

HAZEN AND SAWYER
Environmental Engineers & Scientists

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**DIVISION OF WASTE MANAGEMENT
FAYETTEVILLE REGIONAL OFFICE**

September 8, 1999

Mr. Jim Barber
Eastern Area Engineer
Solid Waste Section
State of North Carolina Department of Environment,
And Natural Resources
225 Green Street, Suite 601
Fayetteville, NC 28301-1791

Re: Halifax County Coal Ash Monofill
Cell 2 Apron Repair
H&S No. 3786

Dear Mr. Barber,

The purpose of this letter is to inform the Section that excessive wind associated with Tropical Storm Dennis has caused damage to the HDPE geomembrane apron installed during Cell 2 construction. The apron, which is intended to reduce shear stresses on the underlying Geomembrane, was installed over the Cell 1-2 Intermediate Berm in accordance with the approved Drawings. Wind blew the apron off of the Cell 2 side of the Intermediate Berm and into Cell 1 along the eastern half of the berm. The attached sketches show a cross section of the berm where the apron was installed on the slope and the limit of apron damage in Cell 2.

In an effort to repair and stabilize the apron, Westmoreland Energy has hired a contractor to place coal ash along the toe of the Intermediate Berm in Cell 2 to anchor the apron. This operation is proceeding on the west side of the existing access ramp where wind damage is minimal. The ash is hauled from Cell 1 using dump trucks and spread in approximately 2-foot lifts using a Low Ground Pressure (LGP) dozer. The coal ash will be three to four feet thick at the toe of slope. This repair will continue on the east side of the access ramp as the apron is pulled back in place. The apron was previously stabilized on the Cell 1 side of the berm during Cell 2 construction. Based upon our observations to date, no repairs are needed to the Cell 1 side of the apron.

We wish to emphasize that there has been no damage to the containment liners of either Cell 1 or Cell 2. The damage appears to be confined to the apron itself, which serves no containment function. The apron was not welded to the Geomembrane itself; it was anchored with sandbags. The apron placed over the Intermediate Berm is intended to reduce shear stresses at the top of the berm once coal ash is placed over the Intermediate Berm. The operational scheme for Cell 2 was to have coal ash placed along the toe of slope to anchor the apron, but the

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wind damage occurred before the Permit To Operate was obtained.

The method described above to stabilize the apron represents the only practical means to anchor the apron and to prevent additional damage. The ash used for the repair comes only from material previously deposited in Cell 1. Hazen and Sawyer and Westmoreland will monitor the repair and damage to the Geomembrane liner itself, if any, will be repaired in accordance with the Construction Specifications. A description of the repair will be included in the Record Documentation Report once the repairs are completed.

If you have any questions, or require additional information, please contact us. We will gladly meet with you at the project site to review current conditions and the status of the repair.

Very truly yours,

HAZEN AND SAWYER, P.C.



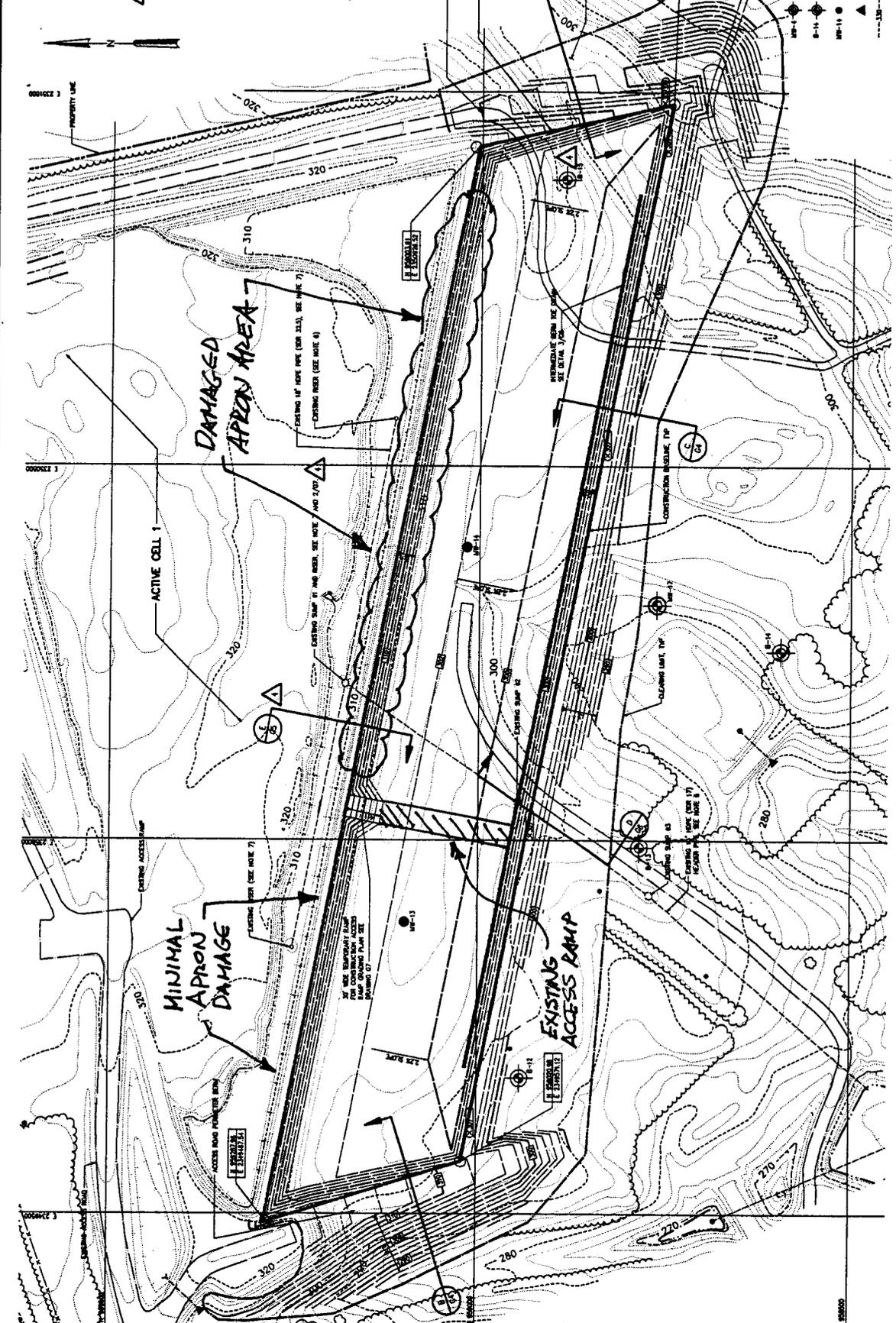
John A. Bove, PE
Associate

Attachments

cc: Frank Ralph, Halifax County
Robert Noble, LG&E Power
Bruce Holden, Westmoreland Energy
James Hicks, Westmoreland Technical Services
Jim Coffey, DENR Solid Waste Section

NOTES:

1. DESIGN DOCUMENTS COMPILED BY FREMONT CONSULTANTS INC. FROM PHOTOGRAPHY DATED 7/28/76.
 2. CELL 1 IS CURRENTLY ACTIVE CELL. INTERSTICE CONTAINS SAND FOR CELL 1 TO NOT INTERFERE WITH CELL 2.
 3. CONTRACTOR SHALL BRIDGE STAIRING WALKER FROM SOUTH END OF CELL 1 BY PLACING INTO CELL 1 EXISTING COAL AND BRIDGE EXCAVATED FOR A PERIOD OF 14 FT.
 4. CONTRACTOR SHALL BRIDGE STAIRING WALKER FROM SOUTH END OF CELL 1 BY PLACING INTO CELL 1 EXISTING COAL AND BRIDGE EXCAVATED FOR A PERIOD OF 14 FT.
 5. CONTRACTOR SHALL BRIDGE STAIRING WALKER FROM SOUTH END OF CELL 1 BY PLACING INTO CELL 1 EXISTING COAL AND BRIDGE EXCAVATED FOR A PERIOD OF 14 FT.
 6. CONTRACTOR SHALL BRIDGE STAIRING WALKER FROM SOUTH END OF CELL 1 BY PLACING INTO CELL 1 EXISTING COAL AND BRIDGE EXCAVATED FOR A PERIOD OF 14 FT.
- DEMOLITION ITEMS**
7. CONTRACTOR TO BRIDGE CELL 1 (SEE NOTE 5) USING EXISTING COAL TO PROTECT GEOMEMBRANE FROM DEMOLITION. CONTRACTOR SHALL BRIDGE CELL 1 WITH COAL AND BRIDGE EXCAVATED FOR A PERIOD OF 14 FT. CONTRACTOR SHALL BRIDGE CELL 1 WITH COAL AND BRIDGE EXCAVATED FOR A PERIOD OF 14 FT.
- CONTRACTOR TO BRIDGE EXISTING OF CELL 1 AS SHOWN ON DETAIL AND OTHER SHALL PROVIDE DETAIL FOR THE CONTRACTOR TO BE USED FOR THE NEW CONTRACTOR.**
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LEGEND

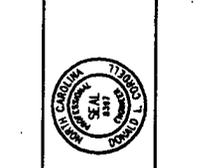
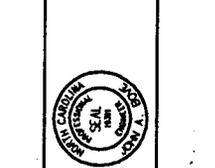
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- ▲ EXISTING SURVEYED BENCHMARK
- 1:10 --- EXISTING BENCH ELEVATION CONTROL
- EXISTING GEOMEMBRANE ELEVATION CONTROL WELL AND DRAINING NUMBER

RECORDED DRAWING

PLAN
1"=60'-0"

HALEFAX COUNTY, NORTH CAROLINA
SOLID WASTE DEPARTMENT
ASH MONOFILL - CELL 2
CONSTRUCTION DRAWINGS

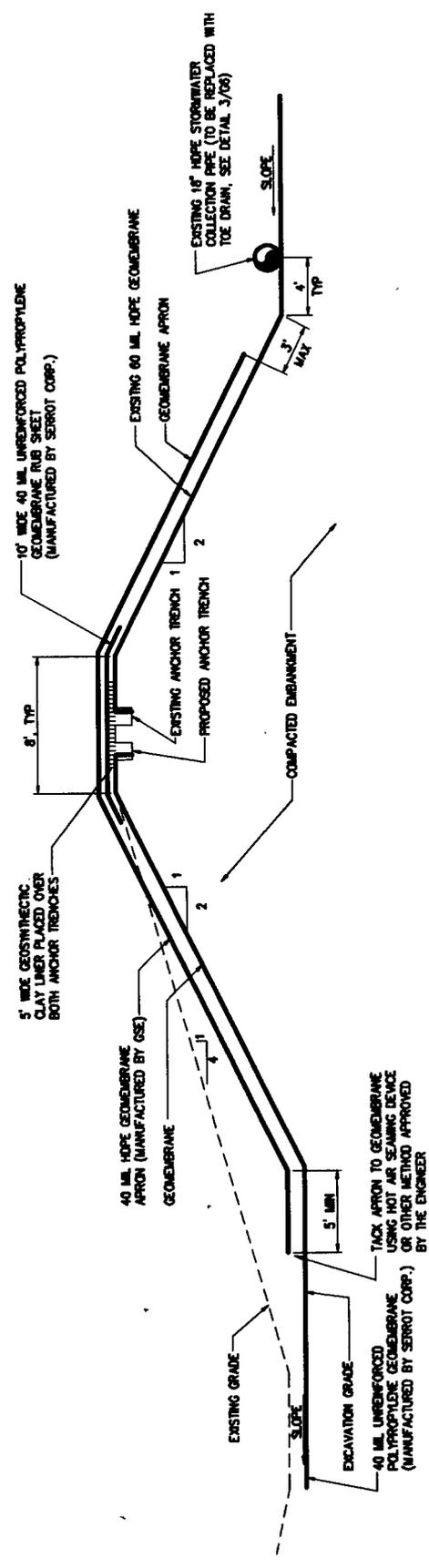
HAZEN AND SAWYER
ENGINEERS AND ARCHITECTS
HALEFAX, NORTH CAROLINA



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EXISTING CELL 1

PROPOSED CELL 2



NORTH INTERMEDIATE BERM CROSS-SECTION (TYP)

SECTION E
G3
NTS