



CHAPTER 4

SOLID WASTE MANAGEMENT FRAMEWORK AND DEBRIS MANAGEMENT

4.1 Overview

Suffolk County is a small, densely populated county with ten towns, thirty-three villages, two Tribal Nations, and numerous hamlets within its boundaries. The County's land area is approximately 911 square miles, and is 86 miles long and 15 miles wide. The topography is relatively flat, with elevations ranging from 0 feet above sea level along the south shore to nearly 400 feet above sea level in the central and northern parts. Debris is a very visible and real result of effects of a disaster and, according to FEMA, can account for as much as 40% of all disaster-related costs. The quantity and type of debris generated from any particular disaster is a function of the location and kind of event experienced as well as its magnitude, duration and intensity. The debris, its location, and the size of the area over which it is dispersed, directly impacts the type of collection, recycling, and disposal methods used to in the cleanup effort, the costs incurred, and the speed with which the problem can be addressed. This Chapter outlines the local solid waste management framework and the management and disposal of various types of natural disaster debris.

4.2 Solid Waste Management Framework

4.2.1 Solid Waste Management Plan

Suffolk County does not have a Solid Waste Management Plan. This responsibility lies with each of the towns and/or villages within the County to define methodologies, facilities, and services.

4.2.2 Solid Waste Management Infrastructure

Components of local Solid Waste Management Infrastructure may include:

- *Transfer Stations:* The transfer stations at the municipal level receive both municipal solid waste (MSW) and oversized MSW (commonly referred to as bulky waste). These facilities can then transfer this waste to resource recovery facilities located on the island or off-island landfills. Most transfer stations only aggregate waste and have limited storage capacity.
- *Construction and Demolition (C&D) Debris Processing Facilities:* C&D debris processing facilities process construction and demolition debris and other types of solid waste suitable for sorting/recycling. The remaining solid waste remaining after sorting may undergo some form of processing for volume reduction and subsequent disposal at permitted landfills or other disposal sites.
- *Landfills - MSW Landfills, Bulky Waste/Special Waste Landfill:* These are permitted sites which accept various streams and types of disposable waste; it is, however, noted that due to Long Island Landfill law, no MSW landfill is located on the island.
- *Resources Recovery Facilities (RRFs) for MSW;* Combustible MSW is received and processed in an enclosed device using controlled flame combustion to thermally break down solid waste so that component materials or substances or recoverable resources may be recovered or used as a raw material or energy source.
- *Household Hazardous Waste Permitted Facilities;*
- *Leaf Compost Facilities:* There are specific sites registered with the towns that



can process leaves on-site.

4.2.3 Other Waste Handling Operations

Other waste handling operations may include the following:

- *Aggregate Recycling Facilities:* These facilities process recognizable uncontaminated concrete, asphalt, rock, brick, and soil to production of recycled aggregate products.
- *Scrap Metal Processors:* There are several large scrap metal processors that can process metal segregated from construction and demolition.
- *Hazardous waste:* The private sector handles this material and it is shipped out-of-state for recycling or disposal.
- *Regulated Medical Waste:* RMW must be properly treated to destroy disease-causing organisms prior to disposal at an authorized solid waste management facility. Treatment and disposal of RMW requires a permit.
- *Asbestos waste:* Asbestos containing material is handled by licensed asbestos contractors for removal and disposal.
- *Lead waste:* Lead containing material is handled by licensed lead abatement contractors for removal and disposal.

4.2.4 Local Waste Management Policies

Local existing solid waste management policies, programs and infrastructure may constrain disaster debris management planning in a number of very significant ways. The following disposal methods are regulated by Towns and local municipalities. In an emergency event and/or disaster declaration, County, State, or Federal directives may apply.

- Open Burning
- Out-of-State Disposal
- In-state Land filling
- Segregation Requirements
- Debris Management Site (DMS) Demobilization Priority

4.3 Approach to Debris Management

Suffolk County will approach managing disaster debris management and capacity as follows:

- Divert as much material from disposal as possible through recycling, composting and other legitimate diversion options. The types of materials that could be diverted from disposal could include: vegetative waste (clean wood from brush and trees); building materials (asphalt, brick and concrete); recyclable metals (i.e., abandoned vehicles, white goods; scrap metals); and household hazardous wastes.
- Utilize approved volume reduction techniques to improve debris management efficiencies and minimize impacts on landfill capacities;
- Utilize small capacity vegetative debris volume reduction techniques at local levels to minimize potential double handling of material.
- Use disposal capacities as efficiently as possible for disposal of disaster debris, recognizing that most mixed debris is transferred out-of-state for disposal;
- Allow for temporary tonnage increases at permitted in-state solid waste facilities on an emergency basis with the approval of the NYS DEC;
- Rely on permitted Transfer Stations to transfer waste that cannot be diverted from disposal (recycling, composting, other) to waste handling facilities outside of the county for disposal;
- Rely on permitted or authorized C&D Processing Facilities to reduce and transfer



waste that cannot be diverted from disposal (i.e., recycling, composting, other) to waste handling facilities outside of the county for disposal;

- Consider alternative technologies for managing portions of the debris waste stream, in-state or out-of-state, such as biomass facilities;
- Use approved TDSR and Vegetative debris sites for temporary storage and subsequent transfer of debris for recycling and disposal.

4.4 Debris Management Strategies

The *Debris Management Plan* implemented by Suffolk County agencies and municipalities will be based on material separation with the potential for recycling at the point of generation to the extent possible with additional segregation occurring at TDSR and Vegetative debris sites in order to minimize disposal and reduce potential threats to human health and safety. TDSR and Vegetative debris sites will be those sites that have been identified by local governments, and which have been evaluated and approved by NYS DEC for the purposes of collection, volume reduction, and transfer to final permitted disposal and recycling facilities. The NYS DEC is responsible for the permitting of these sites and will do so through an Emergency Authorization. The goal will be to maximize potential processing and recycling options. This strategy will be of highest priority and public education together with municipal, State, and federal cooperation will be imperative to effectively carry out this mission. The debris segregation requirements, hazardous waste management procedures, and TDSR and Vegetative debris site plans will be reviewed. Access to the selected TDSR and Vegetative debris sites will be secured. State and municipal equipment that will be needed in the clean-up will be moved to safe locations. Public announcements will be made regarding the potential hazards of moving storm debris, the rationale for and importance of debris segregation requirements, and the location of household hazardous waste aggregation facilities.

4.4.1 Management and Disposal of Various Debris Types

The types of materials generated from disasters and requiring management can include:

- clean wood from brush and trees;
- putrescent municipal solid waste;
- construction and demolition debris from damaged structures;
- non-asbestos containing waste;
- asbestos containing waste;
- white goods;
- household hazardous waste from damaged residences;
- commercial hazardous wastes;
- aggregate (asphalt, brick, concrete);
- scrap metal;
- electronic waste;
- soil, silt, and sediment (uncontaminated; contaminated);
- sand recovery and reuse;
- animal mortalities;
- waste tires;
- abandoned vehicles and abandoned boats;
- Asian Long-horned Beetle (ALB) or other insect infested materials
- Utility-related debris.

Volume reduction methods that will be implemented for cleanup operations will include primarily grinding and chipping, and in the most dire situations burning or incineration. NYSDEC discourages any open burning method, however, due to the unexpected increase in storm debris in the past, the NYS



DEC has exercised its authority to utilize enforcement discretion with respect to certain provisions of 6 NYCRR Part 215 concerning the regulation of open fires, specifically air curtain fire boxes. Suffolk County Resolution 450-2013 deals with the use of air curtain burners and dictates that Suffolk County DPW is permitted to use air curtain burners only during a state of emergency declared by the Governor of New York State or the County Executive. Air curtain burners shall not be used for the regular disposal of vegetative waste. No more than one unit shall be in operation at a time in an effort to prevent air quality problems. The use of air curtain burners shall not extend past 90 days following the declaration of a state of emergency. DPW shall conduct air quality monitoring for particulate emissions at any site where an air curtain destructor is being used, as well as surrounding areas immediately north, south, east, and west of the destructor. The air quality monitoring results shall be released to the Clerk of the Legislature every 30 days during the destructors use, along with a final report 30 days after the operation has ended. DPW shall cease operation of any air curtain destructor being operated if the air quality monitoring data shows that air emissions are exceeding applicable public health standards. This should be a last option for the purpose of volume reduction of vegetative wastes only.

Recycling will be considered early in the debris clearance, removal and disposal operation because it presents the best opportunity to reduce the overall costs of cleanup. Metals, green waste, aggregate and sediment/soils are prime candidates for recycling. The cost of chipping and grinding green waste is basically equal to that of incineration. However, there are significant differences in volume reduction. Incineration, for example, reduces the volume approximately 95%, leaving only an ash residue for disposal. Depending on the waste stream, chipping and grinding can typically reduce the volume on a 4-to-1 ratio (4 cubic yards is reduced to 1 cubic yard) or by 75%.

For chipping and grinding to be feasible, the 25% of volume remaining in a 4:1 reduction ratio must have some benefit or use. The ability to use the recycled wood chips as mulch for agricultural or erosion control purposes, or in the landscape industry and even for a fuel for industrial heating or in a cogeneration plant will negate the need to incinerate clean wood, provided separation of clean versus treated wood has been accomplished. Clean wood, namely green waste, should be managed within each municipality and can be done without creating significant environmental hazards.

Asbestos contaminated material (ACM) must be collected, properly contained, and disposed of as quickly as possible and other hazardous wastes must be handled separately from other debris in order to ensure public and worker safety and in order to prevent portions of the waste stream which can be recycled or disposed as solid waste from being contaminated with hazardous wastes. NYS DEC Guidance for the Management of ACM generated during storm events shall be consulted.

Management Recommendations for Major Types of Debris: For the purposes of this Plan, debris categories are named for the most likely items requiring management after a disaster event and shall be managed as follows:

4.4.1.1 Green Waste/Vegetative Debris

For the purposes of this Plan, green waste is that portion of the clean wood waste stream consisting of vegetative debris including all portions of a damaged or downed tree to include the stump, limbs and other brush.

The management of green waste/vegetative waste on municipal property and right-of-ways will be a municipal responsibility. The management of trees damaged during a natural disaster event is based on a number of factors and includes determining whether a tree is hazardous or non-hazardous based on the following:

- Dangerous hanging limbs having a diameter of 2' or greater above the right-of-way;
- Fallen and leaning trees within the ROW, including trees extending onto the right-



- of- way from private property; and
- Dangerous and exposed stumps.

Green waste will be separated from other debris, cut to manageable size, and transported to debris staging sites in the towns where generated. The brush should be chipped while the wood is still green and the limbs and trunks processed into firewood or wood chips. The resultant processed wood material can be provided to residents or sold to commercial landscapers. It can also be used as a carbon source in composting animal carcasses and municipal solid waste during a debris management crisis. If the amount of stored wood exceeds the needs of the municipalities and landscape industry, then the wood may be sent to a final destination site, either municipally owned or in private ownership. If the final destination site is not permitted, municipalities should contact the NYS DEC to request an Emergency Authorization for the storage of processed wood, typically first grind wood chips. The scope of authorization will be 1) to store and manage wood chips resulting from processing of green waste generated by the storm event and 2) Designate a location for the management of wood chips resulting from the processing of green waste generated by the storm event. While acceptable methodologies for incineration are optional in an emergency event and/or disaster declaration, it does not follow the preferred debris disposal hierarchy and must be approved by regulating authorities.

4.4.1.2 Putrescent Municipal Solid Waste (MSW)

For the purposes of this Plan, the putrescent portion of the MSW is considered as primarily food spoilage and contaminated or damaged recyclables such as wet or mildewed newspaper, cardboard, etc. which requires immediate disposal.

The preferred management approach for MSW is for this waste to be processed at a resources recovery facility (RRF). There is the expectation that normal operations will resume for weekly garbage collection. If at all possible, this waste should be containerized at the curb for collection to be brought to municipal MSW RRFs. However, the amount of MSW requiring disposal may increase significantly in times of an emergency as businesses, residents, and institutions are forced to dispose of damaged consumer goods. Therefore, some portion of one or more TDSR sites may have to be dedicated to the collection and storage of putrescent MSW in containers or other manners of approved segregation only as a last resort requiring additional approval from NYS DEC. Local municipalities, assisted by the county if required, will coordinate a notification procedure to the public regarding food spoilage and special emergency procedures for the collection and/or drop off for this waste type. To the extent that there are facilities available for the processing of food waste, efforts will be made to direct appropriate materials to these facilities.

4.4.1.3 Construction and Demolition Debris (C&D)

For the purposes of this Plan, C&D consists of debris resulting from structural damage to buildings as well as buildings that will require demolition as a result of the disaster event, and will include items such as aggregate (concrete, brick, block), wood (both clean and treated), roofing and siding materials, wallboard, metals, carpeting and flooring, insulation, glass, tile, window coverings, plastic pipe, heating and ventilating, and air conditioning systems and their components, light fixtures, furnishings and fixtures.

It should be noted that C&D debris commingled with household trace or putrescible waste is classified as MSW by NYS DEC. These mixed wastes shall, therefore, be processed and disposed of accordingly.

Debris from structural damage to buildings, bridges, roads, etc. will constitute the largest debris management problem. Any such C&D is to be examined to ensure that no hazardous materials are present. Prior to moving such debris, municipal fire officials must consult Superfund Amendments and Reauthorization Act (SARA) Title III: The Emergency Planning and Community Right-to-Know Act (EPCRA) information to determine whether hazardous materials or waste is likely to be encountered.



Such information is available through Local Emergency Planning Committees and the Regional Local Emergency Planning Committees. NYS DEC may assist with this task. They must also screen for large quantities of asbestos (siding, roofing, pipe wrap, etc.) and leaking oil tanks. For asbestos, US EPA's December 2009 publication entitled Guidance for Catastrophic Emergency Situations Involving Asbestos serves as effective guidance in managing this material.

Methods for handling these wastes are described below. Any scrap metal or clean rubble must be kept separate. The balance of the material will be loaded and trucked to a storage and processing site.

4.4.1.4 Non-Asbestos Containing Waste

C&D that is free of asbestos may have to be reduced in volume and sent to a permitted volume reduction facility that handles C&D. Most of the C&D that is processed at municipal volume reduction facilities for C&D may be sent to out-of-state landfills for disposal if appropriate. It is anticipated that in a catastrophic natural disaster, such as the modeled 100-year probabilistic storm identified in Chapter 2, there will be far more C&D requiring disposal management than can be handled by the existing local volume reduction facilities and landfills; hence, the need for TDSR sites. The importance of pre-positioned contracts, previously arranged by each municipality will ease the burden by providing for processing and transport from the TDSR sites to permitted landfills or appropriate disposal sites. Processing to reduce the volume of C&D should include, if possible, the removal of metals and aggregate such as brick, block, and concrete.

4.4.1.5 Asbestos Containing Waste

Asbestos waste may be disposed of at a permitted municipal solid waste (MSW) landfill in accordance with the requirements of 6 NYCRR 360-2.17(p), however, facility-specific acceptance restrictions may exist. The packaging of asbestos waste is not directly regulated by the NYS DEC; however, in order for a landfill to accept asbestos waste for disposal it must be packaged in accordance with applicable US EPA, OSHA, and NYS DOL requirements. The transportation of asbestos waste is regulated by the DEC's Waste Transporter Permit Program (6 NYCRR Part 364). A vehicle transporting asbestos waste will require a permit if the quantity is 500 lbs. or more. Non-friable ACM is not considered an asbestos waste under NYS DEC regulations and can be disposed of at any landfill that is authorized to accept construction and demolition debris, though facility-specific acceptance restrictions may exist. The transport of non-friable ACM does not require permitting under the Waste Transporter Permit Program. Suspect asbestos-containing materials (ACM) shall be either treated as ACM, or sampled and analyzed for asbestos content. The identification of ACM shall be made by an asbestos consultant licensed by the Department of Labor (DOL), with certification as an Inspector or Management Planner, or by individuals identified by the DOL as appropriately qualified. Materials that are sampled for asbestos content must be analyzed at an environmental laboratory certified by the DOL. Whenever feasible, asbestos-containing debris shall be segregated from non-asbestos containing debris. In the event that the asbestos-containing debris cannot be segregated from other construction debris, all debris must be disposed of as asbestos-containing waste. Asbestos-containing debris must be adequately wetted during the process of collection and processing, and must remain adequately wet while packaged and placed in a waste container for disposal. Asbestos-containing waste shall be appropriately labeled and shall be disposed of at a waste disposal facility authorized for disposal by the NYS DEC, or if disposed of at an authorized waste facility within an outside jurisdiction. Asbestos destined for a municipal disposal facility typically must first be authorized by the NYS DEC through a special waste authorization letter. Asbestos abatement shall be conducted in accordance with applicable federal, state, and municipal requirements. NYS DEC Guidance for the Management of ACM generated during storm events shall be consulted which provides a list of facilities that accept ACM.

4.4.1.6 White Goods



For the purposes of this Plan, white goods are a category of scrap metal and include appliances such as stoves, refrigerators, freezers, dishwashers, washers, dryers, microwaves, air conditioners, other similar types of appliances.

White goods should be segregated curbside to the extent it is necessary to then stage white goods at an authorized TDSR sites or permitted solid waste facility. White goods must be stored in an area separate from other solid waste, preferably on an impervious surface, and must be stored in a manner that prevents vector and odor problems. White goods shall be removed from a site within 90 days to the extent practicable. PCB capacitors and Freon may be contained in old appliances. Until white goods arrive at their final destination, they should be handled in a manner that will prevent a release of refrigerants. Freon shall be required to be removed from any white goods at a TDSR site or final recycling/disposal facility.

Scrap metal dealers will be required by Emergency Authorization to remove any capacitors and capture any Freon prior to processing the appliances. Typically, municipalities are responsible for removing the Freon and capacitors, but the emergency may prevent them from spending time to do this. FEMA project record keeping requires written verification that Freon has been removed from each unit. In addition to the removal of PCBs and Freon from white goods, putrescent MSW will also have to be removed and disposed of properly.

4.4.1.7 Household Hazardous Waste (HHW)

For the purposes of this Plan, HHW is considered to include, but not be limited to, items such as automobile fluids, batteries, paints and stains, cleansers, photo chemicals, lawn-care chemicals, and pesticides.

Prior to a disaster, it is encouraged that residents take advantage of local household hazardous collection programs to clear out hazardous products before a disaster strikes, thereby limiting the amount of hazardous products that will need to be managed once an incident occurs. Many households commonly contain numerous solvents, chemicals, paints, heavy metals, pesticides, compressed gases and petroleum products that are hazardous to human health if not handled properly. Additionally, many commercial establishments or local industries contain similar hazardous materials which raise concern if not properly handled upon discovery. If storm damage is such that HHW can be containerized by residents at the point of generation, instructions will be communicated to residents as to the best management practices for curbside containerizing of HHW or for containerizing and transporting to a temporary debris staging site. Curbside containerized HHW will then be transported to a pre-identified aggregation site which might include a public works garage, transfer station or some other temporary location where the waste materials can be stored until an authorized HHW contractor can be brought in to deal with the material. Private contractors will be directed to separate any HHW that may be mixed with other waste at the curb and to take the HHW only to a pre-identified temporary HHW aggregation site. Some municipalities may have access to qualified contractors from conducting HHW cleanup days. Municipalities that offer HHW disposal programs include Brookhaven, Babylon, East Hampton, Islip, Riverhead, Shelter Island, Southampton, and Southold.

4.4.1.8 Commercial Hazardous Waste

Commercial Hazardous waste will include materials like petroleum-contaminated media, chlorofluorocarbons (CFCs), and all other substances as defined in 40 CFR (Code of Federal Regulations) 261.3.

Hazardous waste, once identified by private owners or local officials, must be segregated from other disaster-generated waste, stored separately, and ultimately disposed of at a permitted commercial hazardous waste disposal facility. These materials must be handled by licensed Hazardous Waste



Transporters and licensed Spill Response Contractors. If hazardous or unknown materials such as lead, PCBs solvents, pesticides, herbicides, pool chemicals, industrial grade cleaning solutions, and other similar types of materials are discovered during a demolition or cleanup, the materials should be staged separately and with secondary containment to collect leaks and prevent further mixing with other hazardous waste or incompatible chemicals. If possible, the material should be segregated from the rest of the demolition and cleanup. During a debris management crisis, owners would be responsible for notifying the DEC of spill releases that pose a potential threat to safety, health, and the environment. For more information related to managing PCB containing disaster debris, see the US EPA document entitled —Planning for Polychlorinated Biphenyl (PCB) Containing Disaster Debris, June 2011 (<http://www.epa.gov/wastes/homeland/docs/pcb-disposal.pdf>). This document supplements the US EPA's —Planning for National Disaster Debris Guidancel (Document ID Number EPA530-K-08-001) located at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-RCRA-2008-0329-0186>.

4.4.1.9 Aggregate (Fill Materials)

For the purposes of this Plan, aggregate is defined as clean, uncontaminated brick, block, concrete and asphalt.

Clean, uncontaminated asphalt, brick and concrete can be reused. Concrete that has been contaminated by a petroleum product or chemical spill as a result of a natural disaster event should be prepared for disposal with other construction and demolition materials. Clean materials can be transported to aggregate recycling facilities within the affected municipality. Aggregate materials should be placed in a separate pile curbside for collection.

4.4.1.10 Scrap Metal

For the purposes of this Plan, scrap metal refers to ferrous metals such as structural steel and steel framing members and non-ferrous metals such as wiring/conduit, plumbing (pipes and fixtures) and HVAC materials (ductwork, motors). White goods are considered as scrap metal, but are described separately.

Scrap metal, to the extent possible, should be segregated at the curb for collection and brought to a TDSR site or directly to a scrap metal processor. Handling scrap metal from stray and abandoned vehicles is covered under the section dealing with *Stray and Abandoned Vehicles and Vessel*.

4.4.1.11 Electronic Waste

For the purposes of this Plan, electronic waste (e-waste) includes items such as stereos, televisions, VCRs, DVD players and computers and peripheral accessories, telephones, and other devices.

E-waste should be segregated and recycled in accordance with the NYS Electronic Equipment Recycling and Reuse Act. Most e-waste contains hazardous materials like lead and a host of other toxic substances that should be kept out of the landfills. Municipalities should allocate a discrete area for the collection and storage of e-waste. In extreme conditions, federal, state, and local emergency responders may arrange for special e-waste management services.

4.4.1.12 Soil, Silt and Sediment (Uncontaminated, Contaminated)

For the purposes of the Plan, contaminated soil, silt and sediment can be defined as residuals deposited by receding flood waters which may include historical sediment from nearby water bodies, soil from yards, road and construction debris, and other material.

Uncontaminated: This is material that has not been subjected to spills, floodwaters or has been determined by analytical testing to be not contaminated. This material could be transported to a staging area until final disposal or reuse through approved material recycling efforts has been determined.



Contaminated: The sediment left behind after receding flood waters and washouts often contains a wide variety of pollutants including fuel oils, gasoline, human and animal waste, metals, and other materials. As a result of certain conditions, some soils may exhibit visible or known traces of petroleum or chemical spills. These soils should be excavated and placed in weather-tight containers, such as a covered and lined roll-off or inter-modal container. If these containers must be stored temporarily, they should be placed on an impervious surface, such as a concrete or asphalt parking lot for no more than 90 days. This material could be transported to a staging area until final disposal and reuse has been determined. If necessary, analytical testing should be performed to determine if the material can be reused or must be disposed. If it is evident that the spill is the result of an empty or leaking piece of equipment (e.g., electrical equipment or similar source) which has not been tested, some testing of the soil may be necessary to identify if PCBs are present. Testing must be by US EPA-approved method 8082. If material is contaminated by a piece of PCB equipment, the equipment must be addressed by containerizing the entire item, if small enough or by draining the remaining fluid into drums and disposing of both the fluid and empty machine carcass at TSCA disposal facilities out-of-state. Empty equipment that has contained fluid with less than 50 ppm, once drained, can be managed as scrap metal provided it contains no free flowing liquid.

Used sandbags should be considered contaminated and should be collected, transported, and disposed of as directed by the State.

4.4.1.13 Sand Recovery and Re-Use

A cost benefit analysis should be performed by the Towns or County when sand recovery and re-use is being considered. Steps will be taken to determine if actions needed to re-use sand and return it back to the original site locations is normally more cost effective than removing and transporting sand for disposal.

The Debris Management Task Force will coordinate between all levels of government through all phases of the sand clearance and removal process. Monitoring of contracted sand debris removal operations will be under direct supervision of the Town or County department responsible for such operations.

Specific operational procedures and steps are needed to ensure FEMA, NYS DEC and US EPA requirements are met for sand processing and re-use. These include: sand moving and vacuuming; staging; and both mechanical raking and cleaning (sifting) of public beach areas in order to remove embedded hazardous debris. In addition, testing for contaminants is required. The final removal and transportation of contaminated sand unsuitable for re-use must be in accordance with NYS DEC requirements. Disposal of this sand must be at a NYS DEC permitted off-site disposal facility.

An appendix, titled SAND RECOVERY and RE-USE, is provided with detailed guidelines for this section of the Plan which includes:

- Provisions for Placement of Clean Beach Sand
- Site Preparations
- Identification of Eligible Sand
- Stockpiling and Processing of Beach Sand for Beneficial Use
- Sampling
- Standards for Use of Processed Beach Sand

4.4.1.14 Animal Mortalities

For the purposes of this Plan, animal mortalities are defined as a significant loss of livestock, pets, and/or natural wildlife.



Catastrophic animal mortalities, if they occur, would more likely be seen along the shoreline and along major flood zones. These could include fish hatcheries, livestock, and horses. Incidental occurrences of small companion pets, such as dogs, cats, rabbits, etc. may be buried on-site or containerized and disposed curbside as MSW. While both of those disposal options still exist for management of disaster-related animal mortalities, capacity is limited at both. Composting is permitted on site or at other accessible locations within the area. If unavailable, MSW landfills may be used for storage. In the event of an unexpected disaster, the federal NRCS maintains a listing of suitability for Catastrophic Mortality, Large Animal Disposal by soil component. Decisions about the disposal of large amounts of animal carcasses must be made on site specific information, including whether the animals are infectious; the location, number and type of carcasses; and the site characteristics that may limit on-site management. In the event of a catastrophic event, Local, County, State and Federal health and agricultural agencies should be consulted regarding the appropriate disposal method.

4.4.1.15 Waste Tires

For the purposes of this Plan, waste tires are defined as all tires that have been separated from the vehicle to which they belonged.

Tires that are collected curbside or collected from other properties as a result of cleanup efforts will be kept separate and stored and disposed of as a special waste. When stored at a TDSR site, they shall be kept dry and preferably containerized. To the extent possible, tires will be transported to: a tire recycling facility; the tire resources recovery facility in-state; or as a last resort, an out-of-state facility for recycling or disposal.

4.4.1.16 Utility Related Debris

For the purposes of this Plan, utility related debris is defined as power transformers, utility poles, cable, and other utility company material.

The public utilities, such as electric utilities, are responsible to remove and dispose of all their respective utility related debris, in accordance with their normal protocol. Additionally, municipal utilities are responsible for removal and disposal of all their respective utility related debris. Non-utility private entities, such as private companies like manufacturers, or facilities such as schools, shopping centers, etc., are responsible for removal and disposal of all their respective utility related debris. There is an exception where a situation exists on private property that necessitates that the County or its designated agent needs to correct or alleviate, as expeditiously as possible, serious disaster or emergency-related conditions which present continued threats to the health or welfare of the residents of Suffolk County. In all cases, management of this type of waste must be managed in accordance with applicable federal, state and local regulations.

4.4.1.17 Asian Long-horned Beetle (ALB) and Other Insect Infested Debris

There are several areas in Suffolk County that are designated by the Department of Agriculture and Markets (AGM) as emergency quarantine areas, pursuant to Section 139.2 of the Agriculture and Markets Law of New York State. Recent storm events resulted in disposal issues for trees and debris from areas under quarantine for Asian Long-horned Beetle and other insect infestations. All businesses, municipalities or individuals working inside the quarantine areas are required to be under a compliance agreement with the NYS Department of Agriculture and Markets for the proper handling and disposition of host material. Under the terms of the quarantine, there are also regulated articles within the quarantined area that require special handling. Regulated articles include all life stages of the Asian Long-horned Beetle (*Anoplophora glabripennis*), other quarantine insect infestations and host material living, dead, cut or fallen, inclusive of nursery stock, logs, green lumber, firewood, stumps, roots, branches and debris of one-half inch or more of certain genera.



Under compliance agreements for the movement of host trees or debris generated from tree trimming, removals, disposal or sales, it is mandatory for all businesses, municipalities or individuals to have crew leaders and/or supervisors attend an Asian Long-horned Beetle, or similar quarantine insect infestation, Training Workshop. Regulated materials are to be cut, chipped, and/or incinerated and removed in accordance with approved disposal procedures and practices identified by federal and state officials.

ALB or other quarantine insect infected host trees should be chipped to less than 1 inch in two dimensions. A mulch, erosion control, or bulking agent should be used within a quarantined area or outside of a quarantined area with AGM approval. Chips should be disposed of on-site, and used as fuel at an approved facility with AGM approval.

4.4.1.18 Stray and Abandoned Vehicles

For the purposes of this Plan, abandoned vehicles are defined as cars, trucks, motorcycles, or recreational vehicles.

Stray and abandoned vehicles (trucks, cars, and motorcycles) can impede response efforts by blocking access to roadways and can impact private property. In order for removal of vehicles and to be eligible under FEMA reimbursements, the applicant must demonstrate the following:

- The vehicle is presenting a hazard or immediate threat (i.e., blocking ingress/egress, located in a public use area);
- The vehicle is abandoned (i.e., vehicle is not on the owner's property and the ownership is undetermined);
- Applicant must follow the local ordinances and state law by: securing ownership, verifying chain of custody, transport, and disposal of the vehicle; and
- All supporting documentation relating to removal of abandoned vehicles or vessels must be submitted to FEMA for reimbursement.

Towns in conjunction with County Insurance Industry and contractor representatives will work to secure sites where vehicles can be stored until demobilization. Sites should be level, clean, dry and have a firm surface and be accessible by recovery and remediation vehicles and equipment. Each site will require an evaluation and be prepared with regard to issues of ingress and egress, highway access, neighborhood concerns and soil conditions. Contractors will be responsible for mobilization, build-out of site, operations at the site, and demobilization of any of their individual contractor controlled sites if needed.

The removal and recovery of stray and abandoned vehicles within the public right-of-way needs to be a cooperative effort between local governments, and debris removal contractors. Those state, County and local officials that will be critical to the operations are the State Department of Motor Vehicles (DMV) and state/county/local law enforcement officials. The basic procedure will be to use licensed towers/wreckers to transport collected vehicles to an authorized secured aggregation site. Once at the aggregation site, these vehicles will be inventoried for such information such as vehicle make, model, VIN number, plate number, extent and type of damage, and other related information. Vehicles will be stored in a manner to permit inspection by appropriate authorities as required, or for reclamation by owners. Vehicles shall be discharged to appropriate entities for disposal, recycling, or other appropriation as determined by the County/Town, after clearance through applicable protocols and after documentation. Protocols for the removal of vehicles that may end up on private properties will need to be established by the State.

In addition to any information which the DMV may require, the contractor's will be required to provide the following additional information:



- The date and time the vehicle was towed;
- The location from which the vehicle was towed;
- Documentary proof of the results of the National Crime Information Center check for every vehicle in its possession;
- Complete documentation of any sale or disposition of each vehicle, including documentation of all efforts to determine the identity and address of the owner and lien holder (if any), as well as copies of all notices sent to the owners and any lien holder; and
- If the vehicle was claimed by the owner, lien holder, or authorized agent, the date, time, and name of the person the vehicle was released to, as well as a complete listing of all charges and fees assessed.

Following Super Storm Sandy, damaged vehicles throughout Suffolk County were temporarily stored within the Town of Riverhead on vacant property, through a competitively awarded Town contract with an Insurance company. An annual contract is in place if future needs arise.

4.4.1.19 Stray and Abandoned Vessels

For the purposes of this Plan, an abandoned vessel is defined as: a vessel left unattended for more than 24 hours on the waters of the County not moored, anchored or made fast to the shore; or a vessel left on the property of another for more than 24 hours without the consent of the property owner. For abandoned boat recovery in waterways, the following document will also serve as guidance: FEMA Recovery Policy RP9523.5, Debris Removal from Waterways; issued October 30, 2012.

Unless such authority is suspended or superseded by the Governor during an emergency or preempted by federal law, it is important to defer to the authority established in state law regarding the removal and processing of displaced or abandoned vessels. The authority will vary depending on where and how the displaced vessel has come to rest.

It is likely that in the aftermath of a mass displacement event salvagers may attempt to recover sunken vessels and/or vessel in peril as a business venture. This is an ancient practice with a long international body of law supporting it, and it is important to allow it to proceed if someone has undertaken a salvage operation (unless avoidable environmental harm is being caused). Note, in order for an operation to be considered salvage, a vessel must be in peril and the owner must be unreachable or must give acquiescence. A salvager may remove the vessel from peril (un-ground it, re-float it, etc.) and may make a claim against the owner of the vessel for a substantial percentage of the value of the vessel and any cargo. That having been said, private owners may independently hire salvagers to recover their vessels. While not technically a salvage operation, there is no reason to interfere with such operations unless they are causing harm to the environment.

The removal and recovery of displaced and abandoned vessels within the public right-of-way may need to be a cooperative effort among State, County, Towns and Insurance Industry as well as the debris removal contractors. Additionally, coordination with federal agencies, such as the USCG, FEMA, and US ACE may also be necessary. As stated above, removal of vessels meeting the conditions identified below may be eligible for FEMA reimbursements:

- The vessel is presenting a hazard or immediate threat (i.e., blocking ingress/egress, located in a public use area); and,
- The vessel is abandoned (i.e., vehicle or vessel is not on the owner's property and the ownership is undetermined).

In order to be eligible for reimbursement, the applicant must be able to demonstrate the



following:

- The applicant must follow the local ordinances and state law by: securing ownership, verifying chain of custody, transport, and disposition of the vessel; and
- All supporting documentation relating to removal of vessels must be submitted to FEMA for reimbursement.

Recovery of vessels will begin with the debris removal contractor identifying the vessel using GPS coordinates. The debris removal contractor will first inspect the vessel and make a record of the vessel location, description, registration number, hull identification number, size and the type and extent of damage. Prior to loading, the contractor will mitigate for any fluid leaks before transporting the vessel to the aggregation site.

Once at the aggregation site, the vessels will be inventoried using their existing registration number, or if not present, hull identification number. If neither number is present, a unique tracking number should be assigned. Such numbers will be used to monitor the vessel through each step.

Debris removal contractor's will secure the aggregation site and provide access to owners, lien holders, and their authorized agents or legal representatives at set times for the purpose of identifying and/or representing vessels in which they have a legal interest.

It is important that vessels aggregated on the water be left on the water if possible, and at a location under the authority of a cooperative harbormaster. This will allow the harbormaster to invoke existing law with respect to vessel stationing and full cost recovery, as well as vessel disposal for derelict vessels. Boat owners will be asked to assume vessel removal costs regardless of the condition of the boat, but current law makes this difficult to enforce except in the case where a vessel can be removed under harbormaster law.

4.4.1.20 Storm Damaged Vehicles or Boat Storage Guidelines

Vehicle Dismantling Facilities (VDF) are governed in New York State by Article 27, Title 23. In addition to providing operating conditions for the dismantling and processing requirements, these rules provide direction for the storage of end of life vehicles. Though the temporary storage of storm damaged vehicles may not meet the definition of vehicle dismantling under Article 27, Title 23, these storage requirements may be considered best management practice for any similar activities.

Storm damaged vehicles or boat storage activities should including the following:

- Storage of vehicles within the DEC jurisdiction of wetlands or flood plain is prohibited. It must comply with 6NYCRR Parts 661 (Tidal Wetlands) and Part 663 (Freshwater Wetlands) requirements.
- Prior to site selection, local Town or municipality must be contacted to ensure compliance with the zoning ordinance.
- Vehicles arriving at the storage location should be inspected upon arrival for leaking fluids. Leaks should be remedied or contained to avoid releases of fluids to the environment.
- Fluids must not be intentionally released on the ground or to surface water.
- Any vehicles received that are leaking fluids or are determined to be of concern for likely potential fluid leaks should be segregated in a storage area or areas capable of being bermed to contain any potential fluid leaks and remedied as soon as identified.
- No dismantling of vehicles shall be undertaken other than necessary corrective actions to address fluid leakage.



- The storage location should be maintained so as to prevent or control on-site populations of vectors using techniques appropriate for protection of human health and the environment and prevent the facility from being a vector breeding area.
- The storage location should have a contingency plan which includes a description of the actions to be taken by employees in the event of a fire, a spill or release of vehicle waste fluids, or unauthorized material is received with the vehicles.

In addition, potential damage to parking lot surfaces may be sustained due to these activities. Financial surety for any associated parking lot damage would be appropriate.

4.4.1.21 Disaster Debris in the Marine Environment – Waterway Debris

In a catastrophic storm event, the categories of debris previously described are not only dispersed on land, but also in streams, rivers, coastal marshes and wetlands, and offshore areas. Waterway debris can be invisible, making it difficult to locate, avoid, and remove. It can damage fishing boats and fishing gear, cripple fishing operations and prevent commercial and recreational activities in affected areas.

Removal of waterway debris in shipping channels is usually addressed by the US ACE in order to open these vital transportation and commercial routes quickly. However, there currently exists no established mechanism to plan for, survey, and remove waterway debris in areas outside of major shipping and navigation channels in affected waterways of Suffolk County, and no existing guidelines to facilitate such a process. At some point, much of the debris is likely to wash up on shore and once deposited above the mean high water line becomes the property owner's responsibility.

Contractors may be activated to accommodate large scale removal operations of waterway debris. The contractors, as directed, will identify submerged debris in waterways, removing debris from those waterways, disposing or recycling of debris, and dredging and redistributing sand as necessary. The municipalities and their contractors will ensure that all work performed is eligible for FEMA Public Assistance grant funding and is performed in accordance with FEMA Recovery Policy RP9523.5, Debris Removal from Waterways, issued October 30, 2012 (included in Reference Section) and other regulations, policies, and guidance which may apply. It should be noted that Town/Village wetland and NYS DEC wetland/protection of waterways permits will have to be obtained to conduct these activities.

Based on field observations and aerial reconnaissance, the impacted coastal and river waterways will be divided into zones for waterway debris removal and they will be ranked for complexity of debris removal operations, anticipated volume of debris, and other factors. This task will be done by the Contractor with the assistance of the DEC, and the US ACE.

Contract specifications should detail the operation for waterway debris removal. In general, the following contract specifications should be considered:

- The contractor will be responsible for performing a pre-removal assessment, using the most cost-effective technology, to document waterway debris prior to commencing debris removal. The Contractor must present a plan for approval indicating the areas in which it seeks to perform a pre-removal assessment. The plan must include specific areas to be scanned and supporting reasons for a scan of that area including, but not limited to, an explanation of tidal forces moving debris to particular areas.
- Debris removed from the waterway sorted prior to or at the time it is removed from the Contractor's boats/barges and placed on shore for final disposal.
- Dredging of sand will not begin until all eligible debris overlying the sand is removed.
- Freon will be removed for recycling from white goods prior to hauling to a permitted landfill or approved disposal site.



- Care will be taken by the contractor to minimize impacts to coastal marshes and wetlands and aquatic vegetation as well as destruction to shellfish beds when conducting waterway debris removal operations. The Contractor will be required to have an approved plan for avoiding or minimizing physical injury to natural resources while removing debris, avoiding or minimizing releases of hazardous substances or oil while removing debris; characterizing and responding to releases of hazardous substances or oil occurring during debris removal; remediating the release of a hazardous substance or oil, if it occurs; characterizing injuries to natural resources and public use of those resources in the event of a hazardous substance or oil release; identifying potential projects/measures to restore or compensate the public for demonstrated natural resource injuries; and rehabilitate oiled or injured wildlife.

4.4.1.22 Additional Debris Considerations

There may be occurrences where unanticipated additional debris types, which must be cleared and disposed, are encountered, such as related to Underground Injection Wells, Structure Remediation, Contaminated Soil Cleanup, and the Securing of Hazardous Materials and Transportation of Hazardous and Non-Hazardous Material. In cases such as these, specialized contracts can be established in advance of disaster events

An RFP model which provides a framework for competitive bidding specialized debris clearance and disposal type items has been included in the Appendix Section.

4.5 Managing for the Potential of Human Remains

If suspected human remains (defined as dead bodies, tissue and/or teeth and bones) are found during the debris removal process, the debris removal contractor will immediately stop all operations in the area where the remains were found and take measures to secure the area from further disturbance. The debris management contractor's project manager will notify local law enforcement officials. Strong coordination efforts are needed in response to this sensitive issue. The law enforcement officials, with support of the Suffolk County Medical Examiner's Office, if necessary, will properly document the situation and collect the remains and other items deemed appropriate. Operations may resume once the law enforcement officials notify the County that the site has been released.

