

Part III - Operation Plan

A. General Operation Information

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

See original permit and subsequent revision applications.

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

The timing increments are as follows:

| <u>INCREMENT NO.</u> | <u>ACRES</u> | <u>DATES</u> | |
|----------------------|--------------|------------------|----------------|
| | | <u>FROM</u> | <u>TO</u> |
| 1 | 811 | Issuance of R-26 | Life of permit |
| 2 | 72 | Issuance of R-26 | Life of permit |
| 3 | 24 | Issuance of R-26 | Life of permit |
| 4 | 110 | Issuance of R-26 | Life of permit |
| 5 | 4 | Issuance of R-26 | 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

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.

Phase I of Revision R-26 proposes to modify the Coarse Refuse Disposal Area. The Coarse Refuse Disposal Area expansion Easterly will follow the Specifications shown in Attachment III-A-3-(b) COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS and the Coarse Refuse Disposal Area Detailed Design Plans 3a. See Attachment III-B-2(d) and attached MSHA approval letter dated October 30, 2013.

Generally it will consist of clearing and grubbing of the expansion area followed by topsoil removal and stockpiling. After this foundation preparation is completed the placement of the refuse material will begin in lifts not to exceed 2 feet in thickness followed by compaction to a minimum of 90% of the Standard Proctor Density and outer slopes constructed on a 2.5 horizontal to 1 vertical slope. As the refuse reaches a height of 50 feet slope bench and down drains will be constructed as shown in the detailed design plans. This process will repeat itself until the refuse reaches a maximum height of the 730 elevation. A 2 feet thick layer of cover material will be placed on the finish graded Coarse Refuse followed by the immediate re-vegetation placement of seed, fertilizer, lime and mulch as detailed in the reclamation plan. See Revision R-14 for approval of two(2) feet of cover material.

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

Phase II of Revision R-26 proposes to create Increment No. 3 consisting of 24 acres for a second Coarse Refuse Disposal Area Expansion Easterly. This expansion is identified in the Detailed Design Plans as Coarse Refuse Disposal Area 3b. The Coarse Refuse Disposal Area expansion will follow the Specifications shown in Attachment III-A-3-(b) COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS and the Coarse Refuse Disposal Area Detailed Design Plans to be submitted, at a later date, upon approval by MSHA.

They are under review at MSHA currently.

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

Phase III or possibly simultaneously with Phase II of Revision R-26 proposes to construct Basin 027 in Increment No. 5. Basin 027 is a proposed impoundment, no modification plans are required. If during the term of the permit, the Sediment Basin requires modification, plans will be submitted to the Regulatory Authority for approval prior to any modifications. Upon modifying the Sediment Basin, the Basin will be certified to the Regulatory Authority, in accordance with the approved Design Plans.

Construction of Slurry Impoundment No. 6 will begin once the certification of Basin 027 is submitted to the Regulatory Authority, in accordance with the approved plans.

70 of the 110 acres added in Increment No. 4 by this revision will be utilized in designation of Slurry Impoundment No. 6. The additional 40 acres added in Increment No. 4 by this revision will be utilized for excavation and stockpiling of soil and parent material for future use as cover material and construction of necessary diversion ditches to direct overland flow to Sediment Basin 027 prior to discharge. Slurry Impoundment No. 6 will be used to collect and store fine coal waste produced from the Prep. Plant and will be inspected and maintained until reclamation of the area is complete.

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.

Attachment III-A-3

3. (b)

One aspect of Revision R-26 consist of the modification to the Coarse Refuse Disposal Area by expansion to the East. The maximum elevation will remain at the 730 elevation over the entire Coarse Refuse footprint. 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 inspected and maintained until reclamation of the area is complete.

Coarse Refuse Disposal Area will be used to store coarse and fine coal waste from the washing operation at this facility and will be maintained and inspected until reclamation of the area is complete. The waste bank will be constructed of coarse and fine refuse produced at this facility.

Coarse Refuse Disposal Area is an existing structure and the Modification, Expansion Easterly, will be used to store additional fine coal waste and coarse coal waste produced from the washing operations at this facility. Detailed Modification Plans are presented in Attachment III-B-2(d). The Coarse Refuse Disposal Area will be inspected and maintained, in accordance with the approved plans, 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 Fine Refuse from the Frame Plate Press co-mingled with Coarse Refuse produced at the Prep. Plant, as approved in Revision R-25, both located at this facility. Upon written approval by the Regulatory Authority, the waste bank will be modified and certified to the Regulatory Authority.

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

Upon completion of the filling of the Waste Bank, it will be reclaimed by the following procedure: 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 2 feet of the best available non-toxic, non-acid forming, and non-combustible cover material as approved through revision R-14. All disturbed area 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 into the cover material in rates as recommended by laboratory analysis performed on the cover material. These soil amendments will ensure a diverse effective vegetative growth upon the cover material.

A second aspect of Revision R-26 consist of Slurry Refuse Disposal. Slurry Fines produced from the washing operation will be disposed of in one of two ways. The first way of Slurry Fines Disposal will be the pumping of Slurry thru a Plate Frame Press where the fines will be captured in the Frame Press, de-watered and formed into a cake that can be handled mechanically, mixed with the Coarse Refuse, and for transport to the Coarse Refuse Disposal Area for the co-mingling of the Fines Refuse with the Coarse Refuse, on site, as approved in R-25. This operation will be inspected and maintained, in accordance with the approved plans, until reclamation of the area is complete. See next page for reclamation procedures.

The second way Slurry disposal can occur is the pumping of Slurry into Slurry Impoundment No. 3 and/or No. 6 to collect and store fine coal refuse in the Impoundments, on site, and it will be inspected and maintained, in accordance with the approved plans, 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. Slurry Impoundment No. 3 embankment is in the process of modification within the coarse refuse disposal area using coarse refuse generated at the preparation plant on site in accordance with approved plans found in Revision R-20. See Coarse Refuse Disposal Area Detailed Design Plans for the reclamation procedures for Slurry Impoundment No. 3 as a part of the Refuse Disposal Area Reclamation.

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. 6 will be constructed of the best available soil material based on soil strength parameters identified in the Detailed Design Plans. See Attachment III-B-2(e). After construction of the impoundment, the dam and all areas disturbed by construction will be limed,

fertilized, and seeded with an appropriate mixture of grasses and legumes approved in the reclamation plan, then mulched. Routine maintenance of the slurry impoundments will consist of spot seeding, fertilization and mulching to insure that a good vegetive cover is maintained on the dam and areas around the impoundment, repair and stabilization of any rills and gullies which may develop, and repairs to discharge structures and erosion protection structures as required. The slurry impoundments 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 Coal Processing Waste Impoundment specifications.

When the accumulated solids contained within the slurry impoundments reach the solids storage volume specified within the detailed design plans, a decision will be made to either reclaim the slurry impoundments or dredged the fines and pump to the Plate Frame Press for processing and then to co-mingle with the Coarse Refuse as approved in Revision R-25 and extend the life of the Slurry Impoundments.

Once the reclamation phase arrives it will be performed in the following manner.

The slurry impoundments will be de-watered 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. See Revision R-14 for approval of two(2) feet of cover 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.

See Attachments III-A-3(b) for specifications on the following pages.

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 covering 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.

Fine Coal Refuse (FCR) will be generated by pumping Slurry through a Plate Filter Press System to capture the Fine Refuse from the Slurry, press the solids into a cake that can be handle mechanically to be co-mingle with the Coarse Refuse prior to placement in the 2' lifts and compacted to 90% Standard Proctor as a part of the currently approve plan for Coarse Refuse Disposal. This will only occur when the weather is dry enough that the 90% Standard Proctor Density can be accomplished as required. This method can only be utilized to dispose of the co-mingled refuse in areas of 90% compaction. See attached letter from MSHA dated June 29, 2015.

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.

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 construction 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 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 dissipators, 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 shall be designed to safely carry the expected peak flow from a 25 year - 6 hour storm. The entire emergency overflow spillway channel will be a stabilized channel and will be stabilized upon completion of construction as specified within the detailed design plans using prudent engineering measures. These measures may consist of concrete, durable rock riprap, or the spill way being constructed in consolidated non-erodible material, or a combination of any 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 riprap 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(j)) of the Alabama Surface Mining Regulations.
- 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.

- 3.(c) An existing overland conveyor is used to transport coal from the Oak Grove Mine to the Concord Prep. Plant. Construction of the conveyor began with the clearing and grubbing of the construction sites. The foundation areas were graded to the appropriate grades as necessary to facilitate construction operations. Upon the completion of the grading operations concrete foundations were poured at the required locations for the facilities. The conveyor components were transported to the facility for the final assembly. Sediment control was provided at all times during construction of the facilities. Sediment control consist of Sediment Basins or Silt Fences. Modifications to the conveyor system will be performed as necessary to upgrade and update the facilities during the life of the mine. Maintenance will consist of the lubrication of the various moving components and replacement of worn components when necessary. When no longer needed the conveyor facilities will be disassembled and removed from the site. All concrete foundations will be removed from the site. All concrete foundations will be removed and disposed of within an offsite disposal area which meets all Federal, State and local laws and ordinances for permanent disposal of such materials. The sites will be graded to match the approximate original contour. 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.

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

See attachment III-B.-2.A

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

See attachment III-B.-2.A

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

See attachment III-B.-2.A

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

See attachment III-B-2(d)

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

See attachment III-B-2(e)

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-26

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

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

02/17/2016
Date



Attachment III-B-2(a)

ADDENDUM TO THE GENERAL PLAN

The addendum to the general plan consists of submitting modification plans for the Coarse Refuse Disposal Area. The modification to the Coarse Refuse Disposal Area will be the expansion to the East covering Basin 018, 003A, 003B, Sludge Drying Beds, Finish Basin, Settling Basin, Surge Basin, Aeration Basin and Lime Mixing. The Drainage control will be provide by Basins 051, 050 Phase I & II, and 023 to be constructed in that order. The addendum also includes the addition of Basin 027, Slurry Impoundment No. 6 and necessary diversion ditches. Disposal of Fine Refuse Slurry will also be accomplished by pumping into Slurry Impoundment No. 6, from the Prep. Plant . These two structures are added in Increments No. 4 & No. 5 just Southwest of the Fresh Water Reservoir in Section 22 & 27 Township 18 South, Range 5 West. All Basins are to be Temporary and will be graded and re-vegetated. Detailed basin removal plans will be submitted to the regulatory authority for approval and the basin removed prior to Phase II Bond Release for the Temporary Basins. (See attached data and watershed map for basin location and preliminary hydrologic information). General design data is enclosed.

Once construction begins on any and all basins they will be constructed and certified to the Regulatory Authority, in accordance with the Approved Design Plans, within 90 days of each basin unless an extension is granted by the Director.

The construction of Basin 051 will be the first phase of the work to be performed for this revision. Upon approval of the Detailed Design Plans for Basin 051 and issuance of this Permit Revision construction and certification to the Regulatory Authority, in accordance with the Approved Design Plans, will be performed prior to breaking the watershed of Basin 051. Basin 018E will remain until Basin 050 Phase I and Diversion F-F' Extension are constructed and certified to the Regulatory Authority, in accordance with the Approved Design Plans. Then Basin 018E will be de-watered and prepared for coving with the Coarse Refuse Expansion to the East along with Basins 003A, 003B, Sludge Drying Beds, Finish Basin, Settling Basin, Surge Basin, Aeration Basin and Lime Mixing as Coarse Refuse Disposal Area 3a Expansion to the East progresses to their locations individually. This preparation will consist of de-watering the Basins and following the Coarse Refuse Disposal Plans specification for covering the Basins as required in the Detailed Design Plans Attachment III-B-2(d). Diversion Ditch F-F' Extension along with Basin 050 Phase I will be constructed and certified to the Regulatory Authority, in accordance with the Approved Design Plans, as a part of the drainage control prior to any disturbance by Prep. Plant

operations entering the watershed of Basin 050. Diversion Ditch F-F' Extension will direct the rainfall run-off around the Coarse Refuse Disposal Area 3a and into Basin 050 Phase I prior to leaving the Permit.

Drainage Control for the modification of the Coarse Refuse Disposal Site 3a & 3b is through Sediment Ponds No. 051, 050 Phase I & II, 023, Diversion Ditch F-F' Extension, Diversion I-I' and Diversion G-G'. Bypass Diversion Ditch H-H' will be constructed prior to disturbance in the watershed of Basin 023 to prevent co-mingling of rainfall run-off up gradient of the Permit Boundary. See attached watershed maps for basin and diversion ditch locations. The anticipated timing for the construction of Basin 50 is approximately 12 to 18 months before the Coarse Refuse Expansion progresses Easterly to the point of breaking drainage of the watershed of Basin 50. Basin 50 will be constructed and certified to the regulatory authority prior to disturbing in the watershed of Basin 50. As the Coarse Refuse Disposal progresses Easterly into the watershed of Basin 50 a decision will be made to construct Bypass Diversion H-H' to begin the process of preparing for Coarse Refuse Disposal Area 3b to enter the watershed of Basin 023. Once Bypass Diversion H-H' is completed to the point that bypassing of that upstream portion of the permitted watershed, can begin, then Basin 023 construction will commence with completion of Bypass Diversion H-H' ongoing during the construction of Basin 023. As soon as Basin 023 is completed and certified to the Regulatory Authority, in accordance with the Approved Design Plans, Diversion G-G' will be cleared and grubbed followed by staking of the location with cut amounts for grade then excavation to the correct geometry followed by stabilization including seed, fertilizer and mulch as detailed in the Detailed Design Plans. This will be completed to make the remainder of the Coarse Refuse Disposal Area available for use within the Permitted footprint.

Erosion Control for the construction of Bypass Diversion H-H' will be managed by the use of silt fence, hay check dams, rock check dams and other BMP's as per ASMC approved specifications and guidelines in the "Alabama Handbook For Erosion Control, Sediment Control, and Stormwater Management On Construction Sites and Urban Areas". See Attachment III-B-2(a). Construction will begin with clearing and grubbed followed closely by placement of the BMP's identified above, followed by staking of the location with cut amounts for grade then excavation to the correct geometry, followed by stabilization including seed, fertilizer and mulch as specified in the Detailed Design Plans.

An exemption is requested, in this revision, for the Construction of Diversion H-H' under Rule 880-X-10D-.13(3).

The second phase of this revision is the submittal of Coarse Ruse Disposal Area 3b Modification Plans upon approval by MSHA. They are currently under review by MSHA. Also the submittal of Basin

023 Detailed Design Plans, Diversion Ditch G-G' Detailed Design Plans and Bypass Diversion H-H' Detailed Design Plans. All plans required for Increment No. 3 will be submitted prior to Bonding of Increment No.3. Once the Detailed Design Plans are approved and the Bond is placed for Increment No. 3 construction will begin.

The construction of Basin 027 will commence when the need arises for Slurry Disposal in Slurry Impoundment No. 6. This is estimated to be 12 to 18 months from issuance of this revision. Prior to breaking ground the Bond for Increment No. 5 will be placed at the ASMC. Then construction will begin and be completed within 90 days including certification to the Regulatory Authority, in accordance with the Approved Design Plans, unless additional time is needed and granted by the Director. The construction of Slurry Impoundment No.6 will begin as soon after the construction and certification of Basin 027 as possible. Prior to breaking ground the Bond for Increment No. 4 will be placed at the ASMC. Then construction will begin and be completed as soon as possible. Due to the size of Slurry Impoundment No. 6 it is anticipated that 90 days will not be sufficient for the construction process therefore a request for additional time will be submitted at the time of construction.

Geologic investigations indicate that Coarse Refuse Disposal Area is underlain by a shale and sandstone foundation overlain by coarse and fine coal refuse. The strata in the area is characterized by small scale normal faulting and gentle open folding.

All surface drainage from the proposed mining area flows into a Unnamed Tributary to Lick Creek and Lick Creek.

See Attachment III-B-2(a) Basin 027 Current Watershed Map.

See Attachment III-B-2(d) Coarse Refuse Disposal Area 3a Detailed Design Plans.

See Attachment III-B-2(e) Slurry Impoundment No. 6 Detailed Design Plans.

See Attachment III-B-2(a) Detailed Design Plans for Basin 027.

See Attachment III-B-2(a) Detailed Design Plans for Basin 051.

See Attachment III-B-2(a) Detailed Design Plans for Basin 050 Phase I.

See Attachment III-B-3-(b) Detailed Design Plans for Diversion Ditch F-F' Extension.

See Attachment III-B-3-(b) Detailed Design Plans for Diversion Ditch I-I'.

See Attachment III-B-2(a) Coarse Coal Processing Waste Bank Requirements.

See Attachment III-B-2(a) Specifications For Coal Processing Waste Impoundments.

See Attachment III-B-2(a) Phase I Watershed Map

See Attachment III-B-2(a) Phase II Watershed Map

See Attachment III-B-2(a) Diversion H-H' Erosion Control.

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-26

Attachment III-B-2-A

| Basin No. | Location | Drainage Area (Acres) |
|--------------|--|--------------------------------|
| Basin 023 | SW/SW & NW/SW of Section 24 | 123.0 |
| Basin 050 | SE/SE of Section 23 | Phase I 143.5 Phase II 15.9 |
| Basin 051 | SE/SE of Section 23 and NE/NE of Section 26 | Phase I 77.6 Phase II 48.9 |
| Basin 027 | NE/SE, SE/NE & SW/NE of Section 27 | 110.0 |

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

Note: NPDES Permit AL0003620 was Renewed and Modified on 9/2/2015 with a Effective Date of 10/01/2015.

Attachment III-B-2(a)

Pond Construction Criteria

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

1. The top of the dam shall be no less than 12 feet wide.
2. See design sheet for maximum and minimum embankment slopes.
3. During the construction of all embankments, alternate sediment control such as silt fencing, haybale dams, or vegetative barrier or some combination thereof will be placed downstream of the disturbed area to control runoff.
4. The foundation and abutments for the impounding structure shall be designed to be stable under all conditions of construction and operation of the impoundments, with a minimum static safety factor of 1.5 for the normal pool with steady seepage saturation conditions, and a seismic safety factor of at least 1.20.
5. The dam shall be constructed with a cutoff trench based upon prudent engineering practices for the site. The cutoff shall be located on the dam centerline and be of sufficient depth to extend into a relatively impervious material from which the core of the dam shall also be constructed.
6. The embankment foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h, and the entire foundation surface scarified.
7. The entire embankment and cutoff trench shall be compacted to 95 percent density, based on standard proctor as outlined in ASTM.
8. The material placed in the embankment shall be free of sod, roots, stones over 6 inches in diameter, and other objectionable materials. The fill material shall be placed and spread over the entire fill area, starting at the lowest point of the foundation, in layers not to exceed 12 inches in thickness. Construction of the fill shall be undertaken only at such times that the moisture content of the fill material will permit satisfactory compaction in accordance with paragraph 5.
9. The pool area of the basin will be cleared of timber and large undergrowth.
10. The primary decant system when consisting of a pipe shall be installed according to Class C pipe installation for embankment bedding.

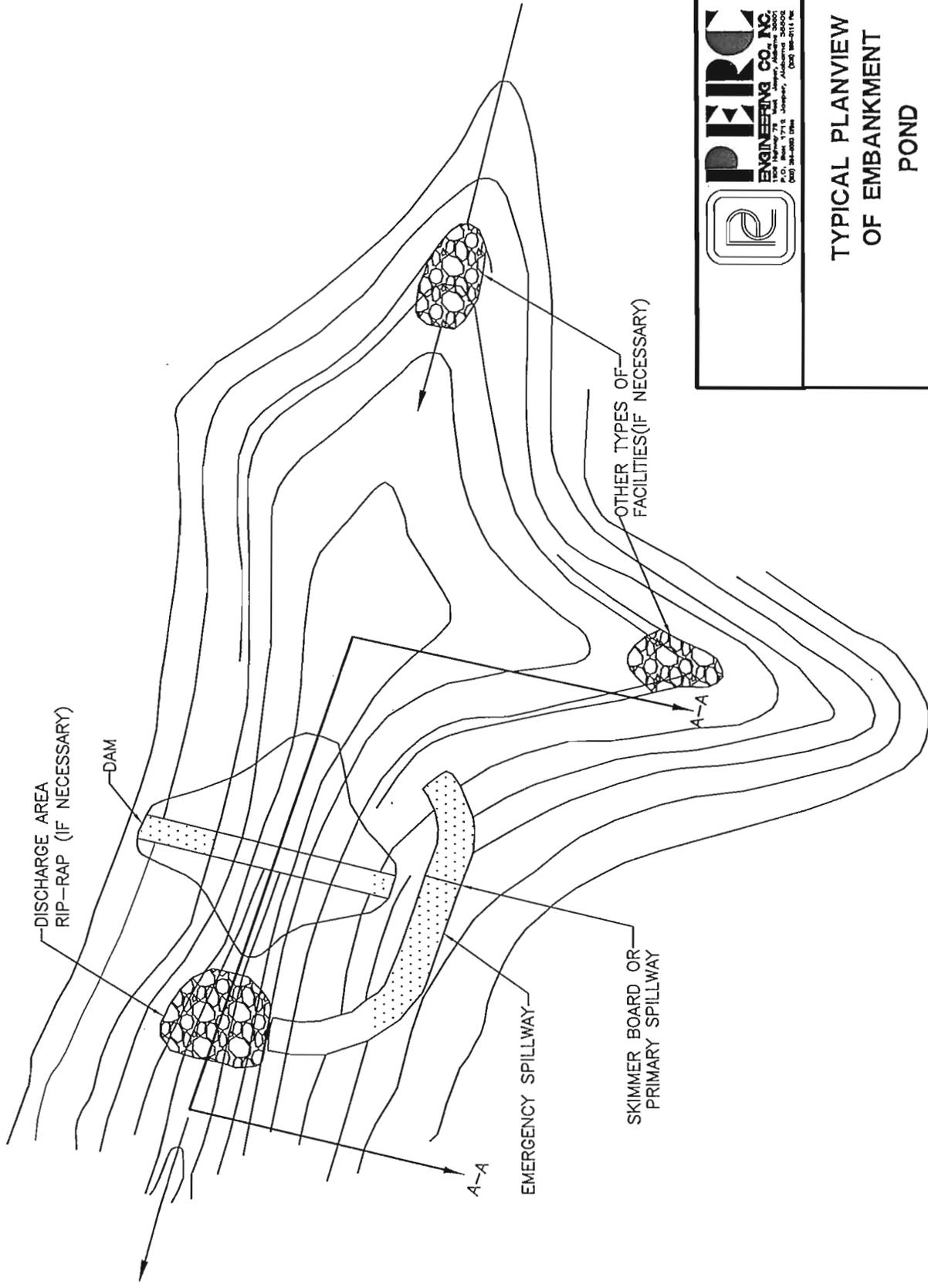
11. The primary decant system shall be equipped with a device, or constructed, such as to insure that subsurface withdrawal is accomplished to prevent discharge of floating solids. If a channel is used as the primary decant a skimmer shall be installed to prevent floating solids from discharging.
12. 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.
13. The combination primary and secondary decant system shall be designed to safely carry the expected peak flow from a 25 year-6 hour storm. The entire emergency overflow spillway channel will be a stabilized channel and will be stabilized upon completion of construction as specified within the detailed design plans using prudent engineering measures. These measures may consist of lining the spillway with concrete or a durable rock riprap, or the spillway being constructed in consolidated non-erodible material and planted with a mixture or both annual and perennial grasses, or a combination of any or all of the above.
14. Sediment basins using a single spillway system shall be an open channel of non-erodible construction consisting of concrete, durable rock riprap or its being constructed in consolidated non-erodible material as specified in the detailed design plans.
15. The settled embankment for temporary impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 25 year - 6 hour, or a 10 year - 24 hour precipitation event (whichever has the greatest runoff). The settled embankment for permanent impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 25 year - 6 hour, or a 10 year - 24 hour precipitation event (whichever has the greatest runoff).
16. If basins are built in series, then the combined decant system for each shall be designed to accommodate the entire contributing drainage area.
17. The dam and all disturbed areas shall be seeded with annual and perennial grasses, fertilized and mulched in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam upon completion of construction.
18. The constructed height of the dam shall be increased a

minimum of 5 percent over the design height to allow for settlement over the life of the embankment.

19. Final graded slopes of the entire permanent water impoundment area shall not exceed 2.5H-1.0V to provide for adequate safety and access for proposed water users.
20. Prior to Phase II bond release, additional data concerning water quality, water quantity, depth, size, configuration, postmining land use, etc., for each proposed permanent water impoundment, shall be submitted to the Regulatory Authority for permanent water impoundment approval.
21. All sediment basins will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the reclamation bond.
22. 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.
23. All ponds shall be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections shall be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-.20[1(j)] of the Alabama Surface Mining Commission Regulations.
24. Sediment will be removed from each pond when the accumulated sediment reaches the sediment storage volume as shown on the detailed design sheet.
25. Upon completion of mining, successful reclamation and effluent standards being met, each sediment basin not remaining as a permanent water impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.) and reclaimed to approximate original contours by the following procedure: A permanent diversion channel (designed for a 10 year - 24 hour precipitation event) shall be cut along the outer edge of the basin to re-route drainage around the basin and back through the stabilized spillway to allow reclamation of the sediment basin. The diversion channel shall be designed and grassed as per enclosed information. (See permanent diversion for basin disposal). Upon completion of the diversion channel the back slope of the dam shall be graded to a minimum 3H to 1V slope. The dewatered sediment basin area shall be seeded with some combination of the following: Fescue, bermuda, rye

grass, canary grass and willows. After seeding the area shall be mulched. Any additional sediment or embankment material not used to meet original contour, if non-toxic, shall be spread in thin layers within the permit area and vegetated as stated in the approved reclamation plan. All toxic material encountered in the basin disposal shall be buried and covered with 4 feet of non-toxic material and vegetated as stated in the approved reclamation plan.

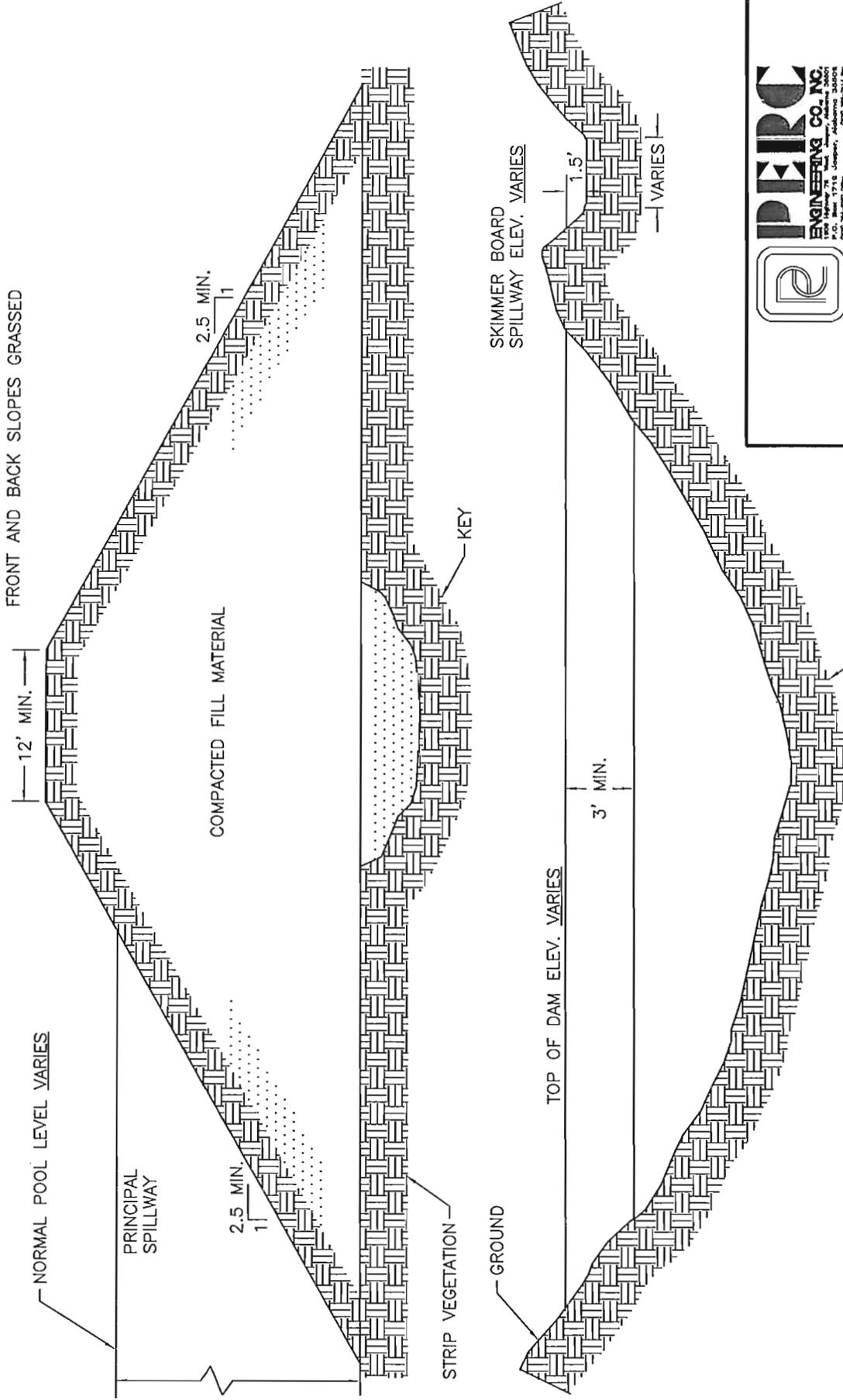
26. A qualified registered professional engineer or other qualified professional specialist, under the direction of the professional engineer shall conduct regular inspections during construction and upon completion shall inspect each basin for certification purposes.
27. Point source discharge embankments shall be constructed and abutments keyed into desirable material if at all possible. In the event that undesirable material is encountered, additional design and construction criteria shall be submitted prior to certification.



TYPICAL PLANVIEW OF EMBANKMENT POND

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

PLANVIEW OF EMBANKMENT POND



TYPICAL DAM DETAIL
NO SCALE

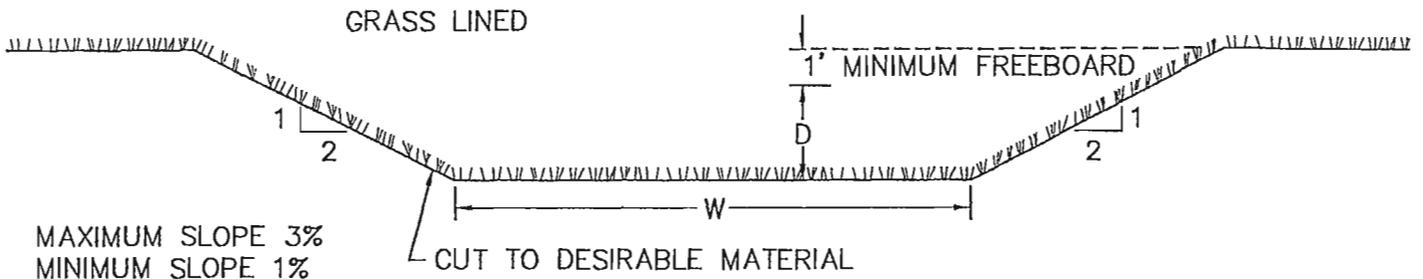
TYPICAL DAM DETAIL

DRAWN BY: P.T.O.
DWG. NAME: TYPICALS
APPROVED BY: W.K.M.

DATE: 8-10-05

SCALE: NONE

ATTACHMENT III-B-2-A



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

N(loose stone or grass lined) = 0.035
 A = area
 R = area/wetted perimeter
 S = 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 |



**PERMANENT DIVERSION CHANNEL
FOR BASIN DISPOSAL**

DRAWN BY:
DWG. NAME:

DATE:

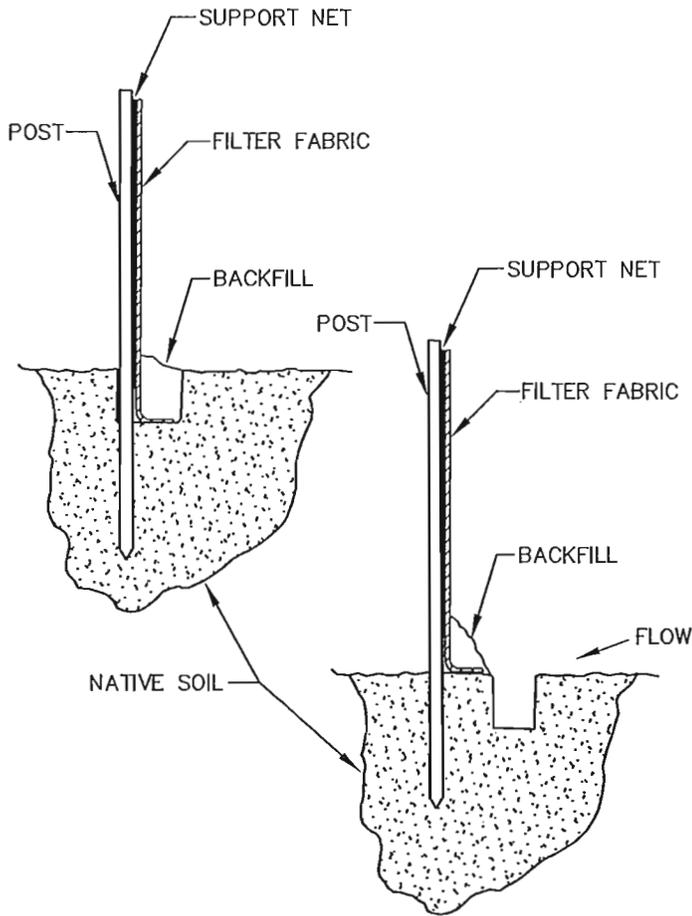
APPROVED BY:

SCALE:

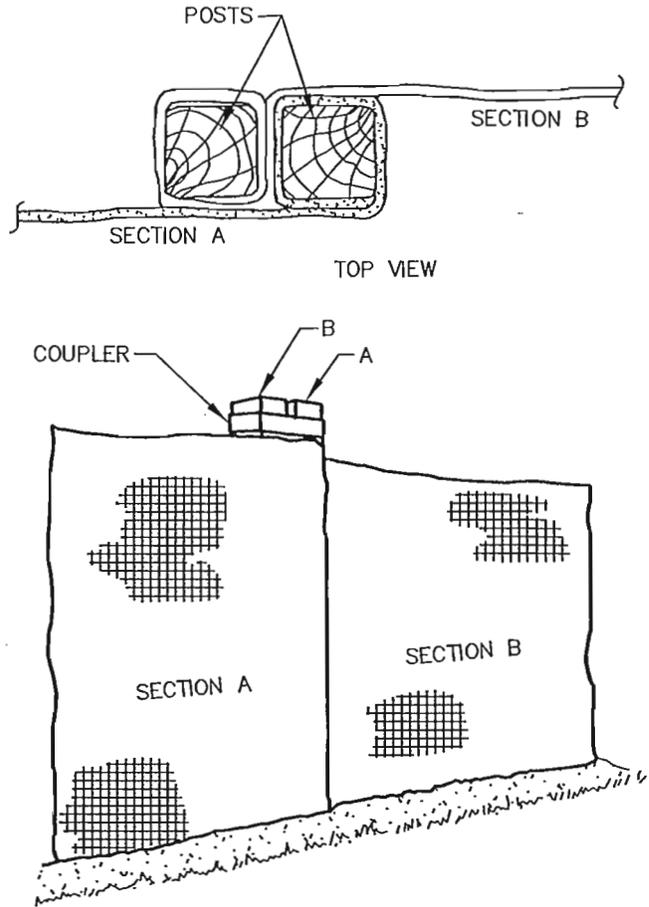
ATTACHMENT III-B-2-A

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.



SILTFENCE TYPICAL

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

DATE: 4-24-2015

APPROVED BY: R.E.P.

SCALE: NONE

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 rip-rap 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 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 rip-rap 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 de-watered 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,

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Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-26

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 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.

Attachment III-B-2(a)

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.

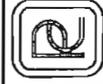
Sufficient site and laboratory investigations will be performed on the foundation area and the fill material to be utilized in the design of the fill. If a potential hazard is revealed, the Regulatory Authority will be informed and necessary safety measures will be implemented.

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

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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 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.



PERC
ENGINEERING CO., INC.

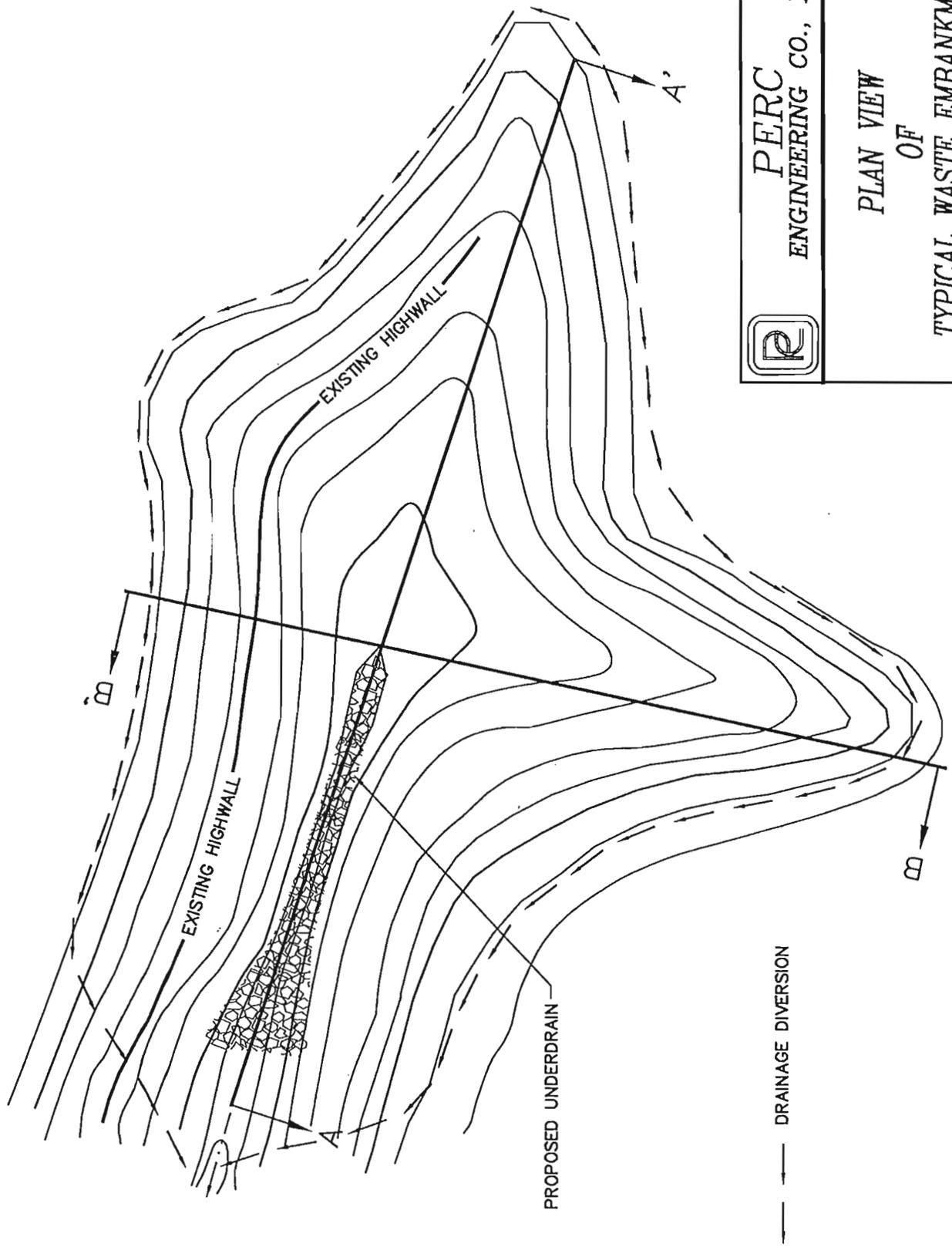
PLAN VIEW
OF
TYPICAL WASTE EMBANKMENT

DRAWN BY:
DWG. NAME:

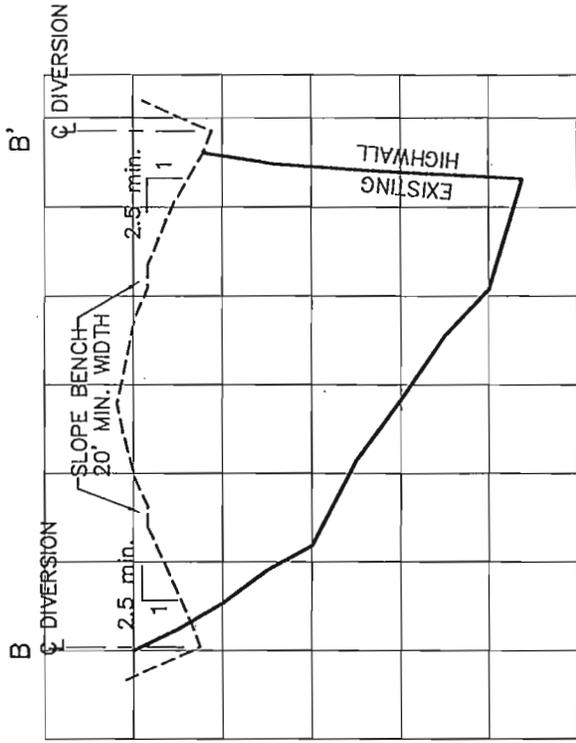
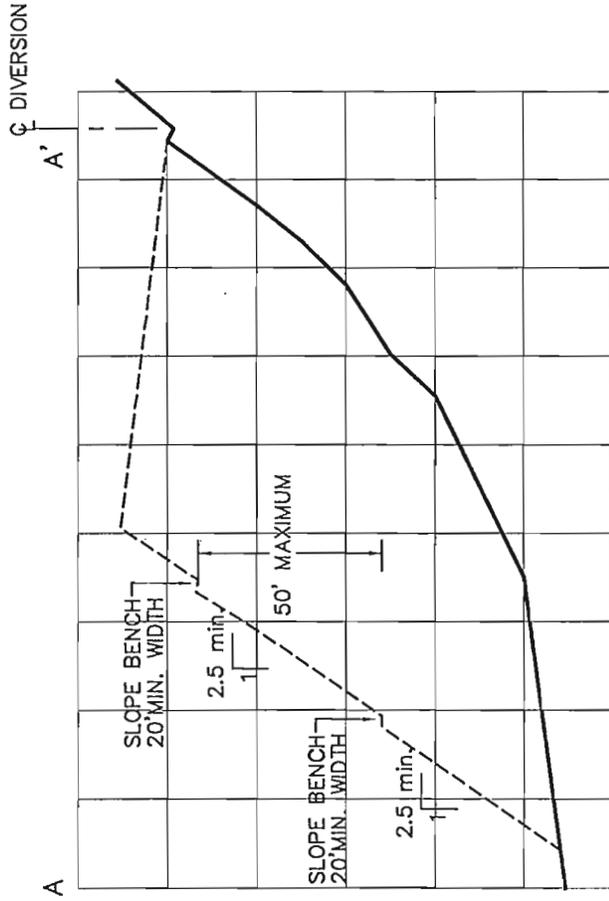
DATE: 4-19-07

APPROVED BY:

SCALE: NONE



--- DRAINAGE DIVERSION



PERC
ENGINEERING CO., INC.

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

DRAWN BY: M.W.K.
DWG. NAME: EPOND\XAB

DATE: 1-31-97

APPROVED BY: S.R.I.

SCALE: NONE

3. Diversions. (780.29,816.43, 816.44)

Are diversions of overland flow or stream channel diversions proposed?

(XXX) Yes () No

If yes, complete the following:

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

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

See Attachment III-B-3 for Detailed Design Plans of Diversion Ditch F-F' Extension and Diversion Ditch I-I'.

Detailed Design Plans for Diversion G-G' and Bypass Diversion H-H' will be submitted prior to Bonding Increment No. 3 along with Basin 023 Detailed Design Plans.

(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.

4. Are excess spoil fills proposed?

() Yes (XXX) No

If yes, complete the following:

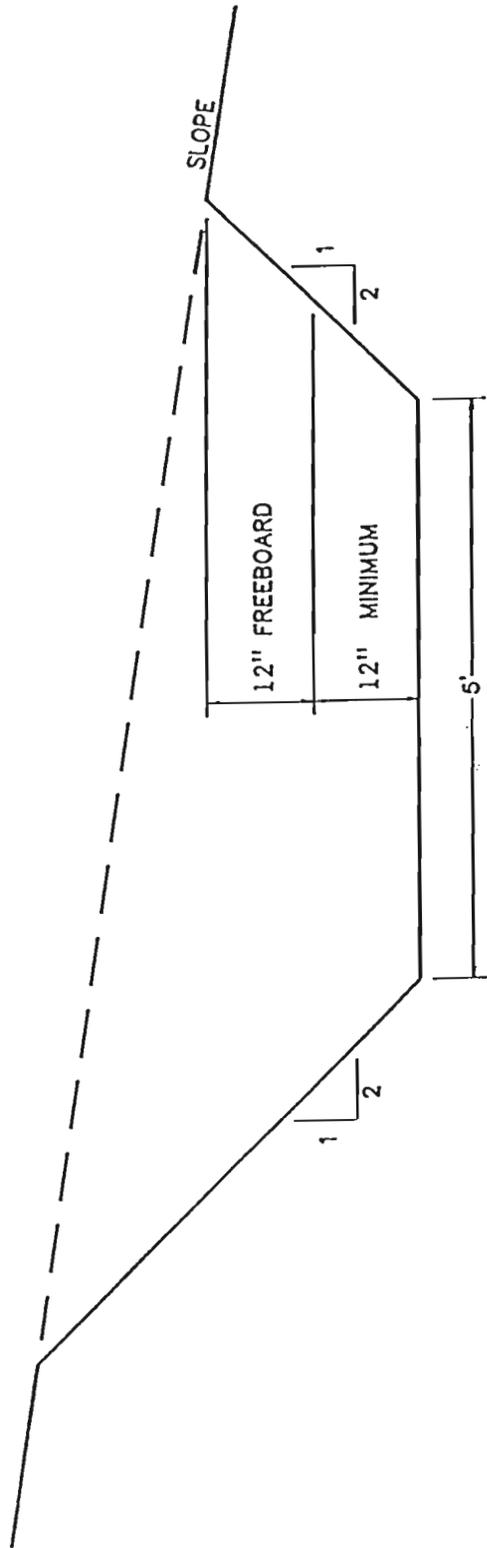
(a) Show on a map the location of all proposed fills and provide cross-sections of the proposed site and the design of the disposal structures.

(b) Include the results of the geotechnical investigation showing:

(1) A description of physical characteristics of bedrock and geological conditions in the disposal area; and

(2) A determination of possible adverse affects from subsidence due to past, present or future underground mining.

(3) Location of springs, seeps, or other ground water observed



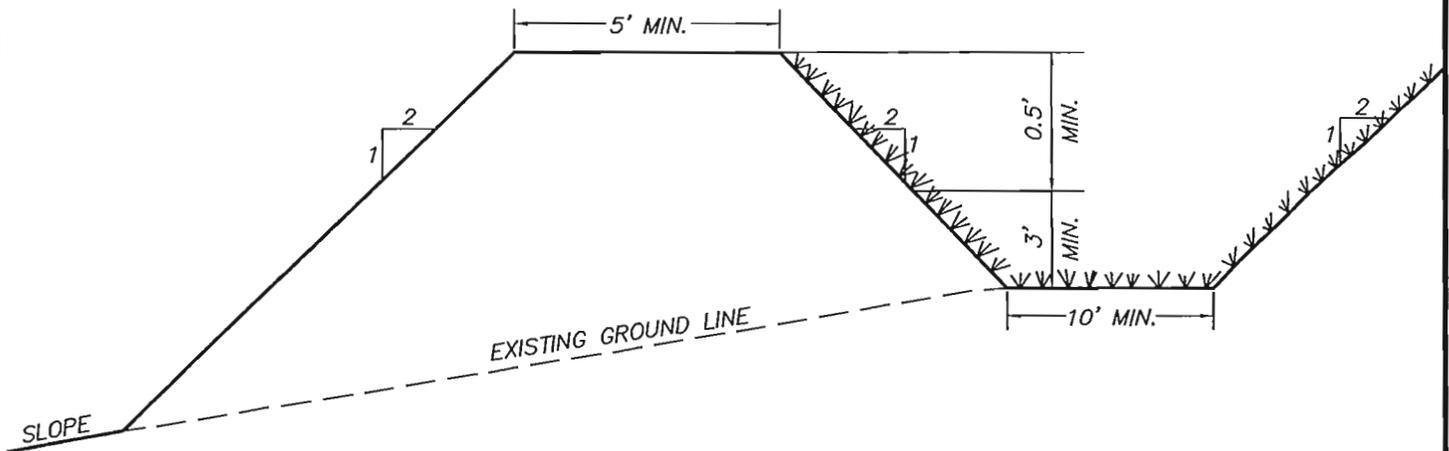
DIVERSION DITCH

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.
DWG. NAME: BRMTYP1

DATE: 1-23-97

APPROVED BY: S.R.I.

SCALE: NONE

or anticipated in the disposal area.

- (4) A technical description of the rock to be used in construction of rock chimney cores or rock drainage blankets, if applicable.
 - (5) Results of stability analyses including strength parameters, pore pressures and long term seepage conditions; and
 - (6) Engineering design assumptions, calculations, and any alternatives considered.
- (c) Describe the construction, operation, maintenance and removal (if applicable) of the structure.
- (d) Include a surface water drainage and control plan for the fill.
- (e) Are rock-toe buttresses or keyway cuts to be used?
- () Yes (XX) No

If yes, describe or show:

- (1) The number, location and depth of test borings or test pits used in describing subsurface conditions; and
- (2) Engineering specifications used in the design

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.

All Haul Roads shown in the Detailed Design Plans for Coarse Refuse Disposal Area 3a East Expansion is a travel way within the Permitted and Bonded Increment No. 1 of P-3233 and Revision R-26 area.

- 1) Safety berms will be constructed adjacent to roadways to be disturbed to contain traffic.
- 2) Proper signs, informing the traveling public of the disturbance, will be posted along the road right-of-ways 500 feet from the beginning of the disturbance.
- 3) All safety requirements of the appropriate public health and safety, will be followed.

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- (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 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.

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

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

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Mine Name: Concord Preparation Plant
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Surface Mining Commission. Additionally, no relocation and/or alteration of an intermittent or perennial stream will be done unless specifically approved by the Alabama Surface Mining Commission. In the event that it becomes evident that any drainage structures including culverts, bridges and/or low water crossings will be required in order to cross an intermittent or perennial stream, the structure will be designed in accordance with Alabama Surface Mining Commission requirements and prudent engineering practice and the approval of the design(s) will be acquired prior to the commencement of construction. Hay bale check dams and silt fences will be used at strategic locations when necessary to control sediment runoff. Immediately upon completion of construction, the side slopes of the road embankments and/or cuts will be fertilized, seeded with annual and perennial grasses and mulch will be added to aid in the prevention of erosion and to enhance seed germination. The seed mix will consist of, but is not limited to, some combination of the following species: bermuda grass, fescue, lespedeza, rye grass, brown top millet, clover and vetch. The particular species to be planted will vary with the planting season at the time of seed application.

8. Routine maintenance will be required to assure that the road continually meets performance standards and will consist of periodic grading, resurfacing, dust suppression and maintenance of sediment control facilities. Dust suppression will consist of the application of water, chemical binders and/or other dust suppressants. No oil will be utilized in this process. Spot seeding, fertilizing and mulching will be performed as necessary to improve vegetative cover on roadway slopes. A road damaged by a catastrophic event shall be repaired as soon as practicable after the damage has occurred.
9. Roads not to be retained as part of the post mine land use shall be reclaimed in accordance with the approved reclamation plan for this permit as soon as practicable after they are no longer needed as part of the mining and reclamation operation, using the following procedures:
 - a. The road will be closed to traffic.
 - b. All bridges, culverts and other drainage structures not approved as part of the post mine land use will be removed.
 - c. All road surfacing materials that are not compatible with the post mine land use or revegetation requirements will be properly disposed of on-site or removed from the site for re-use.
 - 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

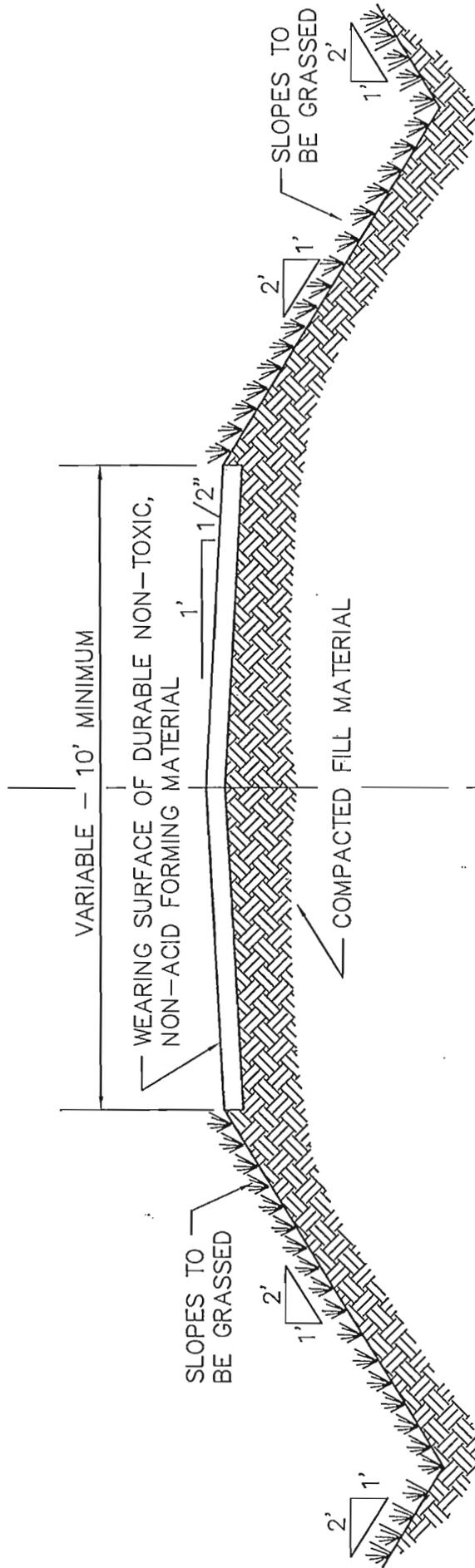
Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-26

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.

TYPICAL ANCILLARY ROAD FILL SECTION

NO SCALE

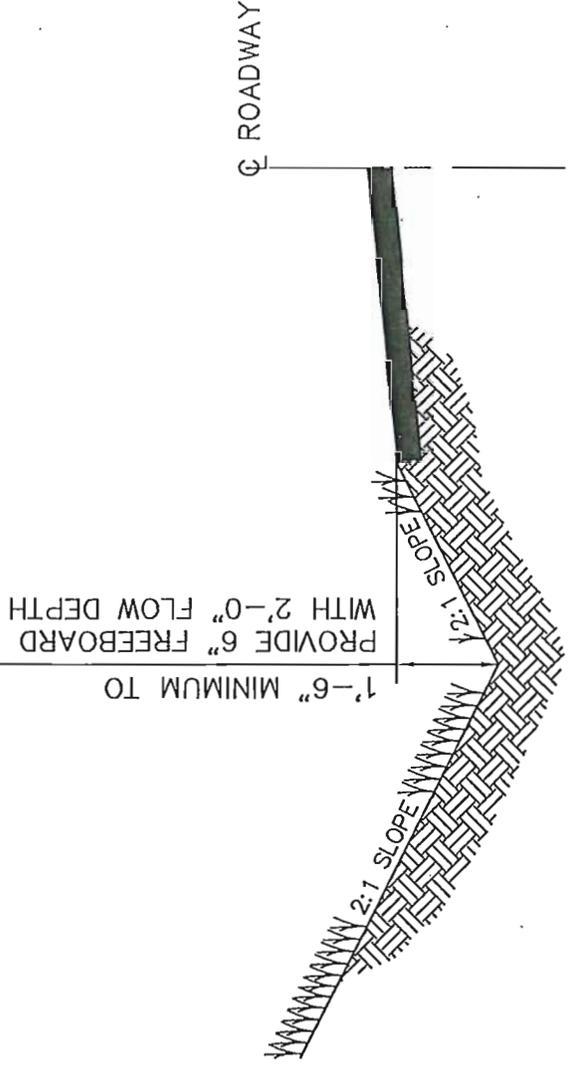


TYPICAL FILL SECTION
ANCILLARY ROAD

DRAWN BY: S.W.L.
DWG. NAME: TypAncillaryRoad
APPROVED BY: L.G.S.

DATE: 6-19-15
SCALE: NONE

ATTACHMENT III -- B -- 5.



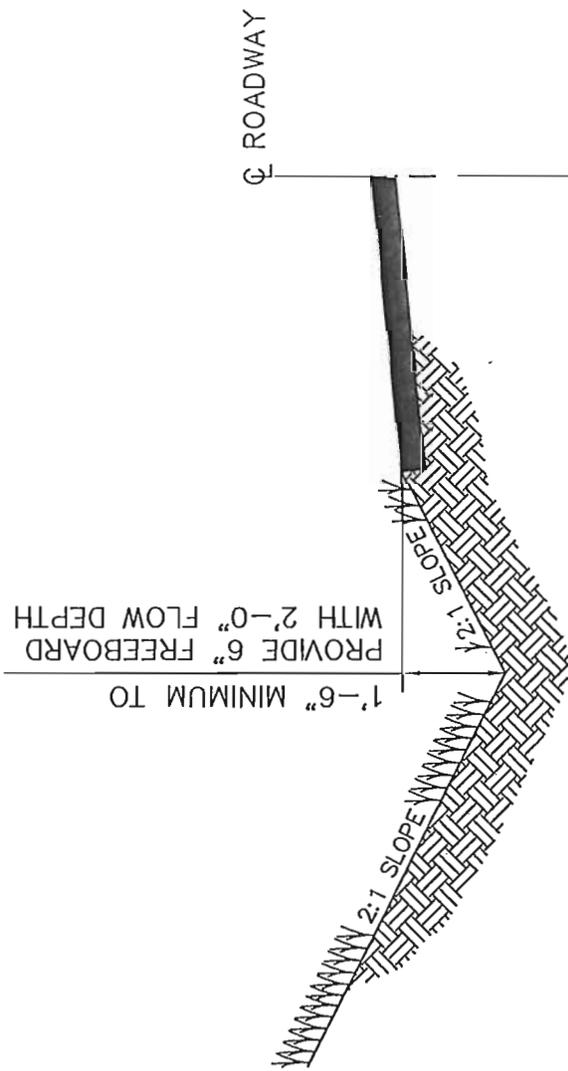
MINIMUM DITCH GRADIENT = 1%
 MAXIMUM DITCH GRADIENT = 5%

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: S.W.L DWG. NAME: TypAncillaryRoad | DATE: 6-19-15 |
| APPROVED BY: L.G.S. | SCALE: NONE |



MINIMUM DITCH GRADIENT = 6%
 MAXIMUM DITCH GRADIENT = 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 ANCILLARY ROADWAY DITCH
 CROSS SECTION

| | |
|---|---------------|
| DRAWN BY: S.W.L. DWG. NAME: TypAncillaryRoad | DATE: 6-19-15 |
| APPROVED BY: L.G.S. | SCALE: NONE |

Applicant: Oak Grove Resources, LLC
Mine Name: Concord Preparation Plant
Permit Number: P- 3233 / Revision R-26

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

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

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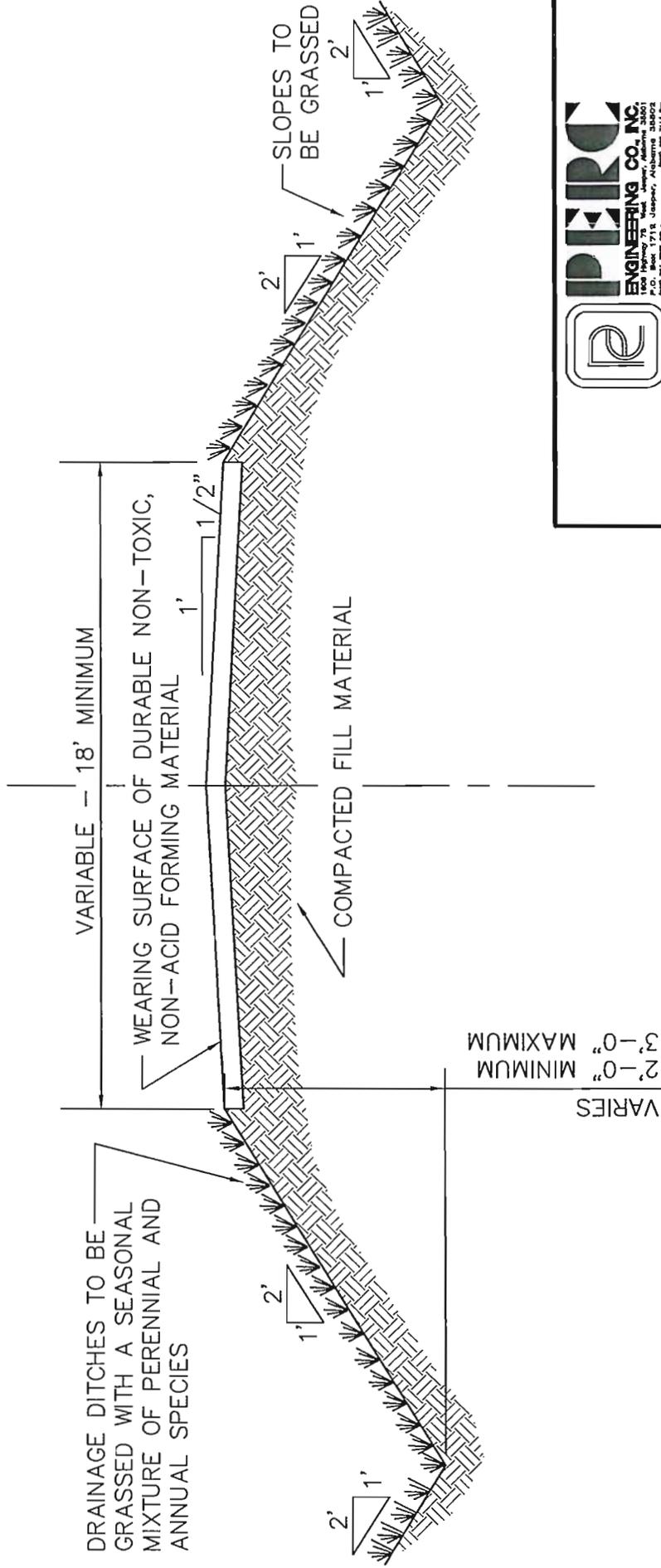
- sandstone, chert, crushed limestone, crushed concrete, crushed asphalt, red rock, ironore refuse, gravel, or other durable non-toxic, non-acid forming material approved by the Regulatory Authority. The wearing surface will be placed on the roadbed to a depth of four inches.
9. No sustained grades will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

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

TYPICAL HAUL ROAD FILL SECTION

NO SCALE



PERC
ENGINEERING CO. INC.
1808 Highway 75, Wood County, Arkansas 72451
P.O. Box 1111, Wood County, Arkansas 72451
501-938-2111 Fax

TYPICAL FILL SECTION PRIMARY HAUL ROAD

DRAWN BY: L.G.S.
DWG. NAME: TYPHAULF

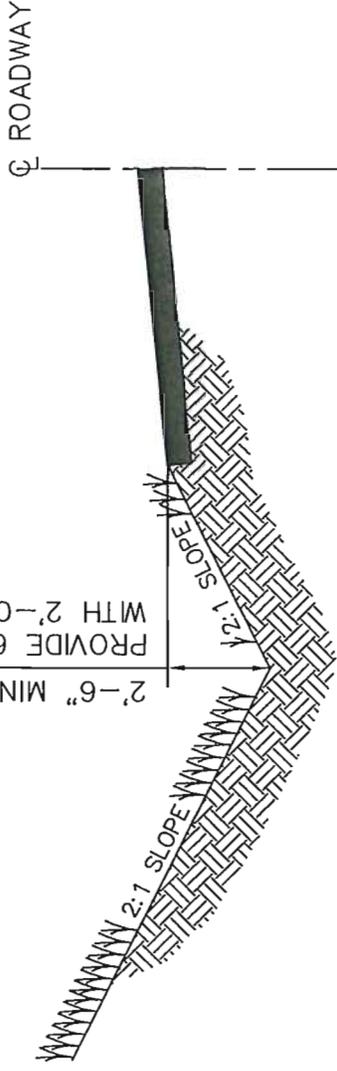
DATE: 2-16-10

APPROVED BY: L.G.S.

SCALE: NONE

ATTACHMENT III. - B. - 5.

2'-6" MINIMUM TO
 PROVIDE 6" FREEBOARD
 WITH 2'-0" FLOW DEPTH



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.

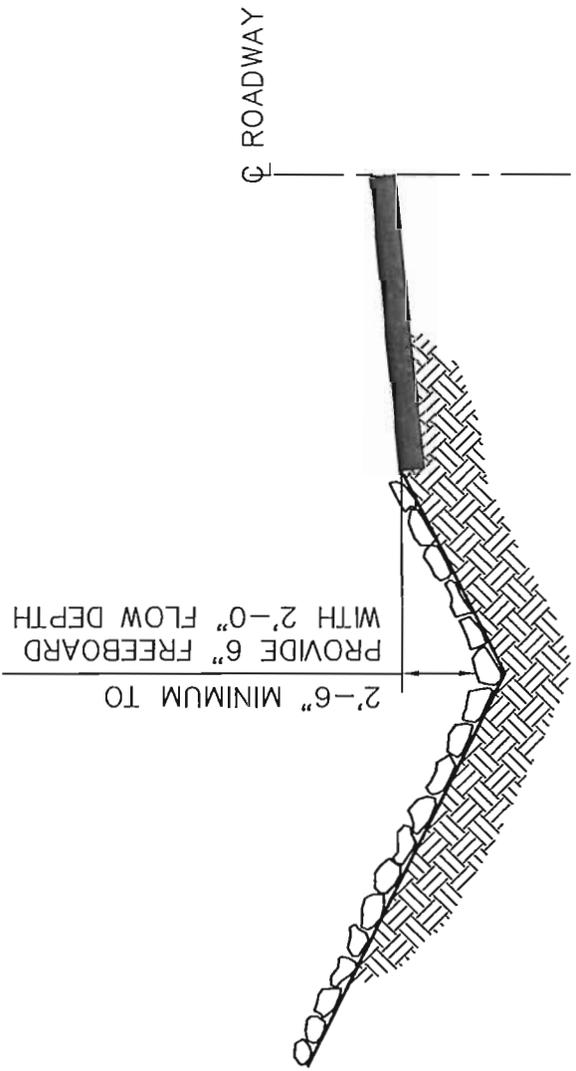


100 Highway 76 West, Calgary, Alberta T2B0Z1
 P.O. Box 1713, Calgary, Alberta T2B0Z2
 (403) 243-2000 Fax (403) 243-2111 Per

TYPICAL PRIMARY ROADWAY DITCH CROSS SECTION

DRAWN BY: L.G.S.
 DWG. NAME: PRIMROAD
 APPROVED BY: L.G.S.

DATE: 2-16-10
 SCALE: NONE



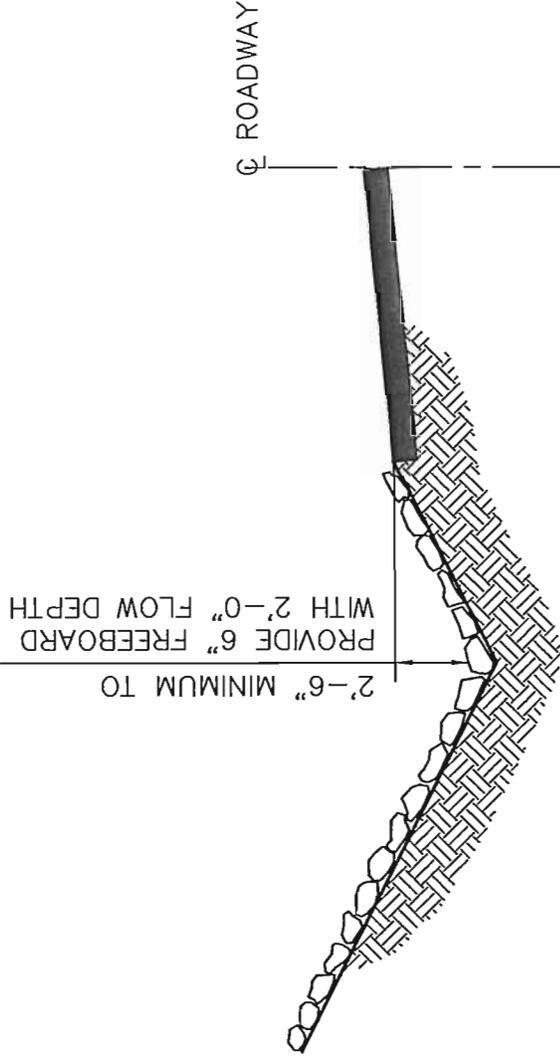
DITCH GRADIENT 5% TO 10%

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: L.G.S. | DATE: 2-16-10 |
| DWG. NAME: PRIMRD1 | |
| APPROVED BY: L.G.S. | SCALE: NONE |



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: | L.G.S. | DATE: | 2-16-10 |
| DWG. NAME: | PRIMRD2 | | |
| APPROVED BY: | L.G.S. | SCALE: | NONE |