ALDOT Southwest Region

Disaster Debris Management Plan

Date: JUNE 2015_DRAFT

Promulgation

This document provides the planning and program guidance for implementing the Alabama Department of Transportation (ALDOT) Southwest Region (Region) Disaster Debris Management Plan (DDMP). ALDOT approved the preparation of this DDMP to solidify processes and procedures in relation to debris removal after a man-made or natural disaster.

This plan has been developed in accordance with guidance from the Federal Emergency Management Agency (FEMA) to include FEMA 322 Public Assistance; 323 Applicant Handbook; 325 Debris Management Guide; 327 Debris Monitoring Guide; Public Assistance Alternative Procedures Pilot Program; the Federal Highway Administration Emergency Relief (FHWA ER) program; and FHWA Moving Ahead for Progress in the 21st Century (MAP 21) procedures.

Approval and Implementation

The ALDOT Southwest Region Engineer will be responsible for reviewing this DDMP on an annual basis to ensure that it remains up to date and accurate. The latest version of the DDMP as dated above supersedes all previous plans.

The ALDOT Southwest Region Engineer maintains the authority to activate and implement the plan in preparation for or in response to a disaster incident or in a training and exercise capacity.

ALDOT Southwest Region Engineer

Date

Record of Changes

A record of changes made during or outside of the annual review cycle should be recorded and included in the Disaster Debris Management Plan (DDMP). All changes should be reviewed and approved by the ALDOT Southwest Region Engineer.

Change Number	Section / Page	Date of Change	Description of Change	Changed By	Approved By

Record of Distribution

A Record of Distribution should be maintained and can be utilized to verify that associated individuals, agencies, and organizations have received and acknowledged the plan.

Date of Distribution	Number of Copies	Method of Delivery	Name, Title and Organization of Receiver

Promulgation

Approval and Implementation

Record of Changes

Record of Distribution

Section 1 **1-1**

Debris Management Plan Overview 1-1

Background 1-1

Purpose and Scope 1-1

Situation and Assumptions 1-2

Section 2 **2-1**

Disaster Debris Generation Forecasting 2-1

Methodology 2-1

Scenario 1: Catastrophic Category 4 Hurricane 2-2

Scenario 2: Major Category 3 Hurricane 2-3

Scenario 3: Minor Category 1 Hurricane 2-4

Scenario 4: Regional Ice Storm with both Major and Minor Impacts 2-6

Observations/Recommendations 2-7

Section 3 **3-1**

Debris Removal and Collection Strategy 3-1

Preparedness 3-1

Non-Disaster (Normalcy) 3-1

Pre-Disaster Impact 3-3

Response 3-5

Recovery 3-8

Section 4 **4-1**

Roles and Responsibilities 4-1

Overview and Administration 4-1

Participating Entities 4-2

State Maintenance Engineer 4-2

Southwest Region Engineer 4-2
Assistant Region Engineer 4-3
Area Operations Engineer 4-3
Area Construction Engineer 4-3
Area Maintenance Engineer 4-4
Area Accounting Manager 4-4
Area District Managers 4-5
Other Entities 4-6
Federal 4-6
State 4-7
Local 4-7
Contracted Resources 4-8
Debris Monitoring Firm 4-8
Debris Removal Contractor 4-9

Section 5 **5-1**

Debris Management Sites and Disposal Locations 5-1
Site Viability Criteria 5-1
Private Property Lease Considerations 5-2
Evaluated Debris Management Sites 5-2
Disposal Locations 5-4

Section 6 **6-1**

Health and Safety Strategy 6-1

Section 7 **7-1**

Plan Maintenance and Training 7-1
Plan Maintenance 7-1
Training Schedule 7-1

Appendix A **A-1**

Acronyms, Definitions, and Publications/Related Guidance A-1

Appendix B **B-1**

Southwest Region Debris Management Contact List B-1

Appendix C **C-1**

Debris Removal and Collection Strategy Checklist C-1

Appendix D D-1
Disaster Debris Generation Forecasting Models D-1
Scenario 1 Models D-1
Scenario 2 Models D-2
Scenario 3 Models D-3
Scenario 4 Models D-4

Appendix E E-1
Priority List of Roadways by District E-1

Appendix F F-1
Valid Debris Management Sites (DMS) in the Region F-1

Appendix G G-1
Debris Management Site (DMS) Evaluation Instructions and Resources G-1

Appendix H H-1
Force Account Labor, Equipment, and Materials Documents H-1
Force Account Labor H-1
Force Account Equipment H-1
Force Account Materials H-2
Force Account Forms and Logs H-2

Appendix I I-1
Debris Monitoring Field Documents I-1
Automated Debris Management System (ADMS) I-1
Field Documents I-1

Appendix J J-1
Purchasing and Contracting Guidance J-1

Appendix K K-1
ALDOT Debris Removal Policy K-1

Appendix L L-1
ADEM Storm Debris Clean Up Memo L-1

Appendix M M-1
Example Debris Removal and Disposal MOA between ALDOT and Counties/Municipalities M-1

Appendix N N-1

Beach Access Points N-1

Section 1

Debris Management Plan Overview

Background

The Alabama Department of Transportation's (ALDOT) mission is to provide a safe, efficient, environmentally sound intermodal transportation system for all users, especially the taxpayers of Alabama, to facilitate economic and social development and prosperity through the efficient movement of people and goods, and to facilitate intermodal connections within Alabama. ALDOT must also demand excellence in transportation and be involved in promoting adequate funding to promote and maintain Alabama's transportation infrastructure.

This mission must be upheld during times of normal operations and during the conditions following a disaster incident of natural or man-made causes. ALDOT understands that following a disaster incident it has the responsibility to ensure that state-maintained roadways are cleared and accessible as quickly and efficiently as possible following a disaster incident. Recognizing the need for and benefits of disaster debris management planning to better implement disaster response and recovery operations when needed, ALDOT has approved the development of this Disaster Debris Management Plan for the Southwest Region.

ALDOT is currently in the process of reorganizing its geographical Divisions into Regions. The first change occurred in July 2013 when the Eighth and Ninth Divisions combined to form the Southwest Region. As part of this reorganization ALDOT has determined that disaster debris operations will be coordinated and executed by each Region/Division and that each Region/Division will develop a Disaster Debris Management Plan.

Purpose and Scope

The ALDOT Southwest Region (Region) approved the preparation of this disaster debris management plan (DDMP) to solidify processes and procedures for debris removal after a natural or man-made disaster. This DDMP provides vital information that will assist the Region in coordinating and managing debris removal efforts following a major debris-generating incident. To ensure a successful debris removal operation and maximum recovery of disaster related expenditures associated with debris removal, it is essential that the Region understands the following components of a major debris-generating event:

- The rules, regulations, and guidelines legislated by the Federal Emergency Management Agency (FEMA), Federal Highway Administration (FHWA) and other agencies governing debris removal
- The organizational structure, roles, and responsibilities of individuals involved
- The process of disaster debris removal, collection, and disposal
- The required documentation to substantiate debris removal operations

Following a disaster debris-generating incident, ALDOT will perform a damage assessment of the impacted areas within the state road system. ALDOT will perform road clearing (emergency push) operations, as needed, to quickly clear debris and restore the operational status of the travel way for vehicular use. ALDOT will then immediately begin debris removal and disposal operations from the

right-of-way areas with the purpose of removing storm-placed debris and restoring the operational status of the right-of-way. ALDOT will be responsible for the first pass of debris removal along ALDOT roadways. Any subsequent debris removal focusing on debris brought to the right-of-way from private properties will be the responsibility of the corresponding counties and municipalities. The ALDOT Region will be in coordination with local and state officials as necessary regarding debris removal operations. ALDOT's May 2, 2011 debris policy document, *Collection of Storm Related Debris from Rights-of-Way on State Routes, US Routes, and Interstate Routes*, is provided as Appendix K. This plan has been developed in accordance with guidance from the Federal Emergency Management Agency (FEMA) to include FEMA 322 Public Assistance Guide; 323 Applicant Handbook; 325 Debris Management Guide; 327 Debris Monitoring Guide; Public Assistance Alternative Procedures Pilot Program-Debris Removal; the Federal Highway Administration Emergency Relief (FHWA ER) program; and FHWA Moving Ahead for Progress in the 21st Century (MAP 21) procedures. Meetings were held with representatives from the ALDOT Region, Area, and Districts to plan, prepare and finalize this DDMP.

Situation and Assumptions

The ALDOT Southwest Region is comprised of the following ten counties: Marengo, Choctaw, Wilcox, Washington, Clarke, Monroe, Conecuh, Escambia, Mobile, and Baldwin. These counties are broken into two Areas, the Grove Hill Area and the Mobile Area. Each Area is then broken into Districts. The Region covers over 10,000 square miles of the State. Two of the counties in the Mobile Area, District 91 (Mobile County) and District 92 (Baldwin County) border the Gulf of Mexico. The Tensaw River System flows through the entire Region into the Mobile Bay. The geographic location and low lying terrain of the Region make it vulnerable to a multitude of natural disasters that could generate both isolated and wide spread disaster debris and initiate the activation of this DDMP.

The following table provides an overview of the potential disaster incidents the Region may be impacted by, the amount/level of resources the Region may have to call upon to respond, and the level of situational severity the Region might face following the disaster incident.

Table 1-1: Potential Disaster Incidents

Disaster	DOT Resource Requirement(s)	Flooding	Power Outage	Debris Generation	Infrastructure Damage	Sand Displacement
Tropical Storm / Strong Wind	– District resources – Self-perform debris removal operation- contractor activation (based on damage assessments)	Light	Light	Light	Light	Light
Strong Tropical Storm/>12 inches rain	– District resources / mutual aid with neighboring district / contractors on notice to proceed following damage assessment – Self-perform debris removal	Moderate /Severe	Moderate	Moderate	Moderate	Light

Disaster	DOT Resource Requirement(s)	Flooding	Power Outage	Debris Generation	Infrastructure Damage	Sand Displacement
	operation w/ mutual aid – contractor activation (based on damage assessment)					
Isolated Tornado	– District resources – Self-perform debris removal operation- contractor activation (based on damage assessment)	Light	Light	Light	Light	None
Category 1 Hurricane	– District resources – mutual aid with neighboring district – Self-perform debris removal operation- contractor activation (based on damage assessment)	Light – Moderate	Light	Light – Moderate	Light	Light
Ice Storm (Severe)	– District resources / mutual aid with neighboring district / contractors on notice to proceed following damage assessment – Self-perform debris removal operation w/ mutual aid – contractor activation (based on damage assessment)	None	Moderate	Moderate	Light	None
Widespread Tornado	– District resources / mutual aid with neighboring district / contractors on notice to proceed following damage assessment – Self-perform debris removal operation w/ mutual aid – contractor activation (based on damage assessment)	Light	Light – Moderate	Moderate	Moderate	None
Category 2 Hurricane	– District resources / mutual aid with neighboring district / contractors on notice to proceed following damage assessment – Self-perform debris removal operation w/ mutual aid – contractor activation (based on damage assessment)	Moderate – Severe	Moderate – Severe	Moderate – Severe	Moderate	Moderate
Category 3 Hurricane	– District resources/mutual aid/contractor resources – Statewide mutual aid – Pre-position contractor(s) with likely contractor activation	Moderate – Severe	Moderate	Moderate – Severe	Moderate – Severe	Severe
Category 4 Hurricane	– District resources/mutual aid/contractor resources/ Statewide mutual aid – Pre-position contractor(s) with contractor activation	Severe	Severe	Severe	Severe	Severe
Category 5 Hurricane	– District resources/mutual aid/contractor resources/ Statewide mutual aid – Pre-position contractor(s) with contractor activation	Severe	Severe	Severe	Severe	Severe

Unlike many county or municipal entities the Region has considerably more resources to assist in debris removal efforts. For smaller or isolated incidents the Region will have to conduct a damage assessment following the incident to determine the following factors

- If debris removal efforts will be performed utilizing ALDOT force account labor and equipment
- If mutual aid from other ALDOT Districts or Regions will be needed and is available
- If contractors will be put on notice or activated to assist in debris removal efforts

The Region will also have access to resources within ALDOT throughout the State, as well as resources that can be obtained through Inter-State agreements. In widespread to catastrophic and/or complex debris removal operations the Region may elect to activate debris removal and debris monitoring contractors prior to the disaster impact.

The following assumptions are presented to assist in the planning process.

- The Region will oversee and implement debris removal operations within the Region.
- The Region is responsible for clearing and repairing state-maintained roadways following a disaster.
- The Region will use contracted resources to perform road clearing (emergency push) operations to restore the operational status of the road system immediately following the debris-generating event.
- The Region will immediately follow road clearing with removal of disaster-placed debris from the state system right-of-way areas using contracted resources.
- The Region and its contractors and agents will perform debris removal, document debris removal and organize data substantiating debris removal efforts by County within the Region. Further subsets of data, by road system, will be collected and maintained.
- Any debris removal operation, regardless of size or severity, will require significant multi-agency coordination.
- The Region will follow the National Incident Management System (NIMS) and the Incident Command System (ICS) when supporting or responding a disaster incident, regardless of size and magnitude.
- The Region has access to mutual aid (additional resources and equipment) from other ALDOT Division's within the State.
- The Region has access to substantial amounts of equipment and personnel to support debris removal efforts; however these resources are likely to be occupied conducting required road network assessments, repairs, and maintenance. The Region intends to activate contractors to support debris removal operations.
- If the Region activates contracted support, the debris removal contractor will be responsible for establishing proper debris management site (DMS) as necessary and will be responsible for the disposal of the collected debris as well.

There will be many factors that influence the type of response the Region initiates following a disaster debris generating incident. This DDMP will provide the framework for implementing a coordinated response regardless of the type of disaster, size or magnitude. The strategy of this plan will outline tasks, activities, roles and responsibilities to be carried out in times of normalcy, preparedness, immediate response, and recovery.

Section 2

Disaster Debris Generation Forecasting

As previously established, ALDOT has determined that disaster debris operations will be coordinated and executed by each Division. However, in order to best and most accurately forecast the potential amount of disaster-generated debris the Region may face, the forecasting methodology applied focuses greatly on the county level. Forecasting at the county level allows the Region to better prepare for and scale their operations based on whether the incident is wide-spread or isolated. Following a debris generating incident, ALDOT and the Alabama Emergency Management Agency (AEMA) will be responsible for providing debris and associated cost estimates within the Region to FEMA on a county by county basis. If declared by FEMA for Public Assistance for Category A – Debris Removal and Category B- Emergency Protective Measures, FEMA will reimburse ALDOT (sub-grantee) through AEMA (grantee) for eligible emergency road clearance (Category B) and debris removal (Category A) work and associated expenditures performed by County.

Methodology

The U.S. Army Corps of Engineers (USACE) debris estimating model is the basis for developing the scenarios and associated county debris estimates included here-in. The USACE developed this model based on debris generated by Hurricanes Frederic, Hugo and Andrew. The model contemplates the number of households in an urban/suburban area which is a reflection of overall roadway and physical infrastructure, as well as the category of storm, vegetative characteristics, commercial density and precipitation. The estimated quantities produced by the model have a predicted accuracy of ± 30%. Because of the margin of error in the model, the Region will validate the model results via windshield surveying and/or aerial flyover assessments in a post-disaster scenario as part of the Preliminary Damage Assessment (PDA). Windshield surveys provide debris removal professionals with an opportunity to develop an estimated quantity of debris per mile surveyed, which can then be extrapolated to include the number of parcels within the jurisdictional limits of a community. Aerial flyovers are important because they provide the Region with a better snapshot of areas hardest hit, and establish an overall order of magnitude on a county by county basis. This information is critical to organizing and directing force account and/or contracted resources.

For planning purposes, given the location, geography and potential hazards the Region is susceptible to the following four (4) disaster debris generating scenarios have been established:

- Scenario 1: Catastrophic Category 4 Hurricane
- Scenario 2: Major Category 3 Hurricane
- Scenario 3: Minor Category 1 Hurricane
- Scenario 4: Regional Ice Storm with both Major and Minor Impacts

The characteristics of these scenarios were defined in the model and applied to each county in the Region yielding a debris estimate for each county for each scenario. Understanding that the initial debris estimates are made on a county-wide level, but ALDOT is only responsible for a portion of the roadways in each county (State maintained roads) the initial county debris estimates were then multiplied by a percentage allocation of total miles of Federal-Aid road systems relative to total miles

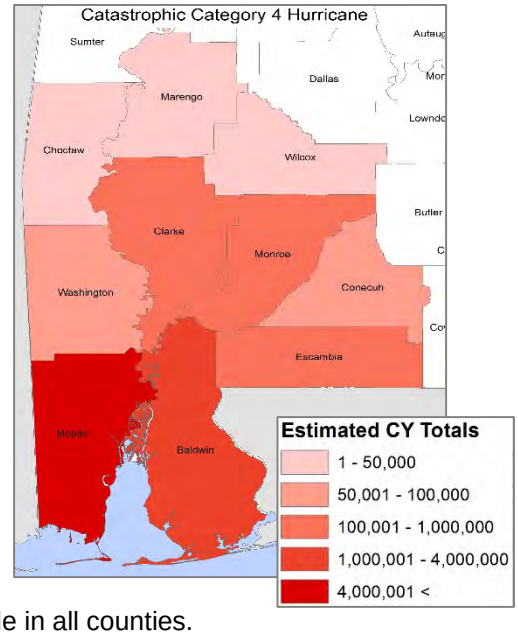
of roadway within a county (see table 2-1 below). An estimate of trees with hazards to be addressed was developed based on road mileage, the vegetative characteristics of the Region, and previous actual data captured on Department of Transportation debris missions for hazardous trees addressed relative to quantities of debris removed.

Table 2-1: ALDOT Southwest Region Roadway Mile Allocation

County	County-wide Road Miles	ALDOT Road Miles	Road Mile Allocation
Baldwin	4,503	441	9.79 %
Choctaw	1,419	115	8.07 %
Clarke	1,929	169	8.74 %
Conecuh	1,611	153	9.49 %
Escambia	2,330	213	9.14 %
Marengo	1,505	233	15.51 %
Mobile	7,555	398	5.27 %
Monroe	1,793	155	8.66 %
Washington	2,114	141	6.68 %
Wilcox	1,498	198	13.21 %
REGION TOTAL	**26,257 mi**	**2,216 mi**	**8.43 %**

A narrative of each scenario including the anticipated type and quantities of debris for each county is included below. The full debris estimation model for each county and scenario is included in Appendix D of the plan.

Scenario 1: Catastrophic Category 4 Hurricane



Scenario 1 represents a worst case scenario for the Region, a direct hit by a catastrophic hurricane. The catastrophic hurricane is modeled to make a direct hit on Mobile and Baldwin Counties as a Category 4 Hurricane, and then slowly weaken over the inland counties of the Region, maintaining hurricane force winds throughout the Region. The map to the right depicts Scenario 1 showing the progression of the storm and the subsequent estimated debris removal requirements for each County in the Region. A catastrophic hurricane will create construction and demolition (C&D) debris and displace sand in Mobile and Baldwin Counties. The high winds will generate large quantities of vegetative debris and downed trees Region-wide in all counties.

The impact potential from this level of a disaster incident from Table 1-1 is reiterated below for reference. As the table highlights, the severity of this scenario will likely lead the Region to issue a notice-to-proceed prior to disaster impact in efforts to pre-position contracted resources so that debris removal and monitoring operations can begin immediately following the incident.

Table 2-2: Scenario 1 Impact Potential

Disaster	DOT Resource Requirement(s)	Flooding	Power Outage	Debris Generation	Infrastructure Damage	Sand Displacement
Category 3 Hurricane	– District resources/mutual aid/contractor resources – Statewide mutual aid – Pre-position contractor(s) with likely contractor activation	Moderate – Severe	Moderate	Moderate – Severe	Moderate – Severe	Severe
Category 4 Hurricane	– District resources/mutual aid/contractor resources/ Statewide mutual aid – Pre-position contractor(s) with contractor activation	Severe	Severe	Severe	Severe	Severe

The following table provides a summary of the data utilized for the Scenario 1 debris estimation model, the county-wide debris estimate, and the allocated debris estimate for ALDOT.

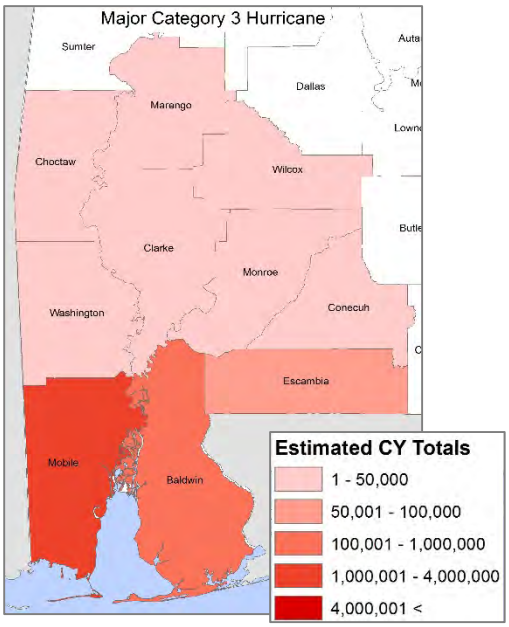
Table 2-3: Scenario 1 Debris Model Results

County	County-wide Debris Estimate	Road Mile Allocation	ALDOT System Debris Estimate	ALDOT System Trees to be Addressed	Estimated DMS Acreage Needs
Baldwin	7,093,223	9.79 %	694,426	13,889	731
Choctaw	82,758	8.07 %	6,679	668	9
Clarke	472,575	8.74 %	41,303	4,130	49
Conecuh	247,365	9.49 %	23,475	2,347	25
Escambia	703,665	9.14 %	64,315	6,432	72
Marengo	133,848	15.51 %	20,760	2,076	14
Mobile	18,342,324	5.27 %	966,640	19,333	1,889
Monroe	441,445	8.66 %	38,229	3,823	45
Washington	339,437	6.68 %	22,674	2,267	35
Wilcox	56,534	13.21 %	7,468	747	6
REGION TOTAL	**27,913,174 CY**	**8.43 %**	**1,885,970 CY**	**55,712 Trees**	**2,875**

***Note: The debris forecasting model numbers depicted in this table are only estimates, actual quantities of debris will depend on a variety of disaster-specific factors.**

Scenario 2: Major Category 3 Hurricane

Scenario 2 represents a major hurricane that significantly impacts Mobile and Baldwin Counties, but weakens rapidly as it moves inland. For planning purposes, the major hurricane scenario assumes Region-wide impacts. Flooding and storm surge will generate some C&D and displace sand in Mobile and Baldwin Counties. The high winds will generate large quantities of vegetative debris Region-wide in all counties. Although there will be fewer downed trees from the major hurricane relative to the catastrophic hurricane, there will be a larger number of trees along the right-of-way (ROW) with hazardous hanging limbs needing to be addressed/removed.



The impact potential from this level of a disaster incident from Table 1-1 is reiterated below for reference. As the table highlights, the severity of this scenario will likely lead to the Region either placing contracted resources on notice to be activated following damage assessments (Category 2) or to issue a notice-to-proceed prior to disaster impact in efforts to pre-position contracted resources so that debris removal and monitoring operations can begin immediately following the incident (Category 3).

Table 2-4: Scenario 2 Impact Potential

Disaster	DOT Resource Requirement(s)	Flooding	Power Outage	Debris Generation	Infrastructure Damage	Sand Displacement
Category 2 Hurricane	– District resources / mutual aid with neighboring district / contractors on notice to proceed following damage assessment – Self-perform debris removal operation w/ mutual aid – contractor activation (based on damage assessment)	Moderate – Severe	Moderate – Severe	Moderate – Severe	Moderate	Moderate
Category 3 Hurricane	– District resources/mutual aid/contractor resources – Statewide mutual aid – Pre-position contractor(s) with likely contractor activation	Moderate – Severe	Moderate	Moderate – Severe	Moderate – Severe	Severe

The following table provides a summary of the data utilized for the Scenario 2 debris estimation model, the county-wide debris estimate, and the allocated debris estimate for ALDOT.

Table 2-5: Scenario 2 Debris Model Results

County	County-wide debris estimate	Road Mile Allocation	ALDOT System Debris Estimate	ALDOT System Trees to be Addressed	Estimated DMS Acreage Needs
Baldwin	3,688,476	9.79 %	361,102	18,055	380
Choctaw	20,690	8.07 %	1,670	250	2
Clarke	145,408	8.74 %	12,709	1,906	15
Conecuh	76,112	9.49 %	7,223	1,083	8
Escambia	216,512	9.14 %	19,789	2,968	22
Marengo	33,462	15.51 %	5,190	778	3
Mobile	9,538,008	5.27 %	502,653	25,133	982
Monroe	135,829	8.66 %	11,763	1,764	14
Washington	104,442	6.68 %	6,977	1,047	11
Wilcox	14,134	13.21 %	1,867	280	1
REGION TOTAL	**13,973,073 CY**	**8.43 %**	**930,942 (CY)**	**53,266 Trees**	**1,438**

***Note: The debris forecasting model numbers depicted in this table are only estimates, actual quantities of debris will depend on a variety of disaster-specific factors.**

Scenario 3: Minor Category 1 Hurricane

Scenario 3 represents a minor hurricane that quickly diminishes into a tropical storm/depression as the system makes landfall and moves inland, similar to Hurricane Isaac that struck Louisiana and Mississippi in 2012. Mobile and Baldwin County may experience storm surge and isolated flooding, but no significant displacement of sand or generation of C&D. The minor hurricane will generate light

vegetative debris along the coast and create some tree and limb hazards inland will likely need to be addressed.

The impact potential from this level of a disaster incident from Table 1-1 is reiterated below for reference. As the table highlights, the severity of this scenario may allow the Region to self- perform debris removal and monitoring operations utilizing force account labor and equipment, possibly with additional resources from neighboring ALDOT Regions/Divisions. However, if damage assessment finds that there is a wider-spread or moderate amount of debris, the Region intends to activate contracted resources to support debris removal and monitoring operations. The Region may also elect to activate contracted resources in an effort to minimize recovery time, as the Region will have greater access to crews and equipment.

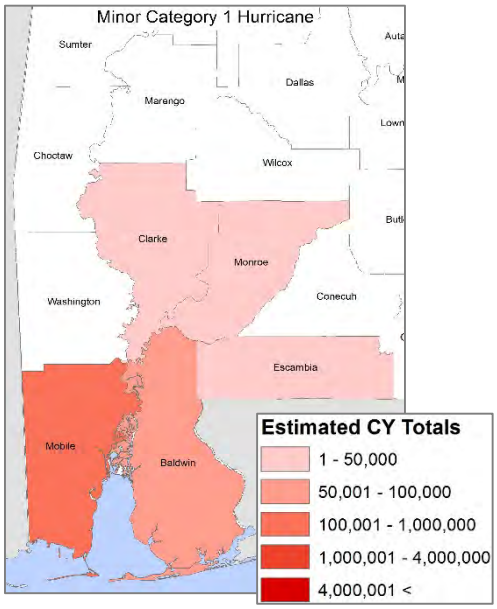


Table 2-6: Scenario 3 Impact Potential

Disaster	DOT Resource Requirement(s)	Flooding	Power Outage	Debris Generation	Infrastructure Damage	Sand Displacement
Tropical Storm / Strong Wind	– District resources – Self-perform debris removal operation- contractor activation (based on damage assessment)	Light	Light	Light	Light	Light
Category 1 Hurricane	– District resources – mutual aid with neighboring district – Self-perform debris removal operation- contractor activation (based on damage assessment)	Light – Moderate	Light	Light – Moderate	Light	Light

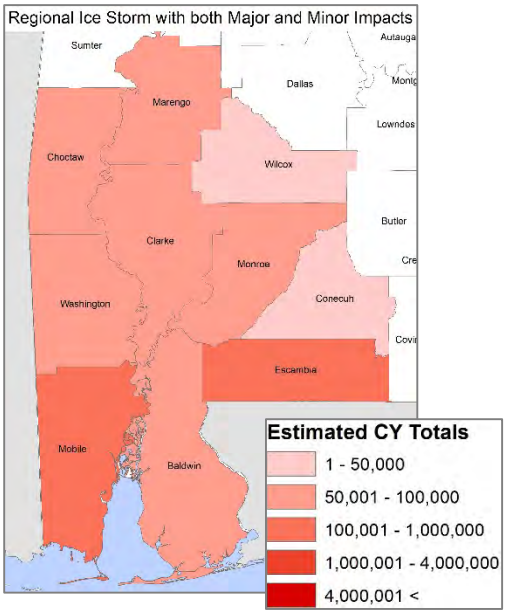
The following table provides a summary of the data utilized for the Scenario 3 debris estimation model, the county-wide debris estimate, and the allocated debris estimate for ALDOT.

Table 2-7: Scenario 3 Debris Model Results

County	County-wide debris estimate	Road Mile Allocation	ALDOT System Debris Estimate	ALDOT System Trees to be Addressed	Estimated DMS Acreage Needs
Baldwin	283,729	9.79 %	27,777	1,389	29
Choctaw	-	8.07 %	-	-	-
Clarke	18,176	8.74 %	1,589	79	2
Conecuh	9,514	9.49 %	903	45	1
Escambia	27,064	9.14 %	2,474	124	3
Marengo	-	15.51 %	-	-	-
Mobile	733,693	5.27 %	38,666	1,933	76
Monroe	16,979	8.66 %	1,470	74	2
Washington	13,106	6.68 %	875	44	1
Wilcox	-	13.21 %	-	-	-
REGION TOTAL	**1,102,260 CY**	**8.43 %**	**73,754 CY**	**3,688 Trees**	**114**

***Note: The debris forecasting model numbers depicted in this table are only estimates, actual quantities of debris will depend on a variety of disaster-specific factors.**

Scenario 4: Regional Ice Storm with both Major and Minor Impacts



Scenario 4 represents a major ice storm that impacts the northern Counties of the Region. While Mobile and Baldwin County are not impacted, Choctaw, Clarke, Conecuh, Escambia, Marengo, Monroe, Washington, and Wilcox County all sustain heavy damage to their tree canopies. While the debris stream is limited to vegetative debris, there are a significant number of trees along the right-of-way (ROW) with hazardous hanging limbs needing to be addressed / removed.

The impact potential from this level of a disaster incident from Table 1-1 is reiterated below for reference. As the table highlights, the severity of this scenario will likely lead to the Region placing contracted resources on notice to potentially be activated following damage assessments.

Table 2-8: Scenario 4 Impact Potential

Disaster	DOT Resource Requirement(s)	Flooding	Power Outage	Debris Generation	Infrastructure Damage	Sand Displacement
Ice Storm (Severe)	– District resources / mutual aid with neighboring district / contractors on notice to proceed following damage assessment – Self-perform debris removal operation w/ mutual aid – contractor activation (based on damage assessment)	None	Moderate	Moderate	Light	None

In order to apply the USACE debris estimating model to the impact of an ice storm, debris estimates for hurricanes were compared to actual debris totals for a sample of communities in South Carolina following minor and major ice storms that impacted the state in early 2014. Below is a sampling of the results.

Table 2-9: 2014 Ice Storm Data from South Carolina

County	Category 2 Debris Estimate*	Category 3 Debris Estimate*	Severe Ice Storm Impact	Actual Debris Quantity	Actual Hazardous Trees	Variance (Minor Impact vs. Cat2 Model)	Variance (Major Impact vs. Cat3 Model)
Georgetown, SC	230,000	750,000	Minor	195,000	35,000	-18%	-
Dillon, SC	125,000	400,000	Minor	168,000	40,000	+11%	-
Marion, SC	126,000	410,000	Major	400,000	55,000	-	-5%
Williamsburg, SC	118,000	383,000	Major	240,000	81,000	-	-60%
Aiken, SC	658,000	2,137,000	Major	1,800,000	195,000	-	-19%

*Estimates based on actual quantities removed to date plus the remaining quantities to be removed.

The following table provides a summary of the data utilized for the Scenario 4 debris estimation model, the county-wide debris estimate, and the allocated debris estimate for ALDOT.

Table 2-10: Scenario 4 Debris Model Results

County	County-wide debris estimate	Road Mile Allocation	ALDOT System Debris Estimate	ALDOT System Trees to be Addressed	Estimated DMS Acreage Needs
Baldwin	218,253	9.79 %	21,367	2,137	22
Choctaw	206,895	8.07 %	16,696	4,174	21
Clarke	363,519	8.74 %	31,772	7,943	37
Conecuh	190,281	9.49 %	18,058	4,514	20
Escambia	541,281	9.14 %	49,473	12,368	56
Marengo	334,620	15.51 %	51,900	12,975	34
Mobile	564,379	5.27 %	29,743	2,974	58
Monroe	339,573	8.66 %	29,407	7,352	35
Washington	261,105	6.68 %	17,442	4,360	27
Wilcox	141,336	13.21 %	18,670	4,668	15
REGION TOTAL	**3,161,242 CY**	**8.43 %**	**284,527 CY**	**63,465 Trees**	**325**

***Note: The debris forecasting model numbers depicted in this table are only estimates, actual quantities of debris will depend on a variety of disaster-specific factors.**

Observations/Recommendations

The debris volumes forecasted for each scenario in this section are only estimates. The specific impacts caused by natural and manmade disasters vary widely even within the same category of event. In particular, the degree and severity of flooding associated with storm events can be variable. Some tropical storms and low-level hurricanes can still cause widespread, catastrophic flooding, generally when they are a slow moving phenomenon. It is the intent of the ALDOT Region to use contracted resources for all disaster related debris removal.

Section 3

Debris Removal and Collection Strategy

The debris removal and collection strategy establishes a systematic approach for the efficient removal, collection and disposal of disaster generated debris. The strategy below addresses the preparedness, response and recovery activities of implementing a debris removal operation and is scalable in nature in order to effectively respond to both minor and catastrophic disaster incidents. A checklist for the activities outlined below is included as Appendix C to this plan.

Preparedness

Non-Disaster (Normalcy)

In general, during normal non-disaster operations, the Region should always be in a state of preparedness. The non-disaster stage is the ideal time to re-evaluate the processes, procedures, roles, and responsibilities related to debris removal operations. It is also an opportune time to conduct any disaster debris removal operations training, testing and exercises. The establishment and understanding of these processes, procedures, roles and responsibilities will facilitate a more efficient and effective debris removal operation.

The following list of items can be reference periodically to ensure that the Region is constantly prepared for an unexpected event to occur:

- ☐ Review and update, as necessary, the DDMP
- ☐ Conduct training and exercises related to debris removal activities
- ☐ Review and update the debris operations organizational chart
- ☐ Review and update the debris removal operations contact lists
- ☐ Review and update the Debris Removal Priority List of Roadways for each District
- ☐ Maintain and update GIS data
- ☐ Perform feasibility check on DMS and final disposal site locations
- ☐ Review existing memoranda of agreement with counties and municipalities within each District
- ☐ Review stand-by/pre-position contracts related to debris removal operations to ensure they are current
- ☐ Review FEMA, FHWA and other regulatory agency guidance and become familiar with any changes in policy

Review and Update the DDMP

At a minimum an annual review of the DDMP should be conducted to ensure the policies, procedures, roles, responsibilities, and contacts are current and in accordance with the Region and ALDOT practices. The DDMP should also be reviewed, evaluated and updated following a plan activation, whether triggered by a real disaster incident or by a training, testing or exercise session to ensure that the plan remains current with the best-practices of the agency.

Conduct Training and Exercises Related to Debris Removal Operations

It is imperative that the personnel and agencies defined in the plan understand their roles and responsibilities related to debris removal operations. This information can be shared through conducting training and exercise activities.

Review and Update the Debris Operations Organizational Chart

As individuals and positions change within the Region and ALDOT, the organizational chart should be updated to reflect these changes.

Review and Update the Debris Operations Contact List

The contact list provided in Appendix B should be updated quarterly to reflect changes in personnel or contact information. This includes contact information for the partners, vendors and contractors that may support the Region following a disaster incident.

Review and Update the Debris Removal Priority List of Roadways

The Region will review and update a priority list of roadways that will require immediate assessment/debris clearance following a debris generating incident. The priority list will consider routes to critical facilities, hospitals, shelters, and supply distribution sites (i.e. Wal-Mart, Home Depot, etc.). Given the organizational structure of the Region, a priority roadway list should be reviewed and updated by each District. The complete priority list of roadways can be found in Appendix E.

Maintain and Update GIS Data

Proper documentation of road maintenance responsibility is essential to ensure maximum reimbursement from FEMA. It is necessary for the Region to annually review and update maps to ensure that all modifications are included in the GIS data. Updated maps will be instrumental in the execution of eligible debris removal operations and the Region will submit all associated documentation to FEMA for reimbursement. GIS data related to debris removal operations should also be stored on a CD or thumb drive so it may easily be shared with supporting partners, vendors and contractors.

Perform Feasibility Check on Debris Management Site (DMS) and Final Disposal Site Locations

On an annual basis, the Region will visit any pre-identified debris management site locations (DMS) to ensure the property is still available and a valid DMS option. In Addition, the Region will ensure that existing agreements between the Region and proposed DMS locations and final disposal facilities are up to date and accurately reflect any rental or disposal fees. The Region will also ensure that final disposal site locations have the capacity to accept large quantities of debris following a debris-generating event. A list of properties that have been identified as potential DMS locations is included in Section 5 and specific site evaluations are included in Appendix F. Should the Region activate a debris removal contractor, the Region may direct the contractor to identify property for temporary debris storage and reduction sites and perform annual feasibility checks on all DMS locations per the contract agreement.

Review Existing Memoranda of Agreement with Counties and Municipalities

As a standard practice the Region will only be responsible for the first push and pass of debris removal along ALDOT maintained roadways, with the goal of removing storm-placed debris and returning operational status to the state road system. Once ALDOT's debris removal program is completed, any subsequent debris removal will be the responsibility of the respective counties and municipalities within the Region. ALDOT has developed a draft Memorandum of Agreement (MOA) to formalize the separate debris removal responsibilities and expectations. This MOA is still under review and is provided in Appendix M. Any inter-local agreements and memoranda of agreement with counties and municipalities within each District should be reviewed and updated annually to ensure that the agreement is relevant for both parties.

Review Existing Stand-by / Pre-position Contracts

Stand-by / pre-position contracts for both debris removal and debris monitoring contractors should be reviewed to make sure they are current. Depending on the terms of the contracts, they can be renewed or a new Request for Proposals (RFP) can be issued via the State of Alabama purchasing procedures. Federal and State contracting and purchasing guidance are included in Appendix J. Having current pre-position contracts secured before an event will ensure a timely response to a disaster. Contact information for each contractor should also be reviewed and updated as necessary.

Review FEMA Guidance and Policy Changes

Rules and regulations dictating operational procedures change periodically; the information in the DDMP should be updated annually to reflect such changes.

Pre-Disaster Impact

Pre-event stage begins when a potential debris-generating weather system is in the Gulf of Mexico and the 96 hour forecast is aiming in the general direction of Alabama. Key Region and ALDOT personnel should be notified of potential impact and prepared to perform extra duties related to the potential impact. All relevant parties should review their specific roles and responsibilities as outlined in Section 4.

The following checklist can be referenced to ensure all steps are performed during the busy time prior to impact:

- ☐ Alert key personnel and review debris management plan
- ☐ Determine if any equipment and/or personnel need to be relocated or staged based on the estimated location and severity of impending disaster
- ☐ Review ALDOT internal accounting system, event codes, and site codes to properly document incident related time, equipment use, and material expenditures
- ☐ Depending on the estimated severity of the event, place monitoring firm and debris removal contractors on stand-by or issue a Notice-to-Proceed to pre-position contractors
- ☐ If contractors are issued a Notice-to-Proceed, facilitate a pre-event coordination meeting with contractors
- ☐ Prepare and assign damage assessment teams

Alert Key Personnel and Review DDMP

Prior to the impact of the debris-generating disaster, Region and ALDOT key personnel should be put on alert. Once on alert, the DDMP should be reviewed to ensure correctness and understanding of the roles and responsibilities outlined in the plan. In addition, discussions regarding the estimated resources (both equipment and personnel) should take place and a determination if any resource relocation or staging is necessary based on the estimated path and magnitude of the disaster. The Region should also review and discuss key activities that need to occur immediately following the incident, including damage assessments and emergency push operations.

Prepare Force Account Labor, Equipment, and Review Accounting System to Properly Document Incident Related Time, Equipment Use, and Expenditures

Following a disaster incident, responding to immediate public health and safety needs takes precedent over other operations. However, to the extent possible, the Region should make every effort to fully document force account time, force account equipment, and materials purchased as emergency protective measures at the beginning of incident response to ensure that all incurred costs are tracked for eligibility consideration and potential reimbursement. Region personnel should review ALDOT accounting processes, event codes, and site codes to ensure proper tracking of activities and expenditures related to the incident.

Types of activities for force account labor and equipment tracking and documentation include but are not limited to:

- Emergency push road clearing
- Emergency repairs
- Emergency response coordination
- Damage assessment

Appendix H includes detailed information about the use of force account labor and the documentation required to satisfy FEMA. ALDOT's internal accounting processes/system, RoadMAP, will be used to capture the required documentation.

Place Monitoring Firm & Debris Removal Contractors on Stand-by and/or Issue a Notice-to-Proceed

The monitoring firm and debris removal contractors should be notified by the Region that their contracts may be activated (see Appendix B for contact information) pending the increased severity of the event or following damage assessments. Discussions with the monitoring firm and debris removal contractors should address the following:

- Resource availability and assets that will be dedicated to debris removal operations
- Mobilization time
- Identification of staging area(s) for truck certification.

In the event that the incident is determined to be large scale or catastrophic prior to impact, the Region may exercise their authority to issue a Notice-to-Proceed in the pre-event stage to ensure that the contractor and monitoring firm are positioned with personnel and equipment to respond within hours of impact. See "Activate monitoring firm and debris removal contractor" under the Response Phase for additional guidance on contractor activation.

Facilitate Pre-Event Coordination Meeting With Contractors

If contractors are issued a Notice-to-Proceed, the Region will initiate a pre-event coordination meeting with the monitoring firm and debris removal contractor to coordinate the logistics of personnel and equipment deployment. Depending on severity of the event, the meeting will be held in person at a designated staging location or via conference call.

Prepare and Assign the Damage Assessment Team(s)

Prior to disaster impact, and based on the estimated path and magnitude of the disaster, the Region should assign personnel to a Damage Assessment Team(s) that can be quickly deployed following the disaster impact.

Response

After a tropical system or other debris-generating system has impacted the area, the Region will enter into the response phase. The following response checklist will facilitate cohesive and efficient coordination between local, state, and federal agencies involved in various aspects of the response effort.

- ☐ Conduct damage assessment
- ☐ Determine whether force account resources will be utilized for debris removal and what the force account staffing, equipment, and material needs are
- ☐ Determine need for special programs and obtain written approval
- ☐ If needed, and if not issued during the pre-event phase, issue a Notice-to-Proceed to monitoring firm and debris removal contractor
- ☐ Request contact information and meeting with State and FEMA Public Assistance Officer
- ☐ Consult priority list of roadways to direct upcoming debris removal operations based on damage assessment findings
- ☐ Identify affected areas known to be historically significant and/or environmentally sensitive
- ☐ Begin emergency push operations
- ☐ Begin truck certification
- ☐ Notify ADEM, local fire, and local law enforcement of DMS locations
- ☐ Conduct meetings/briefings with key personnel
- ☐ Conduct daily meetings with project managers from the monitoring firm and debris contractor
- ☐ Issue media press release

Conduct Damage Assessment

The Region will initiate damage assessments in the impacted areas. Damage assessments are necessary to determine the extent and the location of the debris. “Windshield” surveys of roadways will help in prioritizing debris collection. Areas where immediate debris removal needs to be performed in order to prevent a public health and safety threat should be communicated to the debris operations manager assigned by the Region (See section 4).

Determine Whether Force Account Resources Will Be Utilized for Debris Removal

The Region will use the damage assessments to determine whether or not the force account labor and equipment will be utilized to perform debris removal operations. To make a determination, the Region will contemplate the debris estimates collected during the damage assessment.

Determine Need for Special Programs and Obtain Written Approval

During the damage assessment, the Region will determine the need for special debris removal programs such as the removal of leaners, hangers, and hazardous stumps, hazardous materials, or sand removal from ALDOT maintained property. For all special programs, the Region will seek appropriate written approvals from all regulatory agencies including AEMA, ADEM, FEMA, and SHPO. In the event that immediate action is necessary to protect public health and safety, the Region will ensure that all operations are well documented with GPS coordinates, pictures, and a comprehensive damage description to substantiate the hazard and support reimbursement. All hazardous materials will be disposed of in accordance with all Federal and State laws at a landfill approved by ADEM to accept them.

Activate Monitoring Firm and Debris Removal Contractors

The Region will use the damage assessments to determine whether or not the debris monitoring firm and debris removal contractors need to be activated. Once determined, a signed notice to proceed will officially activate the monitoring firm and contractor. Field logistics between the Region, the monitoring firm, and the contractor will be coordinated by the Region's designated debris operations manager to facilitate expedient debris removal operations.

Request Contact Information and Meeting with FEMA PAO

The Region should immediately request a meeting with the FEMA Public Assistance Officer (PAO) assigned to the Region. When meeting with the FEMA PAO, the following topics need to be discussed or provided:

- Debris removal progress to date
- Cost estimates for monitoring and debris removal
- Project worksheet generation
- Disaster Specific Guidance
- Contact information of key personnel
- Procurement procedures
- Prepositioned contracts

Create Debris Removal Priority List of Roadways

Damage assessments will be instrumental in the determination of roadway debris removal priorities. The Region should consult the list of pre-identified roadway priorities (included in this plan as Appendix E) along with the damage assessment findings to develop a specific plan and schedule for debris removal operations in the impacted areas. The plan and schedule should be distributed to the monitoring firm and debris removal contractor (if activated). The Region will also coordinate with AEMA to ensure that State priority routes (e.g. evacuation routes, shelter, supplies, etc.) are addressed.

Identify Affected Areas Known to be Historically Significant and Environmentally Sensitive

The Region will identify known historical and archaeological sites and known populations of endangered species and wetlands along the ROW. Sensitive historical and environmental locations will be discussed in detail with debris removal contractors, force account personnel, and appropriate environmental section advisors to ensure that all debris removal operations are performed in accordance with all Federal, State, and local historic and environmental rules and regulations. If an affected area does include an area of historic or environmental concern, the Region will ensure that ADEM, AEMA, FEMA, and SHPO are informed and that all necessary permits and approvals are obtained prior to the start of debris removal operations.

Begin Emergency Push Operations

Immediately following the passage of a debris generating storm, the Region will begin Emergency Push Operations. Emergency Push Operations typically occur within the first 70 working hours following the disaster impact. The Region will either be self-performing debris operations and utilizing force account labor and equipment or will have issued emergency purchase orders under existing contracts in order to deploy local maintenance contractors to begin emergency push operations to clear priority roads of scattered debris, leaning trees, and other obstructions for emergency response vehicles. The local maintenance contractors have intimate knowledge of ALDOT road systems and routes, maintain sufficient and appropriate equipment locally, and operate under standard equipment rates. The monitoring firm or force account labor will document emergency push operations on a time and materials basis. Typically no debris removal will be performed during this time.

Begin Truck Certification

Before a debris removal contractor can begin removing storm-generated debris, the monitoring firm or Region personnel must certify every truck and piece of equipment. The debris monitoring firm will provide trained staff that will measure the dimensions of the each truck and calculate the volume. A placard will be placed on the driver's side of the truck displaying the capacity and truck identification number. All information about the driver and the truck will be recorded onto a truck certification form and entered into a database. This information is critical for invoice reconciliation and reimbursement requests. ALDOT Construction Inspectors will have the authority to sign truck certification forms.

Notify ADEM, Local Fire, and Local Law Enforcement on DMS Locations

Once debris operations begin, the Region should notify local fire and law enforcement, via phone call and email, of debris collection operations and of the locations of debris management sites (DMS) in the area. In some cases the debris hauling contractor is able to secure land from private citizens to me used as a DMS. These sites should adhere to the criteria outlined in the DMS Site Viability Criteria in Appendix G.

Conduct Meetings with Key Personnel

Status meetings should be held with key personnel to keep participating entities up to date on the debris removal process. These meeting should be held daily to discuss the progress of the operation and to address any issues that arise. Progress reports from each participating entity will be given and any information to be disseminated to the field can be started at these meetings.

Conduct Meetings with Contractors

Designated Region personnel will meet with the monitoring firm and debris removal contractor on a daily or weekly basis at a time and location specified by the Region throughout the response phase. During the first weeks of operations, the Region will conduct daily meetings and re-evaluate the frequency of meetings after the first 30 days of operations to ensure that contractors continue to meet operational and reporting needs specified in the contract documents executed between the Region and the contractors.

Issue Media Press Release(s) and Public Information

The Region may find it helpful to provide information to the public at certain times during the disaster response phase. ALDOT's Public Information Department will issue a press release to the public prior to and following a disaster incident regarding the guidelines associated with debris cleanup along State maintained right-of-way. Communications can provide information as to when roadways have been cleared and are operational, when ALDOT debris contractors have been activated, and other topics. All communications to the public must be made through the Southwest Region Public Information Department. The Region Engineer will determine if additional media briefings will be needed for the duration of the debris removal operations.

Communications with the public can be made through the Road Conditions page of the ALDOT website. ALDOT may choose to use social media (e.g. Twitter and/or Facebook) to further provide updated information to the public.

Recovery

The recovery phase begins when the Region or contractor begins removing debris from the right-of-way (ROW). The following recovery checklist is essential to successful coordination and efficient recovery.

- ☐ Staff all Debris Management Site (DMS) locations
- ☐ Begin right-of-way (ROW) debris removal
- ☐ Conduct regular meetings with FEMA and key personnel
- ☐ Ensure compliance with all environmental and historic review requirements
- ☐ Begin ROW hazardous tree removal (leaners/hangers/stumps)
- ☐ As needed, coordinate sand management operations with municipalities
- ☐ Begin debris reduction
- ☐ Initiate Haul-out
- ☐ Notify ADEM of DMS closure
- ☐ Conduct project closeout meetings with FEMA and external agencies

Staff the Debris Management Sites

The Region or the monitoring firm will staff all debris management sites. The Region / the monitoring firm will be responsible for implementing DMS safety requirements, enforcing contractor compliance with contract requirements and debris collection, determining and recording load quantities, and documenting scale calibration and equipment details. Debris streams will need to be segregated in

designated areas so that storage, reduction, and final disposal can be properly tracked for reimbursement purposes. See Section 5 for potential DMS locations.

Begin Right-of-Way (ROW) Debris Removal

Once the state road system clearing (emergency push) is complete, the Region should allow the debris removal crews / contractors to proceed with ROW collection. ROW collection will not include any debris collection from private property. If necessary, the debris should be separated by debris class to ensure efficiency and proper disposal. These classifications of debris include vegetative, construction and demolition (C&D), household hazardous waste (HHW), and white goods. The debris should be segregated and documented in a fashion to allow for appropriate invoicing and reimbursement in accordance with contract line items.

- Vegetative Debris: includes whole trees, tree stumps, tree branches, tree trunks and other leafy material
- Construction and Demolition (C&D): damaged components of buildings and structures such as lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting and floor coverings, window coverings, plastic pipe, concrete, fully cured asphalt, heating, ventilation and air conditioning systems and their components, light fixtures, small consumer appliances, equipment, furnishings and fixtures.
- Household Hazardous Waste (HHW): includes gasoline cans, aerosol spray cans, paint, lawn chemicals, batteries, fire extinguishers, fluorescent lamps, household electronics, etc. Hazardous materials will be disposed of at a landfill approved by ADEMS to accept the hazardous material.
- White Goods: include refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers, etc.

Load tickets will be used as reimbursement documentation for the Region's ROW debris removal program. Typically debris removal progress is tracked daily through to use of progress maps and reporting.

Refer to "Appendix I: Debris Removal Monitoring Field Documents" for an example of a load ticket.

Conduct Regular Meetings with FEMA

Maintaining communication with representatives from FEMA and ADEM is essential to ensuring maximum reimbursement for eligible debris removal. Transparency throughout the entire debris removal process will help facilitate minimal auditing and timely response to reimbursement requests. Meetings should be held regularly in first few days or weeks of the project to expedite resolution to issues that arise. The frequency of these meetings can be adjusted as the project progresses.

Ensure Compliance with all Environmental and Historical Review Requirements

The Region will ensure that all debris removal activities comply with Federal, State, and Local environmental and historical review requirements. If debris removal operations are conducted in an area with known historical sites or environmentally sensitive ecosystems or animal populations, daily site inspections will be performed to ensure compliance with all historical and environmental preservation laws.

Begin ROW Leaners/Hangers/Stumps Program

Shortly after initial ROW debris removal efforts commence, a leaners/hangers/stump program should be considered. A meeting with key personnel should be held to discuss eligibility and documentation requirements. In general, eligibility is as follows:

- Hazardous Leaning Trees "Leaners": pose a significant threat to the public, and is at least six inches in diameter measured at chest height. They must also meet one or more of the following criteria:
  - Is leaning at an angle greater than 30 degrees
  - Has fallen or been uprooted within a public use area
  - Has a split trunk or broken branches that expose the heartwood
  - Has more than 50 percent of the crown damaged or destroyed (requires written documentation from an arborist)
- Hazardous Hanging Limbs "Hangers": pose a significant threat to the public and must also meet all of the following criteria:
  - Is greater than 2 inches in diameter
  - Is still hanging in a tree and threatening a public-use area
  - Is located on improved public property
- Hazardous Stumps: pose a significant threat to the public and must also meet all of the following criteria:
  - Has 50 percent or more of the root-ball exposed
  - Is greater than 24 inches in diameter when measured 24 inches from the ground

Unit rate tickets will be used as reimbursement documentation for the Region's leaners/hangers/stumps program. GPS coordinates, measurements, and photos will be used to substantiate the work was completed and ensure maximum reimbursement.

Refer to "Appendix I: Debris Removal Monitoring Field Documents" for an example of a unit rate ticket.

Sand Removal from ALDOT Maintained Property

In coastal areas of the Region, storm surge associated with large tropical systems could displace sand from beaches and deposit large accumulations of sand, soil, and mud on ALDOT maintained property and ROW. Immediately after a disaster event causing the displacement of sand onto the state roadways and right-of-way areas, the Region or activated contractor will conduct road clearing activities (emergency push) to restore the operational status of the state road system and allow traffic to flow. During the emergency push, sand will be pushed off the roadway and onto the adjacent right-of-way.

Once roads have been cleared, sand removal operations will immediately begin to move sand from the state road right-of-way areas to the DMS locations identified by the sand-owning jurisdictions involved. Potential owning jurisdictions are communities such as the Cities of Gulf Shores and Orange Beach, the Town of Dauphin Island, and Baldwin County, who may have ownership of disaster-displaced sand. The owning jurisdiction will assume all responsibility for sand thereafter, including screening and returning sand to the beach or hauling contaminated sand to final disposal.

Potential owning jurisdictions inter-local agreements and memoranda of agreement with coastal counties and municipalities within the Region should be reviewed and updated annually to ensure that the agreement is relevant for both parties.

Some key considerations when managing disaster-displaced sand include the following:

- Hurricane storm surge will often move sand from the beach area to locations further inland. Once the ALDOT emergency push road clearing operation is completed, the accumulated rows of sand in the ALDOT ROW must be removed and transported to appropriate DMS sites as quickly as possible. It is preferable that time-consuming activities such as sand sifting be done at the DMS locations rather than in the ALDOT ROW.
- Owning jurisdictions will be anxious to recover lost sand in order to conduct beach re-nourishment activities. Local owning jurisdictions are better suited than the Region to negotiate final sand disposition issues such as private property owners' claims, critical habitat considerations, etc.

Appendix N includes maps of beach access points where sand will be staged for screening by the owning jurisdictions.

Begin Debris Reduction

For small scale debris events, some Region Areas have historically either chipped vegetative debris on site and distributed along the ROW or hauled larger quantities of debris directly from the ROW to final disposal facilities. Other Region Areas have established DMS locations to chip and incinerate vegetative debris. A future large debris-generating event may necessitate the use of one or multiple DMS locations. Disaster debris that has been collected and brought to the DMS must be reduced prior to hauling the debris to a final disposal site. There are several debris reduction methods that can be utilized. The type of debris, location of DMS, land and weather conditions, etc. are all factors that will need to be evaluated in determining the best method for debris reduction. The various debris reduction options are highlighted below.

Reduction Methods

1. Chipping and Grinding

- Using this method, vegetative debris is chipped or ground and typically results in a reduction ratio of 4:1. The leftover mulch is either hauled to a final disposal facility or recycled.

2. Incineration

- The burning of vegetative debris typically results in a reduction ratio of 20:1. The leftover ash may be hauled to a final disposal facility or be incorporated in a land application.

3. Compacting

- The compacting of vegetative debris is the least effective reduction method and results in a reduction ratio of 2:1. Compacting is an appropriate reduction method for construction and demolition (C&D) debris that cannot be recycled.

Recycling Options

Common recyclable materials that are a result of a debris-generating event include wood waste, metals, and concrete. The recent passing of the Sandy Disaster Assistance Improvement Act of 2013

allows for the Region to retain any income received for recycling of disaster debris. The following are potential uses for each of these materials:

1. Wood Waste
    - Vegetative debris that is reduced by chipping or grinding results in leftover mulch. The remaining mulch can be used for agricultural purposes or fuel for industrial heating. For the mulch to be viable in agricultural purposes, the end user typically has a size requirement and requests that the mulch be as clean as possible of plastics and dirt. In past incidents, the Region has chipped small quantities of vegetative debris on site and distributed the chips along the rights-of-way. Future on-site chipping operations will need to be properly documented and satisfy local, state, and federal environmental regulations for final disposal.

2. Metals
    - Metal debris such as white goods, aluminum screened porches, etc., that may result from a debris-generating event can be recycled. Certain metals, such as aluminum and copper, are highly valuable to scrap metal dealers.

3. Concrete
    - Concrete, asphalt, and other masonry products that may become debris as a result of a debris-generating event can be crushed and potentially used for road construction projects or as trench backfill.

Initiate Haul-Out

Once vegetative debris at a temporary debris management site is reduced, it must be hauled to a final disposal site. The final disposal site can be a permitted landfill or a recycling facility. Once haul-out begins, the Region or monitoring firm will generate a haul-out ticket for each load as documentation for reimbursement. Information about associated tipping fees must be obtained and calculated into the overall cost of haul-out operation. A list of potential final disposal facilities is in included in Section 5.

Refer to "Appendix I: Debris Removal Monitoring Field Documents" for an example of a haul-out ticket.

Notify ADEM, Local Fire, and Local Law Enforcement on DMS Closures

The Region should notify ADEM, local fire and law enforcement via phone call and email, of debris management sites (DMS) closures in the area. The closure notification, whether email or other document should be retained for documentation/audit purposes.

Conduct Project Closeout Meetings

As debris removal operations near completion, project closeout meetings will be held to review the project. These meetings will include discussions about data, invoices, contracts, documentation, and any other outstanding issues that need to be resolved. Multiple meetings can be scheduled to ensure appropriate entities are present and to make certain all topics are covered in an appropriate timeframe.

Section 4

Roles and Responsibilities

Overview and Administration

The Alabama Department of Transportation (ALDOT) has historically been organized into nine geographic regions called Divisions, with a Central Office located in Montgomery, Alabama. The Central Office is organized into the Office of the Transportation Director and the Office of the Chief Engineer with Bureaus and Divisions reporting to the Deputy Director of Operations.

In July 2013 ALDOT reorganized the Eighth and Ninth Divisions to create the Southwest Region. The Southwest Region is organized into the Regional Office; two Area Offices – the Mobile Area and the Grove Hill Area; and six Districts. Each layer (Central Office, Region, Area, and District) within the organization will have an important role in post-disaster debris management operations.

This disaster debris management plan (DDMP) provides guidance for how the Southwest Region will respond to all disaster debris generating incidents. The Southwest Region is prepared to follow the roles and responsibilities established within this DDMP.

It is important that the roles and responsibilities of the Southwest Region and Areas with regard to debris removal operations are clearly defined before a disaster incident. This section will outline the roles and responsibilities of the Southwest Region, Areas and Districts that will participate in debris removal operations before, during, and following a debris generating event.

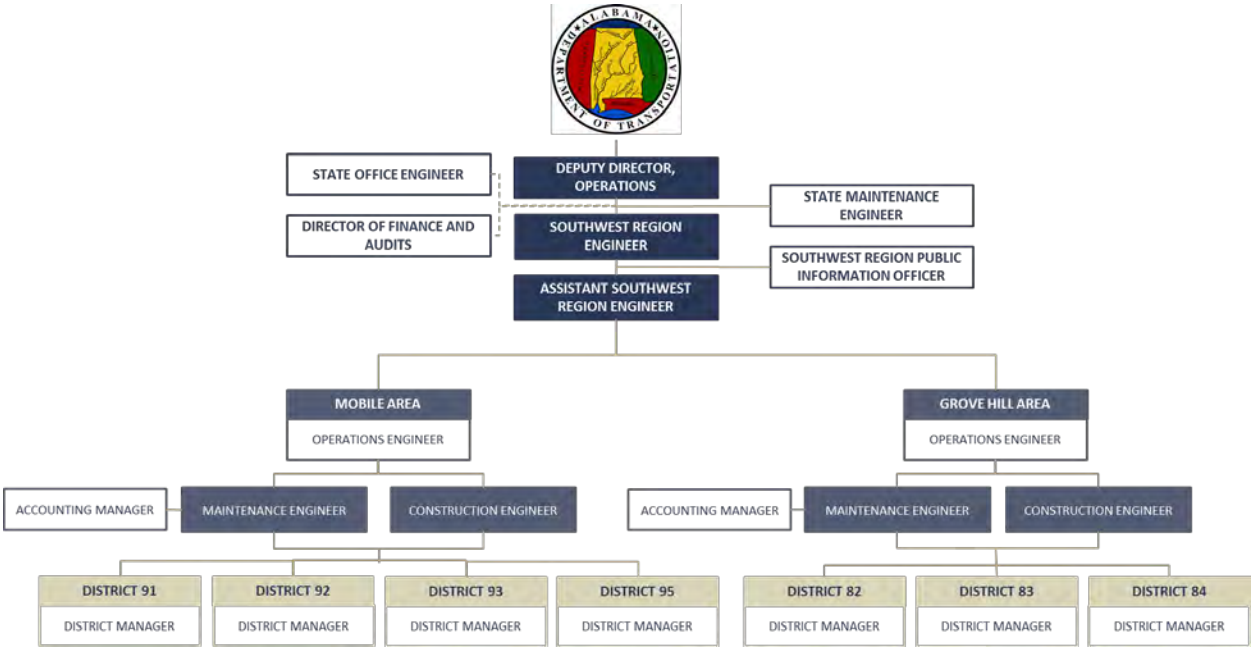
The Southwest Region Engineer will be responsible for reviewing this DDMP on an annual basis to ensure that it remains up to date and accurate. As designated, each Area Operations Engineer will be responsible for updating their respective sections of the plan to ensure any programmatic changes are identified and incorporated in the DDMP.

Upon activation of this plan, and following a notice-to-proceed to begin debris removal operations from the Central Office, it is the responsibility of the Southwest Region to establish and maintain records of personnel, equipment, and material resources used in compliance with this plan. These documents will accompany requests for reimbursement from the Federal Emergency Management Agency (FEMA) and other state and federal agencies.

The purpose of the following organizational chart is to further clarify roles and facilitate communication with regards to a debris removal operation. Appendix B contains the Southwest Region Debris Management Contact List.

Remainder of page intentionally left blank.

Figure 4-1: Debris Management Organizational Chart



Participating Entities

At the direction of State Maintenance Engineer, the Southwest Region Engineer will have primary responsibility for leading and overseeing debris removal and management operations throughout the Region. The Assistant Region Engineer, the Grove Hill and Mobile Area Operations Engineers and designees also have important roles in the debris management operation. A summary of roles pertaining to the debris removal process are outlined below.

State Maintenance Engineer

Before, during, and following a debris generating incident impacting the Southwest Region, authorities within the ALDOT Central Office, including the State Maintenance Engineer will monitor and respond to the needs of the Southwest Region. As disaster threats impact the Region, the State Maintenance Engineer will receive updates from the Region Engineer as well as other state and federal agencies. The Region Engineer will call for the initiation of debris removal operations as necessary. The State Maintenance Engineer or their designee will also report directly to the State EOC, if activated.

Southwest Region Engineer

The Region Engineer has overall responsibility for disaster related activities. The Region Engineer will coordinate with the Assistant Region Engineer to receive updates from the impacted Area Operations Engineers and will serve as the primary point of contact for federal and state agencies throughout recovery operations. The Region Engineer will also coordinate procurement of stand-by and/or emergency contracts for services and resources necessary to support debris removal operations. The Region Engineer will coordinate with the Public Information Department to develop and issue press releases prior to and following a disaster incident regarding the guidelines associated with debris removal operations along the State right-of-way.

Assistant Region Engineer

The Assistant Region Engineer will receive updates from the impacted Area Operations Engineers and assist in the acquisition and facilitation of resources. The Assistant Region Engineer will also ensure the Area Operations Engineers are maintaining the appropriate records of personnel, equipment, and material resources used in recovery operations. This information will be used to develop and substantiate the required documentation needed for reimbursement. The Assistant Region Engineer will need a thorough understanding of federal disaster recovery grant programs to include FEMA Public Assistance and FHWA-ER.

Area Operations Engineer

The Area Operations Engineer will report to the Region Engineer and Assistant Region Engineer, and serve as the lead for all debris related operations within their designated area. Upon receiving the notice-to-proceed the Area Operations Engineer will coordinate with the Maintenance and Construction Engineers to initiate damage assessments following a disaster incident.

Responsibilities of the Area Operations Engineer may include, but will not be limited to the following:

- Coordinating with the Maintenance and Construction Engineers prior to and following a disaster event
- With regards to debris, communicate and meet with various state and federal agencies (Federal Emergency Management Agency [FEMA], Federal Highway Administration [FHWA] Natural Resources Conservation Service [NRCS], Alabama Emergency Management Agency [AEMA], Alabama Department of Environmental Management [ADEM])
- Providing the Region Engineer with information regarding the progress of the debris removal effort

Area Construction Engineer

The Area Construction Engineer will report to the Area Operations Engineer. Following a disaster incident and subsequent damage assessments the Area Construction Engineer will coordinate with the Area Operations and Maintenance Engineers and the Region Engineer to determine if debris removal operations will be done “in-house” utilizing ALDOT personnel and equipment or if private contractors will be activated. Should the damages exceed ALDOT’s capacity and private contractors are activated to assist in debris removal operation the Area Construction Engineer will be responsible for implementing debris removal operations in the impacted areas. The Area Construction Engineer will be responsible for ensuring that all debris removal activities are in adherence with and documented following Federal Emergency Management Agency (FEMA) policies and procedures.

Responsibilities of the Area Construction Engineer may include, but will not be limited to the following:

- Initiate damage assessments in the impacted area(s)
- Coordinating with the Districts within the Area to access and allocate equipment and personnel to the impacted areas prior to and following a disaster incident
- Activating monitoring firm and debris removal contractors
- Maintaining overall responsibility of the debris contractor and monitoring firm work and payments and acting as POC for monitoring firm and debris removal contractor relative to field activities

- Initiating emergency roadway clearing activities, including moving, trimming, and collecting debris following an incident
- Ensuring debris management site (DMS) have been established properly by the debris removal contractor
- Leading the development of FEMA Project Worksheets (PW) following a disaster with assistance from the Area Accounting Engineer
- Managing data for debris related activities
- Tracking labor and equipment hours accrued during debris removal operations
- Providing the Area Operations Engineer with information regarding the progress of the debris removal effort

Area Maintenance Engineer

The Area Maintenance Engineer will report to the Area Operations Engineer. Following a disaster incident and subsequent damage assessments the Area Maintenance Engineer will coordinate with the Area Operations and Construction Engineers and the Region Engineer to determine if debris removal operations will be done “in-house” utilizing ALDOT personnel and equipment or if private contractors will be activated. In the event that debris removal operations are to be handled “in-house” the Area Maintenance Engineer will oversee debris removal operations in the impacted area(s). The Area Maintenance Engineer will be responsible for ensuring that debris removal activities are in adherence with Federal Highway Administration (FHWA) policies and procedures.

Responsibilities of the Area Maintenance Engineer may include, but will not be limited to the following:

- Initiate damage assessments in the impacted area(s)
- Coordinating with the Districts within the Area to access and allocate equipment and personnel to the impacted areas prior to and following a disaster incident
- Initiating emergency roadway clearing activities, including moving, trimming, and collecting debris following an incident
- Ensuring debris management site (DMS) have been established properly
- Managing data for debris related activities
- Tracking labor and equipment hours accrued during debris removal operations
- Providing the Area Operations Engineer with information regarding the progress of the debris removal effort

Area Accounting Manager

The Area Accounting Manager will be responsible for all accounting and financial reporting associated with debris removal operations. This role will require a thorough understanding of federal disaster recovery grant programs to include FEMA Public Assistance and FHWA-ER. The Area Accounting Manager will assist with tracking labor hours of ALDOT employees and equipment hours for the duration of the response and recovery efforts and provide support for FEMA Project Worksheet (PW) data collection and development. The Area Accounting Manager will also process contractor invoices and coordinate with the hauling and monitoring firms with regard to contractor invoice reconciliation.

Area District Managers

The Area District Managers will report to and coordinate with each Area Operations, Maintenance and Construction Engineer as required. The District Manager will be responsible for providing information regarding damage assessments, equipment and personnel to support disaster debris removal operations. The District Manager will be responsible for verifying field operations and resolving day-to-day problems. On a regular basis the Area District Manager will be responsible for ensuring an accurate accounting of equipment and personnel are included in this DDMP. The Area District Manager will also assist in the coordination of recovery operations with local government officials, police, fire and other local emergency response agencies active in the impacted area.

Table 4-1: ALDOT Southwest Region Roles and Responsibilities

Entity	Roles and Responsibilities
State Maintenance Engineer	– Coordinates with Region to monitor conditions – Reports information to State and Federal Officials – Reports to State EOC if activated
Region Engineer	– Coordinates with State Maintenance Engineer to report conditions – Coordinates with Area Engineers to receive updates and approves initiation of damage assessments – Will serve as a primary point of contact for state and federal official regarding debris removal operations – Will coordinate with Public Information Department to issue any press releases to the public
Assistant Region Engineer	– Assists the Region Engineer with initiating debris removal activities – Works with Area Engineers to coordinate resources – Assist the Area Operations Engineers and Area Accounting Manager to ensure labor and equipment hours are documented properly for Project Worksheet (PW) development
Area Operations Engineer	– Coordinates and implements damage assessments in impacted areas – Acquires and coordinates resources required to facilitate debris removal operations – Reports progress and updates to the Region Engineer

Area Construction Engineer	– The Area Construction Engineer will be responsible for debris recovery operations when outside/contract resources are utilized. Activities include the following:
	  – Initiate damage assessments in the impacted area(s)
	  – Coordinating with the Districts within the Area to access and allocate equipment and personnel to the impacted areas prior to and following a disaster incident
	  – Activating monitoring firm and debris removal contractors
	  – Maintaining overall responsibility of the debris contractor and monitoring firm work and payments and acting as POC for monitoring firm and debris removal contractor relative to field activities
	  – Initiating emergency roadway clearing activities, including moving, trimming, and collecting debris following an incident
	  – Ensuring debris management site (DMS) have been established properly by the debris removal contractor
	  – Leading the development of FEMA Project Worksheets (PW)

Entity	Roles and Responsibilities
	following a disaster with assistance from the Area Accounting Engineer – Managing data for debris related activities – Tracking labor and equipment hours accrued during debris removal operations – Providing the Area Operations Engineer with information regarding the progress of the debris removal effort
Area Maintenance Engineer	– The Area Maintenance Engineer will be responsible for debris recovery operations when all activities are handled "in-house" utilizing ALDOT personnel and resources. Activities include the following: – Initiate damage assessments in the impacted area(s) – Coordinating with the Districts within the Area to access and allocate equipment and personnel to the impacted areas prior to and following a disaster incident – Initiating emergency roadway clearing activities, including moving, trimming, and collecting debris following an incident – Ensuring debris management site (DMS) have been established properly – Managing data for debris related activities – Tracking labor and equipment hours accrued during debris removal operations – Providing the Area Operations Engineer with information regarding the progress of the debris removal effort
Area Accounting Manager	– Responsible for all accounting and financial reporting associated with debris removal operations – Ensure labor and equipment hours are captured and documented properly and in accordance with state and federal regulations – Coordinate with the hauling and monitoring firms to facilitate contractor invoice reconciliation – Process contractor invoices – Serves as a resource supporting the ASAs and account clerks
District Manager(s)	– Will receive direction from and coordinate closely with the Area Engineers to support debris removal operations – Responsible for verifying field operation – Document and maintain debris removal equipment records – Coordinate with local government emergency agencies

Other Entities

Other agencies may also play important roles in debris removal efforts following a disaster. Annual correspondence among involved entities is essential in order to remain relevant with changes to debris removal policies and procedures. Following a disaster, these agencies can elect to have a representative attend weekly meetings and receive email updates related to debris removal progress.

Federal

1. Federal Emergency Management Agency (FEMA)

Representatives from the Federal Emergency Management Agency (FEMA) will be on-site during the response and recovery phases of the debris management cycle. FEMA staff will provide guidance to

ALDOT and AEMA with regard to debris eligibility and the FEMA reimbursement process. FEMA's primary role will be in the development of Project Worksheets (PW's) for ALDOT debris removal operations.

2. Federal Highway Administration (FHWA)

- Provides reimbursement for debris cost that are not eligible under the FEMA PA Program

3. U.S. Department of Agriculture Natural Resources Conservation Service (NRCS)

- Administers the Emergency Watershed Protection (EWP) Program, which provides for debris cleanup related to runoff retardation and soil erosion prevention
- Provides guidance on soil types most conducive for disposal of animal carcasses

4. Environmental Protection Agency (EPA)

- Responsible authority related to the clean-up of mixed debris (debris with oil or hazardous material)

State

1. Alabama Emergency Management Agency (AEMA)

The Alabama Emergency Management Agency (AEMA) is the lead state agency interfacing with FEMA in regards to federal disaster declarations. AEMA will also provide technical assistance to ALDOT as necessary to ensure compliance with the FEMA Public Assistance Program.

2. Alabama Department of Environmental Management (ADEM)

The Alabama Department of Environmental Management (ADEM) is the lead agency in responding toxic waste and hazardous material releases resulting from natural, manmade, or technological disasters. In addition following a disaster, ADEM also has the responsibility to ensure drinking water systems and wastewater treatment facilities are operational in the wake of an incident and that disaster debris disposal is conducted in accordance with applicable environmental regulations. When dealing with vegetative debris ADEM will have a limited role as vegetative debris is not considered a regulated solid waste in the State of Alabama. ADEM policies and procedures for collecting, storing and disposing of vegetative debris require that ALDOT notify local fire and law enforcement of debris collection operations and of the locations of debris management sites (DMS) in the area. ADEM issued a Storm Debris Cleanup Memo on August 6, 2013 outlining the above process. The memo is included in Appendix L.

Local

1. County / Municipality

Following a debris-generating incident the Region will have to coordinate with the counties / municipalities within the Region to ensure debris removal programs do not interfere with each other. Following a debris-generating disaster, the Region will immediately mobilize to clear the state roadway system (emergency push) and proceed to debris removal operations to restore the operational status of the right-of-way areas. Once this first pass of disaster-placed debris removal is

completed, ALDOT will turn subsequent debris removal operations over to the corresponding county or municipality.

Contracted Resources

Debris Monitoring Firm

Upon activation, the monitoring firm will perform truck certification, debris collection site monitoring, and disposal site monitoring to ensure compliance with all local, state, and federal funding and regulations. The monitoring firm will train field monitors on the proper procedures and processes related to eligibility of storm generated debris, FEMA documentation requirements, NRCS regulatory documentation requirements, and site specific safety protocols. Proper and thorough documentation by collection and disposal monitors is essential to an audit ready paper trail that substantiates maximum federal reimbursement to ALDOT. In some instances, ALDOT personnel may self-perform the debris monitoring function and oversee debris removal contractors through the same process described below.

Truck Certification

The monitoring firm will check-in, inspect, measure, record, and label trucks and other equipment so that debris removal operations can be recorded and substantiated in accordance with the terms, conditions and unit rates in ALDOT's debris removal contracts and/or record force account equipment information in compliance with FEMA standards. In order to comply with these standards, the monitoring firm will observe and record the following information during truck certifications:

- Unique truck number
- Driver name
- Driver phone number
- License number, state issued, and expiration date
- Tag number, state issued, and expiration date
- Vehicle measurements
- Volumetric calculation of capacity
- Sketch of the vehicle

Refer to "Appendix I: Debris Removal Monitoring Field Documents" for an example of a truck certification form. Instructions for correctly filling out form are also included.

Debris Collection Site Monitoring

The Collection Monitor's primary responsibility will be to observe, document, and substantiate the removal of eligible storm debris from ALDOT maintained ROW, waterways, and other collection zones identified and approved by ALDOT. The Collection Monitor will complete a load ticket for each full truckload before it leaves the collection area for disposal to document debris type, location, and quantity in order to substantiate ALDOT's request for reimbursement. The Collection Monitor will include the following information on the loading site portion of the ticket:

- Applicant name
- Disaster declaration number

- Name of contractor
- Truck certification number
- Truck capacity
- Location of debris (complete address or GPS coordinates)
- Time and date of collection
- Monitor name
- Debris classification

Debris Disposal Site Monitoring

The Disposal Site Monitor will be present at temporary and final DMS locations where ALDOT debris is disposed. DMS Monitors are responsible for completing the load ticket and debris volumes that have been transported to the DMS for processing and storage or final disposal. The Disposal Site Monitor will also verify the information on the ticket matches the information on the truck placard as well as visually inspecting the load for eligibility. The Disposal Site Monitor will make a percentage "load call" based on the volume of debris loaded in the truck and complete the load ticket with the following information:

- Load percentage or weight
- Disposal location
- Disposal date
- Disposal Monitor name

The Disposal Monitor will be responsible for retaining the ALDOT copy of the load ticket. Truck drivers and Contractor will be given copies of each ticket for invoicing and record keeping.

Refer to "Appendix I: Debris Removal Monitoring Field Documents" for an example of a load ticket.

Automated Debris Management System (ADMS)

An automated debris management system (ADMS) is a technology solution that eliminates the need for traditional paper-based ticketing during the debris removal process following a disaster event. The Region may request their debris monitoring contractor to utilize an ADMS for debris operations.

Debris Removal Contractor

Upon activation, the debris removal contractor will mobilize resources to the area. At the staging location, the monitoring firm will check-in and certify all contractor trucks and equipment to properly document equipment registration, driver credentials, and capacity in accordance with FEMA regulations. The debris removal contractor is responsible for reporting changes in equipment operators, structural components of debris trucks, or vehicle registration to the monitoring firm for recertification.

Debris Management Site Management and Operation

The debris removal contractor is responsible for preparing DMS locations and furnishing all labor, materials, and equipment to accomplish the following tasks:

- Proper ingress/egress for all vehicular and truck traffic to the site.

- Construction of disposal towers at all DMS entry and exit locations in compliance with all OSHA and ALDOT requirements.
- Designating separate areas within the DMS for staging, reduction, and decontamination of various debris streams.
- Training all sub-contractors in proper procedures and processes related to eligibility, FEMA requirements, NRCS requirements, and safety protocols.

Debris Removal Operations

The debris removal contractors is responsible for clearing, removing, and transporting debris from the ALDOT designated areas as required to secure the public safety. This includes the following tasks:

- Proper removal of all waste streams generated by the incident to include construction and demolition debris, hazardous materials, and white goods.
- Removal of fallen trees that originate from within the ALDOT maintained ROW and those which extend onto the ROW from private property, at the point where it enters the ROW. This may include the removal of leaners, hangers, and hazardous stumps according to FEMA specifications.
- Providing all permits and services necessary for the containment, clean up, removal, transport, storage, testing, treatment and/or disposal of hazardous and industrial materials, including white goods, resulting from the event.
- Working closely with the ALDOT personnel, monitoring firm, AEMA, FEMA, NRCS, ADEM, and other agencies to ensure that debris collection, disposition, and all supporting data meet requirements for program eligibility and reimbursement.
- Ensure proper safety procedures are adhered to during all debris removal operation. All felid personnel employed by the contractor shall are wearing the appropriate personal protection equipment based on the type of debris being collected and the equipment being utilized to clear and collect the debris. The contractor must also ensure proper road flagging crews are in place when required to protect the safety of the debris removal crew and the public accessing the roadways where debris is being collected.
- Provide all other services outlined in the contract and scope of services executed with the ALDOT Region.

Section 5

Debris Management Sites and Disposal Locations

This section identifies locations throughout the Region that may serve as a potential debris management site (DMS) following a debris-generating incident. To assist the Region in preparedness for future disaster incidents, site evaluations were conducted of locations either previously used by the Region or suggested for future use by the Region.

Site Viability Criteria

The following criteria were used to evaluate potential DMS locations.

1. ALDOT-Owned Property

To eliminate potential costs associated with acquiring, leasing, or operating on private property, ALDOT-owned properties were considered before exploring state-owned, municipality-owned, or privately owned properties.

2. Proximity to High Population Density

The proximity of the surveyed location to neighborhoods, schools, businesses, high traffic thoroughfares, and other areas of high population density were carefully evaluated. A DMS located near high population densities increases traffic congestion and creates logistical and safety hazards for the community, especially immediately following an event. To that end, DMS site selection was done to minimize the impact on local residents.

3. Ingress/Egress

Safe and adequate ingress and egress in and out of the sites along with efficient road access to routes leading to and from the sites are critical to ensure efficient turnaround of debris collection vehicles.

4. Adherence to All Local, State, and Federal Rules, Regulations, and Ordinances

Local, state, and federal rules, regulations, and ordinances should be followed, including those pertaining to environmental quality and noise control. Though some disposal regulations are lifted following declaration of a State of Emergency and the Alabama Department of Environmental Management (ADEM) does not regulate the management and disposal of vegetative debris, it is still critical that all DMS operations meet Occupational Safety and Health Administration (OSHA) safety requirements as well as any applicable operational procedures outlined by ADEM.

5. Previous Use as a DMS

While ADEM does not regulate the management and disposal of vegetative debris, standard industry practice has evolved which favors properties previously used as DMS, when possible. Properties which were successfully used as DMS are likely have favorable environmental criteria, including

floodplain location, impact to water and wildlife resources, wetlands protection, and other considerations.

6. Proximity to Natural Running Water or Potable Water Wells

While ADEM does not regulate DMS sites, standard industry practice favors sites that are not in proximity to sensitive environmental receptors such as streams, bayous, aquifer recharge areas, and water wells.

Private Property Lease Considerations

Historically when an abundance of vacant publically owned property is not available, the contracted debris hauler is able to secure private land leases to be used as DMS locations. Due to the lack of State owned properties suitable for use as a DMS, the Region should consider this option when awarding contracts to debris haulers. If the Region decides to enter into a land lease with a private owner the lease should be reviewed by the legal department to prevent extensive damage claims when the site is closed out and returned to the owner. The lease agreement should include all time that operation will be present on the site beginning with any environmental testing and ending when the property is legally returned to the owner. The lease should also be for a specific timeframe and have options to extend if needed.

Evaluated Debris Management Sites

The following potential DMS locations were evaluated using the criteria listed above and the Site Viability Checklist. In total 27 sites were visited and evaluated, however the findings yielded most of these sites would not serve as viable locations for DMS operations following a debris-generating incident. The majority of the pre-identified sites for evaluation were found to be too small or had restricted access issues. A summary of the evaluation findings for all sites is provided in the following table.

Table 5-1: Southwest Region Evaluated Sites

Site Name	District / County	Mile Marker / Address	Coordinates	Viable	Findings
Grove Hill Area					
Linden Bypass	District 82 Marengo	44	N: 32.30161 W: -87.77956	Y	Recommended
AL 114 & AL 69	District 82 Marengo	-	N: 32.24522 W: -87.93191	N	Insufficient space < 5 acres
DOT Yard AL 25 Marengo	District 82 Marengo	20	N: 32.214960 W: -87.635682	Y	Recommended
AL 10 (south)	District 82 / 84 Marengo / Choctaw	22	N: 32.12974 W: -88.04968	N	Small ROW with slope into river
Intersection AL 5 & AL 28	District 83 Wilcox	28	N: 37.68706 W: -77.32212	N	Considerable site preparation required
AL Hwy 28	District 83 Wilcox	71.7	N: 32.11721 W: -87.41172	N	Insufficient space

Site Name	District / County	Mile Marker / Address	Coordinates	Viable	Findings
AL 162	District 83 Wilcox	14	N: 32.11719 W: -87.41482	N	Insufficient space
AL 41	District 83 Wilcox	95.1	N: 32.05277 W: -87.19285	N	Steep slope and insufficient space
AL 10	District 83 Wilcox	96.8	N: 31.88623 W: -87.02653	N	Steep slope and insufficient space
AL 21	District 83 Wilcox	85.6	N: 32.00593 W: -87.05314	N	Insufficient space
District 83 DOT Yard - Wilcox	District 83 Wilcox	3360 Camden Bypass, Camden AL	N: 31.993406 W: -87.333359	Y	Recommended
AL 21	District 83 Monroe	64.3	N: 31.72693 W: -87.12693	N	Insufficient space / preparation required
AL 41	District 83 Monroe	56	N: 31.76450 W: -87.42088	N	Steep slope and insufficient space
AL 41	District 83 Monroe	67.8	N: 31.60918 W: -87.41492	N	Steep slope and insufficient space
AL 41	District 83 Monroe	68	N: 31.60617 W: -87.41367	N	Steep slope and insufficient space
AL 136	District 83 Monroe	6.0	N: 31:42944 W: -87.29819	N	Insufficient space and high traffic
AL-59	District 83 Monroe	80.7	N: 31.29992 W: -87.709829	N	Insufficient space
DOT Yard	District 84 Clarke	600 Max Gills Rd	N: 31.699585 W: -87.785792	Y	Recommended
US 84	District 84 Choctaw	MM 15.5	N: 31.770776 W: -88.206656	N	Insufficient space
US 45 ROW	District 84 Washington	MP 4.5	N: 31.29651 W: -88.35851	N	Insufficient space
Road and Bridge Co. Yard, SR 17	District 84 Washington	MP 58	N: 31.45013 W: -88.26266	N	Insufficient space
Mobile Area					
Cochran Bridge	District 91 Mobile	-	N: 30.732938 W: -88.038559	N	Not Available
Industrial Canal Bridge	District 91 Mobile	-	N: 30.534619 W: -88.122915	N	Insufficient space
Alabama Welcome Center	District 91 Mobile	Off I-10	N: 30.477370 W: -88.389285	N	Not Available
CR 8 at Foley Beach Expy	District 92 Baldwin	-	N: 30.32641 W: -87.65540	Y	Recommended
AL-83	District 93 Conecuh	MM 2.6	N: 31.460041 W: -86.973543	Y	Recommended
I-65 Exit 77	District 93 Escambia	I-65 Exit 77	N: 31.274391 W: -87.203657	Y	Recommended

Site Name	District / County	Mile Marker / Address	Coordinates	Viable	Findings
Mcrary Rd. (Hwy 27) Site	District 91 Mobile	Hwy 27, 1.7 miles north of Semmes, AL	N: 30.803649 W: -88.259262	Y	Recommended
Hwy 158 Site	District 91 Mobile	Hwy 158 at intersection with Newburn Rd.	N: 30.805018 W: -88.225747	N	Not recommended due to difficult access, sloping terrain, trees on property

A table summarizing the findings for the valid sites evaluated is included in Appendix F of this plan.

At a minimum, during each annual review the viable sites listed should be visited and evaluated to ensure the site is still available for use and has remained unchanged. The Region may find additional sites that can be utilized as a potential DMS. Appendix G provides information and instructions on how to conduct a site evaluation as well as the DMS Property Viability Evaluation Form.

Should the Region activate debris removal contractor, the Region may direct the contractor to identify property for temporary debris storage and reduction sites and perform annual feasibility checks on all DMS locations per the contract agreement. The debris removal contractor will also have the responsibility to set-up, manage and operate the site during debris removal and collection operations. In addition, the debris removal contractor will be responsible to closing the site and restoring it to its original state when debris operations have concluded.

Disposal Locations

Once vegetative debris at a temporary debris management site is reduced, it must be hauled to a final disposal site. The final disposal site can be a permitted landfill or a recycling facility. The Alabama Department of Environmental Management (ADEM) is responsible for permitting landfills throughout the state. Each landfill is permitted bases on the following categories and definitions.

Municipal Solid Waste Landfill (MSWLF) Unit - a discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined in this Rule. A MSWLF unit also may receive other types of solid wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, industrial solid waste, construction/demolition waste and/or rubbish. Such a landfill may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion. A municipal solid waste landfill unit is a sanitary landfill.

Construction/Demolition Waste (C&D) - waste building materials, packaging, and rubble resulting from construction, remodeling, repair, or demolition operations on houses, commercial buildings, and other structures. Such wastes include, but are not limited to, masonry materials, sheet rock, roofing waste, insulation (not including asbestos) scrap metal, and wood products. Uncontaminated concrete, soil, brick, old or weathered waste asphalt paving, ash resulting from the combustion of untreated wood, rock, and similar materials are excluded from this definition. (335-13-1-.03(31).

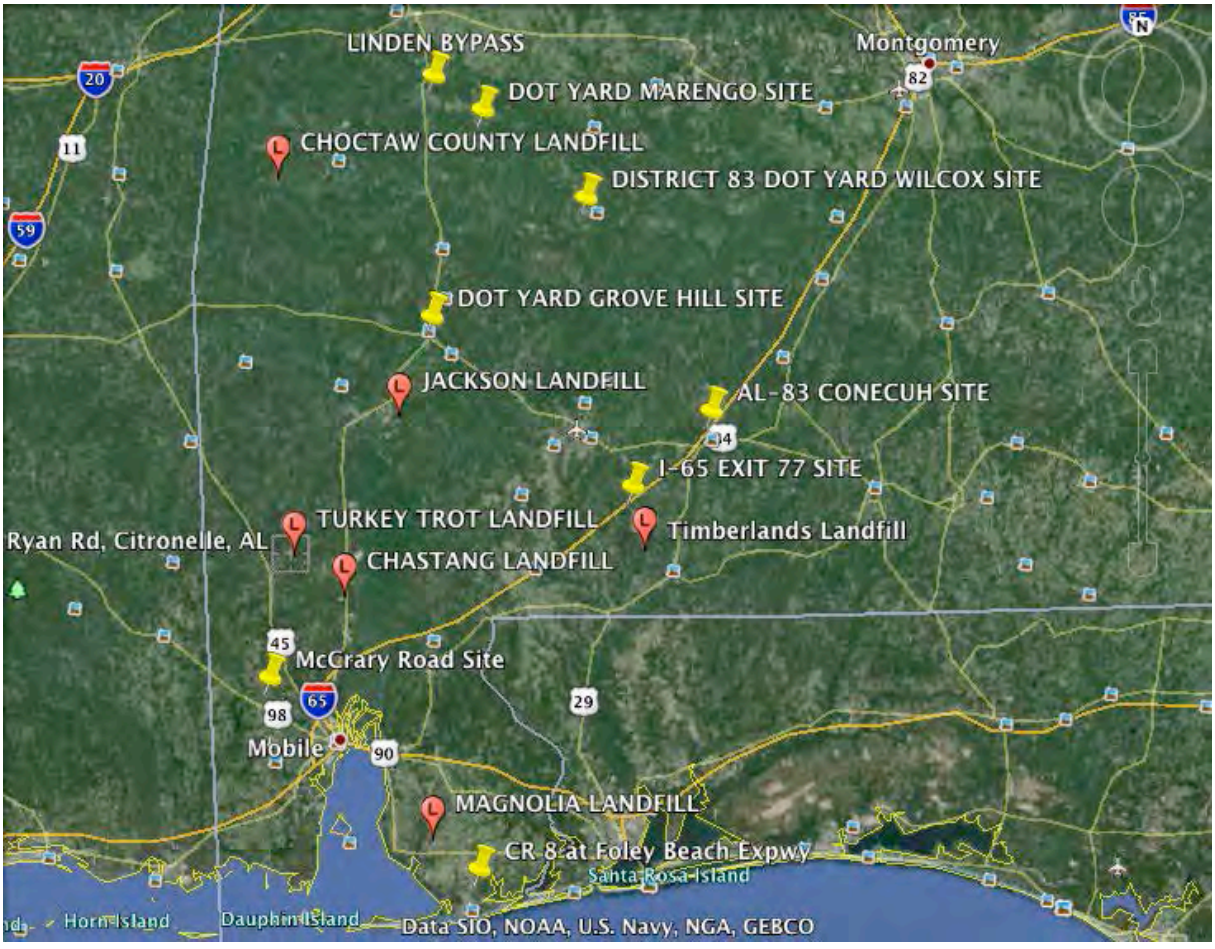
Industrial Waste - Solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of RCRA (as defined in 335-13-1-.03(63).

A list of potential final disposal facilities is in included in below.

Table 5-2: Potential Final Disposal Facilities

Disposal Facility	County	Address	Permit Type	Volume
Chastang Sanitary Landfill	Mobile	17045 Highway 43 Mount Vernon, AL	Municipal Solid Waste	1,725 tons / day
Choctaw County Regional Landfill	Choctaw	1108 Fire Tower Rd. Butler, AL	Municipal Solid Waste	1,500 tons / day
Jackson Landfill	Clarke	Gainestown Rd. Jackson, AL	Construction / Demolition	400 cubic yards / day
Magnolia Sanitary Landfill	Baldwin	15140 County Road 49 Summerdale, AL	Municipal Solid Waste	1,500 tons / day
Timberlands Sanitary Landfill	Escambia	Highway 41 Brewton, AL	Municipal Solid Waste	2,500 tons / day
Turkey Trot Landfill	Washington	Mannish Ryan Rd. Citronelle, AL	Municipal Solid Waste	4,000 tons / day

Figure 5-1: Selected DMS and Landfill Sites



Section 6

Health and Safety Strategy

In the event of a debris-generating disaster, ALDOT response and recovery operations will abide by strict health and safety procedures to ensure that ALDOT personnel, ALDOT contractors, and the public remain safe during debris operations. At the time of event, the ALDOT Safety Coordinator will issue disaster specific guidance to all ALDOT personnel.

The ALDOT health and safety program includes the following important elements:

- Roles and Responsibilities – ALDOT personnel have defined responsibilities regarding safe operations during fieldwork, including disaster debris management operations.
- Safety Equipment – All necessary safety equipment, such as fire extinguishers and first aid kits, are available and maintained in good order.
- Personal Protective Equipment (PPE) – ALDOT personnel use necessary PPE as field conditions require, which may include hardhats, reflective safety vests, and work boots. Other PPE may be required depending on field conditions.
- Training Requirements – Minimum safety training requirements for ALDOT field personnel are defined and field personnel will stay current with these requirements.

ALDOT personnel will also follow the Manual of Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration (FHWA). The MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel. The MUTCD can be accessed through the following link: http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm.

ALDOT expects that all debris contractors will self-enforce their existing health and safety plans. ALDOT and/or the debris removal contractors performing work along the road way will ensure proper signage is being employed when necessary to alert the public of road crews working in the area.

Along with adhering to the safety rules and regulations established by ALDOT, personnel performing disaster debris removal and/or monitoring operations shall practice the following standards:

- Work performed by debris operations personnel shall comply with all applicable OSHA, State, and all other relevant safety requirements.
- Each employee's primary safety responsibility is:
  - To ensure their own safety
  - To report unsafe acts and unsafe conditions
  - To comply with the health and safety standards and regulations
  - To stop work that they believe to be unsafe, and to ensure that adequate corrective measures are taken prior to restart of the work
- Proper personal protective equipment must be donned and may include:
  - Hard hat and safety glasses
  - Long work pants
  - High visibility vest

- Sturdy work boots with hard soles
- Snake chaps

Section 7

Plan Maintenance and Training

Plan Maintenance

At a minimum an annual review of the Region's DDMP should be conducted to ensure the policies, procedures, roles, responsibilities, and contacts are current and in accordance with the Region and ALDOT practices. The DDMP should also be reviewed, evaluated and updated following a plan activation, whether triggered by a real disaster incident or by a training, testing or exercise session to ensure that the plan remains current with the best-practices of the Region and ALDOT.

Training Schedule

All ALDOT personnel with disaster debris management responsibilities shall be familiar with the concepts, practices and procedures detailed within this plan. As plan updates, changes and revisions are made to the plan, the plan should be redistributed to stakeholders.

In addition, it is recommended that the Region and any selected debris management contractors participate in an annual workshop or planning meeting to establish and/or review all policies and procedures applicable to disaster debris management. It

Pursuant to the developing qualifications for a Debris Monitoring Service, all contracted debris monitoring personnel will be required to attend a minimum four-hour, internal training session provided by the contractor. It is further recommended that each monitor and their supervisors be provided with comprehensive informational material specifically identifying eligibility requirements, accurate completion of load tickets, all documentation requirements and any and all detailed procedures for both curbside monitoring and debris site monitoring.

Likewise, in accordance with any contract with a Debris Removal Contractor, in the event the extent of the disaster recovery process exceeds the resources of the Region's force account labor, that contractor will be obligated to provide training to ALDOT employees in preparing FEMA and state-required reports for reimbursement.

Appendix A

Acronyms, Definitions, and Publications/Related Guidance

Acronyms

44 CFR	Title 44 of the Code of Federal Regulations
7 CFR	Title 7 of the Code of Federal Regulations
AEMA	Alabama Emergency Management Agency
ADEM	Alabama Department of Environmental Management
ALDOT	Alabama Department of Transportation
C&D Debris	Construction and Demolition Debris
CY	Cubic Yards
DDMP	Disaster Debris Management Plan
DMS	Debris Management Site
DSG	Disaster Specific Guidance
EF Scale	Enhanced Fujita Scale
EPA	U.S. Environmental Protection Agency
EOC	Emergency Operations Center
ER Program	Emergency Relief Program
EWP Program	Emergency Watershed Protection Program
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FEMA 322	Public Assistance Guide- FEMA Publication 322
FEMA 323	Applicant Handbook
FEMA 325	Debris Management Guide – FEMA Publication 325
FEMA 327	Debris Monitoring Guide – FEMA Publication 327
FHWA	Federal Highway Administration
GIS	Geographic Information Systems
GPS	Global Positioning System
Handbook	Applicant Handbook
HHA	Hold Harmless Agreement
HHW	Household Hazardous Waste
MOA	Memorandum of Agreement
NRCS	Natural Resource Conservation Service
NOAA	National Oceanic and Atmospheric Administration

OSHA	Occupational Safety and Health Administration
PA	Public Assistance
PAO	Public Assistance Officer
PPE	Personal Protective Equipment
PIO	Public Information Officer
PO	Purchase Orders
PW	Project Worksheets
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
REGION	ALDOT Southwest Region
RFB	Request for Bids
RFP	Request for Proposals
ROE	Right-of-Entry
ROW	Right-of-Way
SHPO	State Historic Preservation Office
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act
State	The State of Alabama
USACE	The United States Army Corps of Engineers

Definitions

Applicant – State agency, local government or eligible private nonprofit organization that intends on

Construction and Demolition Debris (C&D) – Construction and demolition debris can be defined as damaged components of buildings and structures such as lumber and wood, gypsum wallboard, glass metal, roofing material, tile, carpeting, and floor coverings, window coverings, pipe, concrete, fully crude asphalt equipment, furnishings and fixtures.

Debris Management Site (DMS) – a location where debris is sorted, processed, reduced in volume, and/or disposed of (if debris management activities take place at a permanent disposal site).

Debris Removal Contractor – The debris removal contractor procured and contracted by ALDOT/ the Region will remove and dispose of debris that is a result of a severe debris-generating event.

Disaster Specific Guidance – Disaster Specific Guidance (DSG) is a policy statement issued in response to a specific post-event situation or need in a state or region. Each DSG is issued a number and is generally referred to along with its numerical identification. These guidance documents typically relate to the authorization of private property cleanup, cleanup and payment of stumps or notification of large projects. Staff should be aware of any new DSG that is issued by FEMA following an event.

FEMA Publication 322 – See Publications and Related Guidance

FEMA Publication 323 – See Publications and Related Guidance

FEMA Publication 325 – Debris Management Guide – See Publications and Related Guidance

FEMA Publication 327 – Debris Monitoring Guide – See Publications and Related Guidance

Force Account Equipment – Applicant-owned equipment used to perform eligible work. Costs for use of automobiles and pick-up trucks may be reimbursed on the basis of mileage if less costly than hourly rates. For all other types of equipment, costs are reimbursed using an hourly rate. Reimbursable equipment rates typically include operation (including fuel), insurance, depreciation, and maintenance; however, they do not include the labor of the operator.

Force Account Labor – Force account labor is defined as labor performed by the applicant's employees, rather than by a contractor. Force account labor costs associated with the conduct of eligible work may be claimed at an hourly rate. Labor rates include actual wages paid plus fringe benefits paid or credited to personnel. Different eligibility criteria apply to labor rates for different kinds of employees and work

Force Account Materials – The cost of supplies that were purchased or taken from an applicant's stock and used during the performance of eligible work.

Hanger – A hanger is a hazardous limb that poses a significant threat to the public. The current eligibility requirements for leaning trees according to FEMA Publication 325 are:

- The limb is greater than two inches in diameter;
- The limb is still hanging in a tree and threatening a public use area; and
- The limb is located on improved public property.

Hazardous Stump – A stump is hazardous and eligible for reimbursement if it meets all of the following criteria:

- The stump has 50 percent or more of the root-ball exposed;
- The stump is greater than 24 inches in diameter when measured 24 inches from the ground;
- The stump is located on a public right-of-way; and
- The stump poses an immediate threat to public health and safety.

Household Hazardous Waste – The Resource Conservation and Recovery Act defines hazardous wastes as materials that are ignitable, reactive, toxic or corrosive. Examples of household hazardous waste (HHW) include items such as paints, cleaners, pesticides, etc. Due to the nature of hazardous waste, certified technicians must be qualified to handle, capture, recycle, reuse and dispose of hazardous waste. The eligibility criteria for HHW are as follows:

- HHW must be located within a designated disaster area and be removed from an eligible applicant’s improved property or right-of-way;
- HHW removal must be the legal responsibility of the applicant; and
- HHW must be a result of the major disaster event.

Leaner – A tree is hazardous and defined as a “leaner” when its compromised state is a direct result of a disaster, the tree poses a significant threat to the public and the tree is six inches in diameter or greater, measured two feet from the ground or at chest height. The current eligibility requirements for leaning trees according to FEMA Publication 325 are:

- The tree has more than 50 percent of the crown damaged or destroyed (requires written documentation from an arborist);

- The tree has a split trunk or broken branches that expose the heartwood;
- The tree has fallen or been uprooted within a public use area; or
- The tree is leaning at an angle greater than 30 degrees.

Monitoring Firm – The monitoring firm is an organization under contract with ALDOT / the Region to monitor debris removal operations. The monitoring firm ensures the debris removal contractor is working within the scope-of-work contracted and documents debris removal operations.

Natural Resource Conservation Service (NRCS) – See Publications and Related Guidance

Right-of-Way (ROW) – the portions of land which facilities such as highways, railroads, or power lines are built. It includes land on both sides of the facility up to the private property line.

Robert T. Stafford Disaster Relief and Emergency Assistance Act – See Publications and Related Guidance

Vegetative Debris – As outlined in FEMA Publication 325, vegetative debris consists of whole trees, tree stumps, tree branches, tree trunks and other leafy material. Vegetative debris will largely consist of mounds of tree limbs and branches piled along the public right-of-way by residents and volunteers. Current eligibility criteria include:

- Debris must be located within a designated disaster area and be removed from an eligible applicant's improved property or right-of-way;
- Debris removal must be the legal responsibility of the applicant; and
- Debris must be a result of the major disaster event.

White Goods – As outlined in FEMA Publication 325, white goods include discarded household appliances such as refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers and water heaters. White goods can contain ozone-depleting refrigerants, mercury or compressor oils that the federal Clean Air Act prohibits from release into the atmosphere. The Clean Air Act specifies that only certified technicians extract refrigerants from white goods before they can be recycled. The eligibility criteria for white goods are as follows:

- White goods must be located within a designated disaster area and be removed from an eligible applicant's improved property or right-of-way;
- White goods removal must be the legal responsibility of the applicant; and
- White good must be a result of the major disaster event.

Publications and Related Guidance

The following publications and reference material provide general guidance for debris removal operations following a disaster. The Region should periodically review the material to identify any changes in regulations or guidelines.

Federal Emergency Management Agency (FEMA) Guidelines

Currently, response and recovery efforts for presidential declared disasters are coordinated through FEMA. Summarized below are four core publications that are associated with disaster debris removal. All four guides are available online.

http://www.fema.gov/government/grant/pa/padocs.shtm

FEMA Publication 322 – Public Assistance Guide

The Public Assistance (PA) Guide provides a general overview of FEMA PA Program protocols immediately following a disaster. The PA Program provides the basis for the federal/local cost-sharing program. This document specifically describes the entities eligible for reimbursement under the PA Program, the documentation necessary to ensure reimbursement, and special considerations local governments should be aware of to maximize eligible activities. As of the publication of this plan, the most recent update of this guide was June 2007. An electronic version of FEMA Publication 322 is available online.

http://www.fema.gov/pdf/government/grant/pa/pagprnt_071905.pdf

FEMA Publication 323 – Applicant Handbook

The Applicant Handbook (Handbook) is the official "how to" for local governments that are considering applying for reimbursement following a disaster through the PA Program. This Handbook should be used in conjunction with this Disaster Debris Management Plan immediately following a debris-generating event.

The Handbook provides the rules, procedures and sample documents that local governments need as the "applicant" to FEMA. The publication is formatted so that the applicant has a step-by-step guide for each phase of the reimbursement process including what information is critical to ensure reimbursement. As of the publication of this plan, the most recent update of this guide was March 2010. An electronic version of FEMA Publication 323 is available online.

http://www.fema.gov/pdf/government/grant/pa/fema323_app_handbk.pdf

FEMA Publication 325 – Debris Management Guide

The Debris Management Guide is a publication specifically dedicated to the rules, regulations, and policies associated with the debris cleanup process. Familiarity with this publication and any revisions, can aid an applicant in limiting the amount of non-reimbursable expenses. The Debris Management Guide provides the framework for the debris removal process authorized by the Stafford Act including:

- Eliminating immediate threats to lives, public health and safety
- Eliminating immediate threats of significant damage to improved public or private property
- Ensuring the economic recovery of the affected community to the benefit of the community-at-large

As of the publication of this plan, the most recent update of this guide was July 2007. An electronic version of FEMA Publication 325 is available online.

http://www.fema.gov/pdf/government/grant/pa/demagde.pdf

FEMA Publication 327 – Debris Monitoring Guide

The Debris Monitoring Guide (Guide) is specifically dedicated to the rules, regulations, and policies associated with debris monitoring. The Guide addresses debris monitor qualifications, eligibility requirements, and monitoring considerations with regard to debris types, force account vs. contract monitoring, and contract provisions and methods. It also provides guidance on proper documentation methods and sample forms as well as example contracts that scan be referenced to fit the needs of

applicants. As of the publication of this plan, the most recent update of this guide was October 2010. An electronic version of FEMA Publication 327 is available online.

http://www.fema.gov/pdf/government/grant/pa/fema_327_debris_monitoring.pdf

FEMA Disaster Assistance Policy 9525.9 (DAP 9525.9)

The purpose of this policy is to identify section 324 management costs and other grant management and administrative costs that are eligible under the Public Assistance (PA) Program and to clarify the process through which grantees and subgrantees can request reimbursement for these costs.

http://www.fema.gov/pdf/government/grant/pa/9525_9.pdf

Federal Highway Administration (FHWA) Guidelines

Moving Ahead for Progress in the 21st Century (MAP 21)

In October of 2012, FHWA issued Moving Ahead for Progress in the 21st Century (MAP 21). Among the many changes included in MAP 21 are procedures for managing debris following a disaster. Most significantly, all debris removal for major disasters declared under the Stafford Act is now funded by FEMA rather than FHWA for Departments of Transportation. This provision requires that state DOTs monitor debris removal in accordance with FEMA guidance and regulations rather than that of the FHWA-ER program.

https://www.fhwa.dot.gov/map21/docs/map21_summary_hgwy_provisions.pdf

FHWA Emergency Relief (ER)

Congress authorized in Title 23, United States Code, Section 125, a special program from the Highway Trust Fund for the repair or reconstruction of Federal-aid highways and roads on Federal lands which have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause. This program, commonly referred to as the emergency relief or ER program, supplements the commitment of resources by States, their political subdivisions, or other Federal agencies to help pay for unusually heavy expenses resulting from extraordinary conditions.

http://www.fhwa.dot.gov/reports/erm/er.pdf

Other Relevant Documents

The two primary directives developed by the federal government that provide for the authorization and use of federal funds to reimburse local governments for disaster-related expenses are the Robert T. Stafford Disaster Relief and Emergency Assistance Act and the Code of Federal Regulations – Title 44 Emergency Management and Assistance. A brief summary of these laws is provided below.

Robert T. Stafford Disaster Relief and Emergency Assistance Act

The Stafford Act provides the authorization of the PA Program. The fundamental provisions of this act are as follows:

- Assigns FEMA the authority to administer federal disaster assistance;
- Defines the extent of coverage and eligibility criteria of the major disaster assistance programs;
- Authorizes grants to the states; and
- Defines the minimum federal cost-sharing levels.

An electronic version of the Stafford Act is available online.

http://www.fema.gov/pdf/about/stafford_act.pdf

Code of Federal Regulations: Title 7 – Agriculture

The Code of Federal Regulations – Title 7 Agriculture (7 CFR) provide procedural requirements for the emergency watershed protection program. More specifically these requirements pertain to 7 CFR Part 624 which includes the flood control grant programs, natural resources loan programs, natural resources soil conservation, and technical assistance for all watershed protection programs.

An electronic version of 7 CFR: Title 7 is available online.

http://www.gpo.gov/fdsys/pkg/CFR-2003-title7-vol1/content-detail.html

Code of Federal Regulations: Title 44 – Emergency Management and Assistance

Procedural requirements for the PA Program operations are provided by 44 CFR. These regulations are designed to implement a statute based upon FEMA's interpretation of the Stafford Act. They govern the PA Program and outline program procedures, eligibility and funding.

An electronic version of 44 CFR: Title 44 is available online.

http://www.access.gpo.gov/nara/cfr/waisidx_03/44cfrv1_03.html

Appendix B

Southwest Region Debris Management Contact List

Table B-1: Southwest Region Debris Management Contact List

Name	Title	Office Number	Cell Number	LINC Radio #
Central Office				
John Lorentson, P.E.	Deputy Director, Operations	334-242-6323	334-850-2856	6
Clay McBrien, P.E.	Bureau Chief, State Office Engineer	334-242-6450	334-850-4516	400
Stacy Glass, P.E.	State Maintenance Engineer	334-242-6272	334-850-5341	100
Kerry NeSmith, P.E.	Deputy Bureau Chief	334-242-6777	334-850-4872	195
Lesley J. Morrissette	Asst Bureau Chief, Emergency Management	334-242-6883	334-850-5385	181
Bill Flowers	Bureau Chief/Chief Financial Officer	334-242-6359	334-850-4244	600
Sam Martin	Safety Coordinator	334-242-6919		463
Southwest Region (Regional Office)				
Vincent Calametti, P.E.	Region Engineer	251-470-8204	251-331-1109	55000
Matthew Ericksen, P.E.	Assistant Region Engineer	251-470-8374	251-331-0338	55001
Edwin Perry, P.E.	Acting Region Pre-Construction Engineer	251-470-8220	251-331-9452	9004
Cynthia White	Region Office Manager	251-275-1303	334-534-0124	8015
Kathryn Hamlett	Public Information Specialist / Media and Community Relations Officer	251-470-8375	251-404-9083	55012
Grove Hill Area				
Jim Henley, P.E.	Operations Engineer / Maintenance Engineer	251-275-1301	251-581-0499	8000
Aaron Richardson, P.E.	Construction Engineer	251-275-1327	251-276-1015	8001
C. Lanar Hastings, P.E.	Materials and Test Engineer	251-275-1328	334-456-1391	8003
Justin Noble	County Transportation Engineer	251-275-1359	334-456-1260	8004
Cynthia White	Office Manager	251-275-1303	334-534-0124	8015
Randy Goniotakis	Equipment Maintenance Superintendent	251-275-137	251-589-3816	8010
Grove Hill Area District 82 (Thomaston)				
Danny Etheridge	District Manager	334-627-3458	334-534-4509	8200
Grove Hill Area District 83 (Camden)				
Johnny Stallworth	District Manager	334-682-4718	334-534-4952	8300
Grove Hill Area District 84 (Grove Hill)				
Dorell Owens	District Manager	251-275-3675	334-534-4516	8400
Mobile Area				

Name	Title	Office Number	Cell Number	LINC Radio #
Don Powell, P.E.	Operations Engineer	251-470-8230	251-331-1857	9000
Brian Aaron, P.E.	Construction Engineer	251-470-8250	251-424-0538	9001
Jason Shaw, P.E.	Maintenance Engineer	251-450-2630	251-331-7297	9002
Edwin Perry, P.E.	Pre-Construction Engineer	251-470-8243	251-331-9452	9004
Ken Owens, P.E.	Material and Test Engineer	251-470-8260	251-331-3190	9003
Tommy Goodman, P.E.	County Transportation Engineer	251-470-8298	251-331-4515	9005
Jeanette Brown	Equipment Maintenance Superintendent	251-470-8280	251-331-2671	9010
Mobile Area District 91 (Mobile County)				
Frankie Smith	District Manager	251-470-8322	251-331-0339	9100
Adam Spence	Assistant District Manager	251-470-8209	251-331-1186	9102
Mobile Area District 92 (Baldwin County)				
Kevin Jones, P.E.	District Manager	251-937-2086	251-331-6743	9200
Nicholas Hunter	Assistant District Manager	251-937-2086	251-331-4002	9201
Mobile Area District 93 (Conecuh & Escambia Counties)				
Brent Maddox	District Manager	251-578-7546	251-331-4535	9300
Tammy Evers	Assistant District Manager	251-578-7550	251-331-0209	9301
Traffic Management Center / District 95				
David Johnson	ATS Center Manager	251-405-5897	251-331-2491	9500
Jeremy Borden	Assistant ATS Center Manager	251-405-5890	251-331-1474	9501

Table B-2: Debris Removal Contractor

Company	Contact Name	Contact Information	Contract Term
TBD			

Table B-3: Debris Monitoring Firm

Company	Contact Name	Contact Information	Contract Term
TBD			

Appendix C

Debris Removal and Collection Strategy Checklist

Table C-1: Debris Removal and Collection Strategy Checklist

Task	Task Assigned To	Date/Time Completed
Non- Event		
Review and update, as necessary, the DDMP		
Conduct training and exercises related to debris removal activities		
Update organizational chart		
Update contact lists		
Update debris removal priority list of roadways for each District		
Maintain and update GIS data		
Perform feasibility check on DMS and final disposal locations		
Review any inter-local agreements with counties or municipalities including agreements with coastal municipalities for sand management		
Review mutual aid process for requesting additional resources and equipment from within ALDOT		
Review pre-position contracts for monitoring and debris removal to ensure that they are current		
Review FEMA and FHWA guidance to stay current with changing rules and regulations		
Pre-Event Operations		
Alert key personnel and review debris management plan		
Determine equipment and personnel staging/relocation needs based on severity of event.		
Prepare force account labor, equipment, and materials logs to properly document incident related time, equipment use, and expenditures.		
Depending on the estimated severity of the event, place monitoring firm and debris removal contractors on stand-by or issue a Notice-to-Proceed to pre-position contractors		
If contractors are issued a Notice-to-Proceed, facilitate a pre-event coordination meeting with contractors		
Prepare and assign damage assessment teams		
Response Operations		

Task	Task Assigned To	Date/Time Completed
Conduct a damage assessment		
Determine whether and what force account resources will be utilized		
Determine need for special debris removal programs and obtain written approval		
Issue Notice to Proceed to monitoring firm and debris removal contractor for push operations as needed		
Request contact information and meeting with State and FEMA Public Assistance Officer		
Based on damage assessment, create priority roadways emergency push list		
Identify known historically significant and environmentally sensitive locations		
Begin emergency push operations		
Notify ADEM of DMS activation as needed		
Conduct meetings/briefings with key personnel		
Conduct daily meetings with project managers from monitoring firm and debris contractor		
Issue press releases as needed		
Recovery Operations		
Staff all DMS locations		
Initiate ROW debris removal or onsite reduction		
Conduct regular meetings with FEMA and key personnel		
Ensure compliance with environmental and historical review requirements		
Initiate ROW hazardous tree removal		
As needed, coordinate sand management operations with municipalities		
Coordinate with supporting agencies and municipalities regarding debris removal progress		
Begin Debris Reduction		
Initiate Haul-out		
Declare end of ROW operations and communicate to involved stakeholders		
Notify ADEM of DMS closure		
Conduct project closeout meetings with FEMA AEMA and other external agencies as needed.		

Appendix D

Disaster Debris Generation Forecasting Models

Scenario 1 Models

The disaster debris generation forecasting models based on Scenario 1, a catastrophic Category 4 hurricane, for each county within the Region are included in the order outlined below in the subsequent pages of this appendix. A detailed description of Scenario 1 is included in Section 2.

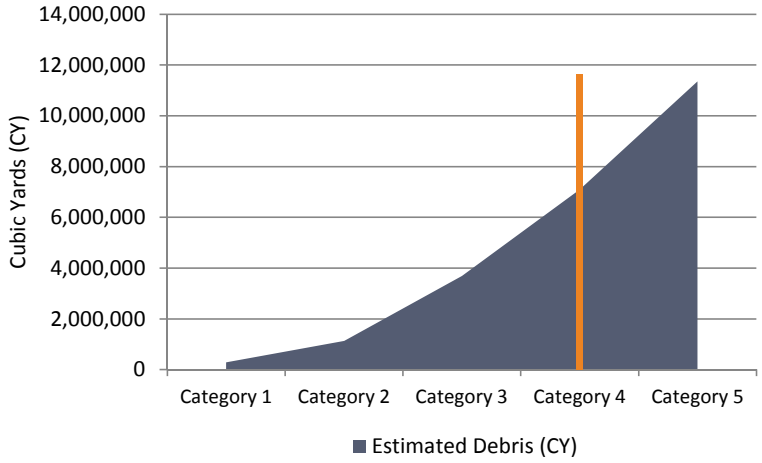
- Baldwin
- Choctaw
- Clarke
- Conecuh
- Escambia
- Marengo
- Mobile
- Monroe
- Washington
- Wilcox

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Baldwin County, AL**



Model Input Data

Local Population:	195,540
Total Households:	72,751

Click for FactFinder Population Lookup

Hurricane Category:	Category 4
Average Wind Speed:	130 - 156 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
7,093,223 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **440.11 Acres**
* Assumes 10 foot pile height

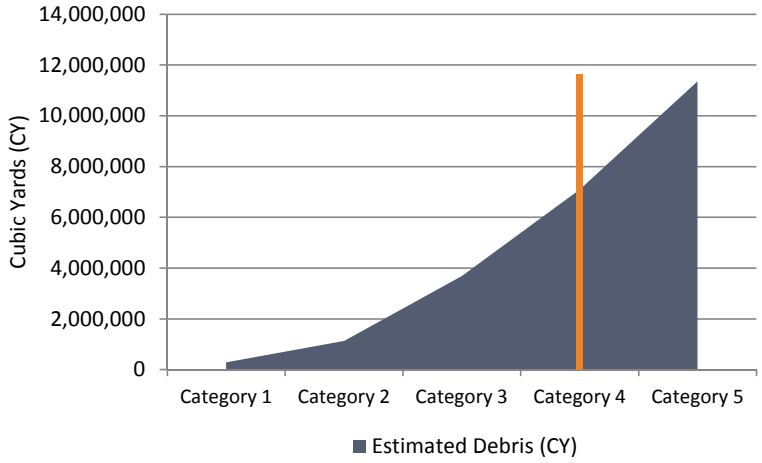
Total Debris and Site Requirements: **731 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Choctaw County, AL**



Model Input Data

Local Population:	13,426
Total Households:	5,305

Click for FactFinder Population Lookup

Hurricane Category:	Category 2
Average Wind Speed:	96 - 110 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
82,758 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **5.13 Acres**
* Assumes 10 foot pile height

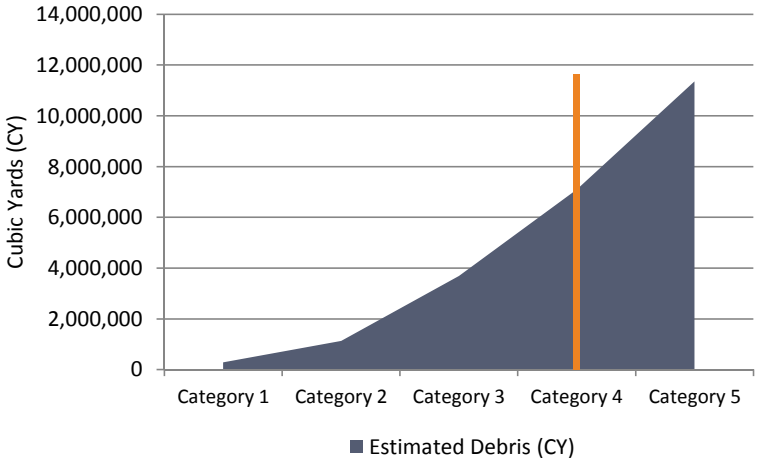
Total Debris and Site Requirements: **9 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Clarke County, AL



Model Input Data

Local Population:	25,207
Total Households:	9,321

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
472,575 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **29.32 Acres**
* Assumes 10 foot pile height

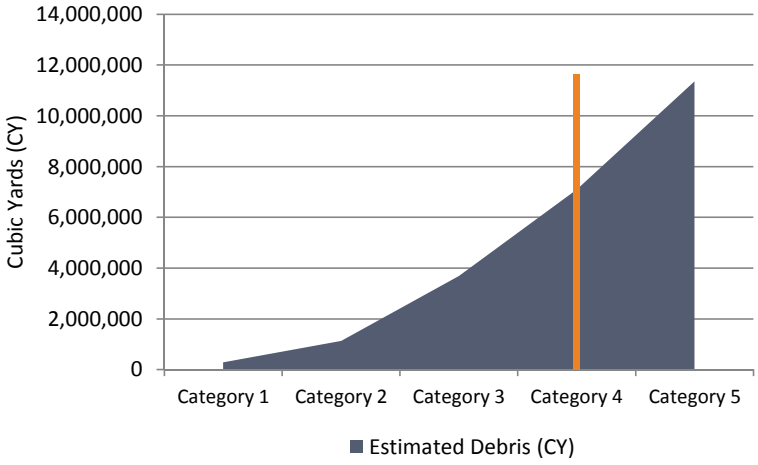
Total Debris and Site Requirements: **49 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Conecuh County, AL



Model Input Data

Local Population:	12,887
Total Households:	4,879

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
247,365 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **15.35 Acres**
* Assumes 10 foot pile height

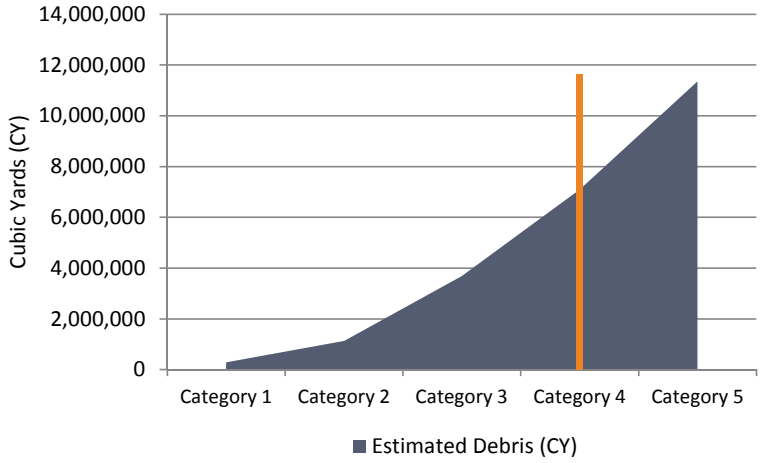
Total Debris and Site Requirements: **25 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Escambia County, AL



Model Input Data

Local Population:	37,983
Total Households:	13,879

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
703,665 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **43.66 Acres**
* Assumes 10 foot pile height

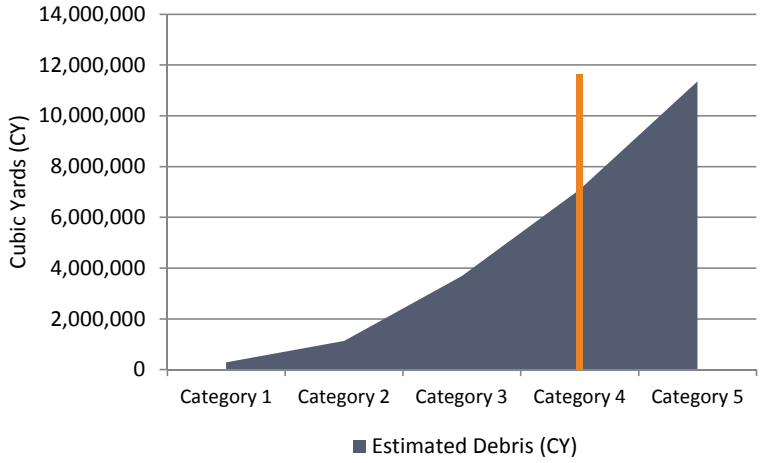
Total Debris and Site Requirements: **72 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Marengo County, AL**



Model Input Data

Local Population:	20,155
Total Households:	8,580

Click for FactFinder Population Lookup

Hurricane Category:	Category 2
Average Wind Speed:	96 - 110 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
133,848 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **8.30 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **14 Acres**

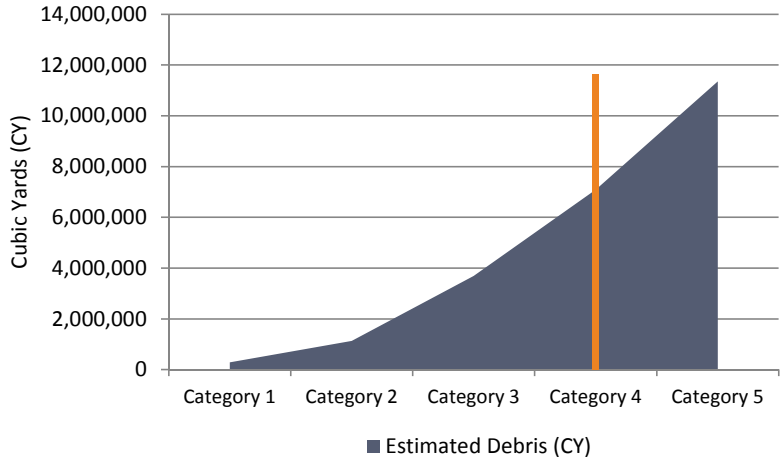
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Mobile County, AL**



Model Input Data

Local Population:	414,079
Total Households:	156,772

Click for FactFinder Population Lookup

Hurricane Category:	Category 4
Average Wind Speed:	130 - 156 mph
Vegetative Cover:	Heavy
Commercial Density:	Medium
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
18,342,324 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **1,138.07 Acres**
* Assumes 10 foot pile height

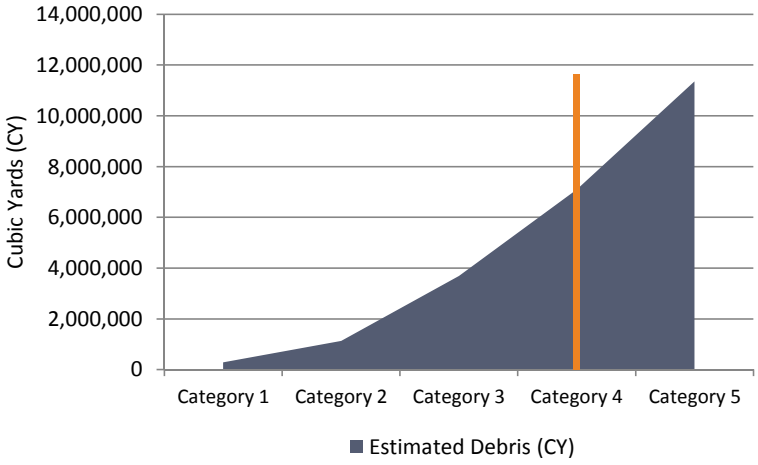
Total Debris and Site Requirements: **1,889 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Monroe County, AL



Model Input Data

Local Population:	22,236
Total Households:	8,707

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
441,445 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **27.39 Acres**
* Assumes 10 foot pile height

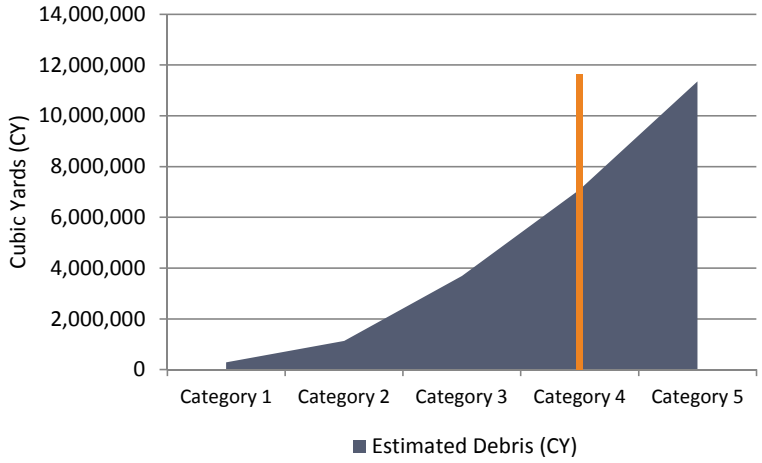
Total Debris and Site Requirements: **45 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Washington County, AL



Model Input Data

Local Population:	16,877
Total Households:	6,695

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
339,437 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **21.06 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **35 Acres**

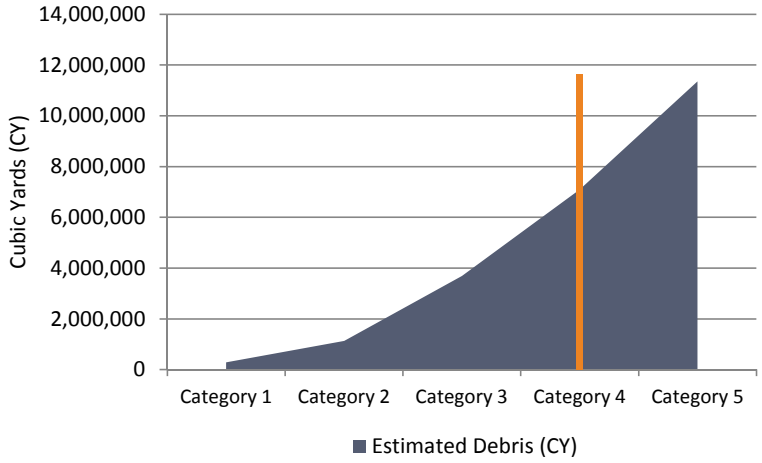
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Wilcox County, Alabama**



Model Input Data

Local Population:	11,307
Total Households:	3,624

Click for FactFinder Population Lookup

Hurricane Category:	Category 2
Average Wind Speed:	96 - 110 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
56,534 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **3.51 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **6 Acres**

* Includes buffer space for debris management site

Scenario 2 Models

The disaster debris generation forecasting models based on Scenario 2, a major Category 3 hurricane, for each county within the Region are included in the order outlined below in the subsequent pages of this appendix. A detailed description of Scenario 2 is included in Section 2.

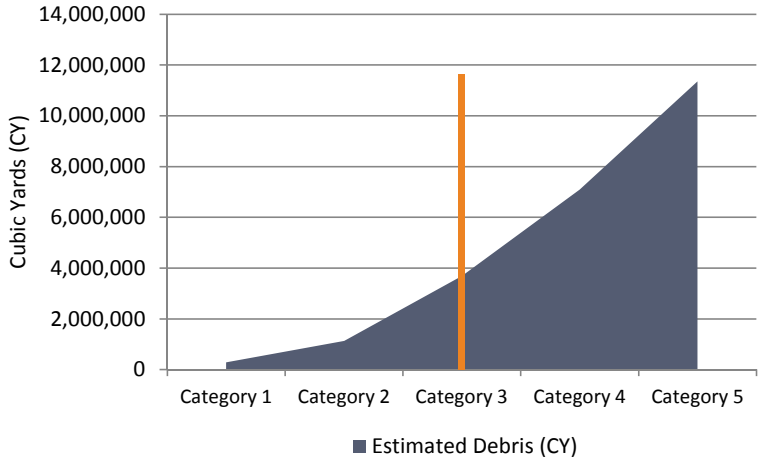
- Baldwin
- Choctaw
- Clarke
- Conecuh
- Escambia
- Marengo
- Mobile
- Monroe
- Washington
- Wilcox

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Baldwin County, AL**



Model Input Data

Local Population:	195,540
Total Households:	72,751

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
3,688,476 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **228.86 Acres**
* Assumes 10 foot pile height

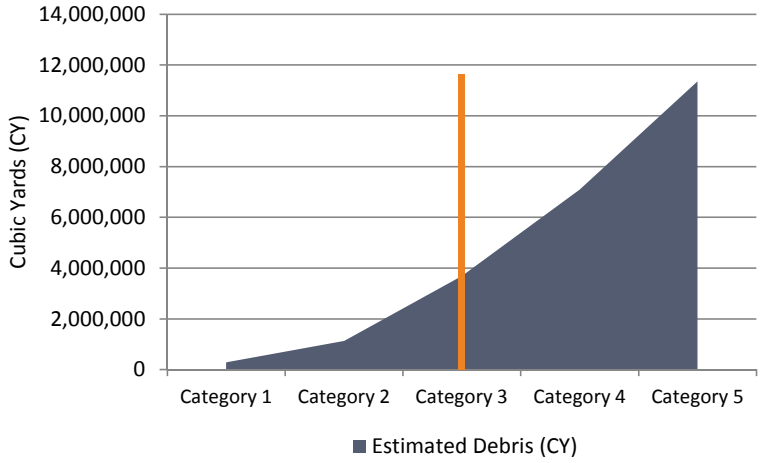
Total Debris and Site Requirements: **380 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Choctaw County, AL**



Model Input Data

Local Population:	13,426
Total Households:	5,305

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
20,690 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **1.28 Acres**
* Assumes 10 foot pile height

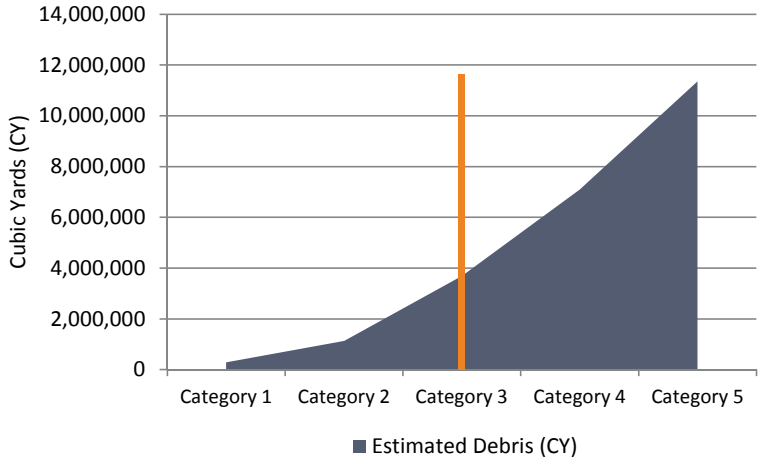
Total Debris and Site Requirements: **2 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Clarke County, AL**



Model Input Data

Local Population:	25,207
Total Households:	9,321

Click for FactFinder Population Lookup

Hurricane Category:	Category 2
Average Wind Speed:	96 - 110 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
145,408 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **9.02 Acres**
* Assumes 10 foot pile height

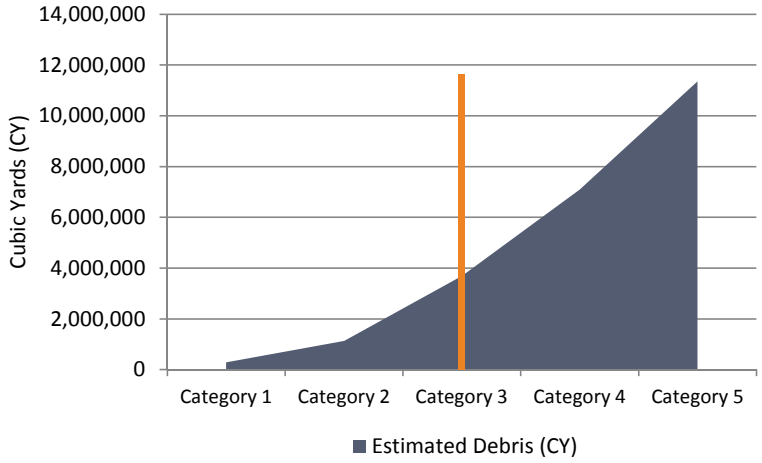
Total Debris and Site Requirements: **15 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Conecuh County, AL**



Model Input Data

Local Population:	12,887
Total Households:	4,879

Click for FactFinder Population Lookup

Hurricane Category:	Category 2
Average Wind Speed:	96 - 110 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
76,112 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **4.72 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **8 Acres**

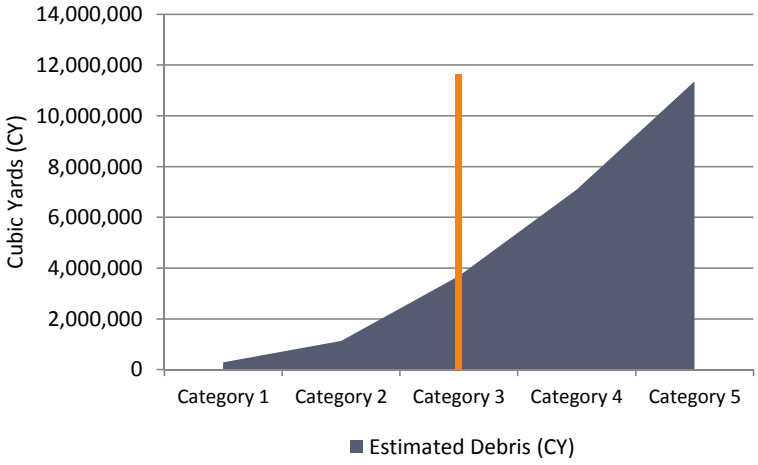
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Escambia County, AL



Model Input Data

Local Population:	37,983
Total Households:	13,879

Click for FactFinder Population Lookup

Hurricane Category:	Category 2
Average Wind Speed:	96 - 110 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
216,512 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **13.43 Acres**
* Assumes 10 foot pile height

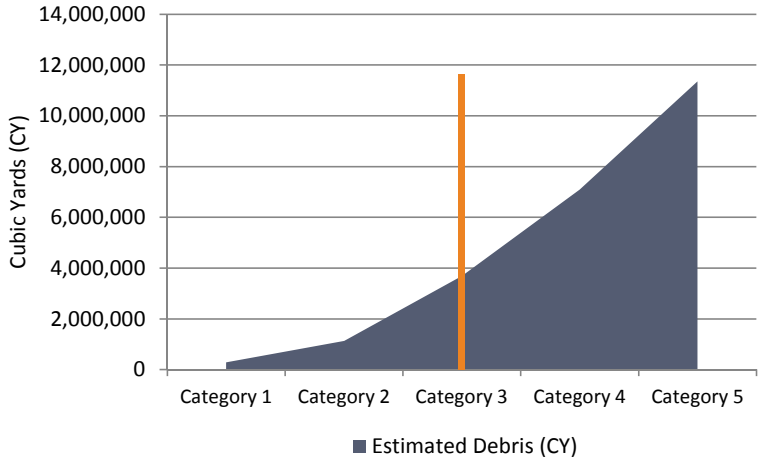
Total Debris and Site Requirements: **22 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Marengo County, AL**



Model Input Data

Local Population:	20,155
Total Households:	8,580

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
33,462 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **2.08 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **3 Acres**

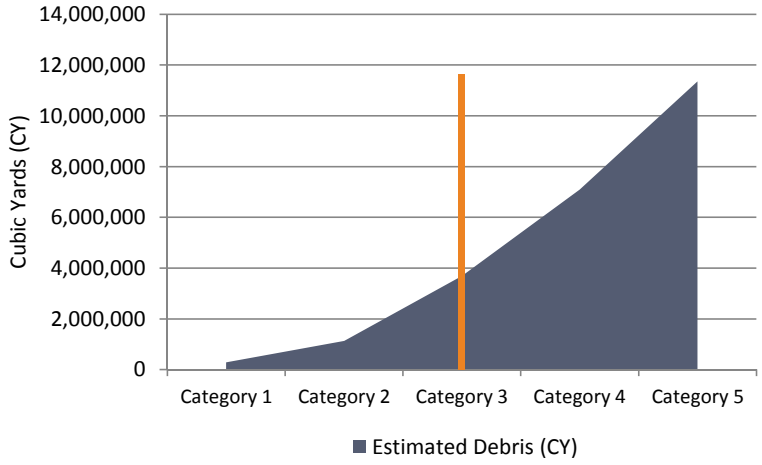
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Mobile County, AL



Model Input Data

Local Population:	414,079
Total Households:	156,772

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Medium
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
9,538,008 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **591.80 Acres**
* Assumes 10 foot pile height

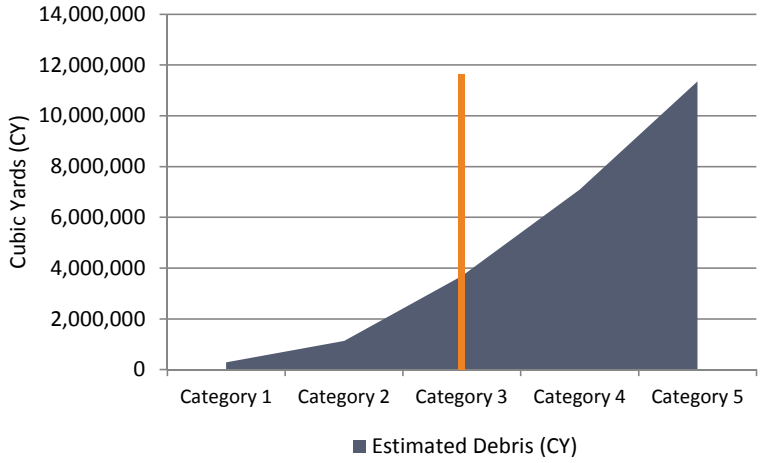
Total Debris and Site Requirements: **982 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Monroe County, AL



Model Input Data

Local Population:	22,236
Total Households:	8,707

Click for FactFinder Population Lookup

Hurricane Category:	Category 2
Average Wind Speed:	96 - 110 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
135,829 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **8.43 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **14 Acres**

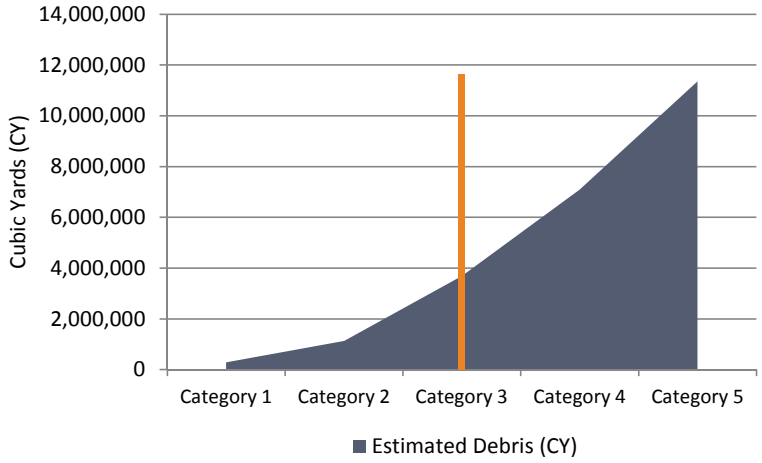
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Washington County, AL



Model Input Data

Local Population:	16,877
Total Households:	6,695

Click for FactFinder Population Lookup

Hurricane Category:	Category 2
Average Wind Speed:	96 - 110 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
104,442 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **6.48 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **11 Acres**

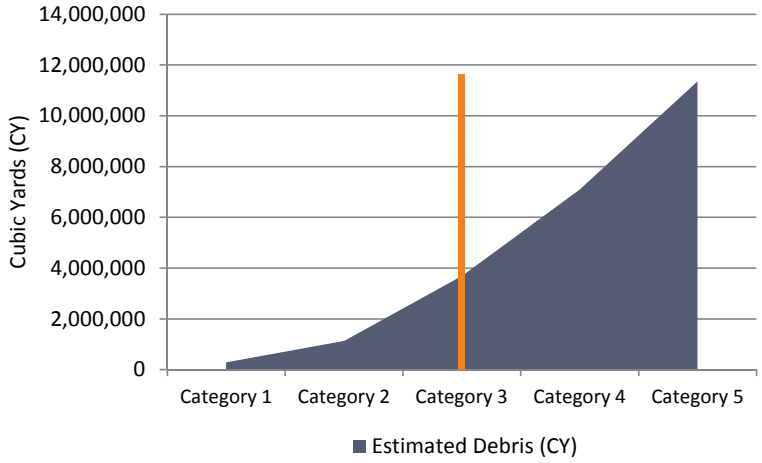
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Wilcox County, Alabama**



Model Input Data

Local Population:	11,307
Total Households:	3,624

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
14,134 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **0.88 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **1 Acres**

* Includes buffer space for debris management site

Scenario 3 Models

The disaster debris generation forecasting models based on Scenario 3, a minor Category 1 hurricane, for each county within the Region are included in the order outlined below in the subsequent pages of this appendix. A detailed description of Scenario 3 is included in Section 2.

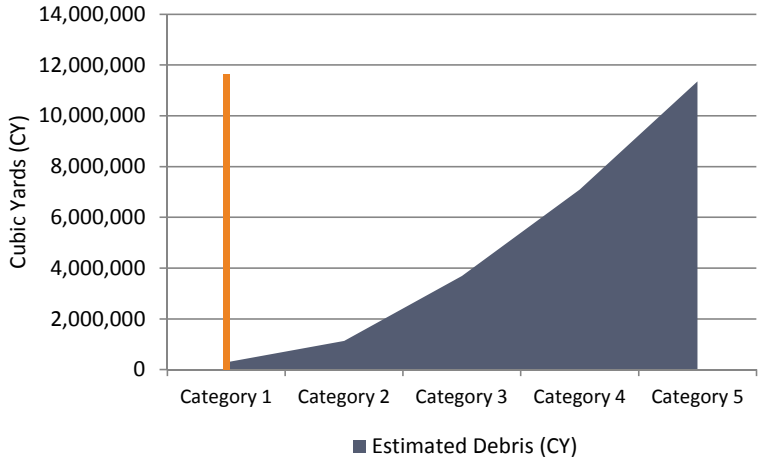
- Baldwin
- Choctaw
- Clarke
- Conecuh
- Escambia
- Marengo
- Mobile
- Monroe
- Washington
- Wilcox

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Baldwin County, AL**



Model Input Data

Local Population:	195,540
Total Households:	72,751

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
283,729 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **17.60 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **29 Acres**

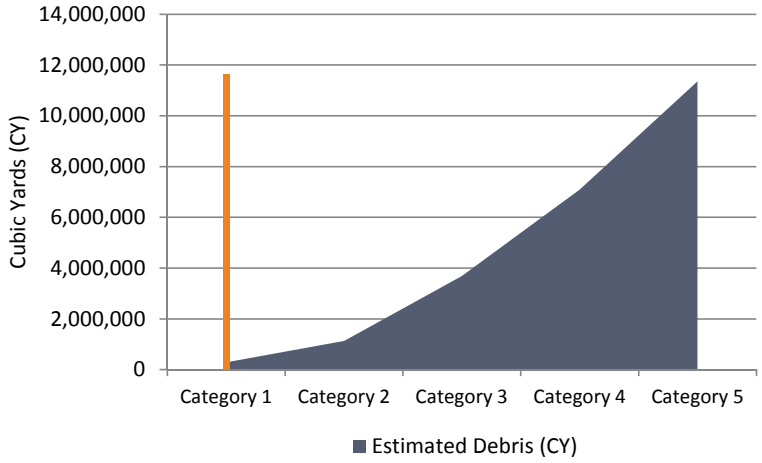
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Choctaw County, AL



Model Input Data

Local Population:	13,426
Total Households:	5,305

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:

- CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **-** **Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **-** **Acres**

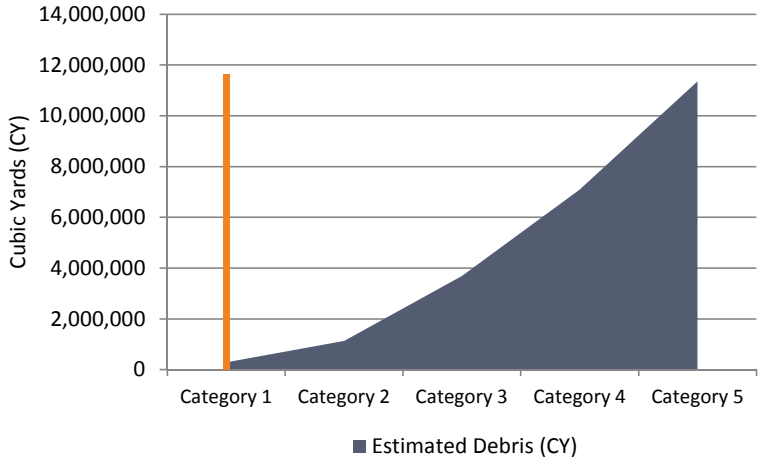
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Clarke County, AL**



Model Input Data

Local Population:	25,207
Total Households:	9,321

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
18,176 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **1.13 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **2 Acres**

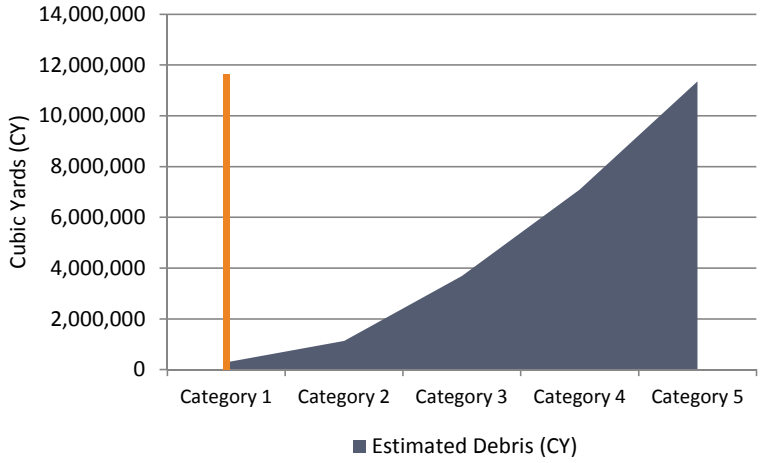
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Conecuh County, AL**



Model Input Data

Local Population:	12,887
Total Households:	4,879

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
9,514 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **0.59 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **1 Acres**

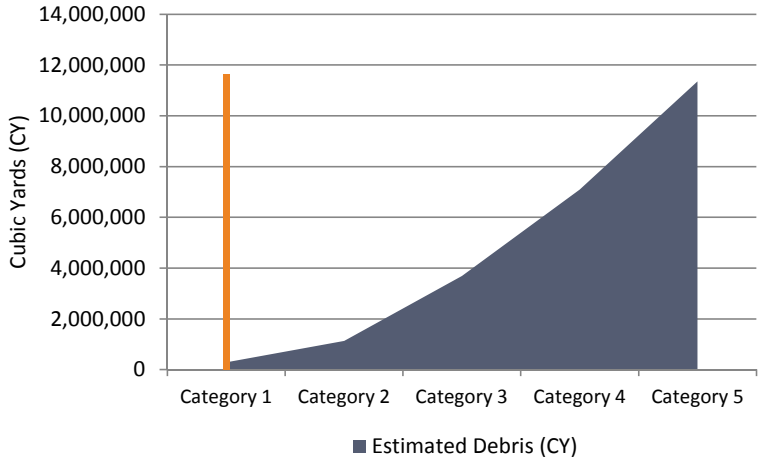
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Escambia County, AL



Model Input Data

Local Population:	37,983
Total Households:	13,879

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
27,064 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **1.68 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **3 Acres**

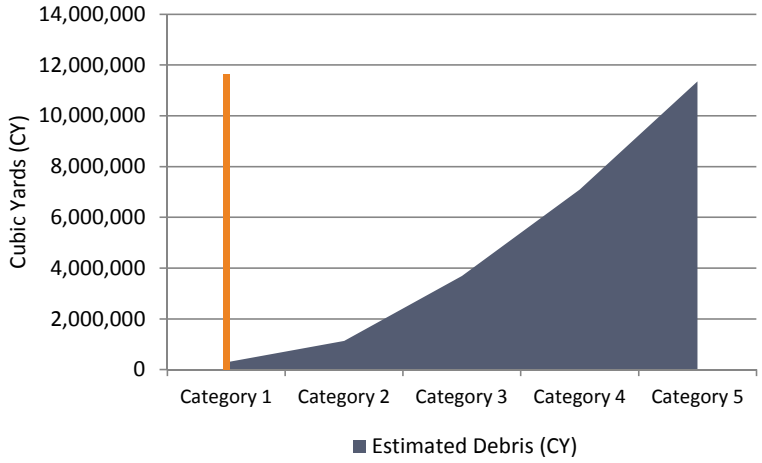
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Marengo County, AL



Model Input Data

Local Population:	20,155
Total Households:	8,580

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:

- CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **-** **Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **-** **Acres**

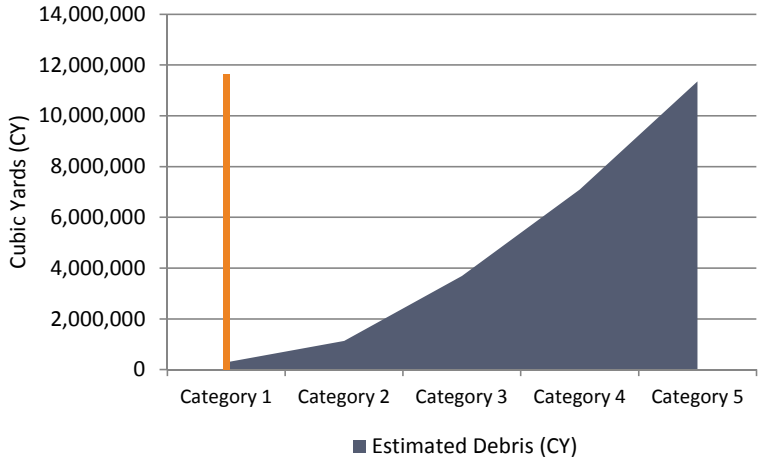
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Mobile County, AL



Model Input Data

Local Population:	414,079
Total Households:	156,772

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Medium
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
733,693 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **45.52 Acres**
* Assumes 10 foot pile height

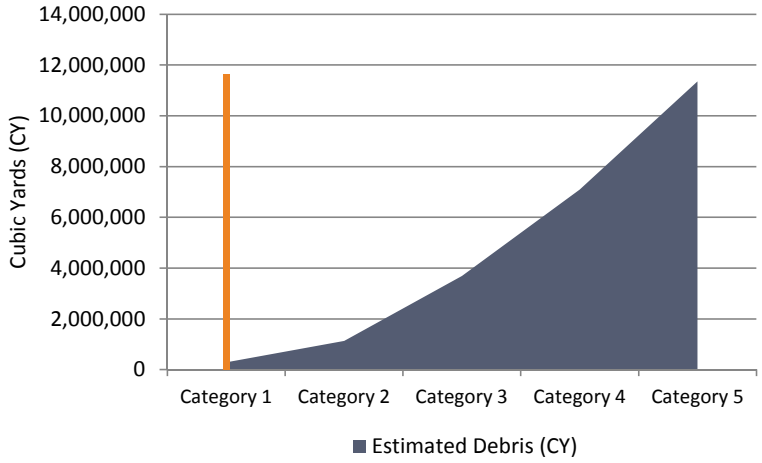
Total Debris and Site Requirements: **76 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Monroe County, AL



Model Input Data

Local Population:	22,236
Total Households:	8,707

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
16,979 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **1.05 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **2 Acres**

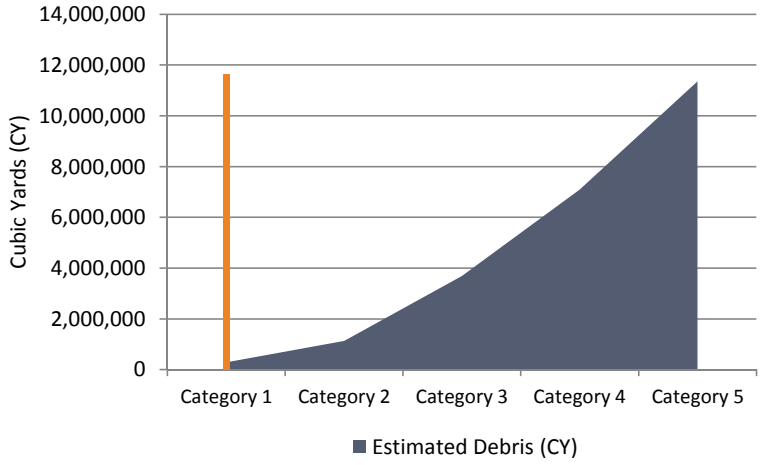
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Washington County, AL



Model Input Data

Local Population:	16,877
Total Households:	6,695

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:
13,106 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **0.81 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **1 Acres**

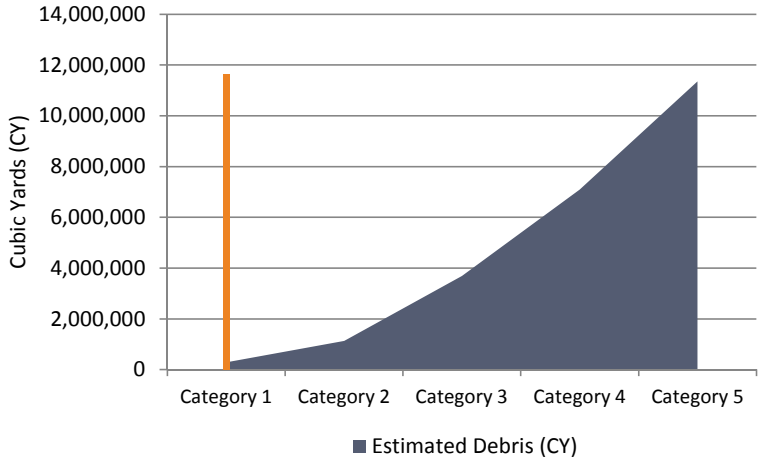
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Wilcox County, Alabama



Model Input Data

Local Population:	11,307
Total Households:	3,624

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	Medium to Heavy

Estimated Total Event Debris Quantity:

- CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **-** **Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **-** **Acres**

* Includes buffer space for debris management site

Scenario 4 Models

The disaster debris generation forecasting models based on Scenario 4, a regional ice storm with major and minor impacts, for each county within the Region are included in the order outlined below in the subsequent pages of this appendix. A detailed description of Scenario 4 is included in Section 2.

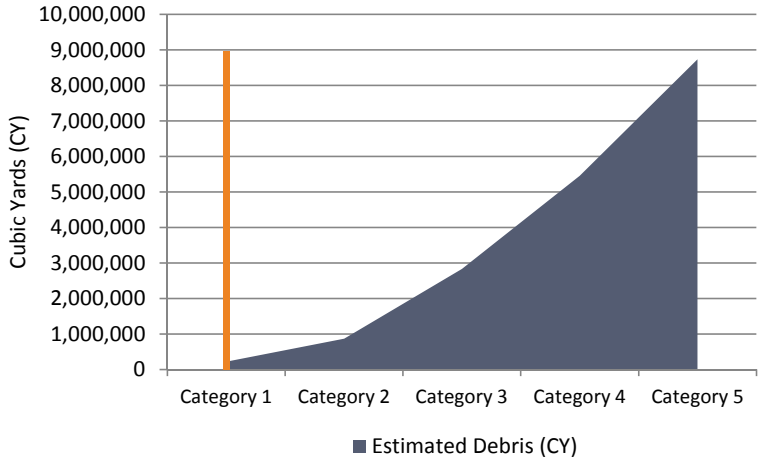
- Baldwin
- Choctaw
- Clarke
- Conecuh
- Escambia
- Marengo
- Mobile
- Monroe
- Washington
- Wilcox

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Baldwin County, AL**



Model Input Data

Local Population:	195,540
Total Households:	72,751

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
218,253 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **13.54 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **22 Acres**

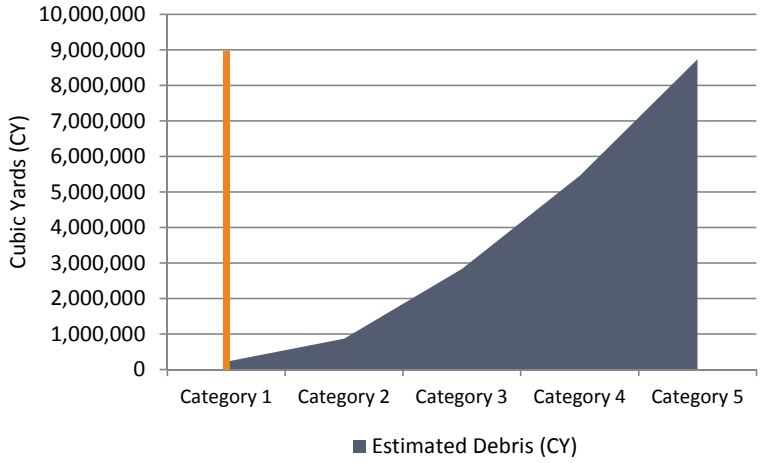
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Choctaw County, AL**



Model Input Data

Local Population:	13,426
Total Households:	5,305

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
206,895 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **12.84 Acres**
* Assumes 10 foot pile height

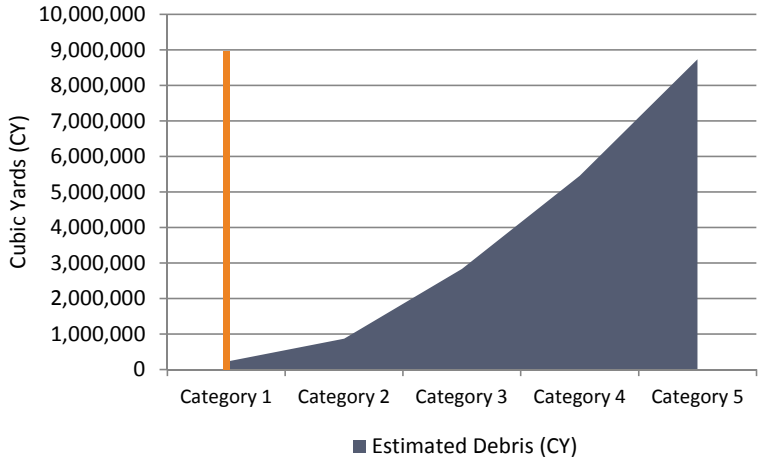
Total Debris and Site Requirements: **21 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Clarke County, AL**



Model Input Data

Local Population:	25,207
Total Households:	9,321

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
363,519 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **22.56 Acres**
* Assumes 10 foot pile height

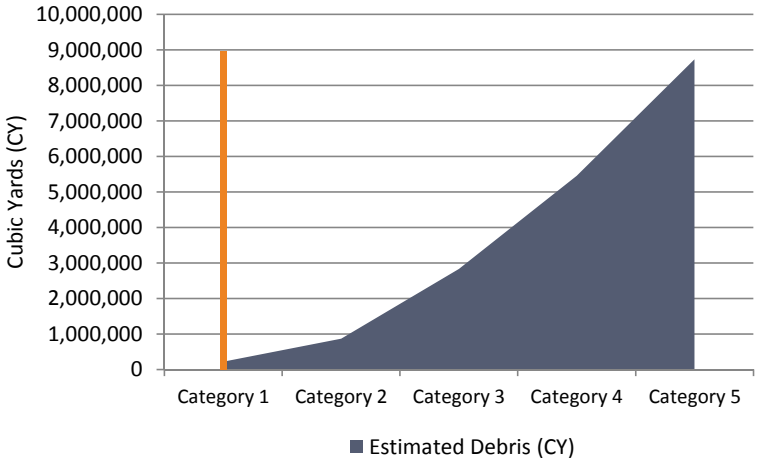
Total Debris and Site Requirements: **37 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Conecuh County, AL**



Model Input Data

Local Population:	12,887
Total Households:	4,879

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
190,281 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **11.81 Acres**
* Assumes 10 foot pile height

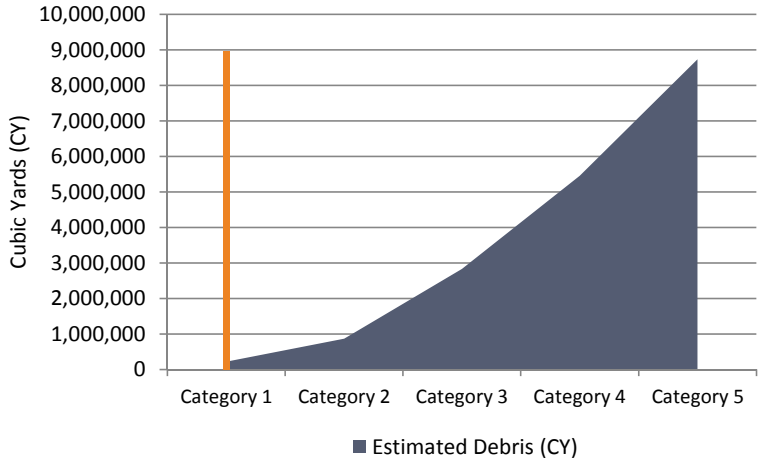
Total Debris and Site Requirements: **20 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Escambia County, AL**



Model Input Data

Local Population:	37,983
Total Households:	13,879

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
541,281 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **33.58 Acres**
* Assumes 10 foot pile height

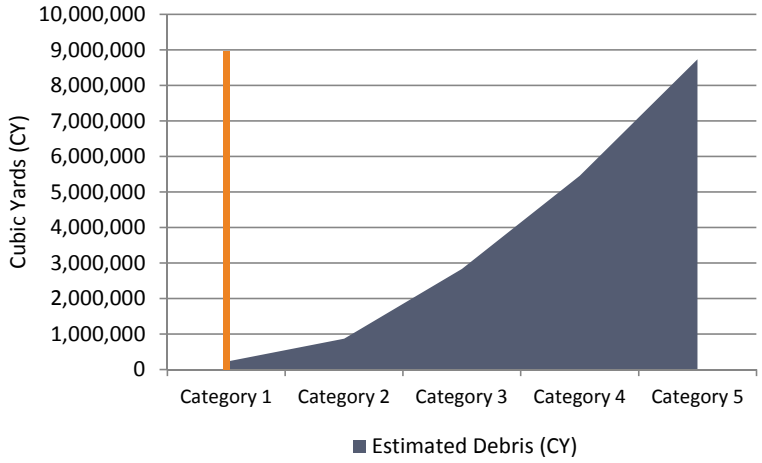
Total Debris and Site Requirements: **56 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Marengo County, AL**



Model Input Data

Local Population:	20,155
Total Households:	8,580

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
334,620 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **20.76 Acres**
* Assumes 10 foot pile height

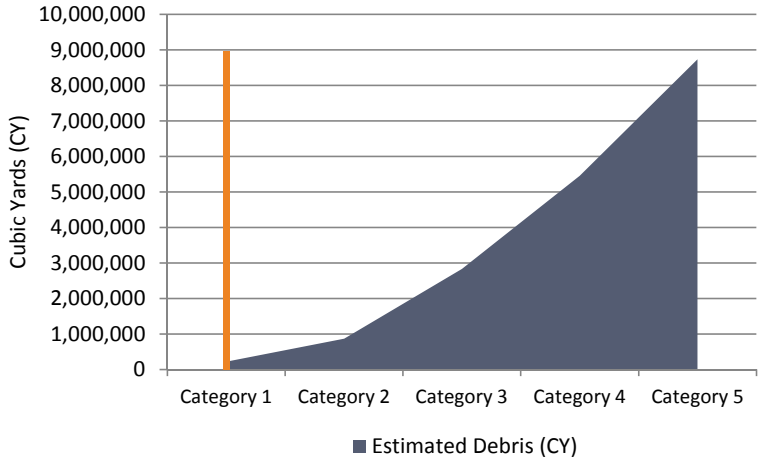
Total Debris and Site Requirements: **34 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: **Mobile County, AL**



Model Input Data

Local Population:	414,079
Total Households:	156,772

Click for FactFinder Population Lookup

Hurricane Category:	Category 1
Average Wind Speed:	74 - 95 mph
Vegetative Cover:	Heavy
Commercial Density:	Medium
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
564,379 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **35.02 Acres**

* Assumes 10 foot pile height

Total Debris and Site Requirements: **58 Acres**

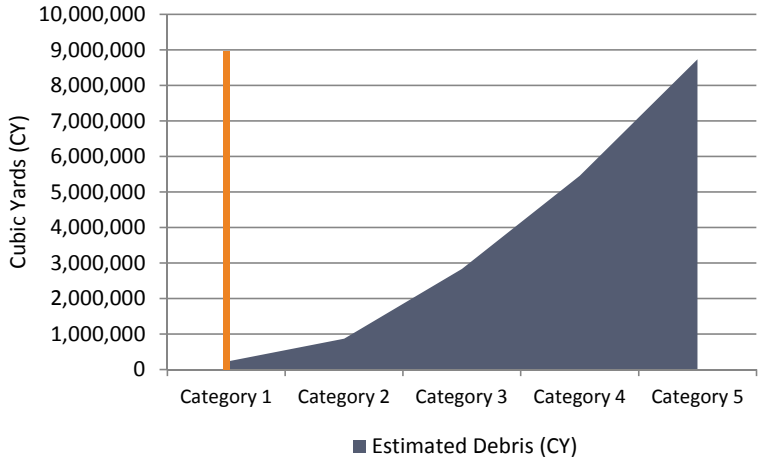
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Monroe County, AL



Model Input Data

Local Population:	22,236
Total Households:	8,707

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
339,573 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **21.07 Acres**
* Assumes 10 foot pile height

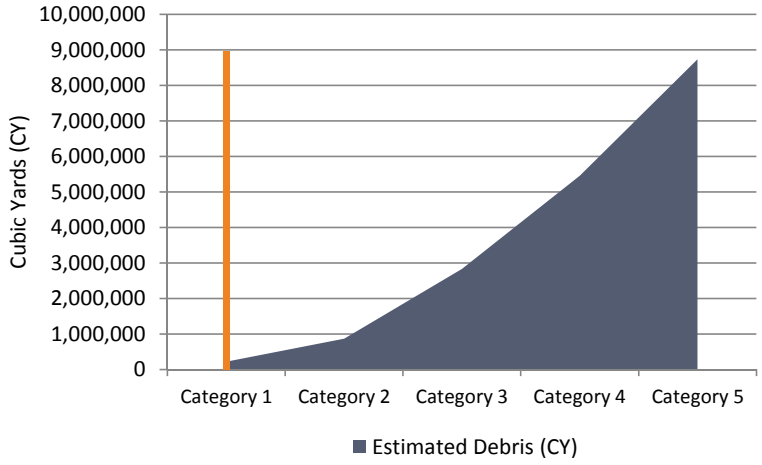
Total Debris and Site Requirements: **35 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Washington County, AL



Model Input Data

Local Population:	16,877
Total Households:	6,695

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
261,105 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **16.20 Acres**
* Assumes 10 foot pile height

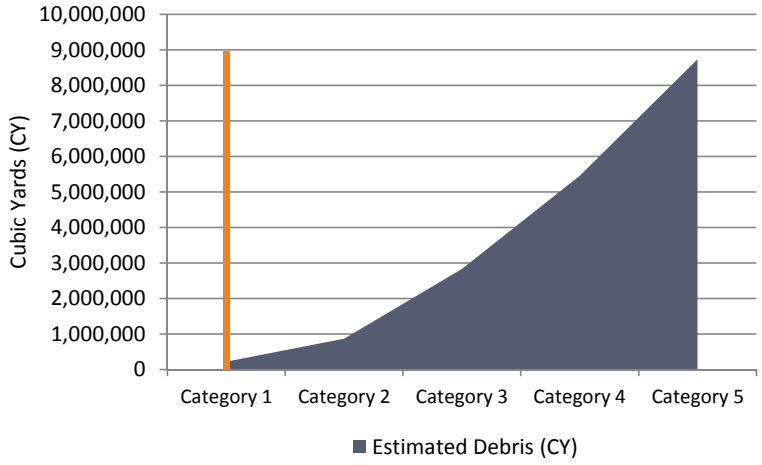
Total Debris and Site Requirements: **27 Acres**
* Includes buffer space for debris management site

DEBRIS GENERATION MODEL

Report prepared on: **7/22/2014**

Prepared by TCS and based on the USACE Debris Model

Debris Model for: Wilcox County, Alabama



Model Input Data

Local Population:	11,307
Total Households:	3,624

Click for FactFinder Population Lookup

Hurricane Category:	Category 3
Average Wind Speed:	111 - 129 mph
Vegetative Cover:	Heavy
Commercial Density:	Light
Precipitation:	None to Light

Estimated Total Event Debris Quantity:
141,336 CY

Estimated Debris Management and Storage Site Requirements

Total Debris Acres Required: **8.77 Acres**
* Assumes 10 foot pile height

Total Debris and Site Requirements: **15 Acres**
* Includes buffer space for debris management site

Appendix E

Priority List of Roadways by District

The following information was provided by each ALDOT Southwest Region District.

Table E-1: Priority Roadways by District

Priority	Route	Remarks
District 91		
1	I-10/I-65	-
2	US 98	-
3	US 90	-
4	US 45	-
5	SR 193	-
6	US 43	-
7	SR 163	-
8	SR 188	-
9	SR 217	-
10	SR 213	-
11	SR 158	-
12	I-165	-
District 92		
1	I-10/I-65	Entire routes
2	SR 182	Entire route
3	SR 287	From SR 59 to I-65
4	SR 59	From SR 182 to SR 287
5	US 98	All of causeway to Barnwell
6	US 90	From US 98 at causeway to SR 59
7	SR 180	From SR 59 to end of route
8	SR 161	Entire route
9	SR 181	Entire Route
10	US 98	From SR 59 to Florida State Line
11	US 98	From Barnwell to SR 59
12	US 90	From SR 59 to Florida State Line
13	SR 180	MP 0 to SR 59
14	SR 225	From US 31 to I-65
15	US 31	From MP 0 in Spanish Ft to SR 59
16	SR 225	From I-65 to SR 59
17	SR 59	From SR 287 to Baldwin County Line
18	SR 104	Entire route

Priority	Route	Remarks
19	SR 135	Entire route
District 93		
1	I-65	All, major north/south route
2	SR 113	All, feeds traffic from Florida to I-65
3	SR 41	All, feeds traffic from Florida to I-65
4	US 84	All
5	SR 21	All
6	US 31	From Evergreen to Brewton and from Atmore to Flomaton
7	US 29	From Brewton to Covington County Line
8	SR 83	All
9	US 31	From Baldwin County Line to Atmore
10	US 31	From Evergreen to Butler County
11	SR 41	From I-65 to Repton
District 82		
1	US 43	From Clarke County Line to Greene County Line
2	US 80	From Sumter County Line to Perry County Line
3	SR 5	From Clarke County Line to Dallas County Line
4	SR 10	From Mississippi State Line to SR 5
5	SR 69	From SR 114 to US 80
6	SR 114	From SR 10 to SR 69
7	SR 17	From Butler to the Sumter County Line
8	SR 156	From SR 10 to SR 114
9	SR 25	From SR 5 to the Hale County Line
10	SR 28	From US 80 to SR 5
11	SR 69	From Clarke County Line to SR 114
12	SR 66	From SR 28 to Dallas County Line
District 83		
1	US 84	From Clarke County Line to Conecuh County Line
2	SR 21	From Escambia County Line to Lowndes County Line
3	SR 10	From SR 5 to Butler County Line
4	SR 28	From SR 5 to SR 21
5	SR 47	From US-84 to SR 21
6	SR 41	From Monroeville to Dallas County Line
7	SR 59	From Baldwin County Line to SR 21
8	SR 136	From SR 21 to US 84
9	SR 221	From SR 41 to SR 28
10	SR 164	From SR 10 to SR 28
11	SR 47	From SR 21 to SR 10

Priority	Route	Remarks
12	SR 265	From SR 21 to SR 41
13	SR 89	From SR 21 to Dallas County Line
14	SR 83	From Conecuh County Line to SR 47
15	SR 162	From SR 5 to SR 28
District 84		
1	US 43	From Mobile County Line to Marengo County Line
2	US 45	From Mobile County Line to Mississippi State Line
3	SR 5	From US 43 to Wilcox County Line
4	US 84	From Mississippi State Line to Monroe County Line
5	SR 17	From US 45 to Butler
6	SR 56	From Mississippi State Line to US 43
7	SR 178	From US 43 to Fulton
7	SR 69	From US 43 to US 84
8	SR 154	From US 43 to SR 69
9	SR 69	From SR 154 to Marengo County Line

Appendix F

Valid Debris Management Sites (DMS) in the Region

The following potential debris management sites were evaluated and determined to be viable sites for temporary disaster debris staging and reduction operations.

Table E-1: Southwest Region Viable DMS Locations

Site Name / County		Area / District / County	Site Size	Ownership Type	Overall Ranking	Type of Debris	Method of Reduction
1	Linden Bypass	Grove Hill Area District 82 Marengo	100 acres	State of Alabama	5	Vegetative C&D	Grinding Compacting
2	CR 8 at Foley Beach Expy	Mobile Area District 91 Baldwin	76 acres	Private	5	Vegetative C&D	Grinding Compacting
3	Mcrary Rd. (Hwy 27) Site	Mobile Area District 91 Mobile	25 acres	State of Alabama	5	Vegetative C&D	Grinding Compacting
4	DOT Yard AL 25 Marengo	Grove Hill Area District 82 Marengo	5 acres	State of Alabama	5	Vegetative C&D White Goods	Grinding Compacting
5	AL-41 Exit 77	Mobile Area District 93 Escambia	10 acres	Private	5	Vegetative	Grinding
6	District 83 DOT Yard Wilcox	Grove Hill Area District 83 Wilcox	30 acres	State of Alabama	4	Vegetative C&D White Goods	Grinding Compacting
7	DOT Yard Grove Hill	Grove Hill Area District 84 Clarke	10 acres	State of Alabama	4	Vegetative	Grinding
8	AL-83	Mobile Area District 93 Conecuh	10 acres	Private	4	Vegetative	Open burning Grinding

Detailed information on the sites listed above, including a site overview, evaluation findings, photographs and recommendations are included in the subsequent pages of this appendix.

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**September 23 2013**		
Property name:	**Linden Bypass**		
Property address:	**Hwy 28 MP 44 (south side)**		
GPS coordinates:	N: **32.30161**	W: **87.77956**	
Estimated property size (in acres):	**100 acres**		
Property ownership type:	☐ Municipal ☐ Private ☒ Other – Specify: State of Alabama ☐ County ☐ District		
Current property use:	**Pastureland**		
Knowledge of future use/development:	☐ No ☒ Yes – Specify: **Future site of Linden Bypass. Project is on hold due to lack of funding. Construction not expected within 5 years.**		
Property owner's name:	**State of Alabama**		
Property owner's address:			
Property owner's contact information:	Phone:	Alternate:	
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes ☐ No		
Photo references: (List digital photo file numbers taken of the property)	**319; 405; 500; 791**		

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 4 [5]	Describe: **pastureland- primarily flat**
Open water sources	1 2 3 4 [5]	**Glass Lake Number One on border of property**
Groundwater wells	1 2 3 4 [5]	**Along property border**
Water drainage conditions	1 2 3 4 [5]	**Drainage ditches on property**
Ground conditions	1 2 3 4 [5]	Type: (e.g. soil, gravel, pavement, etc.) **soil**
Dominate wind direction	1 2 3 4 5	Specify: **NA**

Evaluation Criteria	Ranking L ← → H	Comments
Proximity to natural/wild habitat	1 2 3 4 [5]	Specify: **none**
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 [5]	Specify: **none**
Other environmental considerations:	**none**	
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 4 [5]	Detail: (e.g. vegetative, tall grass/tall trees, water) **tall trees**
Proximity high congestion roads	1 2 3 4 [5]	**Located along hwy 28 and hwy 43 (low congestion)**
Surrounding road types	1 2 3 4 [5]	(e.g. one vs. two lane, residential vs. highway) **two lane hwy**
Proximity to schools, neighborhoods, and housing	1 2 3 4 [5]	**Linden Head Start and George P Austin Junior High School nearby. Not near debris staging location.**
Proximity to airports/airfields, factories/power plants etc.	1 2 3 4 [5]	**None**
Other surrounding property/landscape concerns:		**Low hanging power lines along property line on hwy 28**
Ease of Use/Development		
Ease of ingress / egress	1 2 3 [4] 5	**One route off hwy 28**
Multiple entry and exit options	1 2 [3] 4 5	**no**
Multiple travel routes	1 2 3 4 [5]	(various way to get to and from property)
Surrounding road conditions	1 2 3 4 [5]	(e.g. dirt, gravel, paved) **paved**
Ability to service large volumes of trucks	1 2 3 4 [5]	**yes**
Site preparation requirements	1 2 3 [4] 5	(e.g. land clearing, paving, etc.) **land clearing to removed tall trees and brush**
Defined property boundaries	1 2 3 [4] 5	(e.g. fencing, property markers, etc.) **some fence**
Established lighting	1 2 [3] 4 5	Specify: **none**
Established security	1 2 [3] 4 5	Specify: (e.g. locked fencing, gates) **none**
Access to electricity/sewer/water	1 2 [3] 4 5	**none**
Suitability to inclement weather	1 2 3 4 5	**NA**
Proximity to useable landfill	1 2 3 [4] 5	Name/Address: **Jackson Landfill, Jackson, AL. 70 miles**
Other property development considerations:		

Property Recommendations		
Overall viability ranking	1 2 3 4 [5]	Comments:
Recommend property as viable DMS	☒ Yes ☐ No	Explain: **Yes**
Recommended debris types suitable for DMS	☒ Vegetative ☐ Vegetative and C&D ☒ C&D ☐ White Goods	
Recommended reduction method(s)	☐ Open burning ☒ Other – Specify: compacting ☒ Grinding ☐ Air curtain incineration	

Property Photographs

Linden Bypass DMS Site Aerial Photo

Photo 1

Property Photographs

Photo 2

Photo 3

Property Photographs

Photo 4

ALDOT, Alabama

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**September 13 2013**		
Property name:	**CR 8 Property @ Foley Beach Expway**		
Property address:	**@ Foley Beach Expway (Baldwin)**		
GPS coordinates:	N: **30.32641**	W: **-87.65540**	
Estimated property size (in acres):	**76**		
Property ownership type:	☐ Municipal ☒ Private ☐ Other – Specify: ☐ County ☐ District		
Current property use:	**Unused**		
Knowledge of future use/development:	☒ No ☐ Yes – Specify:		
Property owner's name:			
Property owner's address:			
Property owner's contact information:	Phone:	Alternate:	
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes ☒ No		
Photo references: (List digital photo file numbers taken of the property)			

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 4 **5**	**Describe: Flat**
Open water sources	1 2 3 4 5	**Specify: None**
Groundwater wells	1 2 3 4 **5**	**None**
Water drainage conditions	1 2 3 **4** 5	**Good drainage north to CR-* and east to Foley Beach Expwy**
Ground conditions	1 2 3 4 **5**	Type: (e.g. soil, gravel, pavement, etc.) **Cleared and covered with gravel**
Dominate wind direction	1 2 3 4 5	**NA**

Evaluation Criteria	Ranking L ← → H	Comments
Proximity to natural/wild habitat	1 2 3 4 [5]	Specify: **None**
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 [5]	Specify: **None**
Other environmental considerations:	**None**	
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 [4] 5	Detail: (e.g. vegetative, tall grass/tall trees, water) **50% agricultural, 50% residential**
Proximity high congestion roads	1 2 3 4 [5]	**None**
Surrounding road types	1 2 3 4 [5]	(e.g. one vs. two lane, residential vs. highway) **2-lane county roads**
Proximity to schools, neighborhoods, and housing	1 2 [3] 4 5	**Residential properties adjacent to Site to the west, within 400 feet across Foley Beach Expwy to the east**
Proximity to airports/airfields, factories/power plants etc.	1 2 [3] 4 5	**Jack Edwards Airport approximately 2.5 miles to the south**
Other surrounding property/landscape concerns:		
Ease of Use/Development		
Ease of ingress / egress	1 2 3 4 [5]	**Very good access off CR-8**
Multiple entry and exit options	1 2 3 4 [5]	**CR-8 access at multiple points along north property boundary**
Multiple travel routes	1 2 3 4 [5]	(various way to get to and from property) **Very good location with CR-8 and Expwy allowing access from multiple directions**
Surrounding road conditions	1 2 3 4 [5]	(e.g. dirt, gravel, paved) **Paved**
Ability to service large volumes of trucks	1 2 3 4 [5]	**Very good**
Site preparation requirements	1 2 3 4 [5]	(e.g. land clearing, paving, etc.) **Little preparation needed**
Defined property boundaries	1 2 3 [4] 5	(e.g. fencing, property markers, etc.) **Well defined boundaries, no fencing**
Established lighting	1 2 3 [4] 5	Specify: **Lighting infrastructure in place**
Established security	1 2 3 [4] 5	Specify: (e.g. locked fencing, gates) **None**
Access to electricity/sewer/water	1 2 3 [4] 5	**Formerly developed property has previous infrastructure in place**
Suitability to inclement weather	1 2 3 4 [5]	**Yes, graveled yard at north end of property**
Proximity to useable landfill	1 2 3 4 [5]	Name/Address: **4 miles to Gulf Shores Landfill**
Other property development considerations:		

Property Recommendations		
Overall viability ranking	1 2 3 4 [5]	Comments: Large private property with graveled yard, in rural area with excellent road connections
Recommend property as viable DMS	☒ Yes ☐ No	Explain:
Recommended debris types suitable for DMS	☐ Vegetative ☒ Vegetative and C&D ☐ C&D ☒ White Goods	
Recommended reduction method(s)	☐ Open burning ☐ Other – Specify: ☒ Grinding ☐ Air curtain incineration	

Property Photographs

DMS Site Aerial Photo

Photo 1

Photo 2

Photo 3

ALDOT, Alabama

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**May 15, 2014**		
Property name:	**McCrary Rd. (Hwy 27) Site in Mobile Co.**		
Property address:	**McCrary Rd., 1.7 miles north of Semmes, AL**		
GPS coordinates:	N: **30.803649**	W: **-88.259262**	
Estimated property size (in acres):	**25 acres**		
Property ownership type:	☐ Municipal ☐ Private ☒ Other – Specify: State of Alabama ☐ County ☐ District		
Current property use:	**Open grass field, unused**		
Knowledge of future use/development:	☒ No ☐ Yes – Specify:		
Property owner's name:	**ALDOT**		
Property owner's address:			
Property owner's contact information:	Phone:	Alternate:	
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes ☐ No		
Photo references: (List digital photo file numbers taken of the property)			

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

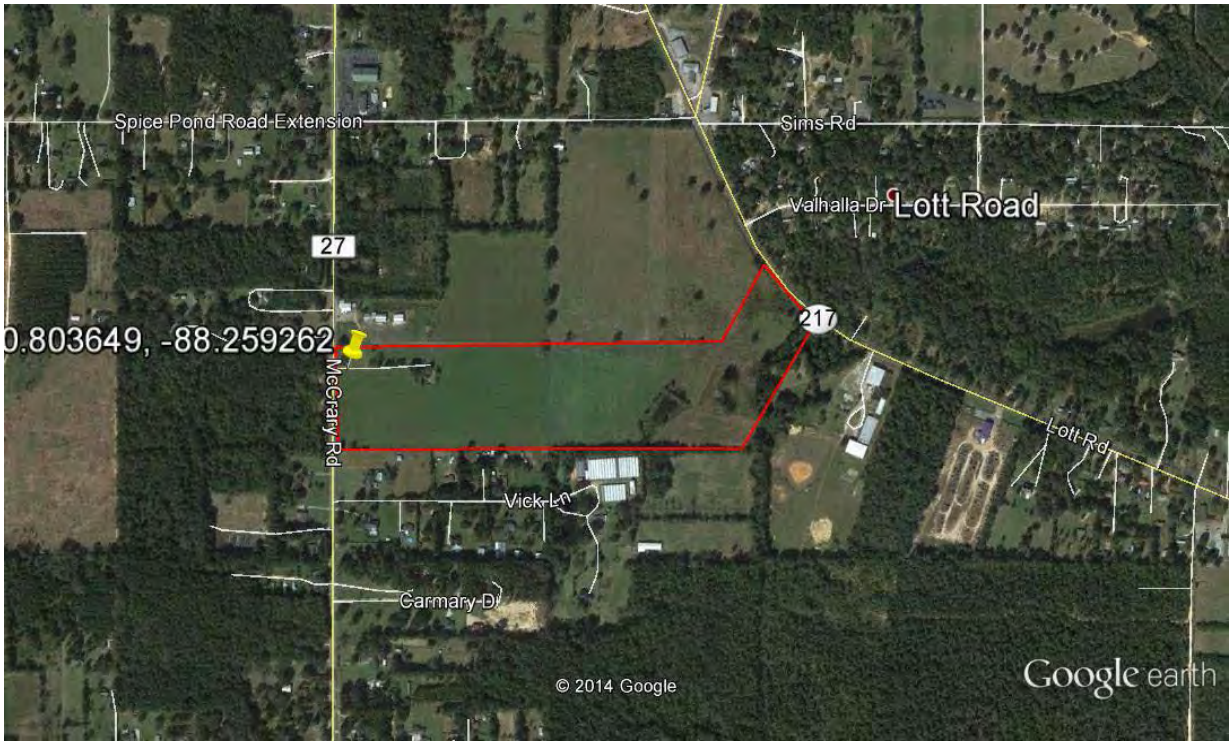
Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 [4] 5	Describe: **pastureland/grassland- primarily flat in the west half, drainage area sloping northeast at east end of property**
Open water sources	1 2 3 4 [5]	Specify: **None (intermittent pond at east end of property)**
Groundwater wells	1 2 3 [4] 5	**Along property borders**
Water drainage conditions	1 2 3 4 [5]	**Drainage ditches along borders, drainage area at east end of property**
Ground conditions	1 2 3 4 [5]	Type: (e.g. soil, gravel, pavement, etc.): **grassland**
Dominate wind direction	1 2 3 4 5	**NA**

Evaluation Criteria	Ranking L ← → H	Comments
Proximity to natural/wild habitat	1 2 3 4 [5]	Specify: **None**
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 [5]	Specify: **None**
Other environmental considerations:	**None**	
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 [4] 5	Detail: (e.g. vegetative, tall grass/tall trees, water) **Forested lots, residential properties to the south, pastureland**
Proximity high congestion roads	1 2 3 4 [5]	**Located along hwy 27 and hwy 217 (low/moderate congestion)**
Surrounding road types	1 2 3 4 [5]	(e.g. one vs. two lane, residential vs. highway) **two lane hwy**
Proximity to schools, neighborhoods, and housing	1 2 [3] 4 5	**Residential neighborhood (Vick Lane) immediately to the south**
Proximity to airports/airfields, factories/power plants etc.	1 2 3 4 [5]	**None**
Other surrounding property/landscape concerns:		**Miller Cemetery located at east end of property on Hwy 217**
Ease of Use/Development		
Ease of ingress / egress	1 2 3 [4] 5	**Very good access along Mcrary Rd., poor access from Hwy 217 (east) side due to drainage slope and traffic on curved roadway**
Multiple entry and exit options	1 2 3 4 [5]	**Yes, along west property boundary (Mcrary Rd.)**
Multiple travel routes	1 2 3 4 [5]	(various way to get to and from property) **Yes, multiple local highways in immediate area**
Surrounding road conditions	1 2 3 4 [5]	(e.g. dirt, gravel, paved) **Paved**
Ability to service large volumes of trucks	1 2 3 4 [5]	**Yes**
Site preparation requirements	1 2 3 [4] 5	(e.g. land clearing, paving, etc.) **minor work to bridge drainage ditch along Mcrary Rd.**
Defined property boundaries	1 2 3 [4] 5	(e.g. fencing, property markers, etc.) **some fence**
Established lighting	1 2 [3] 4 5	Specify: **None**
Established security	1 2 [3] 4 5	Specify: (e.g. locked fencing, gates) **None**
Access to electricity/sewer/water	1 2 [3] 4 5	**None**
Suitability to inclement weather	1 2 3 4 5	**NA**
Proximity to useable landfill	1 2 3 [4] 5	Name/Address: **Lott Road Landfill, five miles east on Hwy 217**
Other property development considerations:	Flat grass area over most of west side of property needs no further preparation	

Property Recommendations		
Overall viability ranking	1 2 3 4 [5]	Comments: Approximately 25 acres of flat, open grass area on western half of property is available, access very good from Mcrary Rd.
Recommend property as viable DMS	☒ Yes ☐ No	Explain:
Recommended debris types suitable for DMS	☒ Vegetative ☐ Vegetative and C&D ☒ C&D ☐ White Goods	
Recommended reduction method(s)	☐ Open burning ☒ Other – Specify: **Compacting** ☒ Grinding ☐ Air curtain incineration	

Property Photographs

DMS Site Aerial Photo



Property Photographs

Photo 1

Photo 2
View looking east from Mcrary Rd., of west half of property

Property Photographs

Photo 3
View looking northeast from Mcrary Rd.

ALDOT, Alabama

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**September 23, 2013**	
Property name:	**ALDOT Yard, AL-25 Marengo**	
Property address:	20541 Range St. Thomaston AL, 36783 N of MP 20 on AL25	
GPS coordinates:	N: 32.214960	W: -87.635682
Estimated property size (in acres):	**20 acres (estimated)**	
Property ownership type:	☐ Municipal ☐ Private ☒ Other – Specify: ALDOT ☐ County ☐ District	
Current property use:	**ALDOT equipment and materials storage**	
Knowledge of future use/development:	☒ No ☐ Yes – Specify:	
Property owner's name:	**State of Alabama**	
Property owner's address:		
Property owner's contact information:	Phone:	Alternate:
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes ☐ No	
Photo references: (List digital photo file numbers taken of the property)	**580, 597, 502**	

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 4 [5]	Describe: Developed, flat, gravel
Open water sources	1 2 3 4 [5]	Specify: None
Groundwater wells	1 2 3 [4] 5	**Yes, near offices/facilities**
Water drainage conditions	1 2 3 [4] 5	**good**
Ground conditions	1 2 3 [4] 5	Type: (e.g. soil, gravel, pavement, etc.) gravel and soil around perimeter
Dominate wind direction	1 2 3 [4] 5	none

Evaluation Criteria	Ranking L ← → H	Comments
Proximity to natural/wild habitat	1 2 3 4 [5]	Specify: **None**
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 [5]	Specify: **None**
Other environmental considerations:	**None**	
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 [4] 5	Detail: (e.g. vegetative, tall grass/tall trees, water) tall trees
Proximity high congestion roads	1 2 3 [4] 5	**Located along AL 25 (low congestion)**
Surrounding road types	1 2 3 4 [5]	(e.g. one vs. two lane, residential vs. highway) two lane
Proximity to schools, neighborhoods, and housing	1 2 3 4 [5]	**None**
Proximity to airports/airfields, factories/power plants etc.	1 2 3 4 [5]	**None**
Other surrounding property/landscape concerns:		**None**
Ease of Use/Development		
Ease of ingress / egress	1 2 3 4 [5]	**One route off AL 25**
Multiple entry and exit options	1 2 [3] 4 5	**No**
Multiple travel routes	1 [2] 3 4 5	(various way to get to and from property) No
Surrounding road conditions	1 2 3 4 [5]	(e.g. dirt, gravel, paved) Paved
Ability to service large volumes of trucks	1 2 3 [4] 5	**yes**
Site preparation requirements	1 2 3 4 [5]	(e.g. land clearing, paving, etc.) minimal, possible relocation of equipment
Defined property boundaries	1 2 3 4 [5]	(e.g. fencing, property markers, etc.) fence around property
Established lighting	1 2 3 [4] 5	Specify: **Property has lighting near facilities- Unsure of perimeter lighting**
Established security	1 2 3 4 [5]	Specify: (e.g. locked fencing, gates) gate and fence around property
Access to electricity/sewer/water	1 2 3 4 [5]	**yes**
Suitability to inclement weather	1 2 3 [4] 5	
Proximity to useable landfill	1 2 [3] 4 5	Name/Address: **Jackson Landfill, Jackson, AL. 65 miles**
Other property development considerations:		

Property Recommendations		
Overall viability ranking	1 2 3 [4] 5	Comments: Private, used for staging
Recommend property as viable DMS	☒ Yes ☐ No	Explain:
Recommended debris types suitable for DMS	☐ Vegetative ☒ Vegetative and C&D ☐ C&D ☒ White Goods	
Recommended reduction method(s)	☐ Open burning ☒ Other – Specify: Compacting ☒ Grinding ☐ Air curtain incineration	

Property Photographs

Aerial Photo of DMS

Photo 1

Property Photographs

Photo 2

Photo 3

ALDOT, Alabama

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**September 24 2013**		
Property name:	**AL-41 Exit 77**		
Property address:	**24300 Highway 41** **Brewton, Alabama (Escambia County)**		
GPS coordinates:	N: **31.274391**	W: **-87.203657**	
Estimated property size (in acres):	**10**		
Property ownership type:	☐ Municipal ☒ Private ☐ Other – Specify: ☐ County ☐ District		
Current property use:	**Vacant**		
Knowledge of future use/development:	☐ No ☒ Yes – Specify: **Property is currently for sale.**		
Property owner's name:	**Coastal Gateway**		
Property owner's address:			
Property owner's contact information:	Phone:	Alternate:	
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes ☒ No		
Photo references: (List digital photo file numbers taken of the property)			

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 **4** 5	Describe: Muddy / flat over all
Open water sources	1 2 3 4 **5**	**none**
Groundwater wells	1 2 3 4 **5**	
Water drainage conditions	1 2 3 4 **5**	
Ground conditions	1 2 3 4 **5**	Type: grass and dirt
Dominate wind direction	1 2 3 4 5	na

Evaluation Criteria	Ranking L ← → H	Comments
Proximity to natural/wild habitat	1 2 3 4 [5]	Specify: **na**
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 5	Specify: **na**
Other environmental considerations:	**None**	
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 4 [5]	Detail: (e.g. vegetative, tall grass/tall trees, water)
Proximity high congestion roads	1 2 3 4 [5]	
Surrounding road types	1 2 3 4 [5]	Interstate 65, exit 77
Proximity to schools, neighborhoods, and housing	1 2 3 [4] 5	**Office nearby**
Proximity to airports/airfields, factories/power plants etc.	1 2 3 4 [5]	
Other surrounding property/landscape concerns:		
Ease of Use/Development		
Ease of ingress / egress	1 2 3 4 [5]	
Multiple entry and exit options	1 2 3 4 [5]	
Multiple travel routes	1 2 3 4 [5]	(various way to get to and from property)I-65, Hwy 41
Surrounding road conditions	1 2 3 4 [5]	(e.g. dirt, gravel, paved) paved
Ability to service large volumes of trucks	1 2 3 [4] 5	**Low power lines**
Site preparation requirements	1 2 3 4 [5]	(e.g. land clearing, paving, etc.) minimal
Defined property boundaries	1 2 3 4 [5]	(e.g. fencing, property markers, etc.) tree line
Established lighting	[1] 2 3 4 5	Specify: none
Established security	[1] 2 3 4 5	Specify: (e.g. locked fencing, gates) none
Access to electricity/sewer/water	1 2 3 4 [5]	**Power poles present**
Suitability to inclement weather	1 2 3 4 5	undetermined
Proximity to useable landfill	1 2 3 4 5	Name/Address:
Other property development considerations:		

Property Recommendations		
Overall viability ranking	1 2 3 4 [5]	Comments:
Recommend property as viable DMS	☒ Yes ☐ No	Explain:
Recommended debris types suitable for DMS	☒ Vegetative ☐ Vegetative and C&D ☐ C&D ☐ White Goods	
Recommended reduction method(s)	☐ Open burning ☐ Other – Specify: ☒ Grinding ☐ Air curtain incineration	

Property Photographs

DMS Site Aerial Photo

Photo 1

Property Photographs

Photo 2

Photo 3

ALDOT, Alabama

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**September 13 2013**		
Property name:	**Alabama Welcome Center**		
Property address:	**I-10 at MS State border**		
GPS coordinates:	N: **30.477370**	W: **-88.389285**	
Estimated property size (in acres):	**4 acres**		
Property ownership type:	☐ Municipal ☐ Private ☒ Other – Specify: State of Alabama ☐ County ☐ District		
Current property use:	**Parking lot, grass areas**		
Knowledge of future use/development:	☐ No ☒ Yes – Specify: **parking lot, grass areas**		
Property owner's name:	State of Alabama		
Property owner's address:			
Property owner's contact information:	Phone: 251 865 4741	Alternate:	
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes ☒ No		
Photo references: (List digital photo file numbers taken of the property)			

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 4 [5]	Describe: **mostly paved lot, flat**
Open water sources	1 2 3 4 [5]	Specify: **None, other than adjacent waste treatment lagoons**
Groundwater wells	1 2 3 4 [5]	**None**
Water drainage conditions	1 2 3 4 [5]	**Good drainage**
Ground conditions	1 2 3 4 [5]	Type: (e.g. soil, gravel, pavement, etc.): **soil / paved**
Dominate wind direction	1 2 3 4 5	**NA**
Proximity to natural/wild habitat	1 2 3 4 [5]	Specify: **None**

Evaluation Criteria	Ranking L ← → H	Comments
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 **5**	Specify: **None**
Other environmental considerations:	**None**	
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 4 **5**	Detail: (e.g. vegetative, tall grass/tall trees, water) **I-10 Interstate to the north, forested land to South and East**
Proximity high congestion roads	1 2 **3** 4 5	**Adjacent to I-10 Interstate, high use**
Surrounding road types	1 2 **3** 4 5	(e.g. one vs. two lane, residential vs. highway) **I-10 Interstate**
Proximity to schools, neighborhoods, and housing	1 2 3 4 **5**	**Closest residence is on Crawford Lane, approximately 1,300 feet to the northeast**
Proximity to airports/airfields, factories/power plants etc.	1 2 3 4 **5**	**None**
Other surrounding property/landscape concerns:		**None**
Ease of Use/Development		
Ease of ingress / egress	1 2 3 4 **5**	**Easy access from I-10**
Multiple entry and exit options	1 2 **3** 4 5	**Only access from I-10**
Multiple travel routes	1 **2** 3 4 5	(various way to get to and from property) **Only access from I-10**
Surrounding road conditions	1 2 3 4 **5**	(e.g. dirt, gravel, paved) **Paved**
Ability to service large volumes of trucks	1 2 3 4 **5**	**Yes**
Site preparation requirements	1 2 3 4 **5**	(e.g. land clearing, paving, etc.) **No special preparation needed**
Defined property boundaries	1 2 3 4 **5**	(e.g. fencing, property markers, etc.) **Site is fully fenced**
Established lighting	1 2 3 4 **5**	Specify: **Lighting system in place**
Established security	1 2 3 4 **5**	Specify: (e.g. locked fencing, gates) **Exit on/off roads can be easily contoled, site is fenced otherwise**
Access to electricity/sewer/water	1 2 3 4 **5**	**Utilities are in place**
Suitability to inclement weather	1 2 3 **4** 5	**Yes, paved access off I-10**
Proximity to useable landfill	1 2 3 **4** 5	Name/Address: **13 miles to Integrated Waste Services in Theodore AL**
Other property development considerations:	Site is ready for DMS use with little preparation needed, access from east side must be arranged through traffic control	

Property Recommendations		
Overall viability ranking	1 2 3 4 **5**	Comments: Private, used for staging
Recommend property as viable DMS	☒ Yes ☐ No	Explain:
Recommended debris types suitable for DMS	☒ Vegetative ☐ Vegetative and C&D ☒ C&D ☐ White Goods	
Recommended reduction method(s)	☐ Open burning ☒ Other – Specify: **Compacting** ☒ Grinding ☐ Air curtain incineration	

Property Photographs

DMS Site Aerial Photo

Photo 1

Property Photographs

Photo 2

Photo 3

ALDOT, Alabama

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**September 24, 2013**	
Property name:	**District 83 ALDOT Yard, Wilcox County**	
Property address:	3360 Camden Bypass, Camden AL 36726	
GPS coordinates:	N: **31.16918**	W: **-87.54913**
Estimated property size (in acres):	**30 acres (estimated)**	
Property ownership type:	☐ Municipal ☐ Private ☒ Other – Specify: ALDOT ☐ County ☐ District	
Current property use:	**ALDOT equipment and materials storage. The Camden Work Release and Community Work Camp are also located on the property.**	
Knowledge of future use/development:	☒ No ☐ Yes – Specify:	
Property owner's name:	**State of Alabama**	
Property owner's address:		
Property owner's contact information:	Phone:	Alternate:
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes	☐ No
Photo references: (List digital photo file numbers taken of the property)	**725, 740, 491, 874**	

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 [3] 4 5	Describe: **Developed- front of property is sloped. Backside of property is developed and slightly sloped.**
Open water sources	1 2 3 4 [5]	**None**
Groundwater wells	1 2 3 [4] 5	**Yes- near offices/facilities**
Water drainage conditions	1 2 3 [4] 5	**Good Drainage**
Ground conditions	1 2 3 4 [5]	Type: (e.g. soil, gravel, pavement, etc.) **gravel in work areas and soil/grass throughout property**
Dominate wind direction	1 2 [3] 4 5	**west, northwest**

Evaluation Criteria	Ranking L ← → H	Comments
Proximity to natural/wild habitat	1 2 3 **4** 5	Specify: **Munden Park less than .5 Miles to the west. DMS would not affect the Park.**
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 **5**	Specify: **none**
Other environmental considerations:	**None**	
Surrounding Property/Landscape		
Surrounding landscape	1 2 **3** 4 5	Detail: (e.g. vegetative, tall grass/tall trees, water) **tall trees border property. Grass on property is maintained**
Proximity high congestion roads	1 2 3 **4** 5	**Located along AL 10 and AL 221 (medium traffic)**
Surrounding road types	1 2 3 4 **5**	(e.g. one vs. two lane, residential vs. highway) **two lane hwy**
Proximity to schools, neighborhoods, and housing	1 2 **3** 4 5	**Wilcox Central High School located 1 mile northeast of site**
Proximity to airports/airfields, factories/power plants etc.	1 2 **3** 4 5	**Camden Municipal Airport located 1 mile southwest of site**
Other surrounding property/landscape concerns:		**None**
Ease of Use/Development		
Ease of ingress / egress	1 2 3 **4** 5	**Road is maintained for ALDOT trucks and equipment**
Multiple entry and exit options	1 2 3 **4** 5	**Two: AL 221 and AL 10**
Multiple travel routes	1 2 3 **4** 5	(various way to get to and from property) **Yes**
Surrounding road conditions	1 2 3 4 **5**	(e.g. dirt, gravel, paved) **paved**
Ability to service large volumes of trucks	1 2 **3** 4 5	**Ingress/Egress would allow large volume of trucks; however disposal area may become congested.**
Site preparation requirements	1 2 3 **4** 5	(land clearing, paving, etc.) May need to add gravel on road to accommodate large trucks
Defined property boundaries	1 2 3 4 **5**	(e.g. fencing, property markers, etc.) **fence and tree border around property**
Established lighting	1 2 3 4 **5**	Specify: **Property has lighting**
Established security	1 2 3 4 **5**	Specify: (e.g. locked fencing, gates) **Gate at entrance to DOT Yard and fence around property. Site is also CW/CWC location- security personnel on site.**
Access to electricity/sewer/water	1 2 3 4 **5**	**Yes- all**
Suitability to inclement weather	1 2 3 **4** 5	Yes
Proximity to useable landfill	1 **2** 3 4 5	Name/Address: **Jackson Landfill, Jackson, AL. 65 miles**
Other property development considerations:	**None**	

Property Recommendations		
Overall viability ranking	1 2 3 **4** 5	Comments: Private, used for staging
Recommend property as viable DMS	☒ Yes ☐ No	Explain:
Recommended debris types suitable for DMS	☐ Vegetative ☒ Vegetative and C&D ☐ C&D ☒ White Goods	
Recommended reduction method(s)	☐ Open burning ☒ Other – Specify: Compacting ☒ Grinding ☐ Air curtain incineration	

Property Photographs

Aerial of DMS

Photo 1

Property Photographs

Photo 2

Photo 3

ALDOT, Alabama

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**September 23 2013**		
Property name:	**DOT Yard (Grove Hill)**		
Property address:	**600 Max Gillis Road** **Grove Hill, Alabama (Clarke County)**		
GPS coordinates:	N: **31.699585**	W: **-87.785792**	
Estimated property size (in acres):			
Property ownership type:	☐ Municipal ☐ County	☒ Private ☐ District	☒ Other – Specify: **State of Alabama Department of Transportation**
Current property use:			
Knowledge of future use/development:	☐ No ☒ Yes – Specify:		
Property owner's name:			
Property owner's address:			
Property owner's contact information:	Phone:	Alternate:	
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes	☐ No	
Photo references: (List digital photo file numbers taken of the property)			

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 **[4]** 5	Describe:
Open water sources	1 2 3 4 **[5]**	Specify:
Groundwater wells	1 2 3 4 **[5]**	
Water drainage conditions	1 2 3 **[4]** 5	
Ground conditions	1 2 3 4 **[5]**	Type: (e.g. soil, gravel, pavement, etc.)
Dominate wind direction	1 2 3 4 5	NA

Evaluation Criteria	Ranking L ← → H	Comments
Proximity to natural/wild habitat	1 2 3 4 5	Specify: **NA**
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 5	Specify: **NA**
Other environmental considerations:	**None**	
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 4 [5]	Detail: (e.g. vegetative, tall grass/tall trees, water)
Proximity high congestion roads	1 2 [3] 4 5	
Surrounding road types	1 2 3 [4] 5	(e.g. one vs. two lane, residential vs. highway)
Proximity to schools, neighborhoods, and housing	1 2 3 4 5	
Proximity to airports/airfields, factories/power plants etc.	1 2 3 4 5	
Other surrounding property/landscape concerns:		
Ease of Use/Development		
Ease of ingress / egress	1 2 3 [4] 5	
Multiple entry and exit options	1 2 [3] 4 5	
Multiple travel routes	1 2 3 [4] 5	(various way to get to and from property)
Surrounding road conditions	1 2 3 4 [5]	(e.g. dirt, gravel, paved)
Ability to service large volumes of trucks	1 2 3 [4] 5	
Site preparation requirements	1 2 3 [4] 5	(e.g. land clearing, paving, etc.)
Defined property boundaries	1 2 3 4 [5]	(e.g. fencing, property markers, etc.)
Established lighting	[1] 2 3 4 5	Specify:
Established security	[1] 2 3 4 5	Specify: (e.g. locked fencing, gates)
Access to electricity/sewer/water	[1] 2 3 4 5	
Suitability to inclement weather	1 2 3 4 5	
Proximity to useable landfill	1 2 3 4 5	Name/Address:
Other property development considerations:		

Property Recommendations		
Overall viability ranking	1 2 3 [4] 5	Comments: Private, used for staging
Recommend property as viable DMS	☒ Yes ☐ No	Explain:
Recommended debris types suitable for DMS	☒ Vegetative ☐ Vegetative and C&D ☐ C&D ☐ White Goods	
Recommended reduction method(s)	☐ Open burning ☒ Other – Specify: ☒ Grinding ☐ Air curtain incineration	

Property Photographs

Aerial DMS Photo

Due to inclement weather photos of the potential DMS site could not be taken at the time of assessment. Photos of the site will be added as they become available.

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**September 24 2013**		
Property name:	**AL-83**		
Property address:	**Liberty Hall Drive** **Evergreen, Alabama (Conecuh County)**		
GPS coordinates:	N: **31.460041**	W: **-86.973543**	
Estimated property size (in acres):	**10**		
Property ownership type:	☐ Municipal ☒ Private ☐ Other – Specify: ☐ County ☐ District		
Current property use:	**Staging**		
Knowledge of future use/development:	☒ No ☐ Yes – Specify:		
Property owner's name:	**Edwin Booker, Sheriff**		
Property owner's address:			
Property owner's contact information:	Phone:	Alternate:	
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes ☐ No		
Photo references: (List digital photo file numbers taken of the property)	**See below**		

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 4 [5]	Describe:
Open water sources	1 2 3 4 [5]	
Groundwater wells	1 2 3 4 [5]	
Water drainage conditions	1 2 3 4 [5]	
Ground conditions	1 2 3 4 [5]	Type: **soil**
Dominate wind direction	1 2 3 4 5	NA
Proximity to natural/wild habitat	1 2 3 4 5	Specify: **NA**

Evaluation Criteria	Ranking L ← → H	Comments
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 5	Specify: **NA**
Other environmental considerations:		
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 4 [5]	Detail: (e.g. vegetative, tall grass/tall trees, water)
Proximity high congestion roads	1 2 3 4 5	
Surrounding road types	1 2 3 [4] 5	**Two lane road**
Proximity to schools, neighborhoods, and housing	1 2 3 4 [5]	**Rural**
Proximity to airports/airfields, factories/power plants etc.	1 2 3 4 [5]	
Other surrounding property/landscape concerns:		
Ease of Use/Development		
Ease of ingress / egress	1 2 3 4 [5]	
Multiple entry and exit options	1 2 3 4 [5]	
Multiple travel routes	1 2 3 [4] 5	(various way to get to and from property)
Surrounding road conditions	1 2 3 4 5	(e.g. dirt, gravel, paved)
Ability to service large volumes of trucks	1 2 [3] 4 5	
Site preparation requirements	1 2 3 4 [5]	(e.g. land clearing, paving, etc.)
Defined property boundaries	1 2 3 4 [5]	(e.g. fencing, property markers, etc.)
Established lighting	[1] 2 3 4 5	Specify:
Established security	[1] 2 3 4 5	Specify: (e.g. locked fencing, gates)
Access to electricity/sewer/water	[1] 2 3 4 5	
Suitability to inclement weather	1 2 [3] 4 5	
Proximity to useable landfill	1 2 3 4 5	Name/Address:
Other property development considerations:		

Property Recommendations		
Overall viability ranking	1 2 3 [4] 5	Comments: Private, used for staging
Recommend property as viable DMS	☒ Yes ☐ No	Explain:
Recommended debris types suitable for DMS	☒ Vegetative ☐ Vegetative and C&D ☐ C&D ☐ White Goods	
Recommended reduction method(s)	☒ Open burning ☐ Other – Specify: ☒ Grinding ☐ Air curtain incineration	

Property Photographs

Aerial Photo of DMS

Photo 1

Property Photographs

Photo 2

ALDOT, Alabama

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:	**September 13 2013**		
Property name:	**Cochran Bridge Site**		
Property address:	**Bay Bridge Road**		
GPS coordinates:	N: **30.732938**	W: **-88.038559**	
Estimated property size (in acres):	**26 acres**		
Property ownership type:	☐ Municipal ☐ Private ☒ Other – Specify: **State of Alabama Department of Transportation** ☐ County ☐ District		
Current property use:	**ALDOT field support property**		
Knowledge of future use/development:	☐ No ☒ Yes – Specify: **ALDOT field support property**		
Property owner's name:	**State of Alabama Department of Transportation**		
Property owner's address:			
Property owner's contact information:	Phone:	Alternate:	
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes ☐ No		
Photo references: (List digital photo file numbers taken of the property)			

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 [4] 5	Describe: **primarily flat**
Open water sources	1 2 [3] 4 5	Specify: **waterway on west border of property**
Groundwater wells	1 2 3 4 [5]	**None**
Water drainage conditions	1 2 3 4 [5]	**Drainage ditch along north edge of property**
Ground conditions	1 2 3 4 [5]	Type: (e.g. soil, gravel, pavement, etc.): **soil**
Dominate wind direction	1 2 3 4 5	**NA**
Proximity to natural/wild habitat	1 2 [3] 4 5	Specify: **waterway along west property boundary**

Evaluation Criteria	Ranking L ← → H	Comments
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 [4] 5	Specify: **Moderate**
Other environmental considerations:	**None**	
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 4 [5]	Detail: (e.g. vegetative, tall grass/tall trees, water) **undeveloped and industrial**
Proximity high congestion roads	1 2 3 4 [5]	**Low congestion**
Surrounding road types	1 2 3 4 [5]	(e.g. one vs. two lane, residential vs. highway) **two lane rural**
Proximity to schools, neighborhoods, and housing	1 2 3 4 [5]	**None**
Proximity to airports/airfields, factories/power plants etc.	1 2 3 4 [5]	**None**
Other surrounding property/landscape concerns:		**Cochran Bridge passes high over central part of property, bridge support structure exists on property**
Ease of Use/Development		
Ease of ingress / egress	1 2 3 [4] 5	**Relatively easy access**
Multiple entry and exit options	1 2 [3] 4 5	**No**
Multiple travel routes	1 2 3 4 [5]	(e.g. various way to get to and from property)
Surrounding road conditions	1 2 3 4 [5]	(e.g. dirt, gravel, paved) **paved**
Ability to service large volumes of trucks	1 2 3 4 [5]	**Yes**
Site preparation requirements	1 2 3 [4] 5	(e.g. land clearing, paving, etc.) **land clearing to remove some bush**
Defined property boundaries	1 2 3 [4] 5	(e.g. fencing, property markers, etc.) **some fence**
Established lighting	1 2 [3] 4 5	Specify: **none**
Established security	1 2 [3] 4 5	Specify: (e.g. locked fencing, gates) **none**
Access to electricity/sewer/water	1 2 [3] 4 5	**none**
Suitability to inclement weather	1 2 3 4 5	**NA**
Proximity to useable landfill	1 2 3 [4] 5	Name/Address:
Other property development considerations:		

Property Recommendations		
Overall viability ranking	1 2 [3] 4 5	Comments: **Site is viable but proximity to bridge overhead limits DMS operations, particularly debris burning considerations**
Recommend property as viable DMS	☒ Yes ☐ No	Explain: **Yes, with limitation/restriction on burning**
Recommended debris types suitable for DMS	☒ Vegetative ☐ Vegetative and C&D ☒ C&D ☐ White Goods	
Recommended reduction method(s)	☐ Open burning ☒ Other – Specify: Compacting ☒ Grinding ☐ Air curtain incineration	

Property Photographs

DMS Site Aerial Photo

Photo 1

Property Photographs

Photo 2

Photo 3

Property Photographs

Photo 4

Appendix G

Debris Management Site (DMS) Evaluation Instructions and Resources

Should the Region find additional potential DMS locations or activate a debris removal contractor to identify additional properties the following information can be used to assist in conducting site evaluations.

- **Photograph the Site –** Digital photos should be taken to document site conditions prior to debris reduction operations.
- **Record Physical Features –** A detailed record of existing structures, fences and other physical features should be taken.
- **Historical Review –** A historical review by the state historical preservation agency will determine the past use of the site. It will also ensure there are no Issues relating to historical or archeological significance that would disqualify its use as a DMS.
- **Sample Soil and Water –** In some cases, soil and groundwater samples are required before debris reduction operations begin. The samples will be used to ensure the condition of the site is returned to the same condition prior to debris reduction activities. The samples should be analyzed for total Resource Conservation and Recovery Act (RCRA) metals, volatile organic compounds, and semi-volatile organic compounds using approved U.S. Environmental Protection Agency (EPA) methods.

In addition the Debris Management Site Property Viability Evaluation Form has been included in the subsequent pages of this appendix for reference and future use by the Region. This form has also been provided in electronic format to the Region.

Alabama Department of Transportation – Southwest Region

Debris Management Site (DMS) Property Viability Evaluation

The following criteria will be observed and documented to determine if the listed site below is viable to be utilized as a debris management site (DMS) following a disaster debris generating incident.

Date of evaluation:			
Property name:			
Property address:			
GPS coordinates:	N:	W:	
Estimated property size (in acres):			
Property ownership type:	☐ Municipal ☐ Private ☐ Other – Specify: ALDOT ☐ County ☐ District		
Current property use:			
Knowledge of future use/development:	☐ No ☐ Yes – Specify:		
Property owner's name:			
Property owner's address:			
Property owner's contact information:	Phone:	Alternate:	
Existing MOU in place to utilize property in event of a disaster incident?	☐ Yes ☐ No		
Photo references: (List digital photo file numbers taken of the property)	**580, 597, 502**		

Evaluate the following factors/criteria related to the property's viability to be utilized as a DMS. Ranking factors should be given a score of 1 – 5. A score of 1 indicates low viability, and a score of 5 indicates high viability. Mark "NA" in the comments field if the item does not pertain to the property or does not require a ranking.

Evaluation Criteria	Ranking L ← → H	Comments
Environmental Factors		
Topography of the property	1 2 3 4 5	Describe:
Open water sources	1 2 3 4 5	Specify:
Groundwater wells	1 2 3 4 5	
Water drainage conditions	1 2 3 4 5	
Ground conditions	1 2 3 4 5	Type: (e.g. soil, gravel, pavement, etc.)
Dominate wind direction	1 2 3 4 5	
Proximity to natural/wild habitat	1 2 3 4 5	Specify:

Evaluation Criteria	Ranking L ← → H	Comments
Potential to cause hazard to existing habitat if used as DMS:	1 2 3 4 5	Specify:
Other environmental considerations:		
Surrounding Property/Landscape		
Surrounding landscape	1 2 3 4 5	Detail: (e.g. vegetative, tall grass/tall trees, water)
Proximity high congestion roads	1 2 3 4 5	
Surrounding road types	1 2 3 4 5	(e.g. one vs. two lane, residential vs. highway)
Proximity to schools, neighborhoods, and housing	1 2 3 4 5	
Proximity to airports/airfields, factories/power plants etc.	1 2 3 4 5	
Other surrounding property/landscape concerns:		
Ease of Use/Development		
Ease of ingress / egress	1 2 3 4 5	
Multiple entry and exit options	1 2 3 4 5	
Multiple travel routes	1 2 3 4 5	(various way to get to and from property)
Surrounding road conditions	1 2 3 4 5	(e.g. dirt, gravel, paved)
Ability to service large volumes of trucks	1 2 3 4 5	
Site preparation requirements	1 2 3 4 5	(e.g. land clearing, paving, etc.)
Defined property boundaries	1 2 3 4 5	(e.g. fencing, property markers, etc.)
Established lighting	1 2 3 4 5	Specify:
Established security	1 2 3 4 5	Specify: (e.g. locked fencing, gates)
Access to electricity/sewer/water	1 2 3 4 5	
Suitability to inclement weather	1 2 3 4 5	
Proximity to useable landfill	1 2 3 4 5	Name/Address:
Other property development considerations:		

Property Recommendations		
Overall viability ranking	1 2 3 4 5	Comments:
Recommend property as viable DMS	☐ Yes ☐ No	Explain:
Recommended debris types suitable for DMS	☐ Vegetative ☐ White Goods ☐ C&D	
Recommended reduction method(s)	☐ Open burning ☐ Other – Specify: ☐ Grinding ☐ Air curtain incineration	

Property Photographs

Aerial Photo of DMS / DMS Diagram

Photo 1

Property Photographs

Photo 2

Photo 3

Appendix H

Force Account Labor, Equipment, and Materials Documents

Federal reimbursement of disaster related expenses requires detailed backup, regardless of type or category of work completed. Such documentation may include personnel timesheets, equipment check out or use logs, procurement and award documents for contracted work and itemized receipts for any disaster related materials purchased. Financial tracking should begin immediately or as soon as possible following a disaster incident to maximize reimbursement of eligible activities. During disaster recovery operations, it may be necessary to keep paper timesheets or logs which can later be entered electronically to support reimbursement programs such as FEMA Public Assistance and FHWA-ER funding.

In addition, typically, damages to buildings or equipment will include loss coverage through various sources such as insurance. Updating insurance coverage documents for newly purchased equipment or newly constructed or purchased municipal buildings or other assets should be completed at normal intervals.

The following types of force account work/material use will be captured in the ALDOT accounting system following a disaster incident.

Force Account Labor

Force account labor is defined as labor performed by the applicant's employees, rather than by a contractor. Force account labor costs associated with the conduct of eligible work may be claimed at an hourly rate. Labor rates include actual wages paid plus fringe benefits paid or credited to personnel. Different eligibility criteria apply to labor rates for different kinds of employees and work. Therefore, ALDOT's pay policies should be reviewed regularly and at the onset of disaster debris removal operations.

Timekeeping for force account activities will be maintained in accordance with ALDOT's pay policies and documented in its RoadMAP System. Detailed timesheets should be kept for each hour worked preparing for, during and following disaster events. Timesheets should include such information as department name (and supervisor name if applicable), employee name (and/or number if applicable), date, time in, time out, total hours worked and a detailed description of work being performed (i.e. deliver generator to 84 Washington for emergency power restoration). Without these items, tracking both regular time, overtime and scope of work becomes challenging and may cause eligible activities to be non-reimbursable due to a lack of supporting documentation. Although ensuring public safety during and following a disaster incident is of upmost importance, personnel tracking should receive careful attention throughout the duration of response and recovery.

Force Account Equipment

Similar to force account labor, the Region may use its equipment and other ALDOT-owned resources to perform disaster recovery activities. Equipment must be identified (VIN, capacity, make/model, type, size, etc.) so that each piece used during recovery can be tracked and assigned an appropriate cost code for reimbursement, if applicable. Equally important to properly identifying the type of

equipment used is to keep a detailed log or record which assigns the piece of equipment to a specific individual. For many federal programs, eligible equipment use may be denied for reimbursement if no operator or personnel is assigned to the equipment during its time of use. Trying to capture work completed after the event and response has occurred is often very challenging and may slow the reimbursement process while trying to gather supporting documentation.

An equipment log should capture information such as unique item or equipment identifier (Truck #4 or DEP# 12345), assigned operator name, time out, time in, hours of use, equipment location (or locations if roving) and a description of the work being completed with the equipment (i.e. chainsaw for clearing storm debris from ROW on 1st and Main St.).

Force Account Materials

Materials that are directly related to preparing for or recovering from a disaster event may be eligible for reimbursement. Each item purchased must be related to the disaster event and must be substantiated by approved documentation (i.e. receipt, purchase approval with detailed description of item and method of payment). If an item was purchased and no detailed documentation is available to support the purchase, it may be ineligible for federal reimbursement.

Items or materials which were purchased prior to the disaster event and were used during recovery may be eligible for federal reimbursement. For these cases, it is important to identify each item specifically (including serial or other specific identifier) and track the location, time of use (if applicable) and purpose of use.

Force Account Forms and Logs

Web links to the following forms/logs have been included for reference and future use by the Region should it be necessary.

- Force Account Labor Summary Record
  http://www.fema.gov/media-library-data/20130726-1608-20490-8748/90_123_2_.pdf
- Force Account Equipment Summary Record
  http://www.fema.gov/media-library-data/20130726-1608-20490-3974/90_127_2010.pdf
- Force Account Materials Summary Record
  http://www.fema.gov/media-library-data/20130726-1608-20490-7634/90_124.pdf

Appendix I

Debris Monitoring Field Documents

Automated Debris Management System (ADMS)

An automated debris management system (ADMS) is a technology solution that eliminates the need for traditional paper-based ticketing during the debris removal process following a disaster event. The Region may request their debris monitoring contractor to utilize an ADMS for debris operations.

Field Documents

The following field documents are typically used during debris removal and monitoring operations.

- **Truck Certification Form:** Truck certification forms are used to measure the dimensions of the each truck and calculate the volume.
- **Load Ticket:** Load tickets are used to track the debris from the original collection point to the debris management site or landfill. The assigned monitor will complete this form at the point of origin, enabling the impacted community to document each individual load from collection through final disposal.
- **Haulout Ticket:** This form is used to document the transportation of reduced debris from the debris management site to its final disposal location.
- **Unit Rate Ticket:** This form documents specialized debris programs that require a per unit collection and disposal rate, such as parks debris removal, right of entry programs, and leaning trees and hanging limbs.

These forms are included in the subsequent pages of this appendix for reference.

TRUCK CERTIFICATION

	Truck I.D.

GENERAL INFORMATION

Applicant:	**Disaster #**	**Primary Contractor:**	
Sub-Contractor:	**2nd Tier Sub (if applicable):**	**Date:**	**Time:** A P
Driver Name:	**License #**	**State:**	**Expiration:**
Driver Phone:	**Tag #**	**State:**	**Expiration:**

Vehicle Type:
☐ Dump Truck ☐ Hydraulic Dump Trailer ☐ Non-hydraulic Dump Trailer
☐ Semi-Trailer ☐ Self-Loading Truck ☐ Other: _____

Features:
☐ Sideboards ☐ Dog Box ☐ Curved/Angled Sides/Floor
☐ Tail Gate Extension ☐ Wheel Wells ☐ Other: _____

TRUCK MEASUREMENTS

Primary Interior Dimensions$_1$:	L_1	x W_1	x H_1	= V_1	Inches (whole number)	

Modifications to Overall Interior Dimensions

Circle "+" for Addition or "-" for deduction

Type Code: A = Box Shape; B = Sideboards; C = Tail Gate Extension; D = Dog Box; E = Wheel Wells; F = Other _____

Type Code$_2$:	L_2	x W_2	x H_2	= V_2	☐ ÷ 2	+ / -
Type Code$_3$:	L_3	x W_3	x H_3	= V_3	☐ ÷ 2	+ / -
Type Code$_4$:	$_4$ L	x W_4	x H_4	= V_4	☐ ÷ 2	+ / -
Round Bottom Truck:	$[\pi \times (D \div 2)^2 \times L] \div 2$	[3.14 x (_____ ÷ 2)^2 x _____] ÷ 2		= V_5		+ / -
V_{total} = Primary Interior Cubic Inches +/- Modification Cubic Inches **CYD = V_{total} / 46,656** ***(rounded to the nearest whole number)***				= V_{total}	**CYD**	

VEHICLE SKETCH

Primary (Side View)

Primary (End View)

Type Code2: (if applicable)

Type Code3: (if applicable)

Type Code4: (if applicable)

Round Bottom: (if applicable)

Measured by:	**Calculated by:**
Applicant Representative (print):	**Contractor Representative (print)**
Signature:	**Signature:**

White - Applicant *Green and Yellow - Contractor* *Pink - Driver* *Gold - Site Copy*

Truck Certification Form - Completion Instructions

The truck certification form is an important document that records the measurements and calculations conducted on a specific truck to determine the official truck load capacity. One copy of the truck certification form should stay with the truck. Below are instructions for completing the form correctly:

General Information

Applicant: ALDOT

Disaster #: The disaster-specific identification number given by FEMA (e.g. DR-4166)

Primary Contractor: The company name of the prime contractor for debris removal

Sub-Contractor: The company name of the debris hauler sub-contractor supplying the truck

2nd Tier Sub: If applicable, the company name of the second-tier subcontractor

Date: The date that the certification is performed

Time: The time of day that the certification is being conducted (am/pm must be indicated)

Driver Name: Legal name of truck driver

License #: Driver license number

State: State issuing driver license

Expiration: Date of expiration of driver license

Driver Phone: Cell phone number for truck driver

Tag #: License plate number from truck being certified

State: State issuing truck license plate

Expiration: Date of expiration of license plate

Vehicle Type: Indicate style of truck, or list other

Features: Indicate specific truck bed features affecting load volume.

Truck Measurements

Truck volume measurements are taken on the empty truck being certified. Using a tape measure, measure, in whole inches, the primary dimensions (length, width and height) of the haul truck bed. Write in these measurements under "Primary Interior Dimensions", and multiply them together to get primary volume V_1 (in cubic inches).

Next, measure, in whole inches, the length, width, and height of any truck bed modifications/features that add to or subtract from the primary volume. Write in these measurements and indicate the type code for the measured feature (e.g. Type Code C for a tail gate extension). Calculate the modifications volumes in cubic inches, and add/subtract these volumes from the measured primary volume to get the total truck volume V_{total} (in cubic inches). To calculate the truck volume in cubic yards, divide the V_{total} by 46,656. Write in the truck cubic yard volume in the space labeled CYD. **This is the official truck volume for this truck.**

Vehicle Sketch

Draw a simple geometric diagram (side view, end view) of the truck bed being measured using a straight edge. Draw any modifications being measured, matching the Type Code number used in the previous calculations.

Measured by: Write the name of the person taking the truck bed measurements

Calculated by: Write the name of the person performing the calculations

Applicant Representative: Write the name of the ALDOT representative present at the certification, have them sign below

Contractor Representative: Write the name of the debris hauler representative present at the certification, have them sign below

DEBRIS LOAD TICKET	TICKET #	
Applicant:	**Disaster #:**	
Program:	**Contractor:**	
Truck #:	**Capacity:**	
Truck Driver Name:		
GPS Coordinates **N:** **W:**		
House # :	**Street / Load Origin:**	**Zone #:**
Debris Classification: ☐ **Burnable** ☐ **Mixed** ☐ **Non Burnable** ☐ **Other _____**		
Loading Time:	**Loading Date:**	
Loading Monitor Name (print):	**Monitor I.D. #:**	
Disposal Site:		
Load Size:	**Weight (Tons):**	
Disposal Time:	**Disposal Date:**	
Disposal Monitor Name (print):	**Monitor I.D. #:**	
Notes:		

HAUL OUT TICKET	TICKET #	
Applicant:	**Disaster #:**	
Program:	**Contractor:**	
Truck #:	**Capacity:**	
Truck Driver Name:		
GPS Coordinates **N:** **W:**		
House # :	**Street / Load Origin:**	**Zone #:**
Debris Classification: ☐ **Burnable** ☐ **Mixed** ☐ **Non Burnable** ☐ **Other _____**		
Loading Time:	**Loading Date:**	
Loading Monitor Name (print):	**Monitor I.D. #:**	
Disposal Site:		
Load Size:	**Weight (Tons):**	
Disposal Time:	**Disposal Date:**	
Disposal Monitor Name (print):	**Monitor I.D. #:**	
Notes:		

UNIT RATE TICKET	TICKET #	
Program:	**Contractor:**	
Truck #:	**Capacity:**	
GPS Coordinates **N:** **W:**		
House # :	**Street / Load Origin:**	**Zone #:**
Rate Code:	**Photo #s:**	
Unit Diameter:	**ROE #:**	
Backfill Requirements: L X W X H /27= Backfill CY **Length** **Width** **Height** **Backfill CY:**		
Loading Monitor Name (print):	**I.D.#:**	
Drivers Name:	**Loading Date:**	
Disposal Time:	**Disposal Date:**	
Disposal Site:	**Verified Diameter (whole inches):**	
Disposal Monitor Name (print):	**I.D.#:**	
Notes:		

Appendix J

Purchasing and Contracting Guidance

All contracts approved for disaster recovery or other related activities must follow state and federal guidelines which are in place prior to a disaster event. Specifically, if a situation arises where an emergency contract is approved for recovery work, the Region must adhere to State emergency procurement regulations with respect to public notice, bid opening, bid award, etc. All procurement documentation must be retained to support adherence to state and federal regulations and will be used to substantiate an eligible process for reimbursement.

For contracts which may be approved outside of the immediate emergency period, the Region should use the normal procurement process and timelines as defined by the State of Alabama. A detailed scope of work and cost estimate should be included in each proposal or statement of qualification (as necessary) to track completion progress and substantiate reimbursement.

Federal Contracting Guidance

To be eligible for reimbursement under the Public Assistance Program, contracts for debris removal must meet rules for Federal grants, as provided for in 44 CFR Part 13.36 Procurement. Public Assistance applicants should comply with their own procurement procedures in accordance with applicable State and local laws and regulations, provided that they conform to applicable Federal laws and standards identified in Part 13. Guidance, in include contracting checklists, to assist Public Assistance applicants in the procurement process can be located through the following links:

http://www.fema.gov/public-assistance-9500-series-policy-publications/debris-removal-applicant's-contracting-checklist

FEMA has also published Fact Sheet RP9580.201 to assist applicants in the contracting process. A link to the Fact Sheet is provided below. The Fact Sheet has also been included in the subsequent pages of this appendix.

http://www.fema.gov/pdf/government/grant/pa/9580_201.pdf

State Purchasing Policies and Procedures

ALDOT will adhere to the rules and regulations established by State of Alabama Department of Finance, Division of Purchasing when procuring resources and services related to debris management operations. A comprehensive list of the rules and regulations can be located from the following site:

http://www.purchasing.alabama.gov/pages/rules_regs.aspx

Purchasing procedures and documents are outlined in the Fiscal Procedures Manual, which can be accessed through the following link:

http://www.purchasing.alabama.gov/pages/fiscal_proc.aspx

Appendix K

ALDOT Debris Removal Policy

The ALDOT Collection of Storm Related Debris Removal from Right-of-Way on State Routes, US Routes and Interstate Routes Policy has been included in the following pages of this appendix. This policy was issued and circulated as of May 2, 2011.

ALABAMA DEPARTMENT OF TRANSPORTATION

1409 Coliseum Boulevard, Montgomery, Alabama 36110

Robert Bentley
Governor

John R. Cooper
Transportation Director

May 2, 2011

Mr. Art Faulkner
Director, Alabama Emergency Management Agency
P.O. Drawer 2160
Clanton, AL 35046-2160

Attn: Mr. Benjie Abbott
Recovery Section Chief

RE: Collection of Storm Related Debris from Rights-of-Way on State Routes, US Routes and Interstate Routes

Dear Mr. Faulkner:

The Emergency Relief Program (ER) is administered by FHWA and is the primary program used by ALDOT for recovery after eligible emergency or major disaster events. ER covers the restoration of the travel way and clear zones on the Federal-aid Highway System regardless of owner. Debris removal is part of the restoration process, but the ER program explicitly limits that removal to debris that was placed on the travel way or in the clear zone by the event (i.e. storm, tornado, hurricane, etc.) Debris removed from private property and placed on the right-of-way for pickup is not covered by ER.

ALDOT's position is that storm debris removed from private property and placed on state-owned right-of-way should be picked up by the appropriate local government in the same manner that private debris is picked up at any other time. Additional information regarding debris removal can be found in the FHWA ER Manual or at the following website: http://www.fhwa.dot.gov/programadmin/erelief.cfm.

If you have any questions on the above, please feel free to contact Mr. George Conner, ALDOT Maintenance Engineer.

Sincerely,

John R. Cooper
Transportation Director

JRC/GHC/lc

cc: Mr. D. W. Vaughn/Chief Engineer & Deputy Director
Mr. G. M. Harper/Asst. Chief Engineer
Mr. Lesley Morrissette/Maintenance Bureau
Mr. Ronald L. Baldwin/Office Engineer
Division Engineers
Mr. Mark Bartlett/FHWA

File: E-0096-1.01

Appendix L

ADEM Storm Debris Clean Up Memo

The Alabama Department of Environmental Management (ADEM) issued a Storm Debris Cleanup Memo on August 6, 2013 outlining the process / guidance for the handling, open burning and emergency disposal of disaster debris. The memo is included in the subsequent pages of this Section.

LANCE R. LEFLEUR
DIRECTOR

ROBERT J. BENTLEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

August 6, 2013

MEMORANDUM

FROM: Eric L. Sanderson, Chief ELS
Solid Waste Branch

SUBJECT: Storm Debris Cleanup

To facilitate the removal of debris resulting from catastrophic natural events, the following guidance is provided and shall supersede all previous guidance the Alabama Department of Environmental Management (ADEM) has provided on this issue in the past. I am also attaching the Department's guidance on open burning and emergency disposal following natural disasters.

- Regulated solid waste debris resulting from catastrophic natural events should be removed from all impacted areas.

- Vegetative and wood waste, including but not limited to stumps, logs, limbs, brush, and leaves, are not regulated solid waste. NOTE: vegetative and wood waste described herein which are contaminated with oil or oily products is considered regulated solid waste and should be disposed of in a lined landfill approved to accept this waste stream.

- The abandonment of regulated solid waste found in storm debris constitutes establishment of an unauthorized dump, contrary to the requirements of the Alabama Solid Wastes & Recyclable Materials Management Act. Unauthorized dumps constitute a nuisance and a public health hazard, can result in additional damage to adjacent property and structures by creating impediments in surface water courses which flood, are breeding grounds for mosquitoes and other disease carrying vectors, are targets for fires set by vandals or careless acts, and encourage additional illegal disposal with their existence. Accordingly, when establishing a disposal site for vegetative waste, regulated solid waste shall be excluded. The landowner and/or person(s) responsible for the creation, contribution to, or operation of an unauthorized dump is responsible for its abatement, whether on public or private property.

- Do not place vegetative debris in wetlands or standing water.

- Avoid erosion features or low-lying areas. If not possible, ensure no impedance of water flow.

- Other agencies, such as FEMA or the U.S. Army Corps of Engineers, may have other criteria for the establishment of a vegetative debris disposal area and it is suggested that these agencies be contacted before a site is authorized by local governments.

- If burning of the vegetative debris is to take place at these sites, the burning must comply with the ADEM "Guidelines for Open Burning of Natural Disaster Debris, May 2012," a copy of which is attached.

- Vegetative debris disposal locations should be tracked by county officials, and a map showing the locations of these sites should be sent to the ADEM Solid Waste Branch as soon as emergency cleanup activities have decreased and time permits.

The ADEM Solid Waste Branch can be contacted at (334) 271-7988 if there are questions regarding debris disposal.

/pdd
Attachments

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S. W
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
4171 Commanders Drive
Mobile, AL 36615-1421
(251) 432-6533
(251) 432-6598 (FAX)

Emergency Disposal of Debris Resulting from Natural Disasters

August 2013

There is sufficient available landfill capacity within Alabama to properly manage the disposal of debris that may be generated during a natural disaster. However, in certain limited circumstances that may arise following a natural disaster, the Department acknowledges the unavailability of collection and transportation options may result in the possible need for emergency disposal sites. In these unusual circumstances, plots of land may be used for the emergency disposal of debris created during natural disasters that, due to the amount of waste generated, or the unavailability of waste collection services, would overwhelm the existing solid waste management infrastructure. Under these extraordinary conditions, the following guidelines shall apply:

- Application for use of an unpermitted site for emergency disposal of debris **must** be submitted to the ADEM Solid Waste Branch by a unit of local or state government.
- Sites to be used only for the staging of waste do not need the approval of ADEM prior to use.
- Sites to be used only for the open burning do not need the approval of ADEM prior to their use, as long as the ADEM guidelines for open burning of natural disaster debris are followed.
- Sites to be used for disposal of regulated solid waste are to be approved by the ADEM-Solid Waste Branch prior to their use The actual location of the site must be submitted to the ADEM Solid Waste Branch, along with any information that may be known about the site, such as proximity to residences, proximity to drinking water wells and wetlands, surface water bodies and streams. If the site is located within the 10-foot coastal zone, coordination with the ADEM-Field Operations Division must be done prior to approval.
- No hazardous wastes or putrescible wastes may be disposed of in these approved emergency disposal sites.
- Waste shall not be placed in groundwater if the site is excavated. Waste shall not be placed in wetlands.
- The disposal site must be closed in accordance with ADEM regulations for closure of a permitted construction/demolition landfill. For sites where regulated solid waste was disposed, the owner of the property will be required to conduct post-closure care of the site for a period of time, to be determined by ADEM based on the types of waste disposed of and the location of the site, up to 30 years after the site is closed. Additionally, an environmental covenant will be required following closure in accordance with ADEM-Division 5 regulations.
- The entity responsible for the disposal site must report to the ADEM-Solid Waste Branch once per month the activities that have occurred at the site for the previous month. ADEM will specify what is to be reported on a case-by-case basis.

The use of a site in an emergency situation does not imply that ADEM will approve the site as a permitted landfill. Following the cessation of emergency disposal activities, the site must comply with the permit application requirements of ADEM Administrative Code, Division 13 in order to operate as a permanent landfill.

Guidelines for Open Burning of Natural Disaster Debris

August 2013

1. These guidelines apply to the open burning of debris resulting from catastrophic natural events.
2. Only vegetation and untreated wood may be burned. All other materials should be disposed of by burial in a permitted landfill or a site approved by the ADEM-Solid Waste Branch for disposal. NOTE: vegetative and wood wastes described herein which are contaminated with oil or oily products should be disposed of in a lined landfill approved to accept this waste stream, or destroyed by an air curtain incinerator meeting the specific conditions described below and with the expressed written approval of the Department's Air Division.
3. Open burning, including approval of sites, must be coordinated and supervised by county officials (public health officers, county engineer, solid waste coordinators, and emergency management officials). A municipality may conduct and supervise its own open burning, following these guidelines, after approval by a county official.
4. Open burning sites should be as distant as possible from occupied dwellings and businesses. Recommended minimum distance is 1000 feet. Prevailing wind direction should be considered to minimize nuisance smoke.
5. Information on the county, city (if applicable), beginning burning date, estimated ending date, organization, contact, telephone number, and GPS location of the site entrance should be e-mailed to lch@adem.state.al.us. A form you can use is available at this e-mail address or by telephoning 334-271-7879.
6. Material to be burned should be as dry as possible. Larger piles consume the debris faster during combustion.
7. Open burning is best conducted during clear weather, preferably on days with sunshine.
8. Burning may commence or fuel added to a fire between 8:00 am & 3:00 pm. Existing fires may burn beyond 3:00 pm.
9. The use of portable air curtain incinerators is encouraged and should be considered if one or more of the following situations exist:
    a. Extended 24-hour burning is necessary.
    b. Accelerated burning is desired.
    c. Smoke is or may become a problem.
10. If regulated solid waste is burned (whether authorized or unauthorized), the operator of the site must conduct a hazardous waste determination on the ash resulting from open burning prior to closing the burn site and submit that to the ADEM Industrial Hazardous Waste Branch. ADEM will make a determination if the ash can remain at the site or must be removed from the site.
11. If ash from open burning of regulated solid wastes are disposed of at the site, an environmental covenant with ADEM in accordance with Division 5 regulations is required. Additional long-term monitoring may also be required if the ashes resulting from the burning of regulated waste are disposed on-site.
12. Open burning shall not occur at a permitted landfill unless approved by the ADEM Solid Waste Branch. Contact the Solid Waste Branch at 334-271-7988 for details.
13. ADEM has the authority to halt or modify any open burning of disaster debris. ADEM contact for open burning is Lud Hoffmann, 334-271-7879.

Appendix M

Example Debris Removal and Disposal MOA between ALDOT and Counties/Municipalities

ALDOT may wish to enter into agreements with counties and/or municipalities within the State that defines the roles and responsibilities of disaster debris removal and disposal. An example memorandum of agreement (MOA) has been included in the following pages of this appendix. This example language has been reviewed by and received approval from the ALDOT Legal Bureau.

MEMORANDUM OF AGREEMENT

BETWEEN THE STATE OF ALABAMA AND

THE _____ (COUNTY COMMISSION, MUNICIPALITY)

REGARDING REMOVAL AND DISPOSAL OF DEBRIS

This Memorandum of Agreement is made and entered into by and between the State of Alabama, acting by and through the Alabama Department of Transportation, hereinafter referred to as ALDOT; and the _____ (County Commission, Municipality), hereinafter referred to as (COUNTY, CITY); and

WHEREAS, ALDOT has control of and responsibility for maintenance and upkeep of the right of way on state roads and US routes; and

WHEREAS, a natural disaster or event that requires the removal of storm debris from the right of way on state roads and US routes could occur at any time; and

WHEREAS, after a first pass by ALDOT to remove storm debris from the right of way on state roads and US routes there is storm debris from private property that has been placed on state right of way; and

WHEREAS, ALDOT finds it to be in its best interest to have a Memorandum of Agreement with the (COUNTY, CITY) to perform debris removal operations on right of way on state roads and US routes in which debris was placed thereon by owners of private property; and

NOW, THEREORE, the parties hereto agree as follows:

1. ALDOT authorizes the (COUNTY, CITY), its agent or its contractor to enter upon the state right of way at its discretion in order to arrange, order, gather, or otherwise marshal debris caused by or related to the debris resulting from an event or disaster and remove and dispose of the debris placed thereon by owners of private property.
2. This Agreement shall commence when executed by both parties and shall continue until terminated as provided herein, amended, or replaced with a new agreement. Except for as provided herein, this Agreement may be terminated with or without cause by either party upon ninety (90) days written notice. During a declared local, state, or federal state of emergency neither party shall be allowed to terminate this Agreement until the declared state of emergency has expired. If the (COUNTY, CITY) has authorized a contractor to remove debris in response to a disaster, the

terms of this Agreement shall survive the termination of Agreement for those areas which have been responded to prior to the termination until final payment and reimbursement is made for such debris removal.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date indicated below, and, each of the undersigned personally represent and warrant that they have the full right, power and authority to execute this Agreement on behalf of the respective parties.

ATTEST:

_____ (COUNTY, CITY), ALABAMA

_____
As Clerk (Signature)

_____
As Chairman (Signature)

_____
Type Name of Clerk

_____
Type Name of Chairman

Date: _____, 2014

Date: _____, 2014

APPROVED AS TO FORM:

_____
Jim R. Ippolito, Jr.
Chief Counsel
Alabama Department of Transportation

RECOMMENDED FOR APPROVAL:

_____
John E. Lorentson, Deputy Director - Operations
Alabama Department of Transportation

APPROVED:

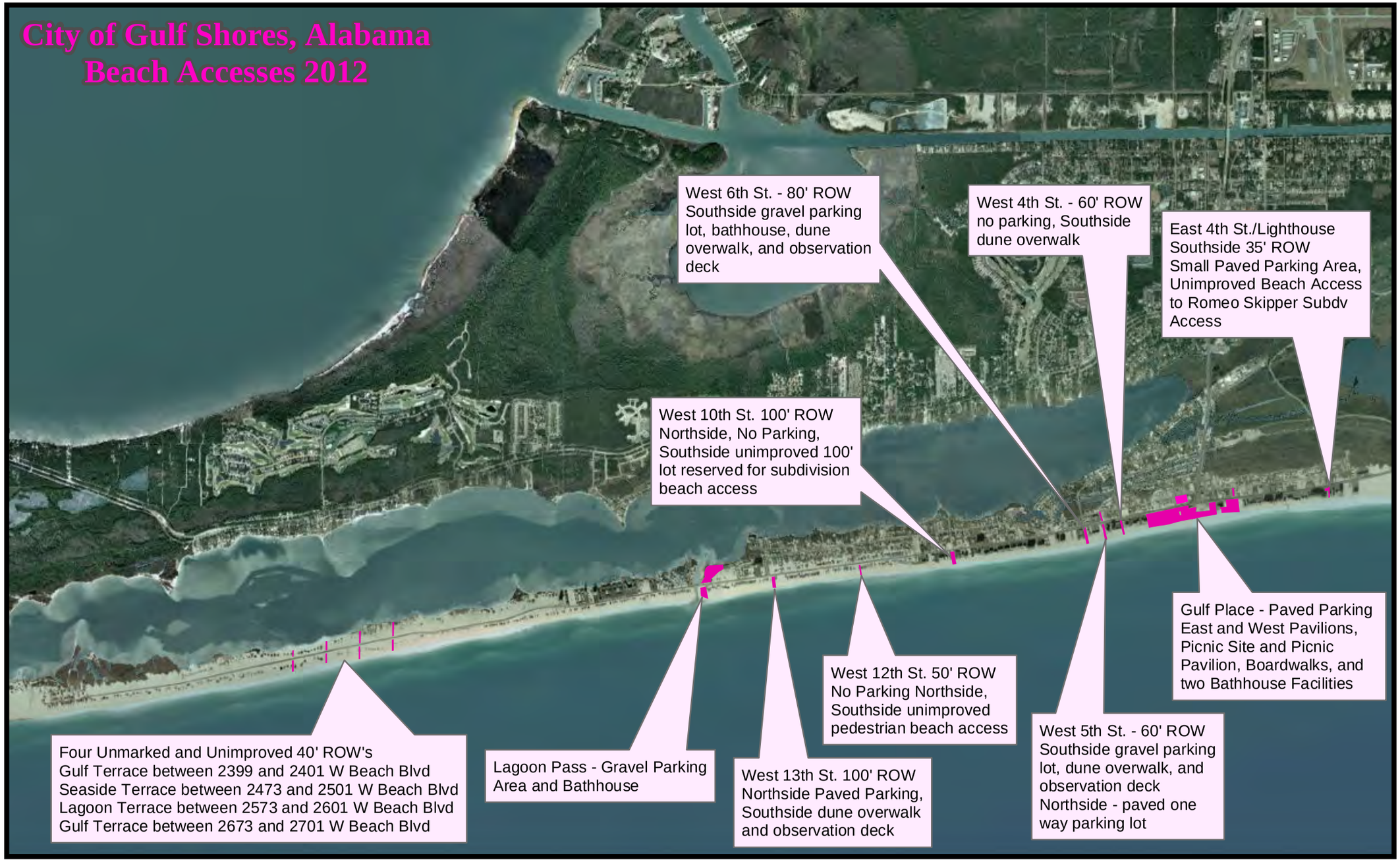
_____
John R. Cooper, Director
Alabama Department of Transportation

Date: _____, 2014

Appendix N

Beach Access Points

Maps of beach access points where sand will be staged for screening by the owning jurisdictions are included in the following pages of this section.


City of Gulf Shores, Alabama
Beach Accesses 2012
West 6th St. - 80' ROW
Southside gravel parking lot, bathhouse, dune overwalk, and observation deck
West 4th St. - 60' ROW
no parking, Southside dune overwalk
East 4th St./Lighthouse
Southside 35' ROW
Small Paved Parking Area, Unimproved Beach Access to Romeo Skipper Subdv Access
West 10th St. 100' ROW
Northside, No Parking, Southside unimproved 100' lot reserved for subdivision beach access
Gulf Place - Paved Parking
East and West Pavilions, Picnic Site and Picnic Pavilion, Boardwalks, and two Bathhouse Facilities
West 12th St. 50' ROW
No Parking Northside, Southside unimproved pedestrian beach access
West 5th St. - 60' ROW
Southside gravel parking lot, dune overwalk, and observation deck
Northside - paved one way parking lot
Four Unmarked and Unimproved 40' ROW's
Gulf Terrace between 2399 and 2401 W Beach Blvd
Seaside Terrace between 2473 and 2501 W Beach Blvd
Lagoon Terrace between 2573 and 2601 W Beach Blvd
Gulf Terrace between 2673 and 2701 W Beach Blvd
Lagoon Pass - Gravel Parking Area and Bathhouse
West 13th St. 100' ROW
Northside Paved Parking, Southside dune overwalk and observation deck