

CHAPTER II OPERATION PLAN

SECTION I STRUCTURES AND FACILITIES

1. ACCESS ROAD

A. INTRODUCTION

The access road will begin at an intersection with U31 and extend in a northerly direction approximately 3000 feet to Section 12+00 of the Deer Creek Waste Rock Storage Facility. The general location of the new road has been previously disturbed by activities associated with the Utah Power and Light Research Farm. The road is to be used by trucks carrying Deer Creek waste rock from the mine for disposal on the Deer Creek Waste Rock Storage Facility.

B. LOCATION

The road is located along the northeast bank of a small unnamed drainage in Township T17S, Range R8E, Section 5 & 6 on land owned by Utah Power and Light Co. The total area disturbed by the construction of the road will be 1.8 acres. (Refer to Location Map DS1012E and Surface Ownership Map DS999D in Map Packets 4-2 and 1-1 respectively.)

C. DESIGN

The horizontal and vertical alignment, the cuts and fills and the drainage structures have been located, designed and plotted to conform to the existing topography. The road encroaches upon the existing drainage channel at one location, between station 10+80 and station 11+50 (see Drawing DS1098A, Map Packet 4-1). The overall grade of the road is less than 3% with a maximum pitch grade of 7.5%. The road cross-section will have a 24 foot wide surface sloped at

1% toward the roadside drainage ditches. Road side drainage ditches will be installed to carry road drainage to the cross culverts. Embankment sections will have out slopes built on a 1V:1.5H. Cut sections will be built on a 1V:1.5H in unconsolidated areas. Rock cutslopes will be built in 1V:0.5H slope. The road corridor will be fenced with a locked gate at the intersection of the road with U31 to control unauthorized access.

2. DEER CREEK WASTE ROCK STORAGE FACILITY

A. INTRODUCTION

The original Deer Creek Waste Rock Storage Facility located on the mine permit area has been filled to capacity thus making it necessary to construct a new facility to handle the disposal needs of the mine. Calculations have been made, based on past history, of Deer Creek waste rock generated during mining operations, these quantities have been used to formulate the design of the new facility. (Refer to Chapter IV Engineering Designs.)

B. LOCATION

The area selected for the new site is located on lands owned by PacifiCorp. The area is located in Township 17S, Range 8E, Sections 5 & 6 in an area just northeast of the Huntington Power Plant evaporation pond. Some of the area to be used by the Deer Creek Waste Rock Storage Facility Site has been previously disturbed by activities associated with the Power Plant and associated Research Farm. The total area disturbed by the Deer Creek Waste Rock Storage Facility, sediment control structures, topsoil, subsoil and drainage structures is 31.92 acres.

C. DESIGN

The facility is designed to compliment the existing topography of the area with as little disturbance to the existing drainage as possible and to use only those lands owned by PacifiCorp.

The construction, operation and reclamation of the facility is planned to take place in phases.

Phase I will include the following:

1. Construction of access road
2. Installation of perimeter fence
3. Construction of soil berms for area #1 from Section 16+00 to Section 9+50
4. Construction of sediment basin for area #1
5. Construction of permanent diversion #3 and #4
6. Installation of silt fence along toe of soil berms
7. Interim revegetation on soil berms and roadfills
8. Placement of underground development waste and sediments in area #1
(See Drawing Phase I, CM-10778-DR, Map Packet 4-5.)

Phase II

1. Construction of soil berms for area #2 from Section 9+50 to Section 2+80
2. Construction of diversion ditches #1 and #2
3. Construction of disturbed ditches #1 and #2
4. Reclamation of area #1
5. Install silt fences along toe of soil berms in area #2
6. Placement of underground development waste and sediments in area #2
(See Drawing Phase II CM-10779-DR, Map Packet 4-6.)

Phase III

1. Reclaim area #2
2. Construction of disturbed ditches #3, #4 and #5
(See Drawing Phase III CM-10780-DR, Map Packet 4-7)

Phase IV

1. Reclamation of sediment basins for both areas of storage facility
2. Reclamation of the access road
3. Removal of perimeter fence
4. Diversion of disturbed ditches #1, #2, #3, #4 and #5 into permanent diversions
(See Drawing Phase IV CM-10781-DR, Map Packet 4-8)

SECTION II
DRAINAGE CONTROLS

1. ACCESS ROAD

A. GENERAL

The drainage system for the road will consist of road side ditches and cross culverts. The drainage system is designed to safely pass the peak run off from the 10-year, 24-hour precipitation event. (Refer to Chapter IV Engineering Designs.) The system is designed to minimize to the extent possible, degradation of surface runoff and erosion.

B. DITCHES

To minimize erosion on the road bed the road cross-section will be sloped 1% toward the road side ditch. (See Chapter IV Engineering Designs - Road Cross-section.) Road side ditches will be provided along the entire length of the road to channel runoff into the cross culverts. (Refer to Chapter IV Engineering Designs, Road Section & Plan View.)

C. CULVERTS

All drainage culverts are designed to safely pass the 10-year, 24-hour precipitation event without a head water at the inlet. The inlet of all culverts will be provided with a rock rip-rap headwall to protect against erosion. The outlet will be provided with a rip-rap fan to dissipate the erosion energy of the runoff. The culverts will have a minimum of 2' of compacted cover and will be installed at 30° angle. (Refer to Chapter IV Engineering Design.)

D. OPERATION AND MAINTENANCE

On an as needed basis, as the road surface deteriorates due to usage and weather, a blade will be used to recontour the travel surface of the road. The rills and gullies will be backfilled and a smooth surface will be developed with side slopes of 1%. Road base gravel and/or ground asphalt will be added to the surface as needed.

The ditches along the access road will be maintained at the same time as the road surface. A blade will be used to clean sediment and debris from the ditch. In areas where excessive erosion occurs rock rip-rap will be placed to help control it.

The inlet and outlet works of all culverts will be maintained as needed. Any debris clogging these structures will be removed. Rock rip-rap or other methods will be used to control erosion. Other methods will be approved by the Division prior to implementation. Sediment control measures will conform to the requirements of R645-301-742.

2. DEER CREEK WASTE ROCK STORAGE FACILITY

A. GENERAL

The drainage of the area is confined to several small ephemeral streams. The undisturbed drainage plan for the site will consist of two permanent diversion systems that will divert the ephemeral stream flows around the Deer Creek Waste Rock Storage Facility fill structure and into an existing drainage channel in one case and into a natural drainage channel in the other. The disturbed drainage plan will consist of a sediment basin, small diversion ditches along the toe of the reclaimed Deer Creek Waste Rock Storage Facility slopes and sheet flow off the top surface of the Deer Creek Waste Rock Storage Facility fill pad.

B. PHASE I

During this initial stage of construction and operation, two undisturbed drainage ditches will be built to convey the ephemeral drainage past the disturbed area #1. Ditch #3 is approximately 1010 feet long and extends from Section 9+50 to Section 17+60 where it will discharge into ditch #4. Ditch #4 is approximately 250 feet long and is located on the west side of the site. Ditch #4 will discharge into the existing diversion channel. (Refer to Chapter IV Engineering Designs for the detail on the ditch designs and sizing.)

The disturbed drainage system for this initial area will consist of a sediment basin and a overland flow along the inside toe of the south soil berm. The sediment basin for area #1 will contain runoff volume equal to 2.2 ac. ft. and sediment volume of .98 ac. ft., this serves an area of approximately 10 acres. The south soil berm will collect and direct the overland flow from the working area of the fill into the sediment basin. As the site fills with Deer Creek waste rock the working pad level will be slopes on a .5% toward the sediment basin for drainage purposes. The basin will be formed by the soil berm on the south and west sides and the Deer Creek Waste Rock Storage Facility on the east side. Area is provided for the retention of runoff from two back to back 100 year storms from area #1. (Refer to Chapter IV Engineering Designs for design data.) To provide drainage treatment for the soil berms of area #1 a silt fence filter will be installed along the outside toe of the berm fill.

Maintenance work on the ditches, sediment basin and silt fences will be done as the need arises. Sediment and debris accumulations will be removed by mechanical and hand methods.

A wet weather seep has been identified within the fill area #1. A drainage system to collect and channel this water to the existing diversion structure will be constructed prior to soil berm construction. It will consist of approximately 400 linear feet of 4" perforated drain pipe.

This pipe will be enveloped in a gravel blanket of 2" rock, 12" thick around the pipe. This gravel blanket will be wrapped in a non-woven filter fabric. The drainage system will be covered with 12" of the existing clay material prior to waste rock fill placement. (Refer to Chapter IV Engineering Design and Drawing Phase I CM-10778-DR, Map Packet 4-5.)

C. PHASE II

As area #1 is filled to capacity it will be necessary to begin construction on area #2. The diversion ditches #1 and #2 will be constructed to divert the ephemeral drainage around the disturbed area #2. Ditch #1 will extend approximately 1000 feet along the east side and will divert drainage from this area into the natural drainage south of the fill area. Ditch #2 will run along the north side from Station 3+00 to Station 9+50 approximately 650 feet where it will discharge into the existing drainage diversion ditch #3.

The disturbed drainage system for area #2 will consist of a second sediment basin and several small ditches. The basin will be located between Section 7+00 and 9+00 on the south side of the fill area. The area will be excavated to form a basin capable of holding 4.4 ac. ft. of runoff and 1.94 ac. ft. of sediment volume. The volume is sufficient to retain two 100 year storms with no discharge. Runoff from the fill area #2 will be directed into basin #2 by the south soil berm along area #2 and the east side of the waste rock fill of area #1. Following the reclamation of area #1, two ditches will be built along the toe of the north and south reclaimed slopes. These drainage structures will collect runoff from these slopes and convey it into the sediment basin for area #1. They are labeled ditch #1D (north side) and ditch #2D (south side). As the waste rock fill is built along the north fill structure in area #2 will be diverted into the second sediment basin by a third ditch (#3D). Ditch #3D will be built along the interface of fill

area #1 and fill area #2. To control erosion on the soil berms of area #2 a silt fence filter will be built along the outside toe of the fill. (See Drawing Phase II CM-10779-DR, Map Packet 4-6.)

Maintenance work on the ditches, sediment basin and silt fences will be done as the need arises. Sediment and debris accumulations will be removed by mechanical and hand methods.

SECTION III

PLACEMENT AND HANDLING OF MATERIALS

1. ACCESS ROAD

A. GENERAL

The road is designed and laid out to minimize the amount of cut and fill operations required for construction. The cuts have been balanced with the fills such that no excess material will be generated.

B. TOPSOIL

The initial step of the road construction is to remove all vegetative matter from the area to be disturbed by road construction. Once the vegetative material is removed the top soil where existing in sufficient quantities to allow for mechanical collection will be removed, and temporarily stockpiled until it can be redistributed on the embankment slopes after their construction. The temporarily stockpiled soil will be placed in an area at the beginning of road construction away from the activities of the road construction.

Silt fences will be installed along the toe of the embankment slopes to provide erosion protection until the interim vegetation is established. (Refer to Chapter III Reclamation - For Interim Vegetation Plan.)

C. SUBGRADE

Following removal of the topsoil, the subgrade material will be removed to the lines and grades shown on the plans as required to construct the cuts and fills. Each layer of embankment will be placed, leveled and compacted in 12" maximum lifts. Large rocks will be worked into the fill to avoid creating voids, etc. in the fills. If any acid or toxic forming materials are found these shall be disposed of in accordance with R645-301-542.740 and R645-301-731.300 through .320 and will not be used in the embankment.

D. ROAD SURFACE

Following the construction of the subgrade, 6" (compacted depth) of crushed stone will be spread and compacted on the road surface. The final surface will not be limited to this surface material. The operator may use, at their discretion, a surface capable of reducing maintenance and controlling fugitive dust. The final configuration of the road will be to the lines and grades shown on the plans (Refer to Chapter IV Engineering Designs). Maintenance to the access road may vary the lines and grade from original design but will be consistent with the intent of the design.

E. DUST CONTROL

During construction of the road fills and soil berms, water may be spread over the working level of the fill surface to aid in compaction and to control fugitive dust.

2. DEER CREEK WASTE ROCK STORAGE FACILITY

A. GENERAL

During the operation of the mine certain waste products are generated that are not part of the coal product, they include; underground development waste, trommel screen reject, and sediment from the pond and drainage. These materials will compose the fill material for the Deer Creek Waste Rock Storage Facility.

Past history of coal production versus Deer Creek Waste Rock generation was compiled to calculate the quantity of underground development waste per ton of coal mined. This value was then used to estimate the volume of Deer Creek Waste Rock to be generated during the remaining mine life and to design the Deer Creek Waste Rock Storage Facility plan. (Refer to Chapter IV Engineering Design.)

B. TOPSOIL

After the vegetative matter is removed the top six inches (minimum) of suitable soil material will be removed and temporarily stockpile. The topsoil temporary stockpile will be located in the northwest corner of area #1 during construction activity until it is redistributed over the soil berms. After the subsoil material has been excavated to the depth specified and hauled and placed in the soil berms surrounding the disposal areas, the temporarily stockpiled topsoil will be spread evenly over the soil berm's top width and outslope. Care will be taken to avoid unnecessary compaction of the topsoil layer. Following soil placement the soil berms will be planted with an interim seed mix. (Refer to Chapter IV Engineering Designs and Chapter VIII Vegetation.)

C. SUBSOIL

Following removal of the topsoil material the remaining material needed for soil berm construction will be excavated to the lines and grades specified on the cross sections. The material will be placed, leveled and compacted in 12" maximum lifts. Rocks larger than the lift thickness will be worked into the fill to avoid forming voids. Those rocks that will make good rip-rap will be separated and hauled and stored for future use as rip-rap. If any acid or toxic forming material is found this material will be segregated from the berm construction and not used as fill. It will be treated as spoil and placed on the bottom of the Deer Creek Waste Rock Storage Facility. (Refer to soil analysis data, Pages 7-2 through 7-3.1 and Map CM-10788-DR, Packet 7-2 for soil quality and soil stripping plans.)

D. UNDERGROUND DEVELOPMENT WASTE

The underground development waste generated during coal mining, sediments from the sediment pond and trommel rejects will be hauled to the site by truck and dumped. The composition of this material i.e. waste rock will be a mixture from the various sources. It is estimated that the coal rock ration should be less than 50/50. As the material is spread and placed in the fill it will be thoroughly mixed helping to blend the materials. When the quantity of material dumped at the site needs to be leveled it will be spread, placed and compacted in 24" horizontal lifts. Large rock etc., will be worked into the fill to avoid forming voids. As the fill lifts are made the top working surface will be sloped to allow for drainage. Any acid or toxic forming material will be buried in the fill with at least 4 foot of non-toxic cover material.

During the leveling process extraneous material, trash and etc. will be separated from the fill material and disposed of in an approved sanitary landfill. (Refer to Chapter VII "Soil" for composition of the waste rock fill material.)

SECTION IV

OPERATION MONITORING PLANS

A. R645-301-528 HANDLING OF WASTE MATERIALS

Any acid-forming or toxic-forming materials encountered during construction will be hauled to the Deer Creek Waste Rock Storage Facility and buried by at least 4 feet of non-toxic or acid forming material. The vegetative material removed prior to topsoil removal will be broken up and used as mulch during interim reclamation. Any materials left over will be disposed of in an approved sanitary landfill.

B. R645-301-723, R645-301-724 BASELINE INFORMATION

Refer to Chapter VI - Hydrology.

C. R645-301-512 CERTIFICATION

The design of the facility has been prepared and certified under the direction of a qualified registered professional engineer. A preliminary hydrologic survey and a geological survey have been conducted for the area. (Refer to Chapter IV Engineering Designs: for certifications, refer to Chapter V Geology and Subsidence: Geotechnical Analysis and to Chapter VI "Hydrology": for hydrologic information.)

D. R645-301-514 INSPECTIONS

The operation of the facility will be inspected for stability by a qualified, registered professional engineer at least quarterly and during the following critical construction periods:

1. Removal of all organic material and topsoil
2. Placement of the underdrainage system

3. Installation of surface drainage system
4. Construction of soil berms
5. Revegetation

This report will be submitted in writing to the Division within two weeks following the inspection, a copy will be maintained at the mining division offices for inspection.

E. EXPLOSIVES R645-301-524

All blasting operations will be conducted by persons who have been trained, examined and certified as provided by R645-105 and applicable regulations of the State Industrial Commission. No resident or owner of a dwelling or structure is located within one-half mile of where surface blasting activity will occur.

All blasting will be conducted between sunrise and sunset. Warning and all-clear signals will be given before and after blasting. Access to the area possible subject to fly rock from blasting shall be regulated. Access to the area shall be blocked until an authorized representative has determined that after blasting no unusual circumstances and that access to and travel in or through the area can be safely resumed.

Records of blasting will be kept on file at the PacifiCorp office in Huntington. The records shall contain the following:

- Name of operator - Energy West Mining Company
- Location - Deer Creek Waste Rock Site - date and time of blast
- Name, signature and license number of blaster-in-charge
- Direction and distance to Utah Power and Light Research Farm office
- Temperature, wind directions and approximate velocity
- Type of material blasted
- Number of holes, burden and spacing
- Diameter and depth of holes
- Types of explosives used

- Total weight of explosives used
- Maximum weight of explosives detonated within any 8-millisecond period
- Maximum number of holes detonated within any 8-millisecond period
- Initiation system
- Type and length of stemming
- If applicable - mats or other protection used
- Type of delay detonator and delay periods used
- Sketch of delay pattern
- Number of persons in blasting crew

SECTION V

SUMMARY OF ENVIRONMENTAL IMPACT AND MITIGATION

A. R645-301-521.133, -526.116 RELOCATION OR USE OF PUBLIC ROADS

N/A

B. R645-301-521.140 UNDERGROUND DEVELOPMENT WASTE

N/A

C. R645-301-525100 SUBSIDENCE CONTROL PLAN

N/A

D. R645-301-330, -342 FISH AND WILDLIFE PLAN

REFER TO CHAPTER IX "WILDLIFE"

E. R645-302-210 EXPERIMENTAL PRACTICES MINING

N/A

F. R645-302-310 PRIME FARMLAND

N/A

G H. R645-301-521.200 SIGNS AND MARKERS

Signs and markers shall be made of durable material such as this sheet metal or painted and water proofed plywood. All signs and markers will be maintained during the life of the Waste Rock Site.

At the turnoff from Highway 31 an entrance sign such as depicted on page 2-16 will be posted. This sign shall remain until after the release of all bonds from the permit area.

Perimeter markers will be marked the following way: If a fence is used as a perimeter, then every fifth post will be painted "safety yellow". If there is no fence then posts painted "safety yellow" will be placed every 200 feet or closer along the perimeter boundary.

No stream buffer zone markers are required as there are no streams adjacent to the permit area.

Topsoil markers such as depicted on page 2-16 will be placed on all soil berms. Those signs will be used on all soil material which is vegetation supporting even if not classified as true topsoil.

DEER CREEK WASTE ROCK STORAGE FACILITY

OWNER: PACIFICORP
ONE UTAH CENTER
201 SOUTH MAIN STREET
SALT LAKE CITY, UTAH 84111
PHONE: (801) 220-4140

OPERATOR: ENERGY WEST MINING COMPANY
P.O. BOX 310
15 NORTH MAIN STREET
HUNTINGTON, UTAH 84528
PHONE: (435) 687-9821

D.O.G.M. PERMIT NUMBER: C/015/018
M.S.H.A. I.D. NUMBER: 42-00121

MINE PERMIT IDENTIFICATION SIGN

TOPSOIL

TOPSOIL MARKER

On the day in which blasting occurs, a portable sign which says "Warning: Explosives in Use" will be displayed near the entrance sign. The immediate vicinity of blasting will be marked with red flagging or red cones.

Upon cessation of operations or bond release, signs and markers will be removed as appropriate.

H F: R645-301-751 ALTERNATIVE SEDIMENT CONTROL AREAS

Disturbed areas which cannot be reasonably treated by a siltation structure (i.e., sediment pond) due to remote geographic locations and small areas not justifying a sediment pond but which cannot meet effluent limitations without treatment, are considered Alternative Sediment Control Areas (ASCA). These areas are treated by the best control technology available which includes, but is not limited to: silt fences, berms, catch basins, strawbales, gravel filter dikes, check dams, sediment traps and mulches.

A list of the ASCA's within the permit area is found below in Table I.

TABLE I
Deer Creek Waste Rock Storage Facility
Alternative Sediment Control Areas (ASCA)

<u>Site Location</u>	<u>Sediment Control</u>	<u>Acreage</u>	<u>Drawings</u>
Waste Rock Site Access Road	Silt Fence/ Vegetation	0.11	WRS Packet 4-5 CM-10778-DR
Waste Rock Site Berm Outslope	Silt Fence	1.72	WRS Packet 4-5 CM-10778-DR
Revegetation Area	Vegetation	0.58	WRS Packet 4-5 CM-10778-DR
	Total	2.41	

I J. R645-301-742.220 SEDIMENT PONDS

Each pond referred to in this permit application package will be designed and inspected during construction under the supervision of, and certified after construction by, a registered professional engineer.

Water impoundments and dams will be examined four times per year and reports will be sent to the Division quarterly beginning in the Fall of 1988. Structural weakness, erosion and other hazardous conditions, if identified, will be reported.

J K. R645-301-516 - SLIDES AND OTHER DAMAGE

At any time a slide occurs which may have a potential adverse effect on public property, health, safety or the environment, a PacifiCorp representative will contact the Division of Oil, Gas and Mining by the fastest available method, probably telephone. Remedial measures required by the Division will be complied with.

K L. R645-301-515.300 - CESSATION OF OPERATIONS: TEMPORARY

If underground operations cease the surface access openings will be effectively supported and maintained as if mining was operational. As soon as it is known that temporary cessation of underground operations will extend beyond 30 days a notice of intention to cease or abandon operations will be sent to the Division. The notice will contain the following information:

1. Number of surface acres and the horizontal and vertical extent of sub-surface strata located in the permit area prior to cessation or abandonment. This will be calculated by PacifiCorp using customary engineering methods.
2. The extent and kind of reclamation of surface area which has already been accomplished.
3. The identification of backfilling, regrading, revegetation, environmental monitoring, underground opening closures and water treatment activities that will continue during temporary cessation.

**CHAPTER IV
ENGINEERING DESIGNS**

**SECTION I
ACCESS ROAD**

a. Description:

The access road has been located and designed and will be constructed, repaired, maintained and reclaimed according to the design criteria of the Division. Primary usage of the road will be by trucks hauling waste rock to the disposal site. Anticipated usage is 5 days per month.

b. Design & Specifications

1. Alignment:

The horizontal & vertical alignment shall be as shown on the plan and profiles drawings. Average overall grade is 3%. Maximum pitch is 7.5 % for 400 feet.

2. Road Section:

See Typical Cross section Exhibit I.

3. Construction:

All foundation for embankments shall be free from organic material and topsoil. The top layer of the ground under lying the proposed roadway embankment will be moistened and scarified to a depth of 6" and then compacted to 90 percent of standard proctor according to AASHTO Designation T-99 Method D. Placement of the embankment material shall be in 12" maximum lifts. All rock will be worked into the fill to avoid forming voids.

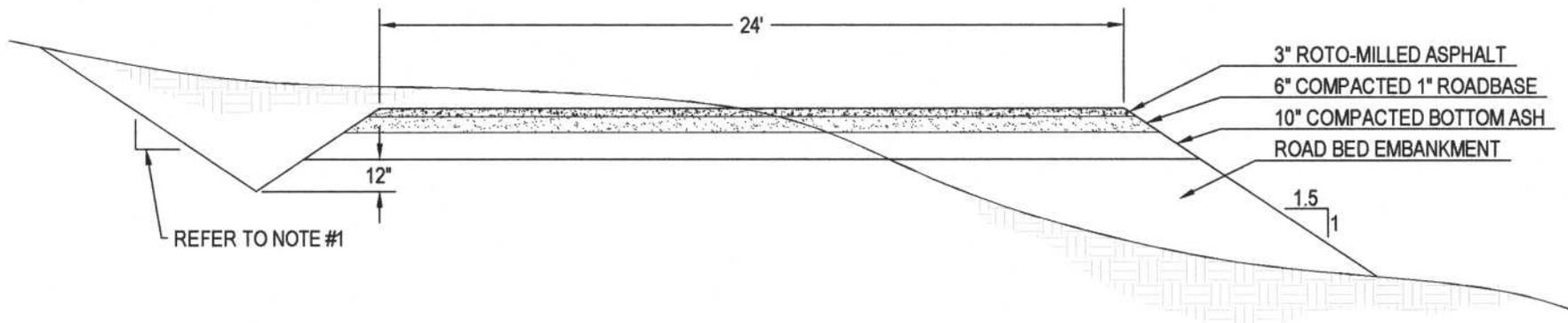
The road subgrade will be made of 10" of bottom ash supplied from the Huntington Power Plant. This material will be watered and thoroughly mixed and compacted in one lift to 95% of standard determined by AASHTO Designation T-99 Method D. An analysis of the bottom ash is provided, see Exhibit II. Additional analyses will be performed according to the Analysis Plan found on page 7-5.

The untreated roadbase will consist of crushed stone meeting the gradation requirements listed in Exhibit III. The material will thoroughly mixed with water to optimum moisture content. The material will then be placed and compacted in a single lift. This material will compacted to 95% of standard as determine by AASHTO Designation T-99 Method D. The finish grade will be smooth and uniform with surface deviations not exceeding 0.5 inch plus or minus in 10 feet.

The final lift of the access road will consist of a layer of compacted rotomilled asphalt. The asphalt will be placed in a 3" single lift and compacted with roller to assure uniform surface (see Typical Road Section Exhibit I).

c. Drawings - Maps

See drawings Cross Sections of Access Road #DS1011E, Map Packet 4-1 and Profile - Center Line of Access Road #DS1012E, Map Packet 4-2.



TYPICAL ROAD SECTION

NOTE:

1. CUT SLOPE 1 V TO 1.5 H IN UNCONSOLIDATED MATERIAL
CUT SLOPE 1 V TO 0.5 H IN ROCK MATERIAL

Exhibit I