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)

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Sincerely,

Nancy S Cottrell

Nancy S. Cottrell
Director of Marketing

ECHOS Environmental Cost Handling Options and Solutions

December 8, 1995

ECHOS Product User Bulletin

James E Levin
A T Kearney Inc
225 Reinekers Ln
Alexandria, VA 22314

Dear James E,

I am excited to tell you about some new developments regarding your ECHOS products. As you may know, Delta Technologies Group, Inc. (DTG) was the developer of the ECHOS Remediation Cost Books and the *Softlooks* Cost Estimating Software, and the original partner in ECHOS, LLC.

DTG bought out our previous ECHOS partner, Marshall & Swift, on August 1. Then, on November 1, DTG formed a new venture for the publication of the ECHOS cost books and software with the R.S. Means Company, the largest publisher of construction cost information in North America. This new partnership allows us to draw on the significant engineering and construction resources of R.S. Means and over 50 years of experience in publishing cost information for the engineering and construction community.

Please note that, effective immediately, technical questions and customer service calls should be placed to our new toll free number at **R.S. Means Company at 1-800-448-8182.**

I am confident that this exciting new partnership will further enhance the quality and value of your ECHOS cost books, software and services. We will improve and expand the content of our publications and the technical depth of our support to you, our customer. For example, the 1996 cost books and software will have important enhancements and expanded coverage of the latest remedial technologies. We will be telling you about these enhancements in the next few weeks. There are other products and services in development that we will be announcing during 1996. I think you will be pleased with the changes we are making together.

If you have any questions, please call us.

Sincerely,

ECHOS, LLC.

Richard R. Rast
President

Environmental Restoration: Unit Cost Book

Acknowledgments

Teresa Rast, Vice President, Product Development, Delta Technologies Group, Inc.

Cydney L. Capell, Editor-in-Chief, Marshall & Swift

Richard A. Maloney, Vice President, General Manager of Delta Technologies Group, Inc.

911 Wilshire, Suite 1600
Los Angeles, California 90017

Printed in the United States.

98765432

ISBN:

Preface

THE BOOK

The ECHOS ***Environmental Restoration: Unit Cost Book*** is "the cost source book" for environmental restoration activities beginning with initial site investigation and continuing through studies, design, remediation, and long-term monitoring and operation. Containing over 4,000 assembly cost items, this publication is updated and expanded biannually to reflect the latest cost and technology information in the rapidly changing environmental field.

The ECHOS ***Environmental Restoration: Unit Cost Book*** provides you with the detailed line-items, component costs, forms, instructions, and guidelines needed to prepare or verify cost estimates for almost any type of environmental restoration project, ranging from simple underground storage tank removals to complex multimedia/multicontaminant hazardous waste sites listed on the US EPA's National Priority List.

The assembly numbering follows the recently introduced US Government Interagency Code of Accounts, an evolving standard for organizing environmental restoration costs. Cost information is provided for labor, equipment, and materials with guidelines for adjusting costs to reflect work performed at various OSHA-dictated safety levels. Location factors are supplied by zip code, allowing you to adjust your estimate to local conditions.

THE DATA

The ECHOS research staff is constantly gathering, monitoring, and developing construction and environmental restoration cost information throughout the US. In so doing, the ECHOS database reflects the most current trends in both procedures and unit costs for environmental restoration activities. This book is the result of over seven years of research in environmental restoration cost and the cost information used in this book has been successfully used on over 1,500 environmental restoration projects in every state in the US.

This data is received by us from sources we believe to be reliable, but no warranty, guaranty or representation is made by ECHOS as to the correctness or sufficiency of any information, prices, or representation contained in the ECHOS ***Environmental Restoration: Unit Cost Book*** and ECHOS assumes no responsibility or liability in connection therewith.

Material costs are determined through contact with product manufacturers, dealers, supply houses, distributors, and contractors. Labor costs are based on crews and productivity factors determined by ECHOS environmental engineering and construction experts. Equipment costs are based on either rental rates or purchase and annual cost of ownership.

REGULATORY ENVIRONMENT

There are numerous state and federal laws and regulations that govern the practice of environmental restoration activities. The two primary laws that set the standards for this book are the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and its amendments (commonly referred to as the SUPERFUND Law), and the Resource Conservation and Recovery Act (RCRA). The environmental restoration technologies and processes used in this book are primarily designed to be used on projects that are regulated by these laws but the data can be used for other unregulated projects.

ABOUT ECHOS

ECHOS is a joint venture between Delta Technologies Group, Inc., experts in environmental restoration cost estimating and technologies, and Marshall & Swift, the leading publisher of building cost information to the insurance, real estate and financial markets. Through this collaboration, exhaustive cost research, and seasoned technical experts, all of the practical tools necessary to assemble or analyze restoration costs have been established.

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Refer to the "Estimating Forms and Instructions" section, page 5, for an explanation of the assembly numbering system.

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Nancy S. Cottrell
Director of Marketing

Environmental Restoration: Assemblies Cost Book

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9 8 7 6 5 4 3 2

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Cost information is provided for performing work at various OSHA-dictated safety levels depending on the level of contamination and potential for exposure for on-site work crews. Location factors are supplied by zip code, allowing you to adjust your estimate to local conditions. For ease of use, the cost data is organized around different phases of work and remediation technologies that may be encountered at the particular site. Assembly numbering follows the recently introduced US Government Interagency Code of Accounts, an evolving standard for organizing environmental restoration costs.

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