

City of Manassas Debris Management Plan January 2023



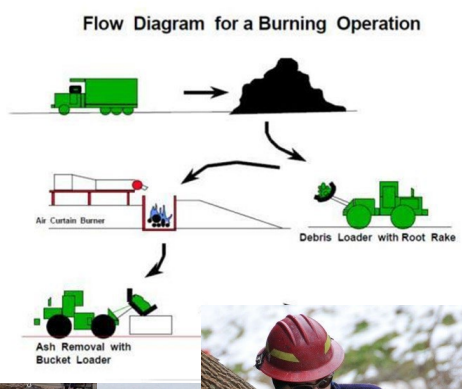










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Forward

The Debris Management Plan supports the City of Manassas Emergency Operations Plan (EOP), which fulfills the Commonwealth of Virginia's requirement for each political jurisdiction to prepare and keep current plans to respond to disasters or large-scale emergencies.

This document is a result of the collaborative efforts among the City of Manassas departments and partner organizations that have assigned emergency roles and responsibilities. The final plan incorporates comments and suggestions received from a variety of stakeholders that provide debris monitoring, management and removal during times of disaster.

The Debris Management Plan (DMP) provides a comprehensive framework for the monitoring, management and removal of debris in the event of major emergencies and disasters within the City.

The DNP may be implemented before, during or following an event where the volume of debris generated exceeds ten thousand cubic yards (10,000CY) and it becomes necessary to mobilize the resources identified herein in order support the actions required by the EOP to save lives and protect property and infrastructure.

The successful implementation of the is contingent upon a collaborative approach with a wide range of partner agencies and organizations, regional jurisdictions, state, and federal government agencies that provide crucial support during emergency operations.

The DMP recognizes the significant coordination that is necessary and defines the functional roles and responsibilities of City departments and establishes the coordination mechanisms for a cohesive response while allowing flexibility in the response organization to respond as necessary to shifting developments and situations.

All City departments and partner organizations with identified roles and responsibilities are expected to understand this plan and to be prepared to execute the actions necessary to implement emergency debris removal operations.

The DMP is not intended as a stand-alone document. The Public Works Department and partner organizations should work in coordination and support of the EOP for the City of Manassas. All users of this document are encouraged to recommend changes.

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FEMA Compliance

In accordance with the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) Debris Management Plan Review Job Aid; the Debris Management Plan for the City of Manassas addresses the following required information, procedures and guidance for managing disaster debris in an expeditious, efficient and environmentally sound manner.

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Authority

This plan is developed, promulgated, and maintained under the following Federal, State and Local statutes and regulations:

- Commonwealth of Virginia Emergency Operations Plan and Sub-plans, 2012
- Public Law 93-288 as amended by Public Law 100-107, the Robert T. Stafford Disaster Relief and Emergency Assistance Act, and in this plan "the Stafford Act."
- Public Law 81-920, Federal Civil Defense Act of 1950, as amended.
- CFR, Title 44, Part 200 et seq.
- City of Manassas Emergency Operations Plan, dated February 2013

Overview

Background

The institutions of the City of Manassas, along with the natural and built environment, present opportunities for a number of potential natural and technological disasters or emergencies. The Emergency Management Coordinator is responsible for planning and emergency preparedness, response and recovery, and mitigation activities. The City coordinates with all National Capital Region localities and the Virginia Department of Emergency Management (VDEM) in response to disasters, emergencies, severe weather conditions, and other catastrophic events.

The City subscribes to the guidance contained in the City's Emergency Operations Plan (EOP). The EOP establishes responsibilities for each City government agency and sets forth lines of authority and organizational relationships that are essential for the protection of the public. The EOP also establishes the concepts and policies under which all elements of the City government will operate during disasters and emergencies by providing for the integration of those resources.

This plan is based on guidance provided by the City's EOP. This plan focuses on the types of activities that are likely to be required during a disruption or emergency, without regard to the type or cause of that disruption or emergency.

Purpose

The Debris Management Plan shall in no way supersede the authority or process contained in either section 110 of the Virginia Statewide Fire Prevention Code or Section 105 of the Virginia Maintenance Code pertaining to the Fire Official or the Building Official inspecting a structure and rendering it unsafe for occupancy.

This plan has been developed to provide the framework for City government and other entities to clear and remove debris generated during a public emergency within the City of Manassas city limits that exceeds ten thousand cubic yards in volume (10,000CY). This plan unifies the efforts of public and private organizations for a comprehensive and effective approach to: Provide organizational structure, guidance, and standardized guidelines for the clearance, removal, and disposal of debris caused by a major debris-generating event.

- Establish the most efficient and cost effective methods to resolve disaster debris removal and disposal issues.
- Implement and coordinate private sector debris removal and disposal contracts to maximize cleanup efficiencies.
- Expedite debris removal and disposal efforts that provide visible signs of recovery designed to mitigate the threat to the health, safety, and welfare of City residents.
- Coordinate partnering relationships through communications and pre-planning with County, State, and Federal agencies that have debris management responsibilities.

General Approach

The City of Manassas is vulnerable to numerous natural and technological hazards, including severe weather and hazardous materials spills. Tropical storms, hurricanes, tornadoes, severe lightning, wind storms, hail and floods pose the highest natural threats to the City. Critical government and private facilities are potential targets for terrorist attack. The City can manage many disaster situations with internal resources. However, there are potential debris-generating events that may overwhelm the City's assets and capabilities.

This plan establishes the framework within which the City will respond and coordinate the removal and disposal of debris generated by potential manmade and natural disasters. This plan will also address the potential role that State and Federal agencies and other groups will take during a debris operation.

This plan defines the roles and responsibilities of local emergency managers with respect to debris planning prior to an event and actions following a major debris-generating event.

Planning Basis and Assumptions

Using the USACE models, natural disasters such as hurricanes, tornadoes, and ice storms precipitate a variety of debris scenarios which include, but are not limited to, trees and other vegetative organic matter, construction materials, appliances, personal property, mud, and sediment. Man-made disasters such as terrorist attacks may result in a large number of casualties and heavy damage to buildings and basic infrastructure. Crime scene constraints may hinder normal debris operations, and contaminated debris may require special handling. These factors will necessitate close coordination with local, State and Federal law enforcement, health, and environmental officials.

This plan takes an all-hazards approach to identifying and responding to the following hazards that may pose a threat to the City of Manassas:

- Natural Hazards – severe weather, hurricanes, tornadoes, flooding, hail, or earthquakes;
- Human-caused Events and Hazards – urban fires, special events, civil disorder, or transportation accidents; and
- Terrorist Incidents – bomb threats or attacks, sabotage, hijacking, armed insurrection, or Weapons of Mass Destruction (WMD) incidents.

The quantity and type of debris generated, its location, and the size of the area over which it is dispersed will have a direct impact on the type of removal and disposal methods, utilized the associated costs, and the speed with which the problem can be addressed. Further, the quantity and type of debris generated from any particular disaster will be a function of the location and type of event experienced, as well as its magnitude, duration, and intensity.

For planning purposes and for pre-positioning response assets, this plan assumes that the magnitude of the event exceeds the capacities of the City of Manassas of ten thousand cubic yards in volume (10,000CY) generated by a single event.

The fact that this plan is based on an event that exceeds the City of Manassas' capabilities in no way diminishes the value of the plan for use in response to other types and categories of events. This plan establishes a general framework that can, with minor modifications, be used in any debris-generating event.

This plan addresses the clearing, removal, and disposal of debris generated by the above hazards based on the following assumptions:

- A major natural or man-made disaster that requires the removal of debris from public or private lands and waters could occur at any time;
- The amount of debris resulting from a major natural disaster will exceed The City of Manassas' in-house removal and disposal capabilities;
- The City of Manassas will contract for additional resources to assist in the debris removal, reduction, and disposal processes;
- Federal assistance will be requested to supplement the City of Manassas' debris capabilities in coordination with the City's Debris Manager.

Debris Forecasting and Hazard Analysis (Events and Assumptions)

The purpose of a hazard analysis is to assess those hazards that have the potential to cause a low to moderate or moderate to high debris-generating event. Hazards with the potential of generating a significant amount of debris have been assessed for the purposes of this plan.

Geography and Climate

City of Manassas Statistics

Location:	38° 45′ 5″ N, 77° 28′ 35″ W
Elevation:	212'
Total Area:	10 sq. mi.
Land:	10 sq. mi
Water:	0.1 sq. mi.
Climate:	Köppen Climate Classification is "Cfa". (Humid Subtropical Climate)

Table 1: City of Manassas Statistics

The City of Manassas lies within the Piedmont plateau of Virginia and is characterized by relatively low, rolling hills with heights above sea level between 200 feet (50 m) and 800 feet to 1,000 feet (250 m to 300 m). Rocks in the Piedmont are frequently overlaid by a thick layer of decomposed rock called Saprolite, which is the red clay of Georgia. Saprolite is made up of clay minerals rich in silicon, aluminum, and some other elements, plus more or less pigmentary iron oxides and resistant minerals such as quartz.

According to the National Oceanic and Atmospheric Administration (NOAA), the highest probability of severe weather in the form of rain is between the months of September and November. The highest probability of severe weather in the form of snow is between the months of January and March. The area experiences occasional high winds and has experienced winds in excess of 50 mph, which led to a building collapse in February 2015.

General Hazard Analysis

The table below rates each hazard by quantifying the possibility of occurrence, the potential to generate debris, and the probability of having regional impacts.

Potential Disasters	Event Probability	Nature of Debris	Debris Generation Potential	Impact Potential
Flood	High	Construction and demolition Vegetative HHW eWaste White goods	Medium	High
Wind	High	Construction and demolition Vegetative	Low	Medium High
Tornado	High	Construction and demolition Vegetative HHW eWaste White goods	Medium High	High
Winter weather “Blizzards”	High	Construction and demolition Vegetative	Low	Low Medium
Drought	Medium High	Vegetative	Low	Low Medium
Earthquake	Medium	Construction and demolition Vegetative HHW , eWaste, White goods	Medium High	Medium High
Landslide	Medium Low	Construction and demolition Vegetative HHW, eWaste, White goods	Low – Medium	Low Medium
Wildfire	Medium Low	Construction and demolition Vegetative HHW, eWaste,White goods	Low – Medium	Medium High
Karst sink hole	Medium Low	Construction and demolition Vegetative HHW, eWaste, White goods	Low - Medium	Medium

Table 2: General Hazard Analysis

Event Analysis by Type

Using the USACE hurricane model, an analysis of the volume of potential debris generated and removal requirements have been postulated.

Hurricane Forecasting Model	
Population	41,705
Estimated Households	13,902
Storm Category	2
Vegetation Characteristic	Medium
Commercial/Industrial Density	Medium
Storm Precipitation Characteristic	Heavy
Q=H(C)(V)(B)(S)	
Q=Quantity of Debris (CY)	244,335.69
H=Number of Households	13,902
C=Storm Category Factor (CY)	8
V=Vegetation Multiplier	1.3
B=Commercial/Business/Industrial Multiplier	1.3
S=Storm Precipitation Characteristic Multiplier	1.3
Total CYof Debris	244,335.69

Table 3: Hurricane Event Analysis

Ice Storm Forecasting Model	
Population	41,705
Estimated Households	13,902
Ice Accumulation (in inches)	1.50"
Wind Speed (mph)	<15
Vegetation Characteristic	Medium
Commercial/Industrial Density	Heavy
Q=H(C)(W)(V)(B)	
Q=Quantity of Debris (CY)	164,456.72
H=Number of Households	13,902
C=Storm Category Factor (CY)	7
W=Wind Speed Multiplier	1
V=Vegetation Multiplier	1.3
B=Commercial/Business/Industrial Multiplier	1.3
Total CYof Debris	164,456.72

Table 4: Ice Storm Event Analysis

Tornado Forecasting Model	
Population	41,705
Estimated Households	13,902
Number of Sq Mi	8.00
Households per Sq Mi	1,738
Estimated Households Impacted	3,718
EF Scale	3
Width of Tornado	0.174242424
Length of Tornado on the Ground	12.281
EF Scale Debris Factor	120.95
Vegetation Characteristic	Medium
Q=H(D)(F)(V)(B)	
Q=Quantity of Debris (CY)	584,673.95
H=Number of Households Affected	3,718
F=EF Scale Debris Factor	120.95
V=Vegetation Multiplier	1.3
Total CY of Debris	584,673.95

Table 5: Tornado Event Analysis

The availability of equipment is predicated on the actual event. Please see Appendix B and Appendix E for a listing of available equipment.

Federal Assistance

Regardless of the scope of a disaster, the affected communities and states often need the assistance of the Federal government when responding to and recovering from the event. It is not necessary for the community to exhaust its resources before it requests Federal assistance.

The City Manager and the Emergency Management Coordinator will request Federal assistance when the debris-generating event exceeds the City of Manassas in-house debris clearing, removal, and disposal capabilities. The request will be submitted through the Virginia Department of Emergency Management (VDEM). VDEM will forward the request for a mission assignment to the Federal Emergency Management Agency (FEMA).

Additionally, the U.S. Army Corps of Engineers (USACE) may provide a liaison to the City's Emergency Operations Center (EOC) when activated. This liaison will serve as an advisor to the EOC staff providing advice as needed and ensuring that the USACE is prepared to respond when tasked.

In cases where the damage and debris are so extensive that it exceeds local and state capabilities, FEMA may assign the U.S. Army Corps of Engineers (USACE) a mission to provide debris management assistance in support of the National Response Framework.

The USACE provides three types assistance in association with FEMA:

Direct Federal Assistance: The USACE undertakes the debris management mission, as assigned by FEMA. Direct Federal Assistance missions may consist of one or more of the following tasks:

- Right of Way Debris Removal
- Emergency Clearance
- Private Property Debris Removal
- Demolition
- Debris Removal from Drainage Structures
- Waterway Debris
- Technical Assistance: The USACE provides assistance to local governments in developing debris removal contracts and assisting with environmental issues, as well as training and coordination of FEMA and local government debris monitors.
- Federal Operations Support: The USACE provides oversight for FEMA of state and local debris operations.

The USACE will alert a Debris Planning and Response Team (PRT) and the Advance Contracting Initiative (ACI) Contractor under contract for that area and have them ready to respond when a mission assignment is received. Once the USACE receives a mission assignment from FEMA, the management groups for both the PRT and ACI Contractor will be available to meet with the City Debris Manager to conduct contingency planning as required.

The USACE will also provide staffing to the Debris Management Center (DMC) when activated to ensure a coordinated debris operation. USACE will coordinate with the DMC staff on the use of any pre-identified temporary debris storage and reduction sites (TDSR) and disposal sites, and identify/acquire other sites as required to accomplish the mission assignment.

While this request is being processed, local and State government officials should not delay in taking the necessary response and recovery actions. Such actions should not depend on the availability of Federal assistance.

Debris Management Staff Responsibilities

Debris Response and Recovery Organization and Responsibilities

One of the primary functions of this plan is to clearly delineate a basic organization and assign specific responsibilities. During debris operations, many issues will arise that are not specifically mentioned in this plan. However, responsibilities are sufficiently defined so that unexpected issues can be assigned and resolved efficiently.

This section of the plan provides a listing of primary debris-related responsibilities for directors and managers, as well as debris-specific assignments to address tasks and issues that normally arise during debris operations.

Phases of Response Operations

The Emergency Operations Plan for the City of Manassas outlines the phases of response operations for all Emergency Staff Functions (ESFs).

The following three phases will be used by the City of Manassas in conducting response operations:

- **Increased Readiness**: For disasters or events with an advance warning, such as a weather forecast or other warning, actions will be taken prior to the projected impact to save lives and protect property. During this phase, warning systems may be activated, resources mobilized and positioned for immediate use, the EOC activated, and evacuations implemented as appropriate.
- **Immediate Response**: During this phase, the emphasis will be on saving lives, controlling the situation, and minimizing the effects of the disaster. Immediate response activities are accomplished by City departments and organizations supported by local mutual aid resources and segments of the private sector. During this phase, an ICP and the EOC may be activated, emergency instructions issued to the public, and immediate response activities accomplished.
- **Sustained Response**: As the emergency continues, assistance is provided to those affected and efforts are made to reduce secondary damage. Regional and/or Statewide mutual aid and Federal assistance may be provided. Response support facilities may be established.

The EOC may be activated at one of three levels depending upon the nature and scope of the incident or potential incident. The EOC may also be activated for a significant planned event in order to monitor activities and provide for an effective response if necessary. The Director of Emergency Management, or designee, in cooperation with the Emergency Management Coordinator, will designate the level of activation and will ensure appropriate notifications are completed.

- **Monitoring**: Monitoring activation provides for increased monitoring capability beyond normal daily operations and will typically involve staff and representatives from key response departments such as Fire and Rescue and Police. Activities will focus on collecting, analyzing, and disseminating information and conducting appropriate contingency planning.
- **Partial**: Partial activation provides for a select activation of Emergency Support Function primary agencies and key support agencies that may be or will be engaged in the emergency situation.
- **Full**: Full activation will include most if not all primary and support departments and organizations identified within the EOP. At Full activation the EOC may operate 24 hours a day.

All departments and partner organizations are expected to provide a trained representative to the EOC with authority to make decisions and commit resources when requested.

Internal Notification and Warning

- All department point of contacts will be notified of the EOC activation by the Emergency Management Coordinator, or designee, through EVERBRIDGE messaging, emails and/or other available resources. City departments and organizations will notify their EOC representative(s) and other staff as appropriate though their internal notification process.
- The Director of Emergency Management, or designee, will notify the City Council of the activation of the EOC.
- Each ESF will be responsible for additional notifications necessary for emergency operations.
- Upon notification, identified EOC representatives shall report to the EOC at the appointed time and be prepared to carry out their assigned roles and responsibilities. Departments will provide appropriate representation to the EOC based upon the level of activation. Department representatives shall be prepared to staff the EOC until they are relieved by other department personnel or the incident is terminated.

Debris Manager

The Director of Public Works will assume the role of the City Debris Manager (DM). The City Debris Manager's responsibilities include, but are not limited to, the following with respect to any and all debris management issues:

- Provide a DMC Liaison Officer to the City Emergency Operations Center (EOC) to coordinate debris requests and actions as required.
- Provide a Public Works Debris Coordinator to the DMC staff to coordinate all agency debris assignments.
- Coordinate all media reports on debris operations with Public Information Officer (PIO).
- Provide personnel and equipment to assist in clearing major evacuation routes and access to critical facilities.
- Provide personnel and equipment to remove and dispose of debris.

- Provide personnel and equipment to operate and staff the Debris Contractor Oversight Team (DCOT) element of the DMC, including communications equipment, transportation, etc.
- Ensure that the DMC is provided all needed administrative staff and equipment support, including administrative support personnel, computers, desks, chairs, etc.
- Receive regular updates from the Debris Removal Coordinator (DRC) regarding cleanup progress and any problems encountered or expected.
- Identify agency staff members for debris management monitoring duties (Roving, Load Site, and Disposal Site Monitors) and provide list of names to the DCOT supervisor.
- Provide yearly training and refresher training for all personnel assigned to debris management monitoring responsibilities.
- Provide personnel and equipment to the Damage Assessment Team, as requested.
- Communicate timely information to the City Manager, PIO and the City EOC staff regarding the status of the debris clearing, removal, and disposal operations.
- Assure that the City is represented at all meetings with other government and private agencies involved with the debris cleanup operation.
- Coordinate with appropriate County, State, and Federal agencies, including FEMA, USACE, and others as appropriate.
- Implement the following notification system to rapidly notify appropriate staff as to where and when to report for duty. This system must be kept up-to-date to ensure key staff can readily be reached. The notification system should be maintained in such a manner that notification can be made at any time.

Level I

Involves an event likely to be within the capabilities of local government and results in only limited (does not require involvement beyond the duty officer and several assistants) need for State assistance. Typical daily activities continue while the event is monitored. Notification is limited to those agencies that have normal day-to-day emergency responsibilities or regulatory requirements. If the event occurs during non-duty hours, the duty officer may be required to report to the EOC to monitor the situation and respond to requests for assistance.

Level II

Involves any event that has the potential to develop into an emergency or disaster and will likely require the assistance of at least two or three City agencies. A limited staff will be in place in the EOC, staffed with City Emergency Support Function (ESF) personnel and those agencies essential to the response. Twenty-four hour staffing may be required. Daily activities are altered to accommodate the situation. All applicable agencies are alerted.

Level III

Involves an event which has become, or is becoming, an emergency or disaster and requires significant City and State response and possible Federal response and recovery assistance (local government capabilities clearly exceeded).

The direction and control, primary resources, mass care, and environmental and natural resources groups are at least partially staffed on a 24-hour basis in the EOC. Support agencies are alerted and most City ESF personnel are assigned to emergency/disaster functions. The governor will declare a State of Emergency. The City EOP is implemented. The Advanced Element of the FEMA Emergency Response Team (ERT) and State Liaison may be requested.

Level IV

Involves a declared disaster, which requires an extensive City and State response where the State and local governments are clearly overwhelmed. The City EOC, is fully staffed for 24-hour operations by all of the primary City agencies. The State requests implementation of the National Response Plan and the presence of the FEMA Region III State Liaison and the ERT, if not previously requested.

- Overall control of the DMC.
- Convene emergency debris coordinating meetings.
- Appoint a Debris Removal Coordinator (DRC) responsible for daily operational control of the DMC.
- Ensure that the DMC is provided all needed administrative staff support.
- Provide media relations in coordination with the City's Community Relations Office.

The Debris Manager will dispatch a DMC Liaison Officer to the City EOC to coordinate and respond to any debris removal or disposal request. Actions will focus on keeping track of Debris Control Zone assignments and progress of the initial debris clearance during Phase I of debris management operations from emergency evacuation routes and critical facilities. The DMC Liaison Officer will keep the City EOC staff informed of any problems encountered or expected.

Debris Removal Coordinator

The Debris Manager will be supported by a joint debris staff made up of personnel from Public Works Department (PW), and other City department staff personnel. The joint staff will constitute the daily operating element of the DMC.

The Debris Removal Coordinator (DRC) is responsible for daily operational control of the DMC staff. The DRC will receive current information on the severity of the disaster from the DMC Liaison Officer located at the City EOC. All requests for debris removal or disposal from the emergency response staff will go through the DMC Liaison Officer to the DRC. Requests for debris removal from public facilities and roadways will be reviewed and approved by the DRC before being directed to the appropriate DMC Debris Coordinators (PW) to implement the request.

- The DRC will appraise the extent of damage and resulting debris and issue directives to the appropriate Debris Coordinators who in turn will notify their departments to execute the tasking as defined by their department's Standard Operating Guidelines.
- The DRC will ensure that all contractor debris removal and disposal operations are properly monitored utilizing personnel assigned to the Debris Contractor Oversight Team (DCOT).
- The DRC will keep the City DM and DMC staff informed on all ongoing debris management operations through, at a minimum, daily meetings and/or reports.
- The DRC will maintain a daily journal and file on all debris related documents and issues.

Emergency Operations Center Debris Liaison Officer

The EOC Debris Liaison Officer will be located at the City EOC and will be responsible for coordinating with the DMC staff all requests for debris activities initiated by the City EOC staff.

Public Works Department Debris Coordinator

The Public Works Debris Coordinator will:

- Maintain a listing of all available Public Works equipment identified for possible debris clearing and disposal missions.
- Coordinate all Public Works debris assignments approved by the Debris Manager.
- Ensure that required logistical support is available, including cell phones, transportation, etc.
- Obtain all necessary regulatory permits for debris collection, reduction, temporary storage, and final disposal.
- Ensure that the Debris Manager is kept informed of cleanup progress and any problems encountered or expected.

Buildings and Grounds

The Manager of Buildings and Grounds (B&G) responsibilities include, but are not limited to, the following with respect to any and all debris management activities:

- Provide a B&G Debris Coordinator to the DMC staff to coordinate all B&G debris assignments.
- Provide personnel and equipment to assist Public Works in clearing major evacuation routes and access to critical facilities during Phase I of debris management operations.

- Provide personnel and equipment to assist in the removal and disposal of debris (Phase II) as directed by the DRC through the B&G Debris Coordinator.
- Provide specialized equipment and trained operators to assist in the clearing and removal of woody vegetation from along critical rights-of-way.
- Ensure that debris removal from parks and recreational facilities is coordinated through and approved by the Debris Manager through the B&G Debris Coordinator.
- Ensure that the B&G Debris Coordinator is provided all needed logistical support, including cell phones, transportation, etc.
- Ensure that the B&G Debris Coordinator keeps the Debris Manager informed of cleanup progress and any problems encountered or expected.
- Assist in TDSR site investigations.
- Provide digital map files of all identified B&G property greater than 10 acres.
- Coordinate with the Debris Manager for the removal, storage, burning, and disposal of debris at debris collection/management sites at B&G parks.

Buildings and Grounds Debris Coordinator

The B&G Debris Coordinator will:

- Maintain a listing of all available B&G equipment identified for possible debris removal and disposal missions.
- Coordinate all B&G debris assignments approved by the DRC.
- Ensure that required logistical support is available, including cell phones, transportation, etc.
- Ensure that the DRC is kept informed of cleanup progress and any problems encountered or expected.

Debris Management Center Staff

The DMC is organized to provide a central location for the coordination and control of all debris management requirements. The DMC will be located at the City of Manassas Public Works Buildings, 8500 Public Works Drive, Manassas VA 20110.

The DMC organizational diagram shown in Figure 1 identifies the DMC staff positions required to coordinate the actions necessary to remove and dispose of debris using both City and contractor assets.

Specific DMC staff actions will include the following:

- Making recommendations for City force account and contractor work assignments and priorities based on the City's Debris Control Zones. Appendix C contains a map showing the boundaries of the various Debris Control Zones.
- Reporting on debris removal and disposal progress, and preparing status briefings.
- Providing input to the PIO on debris removal and disposal activities.

- Coordinating with the County and State on debris issues affecting adjacent jurisdictions.
- Coordinating City debris removal and disposal operations with solid waste managers and environmental regulators from the County and State.
- Coordinating with the following Federal agencies in the event of a major natural or man-made debris-generating disaster that exceeds the City's capabilities:

- Federal Emergency Management Agency (FEMA)
- U.S. Army Corps of Engineers (USACE)
- Local Office of the Federal Bureau of Investigation (FBI)

Public Information Officer

The City Manager's Office will provide a PIO to work directly with the DMC staff as and when required to disseminate information relevant to debris clean-up. The PIO will develop a proactive information management plan (please refer to the City of Manassas EOP for a full ESF description of duties.) Emphasis will be placed on actions that the public can perform to expedite the cleanup process. Social media, print, television, radio media and other communication tools will be used to encourage public cooperation for such activities as:

- Segregating Household Hazardous Waste (HHW)
- Placing disaster debris at the curbside
- Keeping debris piles away from fire hydrants and valves
- Reporting locations of illegal dump sites or incidents of illegal dumping
- Segregating recyclable materials; and
- Disseminate pickup schedules through the local news media.

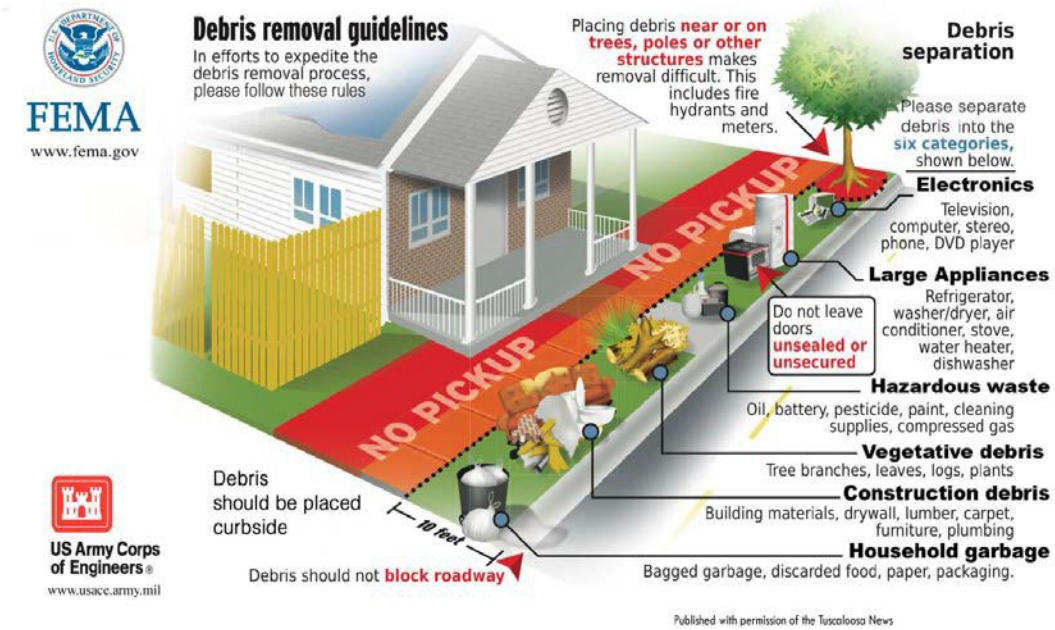


Image 1: Sample Debris Removal Flyer

The Debris Removal Contractor will operate an information hotline with a brief recording outlining segregation of debris at curbside and the reporting of private property damage by contractors. Allowing residents to obtain up-to-the-minute information immediately and on their own schedule, the hotline relieves the City of Manassas from becoming inundated with calls seeking information on debris collection.

Sample Radio Address

The sample radio address is as follows:

The City of Manassas has implemented a schedule for the removal of disaster-generated debris. We have established an efficient and effective system in coordination with our debris contractor, so you, the citizen, will know what to expect and how to have your storm-generated debris removed successfully.

Contractors are working seven (7) days a week, twelve (12) hours a day to collect ONLY storm-generated debris.

Debris collection zones have been divided into twelve (12) sections. All zones are being worked simultaneously with the goal of a coordinated, safe and efficient recovery. Debris contractors are collecting all the storm-generated debris moved to the curb from one subdivision/street/block in a zone before moving to the next.

Three (3) collection passes will be made:

- The first pass will be made on_____for fallen trees and vegetative debris, bulky material, large construction material, white goods and items that pose a health and safety risk.
- A second pass will be made on_____for large and small fallen trees and vegetative debris and large and small construction debris.
- A third and final pass will take place_____. Any and all remaining debris will be collected as designated and inspected by City Officials.
- Any debris placed out for collection after the FINAL PASS will not be collected by the City.

As you prepare to place your debris curbside for collection, please adhere to the following guidelines:

1. Do not place debris on top of utilities, for example: cable, phone, electrical, storm drain boxes or fire hydrants.
2. Please do not place debris in front of or around your mailbox.
3. Please do not place debris in front of or around your driveway, as emergency vehicles may need to enter the area.
4. Please drive with extreme caution in areas with large debris piles.
5. Please do not block or dump any debris into the storm drains or ditches. This will cause a flood hazard.

6. Please aid contractors by sweeping excess and loose debris from the street in front of your house.
7. Report damages that occur to your personal property to the Contractor Hotline, 1-866-932-0333.
8. Report drainage problems to City of Manassas Operations on (703) 257-8353.

We appreciate your patience, cooperation and assistance as we undertake this clean-up effort. For additional information, please call visit: www.manassascity.org/recovery or call the Trashline on (703) 257-8252.

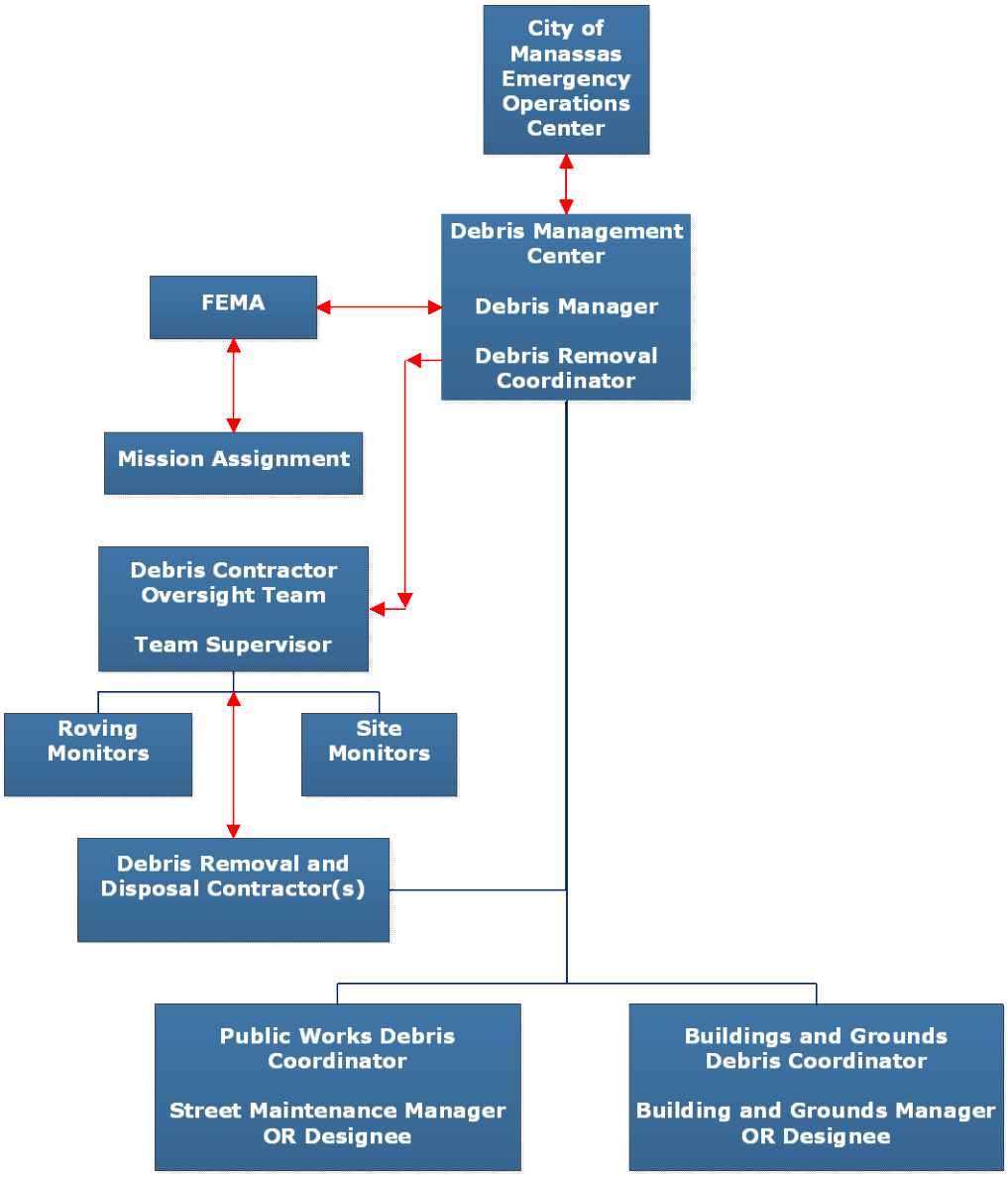


Chart 1: Debris Management Center Organization

Internal Debris Response and Recovery Support Agencies

Specific responsibilities of the various supporting agencies are shown in the sections that follow:

Fire Department

- Respond to fire and other emergencies at TDSR sites.
- Respond to request to investigate and handle hazardous materials incidents.
- Issue bans on open burning based upon assessment of local conditions and ensure dissemination of information to the public.

Police Department

- Assist in monitoring illegal dumping activities.
- Assist in monitoring TDSR sites to ensure compliance with local traffic regulations.
- Coordinate traffic control at all loading sites and at entrances to and from TDSR sites.

Community Development

- The Building Official and technical assistants to the Building Official will provide assessments of structures and the potential demolition of structures through Section 105 of the Virginia Maintenance Code.

Department of Health

- Assist in monitoring TDSR site operations and closeout activities.
- Assist as necessary on all environmental and health issues.
- (Refer to Prince William Health District SOPs)

Energy and Utilities

- Coordinate with the Debris Manager with regards to debris removal along electrical easements and rights-of-way to ensure that all lines are de-energized.
- Provide a debris coordinator to the DMC.

Finance Administration – Purchasing and Accounting

- Coordinate with the Debris Manager to identify, procure, inventory, and distribute critical resources, in coordination with other local and state governments, the federal government, private industry, and volunteer organizations, to effectively respond to and recover from the effects of a disaster.
- Provide timely financial management (payment of bills) as directed by the Director of Finance and Administration or his/her designee.

External Debris Response and Recovery Support Agencies

Specific responsibilities of the various supporting agencies are shown in the sections that follow:

Virginia Department of Emergency Management (VDEM)

- Coordinate with the Debris Manager to ensure needed financial, material and personnel resources are provided and assist with extended field operations.
- Provide planning advice, information and staff training to ensure that crews are prepared in advance of an event.

Virginia Department of Transportation (VDOT)

- Coordinate with the Debris Manager to ensure state roads bridges and tunnels are secured for fast and efficient response during an event and cleared of debris during recovery.

Virginia Department of Environmental Quality (VDEQ)

- Debris Manager to work in coordination with Virginia Department of Environmental Quality (VDEQ),Virginia Emergency Response Council (VERC) and its jurisdictional Local Emergency Planning Committee (LEPC) to identify, contain and dispose of harmful or Extremely Hazardous Substances (EHS).
- Coordinate with the Debris Manager to ensure needed financial, material and personnel resources are provided and assist with extended field operations.

Prince William County (PWC)

- Debris Manager to work in coordination with PrinceWilliam County and the debris removal contract to dispose of debris generated by the City that is beyond the capacity of regularly scheduled debris removal operations.

Debris Management Response and Recovery Operations

The City DM will be the single point of contact to coordinate and control all personnel and equipment responding to a major debris-generating event. This plan provides guidance for the efficient and effective control and coordination of initial debris assessments through debris clearance, removal, and disposal operations.

Damage Assessment Teams

The Building Official, with the assistance of other City departments and external agencies, is responsible for damage assessment of existing structures.

The Building Official will designate a Damage Assessment Coordinator (DAC) who will be responsible for organizing and deploying Damage Assessment Teams (DAT). The DAC is responsible for coordinating impact assessment for all City public structures, equipment, and debris clearance immediately following a large-scale disaster. Impact assessments are performed by DAT and used to prioritize impacted areas and resource needs.

The DAT will conduct initial zone-by-zone windshield surveys to identify the type of debris and to estimate amounts of debris on the roadways and on private and public property. The results of the windshield surveys will be provided to DRC and to the DMC Liaison Officer located at the City EOC.

The DRC will establish initial priority for debris clearance based upon the following ranking as provided by the Emergency Management Coordinator (EMC) through the Incident Command System (ICS):

- Extrication of people.
- Major flood drainage ways.
- Egress for fire, police, and Disaster Operations Center.
- Ingress to hospitals, jail, and special care unit.
- Major traffic routes.
- Supply distribution points and mutual aid assembly areas.
- Government facilities.
- Public Safety communications towers.
- Emergency Shelters.
- Secondary roads to neighborhood collection points.
- Access for utility restoration.
- Neighborhood streets.
- Private property adversely affecting public welfare.

Establishing Priorities for Debris Removal

The DMC Public Works Debris Coordinator will have the primary mission of coordinating the efforts of Public Works personnel to identify debris impacts on critical roads and make initial estimates of debris quantities. Based on this prioritization, the DRC will issue urgent assignments to clear debris from at least one lane on all evacuation routes and identified primary and secondary roads to expedite the movement of emergency service vehicles such as fire, police, and medical responders.

A listing of critical facilities is provided in Appendix D. A priority primary road clearance list is found in Appendix E.

During the debris clearance and removal process, the DMC staff will be responsible for coordinating with the Energy and Utilities Debris Coordinator and other utility companies (such as telephone and cable TV) as appropriate to ensure that power lines do not pose a hazard to emergency work crews.

Phase I – Initial Response

For ease of control and coordination, debris management operations are divided into two phases. Phase I will be implemented immediately after a debris-generating event to open emergency evacuation routes and roadways to critical facilities and affected neighborhoods. The major emphasis during this phase is to simply push debris from the traveled way to the rights-of-way or curb. This activity is commonly referred to as Debris Clearance. Little or no effort is made to remove debris from the rights-of-way.
Public Works will be responsible for implementing all Phase I activities with support as required from Buildings and Grounds and Utilities. Requests for additional assistance will be submitted to the DRC located at the DMC.

Phase I activities include:

- Implementation of the Debris Management Plan.
- Determination of incident-specific debris management responsibilities.
- Establishment of priorities based on evacuation needs and prediction models.
- Identification and procurement of TDSR sites.
- Activation of pre-positioned contracts, if necessary to support Phase I clearance operations.
- Implementation of Public Information Plan.
- Coordination and tracking of resources.
- Formal documentation of costs.

Phase II - Recovery

Phase II will be implemented within two to five days following a major debris-generating event, and will encompass the processes of debris removal and disposal. This delay is normal and allows time for affected citizens to return to their homes and begin the cleanup process. Debris must be brought to the rights-of-way or curb to be eligible for removal at public expense.

The City DM will be responsible for implementing all Phase II activities with support as required from Public Works, Buildings and Grounds and Utilities. All debris removal and disposal operations will be coordinated by the DRC located at the DMC. Phase II may be quite lengthy as disaster recovery continues until pre-disaster conditions are restored.

Phase II activities include:

- Activation of pre-positioned contracts.
- Notification to citizens of debris removal procedures.
- Activation of TDSR sites.
- Removal of debris from rights-of-way and critical public facilities.
- Movement of debris from TDSR sites to permanent landfills.

Phase II Debris Removal and Disposal Overview

The general concept of debris removal operations includes multiple, scheduled passes by each critical site, location, or rights-of-way. This manner of scheduling debris removal allows residents to return to their properties and bring debris to the edge of the rights-of-way as property restoration proceeds.

The City has been divided into 12 Debris Control Zones to control and expedite debris-removal and disposal operations (refer to Appendix C for zone delineation). The estimated quantity of debris that would be generated by a Category 2 Hurricane for the entire city is shown in Table 3.

JURISDICTION	CAT 2 HURRICANE DEBRIS ESTIMATE CUBIC YARDS	TDSR SITE REQUIREMENTS ACRES
City of Manassas	244,335 CY	15 Minimum – 20 Maximum

Table 6: City Debris Estimates

Calculations

- At 9.9 squares miles, the City of Manassas has potential damage covering 6,336 acres.
- The City of Manassas has a approximately 13,674 households. Debris estimate is based on the USACE Hurricane Model.
- The USACE model can also be used to arrive at estimated TDSR site requirements using the following formula:

    - Total volume per acre= 4,840 square yards (sy) x 3.33 yards (y) [Estimated debris pile stack height of 10 feet]. 4,840 x 3.33 = 16,117 cy per acre.

Phase II Debris Removal and Disposal Operations

The DRC and DMC staff will coordinate debris removal and disposal operations for all portions of the City. Phase II operations involve the removal and disposal of curbside debris by City force account and/or contractor crews. All City-hired debris removal and disposal contractor operations will be overseen by the Debris Contractor Oversight Team (DCOT).

Under this plan, mixed debris will be collected and hauled from assigned Debris Control Zones to City-designated TDSR sites or to designated landfill locations. Clean woody debris will be hauled to the nearest designated vegetative TDSR site for eventual grinding. A listing of TDSR sites can be found in Appendix F.

The primary tracking mechanism for all debris loaded, hauled, and disposed of under this plan will be the Load Ticket, which is shown in Figure 1. Load tickets will be initiated at pickup sites and closed-out upon drop-off of each load at a TDSR site or permanent landfill, and are to be used to document both City force account and contracted haulers. Load tickets will serve as supporting documentation for contractor payment as well as for requests for FEMA reimbursement, in the event of a Federal disaster declaration.

CITY OF MANASSAS LOAD TICKET	Ticket No. 000001
Section 1	
Prime Contractor:	**Date:**
Subcontractor (Hauler):	**Departure Time:**
Driver:	**Truck Plate No.:**
Measured Bed Capacity (cu. yds.):	
Debris Pickup Site Location: **(must be a street address)**	
Debris Type: ☐ **Vegetation** ☐ **Construction & Demolition** ☐ **Mixed** ☐ **Other:**	
Loading Site Monitor:	
Print Name:	
Signature:	
Remarks:	
Section 2	
Debris Disposal Site Location:	
Estimate Debris Quantity: cu. yds.	**Arrival Time:**
Disposal Site Monitor:	
Print Name:	
Signature:	
Remarks:	
Copies: White – Load Site Monitor Green – Disposal Site Monitor **Canary, Pink, Gold – Onsite Contractor's Representative or Driver**	

Form 1: Sample Load Ticket

For tracking of all debris moved in response to a given event, the following is the disposition of each ticket part:

- Part 1 (White) Load Site Monitor (Turned in daily to the DMC)
- Part 2 (Green) Disposal Site Monitor (Turned in daily to the DMC)
- Part 3 (canary) Driver or Contractor's on-site representatives (Contractor Copy)
- Part 4 (pink) Driver or Contractor's on-site representatives (Contactor Copy)
- Part 5 (gold) Driver or Contractor's on-site representatives (Driver/Subcontractor Copy)

Debris Contractor Oversight Team

The Debris Contractor Oversight Team (DCOT) is responsible for the coordination, oversight, and monitoring of all debris removal and disposal operations performed by private contractors (see Appendix G, Debris Contract Oversight Team Standard Operating Guidelines, Debris Monitoring Training Presentation and Force Account Management Guidelines.)

The DCOT supervisor and team members will be detailed from Public Works, as well as from other City departments as required. The DCOT team may also be supplemented with contracted inspectors and other personnel as needed.

The DCOT team supervisor will be located at the DMC and will provide overall supervision of the three monitoring elements described below. Specific responsibilities include the following:

- Planning and conducting TDSR site inspections, quality control, and other Contractor oversight functions.
- Receiving and reviewing all debris load tickets that have been verified by a Disposal Site Monitor (see description below).
- Making recommendations to the DRC regarding distribution of City force account and Contractor work assignments and priorities.
- Reporting on progress and preparation of status briefings.
- Providing input to the City PIO on debris cleanup activities and pickup schedules.

The DCOT Supervisor will oversee the activities of three types of field monitors. The functions and responsibilities of the field monitors are described below (see also Appendix G, Debris Removal and Disposal Monitoring Plan).

Roving Monitors

Two-person teams of Roving Monitors will be assigned to specific Debris Control Zones or to a specific Contractor depending upon the distribution of work assignments. The Roving Monitors' mission is to act as the "eyes and ears" for the DRC and DCOT Supervisor to ensure that all contract requirements, including safety, are properly implemented and enforced.

Staff to fulfill the Roving Monitor positions will be provided by Public Works, a contractor, or from local government personnel. Roving Monitors will have the authority to monitor City contractor operations and to report any problems back to the DCOT Supervisor. Roving Monitors may request contract compliance, but do not have the authority to otherwise direct contractor operations or to modify the contract scope of work.

Roving Monitors will monitor debris operations on a full-time basis and make unannounced visits to all loading and disposal sites within their assigned debris management zone(s). In addition, Roving Monitors shall do the following:

- Assist in the measuring of all Contractor trucks and trailer with the contractor's representative. Take photographs of all trucks and trailers.
- Obtain and become familiar with all debris removal and disposal contracts for which they are providing oversight.
- Observe all phases of debris management operation, to include loading sites and TDSR sites.
- Prepare a daily written report of all contractor activities observed to include photographs.
- Periodically monitor each TDSR site to ensure that operations are being followed as specified in the applicable Debris Removal and Disposal Contract with respect to local and Federal regulations and the Debris Removal and Disposal Monitoring Plan (Appendix H).

Roving Monitors will also submit daily written reports to the DCOT supervisor outlining their observations with respect to the following:

- Is the contractor using the site properly with respect to layout and environmental considerations?
- Has the contractor established environmental controls in equipment staging areas, fueling, and equipment repair areas to prevent and mitigate spills of petroleum products and hydraulic fluids?
- Are plastic liners in place under stationary equipment such as generators and mobile lighting plants?
- Has the contractor established appropriate rodent control measures?
- Has the contractor established procedures to mitigate dust, noise, and traffic flow?

Roving Monitors' reports will also include written observations at loading sites, disposal sites, and the locations of any illegal dumping sites. If the monitor sees a problem they are to notify the DMC immediately and take photographs of the site.

Load Site Monitors

Load Site Monitors will be stationed at designated Contractor debris loading sites. The Load Site Monitors' primary function is to verify that debris being picked up is eligible under the terms of the contract.

Load Site Monitor positions will be staffed from Public Works or a contractor, and will be supplemented by other City department personnel depending on the magnitude of the debris-generating event. Load Site Monitors will be assigned to each contractor's debris loading site within designated Debris Control Zones, and will initiate and sign load tickets as verification that the debris being picked up is eligible.

Disposal Site Monitors

Disposal Site Monitors will be located at TDSR sites as identified by the DMC throughout the recovery process. The Disposal Site Monitors' primary function is to ensure that accurate load quantities are being properly recorded on pre-printed load tickets. See Figure 1 above.

At each TDSR site and landfill disposal site, the contractor will be required to construct and maintain a monitoring station tower for use by the Disposal Site Monitor. The contractor will construct the monitoring station towers of pressure treated wood with a floor elevation that affords the Disposal Site Monitor a complete view of the load bed of each piece of equipment being utilized to haul debris. The contractor will also provide each site with chairs, table, and portable sanitary facilities.

The Disposal Site Monitor will estimate the quantity (in cubic yards) of debris in each truck/trailer entering the contractor's selected temporary TDSR site and will record the estimated quantity on pre-numbered debris load tickets. The contractor will only be paid based on the number of cubic yards of material deposited at the disposal site as recorded on debris load tickets. This is to be completed for all types of debris removal contracts and force account vehicles.

Disposal Site Monitors will be staffed by Public Works personnel, or a contractor, depending on the magnitude of the debris-generating event. The Disposal Site Monitors will be stationed at all TDSR sites for the purpose of verifying the quantity of material being hauled by the contractor. The Disposal Site Monitor will be responsible for closing out and signing each load ticket and returning a copy to the DCOT Supervisor at the end of each day.

Refuse and Recycling Contractor

The City of Manassas currently contracts refuse and recycling for residential collection. If at any time a debris-generating event occurs and any refuse and recycling contractor is in use by the city, the contractor will continue to pick-up refuse in accordance with current procedures, routes, and removal schedules. They will not haul disaster debris unless expressly authorized by the DRC.

Household Hazardous Waste and White Goods Drop-Off Locations.

The City of Manassas does not have a facility for the collection of Household Hazardous Waste (HHW). The City DM will coordinate with County officials and local Environmental Protection Agency (USEPA) officials for the collection of eligible industrial or commercial hazardous waste resulting from the disaster. Residents will be required to separate and transport HHW to the pre-identified drop-off point.

The City of Manassas currently contracts the collection of white goods through the contract for refuse and recycling collection. White goods are defined as discarded household appliances including, refrigerators, freezers, air conditioners, heat pumps, ovens, rages, washing machines, clothes dryers, water heaters, etc. Refrigerants and other machine fluids are regulated and will only be reclaimed by certified technicians and disposed of at a permitted facility. To avoid the

releases of refrigerants or oils, the collection of white goods will be accomplished carefully by manually placing the appliance on trucks or by using lifting equipment that will not damage the elements that contain refrigerants or regulated oils. The City DM will coordinate with the refuse and recycling contractor, County officials and local Environmental Protection Agency (USEPA) officials for the collection of white goods. Residents will be required to segregate these materials from other types of debris.

Utility Property

City of Manassas and other utility crews will remove and dispose of all utility related debris such as, power transformers, utility poles, cable, and other utility company material.

Equipment Assets

A table summarizing the equipment that details the equipment that Public Works and Utilities currently has in inventory that could be used to assist with debris removal is updated and maintained in the City DMC. Please see Appendix B and Appendix E for a listing of available equipment within Public Works and through our Debris Removal contractor.

Contractor Debris Removal and Disposal Operations

The City recognizes that disasters may generate debris of types and quantities that exceed the City's capabilities. Thus, the City will implement a pre-positioned contracting process to have contractors on stand-by to respond within a pre-determined time period to assist in requested aspects of the debris operation.(Appendix B, Approved Contractor List)

The City DM or his or her authorized representative will contact the firm(s) holding pre-positioned debris removal and disposal contract(s) and advise them of impending conditions. The scope of the pre-positioned contract provides for the removal and lawful disposal of all natural disaster-generated debris, excepting household, industrial, or commercial hazardous waste. Debris removal will be limited to City-maintained streets, roads, and other public rights-of-way based on the extent of the disaster. Debris removal will be limited to disaster related material placed at or immediately adjacent to the edge of the rights-of-way by residents within designated Debris Control Zones.

Each contractor, upon receipt of notice to proceed, will mobilize such personnel and equipment as necessary to conduct the debris removal and disposal operations detailed in the contractor's General Operations Plan (required by the Debris Removal and Disposal Contract). All contractor operations will be subject to review by the City DM and DRC.

The contractor will make multiple, scheduled passes of each site, location, or area impacted by the disaster according to assigned Debris Control Zones and as directed by the DRC. Schedules will be provided to the City PIO for publication and notification to the news media.

The load ticket, coupled with inspections by Roving, Load Site, and Disposal Site Monitors, will be the primary mechanism for monitoring contractor performance and tracking quantities for pay purposes.

Federal support will be requested if the incident is beyond the City's capability and its contractors. The USACE will be tasked by FEMA through the mission assignment process to provide the necessary support to the City.

The USACE will respond by providing trained and experienced Debris PRTs that are responsible for managing the debris mission from removal to final disposal. These tasks are accomplished utilizing pre-awarded contracts to private industry Contractors experienced in debris removal operations. The USACE also has Debris Subject Matter Experts available to provide advice and support to the contractor and the DMC staff.

Temporary TDSR Sites and Landfills

The City recognizes the economic benefits of debris volume reduction, and will realize this benefit through the use of local TDSR sites for processing of clean woody debris. A listing of TDSR sites and landfills is located in Appendix F.

Contractors will operate the TDSR sites made available by the City. Each contractor will be responsible for all site setup, site operations, rodent control, closeout, and remediation costs at each of its sites. The contractor is also responsible for the lawful disposal of all by-products of debris reduction that may be generated.

The contractor will restore the TDSR sites as close to the original condition as is practical so that it does not impair future land uses. All sites are to be restored to the satisfaction of the DRC with the intent of maintaining the utility of each site.

Contractors are also expected to haul and manage construction and demolition (C&D) waste. C&D materials will be hauled to TDSR sites for temporary sorting and storage until final disposal arrangements are made.

It is important to note that all material deposited at TDSR sites will eventually be taken to a properly permitted landfill for final disposal. Under certain circumstances, the DRC may direct contractors to bypass C&D TDSR sites and approve the hauling of mixed C&D debris directly to a properly permitted landfill for disposal.

Load Ticket Disposition

The Load Ticket will be a 5-part pre-printed form (see Form 1 p.25).

At initiation of each load, the Load Site Monitor will fill out all items in Section 1 of the Load Ticket and will retain Part 1 (White Copy). The remaining copies will be given to the driver and carried with the load to the disposal site.

Upon arrival at the disposal site, the driver will give all four copies to the Disposal Site Monitor. The Disposal Site Monitor will complete Section 2 of the Load Ticket and retain Part 2 (Green). Parts 3, 4, and 5 will be given either to the Contractor's on-site representative or to the truck driver for subsequent distribution.

All trucks will be measured by the Contractor and DMC staff before the operation begins and periodically rechecked throughout the operation.

The contractor will be paid based on the number of cubic yards of eligible debris hauled per truckload. Payment for hauling debris will only be approved upon presentation of Part 4 (Pink) of the Load Ticket with the contractor's invoice.

Load tickets will also be completed and retained for City force account vehicles as a primary mechanism for tracking debris quantities deposited at TDSR sites.

Temporary TDSR Site Setup and Closeout Procedures

The contractor will be responsible for preparing and closing out a TDSR site in accordance with specification in the Debris Removal and Disposal Contract and guidance contained in Appendix H.

Hazardous Tree Abatement Operations

The hazardous tree abatement operations are governed by the Scope of Work outlined in the contract between the City and the pre-contracted Debris Monitoring and Debris Removal contractors, copies of which are attached in Appendix B. However, for emphasis, the City has reiterated certain critical FEMA eligibility points:

- If the damaged tree, limb or stump poses a threat to life and improved property, under FEMA regulations, that tree, limb or stump may be removed.
- Each hazardous tree, limb or stump slated for removal shall be GPS-tagged and photograph documented.
- Unstable and leaning trees along a public ROW or within a naturalized area, such as public parks, are eligible for removal. The City may choose to attempt to save the tree through straightening and bracing, if the cost of repair is less than the removal and disposal. A tree is deemed hazardous and eligible for removal if:

    - The tree is an immediate threat to public health and safety or improved property
    - It has a diameter at breast height (DBH) of six inches (6") or greater

AND one or more of these criteria:

- Fifty percent (50%) or more of the crown is damaged or destroyed
- A split trunk or broken branches that expose the heart wood
- Fallen or uprooted within a public use area
- Leaning at an angle greater than thirty degrees (30º)

Hazardous limb removal work shall consist of the removal and disposal of disaster-damaged limbs that are:

- Imminent and impending peril to the general public
- Greater than two inches (2”) in diameter at the point of breakage
- Broken and still attached to the tree

Hazardous Stump Removal

The removal of hazardous stumps is a unique process requiring specialized equipment. As such, this process requires unique documentation and costing to realize full reimbursement, and meet the following criteria:

- 50% or more of the root-ball exposed
- Greater than 24” in diameter, as measured 24” above the ground
- Located on public property or a public ROW
- Immediate threat to public health and safety

Private Property Debris Disposal

Dangerous structures are the responsibility of the owner to demolish in order to protect the health and safety of adjacent residents. However, experience has shown that unsafe structures will often remain in place due to lack of insurance or absentee landlords. Care must be exercised to ensure that the City properly identifies structures listed for demolition.

Private Property Debris Removal (PPDR) will only be activated following a specific request from the City to the FEMA Federal Coordinating Office (FCO) for PPDR reimbursement and receipt of approval from the FCO on the specific request. The request shall include information pertaining to Public Interest Determination, documentation of legal responsibility, authorization for debris removal from private property, indemnification, duplication of benefits and environmental/historical review compliance.

The City DM will coordinate with the County and State and FEMA Public Assistance Officers regarding:

- Demolition of private structures.
- Removing debris from private property.
- Local law and/or code enforcement requirement.
- Historic and archaeological site restrictions.
- Qualified environmental contractors to remove hazardous materials such as asbestos and lead-based paint.
- Execution of Right-of Entry/Hold Harmless agreements with landowners. A sample Right-of-Entry/Hold Harmless agreement is shown in Appendix F.

Recycling Storm Debris

The intent is to recycle as much of the storm generated debris as feasible.

Vegetative Debris – volume reduced, processed yard trash/vegetative storm debris will be transported to agricultural fields for use as a soil amendment in accordance with DEP policies for use of such materials and/or to cogeneration power plants for use as boiler fuel.

Non-Vegetative, Non Hazardous Debris – These materials commonly referred to as C/D (construction demolition debris) will be directed to DEP permitted C/D recycling facilities, if financially feasible and if volumes do not exceed the 60,000 CY.

Permitting

All environmental and land-use variances permits necessary to establish temporary debris management sites shall be obtained. Debris operations will comply with all Federal, State, and local regulations. Several agencies may be involved in issuing permits.

The following is a list of potential permits that may be required in debris operations:

- Waste processing and recycling operations permit
- Temporary land-use variances or permits
- Traffic or entrance permits
- Air quality permits
- Water quality permits
- Coastal commission land-use permits
- HHW permits
- Fire department permits
- Freon removal from white goods
- Erosion and sediment control

Environmental Requirements

Following a disaster event, compliance with environmental protection laws and regulations is required. Federal and State Environmental Protection Agencies including but not limited to National Environmental Policy Act (NEPA), State Department of Environmental Quality and local Health Departments should be consulted for applicable regulatory requirements.

The City will execute debris operations in such a manner and extent to which is practicable that will minimize any significant affect to the environment. The NEPA requirements are made known to and adhered to by all Contractor(s) personnel. The Contractor(s) is also expected to have full understanding of the following:

- Robert T. Stafford Act (Public Law 93-288)
- Clean Water Act (CWA)
- Clean Air Act (CAA)

- Resource Conservation and Recovery Act (RCRA)
- Endangered Species Act (ESA)
- National Historic Preservation Act (NHPA)
- Fish and Wildlife Conservation Act (FWCA)
- Executive Orders: EO11988, EO11990, EO1289

All debris related activities shall be coordinate with Federal, State, and local agencies, including but not limited to EPA and the Historic Preservation Office to ensure compliance with environmental and historic preservation laws/regulations/policies and determining environmental monitoring and reporting requirements for TDSR's,

The agency shall also maintain records for historical purposes.

See Appendix I: Debris Clearing, Removal, and Disposal Guidelines

Health and Safety

All debris related activities shall be done in compliance with the health and safety requirements found in the City Code, which can be referenced from multiple locations, including the Internet and through VOSHA rules & regulations.

This administrative regulation enables the agency and their contractors to avoid accidents during debris recovery operations and to protect workers from exposure to hazardous materials. The health and safety strategy establishes minimum safety standards for the agency and contractor personnel to follow.

Debris operations involve the use of heavy equipment to move and process various types of debris. Many of these actions can pose safety hazards to emergency response and recovery personnel and the public. In addition to those safety hazards, exposure to certain types of debris, such as building materials that contain asbestos and mixed debris that contains hazardous materials, can pose potential health risks to emergency workers.

The health and safety plan provides emergency workers with information on how to identify hazardous conditions and specific guidelines on the appropriate and proper use of personal protective equipment.

Contracting/Procurement

Any procurement of additional debris services will be conducted in accordance with the City of Manassas procurement Regulations, the VA Procurement Act and Federal Register for 2 CFR Part 200[1].

Weapons of Mass Destruction/Terrorism Event

The handling and disposal of debris generated from a Weapons of Mass Destruction (WMD) or terrorism event will exceed the capabilities of the City and will require immediate Federal assistance.

Normally, a WMD or terrorism event will, by its very nature, require all available assets and involve many more Federal and adjacent State and County departments and agencies. The nature of the waste stream as well as whether or not the debris is contaminated will dictate the necessary cleanup and disposal actions. Debris handling considerations that are unique to this type of event include:

- Much of the affected area will likely be a crime scene. Therefore, debris may be directed to a controlled TDSR site by State and/or Federal law enforcement officials for further analysis.
- The debris may be contaminated by chemical, biological, or radiological contaminants. If so, the debris will have to be stabilized, neutralized, containerized, etc. before disposal. In such an occurrence, the operations may be under the supervision and direction of a Federal agency and one or more specialty Contractors retained by that agency.
- The presence of contamination will influence the need for pretreatment (decontamination), packaging and transportation.
- The type of contaminant will dictate the required capabilities of the personnel working with the debris. Certain contaminants may preclude deployment of resources that are not properly trained or equipped.

The City DM will continue to be the single point of contact for all debris removal and disposal issues within the City. Coordination will be exercised through the Emergency Support Function (ESF) #3 liaison located at the designated FEMA Joint Field Office.

In this type of event, the City will become a supporting element to the U.S. Army Corps of Engineers, and will operate as defined in the USACE WMD Emergency Response Plan (to be published).

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[1] Federal Register , Title 2: Grants and Agreements, Subtitle A:Office of Management and Budget Guidance for Grants and Agreements: Chapter II: Office of Management and Budget Guidance, Part 200: Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards
http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title02/2cfr200_main_02.tpl

Administration and Logistics

All City departments and agencies will maintain records of personnel, equipment, load tickets, and material resources used to comply with this plan. Such documentation will then be used to support reimbursement from any Federal assistance that may be requested or required.

All City departments and agencies supporting debris operations will ensure 24-hour staffing capability during implementation of this plan, if the emergency or disaster requires or if directed by the City DM.

All City departments are responsible for the four year review of this plan in conjunction with the four year update to the City EOP. It will be the responsibility of each tasked department and agency to update its respective portion of the plan and ensure any limitations and shortfalls are identified and documented, and work-around procedures developed, if necessary.

The review will consider such items as:

- Changes in Mission
- Changes in Concept of Operations
- Changes in Organization
- Changes in Responsibility
- Changes in desired contracts
- Changes in pre-positioned contracts
- Changes in priorities

This plan also may be updated as necessary to ensure a coordinated response as other Debris Management Plans are developed. Surrounding cities may also develop Debris Management Plans that should be coordinated with the City's plan and other emergency plans. This coordination is especially important with respect to allocation of resources such as temporary staging areas and disposal facilities.

Appendix A:
Acronyms and Definitions

List of Acronyms

AC	Acre
ACI	Advance Contracting Initiative (USACE)
B&G	Buildings and Grounds
C&D	Construction and Demolition
CY	Cubic Yard
DAC	Damage Assessment Coordinator
DAT	Damage Assessment Team
DCOT	Debris Contractor Oversight Team
DM	Debris Manager (or City Debris Manager)
DMC	Debris Management Center
DOT	Department of Transportation
DPW	Department of Public Works
DRC	Debris Removal Coordinator
EMA	Emergency Management Agency
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ERT-A	Emergency Response Team A
ES	Emergency Services
ESF	Emergency Support Function
FBI	Federal Bureau of Investigations
FEMA	Federal Emergency Management Agency
GSA	General Services Administration
HHW	Household Hazardous Waste
NRP	National Response Plan

PIO	Public Information Officer
PRT	Planning and Response Team
PW	Public Works Department
TDSR	Temporary Debris Staging and Reduction
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VDEM	Virginia Department of Emergency Management
WMD	Weapons of Mass Destruction

Definitions

Burning – Reduction of woody debris by controlled burning. Woody debris can be reduced in volume by approximately 95% through burning. Air curtain burners are recommended because they can be operated in a manner to comply with clean-air standards.

Chipping or Mulching – Reducing wood related material by mechanical means into small pieces to be used as mulch or fuel. Woody debris can be reduced in volume by approximately 75%, based on data obtained during reduction operations. The terms “chipping” and “mulching” are often used interchangeably.

Construction, Demolition and Land-Clearing Wastes – Any type of solid waste resulting from land-clearing operations, the construction of new buildings or remodeling structures, or the demolition of any building or structure.

Debris - Scattered items and materials that were broken, destroyed, or displaced by a natural disaster. Examples: trees, construction and demolition material, personal property.

Debris Clearance – Clearing the major road arteries by pushing debris to the roadside to accommodate emergency traffic.

Debris Removal – Picking up debris and taking it to a temporary storage site or permanent landfill.

Final Debris Disposal – Placing mixed debris and/or residue from volume reduction operations into an approved landfill.

Force Account Labor – In this context, State, tribal or local government employees or contracted daily workers engaged in debris removal activities work paid-for on the basis of time taken and material consumed. Read more: http://www.businessdictionary.com/definition/force-account-work.html

Garbage – Waste that is normally picked up by a designated department (such as the Department of Solid Waste Management, or a Contractor). Examples: food, plastics, wrapping, papers.

Hazardous Waste – Any waste or combination of wastes of a solid, liquid, contained gaseous or semisolid form which because of its quantity, concentration, or physical, chemical, or infectious characteristics may:

- Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Also includes material and products from institutional, commercial, recreational, industrial and agricultural sources that contain certain chemicals with one or more of the following characteristics, as defined by the Environmental Protection Agency: 1) Toxic, 2) Flammable, 3) Corrosive; and/or 4) Reactive. Such wastes may include, but are not limited to, those that are persistent in nature, assimilated, or concentrated in tissue or which generate pressure through decomposition, heat, or other means. The term does not include solid or dissolved materials in domestic sewage or solid dissolved materials in irrigation return flows, or industrial discharges, which are point sources subject to state or federal permits.

Household Hazardous Waste (HHW) – Used or leftover contents of consumer products that contain chemicals with one or more of the following characteristics, as defined by the Environmental Protection Agency: 1) Toxic, 2) Flammable, 3) Corrosive and/or 4) Reactive. Examples of household hazardous waste include small quantities of normal household cleaning and maintenance products, latex and oil based paint, cleaning solvents, gasoline, oils, swimming pool chemicals, pesticides, and propane gas cylinders.

Hot Spots – Illegal dumpsites that may pose health and safety threats.

Illegal Dumping – Dumping garbage and rubbish, etc., on open lots is prohibited. No garbage, refuse, abandoned junk, solid waste or other offensive material shall be dumped, thrown onto, or allowed to remain on any lot or space within the District.

Industrial Waste – Any liquid, gaseous, solid, or other waste substance, or a combination thereof resulting from any process of industry, manufacturing, trade, or business or from the development of any natural resources.

Monitoring – Actions taken to ensure that a Contractor complies with the contract scope of work.

Mutual Aid Agreement – A written understanding between communities, states, or other government entities delineating the process of providing assistance during a disaster or emergency. (See FEMA Response and Recovery Directorate Policy Number 9523.6, “Mutual Aid Agreements for Public Assistance,” dated August 17, 1999.)

National Response Plan – A plan that describes the mechanism and structure by which the Federal government mobilizes resources and conducts activities to address the consequences of any major disaster or emergency that overwhelms the capabilities of State and local governments

Recycling – The recovery and reuse of metals, soils, and construction materials that may have a residual monetary value: The City of Manassas encourages the voluntary participation of all of its residents to reduce the waste stream through recycling. Residents are strongly encouraged to recycle all items that are recyclable and throw away for ultimate landfill disposal only those items, which cannot be recycled. Special containers are provided at numerous manned recycling and solid waste centers for the storage and collection of:

- Newspapers
- Green glass
- Brown glass
- Clear glass
- Aluminum and bi-metal beverage cans
- PET plastic milk jugs
- HDPE plastic drink bottles
- Used motor oil
- Lead acid batteries
- Scrap metals and appliances including refrigerators, stoves, water heaters, etc.
- Composts including leaves, limbs, brush, and yard wastes

Refuse and Recycling – Department typically responsible for managing and overseeing the collection of municipal solid waste, construction debris, recyclables, and disaster-related debris. Also responsible for managing refuse and recycling contract and special use permit for Manassas Transfer Station.

Rights-of-Way – The portions of land over which facilities, such as highways, railroads, or power lines are built. Includes land on both sides of the highway up to the private property line.

Scale/Weigh Station – A scale used to weigh trucks as they enter and leave a landfill. The difference in weight determines the tonnage dumped and a tipping fee may be charged accordingly. Also may be used to determine the quantity of debris picked-up and hauled.

Street Department – Department typically responsible for clearing debris from the roads and rights-of-way.

Sweeps – The number of times a Contractor passes through a community to collect all disaster-related debris from the rights-of-way. Usually limited to three passes through the community.

Temporary Debris Staging and Reduction (TDSR) Site – A location where debris is temporarily staged until it is sorted, processed, and reduced in volume and/or taken to a permanent landfill.

Tipping Fee – A fee based on weight or volume of debris dumped that is charged by landfills or other waste management facilities to cover their operating and maintenance costs. The fee also may include amounts to cover the cost of closing the current facility and/or opening a new facility.

Trash – Non-disaster related yard waste, white metals, or household furnishings placed on the curbside for pickup by local solid waste management personnel. Not synonymous with garbage.

United States Army Corps of Engineers (USACE) – The primary missions of the USACE are the design and management of construction projects for the Army and Air Force, and to oversee various flood control and navigation projects. The USACE may be tasked by FEMA to direct various aspects of debris operations when direct Federal assistance, issued through a mission assignment, is needed.

Volume Reduction Operations – Any of several processes used to reduce the volume of debris brought to a temporary debris storage and reduction site. It includes chipping and mulching of woody debris, shredding and baling of metals, air curtain burning, etc.

White Metals – Household appliances such as refrigerators, washers, dryers, and freezers.

Appendix B:
Debris Monitoring and Removal
Pre-Approved Contractors

Table B-1

Debris Monitoring Firms

Company	Contact Information
Tetra Tech, Inc. **10308 Eaton Place, Ste. 340** **Fairfax, VA 22030**	Jonathan Burgiel, Business Unit President Phone: (321) 441-8511 Fax: (321) 441-8501 Email: tdr.contracts@tetratech.com Web: www.tetratech.com

Table B-2

Pre-Qualified Debris Removal Contractors

Company	Contact Information
Ceres Environmental Services, Inc. **6968 PROFESSIONAL PARKWAY** **SARASOTA, FL 34240**	Tia Laurie, Corporate Secretary Phone: (800) 218-4424 Fax: (866) 228-5636 Email: tia.laurie@ceresenv.com Web: www.ceresenv.com

CITY OF MANASSAS, VIRGINIA
FINANCE DEPARTMENT
PURCHASING DIVISION
8500 Public Works Drive, Manassas, VA 20110 Telephone: (703) 257-8368 Facsimile: (703) 257-5813
Website: www.manassascity.org

CITY OF MANASSAS
STANDARD CONTRACT FOR GOODS, SERVICES, CONSTRUCTION AND INSURANCE
RESULTING FROM AN RFP

CONTRACT NO: 21P012A

SUBJECT: DISASTER DEBRIS MONITORING SERVICES

Between:

CITY OF MANASSAS
8500 PUBLIC WORKS DRIVE MANASSAS, VA 20110

CONTACT: COLLEEN BURROUGHS, REFUSE AND RECYCLING COORDINATOR
PHONE: 703-257-8252
FAX: 703-330-4429
E-MAIL: cburroughs@manassasva.gov

And the Contractor:

TETRA TECH, INC.
10308 EATON PL, STE 340
FAIRFAX, VA 22030

CONTACT: JONATHAN BURGIEL, BUSINESS UNIT PRESIDENT PHONE: 321-441-8511
FAX: 321-441-8501
E-MAIL: tdr.contracts@tetratech.com

This Contract (hereinafter, "Contract") is entered into on and as of September 23, 2021, by and between the CITY OF MANASSAS, a municipal corporation of the Commonwealth of Virginia (hereinafter, "City"), and Tetra Tech, Inc., (hereinafter "Contractor"), for Goods, Services, Construction and/or Insurance identified herein, on the following terms and conditions.

CONTRACT NO. 21P012A

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3. **BASIC TERMS:**

- **DEFINITIONS:**

Capitalized terms that are defined in the VPPA, City Policy, or the City's standard Request for Proposal for Goods, Services, Construction or Insurance have the same meanings in this Contract as are given in that law, policy, or Request for Proposal, except as provided below. Capitalized terms not defined in those sources but used in this Contract have the following meanings, unless the context clearly requires otherwise.
Undefined terms have their common meanings appropriate to their context.

- City or Owner**:** The City of Manassas, Virginia or its actually authorized agents. Unless the context clearly requires otherwise, such as for an affirmative vote of the elected body, the City Manager, Purchasing Manager, or other designee of City Council may always act on behalf of the City. Under Virginia law, no employee or agent may bind the City unless he or she has actual authority to do so; the doctrine of apparent authority has no application to municipalities.

- City Policy**:** The applicable provision contained in the City of Manassas Public Procurement Policy, as amended.

- "Contract Administrator" assigned to administer the Contract for the City is Ms. Colleen Burroughs, Refuse and Recycling Coordinator, 703-257-8252, but the City may designate a new Contract Administrator by notice to the Contractor.

- "Contractor's Representative" means the person who is responsible for the performance obligation of the Contractor under this Contract. The initial Contractor's Representative is Jonathan Burgiel, Business Unit President, 321-441-8511 but the Contractor may designate a new Contractor's Representative by notice to the City.

- "Drug-Free Workplace" means a site for the performance of work done in connection with a specific contract awarded to a Contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, dispensation, possession or use of any controlled substance or marijuana during the performance of the Contract.

- "Notice of Default" means a notice sent to the other party's designee (Contract Administrator for the City, Contractor's Representative for the Contractor) setting forth the facts showing that party to be in default under the Contract.

- "Notice of Termination" means a notice sent to the other party's designee (Contract Administrator for the City, Contractor's Representative for the Contractor) informing that party of the termination of the Contract as of a particular date.

- "RFP" means the Request for Proposal which led to the formation of this Contract.

- "Using Department" for purposes of this Contract shall mean Public Works Department.

- **PURPOSE OF THE CONTRACT:**

  - The Contractor hereby agrees to provide the following Goods, Services, Construction and/or Insurance to the City of Manassas:

Contractor to provide Disaster Debris Monitoring Services within the City of Manassas in the event of a natural or manmade disaster, per specifications of RFP 21P012.

- **CONTRACT PERIOD AND EXTENSIONS:**

  - The base term for this Contract shall be for one (1) year, September 23, 2021 through September 22, 2022 and may be renewed for four (4) additional one (1) year periods.

  - This Contract may be extended as provided in the RFP or by change order or amendment. The City shall give the Contractor reasonable written notice of intent to renew prior to the expiration date of the current Contract. In the absence of any notification to renew, the Contract shall automatically terminate on the expiration date specified in the Contract. Agreement to extend the Contract term shall not be final until the Contractor provides written acknowledgement of the extension. The option to renew shall be exercised at the sole discretion of the City.

  - No fixed price Contract, however, may increase the price by more than twenty-five percent of the amount of the Contract or $50,000, whichever is greater, without a recorded affirmative vote of the City Council. The City may extend the term of this Contract for Services to allow completion of any work undertaken but not completed during the original term of the Contract.

- **CONTRACT AMOUNT:**

In return for the Goods, Services, Insurance and/or Construction of the RFP identified above, and subject to the Termination for Non-Appropriation provision of this Contract, the City certifies that sufficient funds are budgeted and appropriated and shall compensate the Contractor in accordance with the payment provision of this Contract as set forth herein:

	FEE SCHEDULE	
1	Fixed Site Debris Monitors	$ 32.00 per hour
2	Field Debris Monitors	$ 32.00 per hour
3	Hazard Tree, Stump, or Tree Limb Hanger Removal Monitor	$ 32.00 per hour
4	Data Manager/Reporting Supervisor	$ 49.00 per hour
5	GIS Analyst/Mapping Coordinator	$ 45.00 per hour
6	Project Manager	$ 72.00 per hour
7	Emergency Operations Manager	$ 64.00 per hour
8	Field Supervisor	$ 45.00 per hour
9	Clerical Staff/Data Entry Clerk	$ 0.00 per hour
10	Environmental Specialist	$ 55.00 per hour
11	Additional Cost for providing an Automated Debris Data Collection system if used instead of paper load tickets.	$ 2.00
12	Other typical items and cost	
	Project Coordinator	$ 32.00 per hour

4. **FORMATION:**

- **CONDITIONS PRECEDENT TO FORMATION:**

Before any Contract between the City and the Contractor is effective, the following conditions precedent must be satisfied. Satisfaction of these conditions is the responsibility of the Contractor. If, after performance under the Contract, the City learns that a condition precedent was not met, the City may, if permitted by law, ratify the Contract by affirmative recorded vote or may disclaim it, in its sole discretion.

- Insurance: If the RFP requires certain insurance, the Contractor must provide proof of insurance in the amounts required by the Bid with an insurance company licensed to do business in the Commonwealth of Virginia. As used in this provision, "proof of insurance" means a copy of the relevant portions of the insurance declaration page, or its equivalent, showing continuing coverage at the required amounts.

  - Unless the Specifications state otherwise, the City shall be made an additional insured on all required policies of insurance.

  - No change, cancellation (other than noted below), or non-renewal shall be made in any insurance coverage without a thirty (30) day written notice to the Purchasing Manager. Notice for cancellation due to nonpayment of premium shall be no less than fifteen (15) days. The Contractor shall furnish proof of insurance prior to any change or cancellation date. The failure of the Contractor to deliver such proof of insurance is grounds for termination of the Contract.

- Insurance coverage required hereunder shall be in force throughout the Contract period. Should the Contractor fail to provide proof of insurance within ten (10) days of written notice requesting such at any time during the Contract term, the City shall have the absolute right to terminate the Contract.

- Compliance by the Contractor and any subcontractors with the foregoing requirements as to carrying insurance shall not relieve the Contractor or any subcontractors of their liabilities and obligations under this Contract. The Contractor shall assume all on-the-job responsibilities as to the control of persons directly employed by it and of the subcontractors and any person employed by the subcontractors.

- The City may and will, if requested by Contractor, reasonably accept proof of insurance provided by subcontractors or partners of the Contractor covering risks and hazards relating to work to be performed by such subcontractor and partners, in lieu of proof of insurance provided by Contractor. However, this shall not relieve Contractor of any of its other duties under this Paragraph II.A.1.

- Bonds: If the Bid requires payment or performance bonds (or certified checks or bank draft or Irrevocable Letter of Credit), then bonds with surety satisfactory to the City attorney shall be submitted to the Purchasing Manager for approval.

- Permits and licenses: If the procurement of the Goods, Services, Insurance or Construction that is the subject of this Contract requires possession of any licenses or receipt of any permits other than construction permits, then Contractor shall obtain those licenses and permits.

- Payment of Debts: Contractor must pay all amounts shown as due to the City on the City's accounts, even if a dispute exists as to the debt's validity or enforceability.

- **PARTIES:**

  - The sole parties to this Contract are the City of Manassas and the Contractor.

  - The General Contractor remains responsible for work of the subcontractor(s) notwithstanding the naming of the subcontractor(s) in the proposal, and the City reserves the right to approve or reject any subcontractor(s) or substitute subcontractor(s).

  - It is understood and agreed that the Contractor is at all times herein acting as an independent contractor.

- Neither this Contract, nor any part hereof, may be assigned by the Contractor to any other party without the express written permission of the City in advance. No assignment without such permission will relieve the Contractor of any responsibility under this Contract.

- There are no intended third-party beneficiaries of this Contract, unless it is made available by rider for other governmental entities to use. Making the Contract available to them by rider is the sole extent of the intended third-party benefit.

- If this Contract is made available by rider for other governmental entities to use, any contracts formed between the Contractor and such other governmental entities shall be solely between those parties. The City shall not be a party to any of these Contracts.

- **AUTHORITY TO EXECUTE:**

By executing this Contract on behalf of Contractor, the Contractor's Representative warrants that he or she has full authority to do so.

- **INCORPORATION OF DOCUMENTS:**

The documents listed below in this Section IID are hereby incorporated by reference and fully made a part of the Contract. This Contract and the incorporated documents describe the subject of the Procurement, the particulars of its performance, the process and time for payment, and the rights and remedies of the parties (collectively, "the terms"). In case of any conflict between those documents' terms, the documents shall be given precedence in the following order, from highest to lowest:

- Section II of the Request for Proposal (if any), inclusive of any Addendums, except to the extent modified through negotiation permitted by the VPPA,

- This Contract,

- Sections I and III-VI, both inclusive, of the RFP (if any),

- The Proposal of the Offeror.

5. **PERFORMANCE:**

- **CONTACTS:**

In addition to the Contract Administrator and the Contractor's Representative, the parties may designate additional contacts for exchange of information.

- **BEGINNING PERFORMANCE**

Contractor shall not begin performance under the Contract until the Contract Administrator issues it a purchase order, Procurement Card order, or other notification to proceed.

- **RISK OF LOSS AND ACCEPTANCE OF WORK:**

  - Contractor shall perform the work and deliver all Goods in accordance with recognized and customarily accepted industry practices, and performance shall be considered complete when the Contract Administrator approves the Services as acceptable. If the Contract Administrator rejects any deliverable, the Contractor shall be notified and shall have fourteen (14) calendar days from date of issuance of notification to correct the deficiencies and resubmit the deliverable.

  - Unless the City provides the materials or supplies, the Contractor bears the risk of damage or loss for materials or supplies covered by the Contract until delivery to the designated point. If the City rejects any deliverable, the Contractor bears all risk of damage or loss on them after notice of rejection. The Contractor must remove rejected materials or supplies at its own expense promptly after notification of rejection, unless public health and safety require immediate destruction or other disposal of a rejected delivery. If the Contractor does not remove rejected materials within ten (10) days after notification of rejection, the City may return the rejected materials or supplies to the Contractor at Contractor's risk and expense or may dispose of them as abandoned property.

- **WARRANTY:**

  - The Contractor warrants that all Services it performs and all Goods, Insurance, and Construction it delivers to the City will be of good quality and meet the specifications of this Contract and of all literature supplied by the Contractor as part of the selection process which led to the award of this Contract. "Literature" as used in this provision means any and all brochures, fliers, catalogs, Proposals, web sites, email, or other information, in whatever written form, relating to the quality, utility, economic advantages, or composition of the Goods or Services. This warranty is in addition to and does not substitute for the Contractor's warranties of title, against infringement, of merchantability, and of fitness for particular purpose under Virginia Code §§ 8.2-312, 8.2-314, and 8.2-315, which the parties expressly agree apply to this Contract.

  - The Contractor shall furnish all guarantees and warranties that the terms of this Contract require to the Purchasing Manager before the City makes final payment on the Contract. Unless otherwise stated, manufacturer's standard warranty applies.

- **INVOICES:**

  - Unless otherwise provided in the RFP, Contractor shall submit all its invoices for payment in the fiscal year in which the Goods, Services, Insurance or Construction were provided or within thirty days thereafter. The City operates on a fiscal year beginning on July 1 and ending on June 30 of each calendar year. Late invoices are subject to rejection if no appropriated funds are available for their payment.

  - The invoice must be in the name of the Contractor unless the City has received and approved an assignment.

  - The City will not be responsible for any cost or expenses of operation of any kind associated with Contractor's provision of Services pursuant to this Contract, except as set out herein. Contractor shall be entitled to no fees, bonuses, contingent payments, or any other amount in connection with the Services to be rendered hereunder except as set out herein. The City shall have no obligation to reimburse, pay directly or otherwise satisfy any taxes or other expenses of the Contractor in connection with the performance of its obligations under this Contract except as stated herein. If Contractor is deemed not to be an independent contractor by any local, state, or federal governmental agency, Contractor agrees to indemnify and hold harmless the City for any and all fees, costs, and expenses, including, but not limited to, attorneys fees incurred thereby.

  - The Contractor shall submit a proper invoice detailing the Goods, Services, Insurance or Construction provided, in duplicate. Such invoice shall include a detailed breakdown of all charges and shall be based on completion of tasks or deliverables for the period of time being billed.

  - Invoices shall be submitted to the address shown on the purchase order.

- **PAYMENT:**

  - In return for the Goods, Services, Construction and/or Insurance that are the subject of this Contract, and subject to the provision of this Contract relating to "Termination for Non-appropriation," the City shall compensate the Contractor within thirty (30) days after receipt of proper invoice for the amount of payment due or thirty (30) days after receipt of the Goods or Services, whichever is later.

  - The City reserves the right to withhold any or all payments or portions thereof for Contractor's failure to perform in accordance with the provisions of the Contract or any modifications thereto. The City will not pay for any rejected deliverable.

  - With Construction contracts that provide for progress payments in installments based upon an estimated percentage of completion, the City shall retain 5% of the amount earned for work done and materials delivered as retainage, to be paid in the final payment to the Contractor.

- Within seven days after receipt of amounts paid to the Contractor by the City for satisfactorily completed performance, the prime contractor agrees to:

  - Pay the subcontractor for the proportionate share of the total payment received from the City attributable to the work performed by the subcontractor under that contract; or

  - Notify the City and subcontractor, in writing, of his intention to withhold all or a part of the subcontractor's payment with the reason for nonpayment except for amounts properly retained as allowed under section 3 above.

If the Contractor after having received payment from the City fails to pay each subcontractor its proportionate share of the total payment, the Contractor shall be obligated to pay interest to each subcontractor on all amounts that remain unpaid after the seven days following receipt by the Contractor of payment from the City.

- Unless otherwise provided under the terms of this Contract or by statute, interest shall accrue at a rate of one percent per month against the Contractor on any unpaid amounts owed to each subcontractor.

- The Contractor shall include in each of its subcontracts a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements with respect to each lower-tier subcontractor.

- A Contractor that is an individual must provide his or her social security number and a Contractor that is any form of business entity must provide its federal employer identification number on a completed W-9 "Request for Taxpayer Identification Number and Certification" form, to be mailed to the City of Manassas, Accounting Division's Office, 9027 Center Street, Room 303, Manassas, VA 20110. A copy of this form can be downloaded from http://www.irs.gov./pub/irs-pdf/fw9.pdf. This information is required before payment can be made.

6. **TERMINATION OF CONTRACT:**

- **TERMINATION FOR DEFAULT:**

  - Either party may terminate this Contract, without further obligation, for the default of the other party.

  - With the exception of an emergency endangering life, safety, or the operation of the City government, a default will only exist after the party claiming default shall have provided notice and an opportunity to cure the default to the other party as follows:

- A written Notice of Default shall be given at least ten business days before the date set for termination and shall set forth the grounds for claiming default of the other party and the steps demanded to cure the default.

- If the party receiving the Notice of Default fails to cure the default before the end of the ten-business day period then that party shall be in default under the terms of the Contract and the non-defaulting party shall have the right to terminate the Contract by sending a written Notice of Termination to the defaulting party.

- **TERMINATION FOR CONVENIENCE:**

  - The City may terminate this Contract or any work or delivery required hereunder from time-to-time either in whole or in part, whenever the Contract Administrator, with the concurrence of the Purchasing Manager, determines that such termination is in the best interest of the City.

  - Termination may occur in whole or as to any discrete part of the Contract. A partial termination shall set forth the portions of the Contract which are terminated.

  - The effective date of the termination shall be three (3) days after issuance of a Notice of Termination signed by the Purchasing Manager and its mailing or delivery to the Contractor, or any later date specifically set forth in the Notice of Termination.

- **TERMINATION FOR NON-APPROPRIATION:**

  - If funds are not appropriated for purposes of this Contract for any succeeding fiscal year subsequent to the one in which this Contract is entered into, then the City may terminate this Contract upon thirty (30) days written notice to the Contractor. The notice shall set forth the grounds for termination and its effective date.

  - If the City terminates for non-appropriation, the City shall be liable only for payments due through the effective date of termination.

  - Until the effective date of the termination, the Contractor shall continue to perform its duties under the Contract and is not excused from performance related to any portion of the Contract.

- **CLAIMS UPON TERMINATION:**

  - Upon receipt of a Notice of Termination, the Contractor shall:

    - Cease any further deliveries or work due under this Contract, on the date, and to the extent, which may be specified in the Notice of Termination;

- Place no further orders with any subcontractors except as may be necessary to perform any portion of the Contract not subject to the Notice of Termination (i.e., in the case of partial termination);

- Terminate all subcontractors except to the extent necessary to complete work which was not subject to the Notice of Termination (i.e., in the case of partial termination);

- Settle all outstanding liabilities and claims which may arise out of such termination, with the ratification of the Contract Administrator and the Purchasing Manager; and

- Use its best efforts to mitigate any damages which may be sustained by the Contractor or any of its subcontractors as a consequence of termination under this clause.

- After complying with the foregoing provisions, the Contractor shall submit a termination claim within thirty days unless an extension is granted by the Contract Administrator. This termination claim shall document all amounts due under this provision.

- Upon receipt of the Contractor's termination claim, the Contract Administrator, with the approval of the Purchasing Manager, shall pay from the Using Department's budget the reasonable costs of termination, including a reasonable amount for profit on Services delivered or completed. In no event shall this amount be greater than the original Contract price, reduced by any payments made prior to Notice of Termination, and further reduced by the price of the Goods or Services not delivered, or those Goods, Services, or Insurance not provided, or Construction work not performed. The calculation of the amount to be paid the Contractor shall be documented and made a part of the Contract file.

- If the parties cannot agree on the whole amount to be paid to the Contractor by reason of termination under this clause, the Contract Administrator, with the approval of the Purchasing Manager, shall pay the Contractor from the Using Department's budget the amounts determined as follows, without duplicating any amount which may have already been paid under the preceding paragraph of this clause:

    - With respect to all Contract performance prior to the effective date of Notice of Termination, the total of:

- Cost of the Goods delivered or work performed; and
- The reasonable cost of settling and paying any claims as provided above; and
- A sum as profit on work performed determined by the Contract Administrator and Purchasing Manager to be fair and reasonable.

- The total sum to be paid shall not exceed the original Contract price, as reduced by the amount of payments otherwise made, and as further reduced by the Contract price of Goods, Services, Construction or Insurance not terminated.

- If the Contractor is not satisfied with any payments which the Contract Administrator and Purchasing Manager determines to be due under this provision, the Contractor may make a claim in accordance Section 7 of City Policy.

- In no event shall Contractor be entitled to any profits if this Contract is terminated for Contractor's default, and sums otherwise due to Contractor shall be reduced by the amount of any damages incurred by the City as a result of Contractor's default.

- The Contractor shall include similar provisions for termination in any subcontracts and shall require subcontractors to make reasonable efforts to mitigate damages if the Contract is terminated. Failure to include such provisions shall bar the Contractor from any recovery from the City whatsoever for loss or damage sustained by a subcontractor as a consequence of termination.

7. **STATUTORY REQUIREMENTS:**

- **EMPLOYMENT DISCRIMINATION:**

In all contracts, regardless of contract amount, the Contractor will abide by the provisions of the Americans with Disabilities Act, and will require each subcontractor to do so. If this Contract is for a consideration in excess of Ten Thousand Dollars ($10,000.00), then during the performance of this Contract, the Contractor agrees as follows:

- The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, sexual orientation or gender identity, national origin, age, disability, status as a service disabled veteran, political affiliation, or other basis prohibited by state or federal law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

- The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.

- Notices, advertisements, and solicitations placed in accordance with Federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

- The Contractor will include the provisions of this Contract section in every subcontract or purchase order over $10,000, so that the provisions will be binding upon each subcontractor or vendor.

- **ETHICS IN PUBLIC CONTRACTING:**

The provisions contained in Chapter 43, Article 6, Sections 2.2-4367 through 2.2-4377 of the Virginia Public Procurement Act, as set forth in the 1950 Code of Virginia, as amended, apply to this Contract. The provisions of Article 6 of Chapter 43 supplement, but do not supersede, other provisions of law including, but not limited to, the Virginia Conflict of Interest Act (§ 2.2-3100 et seq.), the Virginia Governmental Frauds Act
(§ 18.2-498.1 et seq.) and Articles 2 and 3 of Chapter 10 of Title 18.2. The provisions apply notwithstanding the fact that the conduct described may not constitute a violation of the Virginia Conflict of Interests Act.

- **DRUG-FREE WORKPLACE:**

During the performance of this Contract the Contractor agrees to:

- Provide a Drug-Free Workplace for the Contractor's employees.

- Post in conspicuous places, available to employees and applicants for employment a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition.

- State in all solicitations or advertisement for employees placed by or on behalf of the Contractor that the Contractor maintains a Drug-Free Workplace.

- Include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000.00, or so that the provisions will be binding upon each subcontractor or vendor.

- **FAITH-BASED ORGANIZATIONS:**

The City of Manassas in procuring Goods and Services, or in making disbursements pursuant to this section, shall not discriminate against a faith-based organization on the basis of the organization's religious character or impose conditions that restrict the religious character of the faith-based organization, except funds provided for expenditure pursuant to contracts with public bodies shall not be spent on religious worship, instruction, or proselytizing, or impair, diminish, or discourage the exercise of religious freedom by the recipients of such Goods, Services, or disbursement.

- **FOREIGN AND DOMESTIC BUSINESSES AUTHORIZED TO TRANSACT BUSINESS IN THE COMMONWEALTH:**

  - A contractor organized as a stock or non-stock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 or as otherwise required by law.

  - A contractor organized as a stock or non-stock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of this Contract. Notwithstanding any other provision of this Contract, the City may void any Contract with a business entity if the business entity fails to remain in compliance with this provision.

- **LEGAL COMPLIANCE:**

  - The Contractor shall be solely responsible for complying with all applicable federal, state and municipal laws, codes and regulations during the performance of the Contract.

  - The Contractor has the responsibility to ensure that its forces and its subcontractors under this Contract comply with all applicable Occupational Safety and Health Administration (OSHA) requirements and all applicable State and City safety and occupational health standards. The Contractor is responsible for the safety of its employees. The Contractor has the sole responsibility and authority to prevent any unsafe acts or conditions that may cause injury or damage to any persons or property within and around the work site area under this Contract.

  - The Contractor agrees that it does not, and shall not during the performance of the Contract for Goods and Services, knowingly employ an unauthorized alien or aliens as defined in the Federal Immigration Reform and Control Act of 1986.

8. **DISPUTES:**

- **GOVERNING LAW:**

This Contract is governed by the law of the Commonwealth of Virginia, including but not limited to the Virginia Public Procurement Act (VPPA), Sections 2.2-4300 et seq. of the Code of Virginia (1950), as amended. This Contract is also governed by the applicable City Policies.

- **HOLD HARMLESS:**

  - To the fullest extent permitted by law, the Contractor shall indemnify, defend, and hold harmless the City and its officers, agents, employees, community representatives, volunteers or others working on behalf of the City from any and all claims, judgments, suits, losses, damages, payments, costs, fines and/or fees levied against the City and expenses of every nature and description, including attorney's fees, arising out of, connected or associated with or resulting from the lack of performance or the negligent performance of work as described in this Contract, Contract Documents or any agreement that results from this Contract. Further, if the Contractor subcontracts for work, it will require in its subcontracts that each subcontractor indemnify, defend, and hold harmless the City and its officers, agents, employees and community representatives, from any and all claims and losses accruing or resulting from the negligent performance of work as described in any agreement that results from this Contract.

  - To the fullest extent permitted by law, the Contractor shall also indemnify, defend, and hold harmless the City and its officers, agents, employees, community representatives, volunteers or others working on behalf of the City against all costs, including reasonable attorney's fees, arising from liens encumbering the City's Property filed by subcontractors, sub-subcontractors, material suppliers, and all other persons and entities acting for and under the Contractor, and the Contractor shall immediately discharge or bond such liens off.

  - Virginia is a Dillon Rule state. Unless specifically permitted by statute, indemnification or any attempt to have the City hold others harmless is invalid and unenforceable as an impermissible waiver of the City's sovereign immunity which may create potential future debt in violation of Virginia Constitutional and statutory requirements. The City cannot waive its sovereign immunity.

- **CONDITIONS PRECEDENT TO PURSUIT OF LEGAL REMEDIES:**

Before the Contractor may exercise any legal remedy, it may have in relation to rights arising out of this Contract, it must comply fully and strictly with each provision of Section 7 of City Policy. The City does not have administrative appeals procedures under Virginia Code § 2.2-4365.

- **VENUE:**

Any action brought under this Contract must be brought in the state courts for the City of Manassas and may not be removed to the Federal Court system. Contractor expressly waives any objection to venue or jurisdiction of the Prince William County Courts in Manassas, VA.

- **LIMITATIONS ON ACTIONS:**

Any action brought under this Contract, except an action for breach of warranty, shall be brought within the shorter of the statutory limitations period and the period of three years from the date of final payment without any tolling of this statutory limitations period for any reason whatsoever.

- **WAIVER OF JURY TRIAL:**

In any action brought under this Contract, the parties expressly waive their right to trial by jury and agree to submit all questions of fact to the judge as trier of fact.

9. **GENERAL PROVISIONS:**

- **TIME OF THE ESSENCE:**

Time shall be of the essence to this Contract, except where it is herein specifically provided to the contrary.

- If the Contractor at any time finds that the schedule will not be met for any reason, the Contractor shall immediately provide written notice to the Contract Administrator setting forth all facts and circumstances related to the delay.

- Where the Contractor is prevented from completing any part of the Work within the Contract Period due to abnormal weather conditions the Contract Period will be extended in an amount calculated as stated below if a Claim is made for extension in writing and provided to the City within the time frame and in the manner prescribed and if the performance of the Work is not, was not, or would not have been delayed by any other cause for which the Contractor is not entitled to an extension of the Contract Period under the Contract Documents.

- Contractor acknowledges and agrees that adjustments in the Contract Period will be permitted for a delay only to the extent such delay (i) is not caused, or could not have been anticipated, by Contractor; (ii) could not be limited or avoided by the Contractor's timely notice to the City of the delay or reasonable likelihood that a delay will occur; and (iii) is of a duration not less than one day. Such an adjustment of time shall be Contractor’s sole and exclusive remedy for the delays described in this Section.

- Actual adverse weather delay days must prevent work on critical activities outdoors for fifty percent (50%) or more of Contractor's scheduled workday in order to be counted. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. Where Contractor is prevented from completing any part of the Work within the Contract Period due to abnormal weather conditions, the Contract Period will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore as provided herein. Abnormal weather conditions occur only if the total number of actual adverse weather days exceeds the standard for that month as shown in the following table:

Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
7	7	8	7	8	7	8	8	6	6	6	6

- Upon commencement of on-site activities and continuing throughout construction, Contractor shall record daily the occurrence of adverse weather and resultant impact to normally scheduled work and within 30 days of the last day of any month (hereinafter referred to as the "Reporting Month"), Contractor shall submit a written adverse weather report, including copies of Contractor's daily weather reports and applicable climatologically data from the National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location, unless the City allows, in writing, an additional period of time for the submission of said report. Notwithstanding any other provisions, failure to submit the required written report within the time specified above shall be deemed to be and shall constitute a waiver by Contractor of any and all claims for delay due to adverse weather conditions occurring during said Reporting Month.

- The City shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

- Contractor shall not be entitled to an adjustment in Contract Price or Contract Period for delays within the control of Contractor. Delays attributable to and within the control of a subcontractor or supplier shall be deemed to be delays within the control of Contractor.

- **INTERPRETATION AND MODIFICATION OF THE CONTRACT:**

  - This Contract, including its incorporated documents, contains the whole agreement between the parties as to its subject, and no prior or contemporaneous communications, representations, or agreements, written or verbal, may alter, add to, or contradict any provision in it. There are no promises, terms, conditions, or obligations related to the subject of this Contract other than those contained herein.

- All modifications and changes to the Contract shall be in writing and signed by the Purchasing Manager.

- If a Court of competent jurisdiction finds any provision of this Contract to be invalid, such ruling shall not invalidate the entire Contract but shall apply only to the provision in question and the remaining provisions shall continue to be valid, binding and in full force and effect to the maximum extent permitted by law.

- The Contract Administrator, with the concurrence of the Purchasing Manager, shall have the authority to order changes in this Contract, which affect the cost or time of performance. Such changes shall be ordered in writing specifically designated to be a "Change Order" and signed by the City Manager, or Purchasing Manager.

    - Such orders shall be limited to reasonable changes in the supplies, Services to be performed or the time of performance; provided that the Contractor shall not be excused from performance under the changed Contract by failure to agree to such changes, and it is the express purpose of this provision to permit unilateral changes in the Contract subject to the conditions and limitations herein.

    - Contractor need not perform any work described in any Change Order unless it has received a written certification from the City that there are funds budgeted and appropriated sufficient to cover the cost of such changes.

    - The Contractor shall make a demand for payment for completed changed work within 30 days of completion of Change Order, unless such time period is extended in writing, or unless the Contract Administrator requires submission of a cost proposal prior to the initiation of any changed work or Services.

    - No claim for changes made by Change Order shall be considered if made after final payment in accordance with the Contract.

- **EXAMINATION OF RECORDS:**

    - The Contractor agrees that the City or any duly authorized representative of the City may have access to and the right to examine and copy any directly pertinent books, documents, papers, and records of the Contractor involving transactions related to this Contract. This right shall expire on the third anniversary of the issuance of final payment under this Contract.

- The Contractor further agrees to include in any subcontract for more than $10,000 entered into as a result of this Contract, a provision to the effect that the subcontractor agrees that the City or any duly authorized representative may have access to and the right to examine and copy any directly pertinent books, documents, papers, and records of such subcontractor involved in transactions related to such subcontract, or this Contract. The term subcontract as used herein shall exclude subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public. This right expires on the third anniversary of the issuance of final payment to the subcontractor.

- **ASSIGNMENT OF RIGHTS:**

  - Antitrust: By entering into a Contract, the Contractor conveys, sells, assigns, and transfers to the City all righ , title and interest in and to all causes of action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular Goods or Services purchased or acquired by the City under said Contract.

  - Warranty: By entering into a Contract, the Contractor conveys, sells, assigns and transfers to the City all warranties related to Goods or Services provided to the City under this Contract.

IN TESTIMONY WHEREOF, the City of Manassas has caused its name to be hereunto subscribed pursuant to authority heretofore duly granted by the City Council of the City of Manassas; and

Contractor has caused its name to be hereunto subscribed by Contractor.'s Representative, and (if a Corporation) has caused its corporate seal to be duly affixed and attested by the person authorized to do so, signifying that it intends to be bound by this Contract.

CITY OF MANASSA
By:

Authorized Official

Terry A Burke

Print Name and Title

CONTRACTOR
By:

Contractor's Representative

Jonathan Burgiel, Business Unit President

Print Name and Title

CITY OF MANASSAS, VIRGINIA

FINANCE DEPARTMENT
PURCHASING DIVISION
8500 Public Works Drive, Manassas, VA 20110 Telephone: (703) 257-8368 Facsimile: (703) 257-5813
Website: www.manassascity.org

CITY OF MANASSAS
STANDARD CONTRACT FOR GOODS, SERVICES, CONSTRUCTION AND INSURANCE RESULTING FROM AN RFP

CONTRACT NO: 21P011A

SUBJECT: DISASTER DEBRIS REMOVAL SERVICES

Between:

CITY OF MANASSAS
8500 PUBLIC WORKS DRIVE MANASSAS, VA 20110

CONTACT: COLLEEN BURROUGHS, REFUSE AND RECYCLING COORDINATOR
PHONE: 703-257-8252
FAX: 703-330-4429
E-MAIL: cburroughs@manassasva.gov

And the Contractor:

CERES ENVIRONMENTAL SERVICES, INC. 6968 PROFESSIONAL PARKAY
SARASOTA, FL 34240

CONTACT: DAWN BROWN, ASSISTANT CORPORATE SECRETARY PHONE: 800-218-4424
FAX: 866-228-5636
E-MAIL: dawn.brown@ceresenv.com

This Contract (hereinafter, "Contract") is entered into on and as of September 23, 2021, by and between the CITY OF MANASSAS, a municipal corporation of the Commonwealth of Virginia (hereinafter, "City"), and Ceres Environmental Services, Inc., (hereinafter "Contractor"), for Goods, Services, Construction and/or Insurance identified herein, on the following terms and conditions.

CONTRACT NO. 21P011A

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10. **BASIC TERMS:**

- **DEFINITIONS:**

Capitalized terms that are defined in the VPPA, City Policy, or the City's standard Request for Proposal for Goods, Services, Construction or Insurance have the same meanings in this Contract as are given in that law, policy, or Request for Proposal, except as provided below. Capitalized terms not defined in those sources but used in this Contract have the following meanings, unless the context clearly requires otherwise.
Undefined terms have their common meanings appropriate to their context.

- City or Owner**:** The City of Manassas, Virginia or its actually authorized agents. Unless the context clearly requires otherwise, such as for an affirmative vote of the elected body, the City Manager, Purchasing Manager, or other designee of City Council may always act on behalf of the City. Under Virginia law, no employee or agent may bind the City unless he or she has actual authority to do so; the doctrine of apparent authority has no application to municipalities.

- City Policy**:** The applicable provision contained in the City of Manassas Public Procurement Policy, as amended.

- "Contract Administrator" assigned to administer the Contract for the City is Ms. Colleen Burroughs, Refuse and Recycling Coordinator, 703-257-8252, but the City may designate a new Contract Administrator by notice to the Contractor.

- "Contractor's Representative" means the person who is responsible for the performance obligation of the Contractor under this Contract. The initial Contractor's Representative is Dawn Brown, Assistant Corporate Secretary, 800-218-4424 but the Contractor may designate a new Contractor's Representative by notice to the City.

- "Drug-Free Workplace" means a site for the performance of work done in connection with a specific contract awarded to a Contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, dispensation, possession or use of any controlled substance or marijuana during the performance of the Contract.

- "Notice of Default" means a notice sent to the other party's designee (Contract Administrator for the City, Contractor's Representative for the Contractor) setting forth the facts showing that party to be in default under the Contract.

- "Notice of Termination" means a notice sent to the other party's designee (Contract Administrator for the City, Contractor's Representative for the Contractor) informing that party of the termination of the Contract as of a particular date.

- "RFP" means the Request for Proposal which led to the formation of this Contract.

- "Using Department" for purposes of this Contract shall mean Public Works Department.

- **PURPOSE OF THE CONTRACT:**

  - The Contractor hereby agrees to provide the following Goods, Services, Construction and/or Insurance to the City of Manassas:

Contractor to perform disaster debris removal, reduction, disposal and other emergency clean-up activities associated with a hurricane, storm, tornado or other natural or manmade disaster, per specifications of RFP 21P011.

- **CONTRACT PERIOD AND EXTENSIONS:**

  - The base term for this Contract shall be for one (1) year, September 23, 2021 through September 22, 2022 and may be renewed for four (4) additional one (1) year periods.

  - This Contract may be extended as provided in the RFP or by change order or amendment. The City shall give the Contractor reasonable written notice of intent to renew prior to the expiration date of the current Contract. In the absence of any notification to renew, the Contract shall automatically terminate on the expiration date specified in the Contract. Agreement to extend the Contract term shall not be final until the Contractor provides written acknowledgement of the extension. The option to renew shall be exercised at the sole discretion of the City.

  - No fixed price Contract, however, may increase the price by more than twenty-five percent of the amount of the Contract or $50,000, whichever is greater, without a recorded affirmative vote of the City Council. The City may extend the term of this Contract for Services to allow completion of any work undertaken but not completed during the original term of the Contract.

- **CONTRACT AMOUNT:**

In return for the Goods, Services, Insurance and/or Construction of the RFP identified above, and subject to the Termination for Non-Appropriation provision of this Contract, the City certifies that sufficient funds are budgeted and appropriated and shall compensate the Contractor in accordance with the payment provision of this Contract as set forth herein:

Contractor shall be compensated per the rates as shown on the attached Proposal Submission Form or on Attachment "A".

11. **FORMATION:**

- **CONDITIONS PRECEDENT TO FORMATION:**

Before any Contract between the City and the Contractor is effective, the following conditions precedent must be satisfied. Satisfaction of these conditions is the responsibility of the Contractor. If, after performance under the Contract, the City learns that a condition precedent was not met, the City may, if permitted by law, ratify the Contract by affirmative recorded vote or may disclaim it, in its sole discretion.

- Insurance: If the RFP requires certain insurance, the Contractor must provide proof of insurance in the amounts required by the Bid with an insurance company licensed to do business in the Commonwealth of Virginia. As used in this provision, "proof of insurance" means a copy of the relevant portions of the insurance declaration page, or its equivalent, showing continuing coverage at the required amounts.

  - Unless the Specifications state otherwise, the City shall be made an additional insured on all required policies of insurance.

  - No change, cancellation (other than noted below), or non-renewal shall be made in any insurance coverage without a thirty (30) day written notice to the Purchasing Manager. Notice for cancellation due to nonpayment of premium shall be no less than fifteen (15) days. The Contractor shall furnish proof of insurance prior to any change or cancellation date. The failure of the Contractor to deliver such proof of insurance is grounds for termination of the Contract.

  - Insurance coverage required hereunder shall be in force throughout the Contract period. Should the Contractor fail to provide proof of insurance within ten (10) days of written notice requesting such at any time during the Contract term, the City shall have the absolute right to terminate the Contract.

  - Compliance by the Contractor and any subcontractors with the foregoing requirements as to carrying insurance shall not relieve the Contractor or any subcontractors of their liabilities and obligations under this Contract. The Contractor shall assume all on-the-job responsibilities as to the control of persons directly employed by it and of the subcontractors and any person employed by the subcontractors.

  - The City may and will, if requested by Contractor, reasonably accept proof of insurance provided by subcontractors or partners of the Contractor covering risks and hazards relating to work to be performed by such subcontractor and partners, in lieu of proof of insurance provided by Contractor. However, this shall not relieve Contractor of any of its other duties under this Paragraph II.A.1.

- Bonds: If the Bid requires payment or performance bonds (or certified checks or bank draft or Irrevocable Letter of Credit), then bonds with surety satisfactory to the City attorney shall be submitted to the Purchasing Manager for approval.

- Permits and licenses: If the procurement of the Goods, Services, Insurance or Construction that is the subject of this Contract requires possession of any licenses or receipt of any permits other than construction permits, then Contractor shall obtain those licenses and permits.

- Payment of Debts: Contractor must pay all amounts shown as due to the City on the City's accounts, even if a dispute exists as to the debt's validity or enforceability.

- **PARTIES:**

  - The sole parties to this Contract are the City of Manassas and the Contractor.

  - The General Contractor remains responsible for work of the subcontractor(s) notwithstanding the naming of the subcontractor(s) in the proposal, and the City reserves the right to approve or reject any subcontractor(s) or substitute subcontractor(s).

  - It is understood and agreed that the Contractor is at all times herein acting as an independent contractor.

  - Neither this Contract, nor any part hereof, may be assigned by the Contractor to any other party without the express written permission of the City in advance. No assignment without such permission will relieve the Contractor of any responsibility under this Contract.

  - There are no intended third-party beneficiaries of this Contract, unless it is made available by rider for other governmental entities to use. Making the Contract available to them by rider is the sole extent of the intended third-party benefit.

  - If this Contract is made available by rider for other governmental entities to use, any contracts formed between the Contractor and such other governmental entities shall be solely between those parties. The City shall not be a party to any of these Contracts.

- **AUTHORITY TO EXECUTE:**

By executing this Contract on behalf of Contractor, the Contractor's Representative warrants that he or she has full authority to do so.

- **INCORPORATION OF DOCUMENTS:**

The documents listed below in this Section IID are hereby incorporated by reference and fully made a part of the Contract. This Contract and the incorporated documents describe the subject of the Procurement, the particulars of its performance, the process and time for payment, and the rights and remedies of the parties (collectively, "the terms"). In case of any conflict between those documents' terms, the documents shall be given precedence in the following order, from highest to lowest:

- Section II of the Request for Proposal (if any), inclusive of any Addendums, except to the extent modified through negotiation permitted by the VPPA,
- This Contract,
- Sections I and III-VI, both inclusive, of the RFP (if any),
- The Proposal of the Offeror.

12. **PERFORMANCE:**

- **CONTACTS:**

In addition to the Contract Administrator and the Contractor's Representative, the parties may designate additional contacts for exchange of information.

- **BEGINNING PERFORMANCE**

Contractor shall not begin performance under the Contract until the Contract Administrator issues it a purchase order, Procurement Card order, or other notification to proceed.

- **RISK OF LOSS AND ACCEPTANCE OF WORK:**
  - Contractor shall perform the work and deliver all Goods in accordance with recognized and customarily accepted industry practices, and performance shall be considered complete when the Contract Administrator approves the Services as acceptable. If the Contract Administrator rejects any deliverable, the Contractor shall be notified and shall have fourteen (14) calendar days from date of issuance of notification to correct the deficiencies and resubmit the deliverable.

- Unless the City provides the materials or supplies, the Contractor bears the risk of damage or loss for materials or supplies covered by the Contract until delivery to the designated point. If the City rejects any deliverable, the Contractor bears all risk of damage or loss on them after notice of rejection. The Contractor must remove rejected materials or supplies at its own expense promptly after notification of rejection, unless public health and safety require immediate destruction or other disposal of a rejected delivery. If the Contractor does not remove rejected materials within ten (10) days after notification of rejection, the City may return the rejected materials or supplies to the Contractor at Contractor's risk and expense or may dispose of them as abandoned property.

- **WARRANTY:**

  - The Contractor warrants that all Services it performs and all Goods, Insurance, and Construction it delivers to the City will be of good quality and meet the specifications of this Contract and of all literature supplied by the Contractor as part of the selection process which led to the award of this Contract. "Literature" as used in this provision means any and all brochures, fliers, catalogs, Proposals, web sites, email, or other information, in whatever written form, relating to the quality, utility, economic advantages, or composition of the Goods or Services. This warranty is in addition to and does not substitute for the Contractor's warranties of title, against infringement, of merchantability, and of fitness for particular purpose under Virginia Code §§ 8.2-312, 8.2-314, and 8.2-315, which the parties expressly agree apply to this Contract.

  - The Contractor shall furnish all guarantees and warranties that the terms of this Contract require to the Purchasing Manager before the City makes final payment on the Contract. Unless otherwise stated, manufacturer's standard warranty applies.

- **INVOICES:**

  - Unless otherwise provided in the RFP, Contractor shall submit all its invoices for payment in the fiscal year in which the Goods, Services, Insurance or Construction were provided or within thirty days thereafter. The City operates on a fiscal year beginning on July 1 and ending on June 30 of each calendar year. Late invoices are subject to rejection if no appropriated funds are available for their payment.

  - The invoice must be in the name of the Contractor unless the City has received and approved an assignment.

- The City will not be responsible for any cost or expenses of operation of any kind associated with Contractor's provision of Services pursuant to this Contract, except as set out herein. Contractor shall be entitled to no fees, bonuses, contingent payments, or any other amount in connection with the Services to be rendered hereunder except as set out herein. The City shall have no obligation to reimburse, pay directly or otherwise satisfy any taxes or other expenses of the Contractor in connection with the performance of its obligations under this Contract except as stated herein. If Contractor is deemed not to be an independent contractor by any local, state, or federal governmental agency, Contractor agrees to indemnify and hold harmless the City for any and all fees, costs, and expenses, including, but not limited to, attorneys fees incurred thereby.

- The Contractor shall submit a proper invoice detailing the Goods, Services, Insurance or Construction provided, in duplicate. Such invoice shall include a detailed breakdown of all charges and shall be based on completion of tasks or deliverables for the period of time being billed.

- Invoices shall be submitted to the address shown on the purchase order.

- **PAYMENT:**

  - In return for the Goods, Services, Construction and/or Insurance that are the subject of this Contract, and subject to the provision of this Contract relating to "Termination for Non-appropriation," the City shall compensate the Contractor within thirty (30) days after receipt of proper invoice for the amount of payment due or thirty (30) days after receipt of the Goods or Services, whichever is later.

  - The City reserves the right to withhold any or all payments or portions thereof for Contractor's failure to perform in accordance with the provisions of the Contract or any modifications thereto. The City will not pay for any rejected deliverable.

  - With Construction contracts that provide for progress payments in installments based upon an estimated percentage of completion, the City shall retain 5% of the amount earned for work done and materials delivered as retainage, to be paid in the final payment to the Contractor.

  - Within seven days after receipt of amounts paid to the Contractor by the City for satisfactorily completed performance, the prime contractor agrees to:

    - Pay the subcontractor for the proportionate share of the total payment received from the City attributable to the work performed by the subcontractor under that contract; or

- Notify the City and subcontractor, in writing, of his intention to withhold all or a part of the subcontractor's payment with the reason for nonpayment except for amounts properly retained as allowed under section 3 above.

If the Contractor after having received payment from the City fails to pay each subcontractor its proportionate share of the total payment, the Contractor shall be obligated to pay interest to each subcontractor on all amounts that remain unpaid after the seven days following receipt by the Contractor of payment from the City.

- Unless otherwise provided under the terms of this Contract or by statute, interest shall accrue at a rate of one percent per month against the Contractor on any unpaid amounts owed to each subcontractor.

- The Contractor shall include in each of its subcontracts a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements with respect to each lower-tier subcontractor.

- A Contractor that is an individual must provide his or her social security number and a Contractor that is any form of business entity must provide its federal employer identification number on a completed W-9 "Request for Taxpayer Identification Number and Certification" form, to be mailed to the City of Manassas, Accounting Division's Office, 9027 Center Street, Room 303, Manassas, VA 20110. A copy of this form can be downloaded from http://www.irs.gov./pub/irs-pdf/fw9.pdf. This information is required before payment can be made.

13. **TERMINATION OF CONTRACT:**

- **TERMINATION FOR DEFAULT:**

  - Either party may terminate this Contract, without further obligation, for the default of the other party.

  - With the exception of an emergency endangering life, safety, or the operation of the City government, a default will only exist after the party claiming default shall have provided notice and an opportunity to cure the default to the other party as follows:

    - A written Notice of Default shall be given at least ten business days before the date set for termination and shall set forth the grounds for claiming default of the other party and the steps demanded to cure the default.

    - If the party receiving the Notice of Default fails to cure the default before the end of the ten-business day period then that party shall be in default under the terms of the Contract and the non-defaulting party shall have the right to terminate the Contract by sending a written Notice of Termination to the defaulting party.

- **TERMINATION FOR CONVENIENCE:**

  - The City may terminate this Contract or any work or delivery required hereunder from time-to-time either in whole or in part, whenever the Contract Administrator, with the concurrence of the Purchasing Manager, determines that such termination is in the best interest of the City.

  - Termination may occur in whole or as to any discrete part of the Contract. A partial termination shall set forth the portions of the Contract which are terminated.

  - The effective date of the termination shall be three (3) days after issuance of a Notice of Termination signed by the Purchasing Manager and its mailing or delivery to the Contractor, or any later date specifically set forth in the Notice of Termination.

- **TERMINATION FOR NON-APPROPRIATION:**

  - If funds are not appropriated for purposes of this Contract for any succeeding fiscal year subsequent to the one in which this Contract is entered into, then the City may terminate this Contract upon thirty (30) days written notice to the Contractor. The notice shall set forth the grounds for termination and its effective date.

  - If the City terminates for non-appropriation, the City shall be liable only for payments due through the effective date of termination.

  - Until the effective date of the termination, the Contractor shall continue to perform its duties under the Contract and is not excused from performance related to any portion of the Contract.

- **CLAIMS UPON TERMINATION:**

  - Upon receipt of a Notice of Termination, the Contractor shall:

    - Cease any further deliveries or work due under this Contract, on the date, and to the extent, which may be specified in the Notice of Termination;

    - Place no further orders with any subcontractors except as may be necessary to perform any portion of the Contract not subject to the Notice of Termination (i.e., in the case of partial termination);

    - Terminate all subcontractors except to the extent necessary to complete work which was not subject to the Notice of Termination (i.e., in the case of partial termination);

- Settle all outstanding liabilities and claims which may arise out of such termination, with the ratification of the Contract Administrator and the Purchasing Manager; and

- Use its best efforts to mitigate any damages which may be sustained by the Contractor or any of its subcontractors as a consequence of termination under this clause.

- After complying with the foregoing provisions, the Contractor shall submit a termination claim within thirty days unless an extension is granted by the Contract Administrator. This termination claim shall document all amounts due under this provision.

  - Upon receipt of the Contractor's termination claim, the Contract Administrator, with the approval of the Purchasing Manager, shall pay from the Using Department's budget the reasonable costs of termination, including a reasonable amount for profit on Services delivered or completed. In no event shall this amount be greater than the original Contract price, reduced by any payments made prior to Notice of Termination, and further reduced by the price of the Goods or Services not delivered, or those Goods, Services, or Insurance not provided, or Construction work not performed. The calculation of the amount to be paid the Contractor shall be documented and made a part of the Contract file.

  - If the parties cannot agree on the whole amount to be paid to the Contractor by reason of termination under this clause, the Contract Administrator, with the approval of the Purchasing Manager, shall pay the Contractor from the Using Department's budget the amounts determined as follows, without duplicating any amount which may have already been paid under the preceding paragraph of this clause:

    - With respect to all Contract performance prior to the effective date of Notice of Termination, the total of:

      - Cost of the Goods delivered or work performed; and
      - The reasonable cost of settling and paying any claims as provided above; and
      - A sum as profit on work performed determined by the Contract Administrator and Purchasing Manager to be fair and reasonable.

    - The total sum to be paid shall not exceed the original Contract price, as reduced by the amount of payments otherwise made, and as further reduced by the Contract price of Goods, Services, Construction or Insurance not terminated.

- If the Contractor is not satisfied with any payments which the Contract Administrator and Purchasing Manager determines to be due under this provision, the Contractor may make a claim in accordance Section 7 of City Policy.

- In no event shall Contractor be entitled to any profits if this Contract is terminated for Contractor's default, and sums otherwise due to Contractor shall be reduced by the amount of any damages incurred by the City as a result of Contractor's default.

- The Contractor shall include similar provisions for termination in any subcontracts and shall require subcontractors to make reasonable efforts to mitigate damages if the Contract is terminated. Failure to include such provisions shall bar the Contractor from any recovery from the City whatsoever for loss or damage sustained by a subcontractor as a consequence of termination.

14. **STATUTORY REQUIREMENTS:**

- **EMPLOYMENT DISCRIMINATION:**

In all contracts, regardless of contract amount, the Contractor will abide by the provisions of the Americans with Disabilities Act, and will require each subcontractor to do so. If this Contract is for a consideration in excess of Ten Thousand Dollars ($10,000.00), then during the performance of this Contract, the Contractor agrees as follows:

- The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, sexual orientation or gender identity, national origin, age, disability, status as a service disabled veteran, political affiliation, or other basis prohibited by state or federal law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

- The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.

- Notices, advertisements, and solicitations placed in accordance with Federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

- The Contractor will include the provisions of this Contract section in every subcontract or purchase order over $10,000, so that the provisions will be binding upon each subcontractor or vendor.

- **ETHICS IN PUBLIC CONTRACTING:**

The provisions contained in Chapter 43, Article 6, Sections 2.2-4367 through 2.2-4377 of the Virginia Public Procurement Act, as set forth in the 1950 Code of Virginia, as amended, apply to this Contract. The provisions of Article 6 of Chapter 43 supplement, but do not supersede, other provisions of law including, but not limited to, the Virginia Conflict of Interest Act (§ 2.2-3100 et seq.), the Virginia Governmental Frauds Act
(§ 18.2-498.1 et seq.) and Articles 2 and 3 of Chapter 10 of Title 18.2. The provisions apply notwithstanding the fact that the conduct described may not constitute a violation of the Virginia Conflict of Interests Act.

- **DRUG-FREE WORKPLACE:**

During the performance of this Contract the Contractor agrees to:

- Provide a Drug-Free Workplace for the Contractor's employees.
- Post in conspicuous places, available to employees and applicants for employment a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- State in all solicitations or advertisement for employees placed by or on behalf of the Contractor that the Contractor maintains a Drug-Free Workplace.
- Include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000.00, or so that the provisions will be binding upon each subcontractor or vendor.

- **FAITH-BASED ORGANIZATIONS:**

The City of Manassas in procuring Goods and Services, or in making disbursements pursuant to this section, shall not discriminate against a faith-based organization on the basis of the organization's religious character or impose conditions that restrict the religious character of the faith-based organization, except funds provided for expenditure pursuant to contracts with public bodies shall not be spent on religious worship, instruction, or proselytizing, or impair, diminish, or discourage the exercise of religious freedom by the recipients of such Goods, Services, or disbursement.

- **FOREIGN AND DOMESTIC BUSINESSES AUTHORIZED TO TRANSACT BUSINESS IN THE COMMONWEALTH:**

  - A contractor organized as a stock or non-stock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 or as otherwise required by law.

  - A contractor organized as a stock or non-stock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of this Contract. Notwithstanding any other provision of this Contract, the City may void any Contract with a business entity if the business entity fails to remain in compliance with this provision.

- **LEGAL COMPLIANCE:**

  - The Contractor shall be solely responsible for complying with all applicable federal, state and municipal laws, codes and regulations during the performance of the Contract.

  - The Contractor has the responsibility to ensure that its forces and its subcontractors under this Contract comply with all applicable Occupational Safety and Health Administration (OSHA) requirements and all applicable State and City safety and occupational health standards. The Contractor is responsible for the safety of its employees. The Contractor has the sole responsibility and authority to prevent any unsafe acts or conditions that may cause injury or damage to any persons or property within and around the work site area under this Contract.

  - The Contractor agrees that it does not, and shall not during the performance of the Contract for Goods and Services, knowingly employ an unauthorized alien or aliens as defined in the Federal Immigration Reform and Control Act of 1986.

15. **DISPUTES:**

- **GOVERNING LAW:**

This Contract is governed by the law of the Commonwealth of Virginia, including but not limited to the Virginia Public Procurement Act (VPPA), Sections 2.2-4300 et seq. of the Code of Virginia (1950), as amended. This Contract is also governed by the applicable City Policies.

- **HOLD HARMLESS:**

  - To the fullest extent permitted by law, the Contractor shall indemnify, defend, and hold harmless the City and its officers, agents, employees, community representatives, volunteers or others working on behalf of the City from any and all claims, judgments, suits, losses, damages, payments, costs, fines and/or fees levied against the City and expenses of every nature and description, including attorney's fees, arising out of, connected or associated with or resulting from the lack of performance or the negligent performance of work as described in this Contract, Contract Documents or any agreement that results from this Contract. Further, if the Contractor subcontracts for work, it will require in its subcontracts that each subcontractor indemnify, defend, and hold harmless the City and its officers, agents, employees and community representatives, from any and all claims and losses accruing or resulting from the negligent performance of work as described in any agreement that results from this Contract.

  - To the fullest extent permitted by law, the Contractor shall also indemnify, defend, and hold harmless the City and its officers, agents, employees, community representatives, volunteers or others working on behalf of the City against all costs, including reasonable attorney's fees, arising from liens encumbering the City's Property filed by subcontractors, sub-subcontractors, material suppliers, and all other persons and entities acting for and under the Contractor, and the Contractor shall immediately discharge or bond such liens off.

  - Virginia is a Dillon Rule state. Unless specifically permitted by statute, indemnification or any attempt to have the City hold others harmless is invalid and unenforceable as an impermissible waiver of the City's sovereign immunity which may create potential future debt in violation of Virginia Constitutional and statutory requirements. The City cannot waive its sovereign immunity.

- **CONDITIONS PRECEDENT TO PURSUIT OF LEGAL REMEDIES:**

Before the Contractor may exercise any legal remedy, it may have in relation to rights arising out of this Contract, it must comply fully and strictly with each provision of Section 7 of City Policy. The City does not have administrative appeals procedures under Virginia Code § 2.2-4365.

- **VENUE:**

Any action brought under this Contract must be brought in the state courts for the City of Manassas and may not be removed to the Federal Court system. Contractor expressly waives any objection to venue or jurisdiction of the Prince William County Courts in Manassas, VA.

- **LIMITATIONS ON ACTIONS:**

Any action brought under this Contract, except an action for breach of warranty, shall be brought within the shorter of the statutory limitations period and the period of three years from the date of final payment without any tolling of this statutory limitations period for any reason whatsoever.

- **WAIVER OF JURY TRIAL:**

In any action brought under this Contract, the parties expressly waive their right to trial by jury and agree to submit all questions of fact to the judge as trier of fact.

16. **GENERAL PROVISIONS:**

- **TIME OF THE ESSENCE:**

Time shall be of the essence to this Contract, except where it is herein specifically provided to the contrary.

- If the Contractor at any time finds that the schedule will not be met for any reason, the Contractor shall immediately provide written notice to the Contract Administrator setting forth all facts and circumstances related to the delay.

- Where the Contractor is prevented from completing any part of the Work within the Contract Period due to abnormal weather conditions the Contract Period will be extended in an amount calculated as stated below if a Claim is made for extension in writing and provided to the City within the time frame and in the manner prescribed and if the performance of the Work is not, was not, or would not have been delayed by any other cause for which the Contractor is not entitled to an extension of the Contract Period under the Contract Documents.

- Contractor acknowledges and agrees that adjustments in the Contract Period will be permitted for a delay only to the extent such delay (i) is not caused, or could not have been anticipated, by Contractor; (ii) could not be limited or avoided by the Contractor's timely notice to the City of the delay or reasonable likelihood that a delay will occur; and (iii) is of a duration not less than one day. Such an adjustment of time shall be Contractor’s sole and exclusive remedy for the delays described in this Section.

- Actual adverse weather delay days must prevent work on critical activities outdoors for fifty percent (50%) or more of Contractor's scheduled workday in order to be counted. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. Where Contractor is prevented from completing any part of the Work within the Contract Period due to abnormal weather conditions, the Contract Period will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore as provided herein. Abnormal weather conditions occur only if the total number of actual adverse weather days exceeds the standard for that month as shown in the following table:

Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
7	7	8	7	8	7	8	8	6	6	6	6

- Upon commencement of on-site activities and continuing throughout construction, Contractor shall record daily the occurrence of adverse weather and resultant impact to normally scheduled work and within 30 days of the last day of any month (hereinafter referred to as the "Reporting Month"), Contractor shall submit a written adverse weather report, including copies of Contractor's daily weather reports and applicable climatologically data from the National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location, unless the City allows, in writing, an additional period of time for the submission of said report. Notwithstanding any other provisions, failure to submit the required written report within the time specified above shall be deemed to be and shall constitute a waiver by Contractor of any and all claims for delay due to adverse weather conditions occurring during said Reporting Month.

- The City shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

- Contractor shall not be entitled to an adjustment in Contract Price or Contract Period for delays within the control of Contractor. Delays attributable to and within the control of a subcontractor or supplier shall be deemed to be delays within the control of Contractor.

- **INTERPRETATION AND MODIFICATION OF THE CONTRACT:**

  - This Contract, including its incorporated documents, contains the whole agreement between the parties as to its subject, and no prior or contemporaneous communications, representations, or agreements, written or verbal, may alter, add to, or contradict any provision in it. There are no promises, terms, conditions, or obligations related to the subject of this Contract other than those contained herein.

- All modifications and changes to the Contract shall be in writing and signed by the Purchasing Manager.

- If a Court of competent jurisdiction finds any provision of this Contract to be invalid, such ruling shall not invalidate the entire Contract but shall apply only to the provision in question and the remaining provisions shall continue to be valid, binding and in full force and effect to the maximum extent permitted by law.

- The Contract Administrator, with the concurrence of the Purchasing Manager, shall have the authority to order changes in this Contract, which affect the cost or time of performance. Such changes shall be ordered in writing specifically designated to be a "Change Order" and signed by the City Manager, or Purchasing Manager.

    - Such orders shall be limited to reasonable changes in the supplies, Services to be performed or the time of performance; provided that the Contractor shall not be excused from performance under the changed Contract by failure to agree to such changes, and it is the express purpose of this provision to permit unilateral changes in the Contract subject to the conditions and limitations herein.

    - Contractor need not perform any work described in any Change Order unless it has received a written certification from the City that there are funds budgeted and appropriated sufficient to cover the cost of such changes.

    - The Contractor shall make a demand for payment for completed changed work within 30 days of completion of Change Order, unless such time period is extended in writing, or unless the Contract Administrator requires submission of a cost proposal prior to the initiation of any changed work or Services.

    - No claim for changes made by Change Order shall be considered if made after final payment in accordance with the Contract.

- **EXAMINATION OF RECORDS:**

    - The Contractor agrees that the City or any duly authorized representative of the City may have access to and the right to examine and copy any directly pertinent books, documents, papers, and records of the Contractor involving transactions related to this Contract. This right shall expire on the third anniversary of the issuance of final payment under this Contract.

- The Contractor further agrees to include in any subcontract for more than $10,000 entered into as a result of this Contract, a provision to the effect that the subcontractor agrees that the City or any duly authorized representative may have access to and the right to examine and copy any directly pertinent books, documents, papers, and records of such subcontractor involved in transactions related to such subcontract, or this Contract. The tenn subcontract as used herein shall ex.elude subcontracts or purchase orders for public utility services at rates established for unifonn applicability to the general public. This risftt expires on the third anniversary of the issuance of final payment to the subcontractor.

- **ASSIGNMENT OF RIGHTS:**

l. Antitrust: By entering into a Contract, the Contnctor conveys, sells, assigns, and transfers to the City aJl rights, title and interest in and to all causes of action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular Goods or Services purchased or acquired by the City under said Contract.

2. Wamnty: By entering into a Contract, the Contractor conveys, sells, assigns and transfers to the City all warranties related to Goods or Services provided to the City under this Contract.

IN TESTIMONY WHEREOF, the City of Manassas has caused its name to be hereunto subscribed pursuant to authority heretofore duly granted by the City Council of the City of Manassas; and

Contractor has caused its name to be hereunto subscribed by Contractor's Representative, and (If a Corporation) has caused its corporate seal to be duly affixed and attested by the person authorized to do so, signifying that it intends to be bound by this Contract.

CITY OF MANASSAS
By:

Katherine V. Gordon
Authorized Official on behalf of Jerry Beck Purchasing Manager

Katherine V. Gordon, Buyer
Print Name and Title
On behalf of Purchasing Manager

CONTRACTOR
By:

Contractor's Representative

Tia Laurie, Corporate Secretary
Print Name and Title

RFP NO: 21P011

REQUEST FOR PROPOSAL

ATTACHMENT "A"

VII. PROPOSAL SUBMISSION FORM

HOURLY EQUIPMENT AND LABOR PRICE SCHEDULE

Equipment Type	Hourly Equipment Rate
Bobcat Loader, 60 Hp, w/grapple, w/Operator	**$ 95.00**
Bucket Truck w/Operator (lift height)	**$215.00**
Crash Truck w/Impact Attenuator and driver	**$ 95.00**
Dozer, Tracked, D5 or similar w/Operator (Wt./Hp.)	**$150.00**
Dozer, Tracked, D6 or similar w/Operator (Wt./Hp.)	**$160.00**
Dozer, Tracked, D7 or similar w/Operator (Wt./Hp.)	**$165.00**
Dozer, Tracked, D8 or similar w/Operator (Wt./Hp.)	**$175.00**
Dump Truck, 18 CY-20 CY w/CDL Driver	**$ 85.00**
Dump Truck, 21 CY-30 CY w/CDL Driver	**$ 89.00**
Dump Truck, 31 CY-70 CY w/CDL Driver	**$ 94.00**
Dump Truck 70 CY-110 CY w/CDL Driver	**$ 98.00**
Generator/ Light Plant w/fuel and maintenance(Specify KW)	**$ 42.00**
Grader w/12' Blade and Operator (Wt./Hp.)	**$155.00**
Hydraulic Excavator, 1.5 CY (Wt./Hp.) w/Operator	**$170.00**
Hydraulic Excavator, 2.5 CY (Wt./Hp.) w/Operator	**$178.00**
Knuckle boom Loader,10,000 lb. capacity w/Operator	**$192.00**
Lowboy Trailer w/Tractor and Driver	**$115.00**
Mobile Crane (Adequate for hanging limbs/leaning trees) w/Operator (lift capacity)	**$189.00**
Pickup Truck, .5 Ton Pickup Truck, 1.0 Ton Truck, Flatbed w/Driver (Model/Hp.)	**$ 18.90**
Water Truck,3,000-5,000 gal w/CDL Driver (list tank capacity)	**$ 98.00**
Wheel Loader, 2.5 CY, 950 or similar (Wt./Hp.) w/Operator	**$135.00**
Wheel Loader, 3.5 – 4.0 CY, 966 or similar (Wt. & Hp) w/Operator	**$150.00**
Wheel Loader, 4.5 CY, 980 or similar (Wt./Hp.) w/Operator	**$175.00**
Wheel Loader-Backhoe, 1.0 – 1.5 CY (Wt./Hp.) w/Operator	**$120.00**
Other – Provide Separate List (Wt./Hp.) w/Operator	
Labor Category	**Hourly Labor Rate**
Operations (Project) Manager w/communications and Pickup	**$ 80.00**
Crew Foreman w/Cell Phone and Pickup	**$ 58.00**
Certified Tree Climber with Chainsaw	**$ 52.00**
Certified Chainsaw Operator (saw man)	**$ 44.00**
Laborer w/small tools, traffic control, or flag person	**$ 37.00**

RFP NO: 21P011

REQUEST FOR PROPOSAL

ATTACHMENT "A"

UNIT RATE PRICE SCHEDULE

Service Provided	Cost
Eligible Public Right of Way Vegetative Debris Removal (Collect & Haul)	($ Per CY)
Work consists of removal and transport of vegetative debris on the Public Right of Way to a City approved TDSR or other designated disposal facility.	$8.54
*Alternative Price by Ton (do not include in Total	($ Per Ton) $98.16
**Alternative Price Per Cubic Yard (CY) inclusive of the following four Unit Rate Price Schedule items: - Eligible Public Right of Way Vegetative Debris Removal (Collect & Haul) - Removal of Eligible Hazardous Trees - Removal of Eligible Hazardous Limbs - Extraction of Eligible Hazardous Stumps above 24 inch and larger. (do not include in Total)	($ Per CY) $14.38
***Alternative Price by Ton inclusive of the following four Unit Rate Price Schedule items: • Eligible Public Right of Way Vegetative Debris Removal (Collect & Haul) • Removal of Eligible Hazardous Trees • Removal of Eligible Hazardous Limbs • Extraction of Eligible Hazardous Stumps above 24 inch and larger. (do not include in Total)	($ Per Ton) $148.24
Eligible Public Right of Way C&D Debris Removal (Collect & Haul)	($ Per Ton)
Work consists of removal and transport of C&D debris on the Public Right of Way to a City designated disposal facility.	$59.85
Eligible Demolition, Removal, and Transport of Structures	($ Per Ton)
Work consists of all labor, equipment, fuel and miscellaneous costs necessary to demolish structures on private property.	$80.00
TDSR Management and Operations	($ Per CY)
Work consists of the management and operation of TDSR(s) for acceptance, management, segregation and staging of disaster related debris.	$1.15
*Alternative Price by Ton (do not include in Total)	($ Per Ton) $7.80
Grinding of Eligible Vegetative Storm Debris (Reduction of Storm Generated Debris)	($ Per CY)
Work consists of all labor, equipment, fuel and miscellaneous costs necessary to reduce storm generated debris by grinding.	$4.19
*Alternative Price by Ton (do not include in Total)	($ Per Ton) $44.54

RFP NO: 21P011

REQUEST FOR PROPOSAL

ATTACHMENT "A"

Service Provided	Cost
Incineration of Eligible Storm Debris (Reduction of Storm Generated Debris)	($ Per CY)
Work consists of all labor, equipment, fuel and miscellaneous costs necessary to reduce storm generated debris by incineration.	$1.38
*Alternative Price by Ton (do not include in Total)	($ Per Ton) $16.28
Disposal of Eligible Reduced Vegetative Debris at City Approved Final Disposal Site Est.	($ Per Ton)
Work consists of loading and transport of reduced debris from a City TDSR to a Final Disposal Facility.	$9.98
Removal of Eligible Hazardous Trees	($Per Tree)
Work consists of removing hazardous trees.	
9. 6 inch to 12.99 inch diameter	$55.00
• 13 inch to 23.99 inch diameter	$115.00
• 24 inch to 35.99 inch diameter	$225.00
• 36 inch to 47.99 inch diameter	$385.00
• 48 inch and larger diameter	$535.00
Removal of Eligible Hazardous Limbs	($Per Tree)
Total Work consists of removing (cutting) hazardous limbs from trees. Unit price is per tree.	$85.00
Extraction of Eligible Hazardous Stumps	**Cost**
Work consists of removing hazardous stumps, backfill, transport and final disposal. All-inclusive price.	($Per Stump)
I. Greater than 24 inch to 36.99 inch diameter	$245.00
A. 37 inch to 48.99 inch diameter	$345.00
I. 49 inch and larger diameter	$415.00
Eligible HHW Removal, Transport and Disposal	($Per Pound)
Total Work consists of all labor, equipment, fuel and miscellaneous costs for removal, transportation and disposal of Eligible Household Hazardous Waste at City approved TSDF.	$11.88
Removal of Eligible Abandoned Vehicles	($Per Unit)
Work consists of the removal of Eligible abandoned vehicles in areas identified and approved by the City and subsequently transported to a City approved staging area.	$175.00

Service Provided	Cost
Removal and Final Disposal of Eligible Putrescent Debris	($ Per Ton)
Work consists of the removal of food products from staged white goods and removal of animal carcasses approved by the City and final disposal in City approved facility.	$300.00
Eligible Public Right of Way White Goods Removal and Recycling	($ Per Unit)
Work consists of all labor, equipment, fuel and miscellaneous costs for removal, transportation and recycling of White Goods.	$34.00
*Alternative Price by Ton (do not include in Total	($ Per Ton) $750.00
Freon Removal from Eligible White Goods	($ Per Unit)
Work consists of the recovery and disposal of refrigerants from items containing Freon.	$28.00
Eligible Electronic Waste (E-Waste) Removal and Recycling	($ Per Unit)
Work consists of the removal, transportation to County approved staging area and packaging for recycling.	$42.00
*Alternative Price by Ton (do not include in Total)	($ Per Ton) $693.00
Eligible Small Motorized Equipment (SME) Removal and Disposal	($ Per Unit)
Work consists of collection, oil and fuel recovery and disposal and recycling at a County approved facility.	$75.00

CITY OF MANASSAS EQUIPMENT LIST

City Equipment Available

AP2	2019 FREIGHTLINER 108SD	DUMP TRUCK
AP6	2020 BOBCAT T650	SKID STEER
AP8	2018 BOBCAT 3400G	UTV
AP9	2014 New Holland POWERSTAR 4.75	TRACTOR
E12	2014 International WORKSTAR 7300	BUCKET TRUCK
E25	2015 DODGE 5500 4x4	BUCKET TRUCK
E27	2018 HYUNDAI 20L-7M	FORK LIFT
E27A	2011 MASTERCRAFT MC/M-12-1112B	FORK LIFT
E38	2005 BOBCAT 430G	MINI EXCAVATOR
E4	2021 FREIGHTLINER M2106	BUCKET TRUCK
E7	2021 FREIGHTLINER 108SD	DIGGER TRUCK
E7A	2007 International 4300	DIGGER TRUCK
E8	2018 FORD F450	DUMP TRUCK
M4	2001 FORD F550	BUCKET TRUCK
PDEZGO	2012 EZ-GO ST STHL GCRB4/6	UTV
R10	2002 John Deere 5420 TRACT	TRACTOR
R11	2017 TORO 74943	MOWER
R12	2014 DR FIELD&BRUSH FBM 145E	BUSH HOE
R13	2014 John Deere 5085E	TRACTOR
R14	2015 TORO SNOW BLAST	SNOW BLOWER
R16	2009 FORD F750 SuperDuty	CHIPPER TRUCK
R23	2014 TORO 74942	MOWER
R24	2009 TORO MOWER	MOWER
R25	2022 TORO 72505	MOWER
R26	2022 TORO 72921	MOWER
R30	2019 TORO 74906	MOWER
r32	2014 TORO 74942	MOWER
R33	2014 TORO 74942	MOWER
R35	2014 TORO 30464N	SNOW BLOWER
R36	2001 John Deere 1332DDE	SNOW BLOWER
R36C	2007 HUSQVARNA 1330SBEXP	SNOW BLOWER
R37	2009 WOODS BB7200X	BUSH HOG
R38	2018 VERMEER BC1000XL 31VP	CHIPPER TRUCK
R39	2022 TORO 39521	MOWER
R5	2007 FORD F450	DUMP TRUCK
R9	2020 VEN-TRAC 4500P	SNOW BLOWER
S10	2014 FREIGHTLINER 108SD	DUMP TRUCK
S11	2021 FREIGHTLINER 108SD	DUMP TRUCK
S12	2011 FREIGHTLINER M2106	POT HOLE TRUCK
S13	2016 BUYERS SCH096C	SALT SPREADER
S14	2006 International DUMP	TANDEM DUMP TRUCK
S14C	2008 HENDERSON SPREADER	SALT SPREADER
S15	2021 John Deere 710L	BACKHOE
S16	2012 FORD F450	DUMP TRUCK
S17	2021 BOMAG BT 50	TAMPER
S18	2018 ODB LEAF LCT600	LEAF MACHINE

S18A	2014 ODB LEAF LCT600	LEAF MACHINE
S19	2018 ODB LEAF LCT600	LEAF MACHINE
S20	2014 VOLVO DD25	ROOLER
S21	2002 HOLDER C9700H	SNOW BLOWER
S22	2006 GMC C7500	DUMP TRUCK
S23	2020 MAULDIN M415-XT	MOTOR GRADER/LOADER
S24	2000 INGERSOLL P185WJD	AIR COMPRESSOR
S25	2002 WACKER WP1550AW	PLATE TAMPER
S26	2004 John Deere 410G	BACKHOE
S27	2021 BOMAG BT 50	TAMPER
S28	1997 WACKER 1550AW	PALTE TAMPER
S30A	1995 WACKER BS60Y	TAMPER
S31	1998 FORD V390THA	VACTOR TRUCK
S32	2000 CATERPILLAR 953C	TRACK LOADER
S34	2014 FREIGHTLINER 108SD	DUMP TRUCK
S35	2020 FREIGHTLINER 108SD	DUMP TRUCK
S35B	2012 SWENSON EV-150 VBX	SALT SPREADER
S38	2017 FREIGHTLINER 114SD	TANDEM DUMP TRUCK
S38A	2002 SWENSON EV-150 VBX	SALT SPREADER
S4	2017 FREIGHTLINER M2106	SWEEPER
S40	2022 CRAFTCO MELTER	CRACK SEALER
S44	2007 INGERSOLL AIR COMPR	AIR COMPRESSOR
S45	2015 FREIGHTLINER 108SD	DUMP TRUCK
S45B	2007 SWENSON EV-150 VBX	SALT SPREADER
S46	2023 John Deere 544P	RUBBER TIRE LOADER
S50	2019 FREIGHTLINER 108SD	DUMP TRUCK
S50A	2019 GOOD ROADS M3-15 SS	SALT SPREADER
S50B	2004 GMC C7500	CRASH CUSION
S52	2005 GMC C7500	DUMP TRUCK
S55	2000 WACKER RT820 ROLL	SHEEP FOOT COMPACTOR
S57	2017 John Deere 50G	MINI EXCAVATOR
S59	2020 FORD F450	DUMP TRUCK
S59B	2021 SALT DOGG HOPPER SPREADER	SALT SPREADER
S66	2019 MARSHALLTOWN 600CM	CEMENT MIXER
S67	2018 John Deere 325G	SKID STEER
S67A	2005 BOBCAT T190	SKID STEER
S68	2022 HUSQVARNA SAW	SAW
S7	2022 FREIGHTLINER M2106	SWEEPER
S70	2013 AMERICAN CMS-T33X	MESSAGE BOARD
S71	2013 AMERICAN CMS-432-T	MESSAGE BOARD
S8	2015 FREIGHTLINER 108SD	DUMP TRUCK
S9	2013 International WORKSTAR 7300	DUMP TRUCK
T11	2002 TARGET SAW PRO35 III	CEMENT SAW
T2	2019 FORD F550	BUCKET TRUCK
T9A	2021 TRANTEX 20H20	THERMO TRAILER
W12	2018 John Deere 324E	SKID STEER
W15	2001 FREIGHTLINER FL112	TANDEM DUMP TRUCK
W17	2019 FREIGHTLINER 114SD	TANDEM DUMP TRUCK
W19	2016 DOOSAN P185	AIR COMPRESSOR
W21	2014 CATERPILLAR PKG 1851	WATER PUMP
W22	2004 John Deere 710G	BACKHOE

W25	2018 VOLVO DD25B	ROOLER
W26	2014 RAM 5500 4x4	CRAIN TRUCK
W29	2014 John Deere 410K	BACKHOE
W30	2002 FORD F550	JETTER TRUCK
W33	1996 INGERSOLL P185WJD	AIR COMPRESSOR
W34	2017 VAC TRON LP573GT	MINI VACTOR
W35	2017 FREIGHTLINER 114SD	VACTOR TRUCK
W37	2016 DOOSAN LSC-60	LIGHT TOWER
W40	2020 DOOSAN LCV6WKUB	LIGHT TOWER
W41	2021 VER-MAC ST-4X8	MESSAGE BOARD
W44	2017 AMERICAN CMS-432-T	MESSAGE BOARD
W46	2008 CATERPILLAR 924H	RUBBER TIRE LOADER
W47	2020 VER-MAC PCMS 3812	MESSAGE BOARD
W49	2021 VER-MAC ST-4X8	MESSAGE BOARD
W50	2008 CATERPILLAR 3000	MINI EXCAVATOR
W52	2012 John Deere 319D	SKID STEER
W57	2018 KAWASAKI MULE	UTV
W7	2017 FORD F550	DUMP TRUCK

Appendix C:
Debris Control Zone Map

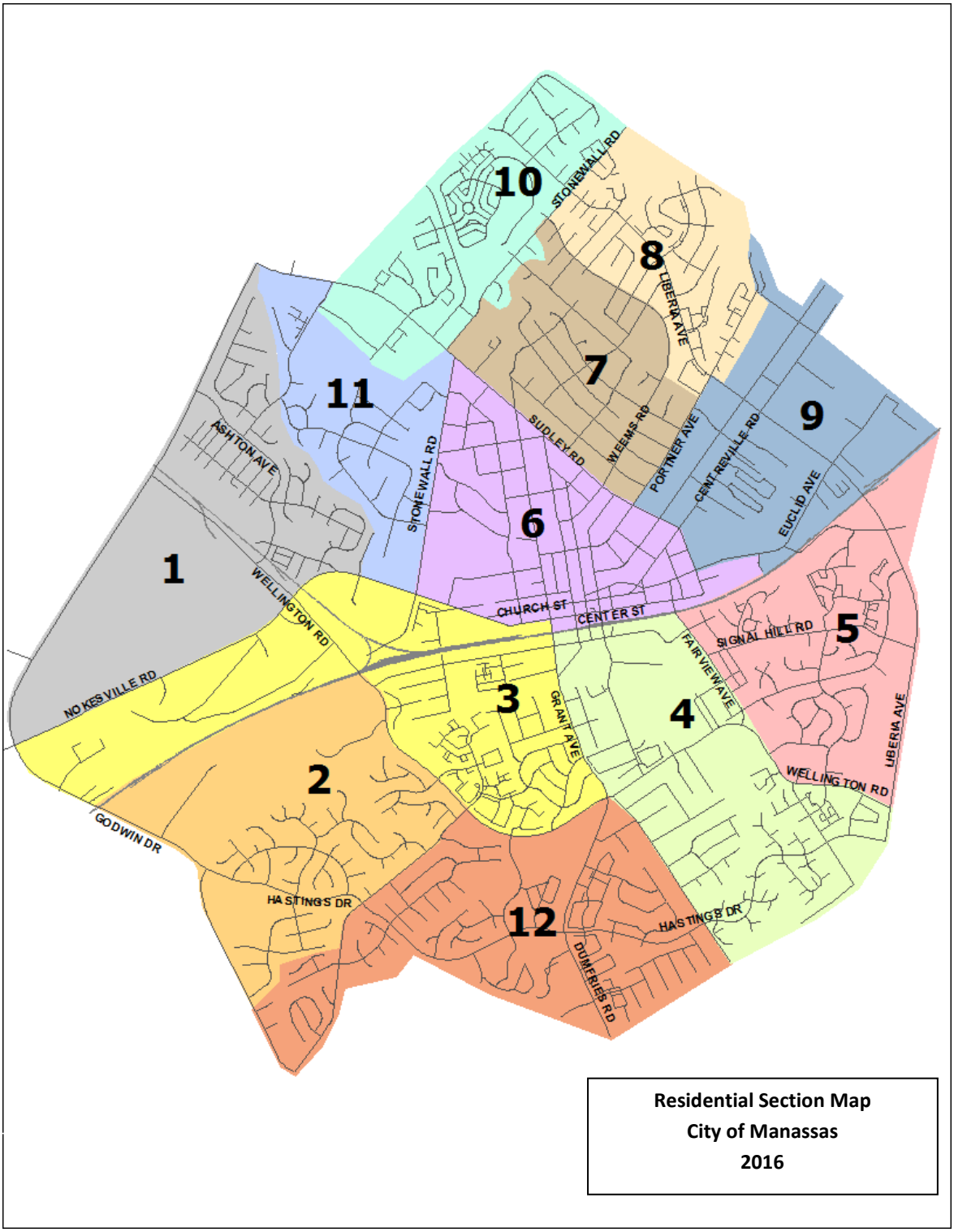

10
8
7
11
9
6
1
5
3
4
2
12
STONEWALL RD
LIBERIA AVE
SUDLEY RD
WELMS RD
PORTNER AVE
CENTREVILLE RD
EUCLID AVE
ASHTON AVE
STONEWALL RD
WELLINGTON RD
CHURCH ST
CENTER ST
SIGNAL HILL RD
FAIRVIEW AVE
GRANT AVE
LIBERIA AVE
WELLINGTON RD
NOKESVILLE RD
GODWIN DR
HASTINGS DR
HASTINGS DR
DUMFRIES RD
Residential Section Map
City of Manassas
2016

TABLE C-1

Debris Zoning Map – Housing Distribution					
Zone	**Single Family**	**Townhouse**	**Condo**	**Apartment**	**Mobile**
1	333	505			
2	764				
3	84	1312	568	164	
4	688	101	214	283	
5	473	169	361	482	
6	508	91		12	
7	544				
8	363	995		246	
9	19	11	64	79	196
10	568	160	362	293	
11	348		110		
12	794	264	373	635	
Total	5486	3608	2052	2194	196

Appendix D:
Critical Facilities

In accordance with the Emergency Operations, the City Critical Facilities are as follows:

Fire Stations

• City Of Manassas Fire & Rescue Stations

9322 Centerville Road, Manassas, VA 20110 (Zone 6)

10306 Dumfries Road, Manassas, VA 20110 (Zone 12)

Police Stations

• City of Manassas Public Safety Building
9608 Grant Avenue, Manassas, VA 20110 (Zone 3)

Emergency Operations Center

• 9608 Grant Avenue, Manassas, Virginia 20110 (Zone 3)

Hospitals/Medical Facilities

• Prince William Hospital
8700 Sudley Road, Manassas, VA 20110 (Zone 10)

Staging Area

Vegetation Only

Site	Address
Stonewall Park	8300 Stonewall Road, Manassas, VA 20110
Byrd Park	8528 Cavalry Lane, Manassas, VA 20110
Round Elementary School (upper parking lot)	10100 Hastings Dr, Manassas, VA 20110

Destination

Trash and Vegetation

Site	Address
Prince William County Landfill	14811 Dumfries Rd, Manassas, VA 20112

Appendix E

City of Manassas
Department of Public Works
Snow Removal Plan



City of Manassas
Department of Public Works
Snow Removal Plan

Purpose
To outline priorities and processes for snow removal operations within the City of Manassas.

Objectives
The Street Department is the primary responder during snow events within the City. Street Department crews are responsible for snow removal and the de-icing of roads to:

- Improve public safety
- Ensure that emergency responders can reach residents
- Keep commuters and commerce moving safely through our community

This aligns with City of Manassas Code of Ordinances, Chapter 102, §102:7 and Chapter 114, Division 8, §114:621- §114:650. This is also in alignment with Code of Virginia, §15.2-1115.

Risk Mitigation

- To effectively prepare for and manage priorities, staff and resources required to safely remove snow from public thoroughfares and public parking lots within the City of Manassas;
- To ensure safe passage for pedestrians and vehicles using public thoroughfares and public parking lots within the City of Manassas;
- To inform and integrate with Emergency Responders and City Departments during snow/ice events within the City of Manassas;
- To reduce reputational risk by using effective processes for handling and disseminating information both internally and externally.

Intended Audience
- City Manager
- Public Works and Utilities Staff
- Emergency Responders
- City of Manassas Staff
- City of Manassas Residents

Main Points

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2. Mobilization of Crews and Equipment 11
3. Snow Emergency Routes 12
4. Treating Roads: First Run and Second Run Routes 12
5. Plowing - First and Second Run Routes 13
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7. Schools 13
8. Plowing Residential Areas 14
9. Residential Sidewalks and Private Property 14
10. Communication during Incidents and Emergencies 15
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Appendix C 20
Appendix D 21
Appendix E 22

1. Background

The City of Manassas Public Works Department maintains all public streets and all school, commuter, rail and public parking lots including City Hall, Animal Shelter, Boys and Girls Club, Public Works Facility, Fire, Rescue and Police. Public Works crews clear all sidewalks around these facilities.

The Street Department promptly and efficiently removes snow and applies chemicals and abrasives for the control of ice and snow on over 254 lane miles of roadway in the city. In addition, it provides snow removal on parking lots at all eight of the city schools, the removal of snow at the seven municipal parking lots, and all city building parking lots. This also includes removing snow on sidewalks in front of city owned properties.

2. Mobilization of Crews and Equipment

The Public Works Department mobilizes necessary personnel and equipment, when the weather forecast calls for a high probability of a snow or an ice storm. If a snow or ice storm occurs at night or without warning, the Public Works and Utilities Operations center provides notification to the appropriate personnel.*

*Note: In the event of emergency or significant snow accumulation that may exceed fleet capacity for timely snow removal; the City uses private contractors and equipment.

Crews

The mobilization of personnel is adjusted, as required, to prepare for the onset of a snow or ice event. Crews work twelve-hour shifts, as required, and are kept on standby in order to respond quickly to incidents and changes in weather as they occur.

Equipment

The City maintains a fleet of 24 trucks and additional equipment for snow removal.

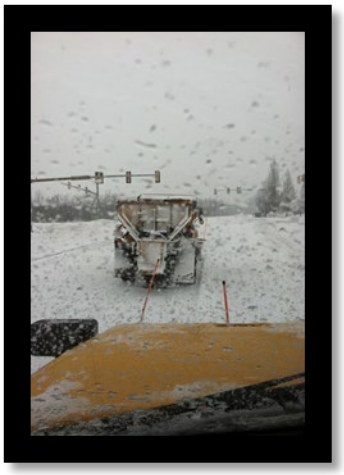
3. Snow Emergency Routes

The following streets are designated as Snow Emergency Routes, in the City of Manassas. During snow and ice events, the Department of Public Works acts in accordance with City of Manassas Code of Ordinances, Chapter 102, §102:7 and Chapter 114, Division 8, §114:621-§114:650:

Dumfries Road/Route 234
Hastings Drive
Godwin Drive
Liberia Avenue
Richmond Avenue
Fairview Avenue
Grant Avenue
Wellington Road
Ashton Avenue
Cockrell Road

Nokesville Road/Route 28
Center Street
Prescott Avenue
Sudley Road/Route 234
Church Street
Zebedee Street
Centreville Road
Mathis Avenue
Portner Avenue
(Public Works to Liberia Avenue)
Euclid Avenue

Please refer to Snow Removal map Appendix A



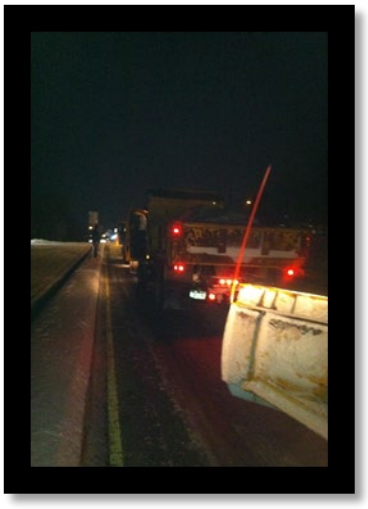
4. Treating Roads: First Run and Second Run Routes

There are six First Run and six Second Run Routes.

During a snow or ice event, roads are treated on a priority basis. The first priority is to treat Snow Emergency Routes and primary roads, which are defined as First Run Snow Routes. Once these roads are passable, school bus routes and collector streets, defined as Second Run Snow Routes will be treated. If a storm continues, crews may have to return to the First Run Snow Routes to keep these streets clear and passable.

Please refer to Appendix B, C, and F for a full listing of First Run and Second Run Routes, as well as snow removal service levels.

5. Plowing - First and Second Run Routes

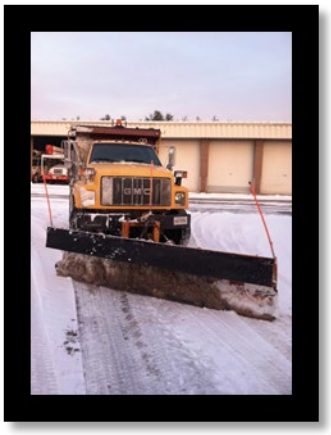


Street plowing begins once snow reaches a depth of approximately 2-3 inches. Streets are plowed starting with First Run Snow Routes. Once these roads are passable, Second Run Snow Routes are plowed. In the event of heavy snowfall, crews may have to return to the First Run Snow Routes to keep these streets clear and passable.

Once the snow has stopped falling or the snow event is under control, snow piles will be hauled from the Old Town area at the discretion of the Public Works Department depending on the snow accumulation and the weather forecast.

Please refer to Appendix B, C, and F for a full listing of First Run and Second Run Routes, as well as snow removal service levels.

6. Public Buildings and Parking Lots



Snow Removal

City crews remove snow from the seven municipal parking lots and all City building parking lots.

Sidewalks

Sidewalks, in the City of Manassas, are cleared by the Buildings and Grounds Department. Crews work in three teams and clear sidewalks and walkways according to an agreed schedule of priority areas.

Please refer to Appendix D for a full listing of designated priority areas.

7. Schools

Snow Removal

City crews remove snow from parking lots at all eight of the City schools.

The bus loops at all City schools are plowed and treated as Second Run snow routes. If the schools remain open, crews will keep the bus routes and the parking lots and other roads passable.

If schools are closed, crews do not plow them until all other First Run and six Second Run Routes all complete.

Sidewalks

School sidewalks, including the areas around the building and parking lots, are cleared by the School Board Staff. The Buildings and Grounds Department clear the sidewalks along the street in front of the schools. These crews work in three teams and clear sidewalks and walkways according to an agreed schedule of priority areas.
Please refer to Appendix D for a full listing of designated priority areas.

8. Plowing Residential Areas

There are twelve Residential Sections.

Once plowing of all First and Second Run Routes is completed, crews begin plowing **Residential Sections**. Many of the residential streets with the City are treated as **First and Second Run Routes.** The remaining streets are plowed curb to curb in **Residential Sections**. These are the same sections designated in the City's Leaf Collection map. Each street will be cleared as completely as possible and treated where required depending on conditions.

Sand and salt is not spread on all residential streets. Streets in residential areas, including intersections and hills, are treated with chemicals and abrasives for the control of ice and snow only where necessary, depending on forecasts and conditions. Privately owned property, including streets are maintained and treated by property owners and relevant Homeowner's Associations.

Please refer to Appendix E for a map of designated residential areas.

9. Residential Sidewalks and Private Property

For rules/guidelines to remove snow from residential sidewalks and sidewalks bordering private property, please refer to City of Manassas Ordinance Chapter 102, §102.7.

The same requirements exist with respect to ice or sleet on sidewalks. Sidewalks must be covered, within the time required in this section, with sawdust, ashes or other material, which will make the sidewalk safe for travel. Clearing sidewalks of unoccupied properties is the responsibility of the property owner.

City staff regularly inspects sidewalks for safety. Residents are advised that they are liable for the cost of snow/ice removal if the City determines that it poses a hazard to public safety.

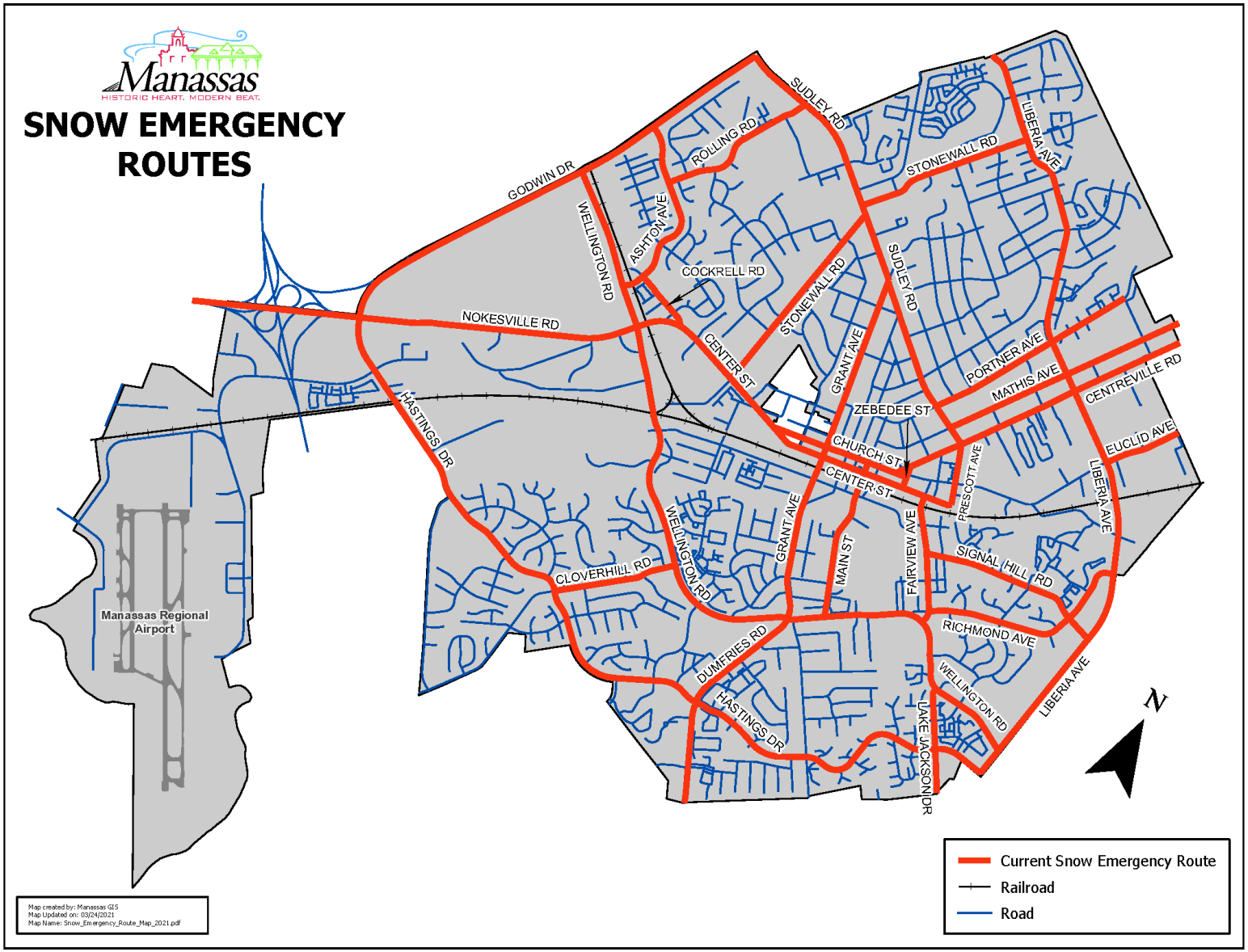
10. Communication during Incidents and Emergencies

The Department of Public Works regularly notifies citizens of snow removal procedures through the City website and City Connect newsletter.

All general public inquiries are directed to the Public Works office during regular business hours 703-257-8378. Outside regular business hours, all inquiries should be directed to Public Works and Utilities Operations 703-257-8353.

In the event of an incident or emergency in relation to snow removal within the City of Manassas, Emergency Services, the Director of Public Works and Utilities, City Manager and Safety Officer must be notified. They will determine the appropriate information and means of delivery to ensure public safety.

Appendix E-1


Manassas
HISTORIC HEART. MODERN BEAT.
SNOW EMERGENCY ROUTES
GODWIN DR
ROLLING RD
SUDLEY RD
LIBERIA AVE
STONEWALL RD
WELLINGTON RD
ASHTON AVE
COCKRELL RD
NOKESVILLE RD
CENTER ST
STONEWALL RD
SUDLEY RD
GRANT AVE
PORTNER AVE
MATHIS AVE
CENTREVILLE RD
ZEBEDEE ST
HASTINGS DR
CHURCH ST
EUCLID AVE
CENTER ST
PRESCOTT AVE
LIBERIA AVE
WELLINGTON RD
GRANT AVE
MAIN ST
FAIRVIEW AVE
SIGNAL HILL RD
CLOVERHILL RD
Manassas Regional Airport
RICHMOND AVE
DUMFRIES RD
WELLINGTON RD
LIBERIA AVE
HASTINGS DR
LAKE JACKSON DR
N
Current Snow Emergency Route
Railroad
Road
Map created by: Manassas GIS
Map Updated on: 03/24/2021
Map Name: Snow_Emergency_Route_Map_2021.pdf

Appendix E-2

First Run Snow Routes		
Street Name	**From**	**To**
Ashton Ave		
Breeden Ave		
Center St		
Centreville Rd	Center St	City Limits
Church St		
Clover Hill Rd	Godwin Dr	Wellington Rd
Cockrell Rd		
Digges Rd	Next to Hospital	
Dumfries Rd		
Euclid Ave	Quarry Rd	City Limits
Fairview Ave		
Godwin Dr		
Grant Ave	Sudley Rd	Wellington Rd
Hastings Dr	Godwin Dr	Prince William Prkwy
Lake Jackson Dr	Wellington Rd	City Limits
Liberia Ave	City Limits	Prince William Prkwy
Main St	Prince William St	Wellington Rd
Mathis Ave	Sudley Rd	City Limits
Nokesville Rd	Center St	City Limits
Portner Ave	Public Works Dr	Sudley Rd
Prescott Ave		
Public Works Dr		
Quarry Rd	Euclid Ave	Zebedee St
Richmond Ave	Liberia Ave	Fairview Ave
Rolling Rd		
Signal Hill Rd	Fairview Ave	Richmond Ave
Stonewall Rd	Liberia Ave	Center St
Sudley Rd		
Wellington Rd	Godwin Dr	Liberia Ave
Zebedee St		

Appendix E-3

Second Run Snow Routes

Street Name	From	To
Abbott Rd	Winterset Dr	Hasting Dr
Amaryllis Ave	Gloxinia Wy	Wellington Rd
Aspen Ln		
Baldwin School		
Battlefield Dr		
Bayberry Ave		
Beech Pl		
Bens Way	Shannon Ln	Flowerden Ln
Berkshire St		
Bragg Ln		
Buckner Rd		
Burnside Rd		
Byrd Dr		
Cedar Ridge Dr	Shannon Ln	Godwin Dr
Central Park Dr		
Clover Hill Rd	Wellington Rd	Cul-de-sac
Clover Hill Rd	Hastings Dr	City Limits
Clover Hill Ct	Constance Pl	Clover Hill Rd
Confederate Trl		
Constance Pl	Waterford Dr	Clover Hill Ct
Dean School		
Flowerden Ln	Bens Way	Clover Hill Rd
Forestwood Ln	Stonewall Rd	Plantation Ln
Gateway Blvd		
George St		
Gloxinia Wy	Strawflower Ln	Amaryllis Ave
Godwin Dr	Hastings Dr	Clover Hill Rd
Grant Ave	Jackson Ave	Sudley Rd
Greenleaf Dr	Cedar Ridge Dr	Shannon Ln
Hampton Rd		
Haydon School		
Hendley Rd		
Hood Rd		
Jackson Ave		
Janja Ct	Hastings Dr	Karlo St
Karlo St	Janja Ct	Sarajevo Ct
Lee Ave	West St	Courthouse
Liberty St		
Lucasville Rd	Hastings Dr	City Limits
Main St	Prince William St	Sudley Rd
Mathis Ave	Sudley Rd	Main St
Maury Ln		

Street Name	From	To
Mayfield School		
Metz School		
Milic St		
Nagle St		
Oakenshaw Dr	Signal Hill Rd	Wellington Rd
Observation Rd	Wakeman Dr	Airport Tower
Orchard Ln		
Osbourn School		
Park Ave	Park St	Rolling Rd
Park St	Peabody St	Stonewall Rd
Peabody St	Center St	Stonewall Rd
Peabody St	Stonewall Rd	Park St
Pickett Ln		
Plantation Ln		
Portner Ave	Sudley Rd	Grant Ave
Prince William St		
Quarry Rd	Euclid Ave	Liberia Ave
Round School		
Sarajevo Ct	Karlo St	Milic St
Shannon Ln		
South Grant Ave	Hastings Dr	Virginia Ave
Spruce Wood Dr	Lucasville Rd	Cul-de-sac
Stonewall Rd	Center St	Railroad Tracks
Stonewall Rd	Liberia Ave	Stonewall Park
Strawflower LN	Clover Hill Rd	Gloxinia Wy
Stuart Ave		
Sumner Lake Blvd	Liberia Ave	Plantation Ln
Sweetbriar St		
Taney Rd		
Thornwood Ln		
Town Ln		
Traveller St		
Tudor Ln	Prince William St	Fairview Ave
Wakeman Dr	Gateway Blvd	End
Waterford Dr	Clover Hill Rd	Constance Pl
Weems Rd		
Weems School		
West St	Prince William St	Stuart Ave
Winterset Dr		
Zimbro Ave	Confederate Trl	Cockrell Rd

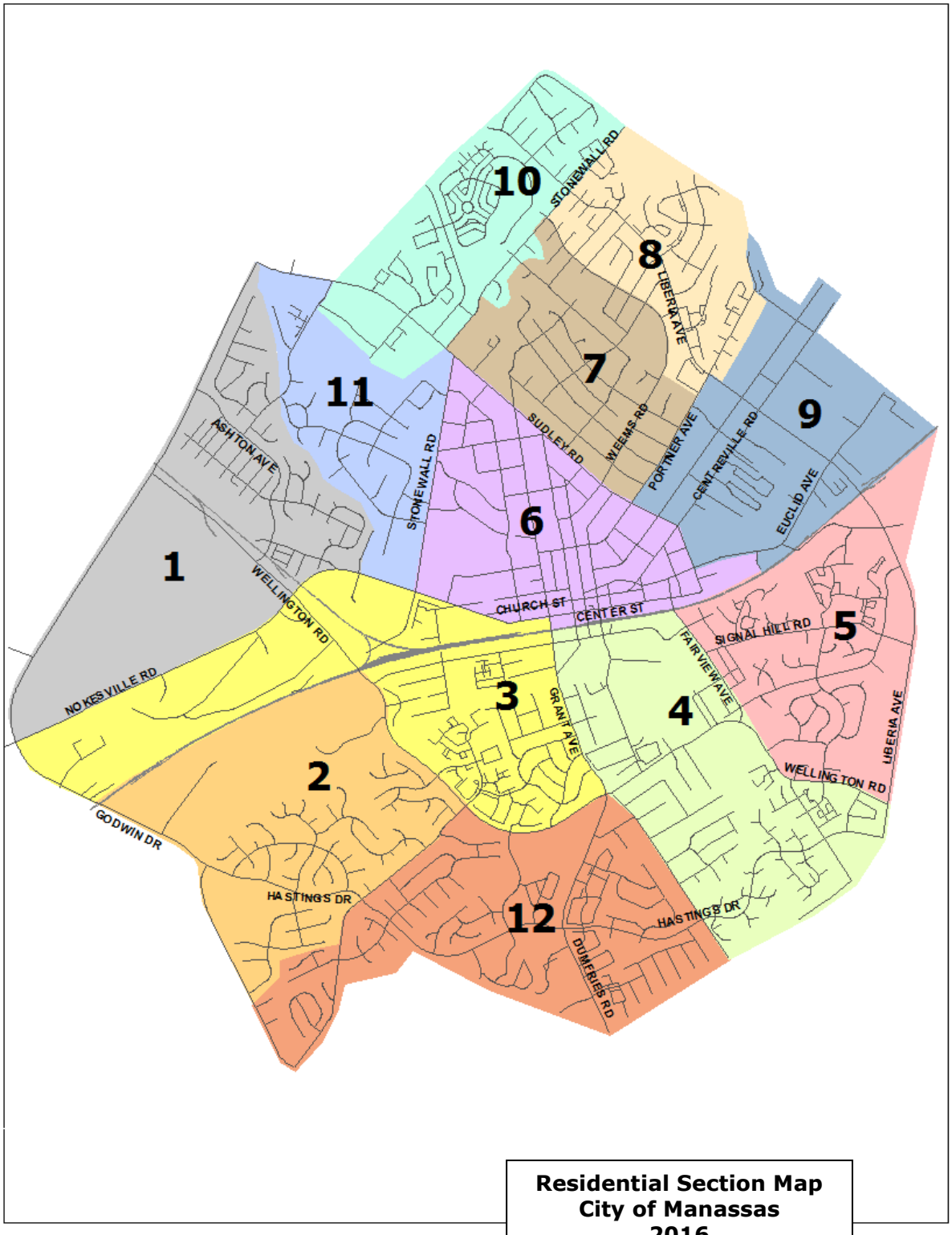
Appendix E-4

Sidewalk Clearance Priority List

Priority #1
Train Depot and Commuter Lot
Depot platforms at West Street (Platforms need to be cleaned between each train arriving and departing if snowing heavily.) Sidewalks around West Street parking lot. Sidewalks from RR tracks to Prince William Street on West Street and Battle Street. Sidewalks from Prince William Street to Tudor Lane on South Main Street Sidewalk on Prince William Street. to parking lot D.
Priority #2
City Hall
Front and rear entrances and sidewalks. Sidewalks in front of property on Center Street.
Public Works
Sidewalks and entrance areas.
Police Department
Sidewalks on Fairview Avenue entrance area and around building.
City Square
Walkways around Pavilion. Walkway from Main Street to West Street (behind Fosters Grill.)
Priority #3
Commuter Lot L
Sidewalks on Church Street and Quarry Road.
Underpass – Grant Avenue
Sidewalks on both sides from Prince William Street to Center Street.
Priority #4
Schools
❖ **Baldwin:** School side of street on South Main Street. Asphalt walk from Main Street. to Bartow Street. ❖ **Haydon:** School side of street on Park Avenue and walkway from Zimbro Avenue to Park Street. ❖ **Mayfield:** School side of street on Signal Hill Road. ❖ **Metz:** School side of street on Wellington Road and back entrance to Osbourn on Wellington Road. ❖ **Osbourn:** School side of South Main Street and both sides of Tudor Lane to "Do Not Enter" sign. ❖ **Round:** School side of street on Hastings Drive. from America House property to Battlefield Drive. ❖ **Weems:** School side of street on Traveler Street and Weems Road.
Priority #5
Museum
Sidewalks on Prince William Street and South Main Street. Sidewalks from Prince William Street to Museum building and all of the brick area.
Animal Shelter
Entrance and sidewalks around building.
Nelson Park
Nelson Park: Sidewalk on Grant Avenue and Sudley Road and Gazebo.
Stonewall Park
Around cul-de-sac at the park and steps.
Candy Factory
Sidewalk and entrance on Main Street and Battle Street.

Appendix E-5

Residential Section Map



Residential Section Map
City of Manassas
2016

Appendix E-6

Levels of Service for Snow and Ice Control – From End of Storm

Accumulation (inches)	1st and 2nd Run Routes Plowed/Treated/Cleared	Residential Streets Completed	Schools and Commuter Parking Lots
0-2	Within 12 hours	n/a	After all routes are at least passable
2-4	Within 18 hours	Within 24 hours	
4-8	Within 24 hours	Within 36 hours	
8-12	Within 30 hours	Within 48 hours	
12-18	Within 36 hours	Within 60 hours	
18+	Within 48 hours	Within 78 hours	
Ice or Freezing Rain	Within 12 hours	Spot treated as needed	

- For snow storms accumulating 4" or greater, contracted pickups will be utilized from the beginning of the event. This chart only depicts when City resources will complete their routes.

Primary Road Clearance List

In accordance with the Emergency Operations the highest priority for debris removal will be to open emergency routes and exits and entrances to the City Critical Facilities such as but not limited to, fire stations, police stations, Emergency Operations Center, and hospitals/medical facilities.

The top priority routes will be cleared first. All roads shown in red below are priority and will be cleared first. All secondary roads will be cleared in accordance with the residential zoning as shown in Appendix: C Debris Control Zone Map

The following streets are designated as Emergency Clearance Routes, in the City of Manassas.

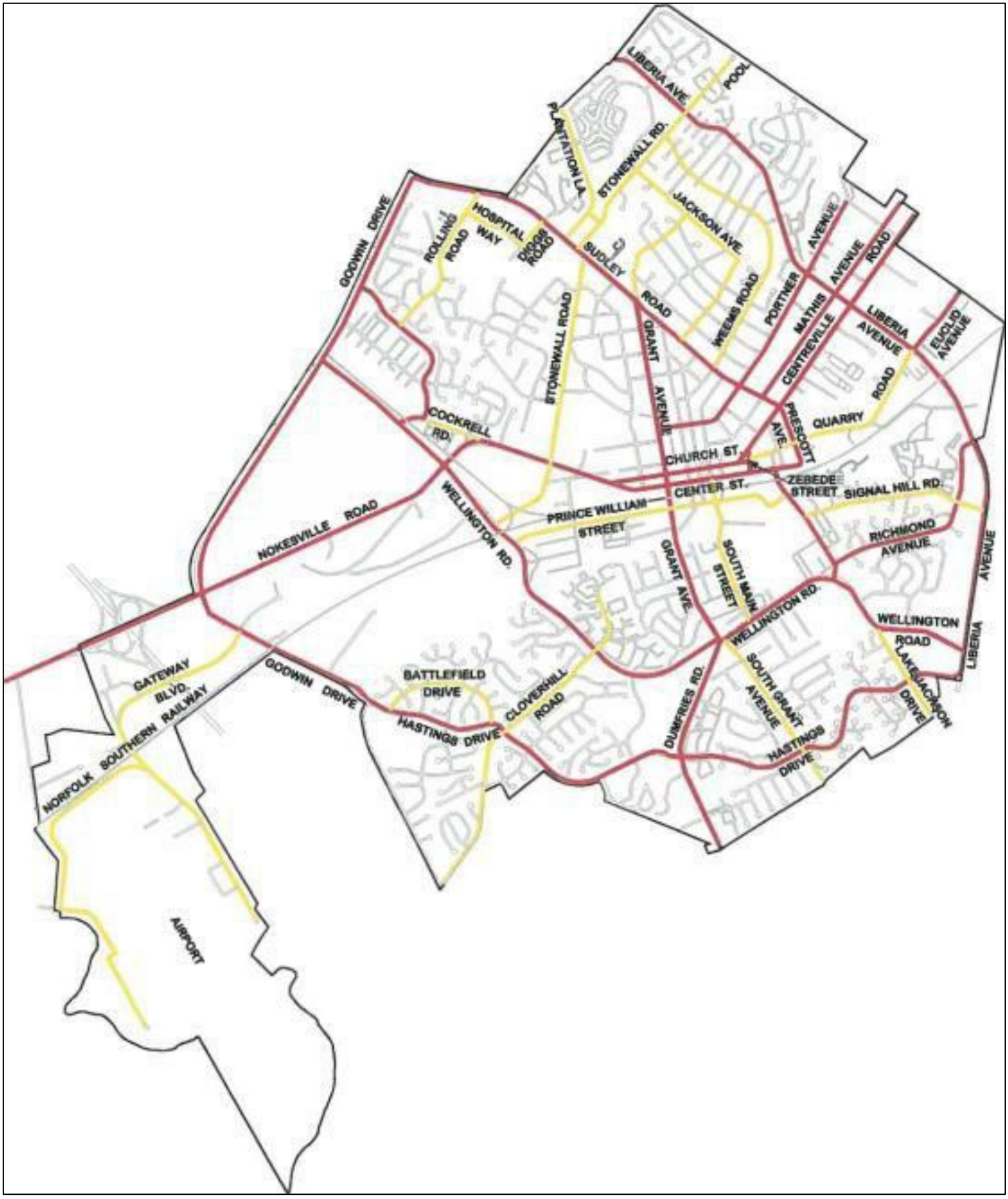
Emergency Routes

Dumfries Road/Route 234
Hastings Drive
Godwin Drive
Liberia Avenue
Richmond Avenue
Fairview Avenue
Grant Avenue
Wellington Road
Ashton Avenue
Cockrell Road

Nokesville Road/Route 28
Center Street
Prescott Avenue
Sudley Road/Route 234
Church Street
Zebedee Street
Centreville Road
Mathis Avenue
Portner Avenue
(Public Works to Liberia Avenue)
Euclid Avenue

First Run Removal Routes	
• Ashton Avenue • Breeden Avenue • Center Street • Centreville Road • Church Street • Cloverhill Road: Wellington Road – Hastings Drive • Cockrell Road • Digges Road near Prince William Hospital • Dumfries Road: Wellington Road - City limits • Euclid Avenue • Fairview Avenue: Wellington Road – Quarry Road • Godwin Drive: Sudley Road – Hastings Drive • Grant Avenue: Sudley Road - Wellington Road • Hastings Drive: Godwin Drive – Dumfries Road • Hastings Drive: Dumfries Road - Lake Jackson Drive • Lake Jackson Drive • Liberia Avenue: Centreville Road – City limits	• Liberia Avenue: Centreville Road – Hastings Drive • Mathis Avenue: Sudley Road – City limits • Nokesville Road • Portner Avenue: Breeden Avenue - Sudley Road • Prescott Avenue • Public Works Drive • Quarry Road: Euclid Avenue – Zebedee Street • Richmond Avenue: Liberia Avenue – Fairview Avenue • Stonewall Road: Liberia Avenue – Center Street • Sudley Road • Wellington Road: Grant Avenue – Godwin Drive • Wellington Road: Grant Avenue - Liberia Avenue • Wellington Road: Liberia Avenue – Lake Jackson Drive • Zebedee Street

Second Run Removal Routes	
• Amaryllis Avenue: Gloxinia Way – Wellington Road • Aspen Lane • Battlefield Drive • Bayberry Avenue • Beech Place • Bens Way: Shannon Lane – Flowerden Lane • Berkshire Street • Bragg Lane • Buckner Road • Byrd Drive • Cedar Ridge Drive: Shannon Lane – Greenleaf Drive • Central Park Drive Stonewall Road: Center Street – Wellington Road • Cloverhill Court: Constance Place – Cloverhill Road • Cloverhill Road: Hastings Road – City limits • Cloverhill Road: Wellington Road – Cul-de-Sac • Constance Place: Waterford Drive – Cloverhill Court • Dean School (Bus Loop) • Flowerden Lane: Bens Way – Cloverhill Road • Forestwood Lane • Gateway Boulevard • George Street • Gloxinia Way: Strawflower Lane – Amaryllis Avenue • Grant Avenue: Jackson Avenue – Sudley Road • Greenleaf Drive: Cedar Ridge Drive – Shannon Lane • Hampton Road • Hendley Road • Hood Road • Jackson Avenue • Liberty Street • Observation Road: Wakeman Drive – Tower • Old Godwin Drive: Hastings Road – Cloverhill Road • Orchard Lane: Dumfries Road – South Grant Avenue	• Maury Lane • Pickett Lane • Plantation Lane • Prince William Street • Rolling Road • Sweetbriar Street • Park Avenue: Park Street – Rolling Road • Peabody Street: Stonewall Road – Park Street • Burnside Road • Confederate Trail • Zimbro Avenue: Confederate Trail – Center Street • Haydon School (Bus Loop) • Round School (Bus Loop) • Shannon Lane • Signal Hill Road: Fairview Avenue – Richmond Avenue • South Grant Avenue: Orchard Lane – Hastings Drive • South Main Street: Prince William Street – Richmond Avenue • Stonewall Road: Liberia Avenue – Stonewall Park • Strawflower Lane: Cloverhill Road – Gloxinia Way • Sumner Lake Boulevard • Taney Road • Thornwood Lane • Town Lane • Traveler Street • Tudor Lane: Prince William Street – Fairview Avenue • Wakeman Drive: Gateway – Cul-de-Sac • Waterford Drive: Cloverhill Road – Constance Place • Weems Road • Weems School (Bus Loop) • West Street: Prince William Street – Stuart Avenue


LIBERIA AVE.
POOL
PLANTATION LA.
STONEWALL RD.
JACKSON AVE.
GODWIN DRIVE
ROLLING ROAD
HOSPITAL WAY
DIGGS ROAD
SUDLEY
ROAD
WEEMS ROAD
PORTNER AVENUE
MATHIS AVENUE
ROAD
LIBERIA AVENUE
EUCLID AVENUE
CENTREVILLE
GRANT AVENUE
STONEWALL ROAD
COCKRELL RD.
PRESCOTT AVE.
QUARRY ROAD
CHURCH ST.
ZEBEDE STREET
CENTER ST.
SIGNAL HILL RD.
PRINCE WILLIAM STREET
WOKESVILLE ROAD
WELLINGTON RD.
RICHMOND AVENUE
GRANT AVE.
SOUTH MAIN STREET
WELLINGTON RD.
WELLINGTON ROAD
LIBERIA AVENUE
GATEWAY BLVD.
NORFOLK SOUTHERN RAILWAY
GODWIN DRIVE
BATTLEFIELD DRIVE
CLOVERHILL ROAD
HASTINGS DRIVE
DUMFRIES RD.
SOUTH GRANT AVENUE
LAKE JACKSON DRIVE
HASTINGS DRIVE
AIRPORT

Appendix F:
Temporary Debris Staging and Reduction Areas

Temporary Debris Staging and Reduction Sites are typically temporary in nature and used for debris segregation, stockpiling or reduction. The following Temporary Debris Staging and Reduction Sites are available for debris:

Site	Address
Stonewall Park	8300 Stonewall Rd, Manassas, VA 20110
Byrd Park	8528 Cavalry Lane, Manassas, VA 20110
Round Elementary School (upper parking lot)	10100 Hastings Dr, Manassas, VA 20110

Figure F-1: Stonewall Park



Figure F-2: Byrd Park



Figure F-3: Round Elementary School



COMMONWEALTH OF VIRGINIA

TEMPORARY DEBRIS STAGING AND REDUCTION SITE SELECTION AND OPERATING GUIDELINES

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General

All activities associated with large-scale debris removal and ultimate disposal operations depend upon the availability of suitable temporary debris staging and reduction (TDSR) sites. Identifying these potential sites before a major natural disaster will expedite debris removal actions. Local debris managers and staff should be involved with identifying and maintaining current listings of potential TDSR sites in areas prone to natural disasters. Pre-disaster site selection teams should include local officials who are familiar with the area and represent multiple professional disciplines, if possible, to help identify potential problems

The preparation and operation of a TDSR site(s) are usually left to the debris disposal contractor. However, debris managers and staff should understand how a TDSR site is set up and operated. This information is extremely valuable in developing ultimate disposal plans, keeping local government officials and the public informed on debris removal and disposal operations, and ensuring compliance with environmental regulations. Section 1 of this document provides guidance on how to identify and select TDSR sites. See section 5 for a listing of reproducible forms. See section 6 for Debris Management Environmental Considerations.

Responsibilities

Pre-disaster site selection teams should:

- Include local officials who are familiar with the area.
- Be interdisciplinary to help identify potential problems.
- Investigate and evaluate potential sites before a major natural disaster.
- Develop and maintain current listings of potential debris storage sites in areas prone to natural disasters.

Consult and coordinate with:

- Local residents.
- Conservation agencies.
- Environmental groups and agencies.
- State Historical Preservation Office.

Site Ownership

- Use public lands first to avoid costly leases.
- Use private lands only if public sites are unavailable.
- Have attorneys review leases to avoid extensive damage claims upon site closeout.

Site Location

- Consider the locations with respect to noise, traffic, and the environment.
- When selecting public or private sites consider pre-existing conditions that my hinder or help the operation.
- Avoid environmentally sensitive areas such as:
    - Wetlands.
    - Rare and critical habitats of animal and plant species.
    - Well fields and surface water supplies.
- Historic/archaeological sites should be avoided as well.
- Develop procedures for temporary waivers.
- Look for sites with good ingress/egress to accommodate heavy truck traffic.
- Consider adjusting traffic signals to accommodate projected truck traffic on critical haul routes.

Site Size

- Pre-designated sites should be on public property and consist of between 50 and 200 acres.
- The required size of the site will depend on:
    - Expected volume of debris to be collected.
    - Planned volume reduction methods.
- Identifying large sites mean fewer sites and easier site closeout.

Site Neighbors

- Notify citizens early about the planned activities and possible ramifications from:
    - Dust and smoke from burning.
    - Around-the-clock light and noise from equipment operation.
    - Traffic.
- Avoid locating near:
    - Residential areas.
    - Schools.
    - Churches.
    - Hospitals.
    - Other sensitive areas.

Existing Landfills

- Identify locations of existing landfills.
- Determine their present debris capacity and logistical capabilities.
- Review any State-to-State or county-to-county landfill agreements.

Recycling

Recycling success will depend on the types of debris and the local recycling environment. Identify recycling possibilities, such as:

- Timber agreements.
- Mulch and chip disposal in the agriculture community.
- Fuel sources for incinerators or heating.

Temporary Debris Staging and Reduction (TDSR) Site Investigation Form

The TDSR Site Investigation form in section 5 should be used to evaluate potential TDSR sites.

Temporary Debris Staging and Reduction (TDSR) Site Setup and operations

TDSR Site Setup

Site topography and soil/substrate conditions should be evaluated to determine best site layout. When planning site preparation, think of ways to make restoration easier. For example, if the local soils are very thin, the topsoil can be scraped to bedrock and stockpiled in perimeter berms. Upon site closeout, the uncontaminated soil can be spread to preserve the integrity of the tillable soils.

The checklist below is a TDSR baseline data checklist that should be used to evaluate a site before a contractor begins operations, and used during and after operations to ensure that site conditions are properly documented. See section 5 for a reproducible TDSR Site Baseline Data Checklist.

TDSR Site Baseline Data Checklist

Before Activities Begin

□ Take ground or aerial photographs and/ or video.
□ Note important features, such as structures, fences, culverts, and landscaping.
□ Take random soil samples*.
□ Take random groundwater samples*.
□ Take water samples from existing wells*.
□ Check the site for volatile organic compounds.
*Follow all local, State, and Federal requirements for environmental testing.

After Activities Begin

□ Establish groundwater-monitoring wells.
□ Take groundwater samples.
□ Take spot soil samples at household hazardous waste, ash, and fuel staging areas.

Progressive Updates

□ Update videos/photographs.
□ Update maps/sketches of site layout.
□ Update quality assurance reports, fuel spill reports, etc.

TDSR Site Operations

Debris removal/disposal should be viewed as a multi-staged operation with continuous volume reduction. There should be no significant accumulation of debris at the TDSR sites. Instead, debris should be constantly flowing to air curtain burners, grinders, or recycled with the residue and mixed construction and demolition materials going to a landfill.

The contractor hired to operate a TDSR site must establish lined temporary staging areas for household hazardous waste (HHW), fuels, ash (if air curtain burning will be done on site), and other materials that may contaminate soils and groundwater. Plastic liners should be placed under stationary equipment such as generators and mobile lighting plants. These actions should be included as a requirement in the contract scope of work. If the site is also an equipment staging area, fueling and equipment repair should be monitored to prevent and mitigate spills of petroleum products and hydraulic fluids.

The contractor must establish a buffer zone to abate concerns over smoke, dust, noise, and traffic in neighboring areas. Traffic patterns must be designed to accommodate on-site operations as well as neighborhood traffic patterns. Materials should be segregate based on planned volume reduction methods. Operations that modify the site, such as substrate compaction and over excavation of soils when loading debris for final disposal, will adversely affect site restoration.

TEMPORARY DEBRIS STAGING AND REDUCTION (TDSR) SITE CLOSEOUT

TDSR Site Closeout Inspection

Each TDSR site will eventually be emptied of all material and be restored to its previous condition and use. The contractor is required to remove and dispose of all mixed debris, construction and demolition debris, and debris residue to approved landfills. Appropriate local inspectors will monitor all closeout activities to ensure that the contractor complies with the Debris Removal and Disposal Contract. Additional measures may be necessary to meet county, state and federal environmental requirements due to the nature of the TDSR site operation

TDSR Site Closeout Planning

The contractor must assure the Debris Manager that all TDSR sites are properly remediated. There will be significant costs associated with this operation as well as close scrutiny by the local press and environmental groups. Site remediation will go smoothly if baseline data collection and site operation procedures are followed.

TDSR Site Closeout Steps

1. The contractor is responsible for removing all debris from the site.
2. The contractor conducts an environmental assessment with Debris Manager and landowner (if site is leased).
3. The contractor should develop a remediation plan.
4. Remediation plan should be reviewed by the Debris Manager, landowner, and appropriate environmental agency.
5. The remediation plan should be approved by the appropriate environmental agency.
6. Contractor executes the plan.
7. The contractor obtains acceptance from the Debris Manager, appropriate environmental agency, and the landowner.

TDSR Site Remediation

During the debris removal process and after the material has been removed from each of the TDSR sites, environmental monitoring will be needed to close each of the sites. This is to ensure that no long-term environmental contamination is left on the site. The monitoring should be done on three different media: ash, soil, and groundwater.

- Ash. The monitoring of the ash should consist of chemical testing to determine the suitability of the material for either agricultural use or as a landfill cover material.
- Soil. Monitoring of the soils should be by portable inspection methods to determine if any of the soils are contaminated by volatile hydrocarbons. The contractors may do this if it is determined that hazardous material, such as oil or diesel fuel was spilled on the site. This phase of the monitoring should be done after the stockpiles are removed from the site.
- Ground Water. The monitoring of the groundwater should be done to determine the probable effects of rainfall leaching through either the ash areas or the stockpile areas.

TDSR Site Closeout Coordination

The contractor will coordinate the following closeout requirements through the Debris Management Center staff:

- Coordinate with local and state officials responsible for construction, real estate, contracting, project management, and legal counsel regarding requirements and support for implementation of a site remediation plan.
- Establish an independent testing and monitoring program. The contractor is responsible for environmental restoration of both public and leased sites. The contractor will also remove all debris from sites for final disposal at landfills prior to closure.
- Reference appropriate and applicable environmental regulations.

- Prioritize site closures.
- Schedule closeout activities.
- Determine separate protocols for ash, soil and water testing.
- Develop decision criteria for certifying satisfactory closure based on limited baseline information.
- Develop administrative procedures and contractual arrangements for closure phase.
- Inform local and State environmental agencies regarding acceptability of program and established requirements.
- Designate approving authority to review and evaluate contractor closure activities and progress.
- Retain staff during closure phase to develop site-specific remediation for sites, as needed, based on information obtained from the closure checklist shown below.

TDSR Site Closure Checklist

☐ Site number and location.
☐ Date closure complete.
☐ Household hazardous waste removed.
☐ Contractor equipment and temporary structures removed
☐ Contractor petroleum spills remediated.
☐ Ash piles removed.
☐ Comparison of baseline information to conditions after the contractor has vacated the temporary site.
☐ Appendices.

- Closure documents.
- Contracting status reports.
- Contract.
- Testing results.
- Correspondence.
- Narrative responses.

See Section 5 for a reproducible TDSR Site Closeout Checklist.

TDSR Site Final Closeout

Once a TDSR site is no longer needed, it should be closed in accordance with the following guidelines. Closeout or re-approval of a TDSR site should be accomplished within 30 days of receiving the last load of debris

Closeout is not considered complete until the following occurs:

- All processed and unprocessed vegetative material and inert debris shall be removed to a properly approved solid waste management site.
- Tires must be disposed of at a scrap tire collection/processing facility; white goods and other metal scrap should be separated for recycling.
- Burn residues shall be removed to a properly approved solid waste management site or land applied in accordance with these guidelines.

- All other materials, unrecoverable metals, insulation, wall board, plastics, roofing material, painted wood, and other material from demolished buildings that is not inert debris as well as inert debris that is mixed with such materials shall be removed to a properly permitted C & D recycling facility, C & D landfill, or municipal solid waste landfill.

TDSR Site Re-approval

Approved TDSR sites will require re-approval for long-term staging, continuing reduction processing, and permanent disposal if site is not closed out in accordance with guidelines stated above. TDSR sites shall be managed and monitored in accordance with local Health Department requirements and to prevent threats to the environment or public health.

EMERGENCY DEBRIS WASTEPILE PERMITTING CRITERIA

General

This is an application for an emergency permit to dispose of waste generated as the result of natural or manmade disasters. The emergency permit request may be oral or written. If oral, it shall be followed within five days by a written emergency permit application. Oral responses can only be given if the applicant is fully aware of the site requirements outlined in this application, otherwise a written request must be provided using this application. Mail or fax the written request to the Department.

Emergency Permits are valid for 90 days from the time they are issued. All associated waste activities must be inclusive in the 90-day period.

Department of Environmental Quality (DEQ) Contact:

Recommend that the following DEQ contact be consulted prior to submitting the following forms to obtain current requirements.

DEQ Central Office
629 East Main Street
Richmond, VA 23240
Attn: Mr. Paul Ferrel
Phone: (804) 698-4214 or (804) 698-4000

See Website for complete Land Management Permits Guidance:
http://www.mde.state.md.us/Permits/WasteManagementPermits/index.asp#waste Instructions

Read all sections carefully. Fill in all of the information on DEQ Form EDWP-01 and all applicable information on DEQ Form EDWP-02. See Paragraph 5 for a reproducible copy of the form. Public notice information required by the applicant is found on EDWP-03 and a certification signature is required on EDWP-04. See Paragraph 5 below for a reproducible copy of the forms. Note that a site map, flood map, US Fish and Wildlife Service National Wetlands Inventory Map and a list of wastes to be received, and the manner and location of their treatment, storage and disposal must accompany this application. The site may either

be selected prior to the emergency or immediately after the emergency. The Department encourages pre-selection. Follow the applicable guidelines below.

Pre-Selected Sites

If the site is pre-selected, public participation must be held in accordance with the Virginia Solid Waste Management Regulations (VSWMR) regulations 9 VAC 20-80-485.A.5 and 9 VAC 20-80-485.B.4. The Department will not consider approval of a pre-selected site without public participation. Pre-selected sites, if approved, will be granted an emergency permit upon request at the time of the emergency.

The applicant needs only to contact the Department, either orally or in writing, and provide a notice that a pre-selected site will be used for the present emergency. The notice shall include, as a minimum, the applicants name and contact information, the nature of the emergency, and the location of the site and owners name. Oral requests shall be followed with a written request within five days. DEQ Form EDWP-01 and DEQ Form EDWP-02 must be on file with the Department prior to the emergency for all pre-selected sites. The public notice form is found on form EDWP-03. See Paragraph 5 below for a reproducible copy of the forms.

Post Emergency Sites

In the case of selecting a site immediately after an emergency, the Department may grant a temporary emergency permit through oral or written requests. The applicant may verbally relate the information requested on DEQ Form EDWP-01 and DEQ Form EDWP-02 but must provide written copies within five days or as soon as the infrastructure support will allow. See Paragraph 5 below for a reproducible copy of the forms. In addition, a public notice as per 9 VAC 20-80-485.B.4 shall be published, by the applicant, within five days of the request, or as soon as practicable, in order for the emergency permit to become effective. A copy of the advertisement shall be faxed to the Department once it is published. Disposal of waste may commence upon verbal approval but all waste activities must cease after 90 days.

FORMS

The following forms may be reproduced:

- Temporary Debris Staging and Reduction (TDSR) Site Investigation Form
- Temporary Debris Staging and Reduction (TDSR) Site Base Line Data Checklist
- Temporary Debris Staging and Reduction (TDSR) Site Closure Checklist
- DEQ FORM EDWP-01 - Emergency Debris Wastepile Permit Information
- DEQ FORM EDWP-02 - Emergency Debris Wastepile Siting Criteria
- DEQ FORM EDWP-03 - Public Notice for Emergency Permits
- DEQ FORM EDWP-04 - Certification
- DEQ FORM EDWP-05 - Attachment A thru Attachment D
- DEQ FORM EDWP-06 - Attachment D (Continued) thru Attachment F

TEMPORARY DEBRIS STAGING AND REDUCTION (TDSR) SITE INVESTIGATION FORM								
DATE:				**TIME:**				
SITE NAME:								
SITE ADDRESS:								
SITE COORDINATES:								
SITE DESCRIPTION:								
SITE RECOMMENDED FOR USE:				**Yes**		**No**		
CHARACTERISTIC		**Yes**	**No**	**CHARACTERISTIC**		**GOOD**	**FAIR**	**POOR**
Public Property				Surface Drainage				
In 100 Year Floodplain				Noise Acceptability				
>200 Acres				Smoke Acceptability				
>100 Acres				Suitable Ingress/Egress				
>50 Acres				Suitable in Wet Weather				
<50 Acres				Site Lends Itself to Easy Preparation				
				EXPLAIN "YES" RESPONSES				
Close to Schools, Hospitals, Residential, Churches								
Obvious Environmental Concerns								
Mostly Open/Clear								
Wetlands/Creeks/ Ponds								
Developed								
Brownfield								
Paved Surfaces								
Already Fenced								
Adjacent to Airfield								
On-site Utilities								
Requires Access Roads/Internal Roads								
Capable of Handling Large No. of Vehicles								
Proximity to Major Roadway								
COMMENTS:								
VEGETATIVE COVER:		**NONE**		**LIGHT**		**MEDIUM**		**DENSE**
CLOSEST LANDFILL AND APPROX. DISTANCE:								
PROPOSED SITE OWNER:								
OWNER'S PHONE NUMBER AND ADDRESS:								
PHOTOGRAPHS WERE TAKEN:				**YES**		**NO**		
PHOTOGRAPH NUMBERS:								

SKETCH ON BACK

TEMPORARY DEBRIS STAGING AND REDUCTION SITE

BASELINE DATA CHECKLIST

The following site baseline data checklist should be used to evaluate a site before a contractor begins operations and used during and after to ensure that site conditions are properly documented

Before Activities Begin

☐ Take ground or aerial photographs and/ or video.
☐ Note important features, such as structures, fences, culverts, and landscaping.
☐ Take random soil samples.
☐ Take random groundwater samples.
☐ Take water samples from existing wells.
☐ Check the site for volatile organic compounds.

After Activities Begin

☐ Establish groundwater-monitoring wells.
☐ Take groundwater samples.
☐ Take spot soil samples at household hazardous waste, ash, and fuel Staging areas.

Progressive Updates

☐ Update videos/photographs.
☐ Update maps/sketches of site layout.
☐ Update quality assurance reports, fuel spill reports, etc.

TEMPORARY DEBRIS STAGING AND REDUCTION SITE

CLOSURE CHECKLIST

The private sector debris removal contractors must assure the City Deputy Debris Manager that all TDSR sites are properly remediated. There will be significant costs associated with this operation as well as close scrutiny by the local press and environmental groups. Site remediation will go smoothly if baseline data collection and site operation procedures are followed.

- Contractor responsible for removing all debris from the site.
- Contractor conducts an environmental assessment with Debris Management Center staff and landowner.
- Contractor develops a remediation plan.
- Remediation plan reviewed by Debris Management Center staff, landowner, and appropriate environmental agency.
- Remediation plan approved by the appropriate environmental agency.
- Contractor executes the plan.
- Contractor obtains acceptance from County Deputy Debris Manager, appropriate environmental agency, and the landowner.

The following checklist should be used to document site closure activities

- ☐ Site number and location.
- ☐ Date closure complete.
- ☐ Household hazardous waste removed.
- ☐ Contractor equipment and temporary structures removed.
- ☐ Contractor petroleum spills remediated.
- ☐ Ash piles removed.
- ☐ Comparison of baseline information to conditions after the contractor has vacated the temporary site.
- ☐ Appendices.

Closure Documents.

- Contracting status reports.
- Contract.
- Testing results.
- Correspondence.
- Narrative responses.

DEQ Contact Information

Department of Environmental Quality 13901 Crown Court Woodbridge, VA 22193 Attention: Solid Waste Permitting	Phone: (703) 583-3800 Fax: (703) 583-3821 Please call prior to faxing to inform staff

EMERGENCY DEBRIS WASTEPILE SITING CRITERIA

Put a T or X in the Yes / No Columns as necessary. Additional information is provided as attachments A-F. Please read each criterion carefully. Sign the certification on DEQ FORM EDWP-04.

	SITING CRITERIA	YES	NO
1	Site Location Map Attached		
2	Not prone to base floods [100 year flood plain, coastal flooding] or inundation. *Copy of FEMA Map or Equivalent is attached		
3	Site is geologically stable. (see Attachment A)		
4	Site has adequate berm area and terrain to manage leachate release.		
5	Not closer than:		
	100 feet from any regularly flowing surface water body or river.		
	200 feet from any well, spring, or other groundwater source of drinking water		
6	WETLANDS SHALL NOT BE IMPACTED. (see Attachment B)		
	US Fish and Wildlife Service National Wetlands Inventory Map is attached.		
7	Site characteristics:		
	Slopes less than 33%		
	No springs seeps or other groundwater intrusions		
	No gas, water, sewage, or electrical or other transmission lines under the site.		
	No existing open dump, unpermitted landfill, lagoon, or similar facility on site.		
	Specific site conditions which may be considered for exemption (applies only to site characteristics)		
	SPECIFY:		
8	No strip mines, exposed bedrock or quarries present. (See Attachment C)		
	If No, does the site have a liner as per Attachment C?		
9	Fifty-foot firebreak around disposal areas and from all treelines		
10	Does not impact cemeteries (public, private, pet) or culturally sensitive areas.		
11	Has ample access for delivery vehicles.		
12	Is anticipated waste acceptable for disposal? (See Attachment D)		
	(90 day permit, all activities inclusive)		
13	Can the waste be segregated for disposal? (See Attachment D)		
14	Public notice form with required information attached.		
	(See Attachment F. Form should be faxed with other required forms. May be verbal over phone, if necessary.)		
15	For pre-selected sites, was a public meeting held?		
	Public Meeting Location:		
	Date:_____/_____/_____(mm/dd/yyyy)		
16	Can the site be closed in accordance with Department standards? (See Attachment E)		

Public Notice for Emergency Permits	
Type of media (e.g. newspaper or radio)	
Name of media (e.g. newspaper)	
Contact Name	
Phone Number	
Fax Number	
Publication Cycle	

N E W S P A P E R A D V E R T I S E M E N T

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF WASTE PERMITTING
PUBLIC NOTICE FOR A TEMPORARY EMERGENCY PERMIT
TO TREAT AND STORE SOLID WASTE

DUE TO_____,
(Emergency)
FOR_____, VA
(City, town, county)

Due to the recent emergency from_____, and pursuant to the requirements of 9 VAC 20-80-485 .B.4 of the Virginia Solid Waste Management Regulations (VSWMR), Permitting of Solid Waste Management Facilities, The Virginia Department of Environmental Quality (Regional Office Address &ZIP, hereby authorizes _____ to operate a temporary emergency debris site located at _____.

The site will receive the following solid wastes:
_____.

Typical treatment, storage, and disposal options will include:
_____
_____
_____.

The site meets the minimum siting requirements deemed necessary for environmental protection and public safety. Groundwater monitoring is not required but leachate management and run-off control are required. The permit will expire 90 days from the date of verbal or written authorization given on_____. Closure shall include the removal of wastes, waste constituents, and all temporary features used in support of the waste activities associated with deposit, environmental protection, maintenance, and operation. Final closure should return the site to as near as natural condition as possible prior to the disposal of waste. If there are any questions or concerns regarding the issuance of the temporary emergency permit, please contact the Department at (XXX) XXXXXXX or at the above address.

Revised 9/03 DEQ FORM EDWP-03

ALL APPLICATIONS MUST BE SIGNED

CERTIFICATION:

I hereby affirm that the information provided on this application is accurate and complete to the best of my knowledge. I fully understand the requirements of the siting criteria and that an emergency permit is valid for 90 days from the time of issuance. All activities must be inclusive in the 90-day period. Failure to provide accurate and complete information or follow the requirements and conditions of this application may result in permit denial or revocation. I have enclosed a copy of the advertisement that was published in the local newspaper.

Signed_____Date_____
(Type or Print dd/mm/yyyy)

Title or Authority by_____
(Type or Print)

The following items must be returned to the Department:

_____ Contact Information (EDWP-01)

_____ Siting Checklist (EDWP-02)

_____ Copy of Advertised Public Notice

_____ Certification (EDWP-04)

ATTACHMENT A: GEOLOGY

Emergency debris (ED) wastepiles shall not be sited in geologically unstable areas where inadequate foundation support for the structural components of the wastepile exists. Factors to be considered when determining unstable areas shall include:

a) Soil conditions that may result in differential settling and subsequent failure of containment berms;

EXAMPLES

- highly compressible clays
- collapsible soils
- liquefiable soil
- expansive soils
- frost-susceptible soil
- peat
- soils susceptible to hydrocompaction
- other conditions not explicitly listed

b) Geologic or geomorphologic features that may result in sudden or non-sudden events and subsequent failure of containment berms;

EXAMPLES

- Landslide prone areas
- Abandoned river channels and lakes
- highly erosion-prone areas
- over sole source aquifer
- highly karstic areas
- groundwater seeps
- other conditions not explicitly listed
- structural discontinuities such as extreme folding, faulting, fracturing and jointing

c) Man-made features or events (both surface and subsurface) that may result in sudden or non-sudden events and subsequent failure of containment berms;

EXAMPLES

- Emergency routes
- unpermitted landfills
- sludge lagoons
- unsuitable fill
- adjacent to highly explosive products such as chemical, petroleum or fertilizer storage bins
- downstream of weakened or damaged dams or other water retention structures
- over underground excavations such as storage tanks, sewer and traffic tunnels, mine shafts
- other conditions not explicitly listed

d. Presence of sink holes within the disposal area.

ATTACHMENT B: WETLANDS

Wetlands shall be avoided at all times. Existing wetland delineation maps prepared the US Fish and Wildlife Service shall be used to determine prohibited areas. Attach an applicable Wetlands Inventory Map with this application. Wetlands that are encountered on the site yet are not covered by the map shall not be used unless the U.S. Army Corps of Engineers provides an approval letter and it is attached to this application.

ATTACHMENT C: STRIP MINES, EXPOSED BEDROCK AND QUARRIES

In strip mine pits, all coal seams and coal outcrops shall be isolated from solid waste materials by a minimum of five feet of natural or compacted soils with a hydraulic conductivity less 1x10-7cm/sec. Exposed bedrock and quarry faces shall also be lined with five feet of natural or compacted soil with a hydraulic conductivity # 1x10-7cm/sec.

ATTACHMENT D: WASTE

Acceptable Waste

Demolition waste, construction waste, debris waste, land clearing debris, discarded tires, and white goods, free of chloroflourocarbons and PCBs. No other wastes are authorized for the ED wastepile. Liquid waste, sludge waste, radioactive waste, friable asbestos, medical waste and other similar waste shall be prohibited.

Hazardous waste shall be prohibited from the emergency wastepile except when a separate, distinct area can be lined with concrete, collection berms and ditches are erected, and containment booms, in conjunction with other containment strategies, are used.

Segregation

1. The limits of the wastepile shall be large enough to allow segregation of waste with 50-foot firebreak between each segregated area and any adjacent wastepiles or treelines.
2. Each segregated area shall be large enough to accommodate expected volume of waste type.
3. The following wastes require separate disposal areas within the limits of the emergency wastepile.

A. Yard Waste and Woody Products such as trees, stumps, untreated wood and timber, paper products, and untreated wooden household furnishings.
B. Treated and Painted Wood Products.
C. White Goods.
D. Tires.
E. Concrete, Asphalt and Building Material (friable asbestos is prohibited).
F. Hazardous Waste (if allowed).

ATTACHMENT E: CLOSURE

Closure shall include the removal of wastes, waste constituents and all temporary features used in support of the waste activities associated with deposit, environmental protection, maintenance and operation. Final closure should return the site to as near as natural condition as possible prior to the disposal of waste.

ATTACHMENT F: PUBLIC NOTICE

VSWMR 9 VAC 20-80-485.B.4 requires a public notice to be accompanied with the written permit. The Applicant will fill out DEQ FORM EDWP-03 and fax that to a newspaper in the largest circulation for that municipality. The generic form contains the required information. The form is self-explanatory and may be filled in by hand. PRINT, do not use cursive. It must be legible. A copy of the advertisement from the newspaper must be submitted to the Department within 24 hours after submitting the contact information and siting checklist. Once the Department receives the required permit application and a copy of the advertisement from the applicant the permit will be signed and issued. The actual publication date of the advertisement should be the soonest date possible depending on the soonest newspaper publication date.

ACRONYMS

ACM	Asbestos Containing Material
DEQ	Department of Environmental Quality
FEMA	Federal Emergency Management Agency
HHW	Household Hazardous Waste
TDSR	Temporary Debris Staging and Reduction
USACE	U.S. Army Corp of Engineers
UST	Underground Storage Tank
VSWMR	Virginia Solid Waste Management Regulations

LANDFILLS

Prince William County Landfill
14811 Dumfries Rd, Manassas, VA 20112

Appendix G:
Debris Contract Oversight Team
Standard Operating Guidelines

Table of Contents

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- Stockpiled Debris Field Survey Form....9
....9
- Debris Estimating Formulas....10
- Debris Disposal Site Load Tracking Log....11

Debris Removal and Disposal Operations

The City Debris Manager (DM) and Debris Management Center (DMC) staff will coordinate debris removal and disposal operations for all portions of the City. Phase II operations involve the removal and disposal of curbside debris by Public Works, Buildings and Grounds, and Utilities. While City agencies will provide oversight of their own removal operations, contractor operations will be overseen by the Debris Contractor Oversight Team (DCOT).

Mixed debris will be collected and hauled from assigned Debris Control Zones to designated temporary TDSR sites or to designated landfill locations. Clean woody debris will be hauled to the nearest designated vegetative TDSR site for eventual burning or grinding.

Load tickets will be used to track all debris that is loaded, hauled, and disposed of. Load tickets are to be used by both in-house and contracted haulers and will serve as supporting documentation for contractor payment as well as for requests for federal assistance or reimbursement.

Franchise garbage contractors will continue to pickup refuse in accordance with current procedures, routes, and removal schedules. They will haul disaster debris as requested by the contracting authority.

Debris Contractor Oversight Team

The Debris Contractor Oversight Team (DCOT) is responsible for the coordination, oversight, and monitoring of all debris removal and disposal operations performed by City debris removal and disposal Contractors.

The DCOT supervisor and team members will be detailed from Public Works, or a contractor. The DCOT team may also be supplemented with contracted inspectors and other personnel as needed.

The DCOT team supervisor will be located at the Debris Management Center (DMC) and will provide overall supervision of the two field-based monitoring elements as described below. The DMC is located at the City of Manassas Public Works, 8500 Public Works Drive, Manassas 20110. Specific DCOT Supervisor responsibilities include the following:

1. Planning, TDSR site inspection, quality control, and other contractor oversight functions.
2. Receiving and reviewing all debris load tickets that have been verified by a Disposal Site Monitor (see description below).
3. Making recommendations to the DRC regarding distribution of in-house and contractor work assignments and priorities.
4. Reporting on progress and preparation of status briefings.
5. Providing input to the City PIO on debris removal and disposal activities and pickup schedules.

The DCOT Supervisor will oversee the activities of two types of field-based inspection teams. The functions and responsibilities of the field inspectors are described in the following sections.

Roving Monitors

Teams of Roving Monitors will be assigned to a specific Debris Control Zones or to a specific Contractor depending upon the distribution of work assignments. Their mission is to act as the "eyes and ears" for the Debris Manager and DCOT Supervisor to ensure that all contract requirements, including safety, are properly implemented and enforced.

Staff to fulfill the Roving Monitor positions will be provided by Public Works, or a contractor. Roving Monitors will have the authority to monitor contractor operations and to report back to the DCOT Supervisor. Roving Monitors may request contract compliance, but do not have the authority to otherwise direct Contractor operations or to modify the contract scope of work.

The following actions will be initiated immediately after a debris-generating disaster:

1. The Debris Manager will establish two-person roving monitor teams with their own transportation and communications.
2. Roving Monitor teams will be assigned to each contractor's debris removal and disposal zone.

Once assigned, Roving Monitors will monitor debris operations on a full-time basis and make unannounced visits to all loading and disposal sites within their assigned debris management zone(s). In addition, Roving Monitors are responsible to do the following:

1. Obtain and become familiar with all debris removal and disposal contracts for which they are providing oversight.
2. Observe all phases of debris management operation, to include loading sites, TDSR sites.
3. Complete a Debris Loading Site Monitoring Checklist (Attachment 2) for every site visited.
4. Complete a Debris Disposal Site Monitoring Checklist (Attachment 3) for every TDSR site visited. Ensure that operations are being followed as specified in the applicable Debris Removal and Disposal Contract with respect to local, state, and federal regulations.
5. Complete the Stockpiled Debris Field Survey Form (Attachment 4) at least weekly at all temporary TDSR sites to determine estimated quantities of debris stockpiled.
6. Periodically measure curbside debris using the estimating formulas shown in Attachment 5.
7. Prepare a daily written report of all contractor activities observed to include photographs and the aforementioned checklists.

Roving Monitors will also submit daily written reports to the DCOT supervisor outlining their observations with respect to the following:

1. Is the contractor using the site properly with respect to layout and environmental considerations?
2. Has the contractor established environmental controls in equipment staging areas, fueling, and equipment repair areas to prevent and mitigate spills of petroleum products and hydraulic fluids?
3. Are plastic liners in place under stationary equipment such as generators and mobile lighting plants?
4. Has the contractor established appropriate rodent control measures?
5. Has the contractor established procedures to mitigate:

    a) Dust – Are water trucks employed to keep the dust down?
    b) Noise – Have berms or other noise abatement procedures been employed?
    c) Traffic – Does the TDSR site have a suitable layout for ingress and egress to help traffic flow?

Roving Monitor's reports will also include observations at loading sites, disposal sites, and the locations of any illegal dumping sites.

Load Site Monitors

Load Site Monitors will be stationed at designated contractor loading sites.

Load Site Monitor positions will be staffed from Public Works, or a contractor.

Load Site Monitors will be assigned to each contractor loading site within designated Debris Control Zones. The Load Site Monitors' primary function is to verify that debris being picked up is eligible under the terms of the contract. They will initiate and sign load tickets (see Figure 1 in main text) as verification that the debris being picked up is eligible.

The primary tracking mechanism for all debris loaded, hauled, and disposed of will be the Load Ticket. Load tickets will be initiated at pickup and closed-out upon drop-off of each load, and are to be used by both District and contracted haulers.

Disposal Site Monitors

Disposal Site Monitors will be staffed by Public Works, or a contractor. The Disposal Site Monitors will be stationed at all temporary TDSR sites for the purpose of verifying the quantity of material being hauled by the contractor.

The Disposal Site Monitor will estimate the cubic yards of debris in each truck entering the temporary TDSR site and will record the estimated quantity on pre-numbered debris load tickets. The contractor will only be paid based on the number of cubic yards of material deposited at the disposal site as recorded on the debris load tickets.

The Disposal Site Monitor will be responsible for completing and signing each load ticket and returning DCOT copies to the DCOT Supervisor. In addition, Disposal Site Monitors will

maintain a daily Debris Disposal Site Load Tracking Log (Attachment 6), which will also be returned to the DCOT at the end of each day.

At each temporary TDSR site and landfill disposal site, the contractor will be required to construct and maintain a monitoring station tower for use by the Disposal Site Monitor. The contractor will construct the monitoring station towers of pressure treated wood with a floor elevation that affords the Disposal Site Monitor a complete view of the load bed of each piece of equipment being utilized to haul debris. The contractor will also provide each site with chairs, table, and portable sanitary facilities.

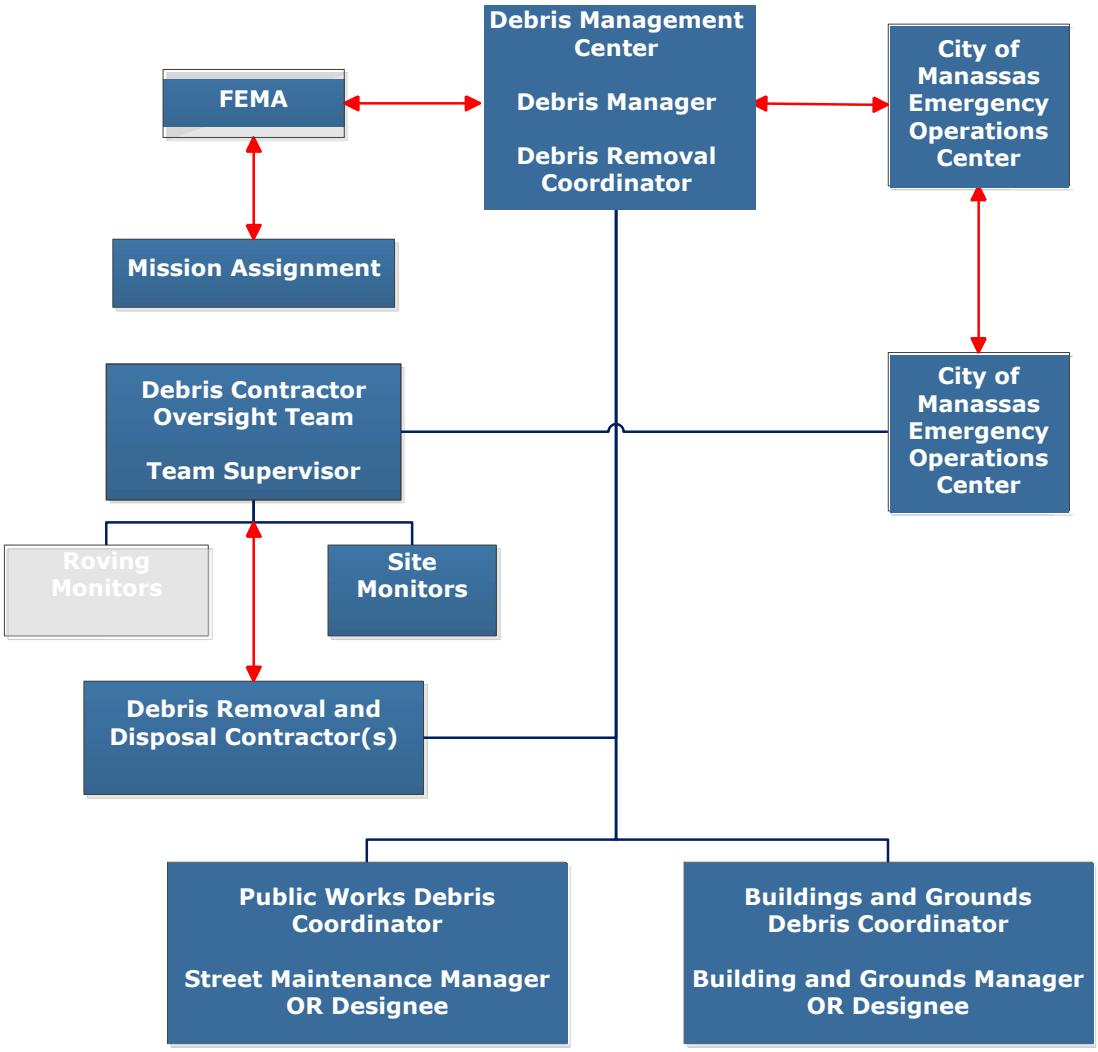
Annual Training Workshop

The DCOT Supervisor will be responsible for coordinating an annual training workshop for all assigned DCOT personnel. The purpose of the workshop is to review the Debris Management Plan procedures and to ensure that the DCOT operation works smoothly. Items of discussion will include:

1. Contractor responsibility
2. Mobilization sites
3. Logistical support
4. Pre-storm mobilization
5. Procedures for call-up of Contractor personnel and equipment
6. Haul routing
7. Contractor vehicle identification and registration
8. Debris hauling load ticket administration
9. Mobilization and operation of the TDSR sites
10. Contractor payment request submission, review, and verification
11. Special procedures for Household Hazardous Waste
12. TDSR site closure requirements

This training will be scheduled annually in May, prior to the start of the Hurricane Season.

City of Manassas Debris Management Center Organization
Debris Contractor Oversight Team



Debris Loading Site Monitoring Checklist

Debris Loading Site Monitoring Checklist									
Date:									
Arrival Time:		**Departure Time:**		**Weather Conditions:**					
Loading Site Location:									
(Street address or nearest intersection)									
GPS Location:		**N**		**W**					
Loading Site Monitor's Name:									
(Print Name)									
Roving Monitor's Name:									
(Print Name)									
(Signature)									
Loading Site									
1. Is the Site Monitor filling out the Load Ticket properly?					**YES**		**NO**		
If NO, explain actions taken:									
2. Is the Contractor loading eligible debris from the designated right-of way (approximately 15' from curb)?					**YES**		**NO**		
If NO, explain actions taken:									
3. Is the Contractor loading trucks to capacity?					**YES**		**NO**		
If NO, explain actions taken:									
4. Identify Contractor's truck numbers observed while on site:									
5. Were photographs taken at the loading site?					**YES**		**NO**		
If YES, list photo log numbers:									
General Notes and Comments: (Include observations within the general area as to overall cleanup activities)									
(Use reverse side if necessary)									

Stockpiled Debris Field Survey Form

Stockpiled Debris Survey Form									
Type of Material:									
	Clean Vegetative		Mixed		C&D		Mulch		Other:
Stockpile Location:									
Average length of Stockpile:		Feet							
Average length of Stockpile:		Feet							
Average length of Stockpile:		Feet							
Total cubic feet:		Cubic Feet							
Total cubic yards:		Cubic Yards (Cubic Feet divided by 27)							
Government's Representative:					Date:				
Contractors Representative:					Date:				
Remarks:									

Stockpiled Debris Field Survey Form								
See Sketch of Site on Reverse Side								
Stockpile Location:								
			Width		Feet			
			Height		Feet			
			Height		Feet			
			Height		Feet			
Length		Feet	Height		Feet	Length		Feet
			Width		Feet			
L'xW'xH' = CY								
27								
Remarks:								

Debris Estimating Formulas

Estimating Rule of Thumb:

- 15 trees, 8 inches in diameter = 40 CY
- Single wide mobile home = 290 CY
- Double wide mobile home = 415 CY
- Root system (8'-10' dia.) = One flat bed trailer to move
- Treat debris piles as a cube, not a cone, when performing estimates.
- Average pace = 2' 6"

Formulas

Conversions:

- 27 cubic feet=1 cubic yard
- One mile=5280 feet or 1760 yards

Building formula:

L'xW' (building footprint) x No. of Stories x 0.2 =_____Cubic Yards of debris

Debris pile formula: (L'xW'xH')/27 =_____Cubic Yards of debris.

Conversion Factors from Cubic Yards to Tons

- Mixed Construction & Demolition Debris = 500 LBS/CY or CY x 0.25 = Tons
- Yard Vegetation = 300 LBS/CY or CY x 0.15 = Tons
- Mulch = 500 LBS/CY or CY x 0.25 = Tons
- Regular Trash = 300 LBS/CY or CY x 0.15 = Tons
- Concrete = 2000 LBS/CY or CY x 1.0 = Tons
- Sand = 2600 LBS/CY or CY x 1.3 = Tons
- Land Clearing (Root balls with dirt) 1500 LBS/CY or CY x 0.75 = Tons

Debris Disposal Site Load Tracking Log

Debris Disposal Site Load Tracking Log							
Date:		Supervisor's Name:			Debris Contractor's Site Representative Name:		
Weather AM:				Weather PM:			
Location:				Monitor's Name(s)			
Truck No.	**Ticket No.**	**Ticket Owner**	**Estimated Quantity (CY)**	**Monitor's Initials**	**Load Accepted**	**Load Denied**	**Remarks**



Disaster Debris Management

Avoiding the Disaster After the Disaster

Manassas, VA

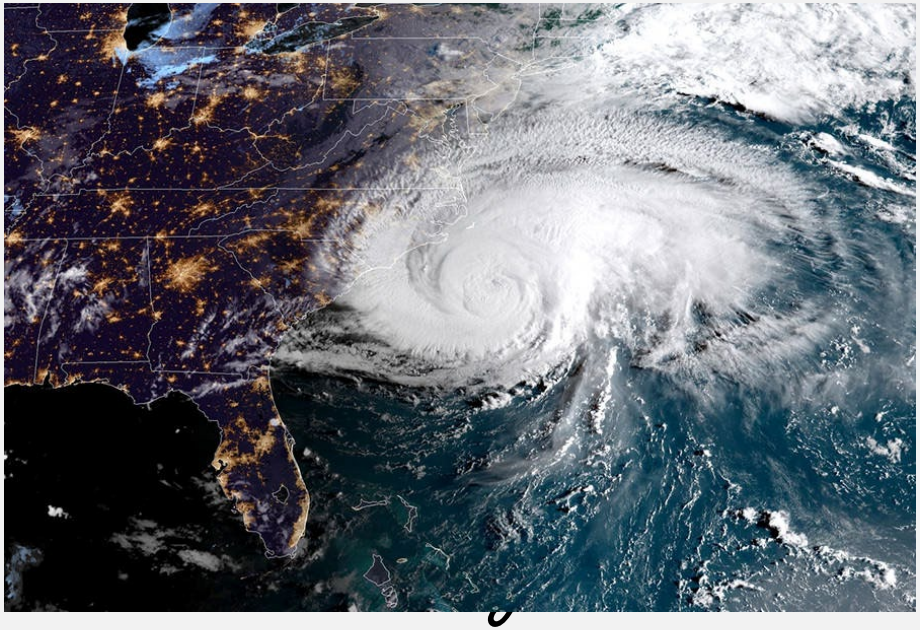
Jan 19, 2023

Proven. Responsive. ***Ready.***

Introduction

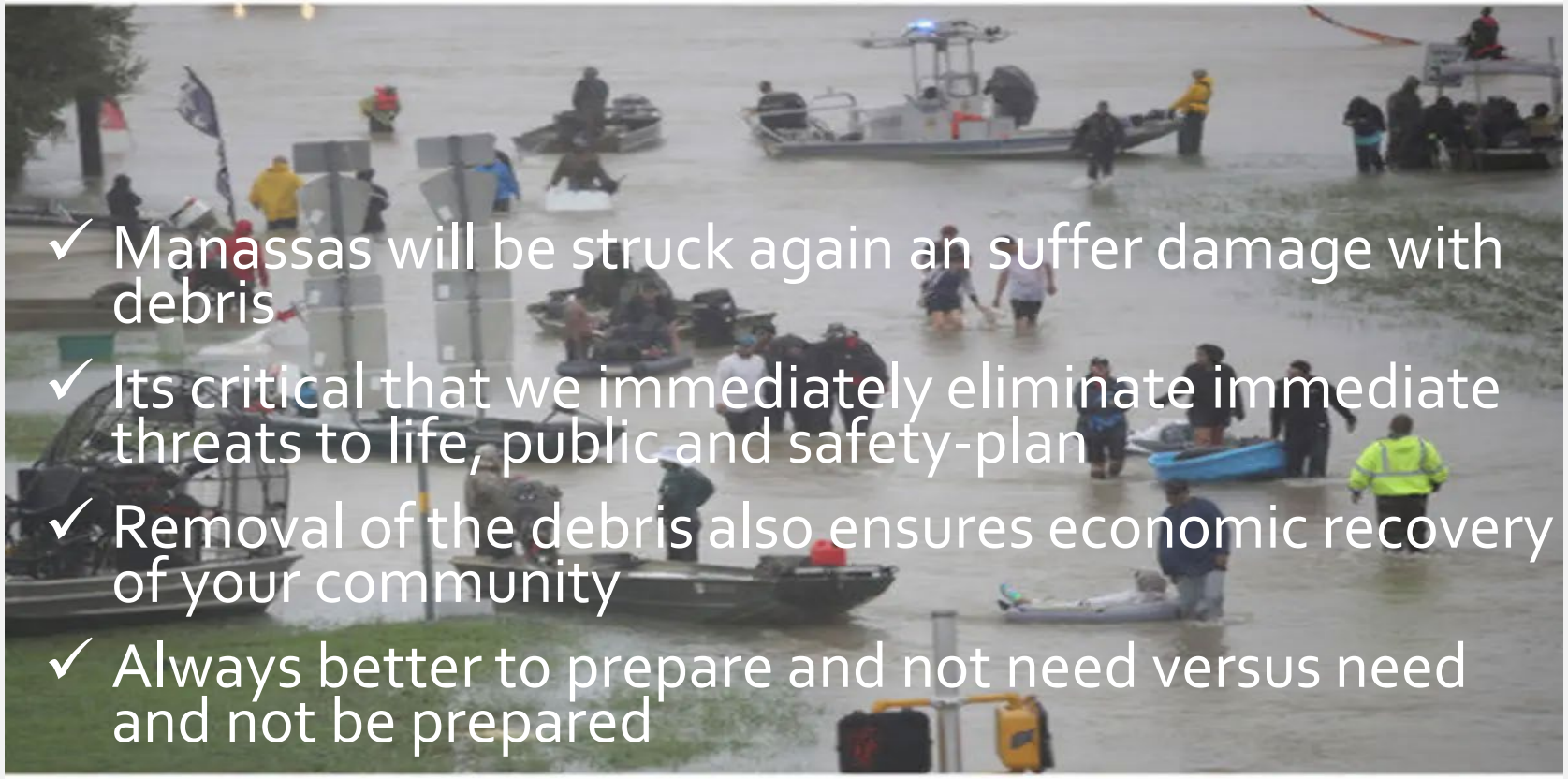
Kerry Kennedy, P.E., Area/Operations Manager/IC
Ceres Environmental

- 34 years USACE
- USACE Civil engineer, senior exercise/contingency planner, program manager; Debris Subject Matter Expert
- USACE Debris Mission Manager for Hurricane Georges, Katrina, Floyd;
- Ceres PM for Debris for St. Johns during Hurricane Maria/Irma
- Ceres Operations Manager for NorCal wildfires
- Ceres Area Manager for Hurricane Florence and Michael
- Ceres Incident Commander for the Butte County Fire, Paradise, Ca.



Why Are We Planning for Debris?

Your Community Needs You!



- ✓ Manassas will be struck again an suffer damage with debris
- ✓ Its critical that we immediately eliminate immediate threats to life, public and safety-plan
- ✓ Removal of the debris also ensures economic recovery of your community
- ✓ Always better to prepare and not need versus need and not be prepared

Debris Best Management Practices

What threats does Manassas face?

Varying threats result in different debris needs

Types of Disasters	Typical Debris Streams								
	Vegetative	Construction & Demolition (C&D)	Personal Property/ Household Items	Hazardous Waste	Household Hazardous Waste (HHW)	White Goods	Soil, Mud, and Sand	Vehicles	Putrescent
Tornadoes	X	X	X	X	X	X		X	X
Floods /Hurricanes	X	X	X	X	X	X	X	X	X
Earthquakes		X	X		X	X	X		X
Winter Storms	X				X				X
Acts of Terrorism	X	X	X	X	X	X	X	X	X

Planning for Debris also..

City of Manassas Debris Plan

- If we plan and execute properly, we can maximize reimbursement
- If disaster is FEMA declared, then Labor paid for
- We can formalize response procedures for your staff and Ceres/Tetra Tech if activated
- Planning can provide for faster response knowing roles and responsibilities
- What should the city do initially?
- Where does Ceres/Tetra Tech fit in?
- How can we work together?



Planning for Debris-Post Event Options

- City Performs immediate actions
- City performs entire workload
- City activates Ceres
- Ceres and City work in concert to collect and haul debris
  - Ceres will assign a PM
  - Designate Priorities
  - Determine Zones/Sectors
  - Develop a Schedule
  - Respond to Hot Spots



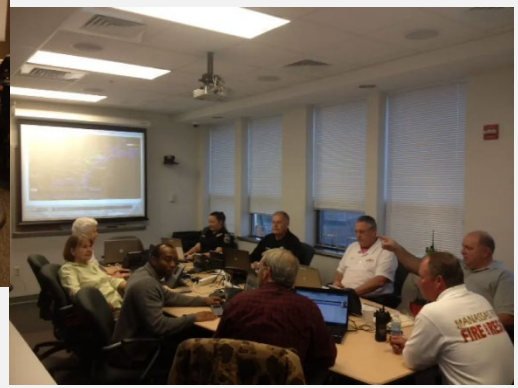
Debris Best Management Practices

What role does each department play?

Public Works	Emergency Management	PAO	Finance/Purchasing	Landfill	Fire/EMS/Police
•Debris lead •Oversee ops	•Coordinates across City depts. •Coordinates with FEMA/State	•Publishes Info on process, schedule, status, etc •Coordinates public information	•Allocates funds •Contract Mgt •Processes invoices •Contracts	•Access control •Reduction •Disposal •Recycle	•Critical Routes •Safety •Looting/Trespassing

Water
Sewer
Power
Solid Waste
Streets,Etc





Debris Best Management Practices

Force Account Vs. Contractors

- Catalog what equipment is available to Public Works
- Have a plan to thoroughly document force account
- Understand the tipping point to call in contractor
- Safety
- Documentation





Debris Management Plan

- Debris management
  - Route clearance
  - Priorities
  - Resources available
  - Documentation
  - Safety
  - Disposal Plan
- PPDR?
- Force Account V. Contractors
  - Overtime
  - Normal duties
  - Wear and Tear on personnel and equipment
  - Victims
- Debris monitoring
- Health, safety and environmental considerations
- Public information
  - PSA's
  - Schedule



Debris Best Management Practices

Let's dive into debris collection strategies

- Strategies in zoning out locality
- When do we start? – Timing is critical to efficiency and cost savings.
- What are our priorities?
- Where do we start? – Residents authorized back into affected areas, political hotspots, etc.
- Do we open citizen drop off locations?





Debris BMP–DMS/TDMS/Reduction/Disposal

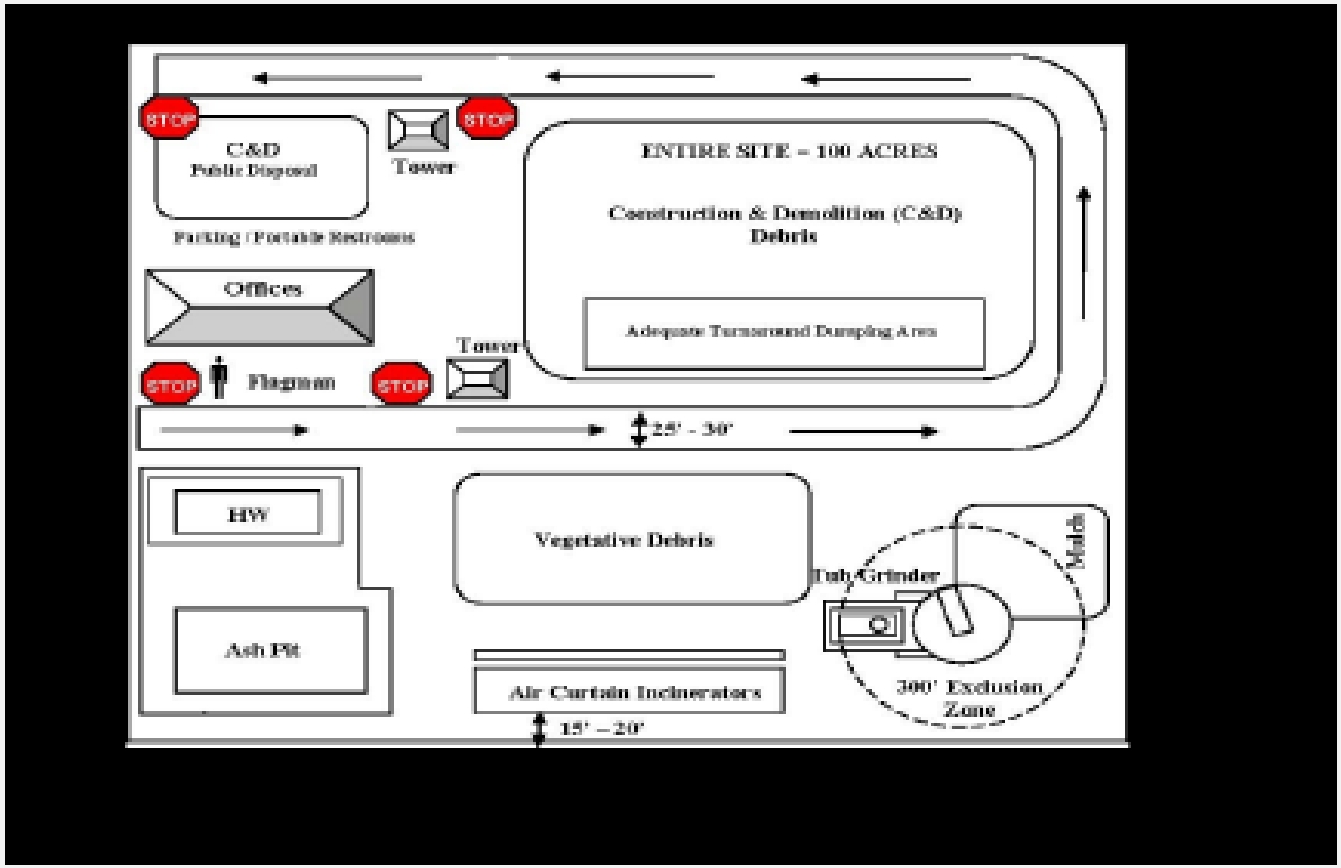
- How many DMS'?
- Create TDRS'?
- Citizen Drop Offs?
- E-Waste
- White Goods

- Landfill disposal
- Reduction of material at the landfill
- HHW collection
- Haul Off of material





Typical DMS Layout



Debris Hauling Contractor-Ceres

- **Personnel Resources**
  - 250+ personnel, 60+ professional and managerial staff with **disaster experience**
- **Equipment Resources**
  - **1400+ pieces of equipment** and daily reduction capacity of **90,000 CY per day**!
- **Subcontractor Resources**
  - Ceres maintains over 5,000 in its database!
- **Financial Resources**
  - **$500 mil per project** in bonding capacity!



Debris Hauling Contractor-Ceres

Debris Hauling Contractor - Ceres

- **In Business Everyday**
  - Civil works and large-scale **mulching** operations
- **Depth of Experience**
  - 46 years responding to disasters
  - 350+ federal responses
  - USACE ACI Contractor for 4 regions covering 26 states
  - In the last 18 months, Ceres has hauled over **15 mil CYs**!





Debris Monitoring Firm- Tetra Tech

TETRA TECH

Communities rely on Tetra Tech's broad capabilities in disaster response programs, federal grant management, environmental services, and engineering to navigate the path to long-term recovery.

Debris BMP –Public Information

Communicating debris removal guidelines

- Think about your population – language, high traffic areas, etc.
- Develop sample PSAs
- Content – segregation, removal pass schedule, questions from public
- Determine best distribution methods – One Message, Multiple Messengers
- Timeline on when to distribute information

facebook

Nextdoor



twitter



MANASSAS, VIRGINIA
Rich in Historic Interest
1873

CERES ENVIRONMENTAL

Public Service Announcements





Stormwater



Actions

- What prep can we do now
- Mitigation
- Document status'
- Pumps
- Generators
- Parts
- Maintenance



Scenario

- Hurricane (Notice event)
- During work week/not during work week
- Mitigation actions
- Prepatory actions
- On call personnel
- Roster call/status
- Immediate actions
- Damage Mitigation
- Assessment/estimate
- Plan for debris

Responding in "Stormy Skies" Exercise

Rapidly Mobilize in "Stormy Skies"

Action No.	Pre/Post Event		Action Discussion	Responsible Party	Equip. Qty
	Days	Hours			
05	0	0	**IMPACT!**	City/Ceres	
06	+0	+12	NTP given Emergency debris clearance operations begin Safety briefings	City/Ceres	4-5 crews
07	+1	+0	Preliminary Debris Assessments Establish sectoring principles	City/Ceres	
08	+2	+0	Baseline testing for DMS	Ceres	
09	+3	+0	DMS construction	Ceres	
10	+4	+0	End of emergency debris clearance	Ceres	
11	+5	+0	Begin debris collection Safety briefings, AHAs	City/Ceres	6-8 Haul 3-4 Tree 1 Grinders 1 Loaders 2 Support
12	+7	+0	Need for additional DMS locations	Ceres	
13	+14	+0	Kick-off meeting/Applicant's Briefing with FEMA	Cities	
14	+30	+0	Complete 1st pass/Start 2nd pass	Ceres	4-6 haul
15	+45	+0	Complete 2nd pass/Start 3rd pass	Ceres	1-3 haul
16	+60	+0	Close out DMS/demobilize	Ceres	

Scenario

- Tornado (No Notice event)
- During work week/not during work week
- Roster call/status
- Immediate actions
- Mitigation
- Assessment/estimate
- Plan for debris


©2017 Julie Dermansky

Responding in "Stormy Skies" Exercise

Example Exercise By The Numbers

Hurricane

- Debris Figures
  - Cat 1: 48,800
  - Cat 2: 195,200
  - Cat 3: 634,402



Tornado

- Debris Figures
  - EF2: 23,877
  - EF3: 402,734
  - EF4: 1,864,473



Ice storm

- Debris Figures
  - 1" Accum: 46,371
  - 1.5" Accum: 108,199
  - 2: Accum: 170,027



Questions

Questions?

TETRA TECH



Annual Disaster Preparedness & Recovery Training

City of Manassas, VA

January 19th, 2023

Introduction

Tommy Webster, Deputy Director of Operations

- 20 years of disaster debris experience
- Unique understanding of debris hauling
- Mission operations manager though multiple statewide activations including Irma & Hurricane Ian
- General Contractor for FEMA's 1st Hazard Mitigation Elevation Program in the U.S.
- Project oversight/management on FEMA reimbursable projects totaling over $1Billion

Debris Expertise

25 YEARS OF DISASTER RESPONSE EXPERIENCE

90 MAJOR DISASTERS IN 23 STATES & 2 TERRITORIES

$8B IN POST-DISASTER GRANTS MANAGED

160 MILLION CY OF DEBRIS MONITORED...

28 PROJECTS OVER 1 MILLION CY

... PLUS **6.8M** CYs OF PPDR DEBRIS

2.35M HAZARDOUS TREES & LIMBS REMOVED



30,000+ PPDR PARCELS SERVICED

10,000+ PROJECT WORKSHEETS (PWs)

650 TOTAL DEBRIS REMOVAL PROJECTS MANAGED

#1 MOST PREFERRED ADMS TECHNOLOGY

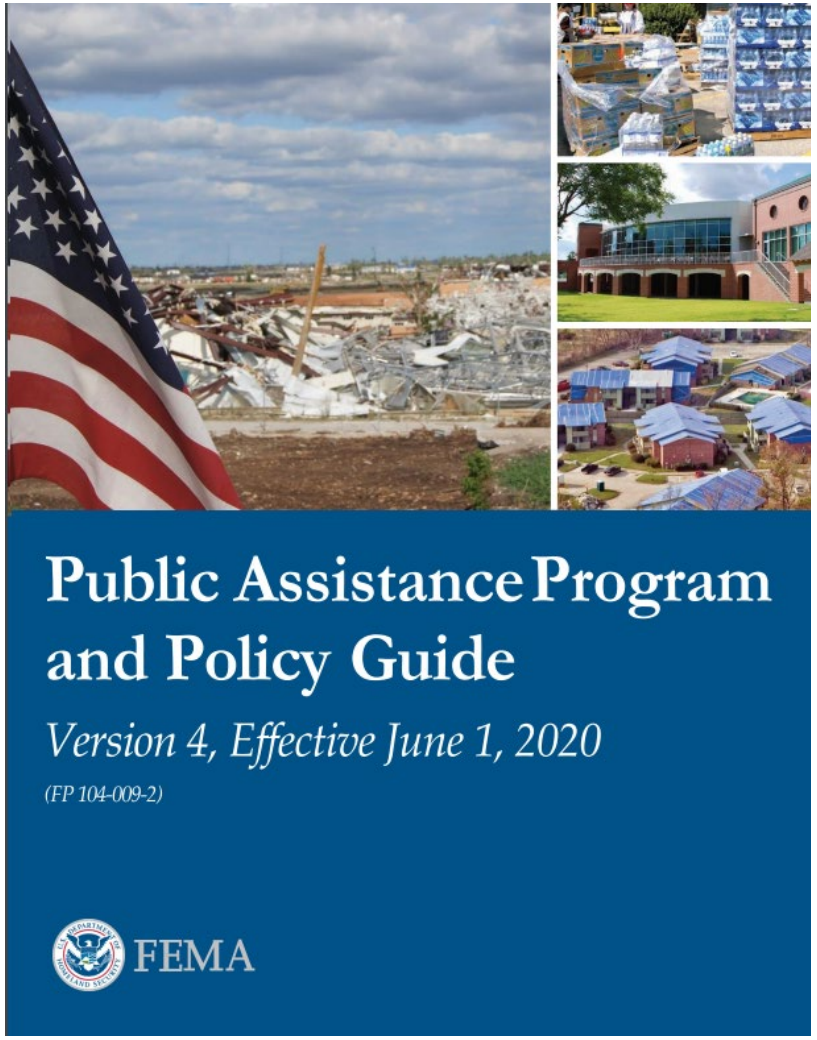
2021 Debris Events

- Surfside Condo Collapse (FL)
- Hurricane Ida (LA)
- Dixie Wildfire (CA)
- Midwest Flooding & Tornadoes (KY)
- Winter Storms (VA)

What is Public Assistance?

The FEMA Public Assistance (PA) Program provides grants to help communities quickly respond to and recover from major disasters or emergencies. The PA program funds the repair, restoration, reconstruction, or replacement of a facility or infrastructure that is damaged or destroyed by disaster.

The PA program also encourages protection of these damaged facilities and infrastructure from future events by providing assistance for hazard mitigation measures during the recovery process.



Public Assistance Eligibility

The four components of eligibility are applicant, facility, work, and cost.



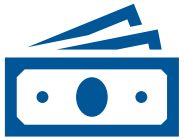
Applicant must be a state, territory, tribe, local government or private nonprofit organization.



Facility must be a building, public works system, equipment or natural feature



Work is categorized as either "emergency" or "permanent" and must be required as a result of a declared incident within the disaster area



Cost is the funding tied directly to eligible work, and must be adequately documented, authorized, necessary and reasonable.

Presidential Declaration

Federal Disaster Declaration Thresholds:
State = $1.77 County = $4.44

State of VA - population ~8,631,393 = $15,277,566

Prince William County – population ~482,204 = $2,104,986

**Based on 2020 Census and 2023 FEMA threshold multiplier*

FEMA

Disaster Declaration Process – Seven Steps
1. Incident Occurs
2. Local officials collect initial damage estimates
3. State requests Joint Preliminary Damage Assessments (PDA's)
4. Joint local/state/federal PDA's are conducted
5. Governor submits disaster declaration request to president through FEMA Regional Office
6. FEMA reviews request, sends recommendation to president for decision
7. President makes determination

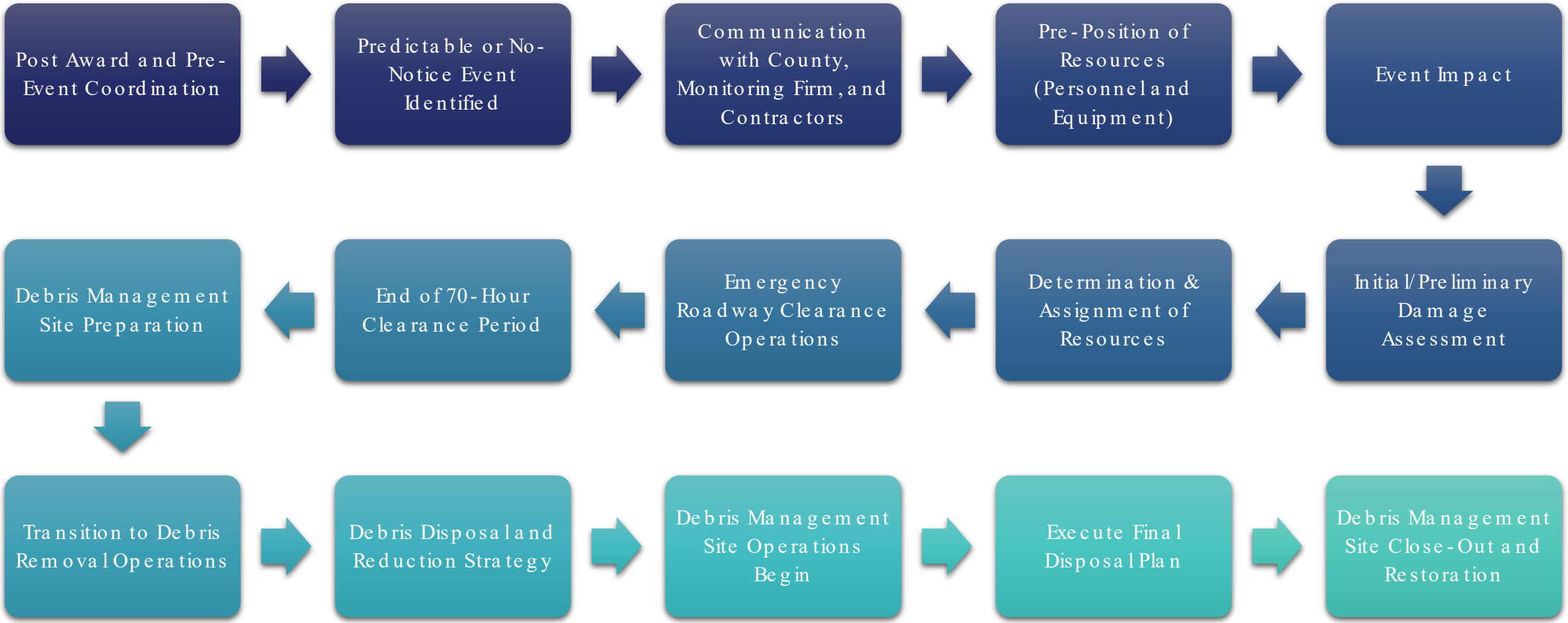
Role of a Debris Monitoring Contractor

Having a disaster debris monitoring program is necessary if applying for federal grants. It's important to have an experienced debris monitoring contractor to ensure that FEMA PA eligibility requirements are met. Documentation is critical, and audits are inevitable.

Key Tasks of a Debris Monitoring Contractor

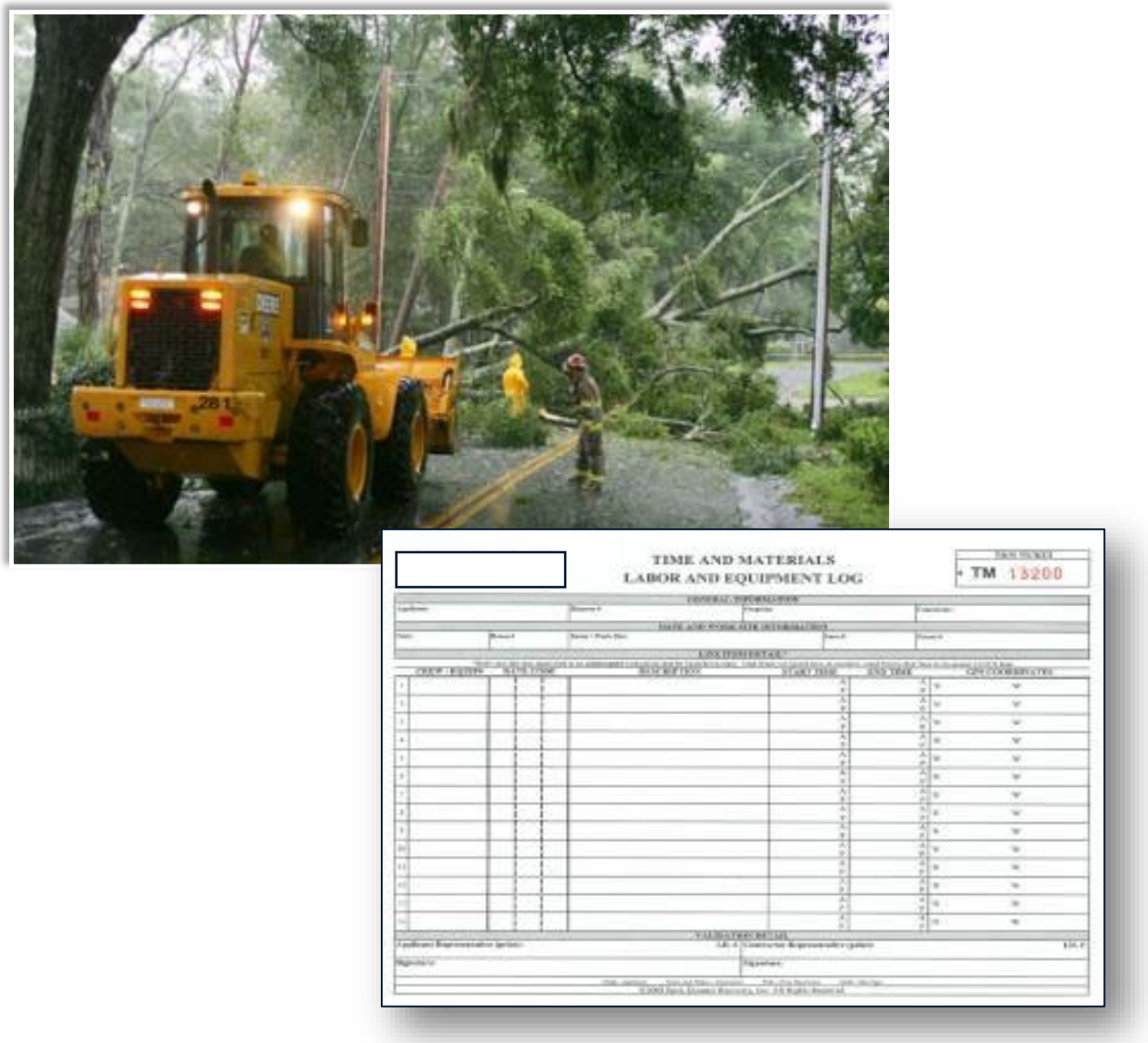
- DMS Permitting
- Truck Certification
- ROW Monitoring
- Haz. Tree Monitoring
- DMS Monitoring
- Data Management
- Invoice Reconcilation
- FEMA Reimbursement Support

Project Operational Chart



Emergency Response

- Emergency Push
- Contracting - Time and materials
- Windshield assessments
- Aerial assessments
- Estimated quantity of debris
- Acceptable duration of pick-up
- Estimate volume of trucks

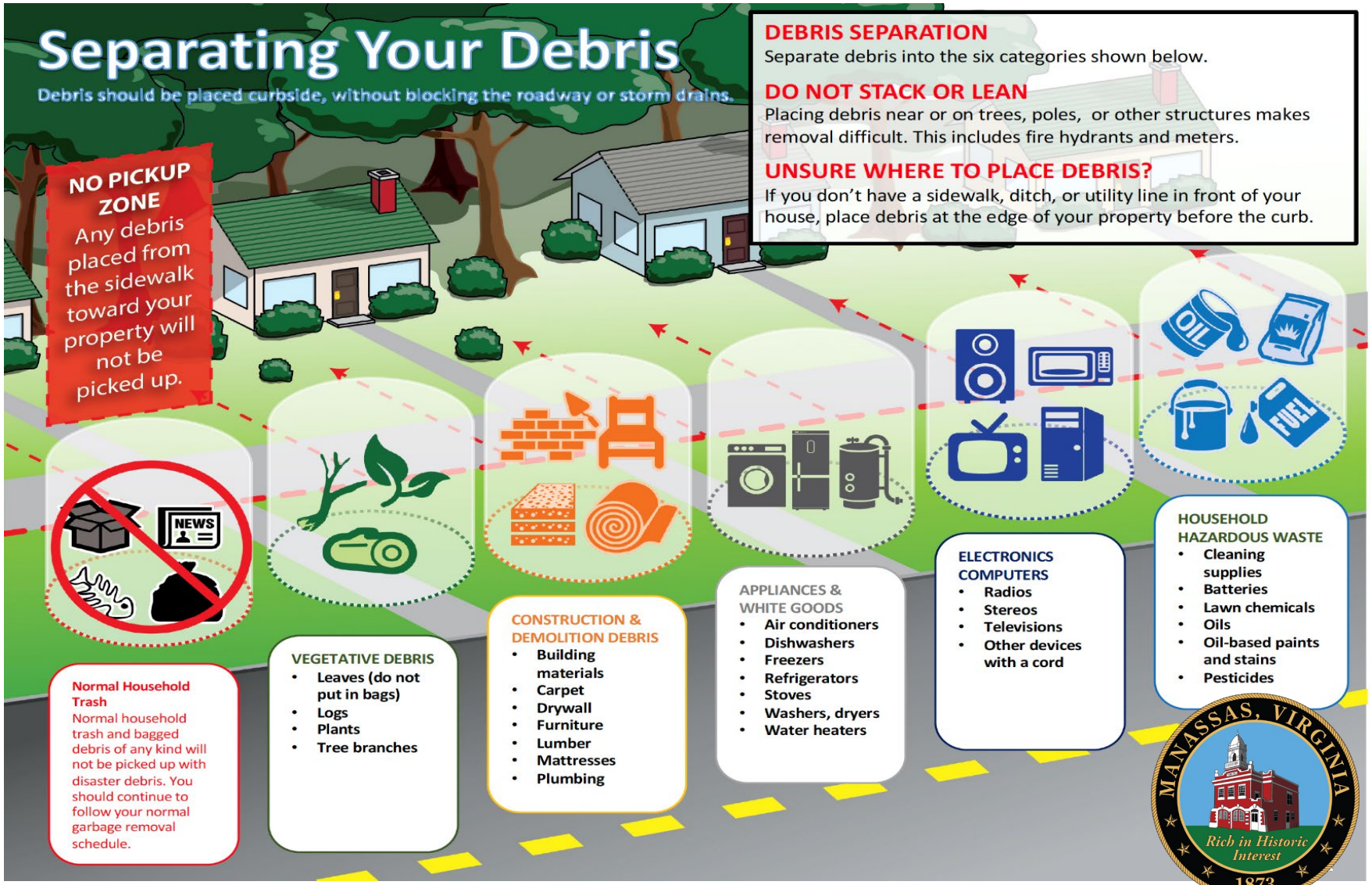


Debris Separation

Alert the public as to the type of debris to be removed, how to segregate it, and when the debris passes will occur.

Utilize your website, local news outlets, radio, social media, etc., to get messaging such as this out to the public.

Assign a single PIO to coordinate with the Debris Monitor and the Debris Hauler to consolidate messaging.



Collection Monitoring Operations

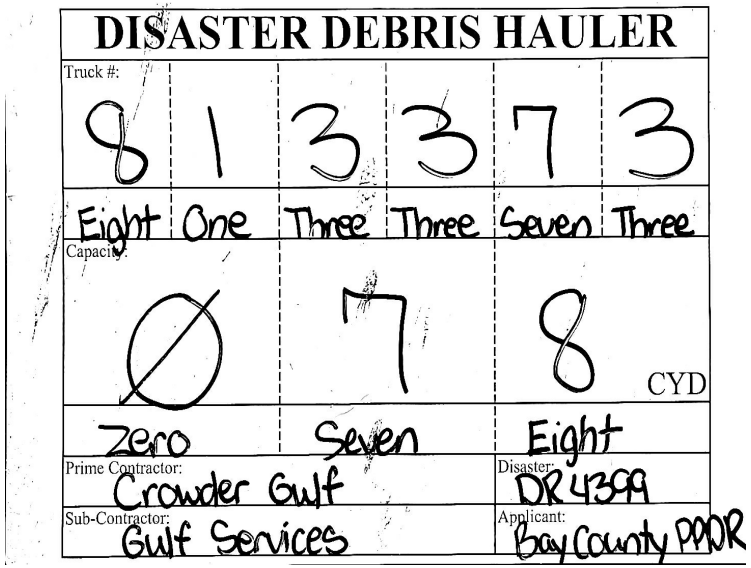
The key information elements that are needed to verify the contractor's scope of work are…

- Type of debris collected
- Amount of debris collected
- Original collection location
- Tracking to final disposal



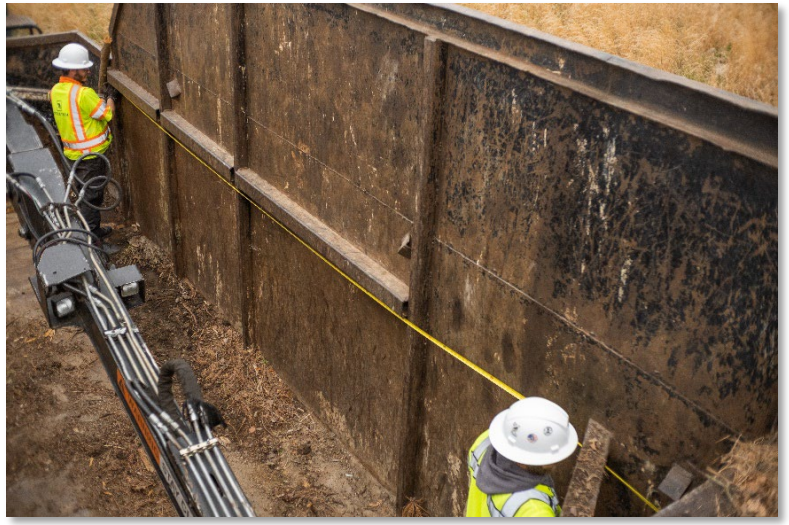
Right of Way Debris Removal

Truck Placard



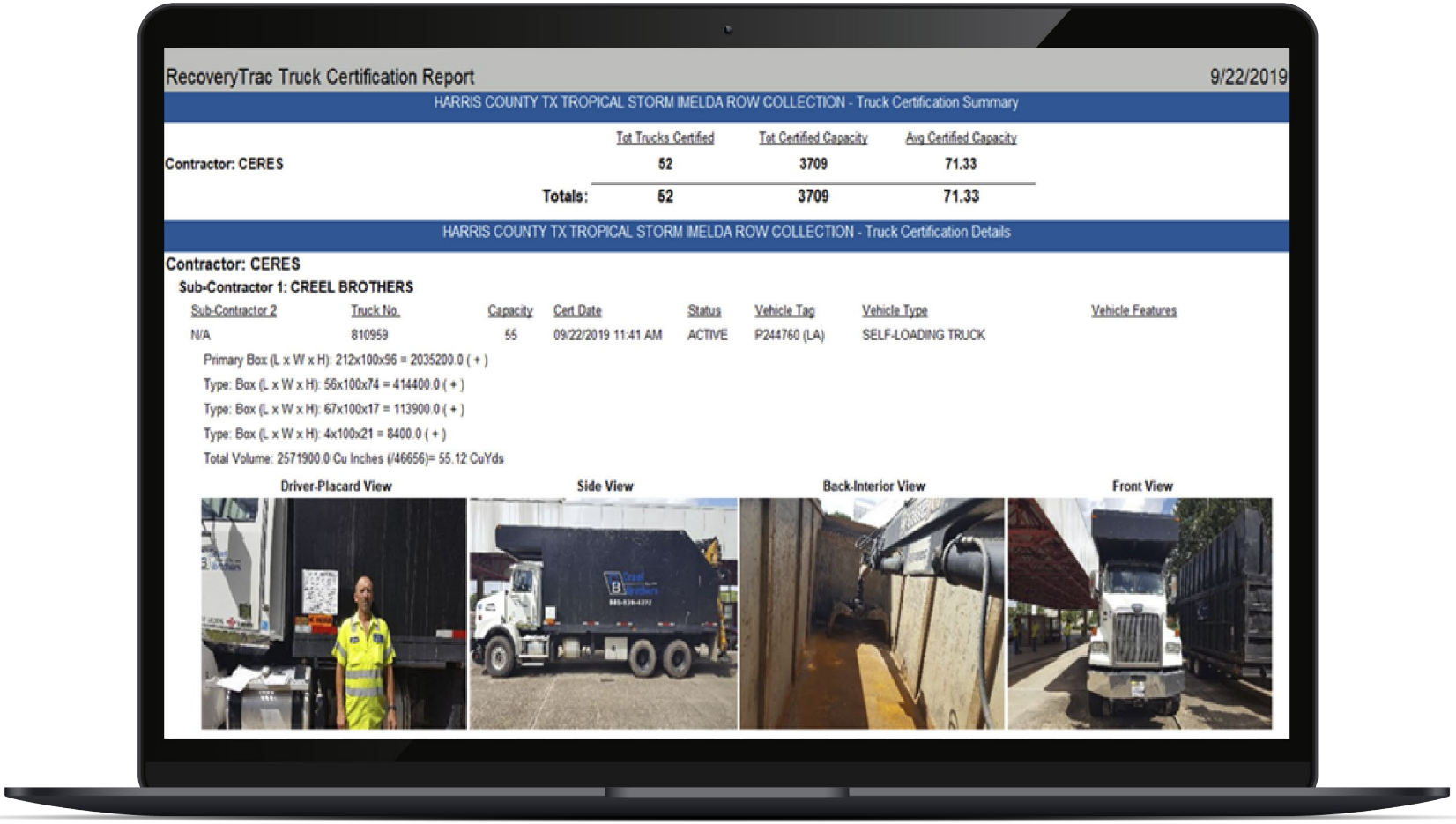


- Truck certification is the first step in debris removal operations.
- Truck certification can include both city-owned assets and contract hauler vehicles.
- All vehicles used in debris removal have to be certified!





Right of Way Debris Removal



RecoveryTrac Truck Certification Report 9/22/2019

HARRIS COUNTY TX TROPICAL STORM IMELDA ROW COLLECTION - Truck Certification Summary

	Tot Trucks Certified	Tot Certified Capacity	Avg Certified Capacity
Contractor: CERES	52	3709	71.33
Totals:	52	3709	71.33

HARRIS COUNTY TX TROPICAL STORM IMELDA ROW COLLECTION - Truck Certification Details

Contractor: CERES

Sub-Contractor 1: CREEL BROTHERS

Sub-Contractor 2	Truck No.	Capacity	Cert Date	Status	Vehicle Tag	Vehicle Type	Vehicle Features
N/A	810959	55	09/22/2019 11:41 AM	ACTIVE	P244760 (LA)	SELF-LOADING TRUCK	

Primary Box (L x W x H): 212x100x96 = 2035200.0 (+)
Type: Box (L x W x H): 56x100x74 = 414400.0 (+)
Type: Box (L x W x H): 67x100x17 = 113900.0 (+)
Type: Box (L x W x H): 4x100x21 = 8400.0 (+)
Total Volume: 2571900.0 Cu Inches (/46656)= 55.12 CuYds

Driver-Placard View | Side View | Back-Interior View | Front View

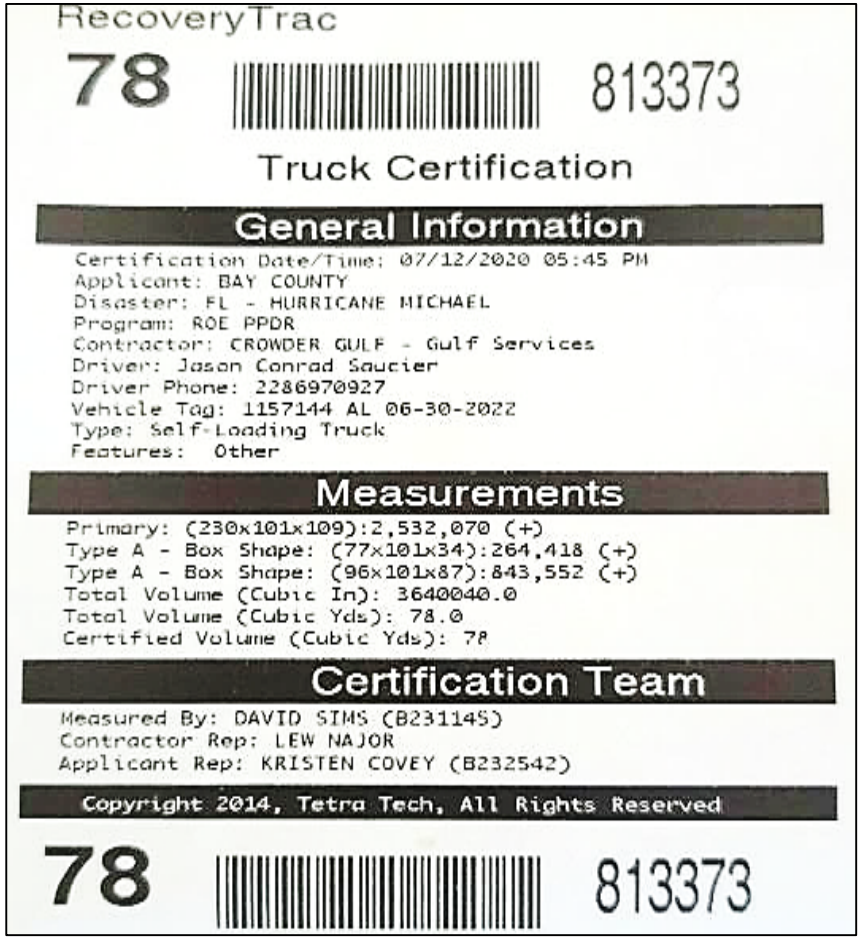
Truck Certification Report

Right of Way Debris Removal

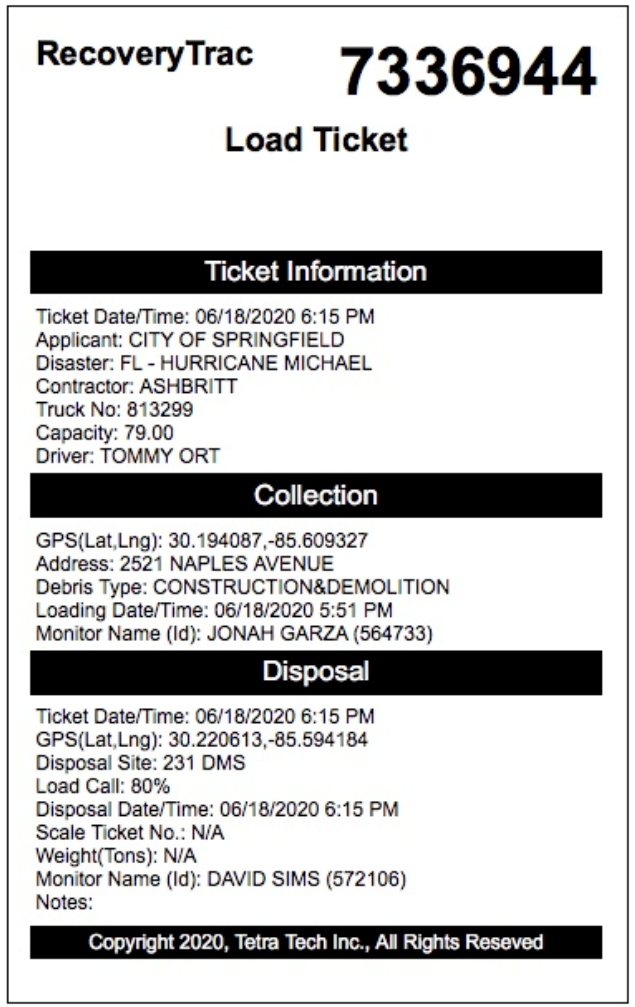
FEMA required information

- Capacity of hauling bed (CY)
- License plate number
- Unique truck identification number assigned by the monitor
- Brief physical description of the truck
- Photographs

Truck Certification Badge



Right of Way Debris Removal



RecoveryTrac **7336944**

Load Ticket

Ticket Information

Ticket Date/Time: 06/18/2020 6:15 PM
Applicant: CITY OF SPRINGFIELD
Disaster: FL - HURRICANE MICHAEL
Contractor: ASHBRITT
Truck No: 813299
Capacity: 79.00
Driver: TOMMY ORT

Collection

GPS(Lat,Lng): 30.194087,-85.609327
Address: 2521 NAPLES AVENUE
Debris Type: CONSTRUCTION&DEMOLITION
Loading Date/Time: 06/18/2020 5:51 PM
Monitor Name (Id): JONAH GARZA (564733)

Disposal

Ticket Date/Time: 06/18/2020 6:15 PM
GPS(Lat,Lng): 30.220613,-85.594184
Disposal Site: 231 DMS
Load Call: 80%
Disposal Date/Time: 06/18/2020 6:15 PM
Scale Ticket No.: N/A
Weight(Tons): N/A
Monitor Name (Id): DAVID SIMS (572106)
Notes:

Copyright 2020, Tetra Tech Inc., All Rights Reseved

A debris load ticket must contain specific information that FEMA requires:

- GPS Coordinates
- Address
- Debris Type
- Disposal location
- Load Call
- Dates and Times
- Truck # / Driver Name
- Applicant

Disposal Operations

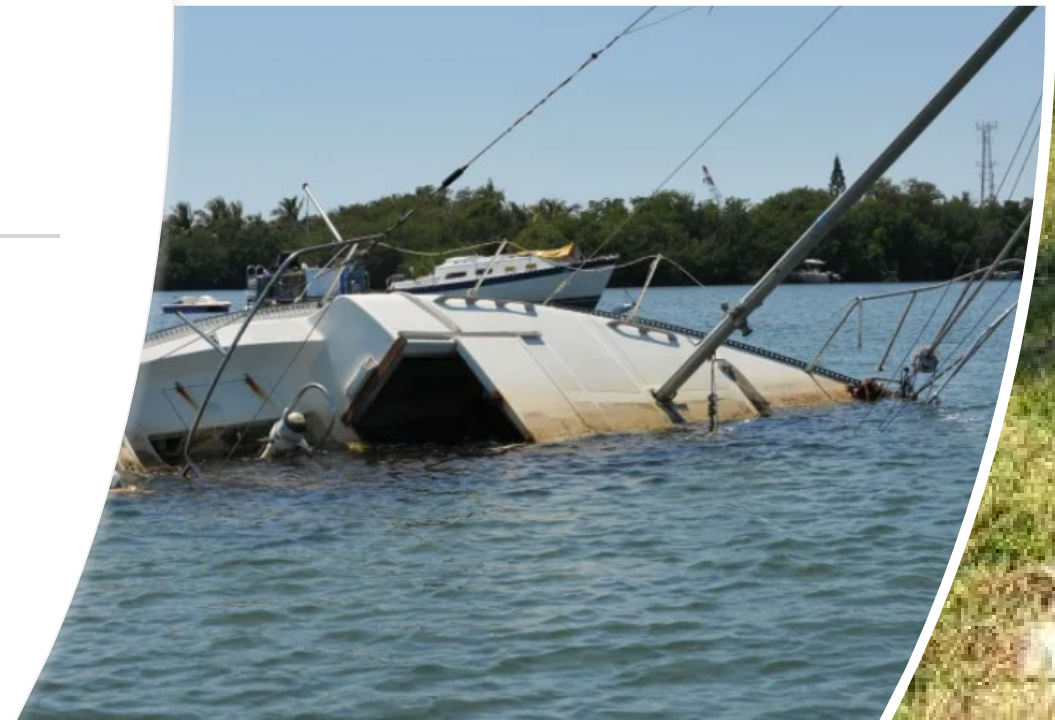
- DMS capacity analysis
- Fraud controls
- Load calls
- It is critical that plans and contingencies for final disposal of vegetative and mixed debris are established.
- Final disposal sites must be properly permitted.
- Debris must be properly disposed/applied at final disposal site.





Specialized Debris Removal Monitoring







Special Debris Removal
Common Activities

- Hanging limb and leaning tree removal (leaners and hangers)
- Private property debris removal (PPDR)
- Public parks
- Stump removal
- Vessel and vehicle recovery
- Animal carcass collection
- White goods
- Hazardous waste

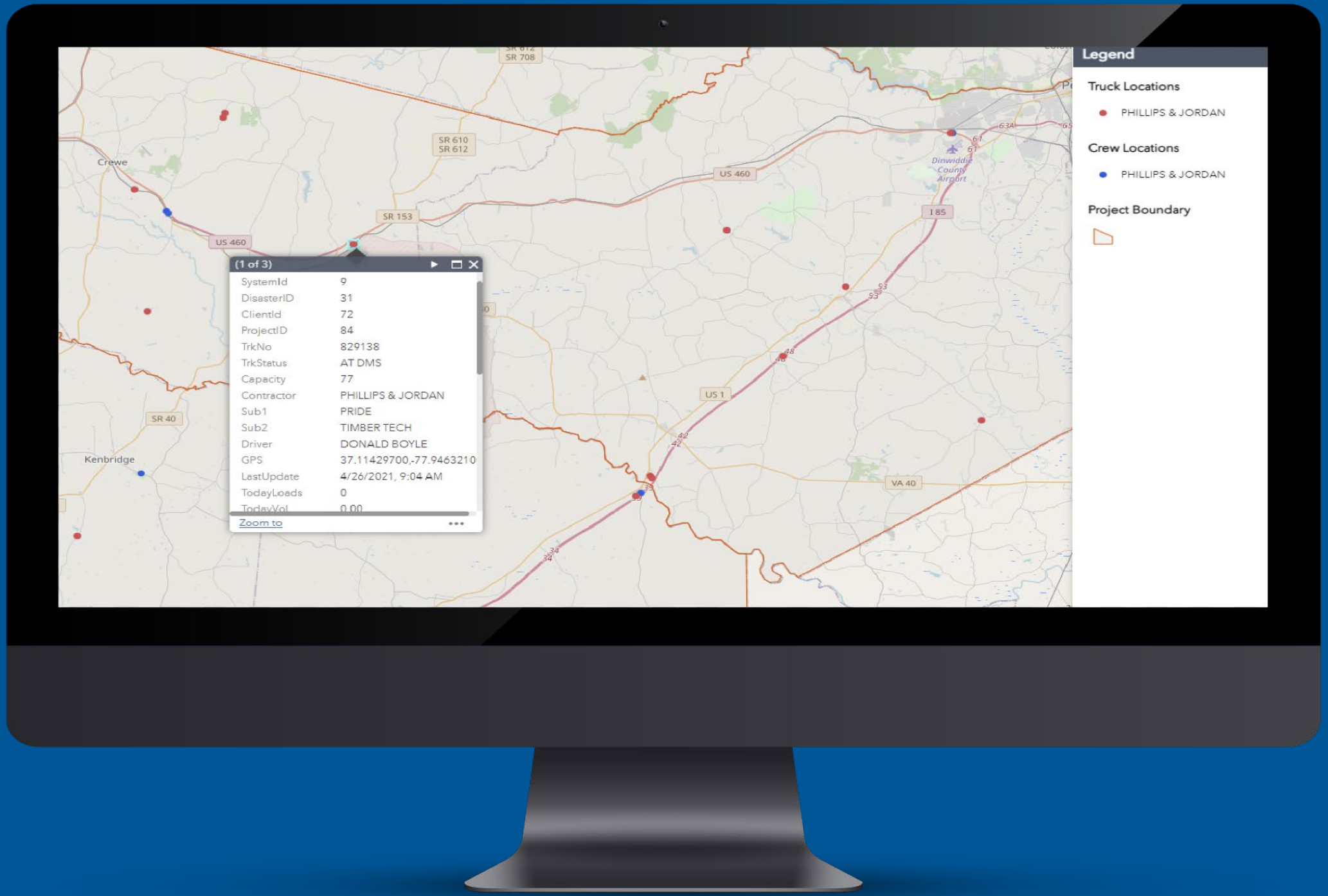
RecoveryTrac Improvements

Numerous technological improvements to our ADMS have been made since 2017

- More customized reporting
- Improved mobile app technology
- Thousands of additional mobile units available
- Improvements to data system security
- Still the most trusted ADMS in the industry

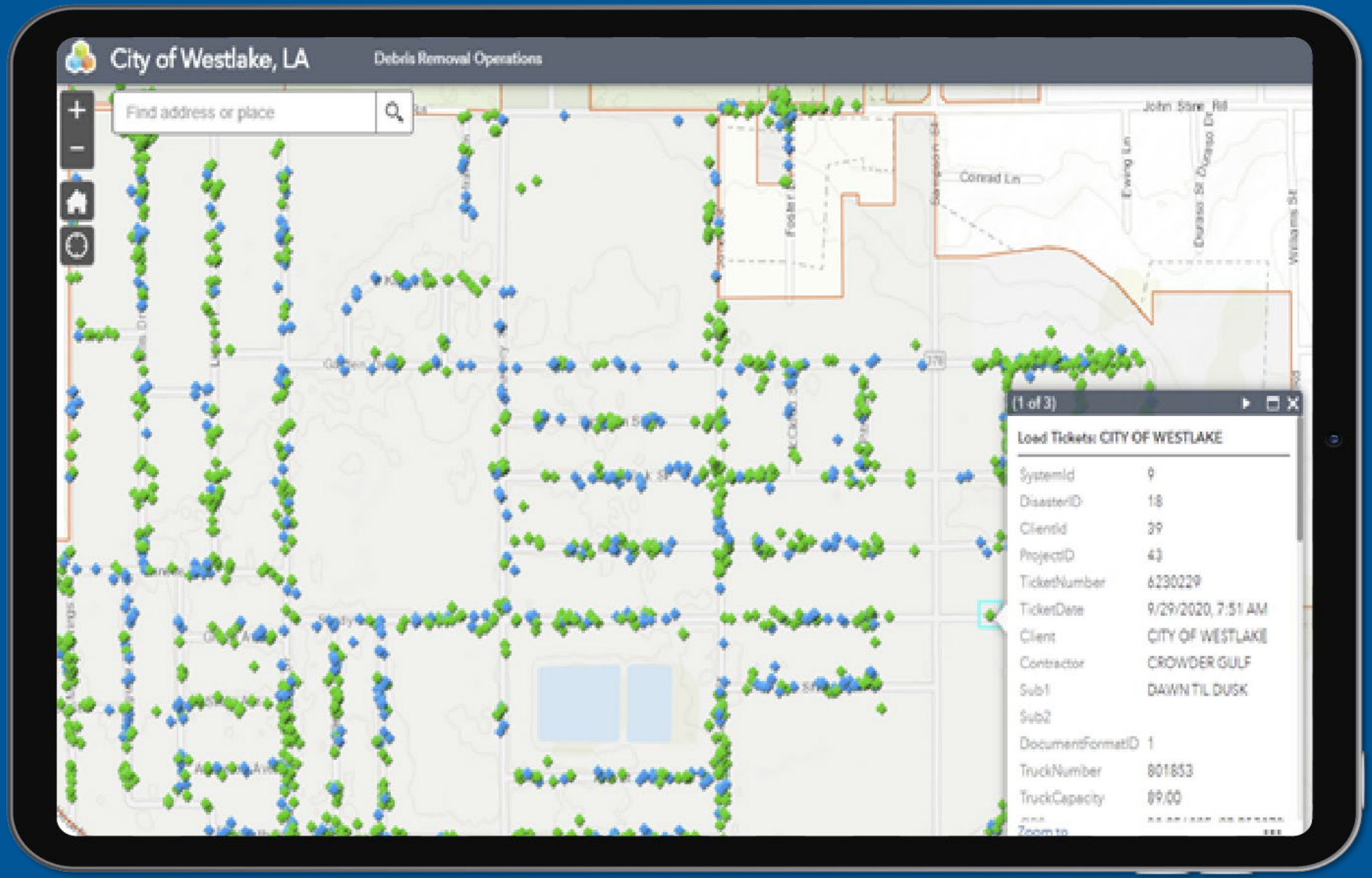
TETRA TECH

Truck Locations



TETRA TECH

Unit Rate Ticket Map



TETRA TECH

Customized Reporting

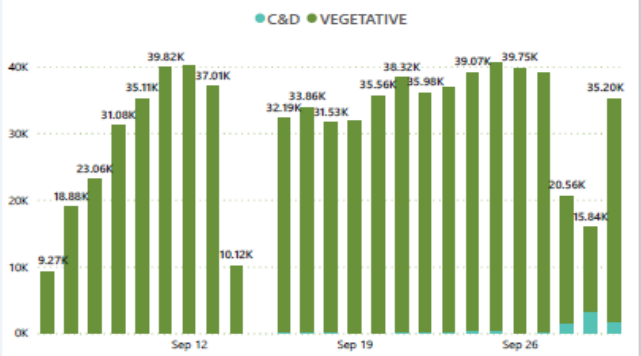
Cumulative Summary for Period Selected (Figures are rounded to the nearest whole number)

750,572	14,970	114	63	50
Total Cubic Yards Collected	Loads	Unique Hauling Units	Average Load Call %	Average Load CY

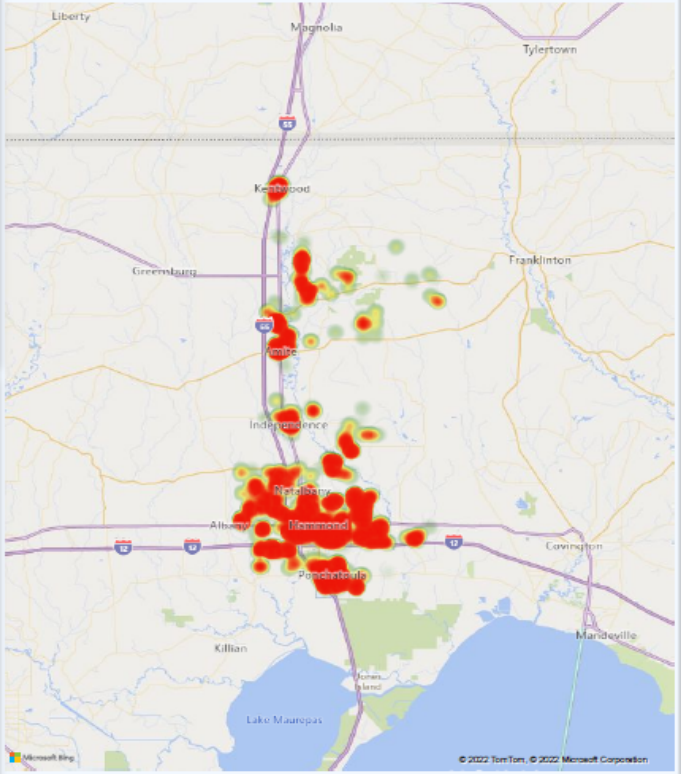
Latest production for selected period was on 09/30/21 as follows (Figures rounded to the nearest whole number)

35,198	687	93	65	51
Total Cubic Yards Collected	Loads	Unique Hauling Units	Average Load Call %	Average Load CY

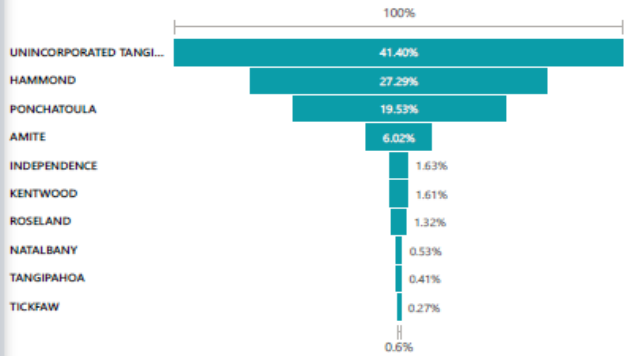
Debris Volume In Cubic Yards By Day By Debris Type



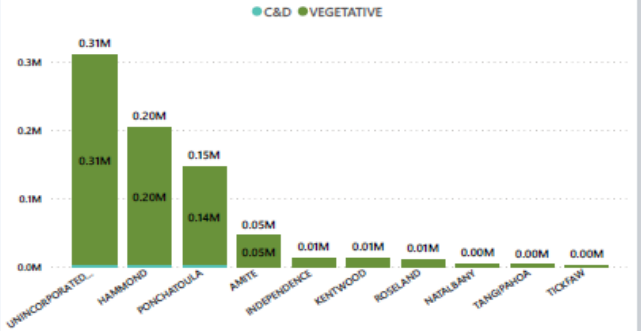
Debris Collected By Location



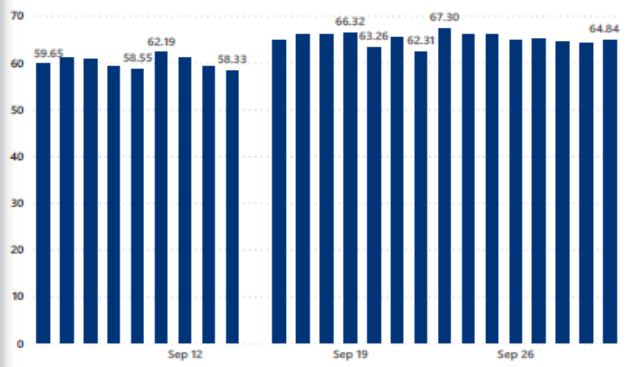
Percent Of Total Debris Volume Received By Applicant



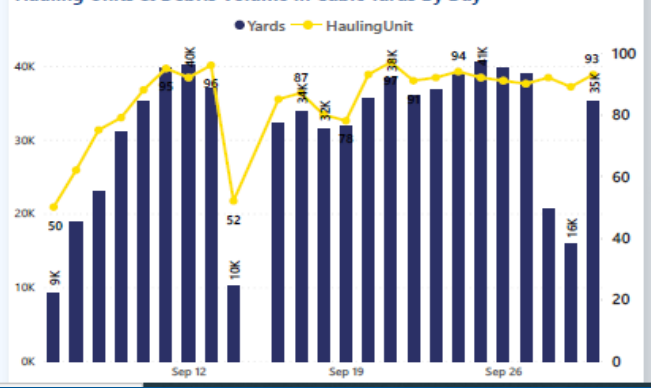
Debris Volume In Cubic Yards By Applicant By Debris Type



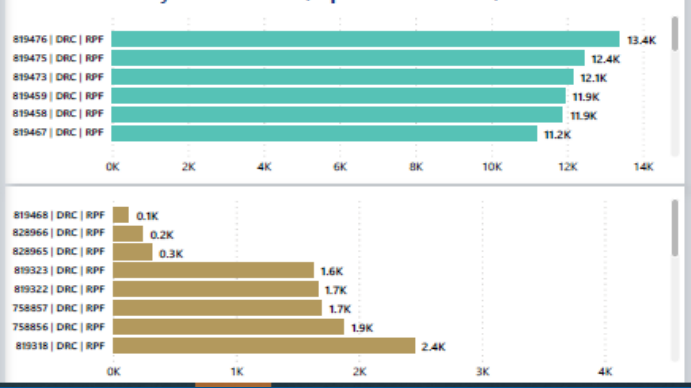
Average Load Call % By Day



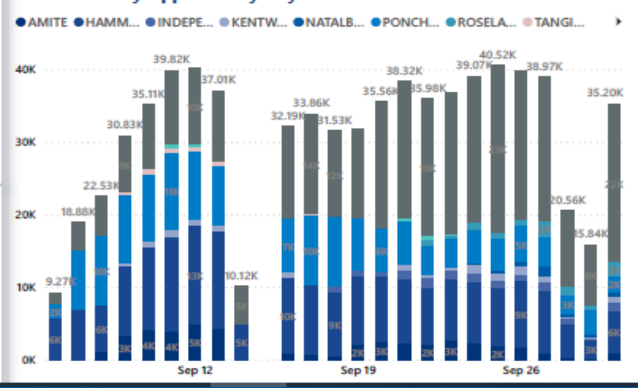
Hauling Units & Debris Volume In Cubic Yards By Day

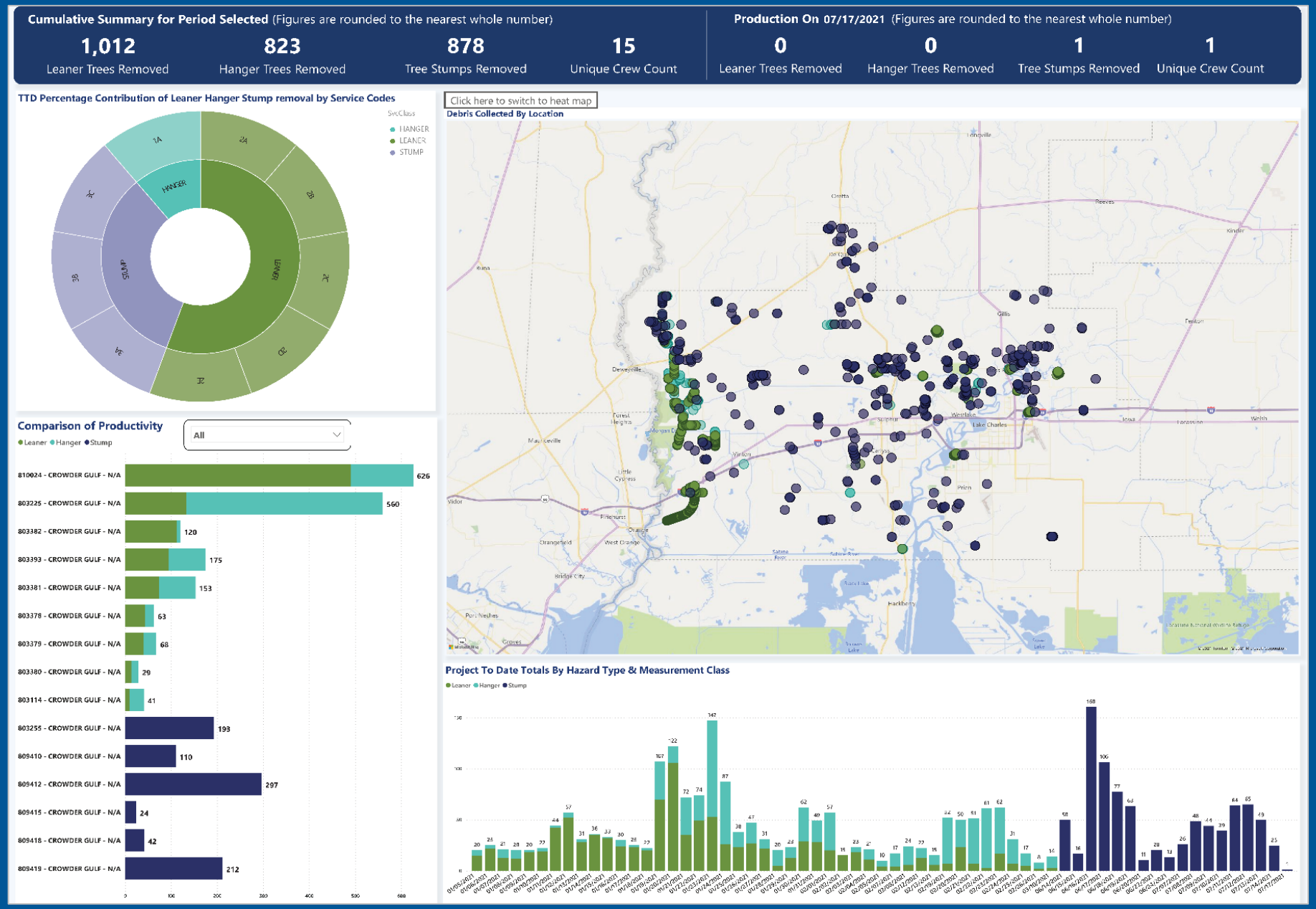


Truck Productivity in Cubic Yards (Top and Bottom 20%)



Cubic Yards By Applicant By Day



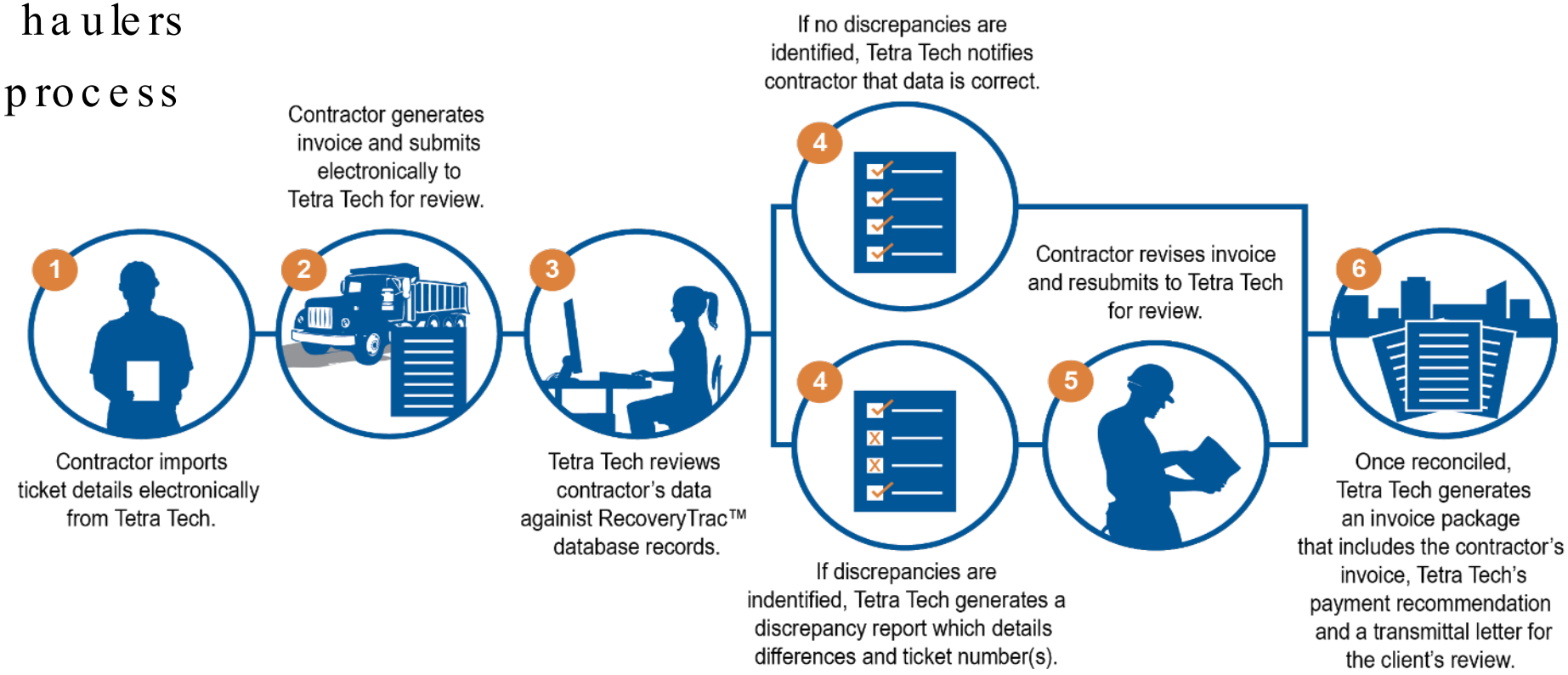


TETRA TECH

Geospatial Project Tracking driven by PowerBI

Invoicing and Reconciliation

- Invoicing kickoff meeting
- Data standards
- Electronic haulers
- Invoicing process



Policy, Procedures & Guidance Update

NHPA- Sec 106 Compliance Changes

Key Actions for Success

- Document all DDMS Site reviews and approvals prior to operating the DDMS (VA DEQ & VA DHR).
- For sites pre-authorized with DEQ, obtain a copy of the state's historical coordination (VA DHR) prior to operating the DMS.
- For any new DMS that is not pre-authorized annually, obtain approval from both the VA DEQ and VA DHR prior to using the site for debris operations.
- Sites which have been previously approved, or developed, and minimize new ground disturbance, are good examples to minimize historical review concerns.

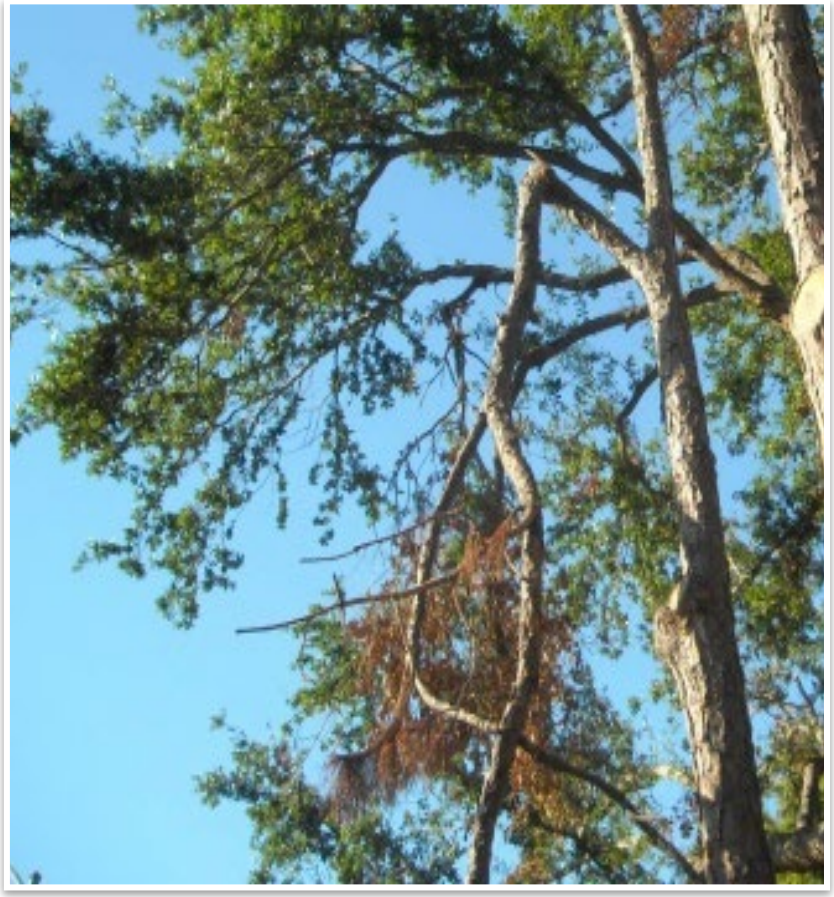
DHR – Virginia Department of Historic Resources » Review & Compliance Division (RCD)

Hazardous Tree Removal Program Changes

Although FEMA has removed minimum size requirements for Hazardous Trees, Limbs & Stumps, they have increased scrutiny on documentation of hazardous item removal

- Multiple photographs are required from specific angles
- Photos must show a particular hazards relation to the public ROW
- Must document the specific threat that the hazard poses

Our team has already begun taking additional photos in anticipation of possible changes. Tetra Tech will continue to photograph and document the removal of hazardous trees/limbs in accordance with the latest guidance.



FEMA

Private Property Debris Removal

Private Property Debris Removal for Gated Communities

Based on the severity of the impact of an incident and the potential threat to public health and safety or economic recovery, private property debris removal may be deemed eligible under the Federal Emergency Management Agency (FEMA) Public Assistance (PA) Program for gated communities.







FEMA

Private Property Debris Removal
Gated Communities

Gated communities do not typically allow unrestricted public access to private roads, and do not immediately meet FEMA PA criteria for public interest. However, it is possible to provide further documentation to establish that debris removal in gated communities is in the public interest.

The basis for the determination that removing the debris from the private property is in the public interest. This includes The initial public interest determination must be made by the State, Territorial, Tribal, county, or municipal government's public health authority or other public entity with legal authority to make a determination that disaster-generated debris on private property constitutes an immediate threat to life, public health, or safety, or to the economic recovery of the community at large.

Once public interest has been demonstrated, FEMA evaluates the submission to verify if the case of private property removal is in the public interest. FEMA will provide a written response specifying properties for which it approves funding for debris removal. Though not required, Tetra Tech recommends that gated communities obtain approval from FEMA prior to beginning debris removal and disposal.

FEMA

Private Property Debris Removal
Private Roads

With exception of debris removal from commercial property, the Applicant does not need to wait for FEMA approval to start work. However, for the Applicant to receive PA funding, FEMA must determine that the PPDR work at each property is eligible. *Private roads are those that are not owned or operated by or otherwise the legal responsibility of a Federal or SLTT entity (including orphan roads, roads in gated communities, homeowners' association roads, etc.).*

When determining if debris removal is in the public interest, FEMA considers:

- Volume of debris
- Height of debris
- Number of houses/blocks with large volumes of debris
- Amount of public population affected

If the public has unrestricted access (no locks, gates, or guards) and frequently uses the private road, then removal and disposal of the debris, including debris placed at the curbside by residents, is in the public interest and the Applicant is not required to submit documentation demonstrating the debris removal is in the public interest.

FEMA

In Conclusion

Preparation is key

- Proper Procurement
- Understanding FEMA PA
- Permitted DMS locations and capacity
- Proper Documentation

New Areas of Emphasis

- Hazardous trees
- Section 106 Compliance
- PPDR
- VA DEQ & VA DHR Consideration

Tetra Tech is prepared and ready to respond.

Thank you!

Questions?



(828) 644-3222



Tommy.webster@tetratech.com



tetratech.com/disasterrecovery

Force Account Labor Management Guidelines

Please follow best management practices when tracking labor and equipment hours for use during a debris generating event. Please be aware that **ALL** documentation is required for FEMA submission and reimbursement.

Best Management Practices

Be "audit ready"

- **Always** use the assigned event Cost Code when tracking time for staff, force account staff and equipment.
- Document timesheets, equipment logs, maps of crew assignments and daily progress, pay policies for reimbursement.
- When deploying crews in the field, it is important that detailed records are kept including start time, end time, and the location where the work was performed.
- Utilize maps to document work progress of individual crews on a daily basis.
- Eligible Labor – Only the overtime for force account employees performing debris removal activities will be eligible for reimbursement. However all labor hours must be accounted for in order to maximize equipment reimbursement.
- When documenting equipment for reimbursement, you must be able to tie the operator's name and their labor hours to the specific piece of equipment. If you have multiple operators on a single piece of equipment, those operators must tie back to the equipment hours.
- All hours for equipment will be eligible for reimbursement if performing debris removal operations on rights of way where the City is legally responsible.
- Equipment Rate Schedules – The City may utilize the current FEMA Equipment rate schedule.
- Always use photographs/videos to document debris. Capture a representative sample of debris throughout the City and create an electronic file for those photographs.
- The work performed by force account staff must occur on public rights-of-way or public properties that are maintained by the City. This **DOES NOT INCLUDE** private roads or state maintained roads.
- All debris removal by crew must be a direct result of the current event (land clearing, pre-existing damage, or general maintenance is not covered nor is damage from an unrelated event at the time of the disaster).

Appendix H:
Sample Debris Removal and Disposal Monitoring Plan

Debris Removal and Disposal Monitoring Plan (Sample)

GENERAL

The Insert name of contracting agency and jurisdiction has entered into a contract with Insert name of Contractor for the purposes of:

- Removing debris from city rights-of-way to temporary debris staging sites, and hauling vegetative and recyclable C&D and mixed debris to a debris volume reduction site.
- Setting up and operating Insert appropriate number of TDSR sites debris volume reduction site(s) located at Insert address(es) of TDSR site(s).
- Hauling chips/mulch from the debris volume reduction site to Insert name of landfill Landfill or a location of the Debris Manager's choosing.
- Hauling recycled concrete, metal and other recycle C&D and mixed debris to Insert name of approved C&D landfill Landfill or a location of the Debris Manager's choosing or, if permitted under the terms of the contract, to a location of the Contractor's choosing for profit.

Insert name of agency, department, or division responsible for monitoring Contractor activities will be responsible for monitoring the Contractor's debris removal and disposal activities using Insert appropriate agency, department, or division personnel to prepare Debris Load Tickets and contract oversight.

PURPOSE

The purpose of this plan is to outline the monitoring responsibilities of the Insert jurisdiction name's Contract Oversight Team personnel. This plan is subject to revision based on changing conditions.

MONITORING OPERATIONS

Insert jurisdiction name has been divided into Insert number of debris management zones primary debris management zones Add verbage here if debris zones are modeled after snow zones, etc.. The Contractor will be responsible for removing all eligible vegetative, C&D and mixed debris from city street rights-of-way and hauling limbs, branches, and yard wastes to designated TDSR sites at Insert locations of debris managment sites.

Tree trunks greater than 2 feet in diameter and root balls will be hauled directly to the Insert names of TDSR sites as appropriate TDSR site.

Monitoring activities will be controlled by the Debris Manager from the DMC located at Insert address of DMC. Phone number for the Debris Manager is Insert Debris Manager's phone number. Day to day operations and contracting problems/questions should be directed to Insert name, title and phone number of appropriate person.

Debris Contract Oversight Team monitor's work day is expected to be from_____a.m. until _____p.m. with_____hour for lunch or maximum of_____hours/day_____days per week.

Monitors will be responsible for initiating Debris Load Tickets at Contractor debris loading sites and estimating and recording the type and quantity of debris, in cubic yards, of Contractor vehicles entering the temporary TDSR sites on Debris Load Tickets.

DEBRIS LOADING SITES MONITORS

The debris loading site monitors will complete Section 1 of the load ticket. The monitor will keep one copy and give the remaining copies to the truck driver. The monitor's copy will be turned into the Debris Manager or designated representative on a daily basis. Load ticket information will be entered into a database by Insert appropriate agency, department, or division personnel.

Transportation will be provided by Insert appropriate agency, department, or division from Insert appropriate location address and returning to Insert appropriate location address or to/from a mutual meeting point.

TDSR SITE MONITORS

The temporary TDSR site monitors will record the estimated quantity, in cubic yards, on Section 2 of the load ticket. The monitor will keep one copy and give the remaining copies to the truck driver. The monitor's copy will be turned into the Debris Manager or designated representative on a daily basis. Load ticket information will be entered into a database by Insert appropriate agency, department, or division personnel.

Monitors will be located at the entrance to the TDSR site where the inspection tower is located. They will be responsible for estimating and recording the cubic yards of debris in Section 2 of the Load Ticket for all incoming Contractor's debris hauling vehicles. A copy of the Debris Load Ticket is shown on the following page.

Transportation will be provided by Insert appropriate agency, department, or division from Insert appropriate location address and returning to Insert appropriate location address or to/from a mutual meeting point.

CITY OF MANASSAS LOAD TICKET	Ticket No. 000001
Section 1	
Prime Contractor:	**Date:**
Subcontractor (Hauler):	**Departure Time:**
Driver:	**Truck Plate No.:**
Measured Bed Capacity (cu. yds.):	
Debris Pickup Site Location: **(must be a street address)**	
Debris Type: ☐ **Vegetation** ☐ **Construction & Demolition** ☐ **Mixed** ☐ **Other:**	
Loading Site Monitor:	
Print Name:	
Signature:	
Remarks:	
Section 2	
Debris Disposal Site Location:	
Estimate Debris Quantity: cu. yds.	**Arrival Time:**
Disposal Site Monitor:	
Print Name:	
Signature:	
Remarks:	
Copies: White – Load Site Monitor Green – Disposal Site Monitor **Canary, Pink, Gold – Onsite Contractor's Representative or Driver**	

COMPLETING THE LOAD TICKET

- The disposal site monitor will be stationed in the inspection tower and make an estimate of the quantity of debris contained in the truck or trailer in cubic yards. Each truck or trailer will have the measured hauling capacity in cubic yards recorded on the side of the truck or trailer. That number should be validated with the quantity stated in Section 1.
- The disposal site monitor will indicate the name and the arrival time of the truck and indicate the type of debris in the truck.
- The disposal site monitor will record the estimated volume, in cubic yards, on the load ticket in the Estimated Debris Quantity block of material contained within the bed of the truck or trailer.
- Examples of a Truck / Trailer Estimating Table and Truck Capacity Table are shown on the following page.
- The monitor will print and sign his/her name in the designated block.
- The disposal site monitor will retain one copy of the load ticket and give the remaining copies to the truck driver. The disposal site monitor's copy will be turned into the District Debris Manager or his representative at the end of each day. These are controlled forms and cannot be lost since they will be used to verify the amount of money paid to the Debris reduction site Contractor and to the debris hauling Contractor.

EXAMPLE TRUCK / TRAILER ESTIMATING TABLE

Truck/Trailer Size CY	100% CY	90% CY	85% CY	80% CY	75% CY
32	32	29	27	25	24
46	46	41	39	37	35
47	47	42	40	38	35
Note: Truck/Trailer without tailgate is rated at 85% of capacity					

EXAMPLE TRUCK CAPACITY TABLE

Truck Number	Driver	Model	License #	Capacity in CY
101	Joe Blow	Self-loader	39X2520 GA	32CY
102	Kim Driver	Self-loader	39X2522 TX	32CY
103	Steve Loader	Trailer	63N362 MD	47CY
104	David Dump	Self-loader	63X5542 LA	46CY
105	Chip Grinder	Trailer	W5008 FL	47CY

List Vehicle Numbers, Drivers Name, Model, License Number and Measured Capacity of Truck / Trailer Bed In Cubic Yards.

NOTE: Debris Contract Oversight Team members must measure and photograph every truck and trailer used by the contractor to move debris. This should be done jointly with the contractor's representative before debris removal operations begin.

MONITORING STAFF ASSIGNMENTS

Monitoring assignments and personnel names should be recorded in a table similar to the following:

Example Monitoring Staff Tracking Table

Date	Monitor's Name	Monitor's Title	Disposal Site Name	Disposal Site Address	Hours Worked
10/01/15	Jim Driver	Inspector	Mulching Park	123 Main Street	7 am – 6 pm
10/01/15	Lou Trek	Tow Truck Operator	Tree Central	99 South Street	7 am – 7 pm

TRAINING

All assigned monitors will attend an hour training session starting at_____☐a.m. ☐p.m. on Insert date at Insert location. Alternate training date is Insert alternate date, same time and location.

NOTICE TO PROCEED

INSERT DATE

Gail Hanscom, Contracts Administrator
Ceres Environmental Services, Inc.
6968 Professional Parkway East
Sarasota, Florida 34240

Re: Debris Removal Services Contract Activation

Dear Ms. Hanscom:

Pursuant to the terms of the Debris Removal Services Contract dated May 1, 2015, Ceres Environmental is hereby given notice that Pinellas County is activating the contract for removal of debris resulting from (brief description of disaster causing activation). As per the contract, Ceres Environmental is required to respond to this Notice To Proceed within 24 hours of receipt of this Notice. Please respond by contacting _____ directly at _____ upon receipt of this Notice to make necessary arrangements for beginning work under this activation notice. Please sign and date this original and return it to my attention by facsimile at (enter fax number).

Per the contract, Ceres Environmental is required to execute a payment and performance bond equal to 100% of the estimated cost of the debris removal services upon receipt of this Notice To Proceed. The estimated cost of debris removal for this activation is _____. Please have this executed bond forwarded to my attention as required under the contract. No work shall be performed prior to receipt of this bond without the specific approval of Pinellas County.

The estimated cost of debris removal presented above also represents the not-to-exceed amount for this activation. Should Ceres Environmental's operations begin to approach this amount, the designated Project Manager shall notify Pinellas County in writing.

Ceres Environmental shall have 180 days from the date of this NOTICE TO PROCEED to complete the debris removal services required under the contract. Additionally, all requirements set out in the contract and the Bid Specifications made a part thereof shall be complied with at all times throughout the project.

Pinellas County's point of contact for this debris removal project is _____(name of person) with the (name of county office or department). He/she may be contacted at (telephone number and email address). _____ is duly authorized to administer this contract for and in the name of Pinellas County. Any questions related to this activation should be directed to him/her.

Sincerely,

Joe Smith
County Manager, Pinellas County

Ceres Environmental Services, Inc.
Received by_____ Date_____

City of Manassas

Department of Public Works
8500 Public Works Drive
Manassas, VA 20110

Task Order

Task Order Summary			
Contractor:	Ceres Environmental Services, Inc.	**Task Order No.:**	
Contract No.:		**Date:**	
Project Title:			

Project Schedule					
Start Date:		**End Date:**		**No. of Days:**	

Summary Description of Work to Be Performed
Instructions: Indicate project location and description of work performed. Cover any conflicts in plans, specifications or instructions.

Work Performed by Contractor

Line Item No.	Line Item Description	Unit	Contract Price

Ceiling Price (Not-To-Exceed) if Applicable	
Ceiling Price:	

Signatory			
Authorized User Signature:		**Contractor Signature:**	
Name:		**Name:**	
Date:		**Date:**	

Last Modified: 09/07/2016

Appendix I: Debris Clearing, Removal and Disposal Guidelines

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Right of Entry / Hold Harmless Agreement

(Right of Entry / Hold Harmless Agreement is strictly a sample and must be reviewed by local legal staff before use)

I/We Insert Owners' Legal Names, the owner(s) of the property commonly identified as Insert Street Address, City of Manassas, State of Virginia, do hereby grant and give freely and without coercion, the right of access and entry to City of Manassas, its agencies, contractors, and subcontractors, for the purpose of removing and clearing any or all storm-generated debris of whatever nature from the above described property.

It is fully understood that this permit is not an obligation to perform debris clearance. The undersigned agrees and warrants to hold harmless the City of Manassas, State of Virginia, its agencies, contractors, and subcontractors, for damage of any type whatsoever either to the above described property or persons situated thereon and hereby release, discharge, and waive any action, either legal or equitable, that might arise out of any activities on the above described property. The property owner(s) will mark any storm damaged sewer lines, water lines, and other utility lines located on the described property.

I/We (☐have, ☐have not) (☐will, ☐will not) receive(d) any compensation for debris removal from any other source, including the Small Business Association (SBA), Agricultural Stabilization and Conservation Service (ASCS), private insurance, individual and family grant program or any other public assistance program. I will report for this property any insurance settlements to me or my family for debris removal that has been performed at government expense. For the considerations and purposes set forth herein, I set my hand this Insert Numerical Day day of Insert Month, 20Insert last two digits of year.

Witness	Owner
	Owner
	Telephone Number and Address

TDSR Site Setup and Closeout Guidelines

TDSR Site Setup

The topography and soil/substrate conditions should be evaluated to determine best site layout. When planning site preparation, think of ways to make restoration easier. For example, if the local soils are very thin, the topsoil can be scraped to bedrock and stockpiled in perimeter berms. Upon site closeout, the uncontaminated soil can be spread to preserve the integrity of the tillable soils.

The following site baseline data checklist should be used to evaluate a site before a contractor begins operations and used during and after to ensure that site conditions are properly documented.

TDSR Site Baseline Data Checklist

Before Activities Begin

- ☐ Take ground or aerial photographs and/or video.
- ☐ Note important features, such as structures, fences, culverts, and landscaping.
- ☐ Take random soil samples.
- ☐ Take random groundwater samples.
- ☐ Take water samples from existing wells.
- ☐ Check the site for volatile organic compounds.

After Activities Begin

- ☐ Establish groundwater-monitoring wells.
- ☐ Take groundwater samples.
- ☐ Take spot soil samples at household hazardous waste, ash, and fuel storage areas.

Progressive Updates

- ☐ Update videos/photographs.
- ☐ Update maps/sketches of site layout.
- ☐ Update quality assurance reports, fuel spill reports, etc.

TDSR Site Operations

Lined temporary storage areas should be established for ash, household hazardous waste, fuels, and other materials that may contaminate soils and groundwater. Plastic liners should be placed under stationary equipment such as generators and mobile lighting plants. These actions should be included as a requirement in the contract scope of work. If the site is also an equipment storage area, fueling and equipment repair should be monitored to prevent and mitigate spills of petroleum products and hydraulic fluids. Be aware of and lessen the effects of operations that might irritate occupants of neighboring areas. Establishment of a buffer zone can abate concerns over smoke, dust, noise, and traffic.

Consider on-site traffic patterns and segregate materials based on planned volume reduction methods. Operations that modify the landscape, such as substrate compaction and over excavation of soils when loading debris for final disposal, will adversely affect landscape restoration.

Debris removal/disposal should be viewed as a multi-staged operation with continuous volume reduction. There should be no significant accumulation of debris at temporary storage sites. Instead, debris should be constantly flowing to burners and grinders, or recycled with the residue and mixed construction and demolition materials going to a landfill.

TDSR Site Closeout

Each TDSR site will eventually be emptied of all material and be restored to its previous condition and use. The Contractor is required to remove and dispose of all mixed debris, construction and demolition debris, and debris residue to approved landfills. Appropriate Insert Jurisdiction inspectors will monitor all closeout activities to ensure that the Contractor complies with the Debris Removal and Disposal Contract. Additional measures may be necessary to meet local, State, and Federal environmental requirements because of the nature of the TDSR site operation(s).

TDSR Site Closeout Planning

The Contractor must assure the Debris Manager that all TDSR sites are properly remediated. There will be significant costs associated with this operation as well as close scrutiny by the local press and environmental groups. Site remediation will go smoothly if baseline data collection and site operation procedures are followed. Closeout or re-approval of a temporary TDSR site should be accomplished within 30 days of receiving the last load of debris.

TDSR Site Closeout Steps

- Contractor is responsible for removing all debris from the site.
- Contractor conducts an environmental assessment with the Debris Manager and landowner.
- Contractor develops a remediation plan.
- Remediation plan reviewed by the Debris Manager, landowner, and appropriate environmental agency.
- Remediation plan approved by the appropriate environmental agency.
- Contractor executes the plan.
- Contractor obtains acceptance from the Debris Manager, appropriate environmental agency, and the landowner.

TDSR Site Closeout Coordination

The Contractor will coordinate the following closeout requirements through the DCOT staff:

- Coordinate with local and State officials responsible for construction, real estate, contracting, project management, and legal counsel regarding requirements and support for implementation of a site remediation plan.
- Establish an independent testing and monitoring program. The Contractor is responsible for environmental restoration of both public and leased sites. The Contractor will also remove all debris from sites for final disposal at landfills prior to closure.
- Refer to appropriate and applicable environmental regulations.
- Prioritize site closures.
- Schedule closeout activities.
- Determine separate protocols for ash, soil and water testing.
- Develop decision criteria for certifying satisfactory closure based on limited baseline information.
- Develop administrative procedures and contractual arrangements for closure phase.
- Inform local and State environmental agencies regarding acceptability of program and established requirements.
- Designate approving authority to review and evaluate Contractor closure activities and progress.
- Retain staff during closure phase to develop site-specific remediation for sites, as needed, based on information obtained from the closure checklist shown below.

Material Removal

- All processed and unprocessed vegetative material and inter debris shall be removed to a properly approved solid waste management site.
- Tires must be disposed of at a scrap tire collection/processing facility; white goods and other scrap metal should be separated for recycling.
- Burn residues shall be removed to a properly approved solid waste management site or land applied in accordance with these guidelines.
- All other materials, unrecoverable metals, insulation, wallboard, plastics, roofing material, painted wood, and other material from demolished buildings that is not inert debris (see #1 above) as well as inter debris that is mixed with such materials shall be removed to a properly permitted C&D recycling facility, C&D landfill, or municipal solid waste landfill.

TDSR Site Remediation

During the debris removal process and after the material has been removed from each of the TDSR sites, environmental monitoring will be needed to close each of the sites. This is to ensure that no long-term environmental contamination is left on the site. The monitoring should be done on three different media: ash, soil, and groundwater.

Ash. The monitoring of the ash should consist of chemical testing to determine the suitability of the material for either agricultural use or as a landfill cover material.

Soil. Monitoring of the soils should be by portable inspection methods to determine if any of the soils are contaminated by volatile hydrocarbons. The Contractors may do this if it is determined that hazardous material, such as oil or diesel fuel was spilled on the site. This phase of the monitoring should be done after the stockpiles are removed from the site.

Ground Water. The monitoring of the groundwater should be done to determine the probable effects of rainfall leaching through either the ash areas or the stockpile areas.

TDSR Site Closure Checklist

- ☐ Site number and location
- ☐ Date closure complete
- ☐ Household hazardous waste removed
- ☐ Contractor equipment and temporary structures removed
- ☐ Contractor petroleum spills remediated
- ☐ Ash piles removed
- ☐ Comparison of baseline information to conditions after the contractor has vacated the temporary site

Site Re-approval

Sites that were approved as temporary TDSR sites will require re-approval for long-term storage, continuing reduction processing, and permanent disposal if site is not closed out in accordance with guidelines stated here. Sites shall be managed and monitored in accordance with the Health Department requirements and to prevent threats to the environment or public health.

Temporary Construction and Demolition Staging / Transfer Site Guidelines

General

The following guidelines should be considered when establishing staging/transfer sites for Construction & Demolition (C&D) and C&D recycling treatment and processing facilities.

These guidelines apply only to sites for staging/transferring C&D storm debris (roof shingles/roofing materials, carpet, insulation, wallboard, treated and painted lumber, etc.). Arrangements should be made to screen out unsuitable materials, such as household garbage, white goods, asbestos containing materials (ACM's), and household hazardous waste.

Selecting Temporary Staging / Transferring Sites

Locating sites for staging/transferring C&D waste can be accomplished by evaluating potential sites and by revisiting sites used in the past to see if site conditions have changed or if the surrounding areas have changed significantly to alter the use of the site. The following guidelines are presented in locating a site for "staging/transferring" and are considered "minimum standards" for selecting a site for use:

Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.

Unloading areas for incoming C&D debris material should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.

Storage areas for incoming C&D debris shall be at least 100 feet from the site property boundaries, on-site buildings, structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwellings, commercial or public structures, and potable water supply wells, whichever is greater.

Materials separated from incoming C&D debris (white goods, scrap metal, etc.) shall be at least 50 feet from site property lines. Other non-transferable C&D wastes (household garbage, larger containers of liquid, household hazardous waste shall be placed in containers and transported to the appropriate facilities as soon as possible.

Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.

Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris, and underground utilities need to be identified due to the potential for site disturbance by truck/equipment traffic and possible site grading.

Sites shall have an attendant(s) during operating hours to minimize the acceptance of unapproved materials and to provide directions to haulers and private citizens bringing in debris.

Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks.

When possible, signs should be installed to inform haulers and the general public on types of waste accepted, hours of operation, and who to contact in case of afterhours emergency.

Final written approval is required to consider any TDSR site to be closed. Closeout of processing/recycling sites shall be within one (1) year of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by the State may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closeout of sites shall be in accordance with the closeout and restoration of temporary TDSR sites guidelines.

C&D Treatment & Processing/Recycling Sites

Management of C&D debris and source separated materials to be recycled shall be in accordance with the following additional conditions:

Contact the Prince William County Health Department for information on managing asbestos containing materials (ACM's) or materials that are considered regulated asbestos containing materials.

Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.

Storage areas for incoming debris should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.

Storage areas for incoming debris shall be located at least 100 feet from property boundaries and on-site buildings/structures.

Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site verification by the local Corps of Engineers office or will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.

Storage areas for incoming C&D debris shall be at least 100 feet from the site property boundaries, on-site buildings, structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwellings, commercial or public structures, and potable water supply wells, whichever is greater.

Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks / trailers used to haul debris and the intense heat generated by the air curtain burner (ACB) device. Underground utilities need to be identified prior to digging pits for using the ACB device.

Provisions should be made to prevent unauthorized access to facilities when not open for use. As a temporary measure, access can be secured by blocking drives or entrances with trucks or other equipment when the facilities are closed. Gates, cables, or other more standard types of access control should be installed as soon as possible.

When possible, post signs with operating hours and information about what types of clean up waste may be accepted. Also include information as to whether only commercial haulers or the general public may deposit waste.

Final written approval is required to consider any TDSR site to be closed. Closeout of processing / recycling sites shall be within six months of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by the State may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed.

Temporary Vegetative TDSR Site Guidelines

General

When preparing temporary facilities for handling debris resulting from the cleanup efforts due to hurricane damage, the following guidelines should be considered when establishing Temporary TDSR sites.

These guidelines apply only to sites for staging or burning vegetative storm debris (yard waste, trees, limbs, stumps, branches, and untreated or unpainted wood). Arrangements should be made to screen out unsuitable materials.

The two method (s) of managing vegetative and land clearing storm debris is "chipping/grinding" for use in landscape mulch, compost preparation, and industrial boiler fuel or using an "air curtain burner (ACB)", with the resulting ash being land applied as a liming agent or incorporated into a finished compost product as needed.

Chipping and Grinding Sites

Locating sites for chipping/grinding of vegetative and land clearing debris will require a detailed evaluation of potential sites and possible revisits at future dates to see if site conditions have changed or if the surrounding areas have changed significantly to alter the use of the site.

The following guidelines are presented in locating a site for "chipping/grinding" and are considered "minimum standards" for selecting a site for use:

Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.

Storage areas for incoming debris and processed material should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.

Storage areas for incoming debris and processed material shall be at least 100 feet from the site property boundaries and on-site buildings/structures. Management of processed material shall be in accordance with the guidelines for reducing the potential for spontaneous combustion in compost/mulch piles.

Storage areas for incoming debris shall be located at least 100 feet from residential dwellings, commercial or public structures, potable water supply wells, and septic tanks with leach fields.

Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.

Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris, and underground utilities need to be identified due to the potential for site disturbance by truck/equipment traffic and possible site grading.

Sites shall have an attendant(s) during operating hours to minimize the acceptance of unapproved materials and to provide directions to haulers and private citizens bringing in debris.

Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks. Sites should have adequate access that prohibits traffic from backing onto public rights-of-way or blocking primary and/or secondary roads to the site.

When possible, signs should be installed to inform haulers and the general public on types of waste accepted, hours of operation, and who to contact in case of an afterhours emergency.

Grinding of clean wood waste such as pallets and segregated non-painted/non-treated dimensional lumber is allowed.

Final written approval is required to consider any TDSR site to be closed. Closeout of staging and processing sites shall be within six months of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closeout of sites shall be in accordance with the closeout and restoration guidelines for temporary TDSR sites.

Air Curtain Burner Site Location and Operations

Locating sites that are intended for air curtain burning (ACB) operations is a coordinated effort between Insert Appropriate Local Authority and Insert Appropriate State Agency for evaluating the surrounding areas and to reevaluate potential sites used in the past.

The following guidelines are presented for selecting an ACB site and operational requirements once a site is in use:

Contact the local fire marshal or fire department for input into site selection in order to minimize the potential for fire hazards, other potential problems related to fire fighting that could be presented by the location of the site, and to ensure that adequate fire protection resources area available in the event of an emergency.

The requirements for ACB device(s), in accordance with Air Quality rules require the following buffers: a minimum of 500 feet from the ACB device to homes, dwellings and other structures and 250 feet from roadways. Contact Insert Appropriate Local and/or State Agency for updates or changes to their requirements.

Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected. If ACB pit devices are utilized, a minimum two-foot separation to the seasonal high water table is recommended. A larger buffer to the seasonal high water table may be necessary due to on-site soil conditions and topography.

Storage areas for incoming debris should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.

Storage areas for incoming debris shall be located at least 100 feet from property boundaries and on-site buildings/structures.

Air Curtain Burners in use should be located at least 200 feet from on-site storage areas for incoming debris, on-site dwellings and other structures, potable water supply wells, and septic tanks and leaching fields.

Wood ash stored on-site shall be located at least 200 feet from storage areas for incoming debris, processed mulch or tub grinders (if a grinding site and ACB site is located on the same property). Wood ash shall be wetted prior to removal from the ACB device or earth pit and placed in storage. If the wood ash is to be stored prior to removal from the site, then rewetting may be necessary to minimize airborne emissions.

Wood ash to be land applied on site or off site shall be managed in accordance with the guidelines for the land application of wood ash from storm debris burn sites. The ash shall be incorporated into the soil by the end of the operational day or sooner if the wood ash becomes dry and airborne.

Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged, and a 100-foot buffer shall be maintained for all activities on-going at the site.

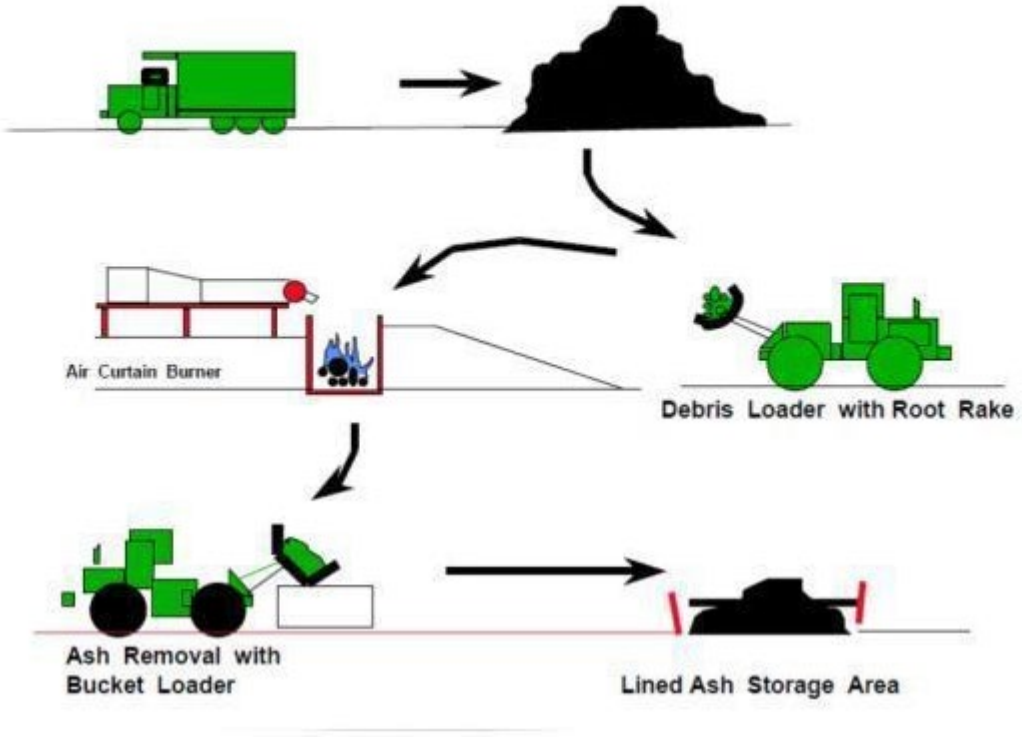
Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris and the intense heat generated by the ACB device. Underground utilities need to be identified prior to digging pits for using the ACB device.

Provisions should be made to prevent unauthorized access to facilities when not open for use. As a temporary measure, access can be secured by blocking drives or entrances with trucks or other equipment when the facilities are closed. Gates, cables, or other more standard types of access control should be installed as soon as possible.

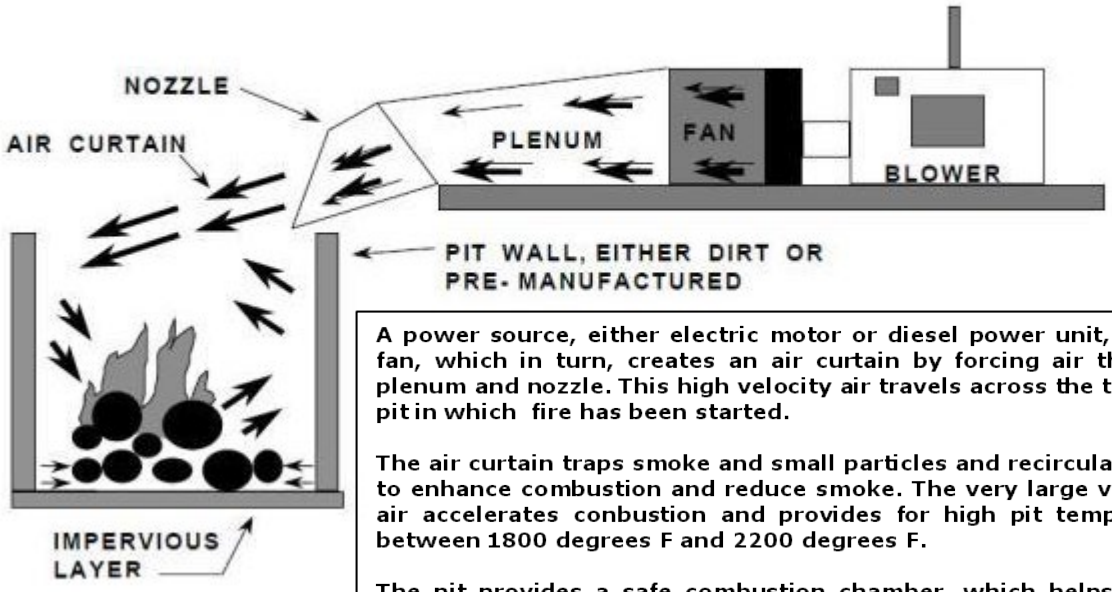
When possible, post signs with operating hours and information about what types of clean up waste may be accepted. Also, include information as to whether only commercial haulers or the general public may deposit waste.

Closeout of air curtain burner sites shall be within six (6) months of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. TDSR sites

Flow Diagram for a Burning Operation



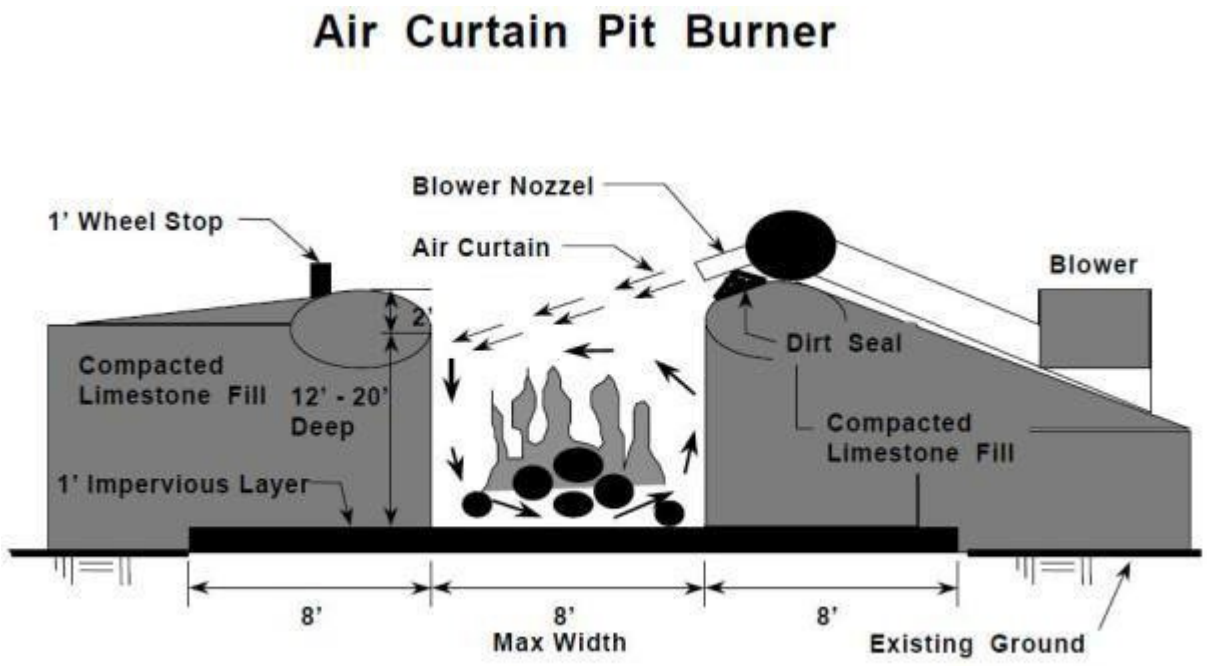
Overview of an Air Curtain Operation



A power source, either electric motor or diesel power unit, drives a fan, which in turn, creates an air curtain by forcing air through a plenum and nozzle. This high velocity air travels across the top of the pit in which fire has been started.

The air curtain traps smoke and small particles and recirculates them to enhance combustion and reduce smoke. The very large volume of air accelerates conbustion and provides for high pit temperatures between 1800 degrees F and 2200 degrees F.

The pit provides a safe combustion chamber, which helps prevent heat loss.



Environmental Checklist for Air Curtain Pit Burners

Incineration site inspections will also include an assessment of the environmental controls being used by the Contractor. Environmental controls are essential for all incineration methods, and the following will be monitored.

A setback of at least 1,000 feet should be maintained between the debris piles and the incineration area. Keep at least 1,000 feet between the incineration area and the nearest building. Contractor should use fencing and warning signs to keep the public away from the incineration area.

The fire should be extinguished approximately two hours before anticipated removal of the ash mound. The ash mound should be removed when it reaches 2 feet below the lip of the incineration pit.

The incineration area should be placed in an aboveground or below ground pit that is no wider than 8 feet and between 9 and 14 feet deep.

Above ground incineration pits should be constructed with limestone and reinforced with earth anchors or wire mesh to support the weight of the loaders. There should be a 1-foot impervious layer of clay or limestone on the bottom of the pit to seal the ash from the aquifer.

The ends of the pits should be sealed with dirt or ash to a height of 4 feet.

A 12-inch dirt seal should be placed on the lip of the incineration pit area to seal the blower nozzle. The nozzle should overlap the pit edge by 3 to 6 inches.

There should be 1-foot high, unburnable warning stops along the edge of the pit's length to prevent the loader from damaging the lip of the incineration pit.

Hazardous or contaminated ignitable material should not be placed in the pit. This is to prevent contained explosions.

The airflow should hit the wall of the pit about 2 feet below the top edge of the pit, and the debris should not break the path of the airflow except during dumping.

The pit should be no longer than the length of the blower system and the pit should be loaded uniformly along its length.

Land Application of Wood Ash from Storm Debris Burn Sites Guidelines

Whenever possible, soil test data and waste analysis of the ash should be available to determine appropriate application rate.

In the absence of test data to indicate agronomic rates, application should be limited to 2 to 4 tons per acre/one-time event. If additional applications are necessary, due to the volume of ash generated and time frame in which the ash is generated, then an ash management plan will be needed.

Ash should be land applied in a similar manner as agricultural limestone.

Ash should not be land applied during periods of high wind to avoid the ash blowing off the application sites.

Ash should not be land applied within 25 feet of surface waters or within 5 feet of drainage ways or ditches on sites that are stabilized with vegetation. These distances should be doubled on sites that are not vegetated and the ash should be promptly incorporated into the soil.

Records should be maintained to indicate where ash is applied and the approximate quantities of ash applied.

As an option to land application, ash may be managed at a permitted municipal solid waste landfill after cooling to prevent possible fire.

Assistance in obtaining soil test data and waste analysis of ash should be available through Insert Appropriate Local or State Agency.

Reducing the Potential for Spontaneous Combustion in Compost or Mulch Piles Guidelines

When ground organic debris is put into piles, microorganisms can very quickly begin to decompose the organic materials. The microorganisms generate heat and volatile gases as a result of the decomposition process. Temperatures in these piles can easily rise to more than 160 degrees Fahrenheit. Spontaneous combustion can occur in these situations.

Spontaneous combustion is more likely to occur in larger piles of debris because of a greater possibility of volatile gases building up in the piles and being ignited by the high temperatures. If wind rows can be maintained 5 feet to 6 feet high and 8 feet to 10 feet wide, volatile gases have a better chance of escaping the piles; and the possibility of spontaneous combustion will be reduced.

Turning piles when temperatures reach 160 degrees can also reduce the potential for spontaneous combustion. Pile turning provides an opportunity for gases to escape and for the contents of the pile to cool. Adding moisture during turning will increase cooling. Controlling the amount of nitrogen-bearing (green) wastes in piles will also help to reduce the risk of fire. The less nitrogen in the piles the slower the decomposition process and consequently the less heat generated and gases released.

Large piles should be kept away from wooded areas and structures and should be accessible to fire-fighting equipment, if a fire were to occur. Efforts should be made to avoid driving or operating heavy equipment on large piles because the compaction will increase the amount of heat build-up, which could increase the possibility of spontaneous combustion.

Appendix J:
Health and Safety Strategy

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Purpose

The purpose of this health and safety strategy is to supplement existing City of Manassas safety guidelines with regard to debris removal activities. These are recommended baseline safety provisions. Ultimately, health and safety is the responsibility of the contracted parties involved in debris removal activities. This document will outline some of the general steps necessary to provide a safe work environment for the employees of the monitoring firm and debris removal contractors. In addition, this document will identify some representative work hazards as well as appropriate measures to reduce risk of injury.

1. Dissemination of Information

The monitoring firm and debris removal contractors' project managers will be provided with this Document and will be expected to disseminate the information and guidelines to their respective personnel. A copy of the document should be available for consultation. In addition, elements of the document will be reviewed periodically throughout the project to increase worker awareness.

2. Compliance

The monitoring firm and debris removal contractors' project managers are responsible for the health and safety compliance of their respective personnel and subcontractors. Any crews or individuals that are not compliant shall be suspended from debris removal activities until the situation is remedied. Frequent offenders of safety policies and procedures will be dismissed from the project entirely.

3. Job Hazard Assessment

Though debris removal activities are fairly similar among events, assessing the particular hazards of each disaster is an important part of maintaining health and safety for the debris removal workers. At a minimum, the following areas of focus should be considered as part of a job hazard assessment:

- Disaster Debris – Disasters that result in property damage typically generate large quantities of debris which must be collected and transported for disposal. The type of debris varies depending on the characteristics of the region (e.g., terrain, climate, dwelling and building types, population) and the debris generating event (e.g. type, event strength, duration). In addition, the disaster debris produces a host of uneven surfaces which must be carefully negotiated.
- Debris Removal – Often the removal of disaster debris involves working with splintered or sharp edges of vegetative or construction material debris. Many disasters involve heavy rains or flooding. Consequently, disaster debris is damp and heavier than usual. As weights increase, so does the risk of injury.

- Removal Equipment – In most disasters, debris must be removed from the public right-of-way (ROW) to provide access for emergency vehicles and subsequent recovery efforts. Debris collection and removal requires the use of heavy equipment and power tools to trim, separate and clear disaster debris.
- Traffic Safety – The ROW is located primarily on publicly maintained roads.
- As a result, much of the debris removal process takes place in traffic of varying levels of congestion. In addition, disasters often damage road signs, challenging safety on the road.
- Wildlife Awareness – Disasters are traumatic events for people as well as wildlife. Displaced animals, reptiles and insects pose a hazard to debris removal workers.
- Debris Disposal – After disaster debris is collected it is often transported to a Debris Management Site (DMS). Upon entry to a DMS, the monitoring firm will assess the volume of disaster debris being transported. The collection vehicle will then dispose of the disaster debris, at which time the debris will be reduced either through a grinding operation or incineration. The DMS is a common area for injury. Response and recovery workers in this environment are more likely to be exposed to falling debris, heavy construction traffic, noise levels, dust and airborne particles from the reduction process.
- Climate – Debris-generating disasters often occur in areas or seasons with extreme weather conditions. The effects of temperature and humidity on physical labor must be monitored, and proper work-rest intervals must be assessed.

4. Administrative and Engineering Controls

The use of administrative and engineering controls can greatly reduce the threats to public health and safety in debris removal activities. The following are some of the common administrative and engineering controls used in the debris removal process:

Collection Operations

- Conduct debris removal operations during daylight hours only.
- Limit cleanup operations to one side of the road at a time.
- Limit collection work under overhead lines.
- Inspect piles before using heavy equipment to remove them in order to ensure that there are no hazardous obstructions.
- Make sure that all collection vehicles have properly functioning lights, horns and backup alarms.
- Load collection vehicles properly to guard against overloading or unbalancing.
- Cover and secure loads, if necessary.
- When monitoring the collection process, stay alert in traffic and use safe driving techniques.

Power Tools

- Inspect all power tools before use.
- Do not use damaged or defective equipment.
- Use power tools for their intended purpose.
- Avoid using power tools in wet areas.

Debris Reducing Machinery (e.g., Grinders/Wood Chippers)

- Do not wear loose-fitting clothing.
- Follow the manufacturer's guidelines and safety instructions.
- Guard the feed and discharge ports.
- Do not open access doors while equipment is running.
- Always chock the trailer wheels to restrict rolling.
- Maintain safe distances.
- Never reach into operating equipment.
- Use lock out/tag out protocol when maintaining equipment.

Debris Management Site/Disposal Operations

- Use jersey barriers and cones to properly mark traffic patterns.
- Use proper flagging techniques for directing traffic.
- Monitor towers must not exit into traffic and should have hand and guard rails to reduce trips and falls.
- Monitor towers must have properly constructed access stairways with proper treads and risers and proper ascent angle (4:1 height/width ratio).
- Monitor towers must be surrounded by jersey barriers which protect the tower and monitors from being struck by inbound or outbound collection vehicles.
- Monitor towers should be located upwind from dust- and particulate- generating activities.
- A water truck should spray the site daily to control airborne dust and debris.

5. Personal Protective Equipment

Personal Protective Equipment (PPE) is the last resort in providing a safe working environment for employees. PPE does not eliminate or even reduce hazards as administrative and engineering controls do. PPE works to reduce the risk of injury by creating a protective barrier between individuals and workplace hazards.

PPE should only be used for its intended purpose. For example, using the wrong type of respirator might expose the worker to carcinogenic particulates. Properly fitting the equipment to the user may require examination by a medical professional. PPE that does not fit well will not provide maximum protection and will decrease the likelihood of the individual continuing to use the equipment. Furthermore, improper use may result in serious injury or death. The proper use of the equipment is outlined in detail in the manufacturer's instructions.

The following PPE may be applicable in standard ROW, right-of-entry, and vegetative, and construction and demolition debris removal activities:

- **Head Protection** – This includes equipment designed to provide protection for an individual's head against hazards such as falling objects or the possibility of striking

one's head against low hanging objects. PPE used to protect the head must comply with ANSI Z89.1-1986, "American National Standard for Personnel Protection – Protective Headwear for Industrial Workers – Requirements."

- **Foot Protection** – This includes equipment designed to provide protection for an individual's feet and toes against hazards such as falling or rolling objects, objects that may pierce the sole or upper section of the foot, etc. PPE used to protect the feet and toes must comply with ANSI Z-41-1991, "American National Standard for Personal Protection – Protective Footwear."
- **Hand Protection** – This includes equipment designed to provide protection for an individual's hands against hazards such as sharp or abrasive surfaces. The proper hand protection necessary is dependent upon the situation and characteristics of the gloves. For instance, specific gloves would be used for protection against electrical hazards, while the same gloves may not be appropriate in dealing with sharp or abrasive surfaces.
- **Vision/Face Protection** – This includes equipment designed to provide protection for an individual's eyes or face against hazards such as flying objects. PPE used to protect eyes and face must comply with ANSI Z87.1- 1989, "American National Standard Practice for Occupational and Educational Eye and Face Protection." Again, the type of eye/face protection necessary is dependent upon the situation and characteristics of the equipment. For instance, eye and face protection used by individuals who are welding may not be appropriate for individuals operating a wood chipper.
- Hearing Protection – This includes equipment designed to provide protection for an individual's hearing against prolonged exposure to high noise levels. According to the Occupational Safety and Health Administration (OSHA), the permissible level of sound is an average of 90 decibels over the course of an eight hour work day. For anything above the permissible sound exposure level, hearing protection is required. PPE used to protect hearing must comply with ANSI S3.19-1974, "American National Standard Practice for Personal Protection – Hearing Protection."

Respiratory Protection – This includes equipment designed to provide protection for an individual's respiratory system against breathing air contaminated with hazardous gases, vapors, airborne particles, etc. PPE used to protect the respiratory system must comply with ANSI Z88.2-1992. In addition, the use of respiratory protection requires a qualitative fit test and in some cases a pulmonary fit test by a licensed medical professional.

6. Personal Protective Equipment Debris Removal Activity

PPE requirements are made based upon the results of the job hazards assessment. The following list of PPE is organized by debris removal activity and is meant to be a representative list. Specific PPE requirements vary from location to location. In general, individuals involved in the debris removal process should personally monitor water consumption to avoid dehydration and use appropriate skin protection (e.g., breathable clothes, light colors, sunscreen). Ultimately, the selection of PPE is the responsibility of the monitoring firm and debris removal contractors' project managers.

Debris Collection Monitoring

The hazards of disaster debris collection monitoring include, but are not limited to, being struck by vehicles; falls or trips on uneven surfaces; cuts, abrasions or punctures from vegetative or C&D sharps. PPE requirements include the following:

- Reflective vest
- Foot protection (e.g., rugged shoes or boots; steel toe and shank, if required)
- Long pants

Debris Disposal Monitoring

The hazards of disaster debris disposal monitoring include, but are not limited to, being struck by or caught in/between vehicles; falls or trips on stairs or uneven surfaces; cuts, abrasions or punctures from vegetative or C&D sharps; and being struck by falling disaster debris. Monitor towers must be equipped with a first aid kit. PPE requirements include the following:

- Reflective vest
- Foot protection (e.g., rugged shoes or boots; steel toe, if required)
- Long pants
- Hard hat

Debris Removal

The hazards of disaster debris removal include, but are not limited to, being struck by vehicles; falls or trips on uneven surfaces; cuts, abrasions or punctures from vegetative or C&D sharps; and airborne debris. In addition, PPE requirements include the following:

- Reflective vest
- Vision and hearing protection
- Foot protection (e.g., rugged shoes or boots; steel toe and shank, if required)
- Long pants
- Hand protection (Note: Leather gloves required for persons handling debris)

Debris Disposal and Reduction

The hazards of disaster debris disposal and reduction include, but are not limited to, being struck by or caught in between vehicles; falls or trips on uneven surfaces; cuts, abrasions or punctures from vegetative or C&D sharps; being struck by falling disaster debris; and airborne particles. PPE requirements include the following:

- Reflective vest
- Foot protection (e.g., rugged shoes or boots; steel toe, if required)
- Vision and hearing protection
- Long pants
- Hard hat

Debris Cutting and Trim Work

The hazards of disaster debris cutting and trimming work include, but are not limited to being struck by or caught in between vehicles; falls or trips on uneven surfaces; cuts, abrasions or punctures from power tools, vegetative or C&D sharps; being struck by falling disaster debris; and airborne particles. PPE requirements include the following:

- Reflective vest
- Hand and foot protection (e.g., rugged shoes or boots; steel toe, if required)
- Vision and hearing protection
- Long pants
- Gloves
- Hard hat

For additional information regarding health and safety requirements, please contact OSHA.

Health and Safety Contact Information

Occupational Safety and Health Administration 1-800-321-6742