

City of Delray Beach

RFP 2022-013

Exhibit "A"

Emergency Debris Removal Monitoring

**SECTION 4
SCOPE OF SERVICES****4.1 GENERAL INFORMATION AND BACKGROUND**

This statement of services describes and defines the services which are required for paper and electronic monitoring of debris removal for the City of Delray Beach hereafter referred to as the City. The Consultant shall provide all services described herein. Activities include, but are not limited to, monitoring the following - field operations regarding all storm generated debris; debris pickup, debris hauling, debris staging and reduction, temporary debris storage site management, debris management, and final disposal of debris to an approved facility. Roads and other City facilities will be identified by the City and direction will be given to the Contractor for clearing these roads and facilities and act in accordance with the City Debris Management Plan. The City reserves the right to add or remove highway segments at the direction of the Debris Manager. While this contract scope provides for debris removal work off the city and state road systems, no work on or off the city and state road systems are guaranteed. The City, at its sole discretion, may elect to perform work within house forces or other contract forces, or may cancel this contract at any time if in the best interest of the City.

The Consultant shall have experience in the federal Highway Administration Emergency Relief Program (FHWA-ER), the Federal Emergency Management Agency Public Assistance Program (FEMA-PA), and other applicable federal, state and/or local programs to assist the City in its Emergency Response and Recovery efforts. Proper documentation by the Consultant as required by FHWA and FEMA is required for all debris removal monitoring operations to ensure reimbursement to the City from the appropriate agency.

The Consultant will be responsible for tracking all of the contract costs and adhering to the 'not to exceed' limit as defined. Proper notification must be given to the City as costs approach this limit.

The work will begin upon authorization by the City. No guarantee on minimum or maximum amounts per items bid is made under this Contract. No adjustment to bid prices will be considered due to increases or decreases in estimated quantities or fuel costs.

4.2 SELECTED PROPOSER'S RESPONSIBILITY

The selected Proposer shall be responsible for ensuring that all its employees are in compliance, at all times, with the Terms, Conditions and Specifications outlined in this Request for Proposal. The selected Proposer shall be responsible for obtaining all necessary permits, licenses, and/ or registration cards in compliance with all applicable Federal, State, and Local statutes pertaining to the services as specified or required.

4.3 EMPLOYEES

Persons employed by the selected Proposer in the performance of services pursuant to this Proposal shall not be considered employees of the City, shall be independent thereof; and shall have no claim against the City as to pension, workers' compensation, insurance, salary, wages, or other employee rights or privileges granted by operation of law; and shall be 18 years of age or older.

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Under no circumstances will any employee of the selected Proposer be permitted to allow minors (under 18 years of age) and/ or anyone who is not an employee of the selected Proposer to enter any non- public area of any City facility at any time for any reason.

4.4 COMPLAINTS

Inspections by the City of Delray Beach will take place throughout the contract period. Complaints shall be documented and forwarded to the selected Proposer for immediate resolution. It is the responsibility of the selected Proposer to resolve all complaints with 24 hours of notification from the City.

4.5 PROTECTION OF PROPERTY

Intentionally Omitted

4.6 REPAIRS

Intentionally Omitted

4.7 DEFINITIONS

- a. **City:** An incorporated geographical area within a city.
- b. **Consultant:** The Consultant is a person or entity which includes employees, partners, principals, agents, and assignees who are a party to this agreement for the purpose of providing services.
- c. **Data Manager:** Manager of data collected from monitoring operations and employed by the Consultant.
- d. **Debris:** Debris is scattered items and materials broken, destroyed, or displaced which is generated by an event and is located within a designated area.
- e. **Debris Collection Monitor:** Employee of the Consultant who observes the Debris Removal Contractor removing debris from assigned areas.
- f. **Debris Management Plan:** The plan establishes policies, procedures, and guidelines for recovery from debris generating disaster events.
- g. **Debris Removal Contractor:** A person or entity, including employees, partners, principals, agents, and assignees that are under contract with the City to remove storm deposited debris according to federal and state guidelines.
- h. **Disposal Site Monitor:** A Disposal Site Monitor is the designated Consultant's employee(s) assigned to the debris disposal site to manage disposal operations and monitor debris removal contractor's performance. The duties include, but are not limited to, ensuring the debris is eligible, to quantify and accurately document debris loads consistent with FEMA and FHWA guidelines.
- i. **City Debris Manager:** A City staff member who functions as the City point of contact and is responsible for providing overall supervision of debris clearance, removal, and disposal operations.

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- j. **Emergency Operations Center (EOC):** An emergency operations center, or EOC, is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, disaster management functions at a strategic level in an emergency situation.
- k. **Exit Site Monitor:** Employees of the Consultant who observe outbound trucks at Temporary Debris Management sites.
- l. **Federal Emergency Management Agency (FEMA):** FEMA is a funding source to the City for activities during an event declared a disaster by the President of the United States. FEMA eligible debris removal is second and subsequent passes on FHWA roadways and other roadways not on the federal aid system.
- m. **Federal Highway Administration (FHWA):** A federal funding source for work on Federal-Aid roadways and facilities, through the Emergency Relief program administered by the Department. FHWA has designated federal aid roadways also known as “on-system” roadways that are eligible for Emergency Relief funding.
- n. **Field Operations Manager:** Employee of the Consultant who oversees Debris Removal Contractor(s) and general field operations including monitors and data managers.
- o. **Handheld Units (HHU):** Handheld Units are devices used to write data to, and read data from, removable storage media. The HHU are used in electronic debris monitoring.
- p. **Incident Command System (ICS)** is a standardized on-scene incident management concept designed specifically to allow responders to adopt an integrated organizational structure equal to the complexity and demands of any single incident or multiple incidents without being hindered by jurisdictional boundaries.
- q. **National Incident Management System (NIMS)** is a standardized approach to incident management developed by the Department of Homeland Security.
- r. **Notice to Proceed:** This is a written notice issued to the Consultant by the City fixing the date on which operations outlined will commence.
- s. **Project Manager:** The Project Manager is a Consultant who functions as the point of contact for the City responsible for the overall project management and coordination of the debris monitoring services required to oversee the debris removal operations.
- t. **System:** The word “System” is used in reference to the electronic portion of electronic debris monitoring.
- u. **System Database:** A system database is a compilation of all information gathered or reconciled and meets requirements set forth by this Scope of Services.
- v. **Temporary Debris Management Sites:** A Florida Department of Environmental Protection authorized site where debris is stored, reduced, burned, grinded, or sorted. Debris resides

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at the site for a relatively short period of time prior to final disposal during the debris management process.

- w. **Ticket Manager:** Consultant responsible for overseeing the electronic ticket processing.

4.8 PERSONNEL QUALIFICATIONS

- a. Data Manager: A Data Manager must have at least two years' experience working with a relational database management system. The Data Manager will work under the supervision of the Project Manager.
- b. Debris Collection Monitors, Exit Site Monitors, and Disposal or Tower Monitors must have a minimum of a High School Diploma or GED and be adequately trained on Debris Operations.
- c. Field Operations Manager: A Field Operations Manager must have a minimum of two years' experience in disaster debris management.
- d. Project Manager: A Project Manager must have a minimum of five years' experience in disaster debris management. The Project Manager must also be a permanent staff employee of the consultant.
- e. Debris Monitoring Project Manager and field supervisors/managers must be trained at the appropriate ICS level according to their DMC job assignment and the NIMS Training Matrix.

4.9 SERVICES TO BE PROVIDED BY THE CONSULTANT

a. Administration

The listed services shall be performed by the Consultant:

- I. The Consultant shall ensure daily reports are provided to the City Debris Manager or designee and other key City personnel within a minimum number of hours requested by the Debris Manager. The Consultant shall ensure that debris monitors report within a minimum number of hours after the disaster event.
- II. It is the responsibility of the Consultant to assist the City in performing:
 - A. Contract Administration
 - B. Damage Assessment
 - C. Environmental Permitting of temporary debris management sites
 - D. Truck Certification
 - E. Debris Removal Monitoring

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F. Quality Assurance and Quality Control of all documentation pertaining to debris removal monitoring

G. Assist the City in responding to public inquiries

H. Be available to address questions from FEMA and FHWA both during and after services have been performed

iii. Provide assistance as needed pre-event which may require location in the City.

4.10 DEBRIS MONITORING OPERATIONS

The Consultant shall coordinate with the City to schedule debris removal monitoring and contractor operations. The consultant shall provide a Project Manager who shall be responsible for the overall project management and coordination of the debris monitoring services required to oversee the debris removal operations. The Project Manager shall be the point of contact to the City. The Project Manager shall assign Field Operations Manager(s) to oversee the debris removal contractor(s), monitors, and a Data Manager to provide supervision of the data entry operations and documentation process. The Project Manager's duties include but are not limited to the following:

- a. Ensure enough trained debris monitors are available to monitor the **"first push"** (cut & toss) operations.
- b. Ensure a sufficient number of trained debris monitors are available to monitor all **"first pass"** and subsequent passes of debris removal and hauling activities.
- c. Provide tower/disposal site monitors to observe and record all debris loads entering the temporary debris management sites.
- d. Provide tower/disposal site monitors to observe and record all debris loads exiting the temporary debris management sites for final disposal.
- e. Provide data entry and document processing personnel if applicable.
- f. Conduct safety meetings with field staff, as necessary.
- g. Respond to and document issues regarding complaints, damages, accidents or incidents involving the Consultant or Contractor personnel and ensure that they are fully documented and reported.
- h. Coordinate daily briefings with the City and the debris removal contractor(s), daily status reports of work process and staffing.
- i. Ensure the documentation of environmental authorizations and/or permits for temporary debris management sites and final disposal.
- j. Review and reconcile debris removal contractor invoices submitted to the City.

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- k. Prepare interim operations and status reports, and final report, as directed by the City.

4.11 FIELD MONITORING

The Consultant shall provide trained staff in sufficient numbers to adequately monitor all operations supervised by Field Operations Managers. Duties of monitors shall include, but are not limited to, the following:

- a. Truck certification and documentation of all vehicles used in the debris removal activities.
- b. Quality assurance/quality control (QA/QC) of truck certification measurements throughout life of project.
- c. Provide monitoring services and documentation of all eligible debris removal activities on non-Federal Aid eligible roadways, **As Directed by the City** – First Push (Cut & Toss) and First Pass.
- d. Provide monitoring services and documentation of all eligible debris removal activities from second and subsequent passes on all roadways, **As Directed by the City**.
- e. Ensure that ineligible debris is not collected by the debris removal contractor, unless directed in writing by the City.
- f. Disposal Site/Tower Monitors will observe and record the truck quantity estimates of inbound and outbound debris.
- g. Exit Site Monitors will observe that all outbound trucks are fully discharged of their load prior to exit of the temporary debris management site.
- h. Monitors will ensure that accurate, legible, and complete documentation is provided through load tickets, truck certifications, and/or other logs and reports, as required.
- i. Maintain photo documentation of the debris removal trucks and activities, specifically of the hazardous stump removal process, hangers, leaners, or tree removal and/or other special or unusual occurrences in the field.
- j. Document and report activities to the City which may require remediation, such as: fuel spills, hazardous materials collection locations, and other similar environmental concerns.
- k. Document and report to the City damages which occur on public or private property as a result of the debris removal operations.
- l. Document and report to the City any violations of Department of Environmental Protection's (DEP) debris site conditions.
- m. If DEP debris site conditions are violated the Consultant shall oversee tasks sufficient to satisfy the DEP performed by the debris removal contractor.

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4.12 DATA MANAGEMENT AND DOCUMENTATION

The Consultant shall ensure all necessary documentation is provided as follows:

- a. Ensure all eligible debris removal operations activities are documented and tracked specific to the FHWA-ER program, the FEMA PA program or other applicable Federal, state or local agencies.
- b. Documentation of the number of crews and types of equipment utilized, actual hours of operation, and locations of work performed during the time and materials phase of operations.
- c. Completion of truck certifications, equipment certifications, and establishment of a QA/QC program throughout the life of the project.
- d. Load tickets documenting the eligible debris removal and/or disposal activities by the applicable program FHWA – ER or FEMA PA, and/or other federal, state or local programs as outlined in and in accordance with the Debris Management Plan.
- e. Documentation of eligible hazardous stump removal, hangers, leaners, or tree removal which includes photos, GPS coordinates street or milepost identifier, and/or other information as available and applicable.
- f. Environmental authorizations and/or permits, as applicable.
- g. Daily electronic spreadsheet summaries of cubic yards/tons collected by Federal program. The daily summary shall be communicated to the City Emergency Coordination Officer or designee.
- h. Production in electronic format (scanned) and paper copies of all documentation for submittal to Federal and/or State agencies.
- i. Provide certified weigh master if necessary.
- j. Assist the City in creating field maps using GIS, as well as track and present contractor progress in GIS.
- k. Organize, maintain, and provide the City electronic copies of documentation in a satisfactory manner. All documentation and information related to the project shall be surrendered to the City upon completion of the project.
- l. The Consultant may exercise the option to utilize electronic debris monitoring and if chosen, the Consultant must comply with requirements set forth in sections e through g.*

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4.13 EQUIPMENT REQUIREMENTS

- a. Data Storage Media – Debris management data will be stored and transferred on encryption protected removable data storage media. All data media will be provided by the Consultant. Data must include a unique user ID which identifies the user's role, limits the user's ability to collect or validate information, etc. and employs an anti-tampering mechanism. Consultant shall provide media to each person performing a debris mission role that results in data collection, i.e., drivers, ticket managers, etc.
- b. Handheld Units (HHU) - The Consultant will provide weather proof and shock resistant handheld units (HHU) for recording debris management data in the field. These HHU devices will be capable of writing data to, and reading data from, the removable data storage media. HHUs shall have the capability to determine locations by GPS and the capability to write GPS coordinates to the removable media. The HHUs will perform two functions: (1) Recording of initial load data information, and (2) verification of vehicle certification, and recording of debris type and quantity and (3) All field units will be operated by stand-alone power sources which will allow the units to perform uninterrupted for a shift.
 - i. HHUs capable of recording truck certification data onto driver removable media are used at the truck certification area. Truck certification records will include truck measurements, Truck ID, Driver ID and a digital photograph of the truck and trailers.
 - ii. HHUs capable of recording user ID information, including a unique user ID, digital photograph and any additional user information required for system operation.
 - iii. GPS- HHU units shall have integrated GPS capability. GPS readings (accuracy within 3 meters of the HHU) shall automatically be recorded without any additional manual effort each time the HHU unit records and retrieves information related to the debris mission. External GPS units shall have reliable connectivity to the HHU and be rugged and durable.
- c. Durable Printer – The Consultant shall provide a durable printer to print load tickets at the request of the City. Once the tower manager completes the load data entries the information shall be transmitted to the printer. The printer will print a minimum 2 copies of the ticket. Two copies shall be given to the driver (one copy for the driver and the other for the prime contractor). The HHU should have program flexibility to alter the number of printed tickets. The printed ticket paper and print shall be of a quality that the print is not affected by harsh weather conditions and does not fade over time, nor smear or deteriorate due to moisture or UV rays. All field units will be operated by stand-alone power sources which will allow the units to perform uninterrupted for a minimum of a shift.
- d. Server(s) – The Consultant shall provide computer servers for the storage and maintenance of records. The data contained in the Consultant's database shall be placed on the Internet for controlled use, and be password protected by the Consultant. Upon completion of the work, the consultant shall surrender the records to the City who shall maintain the official

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database and records on its government furnished secure server. Access to the City server is limited to "Official Use Only". The City server is provided and maintained by the City.

- e. Back-up equipment – In the event of equipment malfunction, loss or damage, the Consultant shall assure a sufficient supply of replacement equipment and personnel are available such that production is not affected. The back-up equipment shall be readily available on-site for rapid distribution.
- f. GIS – GIS mapping shall be provided by the Consultant from the most current source(s) available. This information shall be used as a base map to visually illustrate work zones, ticket and tower personnel locations and activities, work progress, historically and/or environmentally sensitive areas, geospatial data and other mission informational needs from the data gathered by the HHUs.
- g. Internet Accessible database – The Consultant will establish a web based database which is updated daily if not real-time. The data shall be accessible, by permission only, to sub-contractors, local and state officials and others on a "need to know" basis. Database access will be role-based and no direct access to the data tables shall be allowed, unless approved by the City.

4.14 GENERAL STATEMENT OF ELECTRONIC DEBRIS MONITORING SYSTEM PARAMETERS

- a. The system must utilize an encryption protected removable data storage device. The data storage device will store data collected in the field, such as fields from traditional debris paper load tickets as well as truck certification information. The device must be capable of depicting images and other identifying data.
- b. The system must have a database capable of storing all data collected in the field. The Consultant shall provide the City a copy of the database with a matching structure at the completion of the work unless otherwise specified.
- c. The system must include the capability to share database records with contractors, sub-contractors, the City, and others via the internet. Data contained in the system must be password protected, implement role-based access controls and must have viewing, printing and editing capabilities. Each contractor, subcontractor and customer must have permissions that allow only them to review and print information specific to their need. The system shall also have the capability to generate reports on all aspects of the debris mission.
- d. The Consultant uses the HHU to initiate the load data by entering the debris type into the HHU. The driver's media card will either be swiped or inserted into the HHU and the HHU will write the debris type, pick-up GPS location), address of pick-up if applicable, time, date, truck certification and driver information, and the ticket manager's unique ID Code onto the removable media. Once the data is written to the media, the Ticket Manager will return the media to the driver. By this action, the Consultant verifies the debris meets FEMA and FHWA eligibility requirements.

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- e. HHUs are used at the debris verification area of disposal site(s) by tower manager. The vehicle driver presents the removable media, which was previously initiated by the field monitor, to the tower manager personnel located in the disposal site tower(s). The tower manager verifies the debris classification is appropriate (vegetative, C&D, mixed, etc. and manually revises, if needed), verifies vehicle(s) and driver information is correct, estimates and enters the load quantity into the HHU. The HHU will automatically extract the information recorded earlier on the smart card and add the information to the tower manager's HHU including the date, time debris arrives, site ID, GPS readings, load quantity and tower manager unique ID Code.
- f. All information regarding each debris load will be stored in the HHUs internal memory or on a separate, encryption protected removable media device. The debris load information will be uploaded to the City and Consultant databases. Once this information is recorded, the tower manager HHU will clear the removable media's debris data for the driver to re-use.
- g. The media will retain a running total of the quantity and type of debris hauled by a particular vehicle. All debris load information within the tower manager HHU will be retained until upload to the database has been accomplished and confirmed by authorized personnel. Direct access to data on the HHU will be restricted to personnel specifically authorized to do so by the City.

4.15 *FUNCTIONAL SPECIFICATIONS AND SYSTEM ARCHITECTURE*

- a. Ticket/Tower Managers – Personnel Registration, Administration and Management: The system shall have the capability to manage user roles. The majority of the system users will be either ticket or tower managers. At a minimum, the system must have the following capabilities:
 - i. A means to create encryption protected electronic media with unique User ID, digital photograph, user roles and other identifying data
 - ii. Electronic registration of ticket/tower monitor
 - iii. Link designated ticket/tower personnel roles to a specific mission
 - iv. The ability to edit ticket/tower personnel roles i.e., create, update and delete
 - v. Store ticket/tower personnel contact information relative to the mission
 - vi. Track and Manage ticket/tower personnel role and status
 - vii. Assign and track equipment assigned to the user
 - viii. Reject invalid ticket/tower personnel credentials
 - ix. Reject invalid certification credentials
- b. Truck Certification: The system shall have the capability to record truck and trailer certification data. Truck certification is used to register authorized debris hauling vehicles and equipment. At a minimum, the following must be included:
 - i. A means of electronically registering authorized debris Consultant vehicles and equipment
 - ii. Link electronic registration to digital images

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- iii. Identify mission and respective City
 - iv. Generate unique ID's for contractor vehicles and equipment
 - v. Utilize uniform measurements e.g. feet and inches
 - vi. Capture vehicle volume
 - vii. Utilize industry standard equations for all volume calculations
 - viii. Capture drivers and certification team member unique identification number
 - ix. A means to create encryption protected electronic driver removable media with unique Truck ID, digital photograph, truck and /or trailer measurements, vehicle volume, and other identifying data
 - x. Must depict image and other identifying data
 - xi. Must contain counter area for total cubic yards hauled
 - xii. Must employ anti-tampering mechanism
 - xiii. Capability to recertify vehicles
 - xiv. Recertified vehicles must be recorded in an audit table
 - xv. Certification data must be associated to authorized system user
 - xvi. Reject media which are not associated with current event and applicant
 - xvii. Capture vehicle audit records
 - xviii. Create a printed certification record
 - xix. Administrative reporting capabilities
- c. Right-of-Way (ROW) Debris Management: ROW transactional data must be captured, stored, validated, audited, reported and transmitted to mission managers, haulers and applicants. At a minimum, the application must exhibit the following characteristics:
- i. Allow creation of point of origin load data on encryption protected driver media when position is known and credentials have been authenticated
 - ii. Capture date and time and other relevant point of origin data
 - iii. Validate media is present in system and configured to receive data
 - iv. Designate debris type
 - v. Designate debris location as Federal Aid or Non-Federal Aid
 - vi. Designate first pass and subsequent passes
 - vii. Write point of origin load data using encrypted storage algorithms
 - viii. Associate ticket/tower personnel credentials with point of origin load data
 - ix. Acknowledge successful card write via display status message
 - x. Provide user configurable time option for GPS audit
 - xi. Detect current location using GPS and store data to secure memory location
 - xii. Provide capability to add digital image if debris is other than vegetative or C&D

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- d. Debris Disposal Site Management: Completed ROW, and Per-unit point of origin transactions must be received at the approved disposal site. Transactions are not considered complete until they are processed thru the receiving applications. At a minimum, the system must provide the capability to:
- i. Accept site configuration data at the beginning of each work day
 - ii. Dynamically configure receiving application based on site configuration data
 - iii. Display certification data and photo from driver smart card so that ticket/tower personnel can perform a field audit of truck/trailer to assure data matches certification and placard number
 - iv. Accept loads where:
 - A. Mission and applicant are valid
 - B. Media authentication data is valid and unaltered
 - C. Media contains valid load data
 - v. Designate debris type
 - vi. Record debris volume (based on unit of measure)
 - vii. Receive volume or per unit loads
 - viii. Identify original load data
 - viii. Identify duplicate load data
 - ix. Configure number of hard copies
 - x. Create load data record in internal storage
 - xi. Create backup copy of internal storage
 - xii. Prepare driver media for next load
 - xiii. Increment driver smart card based on total CY counter value
 - xiv. Continuously calculate and present real-time disposal site statistics
 - xv. Re-print load ticket data
 - xvi. Interface with durable outdoor printer
 - xvii. Preserve in its original state, then transmit daily transaction data
 - xviii. Associate ticket/tower personnel credentials with each received load

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- e. Field Administrative Functions: The system must have the capability to perform administrative duties in the field. Requirements include the capability to edit user roles, verify vehicle audit information, display real-time collection volumes, and review ticket/tower personnel GPS audit logs. At a minimum, the system must provide the capability to:
 - i. Change ticket/tower personnel identification badge roles and responsibilities
 - ii. Review media total CY counter value
 - iii. Audit vehicle certification data
 - iv. Validate/Invalidate smart cards
 - v. Reinitiate security sequence for ticket/tower personnel or media
 - vi. In tabular format, display the results of ticket/tower GPS audit files by limiting access to the internet data or by the Department secure server
- f. Data Consolidation and Analysis/Reports Generation: Transactional data must be summarized, validated, presented and audited to provide an overall status of mission performance. The system must facilitate billing, error reporting, performance tracking and graphical data preparation. At a minimum the Data Consolidation/Data Storage and Data Analysis/Reports tools must provide the capability to:
 - i. Accept transactional data sets from multiple debris location systems
 - ii. Recognize multiple mission/applicant configurations
 - iii. Grant access to authorized authenticated users or processes
 - iv. Contain a master record of:
 - A. Roles and responsibilities
 - B. Ticket/tower personnel credentials and other data
 - C. Certification credentials and other data
 - D. Mission data
 - E. Applicant data
 - F. Geospatial data:
 - 1) Street centerlines
 - 2) City outlines
 - 3) Population and demographic
 - 4) Elevation

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- 5) Wetlands delineation
- 6) Historic and Environmentally Sensitive areas
- 7) Debris work zones
- 8) Parcel data
- 9) Land use
- 10) FEMA flood zones

v. Graphically depict:

- A. Load locations by contractor
 - B. Load locations by subcontractor
 - C. Load locations by driver
 - D. Load locations by ticket/tower personnel
 - E. Load locations by date range
 - F. Load locations by zone
 - G. Load locations by municipality
 - H. Load locations by applicant
 - I. Load locations by mission
 - J. Load locations by debris type
 - K. Load locations by disposal site
 - L. Load locations by Federal, state and private roads
 - M. Load locations by land use
 - N. Load locations by disposal site
- vi. Thematic mapping techniques to distinguish different data by color and/or symbol
- vii. Identify data attributes for a single point of data
- viii. Select one or many points of data
- ix. Calculate operational efficiency statistics such as:
- A. Trip turnaround time

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- B. Trip distance to disposal site (straight line projection sorted by 0 -15 miles, 16 –30 miles, 31 - 60 miles and greater than 61 miles)
 - C. Average container fill percentage
 - D. Average tower manager load call
 - E. Load call trend data e.g., by tower managers, contractor, sub-contractor, driver, etc.
- x. Dynamically configure user interface in response to point data selection to limit user authorities
 - xi. Multiple data selections generate tabular data reports
 - xii. Filter mechanisms to highlight geospatial data
 - xiii. Control data access using role based security
 - xiv. User interface and access to underlying system data must dynamically configured at run time through the presentation of appropriate user credentials
 - xv. Manage data ownership
 - xvi. Provide access based on security role model
 - xvii. Identify and distribute “owned” transactional datasets to limit internet access to the website data to view only your data
 - xviii. Prevent distributed data from being reprocessed for billing purposes
 - ix. Identify billing data sets based on parameters such as:
 - A. Time/Date
 - B. Contractor/Subcontractor
 - C. Debris type
 - D. Debris disposal method (haul-in, reduction, open burn, incineration, haul-out, leave in place, etc.)
 - E. Haul distance
 - a. Route billing data sets via defined and customizable workflow rules
 - b. Approved billing data sets
 - c. Communicate general event status e.g.:
 - A. Total CY hauled (by debris type)

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- B. Total CY by disposal site
 - C. Total CY by contractor/subcontractor
 - D. Total CY by work zone/sector
 - E. Total CY by municipality
 - F. Total CY by Federal, state and private roads
 - G. Total CY by certified vehicle
 - H. Number of vehicles utilized
 - I. Number of ticket/tower personnel resources assigned
- xix. Manage user roles, responsibilities and passwords
 - xx. Prevent modification to original data by unauthorized or unauthenticated users
 - xxi. Insert audit records into audit tables for all insertions, modifications, and deletions to original data
- g. Field Architecture – The field-based system must be characterized by the following general statements of direction with respect to construction, operability, supportability and security. At a minimum, the system must:
 - i. Require user authentication credentials
 - ii. Display current version at application start-up
 - iii. Synchronize with Greenwich Mean Time (GMT) for all date/time fields
 - iv. System must utilize location specific configuration data to initiate a warm start sequence for global positioning system
 - v. System must remain in a ready state by default
 - vi. Acknowledge successful card write via display status message
 - vii. Create identification structures which utilize encryption technologies
 - viii. Employ anti-tamper and anti-tearing methods and technologies
 - ix. Where applicable, utilize 3 DES data encryption technologies to protect data
 - x. Perform validation and checksum (a running production total of cubic yards or appropriate payment capacity) stored on each debris vehicle's removable media)
 - h. Back-office Architecture – At a minimum, the back-office applications must be characterized by the following general statements of direction with respect to construction, operability, supportability and security.

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- i. Utilize relational database technology
 - ii. Employ geospatial analysis tools for data visualization
 - iii. Enable audit ability for:
 - iv. Data insertion
 - v. Data modification
 - vi. Data deletion
 - vii. Prevent field and row level data deletion
 - viii. All access to data must be controlled
 - ix. Store certification and other identification data using encrypted relational technology
 - x. Reside in a secure internet environment
 - xi. Preserve base transactional data in its original state prior to processing or
 - xii. consolidation with other data
- i. Initial Startup Procedure For Debris Removal – Debris missions are critical to emergency response and the Consultant should be adequately prepared to respond.

4.16 REPORTING

The City requires the Consultant to provide daily status reports, unless otherwise specified, of the debris removal operations, preparation of interim reports (as directed by the City), as well as a final report of the debris removal operations.

- a. The daily status report shall include at a minimum: the daily cubic yards/tons collected by material and by program (FHWA-ER First Pass, First Pass on non-Federal Aid roadways, second and subsequent passes on all roadways), cumulative totals in cubic yards/tons by debris type, number of debris removal crews and equipment operating, number of debris monitors in field, cubic yards/ton by debris type hauled to final disposal and location of final disposal, and total cubic yard/tons hauled to recycling or salvage facilities.
- b. An interim status report may be required at the discretion of the City. A final report covering the history of the operations, the locations temporary debris sites used, remediation and site closure activities, including any environmental reports or authorizations generated; and the locations of final disposal sites and permits, recycling facilities and salvage facilities used during operations. The report may include identification of weakness in the operations and recommendations for future debris activities.

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4.17 *PERMITS*

- a. Assist the City with any permit applications and coordination with environmental agencies.
- b. Assist the City with any pre or post sampling of soil or groundwater.
- c. Monitor compliance by the contractors to any permit requirements.

4.18 *MEETINGS AND COMMUNICATION*

- a. Conduct daily meetings with the City and the Debris Removal Contractor.
- b. Conduct field meetings as needed.

4.19 *PREPAREDNESS, TRAINING, PLANNING, AND EXERCISES*

- a. Assist in disaster recovery plan development.
- b. Provide training, participate in exercises, review and assist with debris plan updates, and visit with City staff to be assigned to debris management activities during the coming year.
- c. Provide training sessions for key City personnel participating in exercises, and liaison to City EOC during activations.
- d. Participate as liaison in City EOC during activation.
- e. Attend and participate in several planning and training meetings, including one annual exercise. The annual exercise shall not conclude until the City Contract Manager has deemed the debris management plan is actionable.
- f. Assist the City in preparing Federal and State reports and applications for reimbursement, including pre incident or event training agency/department employees.
- g. May be requested by the City to provide technical expertise and guidance to support the City during the emergency recovery effort including, but not limited to, preparedness, as well as assisting in emergency debris recovery planning efforts such as disaster recovery plan development, identification of adequate resources, training, exercises, and liaison to City Emergency Operations Center (EOC).
- h. Shall be responsible to build out a monitoring plan in conjunction with the management plan and overall City plan, with regards to debris.

4.20 *PAYMENT*

- a. Ensure all contract quantities for both the contractors and monitors are documented and recorded according to current Federal requirements, including but not limited to FHWA-ER actual costs incurred (cradle to grave) for work conducted on First Push and

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First Pass Federal Aid roadways, including time at disposal sites estimating loads on incoming and outgoing debris loads.

- b. For Non-Federal Aid eligible roadways FEMA PA program actual costs incurred (cradle to grave) for work conducted on non-Federal Aid eligible roadways First Push, First Pass, and second and subsequent passes. Monitor's invoices must delineate between hours spent on FHWA vs. FEMA reimbursed tasks.
- c. Maintain a database of all contract quantities and perform contractor invoice verification for the City.
- d. All invoices shall be submitted in an acceptable format to the City in an electronic and hard copy format with daily reports as supporting documentation. The invoices must be submitted in accordance with the Consultant Invoice Transmittal System (CITS) procedures and other federal, state and local rules, regulations and laws.
- e. Invoices shall be submitted on a monthly basis to the City.
- f. Final invoice will be submitted to the City not later than the 30th day following final acceptance of the individual task of as requested by the City.

END OF SECTION 4