

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-20

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	786	Issuance of R-20	Life of permit
2	72	Issuance of R-20	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-20 proposes to modify Slurry Impoundment No. 3 and subsequently the Coarse Coal Refuse Disposal Area. The modification consists of excavating the North, East and South normal pool embankment in order to increase the volume of Slurry Impoundment No. 3. The excavation will occur from elevation 700 up to the Top of the Coarse Refuse Disposal Area Elevation 730. The Coarse Refuse Material excavated from the North, South and East embankments of Slurry Impoundment No. 3 will be placed in 2' lifts and compacted to 90% of Standard Proctor in the surrounding Coarse Refuse Disposal Area. This will result in raising the Coarse Refuse Area toward the final Elevation of 730 and constructing the minimum 50' Crest width around the entire perimeter of Slurry Impoundment No.3. Each day of operation by the coal processing plant the Slurry created by the process will be pumped into Slurry Impoundment No. 3 resulting in the increase in elevation for the water level and the sediment level within the Impoundment. Slurry Impoundment No. 3 was constructed with an subsurface drain system to decant the water entering the Impoundment from the Slurry Line as well as rainfall runoff that enters the Impoundment. The water level will rise and fall as the inflow is greater than flow thru the subsurface drain system and any additional pumping to the sediment ponds that may occur. As pumping slurry into the Impoundment ceases on days of no plant operation the water level will drop but the sediment level will stay relatively the same. This cycle of the inflow from operations causing a rise in the water level and then dropping of the water level as operations are idled will be ongoing as long as this Plant is in operation. At the same time the sediment level will continually rise until the Plant is shut down or the maximum sediment level of 718 is attained in the Impoundment. In order to de-watering 90% of the Probable Maximum Precipitation 6 hour event within 10 days of occurrence a minimum pump capacity of 3400 gallon per minute was proposed in the plan by Almes & Associates and approved on May 5, 1995 by the Alabama Surface Mining Commission if this should occur during the life of the operation. This same method of de-watering will occur under this plan until the Impoundment fill is completed to the 718 elevation or a decision is made to cease operations and reclaim by filling the Impoundment up to the 730 elevation with coarse coal refuse and drainage then will gravity flow to the sediment ponds as approved in previous revisions.

This embankment excavation will be constructed in stages so as to maintain the upstream working surface between Elevation 700 and the Crest of the Coarse Refuse Disposal Area Elevation 730 on a 2 Horz. To 1 Vert. Slope or flatter. A safety berm at least the height of one half the diameter of the largest tire working in the area will also be maintained around the perimeter of Slurry Impoundment No. 3. The Crest of the Coarse Refuse Disposal Area will be maintained at a minimum of 3 feet above 1 PMP Rainfall Event and 12' above the impoundment water level on each and every day. The fine coal refuse maximum level will be located at elevation 718 and the coarse coal refuse maximum level will be the 730 elevation.

Slurry Impoundment No. 4 has been filled with Coarse Refuse and this Impoundment Area will continue to be filled with coarse refuse in 2' lifts and compacted to 90% of the Standard Proctor Density up to the Coarse Refuse maximum elevation of 730. See Attachment III-B-2(e) Detailed Design Plans.

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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-20 consists of the modification to Slurry Impoundment No. 3 which consist of excavating the North, South and East normal pool embankment in order to increase the volume of Slurry Impoundment No. 3. The Coarse Refuse Disposal Area 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. Excavation of the North, South and East embankment will be ongoing as Slurry is pumped into the Impoundment on a daily basis. Each day of operation by the coal processing plant the Slurry created by the process will be pumped into Slurry Impoundment No. 3 resulting in the increase in elevation for the water level and the sediment level within the Impoundment. Slurry Impoundment No. 3 was constructed with an subsurface drain system to decant the water entering the Impoundment from the Slurry Line as well as rainfall runoff that enters the Impoundment. The water level will rise and fall as the inflow is greater than flow thru the subsurface drain system and any additional pumping to the sediment ponds that may occur. As pumping slurry into the Impoundment ceases on days of no plant operation the water level will drop but the sediment level will stay relatively the same. This cycle of the inflow from operations causing a rise in the water level and then dropping of the water level as operations are idled will be ongoing as long as this Plant is in operation. At the same time the sediment level will continually rise until the Plant is shut down or the maximum sediment level of 718 is attained in the Impoundment.

This embankment excavation will be constructed in stages so as to maintain the upstream working surface between Elevation 700 and the Crest of the Coarse Refuse Disposal Area Elevation 730 on a 2 Horz. To 1 Vert. Slope or flatter. A safety berm at least the height of one half the diameter of the largest tire working in the area will also be maintained around the perimeter of Slurry Impoundment No. 3. The Crest of the Coarse Refuse Disposal Area will be maintained at a minimum of 3 feet above 1 PMP Rainfall Event and 12' above the impoundment water level on each and every day. The fine coal refuse maximum level will be located at elevation 718 and the coarse coal refuse maximum level will be 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. The embankment of Slurry Impoundment No. 3 will be constructed of coarse refuse generated at the preparation plant on site. Detailed Design Plans for Slurry Impoundment No. 3 Modification are included in this revision application (Attachment III-B-2a). Routine maintenance of the slurry impoundment will consist of inspecting and maintaining the internal drains system along with excavation of the North, South and East embankment area of Slurry Impoundment No. 3. The slurry impoundment will be inspected every seven (7) days by the operator's personnel and annually by a registered professional engineer and any required maintenance will be completed at the earliest possible time by the operator. See Attachments III-A-3(b) for specifications.

Slurry Impoundment No. 3 is an existing impoundment, no other modification is planed at this time. If during the term of the permit, the slurry impoundment requires modification, plans will be submitted to the Regulatory Authority for approval prior to any modifications. Upon modifying the slurry impoundment, the slurry impoundment will be certified to the Regulatory Authority.

When the accumulated solids contained within the slurry impoundment reach the solids storage volume specified within the detailed design plans, the slurry

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impoundment will be reclaimed in the following manner.

The impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.). Using existing non-toxic, non-flammable breaker and washer rejected rock materials, construct a working surface on the impoundment which will permit equipment travel for the placement of vegetative cover material and to provide for positive drainage. All rock fill slopes on the impoundment shall have a maximum and minimum grade of five (5) percent and one (1) percent, respectively. All breaker and washer rejected rock fill shall be spread in two (2) foot maximum layers with a minimum compaction of 90 percent of its maximum dry density as determined by the standard proctor compaction test. The thickness of the rock material will be no more than is necessary to support equipment which will be working upon the impoundment surface. Upon the completion of the above mentioned working surface, the graded impoundment surface will be covered with a minimum of two (2) feet of the best available non-acid and non-toxic forming and non-combustible material. All disturbed areas will be vegetated with an appropriate combination of the grasses and legumes as stated in the reclamation plan, fertilized, and mulched to ensure a permanent diverse vegetative cover. The cover material will be sampled and analyzed to determine the correct amount of soil amendments to be added to the cover material. Soil amendments, including lime and fertilizer, will be added and disced into the cover material in rates as recommended by laboratory analysis performed upon the cover material. These soil amendments will ensure a diverse effective vegetative growth upon the material.

Coarse Refuse Disposal Area is an existing structure and the Modification will be used to store additional coarse coal and fine 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 revegetation 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.

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Attachment III-A-3(b)

COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS

All coarse refuse will be placed in Coarse Refuse Disposal Area. (See Permit Map.) The disposal plans will be designed using current prudent engineering practices and Regulatory Authority design criteria and certified by a qualified registered professional engineer.

All surface drainage will be routed around the outslope of the waste bank by using diversion ditches. The diversion ditches will be designed to pass a peak flow from a 100 yr. - 6 hr. precipitation event.

All vegetation and any organic material will be removed prior the construction of the embankment. Any topsoil removed will be segregated and stored on-site for future reclamation needs.

All refuse material will be transported and placed in a controlled manner in the waste bank. The liming rate required to neutralize the material will be calculated and submitted to the regulatory authority for approval prior to adjusting the rate.

Slopes of the waste bank will be maintained at a minimum slope to be specified within the detailed design plans. The slopes of the waste bank will be designed to exceed a 1.5 minimum long term static safety factor.

Sufficient site and laboratory investigations will be performed on the foundation area and the fill material to be utilized in the design of the fill. If a potential hazard is revealed, the Regulatory Authority will be informed and necessary safety measures will be implemented.

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 underdrains, placement and compaction of refuse material, and revegetation of the fill. Photographs of the underdrain will be taken during and after their construction but prior to their cover. Certification inspection reports will be filed with the Regulatory Authority stating that proper construction and maintenance are occurring in accordance with approved design plans. Inspection reports will be retained at the facility office. Upon completion of operations, the waste bank area will be graded using mobile equipment to the configuration approved in the design plans. The waste bank will be covered with a minimum of two (2) feet of the best available non-toxic, non-acid forming, and non-combustible material. All disturbed areas will be vegetated with an appropriate combination of grasses and legumes as stated in the reclamation plan, fertilized, and mulched to ensure a permanent diverse vegetative cover. The cover material will be sampled and analyzed to determine the correct amount of soil amendments to be added to the cover material. Soil amendments, including lime and fertilizer, will be added and disced into the cover material in rates as recommended by laboratory analysis performed upon the cover material. These soil amendments will ensure a diverse effective vegetative growth upon the material.

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Attachment III-A-3(b)

SPECIFICATIONS FOR COAL PROCESSING WASTE IMPOUNDMENTS

The embankment for coal processing waste will be designed and constructed using the following as minimum criteria:

1. Coal processing waste will not be used in the constriction of dams and embankments without written approval from the regulatory authority.
2. All trees, shrubs, grasses, and other organic material will be cleared and grubbed from the site, and all combustibles will be removed and stockpiled before coal processing waste is placed at a dam or embankment site.
3. All surface drainage that may cause erosion to the embankment area of the embankment features will be directed away from the embankment. Diversions designed to divert drainage from the upstream area away from the impoundment area will be designed to carry the peak runoff from a 100 year - 6 hour precipitation event. The diversion will be maintained to prevent blockage. Adequate outlets for the discharge from these diversions will be controlled by energy dissipaters, riprap channels, and other devices where necessary to reduce erosion, prevent deepening or enlargement of the stream channel, and to minimize disturbance of the hydrologic balance. Also, all diversions delivering runoff from disturbed area must pass thru an approved sediment basin.
4. The design freeboard between the lowest point on the embankment crest and the maximum water elevation will be at least three (3) feet as determined from a 10 year - 24 hour or a 25 year - 6 hour precipitation event (storm with the greater peak flow).
5. The coal processing waste dam or embankment will have a minimum safety factor of 1.5 for the partial pool with steady seepage saturation conditions and the seismic safety factor will be at least 1.2.
6. The dam or embankment foundation and abutments will be designed to be stable under all conditions of construction and operations of the impoundment. Sufficient foundation investigations and laboratory testing will be performed to determine safety factors of the dam or embankment loaded to a water level sufficiently stable to support the intended use.
7. Spillways and outlet works will be designed to provide adequate protection against erosion and corrosion. Inlets will be protected against blockage.
8. 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.
9. 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.
10. The combination primary and secondary decant system along with the storage capacity shall be designed to safely pass or a combination of storage capacity and spillway capacity to safely control the expected peak flow from a PROBABLE MAXIMUM PRECIPITATION of a 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 concrete, durable rock riprap, or the spill way being constructed in consolidated non-erodible material, or a combination of any

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or all the above.

11. Basins using a single spillway system shall be an open channel of non-erodible construction consisting of concrete, durable rock rip-rap or its being constructed in consolidated non-erodible material.
12. Dams or embankments constructed of or impounding waste materials will be designed so that at least 90 percent of the water stored during the design precipitation event will be removed within a 10 day period.
13. The dam and all disturbed areas will be sowed with both perennial and annual grasses in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam immediately upon the completion of construction.
14. All embankments will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the performance bond.
15. 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.
16. All impoundments will be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections will be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-20(1)(k) of the Alabama Surface Mining Regulations and CFR 30 §77.216.
17. When the accumulated solids contained within the waste impoundment reaches the solids storage volume specified within the detailed design plans, the waste impoundment will be reclaimed in the following manner. The waste impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.). Using existing non-toxic, non-flammable breaker and washer rejected rock materials, construct a working surface on the impoundment which will permit equipment travel for the placement of vegetative cover material and to provide for positive drainage. All rock fill slopes on the impoundment shall have a maximum and minimum grade of five (5) percent and one (1) percent, respectively. All breaker and washer rejected rock fill shall be spread in one (1) foot maximum layers with a minimum compaction of 90 percent of its maximum dry density as determined by the standard proctor compaction test. The thickness of the rock material will be no more than is necessary to support equipment which will be working upon the impoundment surface. Upon the completion of the above mentioned working surface, the graded impoundment surface will be covered with a minimum of two (2) feet of the best available non-acid and non-toxic forming and non-combustible material. All disturbed areas will be vegetated with an appropriate combination of the grasses and legumes as stated in the reclamation plan, fertilized, and mulched to ensure a permanent diverse vegetative cover. The cover material will be sampled and analyzed to determine the correct amount of soil amendments to be added to the cover material. Soil amendments, including lime and fertilizer, will be added and disced into the cover material in rates as recommended by laboratory analysis performed upon the cover material. These soil amendments will ensure a diverse effective vegetative growth upon the material.
18. A qualified registered professional engineer or other qualified specialist, under the direction of the professional engineer shall conduct regular inspections during construction and upon completion shall inspect each basin for certification purposes.

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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.

None proposed.

- (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.

See attachment III-B-2(e)

3. Diversions. (780.29,816.43, 816.44)

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

If yes, complete the following:

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

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

None proposed.

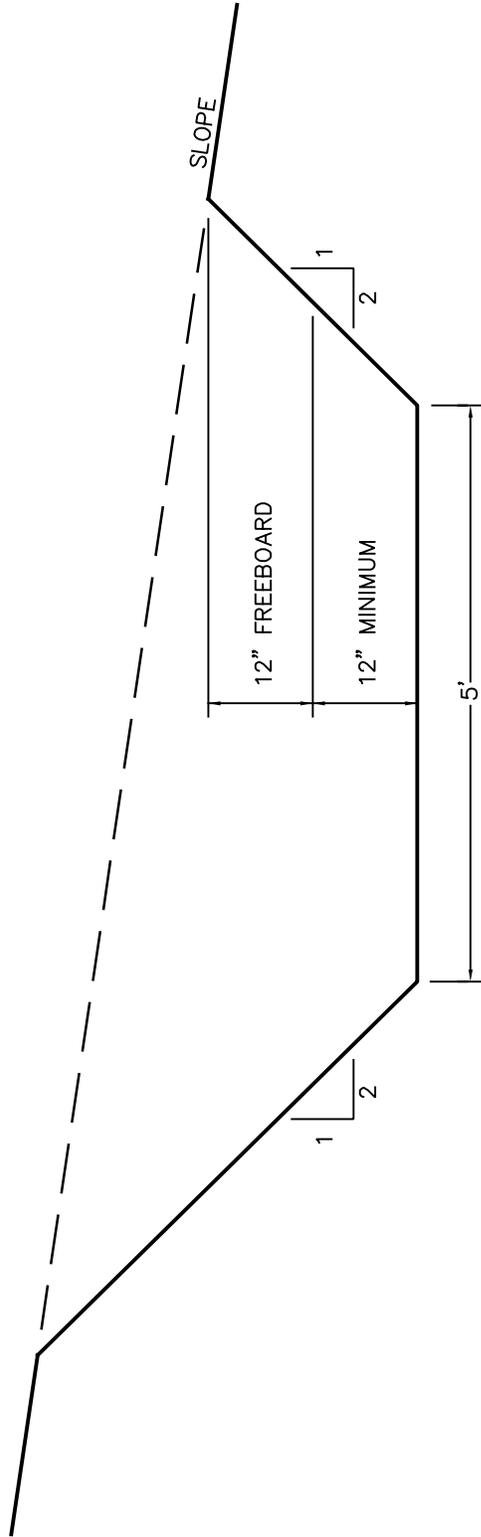
- (c) If diversions are temporary, enclose plans for removal, including a timetable and plans for restoration of vegetation, channel characteristics, etc.

Not applicable.

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

None required.

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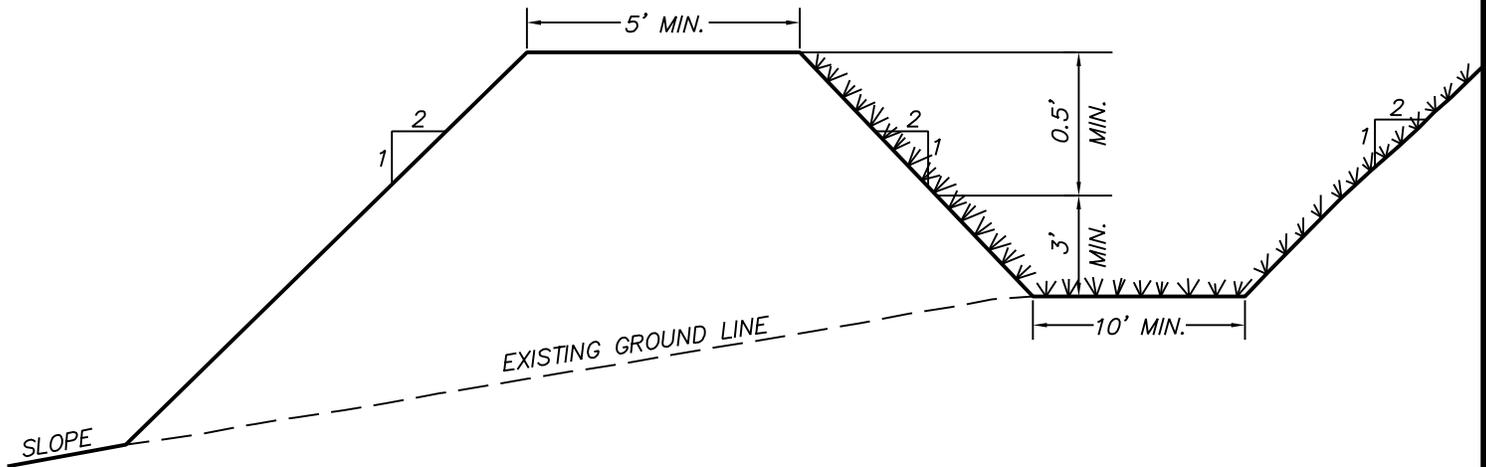


DIVERSION DITCH

TYPICAL DIVERSION CROSS-SECTION
NO SCALE

CHANNEL LINING TO CONSIST OF A MIXTURE OF FESCUE AND BERMUDA GRASS

DIVERSION/BERM DETAIL
 DIVERSION A-A'



TYPICAL DIVERSION/BERM CROSS SECTION
CHANNEL LINING TO CONSIST OF A MIXTURE OF BERMUDA AND FESCUE GRASSES

Note: The berm material is to consist of a clay material. The Material will be placed in 6 inch lifts and compacted to 95% of the standard proctor density. The standard proctor density will be determined prior to the placement of the material.



**Typical Diversion
 Berm Detail**

DRAWN BY: J.J.H.	DATE: 1-23-97
DWG. NAME: BRMTP1	
APPROVED BY: S.R.I.	SCALE: NONE

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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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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 and Slurry Impoundment No. 3. The modification to Slurry Impoundment No. 3 results in the modification to the Coarse Refuse Disposal Area around the North, South and East boundary of Slurry Impoundment No. 3.

The modification to Slurry Impoundment No. 3 will include the excavation of the embankment on the North, South and East side of the Embankment. This excavation will occur between elevation 700 and the crest of the Coarse Refuse Disposal Area elevation 730. The maximum elevation of the fine coal refuse will be maintained as previously approved elevation of 718.0 and also maintaining the Coarse Refuse crest elevation of 730.0. See Attachment III-B-2(e) Detailed Design Plans of Slurry Impoundment No. 3 Modification, See Attachment III-A-3(b) Coarse Coal Processing Waste Embankment Requirements, Attachment III-A-3(b) Specifications for Coal Processing Waste Impoundment and the permit map for location.

Drainage Control for the modification of Slurry Impoundment No.3E is through Sediment Ponds No. 3AE, 3BE, 14E, 17E, and Collection Pond No.3E. Due to no additional area being added to any of the basins, no re-evaluation or modifications are required. See attached watershed map for basin locations and preliminary hydrologic information.

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 Lick Creek.

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

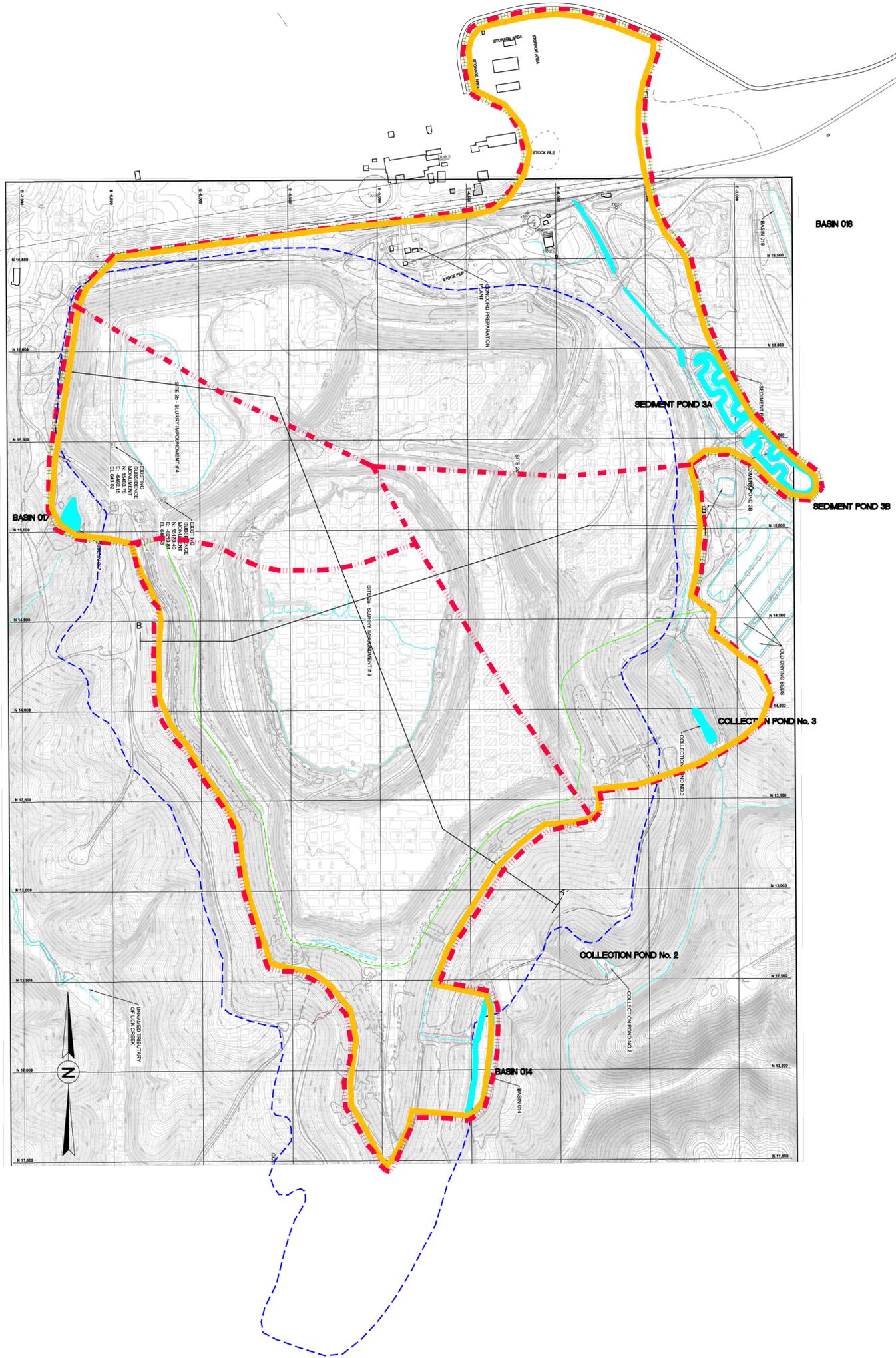
See Attachment III-B-2(e) for Detailed Design Plans of Slurry Impoundment No. 3 Modification.

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Attachment III-B-2-A

Basin No.	Location	Drainage Area (Acres)
Collection Pond 003E	SW/NE of Section 26	60.0
Sediment Pond 003AE	SW/SE of Section 23	125.0
Sediment Pond 003BE	NE/NE of Section 26 and SE/SE & SW/SE of Section 23	125.0
014E Revision R-8	NW/SE & NE/SW of Section 26	100.0
017E Revision R-8 & Construction Cert. April 17, 1996	NW/NW of Section 26	32.0

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



LEGEND

-  EXISTING CONTOURS, TAKEN ON DECEMBER 23, 2010 BY SOUTHERN RESOURCES MAPPING.
-  COARSE REFUSE TOE BOUNDARY
-  WATERSHED BOUNDARY
-  GRADED & BARE, CURVE NUMBER 81
-  SEDIMENT BASIN/IMPOUNDED WATER, CURVE NUMBER, 100



PERC
ENGINEERING CO., INC.
 1606 Highway 78 West Jasper, Alabama 35501
 P.O. Box 1712 Jasper, Alabama 35502
 (205) 384-5553 Office (205) 384-9491 Fax

drawn by: S.W.L.
 checked by: L.G.S.
 scale: 1"=400'
 job number: 04-03901-002
 date: 12-06-13
 page:
 dwg name: OGCPCRR20WS

Oak Grove Resources, LLC
 Concord Preparation Plant
 Slurry Impoundment No. 3 Modification
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 Watershed Map
 Attachment III-B-2(a)

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COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS

All coarse refuse will be placed in the Coarse Refuse Disposal Area. (See Permit Map.) The disposal plans will be designed using current prudent engineering practices and Regulatory Authority design criteria and certified by a qualified registered professional engineer.

All surface drainage will be routed around the outslope of the waste bank by using diversion ditches. The diversion ditches will be designed to pass a peak flow from a 100 yr. - 6 hr. precipitation event.

For areas where fill is to be placed into a natural drainage course, underdrains will be installed to prevent erosion, ensure stability, and to prevent infiltration. The type of underdrain system will be specified within the detailed design plans.

All vegetation and any organic material will be removed prior the construction of the embankment. Any topsoil removed will be segregated and stored onsite for future reclamation needs.

All refuse material will be transported and placed in a controlled manner in the waste bank. The material will be spread in two feet lifts and compacted to 90% of the standard proctor as outlined in ASTM, as to ensure stability of the area, to prevent combustion of the material, minimize effects of surface and ground water quality and quantity, and not create a public hazard.

Slopes of the waste bank will be maintained at a minimum slope to be specified within the detailed design plans. The slopes of the waste bank will be designed to exceed a 1.5 minimum long term static safety factor.

Sufficient site and laboratory investigations will be performed on the foundation area and the fill material to be utilized in the design of the fill. If a potential hazard is revealed, the Regulatory Authority will be informed and necessary safety measures will be implemented.

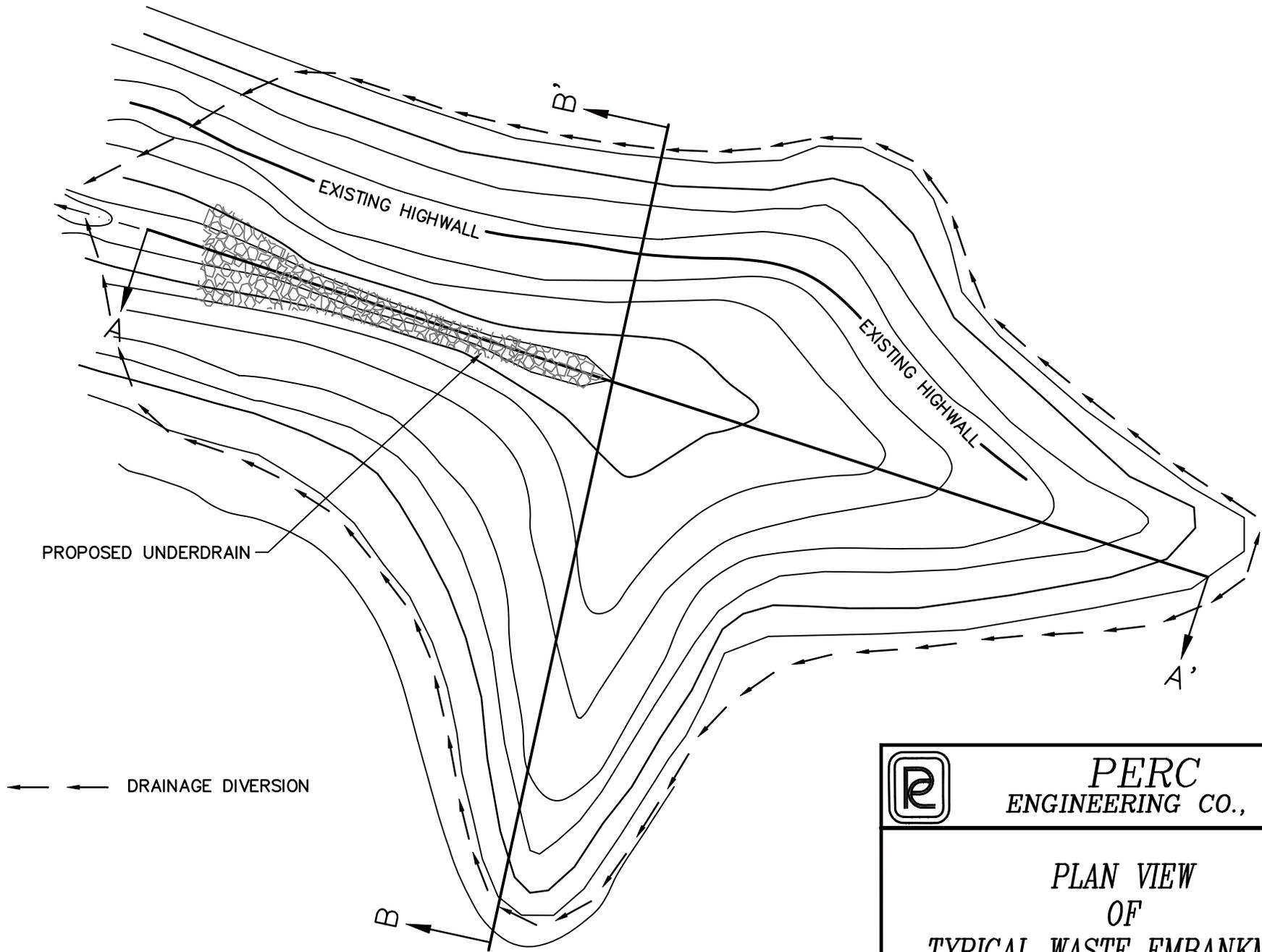
The waste bank will be inspected by a registered professional engineer or other qualified professional specialist under the direct supervision of the qualified professional engineer. Inspections will be made at least quarterly and during times of removal of organic material and topsoil, installation of diversion ditches, installation of underdrains, placement and compaction of refuse material, and revegetation of the fill. Photographs of the underdrain will be taken during and after their construction but prior to their cover. Certification inspection reports will be filed with the Regulatory Authority stating that proper

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-20

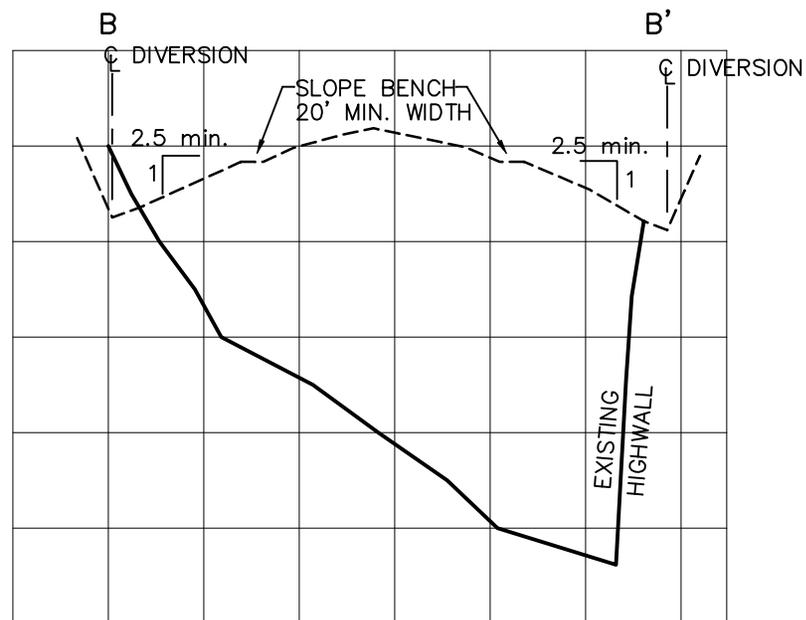
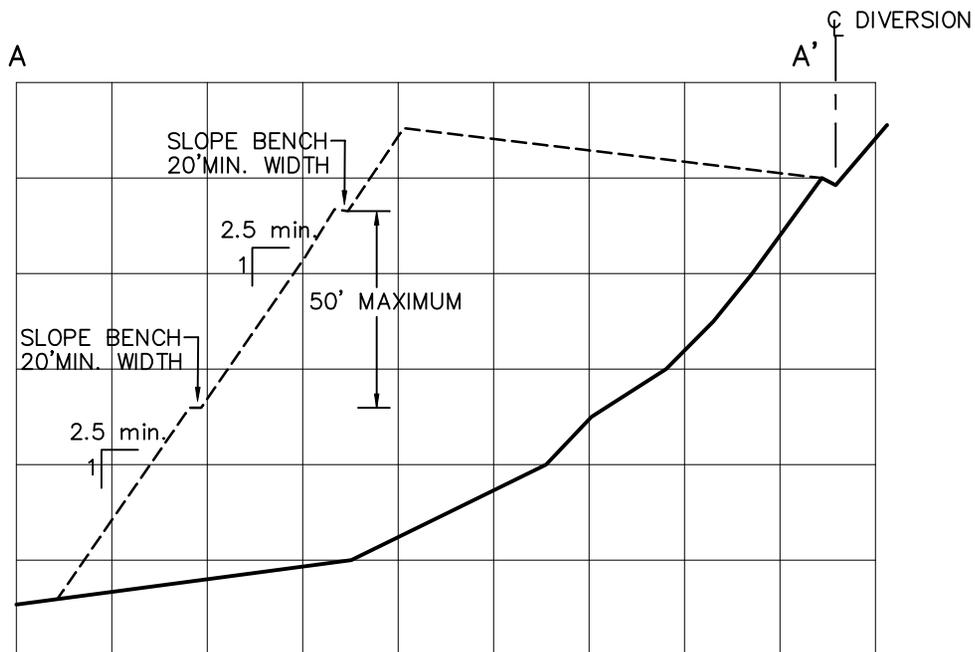
construction and maintenance are occurring in accordance with approved design plans. Inspection reports will be retained at the facility office.

Upon completion of operations, the waste bank area will be graded using mobile equipment to the configuration approved in the design plans. The waste bank will be covered with 2 feet of non-toxic, non-acid forming, and non-combustible material as approved through revision application R-14. All disturbed areas will be vegetated with an appropriate combination of grasses and legumes as stated in the reclamation plan, fertilized, and mulched to ensure a permanent diverse vegetative cover. Soil amendments, including lime and fertilizer, will be added and disced into the cover material in rates as recommended by laboratory analysis performed upon the cover material. These soil amendments will ensure a diverse effective vegetative growth upon the material.

G:\WWW\SR\EPOND 06/19/97 07:38



	PERC ENGINEERING CO., INC.	
	PLAN VIEW OF TYPICAL WASTE EMBANKMENT	
DRAWN BY: K.D.P. DWG. NAME: EPOND	DATE: 1-31-97	
APPROVED BY:	SCALE: NONE	



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



PERC
 ENGINEERING CO., INC.

CROSS SECTIONS A-A'- B-B'
 OF
 TYPICAL WASTE EMBANKMENT

DRAWN BY: M.W.K.
 DWG. NAME: EPONDYAB

DATE: 1-31-97

APPROVED BY: S.R.I.

SCALE: NONE

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-20

Attachment III-B-2(a)

SPECIFICATIONS FOR COAL PROCESSING WASTE IMPOUNDMENTS

Coal processing waste will not be used in the construction of dams and embankments without written approval from the regulatory authority.

All trees, shrubs, grasses, and other organic material will be cleared and grubbed from the site, and all combustibles will be removed and stockpiled before coal processing waste is placed at a dam or embankment site.

All surface drainage that may cause erosion to the embankment area or the embankment features will be directed away from the embankment. Diversions designed to divert drainage from the upstream area away from the impoundment area will be designed to carry the peak runoff from a 10 year - 24 hour precipitation event. The diversion will be maintained to prevent blockage. Adequate outlets for the discharge from these diversions will be controlled by energy dissipaters, riprap channels, and other devices where necessary to reduce erosion, prevent deepening or enlargement of the stream channel, and to minimize disturbance of the hydrologic balance. Also, all diversions delivering runoff from disturbed area must pass thru an approved sediment basin.

The design freeboard between the lowest point on the embankment crest and the maximum water elevation will be at least one (1) feet as determined from a 10 year - 24 hour or a 25 year - 6 hour precipitation event (storm with the greater peak flow).

The coal processing waste dam or embankment will have a minimum safety factor of 1.5 for the partial pool with steady seepage saturation conditions and the seismic safety factor will be at least 1.2.

The dam or embankment foundation and abutments will be designed to be stable under all conditions of construction and operations of the impoundment. Sufficient foundation investigations and laboratory testing will be performed to determine safety factors of the dam or embankment loaded to a water level sufficiently stable to support the intended use.

Spillways and outlet works will be designed to provide adequate protection against erosion and corrosion. Inlets will be protected against blockage.

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.

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

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-20

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 concrete, durable rock rip-rap, or the spillway being constructed in consolidated non-erodible material, or a combination of any or all of the above.

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.

Dams or embankments constructed of or impounding waste materials will be designed so that at least 90 percent of the water stored during the design precipitation event will be removed within a ten day period.

The dam and all disturbed areas will be sowed with both perennial and annual grasses in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam immediately upon the completion of construction.

All embankments will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the performance bond.

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.

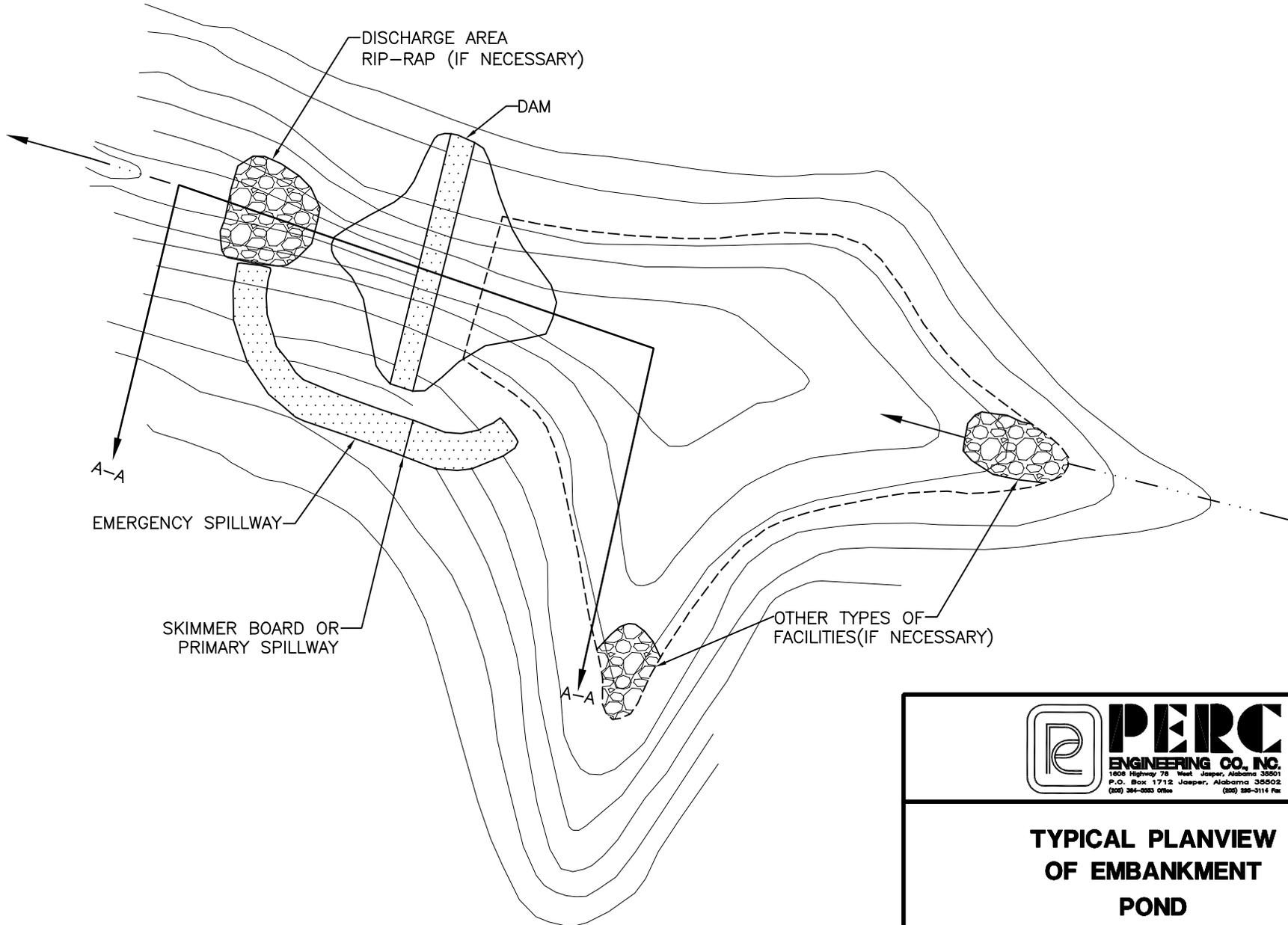
All impoundments will be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections will be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C- .20(1(j)) of the Alabama Surface Mining Regulations.

When the accumulated solids contained within the waste impoundment reaches the solids storage volume specified within the detailed design plans, the waste impoundment will be reclaimed in the following manner. The waste impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.). Using existing non-toxic, non-flammable breaker and washer rejected rock materials, construct a working surface on the impoundment which will permit equipment travel for the placement of vegetative cover material and to provide for positive drainage. All rock fill slopes on the impoundment shall have a maximum and minimum grade of 5 percent and 1 percent, respectively. All breaker and washer rejected rock fill shall be spread in two (2) feet maximum layers with a minimum compaction of 90 percent of its maximum dry density as determined by the standard proctor compaction test. The thickness of the rock material will be no more than is necessary to support equipment which will be working upon the impoundment surface. Upon the completion of the above mentioned

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Permit Number: P- 3233 / Revision R-20

working surface, the graded impoundment surface will be covered with a minimum of four (4) feet of the best available non-acid and non-toxic forming and non-combustible material unless special approval is granted by the Regulatory Authority for two (2) feet. All disturbed areas will be vegetated with an appropriate combination of grasses and legumes as stated in the reclamation plan, fertilized, and mulched to ensure a permanent diverse vegetative cover. The cover material will be sampled and analyzed to determine the correct amount of soil amendments, including lime, to be added to the cover material. These soil amendments will ensure a diverse effective vegetative growth upon the material.

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.

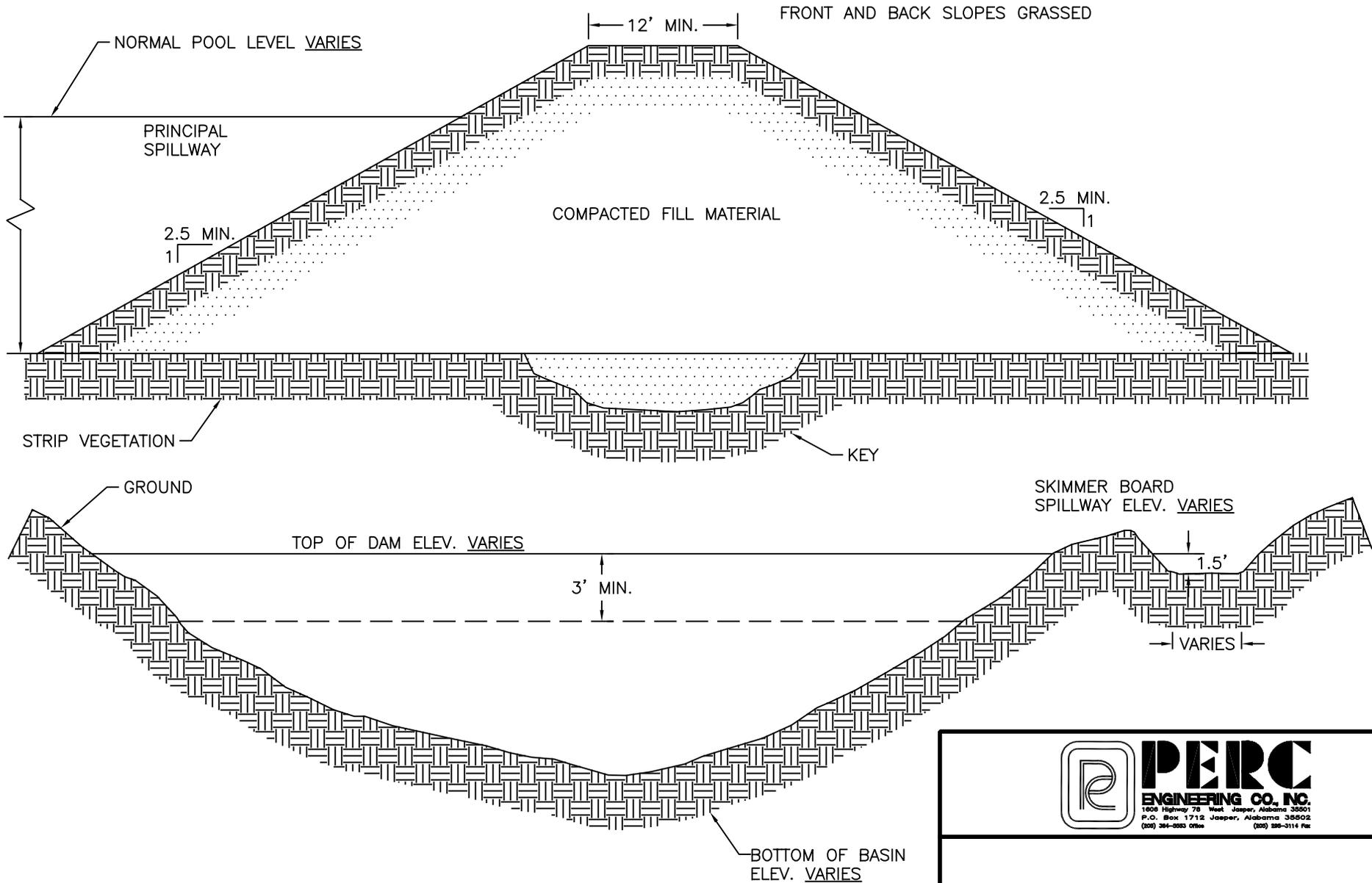


PLANVIEW OF EMBANKMENT POND



**TYPICAL PLANVIEW
OF EMBANKMENT
POND**

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



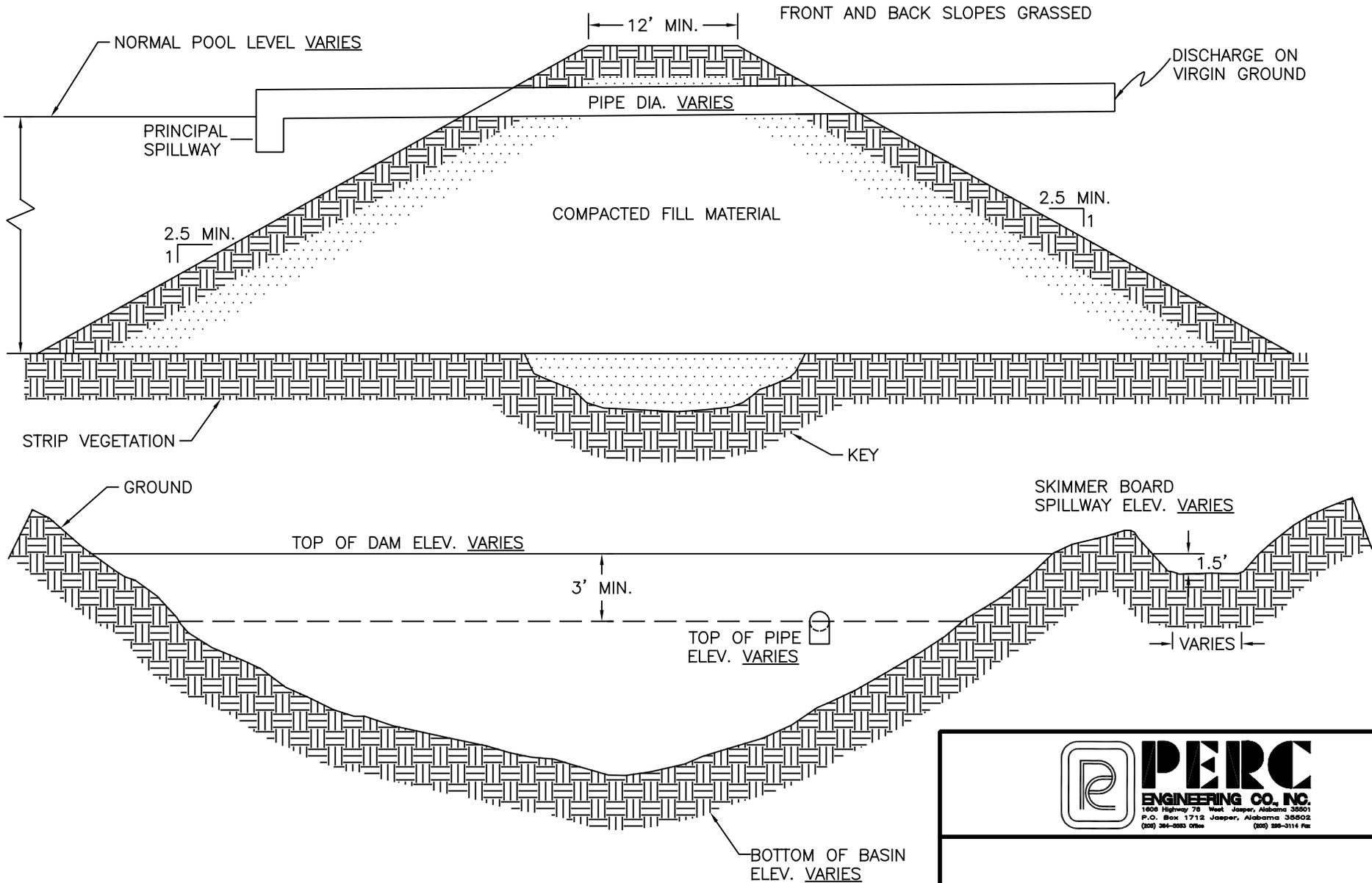
TYPICAL DAM DETAIL
NO SCALE

ATTACHMENT III-B-2-A



TYPICAL DAM DETAIL

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



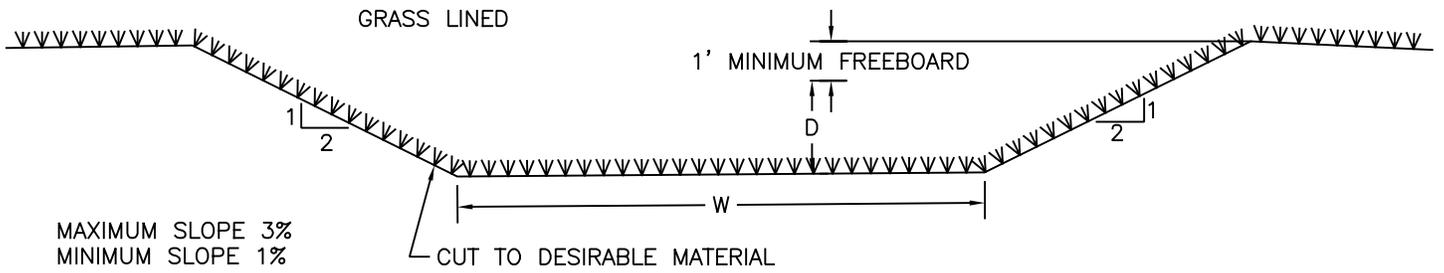
TYPICAL DAM DETAIL
NO SCALE

ATTACHMENT III-B-2-A



TYPICAL DAM DETAIL

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



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

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

* 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

APPENDIX B - GUIDELINE TECHNICAL SPECIFICATIONS

PROPOSED COAL REFUSE DISPOSAL PLAN

**COAL REFUSE DISPOSAL AREAS
CONCORD PREPARATION PLANT
CLIFFS NATURAL RESOURCES – OAK GROVE MINE
JEFFERSON COUNTY, ALABAMA**

POOL RAISING OF IMPOUNDMENT #3 (SITE 2a) FOR FCR DISPOSAL

FACILITY ID No. 01-00329

MSHA ID 1211-AL11-00043-02 (Site 2c - CCR Disposal)
MSHA ID 1211-AL11-00093-01 (Impoundment #3, Site 2a)
MSHA ID 1211-AL11-00093-02 (Impoundment #4, Site 2b)

February 22, 2012

Revsion 1, July 15, 2013
(Per MSHA Comments Dated: April 19, 2013)

Revsion 2, January 20, 2014
(Per ASMC Comments; January, 2014)
(REVISIONS APPEAR IN THIS FONT)

I hereby certify that this document was prepared by me or under my direct personal supervision and is correct to the best of my knowledge and belief and that I am a duly licensed Professional Engineer under the laws of the State of ALABAMA.

William O. Dickey
(Signature)

Date: 1/20/14

State of West Virginia
County of Bartlow

Acknowledged before me, a Notary Public, This 20 day of Jan., 2014
My commission expires 10/17/17

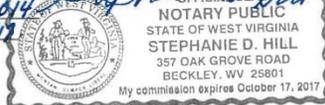



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1.0 INTRODUCTION

Miller & Associates Marshall Miller and Associates (MMA) has prepared a proposed plan (Plan) for modifications to Slurry Impoundment #3 (Site 2a) for *FINE* Coal Refuse disposal at the Oak Grove Resources LLC (OGR) Concord Preparation Plant in Jefferson County, Alabama. These Guideline Technical Specifications (GTS) are part of that Plan. Unless modified herein, all conditions and requirements of the existing permits, Almes, 1991 and PERC, 2007 are still valid. Two specific modifications are provided as needed for placing CCR in an upstream configuration over FCR and for excavation to competent material and special placement of back fill at the proposed toe of the Site 3a buttress toe.

The Engineering Report, of which this GTS is Appendix A, provides other important information on the Facility and the Plan. MMA is responsible for the design of the proposed Plan and OGR is responsible for placing CCR and FCR and for construction of the Facility to the requirements of the Plan including these Guideline Technical Specifications. Additionally, OGR shall retain the services of a Certifying Engineer to prepare Construction Monitoring Reports, (with test results and photographs) per applicable regulations. The Certifying Engineer is to be a qualified Registered Professional Engineer or a specialist chosen to represent the Engineer that is knowledgeable of these design documents and operational requirements and is responsible for certifying the disposal of coal refuse in the proposed Facility expansion.

The frequency of site visits in the regulations is a minimum and additional regular site visits may be required at the discretion of the Certifying Engineer. The Plan with these GTS is intended to be of sufficient detail for OGR to complete the work required to construct the proposed Facility expansion. However, if this work were to be sub-contracted by OGR, additional contract documents would be required.

2.0 SITE PREPARATION – NOT REQUIRED FOR REVISION 2

3.0 COARSE COAL REFUSE DISPOSAL

3.1 GENERAL

The CCR disposal at Site 2a of this Facility should under this Plan adhere to the following. The “100 Percent Compaction Zone” requirements herein are applicable to the Site 2a dam/embankment *UPSTREAM* construction under this Plan, excluding the initial upstream fill construction (initial “push out”) to the extent required to develop a starting upstream working surface of CCR. *THE SMALL AMOUNT OF NEW DOWNSTREAM CCR PLACEMENT SHALL FOLLOW THE COMPACTION REQUIREMENTS OF SECTION 3.2.4.2, NON-STRUCTURAL ZONE.* Other locations for CCR placement in this Plan are already approved under Almes, 1991 and/or PERC 2007.

3.1.1 CRITICAL CONSTRUCTION ITEMS

Per the MSHA COAL MINE IMPOUNDMENT INSPECTION AND PLAN REVIEW HANDBOOK (Handbook Number PH07-V-1 (1)). The following activities are considered to be “Critical construction” for this project and the mine operator should notify MSHA in advance of their start:

1. Construction of drains, filters, and placement of geo-fabrics and geo-grids.
2. Initial push-out of an embankment using upstream construction.

3.2 COARSE COAL REFUSE PLACEMENT AND CONSTRUCTION (NON-UPSTREAM CONSTRUCTION)

3.2.1 LINES AND GRADES

Refuse shall be placed to the lines and grades shown on the drawings. Control for placement can be established from the control points and coordinate system provided on the drawings.

3.2.2 MATERIAL

Run-of-plant coarse coal refuse produced at the coal preparation plant shall be used for construction of the Site 2a dam/embankment.

3.2.3 PLACEMENT

Coarse coal refuse shall be spread in nearly horizontal lifts using a bulldozer or other earth-moving equipment. The maximum lift thickness shall not exceed 12 inches in the 100 percent compaction zone and structural zone of the impounding embankment and not more than 2 feet in the non-structural zone. The 100 percent compaction shall be followed for Site 2a dam/ embankment upstream construction *ABOVE THE INITIAL PUSHOUT WORKING SURFACE*. All lifts shall be placed parallel to the longitudinal axis of the embankment in continuous nearly horizontal lifts with each lift extending to its full length and width prior to the placement of subsequent lifts. The refuse shall be placed in the central portion of the embankment, away from the slopes during wet weather or when drainage is insufficient and near the inside or outside slopes during drier periods.

3.2.4 COMPACTION

3.2.4.1 100 PERCENT COMPACTION ZONE

The coarse coal refuse material within the 100 percent compaction zone of the impounding embankments shall be compacted to a density greater than or equal to 100 percent of the maximum dry density, within -2 to +3 percent of the optimum water content, as determined by the Standard Proctor compaction test (ASTM D698).

A field density testing program shall be established during disposal operations to determine the actual dry density being achieved in the 100 percent compaction zone and structural zone. The number of passes by the compaction equipment shall be based on the densities obtained in relation to the minimum required density. If the density achieved is not consistent with these plans and specifications, modifications to the compaction procedure or to the disposal plan may be required. Field density tests shall

be performed on each lift of coarse coal refuse placed and compacted in the structural zone of the impounding embankment. A field density test shall be performed for every 2,000 cubic yards placed. As a minimum, density testing shall be performed on each lift placed. Additional field density tests should be conducted any time there is a suspicion of the effectiveness of compaction. A supplementary Standard Proctor laboratory compaction test (ASTM D698) shall be performed for every 20 field density tests (approximately every 40,000 cubic yards).

Field tests shall be performed at random locations in the fill. Records of the test results, as well as the test locations, shall be kept at the mine.

Any time there is reason to suspect that the characteristics of the construction material have changed, reasons such as a change in preparation plant processing or unusual compaction test results, the material shall be further investigated. Grain-size compaction, shear-strength, and other tests shall be performed as warranted.

3.2.4.2 NON-STRUCTURAL ZONE

The coarse coal refuse material placed in the non-structural zone shall be compacted to a density greater than or equal to 90 percent maximum dry density, as determined by the Standard Proctor compaction test (ASTM D698).

A field density testing program shall be established during disposal operations to determine the actual dry density being achieved. The number of passes by the compaction equipment shall be based on the densities obtained in relation to the minimum required density. If the density achieved is not consistent with these plans and specifications, modifications to the compaction procedure or to the disposal plan may be required. Field density tests shall be performed on each lift of coarse coal refuse placed and compacted in the structural zone of the impounding embankment. A density test shall be performed for every 10,000 cubic yards placed. As a minimum, density testing shall be performed on each lift placed.

3.2.5 COMPACTION REQUIREMENTS

The coal refuse shall advance upward in nearly horizontal layers throughout the entire disposal area. To minimize infiltration of precipitation the coal refuse surface shall be sloped, backbladed and compacted as it is spread. Surface material too wet to support construction equipment must be removed to expose drier material prior to placement of the next coal refuse layer. After drying, these wet materials can be reused in the embankment. As the level of the embankment is raised, it shall be graded smoothly to the contours shown on the plans.

3.3 CCR PLACEMENT OVER SETTLED FINE COAL REFUSE (UPSTREAM CONSTRUCTION)

Placement of coarse coal refuse and/or breaker rock over settled fine coal refuse (FCR) (commonly referred to as push-out or upstream construction) for development of upstream portions of embankments and/or for backfilling/capping the impoundment shall adhere to the special requirements provided herein. Please note that upstream dam construction is only proposed along the western perimeter of Site 2a, Impoundment #3.

3.3.1 UPSTREAM CONSTRUCTION SAFETY CONSIDERATIONS

3.3.1.1 TRAINING:

1. Safety meetings shall be conducted and procedures discussed on a weekly basis.
2. Equipment operators shall be made aware of the proper procedures for advancing the push-out.
3. Equipment operators working on or near the impoundment area shall be given additional hazard training. These safety precautions with regards to upstream construction shall be reviewed, along with material handling safety policies, and designated storage areas for safety equipment.

4. Task-specific training shall be provided to personnel performing and monitoring upstream construction. Instructions shall be provided to operators regarding operations involved in developing access to push-out areas, along with specific construction methods required to perform upstream construction.
5. Information concerning risks associated with upstream construction and features that are indicative of unstable working surfaces shall be provided to operators and other mine personnel who will be in the vicinity of the upstream construction.
6. Training records shall be maintained at the mine office.
7. ***TRAINING TO BE PROVIDED BY AN MSHA CERTIFIED IMPOUNDMENT INSPECTOR.***

3.3.1.2 EQUIPMENT:

1. Only low ground pressure (LGP) track dozers shall be utilized.
2. Dozers shall not contain a “submarine kit,” thick break resistant windows, or brush guards over the windows.
3. Dozers shall be equipped with life jackets during construction of the push-out.
4. For safety purposes, a minimum of two dozers shall be used during the construction of a push-out. The dozer operators shall sequence their push patterns, such that only one operator is near the upstream edge of the push-out during fill placement. The dozer operators shall be in visual sight of each other at all times.
5. Two-way radios or similar devices shall be used by equipment operators during construction, so that if potential hazards are observed they can be quickly communicated to other operators.
6. A work skiff with oars and life jackets shall be maintained near the push-out area.
7. A flotation ring attached to a rope, a throw bag or other similar device shall be maintained near the push-out area.
8. ***OGR WILL BE RESPONSIBLE FOR ASSURING THAT THE LISTED EQUIPMENT IS USED FOR THE UPSTREAM CONSTRUCTION.***

3.3.1.3 GENERAL PRECAUTIONS:

1. Alternate between upstream and downstream construction when possible to allow excess pore pressures to dissipate. The rate of placement for advancing push-out material is critical;
 - Rapid placement of push-out material during construction of the upstream push-out results in excess pore pressures.
 - Excessive pore pressure reduces the residual strength between the particles of the push-out material.
 - Loss of strength decreases stability and can result in instability.
2. Pump the water level down as much as possible, for as long as possible, to expose the slurry delta, prior to initiating push-outs.
3. Monitor pore pressures using the planned vibrating wire piezometers. Read and record the VW piezometers before and at the end of each shift when upstream construction might be performed.
4. The coarse refuse placement procedures shall proceed in a systematic manner.
5. Only conduct upstream construction during daylight hours, unless ample artificial lighting is provided and a written plan to conduct upstream construction under artificial lighting is specifically approved by MSHA.
6. Grade controls shall be maintained at all times.
7. Do not conduct upstream construction during *SIGNIFICANT* precipitation events or within **8 TO** 16 hours thereafter *OR AS WEATHER PERMITS TO ACHIEVE THE REQUIRED COMPACTION*.
8. Equipment operators shall always exercise caution during upstream construction, especially when a new push-out is started. They should be cognizant that the initial pad of a push-out will likely contain soft areas, and that differential settlement or other movements could cause the subgrade to become unstable. Accordingly, equipment operators shall continually examine the work area for unsafe conditions.

9. Oversight by knowledgeable personnel – preferably a person who is familiar with mechanics of upstream construction and can recognize and immediately correct unsafe work practices and conditions.
10. Use equipment operators who are experienced in this type of work. Required initial push-out lift thickness is not intuitive. Inexperienced equipment operators, especially contractors who are used to working in other settings, sometimes think thicker lifts are better, and may not understand that excessively thick lifts can result in cracking and rapid sinking of the push-out into the impoundment.
11. Equipment operators shall continually check for cracks in the push-out area. If a crack is detected, the operator shall not proceed past the crack for any reason. Cracking of the push-out material is a sign of movement and potential instability. Push-out areas shall be allowed time to settle before additional coarse coal refuse is gradually worked out over the cracked area.
12. Dozer tracks shall be offset when returning back to stockpile.
13. Preferably the operator should overbuild the upstream zone by extending the upstream pushout further upstream than the minimum limits shown on the figures (and allow the upstream slope to conform to its angle of repose) such that the design cross section shown on the figures is encompassed within the overbuild cross section.
14. Equipment shall operate perpendicular to the impoundment periphery and the push-out activities shall be sequenced so that haul trucks will not travel within 50-feet of the advancing upstream crest of the push-out working surface. In general, the upstream construction shall be advanced out over the settled FCR in approximately 25-foot increments over long segments of the impoundment periphery to avoid isolated “fingers” or peninsulas of CCR jutting out into the impoundment.
15. Before the resumption of upstream construction each day, a MSHA-qualified impoundment inspector shall visibly inspect the area of the upstream construction. The inspection shall focus on identifying the following suspect conditions:
 - Open cracks in the vicinity of the push-out area;

- Vertical offset between areas of the push-out working surface;
- Substantial bulging or displacement of FCR near the push-out area;
- Sloughing, more significant slippage, and/or sinking of push-out fill (e.g., coarse coal refuse, breaker reject) into the impoundment;
- Ponded water or bolis;
- Widespread pumping under equipment traffic;
- During the preceding shift, there was a substantial increase in the piezometric level at either VW piezometer from the beginning to the end of the shift.
- The measured piezometric level in either VW piezometer at the beginning of a shift has not decreased substantially (“substantially” relative to the increase in piezometric level observed during the preceding shift) compared to the preceding end-of-shift reading.
- The VW piezometers shall be monitored until the western embankment is raised to the level of the existing crest, and sufficient readings have been accumulated to show that the piezometric levels are falling and nearing (or below) the prevailing impoundment pool level.
- Unstable or wet areas on the push-out surface; and
- Multiple, coinciding features among those described above

If any of the above-listed conditions are observed, immediately relocate equipment and personnel to a stable area, until the suspect conditions can be more thoroughly reviewed by personnel experienced in upstream construction and the potential problem area(s) are corrected or allowed sufficient time to stabilize. The results of these required inspections shall be recorded in mine records at the mine office.

3.3.1.4 Initial Push-Out Precautions:

1. The thickness of the initial lift of coarse coal refuse placed over settled fine refuse should be at least 5 feet, or somewhat greater (possibly up to 8 feet) if required to

provide a stable working platform for the equipment. Generally, the top of the established upstream fill surface should be maintained at least **3 to 5** feet above the pool level.

2. Material for the initial lift shall be dumped 25 feet from the edge of the impoundment or settled fines and then shall be pushed out over the fine refuse using low ground contact pressure equipment.
3. If practical, an outslope of 2H:1V or flatter should be maintained as the lift is pushed out over the fine refuse; however, equipment should generally not be operated on the upstream outslope merely to establish a flatter grade and not until a stable working platform is developed.
4. Use a spotter to watch for settlement cracks and slumps.
5. Equipment shall not travel or dump near the edge of an upstream push-out because the refuse may give way. Trucks shall dump a safe distance back from the edge and the material shall be pushed toward the pool by a dozer. Develop an exclusion zone for trucks, scrapers, and compactors until a firm base is established.
 - Maintain an exclusion zone, wherein only low ground pressure shall be permitted to operate, 50 to 100 feet back from leading edge of the push-out.
 - Clearly mark the exclusion zone with cones, stakes, or barrels.
6. The dozer shall not push a full blade of material completely out over fine refuse or into the impoundment area; the blade should be “double loaded.” A berm of coarse refuse material, approximately 3 to 6 feet high, measured on the same plane that the dozer is pushing, shall be left in place on the front edge of the lift leading into the impoundment area to insure that the dozer has sufficient refuse beneath it for support. Subsequent dozer pushes into the impoundment area shall advance the existing berm into the impoundment, leaving a berm in its place, lessening the chance of the operator getting the dozer too close to the impoundment pool.
7. Spread construction out across full length or width of the push-out. Do not concentrate placement in one area.

8. All push-outs shall begin from solid ground or embankment surface outside the boundary of impounded material.

4.0 NOTIFICATION

The design engineer should be notified if the water level for notification is reached, shown in the table below for each piezometer.

Piezometer NO.	Water Level For Notification (ft. el.)
P-1 (3)	(3)
P-2	675 (1)
P-3	550 (1)
P-4	550 (1)
P-5	711
P-6	648
P-7	609
P-8	662
P-9	630
B-2	575 (1)
B-4	575 (1)
B-9	485 (1)
B-12	700

- (1) From Almes 1991.
- (2) See Figure 4 For Piezometer Plan.
- (3) P-1 can be removed once Site 2b is up to El. 730. Monitor During construction for consistency of Phreatic Surface. Notify if level increases faster than the 2a pool elevation.

5.0 OPERATION AND INSTRUMENTATION

5.1 PUMPS

Pumping shall be considered if areas of pending upstream construction are submerged, and the water quality, clarified depth of water, and pool volume are conducive for pumping.

5.2 VIBRATING WIRE PIEZOMETERS

Two vibrating wire piezometers will be provided as described below and shown in Fig. 14 & 4.

1. Use low-pressure VW piezometers (25 psi full output limit) as supplied by Slope Indicator <http://www.slopeindicator.com/instruments/piezo-intro.html>, or equivalent. Procure at least two (2) VW piezometers, and the number of extra/reserve VW piezometers (if any) directed by OGR. Order the VW

piezometers with sufficient, excess cable length to compensate for settlement and other movements, and for routing the cables to the locations selected by OGR without splicing. The cable shall be shielded/insulated from extraneous current and rated for direct burial.

2. At the readout locations, terminate the cables in weather/water-proof housings above ground, and clearly mark each location and protect it from equipment traffic.
3. Readings will be accomplished by OGR using a compatible portable readout unit.
4. Review the entire Slope Indicator (i.e., Manufacturer/Supplier) VW Piezometer Manual (<http://www.slopeindicator.com/pdf/manuals/vw-piezometer-manual.pdf>) (considered part of these specs.) for instrument preparation (including pre-installation sensor saturation and testing) and handling requirements, as well as recommended installation practices. The “Embankment Installation” section provides guidelines most applicable to the installation detail that is shown, but the universal recommendations shall also be adhered to.
5. Shortly before installation, saturate the piezometer filters as recommended by the Manufacturer/Supplier and test the piezometers. Keep the sensor submerged in water thereafter, until installation.
6. Use the “Grout Mix for Soft Soils” under “Borehole Installation (Grout-in Method)” per the Slope Indicator Manual.
7. Loosely bundle the cables, “snake” them along the trench, and cover the cables with bentonite powder before backfilling the trench. The bedding and immediate (initial 4 to 6 inches) cover over the cables shall be free of rock fragments, sharp objects, gravel-size or larger particles, and other materials that could damage the cables or their insulation. Use fine-grained soil or refuse bedding and immediate backfill (in addition to bentonite) to protect the cables if and where necessary.
8. Place and compact a prominent mound of CCR over the installation pits and along the cable trenches to divert surface runoff away from the installations and alert

equipment operators to their presence. For enhanced protection, if directed by OGR, first place a marker layer of geotextile (Geotex®) or orange plastic construction mesh over the installation pits and cable trenches (beneath the mounded material).

9. After completing each VW piezometer installation, take an initial reading and report the findings to OGR. Daily baseline readings should be obtained for as long as the piezometer installation or oversight personnel are at the site

6.0 GEOTEXTILE

A geotextile will be applied in the construction of an internal drain as shown in Fig.8.

- a. Non-woven Geotextile - The non-woven geotextile shall be ProPex 4553 manufactured by Amoco Fabrics and Fibers Company, 180N manufactured by Mirafi Construction Products, or an Engineer approved equivalent that meets the Minimum Average Roll Values for geotextile products presented below in the table. Geotextile fabrics shall be furnished in an un-torn, un-stretched condition, free of defects that alter the drainage and filtering capability of the geotextile. The geotextile shall be stored in the manufacturer protective covering until ready to install.

Minimum Average Roll Values (MARV) For Non-woven Geotextile Fabrics

Properties	Test Method	Unit	Minimum Average Roll Values
			8 oz./ sy
Mass Per Unit Area	ASTM D3776	oz./yd ²	7.8
Grab Tensile Strength	ASTM D4632	lbs	205
Grab Elongation	ASTM D4632	%	50
Puncture Resistance	ASTM D4833	lbs	110
Trapezoidal Tear Strength	ASTM D4533	lbs	80
Permittivity	ASTM D4491	sec ⁻¹	1.05
Apparent Opening Size	ASTM D4751	sieve size	70-100
UV Resistance (at 500 Hours)	ASTM D4355	% Strength Retained	70

b. Installation - A detail of the internal drain is shown on Figure 8. The AASHTO No. 8 drain is wrapped entirely in filter cloth with a minimum two (2) foot overlap and totally enclosed in a 1' minimum thickness ASTM C33 non-calcareous sand. A two (2) foot overlap shall be provided between sections of geotextile.

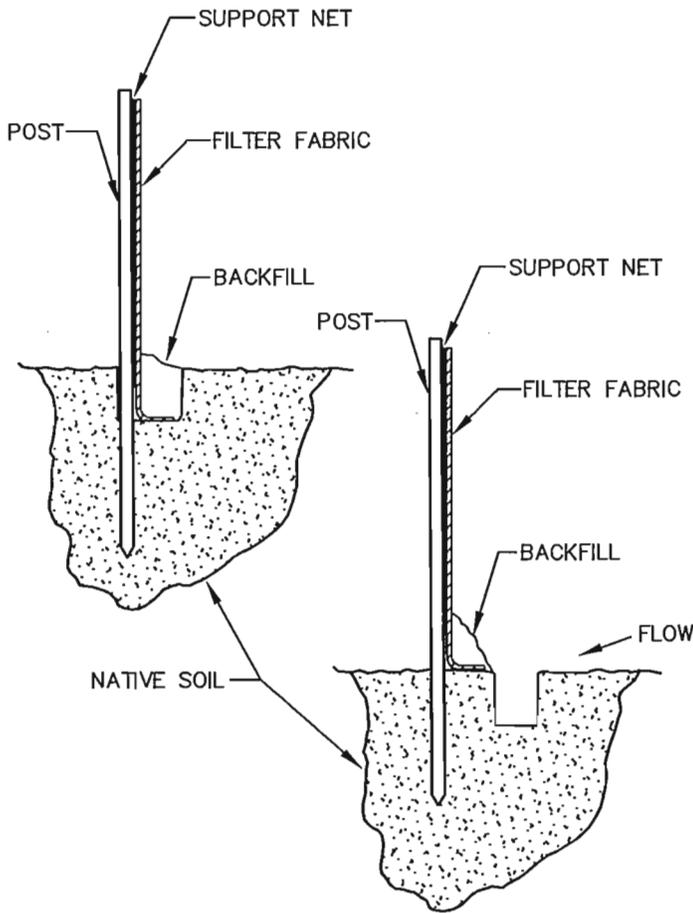
Upon installation, the underdrain geotextile shall be immediately covered with at least one foot of free draining ASTM C33 non-calcareous sand to prevent UV degradation.

The underdrain shall be placed with a near uniform slope, without any depressions or flat areas where fines and water would settle or collect.

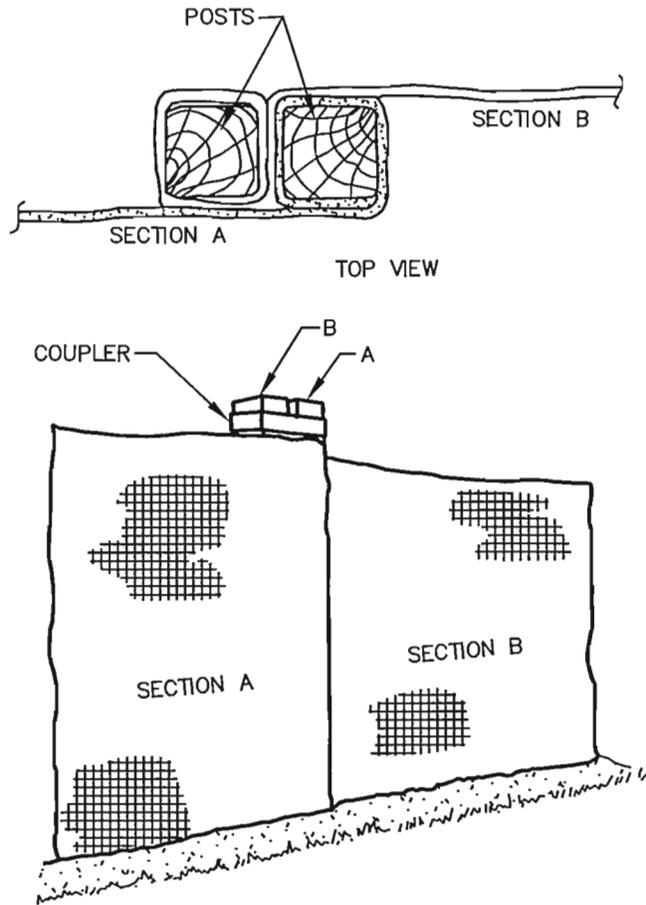
Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-20

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.



TOE-IN METHOD



JOINING SECTIONS OF SILT FENCE

CONSTRUCTION SPECIFICATIONS

- 1.) SILT FENCING SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY FITTING THE ADJACENT FENCE SECTION.
- 2.) EACH SECTION OF FENCING SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 6".
- 3.) FENCING SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS AT A SPACING NOT TO EXCEED 6".
- 4.) INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.



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 ENGINEERING CO., INC.
 1606 Highway 78 West Jasper, Alabama 35501
 P.O. Box 1712 Jasper, Alabama 35502
 (205) 361-5553 Office (205) 293-2114 Fax

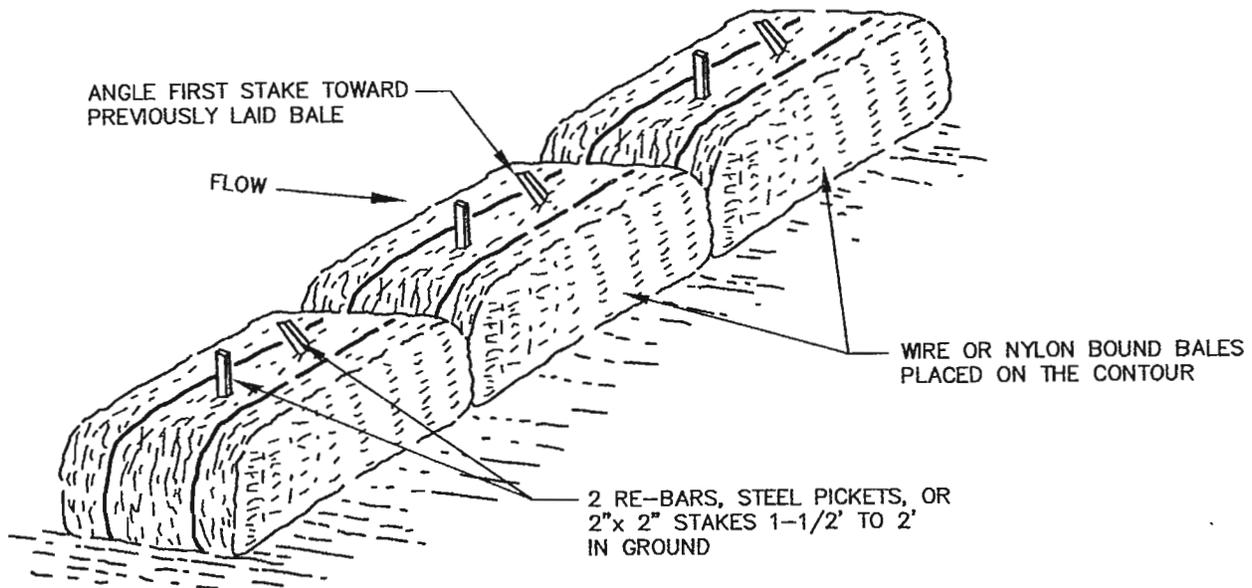
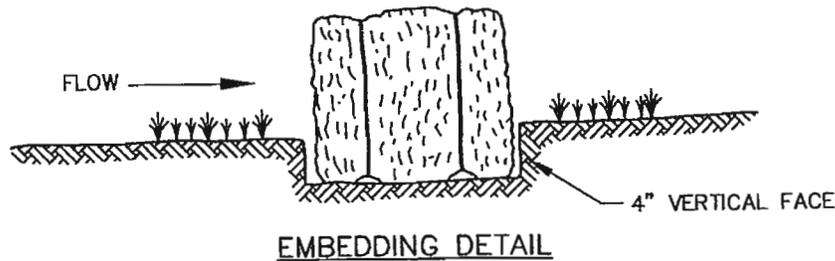
SILTFENCE TYPICAL

DRAWN BY: K.D.P.
 DWG. NAME: SILTFENC

DATE: 6-24-91

APPROVED BY: R.E.P.

SCALE: NONE



CONSTRUCTION SPECIFICATIONS

- 1.) BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- 2.) EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
- 3.) BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- 4.) INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.



HAY BALE BARRIER TYPICAL

DRAWN BY: K.D.P.
 DWG. NAME: HAYDAM

DATE: 6-24-91

APPROVED BY: R.E.P.

SCALE: NONE

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-20

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.1 shown in the Detailed Design Plans for Slurry Impoundment No. 3 Modification is a travel way within the Permitted and Bonded Increment No. 1 of P-3233

- 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 channels while preventing or controlling damage to public or private property. Where it is not possible

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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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**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

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Mine Name: Concord Preparation Plant
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fifteen percent are required, cross drains, ditch relief drains and road drainways will be located at a minimum distance of three-hundred feet.

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:

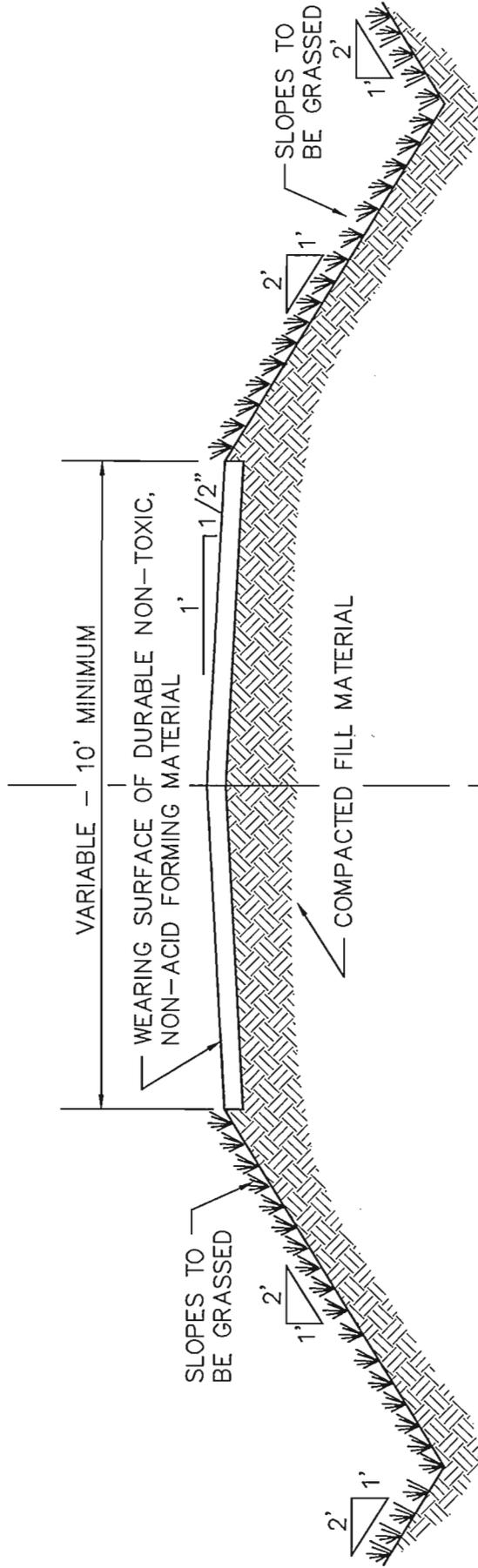
Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
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- a. The road will be closed to traffic.
 - b. All bridges, culverts and other drainage structures not approved as part of the post mine land use will be removed.
 - c. All road 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.
10. The following drawings illustrate typical roadbed configurations for ancillary roads.

Oak Grove Resources, LLC
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TYPICAL HAUL ROAD FILL SECTION

NO SCALE



TYPICAL FILL SECTION ANCILLARY HAUL ROAD

DRAWN BY: K.D.P.
 DWG. NAME: TYPHAULA

DATE: 2-3-97

APPROVED BY: S.R.I.

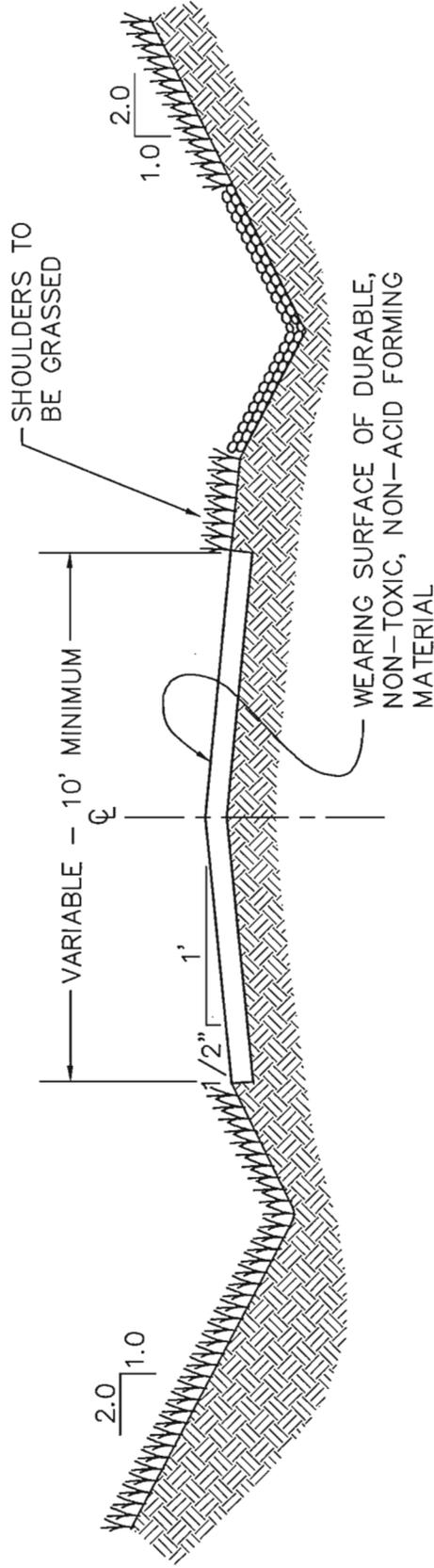
SCALE: NONE

ATTACHMENT III - B. - 5.

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TYPICAL HAUL ROAD CUT SECTION

NO SCALE

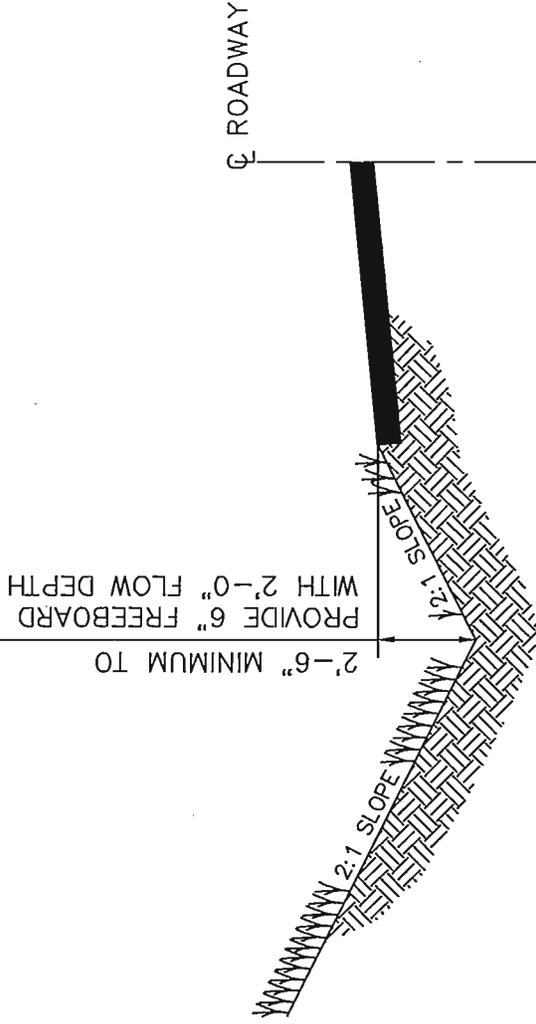


TYPICAL CUT SECTION ANCILLARY HAUL ROAD

DRAWN BY: K.D.P.	DATE: 2-3-97
DWG. NAME: TYPHAULB	
APPROVED BY: S.R.I.	SCALE: NONE

ATTACHMENT III - B. - 5.

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MINIMUM DITCH GRADIENT = 1%
 MAXIMUM DITCH GRADIENT = 5%

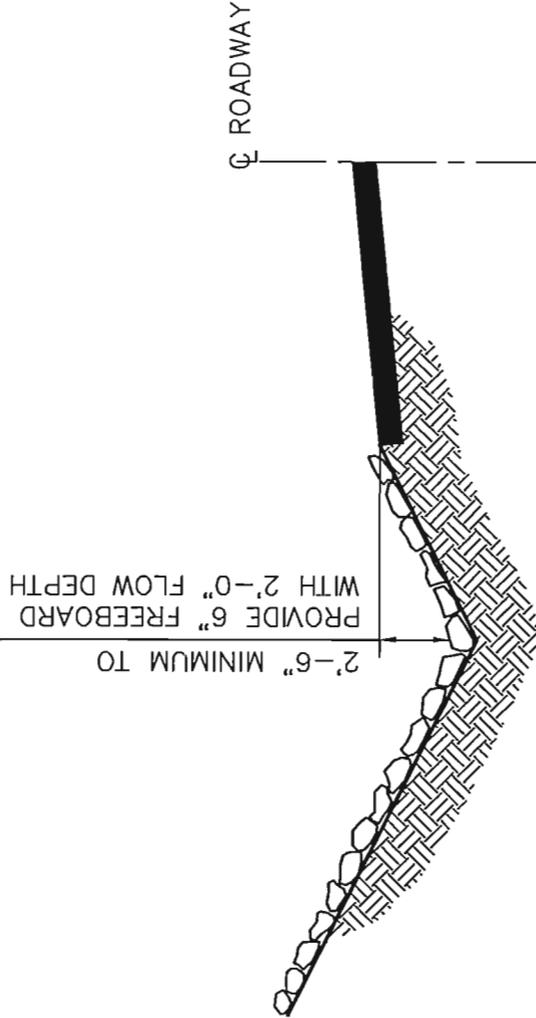
DITCH CHANNEL TO BE VEGETATED WITH
 A MIXTURE OF BERMUDA GRASS, FESCUE,
 AND LESPEDEZA TO CONFORM TO CLASS
 "D" RETARDANT CLASS.



TYPICAL ANCILLARY ROADWAY DITCH CROSS SECTION

DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: ANCIROAD	
APPROVED BY: R.E.P.	SCALE: NONE

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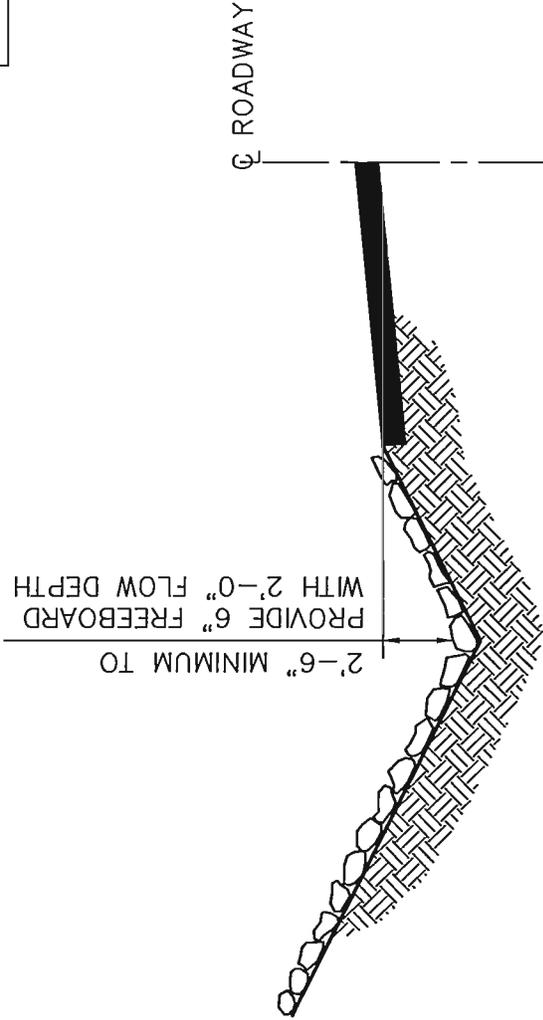


DITCH GRADIENT 5% TO 10%

DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE
 NON-TOXIC, NON-ACID FORMING SANDSTONE OR
 LIMESTONE RIP-RAP. THE RIP-RAP WILL BE "CLASS 1"
 RIP-RAP AND HAVE A MINIMUM THICKNESS OF 12".

 <p>PERC ENGINEERING CO. INC. <small>1700 Highway 78, Suite 100, Auburn, Alabama 36801 P.O. Box 4748, Jemmes, Alabama 36804 (205) 261-9171 Fax</small></p>	
<p>TYPICAL ANCILLARY ROADWAY DITCH CROSS SECTION</p>	
<p>DRAWN BY: K.D.P. DWG. NAME: PRIMRD1</p>	<p>DATE: 2-4-97</p>
<p>APPROVED BY: R.E.P.</p>	<p>SCALE: NONE</p>

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DITCH GRADIENT 11% TO 17%

DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE
 NON-TOXIC, NON-ACID FORMING SANDSTONE OR
 LIMESTONE RIP-RAP. THE RIP-RAP WILL BE "CLASS 2"
 RIP-RAP AND HAVE A MINIMUM THICKNESS OF 16".



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 1500 Highway 79, Suite 2000, Albany, Georgia 31706
 (706) 525-1111 • Fax: (706) 525-1112 • P.E.
 CDD 284-2822-004

**TYPICAL ANCILLARY ROADWAY DITCH
 CROSS SECTION**

DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: PRIMRD2	
APPROVED BY: R.E.P.	SCALE: NONE

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-20

**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.

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Mine Name: Concord Preparation Plant
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- (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

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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. 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

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-20

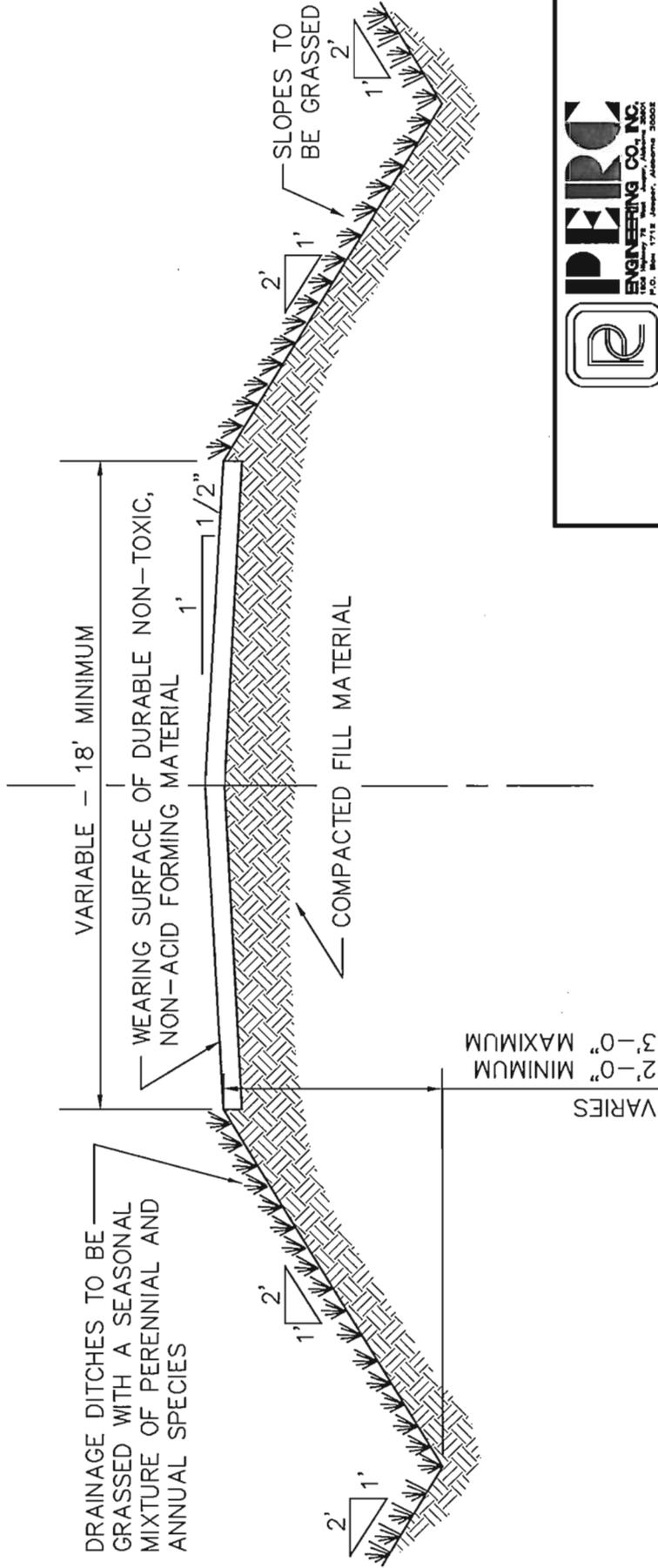
shall be replaced and revegetated in accordance with the approved reclamation plan for this permit.

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.

Oak Grove Resources, LLC
 Concord Prep. Plant
 P-3233 Revision R-20

TYPICAL HAUL ROAD FILL SECTION

NO SCALE



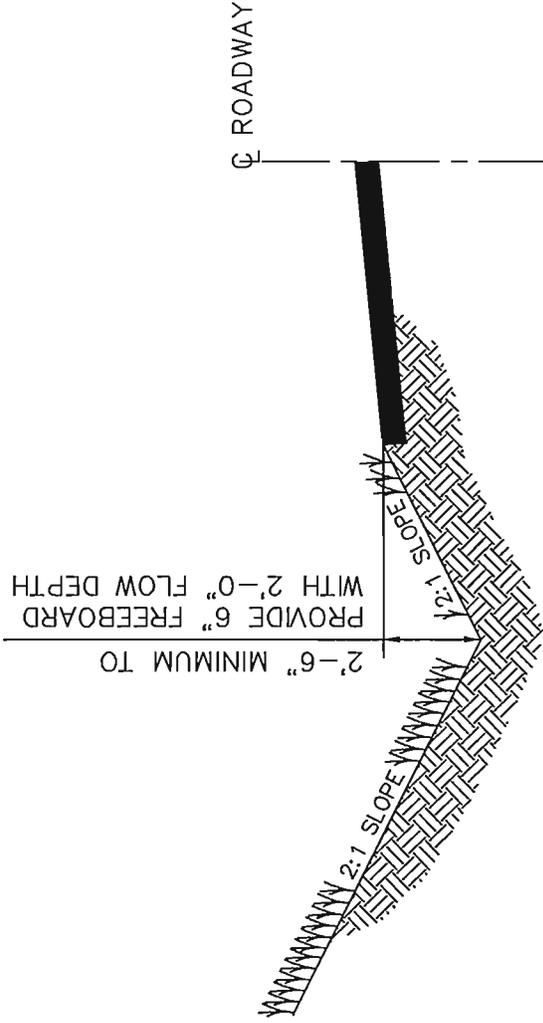
TYPICAL FILL SECTION PRIMARY HAUL ROAD

DRAWN BY: K.D.P.
 DWG. NAME: TYPHAULF
 DATE: 2-3-97

APPROVED BY: S.R.I.
 SCALE: NONE

ATTACHMENT III - B. - 5.

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MINIMUM DITCH GRADIENT = 1%
 MAXIMUM DITCH GRADIENT = 5%

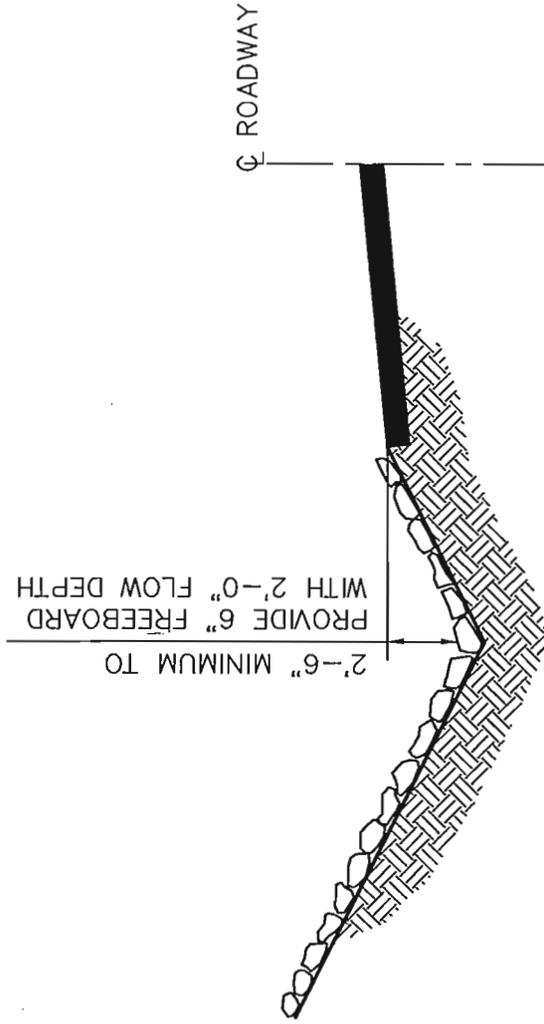
DITCH CHANNEL TO BE VEGETATED WITH
 A MIXTURE OF BERMUDA GRASS, FESCUE,
 AND LESPEDEZA TO CONFORM TO CLASS
 "D" RETARDANT CLASS.



TYPICAL PRIMARY ROADWAY DITCH CROSS SECTION

DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: PRIMROAD	
APPROVED BY: R.E.P.	SCALE: NONE

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DITCH GRADIENT 5% TO 10%

DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE
 NON-TOXIC, NON-ACID FORMING SANDSTONE OR
 LIMESTONE RIP-RAP. THE RIP-RAP WILL BE "CLASS 1"
 RIP-RAP AND HAVE A MINIMUM THICKNESS OF 12".



**TYPICAL PRIMARY ROADWAY DITCH
 CROSS SECTION**

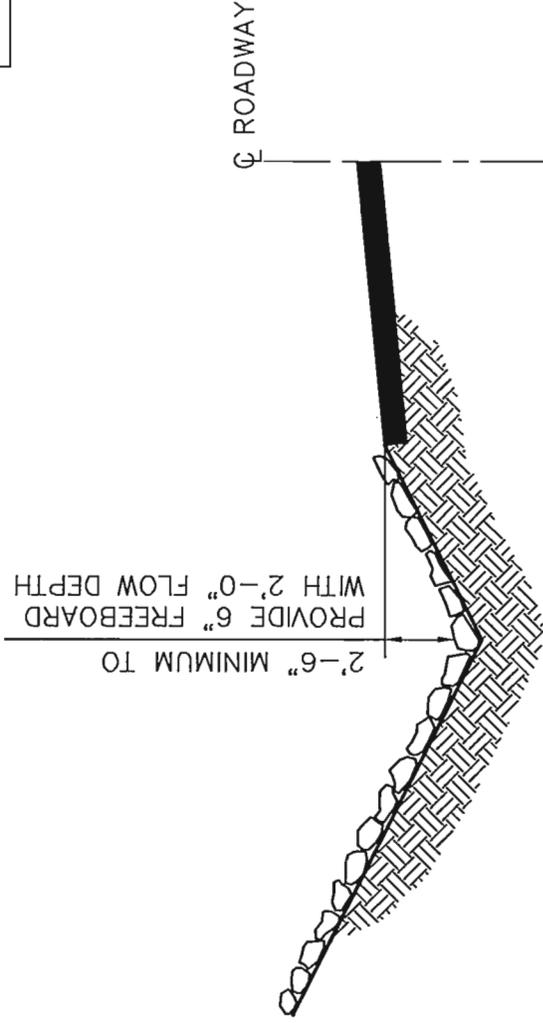
DRAWN BY: K.D.P.
 DWG. NAME: PRIMRD1

DATE: 2-4-97

APPROVED BY: R.E.P.

SCALE: NONE

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DITCH GRADIENT 11% TO 17%

DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE
 NON-TOXIC, NON-ACID FORMING SANDSTONE OR
 LIMESTONE RIP-RAP. THE RIP-RAP WILL BE "CLASS 2"
 RIP-RAP AND HAVE A MINIMUM THICKNESS OF 16".



**TYPICAL PRIMARY ROADWAY DITCH
 CROSS SECTION**

DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: PRIMRD2	
APPROVED BY: R.E.P.	SCALE: NONE