

Applicant: Oak Grove Resources, LLC  
Mine Name: Concord Preparation Plant  
Permit Number: P- 3233 / Revision R-22

Part III - Operation Plan

A. General Operation Information

1. Describe the type and method of coal mining procedures and major equipment to be used. (780.11)

See original permit and subsequent revision applications.

2. Describe the sequence and timing of increments to be mined (as shown on permit map) over the total life of the permit. (780.11)

The timing increments are as follows:

<u>INCREMENT NO.</u>	<u>ACRES</u>	<u>DATES</u>	
		<u>FROM</u>	<u>TO</u>
1	811	Issuance of R-22	Life of permit
2	72	Issuance of R-22	Life of permit
3	24	Issuance of R-22	Life of permit

\*Month depends on date permit is issued.

The sequence of mining operations will be generally as follows:

- 1) Construction of Sediment Control Structures
- 2) Site Preparation
- 3) Construction
- 4) Site Reclamation
- 5) Revegetation

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ATTACHMENT III-A-1  
TYPE AND METHOD OF COAL MINING PROCEDURES

There will be no mining at this site as this site is a coal preparation plant. Preparation will consist of (a) timber removal (b) topsoil removal (c) coal processing (d) regrading and revegetation. Once the site has been regraded soil samples will be analyzed (where required) and proper nutrients will be added before revegetation. Any problem that may arise will be handled by proper consulting personnel utilizing various support equipment and support personnel.

Revision R-22 proposes to add 25 acres to Increment No.1 for the construction of Basins 050, 051 and Diversion 1. It also proposes to modify the Coarse Refuse Disposal Area. The modification consists of expanding the Refuse Disposal Area Easterly, covering Basin 018, once Basin 051 and Diversion 1 has been constructed and certified to the Regulatory Authority. The Coarse Refuse Disposal Area expansion will follow the Specifications shown in Attachment III-A-3-(b) COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS and the Coarse Refuse Disposal Area Detailed Design Plans 3a. See Attachment III-B-2(d) and attached MSHA approval letter dated October 30 2013.

Generally it will consist of clearing and grubbing of the expansion area followed by topsoil removal and stockpiling. After this foundation preparation is completed the placement of the refuse material will begin in lifts not to exceed 2 feet in thickness followed by compaction to a minimum of 90% of the Standard Proctor Density and outer slopes constructed on a 2.5 horizontal to 1 vertical slope. As the refuse reaches a height of 50 feet slope bench and down drains will be constructed as shown in the detailed design plans. This process will repeat itself until the refuse reaches a maximum height of the 730 elevation.

Also Fine Coal Refuse (FCR) will be generated by pumping Slurry through a Plate Filter Press System to capture the Fine Refuse from the Slurry, press the solids into a cake that can be handle mechanically to be co-mingle with the Coarse Refuse prior to placement in the 2' lifts and compacted to 90% Standard Proctor as a part of the currently approve plan for Coarse Refuse Disposal. See attached letter from MSHA dated June 29, 2015.

A 2 feet thick layer of cover material will be placed on the finish graded Coarse Refuse followed by the immediate re-vegetation placement of seed, fertilizer, lime and mulch as detailed in the reclamation plan. The Detailed Design Plans for the Coarse Refuse Disposal Area Expansion East are included in this revision. This expansion East will necessitate the covering of Basin 018E, Basin 03AE and 03BE, Finish Basin, Sludge Drying Beds, Sludge Basin, Lime Mixing, Aeration Basin and Settling Basin. The drainage control plan has been modified to re-direct runoff currently entering Basin 018E through Diversion Ditch 1 to Basin 051P. Detailed Design Plans are included in this revision for Basin 050P, 051P and Diversion Ditch 1.

The additional 25 acres will also be utilized to excavate soil material and parent material, suitable for use as cover material during the reclamation phase of the Coarse Refuse Disposal Area and prior to placement of Coarse Refuse Material. The material excavated to be used for cover material will be stockpiled within the Permit Boundary and within the Watershed of a Certified Sediment Basin West of Bypass Diversion H-H'.

Revision R-22 proposes create Increment No. 3 to add 24 acres to Increment No.3 for the construction of Basins 023, Diversion G-G' and Bypass Diversion H-H'. It also proposes to modify the Coarse Refuse Disposal Area 3b Plan. The modification consists of expanding the Refuse Disposal Area Easterly once Basin 023, Diversion G-G' and Bypass Diversion H-H' has been constructed and certified to the Regulatory Authority. The Coarse Refuse Disposal Area expansion will follow the Specifications shown in Attachment III-A-3-(b) COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS and the Coarse Refuse Disposal Area Detailed Design Plans to be submitted upon approval by MSHA. They are under review at MSHA currently. Basin 023, Diversion G-G' and Bypass Diversion H-H' Detailed Design Plans will be submitted for review and approval by the Regulatory Authority prior to Bonding Increment No. 3.

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The additional 24 acres will also be utilized to excavate soil material and parent material, suitable for use as cover material during the reclamation phase of the Coarse Refuse Disposal Area and prior to placement of Coarse Refuse Material. The material excavated to be used for cover material will be stockpiled within the Permit Boundary and within the Watershed of a Certified Sediment Basin West of Bypass Diversion H-H'.



OCT 30 2013

Lawrence Pasquale, Safety Manager  
Concord Mine, ID No. 01-00329  
Oak Grove Resources, LLC  
8360 Taylors Ferry Road  
Hueytown, AL 35023

Dear Mr. Pasquale:

A revised design plan in response to a request for additional information for proposed Slurry Impoundments No. 3 and No. 4 as well as the Coarse Coal Refuse Disposal Area dated July 19, 2013, was reviewed and also sent to the MSHA Mine Waste and Geotechnical Engineering Division (MWGED) in Pittsburgh, Pennsylvania, for technical review. A report has been received from MWGED indicating that the plan appears to be technically acceptable. This letter constitutes approval of the plan. Notification to this office when construction begins is to be construed as part of this approval.

The assigned identification numbers for the impoundments are as follows:

Slurry Impoundment No. 3	1211-AL11-00093-01
Slurry Impoundment No. 4	1211-AL11-00093-02
Coarse Coal Refuse Disposal Area	1211-AL11-00043-02

If you should have any questions concerning this matter please contact the District 11 Plans Group at (205) 290-7302, ext. 261.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard A. Gates".

Richard A. Gates  
District Manager

cc: Cardno MM&A  
200 George Street, Suite 6  
Beckley, WV 25801

Ron McCrary  
UMWA Local #8982, ID No. 01-00329  
P. O. Box 107  
Dolomite, AL 35061

U.S. Department of Labor

Mine Safety and Health Administration  
1030 London Drive, Suite 400  
Birmingham, AL 35211-4542



JUN 29 2015

**OPERATOR'S COPY**

Lawrence Pasquale, Safety Manager  
Concord Mine, ID No. 01-00329  
Oak Grove Resources, LLC  
8360 Taylors Ferry Road  
Hueytown, AL 35023

Dear Mr. Pasquale:

Your letter, dated June 24, 2015, stating a plan to install a plate filter press system is hereby acknowledged.

It is understood, from the letter, that the fine coal refuse produced by the press, will be combined or co-mingled with coarse coal refuse. That material will be deposited on refuse disposal area 1211-AL11-00043-02 in a manner which complies with the current coal refuse disposal plan.

If you have questions, regarding this letter, please contact the MSHA District 11 Plans Group at (205) 290-7302 ext. 261.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard A. Gates".

Richard A. Gates  
District Manager

Applicant: Oak Grove Resources, LLC  
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3. Attach a narrative explaining the construction modification, use, maintenance, and removal of the following facilities: (780.11)
- (a) Coal removal, handling, storage, cleaning and transportation structures and facilities;
  - (b) Spoil, coal processing waste and non-coal waste removal, handling, storage, transportation and disposal structures and facilities;
  - (c) Mine facilities; and
  - (d) Water pollution control facilities.

See Attachment III-A.-3

4. Describe the means to be used to maximize the use and conservation of coal reserves in the permit area. (780.18, 816.59)

Some of the measures are:

- A) Mining utilizing the Longwall Method for maximum recovery.
- B) Washing and blending coal that in its "raw" condition would not be marketable.

5. Describe measures to be taken to ensure that all debris, acid-forming and toxic-forming materials and materials constituting a fire hazard are disposed of in accordance with 816.89 and 816.103; include contingency plans to prevent sustained combustion of such material. (780.18)

Should acid or toxic forming material be encountered, the material will either be covered with a minimum of four (4) feet of non-toxic and noncombustible material or treated to neutralize toxicity, prevent water pollution, prevent sustained combustion, and minimize adverse effects on plant growth and land uses. Additionally, no acid or toxic forming material will be buried or stored in the proximity of a drainage course. All acid or toxic forming material will be selectively hauled or conveyed, and compacted in the coarse refuse disposal area.

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Attachment III-A-3

3. (b)

Revision R-22 consists of the modification to the Coarse Refuse Disposal Area by expansion to the East. The maximum elevation will remain at 730 elevation over the entire Coarse Refuse footprint, except for the pool area of Slurry Impoundment No. 3 until the decision is made to stop pumping slurry into Slurry Impoundment No. 3 and reclaim by covering and filling with Coarse Refuse up to the 730 elevation.

Slurry Impoundment No. 3 will be used to collect and store fine coal waste produced from the washing operations at this facility and will be inspected and maintained until reclamation of the area is complete. Impoundment construction and any subsequent modifications that may be required will be conducted under the general supervision of a qualified registered professional engineer and will be done in accordance with the approved design plans.

Coarse Refuse Disposal Area is an existing structure and the Modification will be used to store additional coarse coal waste produced from the washing operations at this facility and will be inspected and maintained until reclamation of the area is complete. Waste bank construction and any subsequent modifications that may be required will be conducted under the general supervision of a qualified registered professional engineer and will be done in accordance with the approved design plans. The waste bank will be constructed of coarse refuse produced at this facility. See Attachment III-A-3(b) for specifications.

Routine maintenance of the Coarse Refuse Disposal Area will consist of repair and stabilization of any rills and gullies which may develop and repairs to erosion protection structures as required. The waste bank will be inspected by a registered professional engineer or other qualified professional specialist under the direct supervision of the qualified professional engineer. Inspections will be made at least quarterly and during times of removal of organic material and topsoil, installation of diversion ditches, installation of internal drains, placement and compaction of refuse material, and re-vegetation of the fill. Certification inspection reports will be filed with the Regulatory Authority stating that proper construction and maintenance are occurring in accordance with approved design plans. Photos will be taken of internal drains, etc. that will be covered and unavailable for inspection upon coving by fill material. Inspection reports will be retained at the facility office.

See Attachment III-A-3(b) for specifications.

Attachment III-A-3(b)

COARSE REFUSE SPECIFICATIONS

1. All coarse refuse will be placed in the disposal area so as to:
  - a) Minimize adverse effects of leachate and surface-water runoff on surface and ground water quality and quantity.
  - b) Ensure mass stability and prevent mass movement during and after construction.
  - c) Ensure the final disposal facility is suitable for reclamation and revegetation compatible with the natural surroundings and the approved post mining land use.
  - d) Ensure compaction of 90% of the maximum dry density of the standard proctor. Compaction will be accomplished using rubber tired or track equipment that is available onsite and will be verified by Nuclear Density test performed on a frequency not to exceed 1 test per 40,000 square feet per lift with no more than 5 percent of the tests values below the limit if the low densities occur at random. If the low densities are concentrated in one lift or area, that area will be recompacted until the median meets the requirements.
  - e) Not create a public hazard.
  - f) Prevent combustion.
2. Coal mine waste material from activities located outside the permit area may be disposed in the site only if approved by the Regulatory Authority based on showing the disposal will be in accordance with the regulations.
3. The site shall be designed using current, prudent engineering practices and any design criteria established by the Regulatory Authority. The design shall be certified by a qualified registered professional engineer, experienced in the design of similar earth and waste structures.
4. The disposal facility shall be designed to attain a minimum long-term static safety factor of 1.5 and the foundation and abutments must be stable under all conditions of construction.
5. Sufficient foundation investigations as well as necessary laboratory testing of foundation material shall be performed to determine the

## COARSE REFUSE SPECIFICATIONS

(Continued)

design requirements for foundation stability. The analyses shall take into consideration the effect of underground mine workings.

6. If any examination or inspection discloses a potential hazard, the Regulatory Authority shall be informed promptly of the finding and of the emergency procedures formulated for public protection and remedial action.
7. If the disposal site contains springs, natural or man-made water courses, or wet weather seeps, the design shall include diversions and under drains as necessary to control erosion, prevent water infiltration into the disposal site and ensure stability.
8. Uncontrolled surface drainage may not be diverted over the out slope of refuse piles. Runoff from the area above the refuse pile and runoff from the surface of the refuse pile shall be diverted into stabilized diversion channels designed to safely pass the runoff from a 100-year, 6-hour precipitation event. Runoff diverted from undisturbed areas need not be co-mingled with runoff from the surface of the refuse pile.
9. Slope protection shall be provided to minimize surface erosion. All disturbed areas, including diversion channels that are not rip-rapped or otherwise protected, shall be re-vegetated upon completion of construction.
10. Coal mine waste shall be spread in layers no thicker than 24 inches.
11. All vegetative and organic material shall be removed from the disposal area prior to placement of coal mine waste. Topsoil shall be removed, segregated and stored for redistribution in the reclamation process unless a topsoil variance is obtained.
12. The final configuration of the refuse pile shall be suitable for the approved post mining land use. Terraces may be constructed on the out slope of the refuse pile if required for stability, control of erosion, conservation of soil moisture, or facilitation of the approved post mining land use. The grade of the out slope between terraces benches shall not be steeper than 2H:1V.

COARSE REFUSE SPECIFICATIONS  
(Continued)

13. No permanent impoundments shall be allowed on the completed refuse pile. Small depressions may be allowed by the Regulatory Authority if they are needed to retain moisture, minimize erosion, create and enhance wildlife habitat, or assist re-vegetation, and if they are not incompatible with stability of the refuse pile.
14. Following final grading of the refuse pile, the coal mine waste shall be covered with a minimum of 2 feet of the best available nontoxic and noncombustible material in a manner that does not impede drainage from the under drains.
15. A qualified registered professional engineer, or other qualified professional specialist under the direction of the professional engineer, shall inspect the refuse pile during construction.

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2. Ponds, impoundments, banks, dams, and embankments. (780.25)  
(a) Submit a general plan which complies with Section 780.25(a)(1) for each proposed sedimentation pond, water impoundment, and coal processing waste bank, dam or embankment to be located within the proposed permit area.

See attachment III-B.-2.A

- (b) Submit detailed design plans which comply with Sections 780.25(a)(2 and 3) and 816.46 for each sedimentation pond to be constructed on the increment you currently propose to mine. If the sediment pond is to remain as a permanent water impoundment, design plans shall also comply with Section 816.49.

See attachment III-B.-2.A

- (c) Submit detailed design plans which comply with Sections 780.25(a)(2 and 3) and 816.49 for each temporary or permanent water impoundment to be constructed on the increment you currently propose to mine.

See attachment III-B.-2.A

- (d) Submit detailed design plans which comply with Sections 780.25(a)(2 and 3) and 816.81-816.85 for each coal processing waste bank to be constructed on the increment you currently propose to mine.

See attachment III-B-2(d)

- (e) Submit detailed design plans which comply with Sections 780.25(a)(2 and 3) and 816.91-816.93 for each coal processing waste dam and embankment to be constructed on the increment which you currently propose to mine.

None proposed

3. Diversions. (780.29, 816.43, 816.44)

Are diversions of overland flow or stream channel diversions proposed?  
(XXX) Yes ( ) No

If yes, complete the following:

- (a) Is the diversion to be permanent?  
(XXX) Yes ( ) No

- (b) Describe in detail the proposed diversion and include plans, maps and cross-sections which comply with 816.43 and 816.44.

See Detailed Design Plans for Diversion Ditch 1.

- (c) If diversions are temporary, enclose plans for removal, including a timetable and plans for restoration of vegetation, channel characteristics, etc.

Not applicable.

- (d) Enclose approvals of other government agencies, where required.

None required.

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Attachment III-B-2(a)

CERTIFICATION STATEMENT:

I hereby certify that Attachment III-B-2(a) prepared for Oak Grove Resources, LLC Concord Preparation Plant, is in accordance with the Regulations of the Alabama Surface Mining Commission as adopted by Act 81-435 of December 18, 1981 and amended to date, and is true and correct to the best of my knowledge, information and belief.

\_\_\_\_\_  
Leslie G. Stephens, P.L.S. & P.E.  
AL Registration No. 14117-E

\_\_\_\_\_  
Date

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Mine Name: Concord Preparation Plant  
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Attachment III-B-2(a)

#### ADDENDUM TO THE GENERAL PLAN

The addendum to the general plan consists of submitting modification plans for the Coarse Refuse Disposal Area. The modification to the Coarse Refuse Disposal Area will be the expansion to the East covering Basin 018, 003A, 003B, Sludge Drying Beds, Finish Basin, Settling Basin, Surge Basin, Aeration Basin and Lime Mixing. The Drainage control will be provide by Basins 051, 050 and 023 to be constructed in that order.

The construction of Basin 051 will be the first phase of the work to be performed for this revision. Upon approval of the Detailed Design Plans for Basin 051 and issuance of this Permit Construction and certification to the Regulatory Authority will be performed prior to braking the watershed of Basin 051. Basin 018 will be prepared for coving with the Coarse Refuse Expansion to the East along with Basins 003A, 003B, Sludge Drying Beds, Finish Basin, Settling Basin, Surge Basin, Aeration Basin and Lime Mixing as Coarse Refuse Expansion to the East progresses to their locations individually. This preparation will consist of de-watering the Basin and following the Coarse Refuse Disposal Plans specification for cover the Basins as required in the Detailed Design Plans Attachment III-B-2(d). Diversion Ditch 1 will be constructed as a part of drainage control prior to entering the watershed of Basin 050 to direct the rainfall run-off around the Coarse Refuse Disposal Area and into Basin 050 prior to leaving the Permit.

See Attachment III-B-2(d) Coarse Refuse Disposal Area Detailed Design Plans,  
See Attachment III-B-2(a) Detailed Design Plans for Basin 051  
See Attachment III-B-3-(b) Detailed Design Plans for Diversion Ditch 1  
See Attachment III-A-3(b) Coarse Coal Processing Waste Bank Requirements

Drainage Control for the modification of the Coarse Refuse Disposal Site is through Sediment Ponds No. 051, 050, 023, Diversion Ditch 1 and Diversion G-G'. Bypass Diversion Ditch H-H' will be constructed prior to disturbance in the watershed of Basin 023 to prevent co-mingling of rainfall run-off up gradient of the Permit Boundary. See attached watershed map for basin and diversion ditch locations and preliminary hydrologic information.

The second phase of this revision is the submittal of Coarse Ruse Disposal Area Modification Plans upon approval by MSHA. They are currently under review by MSHA. Also the submittal of Basin 023 Detailed Design Plans, Diversion Ditch G-G' Detailed Design Plans and Bypass Diversion H-H' Detailed Design Plans. All plans required for Increment No. 3 will be submitted prior to Bonding of Increment No.3.

Geologic investigations indicate that Coarse Refuse Disposal Area is underlain by a shale and sandstone foundation overlain by coarse and fine coal refuse. The strata in the area is characterized by small scale normal faulting and gentle open folding. All surface drainage from the proposed mining area flows into a Unnamed Tributary to Lick Creek and Lick Creek.

See Attachment III-B-2(a) for the Watershed Map.

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**Attachment III-B-2-A**

<u>Basin No.</u>	<u>Location</u>	<u>Drainage Area (Acres)</u>
Basin 023	SW/SW & NW/SW of Section 24	30.0
Basin 050	SE/SE of Section 23	143.5
Basin 051	SE/SE of Section 23 and NE/NE of Section 26	77.6

All basins are located within Township 18 South, Range 5 West, Jefferson County, Alabama, as found on the Concord Alabama USGS Quadrangle Map.

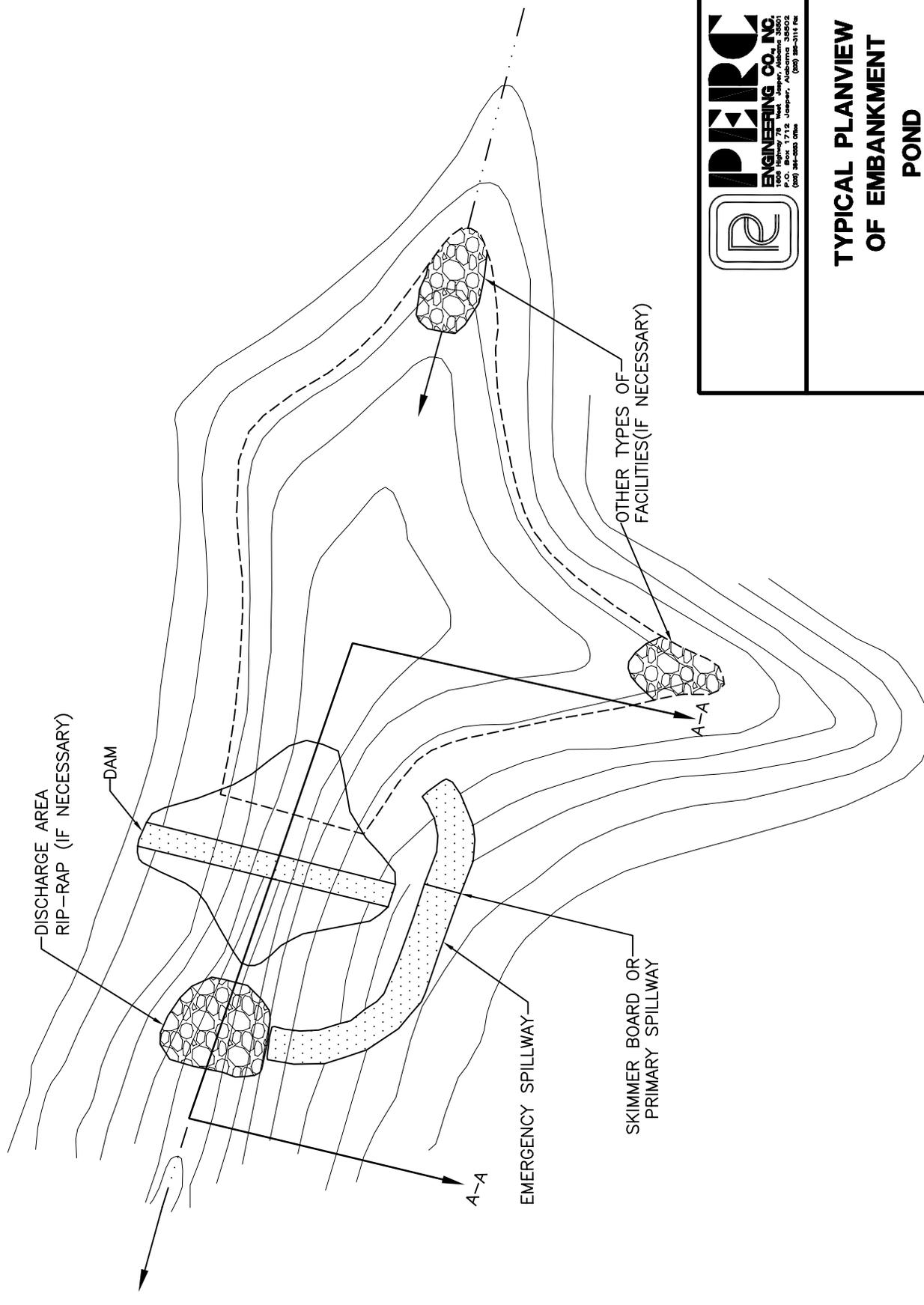
## Pond Construction Criteria

The embankment for sediment basins (temporary and permanent) shall be designed and built using the following as minimum criteria:

1. The top of the dam shall be no less than 12 feet wide.
2. See design sheet for maximum and minimum embankment slopes.
3. The foundation and abutments for the impounding structure shall be designed to be stable under all conditions of construction and operation of the impoundments, with a minimum static safety factor of 1.3 for the normal pool with steady seepage saturation conditions.
4. The dam shall be constructed with a cutoff trench based upon prudent engineering practices for the site. The cutoff shall be located on the dam centerline and be of sufficient depth to extend into a relatively impervious material from which the core of the dam shall also be constructed.
5. The embankment foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h, and the entire foundation surface scarified.
6. The entire embankment and cutoff trench shall be compacted to 95 percent density, based on standard proctor as outlined in ASTM.
7. The material placed in the embankment shall be free of sod, roots, stones over 6 inches in diameter, and other objectionable materials. The fill material shall be placed and spread over the entire fill area, starting at the lowest point of the foundation, in layers not to exceed 12 inches in thickness. Construction of the fill shall be undertaken only at such times that the moisture content of the fill material will permit satisfactory compaction in accordance with paragraph 5.
8. The pool area of all basins will be cleared of timber and large undergrowth.
9. The primary decant system when consisting of a pipe shall be installed according to Class C pipe installation for embankment bedding.
10. The primary decant system shall be equipped with a device, or constructed, such as to insure that subsurface withdrawal is accomplished to prevent discharge of floating solids. If a channel is used as the primary decant a skimmer shall be installed to prevent floating solids from discharging.
11. A splash pad or riprap may be required under the discharge of the primary decant system where necessary to insure that the discharge does not erode the embankment.

12. The combination primary and secondary decant system shall be designed to safely carry the expected peak flow from a 25 year - 6 hour storm. The entire emergency overflow spillway channel will be a stabilized channel and will be stabilized upon completion of construction as specified within the detailed design plans using prudent engineering measures. These measures may consist of lining the spillway with concrete or a durable rock riprap, or the spillway being constructed in consolidated non-erodible material and planted with a mixture or both annual and perennial grasses, or a combination of any or all of the above.
13. Sediment basins using a single spillway system shall be an open channel of non-erodible construction consisting of concrete, durable rock riprap or its being constructed in consolidated non-erodible material as specified in the detailed design plans.
14. The settled embankment for temporary impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 25 year - 6 hour, or a 10 year - 24 hour precipitation event (whichever has the greatest runoff). The settled embankment for permanent impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 25 year - 6 hour, or a 10 year - 24 hour precipitation event or greater event as specified by the Regulatory Authority.(whichever has the greatest runoff).
15. If basins are built in series, then the combined decant system for each shall be designed to accommodate the entire contributing drainage area.
16. The dam and all disturbed areas shall be seeded with both perennial and annual grasses, fertilized and mulched in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam immediately upon completion of construction.
17. The constructed height of the dam shall be increased a minimum of 5 percent over the design height to allow for settlement over the life of the embankment.
18. Final graded slopes of the entire permanent water impoundment area shall not exceed 2.5H-1.0V to provide for adequate safety and access for proposed water users.
19. Prior to Phase II bond release, additional data concerning water quality, water quantity, depth, size, configuration, postmining land use, etc., for each proposed permanent water impoundment, shall be submitted to the Regulatory Authority for permanent water impoundment approval.
20. All sediment basins will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the reclamation bond.

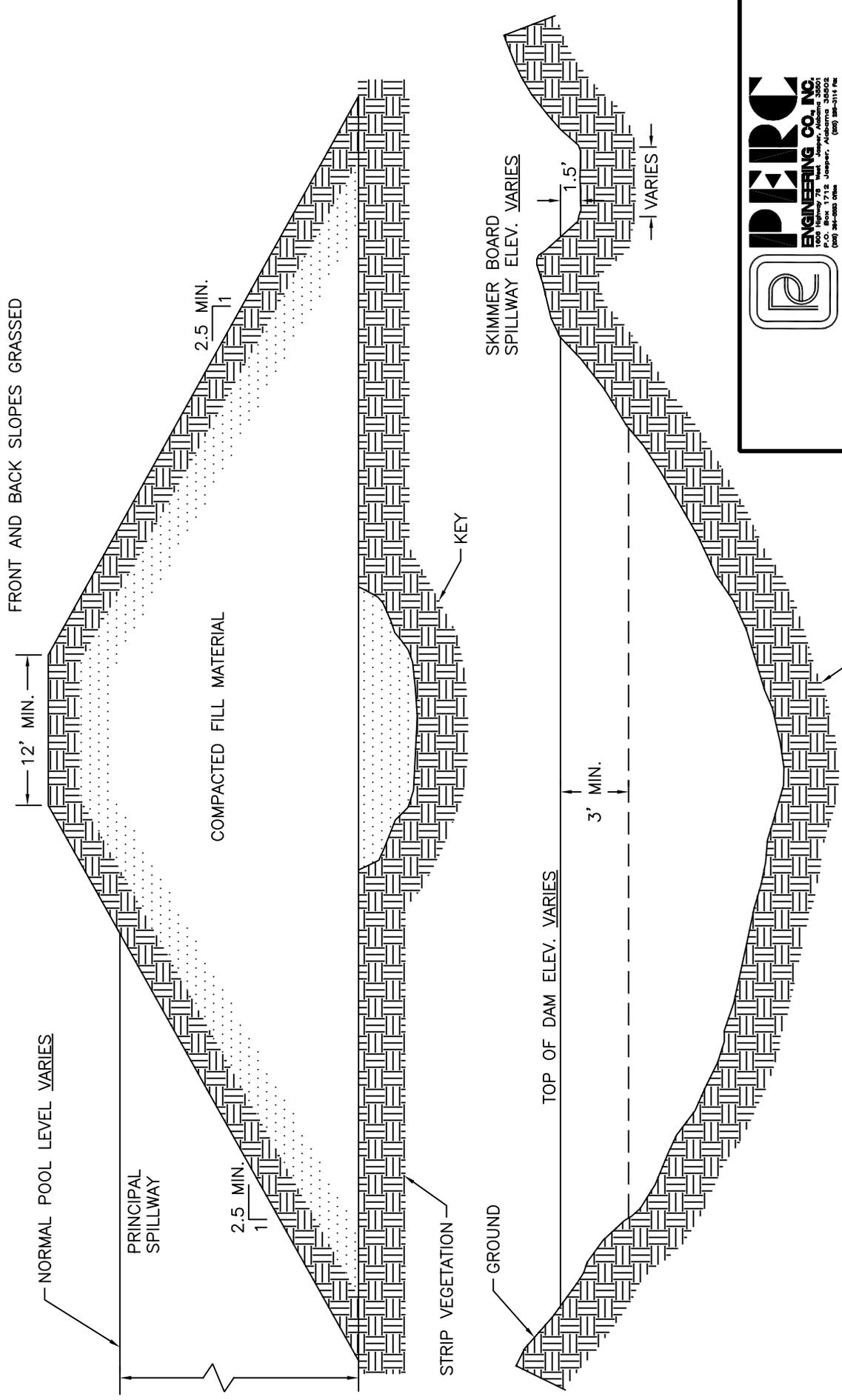
21. The embankment and spillway will be maintained by repairing any damage such as erosion, slope failure or spillway damage until removal of the structure or release of the performance bond.
22. All ponds shall be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections shall be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-.20[l(j)] of the Alabama Surface Mining Commission Regulations.
23. Sediment will be removed from each pond when the accumulated sediment reaches the sediment storage volume as shown on the detailed design sheet.
24. Upon completion of mining, successful reclamation and effluent standards being met, each sediment basin not remaining as a permanent water impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.) and reclaimed to approximate original contours by the following procedure: A permanent diversion channel (designed for a 10 year - 24 hour precipitation event) shall be cut along the outer edge of the basin to re-route drainage around the basin and back through the stabilized spillway to allow reclamation of the sediment basin. The diversion channel shall be designed and grassed as per enclosed information. (See permanent diversion for basin disposal). Upon completion of the diversion channel the back slope of the dam shall be graded to a minimum 3H to 1V slope. The dewatered sediment basin area shall be seeded with some combination of the following: Fescue, Bermuda, rye grass, canary grass and willows. After seeding the area shall be mulched. Any additional sediment or embankment material not used to meet original contour, if non-toxic, shall be spread in thin layers within the permit area and vegetated as stated in the approved reclamation plan. All toxic material encountered in the basin disposal shall be buried and covered with 4 feet of non-toxic material and vegetated as stated in the approved reclamation plan.
25. A qualified registered professional engineer or other qualified professional specialist, under the direction of the professional engineer shall conduct regular inspections during construction and upon completion shall inspect each basin for certification purposes.
26. Point source discharge embankments shall be constructed and abutments keyed into desirable material if at all possible. In the event that undesirable material is encountered, addition design and construction criteria shall be submitted prior to certification.



**TYPICAL PLANVIEW  
 OF EMBANKMENT  
 POND**

DRAWN BY:	P.T.O.	DATE:	8-10-05
DWG. NAME:	TYPICALS		
APPROVED BY:	W.K.M.	SCALE:	NONE

PLANVIEW OF EMBANKMENT POND



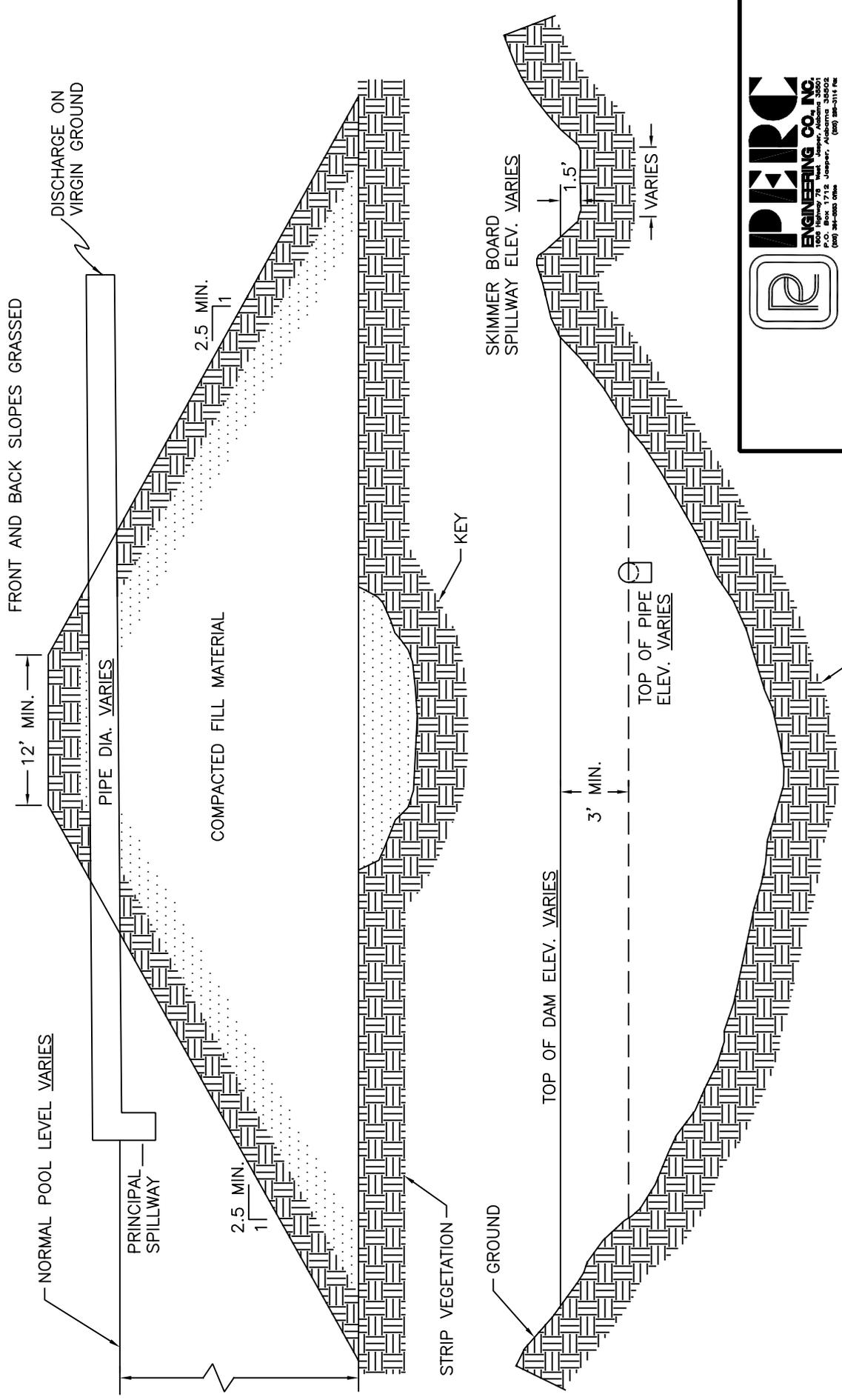
TYPICAL DAM DETAIL  
NO SCALE



TYPICAL DAM DETAIL

DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE

ATTACHMENT III-B-2-A

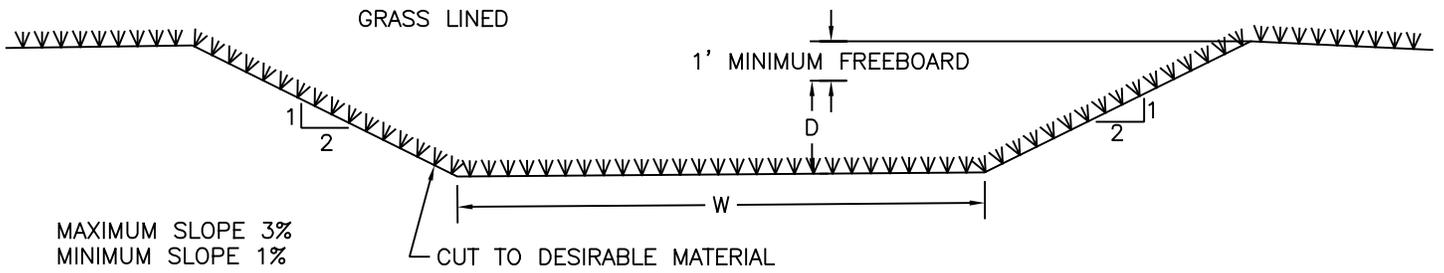


**TYPICAL DAM DETAIL**

TYPICAL DAM DETAIL  
 NO SCALE

DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE

ATTACHMENT III-B-2-A



$$Q = \frac{1.49}{N} A R^{2/3} S^{1/2}$$

$N(\text{LOOSE STONE OR GRASS LINED}) = 0.035$   
 $A = \text{AREA}$   
 $R = \text{AREA/WETTED PERIMETER}$   
 $S = \text{SLOPE}$

\* GRASS LINING: FESCUE, BERMUDA, RYE GRASS

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 8.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-15	0.5
15-50	1.0
50-100	1.5
100-180	2.0
180-270	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 10.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-15	0.5
15-60	1.0
60-120	1.5
120-210	2.0
210-320	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 12.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-20	0.5
20-70	1.0
70-150	1.5
150-250	2.0
250-383	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 15.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-25	0.5
25-90	1.0
90-180	1.5
180-300	2.0
300-450	2.5



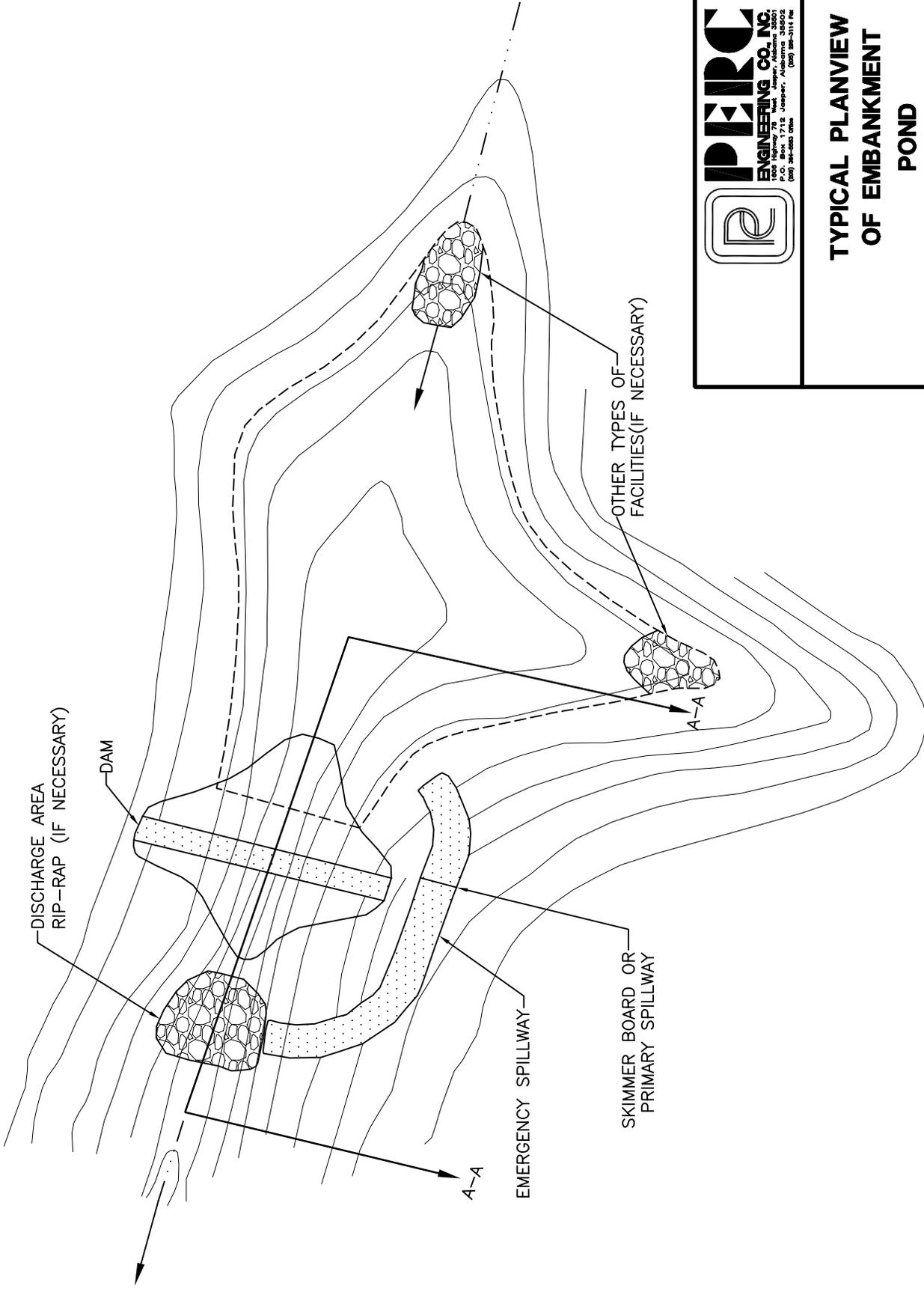
## TYPICAL PERMANENT DIVERSION FOR BASIN DISPOSAL

DRAWN BY: S.D.M.  
DWG. NAME: TYPICALS

DATE: 1/4/2011

APPROVED BY: L.G.S.

SCALE: NONE

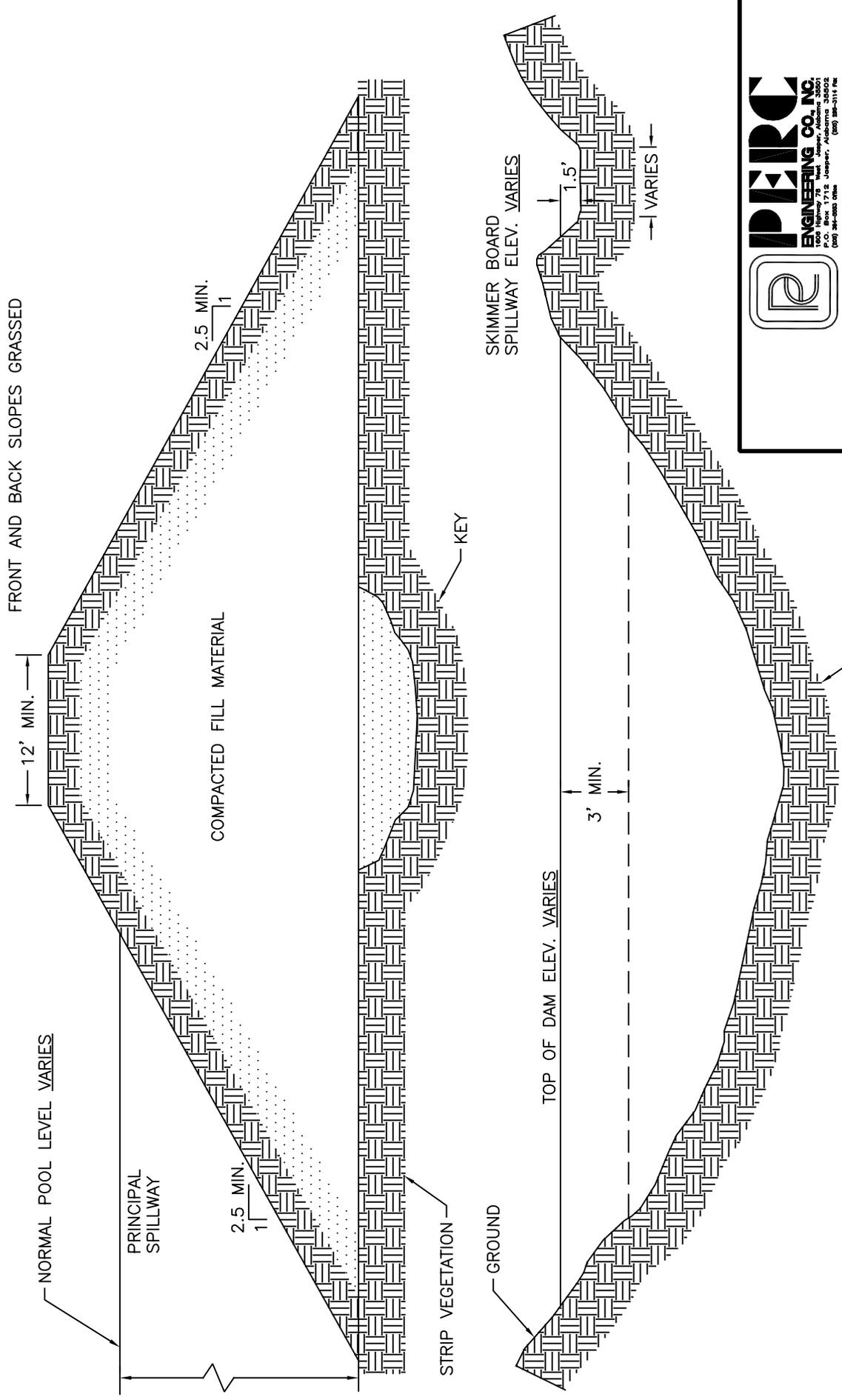


**PERC**  
**ENGINEERING CO. INC.**  
 1808 Highway 78 West Jasper, Alabama 36001  
 P.O. Box 712 Jasper, Alabama 36002  
 (205) 773-0200 FAX (205) 773-3112

**TYPICAL PLANVIEW  
 OF EMBANKMENT  
 POND**

DRAWN BY:	P.T.O.	DATE:	8-10-05
DWG. NAME:	TYPICALS		
APPROVED BY:	W.K.M.	SCALE:	NONE

PLANVIEW OF EMBANKMENT POND



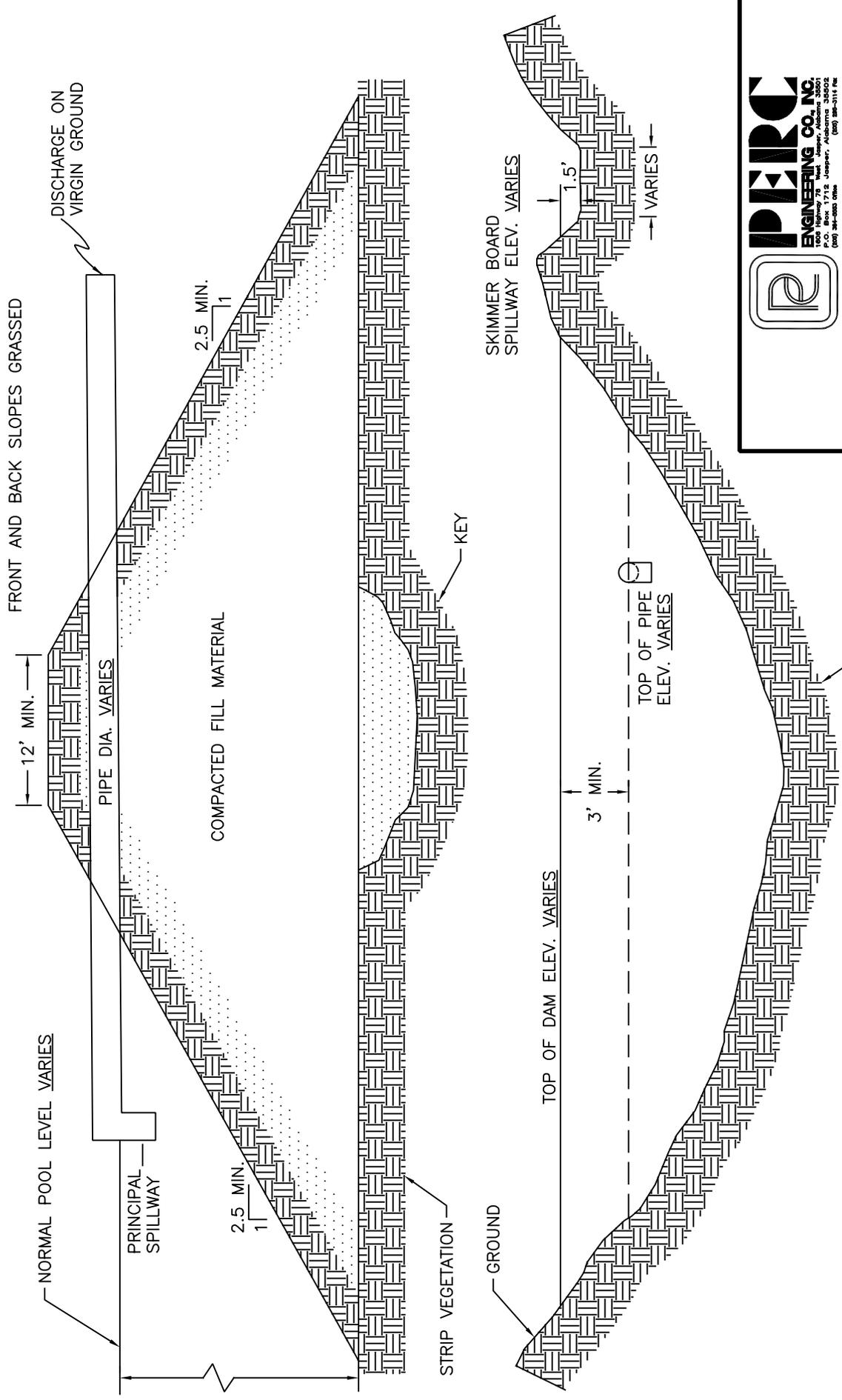
TYPICAL DAM DETAIL  
NO SCALE



TYPICAL DAM DETAIL

DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE

ATTACHMENT III-B-2-A

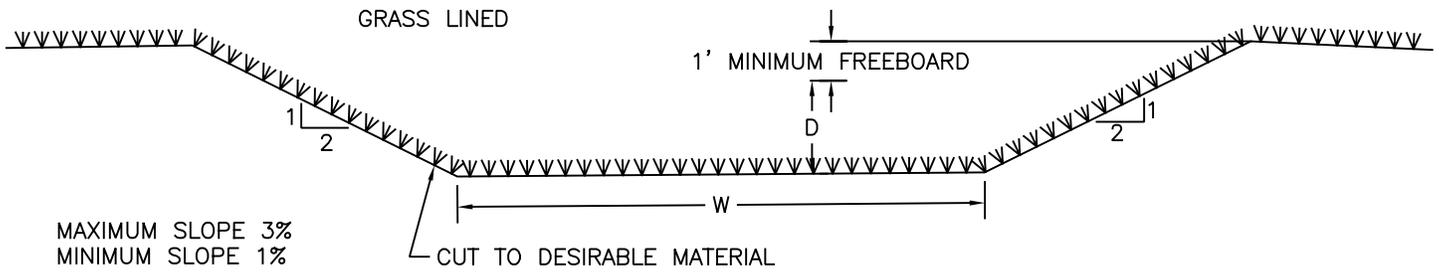


**TYPICAL DAM DETAIL**

TYPICAL DAM DETAIL  
NO SCALE

DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE

ATTACHMENT III-B-2-A



$$Q = \frac{1.49}{N} A R^{2/3} S^{1/2}$$

$N(\text{LOOSE STONE OR GRASS LINED}) = 0.035$   
 $A = \text{AREA}$   
 $R = \text{AREA/WETTED PERIMETER}$   
 $S = \text{SLOPE}$

\* GRASS LINING: FESCUE, BERMUDA, RYE GRASS

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 8.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-15	0.5
15-50	1.0
50-100	1.5
100-180	2.0
180-270	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 10.0 FT.	
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DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 15.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
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25-90	1.0
90-180	1.5
180-300	2.0
300-450	2.5



## TYPICAL PERMANENT DIVERSION FOR BASIN DISPOSAL

DRAWN BY: S.D.M.  
DWG. NAME: TYPICALS

DATE: 1/4/2011

APPROVED BY: L.G.S.

SCALE: NONE

Attachment III-A-3(b)

COARSE REFUSE SPECIFICATIONS

1. All coarse refuse will be placed in the disposal area so as to:
  - a) Minimize adverse effects of leachate and surface-water runoff on surface and ground water quality and quantity.
  - b) Ensure mass stability and prevent mass movement during and after construction.
  - c) Ensure the final disposal facility is suitable for reclamation and revegetation compatible with the natural surroundings and the approved post mining land use.
  - d) Ensure compaction of 90% of the maximum dry density of the standard proctor. Compaction will be accomplished using rubber tired or track equipment that is available onsite and will be verified by Nuclear Density test performed on a frequency not to exceed 1 test per 40,000 square feet per lift with no more than 5 percent of the tests values below the limit if the low densities occur at random. If the low densities are concentrated in one lift or area, that area will be recompacted until the median meets the requirements.
  - e) Not create a public hazard.
  - f) Prevent combustion.
2. Coal mine waste material from activities located outside the permit area may be disposed in the site only if approved by the Regulatory Authority based on showing the disposal will be in accordance with the regulations.
3. The site shall be designed using current, prudent engineering practices and any design criteria established by the Regulatory Authority. The design shall be certified by a qualified registered professional engineer, experienced in the design of similar earth and waste structures.
4. The disposal facility shall be designed to attain a minimum long-term static safety factor of 1.5 and the foundation and abutments must be stable under all conditions of construction.
5. Sufficient foundation investigations as well as necessary laboratory testing of foundation material shall be performed to determine the

## COARSE REFUSE SPECIFICATIONS

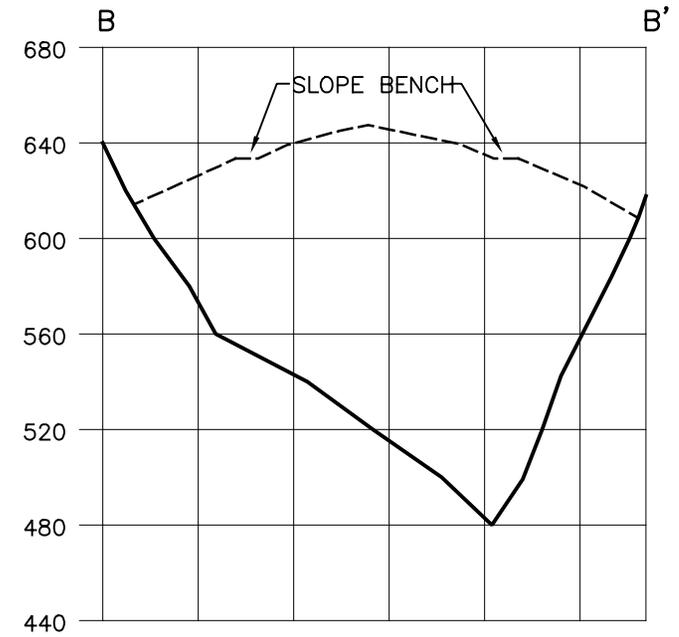
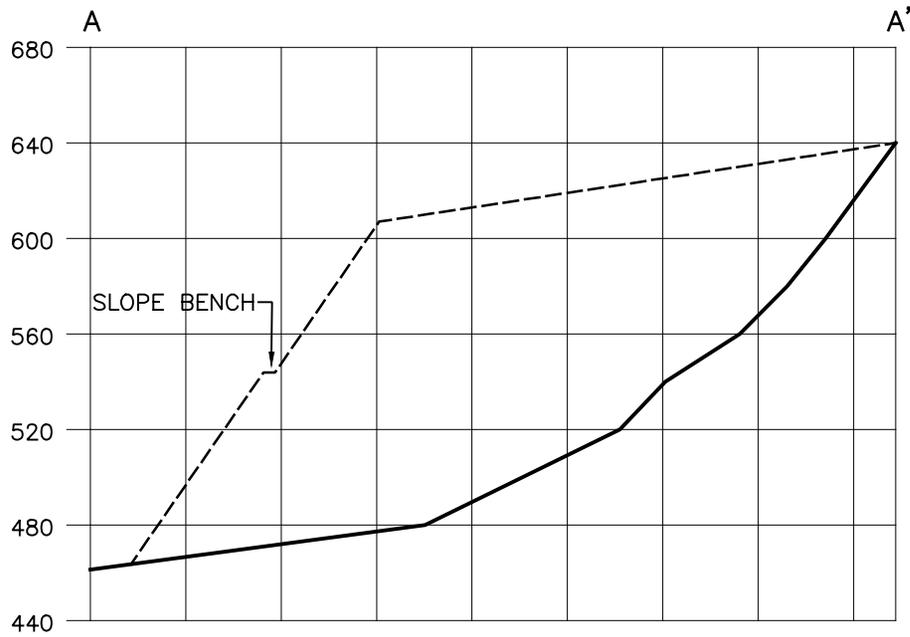
(Continued)

design requirements for foundation stability. The analyses shall take into consideration the effect of underground mine workings.

6. If any examination or inspection discloses a potential hazard, the Regulatory Authority shall be informed promptly of the finding and of the emergency procedures formulated for public protection and remedial action.
7. If the disposal site contains springs, natural or man-made water courses, or wet weather seeps, the design shall include diversions and under drains as necessary to control erosion, prevent water infiltration into the disposal site and ensure stability.
8. Uncontrolled surface drainage may not be diverted over the out slope of refuse piles. Runoff from the area above the refuse pile and runoff from the surface of the refuse pile shall be diverted into stabilized diversion channels designed to safely pass the runoff from a 100-year, 6-hour precipitation event. Runoff diverted from undisturbed areas need not be co-mingled with runoff from the surface of the refuse pile.
9. Slope protection shall be provided to minimize surface erosion. All disturbed areas, including diversion channels that are not rip-rapped or otherwise protected, shall be re-vegetated upon completion of construction.
10. Coal mine waste shall be spread in layers no thicker than 24 inches.
11. All vegetative and organic material shall be removed from the disposal area prior to placement of coal mine waste. Topsoil shall be removed, segregated and stored for redistribution in the reclamation process unless a topsoil variance is obtained.
12. The final configuration of the refuse pile shall be suitable for the approved post mining land use. Terraces may be constructed on the out slope of the refuse pile if required for stability, control of erosion, conservation of soil moisture, or facilitation of the approved post mining land use. The grade of the out slope between terraces benches shall not be steeper than 2H:1V.

COARSE REFUSE SPECIFICATIONS  
(Continued)

13. No permanent impoundments shall be allowed on the completed refuse pile. Small depressions may be allowed by the Regulatory Authority if they are needed to retain moisture, minimize erosion, create and enhance wildlife habitat, or assist re-vegetation, and if they are not incompatible with stability of the refuse pile.
14. Following final grading of the refuse pile, the coal mine waste shall be covered with a minimum of 2 feet of the best available nontoxic and noncombustible material in a manner that does not impede drainage from the under drains.
15. A qualified registered professional engineer, or other qualified professional specialist under the direction of the professional engineer, shall inspect the refuse pile during construction.



————— EXISTING GRADE  
 - - - - - PROPOSED FINISHED GRADE



**Cross Sections A - A' - B - B'**  
**of**  
**Typical Waste Embankment**

DRAWN BY: J.J.D.	DATE: 1-13-99
DWG. NAME: JWM5-X	
APPROVED BY: S.R.I.	SCALE: NONE

Note: Slope Benches will be placed at 75 ft. vertical intervals along all out slopes with ratios of 3H : 1V.

Applicant: Oak Grove Resources, LLC  
Mine Name: Concord Preparation Plant  
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#### Silt Fencing Design and Construction Specifications

1. Fence height - 3' including 6" trench flap.
2. Silt fencing will be secured into place by prefabricated wood or metal posts spaced as necessary.
3. The silt fence will have an equivalent opening size of 30-50 mesh by U.S. Standard Sieve.
4. The maximum particle size passing the silt fence will be .59 millimeter.
5. The flow rate of the silt fence will be 20 gallon per minute per square foot.
6. The silt fence will have a burst strength of 210 pound per square inch.
7. The grab tensile elongation of the silt fence will be 15%.
8. The grab tensile strength of the silt fence will be 100 pounds.
9. The silt fence will be installed by initially excavating a trench approximately 6" wide by 6" deep along the contour for the entire length of the silt fence. Upon completion of the trench, the silt fence will be stretched along the trench with the prefabricated wood or metal posts being driven into the ground approximately 1.5' deep against the upper wall of the trench. The 6" trench flap will then be placed into the trench and covered with compacted fill material.
10. Inspections of the silt fence will be made bimonthly and repair or replacement will be made promptly as required.
11. Accumulated sediment will be removed from the silt fencing when necessary to ensure the proper function of the silt fencing. Accumulated sediment will be disposed of within Coarse Refuse Area No. 1.
12. Prior to the removal of the silt fence, any silt or sediment retained by the silt fence will be seeded with a mixture of both annual and perennial grasses, fertilized, and mulched to establish a permanent and diverse vegetative cover.

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5. Transportation Facilities (780.33, 780.37)

- (a) Describe the measures to be taken to ensure the interest of the public and landowners affected are protected if disturbance within 100 feet of the right-of-way or relocation of a public road is proposed.

Haul Road No.2 shown in the Detailed Design Plans for Coarse Refuse Disposal Area East Expansion 3a is a travel way within the Permitted and Bonded Increment No. 1 of P-3233 and Revision R-22 area.

- 1) Safety berms will be constructed adjacent to roadways to be disturbed to contain traffic.
  - 2) Proper signs, informing the traveling public of the disturbance, will be posted along the road right-of-ways 500 feet from the beginning of the disturbance.
  - 3) All safety requirements of the appropriate public health and safety, will be followed.
- (b) Describe any unique design, feature, or structure which is necessary for the road to meet the performance standards of Subchapter K using any necessary maps, plans, or cross-sections.
- (c) Describe, in detail, the measures to be taken during construction, maintenance and use of the transportation facilities to prevent damage to fish and wildlife and their habitat; public and private property; and erosion, siltation, and pollution of water.

Roads will be constructed with the required ditching for proper drainage. Roads will be maintained with a dozer and motor grader patrol as required. Water will be used to reduce erosion and dust emissions. Roads will be located on ridge tops where possible or on the most stable slopes to minimize erosion. Vegetation will not be cleared except as necessary for roadway and ditch construction. After construction of the roads is complete, vegetation will be established on cut and fill slopes that exist along the all roads. To the extent possible, roads will be located above the sediment basins to be constructed for the mining operation in an effort to control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area and to comply with State and Federal water quality standards applicable to receiving waters and avoid the alteration of the normal flow of water in streambeds or drainage

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Mine Name: Concord Preparation Plant  
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channels while preventing or controlling damage to public or private property. Where it is not possible or is impractical to locate roads in this manner, sediment control devices such as silt fencing, hay bale check dams and rock filter check dams will be used as necessary to maintain water quality. Roads not required for fire and sediment basin access will be reclaimed. See Attachment III-B-5 and Specifications for the construction, maintenance, and reclamation of Primary and Ancillary roads.

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Mine Name: Concord Preparation Plant  
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**SPECIFICATIONS FOR THE CONSTRUCTION, MAINTENANCE  
AND RECLAMATION OF ANCILLARY ROADS**

1. To the extent possible, roads will be located on ridges or on the most stable available slopes to prevent or minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values.
2. To the extent possible, roads will be located above the sediment basins to be constructed for the mining operation in an effort to control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area and to comply with State and Federal water quality standards applicable to receiving waters and avoid the alteration of the normal flow of water in streambeds or drainage channels while preventing or controlling damage to public or private property. Where it is not possible or is impractical to locate roads in this manner, sediment control devices such as silt fencing, hay bale check dams and rock filter check dams will be used as necessary to maintain water quality.
3. Prior to construction, the roadway will be cleared, grubbed and will have the topsoil removed. The clearing limits will be kept to the minimum necessary to accommodate the roadbed and associated ditch construction.
4. Roads will be constructed of suitable subgrade material compacted to ninety-five percent of the standard proctor density and will have a minimum width of ten feet and a maximum width necessary to accommodate the largest equipment traveling the road.
5. Roadbeds will be cut to consolidated non-erodible material or will be surfaced with durable non-toxic, non-acid forming substances. It is anticipated that durable sandstone overburden on site will be utilized as surfacing material. If there should not be adequate sandstone on site, then a durable sandstone material, chert, crushed limestone, crushed concrete, crushed asphalt, red rock, ironore refuse, gravel, or other durable non-toxic, non-acid forming material approved by the Regulatory Authority will be hauled in from off site and placed on the roadbed to a depth of two inches.
6. No sustained grades will exceed ten percent unless deemed necessary, in which case appropriate sediment control facilities will be constructed. If grades in excess of fifteen percent are required, cross drains, ditch relief drains and road drainways will be located at a minimum distance of three-hundred feet.

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7. Roads will be constructed so as to have adequate drainage utilizing ditches, cross drains and ditch relief drains. Roads will not be located in the channel of an intermittent or perennial stream unless specifically approved by the Alabama Surface Mining Commission. Additionally, no relocation and/or alteration of an intermittent or perennial stream will be done unless specifically approved by the Alabama Surface Mining Commission. In the event that it becomes evident that any drainage structures including culverts, bridges and/or low water crossings will be required in order to cross an intermittent or perennial stream, the structure will be designed in accordance with Alabama Surface Mining Commission requirements and prudent engineering practice and the approval of the design(s) will be acquired prior to the commencement of construction. Hay bale check dams and silt fences will be used at strategic locations when necessary to control sediment runoff. Immediately upon completion of construction, the side slopes of the road embankments and/or cuts will be fertilized, seeded with annual and perennial grasses and mulch will be added to aid in the prevention of erosion and to enhance seed germination. The seed mix will consist of, but is not limited to, some combination of the following species: bermuda grass, fescue, lespedeza, rye grass, brown top millet, clover and vetch. The particular species to be planted will vary with the planting season at the time of seed application.
8. Routine maintenance will be required to assure that the road continually meets performance standards and will consist of periodic grading, resurfacing, dust suppression and maintenance of sediment control facilities. Dust suppression will consist of the application of water, chemical binders and/or other dust suppressants. No oil will be utilized in this process. Spot seeding, fertilizing and mulching will be performed as necessary to improve vegetative cover on roadway slopes. A road damaged by a catastrophic event shall be repaired as soon as practicable after the damage has occurred.
9. Roads not to be retained as part of the post mine land use shall be reclaimed in accordance with the approved reclamation plan for this permit as soon as practicable after they are no longer needed as part of the mining and reclamation operation, using the following procedures:
  - a. The road will be closed to traffic.
  - b. All bridges, culverts and other drainage structures not approved as part of the post mine land use will be removed.
  - c. All road surfacing materials that are not compatible with the post mine land use or revegetation requirements will be properly disposed of on-site or removed from the site for re-use.

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- d. Roadway cut and fill slopes shall be regraded and reshaped to be compatible with the post mine land use and to compliment the natural drainage pattern of the surrounding terrain.
  - e. The natural drainage patterns shall be protected from surface runoff and erosion utilizing the installation of dikes and/or cross drains as necessary.
  - f. The roadbed shall be ripped or scarified as necessary, the topsoil or substitute or approved growing medium shall be replaced and revegetated in accordance with the approved reclamation plan for this permit.
10. The following drawings illustrate typical roadbed configurations for ancillary roads.

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**SPECIFICATIONS FOR THE CONSTRUCTION, MAINTENANCE  
AND RECLAMATION OF PRIMARY ROADS**

1. Primary roads shall be designed by or under the direction of a registered professional engineer in accordance with the Alabama Surface Mining Commission rules and regulations and prudent engineering practice.
2. Each roadway embankment will be designed and constructed so as to have a minimum static safety factor of 1.3.
3. To the extent possible, roads will be located on ridges or on the most stable available slopes to prevent or minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values.
4. To the extent possible, roads will be located above the sediment basins to be constructed for the mining operation in an effort to control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area and to comply with State and Federal water quality standards applicable to receiving waters and avoid the alteration of the normal flow of water in streambeds or drainage channels while preventing or controlling damage to public or private property. Where it is not possible or is impractical to locate roads in this manner, sediment control devices such as silt fencing, hay bale check dams and rock filter check dams will be used as necessary to maintain water quality. No fording of intermittent or perennial streams will be conducted unless specifically approved by the Alabama Surface Mining Commission as temporary routes to be used during road construction.
5. Prior to construction, the roadway will be cleared, grubbed and will have the topsoil removed. The clearing limits will be kept to the minimum necessary to accommodate the roadbed and associated ditch construction.
6. Roads will be constructed of suitable compacted subgrade material. The material will be free of sod, roots, stones over 12 inches in diameter, and other objectionable materials. The material will be placed and spread over the entire fill area, starting at the lowest point in layers not to exceed 12 inches in thickness. The material will be compacted to 95 percent of the density, based on standard proctor as outlined in ASTM.
- (g) Primary roads will have a minimum width of eighteen feet and a maximum width necessary to accommodate the largest equipment traveling the road.

- (h) Roadbeds will be cut to consolidated non-erodible material or will be surfaced with durable non-toxic, non-acid forming substances. The wearing surface will consist of durable sandstone, chert, crushed limestone, crushed concrete, crushed asphalt, red rock, ironore refuse, gravel, or other durable non-toxic, non-acid forming material approved by the Regulatory Authority. The wearing surface will be placed on the roadbed to a depth of four inches.
9. No sustained grades will exceed ten percent unless deemed necessary, in which case appropriate sediment control facilities will be constructed. If grades in excess of fifteen percent are required, cross drains, ditch relief drains and road drainways will be located at a minimum distance of three-hundred feet.
10. Roads will be constructed so as to have adequate drainage utilizing ditches, culverts, cross drains and ditch relief drains designed to safely pass the peak runoff from a ten year, six hour precipitation event. Drainage pipes and culverts shall be installed as designed and will be maintained in a free and operating condition to prevent and control erosion at inlets and outlets. Culverts have been designed to support the load of the heaviest equipment to travel the road and are based on the Handbook of Steel Drainage and Highway Construction Products by the American Iron and Steel Institute and the equipment specifications. Drainage ditches will be constructed and maintained in accordance with the approved design to prevent uncontrolled drainage over the road surface and embankment. Roads will not be located in the channel of an intermittent or perennial stream unless specifically approved by the Alabama Surface Mining Commission. Additionally, no relocation and/or alteration of an intermittent or perennial stream will be done unless specifically approved by the Alabama Surface Mining Commission. In the event that it becomes evident that any drainage structures including culverts, bridges and/or low water crossings will be required in order to cross an intermittent or perennial stream, the structure will be designed and constructed in accordance with Alabama Surface Mining Commission requirements and prudent engineering practice and the approval of the design(s) will be acquired prior to the commencement of construction. Hay bale check dams and silt fences will be used at strategic locations when necessary to control sediment runoff. Immediately upon completion of construction, the side slopes of the road embankments and/or cuts will be fertilized, seeded with annual and perennial grasses and mulch will be added to aid in the prevention of erosion and to enhance seed germination. The seed mix will consist of, but is not limited to, some combination of the following species: Bermuda grass, fescue, lespedeza, rye grass, brown top millet, clover and vetch. The particular

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species to be planted will vary with the planting season at the time of seed application. Upon completion of construction of each phase of the roadway the construction will be certified to the Alabama Surface Mining Commission as having been done in accordance with the approved plans for the roadway and associated facilities.

11. Routine maintenance will be required to assure that the road continually meets performance standards and will consist of periodic grading, resurfacing, dust suppression and maintenance of sediment control facilities. Dust suppression will consist of the application of water, chemical binders and/or other dust suppressants. No oil will be utilized in this process. Spot seeding, fertilizing and mulching will be performed as necessary to improve vegetative cover on roadway slopes. A road damaged by a catastrophic event shall be repaired as soon as practicable after the damage has occurred.
12. Roads not to be retained as part of the post mine land use shall be reclaimed in accordance with the approved reclamation plan for this permit as soon as practicable after they are no longer needed as part of the mining and reclamation operation, using the following procedures:
  - a. The road will be closed to traffic.
  - b. All bridges, culverts and other drainage structures not approved as part of the post mine land use will be removed.
  - c. All road surfacing materials that are not compatible with the post mine land use or revegetation requirements will be properly disposed of on-site or removed from the site for re-use.
  - d. Roadway cut and fill slopes shall be regraded and reshaped to be compatible with the post mine land use and to compliment the natural drainage pattern of the surrounding terrain.
  - e. The natural drainage patterns shall be protected from surface runoff and erosion utilizing the installation of dikes and/or cross drains as necessary.
  - f. The roadbed shall be ripped or scarified as necessary, the topsoil or substitute or approved growing medium shall be replaced and revegetated in accordance with the approved reclamation plan for this permit.
13. The drawings and data contained in the specific design plans illustrate typical roadbed configurations for primary roads as well as site specific design of drainage structures, stability analysis and ditch sections.