



## Professional Services Agreement General Terms and Conditions

This **Professional Services Agreement** ("Agreement") is dated \_\_\_\_\_, 2016 by and between **Thompson Consulting Services, LLC** ("Consultant"), with offices at 1135 Townpark Avenue, Suite 2101, Lake Mary, FL 32746 and **Dare County, North Carolina** ("Client"). In consideration of the mutual covenants to be performed by the parties pursuant to this Agreement, each party hereby represents, warrants, and agrees as follows:

### 1. TERM & APPLICABILITY

The term of this Agreement shall be for one (1) year from the date of full execution hereof and shall automatically renew for three (3) successive one (1) year periods at the end of each prior term unless one party notifies the other party in writing prior to the expiration of the then current term of its intent not to renew the Agreement. This Agreement shall apply to all work performed at the request of the Client or for the benefit of the Client during the term hereof (the "Work") unless both parties agree in writing that the terms and conditions hereof shall not apply.

### 2. SCOPE OF WORK

Consultant shall perform such Work as the Client may direct from time to time during the term hereof and in accordance with **Exhibit A** attached hereto. Consultant and Client will agree to specific services to be provided via the issuance of a written task order executed by both parties.

### 3. INDEPENDENT CONTRACTOR

Consultant is an independent contractor and is not an employee of Client. Services performed by Consultant under this Agreement are solely for the benefit of Client. Nothing contained in this Agreement creates any duties on the part of Consultant toward any person not a party to this Agreement.

### 4. STANDARD OF CARE

Consultant will perform services under this Agreement with the degree of skill and diligence normally practiced by professional consultants performing the same or similar services. No other warranty or guarantee, expressed or implied, is made with respect to the services furnished under this Agreement and all implied warranties are disclaimed.

### 5. CHANGES/AMENDMENTS

This Agreement and its exhibits constitute the entire agreement between the Parties and together with its exhibits supersede any prior written or oral agreements. This Agreement may not be changed except by written amendment signed by both Parties. The estimate of the level of effort, schedule, and payment required to complete any services directed by the Client will be dictated through a written task order executed by both parties. Consultant shall promptly notify Client if changes to the Scope of Services or any resulting task orders affect the schedule, level of effort, or payment to Consultant and the schedule and payment shall be equitably adjusted.

### 6. FEE FOR SERVICES

The fee for the services under this Agreement will be based on the actual hours of services furnished multiplied by Consultant's Billing Rates as set forth in **Exhibit B**. Consultant's rates are subject to

annual Consumer Price Index (CPI) escalations on the annual anniversary of the execution date of the Agreement upon mutual written agreement by each party.

### 7. PAYMENT

Client shall pay Consultant for services furnished under this Agreement upon submission of monthly invoices in an amount equal to actual hours of services furnished multiplied by the billing rates attached as **Exhibit B**. Client shall pay Consultant within thirty (30) days of receipt of invoices less any disputed amounts. If Client disputes any portion of the invoice, the undisputed portion will be paid and Consultant will be notified in writing, within ten (10) days of receipt of the invoice of the exceptions taken. Consultant and Client will attempt to resolve the payment dispute within sixty (60) days or the matter may be submitted to arbitration as provided herein. Additional charges for interest shall become due and payable at a rate of one and one-half percent (1-1/2%) per month (or the maximum percentage allowed by law) on the unpaid, undisputed invoiced amounts. Any interest charges due from Client on past due invoices are outside any amounts otherwise due under this Agreement. If Client fails to pay undisputed invoiced amounts within sixty (60) days after delivery of invoice, Consultant, at its sole discretion, may suspend services hereunder or may initiate collections proceedings, without incurring any liability or waiving any right established hereunder or by law.

### 8. INDEMNITY

To the extent permitted by law, Consultant agrees to indemnify, defend and hold harmless Client from and against any and all loss, damage, claim or liability (including, without limitation reasonable attorney's fees) incurred by or imposed on the Client, to the extent caused by the negligent acts or actions performed by the Consultant during the performance of the Scope of Services under this Agreement; provided, however, that Consultant shall not, and shall not be obligated to, indemnify, defend or hold harmless Client from or against any loss to the extent the loss arises from the gross negligence or willful misconduct of the Client. Upon notice from Client of any action or proceeding subject to the indemnification in this section, Consultant agrees to defend the Client in the action or proceeding.

### 9. INSURANCE

Consultant shall maintain insurance with the following required coverage and minimum limits and upon request, will provide insurance certificates to Client:

|                                   |   |
|-----------------------------------|---|
| Worker's Compensation:            | Statutory   |
| Employer's Liability:             | \$1,000,000   |
| Commercial General Liability:     | \$1,000,000 per occurrence<br>\$2,000,000 aggregate |
| Comprehensive General Automobile: | \$1,000,000 combined<br>single limit                |
| Professional Liability:           | \$1,000,000 per claim and<br>in the aggregate       |



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### 10. WORK PRODUCT

Client shall have the unrestricted right to use the documents, analyses and other data prepared by Consultant under this Agreement ("Work Products"); provided, however Client shall not rely on or use the Work Products for any purpose other than the purposes under this Agreement and the Work Products shall not be changed without the prior written approval of Consultant. If Client releases the Work Products to a third party without Consultant's prior written consent, or changes or uses the Work Products other than as intended hereunder, (a) Client does so at its sole risk and discretion, (b) Consultant shall not be liable for any claims or damages resulting from the change or use or connected with the release or any third party's use of the Work Products and (c) Client shall indemnify, defend and hold Consultant harmless from any and all claims or damages related to the release, change or reuse.

### 11. NOT APPLICABLE

### 12. NOT APPLICABLE

### 13. INFORMATION PROVIDED BY OTHERS

Client shall provide to Consultant in a timely manner any information Consultant indicates is needed to perform the services hereunder. Consultant may rely on the accuracy of information provided by Client and its representatives.

### 14. SAFETY AND SECURITY

Consultant has established and maintains programs and procedures for the safety of its employees. Unless specifically included as a service to be provided under this Agreement, Consultant specifically disclaims any authority or responsibility for job site safety and safety of persons other than Consultant's employees. Consultant shall not provide any such services and disclaims any responsibility under this Agreement related to site security or the assessment, evaluation, review, testing, maintenance, operation or safety practices or procedures related to security.

### 15. TERMINATION

Either party may terminate this Agreement upon fifteen (15) days prior written notice to the other party. Client shall pay Consultant for all services rendered to the date of termination plus reasonable expenses for winding down the services. If either party defaults in its obligations hereunder, the non-defaulting party, after giving seven (7) days written notice of its intention to terminate or suspend performance under this Agreement, may, if cure of the default is not commenced and diligently continued, terminate this Agreement or suspend performance under this Agreement. Upon termination, the terms and conditions found in this Agreement concerning ongoing or future obligations and contractual responsibilities and interpretation thereof shall survive its termination, including but not limited to those obligations found in sections 4, 7, 8, 10, 11, 12, 13, 16 & 17.

### 16. GOVERNING LAW AND CHOICE OF FORUM

This Agreement shall be governed by the laws of the State of North Carolina and any suit brought by either party shall be brought in a court of competent jurisdiction in Dare County, North Carolina.

### 17. DISPUTE RESOLUTION

Consultant and Client shall attempt to resolve conflicts or disputes under this Agreement in a fair and reasonable manner and agree that if resolution cannot be made to attempt to mediate the conflict by a professional mediator (except for payment disputes which may be submitted directly to arbitration). If mediation does not settle any dispute or action which arises under this Agreement or which relates in any way to this Agreement or the subject matter of this Agreement within ninety (90) days after either requests mediation, the matter will be litigated as provided in the above paragraph 16.

### 18. COOPERATIVE PURCHASING

It is the intent of Client to allow other governments and other governmental agencies to utilize this contract by entering into a Cooperative Purchasing Agreement to the extent permissible by local and state law. The Cooperative Purchasing Agreement will stipulate that any modifications or changes to this document and resulting contract(s) including but not limited to Consultant requirements, scope, or price shall be submitted to Client in writing for acceptance and approval as the originator of the contract.

### 19. ASSIGNMENT

This Agreement is binding upon and will inure to the benefit of Client and Consultant and their respective successors and assigns. Neither party may assign its rights or obligations hereunder without the prior written consent of the other party.

### 20. NOTICES

Any notice required or permitted by this Agreement to be given shall be deemed to have been duly given if in writing and delivered personally or five (5) days after mailing by first-class, registered, or certified mail, return receipt requested, postage prepaid and addressed as follows:

|                 |  |
|-----------------|--|
| Client:         | <u>Dare County</u>                       |
| Attention:      | <u>David Clawson</u>                     |
| Address:        | <u>PO Box 1000</u>                       |
|                 | <u>Manteo, NC 27954</u>                  |
| Consultant:     | <u>Thompson Consulting Services, LLC</u> |
| Attention:      | <u>Jon Hoyle, President</u>              |
| Address:        | <u>1135 Townpark Avenue</u>              |
|                 | <u>Suite 2101</u>                        |
|                 | <u>Lake Mary, FL 32746</u>               |
| With a copy to: |  |
| Attention:      | <u>Chad Brown, Chief Legal Officer</u>   |
| Address:        | <u>2970 Cottage Hill Road</u>            |
|                 | <u>Suite 190</u>                         |
|                 | <u>Mobile, AL 36606</u>                  |



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Mobile, AL 36606

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### 21. MISCELLANEOUS

A. Client expressly agrees that all provisions of the Agreement, including the clause limiting the liability of Consultant, were mutually negotiated and that but for the inclusion of the limitation of liability clause in the Agreement, Consultant's compensation for services would otherwise be greater and/or Consultant would not have entered into the Agreement.

B. If any provision of this Agreement is invalid or unenforceable, the remainder of this Agreement shall continue in full force and effect and the provision declared invalid or unenforceable shall continue as to other circumstances.

C. Consultant shall maintain adequate records to justify all charges, expenses, and costs incurred in estimating and performing the work for at least three (3) years after completion of the contract. The Client shall have access to all records, documents and information collected and/or maintained by others in the course of the administration of the Agreement. This information shall be made accessible at the Client's place of business for purposes of inspection, reproduction and audit without restriction.

D. Notwithstanding any statute to the contrary, the Parties agree that any action to enforce or interpret this Agreement shall be initiated within two (2) years from the time the party knew or should have known of the fact giving rise to its action, and shall not in any case be initiated later than six (6) years after Consultant completes its Scope of Services under this Agreement.

E. This Agreement may be executed in multiple counterparts, each of which shall be deemed to be an original instrument, but all of which taken together shall constitute one instrument.

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thompson  
CONSULTING SERVICES, LLC

## Professional Services Agreement General Terms and Conditions

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives.

Dare County, North Carolina

Name: Robert Outlaw  
Title: Co. Manager  
Date: 6/7/16

Thompson Consulting Services, LLC

Name: NATE COUNSELL  
Title: VICE PRESIDENT  
Date: 06/27/16

Please return executed copy of these terms and conditions to the attention of:

Kyle Hoyle  
(407) 792-0018 - Phone

"This Instrument has been preaudited in the  
manner required by the Local Government  
Budget and Fiscal Control Act."

# EXHIBIT A

## Technical Approach

### Executive Summary

Thompson's approach to providing disaster response and recovery services to the Dare County (County) maintains a primary focus on the efficient and effective utilization of available resources while assisting the County in navigating the funding and compliance channels of the North Carolina Division of Emergency Management (NCDEM) and the Federal Emergency Management Agency (FEMA) Public Assistance (PA) Program.

The Technical Approach provided below has been organized by task predicated on the various debris streams and programs that can be expected by the County based on our experience monitoring and documenting large scale debris removal operations. Thompson will tailor our approach to the County's debris recovery effort based on the unique challenges of the County's specific future disaster. Our tasks and task approach can be modified and scalable to address both large and small scale events and our mobilization times can be either compressed or extended based on the needs of the County and the public.

### Project Understanding

The County is located along the northeastern coastal region of North Carolina, making it highly vulnerable to the debris generating impacts of a hurricane or tropical storm. The County encompasses a land area of over 900 square miles and serves as a tourist destination for millions of visitors each year. The County's reliance on tourism revenue makes it imperative to have qualified contractors on call to quickly and efficiently remove debris following a tropical event.

In 2011, in response to Hurricane Irene, the County activated its stand-by debris removal contractor and monitor to oversee the collection and removal of over 100,000 cubic yards of debris from the County, and an additional 100,000 cubic yards from the towns within the County. Additionally, in 2012, the County experienced the indirect impacts of Hurricane Sandy as it barreled up the east coast and caused widespread coastal storm surge and inland flooding. The County managed minor debris removal operations, and did not require the use of its contracted debris monitoring firm. Over the past few years, the County has continuously been threatened by tropical systems and coastal flooding. Therefore, The County maintains a constant, high level of readiness to respond to a variety of hazards that may impact its citizens and consequently, is seeking proposals from qualified consultants to provide debris monitoring support to comply with the following agency grant programs and requirements:

- Federal Emergency Management Agency (FEMA) Public Assistance (PA)
- Federal Highway Administration (FHWA) Emergency Relief (ER)
- North Carolina Division of Emergency Management (NCDEM)
- US Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS)
- US Department of Housing and Urban Development (HUD)
- US Fish and Wildlife
- All other applicable state and local ordinances

Thompson has served as the County's stand-by disaster management contractor since 2012 and has participated in training and planning sessions each year. Our experience means that Thompson has the

knowledge and understanding of the County, as well as the expertise and resources necessary to be extremely responsive to the County before, during and after a disaster debris-generating incident. Thompson is committed to responsible contracting in order to provide priority treatment to the County. Furthermore, Thompson's understanding of the County's previous recovery efforts and ongoing planning and preparedness measures means that Thompson understands the challenges County may face following a future disaster incident, including:

**Immediate, well-orchestrated, and well documented force account and contractor response during the 70 hour push:** Following a disaster incident, the County has the responsibility to ensure that County-maintained roadways are cleared and accessible as quickly and efficiently as possible. It is imperative that the County implement a coordinated response between force account and contracted resources.

Thompson will ensure that all hours and activities are well documented to substantiate FEMA reimbursement. Thompson will also work with the County and its debris removal contractors to expedite 70-hour push activities, focusing on the pre-determined list of priority roadways, while ensuring that the period of performance adheres to FEMA's eligibility standards and all labor and equipment time is tracked and documented.

**Close coordination with NCDOT to remove debris and restore functionality to critical transportation routes including bridges to Roanoke Island and the Outer Banks:** County mainland, Roanoke Island, and the northern beaches of the Outer Banks are separated by the Albemarle, Roanoke, and Croatan Sounds. Access routes to the island and beachside of the County are limited to state and federally maintained bridges, including the William B. Umstead Bridge and the Virginia Dare Memorial Bridge. Functionality of these bridges following a potentially catastrophic event is critical in order to allow first responders to enter the beachside of the County to perform search and rescue and restore essential infrastructure. Following a federally declared debris generating disaster, the Emergency Push and First Pass of debris removal are funded by the FHWA ER Program administered by the North Carolina Department of Transportation (NCDOT). Thompson will continue to work with the County to develop a cooperative plan, including any necessary Memoranda of Understanding, in order to quickly and efficiently remove storm deposited debris, vessels, and vehicles from all affected bridges and perform any necessary emergency repairs to restore ingress/egress routes and allow for safe passage of response crews and essential County personnel.

**Service Issues with gated communities/private property:** As mentioned above, and experienced by the County during the Hurricane Irene recovery effort, unincorporated Dare County includes many large, gated community developments. It is anticipated that these communities will expect the County to provide debris removal services following a disaster event. Over the last several years, the County has worked to develop an ordinance that would grant the County legal authority to perform private property debris removal following a major debris generating event. Due to our unique understanding of the issues, Thompson is prepared to assist the County with critical tasks associated with managing debris removal efforts within the County's private communities including:

- Damage assessment and cost estimation for County executives to consider in the event a private property debris removal program is not approved by FEMA
- Participation in HOA meetings to explain the process and obtain necessary documentation
- Assistance in managing the Right of Entry (ROE) process including the segregation of data as required by FEMA.

**Limited availability of debris management sites (DMS), particularly on the Outer banks:** With continued development and environmental sensitivities, it will be more challenging than ever for the County to



identify and permit land to serve as a Debris Management Site, particularly near flood zones, high velocity zones, and environmentally sensitive ecosystems. The County has identified beachside land to serve as TDRS sites in order to expedite and streamline debris removal operations in both mainland and coastal Dare County. However, previously identified debris sites include major recreational facilities and parks that would likely generate public opposition if selected for a DMS. Thompson maintains a strong working relationship with all of the major debris management firms, having worked with them on some of the largest debris removal initiatives in the last decade. Our strong level of operational coordination and communication will allow for strong pre-event planning initiatives focused on identifying viable land to use as DMS and also recognizing recycling alternatives in accordance with the FEMA Alternative Procedures Pilot Program for Debris Removal.

**Effects of Debris Removal on tourism:** The County draws millions of tourists annually. Visitors from around the world flock to Roanoke and the northern beaches for its historic legacy, sandy coastline, and abundance of activities including dining, shopping, and water sports. Crisis management and disaster recovery could create an economic hardship to the County. To the extent necessary, Thompson will work with the County to tailor recovery programs, such as right-of-way (ROW) debris removal, sand reclamation and screening operations, private property debris removal (PPDR), and waterway debris removal to minimize a disaster's impact on tourism activities. Thompson will also coordinate with the County, municipalities, essential local enterprises, US Fish and Wildlife, USACE and FEMA to schedule debris removal operations in consideration of high density tourist seasons.

**Coordinating sand removal from County, City, and NCDOT maintained property, processing the sand at designated screening locations, and returning clean sand to County beaches:** a hurricane and associated storm surge have the potential to displace large quantities of beach sand. Reclamation of beach sand from a variety of physical and jurisdictional environments will require considerable multi-agency coordination. In addition, scraping, stockpiling, screening, placement and shaping require careful operation management with tight quality assurance and quality control measures. Because the operation involves as many as five (5) independent processes, the County's consultant must be vigilant with its adherence to standard operating procedures. Thompson's consultants will rely on decades of combined experience with beach restoration projects to ensure that the County's operation is compliant and efficient.

**Signification policy changes since the last disaster event, including MAP-21 and the Sandy Recovery Improved Act (SRIA) which instituted the Alternative Procedures Pilot Program:** Thompson has recent, hands-on experience with the administration and documentation of debris removal and long term recovery programs under new FEMA and FHWA policy. Additionally, our team is constantly expanding education, training, and field experience in the disaster debris monitoring, grant management, and emergency management fields and will share their knowledge with County leadership and staff. Following contract award, Thompson will coordinate training schedules with the County to provide departments and key staff members training which will address new policy changes, large-scale application of these policies in recent disasters, and how these changes will affect the County's specific debris management plan.

## Disaster Debris Forecasting

### Estimation Methodology

With experience assisting local governments in disaster response and recovery for a variety of events, ranging from the most costly hurricanes in our nation's history to relatively smaller disasters including minor storms and localized flooding, Thompson has recognized that responsiveness and adaptability are critical to success. Thompson stands ready to serve the County in any capacity. Our approach to services

can be transformed to fit a particular task or event in effort to best meet the County's recovery goals by taking the most efficient and cost-effective actions.

For purposes of pre-event planning and understanding resource requirements, Thompson utilizes the US Army Corps of Engineers (USACE) debris estimating model for developing debris estimates. The USACE developed this model based on debris generated by Hurricanes Frederic, Hugo and Andrew. The model contemplates the number of households in an urban/suburban area, as well as the category of storm, vegetative characteristics, commercial density and precipitation. The estimated quantities produced by the model have a predicted accuracy of  $\pm 30\%$ . Because of the margin of error in the model, Thompson validates the modeled result via windshield surveying and aerial flyover assessments in a post-disaster scenario. Windshield surveys provide debris removal professionals the opportunity to estimate the quantity of debris per parcel surveyed, which can be extrapolated to include the number of parcels within jurisdictional limits of the community. Aerial flyovers are important because they provide Thompson with the ability to gage the consistency of the damage across the jurisdiction and provide a means for identifying areas that have been compromised which may be isolated without means of conventional travel due to debris or flooding.

### Planning Assumptions

While developing the debris model and subsequent staffing plan for the County, Thompson has made the following assumptions:

- County debris removal contractors will first perform an emergency push to open all County system roadways.
- County debris removal will begin hazardous tree removal and right-of-way (ROW) collection simultaneously to ensure efficient debris removal passes and use of equipment.
- NCDOT has responsibility for the majority of roadways within the County.
- Thompson will assign one (1) debris monitor to each ROW and tree crew.
- The target timeframe to complete ROW debris collection is 60 days.
- Tree crews will be defined as a bucket truck with a cutter and appropriate safety equipment and flaggers. Each crew will address approximately 75 hazardous trees per day.
- The target timeframe to complete hazardous tree and limb removal is 30 days.
- Specialized programs may be necessary.

### Forecasted Debris Types and Resource Estimates

Debris types from disaster events may include items such as vegetative debris, construction and demolition debris, household appliances, household furnishings, sediment, sand, household hazardous wastes, vessels and vehicles. This debris may have to be removed from a variety of physical environments, including among others, on and near roadways, underwater in canals and waterways, or even hanging in large trees. Debris types, volumes and locations can require many different removal and disposal techniques.

The total amount of debris generated by any particular disaster will depend on the location and type of event experienced, as well as its severity, duration, and intensity. Thompson understands that the crew numbers and subsequent monitor requirements are subject to change based on the actual incident. We have developed this estimate to demonstrate to the County that we have the capacity and experience to develop a flexible, scalable staffing plan that addresses the County's needs. For planning purposes, the table below summarizes the resource estimates for a Category 3 hurricane that impacts the County:

Table A-1: Disaster Impact and Resource Estimates



| Description  | Quantity            |
|--|---------------------|
| Total Debris   | 815,000 Cubic Yards |
| Estimated Hazardous Trees                                  | 10,000 Trees        |
| Average Daily ROW Crew/Monitor/ADMS Requirement            | 20                  |
| Average Daily Hazardous Tree Crew/Monitor/ADMS Requirement | 3                   |
| Peak ROW Monitor Requirement                               | 30                  |
| Peak Hazardous Tree Monitor Requirement                    | 5                   |
| Required Land Area for Debris Management Sites             | 75 Acres            |
| Estimated Time to Complete Debris Removal                  | 60 Days             |
| Load Transactions  | 20,375              |
| Unit Rate Transactions                                     | 16,300              |

While the modeling and results presented herein are based on an unknown and hypothetical event, following an actual event Thompson would model the storm characteristics taking into account our understanding of impacts caused by historical storm events, to assist the County with developing strategies for debris collection. It may be determined that the County has the capability to perform debris removal with in-house staff and equipment following smaller incidents such as severe storms or local flooding. For more significant disaster debris events, the County may elect to engage its contracted forces for debris removal and monitoring. Regardless of which approach the County takes following a debris generating incident, the Debris Collection Strategy will be scalable to the size of incident and resources necessary and will include the following elements:

- Anticipated events and assumptions
- An anticipated scope of work based on the debris forecasting developed
- Anticipated debris streams / debris programs
- An overview of the use of County force account labor to perform debris removal operations
- Specialized debris programs
- Debris removal from gated communities and private property
- Monitoring of debris operations
- Health and safety requirements
- Environmental considerations
- Debris collection zone maps with road designations (City/County/NCDOT)
- Action items checklists for preparedness, response, and recovery operations
- A public information strategy with draft press releases

*Through careful planning and execution, Thompson believes that a full and complete first pass of all County roads can be completed within five (5) weeks.* It is important to note that a second pass of County roads will begin prior to the completion of the 1<sup>st</sup> pass, with the ultimate goal of having approximately 80% of the County's debris collected during the initial 30 days and 95%+ of the County's debris being collected during the initial 60 days.

#### Project Execution Utilizing Automated Debris Management System

Thompson will execute the proposed tasks described below with our ADMS hardware and software system, Thompson Data Management Suite (TDMS). Thompson's ADMS was developed in-house and is proprietary. We do not rely on licensing for the use of an ADMS. TDMS has been successfully deployed over the past four (4) years and utilized by the South Carolina Department of Transportation (SCDOT), as well as for county, parish, and municipal clients in Louisiana, Alabama, South Carolina, and New York to electronically document debris removal, hazardous tree work, vehicle recovery, and private property debris removal.

TDMS is a collection of hardware, software and communications infrastructure for the management of data and documents related to disaster recovery. The TDMS collection includes our hardware solution or handheld device, *TDMSmobile*, which allows us to capture data in the field and provide near real-time analysis through our software solution, *TDMSweb*, which is a variety of web-based software applications that serve as the backbone for data storage and management. The TDMS meets the USACE ACI standard for ADMS and is configured to document a variety of debris removal activities and programs.

- Truck Certification
- Right-of-Way (ROW) Collection
- Tree Work (L/H/S)
- Private Property Debris Removal (PPDR)
- Demolitions
- Haul Out/Disposal
- Project Administration
- Monitor Management

Figures 1 - 4 provide graphical depictions of the *TDMSmobile* solution and its components.

FIGURE 1



*Motorola ES400 running TDMSmobile.*

FIGURE 2



*Badges utilize QR coding for ticket development.*

FIGURE 3



*Paper tickets are created with encrypted QR code to transmit information/data.*

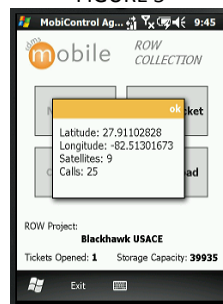
FIGURE 4



*RW 220 hip belt printer uses direct thermal laser technology*

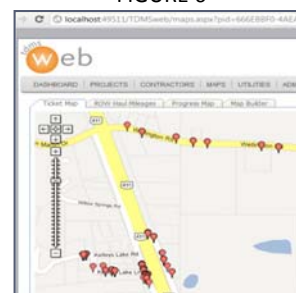
*TDMSmobile* provides enhanced quality control through geofencing, geocoding, and location verification. The handheld device and system have configurable security settings to protect use and data. Specified locations, such as debris pickup and disposal sites, are captured by the GPS capabilities of the handheld and verified in the web-based system. This enhanced level of accuracy and corroboration increases the efficiency and production of debris removal operations. To date we have observed cost savings to our clients ranging from 20 – 30 percent with the use of our ADMS solution. Figures 5 and 6 provide an example of the interface between *TDMSmobile* and *TDMSweb*.

FIGURE 5



*Handheld device GPS location capture and verification*

FIGURE 6



*Mapping interface provides users with Google maps functionality for point-and-click data access*

*TDMSweb* a web based application that serves as the backbone of the TDMS for storage and data management while providing access to viewing, querying, sorting, reporting, mapping and managing project related data and documents. In addition, Thompson is able to control access to *TDMSweb* and

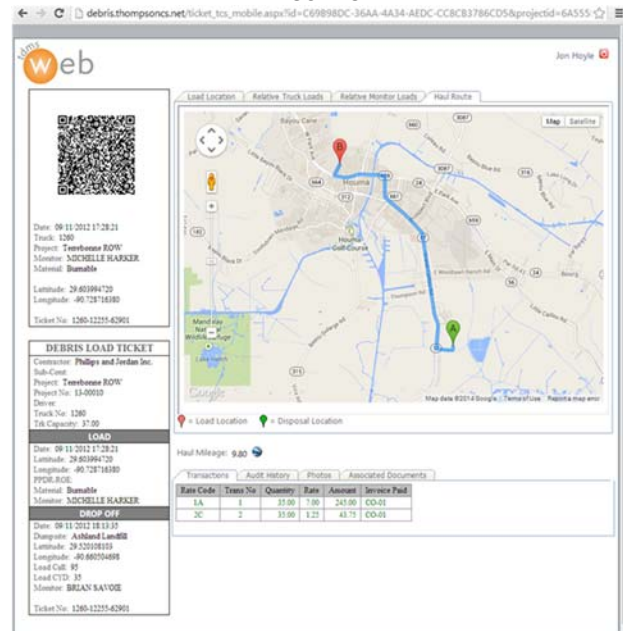
what permissions (read, read/write, etc.) users have through credentialing. The following figures (7 to 10) provide graphical highlights and depictions of TDMSweb and its components.

FIGURE 7



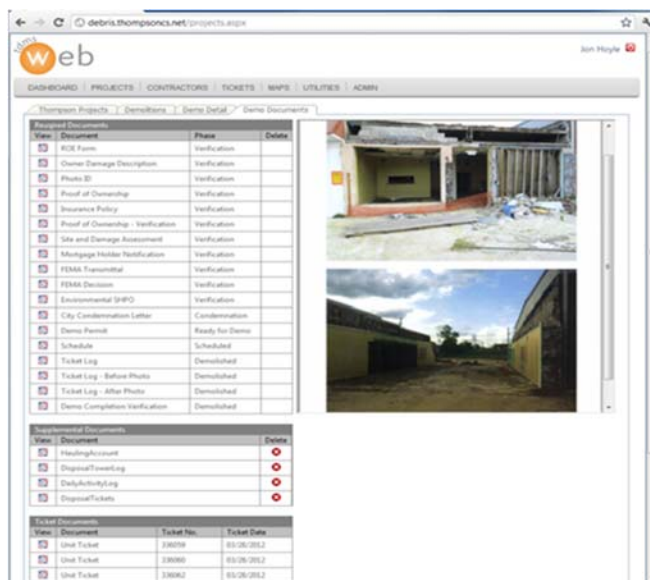
TDMSweb dashboard displays summary project statistics online with the ability to drill down to varying levels of detail.

FIGURE 8



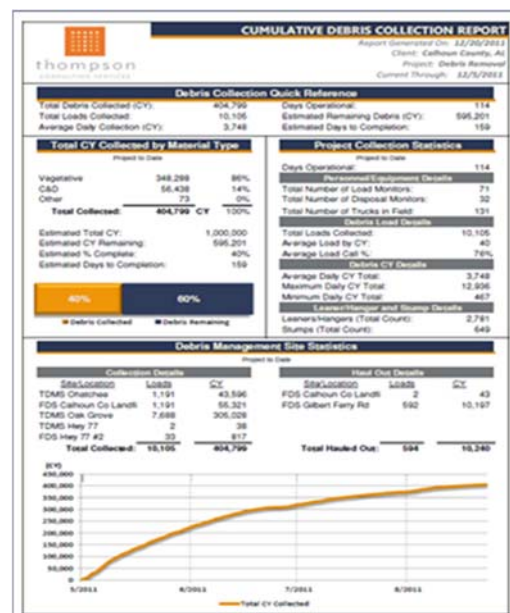
Accurate and efficient collection of field data provides for near real time data analysis and review. Financial encumbrances and project progress can now be tracked via the Internet.

FIGURE 9



TDMSweb system allows Thompson to electronically manage a variety of client debris removal programs such as, ROW, ROE, blue roof and demolition, including photographs, field forms, logs, transmittals, etc.

FIGURE 10



TDMSweb generates a various project reporting documents, such as daily reports and financial summary logs.

Technical Approach by Task

thompson  
CONSULTING SERVICES

The following table outlines Thompson’s technical approach by task. Our approach is designed to be modified and is scalable to address both large and small scale events and our mobilization times can be either compressed or extended based on the needs of the County and the public.

Table A-2: Mobilization Method and Approach

| Task / Mobilization Time   | Description  |
|--|--|
| <b>1. Debris Program Implementation</b>  |  |
| Within twenty-four (24) hours from notification date   | Program Management Team will report to the County 48 hours prior to known disaster events and within 24 hours of no-notice disaster events. Thompson will implement a program based on the specific needs of the County, feedback from debris removal contractors, and debris estimates developed through the preliminary damage assessment. |
| <b>2. Onboarding and Training of Employees</b>   |  |
| Within forty-eight (48) hours from notification date   | Thompson performs Motor Vehicle Reports (MVR’s) and drug testing on all field staff.   |
| <b>3. Health and Safety Plan Implementation</b>  |  |
| Within forty-eight (48) hours from notification date   | Health and Safety Plan will be periodically reviewed and updated to address any disaster specific hazards. Thompson’s safety program is focused on the safety of Thompson monitors and field personnel.  |
| <b>4. Measure and Certify Trucks by FEMA PAPPG Standards</b>   |  |
| Within forty-eight (48) hours from notification date   | Thompson will certify contractor equipment once a contractor crew schedule is reviewed and approved by the County.   |
| <b>5. Deploy Loading Site Collection Monitors</b>  |  |
| Within forty-eight (48) hours from notification date   | Thompson will deploy a collection monitor to each debris removal crew. Based on our planning assumption, we expect many of the crews to be tandem, self-loading trucks or two to three trucks paired with a single loading device.   |
| <b>6. Monitor the Removal of Leaning Trees, Hanging Limbs, and Hazardous Stumps</b>                    |  |
| Within forty-eight (48) hours from notification date   | Thompson will document the removal of hazardous trees and limbs to meet all requirements outlined in FEMA Publication FP-104-009-2 Public Assistance Program and Policy Guide (PAPPG), which supersedes FEMA 325, Debris Management Guide, and FEMA 327, Debris Monitoring Guide.  |
| <b>7. Deploy Debris Management Site Monitors</b>   |  |
| Within forty-eight (48) hours from notification date   | Thompson will coordinate with the Debris Management Contractor to obtain proper permits and ensure that the County Debris Management Sites (DMS) meet all NCDEQ requirements.  |
| <b>8. Deploy Field Supervisors / Field Supervisors</b>   |  |
| Within forty-eight (48) hours from notification date   | Thompson will deploy one (1) Field Supervisor for every seven (7) field monitors per the specifications of the County RFP. Thompson typically recommends a ratio of between 1:7 and 1:10 supervisor to monitor.  |
| <b>9. Damage Complaint Tracking</b>  |  |
| Concurrent with field operations   | Thompson will assign a unique work order to each damage complaint and track the actions taken, responsible sub-contractor, and satisfactory/unsatisfactory resolution in a report, by Service Area that may be tracked through GIS.  |
| <b>10. FEMA Consultation</b>   |  |
| Within seventy-two (72) hours from Federal Declaration   | Applicant kickoff generally takes place within one week of the federal disaster declaration, which is imminent.  |
| <b>11. Ordinance Review to Determine Best Method to Perform Private Property Debris Removal (PPDR)</b> |  |

| Task / Mobilization Time   | Description  |
|--|--|
| 2-3 weeks after debris operations begin (subject to need)                        | Thompson management staff has experience analyzing and designing PPDR programs based on Voluntary/Right-of Entry, Imminent Danger of Collapse, and Public Nuisance Programs.   |
| <b>12. Private Property Debris Removal Monitoring</b>                            |  |
| TBD, based on input from NCDDEM and FEMA   | PPDR programs may include vegetative and C&D debris, as well as leaners, hangers, stumps, and structural demolitions.  |
| <b>13. Specialized Debris Removal Monitoring</b>                                 |  |
| TBD, based on input from County, NCDDEM, and FEMA                                | Thompson management staff has experience with the operational methods to properly document special debris removal programs such as removal of debris from waterways and lakes, vessel and vehicle removal, and the removal of debris and sediment from storm drains, catch basins and other public facilities. |
| <b>14. Monitor Beach Scraping, Stockpiling, Screening, Placement and Shaping</b> |  |
| TBD, based on input from the County, NCDDEM, and FEMA                            | Thompson will work with the County and the Debris Removal Contractor to design and implement a plan for removing debris laden sand and restoring its beaches to pre-storm condition.   |
| <b>15. Accumulate Daily Field Data</b>   |  |
| Immediately after the start of ROW and hazardous tree programs                   | Thompson will maintain field data for all debris recovery programs monitored. Debris removal data will be organized by debris type, road type, and program   |
| <b>16. Reconcile Contractor Invoices</b>   |  |
| Weekly after the start of ROW and hazardous tree programs                        | Thompson will comply with the invoicing and payment term in the debris removal contract.   |

## 1. Debris Program Implementation

The Thompson Management Team will assist the County in overseeing the debris management operations, obtaining proper approvals for special debris removal programs, and providing in-depth working knowledge of a variety of recovery operations, USACE debris management guidelines, and FEMA eligibility and reimbursement guidelines. Thompson will work with the County to develop a project management plan to ensure that contracted debris removal is properly documented to substantiate FEMA PA, FHWA ER, and NRCS funding. Some of the initial considerations will include, but not be limited to:

- Single/multiple debris removal contractors
- Debris removal contractor rates and specifications
- Debris estimates, by collection zone
- Crew/Monitor estimates, by collection zone
- Debris removal from gated communities/private property
- Onboarding and safety training locations and procedures
- Operations Manager/Supervisor Assignments
- Progress reporting distribution lists and protocols

### Damage Assessment

At the request of the County, Thompson will coordinate aerial flyover assessments to facilitate debris estimation and collect post-disaster photographs and geographical data. Thompson will also assist with preliminary damage assessments in accordance with the FEMA Damage Assessment Operations Manual. Damage assessment assistance may include, and is not limited to, participation in one or more of the following tasks:



- Identifying damaged facilities: Thompson will assist with documenting the location of all damaged sites using GPS and annotated maps. Thompson work with County departments to collect all necessary documentation to substantiate legal responsibility, maintenance, lease/rental agreements, and improvement plans.
- Documenting damage: Thompson will document the damage to each facility by taking photographs and developing maps and diagrams to outline the specific location and extent of the damage. The diagrams and associated photographs will capture damage dimensions, materials, and the size or capacity of the damaged elements.
- Documenting work and cost: Information describing work and cost will be broken down by Category of Work (A-G). Thompson will prepare work and cost estimates by gathering documentation associated with Force Account Labor, Equipment, Leased Equipment, Supplies, Contract Labor, and Materials. Thompson will also document any mutual aid received by the County.
- Other Considerations: Thompson will help the County navigate other PA program considerations including codes and standards, repair vs. replacement, hazard mitigation, as well as unique considerations for each category of work.

All damage assessment documentation will be captured, digitized, and managed using TDMS.

#### Response Time by Task

In most cases, Thompson will deploy our project team in anticipation of receipt a notice to proceed so that we can be responsive to the County's needs and effectively manage the deployment of personnel and resources. For example, if the County is within a cone of certainty for severe weather, Thompson will deploy a representative to meet with the County 48 to 72 hours prior to the anticipated event.

Thompson's response times by task are summarized in Table 3.

Table A-3: Thompson Task Response Times

| Response Time                                   | Task Description   |
|---|--|
| <b>Immediately</b> after notification           | Thompson will report to the County's EOC or Contract Management Center   |
| <b>No more than 48</b> hours after notification | Thompson ready to assist the County with truck certification             |
| <b>No more than 48</b> hours after notification | Thompson ready to staff public drop-off sites and other County locations |
| <b>No more than 48</b> hours after notification | Thompson to have monitors ready for ROW debris removal operations        |
| <b>No more than 72</b> hours after notification | Thompson to have monitors ready for hazardous tree removal operations    |

Prior to known events, Thompson will stage personnel and equipment either in or as close as possible to the County. Upon receipt of a notice-to-proceed, Thompson will deploy the following project initiation teams to the County responsible for the County's contract deliverables:

- Debris Management Consultant
- Project Quality Assurance Team
- Project Administrative Team

The Project Quality Assurance Team will consist of the Project Manager and multiple Field Supervisors, based on the severity of the event. In addition to providing surge support to the County, the Project Quality Assurance Team will serve as the field project management team. The Project Quality Assurance Team will be deployed with equipment kits to accommodate all Field Staff.



The Project Administrative Team will consist of administrative/human resource employees. The Project Administrative Team will be temporarily deployed to the County to support the monitor on-boarding process, including:

- Employee application reviews
- Drug testing and Department of Motor Vehicle records checks
- Health and Safety Plan Implementation
- Debris Monitor Training

### Proposed Meetings

Thompson is prepared to meet with the County Debris Manager, County Stakeholders, and representatives from FEMA, NCDDEM, NCDEQ, and other agencies on a daily basis at a time and location specified by the County. To the extent necessary, Thompson will help the County secure a meeting location. Thompson recommends that project stakeholders conduct a daily briefing while the EOC is fully operational and re-evaluate the frequency of meetings after the first 30 days of project operations.

### Methods for communicating with County Emergency Staff and Teamwork Assignments

Throughout the project, the Thompson Project Manager will identify critical path functions that will required close coordination between the County and Thompson. These may include:

- Public Information
- Private Property Issues
- Special Needs Assistance
- Information on FEMA
- Damage reports and resolution

Thompson will identify a lead for each function to serve as a direct interface with the appropriate County staff on each issue. The Thompson team member will be available in person, by phone, or email to communicate with the County and project stakeholders. To the extent that cellular connectivity is not available, Thompson will secure alternative communications methods (radios, satellite, etc.).

## 2. Onboarding and Training of Employees



Within 24 hours of Notice to Proceed, Thompson will establish a local office from which to perform recruiting, onboarding, and training. Thompson will make every effort to hire residents from within the County to serve as debris monitors. This effort will help skilled residents participate in the County's recovery efforts with a meaningful impact and earn a competitive hourly wage.

Thompson maintains professional human resources and recruiting staff that have been extremely successful in meeting the technical requirements and staff capability on similar contracts over the past 10 years. As a contractor to various U.S. Army Corps of Engineers Districts, Thompson understands the practice of hiring local personnel with experience in civil works, solid waste, monitoring and similar projects. Our ongoing approach for hiring and staff augmentation includes:

- Staffing agencies to identify highly specialized, skilled professionals
- On-line advertising within a municipality, state, or region
- Local media advertisements through local newspapers and circulars
- State and local workforce connection offices that provide outreach and job placement

- References from entities and agencies familiar with the area and scope of work required

In accordance with FEMA FP-104-009-2, Thompson will train debris monitors, County employees, and other project stakeholders to have a complete understanding of the roles and responsibilities of the debris manager, including:

- Accurate and objective debris estimating techniques
- Process for determining debris eligibility: (1) threat to public health/safety, (2) direct result of the disaster event, and (3) existing in the public right-of-way
- A comprehensive understanding of all phases of debris management operations, including loading sites, Debris Management Site's (DMS), and final disposal locations
- The ability to differentiate between debris types
- Understanding of Collection Site and DMS safety procedure
- Understanding of the Thompson Field Health and Safety Plan
- Understanding of the terms, conditions, and scope of the debris removal contract and other disaster specific guidance provided by the County, NCDEM, NCDEQ, and FEMA

#### Ability to Onboard and Train within 48 Hours

Thompson has made a tremendous investment in our personnel, resources, technology, and tools to have the flexibility and scalability necessary to be an industry leader in debris monitoring. Part of this investment is in a proven process to identify, train, and equip local hires in a safe manner in extremely short periods of time. Thompson begins the process of recruiting and on-boarding immediately upon contract award, not reactively following a notice to proceed. Thompson will issue contingent job postings through a variety of outlets to pre-identify a pool of existing candidates to serve as field monitors. The following table outlines Thompson's local hire tasks and timelines to ensure that we deploy trained, safe, drug-free local hires within 48 hours of a notice-to-proceed:

Table A-4 Local Hire Task Summary

| Task  | Timeframe<br>(to meet or exceed) | Comments  |
|---|----------------------------------|---|
| Local Hiring Recruiting (non-event)         | Year-round                       | When no task order is imminent, Thompson pro-actively develops a pool of local hire candidates.   |
| Local Hiring Recruiting (activation known)  | 12 to 48 hours                   | Once activated, Thompson Project Administrative team can recruit and onboard 100 local hires per day. Thompson initiates on-boarding 72 to 96 hours prior to known disaster events. |
| Drug-testing                                | 12 to 48 hours                   | Thompson requirement for employment   |
| Driver Motor Vehicle Record Check           | 12 to 48 hours                   | Thompson requirement for employment   |
| Safety Training                             | 12 to 48 hours                   | Thompson requirement for employment   |
| Continued on the Job Safety Training        | 48 to 72 hours                   | Thompson requirement for employment   |
| Debris Monitor Training                     | 12 to 48 hours                   | Thompson requirement for employment   |
| Automated Debris Management System Training | 12 to 48 hours                   | Contract specific requirement   |
| Issuance of Personal Protective Equipment   | 48 hours                         | Issued by Project Administration team upon completion of Safety Training  |

### 3. Health and Safety Plan Implementation



Thompson is the only debris monitoring firm that performs drug screening and motor vehicle operating record reviews for 100% of our employees, including temporary field staff. This practice results in a team of monitors that is both safe and committed to quality. In addition, Thompson deploys a quality assurance team to each of its projects to ensure that certain quality standards are being upheld, regardless of the operating conditions and climate.

At project initiation, Thompson will implement a Health and Safety Plan (HASP) that outlines site-specific precautions to be taken to avoid and mitigate the risk of hazards associated with work performed in the elements, around heavy equipment, near tree work, and close to vehicle traffic. The HASP will outline that work performed on the project shall comply with all applicable OSHA, State of North Carolina, and all other safety requirements provided by FEMA and its authorized contractors. Thompson will also provide the following personal protective equipment to collection monitors, debris management site monitors and field supervisors:

- Hard hat
- Reflective vest
- Safety glasses
- Hearing protection

In addition, Thompson will ensure that all collection monitors, debris management site monitors and field supervisors report to work with the following personal protective equipment and communication equipment:

- Cell phone
- Protective shoes
- Long pants
- Hot, cold, and/or wet weather gear
- Sunscreen and supply of bottled water

Thompson's safety program is focused on Thompson monitors and field personnel. The safety of debris removal crews is the responsibility of the debris removal contractor(s).

#### 4. Measure and Certify Trucks by FEMA PAPPG Standards

Thompson will complete equipment check-in and certification of trucks and other equipment mobilized by the Contractor so that debris removal operations can be recorded and substantiated in accordance with the terms, conditions and unit rates in the County's debris removal contract. In order to comply with these standards, Thompson has observed and recorded the following information during truck certifications:

- Valid driver's license of truck operator
- Valid truck registration and insurance
- Volumetric capacity of the inside of the loading container
- Calculated deductions of volumetric capacity for dog boxes, round container bottoms, and other volumetric capacity reductions
- Brief physical description of the truck
- Photographs of the truck, container, and driver



Thompson has assigned a unique identification number to each truck and a placard with the truck number is affixed to each side of the debris removal truck.

## 5. Deploy Loading Site Collection Monitors

Thompson will deploy a debris removal collection monitor for each mechanized piece of loading equipment deployed by the Contractor unless multiple debris loading operations can be safely and substantially observed and documented by a single monitor. The Collection Monitor's primary responsibility is to observe, document, and substantiate the removal of eligible storm debris from County ROW and other collection zones identified and approved by the County. Eligible debris may include, but is not limited to:

- Vegetative debris
- Construction and demolition (C&D) debris
- Hazardous waste (must comply with Federal, State, and local environmental and work safety requirements. Regulated under Resource Conservation and Recovery Act (RCRA))
- Household hazardous waste (must be handled by NCDEQ licensed specialists)
- White goods (must be decommissioned by licensed specialist)
- Vehicles and vessels
- Putrescent debris (handling must comply with Federal, State, and local environmental requirements. Also, must comply with the North Carolina Department of Agriculture for collection and disposal of animal carcasses)
- Infectious waste (must comply with the North Carolina Department of Health and Human Services (NCDHHS) and adhere to all issued guidelines and instruction for collection and disposal. May also be governed by the CDC, EPA, etc.)
- Chemical, biological, radiological, and nuclear contaminated debris (clearance, removal and disposal of CBRN- contaminated debris should be performed in accordance with applicable Federal statutes, regulations, policies, and other guidance documents)

The Thompson collection monitor will be responsible for:

- Ensuring that only eligible, disaster related debris is removed for loading and hauling from approved public areas
- Ensuring that debris collected is in accordance with the regulations, safety considerations, and contract terms of the specific waste stream (i.e. hazardous waste is not loaded into container of clean vegetative debris, etc.)
- Recording the time, date, disaster number, truck number, and loading location using ADMS
- Issuing load ticket to driver when loading container is fully loaded
- Ensuring that debris loads are contained properly in the loading container prior to the departure of the truck from the loading location to the DMS
- Checking for safety considerations and areas of potential problem (school zone, utility meters, power lines, mailboxes, etc.) and reporting potential issues the Thompson Field Supervisor
- Recording and reporting any damages caused to streets, curbs, utility meters, mailboxes and other public property as a result of debris removal operations including photos, owner information, and circumstances of the damage
- Ensuring all white good and Freon containing appliances are sorted and ready for Freon removal on site or separate transport for Freon removal before final disposal

- Certifying household hazardous wastes are segregated, handled, loaded and hauled in accordance with environmental laws and local, state, and federal regulations. HHW must be handled by specialists licensed by NCDEQ
- Ensuring work area is clear of debris to the specified level before equipment moves to a new loading area
- Remaining in constant contact with debris field supervisor
- Other duties as directed by the debris management project manager or designated County personnel



## 6. Monitor the Removal of Leaning Trees, Hanging Limbs, and Hazardous Stumps

Thompson anticipates beginning hazardous tree removal operations prior to or concurrent with Right-of-Way debris collection. By getting the bucket trucks out ahead of the debris removal trucks with hazardous tree and limb removal, the overall collection operation will be more efficient. Thompson will ensure that hazardous stumps are pre-approved by FEMA and that the stump removal process is documented to include before and after photographs and GPS

coordinates. The Thompson leaner, hanger, and stump monitor will be responsible for:

- Ensuring that only eligible leaners, hangers, and stumps are removed as defined by the FEMA Public Assistance Program and Policy Guide (PAPPG) from approved public areas
- Recording the date, GPS location, physical address, and time that the work was performed
- Measuring the eligible tree work in accordance with the County's contract
- Photo documenting the work performed to facilitate an audit ready paper trail for FEMA review

## 7. Deploy Debris Management Site Monitors

Thompson will work with the County and its contractor to establish the appropriate number of Debris Management Site (DMS) and staff it with a DMS Monitor. DMS Monitors are responsible for completing the load transactions and recording debris volumes for loads that have been transported to the DMS for processing and storage or final disposal. DMS Monitors are responsible for observing and recording the following information:

- Debris classification
- Debris load call/volume estimation
- Truck unloading time and date
- Spot check photographs of loads before and after unloading as a Quality Assurance measure for load call methodology and to insure that trucks are completely unloaded at the DMS
- Record load information from municipalities that utilize County debris management sites
- Ensure white goods and Freon containing appliances are sorted and ready for Freon removal
- Document that white goods are cleaned and processed to remove putrescent debris inside and remove all oils, solvents, and refrigerants
- Ensure hazardous and household hazardous wastes are segregated, handled, stored, and disposed in accordance with environmental laws and local, state, and federal regulations
- Document and immediately report any improper segregation of hazardous waste debris
- Ensuring site safety and security

## Debris Disposal Diversion

Thompson will work with the County and NCDEQ to develop a recycling/debris diversion plan that minimizes the amount of potentially recyclable debris that is disposed of at landfills. White goods, e-waste, metals, vegetative and other types of debris may be processed and recycled. Thompson will ensure that salvage operations are documented separately to substantiate retainage of salvage proceeds in accordance with the FEMA Alternative Procedures Pilot Program for Debris Removal.

## 8. Deploy Field Supervisors

Thompson will deploy Field Supervisors at a 10 monitor: 1 supervisor ratio to efficiently and effectively oversee, document, and substantiate debris removal efforts. In addition to the minimum requirements outlined in the RFP and listed in Section 2 above, Thompson Field Supervisors will possess the following minimum training courses:

- Work Zone Safety and Awareness
- Introduction to Hazardous Materials
- Introduction to Site Manager
- First Aid and CPR
- FHWA ER Program Training
- FEMA Operations Training

Thompson Field Supervisors will:

- Be prepared to operate a minimum of 12-14 hours per day, 7 days per week
- Verify that only eligible debris is being removed from designated public ROW and public property within assigned collection zones
- Maintain regular communication with and ensure that collection monitors are authorizing the collection and removal of eligible debris from approved public areas
- Confirm the completeness and accuracy of load tickets and field documentation generated by Thompson field staff to substantiate debris removal operations (if paper based system is utilized)

## 9. Damage Complaint Tracking

Thompson field supervisors will have the primary responsibility for damage report tracking and resolution. Thompson will assign a unique Work Order number to each damage complaint and will track the Work Order by the GPS coordinate of the complaint. A map will be maintained of all damage related Work Orders. Thompson will maintain the following information for each damage complaint Work Order and organize Work Orders by Precinct:

- Work Order point of contact
- Responsible contractor/sub-contractor
- Photographs of damage
- Description of actions taken by the responsible party
- Photographs/other evidence of repair
- Cost summary, if available

## 10. FEMA Consultation

To the extent that it is required by the County, Thompson will serve as a liaison between the County, NCDEM and FEMA to document and demonstrate that debris removal, response and recovery activities are eligible, allowable, and in compliance with FEMA Publication FP-104-009-2 Public Assistance Program and Policy Guide.



Thompson will work with the County, NCDDEM, FEMA Region 4, and FEMA Headquarters to facilitate a transparent, well documented partnership throughout the recovery effort. This will allow Thompson to integrate Disaster Specific Guidance (DSG) issued from FEMA into the County's debris removal efforts, and pro-actively create a positive working relationship with participating stakeholder regulatory agencies.

To the extent necessary, Thompson will provide the County with first and second appeal support for unfunded or de-obligated disaster related projects or initiatives that the County and Thompson mutually agree may be determined eligible by FEMA based on a re-review of existing project documentation or other review of new information presented to substantiate the eligibility of the project.

## 11. Ordinance Review to Determine the Best Method to Perform Private Property Debris Removal

Thompson's proposed management team has previous experience with reviewing local ordinances and designing a private property debris removal (PPDR) program that demonstrates and documents that local governments have the legal County (and FEMA eligibility) to perform a variety of debris removal programs on private property. We have performed comprehensive PPDR ordinance feasibility reviews and PPDR program implementation in Alabama, Mississippi, Louisiana, and Florida. In order to ensure that the PPDR program is successful, Thompson will have the following objectives during ordinance review:



- Identify an ordinance that clearly grants the County with the authority to enter private property to remove and dispose of debris, such as a nuisance abatement or public nuisance ordinance. This is critical in order to establish legal County and FEMA eligibility.
- Establish a multi-step process to ensure that all proper notifications are made to property owners.
- Develop a public outreach plan to ensure that County residents in need are able to participate in the program.

## 12. Private Property Debris Removal Monitoring

Upon review and approval of a proposed PPDR program by NCDDEM and FEMA, Thompson will implement and document the program to maximize available reimbursement. PPDR programs may include:

- Vegetative, construction and demolition (C&D), and mixed waste debris removal
- Residential and commercial structural demolitions
- Leaner, hanger, and stump removal

In managing, monitoring, and documenting PPDR programs, Thompson will develop a property identification number for each property. Each property will have a PPDR "packet" that documents the following information:

- |  |  |
|--|--|
| • Ordinance granting the County legal authority under which the private property debris removal work was performed | • FEMA Historic Preservation (HP) review and approval                    |
| • Documentation of all necessary actions taken to satisfy the requirements of the ordinance                        | • Documentation of asbestos abatement (if necessary)                     |
| • Notification to property owner   | • Documentation of utility disconnections (if necessary)                 |
| • Posting on property  | • Field documents and site schematic documenting eligible work performed |

- Executed Right-of Entry Agreement
- FEMA/NCDEM Approval
- Before/after photographs
- Property close-out documentation

### 13. Special Debris Removal Monitoring

The damage caused by floods often necessitate the need for special debris removal programs which include, among others:

- Waterway debris removal
- Debris removal from storm drains and catch basins
- Abandoned Vehicle removal

To the extent necessary, Thompson management staff will review existing maintenance records to establish the pre-disaster conditions and ensure compliance with FEMA policy and work with the County's contractors, FEMA, NCDEM, NRCS and other regulatory agencies to expeditiously remove storm generated debris from affected public facilities.



Special debris program monitors will be responsible for:

- Demonstrating that the debris/sediment/vehicle presents a hazard or immediate threat to public health and safety
- Ensuring that only eligible debris is removed as defined by FEMA PAPPG from approved public areas
- Ensuring that contaminated debris/soil is handled, processed, and disposed in accordance with the type of contaminant
- Verifying that any contaminated disaster-related debris is addressed by the specialist from NCDEQ and/or EPA and managed appropriately in the designated areas
- Recording the date, GPS location, physical address, and time that the work was performed
- Measure the eligible debris removal in accordance with the County's contract (i.e. linear foot)
- Ensuring vehicles or vessels are abandoned, e.g. the vehicle or vessel is not the owner's property and ownership is undetermined
- Verifying and documenting the chain of custody, transport and disposal of the vehicle or vessel
- Photo documenting the work performed to facilitate an audit ready paper trail for FEMA review

### 14. Monitor Beach Scraping, Stockpiling, Screening, Placement and Shaping

Debris removal from beaches involves a multitude of environmental, operational and funding challenges. Central to the matter is the fact that the removal of debris from beaches may involve as many as five (5) independent processes as summarized below:

1. Beach Scraping: process of recovering sand to a pre-determined depth for screening. Thompson will verify depth via transom readings at determined intervals.
2. Stockpiling of Debris Laden Sand: screened sand will be staged at locations along the beach. Thompson will account for debris laden sand in order to prevent double-counting.
3. Power-screening of Debris Laden Sand: stockpiled debris laden sand will be power-screened to level of granular acceptance. Thompson will perform QA/QC testing on the sand to ensure it meets minimum standards.
4. Screened Sand Placement: screened sand will be returned to scrape locations along the beach. Thompson will work with the debris contractor to manage quantities and locations for distribution.

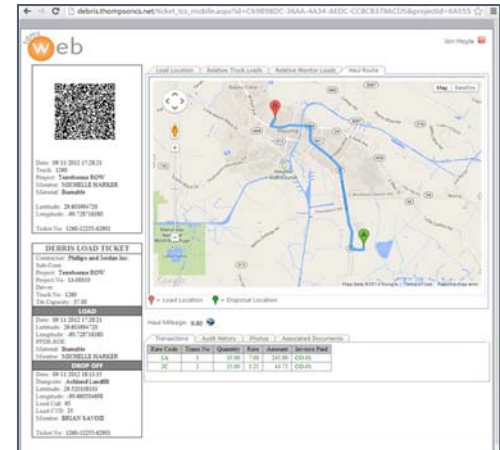
5. Scraping of Placed Sand: placed sand will be shaped to its pre-storm configuration. Thompson will assist the County with ensuring that shaping meets minimum QA/QC standards established by the County.

Depending on the individual beach impacted and the magnitude of the disaster, other means for beach debris removal such as raking may be implemented. To the extent that erosion can be demonstrated and appropriate maintenance records are maintained, Thompson may also assist the County with dredge and pumping operation to re-nourish its beaches.

## 15. Accumulate Daily Field Data

Thompson uploads daily debris collection and disposal information from our ADMS system into a secure electronic disaster debris data management system that summarizes debris quantities to include collection and disposal information by date, debris type, collection zone, and collections and disposal location.

Thompson will plot daily collection totals using GIS software and provide the County with a map of daily collection operations and cumulative debris removal to date. Thompson's graphical reporting tools can provide the County with the collection information needed to make critical decisions and report progress to the public.



In addition the Thompson data management system will serve as an electronic clearinghouse for photographs, electronic "ticket" transaction images, and other field reports developed to document the debris removal operation.

The following information further outlines Thompson's data management operations and capabilities. Our scalable approach has been developed to accommodate both small and large scale activations and multiple debris removal contractors.

### Data Management, Project Tracking, and Computer Accountability Programs

Thompson utilizes technology as integral part of its approach to providing debris removal monitoring services for purposes of quality assurance/quality control (QA/QC), contractor invoice reconciliation, and reporting. Each day Thompson queries and reviews truck certifications, load transactions, and unit rate transactions. This data is then used for the following purposes.

### Quality Assurance/Quality Control

A critical component of the debris removal monitoring firm's responsibilities is to identify and correct any impropriety that may occur in the debris removal process. To do this, Thompson leverages its data management system to provide QA/QC through standard data queries. Such queries and parameters include:

- Count of loads by collection truck
- Trip time per load
- Trip distance
- Average load call by truck
- Average load call by disposal monitor
- Count of loads by collection location

## Reporting

The final tool employed by Thompson through its data and document management system allows us to timely report progress of debris removal to the County. This reporting tool is flexible and can be tailored to report debris removal by any number of parameters. In the past we have reported debris removal according to the following:

- Percent of total estimate complete
- By GIS grid
- By Service Area
- By voting precinct
- By County political district (council districts, commission district, etc.)
- FEMA eligible versus state aid eligible
- Quantity by DMS
- By material type (vegetative, C&D, white goods, etc.)

Thompson will review the QA/QC reports each day to identify anomalies. In most cases these anomalies are explained through investigations of circumstances surrounding the irregularity. Our experience has shown that the mere fact that debris removal contractors and monitors are aware that such metrics are being monitored deters impropriety.

In addition to the cumulative debris collection and financial report, Thompson will coordinate with the contractor to provide morning summaries that will address the following:

- Number of crews deployed
- Types and quantities of equipment deployed
- Equipment/crew/monitor assignments (area/zone)
- Status of TDSRS operations
- Changes in operational status or problems encountered since previous report

Each evening, Thompson and the contractor will provide evening summaries that will include:

- Overall status of debris removal operations
- Actual number of crews/monitors deployed that day
- Issues or problems encountered in the field

## 16. Reconcile Contractor Invoices

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Thompson will perform a thorough review and reconciliation of contractor invoices submitted to the County. In order for contractor payments to be verified as accurate and correct Thompson verifies truck certification, load transactions and unit rate transactions with its database. The reconciliation will include a review of the collection date, time, and location, as well as the debris volume, disposal time and location submitted by the Contractor against the data maintained by Thompson on behalf of the County. Upon completing the verification of each record being claimed for payment, Thompson will render a payment recommendation to the County. Thompson's payment recommendation will include the following:

- A copy of the contractor invoice
- Invoice back-up organized by program, date, service type, contract line item, and location
- A summary of discrepancies identified
- A payment recommendation report
- A cover letter summarizing the reconciliation findings and payment recommendation

### **PROPOSERS'S HOURLY RATE FORM**

| POSITIONS   | \$ HOURLY RATES      |
|---|----------------------|
| Project Manager                                     | \$ <u>69.00</u>      |
| Operations Manager                                  | \$ <u>62.50</u>      |
| Scheduler/Expeditors *                              | \$ <u>-</u>          |
| GIS Analyst*  | \$ <u>-</u>          |
| Field Supervisors                                   | \$ <u>49.00</u>      |
| Debris Site/Tower Monitors                          | \$ <u>34.00</u>      |
| Environmental Specialist                            | \$ <u>34.00</u>      |
| Project Inspectors (Citizen Drop-Off Site Monitors) | \$ <u>32.00</u>      |
| Load Ticket Data Entry Clerks (QA/QC)**             | \$ <u>-</u>          |
| Billing/Invoice Analysts                            | \$ <u>48.00</u>      |
| Administrative Assistants                           | \$ <u>20.00</u>      |
| Field Coordinators (Crew Monitors)                  | \$ <u>34.00</u>      |
| <br>TOTAL   | <br>\$ <u>382.50</u> |

#### **OTHER REQUIRED POSITIONS**

Proposer may include other positions, with hourly rates, as needed.

\*Please note, the positions quoted by Thompson in the Hourly Rate Form represent only those positions required for Thompson to complete the requested scope of work. Positions without a rate presented will not be required.

\*\*Thompson will utilize our automated debris management system (ADMS) for debris removal monitoring services, thus eliminating the need for paper tickets and the Load Ticket Data Entry Clerk position.