

Jane Kozinski
State of New Jersey
Department of Environmental Protection
Jane.kozinski@dep.state.nj.us

Subject:
RFQ for Disaster Debris Management Monitoring Operations

Dear Ms. Kozinski:

ARCADIS and its subsidiary, Rostan Solutions, is pleased to submit our proposal in response to the above-referenced solicitation on behalf of the State of New Jersey (State) to include all State Departments, Boards, Commissions, Agencies and Institutions as well as Counties, School Districts and Municipalities. We understand the importance of these services to the State for preparing, responding, and recovering from potential future disaster events. We are a 115-year-old environmental engineering and consulting firm with extensive experience in disaster debris management. Over the years we have developed comprehensive and integrated pre-event and post-event solutions for numerous communities throughout the United States.

Our proposal brings several important benefits to the State that will help achieve what we believe are key measurements of success: an accelerated, safe, and efficient recovery that will maximize utilization and reimbursement of state and federal funds. In addition we have several guiding principles that also assist the community in recovering more quickly:

- Placing the public's safety and well being first;
- Utilization of local resources, both businesses and local residents;
- Listening to the State and understanding your situation;
- Responding with a sense of urgency; and
- Maximizing the protection of your reimbursement funding.

We have a proven track record providing the services and performing the tasks outlined in the State's RFQ. For the U.S. Army Corps of Engineers (USACE) Task Force Hope in Mississippi, the largest debris cleanup effort in U.S. history, we were

ARCADIS U.S., Inc.
17-17 Route 208 North
Fair Lawn
New Jersey 07410
Tel 201 797 7400
Fax 201 797 4399
www.arcadis-us.com

Date:
November 1, 2012

Contact:
Sam Rosania

Phone:
813.505.1313

Email:
Sam.rosania@arcadis-us.com

the debris management and monitoring firm responsible for over twenty-six (26) million cubic yards of debris and over one million load tickets. As described within our proposal, we have superior capabilities in:

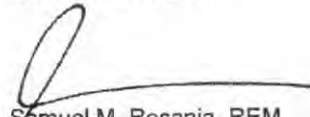
- **Disaster Management, Reporting and Training Systems.** We have extensive experience in disaster debris management and debris contractor procurement and pre-qualification, and have a proven record of providing quality assurance monitoring of disaster debris contractor operations. We maximize the use of off the shelf information technology and communications. At the State's request, we can deploy our HaulPass® System, which is a web based automated data management system that eliminates arduous and often erroneous manual data entry. The HaulPass® System saves thousands of hours related to data entry, invoice reconciliation, and quality control, and provides real-time reporting capabilities. The HaulPass® System has been accepted by the USACE and meets the requirements of FEMA 325 Debris Management Guide. Our team has hands-on experience and extensive knowledge of federal reimbursement regulations, disaster debris management planning, and NIMS/ICS regulations and training programs.
- **Emergency Planning and Disaster Response.** Our proposal provides greater detail describing our experience and qualifications with disaster preparedness, response and recovery. Briefly, we have significant experience in all phases of a disaster, including but not limited to:
 - Emergency Operations and Continuity of Operations Planning
 - Disaster Debris Planning
 - FEMA, NIMS/ICS and OSHA Training and Exercise Scenarios
 - Damage Assessments and Debris Volume Assessments
 - Quality Assurance Monitoring for Right-of-Way and Private Property Debris Removal
 - Comprehensive and all inclusive Debris Contractor Administration and Management (i.e., procurement, certification, monitoring, data management, reporting, invoice reconciliation and public assistance support)

- **Government Liaison and Public Assistance Support.** Our team has unparalleled experience with the federal reimbursement program, as well as local and state regulations. Our parent company, ARCADIS U.S., has offices throughout the State of New Jersey including Fair Lawn, Edison, Branchburg and Cranbury and has staff that is very familiar with FEMA and Department of Homeland Security policies and personnel.

We appreciate the State's consideration of our proposal and would welcome the opportunity to serve you. If you should have any questions or require additional information, please do not hesitate to contact me on my mobile phone at 813-505-1313.

Very truly yours,

ARCADIS U.S., Inc..



Samuel M. Rosania, REM
Vice President

Copies:

Ray Cantor, ray.cantor@dep.state.nj.us

David Barth, david.barth@dep.state.nj.us

State of New Jersey
Request for Qualifications for:
Disaster Debris Management Monitoring Operations

November 1, 2012

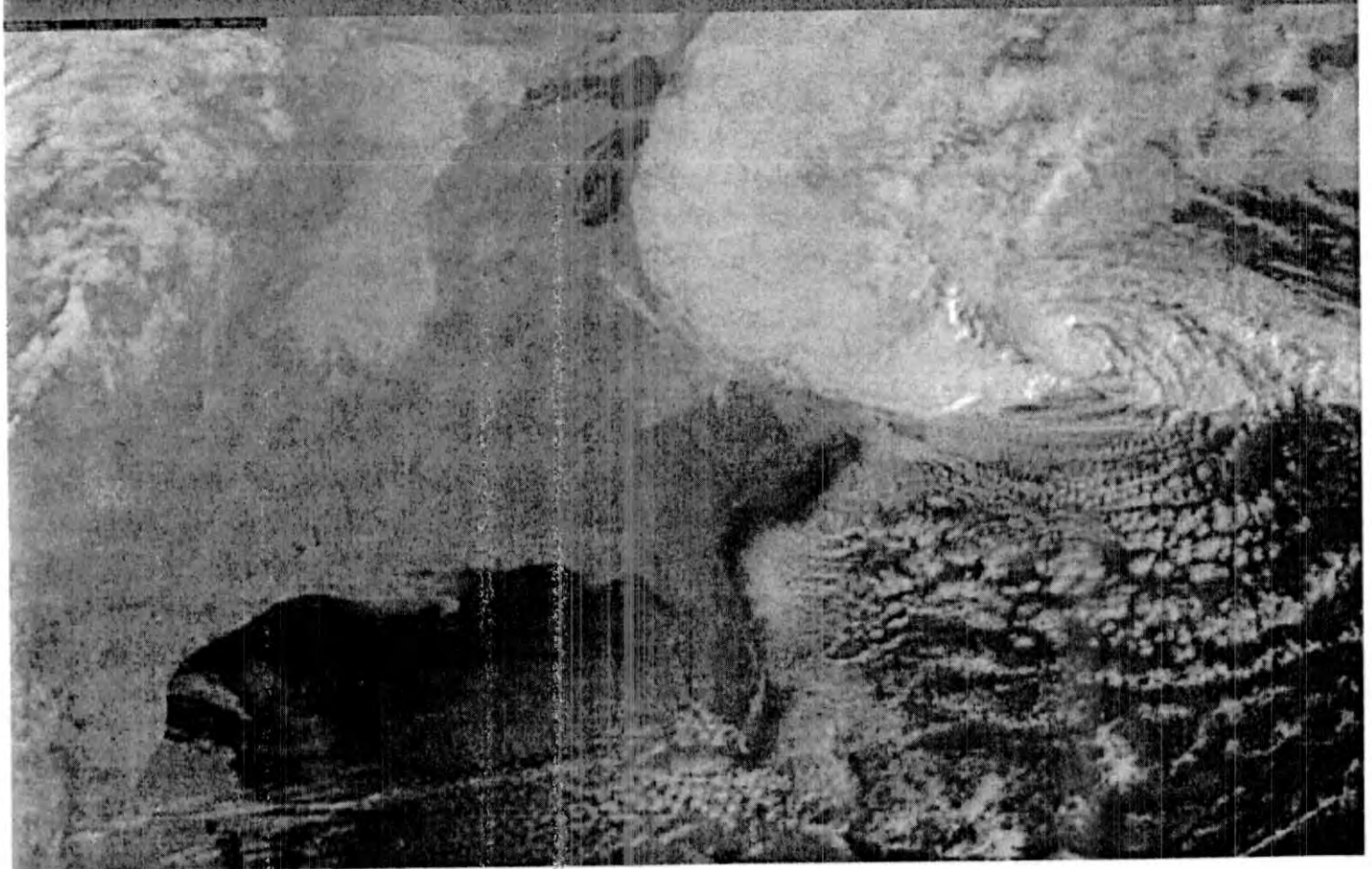
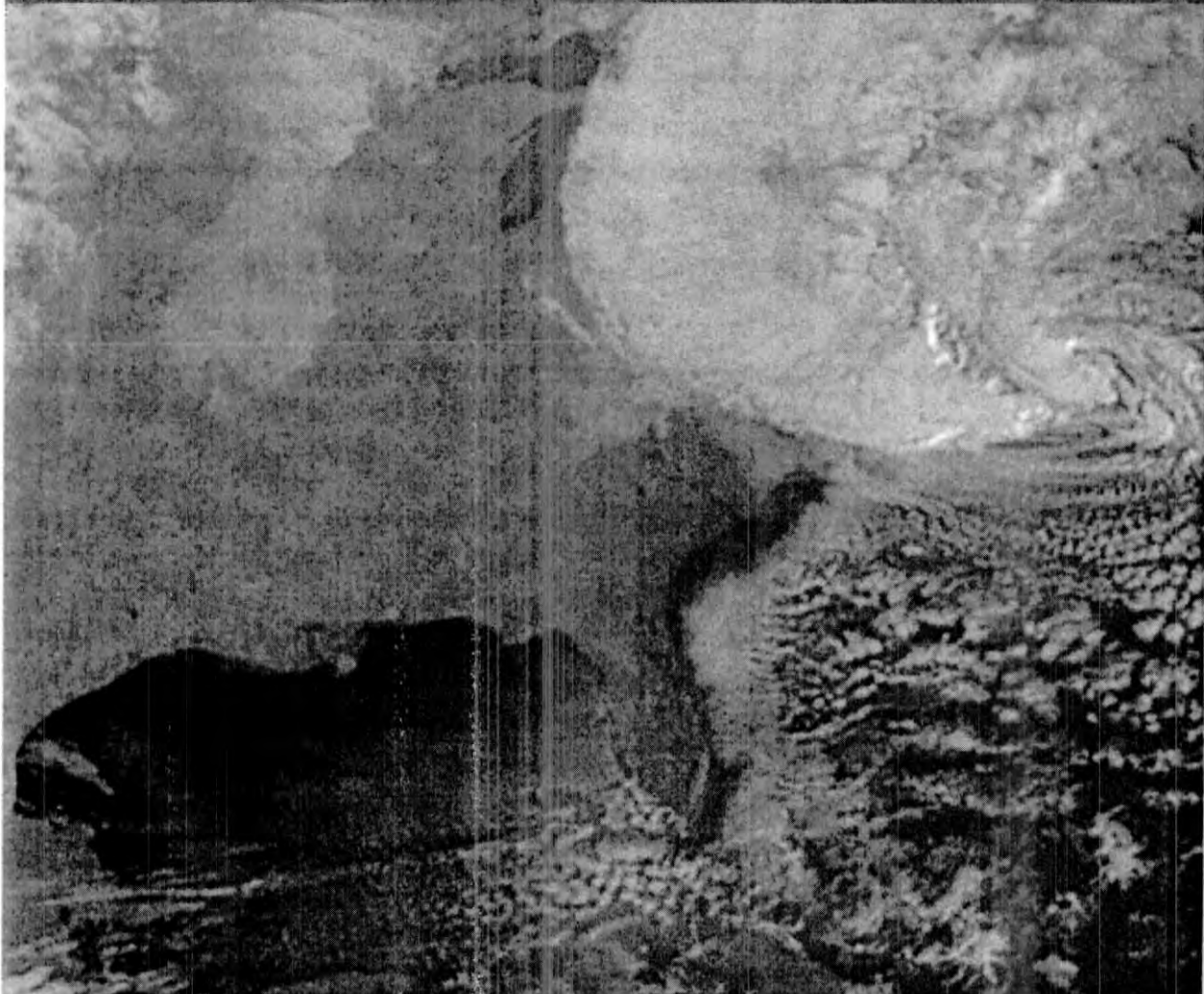
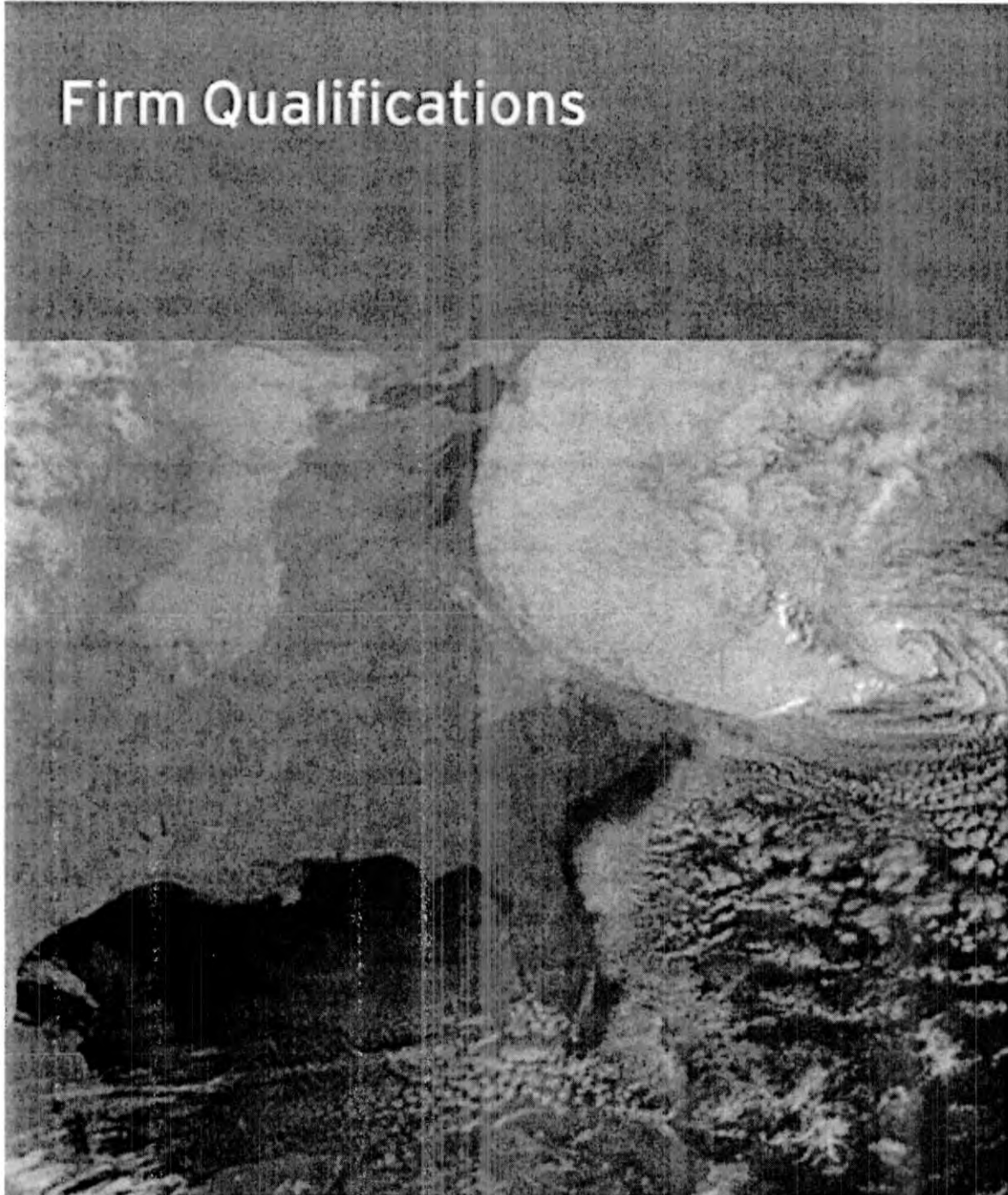


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Firm Qualifications



Introduction and Firm Qualifications

1

BRIEF OVERVIEW OF FIRM'S HISTORY AND ORGANIZATION

ARCADIS is an international company providing consultancy, design, engineering and management services in infrastructure, water, environment and buildings. We enhance mobility, sustainability and quality of life by creating balance in the built and natural environments. ARCADIS develops, designs, implements, maintains and operates projects for companies and governments. With 19,000 employees and more than \$3.2 billion in revenues, the company has an extensive international network supported by strong local market positions.

ARCADIS was established in the United States in Delaware as Geraghty & Miller in 1957. The firm expanded in 1964 in response to water supply problems created by a major drought in the Northeast. The first public offering occurred in 1988. In 1993, Geraghty & Miller was acquired by ARCADIS NV. In 1998, Geraghty & Miller was renamed ARCADIS.

Malcolm Pirnie is the Water Division of ARCADIS U.S., Inc. (ARCADIS/Pirnie) and has more than a century-long history of consulting with a concentration on water and the environment. Our mission is to build on this foundation of experience to help clients and their communities create sustainable solutions that make our world cleaner and safer.

ARCADIS/Pirnie has more than 6,000 personnel located in the United States. Together with ARCADIS, we have a network of more than 200 branch and field offices located around the U.S. and 300 offices around the world, enabling us to offer a global perspective combined with local knowledge.

Rostan Solutions, LLC, (ROSTAN) is a wholly owned subsidiary of ARCADIS/Pirnie that was created to manage the unique challenges associated with disaster debris recovery work. ROSTAN complements and supports the emergency response and recovery planning services offered by ARCADIS/Pirnie to clients throughout the United States.

Rostan solutions hired more than 450 local residents to monitor debris removal efforts following a massive snowstorm in Buffalo, New York.



ROSTAN maintains a core group of disaster response and recovery personnel capable of immediate deployment to a disaster-affected area (usually within less than four hours, if needed). For debris management projects, ROSTAN can deploy its staff rapidly in response to urgent needs. Our team has the proven experience to provide hundreds of trained and equipped field monitors within 24 to 72 hours after a disaster event.

QUALIFICATIONS

Debris Monitoring and Management Services

In 1998, in response to a growing demand from our clients, Malcolm Pirnie established a team of disaster preparedness, response, and recovery management consultants. We created this team specifically to address the unique needs of jurisdictions and government agencies in preparation for, and in the wake of, man-made and natural disaster scenarios.

Our team members have firsthand knowledge of Federal Emergency Management Agency (FEMA), United States Army Corps of Engineers (USACE), United States Environmental Protection Agency (USEPA), United States Department of Transportation, and state disaster management operations and programs. Our team has proven success in managing operations and completing the types of documentation and records required for FEMA, State and Federal Highway Administration (FHWA) reimbursement of pre- and post-disaster cleanup and recovery costs for all categories.

Mobilization Plan

ARCADIS/Pirnie implements a mobilization plan that is based on our extensive experience with disaster recovery operations and the lessons learned on these projects. Our initial base of operations typically is an existing office located in the affected area. If necessary, we establish additional satellite offices or work from mobile command centers in recreational vehicles (RVs) as the situation requires. We understand the range of challenges when working in a disaster-affected area, including staffing, lodging, vehicles, power outages, communications, fuel, and food and consumables.

We have routinely provided in excess of 400 quality assurance monitors within 48 to 72 hours of the client's request.

Staffing

ARCADIS/Pirnie maintains a core group of disaster response and recovery personnel capable of immediate deployment to a disaster-affected area (usually in less than four hours).

As an international firm with a local presence in most of the nation's major population centers and working relationships with other local firms, we are able to provide local staff that is familiar with the affected area, understand local customs, and have a vested interest in the success of the area's speedy recovery.

We follow-up our first-response assessment team with personnel from a "ready list" of staff from our proprietary database. Our philosophy is to hire locally in order to facilitate a faster recovery for the community, while reinvesting in the impacted area.



Lead Time

Our experience has demonstrated we can provide a minimum number of debris monitors to begin performing all requested services within 24 hours of client notification. We have routinely provided in excess of 400 monitors within 48 to 72 hours of the client's request.

We maintain a database of available personnel to deploy within 24 hours. This core group meets the client's immediate needs and provides us with the ability to supplement the staff hired from the local area. We utilize as many local forces as feasible to fulfill each assignment, supplementing with other regional and national assets as necessary.

Our Unique Disaster Debris Management Approach

An alternative approach to the traditional paper load ticket system is the use of our patented **HaulPass® System** - a Smart Card-based field data capture electronic load ticket system. This system has been validated by the US Army Corps of Engineers (USACE). During recovery efforts following Hurricane Ike in 2008 and the Joplin, MO tornado of 2011, the USACE successfully utilized the system, eliminating entirely the need for paper load tickets. Data captured by the system also has been utilized by FEMA, and these



types of systems are acknowledged in FEMA 325, Debris Management Guide.

The HaulPass® approach involves the use of a credit card-sized plastic card that contains a programmable memory chip. When a debris contractor vehicle is certified, the vehicle driver is issued a HaulPass® card that contains the information from the vehicle certification form embedded and encrypted on the memory chip. Debris contractors are responsible for their HaulPass® cards; if a contractor's card is lost or damaged, the contractor is required to be recertified to receive a new HaulPass® card.

Debris load site monitors are issued a unique identification number that is embedded and encrypted on each monitor's Smart Card as well as a GPS-enabled handheld unit. Field monitors use their cards to sign-in and sign-out daily.

In addition, each debris disposal site is equipped with belt printers and ruggedized personal data assistant (PDA) units. The PDA (Smart Card reader) reads the HaulPass® card and prints hard copies of the debris load ticket for the vehicle driver, debris contractor, and client. Each debris site monitor (tower monitor) is issued a unique identification number that is embedded and encrypted on that tower monitor's Smart Card. Tower monitors use their cards to sign in to the tower PDA each morning and sign out each evening. In general, the HaulPass® approach works as follows. Debris contractors, upon load completion, present their HaulPass® card to a field monitor. When a field monitor places a HaulPass® card in the card reader to "write a ticket," the HaulPass® system securely embeds the date, time, monitor's name and identification, and GPS location on the card. The field monitor then returns the HaulPass® card to the driver, so the driver can proceed to the disposal site to dump the debris load. Upon arrival at the disposal site, the debris contractor presents his/her HaulPass® card to the tower monitor, who then inserts the card into the card reader. The debris contractor's certification number is read from the HaulPass® card; the certified vehicle's information and photo appear on the handheld unit's screen. This allows the tower monitor to verify the placard number and to ascertain that no alterations have been made to the vehicle. Upon verification, the tower monitor enters the debris load type and percent full (or cubic yardage or tons). A load ticket is printed for the vehicle driver and, simultaneously, the HaulPass® card is reset to accept a new ticket in the field. The information is stored on the PDA to be

transmitted to the central database. The HaulPass® card then is returned to the debris contractor driver for use on the next load.

This approach entirely eliminates manual data entry of paper load tickets into a database. This saves a significant amount of time and effort, and makes the data immediately available for management of the debris removal process and quicker reimbursement.

The data is pushed through the cellular data service at regular intervals throughout the day to provide near real-time reporting. In the event that cellular service is unavailable, the data gathered from the tower monitor's handheld unit is uploaded to the Event Manager database/application at the end of the day. Graphic GIS and tabular reporting of the day's events is available through the Event Manager application as soon as the data arrives from the field.

The Event Manager application is designed to fully automate many of the paper-based, time-intensive processes required to maintain debris record keeping and accounting operations. The HaulPass® System is a distributed suite of applications designed to perform as a central office data repository enabling new and/or revised information to be distributed to various agencies, contractors, or the public. Event Manager has been designed from the ground up as a web-based application; it therefore can be made available to any hardware platform capable of running an internet browser, including smart mobile devices. Access to the system is rigidly controlled through role-based security.

Event Manager delivers various tabular reports such as daily debris volume totals, number of load tickets produced, volume of debris hauled by contractors, and total volume delivered to the disposal site(s).



The Event Manager application is also a map based GIS application. GIS provides the user with the ability to access load tickets, debris sites, contractors, field monitors, etc., on a geographic basis. For example, one layer in the GIS application presents all debris sites, another layer presents all load tickets, and a third layer is capable of displaying loads by contractor and subcontractor. Each of these layers has associated map-based and tabular reports to enable the user to make decisions with respect to contractor deployments, completeness of debris pick-up, and more.



The Event Manager application is designed to fully automate many of the paper-based, time-intensive processes required to maintain debris record keeping and accounting operations.

The HaulPass® System has been successfully deployed in support of the following disaster recovery operations:

- USACE Task Force Hope Katrina debris mission in Mississippi 2006
- U.S. Coast Guard during debris removal efforts in waterways in southern Louisiana 2007
- Erie County, NY - 2006 Snowstorm
- Hurricane Ike 2008
 - USACE Mission Assignment Galveston, TX.
 - USACE Mission Assignment Cameron and Vermillion Parishes, LA.
 - Nassau Bay, TX.
 - Humble, TX.
 - Piney Point Village, TX.
- Port-au-Prince, Haiti - 2010 Earthquake

- USACE Kansas City - Joplin, MO 2011 Tornado
- Birmingham, AL - 2011 Tornado
- Hurricane Irene 2011 - James City County, York County, Williamsburg, VA

Experience with Federal Reimbursement Programs and Funding Eligibility

The ARCADIS/Pirnie Team has assisted many communities with emergency management operations and has provided assistance with FEMA reimbursement and appeals following natural disasters. Some of our emergency management consulting and FEMA reimbursement clients include:

- State of Florida Division of Emergency Management
- Nashville Metro Water Services, Tennessee
- U.S. Army Corps of Engineers (Alabama, Louisiana, Mississippi, Texas, Kansas City (Joplin))
- Solid Waste Authority of Palm Beach County, Florida
- Hillsborough County, Florida
- Erie County, New York
- City of Daytona Beach, Florida
- City of Buffalo, New York
- Humble, Texas
- Nassau Bay, Texas
- Piney Point, Texas
- Birmingham, Alabama
- James City County, Virginia
- York County, Virginia
- Williamsburg, Virginia

For Hillsborough County, FL, we facilitated the FEMA reimbursement process and were successful in appealing numerous project worksheets on behalf of the county resulting in the reimbursement of millions of dollars not originally included in FEMA's project worksheets.

Regardless of the funding agency, we work diligently with FEMA and the State Emergency Management Office to minimize costs and to ensure our clients receive the maximum reimbursement possible. **Collectively, our team has assisted our clients in receiving over \$1 billion in reimbursement funding.**



Our team has been involved with response, recovery, and mitigation efforts for over 50 declared disasters nationwide.

The ARCADIS/Pirnie Team has contracts with Florida's Department of Emergency Management related to Section 404 mitigation efforts, debris management plan development, comprehensive emergency plan development, continuity of operations plan development, project management and FEMA project worksheet development.

Emergency Management/Hazard Mitigation

ARCADIS/Pirnie has an in-house group of emergency management professionals with extensive hazard mitigation experience. Members of our team have contributed to the drafting of the Disaster Mitigation Act of 2000 (DMA2K) and were consulted by FEMA and Congress throughout the process, including all versions of the Interim Final Rules. Our team also consists of FEMA 406 Public Assistance Program and Hazard Mitigation Assistance (HMA) program experts with years of experience assisting both local and state government entities with program management, risk and vulnerability assessments, mitigation project identification and prioritization, loss avoidance assessments and loss avoidance methodology development, grant application development and management, as well as hazard mitigation strategy development to help communities strengthen against future storm damage.

Our emergency management and hazard mitigation planning sector provides long-term strategies to reduce disaster losses and improve disaster prevention planning. Our emergency management services include, but are not limited to:

- Hazard mitigation and post disaster planning
- National disaster response services
- Disaster recovery services
- Disaster debris management services
- Training and exercises



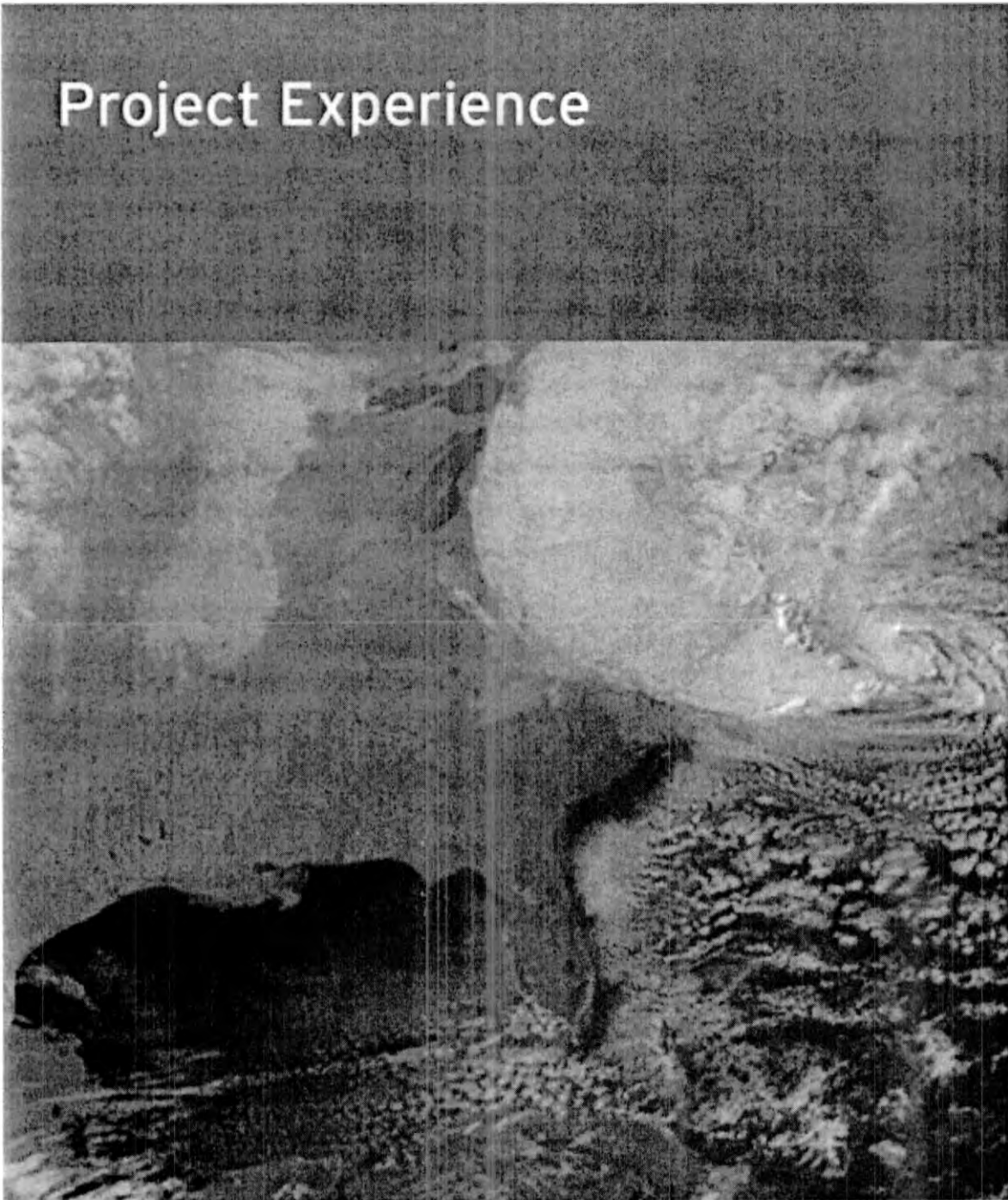
The ARCADIS/Pirnie Team provides multi-hazard mitigation planning services tailored to each client's requirements. These services are all performed in accordance with the Federal Emergency Management Agency (FEMA) Guidance and applicable state and local regulations. Mitigation is any action taken to strengthen the community and built environment against disasters. Mitigation related services include, but are not limited to:

- Mitigation strategy development
- Risk and vulnerability assessment and mapping
- GIS and Hazus analysis
- Site assessments, including community building stock, critical facilities and infrastructure
- Public participation and community outreach
- Loss avoidance methodology development and analysis
- Operations review and SOP development
- Land use and strategic planning
- Historical and environmental evaluations
- Security evaluations
- Engineering services (civil, environmental, water/wastewater)
- Hazard Mitigation Assistance program development and support
- Economic Impact Analysis

*The ARCADIS/Pirnie Team
has first-hand knowledge of
the Federal Emergency
Management Agency's Local
Multi-hazard Mitigation
Planning Guidance (2008).*

Project Experience

2. Project Experience



Project Experience

2

ARCADIS/Pirnie has extensive experience in providing the services identified in this proposal; from monitoring debris removal operations of 40,000 cubic yards for a small community to monitoring debris removal operations for over 26,000,000 cubic yards for the U.S. Army Corps of Engineers as a result of Hurricanes Katrina and Rita. Upon award of contract, ARCADIS/Pirnie is prepared to meet the potential needs of your community.

*On the following page please find **Table 2-1** outlining our similar project experience followed by individual project descriptions.*

Table 2-1: Similar Project Experience

Client	Year(s)	Event	CY/Tons Debris Managed	ROW	ROE	FEMA Reimburse- ment	HaulPass® Deployed	Comment(s)
Hillsborough County, FL	2004- 2005	Hurricane Frances and Jeanne	1.4M CY	✓		✓		7,000 stumps
SWA Palm Beach County, FL	2004- 2005	Hurricane Frances and Jeanne	3M CY	✓		✓		2 hurricanes back to back in less than 3 weeks
SWA Palm Beach County, FL	2005- 2006	Hurricane Wilma	3.1M CY	✓		✓		10 DMS, Maximum of 128k cy per day
USACE, New Orleans	2005- 2006	Hurricane Katrina and Rita	2.3M CY	✓	✓	✓		2.3 million CY debris, 130,000 white goods
USACE, Mississippi	2005- 2006	Hurricane Katrina and Rita	26M CY	✓	✓	✓	✓ _(pilot)	26 million CY debris, 55,000 white goods
Buffalo, NY	2006- 2007	Snow and Ice Storm	1.1M CY	✓		✓		60,000 hangers, 3,000 hazardous trees
Erie County NY	2006- 2008	Snow and Ice Storm	750K CY	✓		✓	✓	117,000 hangers, 3,800 hazardous trees
Humble TX	2008- 2009	Hurricane Ike	40K CY	✓		✓	✓	Vegetative, leaners and hangers
Nassau Bay TX	2008- 2009	Hurricane Ike	46K CY	✓		✓	✓	Vegetative debris and white goods
Piney Point TX	2008- 2009	Hurricane Ike	70K CY	✓		✓	✓	Vegetative, leaners, hangers and stumps
USACE, Ft. Worth	2008	Hurricane Ike	70K CY	✓			✓	10-day mission to clear I-45 into Galveston
USACE, Joplin MO	2011	EF-5 tornado	100k Tons	✓	✓	✓	✓	ROE/PPDR/ROW
James City County, VA	2011	Hurricane Irene	211K CY	✓		✓	✓	Deployed prior to arrival of Hurricane
York County, VA	2011	Hurricane Irene	76K CY	✓		✓	✓	Vegetative, leaners, hangers, stumps
City of Williamsburg, VA	2011	Hurricane Irene	17K CY	✓		✓	✓	Vegetative, leaners, hangers, stumps
City of Birmingham, AL	2011- Present	April Tornadoes	166k CY- 24k Tons	✓	✓	✓	✓	ROW/ PPDR/ Demolitions

Client
Palm Beach County Solid Waste Authority

Debris Management for Hurricanes Frances and Jeanne

Location
Palm Beach County, Florida



Hurricanes Frances and Jeanne struck Palm Beach County within weeks of each other during September 2004, causing extensive property damage. The county's Solid Waste Authority quickly enlisted ARCADIS/Pirnie to manage the debris recovery process. By the second day after storm we had established four temporary debris management sites and within ten days ten debris sites were open. In the weeks that followed we managed a team of more than a hundred workers, including subconsultants, to monitor debris removal and establish and monitor debris management sites. Altogether we monitored the removal and management of 3 million cubic yards of debris. We also provided assistance with applications to the FEMA for reimbursement of cleanup costs.

Project activities for this debris management effort included, but were not limited to, the following:

- Training
- Loading and disposal site monitoring
- Baseline, ongoing, and closure environmental monitoring, including groundwater and soil sampling
- Daily reporting
- Equipment certification
- Debris contractor oversight
- Field supervision and Quality control auditing
- GPS monitoring and photographic documentation of stump removal

CLIENT REFERENCE

Raymond Schauer
Director of Engineering and
Public Works
7501 North Jog Road
West Palm Beach, FL 33412
561.640.4000 ext. 4603

RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Quality Control

"The Incredible and no less than amazing accomplishments of the past several months could never have happened without [Malcolm Pirnie's] dedicated team of professionals...we couldn't have done it without you!"

Excerpted from Letter from:
John D. Booth, PE, BCEE
Executive Director
Palm Beach County Solid
Waste Authority
January 28, 2005



Client
Hillsborough County Public Works

Hurricane Debris Management

Location
Hillsborough County, Florida



In October 2005, Hurricane Wilma caused extensive property damage in Palm Beach County. The county's Solid Waste Authority (SWA) had previously enlisted ARCADIS/Pirnie to manage the debris removal and disposal operations. Within hours of the storm's passing, ARCADIS/Pirnie had personnel on-site working closely with SWA staff to implement and coordinate opening the truck certification site, temporary debris management sites, operational headquarters, and debris monitor training and field placement. In the weeks that followed, we managed a team of more than 150 workers. Altogether we monitored the removal and management of 3.1 million cubic yards of debris as a result of Wilma.

Project activities for this debris management effort included, but were not limited to, the following:

- Training
- Loading and disposal site monitoring
- Baseline, ongoing, and closure environmental monitoring, including groundwater and soil sampling of debris management sites
- Daily reporting
- Equipment certification
- Debris contractor oversight

ARCADIS/Pirnie developed Hillsborough County's contractor request for proposals and assisted the county in the review of the respondents' submittals. Debris contractors were selected and were issued contracts in early 2007. We developed the county's

CLIENT REFERENCE

John Newton
Director, Transportation &
Maintenance Division
601 E. Kennedy Boulevard
Tampa, FL 33601
813.307.1854

RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Management/Quality Control
- Invoice Reconciliation
- FEMA and FHWA Reimbursement Support

"This is an incredible accomplishment by any standard but the outstanding leadership and commitment of Malcolm Pirnie staff contributed to exceeding all expectations of collecting and processing storm debris in record time."

Excerpted from Letter from
John D. Booth, PE, BCEE
Executive Director
Palm Beach County Solid Waste Auth
December 14, 2005



Disaster Debris Management Plan in 2006, and in 2007 updated the plan to meet the requirements of the FEMA pilot program, which qualified applicants for an additional 5% reimbursement if certain requirements were met. ARCADIS/Pirnie is also providing assistance to the county for reimbursements from state and federal agencies, including the FEMA and Federal Highway Administration, relating to eligible costs arising from the disaster recovery effort. We are also providing technical assistance for debris contractor procurement, GIS mapping, and disaster debris management planning. We are currently developing a new request for proposals for the County's debris removal needs that will be put out to bid prior to the 2011 hurricane season.

ARCADIS/Pirnie led the deployment of the debris assessment teams and first responders, and provided an array of post-disaster debris management services following Hurricanes Frances and Jeanne, including:

- Administration and management of debris contractors for collection of storm debris and operation of debris management sites (DMS).
- Permitting, operational oversight, and closeout oversight of five DMS and 18 county parks serving as temporary debris drop-off locations for private citizens.
- Management and scheduling of over 100 QA field monitors, DMS monitors, traffic control personnel, and administrative staff.
- Supervision of the development and maintenance of a storm debris data management system of load tickets and debris contractor information.
- Review and substantiation of debris contractor invoices for storm debris collection, reduction, and disposal for three debris contractors.
- Damage complaint documentation, investigation and resolution.

Client
James City County

Debris Monitoring and Management Services

Location
James City County, Virginia



At the request of our client, ARCADIS/Pirnie deployed to Virginia two days prior to the arrival of Hurricane Irene. Local personnel were engaged to provide immediate response once the storm made landfall.

Following Hurricane Irene landfall ARCADIS/Pirnie led the deployment of the debris assessment teams and first responders, and provided a mobile command center at the primary center of field operations. Local personnel were interviewed, hired, and trained to ensure efficient recovery of the disaster affected area, while assisting in the economic recovery of the County. We provided an array of post-disaster debris management services, including Truck Certification, right-of-way debris removal monitoring, and removal of hazardous leaning trees and hanging limbs. In addition we provided assistance to the County for reimbursements from state and federal agencies, including the Federal Emergency Management Agency, relating to eligible costs arising from the disaster recovery effort.

ARCADIS/Pirnie was responsible for managing and monitoring the removal of over 211,000 cubic yards of debris covering approximately 180 square miles and included operations on public and private rights-of-way and public parks. Monitoring operations also involved reduction and haul out for final disposition to multiple locations. Optimized by our HaulPass® automated debris management system, we also provided near real-time debris removal reporting, resulting in rapid reconciliation of debris contractor invoices and, ultimately, expediting reimbursement by FEMA to the County.

CLIENT REFERENCE

John T. P. Horne
113 Tewning Road
Williamsburg, VA 23188
757.259.4127

RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Quality Control
- Reimbursement Support
- 211,000 cubic yards

Client
York County

Debris Monitoring and Management Services

Location
York County, Virginia



Following Hurricane Irene landfall ARCADIS/Pirnie was responsible for managing and monitoring the removal of over 76,000 cubic yards of debris from one corner of our country's historic colonial triangle, York County. Operations covered approximately 106 square miles of public rights-of-way and public property. Monitoring operations also involved debris reduction and haul out of reduced debris for final disposition. Optimized by our HaulPass® automated debris management system we also provided unprecedented rapid reconciliation of debris contractor invoices.

As is standard operation for ARCADIS/Pirnie disaster response and recovery services, local personnel were interviewed and hired to enhance economic recovery of the affected area.

ARCADIS/Pirnie provided an array of post-disaster debris management services, including Truck Certification, right-of-way debris removal monitoring, removal of hazardous leaning trees and hazardous hanging branches. In addition, ARCADIS/Pirnie provided assistance to the County for reimbursements from state and federal agencies, including the Federal Emergency Management Agency and the Federal Highway Administration, relating to eligible costs arising from the disaster recovery effort.

CLIENT REFERENCE

Frank B. Hedspeth
143 Goodwin Neck Road
Yorktown, VA 23690
757.890.3780

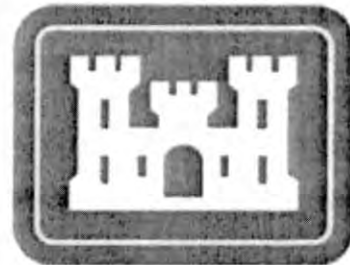
RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Quality Control
- Reimbursement Support
- 76,000 cubic yards

Client
USACE Kansas City District

Automated Debris Management System (ADMS)

Location
Joplin, Missouri



Rostan Solutions, LLC (Rostan) responded to a USACE request for Automated Debris Management System (ADMS) services to track debris removal operations in Joplin, Missouri following the EF-5 tornado that impacted the area on May 22, 2011. Rostan responded, providing the HaulPass® System (HaulPass®), including field personnel to operate the System. Within 24 hours of notice to proceed, the Rostan team commenced certification trucks while deploying the system in the field - employing a staff of approximately 60 locally hired and trained personnel. The objective was to track each truckload of tornado debris from point-of-origin to final disposal according to FEMA guidelines and USACE specifications and requirements for ADMS. HaulPass® was readily deployed with short notice, accommodating mission specific parameters such as quantification of truckloads by weight rather than volume, secondary equipment certification numbers, etc.

Throughout the mission, the Rostan team issued 237 equipment certifications to debris removal trucks, as well as an additional 32 equipment certifications to mulch haul-out trucks. The system captured equipment information such as contractor information, driver information and insurance, vehicle information such as registration, make and model, etc., and truck tare (empty) weight. Each truck was issued an encrypted HaulPass® smart card. This card contains a computer chip on the back containing all relevant certification data, including a photo of the truck and the placard and license plate number printed on the front. These cards were then utilized by the trucks throughout the mission to not only identify the truck, but to transfer load-ticket information from the field to the drop-off site via a secure, electronic, and entirely paperless process.

CLIENT REFERENCE

Jim Garner
1400 Walnut Street
P.O. Box 80
Vicksburg, MS 39181
601.618.7970

RELEVANT FEATURES

- Automated Debris Management
- Paperless Debris Ticketing
- ROE/PPDR GIS Photo Documentation
- Maximized Local Resources
- Rapid Deployment

Trained Rostan field staff utilized GPS enabled hand-held computers to initiate load tickets for the trucks at each pickup location. Each truck's HaulPass® card was inserted into the hand held computer and relevant data, including time, date, and location was saved. Conversely, Rostan dumpsite staff utilized identical hand held computers to securely retrieve the load data saved to the HaulPass® cards, enter and save the net weight of the load from the scale readout, and completed the ticket by wirelessly printing the desired number of receipts using Bluetooth belt printers.

Five dump sites were utilized, all of which were equipped with HaulPass® technology. These sites received 7,027 truckloads of debris totaling 84,649.6 tons. In addition, 570 truckloads of mulch totaling 13,631 tons were hauled to 2 of the dump sites. HaulPass® was configured for each dumpsite, capturing site location, detailed information, and acceptable debris types. HaulPass® site card functionality regulated which debris types were acceptable at each individual dumpsite, effectively regulating debris streams and assisting USACE management of dump site operations.

In addition to the tasks outlined in the scope of work, the Rostan team took on the unique challenge of assuming responsibility for tracking and organizing private property debris removal (PPDR) records in the field. HaulPass® provided the capability to take multiple geo-tagged photos along with the capture of field notes in the field, essentially eliminating the need for labor intensive photo reconciliation at the end of each work day in the USACE Recovery Field Office. This assignment consisted of a team of seven Rostan personnel utilizing camera and GPS enabled hand-held computers to survey private property throughout impacted area. A total of 1,393 PPDR records were input into the system, each containing a minimum of four photographs, one from each side of the property, including appropriate descriptions. Surveys were performed both before and after work was completed on each property, each record being marked as pre- or post-survey. The photographs and survey data were then immediately available via the www.haulpass.com web interface. Secure access was provided to USACE staff. Additionally, USACE staff was provided with the online ability to not only review, but also edit, the PPDR record data as needed.

Client
City of Birmingham

Disaster Debris Management

Location
Birmingham, Alabama



Pratt City, a sizeable subdivision of Birmingham, Alabama was impacted by straight-line winds and a devastating EF-5 tornado that destroyed a significant portion of the City on April 27, 2011. To assist with their recovery efforts the City of Birmingham contracted with ARCADIS/Pirnie to provide disaster debris removal monitoring services.

ARCADIS/Pirnie provided damage assessments to numerous private and commercial properties at the request of the City and developed a database to allow rapid access to information related to the current status of these individual properties. City personnel were also trained on querying the database to provide timely responses to citizen questions.

In addition to monitoring right-of-way debris removal operations ARCADIS/Pirnie also assisted the City in collection, verification, and validation of rights-of-entry and hold harmless agreements related to private property debris removal (PPDR) operations approved by the on-site FEMA federal coordinating officer.

In cases where home owners could not be located in a timely manner, ARCADIS/Pirnie, utilizing the latest in GIS software technology, identified all such properties and matched the locations to parcel information provided by the county tax assessor. Barring a signed right-of-entry agreement, these properties were identified as nuisance abatement properties and forwarded to the City Council for private property debris removal authorization. ARCADIS/Pirnie delivered and posted notices of intent to conduct nuisance abatement PPDR on each property.

As a result of the devastation and to ensure the timely economic recovery of the community, FEMA also approved the demolition of private structures in the path of the tornado. As such,

CLIENT REFERENCE

Andre Bittas
710 N. 20th Street
Birmingham, AL 35203
205.254.2424

RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Quality Control
- Private Property Debris Removal Monitoring
- Private Property Demolition Monitoring
- Reimbursement Support
- 166,000 cubic yards to-date

ARCADIS/Pirnie assisted the City with collection, verification and validation of applicable rights-of-entry and hold harmless agreements which included lien assessments, deed/title holder and insurance determinations.

Client
City of Buffalo

Debris Management

Location
Buffalo, New York



ARCADIS/Pirnie reached out to its long-standing client, the City of Buffalo, following the devastating effects of the October 12-13, 2006 snowstorm. The City was buried in over 20 inches of snow within less than 12 hours, causing serious damage throughout its area.

ARCADIS/Pirnie and its wholly owned subsidiary, Rostan Solutions, LLC, deployed over 250 quality assurance monitors within less than five days. For this event we mobilized our ready team and then hired from the local labor pool and used local small businesses to support our team, which operated from our temporary operations center set up for this event.

Our team provided total debris management services to the City including debris contractor management, debris management site (DMS) oversight, quality assurance (QA) monitoring of right-of-way debris collection, leaning-tree and hanging-limb removals, and DMS tower QA load calls for incoming storm debris and outgoing mulch. In addition, we performed debris contractor invoice reconciliation services and provided reimbursement support to the City for Federal Highway Administration (FHWA) and FEMA project submissions.

CLIENT REFERENCE

Steve Stepniak
City of Buffalo DPW
502 City Hall
Buffalo, NY 14202
716.851.5636

RELEVANT FEATURES

- Debris Contractor Management
- Quality Assurance Monitoring
- FEMA Reimbursement Support
- Data Management
- Invoice Reconciliation
- 60,000 Trees with Hangers
- 3,000 Tree Removals (Leaners)

Client
City of Humble, TX

Debris Monitoring

Location
Humble, Texas



Following Hurricane Ike landfall ARCADIS/Pirnie led the deployment of the debris assessment teams and first responders, and provided an array of post-disaster debris management services, including Truck Certification, ROW debris contractor monitoring, leaner/hanger/stump monitoring, as well as: providing assistance to the City for reimbursements from state and federal agencies, including the FEMA and Federal Highway Administration, relating to eligible costs arising from the disaster recovery effort.

While supporting this client, we utilized the U.S. Fish and Wildlife Service National Wetlands Inventory database and detected a potential for debris operations to impact statutory wetlands. We worked diligently with the City, its contractors, the Texas Commission on Environmental Quality, local Environmental Protection Agency personnel and the U.S. Army Corps of Engineers to ensure the operation could proceed in the most efficient manner while protecting these valuable resources.

CLIENT REFERENCE

Barry K. Brock
City of Humble
102 Granberry
Humble, TX 77338
281.831.5775

RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Quality Control
- Reimbursement Support
- 40,000 CY

Client
City of Nassau Bay

Debris Monitoring

Location
Nassau Bay, Texas



Following Hurricane Ike landfall ARCADIS/Pirnie led the deployment of the debris assessment teams and first responders, and provided an array of post-disaster debris management services, including Truck Certification, ROW debris contractor monitoring, leaner/hangar/stump monitoring, as well as: providing assistance to the City for reimbursements from state and federal agencies, including the FEMA and Federal Highway Administration, relating to eligible costs arising from the disaster recovery effort.

While monitoring the debris removal contract we discovered that the scope of work did not include provisions for the pickup, haul and disposal of white goods. We advised our client that a lack of such a scope could negatively impact FEMA reimbursement funding. We assisted the client with the draft of an emergency request for proposal that included provisions required by 40 CFR part 82 subpart F related to environmentally sound refrigerant recovery operations.

CLIENT REFERENCE

Ron Wroblewski
1800 NASA Parkway
Nassau Bay, TX 77058
281.333.2212

RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Quality Control
- Reimbursement Support
- 46,000 cubic yards

Client

U.S. Army Corps of Engineers, New Orleans District

Hurricanes Rita/Katrina Debris Removal

Location

Jefferson County, Louisiana



As a subcontractor to Mobile Group, Inc., an BA firm, ARCADIS/Pirnie was contracted to provide quality assurance services for a variety of Hurricane Rita/Katrina recovery efforts in Louisiana. Under the contract we are required to provide field personnel to perform quality assurance monitoring of debris removal contractors and general construction oversight including demolition. Within days of contract award ARCADIS/Pirnie mobilized a core group of engineers and scientists to set up operations in the hurricane disaster area. The core group set up operations for our inspection teams.

The contract was initiated in December 2005 and included providing the U.S. Army Corps of Engineers (USACE) with trained quality assurance representatives within three days of Notice to Proceed. We were able to use our local staff in New Orleans to oversee our effort there. We also supported the operation from our field office in Biloxi, Mississippi.

The work supports the debris clearance, removal and reduction mission, and general construction projects related to hurricane recovery efforts. Our personnel now play a key role in the day-to-day operations of the Corps debris cleanup mission. The services covered under the contract include:

Debris Removal Quality Assurance Monitoring

- Execution of Right-of Entry due diligence procedures
- Right-of-Entry; i.e., private property debris removal and Right-of-Way debris removal.
- Roving and disposal site monitoring of disaster debris contractor operations

CLIENT REFERENCE

Mike Bourgeois
PO Box 60267
Room 327
New Orleans, LA 70160
504.862.1520

RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Quality Control
- ROE and ROW QA Monitoring
- 130,000 dirty white goods and appliances

Client
U.S. Army Corps of Engineers - Vicksburg District

Task Force Hope Debris Removal

Location
Southern Mississippi



- Completion of debris load tickets and distribution of copies.
- Inspection of debris contractor's work to verify conformity with requirements of his contract.
- Reporting of observed variances from the contract requirements
- Maintaining inspection records.
- Preparing reports of inspections, identifying items that have been satisfactorily inspected, and those which require correction in accordance with established guidelines.
- Assisting the USACE Resident Engineer in coordinating with other agencies (Federal and/or State) who are vested with authority to enforce requirements of the Occupational Safety and Health Act of 1970, and the USACE Safety Manual, EM 385-1-1, latest edition.
- Completion of a daily inspection report showing the quantities and types of debris hauled during the day.

General Construction Inspection

Participation in the Corps of Engineers Quality management system in a Quality Assurance role, monitoring contractors Quality Control personnel and spot checking final quality for compliance with construction contract specifications.

In support of Task Force Hope, ARCADIS/Pirnie was contracted to provide quality assurance services for an estimated 26 million cubic yards of debris in 11 counties and five cities for Hurricanes Katrina and Rita Recovery Efforts in Mississippi. Under this unique

CLIENT REFERENCE

James R. Aldrich
Field Office - East
3636 N. Central Avenue
Suite 900
Phoenix, AZ 85012
602.640.2018 ext. 237

RELEVANT FEATURES

- ROE and ROW QA Monitoring
- Debris Contractor Monitoring
- 26 Million Cubic Yards of Debris
- Debris Management Consulting
- Data Quality Control

contract, we were required to provide over 480 field personnel to inspect temporary roofing, debris removal operations and general construction including demolition. Within days of contract award ARCADIS/Pirnie mobilized a core group of engineers and scientists to set up operations in the hurricane disaster area. This core group recruited, interviewed and trained a large temporary workforce of local residents, most of which had been affected by the Hurricane. Not only were we able to meet all of the contract requirements on this fast-paced emergency effort but we were also able to provide a significant boost to the local economy by hiring local individuals and small local firms to support our efforts.

The contract was initiated in December 2005 and included providing over 100 U.S. Army Corps of Engineers (USACE) trained Quality Assurance Representatives within 2 days of Notice to Proceed. Within 3 weeks we were able to provide over 480 staff. ARCADIS/Pirnie provided 8 full-time management staff and over 40 team leaders to manage the efforts in the field. We were able to provide program and contract management out of our existing Mobile, AL office (within 50 miles of Task Force Hope HQ at Kessler AFB, Biloxi, MS). In addition we set up two field operations offices, one in Biloxi just 10 minutes from the Corps office and another in Hattiesburg, MS within 5 minutes of the Corps office there.

ARCADIS/Pirnie provided quality assurance monitoring for the largest debris removal operation in United States history. The services covered under this contract included:

- Assisted the USACE with monitoring work of the prime contractor and over 1200 subcontractors
- QA/QC of 43 debris management sites
- QA/QC of over 100 final disposition locations
- Assisted the USACE with monitoring pick up, haul and final disposition of over 650,000 loads of debris
- Assisted the USACE with certifications of approximately 12,400 operational hauling vehicles
- Assisted the USACE with right-of-entry due diligence procedures for approximately 27,000 private properties



- Conducted a Pilot Study of the HaulPass™ automated data management system with the U.S. Coast Guard for removal of approximately 2.5 million CY of marine/inland waterway debris
- Completion of debris load tickets and distribution of copies.
- Inspection of debris contractors' work to verify conformity with requirements of their contract for debris removal from rights-of way, beaches and waterways, and rights-of entry for private and commercial properties .
- Reporting of observed variances from the contract requirements.
- Maintaining inspection records.
- Preparing reports of inspections, identifying items that have been satisfactorily inspected, and those which require correction in accordance with established guidelines.
- Assisting the USACE Resident Engineer in coordinating with other agencies (Federal and/or State) who are vested with authority to enforce requirements of the Occupational Safety and Health Act of 1970, and the USACE Safety Manual, EM 385-1-1, latest edition.
- Completion of a daily inspection report showing the quantities and types of debris hauled during the day.
- Operations Center Managers at three USACE Field Offices responsible for supporting ROE and ROW daily mission tasks.

Client
City of Piney Point Village, TX

Debris Monitoring

Location
Piney Point Village, Texas



Following Hurricane Ike landfall ARCADIS/Pirnie led the deployment of the debris assessment teams and first responders, and provided an array of post-disaster debris management services, including Truck Certification, ROW debris contractor monitoring, leaner/hangar/stump monitoring, as well as: providing assistance to the City for reimbursements from state and federal agencies, including the FEMA and Federal Highway Administration, relating to eligible costs arising from the disaster recovery effort.

While supporting this client, we utilized the U.S. Fish and Wildlife Service National Wetlands Inventory database and detected a potential for debris operations to impact statutory wetlands. We worked diligently with the City, its contractors, the Texas Commission on Environmental Quality, local Environmental Protection Agency personnel and the U.S. Army Corps of Engineers to ensure the operation could proceed in the most efficient manner while protecting these valuable resources.

CLIENT REFERENCE

Terri Johnson
City Administrator
City of Piney Point Village
7676 Woodway Drive, Suite 300
Houston, TX
713.782.0271

RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Quality Control
- Reimbursement Support
- 70,000 cubic yards

Client
City of Williamsburg

Debris Monitoring and Management Services

Location
Williamsburg, Virginia



Following landfall of Hurricane Irene, the City of Williamsburg, Virginia made an initial decision to handle debris removal and monitoring operations internally using City forces. Within only a few days it became apparent that the amount of debris was more than the City could remove quickly and efficiently. Thus, the City hired a debris removal contractor and asked ARCADIS/Pirnie to provide debris monitoring and management services via an existing multi-agency contract.

ARCADIS/Pirnie rapidly conducted truck certifications to get the contracted debris removal teams on the road immediately after notice-to-proceed. Operations were limited to debris on public rights-of-way, and approximately 17,500 cubic yards were removed in eleven days. The operation was further streamlined through the use of the HaulPass® automated debris management system, which provided near real-time reporting regarding debris removal field operations.

CLIENT REFERENCE

Dan Clayton
401 Lafayette Street
Williamsburg, VA 23185
757.220.6140

RELEVANT FEATURES

- Debris/Damage Assessment
- Debris Contractor Monitoring
- Debris Management Consulting
- Data Quality Control
- Reimbursement Support
- 17,000 cubic yards

Client
Erie County Department of Public Works

Debris Management

Location
Erie County, New York



ARCADIS/Pirnie responded quickly to Erie County's needs and requests following a devastating snowstorm that occurred on October 12-13, 2006. The storm dropped over 20 inches of snow in less than 12 hours, causing serious damage throughout the county due to snow buildup on the leaves of deciduous trees.

ARCADIS/Pirnie and Rostan Solutions, LLC, provided debris monitoring services to the county, including monitoring of right-of-way debris collection, leaning-tree and hanging-limb removals, and disposal site tower load calls for incoming storm debris and outgoing mulch. In addition, we provided administrative and management support for photographic documentation and tracking of all leaner and hanger operations.

Our team facilitated the county's debris removal effort by deploying over 150 monitors within two days and providing an additional 100 debris monitors in less than 24 hours as requested by the County. We initially mobilized our ready team and then hired from the local population and used a local minority subconsultant to support our team. We set up a temporary operations center at ARCADIS/Pirnie's local office for the recruitment of monitoring staff.

In 2008, we began using a debris data management system - the HaulPass™ System - to track the removal of over 9,000 hazardous stumps. As a result, the typical time frame for contractor invoice reconciliation was reduced from over two weeks to just 45 minutes.

CLIENT REFERENCE

Gerry Sentz, PE
97 Franklin Street
Buffalo, NY
716.858.8369

RELEVANT FEATURES

- Debris Contractor Management
- Quality Assurance Monitoring
- Public Assistance Support
- Data Management
- 117,000 Trees with Hangers
- 3,800 Tree Removals (Leaners)
- 750,000 cubic yards of debris

Key Personnel

ARCADIS/Pirnie's staff includes numerous qualified professionals who have extensive experience related to pre- and post-disaster recovery, solid and hazardous waste planning and recovery, and management of disposal operations. Our specialists offer our clients:

- Extensive experience in disaster debris management monitoring of debris contractor operations.
- Extensive knowledge of federal mitigation and disaster programs, grants, and regulations
- Comprehensive emergency management and disaster debris management planning expertise including Comprehensive Emergency Management program (CEMP), Continuity of Operations (COOP), Homeland Security Comprehensive Assessment Model (HLS-Cam™), NIMS, etc.

Our firm has a number of qualified professionals who can be called upon to provide disaster recovery/debris management consulting services immediately following a disaster. Our key project team members are presented below.

Key Project Staff

The following key individuals will provide and support project management, take responsibility for production and delivery, and will work collaboratively across all project phases with the client:

Sam Rosania, Principal in Charge - Mr. Rosania has over thirty two years of experience related to public health, solid and hazardous waste management operations and serves as ARCADIS/Pirnie's National Disaster Preparedness and Recovery Program Director.

Andy Compton, Local On-Site Project Manager - Mr. Compton has over 30 years of military and private-sector experience in managing multifaceted programs, including managing the debris program for FEMA's Florida Long Term Recovery Office. He currently specializes in managing disaster debris removal projects for our clients nationally.

Our firm's professionals have experience that encompasses preparation and implementation of emergency management plans and debris management plans, hazardous materials management and post-event debris removal management, training and exercises, and regulatory compliance.

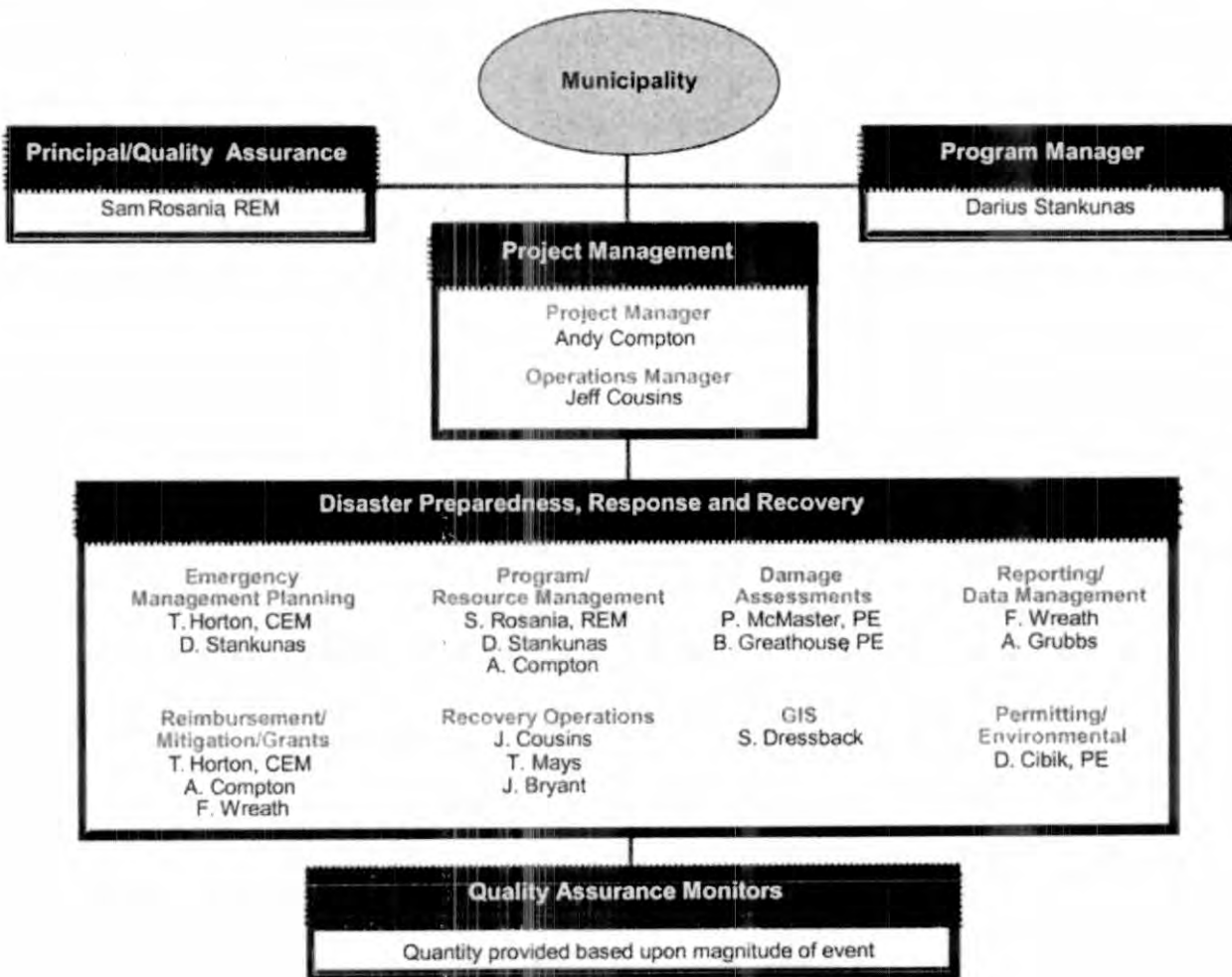
Darius Stankunas, Program Manager - Mr. Stankunas has over eighteen years of experience in solid waste management and currently specializes in disaster planning and recovery management activities. He currently serves as ARCADIS/Pirnie's National Disaster Preparedness and Recovery Program Manager.

Tommy Horton - Mr. Horton specializes in technology, homeland security, and emergency management consulting. He is an expert in business and government management relevant to the fields of consequence management and information technology.

Frank Wreath, Data Collection Manager - Mr. Wreath has eighteen years of experience related to technology services. He provides extensive support to our debris management clients, including development of a customized database application for the creation of metrics and reporting, and multi-relational records management.

Jeff Cousins, Operations Manager - Mr. Cousins specializes in disaster management and recovery and currently serves as lead Operations Manager responsible for the deployment of our field staff and the HaulPass® System. He has more than seven years experience in managing disaster debris recovery field operations nationally.

On the following page is an organizational chart followed by full resumes for these individuals and other team members.



Mr. Rosania has over thirty two years of experience related to public health, solid and hazardous waste management operations and serves as Program Director for ARCADIS/Pirnie's national Disaster Preparedness and Recovery Practice, which includes the industry leading automated debris management system, HaulPass®. Mr. Rosania also serves as Managing Director of Rostan Solutions, LLC, a subsidiary company of ARCADIS U.S., Inc. created to focus on disaster response and recovery projects. He is an expert in hurricane pre- and post-event planning and recovery, from both the public and private perspective, having managed numerous planning and recovery projects throughout the United States. Mr. Rosania has served as Project Manager for many disaster debris management and integrated solid waste management projects, some in excess of 25 million cubic yards. He has developed, implemented, and administered a diverse range of environmental programs related to municipal solid waste and disaster debris management, recycling, and special waste management.

DETAILED EXPERIENCE

- **USACE Kansas City District/Joplin, MO Tornado 2011/HaulPass® System.** Project Principal responsible for deployment of the HaulPass® Automated Debris Management System. The USACE was assigned a mission to oversee debris recovery operations following the devastating tornado that impacted the Joplin, MO area in April 2011. The USACE selected the HaulPass® System for tracking all debris removal field data to streamline its recovery efforts. The HaulPass® System was successfully utilized to track the removal of debris from public rights-of-way and private property throughout the area.
- **James City County: Disaster Debris Management / Hurricane Irene/ VA.** Project Principal responsible for deployment and management of disaster response and recovery team in support of debris management services for James City County, VA following Hurricane Irene. Provided oversight of right-of-way debris collection, removal of hazardous leaning trees and hanging limbs, and stumps utilizing the HaulPass® System.
- **City of Williamsburg: Disaster Debris Management / Hurricane Irene 2011/ VA.** Project Principal responsible for deployment and management of disaster response and recovery team in support of debris management services for the City of Williamsburg, VA following Hurricane Irene. Provided oversight of right-of-way debris collection utilizing the HaulPass® System.

Samuel M. Rosania, REM

Project Role: Project Principal

Title/Firm:

Vice President
ARCADIS/Malcolm Pirnie

Years of Experience

32

Education

Graduate studies in M.Sc.
Agricultural/Biological Engineering
University of Tennessee
BS Plant Pathology University of Florida
1978

Licenses and Certifications

Registered Environmental Manager (REM)

Health and Safety Training

Construction Safety Awareness
Ergonomics
Health & Safety Training for Project Management

Special Recognition

Board of County Commissions, Lee County, Florida, Recycling Programs Recognition Award (1991)
NREP Program Management Award for McKay Bay RTE Retrofit Project (2003)
Program Award, Region IV, United States Environmental Protection Agency
Administrative Award, Recycling Program Achievements (1991)

Societies

Keep Lee County, Florida Beautiful, Honorary Lifetime Membership
National Recycling Coalition
National Registry of Environmental Professionals (NREP)
Recycle Florida Today, Inc.
Solid Waste Association of North America

- **York County: Disaster Debris Management / Hurricane Irene 2011 / VA.** Program Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for York County, VA following Hurricane Irene. Provided oversight of right-of-way debris collection, removal of hazardous leaning tress and hanging limbs, and stumps utilizing the HaulPass® System.
- **City of Birmingham: Disaster Debris Management / April 2011 Tornadoes and Straight-Line Winds / AL.** Project Principal responsible for deployment and management of disaster response and recovery team in support of debris management services for the City of Birmingham, AL following severe storms of April 2011. Provided oversight of right-of-way debris collection, removal of hazardous leaning tress and hanging limbs, stumps, demolitions and private property debris removal utilizing the HaulPass® System.
- **Haiti Recovery Group: HaulPass® Automated Data Management System 2010 / Port-au-Prince, Haiti.** Project Principal responsible for the deployment of the HaulPass® System in Haiti following the 2010 earthquake. HaulPass® demonstrated its simplistic, yet rugged and flexible nature, while capturing demolition and debris removal data that accounted for nearly 300,000 cubic yards of earthquake generated debris. Reporting was streamlined and readily available to the Haitian government in near-real time.
- **City of Humble: Disaster Debris Management 2008/ Humble TX.** Project Principal responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management using the HaulPass® System, and FEMA reimbursement.
- **City of Piney Point Village: Disaster Debris Management 2008/ Piney Point TX.** Project Principal responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management using the HaulPass® System, and FEMA reimbursement.
- **City of Nassau Bay: Disaster Debris Management 2008/ Nassau Bay TX.** Project Principal responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management using the HaulPass® System, and FEMA reimbursement including development of project worksheets.
- **Erie County Department of Public Works: Erie County Debris Management 2006-08/ Buffalo NY.** Program Manager of a team of over 150 quality assurance monitors following a

devastating snowstorm. Debris monitoring services include quality assurance (QA) monitoring of right-of-way debris collection, leaning tree and hanging limb removals, TDSRS tower QA load calls for incoming storm debris, and outgoing mulch.

- **City of Buffalo Department of Public Works: Debris Management / Buffalo NY.** Following the devastating snowstorm in October 2006, provided program management for deployment of over 250 quality assurance monitors. Provided total debris management services including debris contractor management, temporary debris storage and reduction site (TDSRS) oversight, quality assurance (QA) monitoring of right-of-way debris collection, leaning tree and hanging limb removals, TDSRS tower QA load calls for incoming storm debris and outgoing mulch. Also assisted with invoice reconciliation services to support reimbursement from FEMA and Federal Highway Administration (FHWA).
- **U.S. Army Corps of Engineers, Vicksburg District: Hurricane Debris Data Management / Hancock County MS.** Program Manager responsible for deployment of HaulPass® electronic debris data management system in Hancock County. The HaulPass® system electronically captured data in the field, demonstrating that paper load tickets for debris recovery operations can be eliminated, resulting in end-of-day reporting of debris load information including load origination (GPS coordinates), cubic yards collected, types of debris collected, debris contractor/subcontractor identification, potential truck routing using GIS, etc. The HaulPass® system also demonstrated elimination of human error related to paper load ticket issuance and entry into a database and streamlined invoice reconciliation since the debris contractor and applicant would be working from the same database.
- **OFA, Vicksburg District: Hurricane Debris Removal / Southern Mississippi MS.** Project Manager responsible for the deployment and management of over 400 quality assurance ROW and ROE monitors located in over 13 counties and numerous cities in southern Mississippi and the Gulf Coast following Hurricanes Katrina and Rita.
- **U.S. Army Corps of Engineers, New Orleans District: Debris Removal after Hurricanes Rita and Katrina / New Orleans LA.** Project Manager responsible for the deployment and management of QA debris monitors working in Jefferson Parish following Hurricanes Katrina and Rita.
- **Palm Beach County Solid Waste Authority: SWA Debris Management / West Palm Beach FL.** Operations Manager responsible for the deployment and management of over 150 debris monitors working in the unincorporated areas of Palm Beach County following Hurricane Wilma.

- **Hillsborough County Public Works: Debris Contractor Administration / Tampa FL.** Prior to Hurricane Frances developed and negotiated the scope of services for Debris Contractor Administrative Team (DCAT) services to be provided in the event of a hurricane impacting Hillsborough County. Led the deployment of the DCAT first responders just prior to and during Hurricane Frances and provided an array of post-disaster DCAT services following Hurricanes Frances and Jeanne, including:
 - Post-disaster debris assessment of unincorporated portions of the county.
 - Administration and management of debris contractors for collection of storm debris and operation of temporary debris storage and reduction sites (TDSRS).
 - Permitting, operational oversight, and closeout oversight of five TDSRS and 18 county parks serving as temporary debris drop-off locations.
 - Management and scheduling of over 100 DCAT field monitors, TDSRS monitors, traffic control personnel, and administrative staff.
 - Supervision of the development and maintenance of a storm debris data management system of load tickets and debris contractor information.
 - Review and substantiation of debris contractor invoices for storm debris collection, reduction, and disposal for three debris contractors.
 - Assistance with the development of public service announcements and print media advertising regarding storm debris procedures and schedules.
 - Also provided assistance to the county for reimbursements from state and federal agencies, including the Federal Emergency Management Agency and Federal Highway Administration, relating to eligible costs arising from the disaster recovery effort.
- **Palm Beach County Solid Waste Authority: Hurricane Debris Removal Contract Administration / West Palm Beach FL.** Prior to Hurricane Frances developed and negotiated the scope of services for Debris Contractor Administrative Team services to be provided in the event of a hurricane impacting Palm Beach County. Coordinated the deployment of the DCAT first responders just prior and during Hurricane Frances. Participated in establishing four temporary debris monitoring sites by second day after storm and in staffing a team of well over a hundred workers including subconsultants to monitor debris removal, establishment, and monitoring of debris management sites. Within ten days, ten debris sites had been opened and we were monitoring the removal and management of 3 million cubic yards of debris. Provided assistance with FEMA applications for reimbursement.

- **Sarasota County: Post-Disaster Debris Management / Sarasota FL.** As Project Manager following tropical storm Gabriel in the autumn of 2001, assisted the county with its implementation of an emergency horticultural storm debris removal program. We were responsible for managing and coordinating the project, monitoring work areas, issuing load tickets, monitoring work performance and productivity, coordinating truck routing, resolving questions and problems, identifying potential problems, maintaining a map of the streets from which debris had been previously removed, performing temporary debris management site inspections of storm debris disposal operations, monitoring multiple truck deliveries to the disposal sites, verifying manifest tickets, and maintaining records.

Mr. Compton has over 30 years of military and private-sector experience in managing multifaceted programs from initial development to operational testing and evaluation and eventual deployment. Mr. Compton has responded to multiple disaster declarations as a technical assistance contractor to FEMA with increasing levels of responsibility. As part of these assignments he has designed a database and co-developed an interface and reporting modules for tracking Community Relations personnel, served as a debris monitor, project officer, and debris specialist. He received special recognition from FEMA as a result of his work during Declaration 1561. He has supervised debris monitor field teams, and project officer teams, and performed in the capacity of Lead Debris Program Specialist. He has prepared for and facilitated numerous meetings with municipality and county executives and their contractors regarding the Stafford Act, 44CFR and FEMA Policy and Guidance Documents. He has been responsible for writing numerous project worksheets which included scopes of work and cost estimates for force account and contracted labor, equipment, and materials used in support of hurricane disaster relief operations. The efforts required numerous meetings and close coordination with city, town and county executives and FEMA personnel to ensure accuracy and eligibility of the reimbursement requests.

DETAILED EXPERIENCE

- **James City County: Disaster Debris Management - Hurricane Irene/ VA.** Project Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for James City County, VA following Hurricane Irene. Also responsible for providing support for Category A and B FEMA reimbursement, FHWA reimbursement and reconciliation of contractor invoicing.
- **City of Williamsburg: Disaster Debris Management - Hurricane Irene / VA.** Project Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for the City of Williamsburg, VA following Hurricane Irene. Also responsible for providing support for Category A and B FEMA reimbursement, FHWA reimbursement and reconciliation of contractor invoicing.
- **York County: Disaster Debris Management - Hurricane Irene / VA.** Project Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for York County, VA following Hurricane Irene. Also responsible for providing

Andy Compton

Project Role: Project Manager

Title/Firm:

Principal Consultant I
ARCADIS/Malcolm Pirnie

Years of Experience

30

Education

BS Zoology Southern Illinois University
1978

MPA Public Administration Golden Gate
University 1986

Professional Training

FEMA: Continuity of Operations
Awareness IS-546

FEMA: Coordinating Environmental and
Historic Preservation Compliance L 253

FEMA: Debris Operations in FEMA Public
Assistance Program IS-632

FEMA: ICS for Single Resources and Initial
Action Incidents IS-200

FEMA: Intro to the Incident Command
System IS-100

FEMA: Introduction to Continuity of
Operations Plan IS-547

FEMA: National Incident Management
System (NIMS) IS-700

FEMA: National Response Plan (NRP) IS-
800

FEMA: Preliminary Damage Assessment
Training

FEMA: Principles of Emergency
Management IS-230

FEMA: Public Assistance Cost Estimating
Format E 480

FEMA: Public Assistance Operations I IS-
631

FEMA: RS Means Training

support for Category A and B FEMA reimbursement, FHWA reimbursement and reconciliation of contractor invoicing.

- **City of Birmingham: Disaster Debris Management / April 2011 Tornadoes and Straight-Line Winds / AL.** Project Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for the City of Birmingham, AL following severe storms of April 2011. Also responsible for providing support for Category A and B FEMA reimbursement, FHWA reimbursement and reconciliation of contractor invoicing.
- **City of Humble: Disaster Debris Management / Humble TX.** Project Manager responsible for providing support for Category A and B FEMA reimbursement, FHWA reimbursement and reconciliation of contractor invoicing.
- **City of Nassau Bay: Debris Management / Nassau Bay TX.** Project Manager responsible for the deployment and management of field monitors and debris management site monitors in the incorporated areas of Nassau Bay, Texas following Hurricane Ike. Also responsible for providing support for Category A and B FEMA reimbursement, FHWA reimbursement and contractor invoice reconciliation and reconciliation of contractor invoicing.
- **City of Piney Point Village: Disaster Debris Management / Piney Point TX.** Project Manager responsible for providing support for Category A and B FEMA reimbursement, FHWA reimbursement and contractor invoice reconciliation and reconciliation of contractor invoicing.
- **US Army Corps of Engineers, Fort Worth District: Hurricane Ike / TX and LA.** Project Manager responsible for the deployment of the **HaulPass®** automated debris management system in the Galveston and Chambers County areas in Texas following Hurricane Ike. The USACE performed debris removal work on Texas Dept. of Transportation (state and federal) roads. Emergency work was completed in 10 days.
- **Paulding County, GA: Georgia Floods / GA.** Provided overnight response and direct assistance to our parent firm (AUS) in support to Paulding County, GA after severe flooding. Provided expertise related to contract requirements of 44 CFR 13.36, preventing a highly possible multi-million dollar fiscal exposure to our client.
- **Federal Emergency Management Agency (FEMA): Lead Debris Program Specialist, Florida Long-Term Recovery Office / FL.** Primary federal program manager for interpreting and implementing the Stafford Act, 44 CFR, and FEMA policy as it pertains to debris. Lead spokesperson for federal, state, and local response teams and coordinator of multi-

departmental cooperation between federal and local agencies. Author and central coordinator for disaster-specific guidance implementation, ensuring state and local agencies understand new program policies. Primary program voice to local government agencies, leading and delivering debris seminars to 66 of 67 counties and hundreds of municipalities.

Requested by Region V to present at their Debris Summit in Indianapolis, and guest speaker at the Florida Governors' Hurricane Conference in 2007.

- **Federal Emergency Management Agency (FEMA): Debris Specialist for Hurricane Wilma / St. Lucie, Martin, Palm Beach, and Broward County FL.** Debris specialist assigned to St. Lucie, Martin, Palm Beach and Broward counties. Managed over 20 project specialists. Responsible for draft, review, edit and final submission of over 400 project worksheets. Personally drafted cost estimates and scopes of work resulting in over \$1B in reimbursement for municipalities impacted as a result of the disaster.
- **Federal Emergency Management Agency (FEMA): Debris Specialist and Deputy Public Assistance Officer-Debris for Hurricane Dennis / Okaloosa and Walton Counties FL.** Ten days after demobilizing from support provided to clean-up after the four hurricanes of 2004, was asked to return to Florida as debris specialist for Okaloosa and Walton counties. Prepared numerous project worksheets and facilitated several meetings among FEMA personnel, state representatives, and multiple applicants. Subsequently appointed as the debris lead for this disaster.
- **Federal Emergency Management Agency (FEMA): Project Officer Support to FEMA for Hurricanes Charley, Frances, Jeanne, and Ivan / Municipalities and Counties FL.** After providing detailed analyses to FEMA in support of debris operations, chosen to become a project officer and received additional FEMA-sponsored training on public assistance operations. In this capacity, responsible for writing project worksheets which included scopes of work and cost estimates for force account, contracted labor, and equipment and materials used in support of hurricane disaster relief operations. The efforts required numerous meetings and close coordination with city, town, and county executives and FEMA personnel to ensure accuracy and eligibility of the reimbursement requests. Wrote project worksheets for municipalities and the unincorporated portions of Hillsborough, Pinellas, Hardee, and Manatee counties. The combined cost estimates of these project worksheets were in excess of \$50M.
- **Federal Emergency Management Agency (FEMA): Public Assistance Operations Support to FEMA for Hurricanes**

Charley, Frances, Jeannne, and Ivan / Counties of Hillsborough, Pinellas, and Hardee FL. After receiving FEMA-sponsored training, deployed to Tampa to provide debris monitoring operations for municipalities and unincorporated portions of the counties of Hillsborough, Pinellas, and Hardee. Prepared for and facilitated numerous meetings with municipality and county executives and their contractors. Detected several cases of fraud, waste, and abuse of FEMA funds and quickly acted to correct the wrongful actions of contractors in cutting and hauling large amounts of ineligible debris. As a personal exercise, began recording load estimates of Hillsborough County-contracted monitors as well as own, and collected data and photographic evidence that showed a significant variance between these estimates and those of the applicant's monitors. The entire debris team immediately adopted the new methodologies. Subsequently incorporated a large amount of data into the "Hillsborough County Debris Analysis Report," which was forwarded to the Disaster Field Office in Orlando and subsequently presented in a workshop at FEMA headquarters in Washington DC. These efforts led to significant savings of taxpayer dollars as well as special recognition from the FEMA awards committee, citing professionalism, dedication and exemplification of FEMA values.

- **Federal Emergency Management Agency (FEMA): Community Relations Support to FEMA for Hurricanes Charley, Frances, Jeanne, and Ivan / Orlando FL.** On September 4, 2004, deployed to Orlando to provide support to FEMA in the area of community relations (CR). As charter member of what was later referred to by FEMA personnel as the "Dream Team," identified a need and co developed a database and interface used to track CR personnel deployed in support of disaster relief operations. After receiving a demonstration of the robustness of these tools, Tony Russell (operations chief for CR in Florida) decided that the same capability was needed for identical operations in Jacksonville, where the work continued. From there asked to be technical assistance contractor in support of debris removal, reduction, and disposition operations associated with the disasters.

Mr. Stankunas has over eighteen years of experience in solid waste management and currently specializes in emergency management and disaster planning and recovery management services. Mr. Stankunas has served as Project Manager on numerous disaster debris recovery and reimbursement projects throughout the United States. He is currently the Program Manager for ARCADIS/Pirnie's national Emergency Management and Disaster Recovery Program, which includes the industry leading automated debris management system, HaulPass®. Mr. Stankunas also serves as Director of Business Operations for Rostan Solutions, LLC, a subsidiary company of ARCADIS/Pirnie created to focus on disaster response and recovery projects.

DETAILED EXPERIENCE

- **USACE Kansas City District/Joplin, MO Tornado 2011/HaulPass® System.** Program Manager responsible for deployment of the HaulPass® Automated Debris Management System. The USACE was assigned a mission to oversee debris recovery operations following the devastating tornado that impacted the Joplin, MO area in April 2011. The USACE selected the HaulPass® System for tracking all debris removal field data to streamline its recovery efforts. The HaulPass® System was successfully utilized to track the removal of debris from public rights-of-way and private property throughout the area. We also hired, trained and deployed over 60 local staff to operate the System in the field and to assist the USACE with contractor oversight.
- **James City County: Disaster Debris Management / Hurricane Irene/ VA.** Program Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for James City County, VA following Hurricane Irene. Provided oversight of right-of-way debris collection, removal of hazardous leaning trees and hanging limbs, and stumps utilizing the HaulPass® System.
- **City of Williamsburg: Disaster Debris Management / Hurricane Irene / VA.** Program Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for the City of Williamsburg, VA following Hurricane Irene. Provided oversight of right-of-way debris collection utilizing the HaulPass® System.
- **York County: Disaster Debris Management / Hurricane Irene / VA.** Program Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for York County, VA following Hurricane Irene. Provided oversight of right-of-way

Darius J. Stankunas

Project Role:
Program Manager

Title/Firm:
Associate Vice President
ARCADIS/Malcolm Pirnie

Years of Experience
18

Health and Safety Training
24-Hr Supervised Field Training
Construction Safety Awareness

debris collection, removal of hazardous leaning trees and hanging limbs, and stumps utilizing the HaulPass® System.

- **City of Birmingham: Disaster Debris Management / April 2011 Tornadoes and Straight-Line Winds / AL.** Program Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for the City of Birmingham, AL following severe storms of April 2011. Provided oversight of right-of-way debris collection, removal of hazardous leaning trees and hanging limbs, stumps, demolitions and private property debris removal utilizing the HaulPass® System.
- **Haiti Recovery Group: HaulPass® Automated Data Management System / Port-au-Prince, Haiti.** Program Manager responsible for the deployment of the HaulPass® System in Haiti following the 2010 earthquake. HaulPass® demonstrated its simplistic, yet rugged and flexible nature, while capturing demolition and debris removal data that accounted for nearly 300,000 cubic yards of earthquake generated debris. Reporting was streamlined and readily available to the Haitian government in near-real time.
- **Erie County Department of Public Works: Erie County Debris Management / Buffalo NY.** Project Manager of a team of over 150 quality assurance monitors following a devastating snowstorm. Debris monitoring services include quality assurance (QA) monitoring of right-of-way debris collection, leaning-tree and hanging-limb removals, and debris management site tower QA load calls for incoming storm debris and outgoing mulch.
- **City of Buffalo Department of Public Works: Debris Management / Buffalo NY.** Following the devastating snowstorm in October 2006, served as Project Manager for deployment of over 250 quality assurance monitors. Provided total debris management services including Debris Contractor Management, Debris Management Site (DMS) oversight, QA Monitoring of right-of-way debris collection, leaning tree and hanging limb removals, Tower QA load calls for incoming storm debris and outgoing mulch. Assisted with invoice reconciliation to support reimbursement from FEMA and FHWA.
- **Hillsborough County Public Works: Debris Contractor Administration / Tampa FL.** Project Manager for an array of post-disaster services following Hurricanes Frances and Jeanne, including: debris assessment of unincorporated portions of the count, contracts administration and management of debris contractors, and all debris removal field operations during debris removal. Assisted in permitting, operational oversight, and closeout oversight of 5 DMS' and 18 county parks serving as temporary debris drop-off locations.

Performed invoice reconciliation, Project Worksheet review, appeals assistance, and public relations communications during the recovery process.

- **Palm Beach County Solid Waste Authority: Hurricane Debris Removal Contract Administration / West Palm Beach FL.** Helped coordinate the deployment of debris management first responders just prior and during Hurricanes Frances and Jeanne. Participated in establishing four DMS' by second day after storm and in staffing a team of well over 100 temporary workers to monitor debris removal and DMS'. Within ten days, 10 debris sites had been opened and our staff monitored the removal of 3 million cubic yards of debris. Provided assistance with FEMA applications for reimbursement.
- **U.S. Army Corps of Engineers, Vicksburg District: HaulPass® Automated Debris Management System (ADMS) / Gulf Coast MS.** Project Manager responsible for deployment of HaulPass® ADMS in Hancock County, Mississippi. The HaulPass® system electronically captured data in the field, demonstrating that paper load tickets for debris recovery operations can be eliminated, resulting in end-of-day reporting of debris load information including load origination (GPS coordinates), cubic yards collected, types of debris collected, debris contractor/subcontractor identification, potential truck routing using GIS, etc. The HaulPass® system also demonstrated elimination of human error related to paper load ticket issuance and entry into a database, and streamlined invoice reconciliation since the debris contractor and applicant would be working from the same database.
- **U.S. Army Corps of Engineers, Vicksburg District: Debris Contractor QA Monitoring / Gulf Coast MS.** Project Logistics Officer and Deputy Project Manager responsible for deployment and support of over 450 quality assurance monitors working in 13 counties and numerous cities in southern Mississippi and the Gulf Coast following Hurricanes Katrina and Rita.
- **US Army Corps of Engineers, Fort Worth District: Hurricane Ike / TX and LA.** Project Manager responsible for the deployment of the HaulPass® automated debris management system in the Galveston and Chambers County areas in Texas following Hurricane Ike. The USACE performed debris removal work on Texas DOT (state and federal) roads. Emergency work was completed in 10 days. The HaulPass® system was also successfully deployed in Cameron and Vermillion Parishes in Louisiana. The USACE utilized the system to its fullest capabilities and entirely eliminated the use of paper load tickets. By using the HaulPass® system, the USACE completed validation of all load ticket data one day

after field operations had ceased, had eliminated data entry effort and the need for QA/QC of manually entered load ticket information.

- **City of Humble: Disaster Debris Management / Humble TX.** Program Manager responsible for overall deployment and management of debris recovery operations following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management using the HaulPass® System, and FEMA reimbursement including development of project worksheets.
- **City of Nassau Bay: Disaster Debris Management / Nassau Bay TX.** Program Manager responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management utilizing the HaulPass® System, and FEMA reimbursement including development of project worksheets.
- **City of Piney Point Village: Disaster Debris Management / Piney Point TX.** Program Manager responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management using the HaulPass® System, and FEMA reimbursement including development of project worksheets.
- **Sarasota County: Disaster Debris Management / Sarasota FL.** Following tropical storm Gabriel in 2001, assisted the County with its implementation of an emergency horticultural storm debris removal program. We responded within 24 hours, providing field inspection monitors for horticultural storm debris removal and disposal. We were responsible for managing and coordinating the project, monitoring work areas, issuing load tickets, monitoring work performance and productivity, coordinating truck routing, resolving questions and problems, maintaining a map of the streets from which debris had been previously removed, performing DMS inspections and maintaining all records.
- **Palm Beach County Solid Waste Authority: Debris Management / West Palm Beach FL.** Assistant Project Manager responsible for the deployment and support of over 150 quality assurance monitors working in the unincorporated areas of the county following Hurricane Wilma.

Mr. Cousins has over seven years of experience specific to debris management and disaster recovery operations. Mr. Cousins specializes in disaster management and recovery and has served as Operations Manager supporting disaster recovery and reimbursement projects following some of the world's most devastating disasters. Mr. Cousins was responsible for the deployment of over 450 quality assurance monitors deployed in 11 counties and 5 cities in Mississippi for the USACE Task Force Hope mission following Hurricane Katrina. Mr. Cousins served as Operations Manager for the deployment of the HaulPass® System in Haiti following the devastating 2010 earthquake. Most recently Mr. Cousins served as Operations Manager in support of the USACE in the deployment of the HaulPass® Automated Debris Management System following the devastating tornado that impacted the Joplin, MO area in April 2011.

DETAILED EXPERIENCE

- **USACE Kansas City District/Joplin, MO Tornado 2011/HaulPass® System.** Operations Manager responsible for deployment of the HaulPass® Automated Debris Management System. The USACE was assigned a mission to oversee debris recovery operations following the devastating tornado that impacted the Joplin, MO area in April 2011. The USACE selected the HaulPass® System for tracking all debris removal field data to streamline its recovery efforts. The HaulPass® System was successfully utilized to track the removal of debris from public rights-of-way and private property throughout the area. We also hired, trained and deployed over 60 local staff to operate the System in the field and to assist the USACE with contractor oversight.
- **James City County: Disaster Debris Management / Hurricane Irene/ VA.** Operations Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for James City County, VA following Hurricane Irene. Provided oversight of right-of-way debris collection, removal of hazardous leaning trees and hanging limbs, and stumps utilizing the HaulPass® System.
- **City of Williamsburg: Disaster Debris Management / Hurricane Irene / VA.** Operations Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for the City of Williamsburg, VA following Hurricane Irene. Provided oversight of right-of-way debris collection utilizing the HaulPass® System.
- **York County: Disaster Debris Management / Hurricane Irene / VA.** Operations Manager responsible for deployment

Jeff Cousins

Project Role:

Operations Manager

Title/Firm:

Operations Supervisor
ARCADIS/Malcolm Pirnie

Years of Experience

7

Licenses and Certifications

FEMA IS100 Incident Command System
FEMA IS200 ICS for Single Resources and Initial Action Incidents
FEMA IS300 Intermediate ICS
FEMA IS400 Advanced ICS
FEMA IS5 Introduction to Hazardous Materials
FEMA IS700 National Incident Management System
FEMA IS800 National Response Plan
OSHA Disaster Worker

and management of disaster response and recovery team in support of debris management services for York County, VA following Hurricane Irene. Provided oversight of right-of-way debris collection, removal of hazardous leaning trees and hanging limbs, and stumps utilizing the HaulPass® System.

- **City of Birmingham: Disaster Debris Management / April 2011 Tornadoes and Straight-Line Winds / AL.** Operations Manager responsible for deployment and management of disaster response and recovery team in support of debris management services for the City of Birmingham, AL following severe storms of April 2011. Provided oversight of right-of-way debris collection, removal of hazardous leaning trees and hanging limbs, stumps, demolitions and private property debris removal utilizing the HaulPass® System.
- **Haiti Recovery Group: HaulPass® Automated Data Management System / Port-au-Prince, Haiti.** Operations Manager responsible for the deployment of the HaulPass® System in Haiti following the 2010 earthquake. HaulPass® demonstrated its simplistic, yet rugged and flexible nature, while capturing demolition and debris removal data that accounted for nearly 300,000 cubic yards of earthquake generated debris. Reporting was streamlined and readily available to the Haitian government in near-real time.
- **City of Piney Point Village: Debris Management / Piney Point TX.** Project Manager responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management using the HaulPass™ System, and FEMA reimbursement including development of project worksheets.
- **City of Humble: Disaster Debris Management / Humble TX.** Operations Manager responsible for overall deployment and management of debris recovery operations following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management using the HaulPass® System, and FEMA reimbursement including development of project worksheets.
- **City of Nassau Bay: Disaster Debris Management / Nassau Bay TX.** Operations Manager responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management utilizing the HaulPass® System, and FEMA reimbursement including development of project worksheets.
- **US Army Corps of Engineers, Fort Worth District: Hurricane Ike / TX and LA.** Operations Manager responsible for the deployment of the HaulPass® automated debris management system in the Galveston and Chambers County

areas in Texas following Hurricane Ike. The USACE performed debris removal work on Texas DOT (state and federal) roads. Emergency work was completed in 10 days. The HaulPass® system was also successfully deployed in Cameron and Vermillion Parishes in Louisiana. The USACE utilized the system to its fullest capabilities and entirely eliminated the use of paper load tickets. By using the HaulPass® system, the USACE completed validation of all load ticket data one day after field operations had ceased, had eliminated data entry effort and the need for QA/QC of manually entered load ticket information.

- **City of Buffalo Dept. of Public Works: Buffalo Debris Mgmt / Buffalo NY.** Following the devastating snowstorm in October 2006, served as operations manager for debris management services including Debris Contractor Management, Temporary Debris Storage and Reduction Site (TDSRS) oversight, Quality Assurance (QA) Monitoring of right-of-way debris collection, leaning tree and hanging limb removals, TDSRS Tower QA load calls for incoming storm debris and outgoing mulch. Also assisted with invoice reconciliation services to support reimbursement from FEMA and FHWA.
- **Erie County Department of Public Works: Debris Management / Buffalo NY.** Deputy Project Manager of a team of over 150 quality assurance monitors following a devastating snowstorm. Debris monitoring services include Quality Assurance (QA) Monitoring of right-of-way debris collection, leaning tree and hanging limb removals, TDSRS Tower QA load calls for incoming storm debris and outgoing mulch.
- **USACE, Vicksburg District: Katrina Debris Contractor Quality Assurance Monitoring / Biloxi MS.** Project Operations Manager responsible for deployment and management of over 450 Quality Assurance monitors working in 13 counties and numerous cities in southern Mississippi and the Gulf Coast following Hurricanes Katrina and Rita. Assisted with the development, implementation, and administration of the corporate health and safety policies and the project Developed and presented safety briefings to quality assurance monitors.
- **Solid Waste Authority of Palm Beach County: Debris Management / West Palm Beach FL.** Served as project team member for the recovery efforts in the wake of hurricanes Frances, Jeanne, and Wilma. Efforts included QA monitoring, field supervision, and Tower management.

Mr. Horton specializes in emergency management and homeland security. As an executive consultant, he works with critical infrastructure, state agencies, local communities, and industry to identify all-hazards vulnerabilities, risks, consequences, and capacity to respond and recovery to incidents. He provides clients with solutions to ensure efficient use of resources, incident management, operational resiliency and business /operational continuity. He is an expert in FEMA and DHS Program Management, planning, training, exercise, and grants administration.

Mr. Horton served on active duty and deployed to Iraq as a member of the Florida Army National Guard; Served 12 years as Infantry Communications Non-Commissioned Officer (NCO). As a Communications NCO in the 3rd Battalion, 124th Infantry Regiment, he was been responsible for coordinating secure communications for company and battalion level operations.

Project Expertise

- FEMA Programs (PA, HMGP, FMA, RL/SRL, PDM, NFIP)
- Continuity of business/operations plans
- Disaster planning
- Mitigation planning
- Debris management planning
- Training and technical assistance to critical service agencies
- Infrastructure grants management
- Multi-agency disaster exercise development
- Hazards and vulnerability assessments
- Homeland Security Comprehensive Assessment Model (HLS-CAM)
- National Incident Management System (NIMS)
- Incident Command System (ICS)
- Homeland Security Exercise and Evaluation Program (HSEEP)

DETAILED EXPERIENCE

- **Florida Division of Emergency Management.** Project Manager: Support services to the Florida Mitigation Programs; Services included technical field inspections, mitigation and long term recovery planning, FEMA grants administration, Disaster grants finance, post disaster coordination, post disaster loss avoidance and assessments. Assisted the State of Florida in obtaining the FEMA "Enhanced Mitigation" status in 2008 and renewal in 2010.

Tommy B. Horton II, CEM

**Project Role: Emergency
Management Planning,
Reimbursement/Mitigation
/Grants**

Title/Firm:

Principal Consultant
ARCADIS/Malcolm Pirnie

Years of Experience

20

Education

BA Business Administration
Florida State University
1993

Certifications and Training

Certified Emergency Manager (CEM)
FEMA Emergency Management Institute
Advanced Professional Series
1998, 1999, 2000, 2001

- **City of Birmingham AL.** Project Manager: Debris Management Operations for post incident, FEMA funded debris removal from impacts of the April 2011 tornadoes. (FEMA-1971-DR)
- **Metro Water Services / Nashville TN.** Project Manager: Developed FEMA funded post-disaster mitigation projects for Water Treatment Facilities. (FEMA-1909-DR 2010 Flooding)
- **Northern Virginia Community College.** Project Manager: Development of organization wide and six campus emergency response plans; Conducted HSEEP Table-top exercise for the newly developed plans.
- **Florida Local Counties.** Project Manager: Support services to Liberty, Calhoun, and Columbia Counties. Services included in post impact activities during four presidentially declared incidents; FEMA Program Management.
- **Florida Local Counties.** Project Manager: Support services to Liberty, Calhoun, and Columbia Counties. Local Homeland Security Program Management; DHS State Homeland Security Grant Program; Planning, Training, Exercise.
- **Ingenuity, LLC:** Principal. As principal, led company in providing consultation to state and local governments in the areas of FEMA Programs, emergency management, information management, and technological security; Continuity of business/operations plans, disaster plans, and mitigation plans; Training, technical assistance, and implementation of consequence management plans; Post-disaster grant management and project management; Hazards and vulnerability assessments.
- **AshBritt Inc: Hurricane Katrina Recovery Operations / Gulf States.** Provided FEMA programs and funding support for debris operations in Louisiana and Mississippi.
- **Florida Division of Emergency Management: Member of Director's Staff / Tallahassee FL.** FEMA Grant Programs.

Publications

Horton II, T.B., Compton, J.A., "Effective Strategies for Disaster Preparedness, Response and Recovery: Coordinating Debris Management and Removal," presented at the Texas Hurricane Conference on Preparedness, Loss Mitigation, Rapid Recovery and Lessons Learned (THC-2009), sponsored by the Texas Hurricane Center for Innovative Technology and the Department of Civil and Environmental Engineering, University of Houston, Houston TX, August 7, 2009.

Horton II, T.B., Groff, M., "Debris Management and Funding Opportunities for Mitigation," presented at the Waterfronts Florida Partnership Program: Quarterly Program Managers' Meeting, Daytona Beach FL, October 6-7, 2008.

Mr. Wreath has 26 years of experience related to technology services. He has provided extensive support to numerous municipal clients within Florida, Alabama, Mississippi, Texas and New York following the aftermath of natural disasters. Mr. Wreath's pivotal responsibility is the management of recovery data, often requiring development of a customized, web-enabled, database application. Mr. Wreath worked in support of the Task Force Hope Mississippi project which required the management of one-half million debris tickets following Hurricane Katrina. Mr. Wreath utilizes his extensive documentation management background to maximize federal reimbursement efforts.

DETAILED EXPERIENCE

- **City of Birmingham: Disaster Debris Management / Birmingham AL.** Currently providing documentation assistance to the city for reimbursements from state and federal agencies, including the Federal Emergency Management Agency, relating to eligible recovery costs arising from the F5 Tornado which struck the city in April 2011.
- **City of Humble: Disaster Debris Management / Humble TX.** Operations Manager responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included contractor management, debris monitoring, data management using the HaulPass® System, and FEMA reimbursement including development of project worksheets.
- **City of Piney Point Village: Disaster Debris Management / Piney Point TX.** Data Manager responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included data management using the HaulPass® System, and FEMA reimbursement including development of project worksheets.
- **City of Nassau Bay: Disaster Debris Management / Nassau Bay TX.** Data Manager responsible for overall deployment and management of debris recovery operation following Hurricane Ike in Texas. Tasks included data management using the HaulPass® System, and FEMA reimbursement including development of project worksheets.
- **Erie County Department of Public Works: Erie County Debris Management / Buffalo NY.** Provided data management for debris monitoring services following a devastating snowstorm. Managed load tickets, invoice reconciliation and debris tracking of right-of-way debris collection, leaning tree and hanging limb removals, TDSRS Tower QA load calls for incoming storm debris and outgoing mulch.
- **City of Buffalo Dept. of Public Works: Buffalo Debris Mgmt / Buffalo NY.** Provided data management for debris monitoring

Frank Wreath

Project Role:
Reimbursement/Mitigation
/Grants and Reporting/
Data Management

Title/Firm:
Senior Consultant
ARCADIS/Malcolm Pirnie

Years of Experience
26

Education
BA International Relations University of
South Florida 1989
MBA International Business and
Technology Florida Metropolitan
University 1999

Licenses and Certifications
Certified ColdFusion Developer
FEMA IS100 Incident Command System
FEMA IS200 ICS for Single Resources and
Initial Action Incidents
FEMA IS631 Public Assistance Disaster
Operations
FEMA IS632 Public Assistance Disaster
Operations
FEMA IS700 National Incident
Management System
FEMA IS800 National Response Plan
FEMA IS-1 Emergency Manager: An
Orientation to the Position
FEMA IS-3 Radiological Emergency
Management
FEMA IS-5.A An Introduction to Hazardous
Materials
FEMA IS-100 Introduction to Incident
Command System
FEMA IS-253 Environmental and Historic
Compliance
FEMA IS-275 The EOC's Role in Community
Preparedness, Response and Recovery
Activities
FEMA IS-292 Disaster Basics
FEMA IS-300 Intermediate ICS
FEMA IS-400 Advanced ICS
FEMA IS-631 Debris Basics
FEMA IS-702 National Incident
Management Systems (NIMS) Public
Information Systems

services including management of over 65,000 load tickets, invoice reconciliation and debris tracking.

- **USACE, Vicksburg District: Hurricane Katrina / Biloxi MS.** Payroll Manager responsible for payroll management of over 400 quality assurance ROW and ROE monitors located in over 13 counties and numerous cities in southern Mississippi and the Gulf Coast following Hurricane Katrina and Rita.
- **Vicksburg District, USACE: Debris Data Management / Hancock MS.** Initial Architect of ARCADIS / Malcolm Pirnie's HaulPass® electronic debris data management system. The HaulPass® system provided industry ground-breaking electronic capture of data in the field, demonstrating that paper load tickets for debris recovery operations can be eliminated resulting in relative real-time reporting of debris load information including load origination (GPS coordinates), cubic yards collected, types of debris collected, debris contractor/subcontractor identification, truck routing utilizing GIS, etc. The HaulPass® system has also demonstrated elimination of human error related to paper load ticket issuance and entry into a database and streamlined invoice reconciliation since the debris contractor and applicant would be working from the same database.
- **Palm Beach County Solid Waste Authority: SWA Debris Management / West Palm Beach FL.** Application developer for web-based call center system which allowed for municipal tracking of issues and complaints filed by residents relating to debris removal following the 2005 Hurricane Season.
- **City of Daytona Beach: Disaster Preparedness Planning / Daytona Beach FL.** Analyzed data management process utilized during 2005 hurricane season and developed recommendations for improvements to future program to maximize Federal reimbursement funding and reduce out-of-pocket expenses incurred by municipal staff.
- **Hillsborough County Public Works: Information Management / Tampa FL.** Technical Manager responsible for collection and analysis of post event debris information services following Hurricanes Frances and Jeanne, including development of a customized scanning and data collection application, post event debris data collected from 45,000 field load tickets, training, supervision and oversight of data entry staff, and reconciliation of contractor invoices which exceeded 26 million dollars.

Mr. Mays has four years of experience specific to debris management and disaster recovery operations. Mr. Mays acquired his taste for disaster recovery management and consulting while serving as a QA/QC and field technician during Hurricane Ike recovery operations in Texas and Louisiana during the 2008 hurricane season. He served as a field supervisor during Haiti operations and most recently has risen to a fill a supporting role to the operations and project managers during field activities in Alabama and Virginia. Mr. Mays specializes in coordinating efforts during all phases of a disaster deployment including planning, strategy implementation, and project closeout.

DETAILED EXPERIENCE

- **Florida Division of Emergency Management: Mitigation Funding Audit and Reconciliation / Tallahassee FL.** Assisted with the management of fund reconciliation and audit following the 2004-2005 hurricane seasons that involved mitigation efforts as a result of five devastating storms. Main responsibilities included tracing funding to their supposed and actual origins and reallocating funding to the proper accounts through a complex database and work-performed records.
- **James City County: Disaster Debris Management / Hurricane Irene/James City County VA.** Deputy Operations Manager responsible for management of more than 20 field personnel involved in the removal of debris from an area encompassing roughly 180 square miles. Also supported employees through a HaulPass™ training workshop and daily health and safety meetings. Coordinated routing efforts and co-developed strategies with the client to manage all debris removal efforts. Oversaw successful removal of hazardous trees, stumps, and limbs from County school and park facilities as well the removal of more than 160,000 cubic yards of storm generated debris from public right-of ways (ROW). Provided client with detailed daily reporting on project status, mapping, homeowner incidents, completion rates and progress.
- **City of Williamsburg: Disaster Debris Management / Hurricane Irene/Williamsburg VA.** Deputy Operations Manager responsible for management of debris monitoring operations as a result of Hurricane Irene, 2011. Was responsible for coordinating client and contractor efforts through the implementation of HaulPass™ resulting in the removal of over 17,000 cubic yards of vegetative debris during a one pass, 10 day period.
- **City of Birmingham: Disaster Debris Management / Birmingham AL.** Following the devastating tornadoes that tore through Birmingham in April, 2011, served as field assistance coordinator and deputy operations manager for

Travis W. Mays

Project Role: Recovery Operations

Title/Firm

Operations Coordinator
ARCADIS/Malcolm Pirnie

Years of Experience

4

Education

BA Marketing University of Houston 2008

Health and Safety Training

First Aid/Cardio Pulmonary Resuscitation (CPR)

Hazardous Waste Operations and
Emergency Response Training (40HR
Initial/8HR Refresher)

Licenses and Certifications

ICS-100 Introduction to Incident
Command System

debris management services including final disposal site operations, right-of-way (ROW) and right-of-entry (ROE) debris removal, hazardous tree, stump, and limb removal, and ROE database management. Was responsible for managing human resource (HR) functions including field staffing, scheduling, and training in an effort to meet client demand for disadvantaged business enterprise (DBE) participation residing in the affected area. Managed daily operations involving site visits, site preparation and documentation in accordance with FEMA eligibility requirements. In addition, provided technical support for the successful implementation of HaulPass™ and assisted with contractor/client invoicing.

- **Haiti Recovery Group: HaulPass™ Debris Data Management / Port-au-Prince, Haiti.** Field Supervisor provided technical support to locally hired employees during the deployment and implementation of HaulPass™ in a foreign, non-English speaking country. HaulPass™ gracefully demonstrated its simplistic, yet rugged and flexible nature while capturing demolition and debris removal data that accounted for nearly 300,000 cubic yards of earthquake generated debris. Was responsible for all technical aspects of deployment including transport, equipment maintenance, and communications. Provided reporting to assist the client with employee production and project status on a daily basis.
- **US Army Corps of Engineers (USACE), St. Paul District: HaulPass™ Debris Data Management / Cameron Parrish LA.** QA Monitor/Field Technician responsible for capturing real time data through the use of HaulPass™, a proprietary debris management system developed to reduce fraudulent behavior and streamline end of project reconciliation. HaulPass™ electronically captures load time/disposal time, GPS pick-up and disposal location, debris type, cubic yardage, ticket number, etc. HaulPass™ stores all recorded data digitally in a secure, privately managed database that virtually eliminates all human generated data entry errors that were common when records involved paper based load tickets. In addition, was responsible for providing HaulPass™ related technical assistance to USACE quality control agents in the field and debris management sites during Hurricane Ike debris removal operations in 2008.
- **City of Nassau Bay: Disaster Debris Management / Nassau Bay TX.** QA/QC Monitor responsible for capturing and documenting debris removal data through the use of a personal digital assistant, camera, and worksheets. Was responsible for documenting the removal of hazardous trees and limbs as well as vegetative and construction and demolition debris (C&D) debris from public right-of-ways (ROW) and City maintained parks.

Mr. Bryant has over six years of disaster management experience and has specialized in debris management and disaster recovery since early 2006. Mr. Bryant is the primary HaulPass® trainer for field staff and technical lead. Mr. Bryant began in Mississippi working alongside the USACE in their Task Force Hope mission following Hurricane Katrina. Mr. Bryant served as a Staff Manager in Erie County, NY in 2006, and also as a field manager for the concurrent City of Buffalo recovery project. Mr. Bryant helped facilitate the deployment and operations of three debris removal monitoring projects in the Houston, Texas area following Hurricane Ike in 2008. Mr. Bryant served as Field Manager for HaulPass® throughout the USACE response to Hurricane Ike in Cameron and Vermillion Parishes, Louisiana and in Galveston, Texas. Mr. Bryant was Field Manager, technical lead, and HaulPass trainer for Haitian staff in Haiti following the devastating 2010 earthquake. More recently, Mr. Bryant served as Field Manager during the USACE response to the EF-5 tornado that devastated Joplin, Missouri. In 2011 Mr. Bryant assisted in facilitating debris removal efforts, staff training, and field management in Birmingham, Alabama, and most recently in York and James City Counties in Virginia following Hurricane Irene. Mr. Bryant specializes in tracking debris removal efforts, staff training and management, and technical implementation.

DETAILED EXPERIENCE

- **USACE Kansas City District/Joplin, MO Tornado 2011/HaulPass® System.** Field Manager responsible for training, technical support, and deployment of the HaulPass® Automated Debris Management System. The USACE was assigned a mission to oversee debris recovery operations following the devastating tornado that impacted the Joplin, MO area in April 2011. The USACE selected the HaulPass® System for tracking all debris removal field data to streamline its recovery efforts. The HaulPass® System was successfully utilized to track the removal of debris from public rights-of-way and private property throughout the area. We also hired, trained and deployed over 60 local staff to operate the System in the field and to assist the USACE with contractor oversight.
- **York County: Disaster Debris Management / Hurricane Irene/James City County VA.** Field Manager responsible for management of more than 20 field personnel, training field staff in the use of HaulPass® and conducting daily health and safety meetings. Also Oversaw successful removal of hazardous trees, stumps, and limbs from county, school, and park facilities as well the removal of more than 76,000 cubic yards of storm generated debris from public right-of ways (ROW). Provided the client with detailed daily reporting on project status, mapping, homeowner incidents, completion rates and progress.

Jordan Bryant

Project Role: Recovery

Operations

Title/Firm:

Sr. Technician
ARCADIS/Malcolm Pirnie

Years of Experience

7

Education

University of Colorado
University of South Florida

Licenses and Certifications

FEMA IS100 Incident Command System
FEMA IS200 ICS for Single Resources and Initial Action Incidents
FEMA IS700 National Incident Management System

Health and Safety Training

Introduction to the Incident Command System (ICS 100)
IS-200 ICS FOR SINGLE RESOURCES AND INITIAL ACTION INCIDENTS
IS-700 NATIONAL MANAGEMENT SYSTEM (NIMS), AN INTRODUCTION
First Aid/Cardio Pulmonary Resuscitation (CPR)
Hazardous Waste Operations and Emergency Response Training (40HR Initial/8HR Refresher)

- **James City County: Disaster Debris Management / Hurricane Irene/James City County VA.** Field Manager responsible for the mulch haul out and project close out, coordinating HaulPass® efforts and training also providing detailed daily reporting on project status, mapping, homeowner incidents, completion rates and progress.
- **City of Birmingham: Disaster Debris Management / Birmingham AL.** Following the devastating tornadoes that tore through Birmingham in April, 2011, served as field manager assisting in the facilitation of HaulPass® as well as managing the QA monitoring field staff in debris management services. Debris removal services involved right-of-way (ROW) and right-of-entry (ROE) debris removal, hazardous tree, stump, and limb removal, as well as updating and maintaining a client accessible ROE database management. Provided technical support for the successful implementation of HaulPass®.
- **Haiti Recovery Group: HaulPass™ Debris Data Management / Port-au-Prince, Haiti.** Field Supervisor responsible for all technical aspects of deployment including transport, equipment maintenance, and communications, providing reporting to assist the client with employee production and project status on a daily basis. Responsibilities also included for training non-English speaking Haitian employees to use the HaulPass® system. HaulPass® captured demolition and debris removal data that accounted for nearly 300,000 cubic yards of earthquake generated debris.
- **US Army Corps of Engineers, Fort Worth District: Hurricane Ike / Galveston and Chambers Counties, TX.** Technical leader responsible for the deployment of the HaulPass® system in the Galveston and Chambers County areas in Texas following Hurricane Ike.
- **US Army Corps of Engineers, Fort Worth District: Hurricane Ike / Vermillion and Cameron Parishes, LA.** Field Manager for HaulPass® in Cameron and Vermillion Parishes in Louisiana. For the first time, the USACE was able to entirely eliminate the use of paper load tickets, and successfully completed validation of all load ticket data only one day after field operations had ceased, completely eliminating data entry efforts or even for QA/QC of manually entered load ticket information.
- **City of Humble: Disaster Debris Management / Humble TX.** Field Supervisor responsible for supervision of debris recovery operations following Hurricane Ike in Texas. Tasks included contractor management, field staff training and supervision, and technical lead for data management using the HaulPass® system.
- **City of Nassau Bay: Disaster Debris Management / Nassau Bay TX.** Field Supervisor responsible for supervision of debris

recovery operations following Hurricane Ike in Texas. Responsibilities included contractor management, staff training and supervision, and technical lead for data management using the HaulPass® system.

- **City of Piney Point Village: Disaster Debris Management / Piney Point TX.** Field Supervisor responsible for supervision of debris recovery operations following Hurricane Ike in Texas. Responsibilities included contractor management, staff training and supervision, and technical lead for data management using the HaulPass® system.
- **Erie County Department of Public Works: Debris Management / Buffalo NY.** Field supervisor responsible for training monitors and equipment certification specialists. Also responsible for overseeing debris monitoring services including right-of-way debris collection and tree and limb removals, as well as dumpsite tower staff load calls for incoming storm debris and outgoing mulch.
- **City of Buffalo Dept. of Public Works: Buffalo Debris Mgmt / Buffalo NY.** Field supervisor responsible for training monitors and equipment certification specialists. Responsible for overseeing debris monitoring services including right-of-way debris collection and tree and limb removals, as well as dumpsite tower staff load calls for incoming storm debris and outgoing mulch.
- **Vicksburg District, USACE: HaulPass® Electronic Debris Data Management System / Mississippi Gulf Coast MS.** Provided training and support for deployment of electronic debris data management system in Hancock County, Mississippi in 2006 following Hurricane Katrina. The HaulPass® system electronically captured data in the field, for the first time demonstrating that paper load tickets for debris recovery operations can be eliminated. The HaulPass® system effectively demonstrated elimination of human error related to hand writing and manual data entry, as well as streamlined invoice reconciliation.
- **USACE, Vicksburg District: Katrina Debris Contractor Quality Assurance Monitoring / Biloxi MS.** Served as project team member overseeing many demolitions and tree extractions. Oversaw debris removal efforts in 2 counties and numerous cities in southern Mississippi following Hurricane Katrina.

Mr. McMaster has extensive experience in all aspects of the engineering and construction business from his tenure as a President of a multifaceted organization that performed engineering, construction and contract operations. His experience includes not only the engineering side of the business in which he performed as Program Manager for large multidisciplinary programs but also the business side where he had complete responsibility for all corporate functions including finance HR and safety. The programs managed were for clients in both the municipal and industrial sector focused primarily on facilities associated with water and wastewater infrastructure. Additionally, he has experience with hazardous waste and nuclear remediation. He is also experienced in facility operations including plant startup and troubleshooting, from his hands on experience with the facility operations company.

DETAILED EXPERIENCE

- **Confidential Client: Hurricane Katrina Response / Pascagoula MS.** Project Manager responsible for assisting a municipal client in essential document recovery and building remediation and restoration for flood and water damage relating to Hurricane Katrina. Overseeing on-site supervision of subcontractors for the document recovery, building demolition, and building system recovery.
- **New Orleans District, USACE: Hurricane Protection from Segnette Pump Station to Westwego Pump Station No. 2 / New Orleans LA.** Project includes the design of replacements for hurricane protection structures from the Segnette Pump Station to New Westwego Pump Station No. 2 in Jefferson Parish. The fast-track project is one of the high-profile, aggressive-schedule projects required to be completed by 2011. The work includes design and preparation of a design documentation report (DDR); plans, specifications, MII cost estimates, DrChecks, and construction schedules; engineering and design support during advertisement; assistance to the government and the West Jefferson Levee District (WJLD) at public meetings; and coordination with all local, state, and federal authorities for the hurricane protection project. The design incorporates the latest Hurricane and Storm Damage Risk Reduction System Design Guideline (HSDRRSDG).
- **City of Chickasaw: CDBG Sewer Rehabilitation / Chickasaw AL.** Deputy Project Manager responsible for the design and technical specification development of an award winning sewer rehabilitation project that included direct replacement and replacement via pipe bursting of approximately 6,000 linear feet of existing six- and eight inch-diameter sewer mains. The project was awarded the ACEC Grand Award.

Peter W. McMaster, PE

Project Role: Damage

Assessments

Title/Firm:

Senior Associate
ARCADIS/Malcolm Pirnie

Years of Experience

41

Education

BSME Mechanical Engineering Clarkson
University 1971

Licenses and Certifications

Professional Engineer

Professional Training

Construction Claims, Wilson Management
Cost Estimating, Richardson Construction

Employment History

Malcolm Pirnie, Inc. 2004 to present
Clark Patterson Associates 2001 to 2004
O'Brien & Gere Limited (OBG) 1976 to 2001
D.W. Winkeiman Construction Co. 1971 to 1975

- **Emerald Coast Utilities Authority: Program Manager for Various Projects / Pensacola FL.** Mr. McMaster has extensive experience with ECUA as he has served as Malcolm Pirnie's Program Manager for the projects assigned and executed by Malcolm Pirnie since the firm started working with ECUA. He is currently responsible for the Program Oversight of ECUA's \$300 MM Central Water Reclamation Facility (CWRP) plant relocation program and their Inflow/Infiltration (I/I) removal program. Additionally he has managed several management improvement projects including the recent Rate Study, Management Audit and Bond Report. He has very successfully managed the completed Design/Build project for the ECUA/Naval Air Station (NAS) force main and pump station project, which was a great success for all parties.
- **Jackson County Board of Supervisors: Low-Pressure Sewer System / Pascagoula MS.** Deputy Project Manager for the construction administration for this project to provide a fully automated individual wastewater collection pumping system for approximately 277 homes and businesses in the mostly residential community. The project is funded by a Coastal Impact Assistance Program (CIAP) grant that will provide the upgraded sewer service at no initial cost to the customers in the community. Malcolm Pirnie was instrumental in helping the county to acquire the 80/20 grant funds for the project.
- **Jackson County Board of Supervisors: Industrial Water Project / Jackson County MS.** Program Manager responsible for all aspects of a \$40+ million water system that includes 86,000 ft of various sizes of water transmission main from 12" to 30", several 20-, 24-, and 36" HDPE complex directional drills under the Pascagoula and Escatawpa Rivers of 24" HDPE piping on a 12" restrained ductile iron piping system on elevated pipe bridge crossing in a concrete utility chase, a 5-mgd water treatment plant with associated high service pumping, and a .75-mgd elevated water storage tank. Responsibilities include developing contracting strategy utilizing six contracts, schedule and cost control for all contracts, design oversight and constructibility reviews prior to bidding and construction management, and field engineering services for the implementation of all the contracts. Financial aspects include value engineering to maintain program budgets and managing the revenue streams from US EPA, Mississippi Department of Economic Development, the USACOE, Coastal Impact Assistance Program (CIAP), and local funds to complete the required funding requirements.
- **Mississippi Gulf Coast Regional Wastewater Authority: Sewerage Infrastructure / MS.** Program Manager responsible for an \$8 million sewerage infrastructure program to facilitate sewage collection and elimination of overflows for several

surrounding communities. Program includes two new pump stations and 72,000 feet of 20" and 24" HDPE of force main to connect the service area to the treatment plant. Program specifics include construction strategy, funding assistance through the MS SRF Program, scheduling, bid assistance including contractor evaluation and subsequent recommendation of rejection of award due to lack of experience, in addition to responsibility for the routine design oversight, constructibility reviews, and contract management and field engineering.

- **Mobile Area Water & Sewer System: Investigations at Big Creek Lake Dam / Mobile AL.** Program manager for the study, design, and rehabilitation of the Big Creek dam spillway. Responsibilities include evaluation of existing structure, design, and implementation of emergency repairs, project evaluation to prioritize design and construction of 4-5 contracts to rehabilitate structure in phases based on available funding, and managing additional fund expectations through the CIAP.
- **Mobile Area Water & Sewer System: Raw Water Pump Station Investigation / Mobile AL.** Project Manager for this preliminary investigation of pumping options for a raw water pumping station.
- **Mobile Area Water & Sewer System: Regional Wastewater Study / Mobile AL.** Program manager for the development of a potential wastewater system that includes MAWSS and several local communities. Program entails evaluation of existing local systems for ability to comply with new regulations, site evaluation, and assessment for alternate sites for a new regional wastewater treatment plant, route analysis for the necessary transmission systems to tie the system together, and the community outreach to ensure consensus for the project. All of the wastewaters require preliminary engineering to be able to perform and environmental assessment and financial analyses to confirm viability. The project is being done through an EPA grant with matching funds from the local participants, requiring grant management and coordination of the interface with all the participants.
- **Mobile Area Water & Sewer System: Risk Management Planning / Mobile AL.** Project Manager for this project which assisted the municipal utility in complying with Clean Air Act Section 112(r) by preparing risk management plans for two water and two wastewater treatment facilities.

Mobile Area Water & Sewer System: Upgrading of Williams Wastewater Treatment Plant / Mobile AL. Deputy Project Manager for this project which assisted in completion of 30/40-mgd wastewater treatment plant, following default by contractor.

Mr. Greathouse has significant experience in all aspects in stormwater and watershed analysis and design. He has extensive experience in hydrology and hydraulic modeling. He has been involved in the design and construction several stormwater projects including culverts, regional detention ponds, urban stormwater systems design, flood control structures, inundation mapping, constructed wetland and natural channel design. He has led the effort associated with floodplain and watershed analysis projects all over the country performing floodplain studies to be used by FEMA flood map modernization program. He is a Certified Floodplain Manager who had an active role in developing the flood management program for the State of Alabama. He has worked with large hydroelectric companies to develop unsteady-state main stem hydraulic models representing hydroelectric dams and associated River systems. He has provided litigation support relative to flooding issues for a variety of stormwater scenarios. He has also been associated with numerous designs addressing environmental concerns associated with stormwater run-off such as water quality treatment through natural processes and design of bio-retention ponds, NPDES storm water permitting, the development of erosion and sediment control plans and TMDL sampling and modeling.

DETAILED EXPERIENCE

- **Confidential Client: Kilby Natural Channel and Wetland Design / AL.** Malcolm Pirnie was retained to design a natural channel and wetland system on a stream in Montgomery, Alabama. This design consisted of an energy dissipater "rip-rap basin", natural channel design and floodplain rehabilitation, channel stabilization, temporary and permanent stream crossings constructed wetland system. Also analyzed potential flood flows by performing a detailed hydrologic and hydraulic analysis using HEC-HMS and HEC-RAS respectively.
- **James River Feasibility Study and EIS: James River Basin South Dakota.** Malcolm Pirnie performed a feasibility study and environmental impact statement (EIS) to formulate and evaluate alternatives that help to reduce flooding problems along the James River and to restore or enhance ecological function and habitat. Factors such as sediment deposits from tributaries and bank sloughing, log jams, encroachment of vegetation into the channel, inadequate bridge capacity, low-head dams, and the flat slope and meandering nature of the river contribute to the flooding problems along the James River. Performed a detailed H&H analysis to evaluate each of the factors and provide solutions associated with environmental and flooding issues.

Brian Greathouse, PE

Project Role:

Damage Assessments

Title/Firm:

Project Engineer
ARCADIS/Malcolm Pirnie

Years of Experience

15

Education

BSCE Civil Engineering University of
South Alabama 2000

Licenses and Certifications

Professional Engineer - AL, FL
Certified Floodplain Manager

- **FEMA Floodplain Map Modernization Program / Detailed Floodplain Analysis for Mobile and Baldwin County (Including D'Olive and Tiawasse Creek and Watershed).** Acted as the technical lead for the development of hydrology (HEC-HMS) and hydraulic (HEC-RAS) analysis for several watersheds in Mobile (7 watersheds and streams), Baldwin (6 watersheds and streams). In Baldwin County this included performing a detailed H&H analysis on D'Olive and Tiawasee creek watersheds. Also, extracted results from hydraulic models and applied them to GIS maps for floodplain delineations. Provided assistance in developing the FEMA Flood Map Modernization Program for the State of Alabama.
- **Crane Road Bridge Replacement / Floodplain Analysis, Scour Analysis, Sediment Transport Analysis: City of New York.** Served as the technical lead for evaluating and designing a portion of the Bronx River stream channel associated with the replacement of a bridge. Analysis included performing a hydrologic analysis on the watershed and completing a detailed hydraulic analysis of the Bronx River.
- **Endview Industries: Endview Watershed Protection / VA.** Member of a design team that was responsible for the storm water management and design of a 350 acre industrial development. Stormwater design focused around providing stormwater treatment for runoff. Project included a hydrology analysis of pre-developed and post-developed conditions, flow rates development, pollutant load estimation, wet pond design for post-development flow control, design of 5 bio-retention areas for post-development water quality control, and outlining an overall stormwater management approach for temporary and permanent conditions.
- **City of Mobile: Storm Water Program / Mobile AL.** Served as Deputy Project Manager on this project which involved performing Program Management duties for the City of Mobile. Responsibilities included involvement of storm water master planning, reviewing of hydraulic and hydrologic analysis, reviewing design drawing and specifications, coordinating the bidding process and oversight of construction.
- **Alabama Power Company: Unsteady-State Riverine Hydraulic Study / St. Clair County AL.** Responsible for the development of a main-stem unsteady state hydraulic model (HEC-RAS) representing specific portions of the Alabama, Coosa, and Tallapoosa Rivers. The model was developed to represent approximately 140 streams miles associating discharge from three hydroelectric dams used for power production. The main function of the model was to estimate flood limits along the rivers that resulted from various discharge rates of the three hydroelectric dams. The model became a very effective tool providing litigation support to the Alabama Power Company in response to flooding claims. The model is still

being utilized by the power company to assist them in their FERC licensing process and to establish release rates for the dams.

- **Tallapoosa River Flood Flow Study: Alabama Power Company: Study / St. Clair County AL.** Led the effort in evaluating flood conditions along 15 miles of the Tallapoosa River. Development relationships between flood flows and adverse environmental impacts. Assisted in regulating discharge rates from the Thurlow Dam in order to best handle flood flows while limiting channel impacts and environment conditions.
- **Coosa River Environmental Impact Study: Alabama Power Company.** Led the effort in the development of an environmental impact study of the lower reaches of the Coosa River. The Jordan Dam discharges flow into the Coosa River. The Coosa River system was experiencing several areas of bank instability throughout the river system. Sloughing was reducing the channel capacity and affecting overall stream hydraulics.
- **Black Warrior River System: Bromide Modeling Client: Birmingham Water Works and Sewer Board: / Birmingham AL.** Responsibilities consisted analyzing the hydraulic characteristic of 90- miles of stream in the Black Warrior watershed. Upon analyzing the hydraulic characteristics of the system, travel times for potential contaminants were estimated upstream from a water supply intake. Results were used in support of litigation.
- **General Experience: Residential and Commercial Development / Auburn,AL.** Brian has extensive experience dealing with the stormwater and environment issues associated with large scale residential and commercial developers. Brian served as an environment consultant leading design and implementation of Erosion and Sediment Control Plans, NPDES permitting, and overall stormwater management of new construction including stormwater infrastructure, detention ponds and bio-retention ponds.
- **City of Prichard: Storm Water Design Review / Prichard AL.** Through Malcolm Pirnie, Brian served as the City of Prichards Storm Water Management Development Director. Responsible for the review and approval of stormwater aspects of any new development in the City of Prichard. Also assisted in the completion of the MS4 NPDES storm water permit application and annual reports.

Mr. Dressback has experience in working with a wide variety of GIS projects. Throughout his career he has been involved in the development of parcel, stormwater, land use, water, gas and electric utility data sets in addition to various other data layers. A

Shane Dressback

Project Role: GIS

Title/Firm:

Consultant
ARCADIS/Malcolm Pirnie

Years of Experience
13

Education

BS Geography with specialty in
Geographic Information Systems Samford
University 2000

Societies

Urban and Regional Information Systems
Association, URISA

majority of his project experience has been as a consultant for local utility, municipal, county and federal government clients. Most recently, Mr. Dressback has been involved in the incorporation of ArcSDE/Microsoft SQL technology for multiuser geographic databases while developing a water utility geodatabase. His project background has centered on data development, conversion and QA/QC processes using various ESRI GIS programs including the ArcGIS Suite.

DETAILED EXPERIENCE

- **Birmingham Water Works & Sewer Board: GIS Implementation / Birmingham AL.** Project worked to convert existing data formats into an ArcSDE/MSSQL Enterprise Geodatabase. Designed and implemented versioned Geodatabase solution to include data from many different sources which included GPS, paper maps, MicroStation and other existing digital sources. Responsibilities include project management, database administration and QA/QC.
- **Bridgeport Utilities: Bridgeport Utilities Feature Inventory / AL.** Presided over project for Bridgeport Utilities in Alabama that consisted of capturing gas, water and storm sewer features with GPS instruments. Inventory data was delivered in ESRI shape file format giving the City a complete base map dataset of their utility infrastructure. Setup and training in ArcView 3.x was also provided.
- **City of Murfreesboro: Murfreesboro Storm Sewer Inventory / Murfreesboro TN.** Part of project team that used GPS systems and pen-based field computers to inventory Murfreesboro's storm water infrastructure. Duties included field data collection, overseeing daily data uploads, formatting of data and QC of field data. Project deliverable consisted of the storm water infrastructure in ArcGIS Geodatabase format, digital field sketches and pictures.
- **Cleveland Utilities: Cleveland Utilities Data Conversion.** On project team for Cleveland, Tennessee Electric Department migration from MGE into an ArcGIS Geodatabase. Identified existing features and associated them with the proper feature class and subtype codes. The project was completed with the creation of a conversion routine which gave the user the ability to perform "one touch" conversion from MGE to the ArcGIS geodatabase.
- **NIMA: Federal Data Conversion.** Federal data conversion using Intergraph Dynamo. Converted data and produced various feature counts for consistency. Responsible for QA of converted data to ensure data quality and feature count consistency through conversion process.

- **Rutherford County: Rutherford County Parcel Mapping / TN.** Digitized County parcel maps to create seamless countywide parcel coverage. Parcels were digitized from existing paper maps formatted in ESRI coverage format and linked to County's CAAS address database. The coverage was orthorectified to newly delivered ortho photography. Also created from the ortho photography was a complete planimetric mapping dataset. The planimetric data was captured and produced in MicroStation then converted into ESRI coverage format. Duties included scanning, digitizing, data conversion and QC aspects.
- **SWMA/City of Trussville: Trussville ArcIMS Services.** Used ArcExplorer 9.0 and ArcIMS to set up GIS data services for the City of Trussville and Storm Water Management Authority. Gathered and customized base map data which included municipal and utility boundaries, roads, streams and other data sets in addition to using Feature Analyst to capture building footprints. The purpose of project was to give the city an inexpensive way to share their data with internal users inexperienced in GIS and to also show the usefulness of Feature Analyst in terms of a fast deliverable in capturing data from imagery in times of emergency.
- **Storm Water Management Authority: Land Use Coverage Creation.** Developed County-wide Land Use coverage for internal department usage. Used an AML driven application to convert the county tax map coverage into a land use coverage by adding land use data to the parcels. In addition created AML tools to edit, QC and finalize coverage.
- **Storm Water Management Authority: SWMA Online Permitting System.** Worked on project team for an online permitting system for Storm Water Management Authority in Birmingham, AL. Responsible for identifying process, system and setting up of online credit card transactions.
- **Tennessee Department of Transportation: I-69 Interstate Project.** Worked on project in eastern Tennessee and northern Mississippi for the I-69 Interstate expansion. Gathered existing digital tax map data and paper tax maps to digitize and create tax map coverage of area involved in expansion. Also gathered existing address databases (CAAS data) for relation to the created parcel data. End product consisted of newly created parcel data in ESRI coverage format that was converted into MicroStation DGN format

Mr. Grubbs is a skilled technical architect specializing in the development, design, and management of very sophisticated software adapted particularly to the complicated needs of very large, dynamic projects such as post-disaster relief work. He was technical architect for the HaulPass debris management and tracking system, which has proved itself very useful for the relief of major disasters requiring rapid response such as hurricanes and floods; a system for the removal of munitions and explosives of concern from military installations; and a work tracking system for monitoring the contributions of multiple partners in a large watershed study, among others. He has founded two startup companies and has led a variety of projects ranging from consumer sites to business process systems.

DETAILED EXPERIENCE

- **USACE Kansas City District/Joplin, MO Tornado 2011/HaulPass® System.** Technical Manager responsible for configuration, deployment and data capture of and using the HaulPass® Automated Debris Management System. The USACE was assigned a mission to oversee debris recovery operations following the devastating tornado that impacted the Joplin, MO area in April 2011. In field configuration to match the business requirements of USACE. Oversaw training and technology build out for the mission.
- **James City County: Disaster Debris Management / Hurricane Irene/ VA.** Technical Manager responsible for deployment and management of HaulPass® Automated Debris Management System field support for James City County, VA following Hurricane Irene. Remote management of field operations related to HaulPass. Oversaw data operations.
- **City of Williamsburg: Disaster Debris Management / Hurricane Irene / VA.** Technical Manager responsible for deployment and management of HaulPass® Automated Debris Management System field support for the City of Williamsburg, VA following Hurricane Irene. Remote management of field operations related to HaulPass®. Oversaw data operations.
- **York County: Disaster Debris Management / Hurricane Irene / VA.** Technical Manager responsible for deployment and management of HaulPass® Automated Debris Management System field support for York County, VA following Hurricane Irene. Remote management of field operations related to HaulPass®. Oversaw data operations.
- **City of Birmingham: Disaster Debris Management / April 2011 Tornadoes and Straight-Line Winds / AL.** Technical Manager responsible for deployment and management of HaulPass® Automated Debris Management System field support for the City of Birmingham, AL following severe

Andrew Grubbs

Project Role: Reporting/Data Management

Title/Firm:

Senior Systems Specialist
ARCADIS/Malcolm Pirnie

Years of Experience

14

Professional Training

Bellevue Community College, Bellevue
WA - Programming and Database
Languages

PeopleSoft University - programming
languages and train-the-trainer skills
Seattle University - Economics (1995-
1997)

storms of April 2011. Remote management of field operations related to HaulPass®. Oversaw data operations.

- **Haiti Recovery Group: HaulPass® Automated Data Management System / Port-au-Prince, Haiti.** Technical Manager responsible for deployment and management of HaulPass® Automated Debris Management System field support in Haiti following the 2010 earthquake. HaulPass® demonstrated its simplistic, yet rugged and flexible nature, while capturing demolition and debris removal data that accounted for nearly 300,000 cubic yards of earthquake generated debris. Reporting was streamlined and readily available to the Haitian government in near-real time.
- **State of Florida, Department of Emergency Management.** Technical Architect and Software Consultant for the management of statewide mitigation projects. With multiple solutions, the state will be able to track at a project level individual mitigation efforts and the related documentation. The system utilizes web technologies to create a single source for information regarding mitigation work.
- **U.S. Army Corps of Engineers, Baltimore District: Explosives Safety Submission (ESS) at Ft. McClellan / Anniston AL.** To support the removal of munitions and explosives of concern (UXO) from the Fort McClellan Army Base, developed a computerized system to replace the paper tracking of ordnance found at the dig site. The new system uses Windows Mobile PDAs, laptop-based software, and a central-server-based database to collect and store the data. Designed the interface for all the systems used as well as the synchronization process. The task included managing the development efforts of ROSTAN staff in multiple offices around the country.
- **U.S. Army Corps of Engineers, Mobile District: Web Tracking System Design / Atlanta GA.** Designed an in kind services web tracking system to enable the USACOE to monitor the contributions of multiple partners for watershed maintenance of the comprehensive Lake Allatoona/Upper Etowah River watershed study in Georgia. The system makes extensive use of AJAX technology, which allows for a richer, more dynamic web experience. The use of the system also makes the site more responsive and closer to a Windows environment.

Mr. Cibik has a broad range of environmental engineering experience. His experience includes regulatory compliance in the forms of air, wastewater and hazardous waste permitting, groundwater remediation system operation and maintenance, extensive remedial action field work and ASTM Phase I Environmental Site Assessments and Due Diligence/Compliance Reviews. Mr. Cibik also has a strong background in Health and Safety. He has performed numerous environmental audits at temporary debris sites following hurricanes Frances, Jeanne and Wilma.

DETAILED EXPERIENCE

- **Hillsborough County: Hurricane Debris Removal Environmental Monitoring / Tampa FL.** Conducted environmental monitoring at three Hillsborough County TDSRSs following Hurricane Frances. The environmental monitoring was performed in accordance with FDEP guidelines and consisted of performing baseline and closure sampling and conducting ongoing monitoring inspections at pre-determined sites where hurricane debris was temporarily stored and reduced via grinding or burning operations. Closure reports were prepared for each site detailing the findings of the environmental sampling and inspections.
- **Sarasota County: Post-Storm Disaster Debris Management / Sarasota FL.** Following Tropical Storm Gabriel in the autumn of 2001, assisted the County with its implementation of an emergency horticultural storm debris removal program. Malcolm Pirnie. Staff responded within 24 hours providing field inspection monitors for horticultural storm debris removal and disposal. We were responsible for project management and coordination, monitoring work areas, issuing load tickets, monitoring work performance and productivity, coordinating truck routing, resolving questions and problems, confirming trucks are tarped, identifying potential problems, maintaining a map of the streets in which debris was previously removed, and performing Temporary Debris Management Site (TDMS) inspections of storm debris disposal operations providing TDMS inspections of debris delivered to the TDMS locations, monitoring multiple trucks, delivering to the TDMS, verifying manifest tickets and maintaining records.
- **Hillsborough County: South County Wastewater Treatment Plant / Hillsborough County FL.** Conducted routine safety inspections and safety meetings during construction activities of the South County Wastewater Treatment Plant while working for the prime contractor for this project. Inspections included assessment and documentation of site safety hazards with respect to the prime contractor and subcontractors. Also participated in coordination and project planning meetings with the site project manager.

David Cibik, PE

Project Role:

Permitting/Environmental

Title/Firm:

Senior Project Engineer
ARCADIS/Malcolm Pirnie

Years of Experience

23

Education

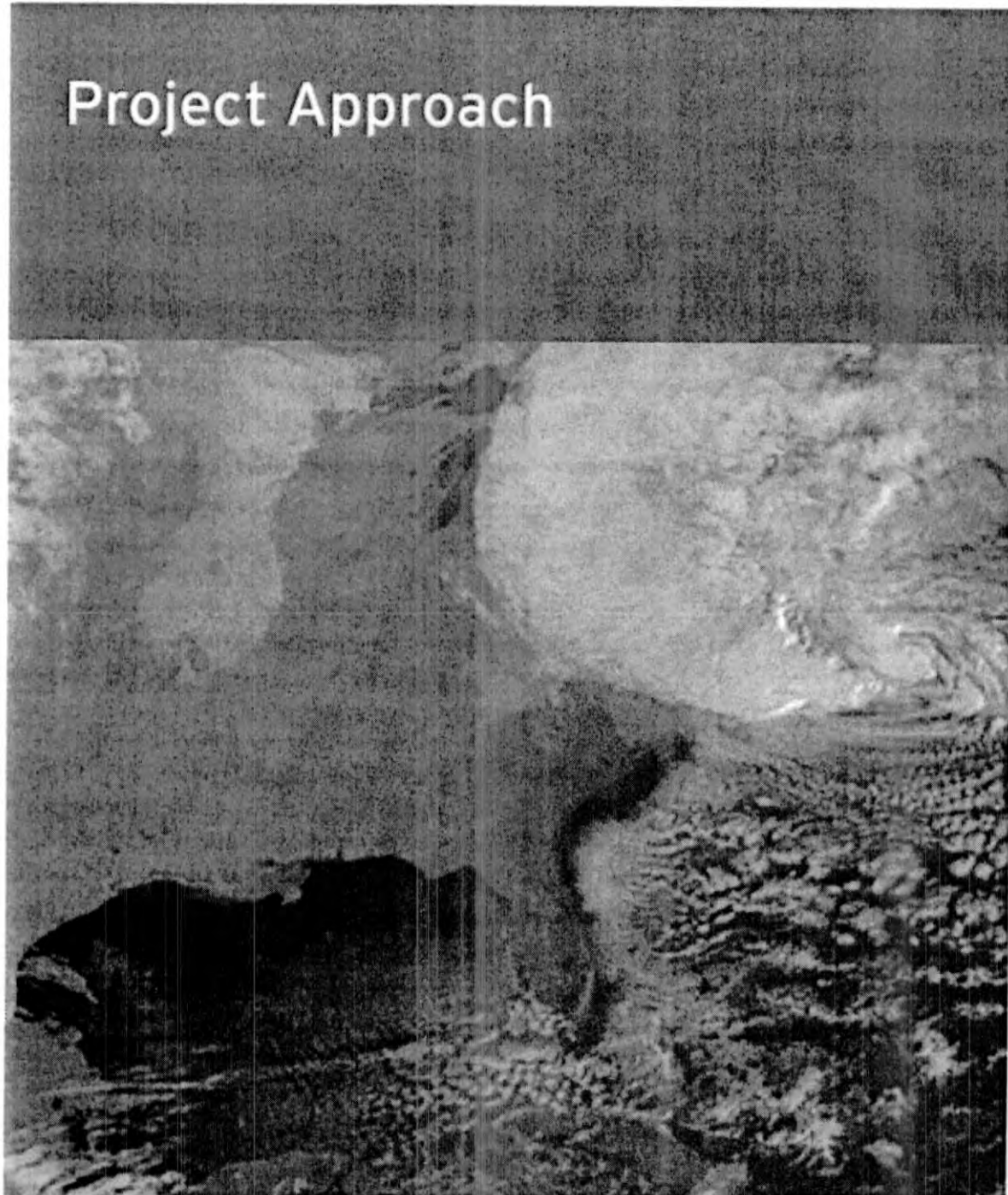
BS Environmental Engineering University of Florida 1991

Licenses and Certifications

Professional Engineer
Registered Environmental Manager

- **Hillsborough County: Valrico Wastewater Treatment Plant / Dover FL.** Assisted in the design for the expansion of the Valrico Advanced Wastewater Treatment Plant from 4 mgd to 6 mgd. Project included a biological nutrient removal study and evaluation of the headworker, anoxic tanks, oxidation ditch equipment, clarifiers, activated sludge and scum handling systems, intermediate pump station, denitrification filters, chlorine contact tanks, and final effluent pump. Responsibilities included preparation of report design sections such as odor control, flow equalization, and Class I Reliability requirements for wastewater treatment plants.
- **Tampa Bay Water: Chloramine Implementation Project / Tampa FL.** Assisted with shop drawing review, RFIs and other construction administration issues.
- **West Palm Beach County: Hurricane Debris Removal Environmental Monitoring / West Palm Beach FL.** Conducted environmental monitoring at eight Palm Beach County TDSRSs following Hurricane Frances. The environmental monitoring was performed in accordance with FDEP guidelines and consisted of performing baseline and closure sampling and conducting ongoing monitoring inspections at pre-determined sites where hurricane debris was temporarily stored and reduced via grinding or burning operations. Closure reports were prepared for each site detailing the findings of the environmental sampling and inspections.
- **Florida International University: Chiller/Cooling Tower Replacement Project / Miami FL.** Served as on-site Project Manager for a chiller/cooling tower replacement project in which the Poole & Kent Company provided construction management services. Specific responsibilities included chairing and recording weekly project progress meetings, reviewing/approving change orders, inspecting job site, reviewing submittals and reviewing/approving monthly requisitions.
- **BEM Systems, Inc.: Cape Canaveral Air Station / Cape Canaveral FL.** Provided site investigations activity supervision at numerous launch complexes at the Cape Canaveral Air Station (CCAS). Work included soil and groundwater investigations for chlorinated solvents and metals, remediation system monitoring and evaluation and preparation of RCRA Feasibility Investigation Reports.

Project Approach



Project Approach

Disaster Debris Removal Monitoring Services

Project Approach

Mobilization Plan

ARCADIS/Pirnie implements a mobilization plan that is based on our extensive experience with disaster recovery operations and the lessons learned on these projects. Our initial base of operations typically is an existing office located in the affected area. If necessary, we establish additional satellite offices or work from mobile command centers in recreational vehicles (RVs) as the situation requires.

We understand the range of challenges when working in a disaster-affected area, including those associated with:

- Staffing
- Lodging
- Vehicles
- Power outages
- Communications
- Fuel
- Food and consumables

Staffing

ARCADIS/Pirnie maintains a core group of disaster response and recovery personnel capable of immediate deployment to a disaster-affected area (usually in less than four hours).

As an international firm with a local presence in most of the nation's major population centers and working relationships with other local firms, we are able to provide local staff that is familiar with the affected area, understand local customs, and have a vested interest in the success of the area's speedy recovery.

We follow-up our first-response assessment team with personnel from a "ready list" of staff from our www.debrismonitors.com database. We then deploy staff from our regional and national offices to fill critical positions until local staff can take over and fulfill the assignment. These proven multiple approaches enhance our capability to fulfill staffing requirements quickly and efficiently following a disaster. Our philosophy is to hire locally in order to assist the community recover faster by "keeping" the money local.

Lodging

We utilize a variety of housing options including:

- **Recreational vehicles** staged in campgrounds or on large tracts of land provided for under separate contractual arrangements.



Rostan Solutions hired more than 450 local residents to monitor debris removal efforts following a massive snowstorm in Buffalo, New York.

- **Hotels** as available.
- **Rental properties** utilizing short- and long-term lease arrangements for houses and apartments.
- **Commuting** from nearby unaffected areas.
- **Local residences** when feasible.

Vehicles

Our team has existing contracts with several national rental car agencies. We also can access ROSTAN's fleet vehicles if local rental companies cannot fulfill our requests.

Communications

- **Phones.** We have contracts with several national cellular phone providers that enable us to provide cellular phones to QA monitors. We also maintain a bank of active satellite phones for supervisory staff.
- **Internet.** We utilize an intranet and internet and have in-house information technology (IT) support capable of solving typical access issues. This service may be satellite or land line-based depending on the conditions in the affected area.

We have routinely provided in excess of 400 quality assurance monitors within 48 to 72 hours of the client's request.

Fuel

ROSTAN has the resources and ability to provide for large-scale, independent fuel deliveries to our base of operations and smaller-scale deliveries to individual QA monitors.

Power Outage Solutions

We have the resources and equipment to provide for electrical power by alternate means, including generators, solar panels, batteries, and vehicles. We are self-sufficient and have the capability to deploy to completely "dark" areas that are without electrical power, telephones, cable communications, and potable water.

Food and Consumables

ROSTAN can contract with an independent food service provider that will provide our teams with hot and cold meals on a daily basis. We also have in-house resources and capabilities to provide dry goods and consumable supplies on an on-call basis.

Lead Time

Our experience has demonstrated we can provide a minimum number of QA monitors to begin performing all requested services within 24 hours after client notification. We have routinely provided in excess of 400 monitors within 48 to 72 hours of the client's request.

We maintain a "ready list" of available personnel to deploy within 24 hours. This core group meets the client's immediate needs and provides us with the ability to supplement the staff we hire from the local area. We utilize as many local forces as feasible to fulfill each assignment, supplementing with other regional and national assets as necessary.

Our Unique Disaster Debris Management Approach

An alternative approach to the traditional paper load ticket system is the use of our **HaulPass® System** - a Smart Card-based field data capture electronic load ticket system. This system has been validated by the US Army Corps of Engineers (USACE). During recovery efforts following Hurricane Ike in 2008, the USACE successfully utilized the system, eliminating entirely the need for paper load tickets. Data captured by the system has also been utilized by FEMA and these types of systems are acknowledged in FEMA Guidance Document 325.

The HaulPass® approach involves the use of a credit card-sized plastic card that contains a programmable memory chip. When a debris contractor vehicle is certified, the vehicle driver is issued a HaulPass® card that contains the information from the vehicle certification form embedded and encrypted on the memory chip. Debris contractors are responsible for their HaulPass® cards; if a contractor's card is lost or damaged, the contractor is required to be recertified to receive a new HaulPass® card.

Debris load site monitors (such as QA/QC field monitors) are issued a unique identification number that is embedded and encrypted on each monitor's Smart Card as well as a GPS-enabled handheld unit. QA/QC field monitors use their cards to sign-in and sign-out daily.

In addition, each debris disposal site is equipped with belt printers and ruggedized personal data assistant (PDA) units. The PDA (Smart Card reader) reads the HaulPass® card and prints hard copies of the debris load ticket for the vehicle driver, debris contractor, and client. Each debris site monitor (tower monitor) is issued a unique identification number that is embedded and encrypted on that tower monitor's Smart Card. Tower monitors use their cards to sign in to the tower PDA each morning and sign out each evening. In general, the HaulPass® approach works as follows. Debris contractors, upon load completion, present their HaulPass® card to a field monitor. When a field monitor places a HaulPass® card in the card reader to "write a ticket," the HaulPass® system securely embeds the date, time, monitor's name and identification, and GPS location on the card. The field monitor then returns the HaulPass® card to the driver, so the driver can proceed to the disposal site to dump the debris load. Upon arrival at the disposal site, the debris contractor presents the HaulPass® card to the tower monitor, who then inserts the card into the card reader. The debris contractor's certification number is read from the HaulPass® card; the certified vehicle's information and photo appear on the handheld unit's screen. This allows the tower monitor to verify the placard number and to ascertain that no alterations have been made to the vehicle. Upon verification, the tower monitor enters the debris load type and percent full (or cubic yardage). A load ticket is printed for the vehicle driver and, simultaneously, the HaulPass® card is reset to accept a new ticket in the field. The information is stored on the PDA to be transmitted to the central database. The HaulPass® card then is returned to the debris contractor driver for use on the next load.

This approach entirely eliminates manual data entry of paper load tickets into a database. This saves a significant amount of time and



effort, and makes the data immediately available for management of the debris removal process and quicker reimbursement.

The data is pushed through the cellular data service at regular intervals throughout the day to provide near real-time reporting. In the event that cellular service is unavailable, the data gathered from the tower monitor's handheld unit is uploaded to the Event Manager database/application at the end of the day. Graphic GIS and tabular reporting of the day's events is available through the Event Manager application as soon as the data arrives from the field.

The Event Manager application is designed to fully automate many of the paper-based, time-intensive processes required to maintain debris record keeping and accounting operations. The HaulPass® System is a distributed suite of applications designed to perform as a central office data repository enabling new and/or revised information to be distributed to various agencies, contractors, or the public. Event Manager has been designed from the ground up as a web-based application; it therefore can be made available to any hardware platform capable of running the Microsoft Internet Explorer browser. Access to the system is rigidly controlled through role-based security.

Event Manager delivers various tabular reports such as daily debris volume totals, number of load tickets produced, volume of debris hauled by contractors, and total volume delivered to the disposal site(s).

The Event Manager application is also a map based GIS application. GIS provides the user with the ability to access load tickets, debris sites, contractors, field QA monitors, etc., on a geographic basis. For example, one layer in the GIS application presents all debris sites, another layer presents all load tickets, and a third layer is capable of displaying loads by contractor and subcontractor. Each of these layers has associated map-based and tabular reports to enable the user to make decisions with respect to contractor deployments, completeness of debris pick-up, and more.



The HaulPass® System has been successfully deployed during the following operations:

- USACE Task Force Hope Katrina debris mission in Mississippi.
- U.S. Coast Guard during debris removal efforts in waterways in southern Louisiana.
- Erie County, New York, to track debris removal efforts following the October 2006 snowstorm.
- Hurricane Ike:
 - USACE Mission Assignment Galveston, TX.
 - USACE Mission Assignment Cameron and Vermillion Parishes, LA.
 - Nassau Bay, TX.
 - Humble, TX.
 - Piney Point Village, TX.
- Port-au-Prince, Haiti - debris removal tracking following 2010 earthquake.
- 2010 Tornadoes:



The Event Manager application is designed to fully automate many of the paper-based, time-intensive processes required to maintain debris record keeping and accounting operations.

- Birmingham, AL tornado
- Joplin, MO tornado
- Hurricane Irene:
 - York County, VA
 - James City County, VA
 - Williamsburg, VA

PROPOSED PROJECT APPROACH AND SCOPE OF WORK

The TEAM is knowledgeable in Federal Emergency Management Agency (FEMA), Federal Highway Administration (FHWA), and other applicable regulations, guidelines and operating policies. The TEAM will support the STATE during a disaster recovery effort and will be responsible for all aspects of the debris management process. The TEAM shall coordinate with the disaster debris removal Contractor(s) and the STATE to ensure a compliant, well-managed and organized approach to debris collection and disposal within FEMA and FHWA guidelines.

The TEAM will oversee the debris removal and monitoring processes utilizing the following rules and regulations as guidance:

- The Stafford Act, Section 407
- The Stafford Act, Section 406
- 44 CFR § 206.224
- FEMA 321, Public Assistance Policy Digest
- FEMA 322, Public Assistance Guide
- FEMA 325, Debris Management Guide
- FEMA 327, Debris Monitoring Guide
- FEMA Disaster Assistance Policy 9523.4, Demolition of Private Structures
- FEMA Disaster Recovery Policy 9523.11, Hazardous Stump Extraction and Removal Eligibility
- FEMA Disaster Recovery Policy 9523.12, Debris Operations - Hand Loaded Trucks and Trailers
- FEMA Disaster Assistance Policy 9523.13, Debris Removal from Private Property
- FEMA Disaster Assistance Policy 9526.1, Hazard Mitigation Under Section 406 of the Stafford Act
- FEMA Disaster Specific Guidance - as Published specifically for this disaster declaration

The TEAM will provide vehicle certification forms, placards, and load tickets if requested by the STATE. The STATE will provide a Project Manager to work directly with the Debris Collection Contractor and the TEAM. The STATE will provide debris management site(s) (DMS) for disposal of the storm debris.

The anticipated scope of services includes Project Management and Administration, Debris Assessment, Collection Monitoring, Load Ticket Processing, DMS monitoring, Debris Vehicle Certification, Damage Complaint Tracking, Data Compilation and Reporting, Payment Monitoring and Reconciliation Processing, Right-of-Entry support, Demolition Oversight, Reporting and Coordinating with the STATE'S Project Manager, and other related services as outlined in the proposed Project Approach and Scope of Services.

1. DEBRIS MANAGEMENT AND ADMINISTRATION

- A. The TEAM shall appoint a qualified and experienced Project Manager for overall coordination and communication with the STATE. The Project Manager shall remain on the job and available to the STATE at all times during the operational phases of the debris collection and disposal project.

- B. Examples of project management and administrative responsibilities include but are not limited to:
1. Coordinate daily briefings with key operational staff, STATE staff and debris management contractor(s) to review, formulate and update debris assessment and removal operations and strategies. Schedule, manage and conduct periodic meetings with field staff and contractors. Meetings shall be scheduled so that they will not impede, hinder nor delay the debris management contractor(s) and the debris management operation.
 2. Provide a daily report of debris contractor crew assignments, working locations, number of trucks assigned, total loads, cubic yards collected by debris type, an updated map of streets where debris is collected, and other key operational statistics to the STATE's Project Manager or designee.
 3. Coordinate daily scheduling, dispatching and logistical operations of the field collection monitors.
 4. Hire, train, deploy and supervise all field collection monitors and staff.
 5. Conduct debris surveys and perform debris estimation by debris types as requested by the STATE.
 6. Maintain accurate records of all debris collection vehicles, including the measurements of the inside of the useable bed space, photographs, license information, vehicle identification decal issuance and regular monitoring for vehicle modifications.
 7. Track and coordinate responses to problems identified in the field, citizen complaints related to debris removal, including commercial and/or residential property damage claims as a result of debris removal. TEAM shall maintain a detailed GIS database of customer complaints and resolutions.
 8. Make all reasonable efforts to ensure that DMS have access control and security. Conduct end of the day duties and verify that all vehicles have left the DMS at the specified time established by the STATE.
 9. Make all reasonable efforts to ensure the field collection monitors are accurately recording the streets and locations where debris was collected.
 10. Schedule work for all team members and sub-contractors on a daily basis.
 11. Conduct inspections on a regular, predetermined and random basis. Make all reasonable efforts to ensure the appropriate frequency of oversight is performed for all work crews, vehicles and locations.
 12. Monitor the debris removal contractor(s) and DMS(s) for compliance with their contract with the STATE.
 13. Provide training to STATE staff in essential debris management and collection functions to ensure appropriate and responsive interface with disaster debris collection contractor(s), state and federal agencies.
 14. Develop forms, databases, etc. for tracking field activities, and submitting invoices for reimbursement, etc.
 15. Daily personnel tracking sheets (field reports) shall be maintained for all TEAM personnel assigned to the project.
 16. Set up schedules for monitors each day and coordinate cleanup crew assignments. Survey and maintain list of areas with special needs, including but not limited to, hazardous stumps, trees, hangers/leaners, debris types, and other potential problems.

17. Prepare daily and periodic tracking reports to support debris removal, DMS operations and final debris disposal for audit purposes. Maintain a database of debris managed, costs incurred and reconcile debris collection and contractor invoices.
18. Compile records and assist the STATE with the preparation of required forms for reimbursement.
19. If requested by the STATE, provide call center operators to receive and process calls from customers with disaster debris collection concerns within the STATE of New Jersey.

2. COLLECTION MONITORING

- A. In order to obtain maximum reimbursement, all debris loads shall be monitored in the field by collection monitors to assure debris eligibility. The TEAM shall provide fully trained collection monitors to assure proper and compliant documentation protocols are instituted and followed.
- B. The TEAM shall provide a field quality control team consisting of one field collection monitor per debris removal crew and at least one field supervisor for every five monitors unless otherwise approved by the STATE. This team will monitor the debris contractors for contract compliance, efficiency and regulatory compliance. The team shall provide daily feedback to the STATE through their Project Manager. All field team members shall be equipped with the state-of-the-art technology, which shall include cameras, computers, communication devices with GPS, and other equipment as deemed necessary and/or appropriate.
- C. The TEAM will establish a Quality Control Program.

Examples of collection monitoring quality control tasks include, but are not limited to, the following:

1. Verifying that all debris picked up is a direct result of the disaster.
2. Accurately recording the addresses, streets and locations where debris was collected.
3. Verifying that the debris collection contractor(s) are working in their assigned collection areas and roads.
4. TEAM shall stop work in progress immediately for improper monitoring documentation or work not being performed in the approved manner. The TEAM shall immediately notify the STATE's Project Manager to review matter and provide final resolution.
5. Inspecting work in progress to assure that removal efforts include debris of the proper type in the proper areas.
6. Assuring compliance with STATE contracts by all debris contractors and debris subcontractors.
7. Identifying eligible stumps, hangers and leaners. Coordinating with the STATE and federal representatives for eligibility determination and assure documentation (forms, photos, etc) are completed for reimbursement purposes as may be required by FEMA.
8. Making all reasonable efforts to ensure that its employees and its subcontractor(s) are working in compliance with all federal, state, local safety regulations appropriate for the task being performed.
9. Coordinating with the STATE to respond to problems in the field, such as property damage complaints, debris crew issues, other customer complaints, etc. TEAM shall maintain a detailed database of customer complaints and resolutions. Property damage complaints must be tracked

using a GIS.

10. Meeting any and all FEMA requirements.
11. Neither the services performed by the TEAM under this Agreement nor the presence of TEAM nor its employees and subcontractors at any site in performance of its services shall relieve debris removal contractor or their subcontractors, the STATE or any other entity of their obligations duties and responsibilities with respect to job site safety. TEAM has no authority to exercise any control over the debris contractor or their subcontractors, the STATE or any other entity in connection with any health or safety precautions. TEAM shall have no responsibility for, advice on, or to issue directions regarding or assume control over safety precautions and programs in connection with the services performed by debris removal contractor or their subcontractors or any other entity except to the extent relating to TEAM's employees.

3. **AUTOMATED DEBRIS MANAGEMENT SYSTEMS (ADMS).**

The electronic debris management system shall at a minimum create load tickets electronically eliminating the need for hand written and scanned tickets. The system features shall include, at a minimum the following:

1. Paperless electronic (handheld device) data collection
2. Duplicate databases for government and contractor use. TEAM database will be internet accessible to subcontractors, STATE, and other public entities on a need to know basis.
3. Minimal manual entry of traditional debris paper load ticket data fields
4. Automation of debris pickup location thru use of GPS/GIS technologies
5. Evaluation of daily event status using web-based reporting and GIS tools
6. Coordination of contractor invoices, FEMA documentation and applicant payment process enabled thru an integrated database management system.
7. TEAM shall use HaulPass® during the performance of services under this Agreement. The definition of **HaulPass®** is as follows: The hardware-software system and components thereof, including the software therein and name used under this Agreement for managing the collection, transport, and/or disposal of debris, and any and all improvements thereto.

4. **DEBRIS MANAGEMENT SITE MONITORING**

- A. The TEAM shall be capable of conducting pre- and post-use environmental monitoring of the DMS locations to detect environmental contamination of the DMS, either present before use or after closeout of DMS operations, if requested by the STATE.
- B. All debris collected and disposed of, and certifications of collection vehicles shall be documented and monitored by the DMS monitors. The TEAM shall assure that DMS and field collection monitors are deployed and operational commensurate with the beginning of debris collection and the establishment of debris site(s).
- C. The TEAM shall provide DMS monitors to observe debris unloading operations at the STATE's designated DMS(s). A minimum of two DMS monitors are required per debris site. These staff members, in conjunction with the project management team and the debris contractor, shall

coordinate the logistics of the DMS to assure efficient traffic flow and proper handling of load tickets that record FEMA data (such as vehicle volume, type of waste, etc.). The TEAM shall observe vehicles entering and exiting the DMS, and make reasonable efforts to ensure that vehicles are in compliance with their truck certifications (e.g., side boards in place, full tailgate, etc.). Additionally, the DMS monitor shall calibrate their debris vehicle load determinations with the FEMA monitors. DMS monitors are expected to provide volume determination consistent with FEMA.

- D. The TEAM's Project Manager or designee shall conduct field quality inspections to check and verify information on debris removal and at DMS located throughout the County.
- E. Examples of DMS monitoring tasks include but shall not be limited to:
 - 1. Keeping accurate records of debris vehicles, cubic yard volume determinations, time in and out, number of loads per day and other data as requested by STATE.
 - 2. Coordinating with local, state and federal agencies as needed for DMS on issues such as notification, obtaining permits, determining reimbursement, etc.
 - 3. Providing preliminary assessment and documentation of DMS and assist in return of site to original conditions.
 - 4. Providing personnel to supervise the operation of DMS including monitoring incoming loads of debris, processing of debris and outgoing loads of processed debris.
 - 5. Measure all STATE collection equipment and properly complete a truck certification form.
 - 6. Conducting end of day activities, such as verifying completion of debris crew assignments, completing all record keeping, and assuring that all vehicles have left the DMS.

5. DEBRIS VEHICLE CERTIFICATION

- A. All debris hauling vehicles, unincorporated and, if requested, municipal shall be measured and certified prior to performing debris removal. The TEAM shall complete a certification on each vehicle deemed appropriate for collection. In addition to completing vehicle certification forms, photographs must be taken of each vehicle showing the vehicle number and type of vehicle. These photographs shall be attached with the certification. Original copies of these certifications, including photographs, shall be retained by the TEAM on behalf of the STATE and provided to the STATE upon their request or project completion. Additional copies shall be provided to the debris removal contractor and the vehicle driver. Once these vehicles are certified, random verifications shall be performed at each DMS to assure that no vehicle modifications have been made and to confirm data accuracy.
- B. The TEAM shall measure the volume to the nearest cubic yard of usable space for each debris collection vehicle. The TEAM shall complete the STATE Vehicle Certification Form provided for each vehicle. The original Vehicle Certification Form shall be delivered to the STATE Project Manager or designee. The Vehicle Certification Form will have the following information:
 - 1. Vehicle make, model
 - 2. Length
 - 3. Width
 - 4. Height

5. Volume in cubic yards
 6. Tag number of vehicle
 7. VIN number of vehicle
 8. Vehicle type
 9. Driver of vehicle name (printed) and signature
 10. Sub-Contractor representative name (printed) and signature
 11. Certification monitor name (printed) and signature certifying vehicle
 12. Date
 13. Vehicle certification number
- C. When a debris site monitor signs a vehicle certification, he or she is certifying that to the best of his or her knowledge and belief, the information is complete and correct. The debris site monitor shall not sign or accept any partially completed information. The TEAM's Project Manager or designee shall review all truck certification forms with the debris contractor to assure completeness and accuracy of each form before forwarding to the STATE'S Project Manager or designee.
- 6. PRIVATE PROPERTY DEBRIS REMOVAL AND DEMOLITION OF PRIVATE STRUCTURES**
- A. Authority - Sections 403(a)(3)(A) and 407 of the Stafford Act, 42 U.S.C. 5170(b) and 5173, respectively, provide FEMA authority to fund debris removal from private property provided that the state or local government arranges an unconditional authorization for removal of the debris, and agrees to indemnify the Federal government against any claims arising from the removal. Any state or local government that intends to seek reimbursement to remove debris from private property within a designated area will, prior to the commencement of the work, submit a written request for reimbursement to, and receive approval from, The Federal Coordinating Officer (FCO). Specifics related to the request may be found in FEMA Disaster Assistance Policy 9523.13. The FCO must make the determination that such work is in the public interest (44 CFR 206.224). After receiving approval from the FCO, the state or local government may begin identifying properties and the specific scope of work for private property debris removal.
- B. Private Property Debris Removal - The TEAM will make every reasonable effort to ensure that the debris removal contractor will adhere to the documentation requirements of FEMA 325, Debris Management Guide, Chapter 4. The TEAM will assist the STATE in obtaining a signed Right-of-Entry and Hold Harmless (ROE/HH) agreement from each property owner where debris removal will occur. The ROE/HH agreement will also include notification and acknowledgement related to potential duplication of benefits related to insurance. A sample ROE/HH agreement is included as Attachment 1. The TEAM will edit the ROE/HH agreement based on input and acceptance by the STATE's legal counsel. The TEAM will take photos of each property to document its condition prior to the work and conduct a property-specific assessment to establish eligible items of work that present an immediate threat to public health and safety. The TEAM will take an additional photo to document the property's condition after conclusion of the debris removal process. Debris will be quantified and monitored in the same manner as right-of-way debris once it leaves the private property location.
- C. Demolition of Private Structures - The TEAM will make every reasonable effort to ensure that the debris removal contractor will adhere to the documentation requirements of FEMA 325, Debris Management Guide, Chapters 4 and 12. The TEAM will assist the STATE's formal condemnation process as required. The TEAM will assist the STATE in getting a signed ROE/HH agreement from each property owner where demolition will occur. The TEAM will take photos of each property prior to demolition to document the condition of the property prior to commencement of the work. The

TEAM will take an additional photo to document the property's condition after the conclusion of the demolition and debris removal processes. The TEAM will assist the STATE with assessments or other certifications that the structures are determined to be unsafe or pose an immediate threat to the public, based on local ordinances or building codes. The TEAM may assist the STATE with delivery of Notices of Demolition to available property owners. The TEAM will assist the STATE with Notices of Intent to Demolish to be placed on each property to be demolished. At the STATE's request, the TEAM will conduct an environmental review for designated properties to assess potential hazardous waste streams.

7. PUBLIC INFORMATION ASSISTANCE

- A. The TEAM shall provide regular status updates to the STATE's Project Manager for public information use.
- B. The TEAM shall provide appropriate staff to assist with damage complaints resulting from the debris removal. Complaints shall be tracked and forwarded to the project management team to be resolved with the debris contractor(s). Upon request of the STATE, the TEAM may also be called upon to provide appropriate staffing of a customer call center to assist with public telephone inquiries, concerns and complaints regarding debris removal operations.
- C. The TEAM shall provide the STATE's Project Manager and the debris contractor(s) with daily Disaster Debris Status Reports. Each daily report shall contain the following:
 - 1. Overview of daily activities including status of damage complaints
 - 2. Cumulative debris tally by debris site
 - 3. Cumulative debris tally by day
 - 4. Summary of monthly debris removal efforts (cumulative and by debris site)
 - 5. Summary of mulch removal efforts (cumulative and by debris site)
 - 6. Summary of mixed/construction & demolition removal efforts (cumulative and by debris site)
 - 7. Stump volume by site
 - 8. Debris site status
 - 9. Labor force report
 - 10. Debris site processing equipment summary
- D. The TEAM shall track collection status in GIS and include with the Daily Reports.

8. DATABASE REPORTING

- A. The TEAM shall be responsible for collecting, auditing for completeness and accuracy, tabulating and organizing debris disposal data into electronic formats to support federal, (FEMA and FHWA), state and local reimbursements, and subsequent audits.
- B. A single database shall be created by the TEAM. This database shall include all information on debris removal and disposal including but not limited to:
 - 1. Complete load ticket information,

2. Vehicle certification information,
3. Stump removal information,
4. Hanger removal data,
5. Leaner removal information.

9. PAYMENT MONITORING AND RECONCILIATION PROCESS

The TEAM shall review, validate and reconcile debris management contractor(s) invoices prior to submission to the STATE for processing. The TEAM shall conduct a meeting at the beginning of the debris management operation to fully explain the process to the STATE and debris contractor(s) representatives. All invoices from the debris contractor(s) shall be directed to the TEAM. Within seven (7) calendar days of receipt, the invoices shall be reviewed by the TEAM to be accepted or rejected. The TEAM shall issue in writing to the STATE and the debris contractor, the acceptance or rejection of the invoices and a payment recommendation. If the invoice is rejected, the monitoring TEAM shall clearly state the reasons for rejection and work with the debris contractor to resolve immediately.

10. RECOVERY AND REIMBURSEMENT

TEAM will provide the expertise and experience with FEMA to provide representation and project management for the successful recovery of reimbursement funding.

The primary milestones of for this Task Order 1 are:

- Preliminary Damage and Debris Assessments
- Request for Federal Assistance Support
- Federal Assistance Approval
- Emergency Work Documentation
- Development of Project Worksheets (PW)
- PW Submission
- Audit and Appeals
- Closeout

Preliminary Damaged and Debris Assessments (PDA)

TEAM will identify and enumerate the impacts to the STATE, working closely with local resources and officials, taking advantage of local knowledge. If necessary the TEAM will coordinate with STATE and federal personnel to conduct these assessments.

Request for Federal Assistance Support

This is usually handled by the STATE; and officials should proactively involve themselves in these efforts to ensure that a true picture of the community impacts is reflected in the STATE documentation. The TEAM will provide assistance as required.

Federal Assistance Approval

Pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act as implemented by Title 44 Code of Federal Regulations, federal assistance is triggered by a "per capita" estimated cost of damage especially to public infrastructure.

Emergency Work

The local jurisdiction and its contractors must begin the process of making emergency repairs, taking care of its residents that are displaced, and removing disaster debris from the "right of way" so that the community can begin to function again. Many times this work begins even before federal assistance is made available. It is critical that accurate records of activities, costs, and results are documented. The actions taken by the local jurisdiction and the contractors that they choose to assist them are vital to the receipt of federal aid. We will assist and support the compiling force account costs and develop PW for submittal to FEMA.

Damage Assessments

It is a common misconception in post incident activities to limit the examination of damage to the accounting of response costs. Our recovery and mitigation experts will work with our corps of infrastructure experts and local experts to identify the precise elements of impacts, damage, causes, affects, and ancillary forces. A true representation of the "damage" will be measured to identify all loss / costs to the facilities and the community.

The appropriate present dollar value of the "damage" will be numerated and illustrated. This will ensure that all eligible activities for FEMA / federal funding are documented and that effective mitigation initiatives are produced.

Development of Project Worksheets

Once the team has a true picture of the total costs and impacts, and only if agreed to by the STATE, PWs will be drafted to capture all eligible FEMA reimbursement dollars. These PWs will be sufficient to illustrate eligibility to State and FEMA representatives that will be administering the recovery programs.

The Public Assistance Grant Program (PA) is specifically awarded to fund the response and recovery efforts of local jurisdictions' damage to public infrastructure. The following lists the categories of work within Public Assistance (PA) that we will write PWs:

Category A - Debris Removal - Clearance of incident debris from the public "right of way" and to eliminate immediate threats to lives, public health and safety.

The TEAM will assist in identifying other federal or State level funding sources that may also be utilized. Some of the examples of additional funding programs that may assist in the long term recovery and mitigation process:

National Resource Conservation Service (NRCS): <http://www.nrcs.usda.gov/>; NRCS's natural resources conservation programs help people reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters. Public benefits include enhanced natural resources that help sustain agricultural productivity and environmental quality while supporting continued economic development, recreation, and scenic beauty.

Community Development Block Grant (CDBG):

<http://www.hud.gov/offices/cpd/communitydevelopment/programs/>; In response to disasters, Congress may appropriate additional funding for the CDBG and HOME programs as Disaster Recovery grants to rebuild the affected areas and provide crucial seed money to start the recovery process. Since CDBG Disaster Recovery assistance may fund a broad range of recovery activities, HUD can help communities and neighborhoods that otherwise might not recover due to limited resources.

Environmental Protection Agency (EPA) Water Grants: http://water.epa.gov/grants_funding/; Includes the state revolving funds for drinking water and wastewater, grants for water pollution prevention and wetlands protection, and tribal grants.

Federal Regulations, Policy, and Guidance

The Stafford Act constitutes the statutory authority for most Federal disaster response activities especially as they pertain to the Federal Emergency Management Agency (FEMA) and FEMA programs.

- Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288) as amended
- 44 Code of Federal Regulations (44 CFR)
- Hazard Mitigation Assistance (HMA) Unified Guidance (FY 2011)
- Public Assistance Policy Reference Manual 9500 Series
- FEMA 321 Public Assistance Policy Digest
- FEMA 322 Public Assistance Guide
- FEMA 323 Applicant Handbook
- FEMA 325 Debris Management Guide
- FEMA 327 Debris Monitoring Guide
- FEMA 329 Debris Estimating Field Guide

State and Federal Grant Administration

The TEAM will provide counterparts to every relevant FEMA role to ensure that the local jurisdiction's interests are met during every step of the recovery process. In the event that FEMA fails to adhere to regulatory guidance, or deems ineligibility, the TEAM will prepare and conduct appeals on behalf of the STATE.

Audit and Appeals

Pursuant to Section 423 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5189a) as implemented by 44 C.F.R. § 206.46, the TEAM will prepare appeals to any actions or determinations made by FEMA which have adversely affect the successful recovery of the impacted community. The first level appeal is to the FEMA Region. The second level appeal is to FEMA Headquarters.

Typical appeals involve but are not limited to the following:

- Eligibility (applicant, scope of work, costs, etc.)
- Periods of performance - time extensions, etc.
- Denials of proposed work or costs

Appeals must be filed by the STATE to FEMA within 60 days of the applicant's receipt of a notice of the action that is being appealed. The TEAM will handle the appeals process and assist in compiling documentation to support the appeals. This documentation should explain why the "applicant" (STATE) believes the original determination is wrong and the amount of adjustment being requested.

Closeout

At the STATE's request, the TEAM will work with State and Federal officials to close out the STATE recovery and mitigation grants. These activities will include:

- Project SOW completed
- Programmatic completion according to statutory and regulatory requirements

- All funds have been obligated and reimbursed
- Compliance with environmental and historic preservation requirements
- Compliance with insurance requirements
- Resolution of any appeals
- Financial reconciliation of the grant with Grantee and Grantor
- All applicable administrative actions are complete

11. OTHER RELATED SERVICES

A. Event Closure

The TEAM shall assist the STATE in preparing final reports necessary for reimbursement by FEMA, FHWA and other applicable agencies for disaster recovery efforts by STATE staff and designated debris management contractors. The TEAM shall assist in reviewing and processing requests for payment by the debris management contractor(s).

B. Federal Funding

To ensure that processing of federal funding is acquired as quickly as possible, the following information and its accuracy is the responsibility of the TEAM:

1. Review of debris contractor invoices
2. Monitoring information
3. Project Status Reports
4. Completed Load tickets
5. TEAM invoices
6. Review of debris contractor equipment hours of operation
7. Vehicle certifications
8. Start and end dates of the first debris removal pass and all subsequent passes

C. Compliance

The TEAM shall provide professional oversight to monitor compliance with local, state and federal regulations. The TEAM shall stay current with FEMA and FHWA policies and procedures and notify the STATE's Project Manager immediately as changes occur.

D. Meetings with STATE Personnel

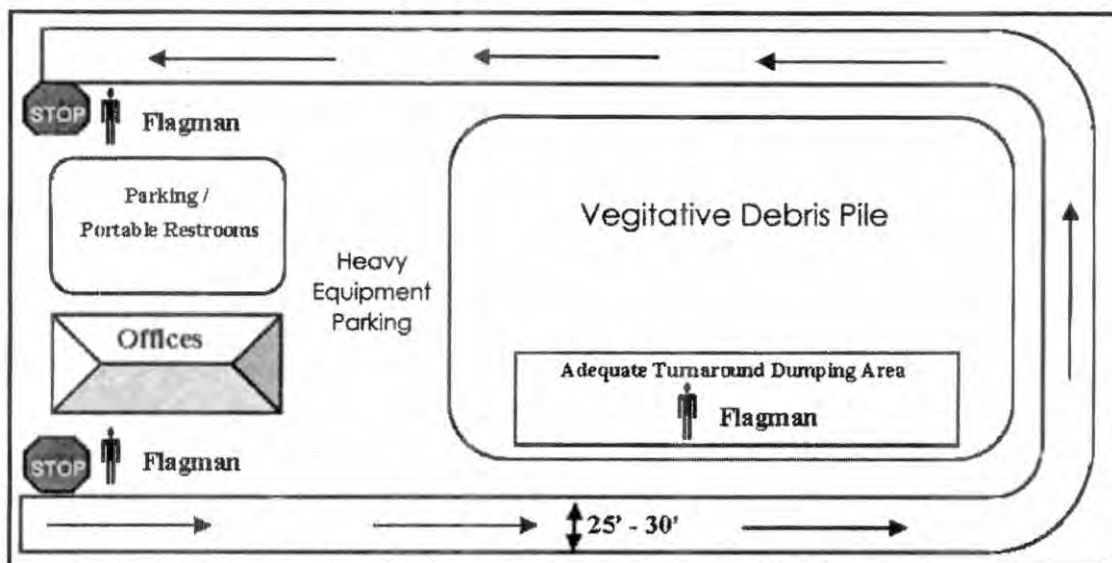
The TEAM shall meet with STATE representatives and the debris contractor daily during disaster recovery operations to facilitate a smooth recovery.

PUBLIC DROP-OFF SITES

The STATE may elect to open a number of residential Sites to allow the public to drop-off vegetative debris. In the event such Sites are utilized, the TEAM will be responsible for managing traffic flow and monitoring debris deposited at the Sites and monitor the loading of debris at the sites for haul out to the final disposition location. The TEAM will be responsible for traffic management into, within the boundaries of, and out of the Sites. No reduction activities will be permitted at these Sites. Access to the site shall be provided to all residential members of the STATE. Proof of residency should be verified utilizing a recognized means of identification, such as a utility bill or driver's license. Utilization of the residential drop-off site should be restricted to non-commercial, residential members of the community.

DROP-OFF SITE TRAFFIC CONTROL

Below is an example site traffic control pattern. As can be seen in the layout it is recommended that the site have one or more flagmen at both the entrance and exit (ingress and egress) to the site for the safety of the residents entering the site.



It is also highly recommended that there be one or more flagmen stationed at the unloading area to assist residents with backing of their vehicles/trailers, and with exiting the unloading area.

MONITORING OF DEBRIS BEING LOADED FOR HAUL OUT

The monitoring of debris being hauled out of the public drop-off sites will follow the same procedures and requirements for monitoring debris being hauled out of debris management sites described in another section of this proposal.

Review by FEMA

As indicated elsewhere in this proposal, our Team's number one priority is to maximize our client's reimbursement funding from federal agencies. We understand that in order to do so we must ensure that only eligible debris is collected. Our project manager, Andy Compton formerly worked for FEMA and headed their debris program for the entire state of Florida. Our team leadership has extensive working knowledge of the following documents:

- Section 407 of the Stafford Act
- FEMA 321, Public Assistance Policy Digest
- FEMA 322, Public Assistance Guide
- FEMA 325, Debris Management Guide
- FEMA 327, Debris Monitoring Guide
- FEMA Disaster Assistance Policy 9523.4, Demolition of Private Structures
- FEMA Disaster Assistance Policy 9523.11, Hazardous Stump Extraction and Removal Eligibility
- FEMA Disaster Assistance Policy 9523.12, Debris Operations – Hand Loaded Trucks and Trailers
- FEMA Disaster Assistance Policy 9523.13, Debris Removal from Private Property

If a member of our Team notices a debris contractor attempting to remove debris, which in his/her opinion would be ineligible for FEMA reimbursement, they are trained to immediately contact management. Our project manager will then contact the State and advise them of the potential for financial exposure related to the ineligible debris. The State will then make a determination of whether or not to allow the debris contractor to remove such debris. Such loads will be noted as potentially ineligible for FEMA reimbursement via a "note field" within our HaulPass™ system.

FEMA often denies some funding related to erroneous truck/trailer certifications which typically occur due to incorrect measurements and calculations during the certification process. In order to minimize such errors, we utilize tape measures that are incremented in decimal feet rather than inches and enter the data into our truck/trailer certification software to perform the calculations. Truck beds and trailers are also modified by the debris haulers with sideboards to increase their maximum certified capacity. If the sideboards become damaged and/or are removed the truck must be recertified. Due to photographs on each issued HaulPass™ card our team members have instant visualization of the vehicle's appearance during the certification process as the card is presented at the debris management site or final disposition location. The HaulPass™ system also allows that certification photograph to be displayed on the handheld units.

We realize there is a great potential for debris removal from private property. In order for FEMA to reimburse for private property debris removal (PPDR) the federal coordinating officer must first determine that it is in the public's best interest to do so. Prior to that, and in accordance with FEMA Disaster Assistance Policy 9523.13, the State's Attorney General must issue an opinion confirming the legal basis under state constitutional and statutory authority for the State's government to enter private property to perform debris removal. Ultimately a right-of-entry/hold harmless agreement must be signed by each property owner which must indemnify the federal government from any and all damages that may occur as a result of the debris removal operations. Finally, federal law prohibits a duplication of benefits. Thus any agreements signed by property owners must address the issue of private insurance that may cover debris removal after a disaster. We are prepared to draft the rights-of-entry/hold harmless agreements and work with the State's counsel to finalize such a product.

With respect to any contract between the State and ARCADIS it is our experience that FEMA may review the contract with respect to the scope of work and the procurement process. Rest assured that very similar contracts with some of our other clients have been reviewed by FEMA and have been accepted as well-developed and conform to the procurement requirements of 44 CFR 13.36.

Exhibit B
New Jersey Department of Environmental Protection
Debris Monitoring Contract
Price Sheet

Name: ARCADIS U.S., Inc. / Sam Rosania - Vice President
Telephone Number: (813) 505-1313
Fax: (866) 323-1673
Email: sam.rosania@arcadis-us.com

HOURLY RATES – Proposal

Payment to this contract award is based on the hourly rate per person dedicated and working on the job. The hourly rate includes all overhead, administrative costs, per diem costs, transportation costs, and other direct or indirect charges. Actual numbers of personnel required will be determined at the time the Contract is activated and agreed to by both the State and Awarded Contractor.

<i>Position Function</i>	<i>Rate per Hour \$</i>
Project Manager	\$95
Debris Monitoring Operations Manager	\$70
Field Debris Supervisor	\$48
Field Debris Monitor	\$37
Fixed Site Debris/Tower Monitor	\$40
Project Coordinator/ Technical Employee (Support Staff)	\$35

<i>Additional available personal if required and authorized by the State.</i>	<i>Rate per Hour \$</i>
Senior Planner	\$140
Senior Engineer	\$150
Principle in Charge	\$190
FEMA Grant Manager	\$150
Data Manager	\$65
GIS Programmer	\$140
Environmental Specialist	\$90
Assistant Engineer	\$90
Assistant Analyst	\$75
Billing / Invoice Analyst	\$60

Safety Specialist	\$120
Analytical aide	\$28
GIS Analyst	\$45
Data Entry Personnel	\$27

<u>Equipment</u>	<u>Rate for each</u>
Electronic ticketing device (To be implemented by written authorization of the State)	HaulPass - \$25/per unit/per day