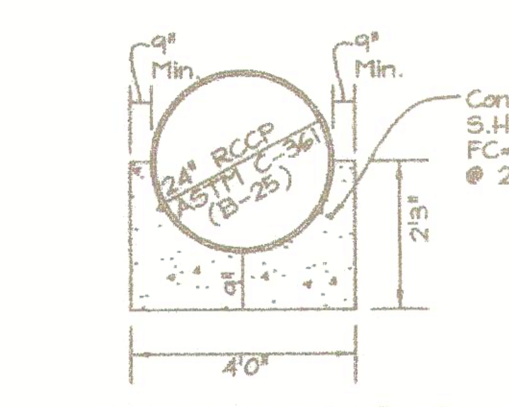
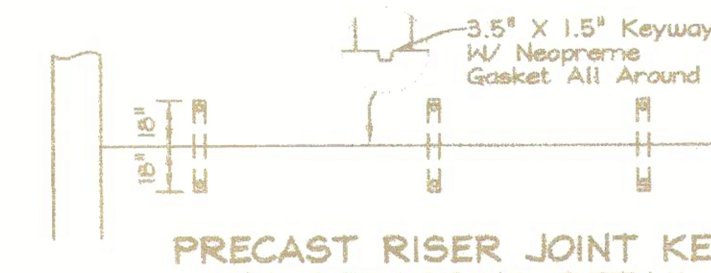


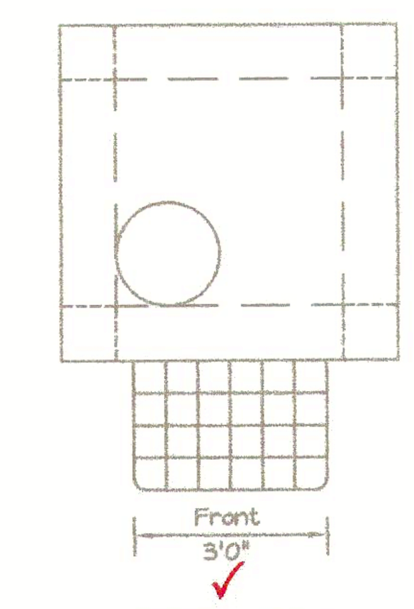
CS-1 PLAN VIEW
Not to scale



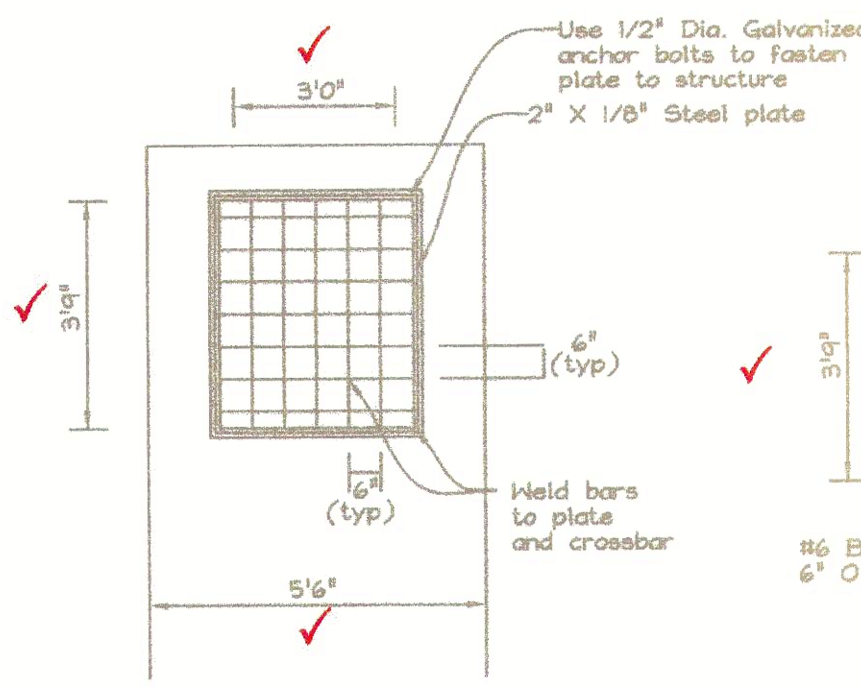
CONCRETE CRADLE DETAIL
SCS TR-46 A-2
Not to scale



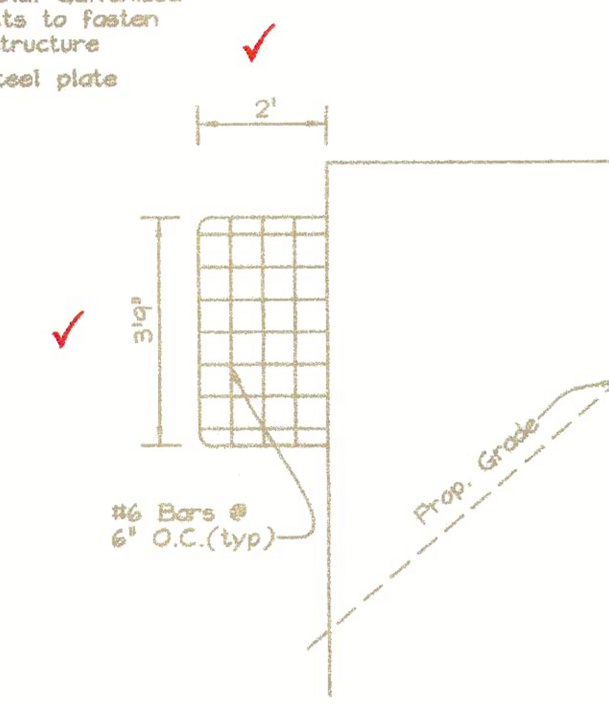
PRECAST RISER JOINT KEY AND STRAPPING DETAIL
Not to scale



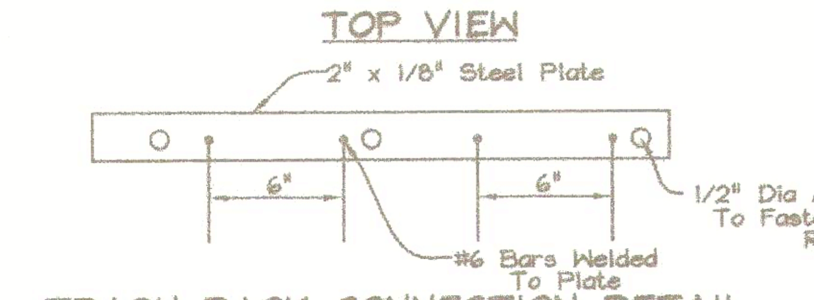
TOP VIEW



FRONT ELEVATION



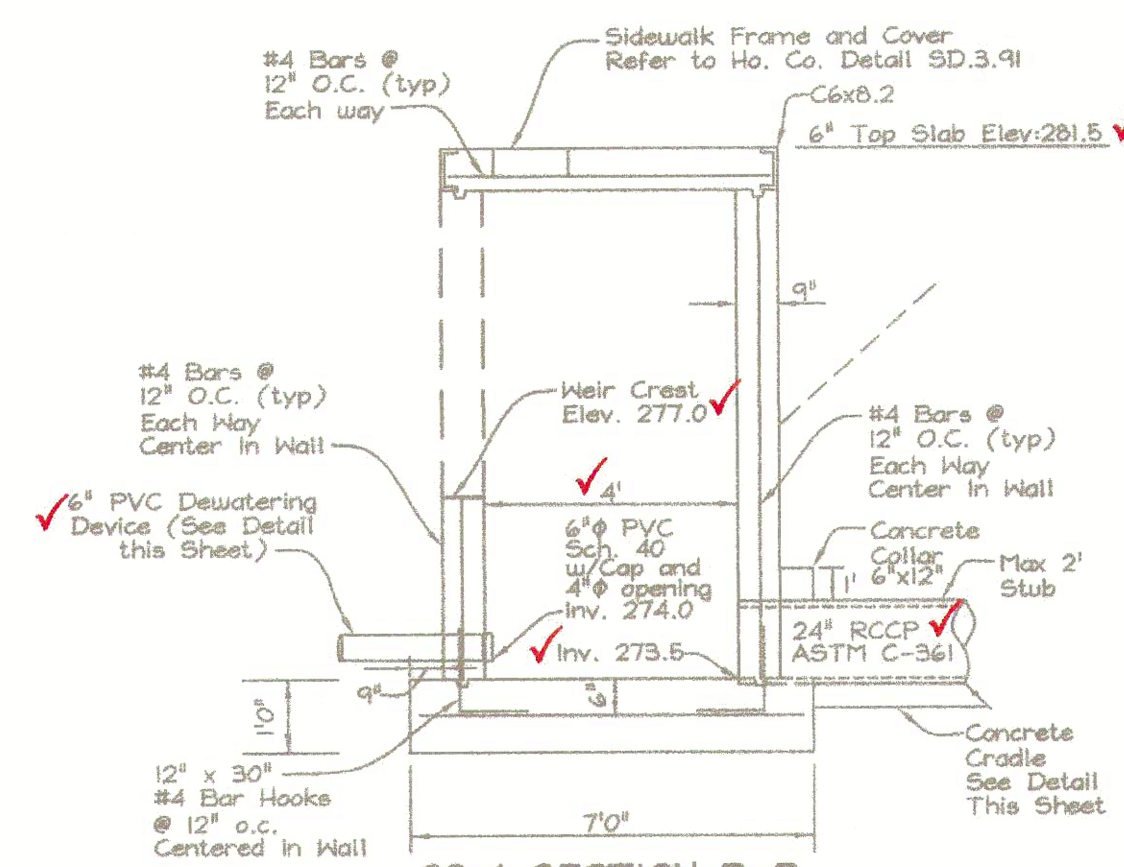
SIDE ELEVATION



TRASH RACK CONNECTION DETAIL
Not to scale

TRASH RACK NOTES:
1. Galvanize trash rack after fabrication.
2. Trash rack to be painted battleship gray.

REMOVABLE TRASH RACK
Not to scale



CS-1 SECTION B-B
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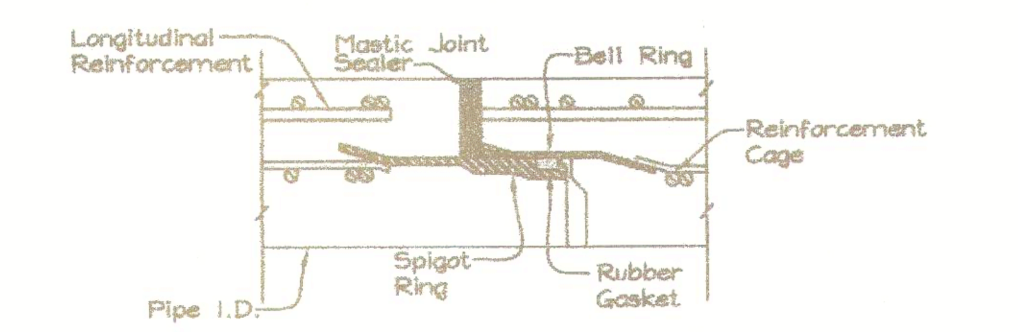

BARREL JOINT SEAL DETAIL
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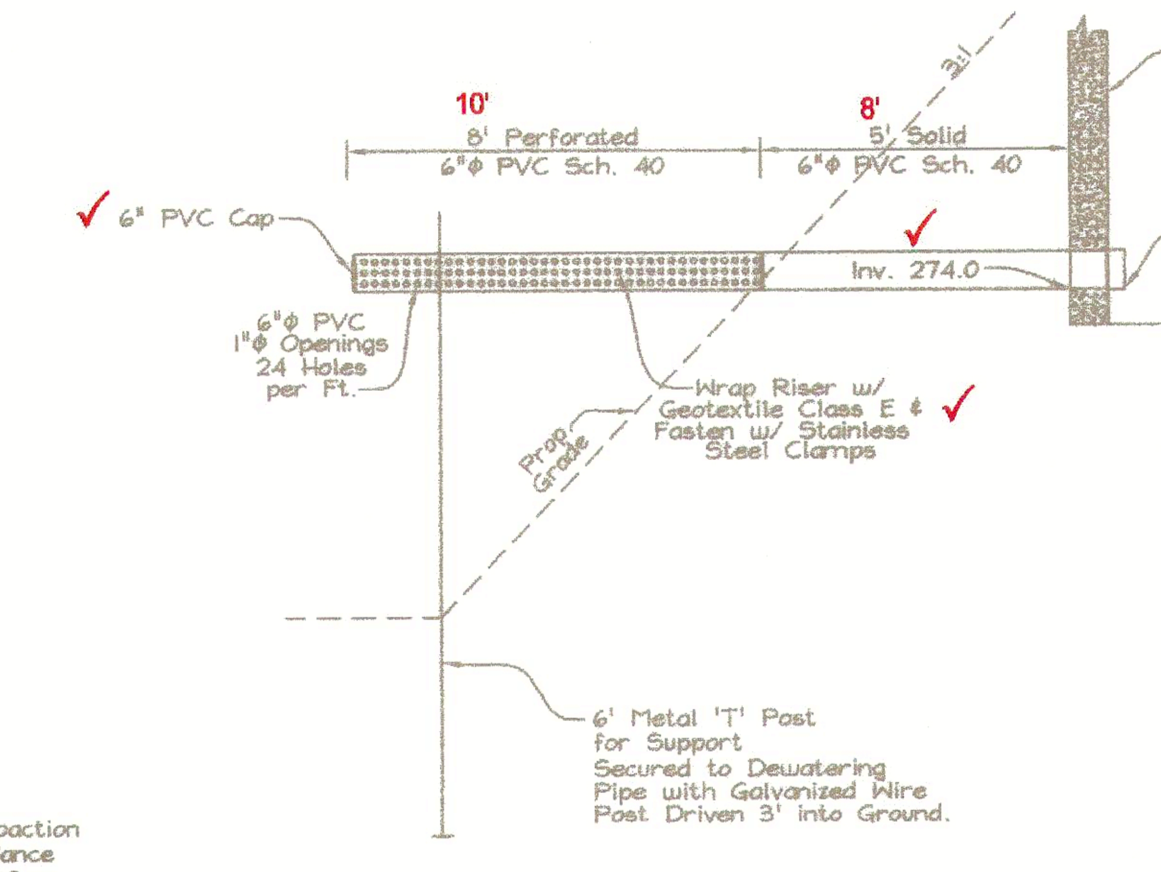
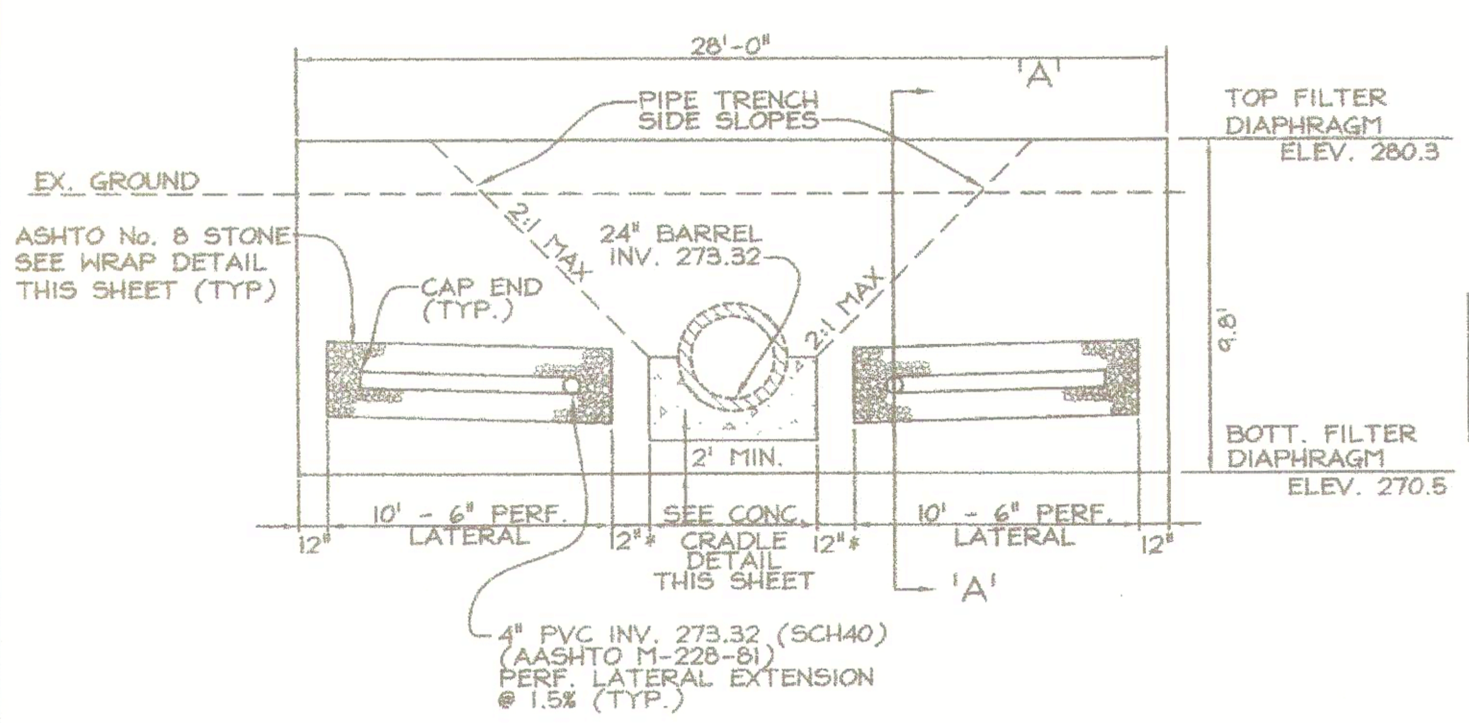
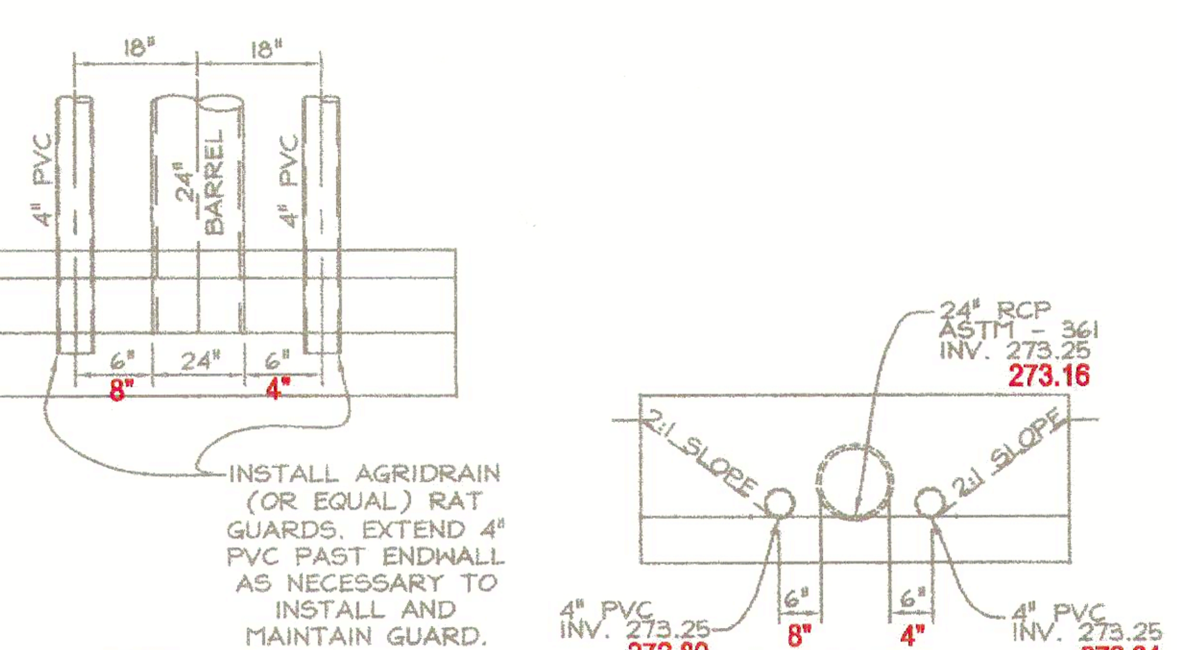


SEDIMENT BASIN DEWATERING DEVICE DETAIL
Not to scale



* THIS WIDTH WILL VARY PRIOR TO THE END SECTION IN ORDER TO TAPER THE 4" DRAIN PIPE TO TIE INTO THE TYPE 'C' ENDWALL OPENINGS (SEE DIAPHRAGM TIE INTO TYPE 'C' ENDWALL DETAIL THIS SHEET).

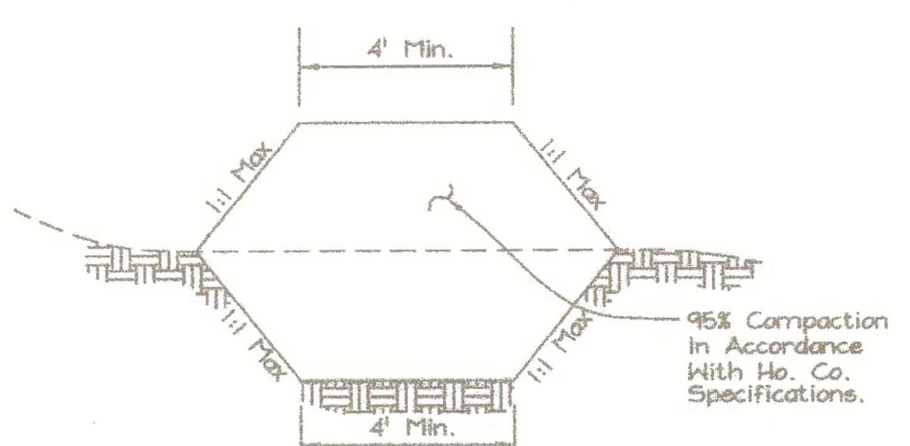
FILTER DIAPHRAGM DETAIL
Not to scale



TOP VIEW

ELEVATION

FILTER DRAINAGE DIAPHRAGM OUTLET AT TYPE 'C' ENDWALL
Not to scale



Notes:
1. Core Trench To Be 4' Min. Below Existing Grade.
2. Core Trench Must Be Pumped Dry During Construction.
3. Core TrenchShall Consist Of Impervious Material (CL, CH, GC or SC) As Directed By a Geotechnical Engineer Onsite And May Require To Be Hauled From An Offsite Location.

IMPERVIOUS CORE AND CORE TRENCH SECTION
Not to scale

OPERATION AND MAINTENANCE SCHEDULE FOR PERMANENT SEDIMENT BASIN

ROUTINE MAINTENANCE

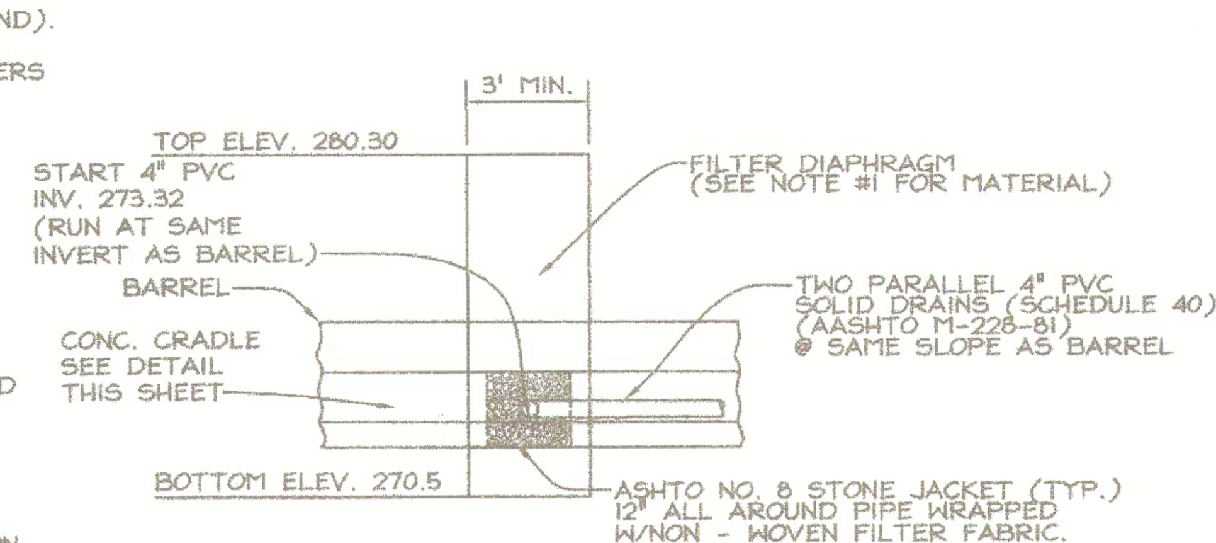
1. FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
5. MAINTAIN 4in. Cpv OUTLET KEEPING IT CLEAR OF OBSTRUCTIONS.

NON-ROUTINE MAINTENANCE

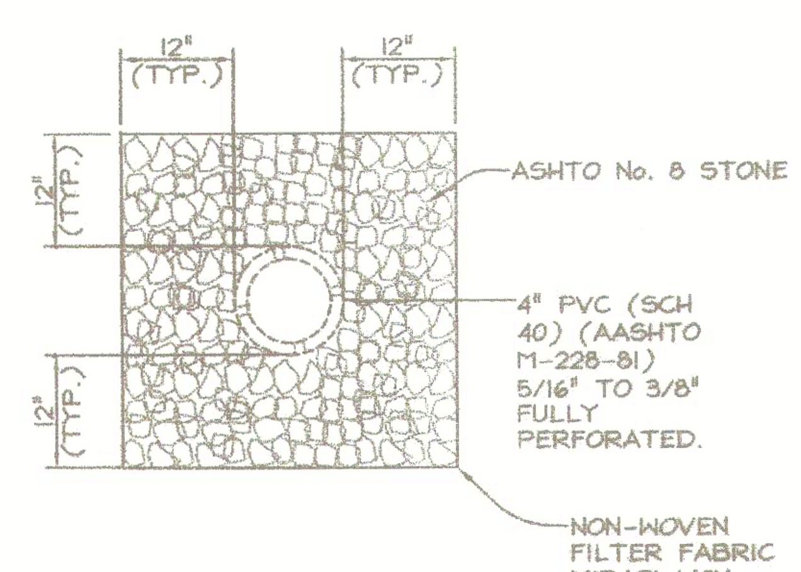
1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION REACHES THE CLEANOUT ELEVATION OF 273.0.

FILTER DIAPHRAGM NOTES

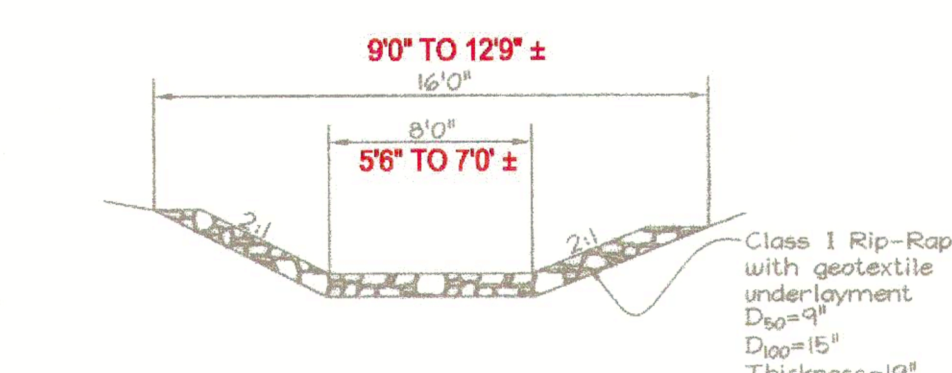
1. FILTER MATERIAL SHALL CONFORM TO ASTM C-33 (CONCRETE SAND).
2. FILTER DIAPHRAGM SHALL BE CONSTRUCTED IN HORIZONTAL LAYERS 12 INCHES THICK (BEFORE COMPACTION).
3. EACH LAYER SHALL BE HYDROCOMPACTED USING A SPRINKLER. MATERIAL MUST BE SATURATED.
4. CARE SHALL BE TAKEN SO THAT THE FILTER MATERIAL IS NOT CONTAMINATED.
5. ANY CONTAMINATED SAND SHALL BE REMOVED AND REPLACED WITH APPROVED MATERIAL.
6. PROTECTIVE COVERING OVER THE SAND FILTER MAY BE REQUIRED BETWEEN LIFTS.
7. ELBOWS SHALL BE USED FOR PVC INTERCONNECTIONS.
8. CONTRACTOR SHALL BEND AND CONSTRUCT THE 4" PVC PIPE TO ENSURE PASSAGE THROUGH THE TYPE 'C' CONCRETE END SECTION AND CONCRETE CRADLE (THE 4" PVC OUTFALL IS DIMENSIONED ON TYPE 'C' ENDWALL DETAIL THIS SHEET).
9. GEOTECHNICAL ENGINEER TO SPECIFY AND APPROVE FILTER MATERIAL AND PLACEMENT IN THE FIELD.



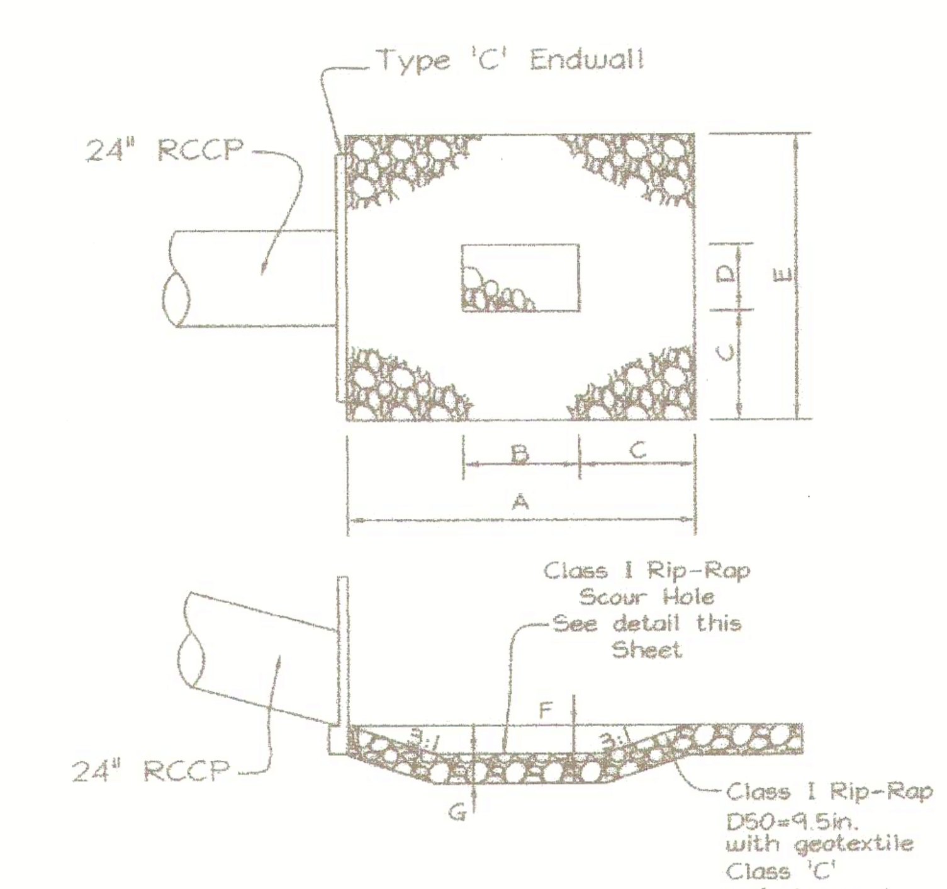
SECTION A-A



WRAP DETAIL FOR FILTER DIAPHRAGM
Not to scale



RIP RAP INFLOW PROTECTION TYPICAL CROSS SECTION DETAIL
NOT TO SCALE



PLUNGE POOL TABLE

OUTFALL	DIMENSIONS A	B	C	D	E	F	G	REMARKS
S-1	18'	6'	6'	4'	15'	2'	19"	24" RCCP
	✓	✓	✓	6'	19'	✓		

TYPICAL PLUNGE POOL DETAIL
NOT TO SCALE

PERMIT APPLICANT
Savage Stone, LLC.
P.O. Box 850
Laurel MD 20725

OWNER
Konterra
Limited Partnership
P.O. Box 850
Laurel MD 20725

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS *	ENGINEERS CERTIFICATE	PERMITTEE'S CERTIFICATE
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 11/17/06	"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."	"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT *	SIGNATURE OF ENGINEER — DATE 11/16/06	SIGNATURE OF PERMITTEE — DATE 11/16/06
HOWARD SCD — DATE 11/17/06	ZACHARIA Y. FISCH	

AS-BUILT DATA PREPARED BY:

CME ENGINEERING
CME ENGINEERING LP
12 Village Parkway, Frostburg, MD 21532
301-689-1700 FAX: 301-689-5177
e-mail: info@cmemgmt.com

SEDIMENT BASIN DETAILS
LAUREL LUMBER

TAX MAP 47 GRID 6 — PARCEL 384
6TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel:410-567-5200 Fax: 410-796-1562
E-mail: info@fsheri.com

DESIGN BY: SH
DRAWN BY: CRH2/RL
CHECKED BY: SH
SCALE: AS SHOWN
DATE: Nov. 16, 2006
W.O. No.: 3248
SHEET No.: 8 OF 10

MINE RECLAMATION PLAN

LAUREL LUMBER

HOWARD COUNTY, MARYLAND

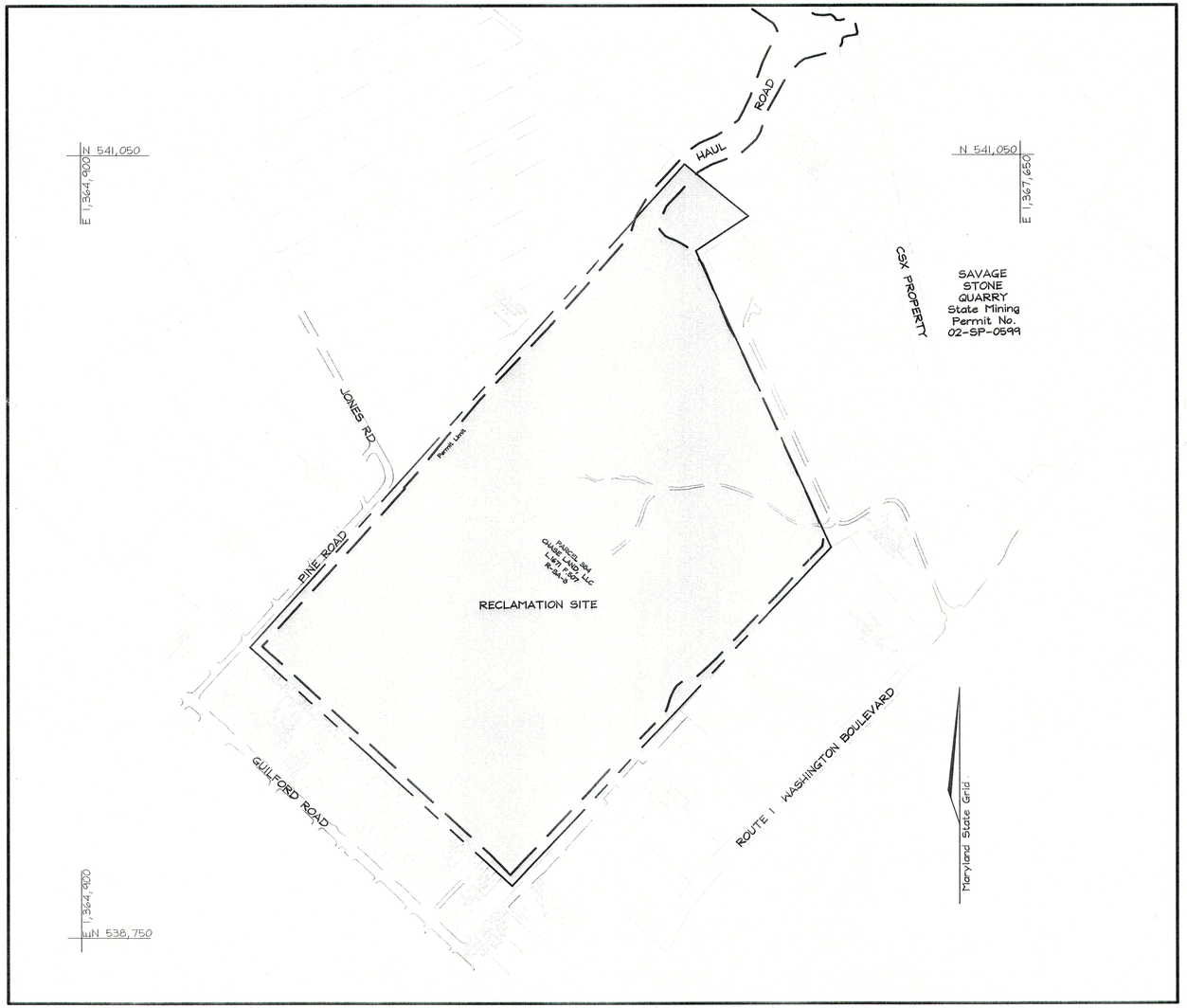
GENERAL NOTES

1. Subject property zoned "R-SA-8" per 2/02/04 Comprehensive Zoning Plan.
2. Gross area of property = 39.4 ac.±
3. The Contractor shall notify the following utility companies or agencies at least five (5) working days before starting storm drain work shown on these plans:

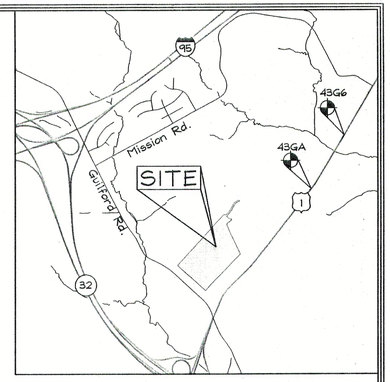
State Highway Administration	410.531.5533
BGE(Contractor Services)	410.850.4620
BGE(Underground Damage Control)	410.787.9068
Miss Utility	1.800.257.7777
Howard County, Dept. of Public Works, Bureau of Utilities	410.313.4900
Howard County Health Department	410.313.2640
AT&T	1.800.252.1133
Verizon	1.800.743.0033/410.224.9210

4. The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any excavation work.
5. This project recieved a waiver from having to prepare a Site Development Plan (WP-06-098) (Section 16.123(a)(2) and 16.155(a)(1)) approved by Howard County Department of Planning & Zoning, planning director, on September 1, 2006.
6. The project is in conformance with the latest Howard County Standards unless waivers have been approved.
7. Boundary for the site was provided by Civil Mining Environmental Engineering, Inc. Topography provided by Patton Harris Rust Associates, flown by Harford Aerial Surveys.
8. There are no floodplains, historic structures or cemeteries on-site.
9. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based on the Maryland State Plane Coordinate system. Howard County monument numbers 43GA and 43G6 were used for this project.
10. Any damage to public right-of ways, paving or existing utilities will be corrected at the contractor's expense.
11. Existing utilities are located by the use of any or all of the following: Road Construction Plans, Field Surveys, Public Water and Sewer Plans and other available record drawings. Approximate location of the existing utilities are shown for the contractors information. Contractor shall locate existing utilities well in advance of construction activities and take all necessary precautions to protect the existing utilities and to maintain uninterrupted service. Any damage incurred due to the contractor's operation shall be repaired immediately at the contractor's expense.
12. Soil compaction specifications, requirements, methods and materials are to be in accordance with the recommendations of the project Geotechnical Engineer.
13. A jurisdictional determination of non-tidal wetlands and waterways was performed by MDE September 7, 2004. No regulated wetlands were present. One jurisdictional stream channel was identified and survey located as shown on these drawings.
14. This site is subject to a Decision and Order from the Howard County Board Of Appeals Case No. BA95-58E, item No.14. "The Petitioner will fill the existing quarry at the back of Pine Road using overburden from the new quarry and other material."

SHEET INDEX



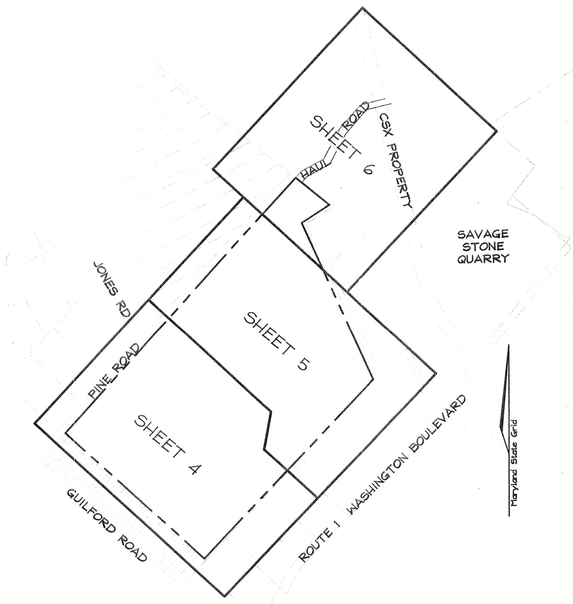
LOCATION MAP
SCALE: 1"=200'



VICINITY MAP
SCALE:1=2000'

HO.CO. GEODETIC SURVEY CONTROL

Sta.	43GA	N 541,797.060 E 1,369,159.491	El.: 241.632	(feet)
Sta.	43G6	N 544,117.545 E 1,370,550.825	El.: 220.116	(feet)



KEY MAP
SCALE: 1"= 400'

PERMIT APPLICANT

Savage Stone, LLC.
P.O. Box 850
Laurel MD 20725

OWNER

Konterra
Limited Partnership
P.O. Box 850
Laurel MD 20725

MINE RECLAMATION PLAN COVER SHEET LAUREL LUMBER

TAX MAP 47 GRID 6 — PARCEL 384
6TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

* NRCS/HSCD Review and approval does not include permanent pond/basin subject to review and approval by M.D.E. Dam Safety Division.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS *

Jim Myers — 11/17/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT *

John R Robertson — 11/17/06
HOWARD SCD — DATE

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch — 11/16/06
SIGNATURE OF ENGINEER — DATE
ZACHARIA Y. FISCH

PERMITTEE'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Timothy J. Schmidt — 11/16/06
SIGNATURE OF PERMITTEE — DATE

STATE OF MARYLAND · ZACHARIA YOSEF FISCH · 22418 · PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel:410-567-5200 Fax: 410-796-1562
E-mail: info@fsheri.com

DESIGN BY:	SH
DRAWN BY:	CRH2/RL
CHECKED BY:	SH
SCALE:	AS SHOWN
DATE:	Nov. 16, 2006
W.O. No.:	3248
SHEET No.:	1 OF 10

GP-06-86

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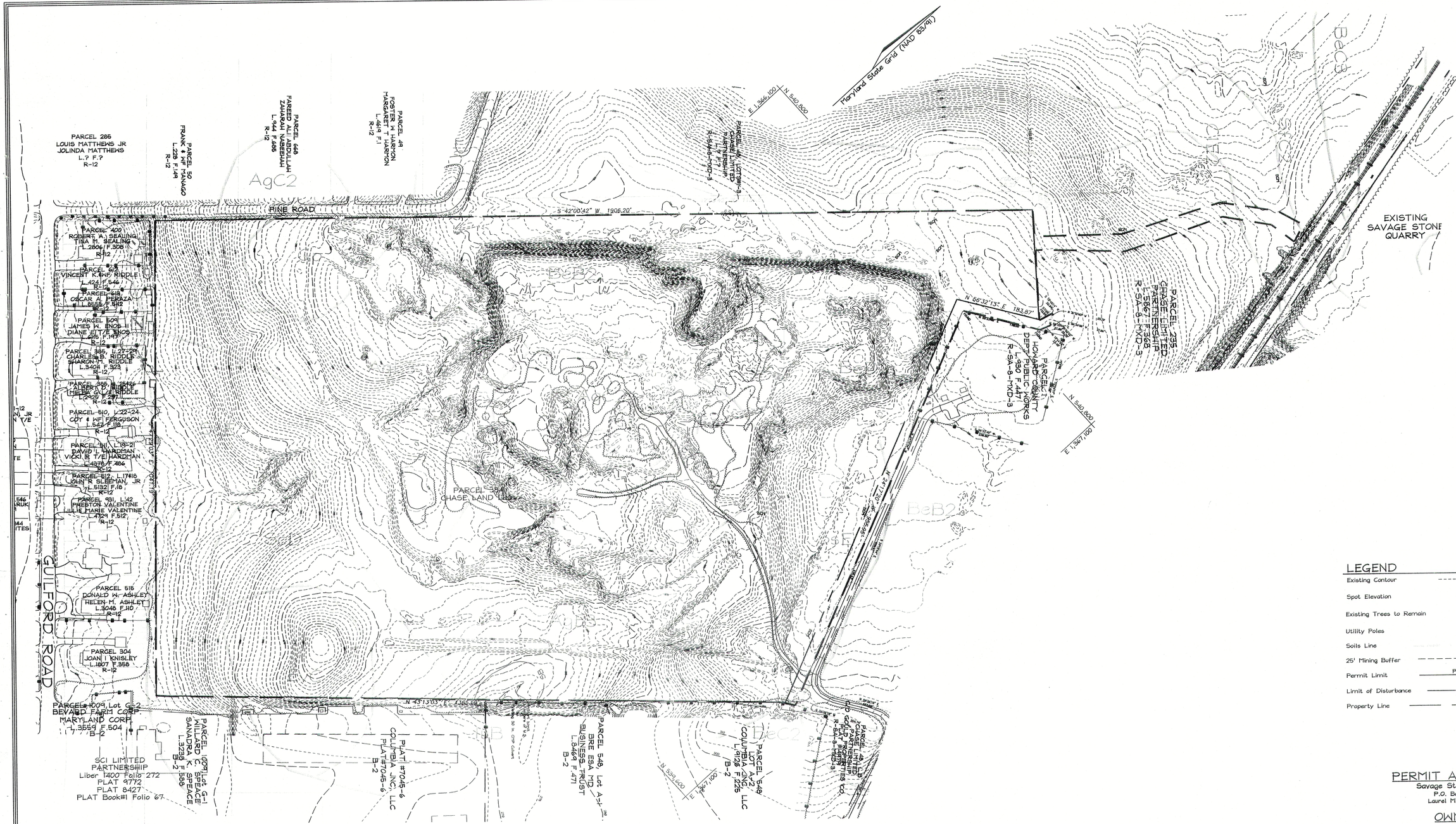

PLAN VIEW
Scale: 1"=100'

LEGEND

- Existing Contour ----------382
- Spot Elevation +82.53
- Existing Trees to Remain
- Utility Poles
- Soils Line
- 25' Mining Buffer
- Permit Limit ____Permit Limit____
- Limit of Disturbance ____LOD____
- Property Line

PERMIT APPLICANT

Savage Stone, LLC.
P.O. Box 850
Laurel MD 20725

OWNER

Konterra
Limited Partnership
P.O. Box 850
Laurel MD 20725

ADDRESS/PARCEL

Parcel-Lot#	MAILING ADDRESS
400-37440	Robert & Tina Sealing 10139 Guilford Road Jessup, MD 20794-9534
612-35436	Vincent & wf Riddle 10145 Guilford Road Jessup, MD 20794-9534
613-33434	Oscar Peraza 10151 Guilford Road Jessup, MD 20794-9534
509-30431	James & Diane Enos II 10155 Guilford Road Jessup, MD 20794-9534
385-27428	Charles & Sharon Riddle 10154 Guilford Road Jessup, MD 20794-9534
385-25426	Albert & Melba Riddle 10161 Guilford Road Jessup, MD 20794-9534

ADDRESS/PARCEL

Parcel-Lot#	MAILING ADDRESS
510-22423	Coy & wf Ferguson 10163 Guilford Road Jessup, MD 20794-9534
511-19420	David & Vicki Hardman 10167 Guilford Road Jessup, MD 20794-9534
512-17418	John R. Sleeman Jr 10171 Guilford Road Jessup, MD 20794-9534
931-42	Preston & Lillie Valentine 10181 Guilford Road Jessup, MD 20794-9534
931-41	Walter & Martha Shannon 10185 Guilford Road Jessup, MD 20794-9534
515-6,748	Donald & Helen Ashley 10189 Guilford Road Jessup, MD 20794-9534

ADDRESS/PARCEL

Parcel-Lot#	MAILING ADDRESS
304-165	Joan Knisley 10196 Guilford Road Jessup, MD 20794-9534
1009-G2	Bevard Farm Corporation A Maryland Corporation PO Box 417 Ellicott City, MD 21041
1009-G1	Willard & Sandra Speace 12248 Pointer Hill Ct Ellicott City, MD 21042
931-Par.B	SCI Limited Part. PO Box 417 Ellicott City, MD 21041
548-A1	BRE ESA MD Prop Bus. 100 Dunbar Street Spartanburg SC 29306
548-A2	Columbia Junction LLC PO Box 417 Jessup, MD 21041

Parcel-Lot#	MAILING ADDRESS
548-Par.B	Chase Limited Part. c/o Gould Properties Co 1725 DeSales St NW, Ste#900 Washington DC 20036
1	Howard County - DPW 3430 Court House Dr Ellicott City MD 21043
235	Chase Limited Part. 6905 Mulrirk Meadows Dr Beltsville MD 20705-6305
48-1,2,&3	Chase Limited Part. 14504 Greenview Dr Laurel, MD 20708
49-344	Foster & Margaret Harmon 8660 Pine Rd Jessup, MD 20794-9535
668-2	Fareed Ali Abdullah Zaharah Nabeehah 8680 Pine Rd Jessup, MD 20794-9535

Parcel-Lot#	MAILING ADDRESS
50-1	Frank & wf Manago 8690 Pine Rd Jessup, MD 20794-9535
285-1	Louis & Jolinda Matthews, Jr 10131 Guilford Road Jessup, MD 20794-9534
384	James Konterra Limited Part. PO Box 719 Laurel, MD 20725-0719

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
AgC2	Aura gravelly loam, 5 to 10 percent slopes, moderately eroded	B
AgE3	Aura gravelly loam, 10 to 30 percent slopes, severely eroded	B
BeB2	Beltsville silt loam, 1 to 5 percent slopes, moderately eroded	C
BeD2	Beltsville silt loam, 10 to 15 percent slopes, moderately eroded	C
EyC	Evesboro loamy sand, 5 to 15 percent slopes	A
Gp	Gravel pits and quarries	C
ScD	Sandy and clayey land, moderately sloping	C
ScE	Sandy and clayey land, moderately steep	C
SsE	Sassafras soils, 15 to 40 percent slopes	B
BeC3	Beltsville silt loam, 5 to 10 percent slopes, severely eroded	C
CIE2	Chillum gravely loam, 15 to 30 percent slopes, moderately eroded	C
SfC2	Sassafras gravelly sandy loam, 5 to 10 percent slopes, moderately eroded	B

EXISTING CONDITIONS AND ADJACENT PROPERTY OWNERS MAP
LAUREL LUMBER

TAX MAP 47 GRID 6
6TH ELECTION DISTRICT

PARCEL 384
HOWARD COUNTY, MARYLAND

STATE OF MARYLAND
JOSHUA FOREST FISH
22418
PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel:410-750-2251 Fax: 410-750-7350
E-mail: info@fsha.biz

DESIGN BY: SH
DRAWN BY: CRH2
CHECKED BY: SH
SCALE: As Shown
DATE: Sept. 21, 2006
W.O. No.: 3248
SHEET No.: 2 OF 10

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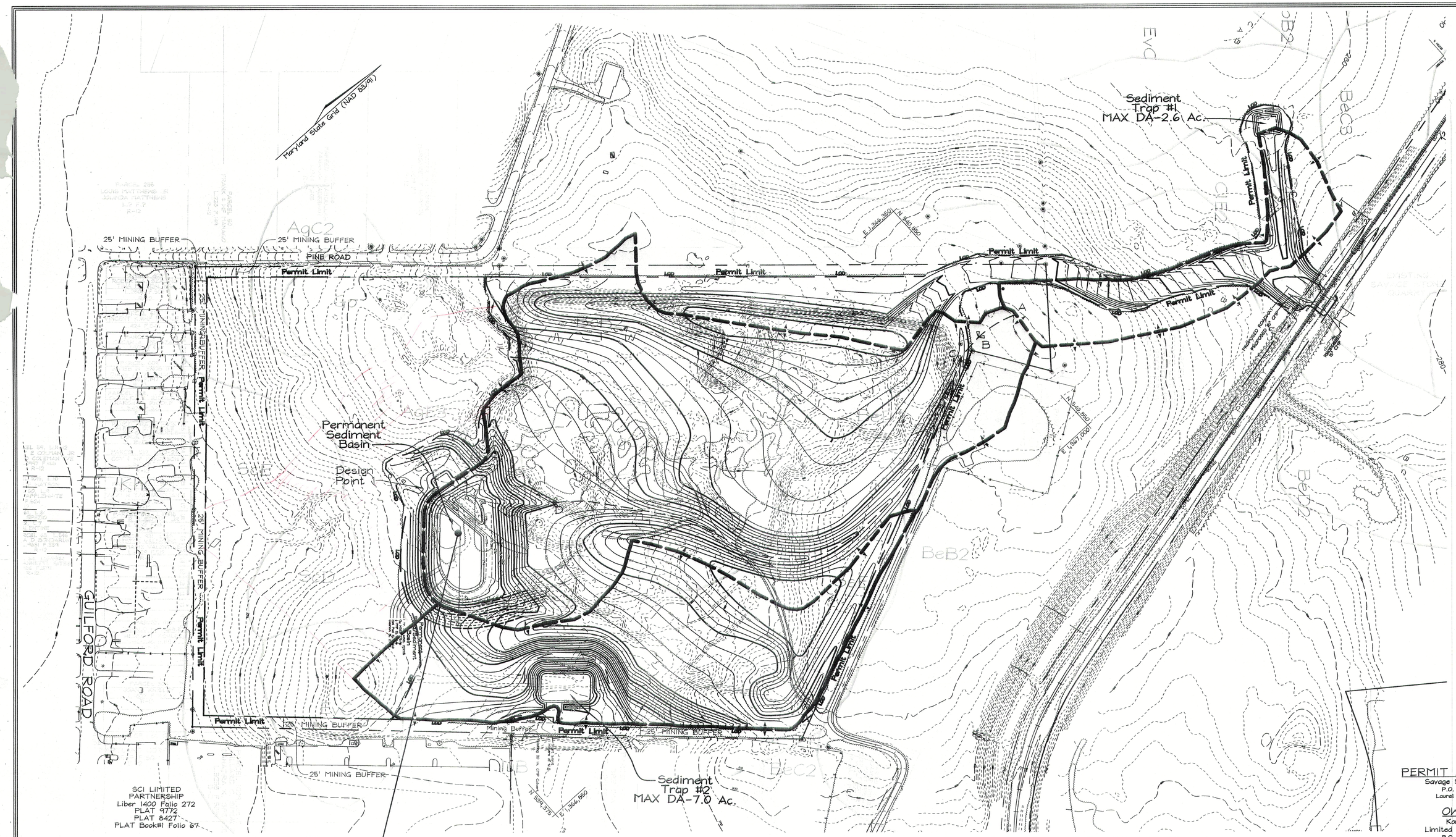


PLAN VIEW
Scale: 1"=100'

LEGEND

Soils Line	
Permit Limit	Permit Limit
Limits of Disturbance	LOD
25' Mining Buffer	
Drainage Divide (Final)	
Time of Concentration (1-Yr. + 10-Yr. Storms)	C B
Meadow	
Impervious surface	
Forest - Good Conditions	
Newly Graded	

FLOW PATH DESCRIPTION

PATH	TYPE	LENGTH	SLOPE/SPEED
A-B	Sheet Flow	100 L.F.	5.0%
B-C	Shallow Conc.	70 L.F.	25%
C-D	Channel	1180 L.F.	4.0 FPS

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
AgC2	Aura gravelly loam, 5 to 10 percent slopes, moderately eroded	B
AgE3	Aura gravelly loam, 10 to 30 percent slopes, severely eroded	B
BeB2	Beltsville silt loam, 1 to 5 percent slopes, moderately eroded	C
BeD2	Beltsville silt loam, 10 to 15 percent slopes, moderately eroded	C
EvC	Evesboro loamy sand, 5 to 15 percent slopes	A
GP	Gravel pits and quarries	C
ScD	Sandy and clayey land, moderately sloping	C
ScE	Sandy and clayey land, moderately steep	C
SsE	Sassafras soils, 15 to 40 percent slopes	B
BeC3	Beltsville silt loam, 5 to 10 percent slopes, severely eroded	C
ClE2	Chillum gravely loam, 15 to 30 percent slopes, moderately eroded	C
SfC2	Sassafras gravelly sandy loam, 5 to 10 percent slopes, moderately eroded	B

PERMIT APPLICANT
Savage Stone, LLC.
P.O. Box 850
Laurel MD 20725

OWNER
Konterra
Limited Partnership
P.O. Box 850
Laurel MD 20725

DRAINAGE AREA MAP PROPOSED CONDITIONS LAUREL LUMBER

TAX MAP 47 GRID 6
6TH ELECTION DISTRICT

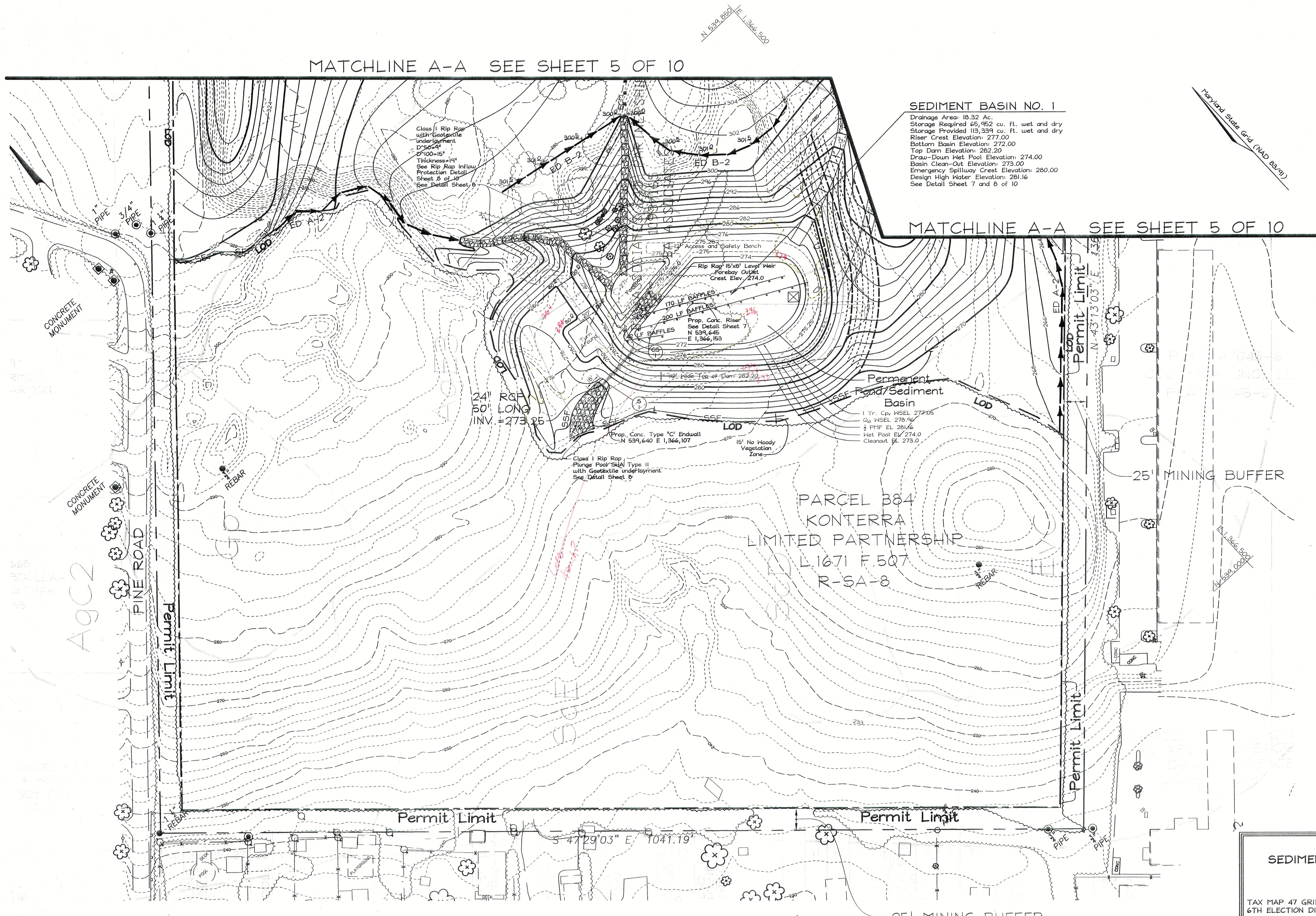
PARCEL 384
HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — DEANNA ROSE FISCHER — 22418 — PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel:410-750-2251 Fax: 410-750-7350
E-mail: info@fsha.biz

DESIGN BY: SH
DRAWN BY: CRH2/RL
CHECKED BY: SH
SCALE: As Shown
DATE: Sept. 19, 2006
W.O. No.: 3248
SHEET No.: 3 OF 10

N:\Laurel_Lumber\dwg\Single Pond Redesign\3248_SK_s3.dwg, 11/16/2006 9:14:56 AM, rlee, 1:1



MATCHLINE A-A SEE SHEET 5 OF 10
SEDIMENT BASIN NO. 1
Drainage Area: 18.32 Ac.
Storage Required 65,952 cu. ft. wet and dry
Storage Provided 113,339 cu. ft. wet and dry
Riser Crest Elevation: 277.00
Bottom Basin Elevation: 272.00
Top Dam Elevation: 282.20
Draw-Down Wet Pool Elevation: 274.00
Basin Clean-Out Elevation: 273.00
Emergency Spillway Crest Elevation: 280.00
Design High Water Elevation: 281.16
See Detail Sheet 7 and 8 of 10
MATCHLINE A-A SEE SHEET 5 OF 10
Maryland State Grid (NAD 83/91)
N 539,850 E 1,366,500
Class I Rip Rap with Geotextile underlayment D50=9" D100=15" Thickness=19" See Rip Rap Inflow Protection Detail Sheet 8 of 10 See Detail Sheet 8
ED B-2
ED A-12
LOD
SSF
12' Access and Safety Bench
Rip Rap 15'x8' Level Weir Forebay Outlet Crest Elev. 274.0
170 LF BAFFLES
200 LF BAFFLES
LF BAFFLES
Prop. Conc. Riser See Detail Sheet 7 N 539,645 E 1,366,153
12' Wide Top of Dam 282.20
24" RCP 50' LONG INV.=273.25
Prop. Conc. Type 'C' Endwall N 539,640 E 1,366,107
Class I Rip Rap Plunge Pool SHA Type II with Geotextile underlayment See Detail Sheet 8
15' No Woody Vegetation Zone
Permanent Pond/Sediment Basin
1 Yr. Cp. WSEL 277.05
Q10 WSEL 278.96
½ PMF EL 281.16
Wet Pool El 274.0
Cleanout El 273.0
1" PIPE
3/4" PIPE
CONCRETE MONUMENT
REBAR
PINE ROAD
Permit Limit
ED A-2
N 43°13'03" E
25' MINING BUFFER
PARCEL 384
KONTERRA
LIMITED PARTNERSHIP
L.1671 F.507
R-SA-8
AgC2
S 47°29'03" E 1041.19'
PIPE
POOL
DECK
PLAYGROUND
E 1,365,850 N 539,000
E 1,366,500 N 539,000
25' MINING BUFFER

PLAN VIEW
SCALE: 1"=50'

LEGEND

- Existing Contour — 382
- Proposed Contour — 82
- Spot Elevation — +82.53
- Existing Trees to Remain
- Utility Poles
- Stabilized Construction Entrance — SCE
- Silt Fence — SF
- Super Silt Fence — SSF
- Earth Dike — ED A-1
- 25' Mining Buffer
- Permit Limit — Permit Limit
- Limit of Disturbance — LOD
- Property Line
- Erosion Control Matting
- Temporary Initial Dam Contours
- Rip Rap Inflow Protection — RRP
- RPS
- Removable Pump Station

PERMIT APPLICANT

Savage Stone, LLC.
P.O. Box 850
Laurel MD 20725

OWNER

Konterra
Limited Partnership
P.O. Box 850
Laurel MD 20725

GRADING AND SEDIMENT & EROSION CONTROL PLAN
LAUREL LUMBER
MINE RECLAMATION PLAN

TAX MAP 47 GRID 6
6TH ELECTION DISTRICT

PARCEL 384
HOWARD COUNTY, MARYLAND

STATE OF MARYLAND ZACHARIA YOSEF FISCH 22418 PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel:410-567-5200 Fax: 410-796-1562
E-mail: info@fsheri.com

DESIGN BY: SH
DRAWN BY: CRH2/RL
CHECKED BY: SH
SCALE: AS SHOWN
DATE: Nov. 16, 2006
W.O. No.: 3248
SHEET No.: 4 OF 10

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS *

Jim Myers 11/17/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT *

John R Robertson 11/17/06
HOWARD SCD — DATE

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch 11/16/06
SIGNATURE OF ENGINEER — DATE
ZACHARIA Y. FISCH

PERMITTEE'S CERTIFICATE

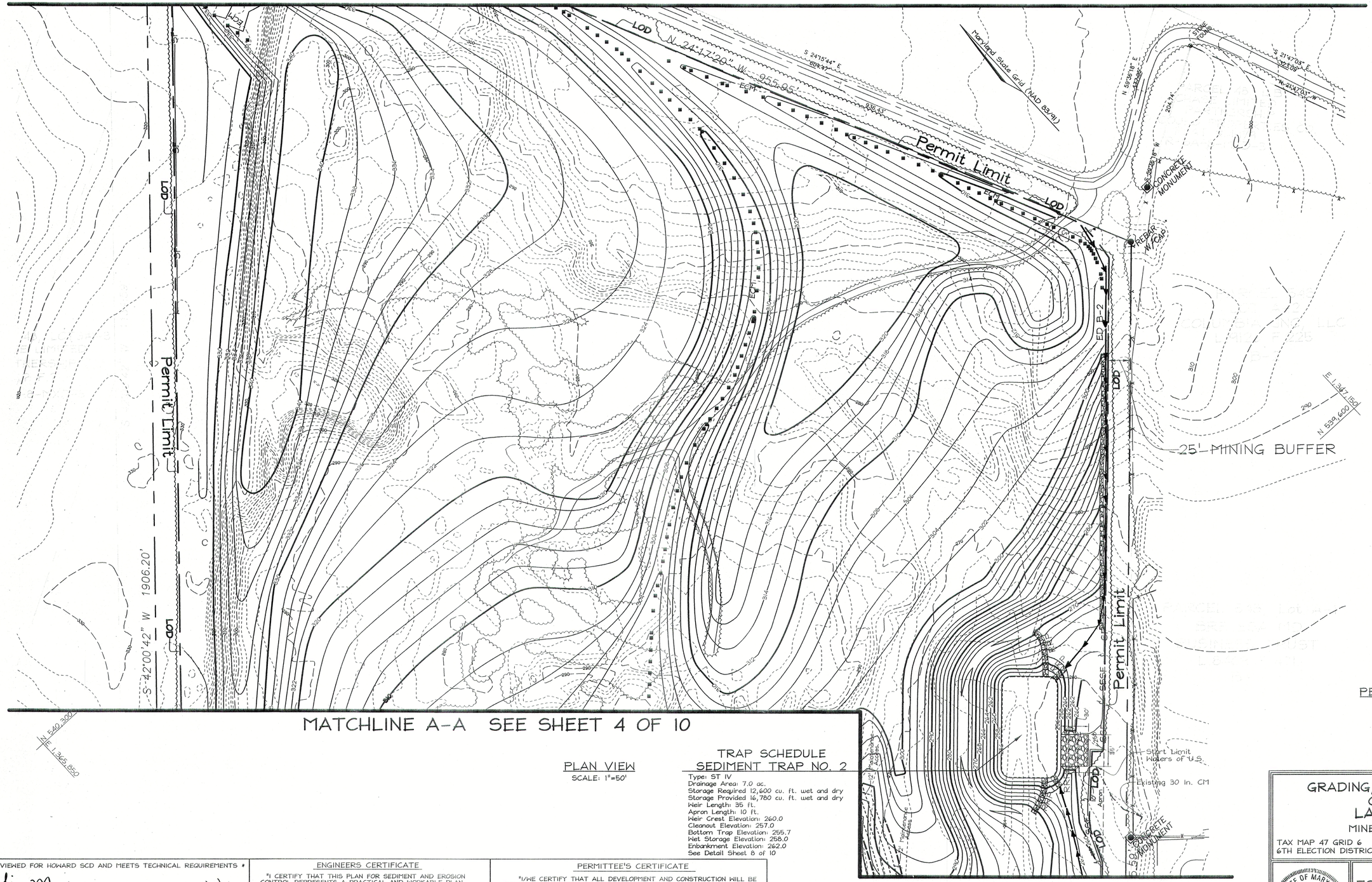
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt 11/16/06
SIGNATURE OF PERMITTEE — DATE

N:\Laurel_Lumber\dwg\Single Pond Redesign\3248_sg_S4.dwg 11/16/2006 3:25:14 AM, nee, 1:1

MATCHLINE B-B SEE SHEET 6 OF 10

N 540,300 E 1,367,150



MATCHLINE A-A SEE SHEET 4 OF 10

N 540,300
E 1,365,850

MATCHLINE A-A SEE SHEET 4 OF 10

LEGEND

- Existing Contour ---382---
- Proposed Contour 82
- Spot Elevation +82.59
- Existing Trees to Remain
- Utility Poles
- Stabilized Construction Entrance SCE
- Silt Fence SF
- Super Silt Fence SSF
- Earth Dike ED A-1
- Permit Limit
- Limit of Disturbance LOD
- 25' Mining Buffer
- Property Line
- Erosion Control Matting
- Temporary Initial Dam Contours
- Rip Rap Inflow Protection RRP

PLAN VIEW

SCALE: 1"=50'

TRAP SCHEDULE
SEDIMENT TRAP NO. 2

Type: ST IV
Drainage Area: 7.0 ac.
Storage Required 12,600 cu. ft. wet and dry
Storage Provided 16,780 cu. ft. wet and dry
Weir Length: 35 ft.
Apron Length: 10 ft.
Weir Crest Elevation: 260.0
Cleanout Elevation: 257.0
Bottom Trap Elevation: 255.7
Wet Storage Elevation: 258.0
Enbankment Elevation: 262.0
See Detail Sheet 8 of 10

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS *

Jim Myers 11/17/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT *

John R. Robertson 11/17/06
HOWARD SCD DATE

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch 11/16/06
SIGNATURE OF ENGINEER DATE
ZACHARIA Y. FISCH

PERMITTEE'S CERTIFICATE

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Timothy J. Schmidt 11/16/06
SIGNATURE OF PERMITTEE DATE

PERMIT APPLICANT

Savage Stone, LLC.
P.O. Box 850
Laurel MD 20725

OWNER

Konterra
Limited Partnership
P.O. Box 850
Laurel MD 20725

GRADING, SEDIMENT & EROSION CONTROL PLAN
LAUREL LUMBER
MINE RECLAMATION PLAN

TAX MAP 47 GRID 6 — PARCEL 384
6TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND ZACHARIA YOSSEF FISCH 22418 PROFESSIONAL ENGINEER
Zacharia Y. Fisch 11/16/06

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel:410-567-5200 Fax: 410-796-1562
E-mail: info@fsheri.com

DESIGN BY: SH
DRAWN BY: CRH2/RL
CHECKED BY: SH
SCALE: AS SHOWN
DATE: Nov. 16, 2006
W.O. No.: 3248
SHEET No.: 5 OF 10

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MATCHLINE B-B SEE SHEET 5 OF 10

Sediment Trap No. 1

Type: ST-II Stone Outlet
Drainage Area: 2.6 ac.
Storage Required 4,680 cu. ft. wet and dry
Storage Provided 4,968 cu. ft. wet and dry
Weir Length: 5.0 ft.
Apron Length: 5.0 ft.
Weir Crest Elevation: 277.0
Cleanout Elevation: 273.5
Bottom Trap Elevation: 272.0
Wet Storage Elevation: 275.0
Top Enbankment Elevation: 278.0

Permit Limit
ED A-1
LOD
ECM
SSF
PROPOSED ROADWAY
PROPOSED 15" CMP
1 ½" PIPE
PIPE
STONE
REBAR
Maryland State Grid (NAD 83/91)

LEGEND

- Existing Contour — 382
- Proposed Contour — 82
- Spot Elevation — +82.53
- Existing Trees to Remain
- Utility Poles
- Stabilized Construction Entrance — SCE
- Silt Fence — SF
- Super Silt Fence — SSF
- Earth Dike — ED A-1
- 25' Mining Buffer
- Permit Limit — Permit Limit
- Limit of Disturbance — LOD
- Property Line
- Erosion Control Matting
- Temporary Initial Dam Contours
- Rip Rap Inflow Protection — RRP

Notes:

1. Design of Rail Road Crossing and drainage at crossing by others.
2. For existing off site updated Topography, see SDP-99-134
3. Limit of Disturbance is Permit Limit on this sheet.

PLAN VIEW
SCALE: 1"=50'

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS *

Jim Munger — 11/17/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

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HOWARD SCD — DATE

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Zacharia Y. Fisch — 11/16/06
SIGNATURE OF ENGINEER — DATE
ZACHARIA Y. FISCH

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MINE RECLAMATION PLAN

TAX MAP 47 GRID 6 — PARCEL 384
6TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND
ZACHARIA YOSEF FISCH
22416
PROFESSIONAL ENGINEER
Zacharia Y. Fisch

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SHEET No.: 6 OF 10

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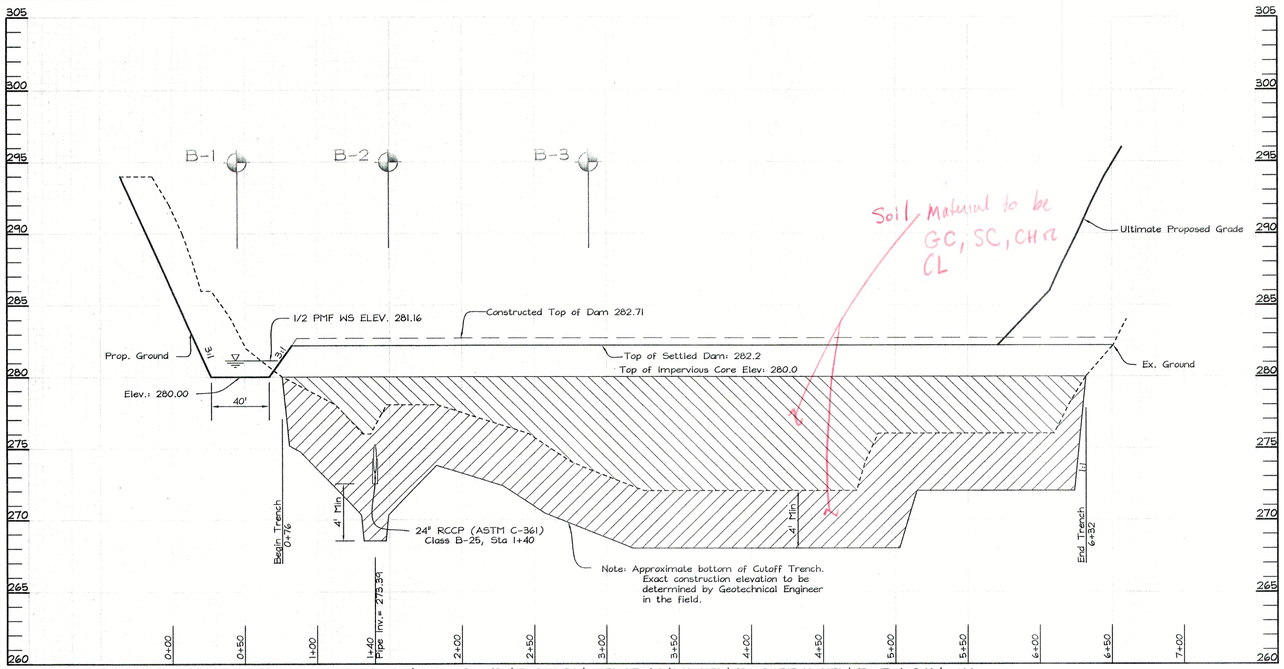
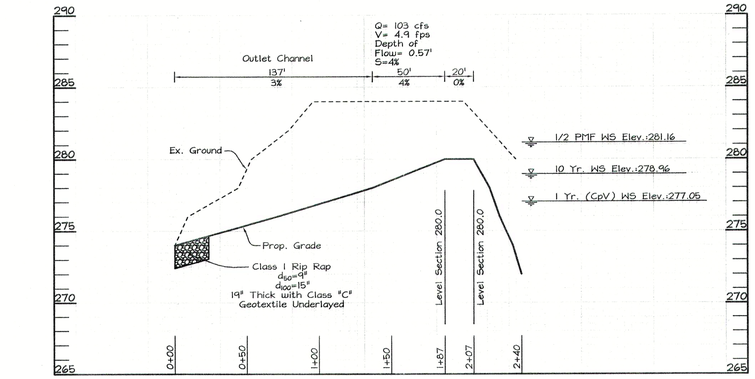


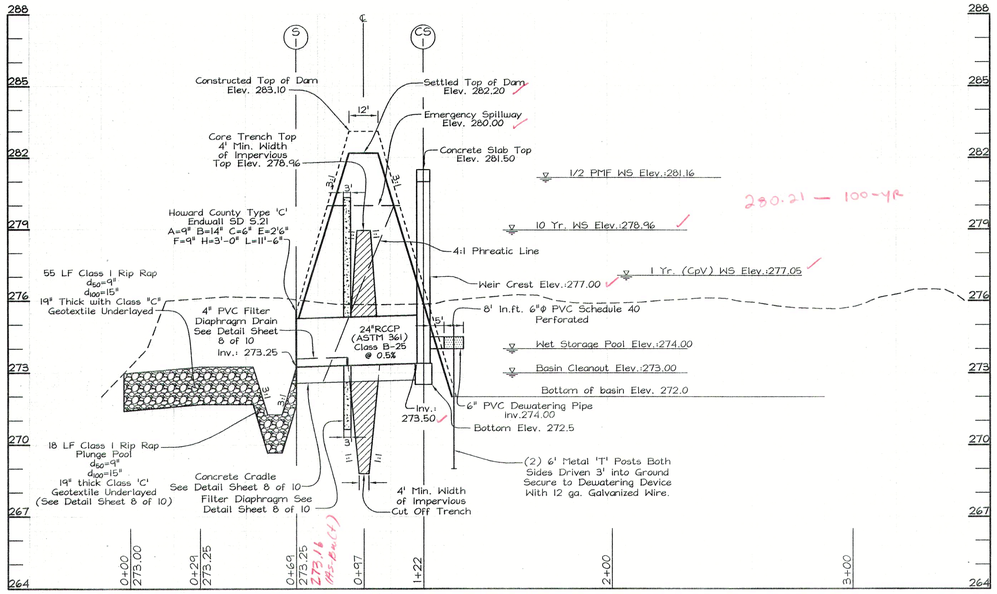
SECTION D-D THROUGH EMBANKMENT SEDIMENT BASIN #1

SCALE: Hor.: 1"=50'
Vert.: 1"=5'



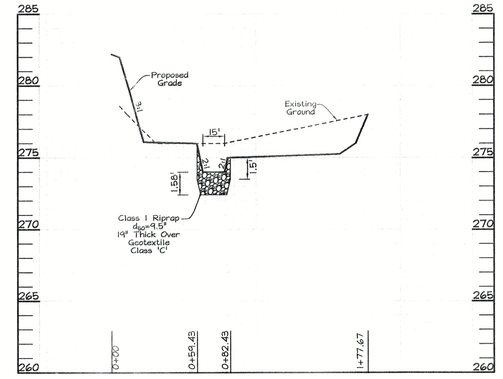
SECTION C-C THROUGH EMERGENCY SPILLWAY SEDIMENT BASIN #1

SCALE: Hor.: 1"=50'
Vert.: 1"=5'



SECTION B-B THROUGH SEDIMENT BASIN

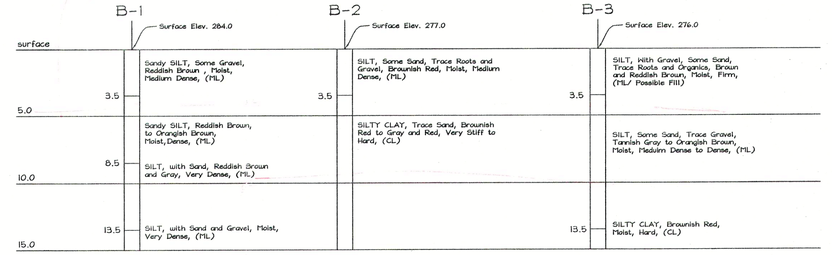
SCALE: Hor.: 1"=30'
Vert.: 1"=3'



SECTION A-A THROUGH FOREBAY SEDIMENT BASIN #1

SCALE: Hor.: 1"=50'
Vert.: 1"=5'

Bottom of BASIN



S.W.M. BORING PROFILES

NOT TO SCALE

SEDIMENT BASIN SCHEDULE

1 Yr. WSEL = 277.07
10 Yr. WSEL = 279.94
1/2 PMF WSEL = 281.16
Top of Basin Dam Elevation = 282.20
Bottom of Basin Elevation: 272.0
Drainage Area to Basin = 18.32 ac.
Wet Storage Required = 1,800 cu. ft. x 18.32 ac. = 32,976 cu. ft.
Wet Storage Provided = 34,119 cu. ft. @ 274.0
Dry Storage Required = 32,976 cu. ft.
Dry Storage Provided = 74,220 @ 277.0
Clean-out elevation at 900 cu. ft. per ac. (16,488 cu. ft.) @ 403.0

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SIGNATURE OF ENGINEER — DATE
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Timothy J. Schmidt — 11/16/06
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SEDIMENT BASIN PROFILES
LAUREL LUMBER

TAX MAP 47 GRID 6 — PARCEL 384
6TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER — 11/16/06

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SHEET No.:	7 OF 10

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MARYLAND 378
STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the tow of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +\-2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter.
The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operated closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of the structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill (flowable fill)zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE M.D.E. DAM SAFETY DIVISION OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" -10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction Materials, Section 311.

Geotexile shall be placed under all riprap and shall meet requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

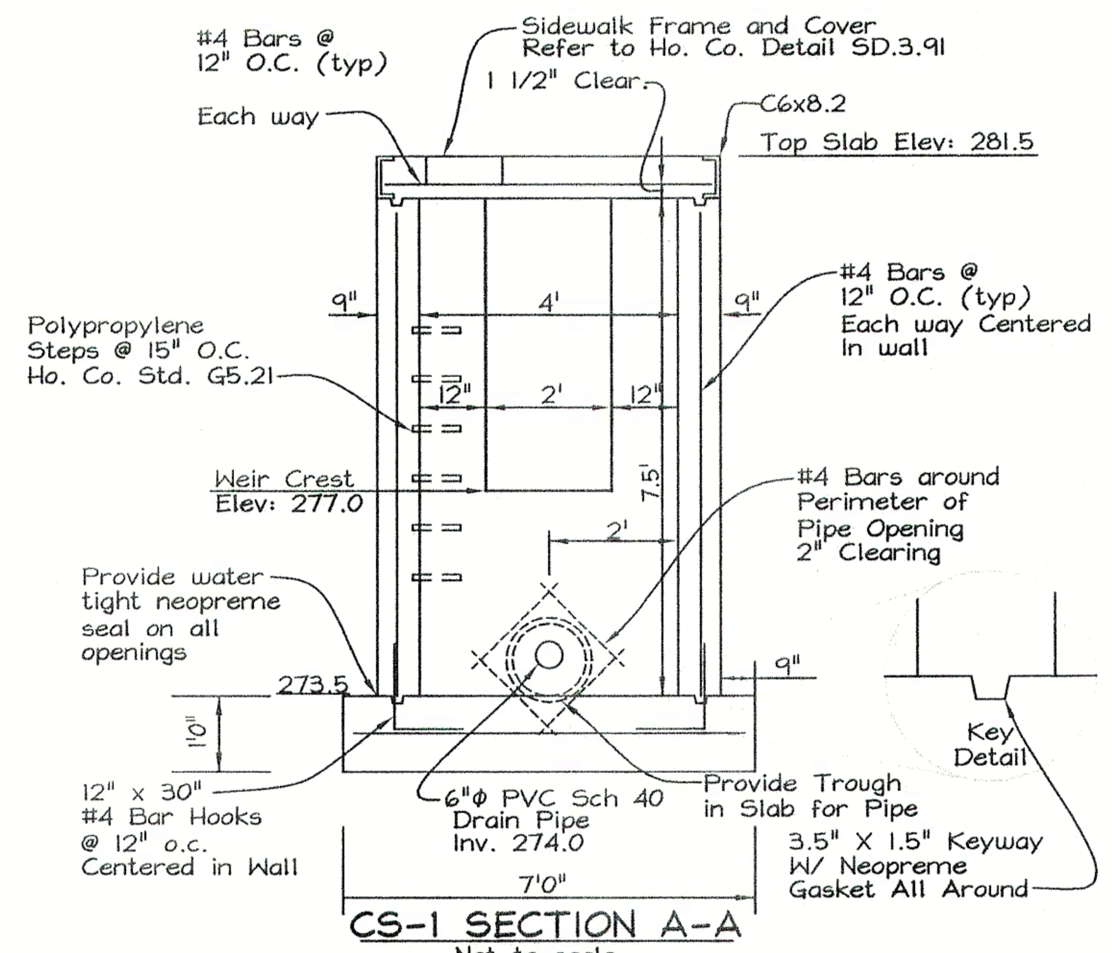
All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.



CS-1 SECTION A-A
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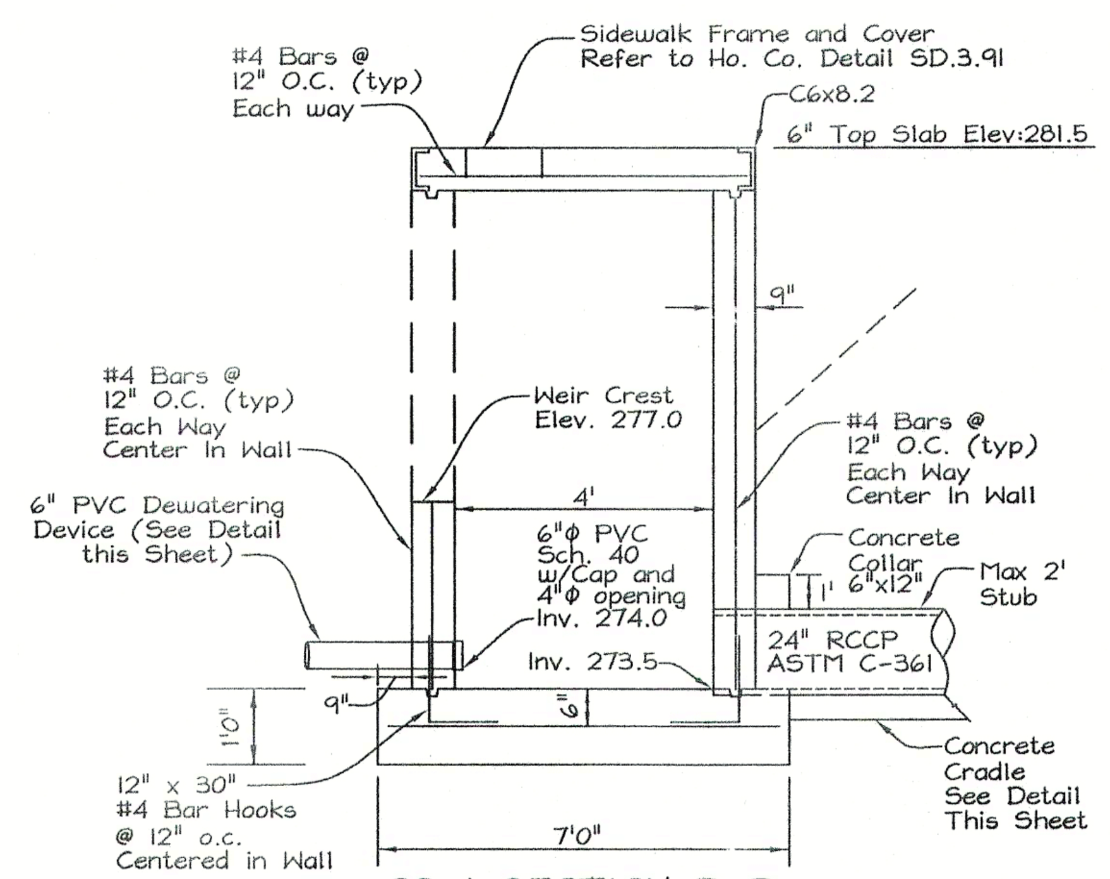

CS-1 SECTION B-B
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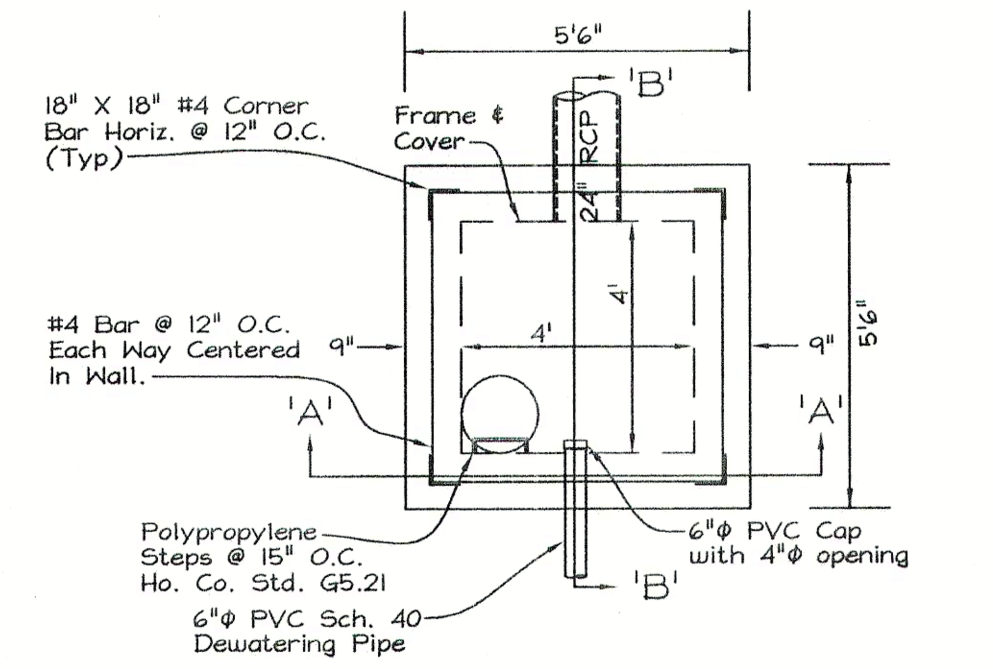
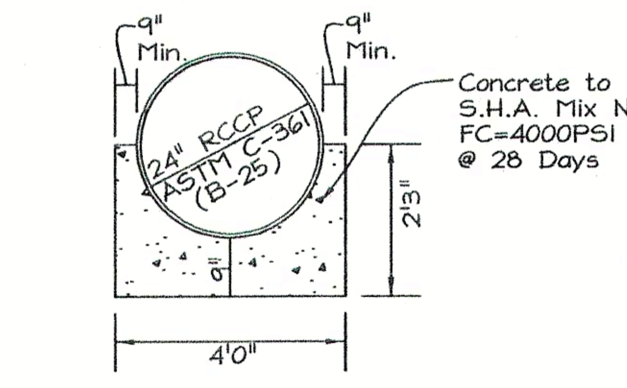


CS-1 PLAN VIEW
Not to scale



CONCRETE CRADLE DETAIL
SCS TR-46 A-2
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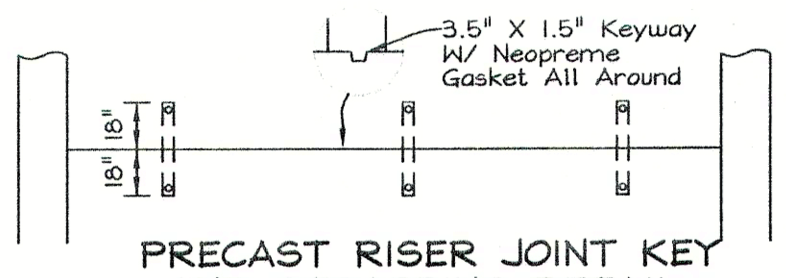
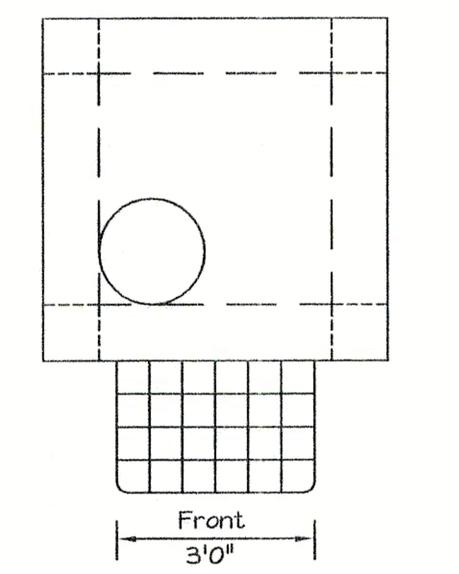
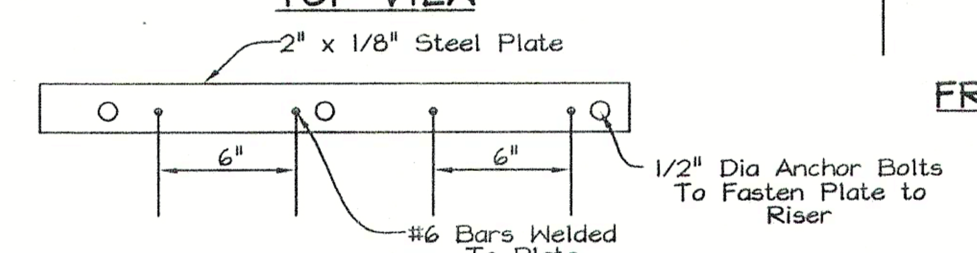


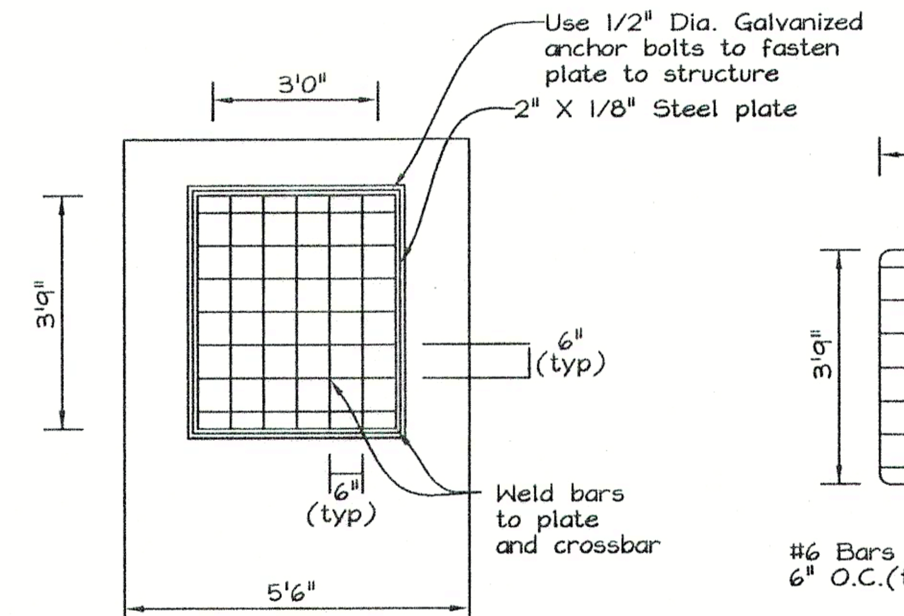
PRECAST RISER JOINT KEY AND STRAPPING DETAIL
Not to scale



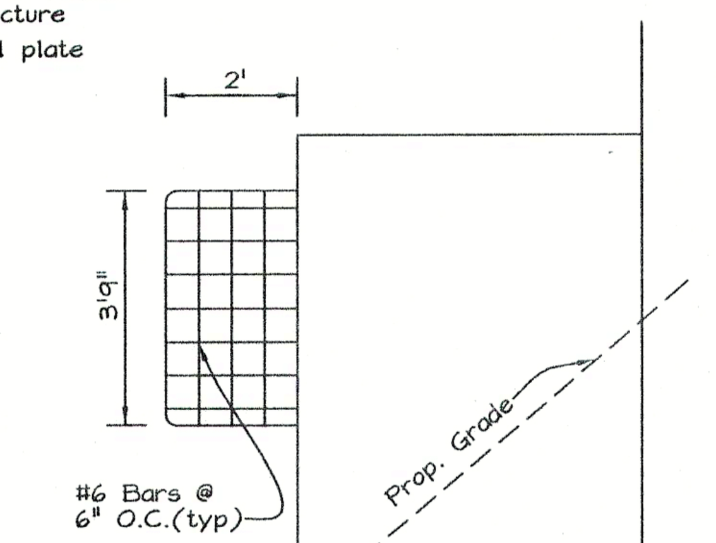
TOP VIEW



TRASH RACK CONNECTION DETAIL
Not to scale



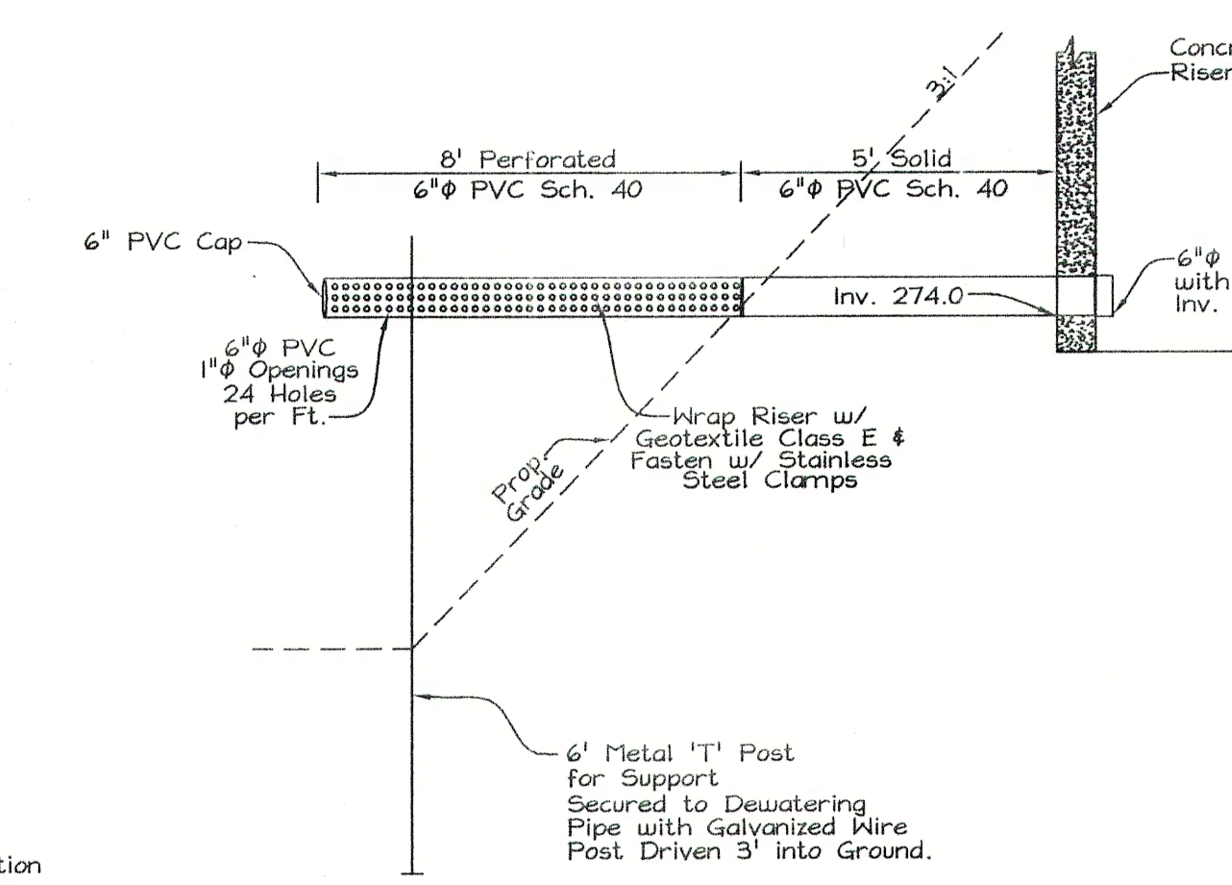
FRONT ELEVATION



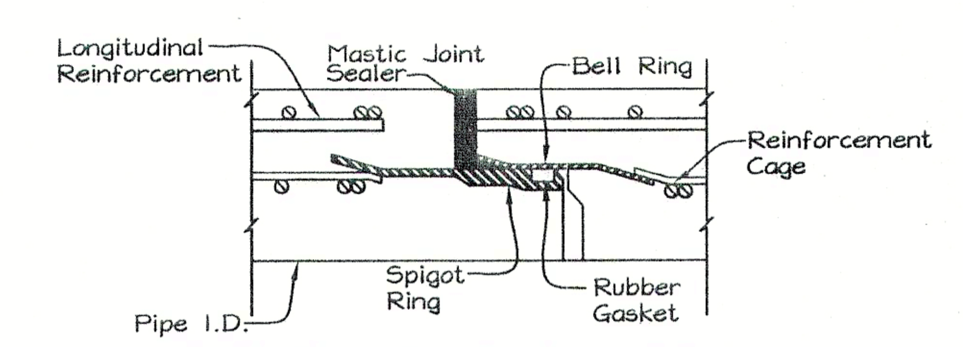
SIDE ELEVATION

TRASH RACK NOTES:
1. Galvanize trash rack after fabrication.
2. Trash rack to be painted battleship gray.

REMOVABLE TRASH RACK
Not to scale



SEDIMENT BASIN DEWATERING DEVICE DETAIL
Not to scale



BARREL JOINT SEAL DETAIL
Not to scale

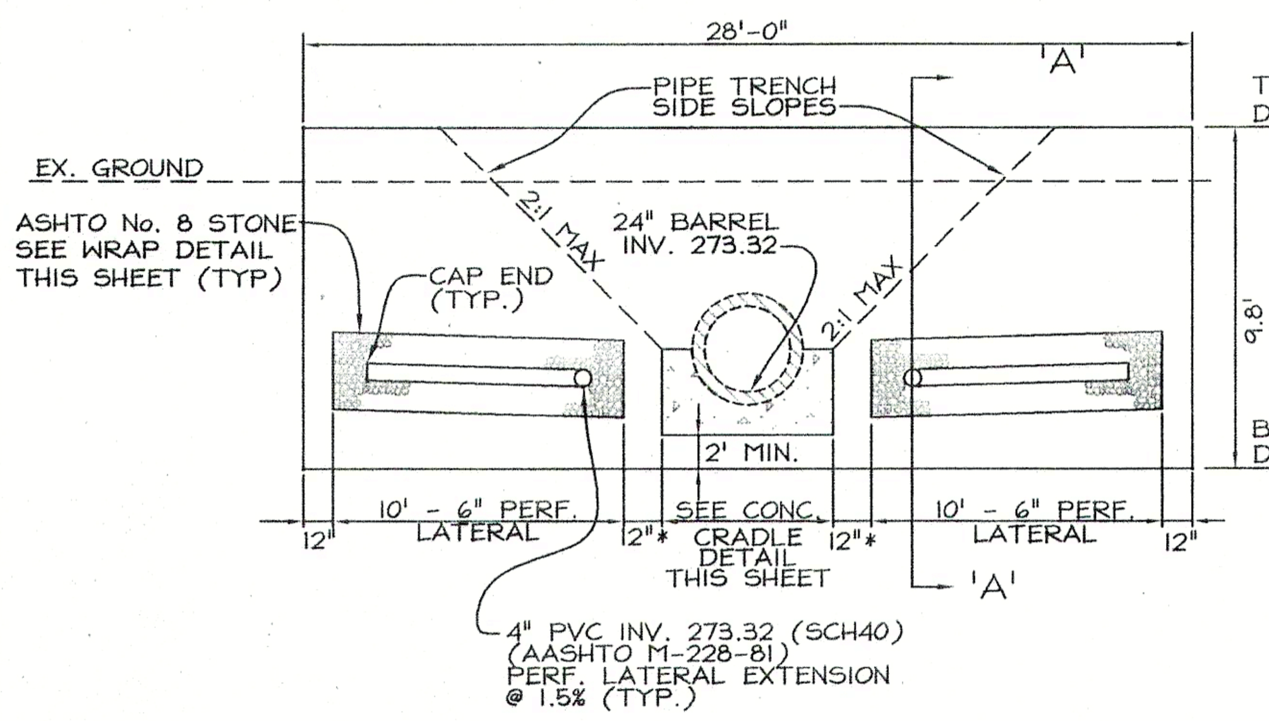
OPERATION AND MAINTENANCE SCHEDULE FOR PERMANENT SEDIMENT BASIN

ROUTINE MAINTENANCE

1. FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
5. MAINTAIN 4in. Cpv OUTLET KEEPING IT CLEAR OF OBSTRUCTIONS.

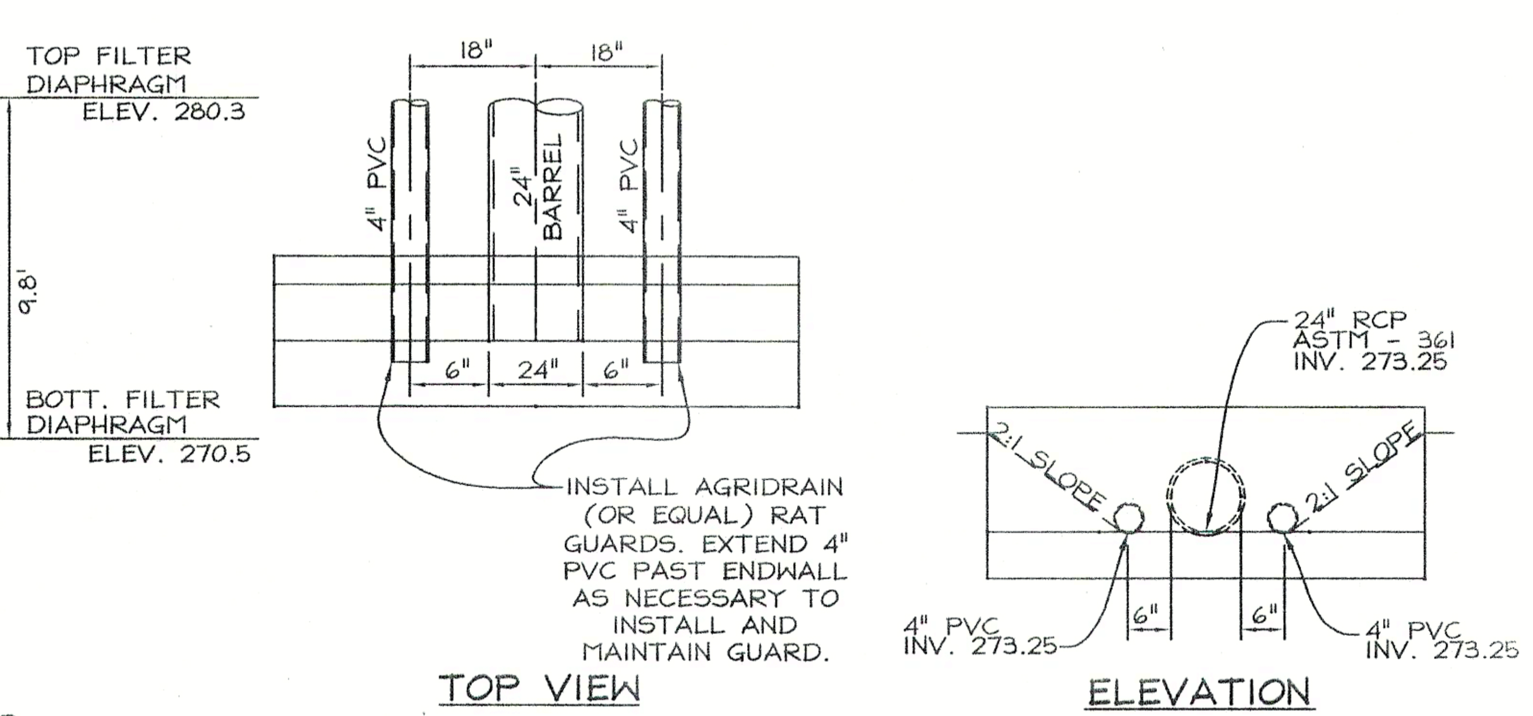
NON-ROUTINE MAINTENANCE

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION REACHES THE CLEANOUT ELEVATION OF 273.0.

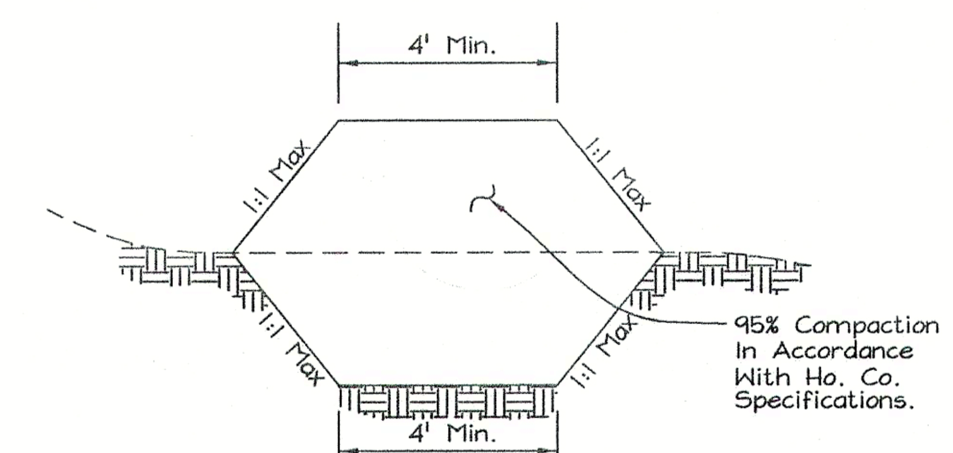


* THIS WIDTH WILL VARY PRIOR TO THE END SECTION IN ORDER TO TAPER THE 4" DRAIN PIPE TO TIE INTO THE TYPE 'C' ENDWALL OPENINGS (SEE DIAPHRAGM TIE INTO TYPE 'C' ENDWALL DETAIL THIS SHEET).

FILTER DIAPHRAGM DETAIL
Not to scale



FILTER DRAINAGE DIAPHRAGM OUTLET AT TYPE 'C' ENDWALL
Not to scale

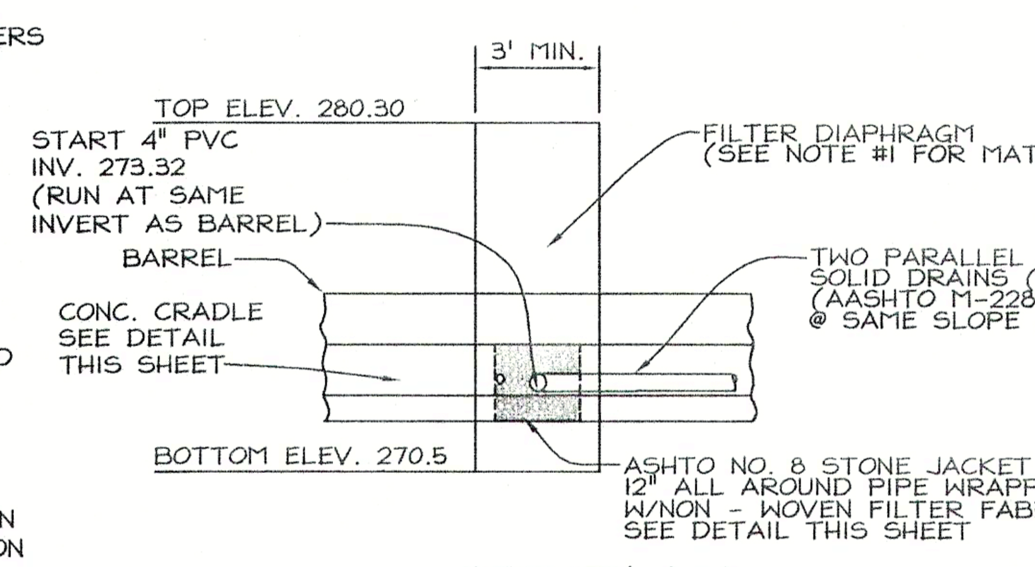


Notes:
1. Core Trench To Be 4' Min. Below Existing Grade.
2. Core Trench Must Be Pumped Dry During Construction.
3. Core TrenchShall Consist Of Impervious Material (CL, CH, GC or SC) As Directed By a Geotechnical Engineer Onsite And May Require To Be Hauled From An Offsite Location.

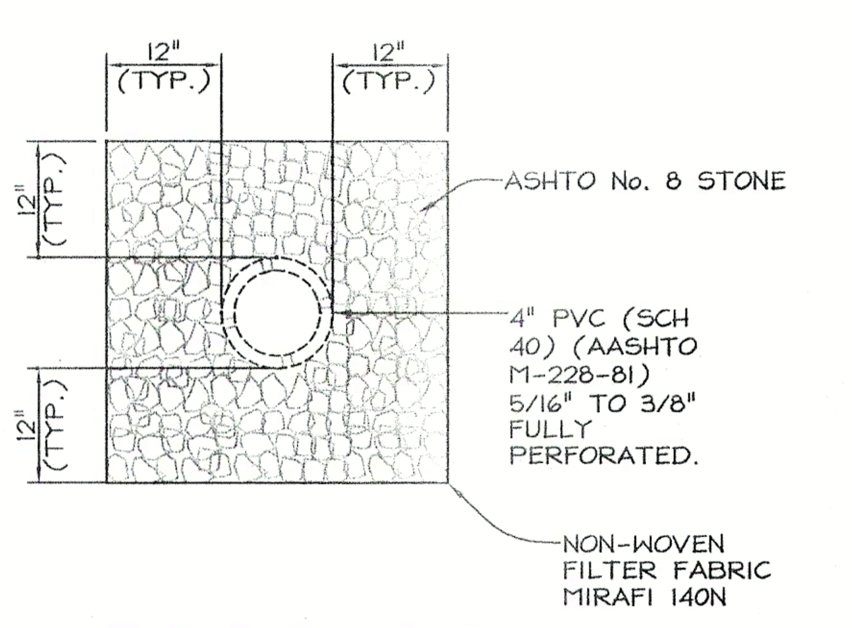
IMPERVIOUS CORE AND CORE TRENCH SECTION
Not to scale

FILTER DIAPHRAGM NOTES

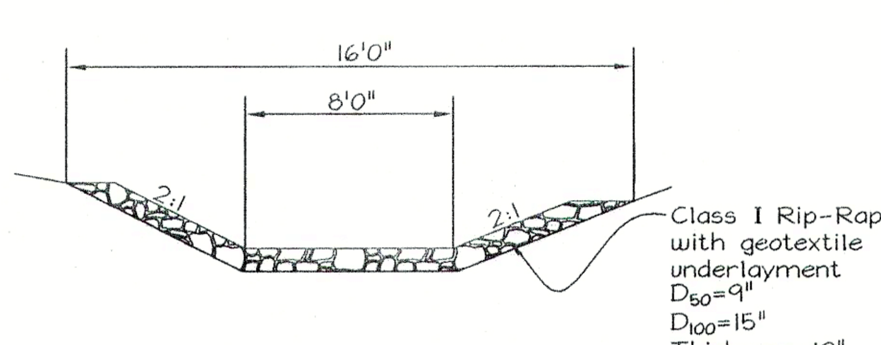
1. FILTER MATERIAL SHALL CONFORM TO ASTM C-33 (CONCRETE SAND).
2. FILTER DIAPHRAGM SHALL BE CONSTRUCTED IN HORIZONTAL LAYERS 12 INCHES THICK (BEFORE COMPACTION).
3. EACH LAYER SHALL BE HYDROCOMPACTED USING A SPRINKLER. MATERIAL MUST BE SATURATED.
4. CARE SHALL BE TAKEN SO THAT THE FILTER MATERIAL IS NOT CONTAMINATED.
5. ANY CONTAMINATED SAND SHALL BE REMOVED AND REPLACED WITH APPROVED MATERIAL.
6. PROTECTIVE COVERING OVER THE SAND FILTER MAY BE REQUIRED BETWEEN LIFTS.
7. ELBOWS SHALL BE USED FOR PVC INTERCONNECTIONS.
8. CONTRACTOR SHALL BEND AND CONSTRUCT THE 4" PVC PIPE TO ENSURE PASSAGE THROUGH THE TYPE 'C' CONCRETE END SECTION AND CONCRETE CRADLE (THE 4" PVC OUTFALL IS DIMENSIONED ON TYPE 'C' ENDWALL DETAIL THIS SHEET).
9. GEOTECHNICAL ENGINEER TO SPECIFY AND APPROVE FILTER MATERIAL AND PLACEMENT IN THE FIELD.



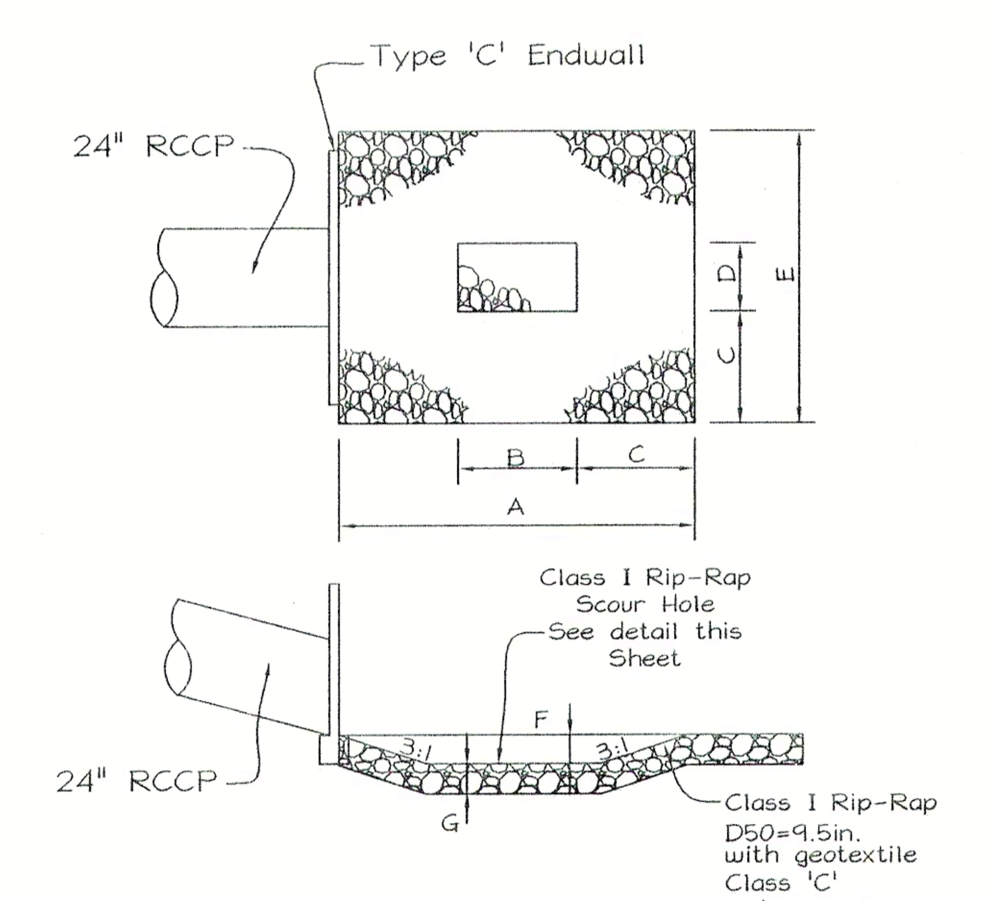
SECTION A-A



WRAP DETAIL FOR FILTER DIAPHRAGM
Not to scale



RIP RAP INFLOW PROTECTION TYPICAL CROSS SECTION DETAIL
NOT TO SCALE



PLUNGE POOL TABLE

OUTFALL	DIMENSIONS A	B	C	D	E	F	G	REMARKS
S-1	18'	6'	6'	4'	15'	2'	19"	24" RCCP

TYPICAL PLUNGE POOL DETAIL
NOT TO SCALE

PERMIT APPLICANT
Savage Stone, LLC.
P.O. Box 850
Laurel MD 20725

OWNER
Konterra
Limited Partnership
P.O. Box 850
Laurel MD 20725

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS *
Jim Myers 11/17/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT *
John R Robertson 11/17/06
HOWARD SCD DATE

ENGINEERS CERTIFICATE
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Zacharia Y. Fisch 11/16/06
SIGNATURE OF ENGINEER DATE
ZACHARIA Y. FISCH

PERMITTEE'S CERTIFICATE
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
Timothy J. Schmidt 11/16/06
SIGNATURE OF PERMITTEE DATE

SEDIMENT BASIN DETAILS
LAUREL LUMBER

TAX MAP 47 GRID 6 — PARCEL 384
6TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel:410-567-5200 Fax: 410-796-1562
E-mail: info@fsheri.com

DESIGN BY: SH
DRAWN BY: CRH2/RL
CHECKED BY: SH
SCALE: AS SHOWN
DATE: Nov. 16, 2006
W.O. No.: 3248
SHEET No.: 8 OF 10

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger that 1 and 1/2" in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

iii. For sites having disturbed areas over 5 acres:

i. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

NOTE: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil ammendments specified in 20.0 Vegetative Stabilization-Section I-Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be place while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

SEDIMENT CONTROL NOTES

1. All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
2. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all other disturbed or graded areas on the project site.
3. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
4. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the MDE Mining Program.
5. Site Analysis :

Total Area	38.63 Acres
Area Disturbed	27.00 Acres
Area to be roofed or paved	0.0 Acres
Area to be vegetatively stabilized	27.00 Acres
Total Cut	39,360 CY **
Total Fill	871,674 CY **
Offsite waste/borrow area location	N/A

6. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

* To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit

**Total cut and fill quantities are for permit purposes only. Contractor to verify earthwork quantities.

SEQUENCE OF CONSTRUCTION

1. Contact Maryland Department of Environment Mining Program Inspector 24 hours in advance of clearing and grading for a pre-construction meeting. (WMA-06-OB-0096)
2. Clear for and install sediment control devices, including Permanent Basin, Traps #1 and 2, super silt fence, earth dikes, rail crossing protection with storm drain pipes each side, and silt fences.
3. Bring site to grade adjusting rip rap inflow protection as grading proceeds. Grade and install slope benches as shown.
4. Apply temporary stabilization to all areas and permanent stabilization to areas not likely to be re-disturbed.
5. Install super silt fence and backfill Trap #2, bring site to final grades, and apply permanent stabilization.
6. Apply permanent stabilization to all disturbed areas, remove Trap #1, silt fences, earth dikes, and stabilize those areas.
7. Dewater Basin, remove accumulated sediment and stabilize. (Basin to remain as a permanent pond).

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone(92 lbs/1000 s.f.) And 900 lbs. / acre (20.7 lbs./1000s.f.) of 10-20-20 before seeding. Harrow or disc into upper 3 in. Of soil.
SEEDING: Apply a mixture of Turf Type Tall fescue(80%) and Hard Fescue (20%) in accordance with seeding dates and rates shown in the Permanent Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below and apply permanent seeding when within proper seeding dates.
MULCHING: Immediately following seeding, apply a uniform 1- 2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used).Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. Of wood fibre/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II, Acrylic DLR (Agro- Tack), DCA-70, Petroset and other approved equals may be used at rates recommended by the manufacturers.

Permanent Seeding Summary (Cool Weather Mix)

Seed Mixture (Hardiness Zone 7a and 6b) From Table 25					Fertilizer Rate (10-10-10)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
N/A	Orchard Grass Annual Rye Flatpee Birdsfoot Trefoil	60 2 1/2 20 10		0.5 in.	60 lb/ac (1.4 lb/ 1000sf)	60 lb/ac (1.4 lb/ 1000sf)	60 lb/ac (1.4 lb/ 1000sf)	2tons/ac (100lb/ 1000sf)

Permanent Seeding Summary (Warm Weather Mix)

Seed Mixture (Hardiness Zone 7a and 6b) From Table 25					Fertilizer Rate (10-10-10)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
N/A	Orchard Grass Weeping Lovegrass Annual Rye Flatpee Birdsfoot Trefoil	60 2 2 1/2 20 10		0.5 in.	60 lb/ac (1.4 lb/ 1000sf)	60 lb/ac (1.4 lb/ 1000sf)	60 lb/ac (1.4 lb/ 1000sf)	2tons/ac (100lb/ 1000sf)

TEMPORARY SEEDING NOTES

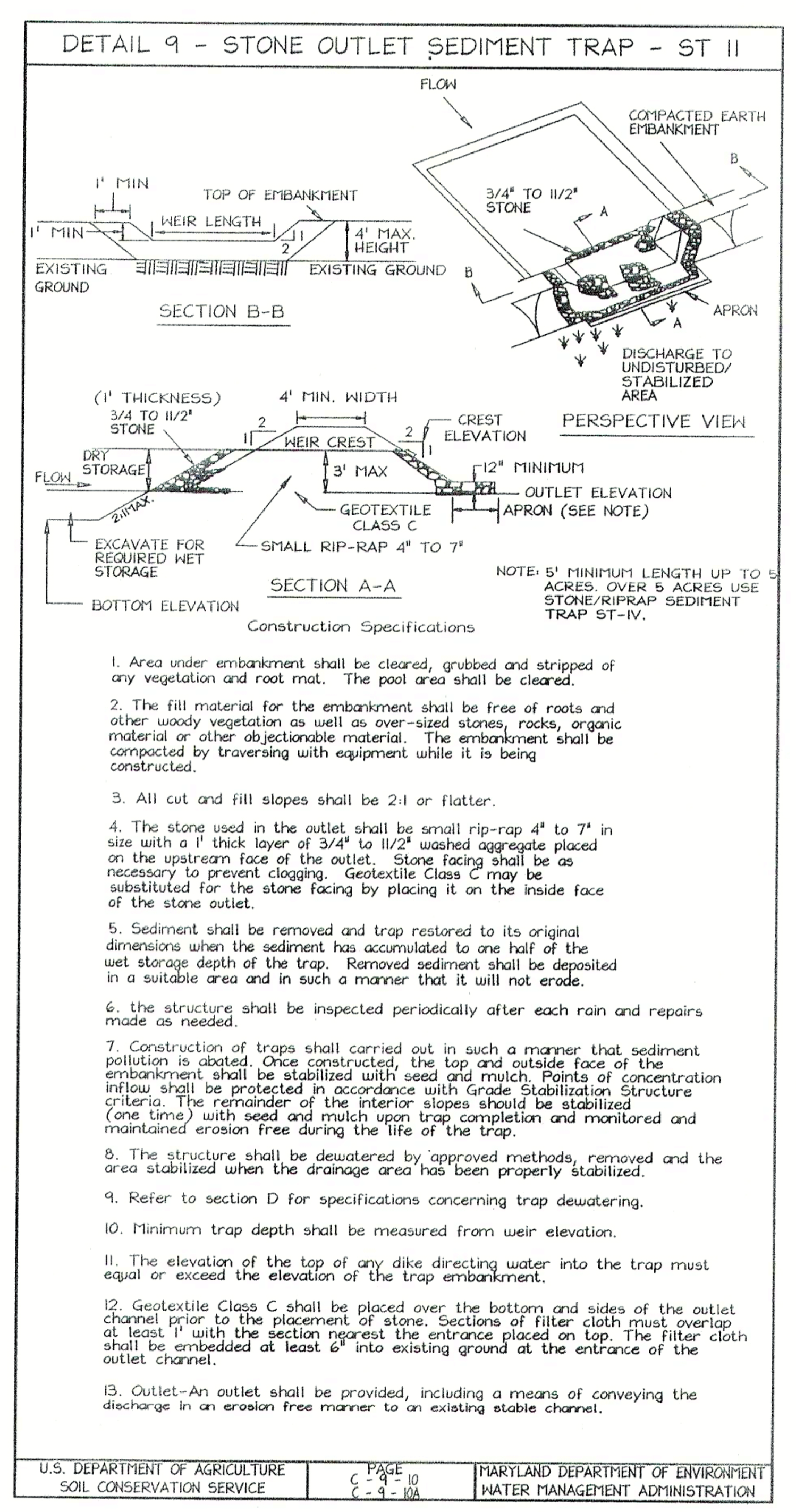
SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone(92 lbs/1000 s.f.) And 600 lbs. / acre (15 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. Of soil.
SEEDING: Apply the Maryland State Highway approved seed mixture of Barley or Rye plus Foxtail Millet in accordance with seeding dates and rates shown in the Temporary Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below.
MULCHING: Immediately following seeding, apply a uniform 1- 2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used).Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. Of wood fibre/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II, Acrylic DLR (Agro- Tack), DCA-70, Petroset and other approved equals may be used at rates recommended by the manufacturers.

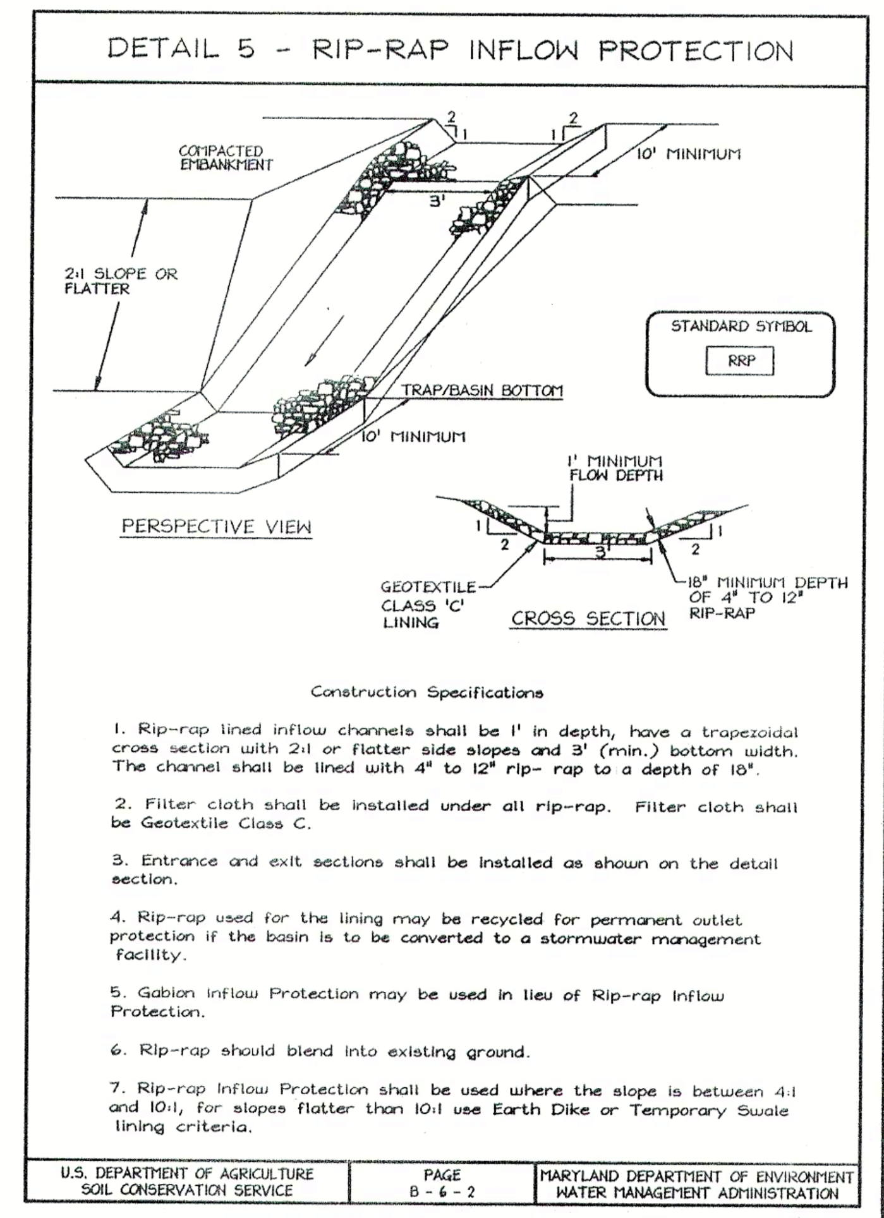
REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROLFOR RATE AND METHODS NOT COVERED.

Temporary Seeding Summary

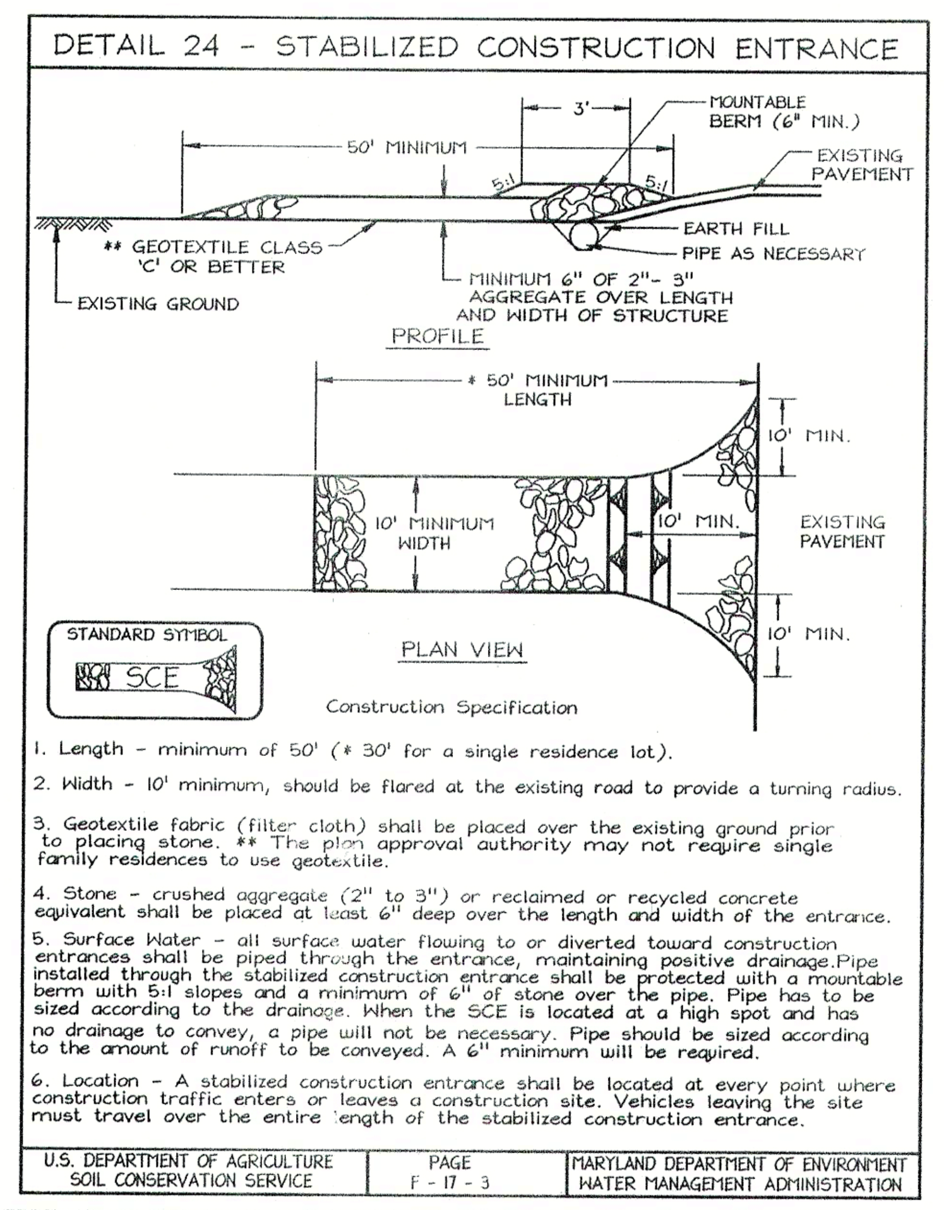
Seed Mixture (Hardiness Zone 6a and 7a) From Table 26					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
2	Barley or Rye plus Foxtail Millet	150 lbs (3.5lbs/1000sqf)	2/1-11/30 (7a) 3/15-10/31 (6a)	1/4 in- 1/2 in	600 lb/ac (15lb/1000sf)	2 tons/ac (100lb/1000sf)



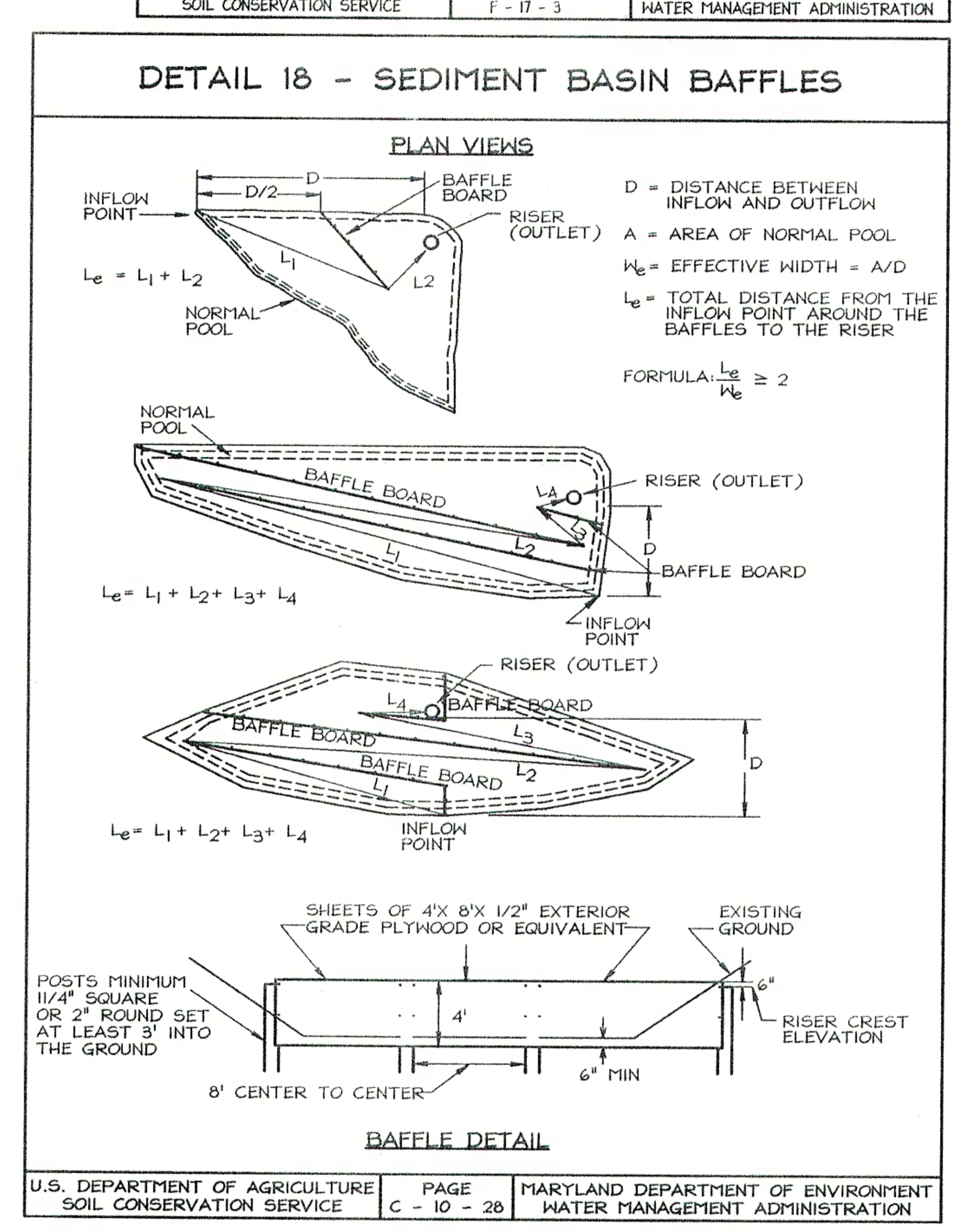
DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



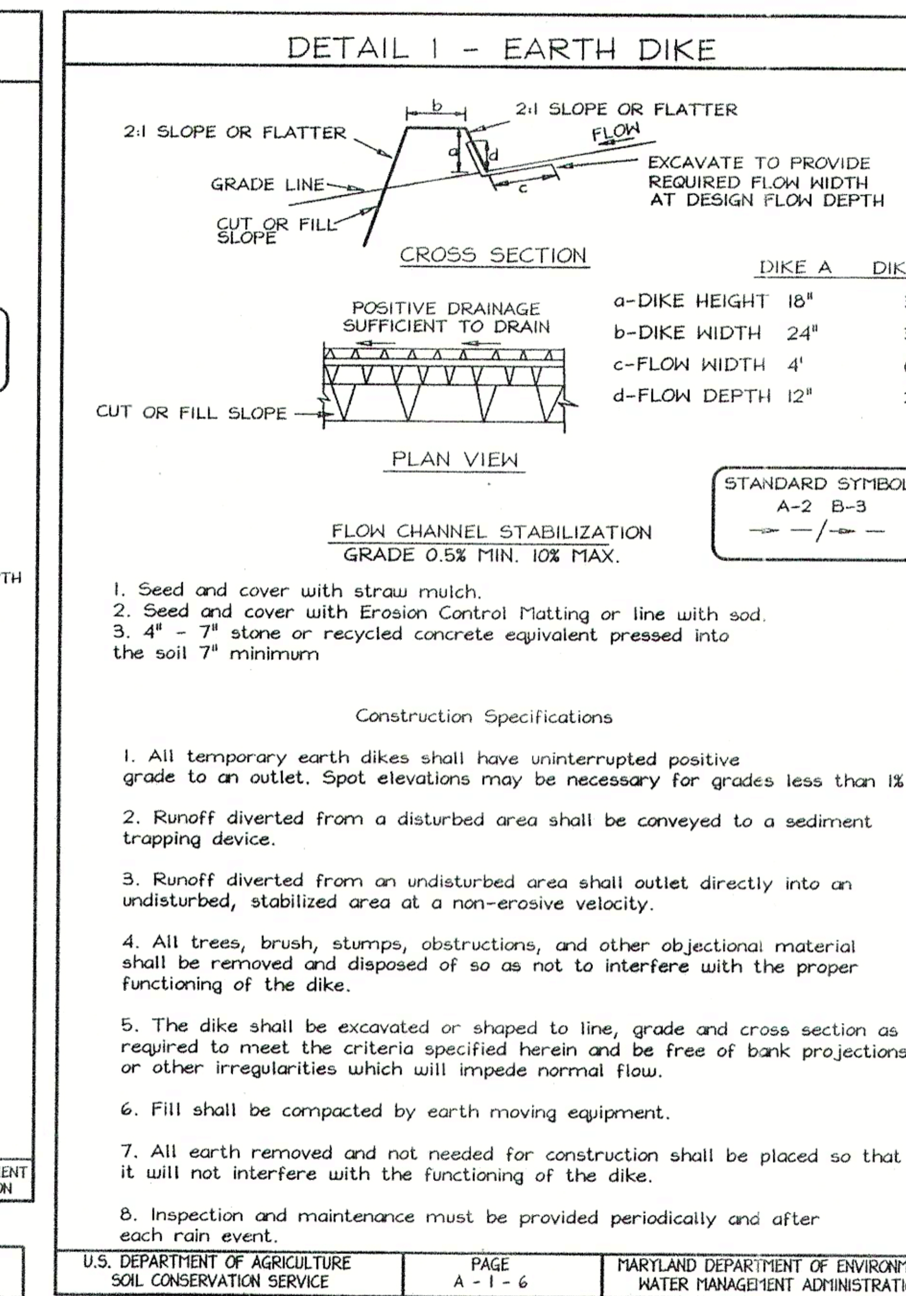
DETAIL 5 - RIP-RAP INFLOW PROTECTION



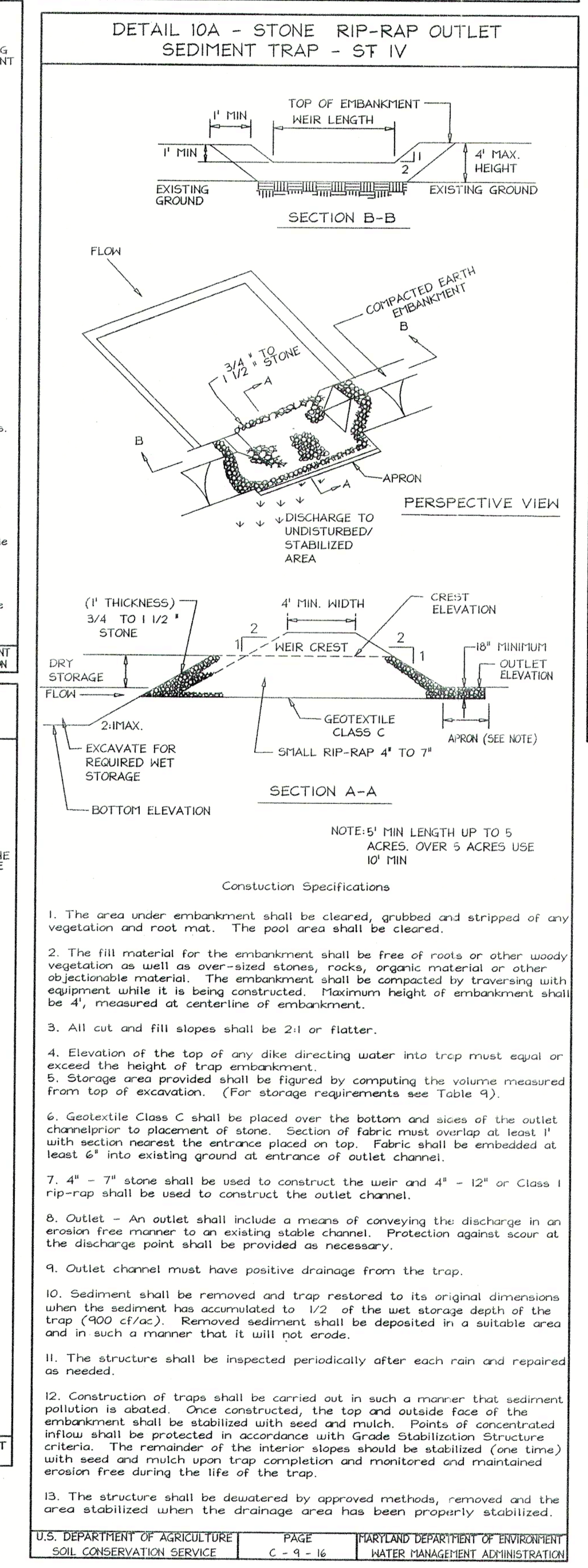
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



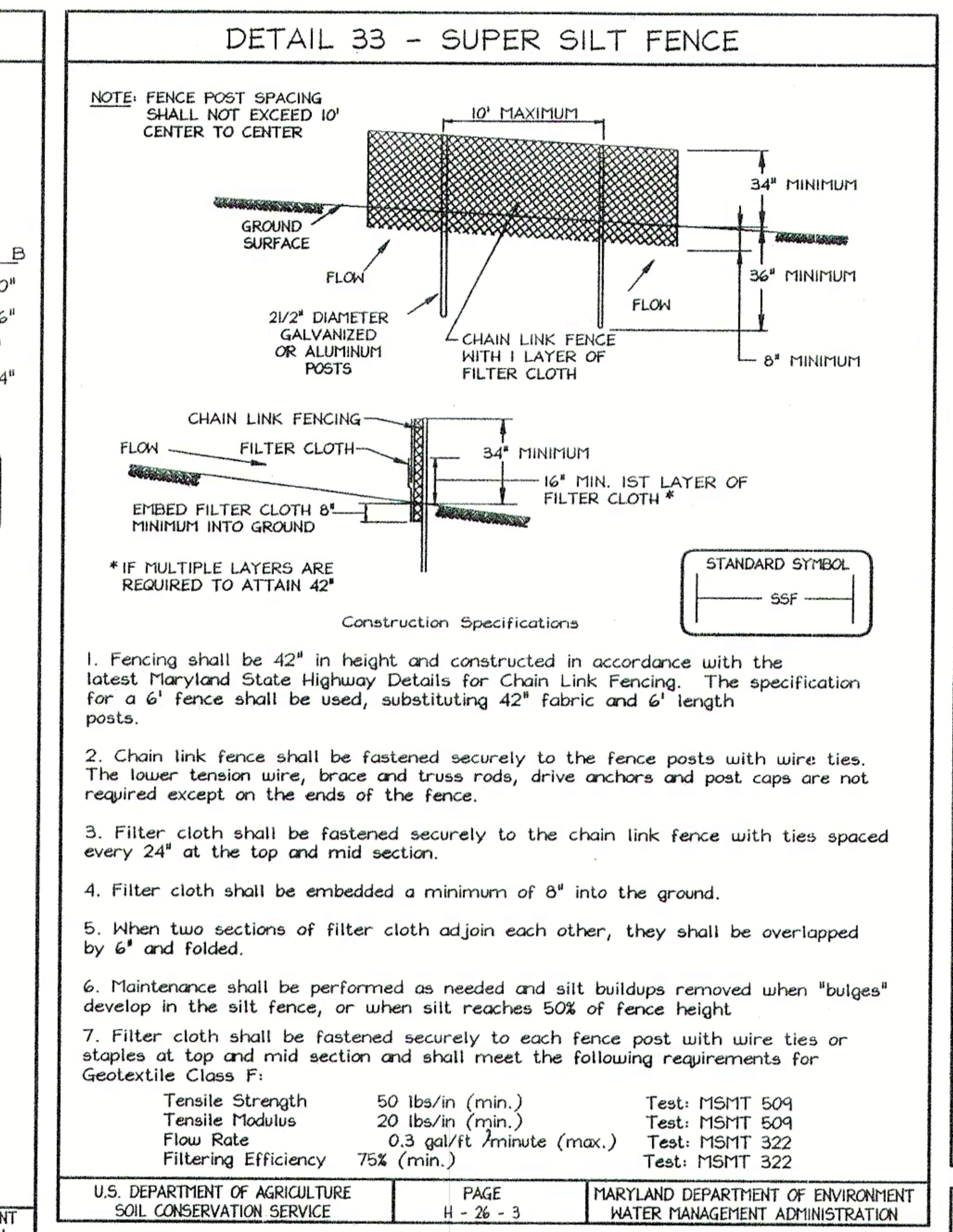
DETAIL 18 - SEDIMENT BASIN BAFFLES



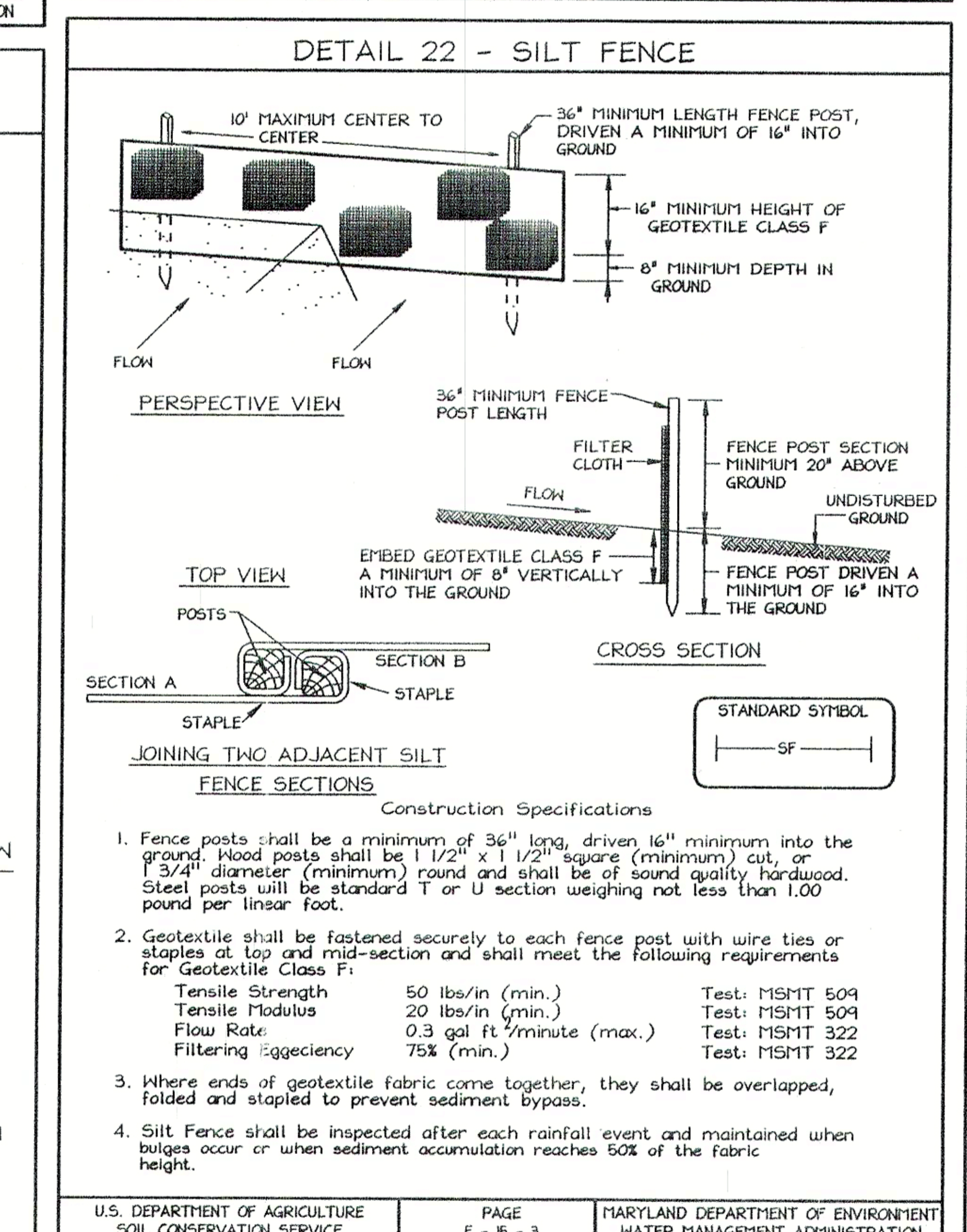
DETAIL 1 - EARTH DIKE



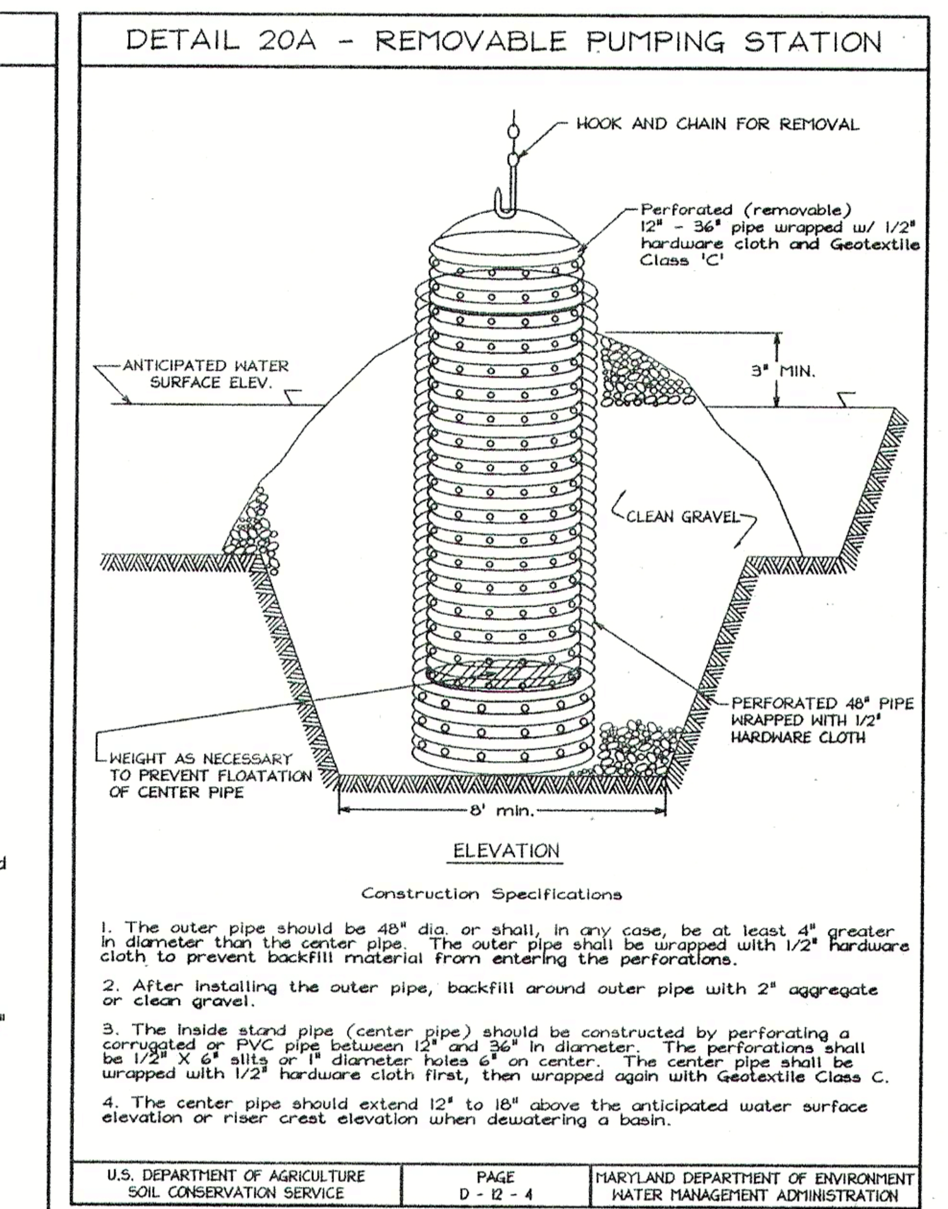
DETAIL 10A - STONE RIP-RAP OUTLET SEDIMENT TRAP - ST IV



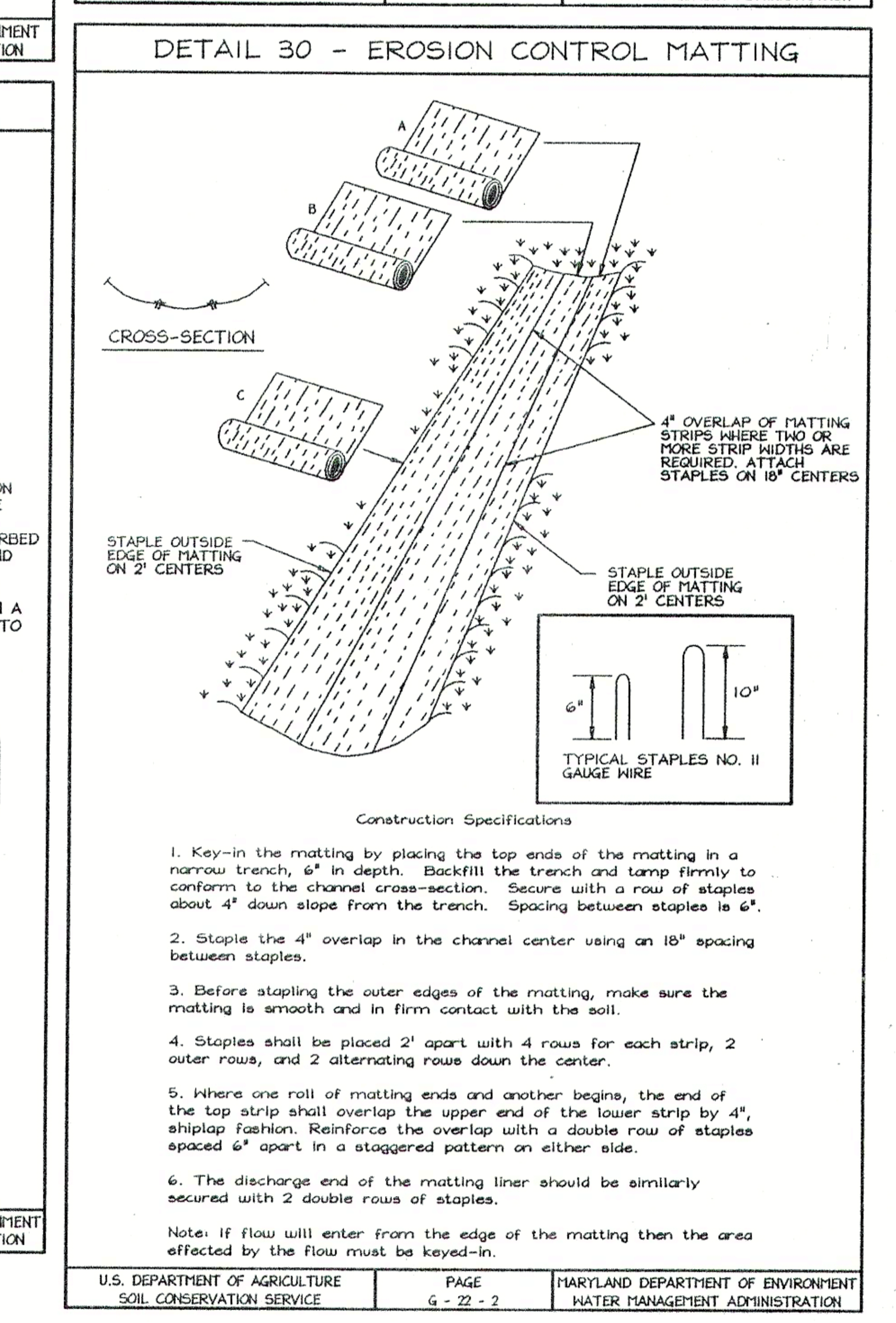
DETAIL 33 - SUPER SILT FENCE



DETAIL 22 - SILT FENCE



DETAIL 20A - REMOVABLE PUMPING STATION



DETAIL 30 - EROSION CONTROL MATTING

PERMIT APPLICANT

Savage Stone, LLC.
P.O. Box 850
Laurel MD 20725

OWNER

Konterra
Limited Partnership
P.O. Box 850
Laurel MD 20725

GRADING, SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

LAUREL LUMBER

TAX MAP 47 GRID 6 — PARCEL 384
6TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel:410-567-5200 Fax: 410-796-1562
E-mail: info@fsheri.com

DESIGN BY:	SH
DRAWN BY:	CRH2/RL
CHECKED BY:	SH
SCALE:	AS SHOWN
DATE:	Nov. 16, 2006
W.O. No.:	3248
SHEET No.:	9 OF 10

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS *

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 11/17/06

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT *

HOWARD SCD — DATE 11/17/06

ENGINEERS CERTIFICATE

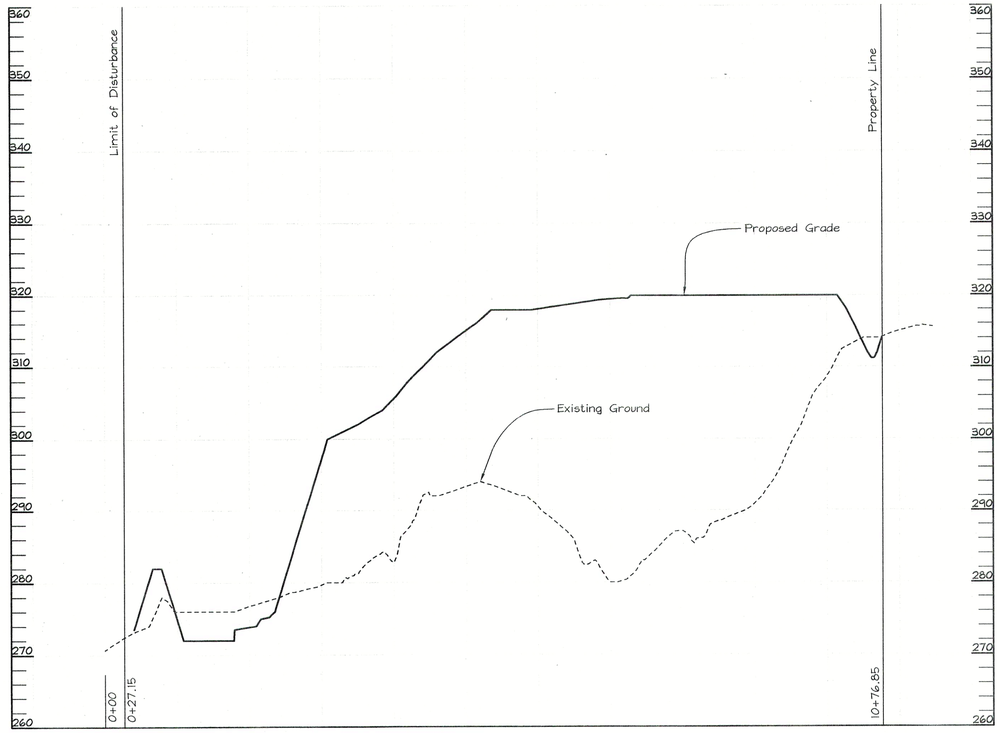
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER — DATE 11/16/06
ZACHARIA Y. FISCH

PERMITTEE'S CERTIFICATE

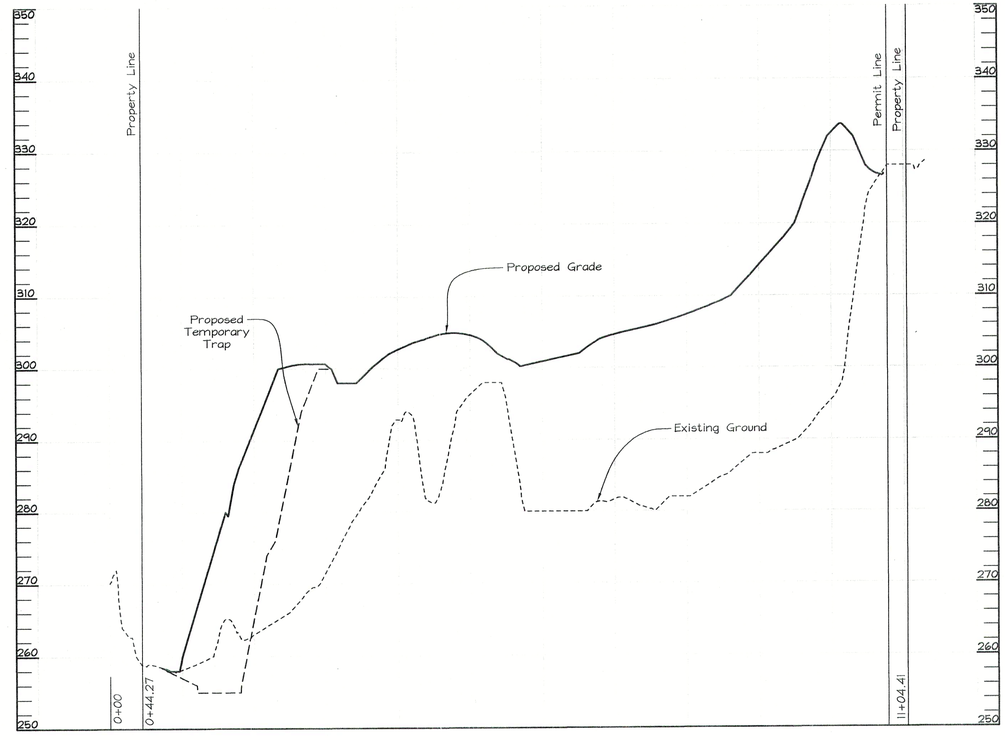
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF PERMITTEE — DATE 11/16/06



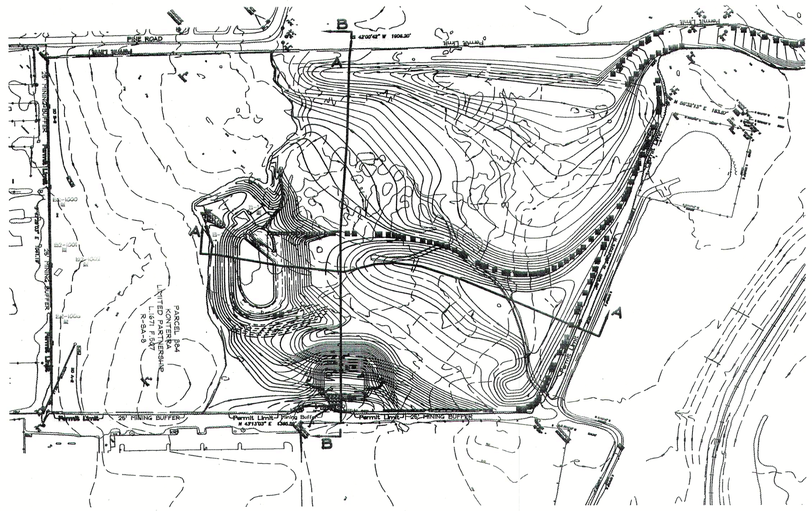
SECTION A-A

Scale: Horizontal- 1"=100'
Vertical-1"=10'



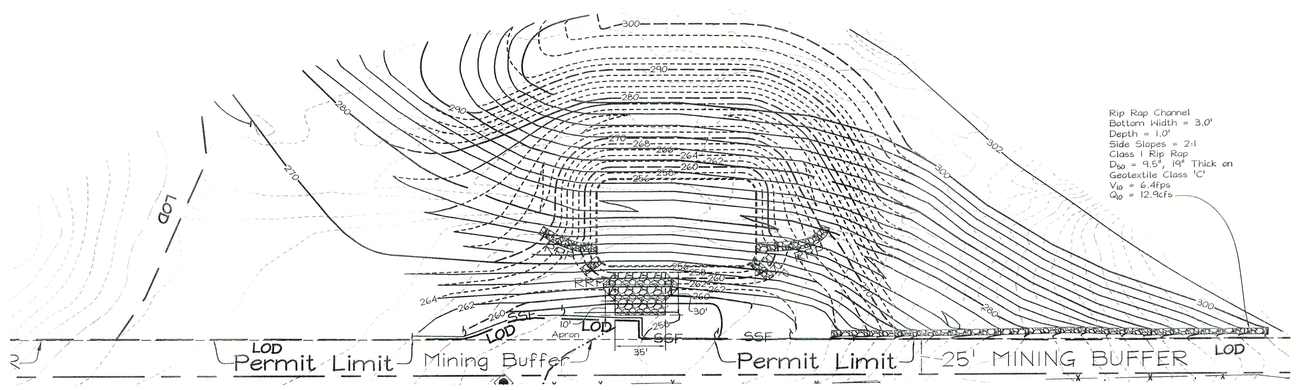
SECTION B-B

Scale: Horizontal- 1"=100'
Vertical-1"=10'



PLAN VIEW

Scale: 1"=200'



SEDIMENT TRAP #2 - REMOVAL DETAIL

Scale: 1"=50'

LEGEND

- Pre-Existing Contour — 382
- Proposed Contour — 82
- Spot Elevation — +82.53
- Existing Trees to Remain
- Utility Poles
- Stabilized Construction Entrance — SCE
- Silt Fence — SF
- Super Silt Fence — SSF
- Earth Dike — ED A-1
- 25' Mining Buffer
- Permit Limit — Permit Limit
- Limit of Disturbance — LOD
- Property Line
- Erosion Control Matting
- Existing Contour
- Rip Rap Inflow Protection — RRP

PERMIT APPLICANT

Savage Stone, LLC.
P.O. Box 850
Laurel MD 20725

OWNER

Konterra
Limited Partnership
P.O. Box 850
Laurel MD 20725

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS *

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Zacharia Y. Fisch — 11/16/06
SIGNATURE OF ENGINEER — DATE
ZACHARIA Y. FISCH

PERMITTEE'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy J. Schmidt — 11/16/06
SIGNATURE OF PERMITTEE — DATE

CROSS SECTIONS
LAUREL LUMBER

TAX MAP 47 GRID 6
6TH ELECTION DISTRICT

PARCEL 384
HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 25416 — PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel:410-567-5200 Fax: 410-796-1562
E-mail: info@fshen.com

DESIGN BY:	SH
DRAWN BY:	CRH2/RL
CHECKED BY:	SH
SCALE:	AS SHOWN
DATE:	Nov. 16, 2006
W.O. No.:	3248
SHEET No.:	10 OF 10