

Subject: FW: Closure Cost Stuff for Dave Cobrain

Date: Wed, 27 Mar 2002 16:50:08 -0700

From: "Steve Pullen" <Steve_pullen@nmenv.state.nm.us>

To: "David Cobrain" <David_Cobrain@nmenv.state.nm.us>

-----Original Message-----

From: Patrick.G.Corser@us.mwhglobal.com
[mailto:Patrick.G.Corser@us.mwhglobal.com]
Sent: Wednesday, March 27, 2002 2:04 PM
To: Steve Pullen
Cc: Diane.L.Dwire@us.mwhglobal.com
Subject: Closure Cost Stuff for Dave Cobrain

Steve,

I do not have Dave's e-mail address and have not been able to contact him by phone. Could you forward or print this out for Dave prior to the conference call today.

Thanks,

Pat

Dave,

Attached is an updated closure cost estimate. This has been updated to generally match NMED's cost estimate as recommended by the Hearing Officer. The following information addresses the other questions raised by the Secretary. I am faxing the handbook pages and spread-sheet that supports the unit cost comparison. The entire closure cost estimate is too large to fax. Let me know if you have any trouble opening the files.

Regards,

Pat

1. Closure Costs

- Water
 - The GMI closure cost estimate has been revised (increased) to match the total amount recommended by the Hearing Officer. This estimate includes detailed unit rates for all closure activities. In addition, it included costs for water usage during construction and revegetation and for maintenance of the cover during the post-closure care period (\$30,000 per year for 30 years ? total of \$900,000)
 - The water requirements for closure were based on estimates from local revegetation specialists that estimated approximately \$2000/acre for water. We utilized almost twice that number in the estimate.
 - Water costs are included in the earthworks for backfilling, which is expected to be the major demand for water.
- Cost Estimating Handbook
 - A check using Cost estimating handbooks (CRG and Caterpillar production program) were used for the major earthworks items in the closure costs
 - This includes the backfilling for the landfill during

closure and clean soil backfilling for other facilities. Also includes major components of the cover placement

- The handbook estimated backfill direct costs at \$1.12 to 1.28/cy. This compares to the GMI estimate of \$1.46/cy. These numbers do not include the 25% for indirect costs and 10% for NMED supervision.

- Conclusion: The unit rates used in the cost estimate are conservative for the major earthworks components.

- Erosion Control and Revegetation

- The type and density of vegetation was assumed in the erosion calculations (60% cover)

- The drainage structures are also specified in the design drawings and specifications.

- The top surface slopes are sufficient flat (6%) that contour ditches are not required. The access road ditches are sufficient to handle any runoff.

- The calculation of erosion of topsoil was based on the vegetation density of (60% cover).

- The topsoil removed from the footprint of the facilities will be used for the final cover

- Water needs and costs are discussed above

- Maintenance of the cover is included in the post-closure cost estimate. This includes approximately \$30,000 per year for maintenance (re-seeding and erosion repair). Over the 30 year period this totals approximately \$900,000.

Seed Mix

Upon closure Gandy will work with the locale soil conservation service to develop a seed mixture which will consist of both locale types of vegetation along with good cover types of vegetation.

Vegetation Density

According to the sediment demonstration for the final cover, a 60% herbaceous cover (which includes litter) is required to keep erosion down to 2 tons/acre/year.

Final Drainage Channels

Channels 1, 2, 3, 4, and 5 will remain as permanent channels. The locations and designs for the channels are shown on Drawing 25 and 26.

Topsoil

Upon closure Gandy will use the topsoil which was striped and stockpiled prior to construction of the site. At that time, the topsoil will be tested and according to the test result appropriate soil amendments will be determined and added.

(See attached file: Closure Cost Estimate with sampling at 2000 sq ft 29-Sept-2001 Revisions to Address NMED Order Rev 3.xls)(See attached file: Handbook Unit Cost Comparison.xls)