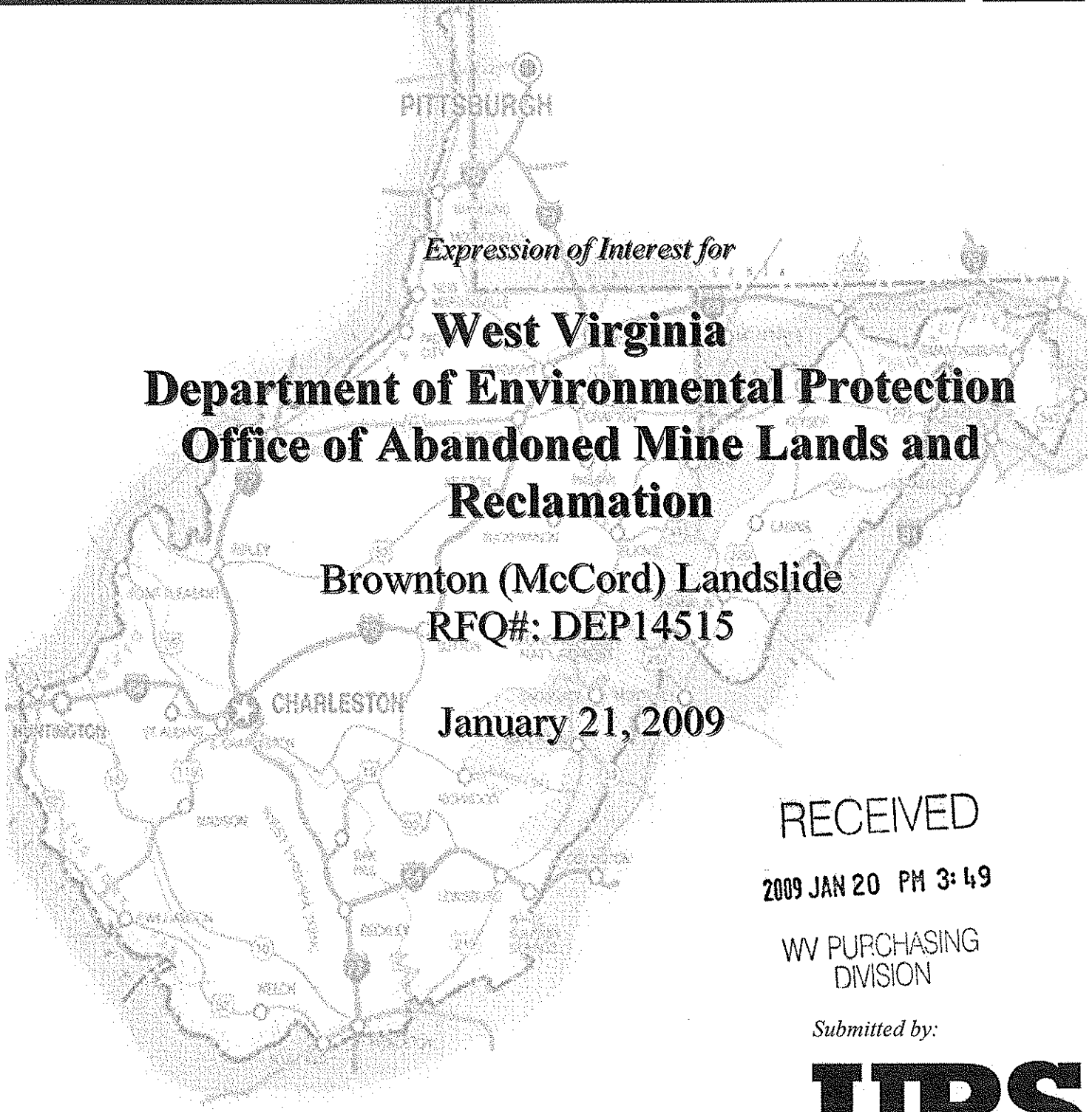


Expression of Interest for

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands and Reclamation

Brownton (McCord) Landslide
RFQ#: DEP14515

January 21, 2009

RECEIVED
2009 JAN 20 PM 3:49
WV PURCHASING DIVISION

Submitted by:

URS

URS

January 21, 2009

West Virginia Department of Administration
Purchasing Division
2019 Washington Street East
P.O. Box 50130
Charleston, West Virginia 25305-0130.

RE: Expression of Interest
Brownton (McCord) Landslide

To Whom It May Concern:

In response to your division's solicitation, URS Corporation (URS) is pleased to submit this Expression of Interest (EOI) that presents our qualifications for the above reference project. We understand that this project involves geotechnical, mine and civil engineering expertise under a relatively short completion schedule. As such, we have assembled an experienced project team of technical professionals from URS and our subconsultant, Skelly & Loy, Inc., to complete this assignment. We offer the following strengths to WVDEP for this project:

Technical Expertise – Our team is uniquely qualified to provide all engineering services necessary to complete this project. We have extensive experience characterizing a project area for geotechnical analyses as well as abandoned mine lands (AML) investigations and reclamation design plans in West Virginia and other states. The personnel we have identified for this project have the necessary engineering experience to meet the requirements of this assignment. This project will be led by staff in our Charleston (Scott Depot) and Pittsburgh, PA offices.

Cost Effectiveness – URS has offices with qualified staff in Scott Depot and Pittsburgh to minimize travel expenses for all field work. Also, URS has an exceptionally low overhead rate of 125% to keep engineering costs down.

Responsiveness – URS maintains an attitude of flexibility to ensure that we are responsive to the needs of the WVDEP. Our goal is to provide coordination and communication with all participants in this project in a proactive manner.

Through examples of relevant projects, this EOI demonstrates our capabilities and our overall approach. Our qualified personnel, coupled with our relevant work experience and subconsultant expertise, we will provide WVDEP with a cost-effective project for the remediation of the Brownton (McCord) Landslide.

We appreciate this opportunity to present our qualifications and look forward to serving you for this project. If you require any additional information, please do not hesitate to call me at 757-6642 x103.

Sincerely,

URS Corporation

John J. Smelko
Branch Manager, Charleston, WV

URS Corporation
#4 Mission Way
Suite 201
Scott Depot, WV 25560
Tel. 304.346.6707
Fax 304.346.6708

WEST VIRGINIA DEPARTMENT ENVIRONMENTAL PROTECTION
AML CONSULTANT QUALIFICATION QUESTIONNAIRE **Attachment "B"**

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
Brownton (McCord) Landslide	21, 01, 09	94-1716908

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
URS Corportation	#4 Mission Way, Suite 201 Scott Depot, WV 25560	Greiner, Inc., URS Greiner, Inc., URS Greiner Woodward Clyde

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise)
304.757.6642	1904	Individual X Corporation Partnership Joint-Venture	YES X NO

7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE

ADDRESS	TELEPHONE	PERSON IN CHARGE	NO. PERSONNEL
#4 Mission Way, Suite 201 Scott Depot, WV 25560	304. 346-6707 FAX 304.346.6708	John J. Smelko	14
Foster Plaza 4 501 Holiday Drive, Suite 300 Pittsburgh, PA 15220	412.503.4700 FAX 412.503.4701	Thomas G. Bice	192
3604 Collins Ferry Road Morgantown, WV 26505	304.225.5111 FAX 304.599.8904	Chet Parsons	217

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM
8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS

East 3, Region 1

Scott Depot, WV Branch Manager	John J. Smelko
Regional General Manager	Jeff Guzy, P.E. Vice President
Sub-Regional Manager	Thomas G. Bice, P.E. Vice President

Vice Presidents	David Beachler, Q.E.P. Gregory H. Deaver, P.E. C. Thomas deLormier, P.E. C. Michael Dougherty, P.E. Alexander Houseal, P.E. John Lang, P.E. Gary M. Luczak, P.E. Oscar K. Mabry, P.E. Renaldo Ng, P.E. Michael D. Steer, P.E. Steve Tull, R.P.A. Robert Waitkus, P.E. Jerry Joseph, P.E.

9. PERSONNEL BY DISCIPLINE => Numbers reflect participating URS offices. Numbers in parentheses () reflect personnel in entire company.

35 ADMINISTRATIVE (2,103)	13 ECOLOGISTS (113)	2 LANDSCAPE ARCHITECTS (97)	49 STRUCTURAL ENGINEER (766)
35 ARCHITECTS (741)	— ECONOMISTS (38)	18 MECHANICAL ENGINEERS (714)	20 SURVEYORS (241)
48 BIOLOGIST (316)	16 ELECTRICAL ENGINEERS (1,142)	2 MINING ENGINEERS (673)	19 TRAFFIC ENGINEERS (531)
50 CADD OPERATORS (1,396)	58 ENVIRONMENTALISTS (2,286)	— PHOTOGRAMMETRISTS	654 OTHER (36,979)
2 CHEMICAL ENGINEERS (473)	10 ESTIMATORS (225)	9 PLANNERS: URBAN/REGIONAL (267)	
75 CIVIL ENGINEERS (4,091)	24 GEOLOGISTS (934)	— SANITARY ENGINEERS (33)	
44 CONSTRUCTION INSPECTORS (1,467)	1 HISTORIANS (17)	2 SOILS ENGINEERS (216)	
1 DESIGNERS(131)	3 HYDROLOGISTS (185)	— SPECIFICATION WRITERS (32)	1,190 TOTAL PERSONNELL (56,407)
— DRAFTSMEN			

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 13
***RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.**

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? ☐ YES ☐ NO

11. OU..IDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO . USED. Attach "AML Consultant Qualification Questionnaire".

NAME AND ADDRESS: Skelly and Loy, Inc. 449 Eisenhower Boulevard, Suite 300 Harrisburg, PA 17111 Telephone: (717) 232-0593 Fax: (717) 232-1799	SPECIALTY: Mine Engineering	WORKED WITH BEFORE __X__ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No

12. Is your firm experienced in Abandoned Mine Land Remediation/Mine Reclamation Engineering?

X YES Description and Number of Projects: URS has broad and diverse experience in all aspects of mine closure projects ranging from assessment of physical public safety through opening closure assessments to complex environmental issues associated with small as well as large mine sites. Our work covers the full scope of work, investigation and field inventory, land ownership, engineering, design, and construction management. URS is a recognized leader in providing civil and geotechnical engineering, environmental, water resources, and waste/tailing management services to the mining industry.

NO

B. Is your firm experienced in Soil Analysis?

X YES Description and Number of Projects: Soil profile analysis and foundation investigation work has included all phases of soil work and interpretation of aerial photography; soil sampling; laboratory testing and analysis including C.B.R., consolidation, and shear tests; direction and supervision of rig borings; and interpretation of the soil analyses and tests with recommendations for design. Design problems have included foundations for structures, foundations for highways through areas of unstable materials, design of fill slopes, design of cut slopes in materials of all types, and pavement design. Designs have included spread footings and pile foundations for structures varying to depths of more than 200 feet; highway embankments through unstable materials constructed by partial or complete removal and backfill, and by consolidation through the use of surcharge and/or sand drains; and design of stable cut slopes.

NO

C. Is your firm experienced in hydrology and hydraulics?

X YES Description and Number of Projects: URS has provided hydraulic and hydrologic engineering service to a variety of federal, state, municipal and private clients, including Flood Control Studies, Flood Insurance Studies, Bridge Scour Evaluations and Water Supply Studies. Building on this recent and long-standing experience, the URS team will be able to provide the WVDEP with efficient and economical services, having been through the "learning curve process".

Local URS staff assigned to this project are experts in flood control engineering. As part of this work, URS routinely uses computer software applicable to hydrologic and hydraulic engineering, including HEC-1, HEC-2, HEC RAS, DAMBREAK, HEC IFH, ARCINFO as well as GIS and CADD

NO

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

X YES Description and Number of Projects: URS has used GIS technology in support of a variety of investigations including flood hazard analyses, land use planning and characterization, dam impact studies, water quality and biohabitat analysis, natural hazard mitigation, and drinking water source evaluations. We have used ARC / INFO, MapInfo and Intergraph software that are run on both PC-based and Sun Work station hardware systems. We also have state-of-the-art color plotters for output of mapping products from GIS applications.

X NO URS does not have Aerial Photography Capabilities

Is your firm experienced in domestic waterline sign? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

X YES Description and Number of Projects: URS has performed/provided services from concept through construction for the development of multi-discipline engineering and architectural services including industrial, and domestic wastewater, and stormwater evaluations, environmental studies, reports and permits. Services included planning, studies, wastewater and stormwater characterization, recommendations, programming, preparation of appropriation forms with justifications and cost estimates, geotechnical evaluations, soil investigations, topographic surveys, preparation of final designs and specifications, contract negotiations support, construction management, construction scheduling, analysis of contractor cost and progress, contractor submittal reviews, quality control, construction inspection and testing, CPM analysis and start-up assistance when required. Facilities include water intake and discharge structures, industrial and domestic wastewater treatment systems, major oil and water piping and pumping installations, cross-country oil and water pipelines, sophisticated security, control and communications systems, environmental and fire protection facilities, primary and secondary electrical power distribution systems and a multitude of control, office, operations, guard, and storage buildings as well as roads, parking, and landscaping. Construction management and construction inspection has been performed on contracts ranging in size from $500,000 to $35,000,000 and totaling more than $750,000,000.

NO

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

X YES Description and Number of Projects: URS has staff expertise in AMD water quality evaluation and passive treatment design. URS staff has evaluated AMD discharge chemistry and flows to determine options available to eliminate the associated problems. Our staff has designed treatment systems utilizing passive techniques not only for AMD problems (i.e., anoxic limestone drains, vertical flow wetlands, open limestone channels, aerobic/anaerobic wetlands, settling basins, and sulfate reducing bioreactors [SRBs]), but also for landfill leachate, sanitary system upgrades, storm water attenuation, nitrate removal (from munitions plant discharges), and for other wastewater streams.

NO

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Kutschke, Walter G., PE	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 14	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Kutschke has over 14-years experience in subsurface investigations for geotechnical site characterization as well as the development of geotechnical recommendations for major roadway, railway and civil infrastructure projects. He is knowledgeable in numerous aspects of geotechnical engineering including foundation, retaining wall, geosynthetic, soil/rock cut slopes, embankments, levees and dams, pavement design, ground improvement as well as expert witness services. Mr. Kutschke also has extensive experience in geotechnical construction inspection as well as developing, monitoring and interpreting geotechnical instrumentation programs. He has published and presented ten geotechnical engineering papers at national and international conferences over the last 5 years.

EDUCATION (Degree, Year, Specialization)

PhD / 2009 (anticipated) / Geotechnical Engineering
MS / 1995 / Geotechnical Engineering
BS /1993 / Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
• American Society of Civil Engineers (ASCE) - Member of Earth Retaining Structures Committee, and Grouting Committee • The Deep Foundation Institute (DFI) - Member of Micropile Committee, and Soil Nail / Tieback Committee • Society of Military Engineers	Professional Engineer / 2007 / KY Professional Engineer / 1999 / PA Professional Engineer / 1999 / WV Professional Engineer / 1998 / MD

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Miller, S. Murray, PE	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 52	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Miller is a semi-retired employee with over 52-years of geotechnical engineering experience; the majority of which was serving in the Chief Geotechnical Engineer capacity with responsibility for directing and providing quality control for geotechnical engineering activities. Mr. Miller has worked extensively in West Virginia, providing geotechnical recommendations for such projects as I-64, I-77 and Corridor H. His landslide remediation experience ranges from small slides to the award winning Forest City Landslide stabilization project located in South Dakota.

EDUCATION (Degree, Year, Specialization)

BS / 1953 / Civil Engineering
MS / 1961 / Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
• American Society of Civil Engineers • National Society of Professional Engineers • Deep Foundations Institute	Professional Engineer / 1968 / Maryland

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Page, Thomas A., CEA, REPA	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 11	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities
Mr. Page is a Senior Environmental Scientist with more than 20 years of experience. Mr. Page provides a broad array of environmental services including wetlands identification and delineation, aquatic biological surveys, benthic macroinvertebrate sampling, watershed and stream assessments, aquatic resource mitigation, natural stream channel design, threatened and endangered species studies, rail-to-trail studies, abandoned mine drainage (AMD) remediation, environmental permitting, construction/compliance monitoring, NEPA surveys, Phase I Environmental Site Assessments (ESAs), and grant application preparation.

EDUCATION (Degree, Year, Specialization)
MS / 2004 / Wildlife and Fisheries Resources
BS / 1988 / Environmental Resource Management

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Fisheries Society; National Registry of Environmental Professionals (NREP); Xi Sigma Pi, Forestry National Honor Fraternity; Gamma Sigma Delta, The Honor Society of Agriculture and Forestry; Alpha Gamma Rho, National Agricultural Fraternity	Certified Environmental Auditor Registered Environmental Property Assessor

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Smelko, John J.	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities
Mr. Smelko is currently serving a dual role for URS. He is Office Manager of the Charleston, WV office and also Project Manager and Environmental Staff Scientist specializing in decontamination and demolition projects. He has a very strong background in Construction Quality Assurance (CQA) work and associated Site Management, Environmental Field Sampling/Chemistry Work, Environmental Health and Safety, Technical Writing, and Organic/Inorganic Data Validation.

EDUCATION (Degree, Year, Specialization)
BS / 1989 / Applied Mathematics

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Bayne, Amanda L.	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 1	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities
Ms. Bayne has gained experience in geological logging and drafting during geotechnical and environmental investigations. She has gained diverse technical skills from projects involving ground water investigations and sampling, petroleum remedial investigations for industrial clients, and Phase I and II Environmental Site Assessments. Ms. Bayne is also wetland delineation and management trained. She has technical writing experience in preparing and reviewing environmental reports and records, field-based experience completing a wide range of environmental assessment and remediation activities, and experience in geologic characterization and interpretation.

EDUCATION (Degree, Year, Specialization)
BS / 2003 / Geology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Pennsylvania Geologic Society	40 Hour HAZWOPER Certification [OSHA 29 CFR 1910.120(e)] 38 Hour ACoE Wetland Delineation & Management Training Radiological Training (NUREG-1556) 10 Hour Construction Safety & Health (OSHA #001284900) 8 Hour OSHA Supervisor Training (OSHA 29 CFR 1910.120 (e)(4), certificate 68537)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Wagner, Dale PG	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 22	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities
Mr. Wagner has over 22 years of professional experience conducting various aspects of geological and environmental investigations and remediation programs. He has gained diverse technical skills from projects involving ground water investigations and geotechnical investigations for government, commercial, and industrial clients.

EDUCATION (Degree, Year, Specialization)
BS / 1985 / Geology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Geologist / 1995 / PA

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Roush, Norman, PE, PS	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities
Mr. Roush is currently the Regional Director of Transportation Services for the Charleston, West Virginia office of URS. In this position he is responsible for the management of the Highway, Bridge, Traffic and Geotechnical Engineering Divisions of the Office. He has also served on numerous national and state transportation committees, task forces and panels.

EDUCATION (Degree, Year, Specialization)
BS / 1959 / Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
WVSPE NSPE ASCE TRB-Geometric Design Committee/NCHRP Panels	Professional Engineer / WV / OH Professional Surveyor / WV / OH

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Bosley, R. Bruce, PE	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities
Mr. Bosley has over 14 years of engineering experience primarily in West Virginia and has been responsible for the study, engineering design and preparation of contract plans and related documents for various commercial, industrial, and water/wastewater facilities. Having served as project manager and structural engineer on several structural projects, his management and engineering tasks include representing URS to the client in regard to all project management matters, structural steel design, reinforced concrete design, core boring administration, shop drawing review, and Quality Assurance/Quality Control (QA/QC) reviews. Some projects involved the design and study of mechanically stabilized earth (MSE), pile/lagging, segmental block and cast-in-place retaining walls. Provided Clean Water Act Section 404 and 401 permitting and assisted in various stream bank mitigation projects.

EDUCATION (Degree, Year, Specialization)
BS / Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers	Professional Engineer / WV

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Kesecker, Romaine K., RLA, ASLA	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Kesecker's responsibilities as a Senior Landscape Architect include project management, master and site planning, site-specific design, construction documentation, cost estimation, environmental mitigation and restoration, and other design and construction period services. He has successfully completed numerous projects that required planning, design, development, landscape strategies, neighborhood conservation, public presentations, visualization renderings, value analysis, and natural resource planning, and aesthetics. He has proven experience in construction document preparation, including hardscapes, roadway, structures and bridges, utility coordination, landscape design, ADA, specifications and cost estimation. He is involved in coordinating environmental permits and forest conservation and other requirements related to environmental impacts of a proposed design. He is experienced in management and oversight of technical activities for projects including quality, schedules, budgets, and client liaison; management of staff and maintenance of group utilization; and coordination with other disciplines and subconsultants.

EDUCATION (Degree, Year, Specialization)
BS / 1978 / Landscape Architecture

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Landscape Architect / 1984 / VA Landscape Architect / 1989 / MD Landscape Architect / 1999 / PA Landscape Architect / 2001 / DE

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Lowery, V. Marcus, PE, PLS	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 0	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 1

Brief Explanation of Responsibilities

Mr. Lowery has over 14 years of experience in the Transportation/ Highway & Civil/Site Engineering fields. Mr. Lowery worked for both the public and private sectors performing Project Management and Design Engineering. Most recently, while with a consultant, Mr. Lowery served as Project Manager/Senior Engineer for NCDOT, municipal, railroad, and private clients. Mr. Lowery was responsible for establishing and maintaining budgets and schedules, preparing and sealing final construction plans, engineer's estimates, project special provisions, and final survey plats. Mr. Lowery was also involved in client relations through scoping and negotiating for new projects.

EDUCATION (Degree, Year, Specialization)
BS / 1993 / Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Land Surveyor / 1999-NC / 2007-PA Professional Engineer / 2002-NC / 2007-PA

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES

Software: Microstation V8 with Inroads Software; Autocad 2008 with Land Desktop Software; ESRI GIS Software; SLOPE/W, SEEP/W and SIGMA/W developed by GEO-SLOPE International, Ltd., Alberta, Canada; Geoystem LD4 of Von Gunten Engineering Software of Fort Collins, CO; Microsoft Office Suite

Suvey Equipment: Leica TCRP 1203 Robotic Total Station, Leica System 1200 GPS Equipment

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Scott Slab Bridge Harrison County, West Virginia	WVDOH, State Capitol Complex Charleston, WV 25305	Bridge rehabilitation	$600,000	98%
Environmental Inspections	Equitable	Environmental Inspection Services	$230,000	Ongoing
State-Wide On Call Agreement for Environmental Remediation	WVDOH, State Capitol Complex Charleston, WV 25305	Environmental Field Investigation and Remediation Services	$750,000	Ongoing

TOTAL NUMBER OF PROJECTS:
3

TOTAL ESTIMATED CONSTRUCTION COSTS:
$1,580,000

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
Wheeling & Lake Erie / Banksville Connector Feasibility Study S.R. 3065, Sect. A01 Allegheny County, Pennsylvania	Needs study, major investment study, Section 4(f) overview, transportation planning and traffic modeling, tunnel evaluations, Conceptual Operations Plan,	Cheryl Moon-Sirianni 45 Thorns Run Road Bridgeville, PA 15017	2005	$592,588	Sub consultant

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Winfield Bridge - Feasibility Study Putnam County	WVDOH, State Capitol Complex Charleston, WV 25305	$125,000 (fee)	2006	N/A
Elkem Metals Company, Water Intake Structure Fayette County, WV	Elkem Metals Co. Alloy, WV Sam Cavalier, Staff Engineer	$20,000 (fee)	2004	Yes
District 2-0 Open End, 5 year term	PENNDOT, District 2-0 1924-30 Daisy Street P.O. Box 342 Clearfield County, PA 16830 Mark Kucherer	$1,000,000 (fee)	2004	Yes
Donald R. Kuhn Juvenile Center Boone County, WV	WVRJA, 1325 Virginia St. Charleston, WV 25302	$12,000,000	2004	Yes
Kings Creek Bridge Ph 1 & 2 Hancock County, WV	WVDOH, State Capitol Complex Charleston, WV 25305	$3,500,000	2004	Yes
Raleigh County Flood Study Raleigh County, WV	WVDOH, State Capitol Complex Charleston, WV 25305	$70,000(fee)	2004	No

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
MP 140 - 148 Full Depth Reconstruction Pittsburgh, Pennsylvania	PA Turnpike Commission P.O. Box 67676 Harrisburg, PA 17106-7676	$32,000,000	2007	No	McCormick Taylor & Assoc.

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.

SECTION 1 - INTRODUCTION

URS Corporation

URS is a leading provider of planning, design, systems engineering and integration, technology development, program and construction management, and operations and maintenance services to federal, state and local government agencies in the U.S., Fortune 500 corporations worldwide and private clients. We have been ranked the #1 Engineering Design Firm in the world for eight consecutive years (Engineering News Record, April 2008). Our professional staff includes engineers with expertise in the full spectrum of disciplines, as well as planners, scientists, environmental specialists, information management specialists, architects and construction managers.

URS Corporation's oldest predecessor company was founded in 1904. URS was established in 1951 and incorporated in 1957 as Broadview Research, a research group active in the areas of physical and engineering sciences. In 1967, management developed a growth strategy focused on building a multidisciplinary professional services firm. In 1968, Broadview Research acquired United Research Incorporated of Cambridge, Massachusetts. During this period, the name Broadview Research was changed to United Research Services and later shortened to URS.

Throughout the 1970s and 1980s, URS continued to expand through internal growth and strategic acquisitions that broadened its engineering, architectural, and environmental practices. These acquisitions included Madigan-Praeger, Coverdale and Colpitts, John A. Blume & Associates, Hill Dreman Chase and Dalton, Dalton and Newport.

URS QUICK FACTS

- In Operation Since: 1904
- Federal TIN: 94-1716908
- Number of Employees: 50,000+
- FY2007 Revenue: $5.4 Billion
- NYSE Symbol: URS
- Locations: 370 Offices in 34 Countries
- www.urscorp.com

Most recently, URS has expanded with the acquisition of Greiner Engineering in 1996, Woodward-Clyde Group in 1997, UK-based Thorburn Colquhoun in 1998 and Dames & Moore Group in 1999. URS acquired EG&G Technical Services in 2002, which provides outsourced management and technical support services to the U.S. government, and The Washington Group in 2007.

Today, URS offers a broad range of planning, engineering and architectural design, program and construction management, system integration, and operations and maintenance services for transportation, hazardous waste, industrial processing and petrochemical, general building, water/wastewater, military facilities and equipment platforms, and security projects.

Headquartered in San Francisco, URS operates in 34 countries with 50,000+ employees. The Company provides services to federal, state and local governmental agencies, as well as private clients in the chemical, manufacturing, pharmaceutical, forest products, mining, oil and gas, and utilities industries. URS is publicly owned and listed on the New York and Pacific Stock Exchanges as URS.

Firm Qualifications

URS prides itself on being an industry leader in geotechnical engineering. We have broad and diverse experience in all aspects of geotechnical and mine projects ranging from assessment of physical public safety through opening closure assessments to complex environmental issues associated with small as well as large mine sites. Our work covers the full scope of work, investigation and field inventory, land ownership, engineering, design, and construction management. Representative projects completed by team members that will be assigned to this project include:

URS - Landslide / Slope Stability Projects:

- Norfolk Southern Keystone Buildout (Design), Indiana County, PA
- Norfolk Southern Keystone Buildout (Construction Inspect), Indiana County, PA
- Hazelwood Avenue over I-95, Baltimore County, MD
- Staunton Heights Landslide, Allegheny County, PA.
- Appalachian Corridor H, Section 5, Hardy County, WV
- Fly Ash Slide - Forward Twp, Allegheny County, PA

- Fly Ash Slope Remediation - Emlenton, Venango County, PA

Skelly & Loy – Mine Engineering Projects:

- Valley Point #12 Abandoned Mine Drainage Remeduation Project, Preston County, WV
- Big Run #2 Acid Mine Drainage Discharge Treatment Project, Indiana County, PA
- Porter Tunnel Mine Seal, Schuylkill County, PA

Select projects are more fully described in the Appendix A.

URS is a recognized leader in providing civil and geotechnical engineering, environmental, water resources, and waste/tailing management services to the mining industry. A list of services that URS offers to the mining community is as follows:

- Tailing embankment/impoundment design
- Closure and mine site reclamation
- Adit closure
- Tailing conveyance and distribution
- Heap leach pad design and closure
- General civil engineering/design for facilities
- Water supply planning/design
- Geotechnical engineering
- Hydrology and hydraulics
- Engineering geology
- Structural engineering
- Mine waste management
- Water management
- Seismology and seismic hazard assessment
- Environmental engineering
- Terrestrial ecology
- Surveying and GIS
- Cultural resources
- Environmental assessments
- Threatened and endangered species
- Wet/dry seal design
- Hydrogeology
- Meteorology and air quality
- Land use and visual resources
- Construction services/management
- Public involvement
- Slurry wall design
- Water and wastewater treatment
- Waste dump design
- Pit dewatering
- Geochemistry
- Geology
- Geophysics
- Computer modeling
- CADD
- Stream restoration
- SMCRA
- NEPA
- Bat survey
- Landowner research
- Site assessments

URS provides the full range of mine and geotechnical engineering and construction management services and gives AML the luxury of "one-stop-shopping", should the need for additional services arise.

Project Team Commitment

URS has assembled a team of experienced mining and geotechnical engineering professionals to provide the necessary engineering services for the West Virginia Department of Environmental Protection (WVDEP), Office of Abandoned Mine Lands & Reclamation (AML). Joining the URS Team is **Skelly & Loy, Inc.** (S&L), a highly qualified consulting engineering firm with nationally recognized expertise in mine engineering. Also joining the project team is **Pennsylvania Drilling Company**, a respected local drilling contractor listed by the West Virginia, Division of Highways as a qualified drilling contractor.

Although our project team has significant national and international recognition, we are committed to our local community and in and particular to the State of West Virginia. This commitment has been demonstrated recently as our Scott Depot, WV office has continued to grow in the face of a slowing economy. Through our Scott Depot office, we have continued to add competent, qualified, hard-working technical staff who are residents of West Virginia and who desire to provide exceptional service to the WVDEP and other clients, both in-state and beyond. To complement our Scott Depot, WV team, we are supported by technical staff in our Morgantown, WV, and Pittsburgh, PA offices. Our team partner, S&L, also share similar principles and commitment to West Virginia with their office in Morgantown, WV. They can also rely on technical support from their Pittsburgh and Harrisburg, PA offices.

URS, in its commitment to these employees, has been actively pursuing work in the private sector and has imported work from other states to keep our employees gainfully employed through this time of governmental program transition. However, even with this "other" work, we desire assignments with the WVDEP and are eager to develop a lasting relationship with AML.

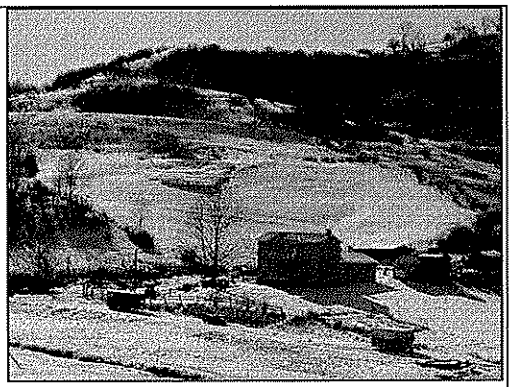
URS has served as General Consultant to various state and federal mining and environmental agencies, providing abandoned mine land planning (assessment and inventory), aerial photography and mapping, site inspection, engineering design, risk assessments, geotechnical evaluation and drilling, laboratory analysis, hydrologic/hydraulic modeling, abandoned mine drainage assessment and passive treatment design, cultural and natural resource evaluations, due diligence reviews, and project/construction administration services, amongst other services throughout the United States. URS has also provided similar mining and environmental services to the mining and electrical utility industries in the U.S. and throughout the world.

Project Understanding

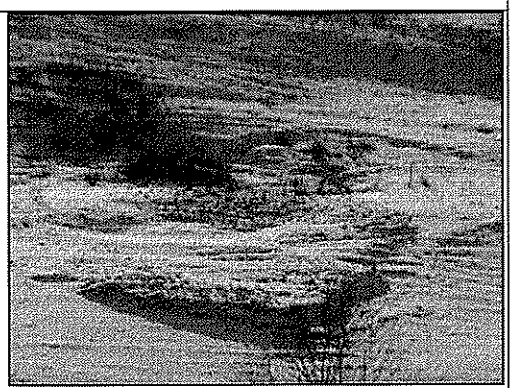
URS is well versed with the geologic conditions of West Virginia, having completed numerous projects for public and private clients throughout the state. Geotechnical personnel visited the site and performed an initial literature search to gain a better understanding of the project needs. Figure 1 (next page) presents an oblique aerial view of the project with photographs of the slide noted to the right. The site is situated on a mine spoil bank. Initial inspection of the slide indicates that it is a slump-earthflow type slide. Information contained in the report titled *West Virginia Landslides and Slide-Prone Areas* (Environmental Geology Bulletin No. 15) indicates that slump-type slides occur along discrete slips or shear surfaces and typically occur in unconsolidated slope materials. Earthflows result when the water content in the slope permits it to flow as a plastic or viscous material. Typical situations where earthflows occur include slopes that contain fine-grained fill material, such as strip-mine spoil banks. Although drainage from an abandoned mine is thought to have triggered the slide, it is important to note that there may be more than a single cause. As the published and prominent geotechnical engineer Mr. George Sowers, PE, noted, "In most cases, several "causes" exist simultaneously; therefore, attempting to decide which one finally produced failure is not only difficult but also technically incorrect. Often the

final factor is nothing more than a trigger that sets a body of earth in motion that was already on the verge of failure. . Calling the final factor *the cause* is like calling the match that lit the fuse that detonated the dynamite that destroyed the building *the* cause of the disaster." As such, characterizing the site and performing slope stability analyses to understand the cause(s) of this slide is a vital and necessary component of the project. A prudent slope remediation design can only occur when the cause(s) are fully known and understood.

Oblique Aerial View of Project Area



Slide as Viewed from CR-16/2



Close-Up of the Slide

Figure 1

Another interesting component of the project are the abandoned mines located in the immediate project vicinity. Coal has a rich history in West Virginia. It was first discovered in 1742 by John Peter Salley in what is now Boone County. Since then, coal has been encountered in 53 of West

Virginia's 55 Counties, with only Jefferson and Hardy in the eastern panhandle having no coal deposits. There are 117 named coal seams in West Virginia with 65 seams considered minable.

The EOI indicates that Glory Coal Company, Inc, former Glory "B" deep surface mine is immediately adjacent to the slide. Seeps were noted along the west and east scarp. Information obtained from West Virginia *Office of Miners' Health Safety and Training* indicates that this seam is associated with the Redstone coal seam. A mine map of this room and pillar mine is shown as Figure 2. Mine operations were terminated October 10, 1981 when the five portals were apparently backfilled with a clay barrier.

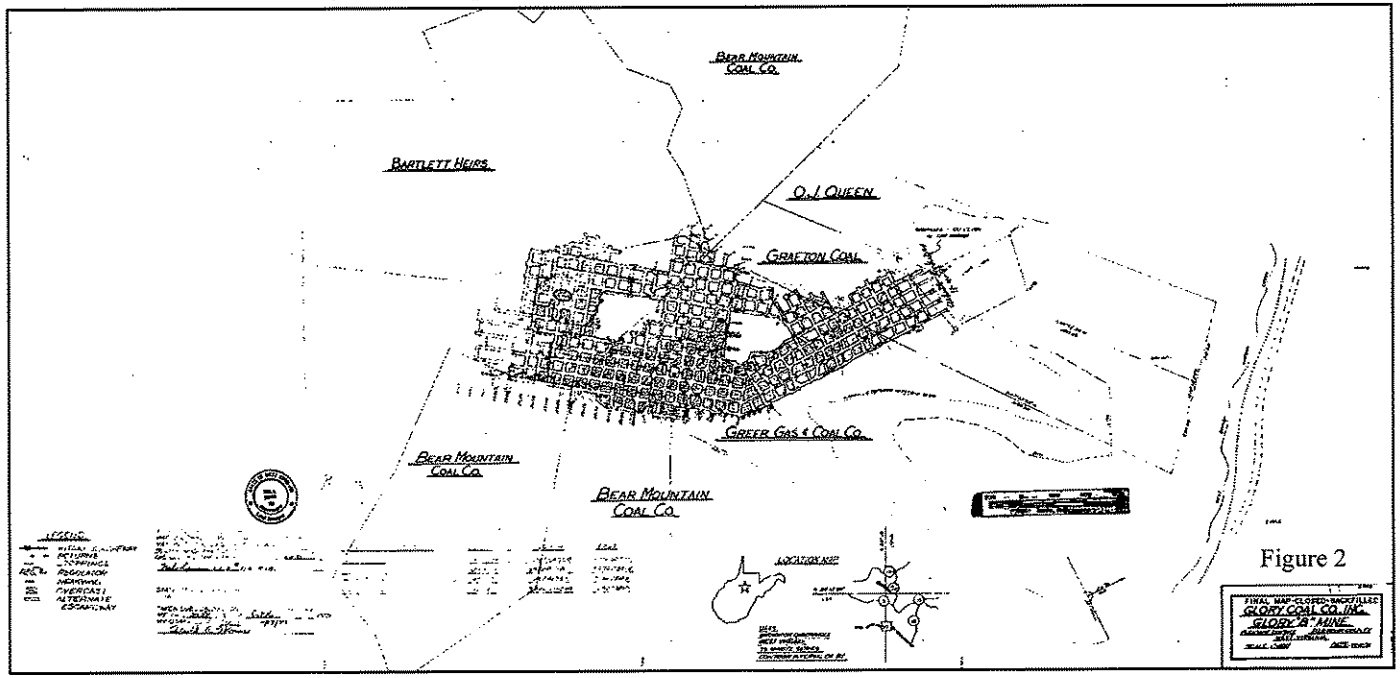
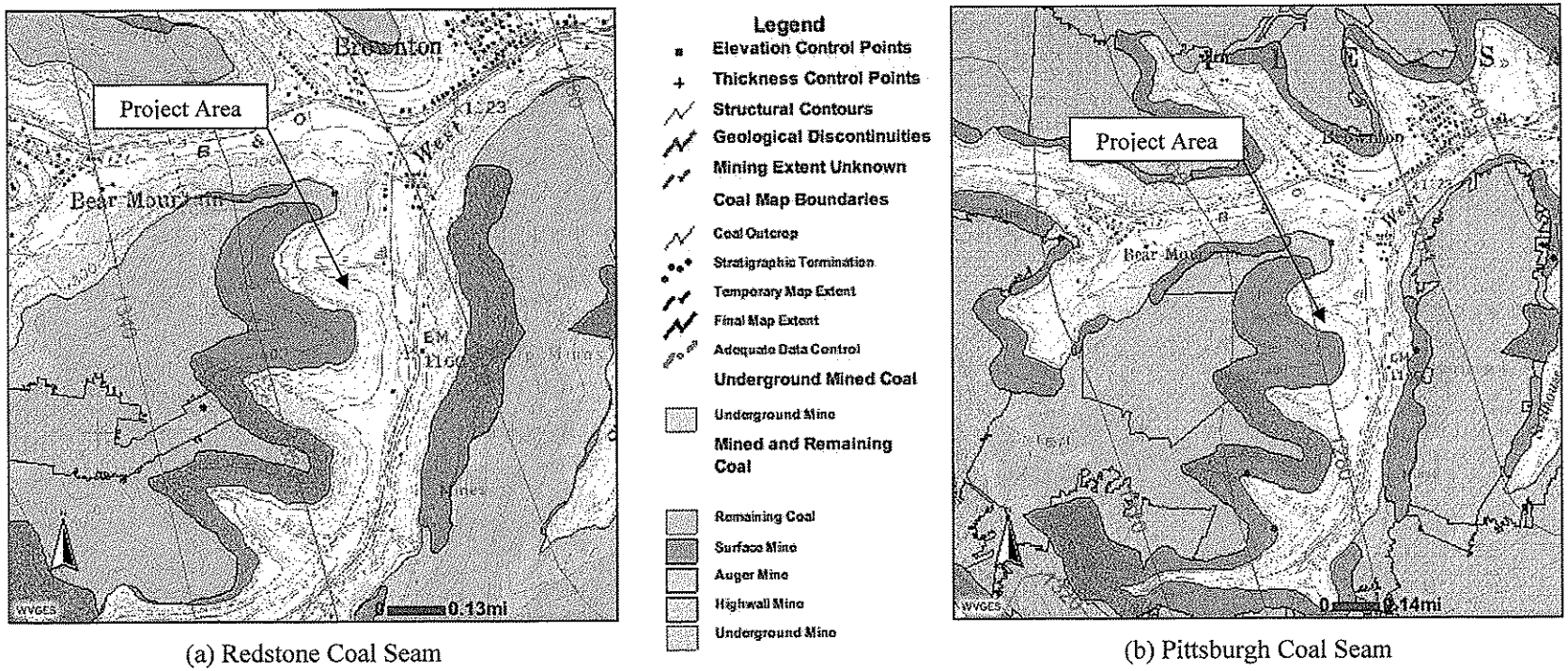


Figure 2

Additional information obtained from *West Virginia Geological and Economic Survey's* Coal Bed Mapping Project indicates that the Redstone coal seam and Pittsburgh coal seam underlie the project area, with the Redstone being stratigraphically higher in elevation. Figure 3 (next page)



(a) Redstone Coal Seam

(b) Pittsburgh Coal Seam

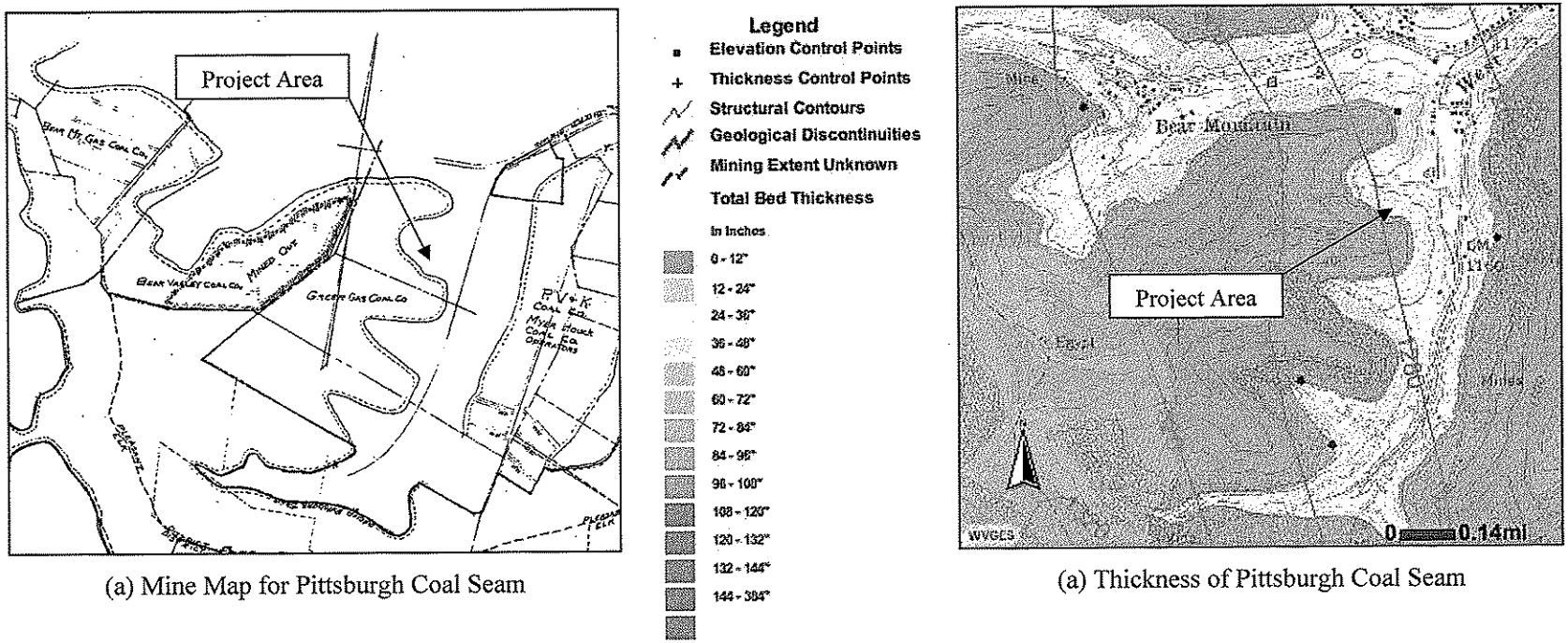
Figure 3

also presents ***structure contour*** data that documents the change in elevation above sea level of the base of the coal bed. Structural contour data is very useful and offers the following insight into the project area:

- Stratigraphic dip is to the east, indicating that all mine drainage would also flow east and supports the hypothesis that mine drainage was an apparent trigger of the landslide.
- The mined portion of the Redstone coal seam daylights south of the project area at approximate El. 1330.
- The mined portion of the Pittsburgh coal seam daylights immediately beneath the project area at approximate El. 1300.

Based on this information, it does not appear that drainage from the Redstone coal seam attributed to the existing landslide since it is located too far south of the project area. As such, URS investigated the mine map of the Pittsburgh coal seam, which is shown as Figure 4 (next page). Two mine companies extracted coal beneath Bear Mountain; the west portion was extracted by Bear Valley Coal Company and the east portion by Greer Gas Coal Company. Therefore, based on site reconnaissance information as well as data obtained from *West Virginia Geological and Economic Survey* and *West Virginia Office of Miners' Health Safety and Training*, it appears that the slide was triggered in an area that was surface

mined with drainage emanating from the Pittsburgh coal seam. Figure 4 indicates that the Pittsburgh coal seam varied in thickness from 72 to 96-inches in the immediate vicinity of the project.



(a) Mine Map for Pittsburgh Coal Seam

(a) Thickness of Pittsburgh Coal Seam

Figure 4

A detailed site reconnaissance and a thorough literature search will be necessary to identify and mitigate the mine.

SECTION 2 – KEY PERSONNEL

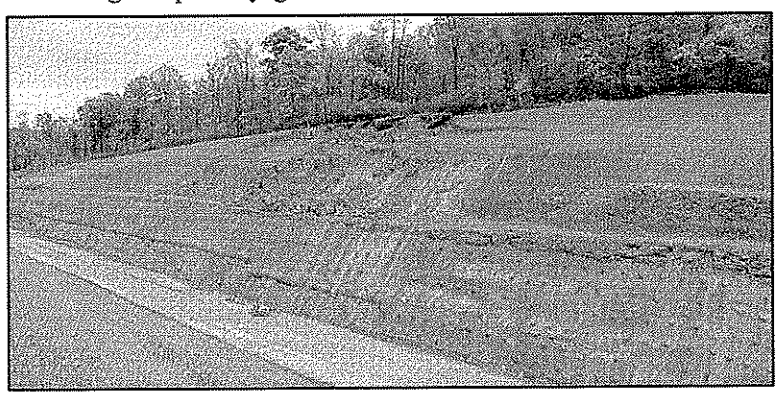
The key to successful project execution is having the right people for the job, organized in a structure to maximize responsiveness. We bring to AML several outstanding features that characterize our professional qualifications and set us apart from others:

- ***We are customer oriented.*** URS has long standing relationships with numerous clients. This longevity only occurs in companies that listen to their clients and then apply that knowledge to complete the program successfully and to their satisfaction.

- ***We are proven creative performers.*** Each proposed individual was evaluated and selected because of their capabilities and abilities to contribute to AML's design needs.
- ***We are experienced.*** The team has access to highly qualified technical specialists and resources through a seamless organization. We have expertise and practical experience in the areas critical to the success of this project

The Team has the depth and breadth of capabilities to exceed requirements in all areas indicated in this EOI. Our proposed organizational chart is shown on the next page. Aside from the highly respected reputation of URS and S&L, our project team leaders that we commit to this project are uniquely qualified for this assignment. A brief description of their qualifications, that separates this team from our competitors, is as follows:

- ***Mr. Walter Kutschke, P.E.*** (URS) will serve as the project manager and geotechnical lead for this project. Mr. Kutschke is well versed in geotechnical engineering and in particular, slope stability analyses. He is currently pursuing his PhD in geotechnical engineering with an expected graduation of Fall 2009; his research efforts focus on slope stability. Mr. Kutschke's 14-years of design experience is also balanced with practical construction experience, having performed extensive field monitoring of specialty geotechnical construction. To demonstrate this experience, on one project he served as the principle inspector for $2.8 million worth of geotechnical work that involved the installation of 33,900-ft of rock anchors, 2,760 cubic yards of shotcrete slope protection and 1,004 square yards of soil nail retaining structures in a unique geologic area that had discontinuous soil and rock strata. This project also involved monitoring six inclinometers and seven monitoring wells during construction due to concerns with re-activating historic landslides. Mr. Kutschke developed landslide repair methods, such as this 8,000 cubic yard slide, shown to the right. His efforts on this project lead to two regional and one national award. Mr. Kutschke has also published and presented several papers involving slope stability analyses at national and international conferences, some of which are noted below:



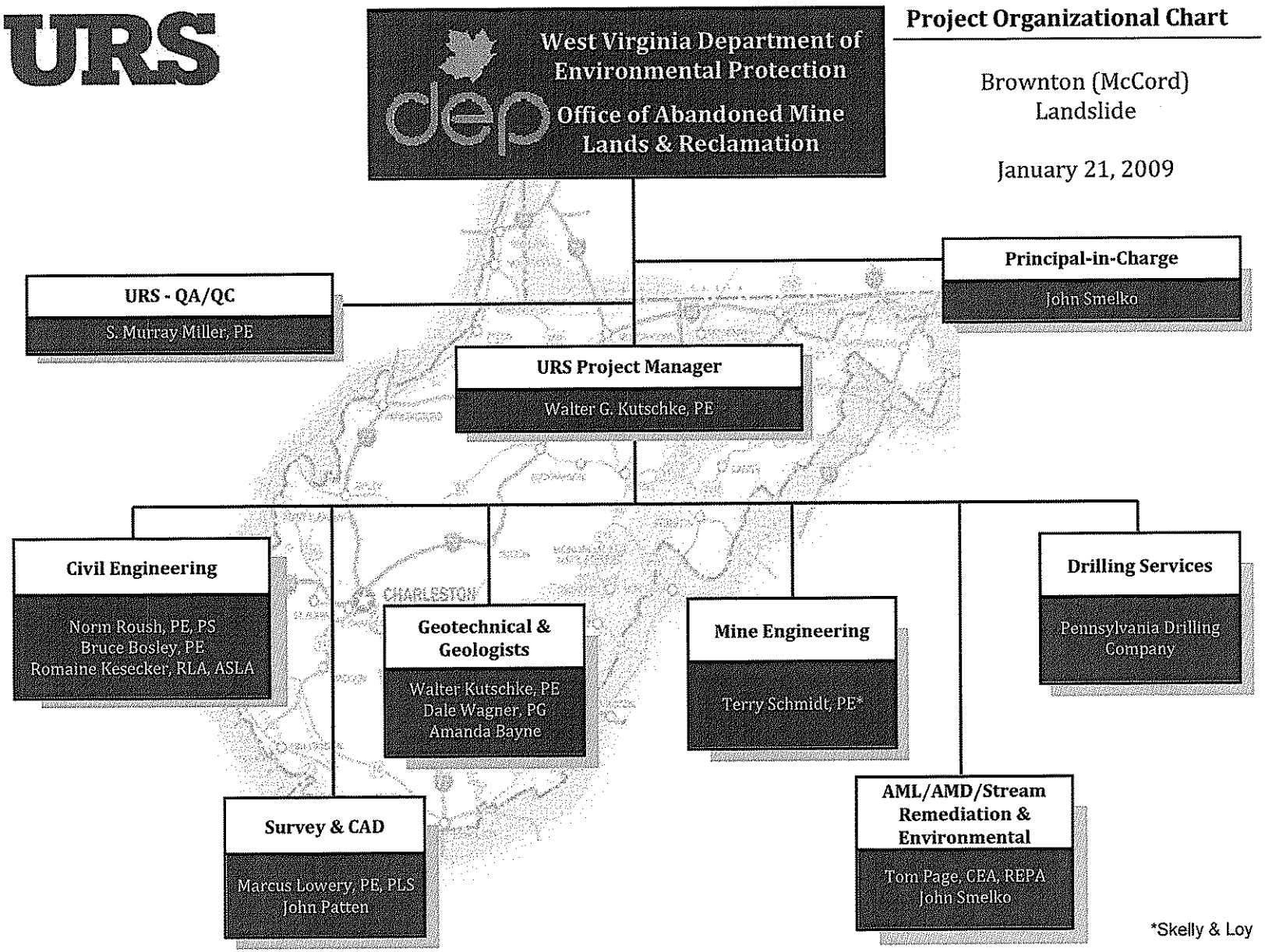
  - Kutschke, W.G., Petersen, W.K, and Meyers, J.R. (2008). "Rock Slope Design for New Railroad Alignment in Indiana County, Pennsylvania", *Proceedings of 23rd ASCE Central PA Geotechnical Conference*, Hershey, PA.
  - Kutschke, W.G., and Tarquinio, F.S. (2007). "Soil Nailing Practices in the United States", ISSMGE TC17 Working Group G: Soil Reinforcement in Cuts (Soil Nailing), Madrid, Spain.
  - Kutschke, W.G., Petersen, W.K, Zorn, E.V., and Meyers, J.R. (2007). "Geotechnical Challenges Posed by Weak Claystone in Deep Cuts", *Proceedings of the 58th Highway Geology Symposium*, Pocono Manor, Pennsylvania.
  - Kutschke, W.G., Tarquinio, F.S., and Petersen, W.K. (2007). "Practical Soil Nail Wall Design and Constructability Issues", *Proceedings of Deep Foundations Institute, 32nd Annual Conference on Deep Foundations*, Deep Foundations Institute, Hawthorne, NJ.

URS

Project Organizational Chart

Brownton (McCord)
Landslide

January 21, 2009



*Skelly & Loy

- Kutschke, W.G., Petersen, W.K, Meyers, J.R., and Zorn, E.V. (2007). "Rock Cut Slope Instrumentation within Variable and Potentially Unstable Sedimentary Rock Strata", *Proceedings of the 7th International Symposium on Field Measurements, Geotechnical Special Publication No. 175*, (CD-ROM), ASCE, Reston, VA.
- Kutschke, W.G., Petersen, W.K, and Meyers, J.R. (2007). "Rock Slope Protection System for Differential Weathering Materials", *Proceedings of Geo-Denver 2007, Embankments, Dams and Slopes: Lessons Learned from New Orleans Levee Failures and Other Current Issues, Geotechnical Special Publication No. 161* (CD-ROM), ASCE, Reston, VA.

Mr. Kutschke has the experience and leadership that will provide AML with an economical and technically sound engineering solution. He will coordinate all AML site investigations, engineering design, and in-office report preparation efforts; assist with leading efforts to develop solutions to any problems and challenges that arise; preparing and submitting administrative reports; attend any required meetings with Office of Abandoned Mine Lands & Reclamation personnel; and ensuring accurate and timely invoicing. Mr. Kutschke will be the liaison and focal point between the Office of Abandoned Mine Lands & Reclamation and URS for this project, thereby ensuring timely and consistent communication.

- **Mr. S. Murray Miller, P.E.** (URS) will serve as the QA/QC manager ensuring technical merit for all project deliverables. Mr. Miller is a semi-retired employee with over 52-years of geotechnical engineering experience; the majority of which was serving in the Chief Geotechnical Engineer capacity with responsibility for directing and providing quality control for geotechnical engineering activities. Mr. Miller has worked extensively in West Virginia, providing geotechnical recommendations for such projects as I-64, I-77 and Corridor H. His landslide remediation experience ranges from small slides to the award winning Forest City Landslide stabilization project located in South Dakota.

- **Mr. John Smelko** (URS) is the Scott Depot Office Manager and an Environmental Scientist. Mr. Smelko will serve as the principal in charge and will provide a local point of contact for the Office of Abandoned Mine Lands & Reclamation as and also will provide technical support.

- ***Mr. Terry Schmidt, P.E.*** (S&L) will serve as the lead mine engineer for this project. He is a leading authority on mine reclamation practices including the treatment of acid mine drainage (AMD). Mr. Schmidt has served as Engineer-In-Charge of many assessment and mitigation projects. Mr. Schmidt's responsibilities have included directing the development and implementation of comprehensive field investigations, managing the data evaluation process, determining Best Available Technologies (BAT), developing engineering design packages, obtaining necessary permits, supervising construction inspection activities, and overseeing long-term monitoring and system operation and maintenance requirements.

  As a result of his extensive experience, Mr. Schmidt has developed a unique understanding of the interrelationships between active and abandoned mine complexes, water quality, particularly pH and elevated metal concentrations, local geology and hydrogeology, and flow rates and their impact on the selection of the most appropriate abandoned mine reclamation practices. In addition to his project responsibilities, Mr. Schmidt is a

well-published author on AMD issues. He has presented his technical papers at professional conferences held throughout the United States, some of which are noted below:

- "Evaluating Successes in Passive Treatment at Sequatchie Valley Coal Corporation in East Central Tennessee", presented at the 2001 National Meeting of the American Society for Surface Mining and Reclamation, Albuquerque, New Mexico, (principal author)
- "Passive, Periodic Flushing Technology for Mine Drainage Treatment Systems", presented at the 2001 National Meeting of the American Society for Surface Mining and Reclamation, Albuquerque, New Mexico, (co-author)
- "Prediction of Water Quality at Surface Coal Mines", published by National Mine Land Reclamation Center, Morgantown, West Virginia, 2001, (co-author)
- "Assessment of the Applicability of an Anoxic Limestone Drain for a Surface Mine in East Central Tennessee", presented at the 1996 National Meeting of the American Society for Surface Mining and Reclamation, Knoxville, Tennessee, (principal author and presenter).
- "Coal Remining Analysis for Maximum Resource Recovery and Environmental Improvement", Master of Science Thesis, The Pennsylvania State University, 1994.
- "Remine: A Computer Program for the Analysis of Abandoned Mine Lands Projects in the United States": presented at the Surface Coal Mining and Reclamation Symposium in Alberta, Canada, 1988 (coauthor).

Mr. Schmidt is also involved in many professional mining organizations, such as The Society of Mining Engineers of America - Institute of Mining Engineers, The American Society for Surface Mining and Reclamation, American Institute of Mining Engineers, Penn Anthracite American Institute of Mining Engineers, and Acid Drainage Technology Initiative (ADTI). Mr. Schmidt's experience and technical knowledge are a vital component to this team.

Resumes for the key individuals are provided in Appendix B.

Another team member that will provide drilling services for this assignment is Pennsylvania Drilling Company (PennDrill). Already having a highly qualified drilling contractor on this team provides a unique opportunity to accelerate the project schedule; soliciting drilling services of a qualified drilling contactor can take weeks and unnecessarily create project delay. PennDrill is committed to this project and they have the necessary resources to complete this project in a timely manner. URS has a long standing relationship with PennDrill, having completed over $1.5 million worth of drilling services in the last 10 to 15-years.

Qualifications, equipment and capabilities for PennDrill are provided in Appendix C.

SECTION 3 – PROJECT MANAGEMENT

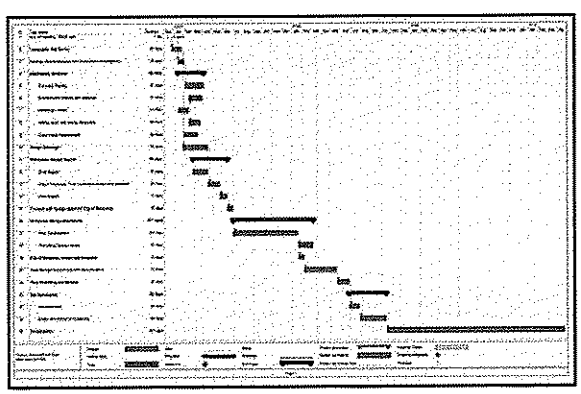
URS' philosophy is to provide all of our clients' top-quality services by providing highly experienced Engineers and Scientists. However, their top-quality service is only useful when it is properly prepared and presented to the client. URS's design teams are always led by Project Managers who have complete control of their project teams so they can be focused on the client's needs. To properly control delivery of our services, URS understands and addresses the role for proper comprehensive management of our services. We emphasize close management supervision on all the various types of projects we perform. URS can claim these capabilities based on our achievements on previous projects of similar scope and the caliber of the professionals we have committed to this effort.

To ensure that sound project management is applied to every project, a Project Management Plan (PMP) includes a Quality Assurance Plan (QAP) and a Safe Work Plan (SWP) that must be developed by the Project Manager.

Each project begins with a ***Project Management Plan*** (PMP) structured to the specific needs of the project. Major elements of each plan include:

- Client Information
- Project Goals and Objectives, including identification of the project vision and critical success factors
- Project Scope
- Project Schedule, including critical milestones, durations, and the resources necessary to achieve delivery
- Financial Budgets, including both the project and task budgets (in dollars), and the corresponding URS labor hour budgets for each task
- Project Team Organization, including resource requirements, responsibilities, and interface with our client, approval agencies, contractors, and other entities having an impact on the project.
- Deliverable Standards, including drawings, specifications, reports, responses to inquires, etc.
- Project Communications
- QAP outlining the Quality Control Processes, including detailed checking of documents and calculations, Independent Technical Reviews (ITRs), and internal quality audits
- Change Management Process
- Document Control, including filing systems and procedures
- SWP outlining both the office and field policies and practices to provide a safe work place for our employees and others they come into contact with

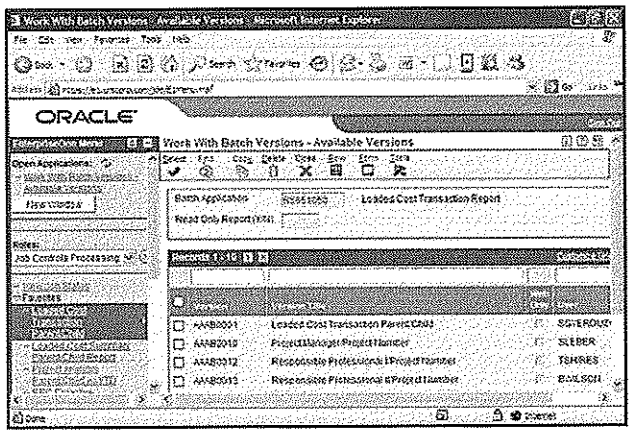
With sound planning organized and in place, URS Project Managers provide leadership and encourage their staff to both perform at their highest ability and to be an advocate of our client needs. The Project Manager then controls the performance of work by monitoring schedule



and budgets, ensuring that the QAP is followed, and that communication with the client follows the mutually agreed upon Project Communication Plan.

Key control steps along the way include the development of a detailed work plan for each assignment with the smallest measurable sub tasks identified. A detailed project schedule is developed outlining the subtasks and identifying intermediate milestones. The schedule includes all client meetings, deliverables, and review times.

URS has a robust Enterprise One (E1) time and expense tracking system. Employees charge their time daily. The Project Engineers monitor both budget and schedule on a daily basis. The Project Manager has access to all project charges every Monday to chart the financial progress of the project. The Principal-in-Charge tracks project performance by meeting with the Project Manager weekly and independently checking financial performance monthly. The Principal-in-Charge also conducts routine client audits to confirm that the project is in good standing.



During the project monitoring, in the event that the schedule slips or project costs exceed the budget, the Project Manager and Project Engineer will develop a corrective action plan that is immediately implemented to correct the problem.

The final step to administering the contract efficiently is to communicate with AML. A Communications Plan for each project will be developed as part of the PMP. The plan will identify with AML lines and frequency of communication so that the right people are talking and that Managers for both the AML and URS are apprised of the discussions. This will avoid bottlenecks and ensure AML's staff time is not wasted. The plan will identify appropriate methods to communicate and how to record important conversations and decisions.

The URS Project Manager will schedule regular progress meetings or calls with the AML Project Manager. Monthly progress reports will be submitted to AML with invoices. Meetings with key staff will be organized to review progress and to discuss key AML decisions, as warranted by project conditions.

Effective communication with AML will be stressed to ensure no surprises!

SECTION 4 – PROPOSED SUBCONTRACTORS

Proposed subcontractors for this assignment include:

- Skelly & Loy, Inc. (S&L) – S&L will complete all mine engineering activities for this assignment; including the design of wet mine seals. URS has worked successfully with S&L on past assignments.

- Pennsylvania Drilling Company (PennDrill) – PennDrill will provide all geotechnical drilling services for this assignment. In as much as the EOI indicated a relatively short project schedule of 60-days for preliminary engineering, URS elected to have a drilling contractor on the

project team. This will enable the URS team to provide AML with timely services and minimize delays often associated with procuring a drilling contractor. Additionally, URS has a long standing relationship with PennDrill.

SECTION 5 – PRODUCT QUALITY CONTROL

Quality Assurance/Quality Control

URS is committed to providing quality service to our clients. To meet this commitment on all projects, URS has established and implemented a Quality Assurance/Quality Control (QA/QC) Program. Strict adherence to the following procedures ensures that our product will be on schedule, within budget, and constructed with minimum changes or problems.

QA/QC and Project Management Plans

When beginning a task or project, the QA/QC Officer will create a QA/QC Plan identifying each applicable element of the QA/QC Program and submit it for review and approval by the Project Manager.

The Project Manager will prepare a Project Management Plan (PMP), incorporating input from all key project staff as well as the QA/QC Officer. Typically, the PMP will include:

- A detailed scope of work;
- A project schedule clearly identifying project milestones and submittal dates;
- A manpower breakdown and cost estimate indicating the work effort required for each element of the project;
- A list of key staff for URS and WVDEP with contact phone numbers; and
- An outline of project communication procedures.

After complete review and approval by the QA/QC officer, signed copies of the PMP and QA/QC Plan will be distributed to key project staff at URS and S&L. The PMP is reviewed monthly and updated as necessary.

Detailed Checking

Detailed checking is performed for all reports, computations, plans, and specifications. The checker initials and dates all computations and the checked set of documents are stamped, initialed, and signed. All information is independently checked before it is submitted to WVDEP. A QA form documents completion of the detailed checking and confirms the proper resolution of all discrepancies. The form is signed by the checker and the Project Manager.

Audits

A paperwork audit is performed on all projects within 30 days of Notice to Proceed to assure completion of the QA/QC Plan and PMP. Nonconformance issues are reported to the Office Operations Manager. All projects undergo an annual Technical Audit, conducted by the Operations Manager, to assure conformance with all applicable URS QA/QC procedures.

Project Control
A monthly Estimate to Complete (ETC) is performed on each project or task to compare the percent complete versus the percent of funds expended. This process flags potential overruns early on so that measures to complete the remaining work within budget can be implemented. The ETC, prepared by the Project Manager, is reviewed and approved by the Principal-In-Charge and submitted to the Operations Manager.

Record Keeping
All QA/QC documents described above are filed in the QA/QC folder within the Project Central File.

In summary, the cornerstone of URS Corporation's reputation as a global leader in planning, and engineering services is found in its commitment to quality as well as execution of and adherence to our overall QA/QC, auditing, project control and records program.

SECTION 6 – PROJECT COST CONTROL

URS Corporation maintains, and has in effect, a cost accounting system that segregates and identifies accumulating costs for each job performed under cost-type contracts. Our accounting system has been used and accepted for other projects performed for the West Virginia Department of Transportation.

URS is committed to our role as good stewards of government funds, and we will work as partners with the WVDEP to meet project challenges. We understand budgets and develop them using the latest techniques, including value preservation and rigid quality control. We control costs through the following methods:

- Use of highly qualified personnel on all assignments.
- Corporate-wide computer network for cost efficiency among resources.
- Realistic cost estimation using fully automated, interactive cost accounting tools.
- Competitive procurement where appropriate for best value.
- Management of subcontractors for optimal performance including:
- Weekly review of project costs and immediate correction of problems.
- Weekly review of schedules and immediate initiation of corrective measures for schedule-critical activities.
- Strict adherence to a concise but accurate documentation of work activities.
- Immediate attention to and resolution of problems.
- Strict adherence to quality control plans.

Our corporate and project financial accounting systems comply with the Federal Acquisition Regulation Supplement (FAR), Defense Federal Acquisition Regulation Supplement (DFARS), and Cost Accounting Standards (CAS) requirements. Senior staff with relevant experience completed cost estimation in the proposed scope of work; all documents are thoroughly reviewed to reduce the number of change orders processed throughout the undertaking.

Our information management systems allow project managers to monitor expenditures, identify potential cost overruns, and take corrective actions before problems develop. Our Project Managers will manage the projects according to those procedures. All direct, indirect, overhead and profit (i.e., fee) charges are established on the basis of a current DCAA audit.

SECTION 7 – SUMMARY

URS' Scott Depot Office is located approximately 27 miles west of the WVDEP - Office of Abandoned Mine Lands & Reclamation's main office in Charleston and our Pittsburgh, PA office is located 110 miles from the project site. Our team is thoroughly versed in geotechnical and mine engineering with a strong commitment to understanding and meeting the needs of AML. We are eager to undertake this opportunity and to continue our working relationships with WVDEP - Office of Abandoned Mine Lands & Reclamation.

20. The foregoing is a statement of facts.

Date: January 21, 2009

Signature: Thomas G. Bice

Title: Vice President

Printed Name: Thomas G. Bice, P.E.

URS

Keystone Buildout (Design)

Project Description

This project involved geotechnical design services for the construction of a 5.4 mile new railroad alignment located in Indiana County, Pennsylvania. The project required the removal of 1.4 million cubic yards of soil and sedimentary rock, of which embankment construction utilized 0.3± million cubic yards, resulting in a waste of 1.1± million cubic yards that was permanently stockpiled on-site. Cut slopes were as deep as 150 ft and side-hill fill slopes were as high as 45 ft. Subsurface investigation indicated that the excavations would expose rock strata that exhibit differential weathering characteristics and could potentially re-activate pre-existing shear planes identified by slickensided surfaces in the test borings. In order to reduce the excavation quantity and right-of-way acquisition, a slope protection system consisting of rock anchors, reinforcing steel mesh, shotcrete, and sub-horizontal drains was developed. This innovative system allowed the design team to utilize steeper rock cut slopes, reducing right-of-way and construction costs. This system was an extension of the soil nail wall technology and was applied to weak rock strata (i.e., claystone) that decomposed rapidly when exposed to the weather. A claystone rock core from this formation has been observed to completely disintegrate within 20 minutes when soaked in water as part of a rudimentary slake test. The intent of the SSPS is to protect this stratum from detrimental elements and prevent the undermining of more resistant strata.

Six inclinometers and seven monitoring wells were installed to monitor the three major cut slopes during and after construction. Inclinometer data indicated movement along distinct shear planes that asymptotically approached zero following the completion of excavation and blasting activities. Construction quality assurance involved 14 verification tests and 31 proof tests for the rock anchors as well as laboratory testing of the shotcrete test panels.

The alignment includes two at-grade crossings of roadways and two grade-separation structures over roadways consisting of a 225 ft, three-span bridge and a 430 ft, five-span bridge. The project also involved the construction of two soil nail walls to retain a combined cut face area of 1,004 square yards, utilizing a total of 13,745 linear feet of soil nails.

Location

Indiana County, PA

Services

Design and Contract Plans

Client

Norfolk Southern Corporation,
Design & Construction
Engineering Department
1200 Peachtree Street, NE
Atlanta, GA 30309-3579

Project Value

45 Million

Project Duration

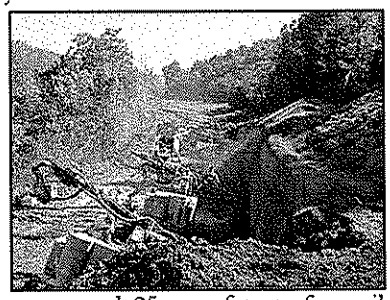
Completed 2005

URS

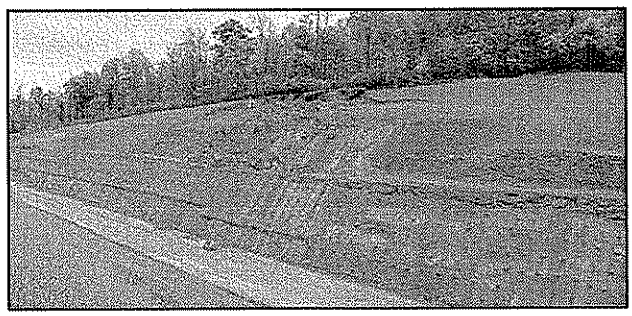
Keystone Buildout (Construction Inspection)

Project Description

This project involved geotechnical construction inspection services for the construction of a 5.4 mile new railroad alignment located in Indiana County, Pennsylvania. URS was the principle geotechnical inspector for this 1.4 million cubic yard excavation project that involved 0.3± million cubic yards of embankment, resulting in a waste of 1.1± million cubic yards of moisture sensitive material that was permanently stockpiled on-site. Cut slopes were as deep as 150 ft and side-hill fill slopes were as high as 45 ft. Work also involved supervising and determining the exact limits for the installation of 33,900-ft of rock anchors, 2,760 cubic yards of shotcrete slope protection and 1,004 square yards of soil nail retaining structures in horizontally discontinuous strata. The shotcrete slope protection system was an extension of the soil nail wall technology and was applied to weak rock strata (i.e., claystone) that decomposed rapidly when exposed to the weather. A claystone rock core from this formation has been observed to completely disintegrate within 20 minutes when soaked in water as part of a rudimentary slake test. URS supervised and accepted 15 verification tests and 25 proof tests for soil nails / rock anchors.



Subsurface investigation indicated that the excavations would expose rock strata that exhibit differential weathering characteristics and could potentially re-activate pre-existing shear planes identified by slickensided surfaces in the test borings. As such, construction duties also involved monitoring six inclinometers and seven monitoring wells during construction, developing immediate landslide repair methods and selecting appropriate earthen materials for use as construction materials.



Location

Indiana County, PA

Services

Construction Inspection

Client

Norfolk Southern Corporation,
Design & Construction
Engineering Department
1200 Peachtree Street, NE
Atlanta, GA 30309-3579

Project Value

2.8 Million (Geotechnical portion)

Project Duration

Completed 2006

URS

Appalachian Corridor H, Section 5

Location

Hardy County, WV

Services

Design and Contract Plans

Client

West Virginia Department of Transportation
Division of Highways
State Capitol Complex
1900 Kanawha Blvd. East
Charleston, WV 25305

Project Value

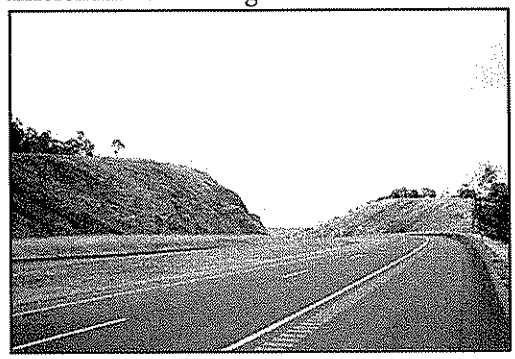
80 Million

Project Duration

Completed 2000

Project Description

URS provided detailed engineering design services for 12.4 kilometers (7.7 miles) of four lane, divided, rural highway through mountainous terrain in northeastern West Virginia. Design services also included geotechnical engineering for the entire project corridor, which traversed an area with complex geology consisting of steeply dipping sedimentary rock strata as well as strata that exhibit differential weathering characteristics. URS performed extensive geologic field investigations to characterize the project corridor. Design recommendations included rock cut slopes with heights up to 115-feet with dipping rock strata and embankments with heights up to 150-feet as well as the internal fill benching requirements for side-hill fills.



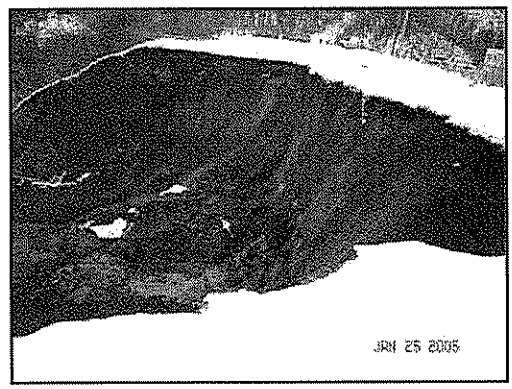
Included in this work was the design of a dual structure crossing Long Lick Run and County Route 8. The prestressed concrete girder bridges consist of six equal length continuous spans and semi-integral abutments, providing a "jointless" low maintenance design. The total length of each bridge is 137.3 meters (450 feet). Foundation recommendations consisted of shallow and deep foundations with the abutments requiring detailed slope stability analyses. URS also developed foundation recommendations for seven structural plate culverts with diameters ranging between 1800 millimeters (72 inches) and 3000 millimeters (120 inches) located under major roadway embankments. Two of these structures are open bottom arches with diameters up to 4600 millimeters (180 inches).

URS

Fly Ash Slide – Forward Twp.

Project Description

A number of years ago, ash material (possibly fly ash) had been deposited into a ravine along River Hill Road, Allegheny County, PA. Details regarding the ash source and placement procedures are not available. On January 25, 2005, tons of this ash material slid into the channel of Perry Mills Run located near the toe-of-slope. The rotational earth slide resulted in a 40±ft high scarp with a 140±ft long rupture surface. The scarp was located 45± ft from S.R. 2007 (River Hill Road). A portion of the ash slide continued into Perry Mills Run, affecting downstream properties along Rostosky Ridge Road. URS provided environmental remediation construction services by removing and properly disposing of the ash under PADEP direction.



In conjunction with this activity, URS also provided geotechnical engineering and construction inspection services due to the challenging site conditions encountered during construction. URS developed a subsurface investigation program to characterize the slope as well as to identify a potential borrow bit for embankment construction. Recommendations to stabilize the roadway and re-establish the slope to the original pre-slide contours were developed in coordination with PENNDOT, District 11-0 Geotechnical Unit. Slope stabilization methods were adjusted to address the challenging site conditions.

Given the challenging nature of this site, URS geotechnical personnel were also on-site to monitor the removal of ash and slag materials as the excavation approached the roadway and to provide technical assistance regarding toe bench and embankment construction. Work was performed under a Health and Safety Plan and required preparation of detailed daily reports.

Location
Allegheny County, PA

Services
Geotechnical Engineering and Construction Inspection

Client
Confidential

Project Value
Confidential

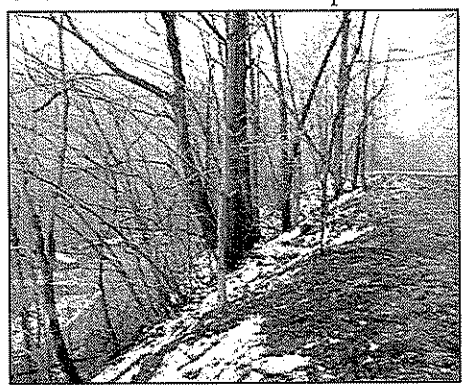
Project Duration
Completed 2006

URS

Fly Ash Slope Remediation – Emlenton

Project Description

A waste disposal area located at a former Quaker State Refinery exhibited signs of slope instability. URS understood that the disposal area contained fly ash with metal debris, tubing, wax, bottles and other types of trash. The disposal area was situated on a side-hill fill. Potential consequences of a disposal area slope failure included the uncontrolled release of fly ash and other potential deleterious materials into the surrounding environment. Should such an event occur, it would have significant economic impact to the client from litigation, social and physical impacts to a nature trail located at the toe of slope and environmental impacts to the Allegheny River and surrounding area. Due diligence and Best Management Practices were necessary to reduce project risk.



Location
Venango County, PA

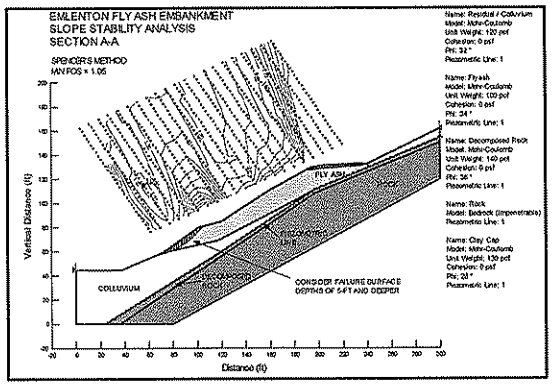
Services
Geotechnical Engineering

Client
Confidential

Project Value
Confidential

Project Duration
On-going

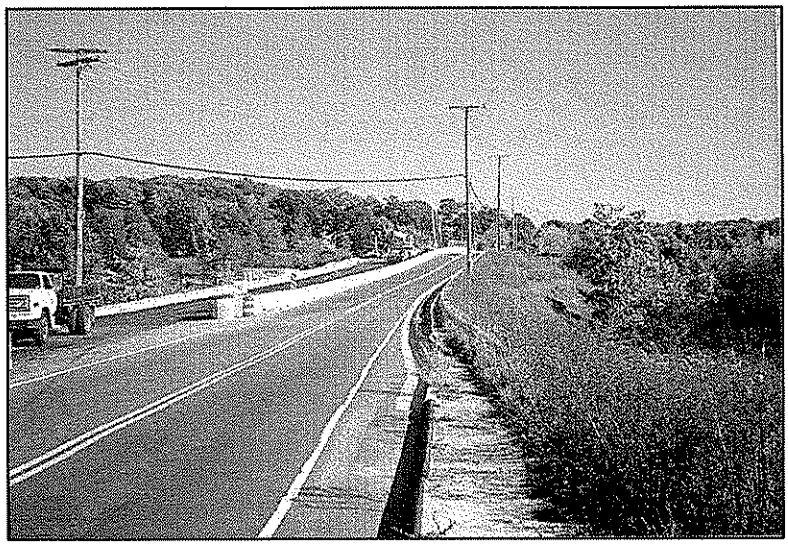
URS developed a subsurface investigation program and characterized the project area for slope stability analyses. URS developed several alternatives to address the marginally stable waste disposal slope. Several "out-of-the-box" thinking alternatives were developed, such as soil mixing and the injection of a lime slurry using a multi-injector rig to take advantage of the pozzolanic properties of the fly ash. Alternatives were then evaluated for technical merit and either eliminated or advanced for further consideration.



URS

Hazelwood Avenue Bridge

Project Description



In conjunction with the complete reconstruction of a grade separation structure it was necessary to raise the grade of the approach embankment by approximately four feet. This embankment, originally constructed with 1:2 side slopes, was a source of constant maintenance due to instability of the side slopes resulting from uncontrolled water flowing over the shoulder and down the side slope in concentrated zones. In addition the embankment was penetrated by a dual 9 × 15 box culvert under the highest portion of the fill with head walls located at the existing toe of slope on both the upstream and downstream sides. The problem then was to raise the roadway grade approximately four feet, stabilize the side slopes of the existing and final embankment configuration without extending the barrel of the culvert either upstream or downstream, which would have required addressing hydraulic and environmental changes. URS' solution was to hold the existing toe of slope which precluded extending the culvert and the requirement for hydraulic and environmental studies and to design a geogrid reinforced embankment system using primary and secondary grids with stone filled biaxial grids for slope and scour protection. The grid strength, length, and spacing were established to permit reconstruction of the existing embankment on a 1:1:3 slope to a height approximately four feet above the existing grade line.

URS also prepared maintenance of traffic plans for Hazelwood Avenue.

Location

Baltimore, Maryland

Services

Design and Contract Plans

Client

Maryland Transportation Authority
Francis Scott Key Bridge
Post Office Box 9088
Dundalk, Maryland 21222

Cost – Entire Project

$7,100,000

Cost – URS Portion

$800,000

Completion Date

1997

URS

Staunton Heights Landslide Repair

Project Description

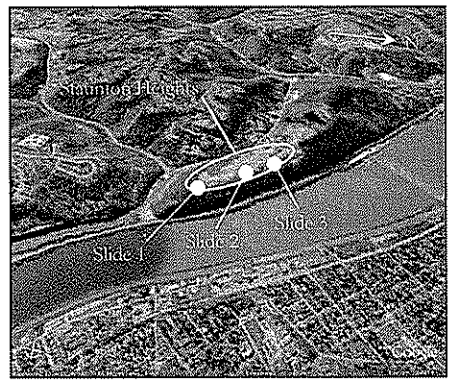
Location
Allegheny County, PA

Services
Geotechnical Engineering and Construction Inspection

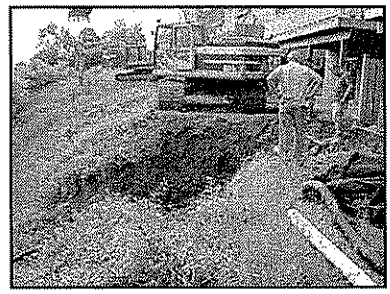
Client
Confidential

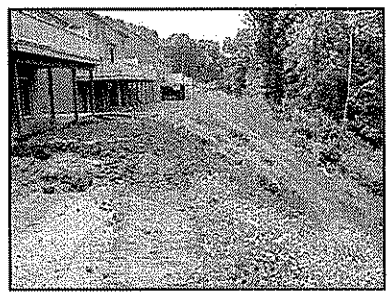
Project Value
Confidential

Project Duration
Completed 2007



The project area is situated on a hillside in Allegheny County, PA that overlooks the Ohio River. The site has been graded to create a relatively flat hill-top for residential development with fill material placed along the east slope (i.e., slope parallel to and adjacent to the Ohio River). CSX Railroad tracks are located at the toe-of-slope along the edge of the river. Geotechnical recommendations for this development were developed by others. The site has been plagued with slides, most recently by Slide No. 3, located at Lot 203. The slide posed a significant hazard to the property owner. Measurements obtained during site reconnaissance indicate that the slide width (i.e., distance between the left and right flanks) was 16± feet. The distance from the originally constructed slope crest to the back patio was 14.5± feet with the scarp located 6.5± feet from the patio.





URS was contacted by the developer to provide slope repair details. URS reviewed the available subsurface information developed by others and characterized the site for detailed slope stability analyses. Being mindful of the limited resources possessed by the client and understanding their needs, URS advised the client of the geotechnical risks associated with the site and developed an economical solution to repair the slope. URS geotechnical personnel were on-site during slope repair measures to provide technical assistance during the operation.

Porter Tunnel Mine Seal
Schuylkill County, Pennsylvania

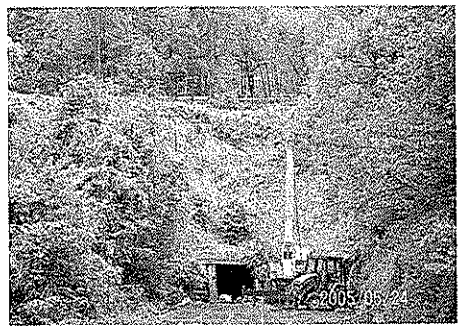
Client/Owner
Rausch Creek Land Development

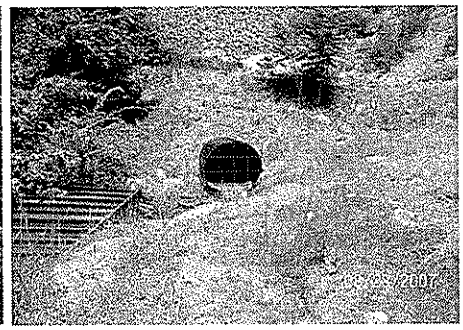
Estimated Project Value
Total: $500,000
Firm Responsibility: $100,000

Completion Date
2005

Key Components
Wet Mine Seal; Acid Mine Drainage Treatment System

Reference Contact
Mr. Matthew Postupak
978 Gap Street
Valley View, PA 17983
P: 570-682-3181
F: 570-682-9051





Rausch Creek Land (RCL) is the responsible party for an underground mine discharge in Schuylkill County, Pennsylvania. The Pennsylvania Department of Transportation raised a structural concern associated with the Porter Tunnel which exists below State Route 209. RCL hired Skelly and Loy to resolve structural issues associated with the tunnel as well as water treatment concerns with the tunnel discharge. As part of this effort, a wet mine seal was designed for the Porter Tunnel as well as two conventional mine seals at associated air shaft and access points to the mine. The **wet seal design including a 54 inch steel pipe extending 500 feet into the mine opening**. This pipe also serves as an emergency entrance to the abandoned underground mine. The mine tunnel was also accessed from the surface using a drill and a flowable fill mixture of fly ash and Portland cement to structurally strengthen the mine opening around the steel pipe below State Route 209. The project also included the design of an active treatment system for the discharge including an Aquafix calcium oxide feed system, conveyance pipes, channels, settling ponds, and wetlands.

With offices in the following locations: Harrisburg, PA • Pittsburgh, PA • Port Matilda, PA • Hagerstown, MD • Morgantown, WV
skellyloy@skellyloy.com • www.skellyloy.com

Valley Point #12 Abandoned Mine Drainage Remediation Project
Preston County, West Virginia

Client/Owner
Friends of Deckers Creek

Estimated Project Value
Total: $37,000
Firm Responsibility: $34,000

Completion Date
2008

Key Components
Site Topographic Survey; Aquatic Resource Investigations; Water Quality Sampling and Testing; Engineering Design; State and Federal Agency Coordination

Reference Contact
Mr. Martin Christ
P.O. Box 877
Dellslow, WV 26531-0877
P: 304-292-3970

The Valley Point #12 Abandoned Mine Drainage (AMD) Remediation Project is located outside of Kingwood, West Virginia on a headwater tributary to Kanes Creek, which is a named tributary to Deckers Creek. Skelly and Loy, Inc. was hired by Friends of Deckers Creek to provide engineering and environmental services to remediate the AMD from two discharges located at this site. These services included site topographic survey, aquatic resource investigations (wetland and stream), water quality sampling and testing, engineering design (including plans, cost estimation, and bid package preparation), state and federal agency coordination, and assistance in preparing the state and federal permits.

At this site, the two mine portals are discharging low flows that have a low pH, and high concentrations of acidity, iron, and aluminum. These discharges have eliminated aquatic life from portions of Kanes Creek.

The engineering design for this project calls for the collection of the discharges in a limestone leach bed for pre-treatment. This effluent is then moved down slope via a channel to a retention pond, prior to treatment in one or two sulfate-reducing bioreactors depending on the flow. From there, the effluent receives tertiary or polishing treatment in a second retention pond and aerobic wetland. Construction of this project was completed in spring 2008.

Valley Point #12 Abandoned Mine Drainage Remediation Project

Big Run #2 Acid Mine Drainage Discharge Treatment Project
Indiana County, Pennsylvania

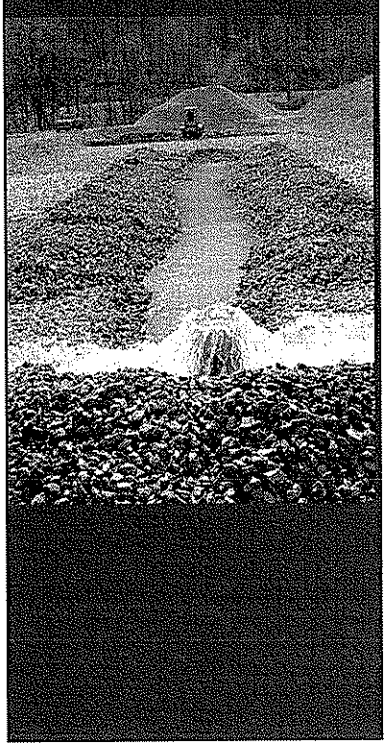
Client/Owner
Blackleggs Creek Watershed Association

Estimated Project Value
Total: $2,000,000
Firm Responsibility: $250,000

Completion Date
2008

Key Components
Wet Mine Seals; Passive Treatment System Design

Reference Contact
Mr. Art Grguric
P.O. Box59
Clarksburg, PA 15725-0059
P: 724-639-9572
F: 724-639-9572



In 2001, the Blackleggs Creek Watershed Association (BCWA) received funding from Pennsylvania's Growing Greener Grant program to construct a passive acid mine drainage (AMD) treatment system to address the aluminum and acidity loading of the Big Run #2 discharge into Blackleggs Creek. Upon receiving the funding, Skelly and Loy, Inc. was contracted to complete the engineering design and permitting of the passive treatment system.

The goal of this project was to construct and operate a passive AMD treatment system to reduce the aluminum and acidity loads while adding some excess alkalinity to Big Run and Blackleggs Creek.

The Big Run #2 discharge originates from a deep mine drainage heading along Big Run in Conemaugh Township, Indiana County. While the water chemistry, specifically the aluminum and acidity concentrations, are not severe; the average flow rate of the discharge is 1,250 gallons per minute (gpm), which translates to 252 tons of acidity and 42 tons of aluminum discharge entering Blackleggs Creek annually. Its significant pollutant loading combined with its upstream location made treating this discharge a high priority.

The passive treatment system includes a piping network to direct the discharge to the treatment location, one limestone filled basin containing 3,400 tons of limestone, and a settling pond/wetland which includes an in-line water control structure to adjust the surface water elevations in the wetland. The limestone pond uses an in-line structure as well, which can be used to manually flush the void spaces of the limestone. In addition, BCWA with the help of Skelly and Loy submitted a Growing Greener grant in 2005 for additional limestone due to the increase in average flow rates for the discharge. The grant was awarded and BCWA added the additional limestone to the pond in 2006.

Based on loading calculations, the treatment system was initially removing aluminum at a rate of 22 tons per year. Acidity loading is being reduced by 211 tons per year and 92 tons of alkalinity are being added to Big Run and its receiving stream Blackleggs Creek.

Water quality data from influent and effluent samples show that the system is discharging near neutral to net alkaline water with pH suitable for metals precipitation. Effluent data showed that aluminum levels were greater then expected in the final system outfall. It was determined that the retention time within the settling pond/wetland needed to be increased to adequately settle out the aluminum. The discharge retention time was increased by adding baffles and vegetation to the wetlands and adding stop logs to the in-line water elevation control structures to further improve metals retention.

Following these system improvements, the effectiveness for aluminum and acidity removal by the treatment system was improved.

Big Run #2 Acid Mine Drainage Discharge Treatment Project

URS

Walter G. Kutschke, P.E.

Lead Geotechnical Engineer

Areas of Expertise

Site Characterization
Shallow and Deep Foundations
Retaining Structures
Embankments
Rock Slopes and their Stabilization
Ground Improvement
Instrumentation Programs
Karst
Pavements
Geosynthetics

Years of Experience

With URS: 14 Years
With Other Firms: 0 Years

Education

PhD / Geotechnical Engineering / 2009 (anticipated) / University of Pittsburgh

MS / Geotechnical Engineering / 1995 / State University of New York at Buffalo

BS / Civil Engineering / 1993 / State University of New York at Buffalo – Cum Laude

Registration/Certification

2007 / NCEES / 31594
2007 / PE / KY / 25592
1999 / PE / PA / PE054667E
1999 / PE / WV / 014110
1998 / PE / MD / 23430

Overview

Mr. Kutschke has expertise in subsurface investigations for geotechnical site characterization as well as the development of geotechnical recommendations for major roadway, railway and civil infrastructure projects. He is knowledgeable in numerous aspects of geotechnical engineering including foundation, retaining wall, geosynthetic, soil/rock cut slopes, embankments, levees and dams, pavement design, ground improvement as well as expert witness services. Mr. Kutschke also has extensive experience in geotechnical construction inspection as well as developing, monitoring and interpreting geotechnical instrumentation programs. He serves on the Deep Foundations Institute Micropile Committee and the Soil Nailing / Tieback Committee as well as ASCE's Earth Retaining Structures Committee and Grouting Committee. Mr. Kutschke also has authored numerous papers involving challenging geotechnical engineering projects.

Project Specific Experience

United States Army Corps of Engineers, Hurricane Protection Office, New Orleans East Levee Upgrades, CSX to Michoud Canal, Reach LPV 111. Deputy Project Manager for the stabilization and increased level of flood protection for 5.3 miles of earthen levee over soft soils. Work involved ground improvement techniques consisting of deep soil mixing, geosynthetics and slurry wall technologies as well as developing foundation recommendations for the tallest T-Wall flood protection structure in New Orleans East. Work was part of a larger program that required extensive coordination among many URS offices.

Keystone Buildout, Norfolk Southern Corporation, Indiana County, PA. Lead geotechnical engineer for 5.3-miles of a new single-track alignment. Geotechnical activities required recommendations for the stabilization of fill/cut slopes, side-hill fills as well as the development of cut-slope treatments for moisture-sensitive materials and the development of an instrumentation program to monitor potential historic landslides. Developed shallow and deep foundation recommendations for two multi-span ballasted deck bridges with total lengths of 225 and 430 feet and two soil-nail wall retaining structures with a total retained area of 1,004 square yards.

Keystone Buildout, Norfolk Southern Corporation, Indiana County, PA. Principle inspector for the $2.8 million geotechnical work which involved the installation of 33,900-ft of rock anchors, 2,760 cubic yards of shotcrete slope protection and 1,004 square yards of soil nail retaining structures. Supervised and accepted 15 verification tests and 25 proof tests for soil nails / rock anchors. Construction duties also involved monitoring six inclinometers and seven monitoring wells during construction, developing immediate landslide repair methods and selecting appropriate earthen materials for use as construction materials.

Pennsylvania Department of Environmental Protection, Forward Township Fly Ash Slide, Allegheny County, Pennsylvania. Developed and managed the subsurface investigation and site characterization program for failed roadway embankment constructed with soil, fly ash and slag. Supervised the development of an extensive slope stability analysis program and developed roadway repair details.

Confidential Client, Fly Ash Slope Remediation, Venango County, Pennsylvania. Developed a subsurface investigation program and characterized a former waste disposal facility for geotechnical analysis. Developed several alternatives to address the marginally stable slope such as soil mixing and the injection of a lime slurry using a multi-injector rig to take advantage of the pozzolanic properties of the fly ash. Evaluated alternatives and provided final recommendations.

Staunton Heights Landslide, Prestige Homes Inc., Allegheny County, PA. Directed the site reconnaissance and characterized an existing landslide threatening a residential development. Developed slope repair methods and provided construction inspection services during landslide repair activities.

Hazelwood Avenue over I-95, Baltimore, MD. Responsible for an existing roadway embankment placed for grade separation that comprised roadway stability due to significant sloughing failures and erosion gullies. Design involved developing geotechnical recommendations for a 30-ft high reinforced soil slope (RSS) benched into the existing embankment while maintaining one-lane of traffic. Side slopes along the RSS were as steep as 1.3H:1V. Design work also required incorporating scour countermeasures within the RSS to protect the system against high water conditions from the underlying culvert. Construction services included shop drawing review and on-site field consultation.

Garrett County Airport, Garrett County, MD. Developed geotechnical recommendations for a 95-ft high embankment constructed on an existing sidehill as an airport access road on a new alignment. Design incorporated recommendations to preclude undermining existing facilities during embankment construction.

Appalachian Corridor H, Section 5, WVDOH, Hardy County, WV. Geotechnical Engineer for 8-miles of a proposed new highway system. Developed the geotechnical recommendations for rock cut slopes with heights up to 115-ft with dipping rock strata, embankments with heights up to 150-ft as well as the internal fill benching requirements for side-hill fills. Developed the foundation recommendations for the major culverts (open and closed bottom) and for the dual 6-span, 450□ foot long bridge.

Appalachian Corridor H, Section 5 - Realignment, WVDOH, Hardy County, WV. Geotechnical Engineer for the re-alignment of 1.5-miles of a new highway system. Developed geotechnical recommendations for rock cut slopes with heights up to 100-ft with dipping rock strata and embankments with heights up to 100-ft and side slopes as steep as 1.5H:1V.

URS

Professional Societies/Affiliates

American Society of Civil Engineers (ASCE) - Earth Retaining Structures Committee and Grouting Committee
Deep Foundations Institute - Micropile Committee and Soil Nail / Tieback Committee
Society of Military Engineers

Specialized Training

CSX Roadway Worker Protection, Renewed 2007
PennDOT Level II Test Boring Inspector, 2002
Dale Carnegie – Human Relations Principles, 2003

Awards

ACEC/National – *Transportation Honor Award* for Keystone Buildout, Norfolk Southern Corporation, Indiana County, PA.

ACEC/PA and IL – *Transportation Honor Award* for Keystone Buildout, Norfolk Southern Corporation, Indiana County, PA.

ASCE/Pittsburgh Section – *Award of Merit* for Keystone Buildout, Norfolk Southern Corporation, Indiana County, PA.

Select Publications

1. Kutschke, W.G., Petersen, W.K, and Meyers, J.R. (2008). "Rock Slope Design for New Railroad Alignment in Indiana County, Pennsylvania", *Proceedings of 23rd ASCE Central PA Geotechnical Conference*, Hershey, PA.
2. Kutschke, W.G., and Tarquinio, F.S. (2007). "Soil Nailing Practices in the United States", ISSMGE TC17 Working Group G: Soil Reinforcement in Cuts (Soil Nailing), Madrid, Spain.
3. Kutschke, W.G., Petersen, W.K, Zorn, E.V., and Meyers, J.R. (2007). "Geotechnical Challenges Posed by Weak Claystone in Deep Cuts", *Proceedings of the 58th Highway Geology Symposium*, Pocono Manor, Pennsylvania.
4. Kutschke, W.G., Tarquinio, F.S., and Petersen, W.K. (2007). "Practical Soil Nail Wall Design and Constructability Issues", *Proceedings of Deep Foundations Institute, 32nd Annual Conference on Deep Foundations*, Deep Foundations Institute, Hawthorne, NJ.
5. Kutschke, W.G., Petersen, W.K, Meyers, J.R., and Zorn, E.V. (2007). "Rock Cut Slope Instrumentation within Variable and Potentially Unstable Sedimentary Rock Strata", *Proceedings of the 7th International Symposium on Field Measurements, Geotechnical Special Publication No. 175*, (CD-ROM), ASCE, Reston, VA.
6. Kutschke, W.G., Petersen, W.K, and Meyers, J.R. (2007). "Rock Slope Protection System for Differential Weathering Materials", *Proceedings of Geo-Denver 2007, Embankments, Dams and Slopes: Lessons Learned from New Orleans Levee Failures and Other Current Issues, Geotechnical Special Publication No. 161* (CD-ROM), ASCE, Reston, VA.

URS

S. Murray Miller, PE

Chief Geotechnical Engineer (semi-retired)

Overview

Mr. Miller, a Chief Geotechnical Engineer, is responsible for directing and providing quality control for geotechnical investigations, construction inspection, field and laboratory testing/analyses, pavement evaluations, and pavement designs.

Years of Experience

With URS: 52 Years
With Other Firms: 0 Years

Education

BS/1953/Civil Engineering/Johns Hopkins University
MS/1961/Civil Engineering/Johns Hopkins University

Registration/Certification

1968/Professional Engineer/ Maryland/6306

Project Specific Experience

Forest City Bridge, South Dakota: Project Engineer in charge of geotechnical investigations to evaluate feasibility of halting massive sliding landmass moving toward bridge carrying US 212 over Lake Oahe for South Dakota Department of Transportation.

Appalachian Corridor H, Section 5, Hardy County, West Virginia: Project Geotechnical Engineer for 12.4 kilometers of highway to be designed to interstate standards including major structure, three box culverts and four arch culverts. Developed geotechnical investigation consisting of 372 borings in three contracts totaling $1,050,000. Developed contract documents, boring plans, and specifications, solicitation and advertisements for contractors and contract administration for as many as 12 operating drill rigs. Also modified standard boring log drafting program to produce soil and rock profiles in accordance with West Virginia standards. Selected rock bench widths, rock back slopes, and height between benches to minimize undercutting of weaker rock and maximize stability of rock cuts. Developed fill benching schemes into rock for side-hill and side-hill sliver fills where required to obtain a stable side hill fill using counter-berms as buttresses where required. Developed internal drainage criteria to minimize internal water pressure. Established transition zones to minimize effect of differential movement at cut to fill interfaces. Prepared foundation recommendations for conventional box culverts and open bottom arch culverts protected by graded rip-rap armor blackets. Established spread footing, bearing elevation, and allowable-bearing capacity to protect against scour at piles foundations. Established pile capacity and pile type for structure abutments.

I-77 (West Virginia Turnpike): Subsurface investigations for upgrading of three sections of highway from Charleston to Ohio River involving up to seven construction contracts in each section for West Virginia Department of Transportation. Included upgrading of 2,200 feet of roadway to fully divided four-lane facility, replacement of all ramp pavements, relocation of toll plaza, and reconstruction of two interchange ramp structures and a structure over a C&O Railroad siding.

I-64 Summers and Raleigh Counties, West Virginia: Subsurface investigations for 14.3-mile section of I-64 though two mountainous

stream valleys on either side of the New River for West Virginia Department of Transportation. Significant design elements included two interchanges (Sandstone and Green Sulphur Springs) and 10 structures. Mountainous terrain necessitated deep, benched cuts to minimize profile gradients. Total of 23,000,000 cubic yards of excavation and 18,000,000 cubic yards of embankment were required to establish final roadway section.

Hazelwood Avenue Bridge, Baltimore, Maryland: Geotechnical Engineer for slope stabilization as part of the complete reconstruction of this grade separation structure. The approach embankment grade was raised four feet to eliminate the instability of the side slopes resulting from uncontrolled water flow. The embankment was also penetrated by a 9'x15' box culvert that was precluded from being extended upstream or downstream by hydraulic and environmental impacts. A grid-reinforced embankment system was designed using primary and secondary grids with stone-filled biaxial grids for slope and scour protection.

Maryland Port Facilities: Supervision of geotechnical engineering for two on-call comprehensive planning and engineering services contracts with Maryland Port Administration. Assignments included:

- planning and implementation of subsurface investigation and soils testing program, design of dike spoil-retaining areas, economic analysis of marginal wharf types, design of sheet pile cells, and settlement studies for Hawkins Point Marine Terminal, Baltimore
- geotechnical investigation and soils analysis for use of dredged spoil and stabilization/consolidation of land areas for proposed 325-acre Masonville Marine Terminal, Baltimore.

Maryland Port Administration Facilities, Baltimore, Maryland: Project Geotechnical Engineer for on-call miscellaneous engineering services contract. Tasks included soil investigation, testing and foundation recommendations for construction documents for the Phase 1 expansion of automobile processing facilities at the Masonville Marine Terminal. The work included foundations for buildings and retaining walls, high mast lighting pole foundations, paving design, and soil slope stability analysis and design recommendations.

Sideling Hill Interpretive Center, Washington County, Maryland: Subsurface investigation, soils analysis, and foundation recommendations for 7,500 square foot interpretive center and 1,500 square foot rest area building for State Highway Administration.

Awards

2006 Meritorious Service Award by the Maryland Section of the American Society of Civil Engineers.

TERRY W. SCHMIDT, P.E.
Vice President, Engineering

EDUCATION:
M.S., Mining Engineering, 1994, The Pennsylvania State University
B.S., Mining Engineering, 1985, The Pennsylvania State University

PROFESSIONAL REGISTRATIONS:
Professional Engineer, PA, NC, TN, VA, MD, OH

A leading authority on mine reclamation practices including the treatment of acid mine drainage (AMD), Mr. Schmidt has served as Engineer-In-Charge of many assessment and mitigation projects. Mr. Schmidt's responsibilities have included directing the development and implementation of comprehensive field investigations, managing the data evaluation process, determining Best Available Technologies (BAT), developing engineering design packages, obtaining necessary permits, supervising construction inspection activities, and overseeing long-term monitoring and system operation and maintenance requirements.

As a result of his extensive experience, Mr. Schmidt has developed a unique understanding of the interrelationships between active and abandoned mine complexes, water quality, particularly pH and elevated metal concentrations, local geology and hydrogeology, and flow rates and their impact on the selection of the most appropriate abandoned mine reclamation practices. In addition to his project responsibilities, Mr. Schmidt is a well-published author on AMD issues. He has presented his technical papers at professional conferences held throughout the United States.

PROFESSIONAL EXPERIENCE

Valley Point #12, West Virginia – Evaluated AMD treatment alternatives and designed treatment system in Preston County under a contract with Friends of Deckers Creek. The design effort included: capture of the discharges at the Portal Locations; developing provisions for unexpected blowout of the mine pool; **conveyance pipes, culverts, and channels**; treatment ponds; regrading; and revegetation. The system was constructed in 2008 under the construction supervision of West Virginia AML personnel with Skelly and Loy oversight.

Porter Tunnel, Pennsylvania – Assisted in the management of 15,000 acres of active and abandoned mine lands in Schuylkill County, Pennsylvania for Rausch Creek Land. The management activities included thousands of acres of abandoned mine lands as well as a dozen active surface and underground mine permits. As part of this effort, a wet mine seal was designed for the Porter Tunnel as well as two conventional mine seals at associated air shaft and access points to the mine. The **wet seal including a 54 inch steel pipe extending 500 feet into the mine opening**. The mine opening was accessed from the surface using a drill and a flowable fly ash/Portland cement mixture was used to structurally strengthen the mine opening below State Route 209. The project also included the design of an active treatment system for the discharge.

Blackleggs Creek, Pennsylvania – Evaluated AMD treatment alternatives and designed treatment systems in Indiana County under a contract with Blackleggs Creek Watershed Association. Four treatment systems were designed: Kolb; Big Run #2; Big Run #7; and Big Run #8. Treatment systems included the **design of four wet mine seals at portal locations**, one at each treatment system. Flow rates from the portals ranged from hundreds of gallons per minute (gpm) to several thousand gpm. The design effort included: wet mine seals; developing provisions for unexpected blowout of the mine pool; conveyance pipes, culverts, and channels; treatment ponds; regrading; and revegetation. The Kolb system was constructed in the early 2000's, followed by Big Run #2, Big Run #7, and Big Run #8 which is scheduled for completion in 2009. Construction activities have been completed each construction season in a logical and sequential manner with construction supervision completed by Skelly and Loy.

Cold Stream, Pennsylvania - On behalf of the Woodduck Chapter of Trout Unlimited with funding provided by Pennsylvania's Growing Greener program, Mr. Schmidt managed the design and construction of an acid mine drainage treatment system. Based on a **thorough evaluation of site conditions and water quality data**, he designed a Vertical Flow Reactor (VFR) to treat the main AMD seep known as "Chiller Seep". Components of

the system include a layer of compost to strip oxygen followed by contact with limestone to impart alkalinity. The net alkaline water is then routed through pond and wetland cells for precipitation of metals. The system also includes a passive flushing technology for removal of aluminum.

Hubler Run, Pennsylvania - Evaluated AMD treatment alternatives for this tributary to the Susquehanna River under a contract with The Freshwater Institute, an arm of The Conservation Fund. Project activities included **comprehensive field investigations, data evaluations,** and engineering design package preparation. Engineered a passive, periodic flushing system that maintains the hydraulic conductivity and treatment performance of an open limestone pond system. The treatment system consists of independent open limestone cells for alkalinity addition and two wetland cells in series for settling precipitated metals.

Friedline Mine Site, Pennsylvania - Currently directing the assessment and rehabilitation of an operating **passive AMD treatment system**. Managing the evaluation of water quality data, review of SAPS engineering drawings, and coordination with regulatory agencies. Supervising system restoration to include installation of an aluminum recovery loop, removal and replacement of iron/compost layer, inspection of limestone layer and replacement if necessary, upgrade of flushing system, and lining the outflow channel with limestone. Developed a plan to capture newly formed seeps and direct them to a new open limestone pond.

Raccoon Creek, Pennsylvania - Completed a **Watershed Abandoned Mine Drainage (AMD) Survey** and Preliminary Restoration Plan for the Raccoon Creek watershed located in western Pennsylvania. Working closely with local groups, concerned citizens and government agencies, Mr. Schmidt identified significant AMD discharge sources and quantified impacts to the watershed. As a result, remediation methods were identified and cost estimates were developed for future remediation actions for the seven highest prioritized AMD discharges.

Keyser's Ridge, Maryland - Rehabilitated two leachate treatment systems that had been installed to treat highway runoff and groundwater discharge from the embankment of U.S. Route 68. Responsibilities included evaluation of systems operations, **analyses of water quality data**, development of rehabilitation and operation and maintenance plans, supervision of construction, preparation of as-built drawings, and long-term monitoring of systems performance.

Private Client, Pennsylvania - **Investigated 42 water discharge locations** from a large graphite producer which discharges a combination of acid mine drainage, industrial process wastewater, stormwater, and various other flows which enter the site. Conducted dye tests, performed flow measurements, implemented a sampling and testing program, prepared reports of findings, prepared an Industrial Process Wastewater NPDES Permit, and attended negotiation meetings with the State regulatory agency.

Private Client, Tennessee - Served as Principal Investigator in an **acid mine drainage assessment** in Tennessee. Conducted laboratory and on-site treatability studies to define effective chemical treatment approaches and assisted in the design of passive treatment systems. Defined and mapped groundwater basin recharge areas and evaluated the impacts of pumping activities on the regional groundwater flow. Evaluated the hydrologic impacts of the surface coal mine reclamation activities on the receiving streams.

Private Client, Alabama - Served as Principal Investigator in an **evaluation of chemical and passive treatment systems** for mine drainage in Alabama. Evaluated current treatment systems and suggested potential cost-effective improvements to existing and planned treatment systems. Conducted treatment studies for fluoride reduction in mine reclamation area runoff water. Two methods of fluoride reduction were studied in the laboratory: ion exchange and uptake by soil materials. Assisted in the design of the full scale treatment system using uptake by soil materials.

Surface Mine Operator, Pennsylvania - Managed and operated surface coal mines for W. Schmidt Coal Company in Pennsylvania for over four years. Responsible for all aspects of the day-to-day surface mining activities from property evaluation through job completion. As the mine operator, his duties included

implementation of drilling programs; permitting; erosion and sediment control planning; environmental compliance; mine planning; and reclamation. Also negotiated the sale of active permit areas as well as equipment rental and purchase agreements.

Graduate Studies - While working towards an M.S. in Mining Engineering at Penn State University, assisted in the development of the software package "REMINE." Responsible for writing the Basic computer code and associated user's manual sections for one module. "REMINE" is a commercially available software package used for Best Professional Judgment Analysis required by the Federal Clean Water Act to obtain a surface mining permit for remining of abandoned mine lands with pre-existing pollutional discharges. "REMINE" was developed under the cooperation of the Environmental Protection Agency, the Pennsylvania Department of Environmental Resources, and Penn State University.

PROFESSIONAL AFFILIATIONS:
The Society of Mining Engineers of America - Institute of Mining Engineers
The American Society for Surface Mining and Reclamation
American Institute of Mining Engineers
Penn Anthracite American Institute of Mining Engineers
Acid Drainage Technology Initiative (ADTI)

PUBLICATIONS
"Evaluating Successes in Passive Treatment at Sequatchie Valley Coal Corporation in East Central Tennessee", presented at the 2001 National Meeting of the American Society for Surface Mining and Reclamation, Albuquerque, New Mexico, (principal author)

"Passive, Periodic Flushing Technology for Mine Drainage Treatment Systems", presented at the 2001 National Meeting of the American Society for Surface Mining and Reclamation, Albuquerque, New Mexico, (co-author)

"Prediction of Water Quality at Surface Coal Mines", published by National Mine Land Reclamation Center, Morgantown, West Virginia, 2001, (co-author)
"Assessment of the Applicability of an Anoxic Limestone Drain for a Surface Mine in East Central Tennessee", presented at the 1996 National Meeting of the American Society for Surface Mining and Reclamation, Knoxville, Tennessee, (principal author and presenter).

"Coal Remining Analysis for Maximum Resource Recovery and Environmental Improvement", Master of Science Thesis, The Pennsylvania State University, 1994.

"Remine: A Computer Program for the Analysis of Abandoned Mine Lands Projects in the United States": presented at the Surface Coal Mining and Reclamation Symposium in Alberta, Canada, 1988 (coauthor).

URS

Thomas A. Page, CEA, REPA

Senior Environmental Scientist/Fisheries Biologist

Areas of Expertise

- Wetland Identification and Delineation
- Stream Habitat Assessments
- Natural Resource Investigations for NEPA
- Watershed Assessments
- Aquatic Biological Surveys
- Permit Application Preparation for Aquatic Resources
- Aquatic Resource Mitigation
- Natural Stream Channel Design
- Threatened and Endangered Species Studies
- AMD Remediation
- Rail-to-Trail Studies
- Grant Application Preparation

Years of Experience

With URS Corporation: **1**

With Other Firms: **20**

Education

M.S. Wildlife and Fisheries Resources 2004
West Virginia University

B.S. Environmental Resource Management 1988
Pennsylvania State University

Registration/Certification/ Training

Certified Environmental Auditor (CEA #2007)

Registered Environmental Property Assessor (REPA #2016)

Overview

Mr. Page is a Senior Environmental Scientist with more than 20 years of experience. Mr. Page provides a broad array of environmental services including wetlands identification and delineation, aquatic biological surveys, benthic macroinvertebrate sampling, watershed and stream assessments, aquatic resource mitigation, natural stream channel design, threatened and endangered species studies, rail-to-trail studies, abandoned mine drainage (AMD) remediation, environmental permitting, construction/compliance monitoring, NEPA surveys, Phase I Environmental Site Assessments, and grant application preparation.

Project Specific Experience

AMD Watershed Studies and Remediation Projects

- **Raccoon Creek Watershed Association/Washington County Watershed Alliance (WCWA), *Raccoon Creek Watershed AMD Survey and Preliminary Restoration Plan (December 2000)*** – For a former employer Mr. Page served as the Project Manager and lead scientist/planner for this watershed plan. Mr. Page prepared the $31,000 grant application for WCWA. This watershed assessment specifically studied AMD issues within the 184 square mile watershed and the 16 municipalities within its boundaries. This plan reviewed the mining history, geology, mining practices, and water quality of the watershed. In addition, the plan provided proposed remediation designs and cost estimates for specific AMD discharge sites. Finally, specific remediation recommendations were outlined in the plan.
- **Mountain Watershed Association, Inc. (MWA), *Indian Creek – River Conservation Plan (RCP) (September 2001)*** – For a former employer Mr. Page served as the Project Manager/lead scientist for this RCP. This comprehensive watershed assessment, which included the assessment of AMD impacts, studied the 125 square mile watershed.
- **Kellys Creek Community Association, *Kellys Creek Watershed AMD Survey and Restoration Plan (March 2006)*** – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD restoration plan. This watershed assessment specifically studied AMD issues within Kellys Creek (Glasgow, WV) a small tributary to the Kanawha River upstream of Charleston, WV. This plan reviewed the mining history, geology, mining practices, and water quality of the watershed. In addition, the plan provided proposed remediation designs and cost estimates for specific AMD discharge sites.
- **Turtle Creek Watershed Association (TCWA) – *Limestone Diversion Well - AMD Remediation Project (1996)*** – Mr. Page served as the Executive Director for TCWA and coordinated with the PADEP to gain the funding and assistance to construct this AMD remediation project in Export, Pennsylvania on an unnamed tributary.

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Registration/Certification/ Training (cont.)

Rosgen – Fluvial Geomorphology Coursework

- Level I – Applied Fluvial Geomorphology

USACOE – Regulatory IV Wetlands Identification and Delineation

USEPA – Rapid BioAssessment

USDA-NRCS – Basic Photo Interpretation

USDOI – Motorboat Operator Certification Course

USFWS/WVU - Safety Training for Backpack and Boat Electrofishing

USACOE Huntington District Regulatory Workshop

- Nationwide Permitting Processes
- Rapanos Guidance CWA
- WV-Interim Functional Assessment Approach (IFAA)

American Red Cross - First Aid and CPR (Infant through Adult)

- **MWA** – ***Sagamore/Max B. Noble AMD Remediation Project (Design - 1999/Construction - 2000)*** – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project. Mr. Page prepared the $200,000+ PADEP/EPA 319 grant application for MWA. The passive treatment system consists of the collection of two underground mine discharges from the abandoned Sagamore Coal Company's Big Chief Mine and the relocation and reclamation of a 70,000 cubic yard gob pile. This system also includes two windmills (first ever used/designed for passive treatment), designed to add oxygen to the water in order to cause the iron to drop out faster. The treatment system now removes about 87% of the iron load, 70% of the aluminum load, and 61% of the acid load.
- **MWA** – ***Gallentine AMD Remediation Project (Design - 2001/Construction - 2003)*** – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project. Mr. Page prepared the $200,000+ Growing Greener grant application for MWA. The Gallentine Project is a passive treatment system on six acres of land. It treats an acidic discharge which formerly flowed into Indian Creek. This system is designed to treat the discharge in an alkalinity-producing limestone pond, a settling basin and a compost wetland.
- **Friends of the Cheat** – ***North Fork Greens Run AMD Remediation Project (Design – 2004/Construction – 2005)*** – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project in West Virginia. Mr. Page conducted aquatic resource investigations and assisted with construction monitoring. Treatment was achieved through the design of an open limestone channel.
- **MWA** - ***Kalp II/Anna and Steve Gdosky Memorial AMD Remediation Project (October 2006-October 2007)*** – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project. Mr. Page prepared the $1.7 million Growing Greener grant application for MWA. These funds were then matched to federal funds to permit the construction of the project. Mr. Page then served as the construction inspector during construction activities for five of the nine month construction period. The project was awarded USDOI, Office of Surface Mining's Appalachian Region 2007 Project of the Year Award.
- **Friends of Decker's Creek** - ***Valley Point #12 AMD Remediation Project (Design – 2006/Construction – 2007/2008)*** – For a former employer Mr. Page served as the Project Manager and lead scientist for this AMD remediation project in West Virginia. Mr. Page conducted aquatic resource investigations, the jurisdictional determination with the USACOE/WVDNR, and assisted the client with project permitting activities. Treatment was achieved by designing a system that allowed the two discharges to flow into a leach basin then to two sulfate reducing bioreactors with final polishing by aerobic wetlands.

URS

John J. Smelko

Office Manager and Environmental Staff Scientist

Areas of Expertise

Decontamination and demolition
Construction quality assurance
Site management
Environmental health and safety

Years of Experience

With URS: 13 Years
With Other Firms: 7 Years

Education

BS/Applied Mathematics/University of Pittsburgh/1989

Overview

Mr. Smelko is currently serving a dual role for URS. He is Office Manager of the Charleston, WV office and also Project Manager and Environmental Staff Scientist specializing in decontamination and demolition projects. He has a very strong background in Construction Quality Assurance (CQA) work and associated Site Management, Environmental Field Sampling/Chemistry Work, Environmental Health and Safety, Technical Writing, and Organic/Inorganic Data Validation. He has been in the environmental field for 20 years and has managed and trained employees in the key performance areas listed below.

Project Specific Experience

URS Charleston, WV Office Manager

Currently managing a staff of transportation and environmental engineers. In addition to managing environmental projects, office employees report both functionally and administratively through Mr. Smelko. Primary duties include office sustainability through quality workmanship and local/regional market development with the intent to grow the office both in size and revenue.

Environmental Science Experience:

- Assistant Project Manager and Site Manager on a multi-million dollar decontamination and demolition project for a major chemical manufacturing corporation. Specifically providing technical support on scoping activities and acting environmental health and safety leader for the project.
- Hazardous Waste Site Work – Site Manager and Project Chemist on numerous hazardous waste projects including work for PA Department of Environmental Protection: Tri-State Wholesale Oil Company Site, Mattes Sandblasting Site, and Superior Dry Cleaning Site. Primary work involved hazardous waste characterization and disposal as well as general site clean-up in order to mitigate potential threats to human health and the environment.
- Health and Safety Officer for a US Army Corps of Engineers Demolition Project ($17-18 Million Project) – Managed a multi-lingual work force of 150, managed Lock-Out/Tag-Out and Hot Work Programs, interfaced with the client, conducted health and safety meetings, developed work practice modifications as necessary, and performed general health and safety oversight.
- Oil Industry Client – Provided construction quality assurance oversight of geosynthetic liner system installation for a stormwater treatment pond and wrote the associated certification report.

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Specialized Training

Hazardous Waste Operations and Emergency Response Training
HAZWOPER 8-Hour Refresher Training
Troxler Nuclear Density Gauge Safety Training
Niton XRF Safety Training
Confined Space Entry Training
CPR/First Aid Training
Winning Proposal Workshop
Asbestos Abatement Supervisor – WV License
Apollo Root Cause Investigation Training

Chronology

1993-Present: URS Corporation, Charleston, WV
1986-1993: Keystone Environmental Resources, Inc.

Contact Information

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URS

Norman Roush, P.E., P.S.

Regional Director of Transportation

Areas of Expertise

Design, geometrics, preconstruction engineering management

Years of Experience

With URS: 3 Years
With Other Firms: 45 Years

Education

BS/Civil Engineering/1959/Ohio University

Registration/Certification

Professional Engineer/WV, OH
Professional Surveyor/WV, OH

Overview

Prior to joining URS, Mr. Roush was employed by the West Virginia Department of Transportation for 40 years in multiple roles. During his tenure at the WVDOT, Mr. Roush served as the Assistant Design Division Director, Chief Engineer of Development, Assistant to the State Highway Engineer, Deputy Commissioner of Highways, and Deputy Secretary of Transportation. Mr. Roush is currently the Regional Director of Transportation Services for the Charleston, West Virginia office of URS. In this position he is responsible for the management of the Highway, Bridge, Traffic, and Geotechnical Engineering Divisions of the Office. He has also served on numerous national and state transportation committees, task forces, and panels.

Specialized Experience

Preconstruction and Design – As Assistant Director of Design, Mr. Roush supervised all roadway design on all systems in the State of West Virginia. As Chief Engineer of Development, Mr. Roush was responsible for the roadway design, right-of-way, traffic engineering, and structural design and maintenance. This necessitated close coordination with the Project Control Division in developing and monitoring schedules for all projects developed in the Charleston Central Office. Coordination with other offices was required to assure full and appropriate input at the correct point in the process.

Transportation Committee and Task Force Participation – During his career with the DOT, Mr. Roush was active in several AASHTO committees including the Standing Committee on Planning and the Subcommittee on Design. He served as chair of the Task Force on Preconstruction Engineering Management, which developed the AASHTO "Guidelines for Preconstruction Engineering Management." Mr. Roush specialized in geometric design on a national level through his service on the AASHTO Geometric Design Task Force. He served on that Task Force from 1979 until his retirement from WVDOT in 2005. He co-authored several chapters of Editions 1 through 5t of "A Policy on Geometric Design for Highways and Streets" AASHTO Green Book.

He is currently a member of the TRB Committee on Geometric Design and has been and is active in several National Cooperative Highway Research Program panels both as chair and as a member. These included chairing the panel which developed the AASHTO Guide for the Design of Very Low Volume Roads (less than 400 ADT). Mr. Roush has served on several panels accomplishing research on highway sight distances, and others on shoulder usage and on the research to determine methods to

expedite the preconstruction process. He currently serves on the NCHRP Panel developing a guideline for "Accelerating Transportation Program and Project Delivery: Concept to Completion." He was selected to serve on the Local Road Needs Subcommittee of the World Road Association (PIARC).

Mr. Roush currently is listed as one of the National experts on Roadway/Geometric available to serve on the FHWA Accelerated Construction Technology Transfer (ACTT) panels. These teams meet with DOTs to review plans which are near construction and on which alternate methods of construction or sequencing may provide expedited schedules.

He has received several honors during his career including the National Design Award for AASHTO and Regional Design Award for the southeastern region of AASHTO (SASHTO) on two separate occasions.

Professional Societies/Affiliates

WVSPE
NSPE
ASCE
TRB-Geometric Design Committee/NCHRP Panels

Awards

National Design Award – AASHTO
Regional Design Award – southeastern region of AASHTO (SASHTO)

Chronology

1965/West Virginia State Road Commission (now the West Virginia Department of Transportation), Design Division
1966/Section Head for Consultant Review
1970/Assistant Division Director, Design Division
1977/Chief Engineer Development
1985 and 1997/Chief Engineer Development and Assistant to the State Highway Engineer
1997/Deputy Commissioner of Highways
1998/Dual position of Deputy Secretary of Transportation and Deputy Commissioner of Highways
2005/Regional Director of Transportation, URS Corporation

Contact Information

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URS

R. Bruce Bosley, P.E.

Senior Bridge Engineer

Areas of Expertise

Project Management
Structural Engineering

Years of Experience

With URS: 3 Years
With Other Firms: 16 Years

Education

BS/Civil Engineering/1993/WV University Institute of Technology

Registration/Certification

PE/WV/16616

Overview

Mr. Bosley has over 14 years of engineering experience primarily in West Virginia and has been responsible for the study, engineering design and preparation of contract plans and related documents for various commercial, industrial, and water/wastewater facilities. Having served as project manager and structural engineer on several structural projects, his management and engineering tasks include representing URS to the client in regard to all project management matters, structural steel design, reinforced concrete design, core boring administration, shop drawing review, and Quality Assurance/Quality Control (QA/QC) reviews. Some projects involved the design and study of mechanically stabilized earth (MSE), pile/lagging, segmental block and cast-in-place retaining walls. Provided Clean Water Act Section 404 and 401 permitting and assisted in various stream bank mitigation projects.

Project Specific Experience

VVVDOT-DOH, 1-64 Milton Interchange Bridge, Cabe11 County; Preliminary superstructure and substructure design for replacement of existing 61.05m (197.0 ft.) three-span east and westbound bridges with upgrade to HS-25 loading. Served as assistant project manager/project engineer and provided span arrangement submission for total replacement.

WVDOT-DOH, 1-64 Hurricane Interchange Bridge, Putnam County; Complete bridge design to replace existing four-span, two-lane County Route 19 bridge to 60.35m (198.0 ft.) two-span, five-lane structure. Project also ncluded widening existing two-lane roadway to five lanes. Total project length .451km (0.28 mi.). Served as project engineer, provided contract plans for superstructure and substructure design, maintenance of traffic and signage layouts.

WVDOT-DOH, U.S. Route 60 Amandaville Coal River Bridge, Kanawha County; Full superstructure and substructure replacement of a 173.74m (570.0 ft.) five-span, four-lane bridge across the Coal River. Served as assistant project manager/project engineer, provided contract plans for total replacement and maintenance of traffic layouts.

WVDOT-DOH, U.S. Route 60 Amandaville CSX Railroad Overpass Bridge, Kanawha County; Preliminary superstructure and substructure design for a 90.83m (29S.0 ft.) four-span, four-lane bridge over CSX railroad. Served as assistant project manager/project engineer and provided span arrangement submission for total replacement.

WVDOT-DOH, Corridor L, Nicholas County; Performed drainage calculations and sized drainage structures for the 6.95 km (4.32 mi) project from Muddley Valley Road to south of Young's Monument Road.

Buckhannon, West Virginia, Jenkins Ford Mercury, Inc. Auto Body Shop; Performed retaining wall design and foundation design for pre-fabricated metal building.

URS

South Charleston, West Virginia, S & K Menswear Storefront Renovation; Provided structural design for modification of existing storefront.

St. Albans, West Virginia, Chapman Technical Group Offices; Performed structural calculations and reviewed shop drawings for the office addition and renovation.

Charleston, West Virginia, Charleston Job Corps Center; Checked shop drawings , provided site inspection for concrete footing placement, and performed various structural calculations for the nine building project funded by the United States Department of Labor.

Pendleton County, West Virginia, Seneca Rocks Visitor Center; Designed concrete anchoring slab for underground storage tank and designed retaining wall for handicap ramp.

Charleston, West Virginia,Yeager Airport Terminal Building Expansion; Provided structural design for 4 million dollar terminal renovation and additions project. Project included new 22 ft. vaulted ceiling in the existing/new ticket lobby, two new elevators, two new passenger loading bridges, two new baggage claim conveyors and enlarged passenger boarding area.

Scott Depot, West Virginia, City National Bank; Designed one story 3,900 sq. ft. masonry structure and 1,300 sq. ft. drive-thru canopy with supplementary steel beams and columns to support new steel bar joists and metal deck roof.

Charleston, West Virginia, Executive Air Terminal Facilities; "Design-Build" project with Harco Construction - 40'x70' two story masonry structure w/ 10'x18' atrium area on each floor.

Dunbar, West Virginia, Fletcher Square Renovations; Designed structural steel for storefront renovation and also evaluated existing riveted steel roof members for location of new HVAC units.

Charleston, West Virginia, Robert C. Byrd Statue - Capitol Rotunda; Analyzed existing steel beams and reinforced concrete floors for support of the new Byrd statue located in the Capitol Rotunda.

Wayne County, West Virginia, Beech Fork State Park Swimming Pool; Provided reinforced concrete wall and slab design for the 9,000 sq. ft. pool.

Monroe County, West Virginia, Moncove Lake State Park Swimming Pool; Provided reinforced concrete wall and slab design for the 3,500 sq. ft. pool.

Chesapeake, West Virginia, Chesapeake Senior Center Renovations; Provided site inspection and verified that the existing structural roof system was adequate to carry design loadings per current design specifications.

Ritchie County, West Virginia, USDA-SCS North Fork Hughes River WTP; Designed three story water treatment plant with the following reinforced concrete treatment tanks: filters, gravity flocculators, sludge thickener, recycle tank, chemical spill tank and clearwell.

URS

V. Marcus Lowery, P.E., P.L.S.

Senior Engineer and Lead Surveyor

Areas of Expertise

Roadway & Drainage Design,
Civil/Site Development Design
Route Location Surveys
Property & R/W Surveys

Years of Experience

With URS: 1 Year
With Public Entities: 8 Years
With Private Firms: 6 Years

Education

BS/Civil Engineering/1993/North Carolina State University

Registration/Certification

1999/PLS/NC/PLS#: L-4002
2002/PE/NC/PE#: 27418
2007/PE/PA/PE074797
2007/PLS/PA/002015(Temp.)

Overview

Mr. Lowery has over 14 years of experience in the Transportation/ Highway & Civil/Site Engineering fields. Mr. Lowery has worked for both the public and private sectors performing Project Management and Design Engineering. Mr. Lowery served as Project Manager/Senior Engineer for NCDOT, municipal, railroad, and private clients. Mr. Lowery is responsible for establishing and maintaining budgets and schedules, preparing and sealing final construction plans, engineer's estimates, project special provisions, and final survey plats. Mr. Lowery was also involved in client relations through scoping and negotiating for new projects.

Project Specific Experience

Dithridge Street Waterline Improvements, Pittsburgh Water & Sewer Authority (PWSA), Pittsburgh, PA. Survey Project Manager for route-location surveys for a major waterline replacement project running approximately 2000 linear feet and covering 9 acres from the Pump Station at Dithridge St. and Center Ave. to the Herron Hill Reservoir at the top of Herron Hill. Mr. Lowery worked as the Survey Project Manager for the project, performing the duties of field survey and CADD fee estimates, overseer of all field survey work, office computations, and CADD work.

Mon-Fayette Expressway, Pennsylvania Turnpike Commission, Pittsburgh, PA. Senior Technical Reviewer with other consultants to design this complicated I-376 and Mon-Fayette Expressway interchange in Oakland. URS has been tasked, among other things, with structure design, geotechnical design, utility conflict design, and storm drainage design. Mr. Lowery served as Senior Technical Reviewer for the drainage design for Design Field View plan submission. He also performed preliminary cost estimates for drainage quantities.

Hallelujah Acres Site (Mixed Use Development), Hallelujah Communities, LLC, Shelby, NC. Project Manager/Senior Design Engineer for the project team consisting of an Architect, Landscape Architect/Land Planner, Structural Engineer, Mechanical Engineer, Electrical Engineer, Construction Manager, and Interior Designer. Mr. Lowery was the primary point of contact for TGS Engineers (his former employer). Prior to leaving the firm, Mr. Lowery was involved in project planning, contract negotiations, boundary and topographic surveys, preliminary horizontal, vertical, and grading design, and the public agency review and buy-in process.

Park Crossing Subdivision, WNC Holdings, LLC, Rutherfordton, NC. Worked as the Land Planner, Civil Engineer, and Land Surveyor of

record on a project team consisting of the Owner/Developer, Home Builder, Grading Contractor, and Real Estate Agency. Mr. Lowery was the primary point of contact for TGS Engineers (his former employer). Prior to leaving the firm, Mr. Lowery was the key player in the boundary and topographic surveys, subdivision layout and design, mass-grading and erosion control plans, waterline plans, sanitary sewer plans, and the public agency review and buy-in process.

Magnolia Plantation (Mixed Use - Planned Unit Development), Magnolia Partners, LLC, Shelby, NC. Worked as the Land Planner, Civil Engineer, and Land Surveyor of record on a project team consisting of the Owner/Developer, Home Builder, Grading Contractor, and Real Estate Agency. Mr. Lowery was the primary point of contact for TGS Engineers (his former employer). Prior to leaving the firm, Mr. Lowery was the key player in the boundary and topographic surveys, subdivision layout and design, mass-grading and erosion control plans, waterline plans, sanitary sewer plans, and the public agency review and buy-in process.

TIP#: I-3819 (I-40 & I-77 Interchange), North Carolina Department of Transportation, Statesville, NC. TGS Engineers performed Hydrographic & Drainage Surveys on 13 miles of Interstate/Side Roads for a project planned to re-work a major interstate interchange. Mr. Lowery served as Survey Project Manager for this project responsible for scoping and negotiating man-hours, providing bi-weekly progress reports, overseeing project mapping, and project deliverables.

TIP#: I-4411 (Intersection of I-77 & SR 1102), North Carolina Department of Transportation, Mooresville, NC. TGS Engineers performed Condemnation Surveys for nine (9) parcels affected by this proposed interchange project. Mr. Lowery served as the Record Surveyor for this project responsible for Condemnation Survey Exhibits for court proceedings.

TIP#: U-3812 (NC 88 from NC 194 to US 221), North Carolina Department of Transportation, West Jefferson, NC. TGS Engineers performed complete Route Location/Existing Conditions Surveys for 2 miles of two-lane roadway to be re-aligned and widened. Mr. Lowery served as Survey Project Manager for this project responsible for scoping and negotiating man-hours, providing bi-weekly progress reports, overseeing project mapping, and project deliverables.

TIP#: R-2233AA&AB (US 221 from SC State Line to US Hwy 74), North Carolina Department of Transportation, Rutherford County, NC. TGS Engineers performed complete Route Location/Existing Conditions Surveys for 9 miles of two-lane roadway to be re-aligned and widened. Mr. Lowery served as Survey Project Manager for this project responsible for scoping and negotiating man-hours, providing bi-weekly progress reports, overseeing project mapping, and project deliverables.

URS

John Patten

CADD/Field Technician

Overview

Mr. Patten has done a broad range of field work and drafting services for URS.

Areas of Expertise

AutoCAD

Years of Experience

With URS: 7 Years
With Other Firms: 2 Years

Education

Specialized Technology Degree/1999/Computer Aided Drafting/Pittsburgh Technical Institute

Certificates

OSHA Trained & Certified – 40 Hour, CFR 1910.120(e)

8 hour Refresher March 2008

OSHA Trained & Certified – Confined Space training, 29-CFR-1910, 146

PACP Pipeline Assessment User Training, 6-08

Project Specific Experience

- Provided drawings for Cingular site designs for Bechtel, Inc. including raw land sites, water tanks, and building tenant improvement sites. Site drawings included towers, tanks, and existing buildings

- Provided site drawings for environmental assessment of BP facilities for environmental site monitoring and remediation assessments, including groundwater contour maps, geological cross sections and remediation system schematics.

- Provided site drawings for environmental assessment of Shell facilities for environmental site monitoring and remediation assessments, including groundwater contour maps, geological cross sections, iso-concentration maps and product thickness maps.

- Field Technician for the 316(b) project for studies conducted for coal fired power plants located on the Allegheny and Monongahela Rivers. These studies included impingement and entrainment studies, as well as bathometric studies.

- Field technician for resistivity studies to determine soil density for grounding plan development.

- Provided site drawings for cellular communications facilities for several carriers including storm grading plans, grounding plans site layout and design, and structural details of supporting structures for rooftop and tower installations located in western PA, WV, and eastern OH.

- Provided Nextel site drawings and equipment upgrades for several sites including platform reconfigurations.

- Provided Sprint site designs drawings for grading and storm water management plans, structural analysis, and construction drawings.

- Field technician for monitoring of water flow in internal piping at Republic Steel in Canton, Ohio

URS

Dale Wagner, P.G.

Senior Geologist

Areas of Expertise

- Soil and Groundwater Investigations
- Geotechnical Investigations
- Phase 1 & 2 Site Assessments
- Site Reconnaissance

Years of Experience

With URS: 12 Years
With Other Firms: 10 Years

Education

BS / 1985 / Geology /
California State University

Registration/Certification

Professional Geologist,
Commonwealth of Pennsylvania,
1995

Overview

Mr. Wagner has over 22 years of professional experience conducting various aspects of geological and environmental investigations and remediation programs. He has gained diverse technical skills from projects involving ground water investigations and geotechnical investigations for government, commercial, and industrial clients.

Project Specific Experience

- Aided in delineating a jet fuel pipeline release at a residential area located in southern Virginia as part of an emergency response. Provided field oversight for direct push sampling and installation of approximately 50 piezometers and 50 vapor points. Described soils in geologic boring logs. Screened soil vapors to select samples for laboratory analysis. Information gained from these tasks proved essential in guiding soil excavation and removal activities.

- Provided field oversight for geotechnical investigations at proposed electric power plant sites in Pennsylvania, Ohio and New York. Described and classified rock core and soils to determine strength of bedrock and depth to bedrock. The information obtained was important for determining removal methods (i.e. rock ripping or blasting) and the stability of foundation soils and rock cut slopes.

- Performed a site investigation at an Industrial Site in Kentucky involving installation of groundwater monitoring and sampling wells. From this information supplemented with the excavation of test pits, a previously unknown fault was discovered at the site, which was found to impact the direction and rate of groundwater flow. This new information was used in relocating a water treatment system at the site.

- Provided construction quality assurance/ quality control oversight for the installation of HDPE liners and storm water control systems for landfill sites in Ohio and Pennsylvania. Conducted health and safety monitoring and held daily safety meetings for site personnel. Also provided oversight for the installation of utilities such as storm water lines, water lines, gas lines and electric lines at the Pennsylvania site. Provided post construction environmental monitoring.

- Performed groundwater investigation activities for an intrinsic remediation project at a Superfund site in western Pennsylvania. Activities included monitoring well installation, geologic logging, documentation, health and safety monitoring, low-flow groundwater sampling utilizing bladder pumps and barcad samplers, aquifer testing, and report writing. Provided post construction environmental monitoring.

- Participated in a remediation project at two natural gas compressor stations in northern Pennsylvania. Coordinated day-to-day project activities with remediation contractor and analytical laboratory. Provided field oversight, samples soil, prepared site drawings, performed data analysis, evaluated technical documents, and wrote the remedial action reports for the two stations.
- Performed a water supply investigation to determine the suitability of a site for providing water of sufficient quantity and quality for a proposed gas-fired electric plant in Ohio. Provided field oversight for the installation of groundwater wells. Performed pumping tests to calculate specific capacity and yield. Sampled wells to determine whether water quality could adversely impact the proposed cooling towers. Calculated the optimal well diameter screen opening requirements to provide the necessary water supply for proposed cooling towers.
- Supervised test boring, rock coring, and piezometer installation at an electric generating ash disposal site for a major utility company in central Pennsylvania. Described and classified rock and soil samples and participated in preparation of PADEP modules.
- Performed ground water investigations at seven ash disposal sites in western Pennsylvania for a local power company. Activities included NX coring, air rotary drilling, monitoring well installation, well development and sampling. Identified and correlated rock core to determine water bearing zones, to target depths for installation of monitoring wells, and to create geologic cross-sections. Prepared potentiometric surface maps of the hydrogeologic units at each site to assess changing groundwater flow conditions over time. Wrote groundwater-sampling procedures manuals for client personnel working at the sites and provided guidance to site personnel in implementing the sampling procedures.
- Performed soil sampling and PCB wipe sampling for a natural gas company at numerous sites in Ohio and West Virginia. Supervised excavation of contaminated soils and performed clearance sampling to confirm adequate cleanup.
- Performed soil and water sampling at two sites in Kentucky to evaluate the effectiveness of a bioremediation project for a gas transmission company. Wrote sections of the final report.
- Performed field investigations involving overburden/bedrock drilling, geologic logging, monitoring, well installation, and soil/ground water sampling in U.S. Army sites in Illinois, Iowa, and New Jersey.

Specialized Training
40-Hour HAZWOPER Training (OSHA 1910.120)
8-Hour Annual Refresher Training (OSHA 1910.120)
Confined Space Entry Training (OSHA 29 CFR 1910.146)
PADOT Level 1 Inspector

URS

Amanda L. Bayne

Project Geologist

Areas of Expertise

- Geologic logging and water sampling
- Subsurface geological and hydrogeological interpretation

Years of Experience

With URS: 2 Years
With Other Firms: 3.5 Years

Education

B.S./Geology/2003/Pitt-Johnstown

Registration/Certification

40 Hour HAZWOPER Certification [OSHA 29 CFR 1910.120(e)] with annual refreshers.

38 Hour ACoE Wetland Delineation & Management Training

Radiological Training (NUREG-1556)

10 Hour Construction Safety & Health (OSHA #001284900)

8 Hour OSHA Supervisor Training (OSHA 29 CFR 1910.120 (e)(4), certificate 68537)

Smith System Defensive Driving Course

Overview

Ms. Bayne has gained experience in geological logging and drafting during geotechnical and environmental investigations. She has gained diverse technical skills from projects involving ground water investigations and sampling, petroleum remedial investigations for industrial clients, and Phase I and II Environmental Site Assessments. Ms. Bayne is also wetland delineation and management trained. She has technical writing experience in preparing and reviewing environmental reports and records, field-based experience completing a wide range of environmental assessment and remediation activities, and experience in geologic characterization and interpretation.

Project Specific Experience

Phase II ESA - Perrysburg, OH

Logged test pits and trenches at soil sample locations. Took appropriate samples and sent to laboratory. Developed monitoring wells with a Monsoon pump and Oakton meter. Sampled monitoring wells with a low flow pump and flow through YSI meter. Performed slug tests and pumping tests on four wells. Wrote sections of the Phase II report, made tables and checked figures.

Phase II Subsurface Investigation - Monongahela PA

Logged borings and installed monitoring wells. Took appropriate samples and sent to laboratory. Measured/surveyed monitoring wells.

Various Shell Lubricants Projects

Logged test pits, surveyed locations, wrote sections of reports, created tables, took appropriate samples and task managed field actvities.

Helped close a facility at the request of Shell and URS project managers. Wrote sections of the closure report and monitored onsite well abandonment and other closure activites. PADEP approved closure obtained.

Various BP Projects

Assisted in logging borings and monitoring wells, provided fire watch for various projects.

URS

Professional Societies/Affiliates

Pennsylvania Geologic Society, 2005

Specialized Training

2007/10 Hour Construction Safety & Health (OSHA #001284900)
2007/HAZWOPER 8 Hour Refresher
2005/Radiological Training (NUREG-1556)
2005/38 Hour ACoE Wetland Delineation & Management Training
2004/40 Hour HAZWOPER Certification [OSHA 29 CFR 1910.120(e)] with annual refreshers

URS

Romaine K. Kesecker, RLA, ASLA

Senior Landscape Architect

Areas of Expertise

Landscape Architecture
Streetscaping
Multimodal Transportation
Environmental Impacts
Environmental Mitigation
Recreation Planning
Neighborhood Conservation
Visualization and Aesthetics
Construction Documentation
Construction Period Services

Years of Experience

URS: 9 years
Other Firms: 21 years

Education

BSLA/1978/ cum laude/
Landscape Architecture/
West Virginia University

- Bicycle and Pedestrian Planning and Design
- Context Sensitive Design for Highways
- Mike Lin Graphics
- ASLA Annual Meetings
- State licensure continuing education

Registration/Certification

- 1984/Landscape Architect/ Virginia Certified, No. 192
- 1989/Landscape Architect/ Maryland Registered, No. 886
- 1999/Landscape Architect/ Pennsylvania Registered, No. 1594
- 2001/Landscape Architect/ Delaware Registered, No. S1-0000300

Overview

Mr. Kesecker's responsibilities as a Senior Landscape Architect include project management, master and site planning, site-specific design, construction documentation, cost estimation, environmental mitigation and restoration, and other design and construction period services. He is involved in all aspects of transportation-related projects, traffic calming, recreation and park design, multi-use trails, and site development. Project types include military, federal, state, and local governmental, commercial, large-scale residential, transportation, and more. His designs integrate pedestrian, bicycle, and vehicular facilities into the design for benefit to motorists, transit users, pedestrians, bicyclists, and for accessibility.

A registered Landscape Architect since 1984, Mr. Kesecker has significant expertise in all phases of design services and has successfully completed numerous projects that required planning, design, development, landscape strategies, neighborhood conservation, public presentations, visualization renderings, value analysis, and natural resource planning, and aesthetics. He has proven experience in construction document preparation, including hardscapes, roadway, structures and bridges, utility coordination, landscape design, ADA, specifications and cost estimation. He is involved in coordinating environmental permits and forest conservation and other requirements related to environmental impacts of a proposed design. He is experienced in management and oversight of technical activities for projects including quality, schedules, budgets, and client liaison; management of staff and maintenance of group utilization; and coordination with other disciplines and subconsultants.

Project Specific Experience

John's River Stream, Town of Whitefield, New Hampshire. Landscape architect for design and technical stream bank stabilization and NH DES review for Dredge and fill 20,000 SF (impacting approximately 846 linear feet) within the bed and banks of the John's River to partially remove an existing deteriorated dam, remove contaminated sediment, construct a rock ramp, and to stabilize eroding banks. Planting plan included native upland species (non-hydrophytes) on the middle and upper bank, willow species along the lower bank and stream, and the landscape plan provided ornamental and native plant materials on adjacent property. Design: 2004/Construction: 2006.

Hebardville Wetland Mitigation and Stream relocation, Hebardsville, Ohio. Wetland mitigation construction documents for creation of 4.9 acres of new Scrub Shrub, Obligate Emergent and FACW Emergent wetland, and stream restoration including rechannelization, wetland creation, and bank stabilization. Included grading and layout, planting of wetland, stream bank, and flood plain, and cost estimation. Design: 2003/Construction: 2004.

SR 6220, Centre County, PA. Landscape design for phase one of a new addition to I-99. Included berm planting design for over 2,500' of screen berm adjacent to a residential area and landscape design for a wildlife crossing tunnel of 200' in length to allow deer to pass under the highway. Provided design for landscape screening design for the Matternville Elementary School. Design: 2004/Construction: 2006.

SR 0202-Sections 403, 404 and 405, King of Prussia, PA. Amenity design for various phases of roadway improvements for Pennsylvania Dept. of Transportation (PennDOT) in Chester and Montgomery Counties. Landscape plans included bid tabulation, construction documents, cost estimates and revisions per PennDOT review. Design: 2003/Construction: 2006.

SR 222-001, Lehigh County, PA. Landscape, planting, and reforestation design associated with environmental and screening issues related to the Breinig Historic Property adjacent to Pennsylvania Dept. of Transportation's proposed overpass of SR 100 at SR 222, and the Sarah Stettler Historic Property in the same corridor. Design: 2002/ Construction: 2006.

Landscape Maintenance Manual, MD 140 at I-695 and Beltway Widening Projects, SHA, Baltimore, MD. Prepared the first Landscape Maintenance Manuals for State Highway Administration's (SHA) Landscape Architecture and Landscape Operations Divisions. The manual's purpose is to provide design continuity in the future, after Plant Establishment Period by the contractor, for SHA to budget for and provide the commitment to the maintenance as originally intended. The manual assisted the SHA by documenting details of the design, recommended maintenance practices such as mowing limits, time for fertilization and pruning, and additional watering. Cost estimation for this 5-year plan assisted SHA to budget for success. Design: 2002/Construction: 2005.

Value Engineering for U.S. Dept. of State. Team member providing site planning and design and landscape architectural value engineering services for proposed embassies in Mali, Panama, Ecuador, Serbia, Tajikistan and others. Participated in constructability reviews of design drawings and specifications, and assisted OBO/PE/DE with value engineering analyses during their preparation, and participated in value engineering studies and attended Architectural Advisory Board design presentations. Performed studies of each site regarding all aspects of construction design, layout, and perimeter and force protection design. The value engineering incorporated and addressed cost issues, including recommendations for possible design revisions to implement the design and reduce construction costs. Design: ongoing/Construction: ongoing.

Rocky Pen Run Reservoir, Stafford County, VA. Landscape design for new areas of pump stations, including reforestation plantings, bioretention, and stormwater management facility treatments. Considered aesthetic treatments and views from river (for canoeists). Design: 2006/Construction: TBD.

WEST VIRGINIA DEPARTMENT ENVIRONMENTAL PROTECTION
AML CONSULTANT QUALIFICATION QUESTIONNAIRE Attachment "B"

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
Delbarton(Dardi)Portals Design	14, 01, 09	25-1645583

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
Skelly and Loy, Inc.	449 Eisenhower Boulvard, Suite 300, Harrisburg, PA 17111	

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise)
717-232-0593	1969	Individual X Corporation Partnership Joint-Venture	YES X NO

7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE

ADDRESS	TELEPHONE	PERSON IN CHARGE	NO. PERSONNEL
449 Eisenhower Boulevard Suite 330 Harrisburg, PA 17111	717-232-0593 FAX 717-232-1799	Terry W. Schmidt, P.E.	6

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM
8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS

Sandra Loy Bell, Chief Executive Officer
John W. Gunnett, PG, President & Chief Operating Officer
Mark A. Williams, Executive Vice President, Engineering Services
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111
717-232-0593

Robert E. McClure, Executive Vice President, Environmental Services
19741-B Leitersburg Pike
Hagerstown, MD 21742
301-766-4236

9. PERSONNEL BY DISCIPLINE => Numbers reflect participating Skelly and Loy, Inc. offices. Numbers in parentheses () reflect personnel in entire company.

17 ADMINISTRATIVE (21)	0 ECOLOGISTS (0)	0 LANDSCAPE ARCHITECTS (0)	1 STRUCTURAL ENGINEERS (1)
0 ARCHITECTS (0)	— ECONOMISTS (0)	0 MECHANICAL ENGINEERS (0)	1 **SURVEYORS (1)**
9 BIOLOGIST (12)	1 ELECTRICAL ENGINEERS (1)	4 **MINING ENGINEERS (4)**	0 TRAFFIC ENGINEERS (0)
6 **CADD OPERATORS (6)**	23 ENVIRONMENTALISTS (35)	— PHOTOGRAMMETRISTS	26 OTHER (111)
0 CHEMICAL ENGINEERS (0)	1 ESTIMATORS (1)	3 PLANNERS: URBAN/REGIONAL (5)	
5 **CIVIL ENGINEERS (6)**	8 **GEOLOGISTS (10)**	— SANITARY ENGINEERS (0)	
0 CONSTRUCTION INSPECTORS (2)	1 HISTORIANS (3)	2 SOILS ENGINEERS (2)	109 TOTAL PERSONNELL (152)
0 DESIGNERS (0)	0 HYDROLOGISTS (0)	1 SPECIFICATION WRITERS (1)	
— DRAFTSMEN			

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 1
***RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.**

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? ☐ YES ☐ NO

11. OU[illegible]IDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO [illegible] USED. Attach "AML Consultant Qualification Questionnaire".

		WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
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NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No

12. Is your firm experienced in Abandoned Mine Land Remediation/Mine Reclamation Engineering?

X YES Description and Number of Projects: Skelly and Loy has broad and diverse experience in all aspects of mine closure projects. This experience has included dozens of recent projects as well as other projects dating back to the early 1970's associated with abandoned surface and underground mines, wet mine seal design, reclamation planning, grading plans, and development of bid documents. Our experience includes soup to nuts ability from evaluation, to design and bid specifications, and through construction inspection. Skelly and Loy is a recognized leader in mine planning and abandoned mine reclamation providing mining and civil engineering, environmental, and water resources including passive and active treatment of acid mine drainage to the mining industry, state agencies, and federal government.

NO

B. Is your firm experienced in Soil Analysis?

X YES Description and Number of Projects: Soil analysis is an integral part of many abandoned mine reclamation projects conducted by Skelly and Loy. These soil analyses typically include evaluation of soils for wetland determination to soil chemistry evaluation related to revegetation requiremrents. From this standpoint, soil analysis is a component of nearly every abandoned mine land project Skelly and Loy completes.

NO

C. Is your firm experienced in hydrology and hydraulics?

X YES Description and Number of Projects: Skelly and Loy has provided hydraulic and hydrologic engineering service to the mining industry and governmental agencies. Skelly and Loy is well versed in computer applications and routinely uses computer software applicable to hydrologic and hydraulic engineering, including HEC-1, HEC-2, HEC RAS, HEC HMS, ARCINFO, as well as GIS, CADD, and Skelly and Loy's proprietary software.

NO

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

YES Description and Number of Projects:_

X NO Skelly and Loy does not have Aerial Photography Capabilities.

E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

X YES Description and Number of Projects: Skelly and Loy recently completed a project for Pennsylvania Department of Environmental protection that included evaluation of mining impacts to private wells, determined that the mining impacts were caused by pre-SMCRA mmining activities based on evaluation of aerial photos, and completed the design of a water line extension to serve the impacted homes.

NO

Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

X YES Description and Number of Projects: Skelly and Loy is a national leader in the design of passive treatment systems for Acid Mine Drainage (AMD). Skelly and Loy staff have completed approximately 100 passive treatment system designs for mining companies, state agencies, and the federal government. Approximately 50 of these designs have gone through to construction in West Virginia, Pennsylvania, Maryland, and Tennessee. A typical project includes evaluation of the mining activity that created the AMD, AMD discharge chemistry and flows, available space to construct a system, projected life of system, projected water quality, and operation and maintentance plans. .

NO

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Schmidt, Terry, W.	15	20	0

Brief Explanation of Responsibilities

A leading authority on mine reclamation practices including the treatment of acid mine drainage (AMD), Mr. Schmidt has served as Engineer-In-Charge of many assessment and mitigation projects. Mr. Schmidt's responsibilities have included directing the development and implementation of comprehensive field investigations, managing the data evaluation process, determining Best Available Technologies (BAT), developing engineering design packages, obtaining necessary permits, supervising construction inspection activities, and overseeing long-term monitoring and system operation and maintenance requirements.

As a result of his extensive experience, Mr. Schmidt has developed a unique understanding of the interrelationships between active and abandoned mine complexes, water quality, particularly pH and elevated metal concentrations, local geology and hydrogeology, and flow rates and their impact on the selection of the most appropriate abandoned mine reclamation practices. In addition to his project responsibilities, Mr. Schmidt is a well-published author on AMD issues. He has presented his technical papers at professional conferences held throughout the United States.

EDUCATION (Degree, Year, Specialization)
M.S. Mining Engineering, 1984, The Pennsylvania State University
B.S. Mining Engineering, 1985, The Pennsylvania State University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
The Society of Mining Engineers of America - Institute of Mining Engineers	Professional Engineer, 1994, PA
The American Society for Surface Mining and Reclamation	Professional Engineer, 1997, NC
American Institute of Mining Engineers	Professional Engineer, 1995, TN
Penn Anthracite American Institute of Mining Engineers	Professional Engineer, 1996, VA
Acid Drainage Technology Initiative (ADTI)	Professional Engineer, 1997, MD
	Professional Engineer, 1997, OH

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:

Brief Explanation of Responsibilities

EDUCATION (Degree, Year, Specialization)

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES

Software:

Survey Equipment:

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Central Susquehanna Valley Thruway Environmental Impact Statement, Snyder, Union & Northumberland Counties, PA	PENNDOT Engineering District 3-0 P.O. Box 218 Montoursville, PA 17754	Environmental Impact Study	$19,700,000 (fee)	90%
Open-End District-Wide Contract for Environmental and Engineering Services, PA (Agreement E00336)	PENNDOT Engineering District 12-0 P.O. Box 459 825 North Gallatin Avenue Extension Uniontown, PA 15401	Environmental Services	$1,500,000 (fee)	85%
PA Turnpike Commission, Open-End Contract for Environmental Services System-Wide Waste Management, PA (Agreement 2914)	PA Turnpike Commission P.O. Box 67676 Harrisburg, PA 17106-7676	Storage Tank Management Program	$1,500,000 (fee)	80%
Statewide Open-End Contract for Natural Resources, WV (2000)	WVDOH, State Capitol Complex Charleston, WV 25305	Natural Resources	$1,500,000 (fee)	85%
Statewide Open-End Contract for Natural Stream Design and Wetland Design Resources, WV (2002)	WVDOH, State Capitol Complex Charleston, WV 25305	Natural Stream Design and Wetland Design	$750,000 (fee)	0%
Statewide Open-End Archaeological Resources, DE (Agreement 1274	Delaware Department of Transportation 800 Bay Road Dover, DE 19903	Archaeological Resources	$1,000,000 (fee)	31%

Statewide Open-End Contract for Management Services, PA (Agreement E00668)	PENNDOT Bureau of Design P.O. Box 3161 Harrisburg, PA 17105-3161	Environmental Management Services	$300,000,000 (fee)	55%
PA Turnpike Commission Open-End Contract Environmental Services, Systemwide, PA (Agreement 1125)	PA Turnpike Commission P.O. Box 67676 Harrisburg, PA 17106-7676	Environmental Services	$750,000	99%
Statewide Open-End Contract Cultural Resources Studies/Services, WV (2002)	WVDOH, State Capitol Complex Charleston, WV 25305	Cultural Resources Studies/Services	$750,000	50%
PENNDOT Agencywide - Western Districts Waste Management, PA (Agreement 354A02-2)	PENNDOT Bureau of Office Services P.O. Box 3060 Harrisburg, PA 17105	Waste Management Services	$3.404,00 (fee)	58%
PENNDOT Agencywide - Eastern Districts Waste Management, PA (Agreement 354A02-1)	PENNDOT Bureau of Office Services P.O. Box 3060 Harrisburg, PA 17105	Waste Management Services	$3.404,00 (fee)	58%
Statewide Open-End Contract for Natural Resources, WV (2003)	WVDOH, State Capitol Complex Charleston, WV 25305	Natural Resources	$1,500,000 (fee)	11%
Statewide Open-End Contract for Natural Resources, WV (2003)	WVDOH, State Capitol Complex Charleston, WV 25305	Natural Resources	$750,000 (fee)	0%

NHS Corridor Between I-68 and Corridor H Tier One Draft EIS, WV	WVDOH, State Capitol Complex Charleston, WV 25305	Environmental Impact Statement	$1,200,000 (fee)	72%
Natural Resources Services Statewide, WV (2007)	WVDOH, State Capitol Complex Charleston, WV 25305	Natural Resources	$1,500,000 (fee)	0%
Cultural Resources Services Statewide, WV (2007)	WVDOH, State Capitol Complex Charleston, WV 25305	Cultural Resources	$750,000 (fee)	0%
Statewide Open-End Archaeological, DE (2007) (Agreement 1418)	Delaware Department of Transportation 800 Bay Road Dover, DE 19903	Archaeology	$500,000 (fee)	0%
WV Route 9 EIS Re-evaluation, WV	WVDOH, State Capitol Complex Charleston, WV 25305	Environmental Impact Statement	$108,000 (fee)	39%
TOTAL NUMBER OF PROJECTS: 18		TOTAL ESTIMATED CONSTRUCTION COSTS: $42,566,000 **(Estimated fees)**		

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS					
PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
Mon/Fayette Expressway, PA Route 51 to I-376, Allegheny County, PA	Environmental Studies,Post ROD Activities & Phase II Waste Investigations	PA Turnpike Commission P.O. Box 67676 Harrisburg, PA 17106-7676	2009	NA	$500,000 (fee)
S.R. 0286, Golden Mile Highway Improvements, Allegheny and Westmoreland Counties, PA	Final Design Environmental Activities	PENNDOT District 11-0 45 Thoms Run Road Bridgeville, PA 15017-2853	2008	NA	$225,000 (fee)
S.R. 0422 Improvement Project, Armstrong & Indiana Counties, PA	Environmental Studies & Documentation	PENNDOT District 10-0 2550 Oakland Avenue Indiana, PA 15701	2009	NA	$126,000 (fee)
Painters Run Road Roadway Widening and Reconstruction, Allegheny County, PA	Environmental Assessment	Allegheny County Dept. of Public Works 501 County Office Bldg. Pittsburgh, PA	2008	NA	$213,000 (fee)
Tunkhannock Bypass Phase III Archaeology & Historic Resources, Wyoming County, PA	Phase III Archaeology & Historic Resources	PENNDOT District 4-0 Box 111 Scranton, PA 18501	2008	NA	$3,600,000 (fee)
Mon/Fayette Expressway, Uniontown to Brownsville, Fayette and Washington Counties, PA	Post NEPA Activities & Final Design Studies	PA Turnpike Commission P.O. Box 67676 Harrisburg, PA 17106-7676	2008	NA	$1,597,000 (fee)
T.R. 711 Improvement Project, Westmoreland County, PA	Environmental Impact Statement	PENNDOT District 12-0 825 North Gallatin Avenue Ext., Uniontown, PA 15401	2008	NA	$629,500 (fee)

16. PRESENT ACTIVITIES ON WHICH YOU ARE ASSOCIATED WITH OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONTRACT VALUE	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
Altoona Transportation Improvement Project, Blair County, PA	Traffic Modeling and Needs Analysis	PENNDOT District 9-0 1620 North Juniata Street Hollidaysburg, PA 16648	2009	NA	$145,000 (fee)
Freedom Road Improvement Project, Allegheny and Beaver Counties, PA	NEPA Document, Cultural Resources, Wetland and Stream Mitigation	PENNDOT District 11-0 45 Thoms Run Road Bridgeville, PA 15017-2853	2008	NA	$463,000 (fee)
S.R. 0019, Section P02, Morrisville Widening and Relocation Project, Greene County, PA	Environmental Studies, Cultural Resources, NEPA Document	PENNDOT District 12-0 825 North Gallatin Avenue Ext., Uniontown, PA 15401	2009	NA	$230,000 (fee)
S.R. 0021, Section H10, Roadway Improvement Fayette County, PA	Environmental Studies and NEPA Document	PENNDOT District 12-0 825 North Gallatin Avenue Ext., Uniontown, PA 15401	2008	NA	$150,000 (fee)
PA Project of the Magnetic Levitation (MAGLEV) Transportation Project, Allegheny and Westmoreland Counties, PA	Environmental Studies, Cultural Resources Studies, NEPA Document	Port Authority of Allegheny County 345 -Sixth Avenue, 3rd floor Pittsburgh, PA 15222-2527	2008	$5,200,000	$1,500,000 (fee)
U.S. Route 35, St. Albans to Pt. Pleasant, Cultural Resources, Mason & Kanawha Counties, WV	Cultural Resource Studies	WV Division of Highways, Charleston, WV 25305-0430	2010	NA	$2,797,000 (fee)

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Fleming Landfill Site Closure, Sissonville, Kanawha County, WV	WV Division of Environmental Protection Office of Waste Management 1356 Hansford Street Charleston, WV 25301	$3,020,546 (fee)	2002	YES
McLaughlin Run Fluvial Geomorphology Assessment, Allegheny County, PA	Township of Upper St. Clair 1820 McLaughlin Run Road Upper St. Clair, PA 15241	$35,000 (fee)	2002	YES
PA Turnpike Commission Open-End Contract Environmental Services Systemwide Consultant Selection, PA (99-053-000)	PA Turnpike Commission P.O. Box 67676 Harrisburg, PA 17106-7676	NA	2003	NA
Heritage Reservation Stream Bank Stabilization, Fayette County, PA	Pittsburgh Council Boy Scouts of America Flag Plaza 1275 Bedford Avenue Pittsburgh, PA 15219-3699	$12,000 (fee)	2003	YES
MTBE Testing Environmental Remediation, WV	WV DEP Office of WV Division of Environmental Protection 1356 Hansford Street Charleston, WV 25301	$190,000 (fee)	2003	YES
Cowanshannock Creek, Fluvial Geomorphology, Watershed Assessment & River Conservation Plan, Fluvial Geomorphology Study, Armstrong County, PA	Cowanshannock Creek Watershed Assoc. P.O. Box 307 Rural Valley, PA 16249	NA	2003	NA
Cross Creek Watershed Assessment and Protection Plan, Washington County, PA	Cross Creek Watershed Association 602 Courthouse Square 100 West Beau Street Washington, PA 15301	NA	2003	NA

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Upper Chartiers Creek River Conservation Plan, Washington County, PA	Washington County Watershed Alliance 602 Courthouse Square 100 West Beau Street Washington, PA 15301	NA	2003	NA
Mill Run Fluvial Geomorphology Assessment, Fayette County, PA	Mountain Watershed Association P.O. Box 408 Melcroft, PA 15462	NA	2003	NA
Asbestos Inspections Pittsburgh, PA	Urban Redevelopment Authority of Pittsburgh, 200 Ross Street, Pittsburgh, PA 15219	NA	2003	NA
USARC Pittsburgh 02, North Park, C.E. Kelly Support Facility - GPR, Asbestos, Lead Paint, Radon	Bregman & Company, Inc. U.S. Army Reserve 99th RSC 99 Soldiers Lane Coraopolis, PA 15108-2558	NA	2003	NA
Open-End Contract for Environmental Studies Associated with Transportation Projects (120076)	PENNDOT Engineering District 12-0 825 North Gallatin Avenue Ext Uniontown, PA 15401	NA	2004	NA
Upper Indian Creek Watershed Assessment, Westmoreland County, PA	Mt. Watershed Association P.O. Box 408 Melcroft, PA 15462	NA	2005	NA
Open-End Contract for Groundwater Services, Carroll and Frederick Counties, MD (BCS97-105)	MD SHA P.O. Box 717 Baltimore, MD 21203-0717	NA	2005	NA
S.R. 0022, Section B02, Wetland and Stream Mitigation Design, Westmoreland County, PA	PENNDOT District 12-0 P.O. Box 429 825 North Gallatin Avenue Extension Uniontown, PA 15401	$133,000 (fee)	2005	YES

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
PA State Routes 008, 028, 088, Asbestos Inspections, Allegheny County, PA	PENNDOT Engineering District 11-0 45 Thoms Run Road Bridgeville, PA 15017-2853	NA	2005	NA
Greenway and Trail Master Plan, Canton Township, Washington County, PA	Canton Township 655 Grove Avenue Washington, PA 15301	NA	2005	NA
Mill Run Reach #15 Restoration Project, Fayette County, PA	Mt. Watershed Association P.O. Box 408 Melcroft, PA 15462	$61,000 (fee)	2006	YES
PENNDOT Agencywide - Western- Waste Management, PA (359006-01)	PENNDOT Bureau of Office Services P.O. Box 3060 Harrisburg, PA 17105	NA	2006	NA
PENNDOT Agencywide - Eastern Waste Management, PA (359006-02)	PENNDOT Bureau of Office Services P.O. Box 3060 Harrisburg, PA 17105	NA	2006	NA
Transportation Enhancement Project Management, Fayette, Greene, Westmoreland and Allegheny Counties, PA	PENNDOT Engineering District 12-0 825 North Gallatin Avenue Ext Uniontown, PA 15401	NA	2006	NA
Valley Point Discharge #12 AMD Remediation Project, Preston County, WV	Friends of Deckers Creek P.O. Box 877 Dellslow, WV 26531-0877	$36,000 (fee)	2007	YES
Open-End Agreement for Environmental Services on Various Projects located in Armstrong, Butler, Clarion, Indiana, and Jefferson Counties, PA (E00058)	PENNDOT Engineering District 10-0 2550 Oakland Avenue Indiana, PA 15701	NA	2007	NA
Statewide Open-End Archaeological Resources in Delaware (1117)	Delaware DOT 800 Bay Road Dover, DE 19905	NA	2007	NA
Stream Relocation and Wetland Mitigation Design and Construction Monitoring, New Martinsville, WV	Confidential Client New Martinsville, WV	$224,000 (fee)	2007	YES

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
Wheeling Hope IV, Wheeling, WV, Phase I Environmental Site Assessment (ESA), Asbestos Inspection 40 Buildings, Bid Documents for Abatement, Abatement 3rd party oversight	City of Wheeling Wheeling Housing Authority 22 Community Street Wheeling, WV 26003	$63,000 (fee)	2003	YES	McKindley and Associates
Mon River Bridge, Environmental Assessment, Pittsburgh, PA	Port Authority of Allegheny County 345 Sixth Avenue, 3rd floor Pittsburgh, PA 15222	$150,000 (fee)	2003	YES	Michael Baker Jr. Inc.
Pennsylvania Turnpike Mainline Reconstruction, Chapter 105 Permit, NPDES, Permit Preparation and Erosion and Sedimentation Control Plan Mileposts 38.6 to 40, Allegheny County, PA	PA Turnpike Commission P. O. Box 67676 Harrisburg, PA 17106-7676	$50,000 (fee)	2005	YES	Trumbull Corporation
West Hickory Bridge Environmental Assessment, Endangered Species, Biological Assessment S.R. 0127, Section B00 Forest County, PA	PENNDOT District 1-0 P.O. Box 398 255 Elm Street Oil City, PA 16301	$382,000 (fee)	2005	YES	Dewberry-Goodkind, Inc.

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
West End Interchange Project, Environmental Assessment, Cultural Resources, Allegheny County, PA	Allegheny County Dept. of Public Works 501 County Office Building 542 Forbes Avenue Pittsburgh, PA 15219	$210,000 (fee)	2005	YES	Michael Baker Jr., Inc.
Quaker and Porter Bridges (S.R. 4006, Section B01 & B00), Environmental Studies, NEPA Document, Section 4(f) Evaluation, Cultural Resources, Endangered Species, Mercer County, PA	PENNDOT District 1-0 P.O. Box 398 255 Elm Street Oil City, PA 16301	$296,000 (fee)	2005	YES	Clough Harbor & Associates, LLP
S.R. 6015/620, Tioga County, PA and Stuben County, NY	PENNDOT District 3-0 P.O. Box 218 Montoursville, PA 17754 And NY State DOT Albany, NY	$11,000,000 (fee)	2006	NO	Dewberry-Goodkind, Inc.

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.

20. The foregoing is a statement of facts.

Signature: S S Bell Title: Chief Executive Officer

Printed Name: Sandra Loy Bell

Date: January 13, 2009

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PENNSYLVANIA DRILLING CO.

281 ROUTE 30
IMPERIAL, PA 15126-1240
PHONE 724-695-2400
FAX 724-695-2455
800-245-4420

January 20, 2009

Walter Kutschke
URS CORPORATION
Foster Plaza 4
501 Holiday Drive, Suite 300
Pittsburgh, PA 15220

Re: West Virginia DEP Project 14515
Brownton (McCord Landslide)

Dear Mr. Kutschke:

This letter is to provide a commitment to provide drilling services for the above project. Pennsylvania Drilling Company has the truck mounted and all terrain equipment available to perform test boring services on this project. In addition, should it be needed, we have bulldozers and equipment to provide access. We can provide competitive prices for this work when the full scope of the work is defined and we have had a chance to visit the site. With the equipment and personnel at our disposal, we have the ability to mobilize quickly to meet a tight schedule.

Information on our qualifications is attached.

Please let me know if you need anything else. Thank you for the opportunity to assist you on this project

Sincerely,

PENNSYLVANIA DRILLING COMPANY

Thomas B. Sturges
President

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Re: Qualifications

We appreciate this opportunity to provide information on our qualifications, our experience and our equipment.

At the present time, we have available over 15 drill rigs for work on projects including building site investigations, highway test borings, environmental monitoring well installations, dam investigations, mine related projects and offshore geotechnical work. We have a manufacturing division that makes tools for drilling and maintains a supply of products for our internal use and sale to other contractors and agencies. On quick start emergency projects, should they arise, and we have in inventory essentially all of the supplies and materials that may be needed.

NEW DEVELOPMENTS

We have recently acquired our third Acker Track Mounted XLS to add to our fleet of all terrain equipment. This now consists of a total of 10 track mounted drills plus skid and truck drills.

We offer the service of drilling remediation wells with our CME-85 high capacity auger rig. On recent work we have drilled over 150 feet with 12¼" x 17" diameter hollow stem augers.

We have not only the tools for the drilling of the many sizes and types of borings required in this industry but, also the trained and experienced drillers to obtain samples by many means and the ability to install wells that work and are done properly. The proficiency of our drillers and helpers is not confined to easy work on truck rig sites. A valuable part of our training is to have our helpers and drillers learn the safe operation and efficient use of many kinds of equipment including skid rigs, track mounted drills and truck mounted drills.

Included in the services we offer are:

- Remediation Wells
- Dam Investigations
- Diamond Coring in NQ2, HQ, 4" and 6"
- Soil Sampling in 2" SPT, 3"
- Undisturbed Sampling in 5" and 3"
- Continuous Auger Sampling
- Packer Testing
- Zone Packer Pump Testing
- Pump Testing

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- Helicopter Access Drilling
- Hollow Stem Auger Drilling to 12" I.D.
- Flush Threaded Casing Drilling
- Piezometer Installation (Conventional Standpipe, Vibrating Wire and Pneumatic)
- Slope Indicator Casing Installation
- Settlement Indicator Installation
- Multiple Point Borehole Extensometer Installation
- Monitoring Well Installation - PVC, Stainless Steel, Steel
  (Other Materials Available Upon Request)
- Barge Mounted Drilling

COMPANY EXPERIENCE

Pennsylvania Drilling Company has been in the drilling business since 1900. While the focus of our business has changed with the times, we have been successful at training and retaining good field employees and good managers. The experience of our current drillers is on the average of 10 years and our managers over 15 years.

Recent experience on dams has been at the U.S. Army Corps of Engineers Braddock Lock and Dam near Pittsburgh. This was an interesting project where the dam itself was constructed elsewhere and floated into place. We worked on the original exploratory drilling, instrumentation, test holes for drilled shafts, and several specialty projects for J. A. Jones, the general contractor.

In recent months, we have done a considerable amount of highway borings for the state of Pennsylvania and the Pennsylvania Turnpike Commission. We have completed projects for West Virginia Department of Highways on Corridor 'H' in Hardy County and near Man, West Virginia. This work required the use of 5 drills on one site, drilling in rough terrain and often extremely hard rock. The work near Man also required the use of a helicopter to move drills.

On hazardous waste sites, our experience is extensive. All of our crews are trained for the drilling of hazardous waste environmental borings and monitoring wells, in conformance with OSHA requirements. In recent years we have worked extensively on projects from Michigan to Virginia.

During the past year, we have worked on many projects from very small to jobs to those lasting a month or more. These included borings for bridge foundation design, monitoring wells for gas stations, property transfer and extraction wells. Some river barge work was done for bridges and water intakes for a water supply project.

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During 2007, we expanded our manufacturing to the point we had to move our contracting and corporate offices to Imperial, Pennsylvania, about 20 minutes west of our previous location. We purchased an abandoned 84 Lumber yard, renovated the shop building and built a geothermally heated and cooled office building. We are just beyond Robinson Township off Route 22 on Route 30.

We appreciate this opportunity to provide this information about our company. We look forward to learning of ways that we can be of assistance.

Pennsylvania Drilling Company is classified as a small business under the guidelines of the U.S. Small Business Administration.

Sincerely,

PENNSYLVANIA DRILLING COMPANY

Thomas B. Sturges III
President

EQUIPMENT LIST

ALL TERRAIN DRILLS

(1) Acker Soil Scout – Auger Core Drill. Rig is mounted on a rubber track and very compact. It is remotely controlled and good for rough terrain.

(3) Acker XLS – Auger/Core Drill. Carrier is rubber tracked and remotely controlled. This rig is designed for rough terrain and irregular slopes.

(2) CME-45/300 – Track-Mounted Auger/Core Drill. Carrier is rubber tracked and remotely controlled. This rig is good for rough terrain and irregular slopes.

(1) Diedrich D-50 – Auger/Core Drill. This is a good access track-mounted rig, with low ground pressure and a new carrier

(2) Diedrich D-25 – Auger/Core Drill. Skid or trailer mounted, this light duty machine can be adapted for propane power, to use inside a building.

Acker Little John – Electric powered drill. This skid-mounted drill is an excellent rig for use in dam galleries. We have done core holes in a dam gallery to depths of in excess of 100 feet.

Mobile Minuteman – Portable gas-powered drill. Mounted on a hand wheel cart, this light duty rig is excellent for indoor drilling and difficult access sites

TRUCK MOUNTED DRILL RIGS

CME 45 - Mounted on Ford 4-wheel drive truck, excellent geotechnical investigation rig for light duty projects. Equipped with automatic safety driver and cathead

CME-75 – Auger/Core Drill. Mounted on a tandem Ford Truck, capable of drilling with 6¼" I.D. augers, to depths of over 100 feet

CME-85 – High torque Auger Drill, mounted on a Freightliner truck, capable of 20,000 foot-pounds of torque, capable of augering with 12¼" ID hollow stem augers to depths of over 150 feet.

Mobile B-80 – Auger/Core/Rotary Drill, mounted on a Ford truck, excellent light duty auger rig, medium duty core drill and long-stroke rotary drill.

AUXILIARY EQUIPMENT

Barges; Boats with motors; (2) Bulldozers; (5) Chemgrout Mixers; (5) Steam Generators; Pickup Trucks; Flatbed Trucks; Bean and Moyno Pumps (with 4", 5" and 6" drive casing); Solid Stem Augers (4" to 8"); Hollow Stem Augers (3¼", 4¼", 6¼", 8¼", 12¼" inside diameter); Continuous Auger Samplers; Wireline Coring Tools; Down-Hole-Hammers; Diamond Core Barrels (4" & 6"); Packers; Zone Pumping Systems; Pressure Testing Setups; Tubex Casing Tools (6" & 8" diameter); plus spare parts for all of the above.

PERSONNEL QUALIFICATIONS

The following personnel are full-time employees that may, from time to time, be involved in projects. In addition, there are other employees with similar experience that may be used on jobs, depending on the job specifics and our overall work load, at the time.

THOMAS B. STURGES (President) – B.S. Civil Engineering, Bucknell University – 1967, Professional Engineer. Formerly Design Engineer, Newport News Shipbuilding & Dry Dock Company – 37 Years with Pennsylvania Drilling Company.

FRANK A. JONES (Contracting Manager) – B.S. Geology, California University of Pennsylvania – 1980. Certified in Hazardous Waste Handling Training. Eight years as Hydrogeologist in Consulting Field. Has served as Manager on many Hazardous Waste Projects and is responsible for Project Management and Estimating of Projects – 15 Years with Pennsylvania Drilling Company.

CALEB STURGES (Assistant Manager) - B.A. English, Union College – 1999, Extensive field experience managing urban highway projects, environmental investigations, Project Management on all of the types of work the company does. 3 years with Pennsylvania Drilling Company.

CHRIS COULTER (Drill Foreman) – Specialist in Water Well Construction, Monitoring Well Installation, Familiar with Foundation Investigation, Auger Drilling and Rotary Drilling – 15 Years with Pennsylvania Drilling Company.

RON DOYLE (Drill Foreman) – Specialist in Monitoring Well Installation, Water Well Construction, Auger Drilling, Rotary Drilling, Hazardous Waste Investigation and Diamond Core Drilling. Mr. Doyle has over 40 years of drilling experience; he has been with Pennsylvania Drilling Company for the past 7 years. Prior to that, Ron was with Lambert Drilling Company for 12 years.

EARL DYE (Drill Foreman) – Familiar with Diamond Core Drilling, Foundation Investigation, Installation and Monitoring Wells, considerable experience in drilling with 12 ¼" I.D. hollow stem augers to significant depths – 23 Years with Pennsylvania Drilling Company.

NORMAN HORMEL (Drill Foreman) – Specialist in Monitoring Well Installation, Water Well Construction, Auger Drilling, Rotary Drilling, Hazardous Waste Investigation and Diamond Core Drilling. Mr. Hormel has been with Pennsylvania Drilling Company for the past 7 years. Prior to that, Norman was with Lambert Drilling Company for 12 years.

JAMES LANG (Drill Foreman) – Specialist in Diamond Core Drilling, Auger Drilling. Rotary Drilling, Monitoring Well Installation, River Work – 25 Years with Pennsylvania Drilling Company.

JAMES LANG, JR. (Drill Foreman) – Experienced in monitoring well installation, dam investigations, rough terrain highway drilling projects, 7 years with Pennsylvania Drilling.

BILL MINOR (Drill Foreman) – Experienced in NQ and HQ coring, monitoring well installation, auger drilling, rough terrain highway drilling, 10 years with Pennsylvania Drilling plus 8 years with other drilling companies.

JIM SACCANI (Drill Foreman) – Specialist in Water Well Construction, Monitoring Well Installation, Auger Drilling, Rotary Drilling and Diamond Core Drilling – 28 Years with Pennsylvania Drilling Company.

Attachment C

AML and RELATED PROJECT EXPERIENCE MATRIX

PROJECT	Exp. Basis C=Corp. P=Personal *	Additional Info Provided in Section (s) **	PROJECT EXPERIENCE REQUIREMENTS															PARTICIPATION/CAPACITY *** M=Management P=Professional				
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/ Replacement	Construction Inspection/ Management	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Walter G. Kutschke, PE	S. Murray Miller, PE	Terry Schmidt, PE	Dale Wagner, PG	Tom Page, CEA/REPA
Norfolk Southern, Keystone Buildout (Design), Indiana County, PA	C	Appendix A				X			X		X						X	M/P	P		P	
Norfolk Southern, Keystone Buildout (Counstruction Inspection), Indiana County, PA	C	Appendix A											X				X	M/P	P			
Hazelwood Avenue Bridge, Baltimore, MD	C	Appendix A				X					X						X	M/P	M/P			
Fly Ash Slide - Forward Township, Allegheny County, PA	C	Appendix A											X				X	M/P				
Fly Ash Slide - Elmenton, Venango County, PA	C	Appendix A							X								X	M/P	P			
Appalachian Corridor H, Section 5, Hardy County, WV	C	Appendix A				X											X	M/P	M/P			
Staunton Heights Landslide Repair, Allegheny County, PA	C	Appendix A											X				X	M/P	M/P			
Kellys Creek Watershed AMD Survey and Restoration Plan, Kanawha County, West Virginia	C											X		X		X				P		
Valley Point #12 AMD Remediation Project, Preston County, West Virginia	C	Appendix A	X		X	X					X	X	X	X		X				P		
North Fork Greens Run AMD Remediation Project, Preston County, West Virginia	C					X					X	X	X	X		X				P		
Gallentine AMD Remediation Project, Fayette County, Pennsylvania	C		X			X					X	X	X	X	X	X	X			P		
Sagamore/Max B. Noble AML/AMD Remediation Project, Fayette County, Pennsylvania	C		X			X					X	X	X	X	X	X	X			P		
Porter Tunnel Mine Seal, Schuylkill County, PA	C	Appendix A	X	X	X	X	X				X		X	X	X		X			M/P		

AML and RELATED PROJECT EXPERIENCE MATRIX

PROJECT	Exp. Basis C=Corp. P=Personal *	Additional Info Provided in Section (s) **	PROJECT EXPERIENCE REQUIREMENTS															PARTICIPATION/CAPACITY *** M=Management P=Professional				
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/ Replacement	Construction Inspection/ Management	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Walter G. Kulschke, PE	S. Murray Miller, PE	Terry Schmidt, PE	Dale Wagner, PG	Tom Page, CEA/REPA
Big Run #2 Acid Mine Drainage Discharge Treatment Project, Indiana County, PA	C	Appendix A	X	X	X	X	X				X		X	X						M/P		
Confidential Clients, Phase I ESAs of Surface/Deep Mine Complexes, KY & WV	P		X	X						X		X			X							P
Kellys Creek Watershed AMD Survey and Restoration Plan, Kanawha County, West Virginia	P											X		X		X							M/P
Valley Point #12 AMD Remediation Project, Preston County, West Virginia	P		X		X	X					X	X	X	X		X							M/P
North Fork Greens Run AMD Remediation Project, Preston County, West Virginia	P					X					X	X	X	X		X							M/P
Anna and Steve Gdosky Memorial AMD Remediation Project, Fayette County, Pennsylvania	P												X	X		X							P
Gallentine AMD Remediation Project, Fayette County, Pennsylvania	P		X			X					X	X	X	X	X	X	X						M/P
Sagamore/Max B. Noble AML/AMD Remediation Project, Fayette County, Pennsylvania	P		X			X					X	X	X	X	X	X	X						M/P

* List whether project experience is corporate or personnel based or both.

** Use this area to provide specific sections or pages if needed for reference.

*** List Primary Design personnel and their functional capacity for the projects listed.