

Applicant: <u>Birmingham Coal &amp; Coke Co., Inc.</u>
Mine Name: <u>Bear Creek Mine</u>
Permit Number: P- <u>3831, Revision R-7</u>

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)

Major equipment to be used includes but may not be limited to:

- |                    |                    |
|--------------------|--------------------|
| - Backhoes         | - Service Trucks   |
| - Off Road Haulers | - Dozers           |
| - Loaders          | - Track Backhoes   |
| - Drills           | - Bulk Anfo Trucks |

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	100	Reclamation Phase	
3	189	Reclamation Phase	
5	465	Currently Being Mined	12 Months
6	18	Issuance of Permit	Life of Mine
7	9	Issuance of Permit	Life of Mine

The sequence of mining operations will be generally as follows:

- 1) Construction of Sediment Control Structures
- 2) Clearing and Grubbing
- 3) Topsoil Removal (if required)
- 4) Overburden Drilling and Blasting
- 5) Overburden Removal
- 6) Coal Recovery
- 7) Re-Grading
- 8) Revegetation

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ATTACHMENT III-A-1

TYPE AND METHOD OF COAL MINING PROCEDURES

The area method of surface mining will be used. Preparation will consist of (a) timber removal (b) topsoil removal (if required) (c) drilling and blasting of overburden (d) overburden removal (e) coal removal (f) regrading and revegetation. Once the site has been regraded and topsoiled (if required) 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.

Mining is complete within Increment No. 1 and Increment No. 3, both increments are in reclamation phase. The operation plan for Increment No. 5 which is currently being mined will be updated due to the coal fossilizing and becoming uneconomical to mine.

Upon issuance of Revision R-7, the mining of Increment No. 5 will continue at the existing highwall located within NW/NW of Section 29 with cut no. 1. Pits will generally align northeast to southwest with advancement to the southeast. Spoil material from the initial cuts will be placed in previous open pits and spoil material from the next cuts in the alternating sequence will be placed within previous cuts and subsequent open pits. Cuts will alternate every other cut from cut no. 1 through cut no. 23 to allow for drilling, blasting, overburden removal and coal removal simultaneously. Timing may require consecutive cuts at one or both of the alternating locations, however alternating cuts will resume as soon as possible.

Mining of cut no. 2 will commence at the existing highwall located within the SW/SW of Section 20. Pits will generally align northeast to southwest with advancement to the northwest. Spoil material from the initial cuts will be placed in previous open pits and spoil material from the next cuts in the alternating sequence will be placed within previous cuts and subsequent open pits. Timing may require consecutive cuts at one or both of the alternating locations, however alternating cuts will resume as soon as possible. Mining of this location will continue through cut no. 4.

Mining of cut no. 6 will commence at the existing highwall located within the SW/SW of Section 20 and NW/NW of Section 29. Pits will generally align northwest to southeast with advancement to the southwest. Spoil material from the initial cuts will be placed in previous open pits and spoil material from the next cuts in the alternating sequence will be placed within previous cuts and subsequent open pits. Timing may require consecutive cuts at one or both of the alternating locations, however alternating cuts will resume as soon as possible. Mining of this location will continue through cut no. 22.

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The mining direction will change beginning with cut no. 24. Mining of cut no. 24 will commence at the existing highwall located SE/NE and NE/SE of Section 20. Pits will generally align north to south with advancement to the east. Spoil material from the initial cuts will be placed on previously mined area in a manner not to block drainage paths. Spoil material from the next cuts will be placed within previous cuts and subsequent open pits. Mining will continue in this manner until the limits of the increment are reached.

See Attachment III.-A.-1, Operation Map-Option No. 1, for the cut sequence layout.

A second spread of mining equipment may be employed to open a second highwall in addition to the first spread of equipment for cut no. 24 through cut no. 38.

Mining of cut no. 24 will commence at the existing highwall located SE/NE and NE/SE of Section 20. Pits will generally align north to south with advancement to the east. Spoil material from the initial cuts will be placed on previously mined area in a manner not to block drainage paths. Spoil material from the next cuts in the alternating sequence will be placed within previous cuts and subsequent open pits. Cuts will alternate every other cut from cut no. 24 through cut no. 38 to allow for drilling, blasting, overburden removal and coal removal simultaneously. Timing may require consecutive cuts at one or both of the alternating locations, however alternating cuts will resume as soon as possible.

Mining of cut no. 25 will commence within the NE/NE of Section 20 with a box cut. Pits will generally align north to south with advancement to the east. Spoil material from no. 25 and a portion of cut no. 27 will be placed northeast of cut no. 25 and no. 27 on previously mined area in a manner not to block drainage paths. Spoil material from the next cuts in the alternating sequence will be placed within previous cuts and subsequent open pits. Cuts will alternate every other cut from cut no. 24 through cut no. 38 to allow for drilling, blasting, overburden removal and coal removal simultaneously. Timing may require consecutive cuts at one or both of the alternating locations, however alternating cuts will resume as soon as possible. Mining will continue in this alternating sequence through cut no. 38.

Beginning with cut no. 39, full cuts will be mined. Pits will continue to align north to south with advancement to the east. Spoil material will be placed within previous cuts and subsequent open pits. Mining will continue in this manner until the limits of the increment are reached.

See Attachment III-A-1, Operation Map-Option No. 2, for the cut sequence layout.

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2. Ponds, impoundments, banks, dams and embankments. (780.25)

- (a) Submit an addendum to the 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.

None proposed.

3. Diversions. (780.29, 816.43, 816.44)

Are diversions of overland flow or stream channel diversions proposed?

( X ) Yes ( ) No

If yes, complete the following:

- (a) Is the diversion to be permanent?

( X ) Yes ( ) No

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CERTIFICATION STATEMENT:

I hereby certify that Attachment III-B.-2.A prepared for Birmingham Coal & Coke Co., Inc.'s Bear Creek Mine, P-3831, Revision R-7 are 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 are true and correct to the best of my knowledge and belief.

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

03/23/2011  
Date



Applicant: <u>Birmingham Coal &amp; Coke Co., Inc.</u>
Mine Name: <u>Bear Creek Mine</u>
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#### ADDENDUM TO THE GENERAL PLAN

The addendum to the general plan consists of the relocation of Basins 009P and 010P, change the post mining landuse of Basin 009P from a temporary impoundment to a permanent impoundment, fish and wildlife habitat and the addition of Basin 019P for the life of the mine. Basin 019P is to remain as a permanent water impoundment, fish and wildlife habitat. Data to qualify Basins 009P and 019P as permanent water impoundments will be submitted to the regulatory authority prior to Phase II Bond Release. (See attached data and watershed map for basin location and preliminary hydrologic information).

Prior to disturbance within the watersheds of Basins 009P and 019P, detailed design plans will be submitted to the Regulatory Authority and upon written approval, the basins will be constructed and certified to the Regulatory Authority.

The construction of Basin 019P and Diversion 3-4 will commence upon issuance of Revision R-7 as to the following construction sequence:

- 1) Basin 019P will be constructed and certified to the Regulatory Authority.

- 2) Construct and certify Diversion 3-4 as required beginning from the end point at Basin 019P at station 23+65 with construction progressing up gradient to station 12+00 at the time of Basin 019P construction certification to the Regulatory Authority. Then station 12+00 to station 4+00 will be constructed and certified to the Regulatory Authority prior to disturbance within this watershed. Finally station 4+00 to station 0+00 will be constructed and certified to the Regulatory Authority prior to disturbance within this watershed.

Geologic investigations of the area indicate layers of sandstone, siltstone, shale and minor amounts of bituminous coal and underclay. The coal to be mined by Birmingham Coal & Coke Company, Inc., will be confined to the Bear Creek Seam. 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 Little Dice Creek and Bear Creek.

There are no underground workings within or adjacent to the permit area.

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

See Attachment III-B-2(a), ADEM approval to relocate Outfalls 009P and 019P.

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See Attachment III-B-2(a), Detailed Design Plans for Basin 009P.

See Attachment III-B-2(a), Detailed Design Plans for Basin 010P.

See Attachment III-B-2(a), Detailed Design Plans for Basin 019P.

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Attachment III-B-2-A

Basin No. No.	Location	Drainage Area (Acres)
009P Relocated	SE 1/4 of NE 1/4, Sec. 20	52
010P	NE 1/4 of NE 1/4, Sec. 20	18
019P	NW 1/4 of SE 1/4, Sec. 20 NE 1/4 of SE 1/4, Sec. 20	71

All within Township 8 South, Range 10 West, Franklin County, Alabama, as found on the Kinlock Springs USGS Quadrangle Maps.

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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:

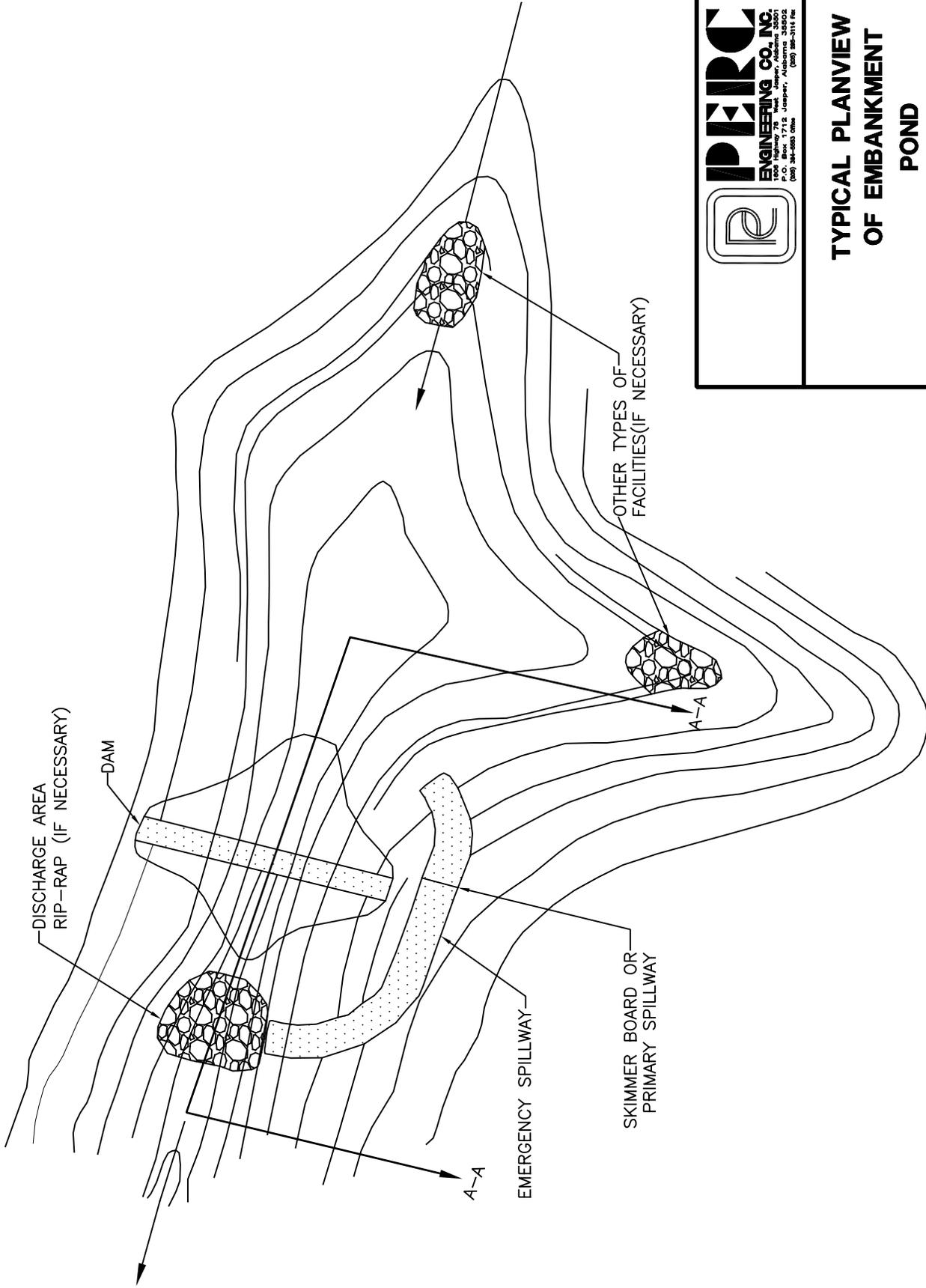
1. The top of the dam shall be no less than 12 feet wide.
2. See design sheet for maximum and minimum embankment slopes.
3. The foundation and abutments for the impounding structure shall be designed to be stable under all conditions of construction and operation of the impoundments, with a minimum static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

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

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20. All sediment basins will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the reclamation bond.
21. The embankment and spillway will be maintained by repairing any damage such as erosion, slope failure or spillway damage until removal of the structure or release of the performance bond.
22. All ponds shall be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections shall be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-.20[1(j)] of the Alabama Surface Mining Commission Regulations.
23. Sediment will be removed from each pond when the accumulated sediment reaches the sediment storage volume as shown on the detailed design sheet.
24. Upon completion of mining, successful reclamation and effluent standards being met, each sediment basin not remaining as a permanent water impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.) and reclaimed to approximate original contours by the following procedure: A permanent diversion channel (designed for a 10 year - 24 hour precipitation event) shall be cut along the outer edge of the basin to re-route drainage around the basin and back through the stabilized spillway to allow reclamation of the sediment basin. The diversion channel shall be designed and grassed as per enclosed information. (See permanent diversion for basin disposal). Upon completion of the diversion channel the back slope of the dam shall be graded to a minimum 3H to 1V slope. The dewatered sediment basin area shall be seeded with some combination of the following: Fescue, bermuda, rye grass, canary grass and willows. After seeding the area shall be mulched. Any additional sediment or embankment material not used to meet original contour, if non-toxic, shall be spread in thin layers within the permit area and vegetated as stated in the approved reclamation plan. All toxic material encountered in the basin disposal shall be buried and covered with 4 feet of non-toxic material and vegetated as stated in the approved reclamation plan.
25. A qualified registered professional engineer or other qualified professional specialist, under the direction of the professional engineer shall conduct regular inspections during construction and upon completion shall inspect each basin for certification purposes.
26. Point source discharge embankments shall be constructed and abutments keyed into desirable material if at all possible. In the event that undesirable material is encountered, addition design and construction criteria shall be submitted prior to certification.

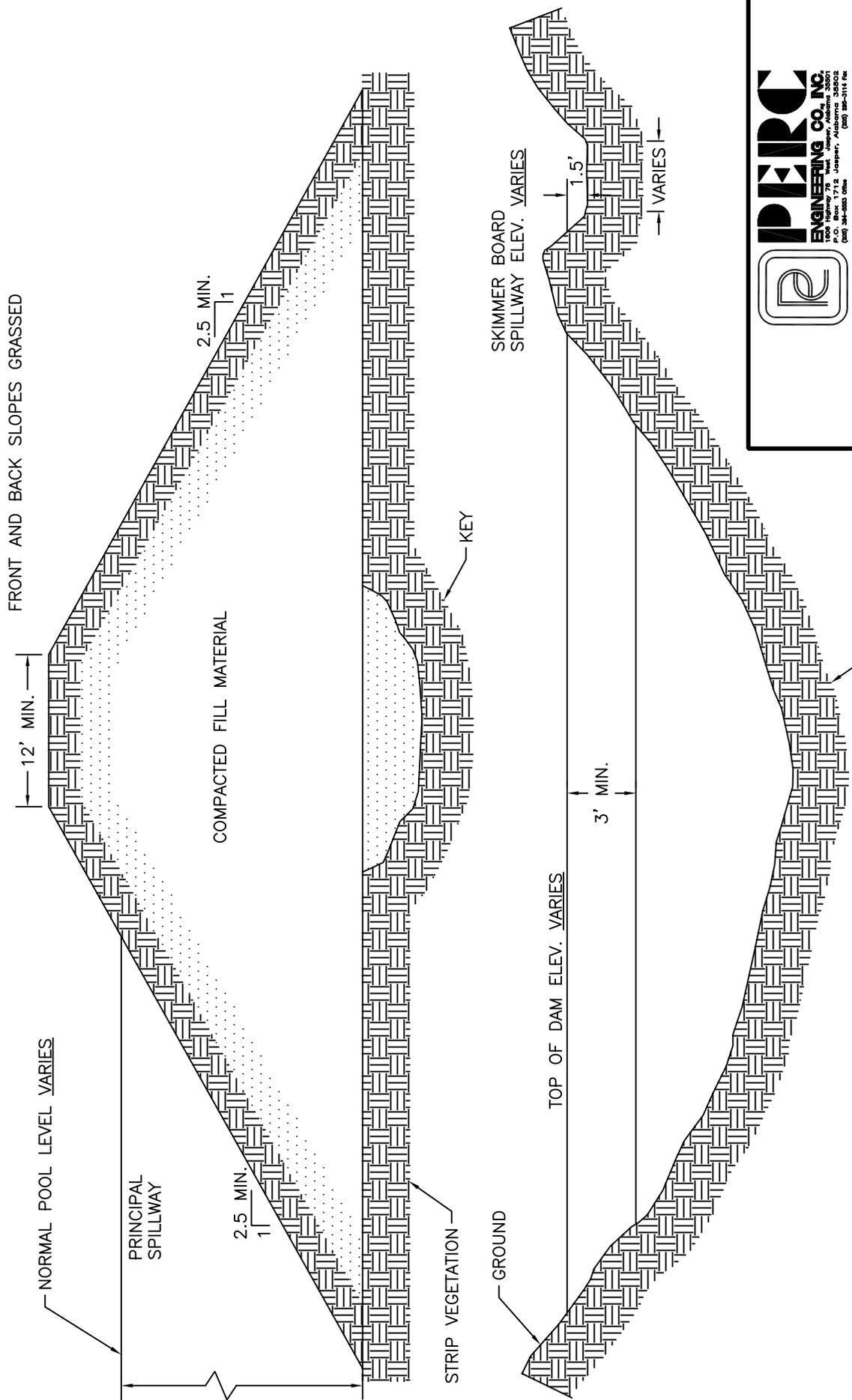


# TYPICAL PLANVIEW OF EMBANKMENT POND

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

## PLANVIEW OF EMBANKMENT POND

\\Perc600\perc\_eng\Steve Miles\Steve\_Doccs\Typicals\III-B-2(a)\Attachment\_III-B-2(a).dwg 07/01/09 14:59



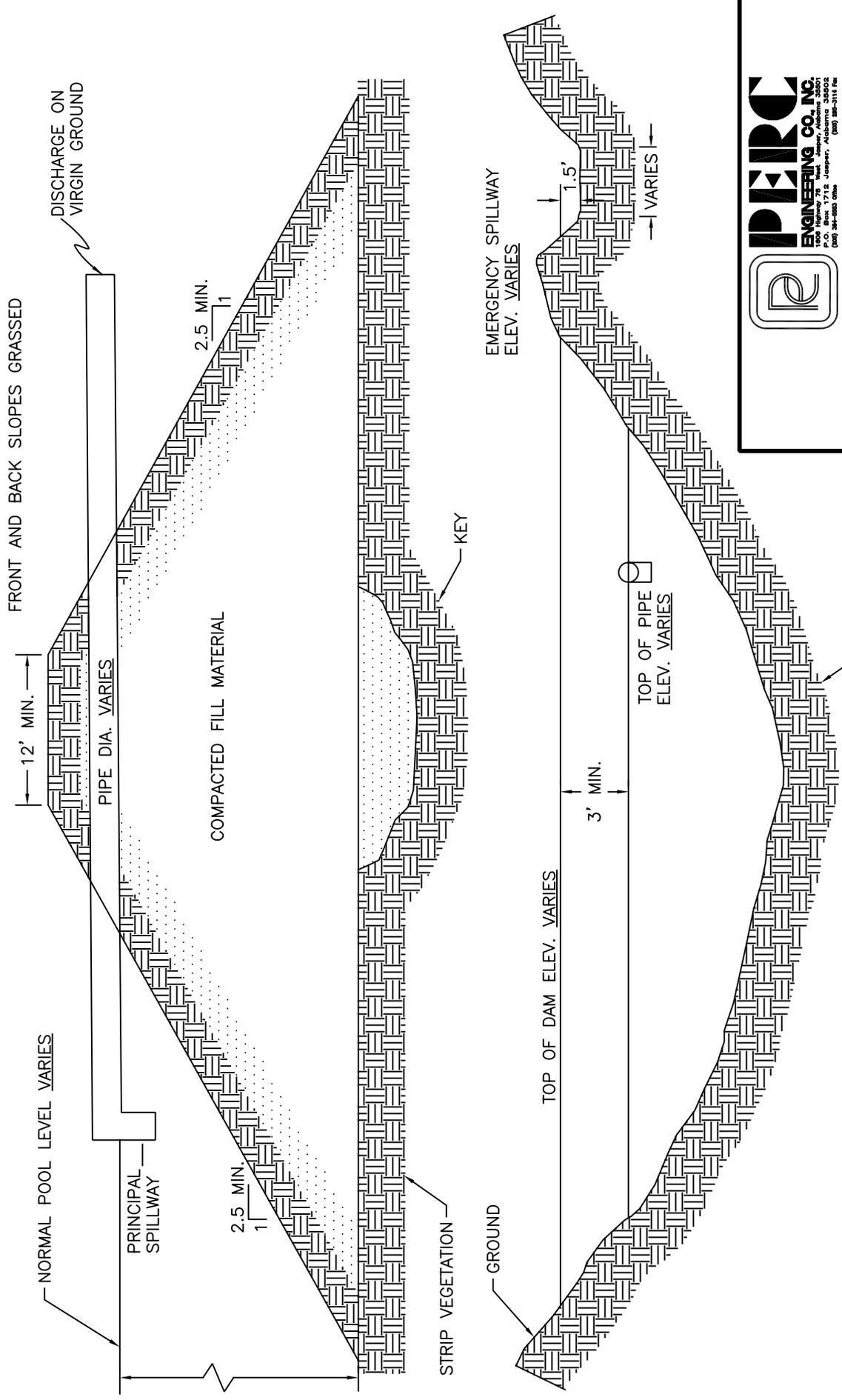
TYPICAL DAM DETAIL  
NO SCALE



TYPICAL DAM DETAIL

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

ATTACHMENT III-B-2-A



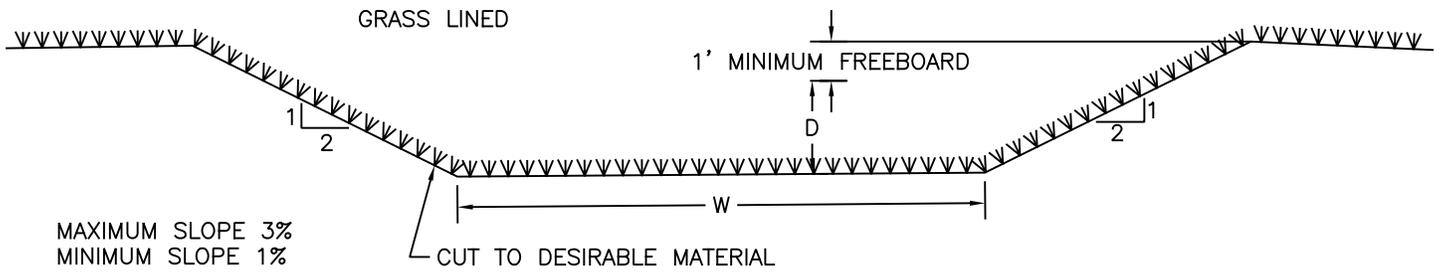
TYPICAL DAM DETAIL  
NO SCALE



TYPICAL DAM DETAIL

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

ATTACHMENT III-B-2-A



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

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)
1-15	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)
0-20	0.5
20-90	1.0
90-180	1.5
180-300	2.0
300-450	2.5



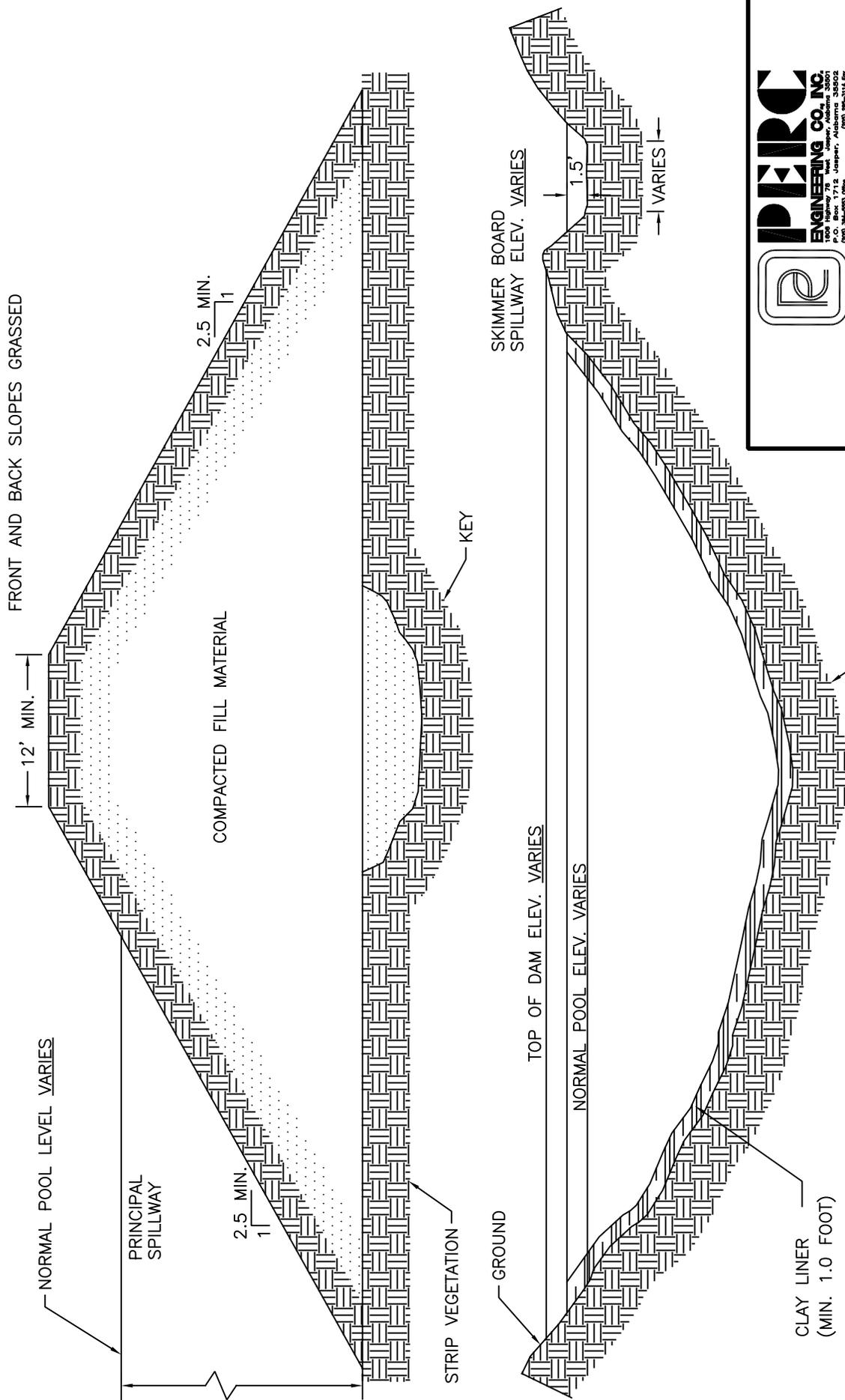
## TYPICAL PERMANENT DIVERSION FOR BASIN DISPOSAL

DRAWN BY: P.T.O.  
DWG. NAME: TYPICALS

DATE: 8-10-05

APPROVED BY: W.K.M.

SCALE: NONE



TYPICAL DAM DETAIL  
NO SCALE

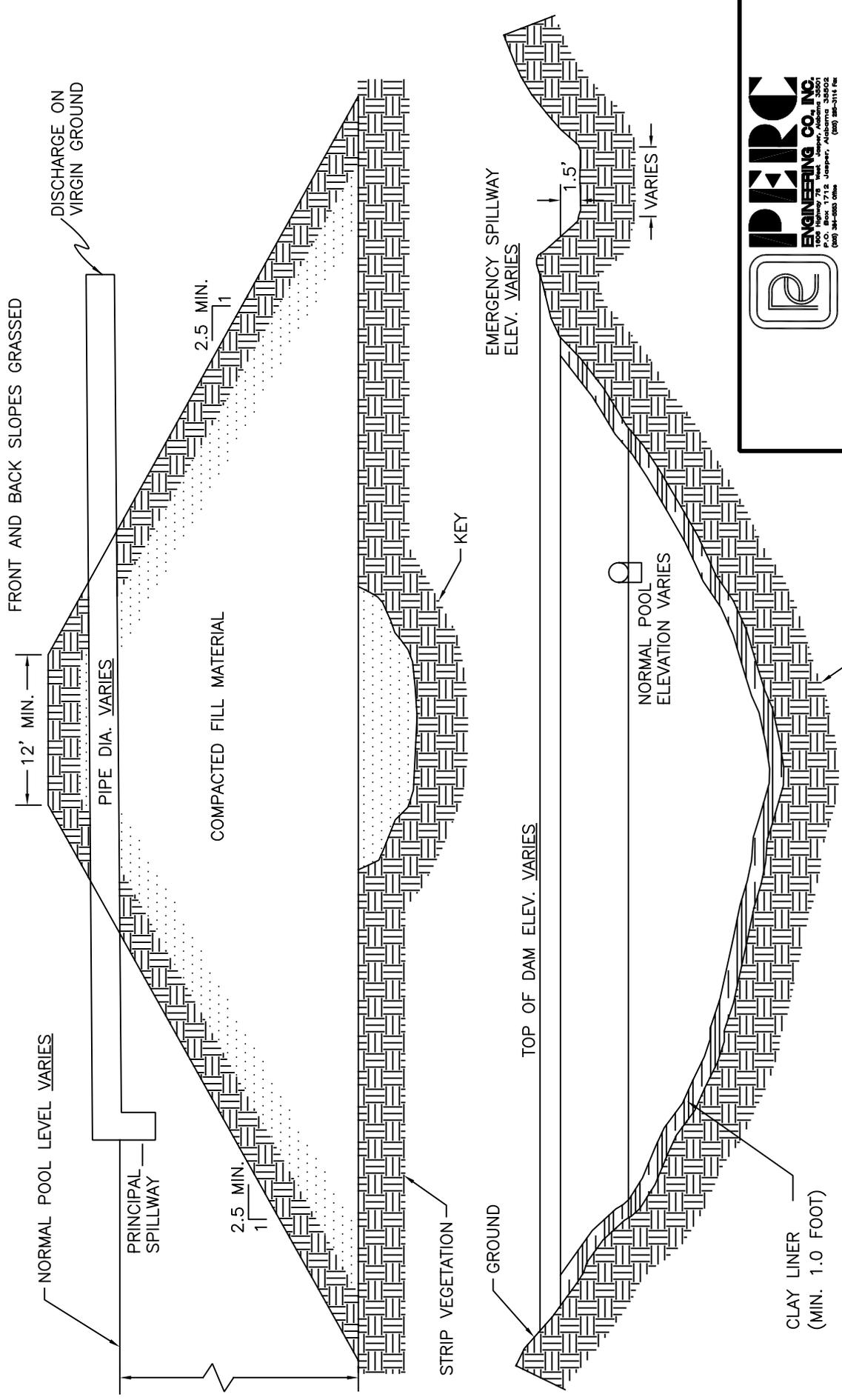
Lined with 1.0 feet (minimum) of clay material with a permeability no greater than  $1 \times 10^{-6}$  cm/sec up to the emergency spillway elevation to minimize infiltration and to provide a stable pool level with the clay placed in 6" lifts compacted to 95% of standard proctor.



**TYPICAL DAM DETAIL  
WITH CLAY LINER**

DRAWN BY: S.D.M.	DATE: 2/24/2009
DWG. NAME: TYPICALS	
APPROVED BY: L.G.S.	SCALE: NONE

ATTACHMENT III-B-2-A



TYPICAL DAM DETAIL  
NO SCALE

Lined with 1.0 feet (minimum) of clay material with a permeability no greater than  $1 \times 10^{-6}$  cm/sec up to the emergency spillway elevation to minimize infiltration and to provide a stable pool level with the clay placed in 6" lifts compacted to 95% of standard proctor.



**TYPICAL DAM DETAIL  
WITH CLAY LINER**

DRAWN BY: S.D.M.	DATE: 2/24/2009
DWG. NAME: TYPICALS	
APPROVED BY: L.G.S.	SCALE: NONE

ATTACHMENT III-B-2-A

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

Revision R-7 consists of the addition of permanent diversion, Diversion 3-4 as shown on the Watershed Map. Diversion 3-4 will be constructed in accordance with the attached design plans.

Temporary diversions required for the Gooden Creek Mine are shown on the permit map, a typical section of proposed diversions is included in this application, and is described in the design and construction guidelines for diversions as prepared for Birmingham Coal & Coke Co., Inc.

Should the need for diversions other than those shown become evident, they will be constructed under the same Guidelines within the area permitted and bonded.

After all mining and reclamation activities are complete the diversions will be reclaimed and revegetated.

See Attachment III-B-3, referenced Guidelines.

See Attachment III-B-3, Diversion 3-4 Detailed Design Plans.

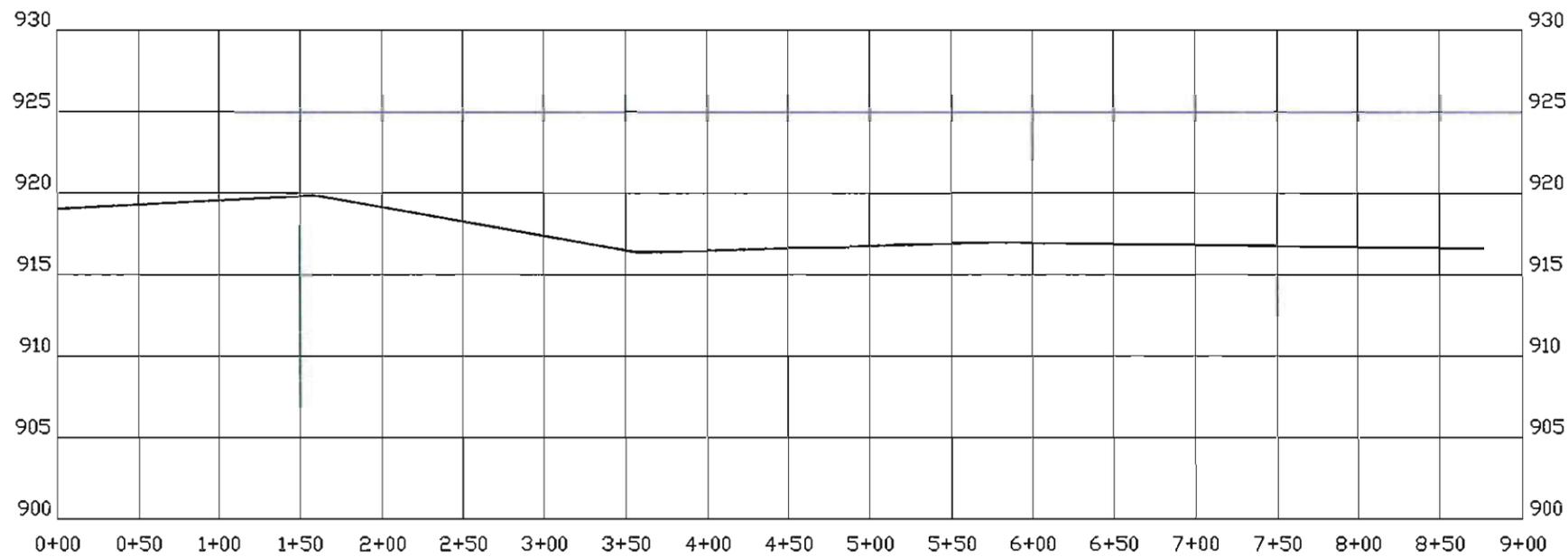
See Attachment III-B-2(a), Watershed Map for diversion location.

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

See Attachment III-B.-3.

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

None required.



DIVERSION LOCATED BETWEEN BASINS 009P AND 019P  
 THAT DRAINS TO BASIN 019P

————— EXISTING GRADE



**BIRMINGHAM COAL & COKE CO., INC.**  
**BEAR CREEK MINE**  
**P-3831 / REVISION R-7**  
**ATTACHMENT III-B-3**

DRAWN BY: S.D.M. DWG. NAME: DIVERSION PROFILE	DATE: 9/8/2011
APPROVED BY: L.G.S.	SCALE: H: 1"=50' V: 1"=5'

Applicant: Birmingham Coal & Coke Co., Inc.  
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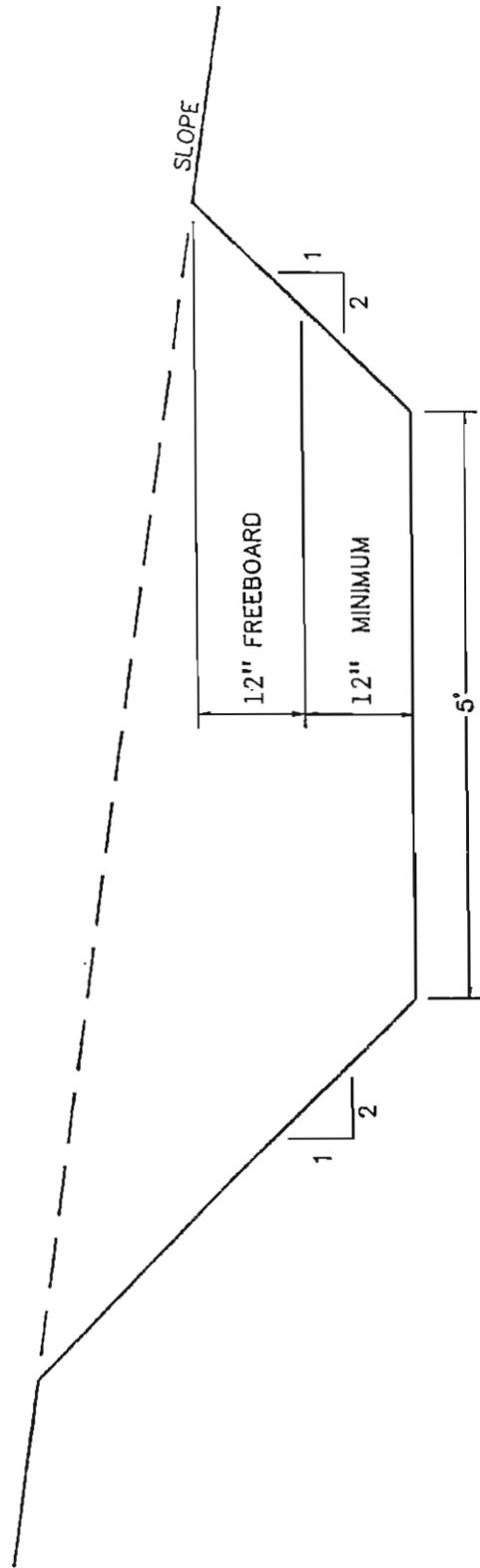
Attachment III-B-3

SPECIFICATIONS FOR DIVERSION CHANNELS  
AND DIVERSION BERMS

1. Temporary diversions shall be constructed to pass safely the peak runoff from a 2-year, 6-hour precipitation event.
2. To protect fills and property and to avoid danger to public health and safety, permanent diversions shall be constructed to pass safely the peak runoff from a 10-year, 6-hour precipitation event. Permanent diversions shall be constructed with gently sloping banks that are stabilized by vegetation.
3. Diversions shall be designed, constructed, and maintained in a manner which prevents additional contributions of suspended solids to stream flow and to runoff outside the permit area, to the extent possible, using the best technology currently available. Appropriate sediment control measures for these diversions may include, but not be limited to, maintenance of appropriate gradients, channel lining, revegetation, roughness structures, and detention basins.
4. No diversion shall be located so as to increase the potential for land slides and no diversion shall be constructed on existing land slides.
5. When no longer needed, each temporary diversion shall be removed and the affected land regraded, topsoiled, and revegetated in accordance with Rules 880-X-10C-.10, 880-X-10C-.11, 880-X-10C-.52 - 880-X-10C-.58, 880-X-10C-.60, and 880-X-10C-.62.
6. Channel linings, when slopes are between 1-3 percent shall consist of both perennial and annual grasses and when slopes are greater than 3 percent, shall consist of riprap or be cut into non-erodible material.
7. Freeboard shall provide protection for transition of flows and for critical areas such as swales and curves along the entire channel length.
8. Energy dissipators shall be installed, when necessary, at discharge points where natural streams and exit velocity of the diversion ditch flow is greater than that of the receiving stream.
9. Excess excavated material not necessary for diversion channel geometry or regrading of the channel shall be disposed of in accordance with Rule 880-X-10C-.36.

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10. Topsoil removed from the diversion excavations shall be handled in accordance with Rule 880-X-10C-.07 through 880-X-10C-.11.
11. Diversions shall not be constructed or operated to divert water into underground mines.
12. The embankment or berm foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h and the entire foundation surface scarified.
13. The entire embankment or berm shall be compacted to 95% density, based on standard proctor as outlined in ASTM.
14. The material placed in the berm 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 as the moisture content of the fill material will permit satisfactory compaction in accordance with paragraph 13.
15. The berm and all disturbed areas shall be seeded with both perennial and annual grasses in order to insure that erosion is minimized. Hay bales or riprap may be placed at the toe of the berm immediately upon completion of construction.
16. All berms shall be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary.



# DIVERSION DITCH

TYPICAL DIVERSION CROSS-SECTION  
NO SCALE

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