

APPENDIX Q

SAFETY AND HEALTH DOCUMENTS

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APPENDIX Q

SAFETY AND HEALTH DOCUMENTS

Safety and Health documents pertinent to debris operations, including checklists, position hazard analyses, site safety and health plans, etc. are provided here.. These are also expected to be published in Engineering Pamphlet EP 500-1-10, Chapter 7, "Safety and Occupational Health", 1 June 2006, and include the following:

1. Debris Removal Quality Assurance Checklist
2. Debris Reduction Site Quality Assurance Checklist
3. Air Curtain Incineration Quality Assurance Checklist
4. Position Hazard Analysis (PHA) and Selection of Personal Protection Equipment (PPE)
5. Debris Removal - Activity Hazard Analysis
6. Tree Felling and Trimming - Activity Hazard Analysis
7. Activity Hazard Analysis - Removal of Flood Waters from Buildings
8. On-Site Accident Prevention Plan
9. Safety Checklist for Chippers, Grinders and Shredders
10. Safety Checklist for Crawler Tractors and Dozers
11. Safety Checklist for Scrapers, Motor Graders, and other Mobile Equipment
12. Safety Checklist for Crawler, Truck and Wheel Mounted Cranes
13. Safety Checklist for Motor Vehicles, Trailers and Trucks
14. Safety Checklist for Felling of Trees
15. Important Safety Information/Informacion importante para seguridad personal
16. Chapter 7, Safety and Occupational Health, Draft EP 500-1-10, 1 Jun 06.

APPENDIX 7-Q-1
DEBRIS REMOVAL
QUALITY ASSURANCE CHECKLIST

NOTE: Contractors are required to comply with the requirements of EM 385-1-1 during emergency response operations. The following are a few of the contract safety and occupational health requirements which quality assurance personnel are expected to ensure the contractors are meeting.

1. Safety meetings shall be conducted for all workers at least weekly. (01.B.05)
2. All personnel on site shall wear hard hats unless occupying the operator's station of machinery equipped with a rollover protective structure. (05.D; 16.B.12)
3. Construction equipment shall be equipped with seat belts; operators shall utilize seat belts during operation. Vehicles shall also be equipped with operable reverse signal (back-up) alarms and appropriate fire extinguishers. (16.A.26; 16.A.34; 16.B.01)
4. Bulldozer blades, front-end loaders, dump bodies, and similar equipment shall be either fully lowered or blocked when being repaired or not in use. All controls shall be in a neutral position, with the engines stopped and brakes set, unless work being performed on the machine requires otherwise. (16.A.09)
5. Speed limits shall be enforced in residential areas. (18.B.05)
6. The debris shall be loaded so that the debris does not extend more than six (6) inches beyond the sides of the truck nor more than eighteen (18) inches above the sides of the truck, nor more than the maximum height allowed by the appropriate transportation authority (e.g., DOT or equivalent State or Tribal agency). Workers shall not position themselves atop trucks to trim the load. The load may be trimmed using a pole saw.
7. Children and other non-site workers shall not be permitted in the vicinity of debris removal operations. (Appendix B, para 13)
8. Traffic control systems will be used. See Appendix 7-Q-9 of this EP.
9. Safe separation distances will be established, delineated, and communicated to site workers, including separation between operating pieces of equipment and separation between operating equipment and parked vehicles.
10. All chainsaws shall have an automatic chain brake or kickback device. (13.F.01)
11. Adequate safe clearances shall be maintained from transmission lines. (11.E.02)
12. Before any machinery or mechanized equipment is placed in use, it shall be inspected and tested by a competent person and certified to be in safe operating condition. (16.A.01)

13. Debris trucks shall be equipped with tailgates sufficient to secure the load during transit. If chain-link fencing is used as a tailgate, it will be constructed with a frame, adequately secured to the vehicle, and shall be maintained in good condition. Only side-hinged tailgates will be used; top-hinged tailgates are not acceptable. See Figure 7-Q-1.1, below.

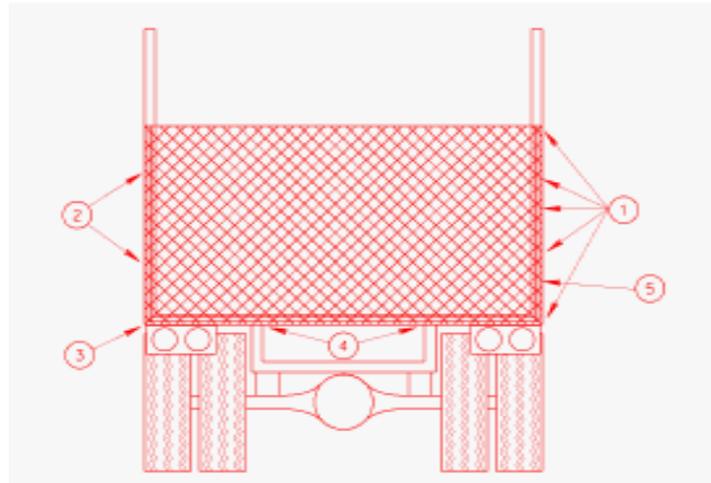


Figure 7-Q-1.1 Tailgate construction.

1. Attach tailgate to truck at three or more points at one side of truck body, i.e. hinges.
2. After loading, secure tailgate to truck at two or more points at opposite side of truck body. The method of closure must ensure the tailgate remains in the closed position during transport.
3. Tailgate must extend to, or overlap, the bottom and sides of the cargo body.
4. After loading, ensure the bottom of the tailgate remains flush with the body of the cargo body. If necessary, secure the bottom of the tailgate to the cargo body at two or more points to maintain effective closure.
5. During dumping operations, recommend the use of a device to hold tailgate in the open position against the body of the truck.

14. Chainsaw operators shall wear the following PPE when operating chainsaws. (13.F.03)

- a. Protective leg chaps (05.A.12)
- b. Face shields and safety glasses (05.B.01)
- c. Hearing protection (05.C.01)
- d. Hard hat (05.D.01)
- e. Protective footwear (05.A.08)
- f. Leather gloves (05.A.10)

15. Records of tests and inspections shall be maintained at the site by the Contractor.(16.A.01)

16. Ensure site workers have procedures in place for the discovery of human remains and other hazardous materials mixed with debris.

17. Whenever any machinery or equipment is found to be unsafe or whenever a deficiency which affects the safe operation of the equipment is observed, the equipment shall be immediately taken out of service and its use prohibited until the unsafe condition has been corrected. (16.A.01; 16.A.03)

APPENDIX 7-Q-5

DEBRIS REDUCTION SITE QUALITY ASSURANCE CHECKLIST

NOTE: Contractors are required to comply with the requirements of EM 385-1-1 during emergency response operations. The following are a few of the contract safety and occupational health requirements which quality assurance personnel are expected to ensure the contractors are meeting.

1. Safety meetings shall be conducted for all workers at least weekly. (01.B.05)
2. Children and other non-site workers shall not be permitted in the vicinity of debris operations. (Appendix B, para 13)
3. Traffic control systems and work zone flagging will be used. See Appendix 7-Q-9 of this EP.
4. Safe separation distances will be established, delineated, and communicated to site workers, including separation between operating pieces of equipment, separation between vehicles and dismounted personnel, and separation between operating equipment and parked vehicles.
5. Ensure site workers have procedures in place for the discovery of human remains and other hazardous materials mixed with debris.
6. All personnel on site shall wear hard hats unless occupying the operator's station of machinery equipped with a rollover protective structure. (05.D; 16.B.12)
7. All personnel on site shall wear the following PPE.
 - a. Protective leg chaps, when operating chainsaws. (05.A.12)
 - b. Face shields and safety glasses, as required. (05.B.01)
 - c. Hearing protection, as required. (05.C.01)
 - d. Hard hat. (05.D.01)
 - e. Protective footwear. (05.A.08)
 - f. Leather gloves, as required. (05.A.10)
 - g. Class 2 or 3 high-visibility apparel (05.A.11)
8. An adequate supply of drinking water shall be provided. (02.B.01)
9. Eyewashes shall be provided at all debris reduction sites. The emergency eyewash equipment must deliver at least 0.4 gallons of water per minute for 15 minutes or more.

Personal eyewash units are portable, supplementary units that support plumbed units or self-contained units, or both, by delivering immediate flushing for less than 15 minutes. Personal eyewash equipment may be used to supplement emergency washing facilities, however, they must not be used as a substitute. (06.B.02; Appendix B, para 11.t)

10. Toilet facilities shall be provided. Toilet facilities will be provided with handwashing facilities. (02.C; 02.D)

11. Before any machinery or mechanized equipment is placed in use, it shall be inspected and tested by a competent person and certified to be in safe operating condition. (16.A.01)

12. Whenever any machinery or equipment is found to be unsafe or whenever a deficiency which affects the safe operation of the equipment is observed, the equipment shall be immediately taken out of service and its use prohibited until the unsafe condition has been corrected. (16.A.01; 16.A.03)

13. Records of tests and inspections shall be maintained at the site by the Contractor. (16.A.01)

14. Suitable protection against the elements, falling or flying objects, swinging loads, and similar hazards shall be provided for operators of all machinery or equipment. Glass used in windshields or cabs shall be safety glass. (16.B.10)

15. Loaders, track-hoes, and other construction equipment in debris reduction areas shall have lights in the front and back in order to work at night. (16.A.11; Appendix B, para 9.e)

16. Speed limits shall be posted and enforced on site. Typically, the maximum speed limit on debris reduction sites is 5 to 10 mph. (18.B.05)

17. For night operations, adequate lighting (5 fc or 53.8 lx) shall be provided in areas surrounding the pits and grinders. (07.A; Appendix B, para 11.v)

18. Construction equipment shall be equipped with seat belts; operators shall utilize seat belts during operation. Vehicles shall also be equipped with operable reverse signal (back-up) alarms and appropriate fire extinguishers. (16.A.26; 16.A.34; 16.B.01)

19. Bulldozer blades, front-end loaders, dump bodies, and similar equipment shall be either fully lowered or blocked when being repaired or not in use. All controls shall be in a neutral position, with the engines stopped and brakes set, unless work being performed on the machine requires otherwise. (16.A.09)

20. For all chippers, grinders, and shredders, exclusion zones and signage will comply with Appendix B, para 9.c, unless reduced exclusion areas are established in the site plan in accordance with the equipment manufacturer's written recommendation.
21. A signal person (ground guide) shall be used for backing trucks. (08.B)
22. Contractors shall maintain adequate dust control. (Appendix B, paras 11.h, 11.j, and 11.s)
23. Emergency telephone numbers and reporting instructions for ambulance, physician, hospital, fire, and police shall be conspicuously posted at the work site. (01.E.05)
24. Adequate safe clearances shall be maintained from transmission lines. Debris piles shall not be located within 100 ft (30.5 m) of transmission towers or piled directly under transmission lines(11.E.02; Appendix B, para 11.u)
25. Two persons per shift shall be qualified to administer first aid and CPR. (03.A.02)
26. Whenever chipper operations are shut down for any significant length of time (e.g., overnight or when the chipper will be left unattended), equipment walls, crevice drums, cutter heads and hammers, and drive mechanisms shall be cleared of all combustible materials by blowing, washing, and wetting down. (Appendix B, para 9.c(2))
27. Compressed gas cylinders shall be capped (when not in use), and secured in a vertical position. (20.D.07; 20.D.08; 20.D.10)
28. Compressed gas cylinders shall be protected from physical damage, electric current, and extremes of temperature. The temperature of cylinders shall not be allowed to exceed 130° F. (54.4° C.). (20.D.05)
29. Oxygen cylinders shall be separated from fuel gases by at least 20 feet (6 meters). (20.D.03)
30. Safety cans and other portable containers for flammable liquids having a flash point at or below 73° F. (23° C.) shall be labeled/listed and painted red with a yellow band around the can and the name of the contents legibly indicated on the container. (09.B.15)
31. Spill containment will be provided for all locations where fuel supplies are placed for storage or dispensation to equipment and vehicles. A spill kit will be readily available to capture inadvertent spills near the fuel supply location. (09.B.20.d)
32. Fire lanes providing access to all areas shall be established and maintained free of obstruction. (09.A.20)

EMERGENCY RESPONSE SAFETY CHECKLIST				
Mission Specific-Debris Mission				
	General	Yes	No	NA
1a.	Do you have a copy of the contract, do you know the scope of the mission and have you been engaged in pre-work or partnering meetings with the contractor.			
1b.	Are there emergency plans, maps and emergency numbers posted at the landfill sites. Are cell phones or other means of communication available, are basic first aid/CPR kits/fire extinguishers located on site.			
1c.	Are training brochures developed that can be handed out to truck drivers, flagman, etc.			
	Equipment			
2a.	Are the QA's checking incoming equipment, are they using established protocol to insure compliance with Corps and State DOT requirements for trucks, loaders, dozers, water trucks, track hoes, compactors, scrapers, etc. Tailgates, backup alarms, mirrors, brakes, mud flaps, tarps (if required), lights, horn, rollover protection, etc. QA's should have checklists, also see			
2b.	Are they checking drivers to see if they have a current State Drivers License or CDL if needed, do the drivers have the proper insurance, truck licenses and tags.			
2c.	Are trucks equipped with fire extinguishers, first aid kits, emergency equipment such as flares, traffic cones, or triangles.			
2d.	On separate tractor-trailer rigs, is the truck properly sized and equipped for the trailer size and weight.			
	Debris Pickup			
3a.	Are right-of-entry permits obtained if working inside the local right-of- ways.			
3b.	Is the property searched for Hazards, such as hazardous waste, underground storage tanks and propane tanks, are utilities such as gas, water and electricity identified and turned off.			
3c.	Is hazardous waste separated for pickup by EPA.			
3d.	Have debris piles been searched by the local search and rescue team for cadavers before debris removal commences.			
3e.	Are white goods such as refrigerators, freezers, washers and dryers separated, is Freon removed.			
3f.	Are other prohibited items removed or kept separate, such as electronic equipment, asbestos, tires, ammunition, etc.			

3g.	Do pickup crews use barricades or use the appropriate number of flaggers for the given work situation..			
3h.	Are the flaggers properly trained and do they have the necessary equipment such as stop/slow paddles, reflective vests (type II or type III for low light conditions or night work).			
3i..	Do work crews use spotters when working near utilities, hydrants, overhead power lines, etc.			
3j.	Do loaders on paved streets use rubber tires or rubber tracks.			
3k.	Do work crews wear appropriate PPE, safety boots, hard hats, gloves.			
3l.	Are chain saw operators properly equipped with face shield, chaps, ear plugs, gloves. Are the chain saws equipped with safety devices such as chain brakes, kickback protection, mufflers, etc.			
3m.	Are chain saw operators properly trained, do they know the hazards of kickbacks, how to fall snags, etc.			
	Landfill Operations			
3n.	Is the site properly laid out so that it is not overly congested and traffic flow is safe.			
3o.	Are speed limit signs posted.			
3p.	Are observation towers properly constructed to code. Are they anchored down, and are the ends barricaded to prevent a collision into the tower. Does the tower have shade, work table, etc.			
3q.	Is there adequate sanitation facilities on site in accordance with the contract, normally one toilet per sex (minimum), are there washing facilities or waterless hand cleaners available.			
3r.	Is there a waste receptacle on site for domestic garbage.			
3s.	Is dust control adequate, no fugitive dust should leave the landfill site.			
3t.	Are there any overhead power lines, buried cables or utilities that need to be protected.			
3u.	Does the landfill use siltation fencing or other means to prevent runoff into adjacent streams or drainage ditches.			
3v.	Has the landfill been properly permitted and are they complying with the provisions of the permit, and are necessary setbacks achieved.			
3w.	Does the contractor use spotters or ground guides in the landfill to assist in traffic flow and dumping.			
3x.	Are tip-overs investigated, are they dumping on compacted level surfaces.			
3y.	Are sites shut down during inclement weather, or when the work conditions become too wet.			



Debris Tower Pre-Operation Checklist:

Criteria	Yes	No	N/A	Comment
Is debris tower adequately anchored; feet buried, braced, and/or concreted in?				
Is debris tower constructed of pressure-treated lumber?				
Is the floor elevation of the tower 10 feet above the ground elevation?				
Is the debris tower constructed of 2"x8" joists, 16" O.C. with 3/4" plywood supported by four 6"x6" posts?				
Is the debris tower constructed of 2"x4" studs and 1/2" plywood protecting the perimeter of the floor area?				
Adequate wind break / protection provided? If provided, is it clear, flexible plastic sheeting covering no more than two-thirds of the viewing windows?				
Is the debris tower covered with a weather-resistant roof?				
Does the roof provide a minimum of 7 ft. of headroom below the support beams?				
Is the slope of the stairs no more than 50 degrees with steps no more than 8 inches high? Is there a handrail?				
Is the top stair rail located 30-34" from the tread? Is the				

mid-rail located between top rail and stair tread?				
Is there a work table present, 4'x2'x3/4" plywood supported at all four corners?				
Is there a barricade in place protecting users and the tower structure from vehicle traffic?				
Fire extinguisher provided and location identified?				
Spill kit provided and adequate PPE provided inside spill kit?				
First aid kit provided and equipped with a one-way CPR valve?				

APPENDIX 7-Q-11
AIR CURTAIN INCINERATION
QUALITY ASSURANCE CHECKLIST

NOTE: Contractors are required to comply with the requirements of EM 385-1-1 during emergency response operations. The following are a few of the contract safety and occupational health requirements which quality assurance personnel are expected to ensure the contractors are meeting.

1. Signs shall be posted at entrances to disposal areas indicating; (1) Authorized Personnel Only (2) No After Hours Entry (3) Hard Hat, Vest, Safety Shoes Required (4) Alcoholic Beverages and Drugs Prohibited (5) Firearms Prohibited. (Appendix B-11-r and w)
2. A sign shall be posted at the edge of the 100 ft (30.5 m) setback from burn pits warning personnel that dangerous operations are taking place therein. (Appendix B-11-u and y)
3. All personnel working in debris reduction areas shall wear full PPE. (Appendix B-11-b)
4. 2-20 LB fire extinguishers shall be pole mounted within 25' of the burn pit. One extinguisher shall be located at each end of the pit. Adequate supplies of water shall be readily available and fire watches shall be used. (Appendix B-11-c).
5. Place warning signs at ash storage areas. (Appendix B-11-l)
6. The design of air curtain operations shall provide for efficient burning of materials. (Appendix B-11-a)
7. An eye wash station and first aid kit equipped with burn ointment shall be available on-site. (Appendix B-11-t)
8. One fire watch per equipment operator (additional personnel are required if more than one pit is operating). (Appendix B-11-c)
9. The fire watch personnel shall have no other duties assigned.
10. Air curtain operations shall not be located directly adjacent to debris piles (minimum separation should be 100 ft (30.5 m)). (Appendix B-11-d)
11. At least 1000 ft (304.8 m) is required between the debris piles and the nearest building. (Appendix B-11-k)
12. At least 1100 ft (335.3 m) is required between the burn pit and the nearest building. (Appendix B-11-k)
13. Debris piles shall not be located within 100 ft (30.5 m) of transmission towers or piled directly under transmission lines.

14. The Contractor shall notify the local fire department and arrange for fire suppression support in case of fire beyond the Contractor's firefighting capability. (Appendix B-11-x)
15. The pit shall be no more than 8' wide and 14' deep with a 1 ft. impervious layer at the bottom. (Appendix B-11)
16. The pit shall be no longer than the blower nozzle. The nozzle should be 3 in (7.6 cm) to 6 in (15.2 m) from the end of the pit. (Appendix B-11-q)
17. The ends of the pits should be sealed with dirt or material to a height of 4 ft (1.2 m). (Appendix B-11-n)
18. A 12 in (30.5 cm) soil seal should be placed on the lip of the burn pit to seal the blower nozzle. (Appendix B-11-o)
19. The length of the pit should be no longer than the length of the blower system and the pit should be loaded uniformly along the length.
20. Operations should be suspended when the sustained wind speed is over 15 mph or gusting more than 20 mph..
21. The burn should be extinguished approximately 2 hours before anticipated removal of the ash mound. Ash should be dampened prior to removal to aid dust control (Appendix B-11-l)
22. Contractors shall monitor loader operators heat stress/or seek assistance from Federal OSHA for air sampling. For disaster situations, opacity requirements shall be set at 15% for 50 minutes out of an hour, and not to exceed 40% opacity for the remaining 10 minutes. A 30-minute start-up time with a minimum of 40% opacity shall be allowed. (06.J.04)
23. Filling the Air Curtain Incinerator pit shall be accomplished by the drop method. **DO NOT ALLOW OPERATOR TO PUSH THE DEBRIS IN THE PIT.** This may compromise the integrity of the pit walls resulting in a possible pit wall failure. The picker should be air-conditioned to minimize heat stress and exposure to dust and noise of the operator.
24. Flammables, and extra fuel, etc., shall be stored safely away from the operation. (100 feet). (26.D.08)
25. The blower shall deliver at an air velocity of 8800 ft/min or 100 mph, volume of 900 cf/min/lineal ft nozzle.
26. The blower shall meet or exceed US-EPA regulation. (Appendix B-11-j)
27. Only clean vegetative debris shall be burned.

28. The pit shall be bermed properly. There shall be a 1 ft (0.3 m) high warning barrier the length of the charging side of the pit to warn equipment operators and 4 ft on adjacent ends. It should be constructed of incombustible material. In addition to the recommendations above, contractors should be required to place wheel stops (stop logs) at the burn pits to preclude equipment from falling into pits. The distance away from the pits should be enough so that the weight of the equipment does not harm the structural integrity of the pit wall.
29. Equipment operators feeding and emptying ash from curtain operations shall, whenever possible, position themselves outside smoke plumes. (Appendix B-11-b)
- a) However, if this is not possible, they will be assured adequate breathing air: filtered air, supplied air, and/or air conditioning in a protected environment.
 - b) If engineering controls are not immediately available, open equipment may be used if workers are provided with SARs.
 - c) Workers requiring respirators shall be enrolled in the respiratory protection program.
30. Ash shall be removed before it reaches within 2 ft. of the top of the pit. (Appendix B-11-l)
31. When cleaning the ash out of pits, extreme heat, ash and noise are the hazards to watch. It is recommended that a front-end loader be utilized to remove ash.
32. The local Department of Environmental Quality (DEQ) will provide ash sample tests.
33. Sides of the pit shall be checked occasionally to prevent cave-ins or collapse.
34. Pits must be constructed out of highly compactable material that will hold its shape. Water table elevation will govern if pit is constructed above or below grade.
35. There should be an impervious layer (1 foot) of clay or limestone on the bottom of the pit to attempt to seal the ash from the aquifer. This should be replaced if scraped by dozers.
36. The Contractor is responsible for dust control while handling ash. (Appendix B-11-s)
37. For night operations, adequate lighting (5 fc (53.8 lx)) shall be provided in areas surrounding the pits and grinders. (Appendix B-11-v)
38. Minimum staffing for night operations is: One night foreman, two laborers (which can be utilized for fire watch), and the equipment/vehicle operators.

APPENDIX 7-O-1

**POSITION HAZARD ANALYSIS (PHA)
AND SELECTION OF PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Employee Name: _____ Date: _____

Supervisor: _____ Job Title: QA – DEBRIS

ACTIVITY	HAZARDS	CONTROLS/PPE
Debris QA at Reduction and Collection Sites	Laceration/puncture (protruding nails, sharp metal, splintered wood, etc., Noise	Wear proper personal protective equipment (PPE), to include hard hat, steel-toed safety boots, orange traffic vests, hearing protection as necessary). Up-to-date tetanus shot.
	Heavy Trucks and Machinery such as dozers, trackhoes, front end loaders, bobcats, etc.	Be observant and conscious of your surroundings at all times. Be alert for traffic, back-up alarms. Stay away from swing radius of trackhoes, etc. Ensure that traffic control system is established and platform for the counter/checker is stable and has safe access.
	Chipper/Grinder & Conveyors	Comply with safety manual for the particular chipper/grinder machine on site. Stay outside the 300 foot safety zone while machine is in operation. Be cognizant of the fact that the machine may occasionally throw chunks of wood and metal beyond the safety zone due to hopper not being kept full at all times and for other reasons. Know where these angles of trajectory are by studying the safe operating procedures for that particular machine in the machine's safety manual. When approaching machine, coordinate with contractor to ensure machine has fully stopped. No loose clothing/jewelry around conveyors. Watch for nip points, unguarded moving parts of machinery. NO STANDING ON THE HAMMERMILL
	Air curtain incineration	Ensure that initial air monitoring has been performed and that respiratory protection, portable showers are available and used (as necessary). Ensure that hazardous waste (batteries, PVC piping, solvents, pesticides, compressed gas cylinders, etc.) and munitions are properly separated from "burnable" trash.
	Dust	Maintain low speed through area to keep dust down, wear respiratory protection as necessary.
	Hazardous materials/munitions	Ensure that hazardous material storage sites are fully bermed. Report any leaking containers, suspect munitions to immediate supervisor/zone engineer.

	<p>Hazards associated with driving: such as: Debris in roadway, damaged roads and bridges, mud and rock slides, slippery roadway, rough terrain, floods, ice/snow, inoperative traffic and street lights, missing regulatory and directional signs, downed power and communications lines, pedestrians and animals in the roadway, isolated work area, stores, and service stations closed, alcohol and driving, fatigue from long driving hours.</p>	<p><u>WEAR SELT BELTS</u>, drive defensively and obey all traffic laws, controls (flagmen, signs) and law enforcement personnel. Maintain a safe speed keeping in mind that roadway ahead may have many surprises in store and evasive action may have to be taken suddenly. Maintain safe following distances between your vehicle and the vehicle in front of you. Avoid using cellular phones while driving. Vehicle maintenance is a must. Perform daily vehicle inspections. Always keep gas tank at least half full as many gas stations may be closed. <u>DON'T DRINK AND DRIVE</u> Get plenty of rest to avoid driving while being fatigued. Carry spare and tire inflation kit with you in case of flat or low tire pressure. Keep ample supply of food and water in your vehicle since stores may be closed. Avoid questionable neighborhoods. Avoid driving at night, especially since traffic and streetlights may be out. Avoid driving across streams since water level may rise suddenly and unexpectedly due to rain.</p>
	<p>Driving Off-road</p>	<p><u>WEAR SEAT BELTS</u> Use extreme caution. Keep speeds down. Maintain control of vehicle. Use 4 wheel drive in rough terrain. Use extreme caution when traveling on trails. Carry cellular phone (see above <u>driving hazards/controls</u>)</p>
	<p>Isolated Work Area: Fatigue (“burnout”) dietary changes due to non-availability.</p>	<p>Keep supply of water and food (MREs) on hand. Rest when off duty, eat balanced diet when available, limit alcohol consumption, obtain food from reliable sources, handle food properly, and drink bottled water.</p>
	<p>Chronic medical conditions</p>	<p>Bring adequate supply of medications with you, realizing that pharmacies may be closed.</p>
	<p>Hostile population/ people,</p>	<p>Avoid conflict and leave area. Do not argue with population.</p>
	<p>Crime</p>	<p>Stay alert. Carry small amount of cash. Avoid questionable neighborhoods. Have cellular phone on hand. Travel with others as much as possible.</p>
	<p>Emergencies</p>	<p>Know location and phone numbers of nearest hospital or doctor, and police. Use 911 in emergencies (check that emergency numbers are valid/operable), carry first aid kit in vehicle.</p>

	<p>Exposure to elements: heat, sun, humidity, cold, wet.</p>	<p>Wear proper clothing for conditions. Be aware of heat/cold related symptoms, avoid overexposure to sun, use sunscreen level appropriate for conditions and skin type,</p>
	<p>Heat Stress</p>	<p><u>DRINK PLENTY OF FLUIDS (8 oz every 15-20 minutes, remain in shade as much as possible. Provide immediate first aid/medical attention for heat stroke condition.</u></p>
	<p>Cold Stress</p>	<p>Get into heated shelter as necessary to maintain body temperature. Replace wet clothing immediately. Drink warm fluids often.</p>
	<p>Sanitation</p>	<p>Avoid standing water, follow proper personal hygiene, drink bottled water, and handle food properly.</p>
	<p>Insects, Animals, Reptiles, and Plants</p>	<p><u>Insects:</u> Wear appropriate clothing (follow specific precautions for ticks). Avoid infested areas, check clothing after possible contact. Be aware of allergic reactions. Use repellent when necessary. Dengue fever, malaria is transmitted by mosquitoes (be familiar with symptoms /treatments). Treat bites immediately, notify supervisor and obtain medical care as necessary. <u>Animals:</u> Avoid animal habitats/infested areas rodent burrows/nests). Do not corner an animal (domestic or wild), avoid contact (household pets included). If confronted, back away slowly while facing threat. Clean wound and obtain immediate medical care if bitten. <u>Reptiles:</u> Treat all reptiles as poisonous. Be familiar with first aid for bites. Obtain immediate medical care. <u>Plants:</u> Be alert for poisonous plants. Avoid contact (long sleeves, gloves, long pants, eye protection as needed), use barrier creams if available, wash affected areas after contact.</p>
	<p>Bio-medical waste (e.g. hospital waste, red bag waste, syringes, bandages, etc.</p>	<p>Avoid all contact. Mark off contaminated areas. Notify immediate supervisor.</p>
	<p>Exposure to blood/bodily fluids (e.g. first aid treatment, accidents, etc.)</p>	<p>If exposed, notify supervisor immediately.</p>
	<p>Allergic reaction to fungus, molds</p>	<p>Report allergy symptoms to immediate supervisor</p>

ADDENDUM 7-S-3

ACTIVITY HAZARD ANALYSIS

Activity: Debris Removal		
Analysis by:	Reviewed by:	Date:
Principal Steps	Potential Hazards	Recommended Controls
<p>1. Loading trucks and picking up debris.</p>	<ul style="list-style-type: none"> • Physically placing debris on trucks (trees/furniture/metal/creating hazard to eyes, hands, feet, vehicle traffic, etc.). • Heavy equipment such as front end loader operating around truck. • Trucks backing up. • Inexperienced or unqualified truck drivers. 	<ul style="list-style-type: none"> • Employees are required to wear hard hats, safety glasses, long pants, long sleeved shirts, safety boots, leather gloves, and reflective safety vests, etc. • A signal person will direct traffic away from work area. Reflective safety vest required. • Backup alarms must be fully functional. • Burnable material will be separated from non-burnable material. • Only licensed truck drivers will operate trucks. They will follow all safety rules and comply with all local traffic laws.
<p>2. Trimming debris protruding from top of trucks.</p>	<ul style="list-style-type: none"> • Climbing on truck to trim debris using ladders. • Maintaining balance while standing on debris in truck bed. 	<ul style="list-style-type: none"> • Use approved ladder of proper length. • Maintain balance by being extremely cautious of where you step • Use trimming tools with caution. Avoid use of chain saws and machettes. • Watch out for debris that can puncture or cut. Wear hard hat,

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Analysis by:

Reviewed by:

Date:

Principal Steps	Potential Hazards	Recommended Controls
<p>3. Trimming debris protruding from back of truck</p> <p>4. Hauling to dump site</p>	<ul style="list-style-type: none"> • Debris that is sharp or pointed presents injury potential. • Potential for truck backing over Workers • Sharp cutting tools used for trimming. • Debris falling off trucks while enroute. • Potential to snag power drops or communication cables. 	<p>work boots, safety glasses or goggles, long pants, leather gloves and long sleeved shirt.</p> <ul style="list-style-type: none"> • Have truck driver shut engine off, leave truck in gear and apply emergency brakes. Also inform truck driver that truck is not to be started until directed. • Wear same PPE as for trimming on top of truck above. • Trucks will not be overloaded allowing debris to spill. Truck will have tailgate or wire mesh screen of proper size to prevent spills. • Debris will not protrude from truck to avoid snaggin power or

Activity: Debris Removal

Analysis by:

Reviewed by:

Date:

Principal Steps	Potential Hazards	Recommended Controls
<p>5. Unloading trucks at dump site</p>	<ul style="list-style-type: none"> • Same hazards as loading. • Possible exposure to fire and explosion. • Heavy equipment such as dozers pushing debris near truck. • Other trucks dumping. • Preparing site. • Potential for slips, trips, and falls due to ground conditions. • Boards with nails present a puncture hazard. Sharp tin roof edges. • Weight of debris, materials and equipment. • Unknown structural integrity. • Potential fall from ladders 	<p>communication lines.</p> <ul style="list-style-type: none"> • Drivers will comply with instructions provided by dump site controller and stay away from fires in progress. • Watch out for heavy equipment such as dozers pushing debris. • Watch out for adjacent trucks dumping. • Wear personal protective equipment (PPE) as described above. • Proper precautions will be taken to insure employees are fit to perform tasks, no carelessness will be allowed • Wear work boots, long pants and shirt with sleeves. Use caution while walking over uneven/slippery ground • Insure boards with nails are removed from work area. Gloves shall be worn. • Proper lifting techniques. Use assistance for heavy or bulky

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Activity: Debris Removal

Analysis by:

Reviewed by:

Date:

Principal Steps	Potential Hazards	Recommended Controls
	<ul style="list-style-type: none">• Electrocution hazard from power lines and other electrical wiring/hazards• Head injury potential	<p>loads. 45-50 lb. Max per person.</p> <ul style="list-style-type: none">• Perform a visual inspection of structure, check for termite damage and missing supports.• Use proper ladder for task. Ensure ladder is in good condition, of proper length and properly secured.• Stay away from power lines and other electrical wires. Disconnect power when possible• Wear approved hard hats

ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Tree felling, cutting, and trimming

ANALYZED BY/DATE:

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
<p><i>Tree felling and trimming general (see AHA for tree climbing operations)</i></p> <p><i>Use of chain saws</i></p>	<p>kick-back, pushback, pull in</p> <p>struck by</p> <p>Fuel spills, fire</p> <p>Biological Insect stings/bites – bees, ticks, spiders, mosquitoes Mammals bites, Snake bites, Exposure to poison ivy/oak/sumac</p>	<p><i>Check controls, chain tension, bolts and handles to ensure proper function and adjustment.</i></p> <p><i>Start saw on ground or on another firm support with the brake engaged.</i></p> <p><i>Look for nails, spikes, or other metal objects before cutting</i></p> <p><i>Clear away dirt, debris, small tree limbs, and rocks from chain saw’s path</i></p> <p><i>Keep hands on handles and maintain secure footing</i></p> <p><i>Prepare for chain-saw kick-back, push back; and pull in; use saws that reduce this danger through chain breaks, low kick-back chains, etc.; do not use the saws tip and keep tip guards in place</i></p> <p><i>Shut off/release throttle prior to retreating</i></p> <p><i>Shut off or engage chain saw brake when carrying a saw more than 50 feet or crossing hazardous terrain</i></p> <p><i>Use safety cans, Store gasoline in an approved container not to exceed 5 gallon capacity , have fire extinguisher available</i></p> <p><i>Practice awareness, avoidance, use personal protective equipment, coverings/barriers, bug spray/lotion (DEET), emergency kits for personnel allergic to bee stings, etc.</i></p>
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<p><i>Chain saws, PPE, fire extinguisher, proper containers for fuel</i></p>	<p>Controls, tension, bolts, handles, guards</p>	<p>Chain saw operation, Personal protective equipment use and limitations, fire extinguishers</p>

PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS
<p>Use of aerial lifts and other heavy equipment operation</p>	<p>Struck by limbs, objects, heavy equipment</p> <p>Work zone safety</p> <p>Laceration, noise, eye, face, hand injury</p> <p>Falls from heights</p> <p>Contact with live electrical equipment</p>	<p>Plan the cut; watch for objects under tension; use extreme care to bring objects safely to the ground; plan where the object will fall, ensure the fall area is free of hazards, avoid felling an object into other objects and ensure a clear retreat path is provided</p> <p>ANSI/ISEA 107-2004 compliant high visibility safety apparel and headwear for all workers</p> <p>Use chaps, hearing protection, hard hat, eye protection appropriate for additional impact hazard (see specific PPE requirements for working at heights, tree climbing)</p> <p>1st aid kit on site</p> <p>Personal fall arrest system including harnesses, lanyards, and lifelines (as appropriate)</p> <p>Ensure that tree-trimming operations to clear electrical lines (work within 10 feet of live electrical lines) are performed only by qualified line-clearance tree trimmers using the appropriate equipment</p> <p>Closely inspect trees for electrical conductors passing through or within reaching distance of employees before beginning tree work</p> <p>Consider all electrical power conductors to be energized until proven otherwise and not to be directly or indirectly (e.g. through tools, branches, or other equipment) touched</p> <p>Coordinate tree trimming with utility companies when feasible</p> <p>Unless de-energized and visibly grounded, maintain proper distance from electrical power (at least 10 feet) and/or provide insulating barriers</p>

PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS
Tree trimming and felling	<p>Impact from tree debris and felled trees</p> <p>struck by</p> <p>branches, objects thrown back at cutter</p> <p>weather damaged trees,</p> <p>limbs, trees under pressure, spring poles</p> <p>dead trees</p> <p>obstructions on ground (retreat)</p>	<p>Limit access/set up controlled access zones</p> <p>Keep non-essential people at least 20 feet beyond the expected drop zones during trimming</p> <p>Designate work areas so that trees cannot fall into an adjacent occupied work area(adjacent occupied work areas should be a <u>minimum</u> of two tree lengths from the tree being felled.</p> <p>Always plan a clear path of retreat before cutting</p> <p>Determine the felling direction and how to deal with forward, back, and/or side lean</p> <p>Determine the proper hinge size to safely guide the tree in its fall</p> <p>If tree is broken and under pressure, make small cuts to release pressure before cutting up each section</p> <p>Be aware that tops may break off dead trees when cutting</p> <p>Avoid felling trees into other trees or objects</p>
Wood chipping	<p>Caught in/between</p> <p>Struck by</p> <p>Noise</p> <p>Cuts/abrasions</p>	<p>Do not wear loose clothing</p> <p>Follow manufacturers' guidelines and safety instructions</p> <p>Follow proper lockout/tag out procedures</p> <p>Chock trailer wheels of detached chippers to prevent sliding or rolling</p> <p>Maintain safe distances between chipper operator and other work/workers</p> <p>Use proper eye and face protection</p> <p>Hand protection</p> <p>Hearing protection</p>

EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<p><i>Chain saws, pole saws, bucket/aerial lifts, personal protective equipment, fall protection, wood chipper</i></p>	<p><i>Inspect PPE items as required (e.g. electrical gloves, personal fall protection [harnesses, lanyards, etc.]</i></p>	<p><i>Qualified worker for clearing electrical lines, qualified operator heavy equipment, aerial lift, competent person for fall protection. Train tree trimmers in skills needed for job (i.e. use 29 CFR 1910.266(l as a reference guide).</i></p> <p><i>Qualified Line Clearance Tree Trimmer is defined by ANSI Z133.1.3.26</i></p> <p><i>Train workers on fall protection systems they will use</i></p> <p><i>Lockout/tag out designated employee(s)</i></p> <p><i>At least 1 CPR/1st aid trained person on site</i></p>

Activity: Removal of Flood Waters from Buildings and Initial Entry into Previously Flooded Building Areas

Activity Description

- ⊖ This activity sheet is for workers and supervisors involved in initial building entry and flood water removal, regardless of their specific profession or trade. For some operations or situations (e.g., entry into confined spaces, search-and-rescue activities) other activity sheets also apply.
- ⊖ The flooding that occurred as a result of Hurricane Katrina (2005) left significant amounts of standing water. After a flood, workers might need to enter buildings to search for and rescue survivors, retrieve critical items, perform initial inspections, and coordinate residual water removal before other response-and-recovery activities begin. Other workers will use fixed and portable pump systems to transfer trapped water to more appropriate locations. Initial entry in buildings and removal of standing water are likely first steps in the response to any disaster that results in widespread flooding.
- ⊖ The workers who perform these activities are typically among the first to enter previously flooded structures. They might encounter situations that have not yet received a professional evaluation to characterize the hazard.
- ⊖ These workers are also among those most likely to come in contact with floodwaters. In some areas, the water may be contaminated with fuels, oil, sewage, and other chemical or biological substances.

About the Activity Sheet

This document is intended as a quick reference for employers and workers. It highlights many of the likely and potentially highest risk hazards associated with this job/operation during response and recovery from hurricanes. It also recommends beneficial work practices, personal protective equipment (PPE), and other exposure control methods for protecting workers. Employers must evaluate the specific hazards associated with this task/operation at the site where this work is performed. When additional exposure controls are necessary to adequately protect workers, employers must provide them. For additional information, employers and workers should consult with applicable standards, requirements, and hurricane-related fact sheets and web sites.

Hazards	Key Engineering Controls and Work Practices	Personal Protective Equipment
Generally recommended for all hazards	<ul style="list-style-type: none"> • See general recommendations document 	<ul style="list-style-type: none"> • The general PPE is recommended for all response/recovery tasks/operations; only the additional PPE that may be needed for a specific hazard is noted below • General PPE includes: <ul style="list-style-type: none"> — Hard hat for overhead impact hazards — Eye protection with side shields — Gloves chosen for job hazards expected (e.g., heavy duty leather work gloves for handling debris with sharp edges and/or chemically compatible gloves for contact with liquids) — Work shoes with steel toe and insole — Respiratory protection as necessary—N95 for nuisance dust hazards from mud, silt, and sand

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Activity: Removal of Flood Waters from Buildings and Initial Entry into Previously Flooded Building Areas

Hazards	Key Engineering Controls and Work Practices	Personal Protective Equipment
Structural instability	<ul style="list-style-type: none"> Limit access/set up controlled access zones until stability and structural integrity of the structure is known Conduct searches, inspections, and flood water removal from outside damaged structures to the extent feasible Ensure a competent person evaluates the structure's stability when access is necessary Install temporary structural support adequate to protect workers 	
Contact with live electrical equipment and other utilities (e.g., gas, water)	<ul style="list-style-type: none"> Assume electrical lines are energized until proven otherwise Unless de-energized and visibly grounded, maintain proper distance from electrical power lines (at least 10 feet) and/or provide insulating barriers Provide protection from live electrical parts or equipment, or de-energize all electrical power sources and verify this before beginning work Do not approach a previously undetected gas leak; if a gas leak is detected secure spark-producing devices (engines and tools) and evacuate the area until the leak is secured Ensure other utility lines have been purged before beginning work that may affect them 	
Falls from heights or through openings	<ul style="list-style-type: none"> Limit access/set up controlled access zones Use fall protection systems: guardrails, safety nets, or fall arrest systems Cover or guard holes and openings as soon as they are created. Covers must support two times the weight (body, equipment, materials) that may be imposed 	<ul style="list-style-type: none"> Personal fall arrest system including harnesses, lanyards, and lifelines (as needed)
Confined Spaces	<ul style="list-style-type: none"> Evaluate the need for entry (i.e., placing any body part into the space) If entry is required, see Entry into Confined Spaces activity sheet 	
Exposure to contaminated water and/or flood waters	<ul style="list-style-type: none"> Reduce the exposure to splash or aerosolized liquid hazards by limiting the number of people in the area and having those in the area stay upwind of water discharge areas Ensure good hygiene, especially hand washing, is practiced before eating, drinking, and smoking Ensure cuts and bruises are protected from contact with contaminated water; properly wash all areas exposed to contaminated water Exclude unnecessary people from the splash hazard zone in water-pump discharge areas 	<ul style="list-style-type: none"> Goggles if routinely working near splashing flood water Respiratory protection (N95) may be necessary if potential for exposure to contaminated waters Watertight boots/waders with steel toe and insoles Nitrile or latex gloves for contact with contaminated water

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Activity: Removal of Flood Waters from Buildings and Initial Entry into Previously Flooded Building Areas

Hazards	Key Engineering Controls and Work Practices	Personal Protective Equipment
<p>Asbestos</p>	<ul style="list-style-type: none"> • Consider the potential for Asbestos Containing Building Materials (ACBM). Structures built before 1980 are more likely to contain ACBM • If available, review the building operations and maintenance plan and ACBM survey to determine the locations and types of ACBM in building • Materials that may contain asbestos include: thermal insulation (formed or spray-on), vinyl floor tile, home siding & shingles, transite (including cement piping), flame retardant materials (e.g., gloves, curtains, etc.) and roof flashings • If building is suspected or known to contain extensive amounts of asbestos containing thermal insulation, consider having a qualified individual inspect the building and evaluate the condition of the material prior to entry by other workers • If located, do not disturb material and isolate area until material can be visually inspected for integrity • If removal is necessary to complete work, removal must be conducted by a licensed abatement firm and discarded in an appropriately permitted landfill 	<ul style="list-style-type: none"> • Appropriate respirator and protective clothing for visual inspection, sampling, and subsequent abatement work based on likely employee exposure

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Activity: Removal of Flood Waters from Buildings and Initial Entry into Previously Flooded Building Areas

Hazards	Key Engineering Controls and Work Practices	Personal Protective Equipment
Generator use	<ul style="list-style-type: none"> • Ensure generators are used outside or in areas that are well ventilated to reduce potential for carbon monoxide exposure • Store fuel in containers approved for flammable/combustible materials; store containers away from heat- and spark-generating equipment • Only add fuel to generators after they have been shutdown and allowed to cool • Inspect generators before use • Ground and bond generators according to the manufacturer's recommendations • Use ground fault circuit interrupters (GFCIs) or implement an assured equipment grounding program 	<ul style="list-style-type: none"> • Hearing protection—see Noise hazard
Improper ladder use	<ul style="list-style-type: none"> • Inspect ladders for cracked, broken, or defective parts before use • Do not exceed the load rating of ladders—remember load ratings include people, tools, and equipment • Set up ladders on stable surfaces • Set extension or straight ladders at a 75-degree angle from the ground (1/4 foot back for every foot of rise) and provide 3 feet above an upper landing surface to ease climbing onto/descending from height • Use non-conductive wood or fiberglass ladders and exercise extreme caution when working near power lines • Secure ladders that can be displaced by work activities; consider barricades at the base to keep traffic away 	
Slips, trips, and falls	<ul style="list-style-type: none"> • Establish barriers/marks around areas of known hazards (holes, overhead hazards) • Take extra care when stepping into areas that are unstable/uneven or where the surface cannot be seen • See general recommendations document 	
Mold/water damaged materials	<ul style="list-style-type: none"> • Limit contact or disturbance of surfaces containing substantial visible mold growth • See general recommendations document 	<ul style="list-style-type: none"> • Particulate-filtering respirators (N95). Charcoal-impregnated filters may cut down on odor control
Noise	<ul style="list-style-type: none"> • Place generators, compressors, and other noisy equipment at a distance or behind a barrier when possible 	<ul style="list-style-type: none"> • Hearing protection when working around potential noise sources and when noise levels exceed 90 dBA or 85 dBA for personnel with standard threshold shifts

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Activity: Removal of Flood Waters from Buildings and Initial Entry into Previously Flooded Building Areas

Hazards	Key Engineering Controls and Work Practices	Personal Protective Equipment
<i>Animal, snake, and insect bites/stings and aggressive behavior</i>	<ul style="list-style-type: none"> • See general recommendations document • Be on guard for stray animals as they exhibit unpredictable or aggressive behavior • Unless properly trained, do not attempt to take custody of animals – watch the animal from a safe distance while contacting animal rescue/control personnel • Use insect repellent containing DEET or Picaridin on exposed skin and wear long pants and a long-sleeved shirt • Inspect areas for nests and stray animals • Assume all snakes are poisonous and all animals are rabid 	
<i>Discovery of human or animal remains</i>	<ul style="list-style-type: none"> • If found, contact public health/mortuary personnel for removal 	
<i>Discovery of unknown chemicals</i>	<ul style="list-style-type: none"> • See general recommendations document 	
<i>Heat stress</i>	<ul style="list-style-type: none"> • See general recommendations document 	

Additional Medical Needs

- ⦿ Follow medical guidance and precautions outlined in the general recommendations document.

Additional Training Needs

- ⦿ Follow general site- and task-specific training guidelines as outlined in the general recommendations document

Summary of OSHA Sampling Results

- ⦿ Placeholder—specific wording to be determined

Related Activity Sheets

- ⦿ Building Assessment, Cleanup, and Repair
- ⦿ Debris Removal
- ⦿ Entry into Confined Spaces

Other Resources and References

- ⦿ 29 CFR 1926 Subpart M—Fall Protection
- ⦿ 29 CFR 1910.23—Guarding of Floor and Wall Openings
- ⦿ 29 CFR 1926 Subpart X—Ladders

- ⦿ OSHA Fact Sheet—Preventing Falls
http://www.osha.gov/OshDoc/data_Hurricane_Facts/fall.pdf

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Activity: Removal of Flood Waters from Buildings and Initial Entry into Previously Flooded Building Areas

- 0 OSHA Fact Sheet—Working Safely Around Downed Electrical Wires
http://www.osha.gov/OshDoc/data_General_Facts/downed_electrical_wires.pdf
- 0 OSHA Fact Sheet—Using Portable Generators Safely
http://www.osha.gov/OshDoc/data_Hurricane_Facts/portable_generator_safety.pdf
- 0 OSHA Fact Sheet—Mold
http://www.osha.gov/OshDoc/data_Hurricane_Facts/mold_fact.pdf
- 0 OSHA Quick Card—Atmospheric Testing in Confined Spaces
http://www.osha.gov/OshDoc/data_Hurricane_Facts/atmospheric_test_confined.pdf
- 0 OSHA Safety and Health Topics—Confined Spaces
<http://www.osha.gov/SLTC/confinedspaces/index.html>

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ADDENDUM 7-T-1
ON-SITE
ACCIDENT PREVENTION PLAN

Philosophy: _____ willingness to correct safety hazards detected by the
(Contractor)
Army Corps of Engineers is commendable, but a poor substitute for a proactive program that
prevents, detects, and corrects hazards. In _____, Safety is
(Contractor)
everyone's responsibility and is the number one priority to an efficient, quality project.

SIGNATURE AND DATE OF PREPARER OF PLAN: _____

1. Contractor:	2. Contract Name & No:	3. Date:
4. Project Manager:	5. Project work schedule: Shift(s) Hours	6. On-Site Safety Officer:
7. Project Description:		
8. Major Equipment to be Used:		
9. Who will inspect jobsite & frequency:	10. Location of all inspections, equipment records and employee indoctrinations:	
11. Who is responsible for employee indoctrinations & continuing training:	12. Day/Hour of weekly safety meeting:	
13. Separate Phases of operation requiring activity Activity Hazard Analysis (AHA):	13. cont.	
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13.a. List Personal protective Equipment (PPE) by task, phase of work: head, eye, hearing, hand, foot, task specific (e.g. hot work)

Task	PPE

14. Name, address & telephone number of Doctors, hospitals and ambulance services with whom arrangements have been made for this contract.

a. Doctor

b. Hospital

c. Ambulance

d. Form and location of emergency communication to be used:

15. Subcontractors: (Note: Subcontractors will comply with the provisions of this APP.)

16. Names of First Aid/CPR Attendants w/certificates:

a. Type cert & exp date:

c. USCG Oper & exp date:

17. Fire Fighting Equipment

18. First Aid Kits

19. Toilets

No	Rating	Type	Location	No	Type	No	Type

20. Hazardous Material Inventory is/is not attached. MSDS's are located at:

NOTE: ACCIDENT REPORTING INSTRUCTIONS: ANY ACCIDENT RESULTING IN A LOST WORK DAY OR PROPERTY DAMAGE OF \$2,000 OR MORE WILL BE REPORTED ON ENG FORM 3394 AND SUBMITTED TO THE CORPS OF ENGINEERS REPRESENTATIVE WITHIN 5 WORKING DAYS. IF AN ACCIDENT OCCURS RESULTING IN 3 OR MORE PEOPLE BEING HOSPITALIZED, \$100,000 OR MORE IN PROPERTY DAMAGE, OR ANY INCIDENT THAT WOULD BRING ATTENTION TO THE CORPS OF ENGINEERS, IMMEDIATE TELEPHONIC NOTIFICATION WILL BE MADE IN ADDITION TO ENG 3394 REPORTING REQUIREMENTS.

21. The following separate plans apply to this contract. They have been accepted and are available as indicated: (Circle **all** that apply and list location.)

a. Plan	b. Location & Acceptance Date	a. Plan	b. Location & Acceptance Date
<p>Haz Energy Control Plan 12.A.07</p> <p>HazCom Program 01.B.06</p> <p>Asbestos Abatement Plan 06.B.05.</p> <p>Blasting Plan 29A.01.</p> <p>Dive Operations Plan 30.A.13</p> <p>Respiratory Prot Plan 05.E.03</p> <p>Layout Plans 04.A.01</p> <p>Confined Space 06.I.</p> <p>Lead Abatement Plan 06.B.05</p> <p>Abrasive Blasting 06.H.01</p> <p>SHP & SSHP (HTRW) 28.A.02</p> <p>Emergency Rescue (Tunneling) 26.A.05</p> <p>Formwork & Shoring Erection Removal Plans 27.B.02</p> <p>Spill Plan 01.E.01</p> <p>Access / Haul Road Plan 8.D.01</p>		<p>Floating Plant Plans 19.A.04</p> <p>Severe Weather Plan 19.A.03</p> <p>Wild Land Fire Prev Plan 09.K.01</p> <p>Health Hazard Control Plan 06.A.02</p> <p>Alcohol & Drug Abuse Program 01.C.02 & App A</p> <p>Critical Lift Plan (Crane) 16.C.18</p> <p>Access & Haul Road Plan 08.D.01</p> <p>Demolition Plan 23.A.01</p> <p>Fire Prev & Protection Plan 09.A.01</p> <p>Compressed Air Plan 26.I.01</p> <p>Lift Slab Plans 27.D.01.</p> <p>Excavation Plan 25.C.01</p> <p>Fall Protection Plan 21.A.01</p> <p>Lead Abatement Plan 06.B.05</p> <p>Night Operations Lighting 16.C.19</p> <p>Fire Fighting Plan 01.E.01</p>	

_____ will pursue a positive program of training, inspections and hazard control and
(Company)
and full compliance of EM 385-1-1 throughout the term of this contract. _____ has
(Print Name)
the responsibility and authority for enforcing all safety requirements on-site.

On-site Safety Officer Signature Date

Corporate Approval Signature Date Proj Manager's Signature Date

Appendix P-5

SAFETY CHECKLIST FOR CHIPPERS, GRINDERS AND SHREDDERS

Contract # and Title:				
Equipment Name and Number: Owned or leased?				
Contractor:		Subcontractor:		
Contractor inspector:		Date inspected:		
This checklist references EM 385-1-1, 3 Nov 03.		Yes	No	N/A
1. Is the Manufacturer's O&M Manual and Contractor's SOP located onsite? (9.c., App B)				
2. Does equipment have a fully charged fire extinguisher rated not less than 5-B:C? (16.A.34)				
3. Are all safety glass members in place, clean and not cracked or broken?				
4. Is operator's station clear of unnecessary debris such as oily rags, paper trash, etc?				
5. Are non-slip surfaces provided on steps of equipment? (16.B.03)				
6. Are belts, gears, shafts, pulleys, sprockets, drums, flywheels, chains, or other reciprocating or rotating parts adequately guarded? (16.B.03)				
7. Are all hot surfaces or equipment, including exhaust pipes, adequately guarded or insulated per manufacturer's recommendations and/or specifications to prevent injury and fire? (16.B.03 and 16.B.13)				
8. Are exhaust and discharges from equipment so directed that they do not endanger persons or obstruct view of operator? (16.B.05)				
9. Is conveyor assembly at least ten feet from overhead power lines? (11.E.04)				
10. Are joint connections for exhaust system free of cracks and leaks, and all clamps tight (visual inspection)?				
11. Are the batteries free of cracks or abnormal mechanical wear?				

12. Is engine free of leaks and loose fittings?			
13. Are all gauges in good operating condition?			
14. Are all hydraulic hoses and fittings in good conditions?			
15. Is suitable protection provided to protect operators from flying objects? (16.B.10)			
16. Has the equipment been inspected and certified by a competent person to meet the manufacturer's recommendations and requirements of EM 385-1-1? (16.A.01).			
17. Is the equipment inspected daily when in use to ensure safe operating conditions? (16.A.02)			
18. Is the equipment shutdown and its hazardous energy isolated to prevent it from causing injury or damage during maintenance (12.A.01 and 16.A.08)			
Remarks:			
_____ INSPECTED BY (CONTRACTOR)		_____ ACCEPTED BY (QA REPRESENTATIVE)	

SAFETY CHECKLIST FOR CRAWLER TRACTORS AND DOZERS				
Contract # and Title:				
Equipment Name & Number: owned or leased?				
Contractor:		Subcontractor:		
Contractor inspector:		Date inspected:		
This checklist references EM 385-1-1, 3 Nov 03.		Yes	No	N/A
1. Are initial and daily/shift inspection records available? (16.A.01 and 16.A.02)				
2. Are only qualified operators assigned to operate mechanized equipment? (16.A.04)				
3. Are sufficient lights provided for night operations? (16.A.11)				
4. Is the unit shut down before refueling? (16.A.15)				
5. Does the unit have as a minimum a 5-B:C fire extinguisher? (16.A.34)				
6. Is there an effective, working reverse alarm? (16.B.01)				
7. Are moving parts, shafts, sprockets, belts, etc., guarded? (16.B.03, 16.B.07, and 16.B.13)				
8. Is protections against hot surfaces, exhausts, etc., provided? (16.B.03 and 16.B.13)				
9. Are fuel tanks located in a manner to prevent spills or overflows from running onto engine exhaust or electrical equipment? (16.B.04)				
10. Are exhaust discharges directed so they do not endanger person or obstruct operator vision? (16.B.05)				

	Yes	No	N/A
11. Are seat belts provided? (16.B.08)			
12. Is protection (grills, canopies, screens) provided to shield operator from falling or flying objects? (16.B.10 and 16.B.11)			
13. Is roll over protection provided? (16.B.12)			
14. Remarks: (Enter actions taken for "no" answers)			
Contractor inspector signature			
Contractor QC/safety officer/project manager signature			

SAFETY CHECKLIST FOR SCRAPERS, MOTOR GRADERS, AND OTHER MOBILE EQUIPMENT				
Contract # and Title:				
Equipment Name and Number: Owned or leased?				
Contractor:		Subcontractor:		
Contractor inspector:		Date inspected:		
This checklist references EM 385-1-1, 3 Nov 03.		Yes	No	N/A
1. Are initial and daily/shift inspection records available? (16.A.01 and 16.A.02)				
2. Are only qualified operators assigned to operate equipment? (16.A.04)				
3. Are sufficient lights provided for night operations? (16.A.11)				
4. Does the unit have as a minimum a 5-B:C fire extinguisher? (16.A.34)				
5. Is there an effective, working reverse alarm? (16.B.01)				
6. Is the unit shut down for refueling? (16.A.15)				
7. Are moving parts, shafts, sprockets, belts, etc., guarded? (16.B.03, 16.B.07, and 16.B.13)				
8. Is protection against hot surfaces, exhausts, etc., provided? (16.B.03 and 16.B.13)				
9. Are fuel tanks located in a manner to prevent spills or overflow from running onto engine exhaust or electrical equipment? (16.B.04)				
10. Are exhaust discharges directed so they do not endanger persons or obstruct operator vision? (16.B.05)				

	Yes	No	N/A
11. Are seat belts provided for each person required to ride on the equipment? (16.B.08)			
12. Is protection (grills, canopies, screens) provided to shield operators from falling or flying objects? (16.B.10 and 16.B.11)			
13. Is roll over protection provided? (16.B.12)			
14. Is a safe means of access to the cab provided (steps, grab bars, non-slip surfaces)? (16.B.03)_			
15. Are adequate head and taillights provided for equipment operating on roadways? (16.A.07)			
16. Have the service and parking brakes been tested and found satisfactory? (16.A.07)			
18. Is all equipment with windshields equipped with powered wipers and an operable defogging or defrosting system? (16.A.07)			
19. Are all vehicles that will be parked or moving slower than normal traffic on haul roads equipped with a yellow flashing light or flasher visible from all directions? (16.A.13)			
20. Is the slow-moving vehicle emblem used on all vehicles that by design move at 25 MPH or less on public roads? (08.A.05)			
21. Have air tanks been tested and certified? (20.A.01)			
22. Is an air pressure gage in working condition installed on the unit? (20.A.12)			
23. Does the air tank have an accessible drain valve? (20.B.17)			

<p>24. Remarks: (Enter action taken for all "no" answers)</p>			
<p>Contractor inspector signature</p>			
<p>Contractor QC/safety officer/project manager</p>			

SAFETY CHECKLIST FOR CRAWLER, TRUCK & WHEEL MOUNTED CRANES				
Contract # and title:				
Equipment name & number: owned or leased?				
Contractor:		Subcontractor:		
Contract Inspector:		Date inspected:		
This checklist references EM 385-1-1, 3 Nov 03.		Yes	No	N/A
1. Are lattice boom and hydraulic cranes equipped with a boom angle indicator, and load indicating device, or a load moment indicator? (16.D.01)				
1. Unless the manufacture has specified an on-rubber rating, outriggers will be fully extended and down? (16.D.10)				
3. Are lattice boom and hydraulic cranes equipped with a means for the operator to visually determine levelness? (16.D.02)				
4. Are lattice boom and hydraulic cranes, except articulating booms cranes, equipped with drum rotation indicators located for use for the operator? (16.D.03)				
5. Are lattice boom and hydraulic mobile cranes equipped with a boom angle or radius indicator within the operator's view? (16.D.04)				
6. Are lattice boom and hydraulic cranes, with exception of duty cycle cranes, equipped with an anti-two blocking device? (16.D.05)				
7. When duty cycle machines are required to make a non-duty lift, is the crane equipped with an international orange warning device and is a signal person present? (16.D 05)				
		Yes	No	N/A
8. Are the following with the crane at all times: a. manufacturer's operating manual? (16.C.02) b. load chart visible from operator's seat? c. the crane's log book documenting operating hours, tests, inspections, and maintenance? d. operating manual for crane operator aids?				
9. Are the following on the project site:				

a. completed periodic inspection report prior to initial work? (16.C.12)			
b. pre-operational checklist used for daily inspection? (16.C.12)			
c. written reports of the operational performance test? (16.C.13)			
d. written reports of the load performance test?			
10. Are all operators physically qualified to perform work? (16.C.05)			
11. Are all operators qualified by written and practical exam or by appropriate licensing agency for the type crane they are to operate? (16.C.05)			
12. Is the crane designed and constructed IAW the standards listed in Table 16-1? (16.C.06)			
13. Is an activity hazard analysis for mobilization, assembly/erection, dismantling, and demobilization available? (16.C.08)			
14. Are accessible areas within the swing radius of the rear of the crane barricaded? (16.C.09)			
15. Are there at least 3 wraps of cable on the drum? (16.C.10)			
16. Are the hoisting ropes installed IAW ANSI/ASME standards & manufacturer's recommendations? (16.C.10)			
17. Are critical lift plans available? (16.C.18)			
18. Are minimum clearance distances for high voltage lines posted at the operator's position? (11.E.04)			
19. Do older lattice boom cranes with anti-two block warning devices in lieu of anti-two block devices have manually activated friction brakes? (16.D.05)			
	Yes	No	N/A
20. Is the slow-moving vehicle emblem used on all cranes that by design move at 25 MPH or less on public roads? (08.A.05)			
21. Are all cranes that will be parked or are moving slower than normal traffic on haul roads equipped with a yellow flashing light or four-way flashers visible from all directions? (16.A.13)			
22. Is all equipment to be operated on public roads provided with: (16.A.07)			
a. headlights?			
b. brake lights?			
c. taillights?			
d. back-up lights?			
e. front and rear turn signals?			
23. Are seat and seat belts provided for the			

operator and each rider on equipment? (16.A.07 and 16.B.08)			
24. Is all equipment with windshields equipped with powered wipers and defogging or defrosting devices? (16.A.07)			
25. Is there clear and unbroken safety glass in the windshield and/or other windows to provide adequate protection for the operator? (16.B.10)			
26. Is all equipment equipped with adequate service brake system and emergency brake system? (16.A.07)			
27. Are areas on equipment where employees walk or climb equipped with platforms, footwalks, steps, handholds, guardrails, toeboards and non-slip surfaces? (16.B.03)			
28. Is all self-propelled equipment equipped with automatic, audible, reverse signal alarms? (16.B.01)			
29. Is there a record of manufacturer's approval of any modification of equipment, which affects its capacity or safe operation? (16.A.19)			
30. Are cranes attached to a barge or pontoon by means of a tiedown system with some slack? Movement during lifting is not permitted. (16.F.08)			
	Yes	No	N/A
31. Have the following conditions been met for land cranes mounted on barges or pontoons: (16.F.06) a. Have load ratings been modified to reflect the increased loading from list, trim, wave, and wind action? b. Are all deck surfaces above the water? c. Is the entire bottom area of the barge or pontoon submerged? d. Are tie downs available to transmit the load to the barge or pontoon? e. Are cranes blocked and secured?			
32. Are all belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other rotating parts or moving parts of equipment guarded where is a potential for exposure to workers? (16.B.03)			
33. Is the crane level, on firm foundation, and secured before being operated (16.A.10 and 16.C.03)			
34. Is a dry chemical or carbon dioxide fire extinguisher rated at least 5-B:C on the crane? (16.A.34)			
35. Are trucks, for truck-mounted cranes, equipped with a working reverse signal alarm? (16.B.01)			

36. Is a signal person provided where there is danger from swinging loads, buckets, booms, etc.? (16.C.03)			
37. Is there adequate clearance from overhead structures and electrical sources for the crane to be operated safely? (16.C.09)			
38. Is adequate lighting for night operations provided? (16.C.19)			
39. Has the boom stop test on cable-supported booms been performed? (16.D.06)			
40. Is the boom disengaging device functioning as required? (16.D.06)			
41. Has all rigging and wire rope been inspected? (Section 15)			
Remarks: (Enter actions taken for all "no" answers.)			

Contractor inspector signature			
Contractor QC/safety officer/project manager signature			

SAFETY CHECKLIST FOR MOTOR VEHICLES, TRAILERS AND TRUCKS

Contract # and Title:
owned or leased?

Equipment Name & Number:

Contractor:

Subcontractor:

Contractor inspector:

Date inspected:

This checklist references EM 385-1-1, 3 Nov 03.

	Yes	No	N/A
1. Are records of safety inspections of all vehicles available? (18.A.02)			
2. Are all vehicles to be operated between sunset and sunrise equipped with: (18.A.04) a. 2 headlights? b. taillights and brake lights? c. front and back turn signals? d. 3 emergency flares, reflective markers, or equivalent portable warning devices?			
3. Are vehicles, except trailers or semi-trailers having a gross weight of 5000 lbs or less, equipped with service brakes and manually operated parking brakes? (18.A.05)			
4. Are service brakes on trailers and semi-trailers controlled from the driver's seat of the prime mover? (18.A.05)			
5. Is all glass safety glass & in good condition? Any broken or cracked glass shall be replaced. (18.A.07)			
6. Are all rubber tired motor vehicles equipped with fenders or with mud flaps if the vehicle is not designed for fenders? (18.A.14)			
	Yes	No	N/A
7. Does the vehicle have: (18.A.06) a. an operable speedometer? b. an operable fuel gage? c. an audible warning device (horn)? d. a windshield & adequate windshield wiper? e. an operable defroster and defogging device? f. an adequate rearview mirror?			

<ul style="list-style-type: none"> g. a cab, cab shield, and other protection to protect the driver from the elements and falling or shifting materials? h. non-slip surfaces on steps? i. a power-operated starting device? 			
<p>8. Do trailers meet the following: (18.A.08)</p> <ul style="list-style-type: none"> a. Are all towing devices adequate for the weight drawn? b. Are all towing devices properly mounted? c. Are locking devices or a double safety system provided on every 5th wheel mechanism and tow bar arrangement to prevent accidental separation? d. Are trailers coupled with safety chains or cables to the towing vehicle? e. Are trailers equipped with the power brakes equipped with a breakaway device that will lock-up the brakes in the event the trailer separates from the towing vehicle? 			
<p>9. Are all dump trucks: (18.A.10)</p> <ul style="list-style-type: none"> a. equipped with a holding device to prevent accidental lowering of the body? b. equipped with a hoist lever secured to prevent accidental starting or tipping? c. equipped with means to determine (from the operator's position) if the dump box is lowered? d. equipped with trip handles for tailgates that keep the operator in the clear? 			
<p>10. Are all buses, trucks and combination of vehicles with a carrying capacity of 1.5 tons or more, to be operated on public roads equipped with: (18.A.11)</p> <ul style="list-style-type: none"> a. a red flag not less than 12 square inches b. 3 reflective markers? c. 2 wheel chocks for each vehicle? d. at least one 2A:10B:C fire extinguisher? e. at least two properly rated fire extinguishers (for vehicles carrying flammable cargo)? 			
	Yes	No	N/A
<p>11. Is vehicle exhaust controlled so as not to present a hazard to personnel? (18.A.12)</p>			
<p>12. Are all vehicles, except buses, equipped with seat belts? (18.B.03)</p>			
<p>13. Does all self-propelled construction and industrial equipment have a working reverse signal alarm? (16.B.01)</p>			
<p>14. Are all hot surfaces of equipment, including exhaust pipes or other lines, guarded or insulated to prevent injury or fire? (16.B.03)</p>			
<p>15. If an off the road vehicle, is it equipped with rollover protective structures? (16.B.12)</p>			

16. Remarks: (Enter actions taken for "no" answers)			
Contractor inspector signature			
Contractor QC/safety officer/project manager signature			



Checklist for Felling of Trees:

Requirement	Compliance?
Have all equipment and tools been inspected to ensure compliance with manufacturers' instructions and EM 385-1-1? (para 31.A.04)	
Do all chain saws have an automatic chain brake or kickback device? (para 13.F.01)	
Are chain saws started more than 10 ft from fuel containers? (para 13.F.04)	
Are chainsaws never fueled while running, while hot, or near an open flame (para 13.F.04)	
Is each chain saw's idling speed adjusted so that the chain does not move when the engine is idling? (para 13.F.02)	
Are other controls such as cabling, roping, or taking the tree down in sections being considered when building structures or powerlines are close by? (para 31.C.01)	
Are chainsaw operators wearing leg chaps, gloves, hard hats, face shields, and hearing and eye protection? (para 13.F.03)	
Are chainsaws never used to cut above each operator's shoulder height? (para 13.F.06)	
Has the area been cleared of brush, felled trees, and other obstacles and an escape route established? (para 31.C.02)	
Is the tree removal or trimming operation under the supervision of a qualified tree worker? (para 31.A.01)	
Are tree workers wearing approved safety saddles and climbing rope? (para 13.B.02)	
Do climbing ropes have a minimum diameter of ½ inch and are they constructed of non-propylene synthetic fiber having a minimum nominal breaking strength of 5400 lbs? (para 31.B.01)	

Is one end of each climbing rope tied to the pin of a 5/8” metal shackle and the other end tied off at the base of a tree or other acceptable anchor? (para 31.B.04)	
Are climbing ropes never used to raise or lower equipment or tree parts? (para 31.A.05)	
Before any worker removes the safety lanyard attached to an aerial lift (AL) basket and leaves the basket to get on a tree, the worker secures a safety line to the tree? (para 31.A.08)	
Before any worker disengages from a safety line on a tree to get into a AL basket, the worker secures a safety line to the basket? (para 31.A.08)	
Is the climbing rope always crotched as soon as a tree climber is aloft and a taut-line hitch tied and checked? (para 31.B.05)	
Does each climber remain secured to the climbing rope while aloft? (para 31.B.06)	

Do tree workers use tool belts/bags or raising/lowering devices for transporting tools, rather than their hands (para 31.B.07)	
Are climbing spurs designed for tree climbing? (para 31.B.01)	
Are pole pruners, pole saws, and similar tools equipped with wood or nonmetallic poles? (para 31.E.01)	
Is a notch and backcut made for falling trees over 5 inches in diameter, with the depth of the notch being about 1/3 the diameter of the tree and the backcut made about 2 inches higher than the base of the notch to prevent kickback? (para 31.C.05)	
Do employees work on the uphill side of the tree, whenever possible? (para 31.C.06)	
Are all personnel safely out of the tree’s way and an audible warning provided immediately before a tree or limb is ready to fall? (para 31.C.01)	

Are tree limbs removed to a height and width to allow the tree to fall clear of wires and other objects? (para 31.C.08)	
If a tree may fall in the wrong direction, are wedges, cables, ropes, and/or block and tackle used to guide its fall? (para 31.C.08)	



Important Safety Information!
Informacion importante para seguridad personal!

1. If you leave the cab of your truck while on the debris disposal site or pick up site, you must wear your hard hat, reflective vest and safety boots.
Si se baja del la cabina de su camion en el area de trabajo, tiene que tener esquivo de proteccion personal puesto. Esto incluye botas, casco de proteccion y chaleco reflector.
2. Maximum speed limit on debris disposal sites is 5 MPH
Velocidad maxima en el area de trabajo es de 5 millas por hora.
3. Be on the lookout for flagmen on the disposal sites and follow their direction
Este pendiente a personas con banderas dirigiendo el traffico en el area de trabajo y suiga sus instrucciones
4. Lower dump beds completely before driving off after dumping your load.
Despues de dejar su carga, baja la caja posterior de su camion ANTES de salir.
5. Watch out for low hanging utility lines. Debris must not extend beyond the bed of your truck – top or sides.
Cuidado con lineas electricas. Su carga no debe salir ni pasar del los lados ni sobrepasar la parte superior del camion.1
6. At the pick up sites, heavy material should be loaded first – at the bottom of the load.
En las areas de recoger, materiales pesados deben ser puesto primero, en el parte mas baja de la caja del camion.
7. Be careful of drop-offs and soft ground on the edges of haul roads.
Cuidado con los lados de las calles, donde hay bajas or terreno suave.
8. Make sure your truck is on solid, level ground before raising your truck bed.
Asegurase que esta en tierra nivelada y solida antes de subir la caja de su caminion para dejar su carga.
9. If debris hangs up when you raise your bed, lower your bed at least half way before attempting to free the debris.
Si parte de su carga se tranqa, baja la caja por lo menos hasta la mitad antes de tratar de sacar la.
10. Maintain safe clearance between trucks when dumping loads.
Mantener distancia segura entre los camions cuando este dejando carga.

CHAPTER 7 Safety and Occupational Health

7-1. Purpose. This chapter provides the concept of operation and method for accomplishing the Safety and Occupational Health (SOH) Planning and Response Team (PRT)'s mission in response to a natural or technological disaster whether performing work under the Flood Control and Coastal Emergencies (FC&CE) Appropriation, 96X3125; or under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 USC 5121, Et. Seq. of the U.S. Army Corps of Engineers (USACE).

7-2. Mission. To provide "up front" recommendations to a Division Commander as an assessment is made regarding impact of a disaster on the population and infrastructure of an effected area. To provide real-time SOH technical and management support to the on-site Commander at the emergency Recovery Field Office (RFO) and Emergency Field Office (EFO) personnel during a natural or technological disaster.

7-3. References.

- a. Public Law U. S. Code 596
- b. National Response Plan
- c. 29 CFR 1910
- d. 29 CFR 1926
- e. DODI 6055.1
- f. AR 385-10
- g. AR 385-40
- h. EM 385-1-1
- i. ANSI 14.1
- j. EP 500-1-10

7-4. Applicability. The chapter is applicable to all USACE Commands.

- a. Process Owner. USACE SOH National Program Manager for Emergency Planning and Response.
- b. Process Team. SOH Functional PRTs.

c. Customer. FEMA, State, and ESF #3 execution.

7-5. Use of this Chapter. This chapter is for use as a ready reference by the SOH functional arena in planning, preparing, exercising, and performing missions resulting from events cited in paragraph 7-1.

7-6. Concept of Operations.

7-1

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a. Authority and responsibility of USACE SOH National Program Manager for Emergency Planning and Response.

(1) Overall responsibility to approve recommended highly qualified SOH professionals for PRT members from throughout USACE.

(2) Oversee the recruitment and nomination process.

(a) All individuals will be volunteers who have the approval of the chain-of-command within their district, division or FOA.

(b) Establish procedures for notifying the USACE SOH community of this need. This notification, nomination and selection process, will, to the extent possible, be accomplished during the pre-disaster phase of the life-cycle management.

(c) Since the mission assignments may encompass issues dealing with general health and specific safety issues, selectees will, by the nature of their background have differing backgrounds. The selectees as a whole will be able to meet any potential need in dealing with the broad SOH arena.

(d) As personnel leave USACE, or are no longer interested and available to participate on these teams, the National Program Manager, will assure that solicitation from throughout USACE SOH are done on at least an annual basis.

(3) Coordinates training of SOH Functional PRT members.

(a) In order to assure that selectees are fully trained to execute SOH PRT activities in an emergency, a workshop will be held each year (if funds are provided) utilizing Chapter 7 of Engineer Pamphlet 500-1-10. The goal of the workshop is to assure that the unique requirements dealing with emergency response are fully understood by the SOH professionals chosen for these teams.

(b) Salary will be funded under the individual's regular appropriation. Travel and per diem will be funded under the FC&CE Appropriation.

(4) Exercising.

(a) It is anticipated that divisions and/or districts will hold annual exercises to test its emergency response capabilities. As part of that test the chief, SOH for the division and district must assure that the SOH issues are included.

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(b) For those exercises that are developed to include multi-division scope, the UOC and CEM will assure that the SOH issues are included in the design, execution and lessons learned.

b. Assistance to Division Commander.

(a) Each Division Chief of SOH is designated as the Division point of contact for their Division SOH Functional PRT. The primary function of these personnel are to provide “up front” recommendations to the Division Commander as an assessment is made regarding impact of disaster on the population and infrastructure of affected area. At the request of the impacted Division Commander, and based on a TASKER from the HQUSACE Operations Center (UOC), a SOH PRT Manager will deploy to the location identified by the Division Commander. In most cases, deployment will commence immediately after the event has occurred.

(b) The goal is for initial deployment to be accomplished in no more that 6 hours of confirmed notification by the selectee. The role of the SOH PRT manager is to provide an on-site assessment of SOH resources needed, request those resources, and to establish the basic structure of the on-site SOH Office.

c. Role of SOH PRT Members. Based on the determination made by the Division Commander, and the extent of individual missions issued by FEMA, a SOH PRT may be placed on alert for possible deployment. The basic SOH PRT is comprised of three SOH professionals. The mix of SOH professionals can and will be changed to best support the specific mission. The on-site SOH manager will assess the need for and request any additional SOH personnel. Below in Table 7-1 is the Recommended SOH Staffing for Emergency Operations. These individuals will deploy in support of that specific mission assignment and execute the full range of SOH tasks required to provide that support. The expectation is that they will remain on-site for approximately 30 days. During the time these individuals are assigned to the impacted division commander, they are under that Commander’s operational control. All assignments are under the direction of that commander (or designee) only.

d. Activation. All alert and activation outside of the impacted division will be directed through the UOC.

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Table 7-1

RECOMMENDED SOH STAFFING FOR EMERGENCY OPERATIONS		1 June 06						
Corps Employees On Site		<u>100</u>	<u>200</u>	<u>300</u>	<u>400</u>	<u>500</u>	<u>600</u>	<u>700</u>
POSITION								
On site SOH Manager: Safety Engineer, SOH Specialist, or Industrial Hygienist		1	1	1	1	1	1	1
SOH Specialist		0	1	2	3	4	5	6
Industrial Hygienist		1	1	1	1	2	3	3
Occupational Health Nurse		1	1	1	2	2	2	2
SOH Administrative Support		0	0	1	1	1	1	1
LEVEL OF RESPONSE STAFF	TOTAL	3	4	6	8	10	12	13

PLACEMENT OF SOH PROFESSIONALS IN THE AREA OF OPERATION

(Below Figure 7-1 depicts a typical SOH response associated with 300 Corps Employees)

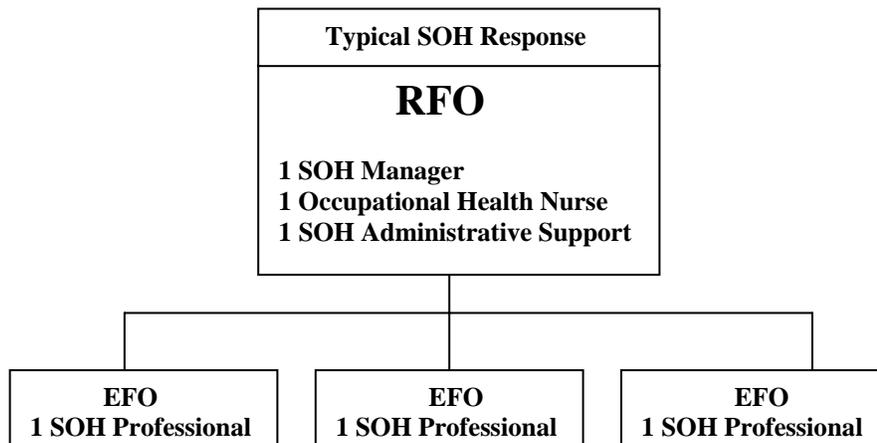


Figure 7-1

