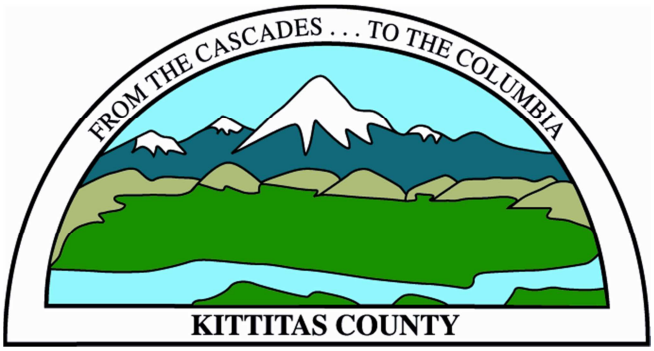
Kittitas County Solid Waste

Debris Management Plan

FINAL



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ACRONYMS AND DEFINITIONS

44 CFR	Title 44 of the Code of Federal Regulations
BOCC	The Board of County Commissioners
C&D Debris	Construction and Demolition Debris
CEMP	Comprehensive Emergency Management Plan
Category A	Reimbursement for debris removal costs under a presidential disaster declaration
COOP Plan	Continuity of Operations Plan
Disaster Debris	Includes: Vegetative, Hazardous Stumps, Hanging Limbs, Leaning Trees, Construction and Demolition, Household Hazardous Waste, E-Waste, White Goods, Boats, Vehicles, etc.
DMC	Debris Management Coordinator
DMS	Debris Management Site
DSG	Disaster Specific Guidance
EMS	Kittitas County Emergency Management Services
EOC	Emergency Operations Center
ESF	Emergency Support Function
ESF-1	Public Works & Solid Waste (lead by Kittitas County Public Works and Solid Waste Departments)
ESF-3	Long Term Recovery & Mitigation (lead by Kittitas County Department of Planning and Development Services)
ESF-7	Public Information (lead by Emergency Management Services)
FEMA	Federal Emergency Management Agency
FEMA 325	Debris Management Guide – FEMA Publication 325
FHWA	Federal Highway Administration
FHWA – ER Program	Federal Highway Administration – Emergency Response Program
GIS	Geographic Information System

GPS	Global Positioning System
Handbook	Applicant Handbook – FEMA Publication 323
HHW	Household Hazardous Waste, such as: gasoline cans, paint, batteries, cleaning agents, lawn chemicals, etc.
ICC	Incident Command Center
ICP	Integrated Communications Plan
IT	Kittitas County Internet Technology Department
KCC	Kittitas County Code
KCHD	Kittitas County Public Health Department
JFO	Joint Field Office
MOU	Memorandum of Understanding
MSW	Municipal Solid Waste
NRCS	National Resource Conservation Service
OSHA	Occupational Safety and Health Administration
PA Program	FEMA Public Assistance Program
PA Guide	FEMA Public Assistance Guide 322
PAO	Public Assistance Officer
PIO	Public Information Officer
Plan	Disaster Debris Management Plan
PPDR	Private Property Debris Removal
PPE	Personal Protective Equipment
PI/E	Public Involvement and Education
PO	Purchase Orders
Public Works	Kittitas County Public Works Department
Putrescible Debris	Debris that will decompose or rot. Examples include animal carcasses, waste, other fleshy organic matter, etc. This definition excludes vegetative debris.
QA/QC	Quality Assurance/Quality Control

RCW	Revised Code of Washington
Region X	FEMA Region X
RFB	Request for Bids
RFP	Request for Proposals
ROE	Right-of-Entry
ROW	Right-of-Way
Stations	Debris Drop-off Stations
Worksheets	Project Worksheets
White Goods	Refrigerators, ranges, freezers, washing machines, dryers, etc.
WSDOT	Washington State Department of Transportation
WUTC	Washington Utilities and Transportation Commission

SECTION 1 - INTRODUCTION

This Disaster Debris Management Plan (Plan) guides debris removal planning and post-event operations. It includes tools to assist Emergency Management Services (EMS) in unincorporated Kittitas County and the municipalities of Cle Elum, Ellensburg, Kittitas, Roslyn, and South Cle Elum in addressing debris removal following a debris generating event. The Plan incorporates a methodology that has been tested in many regions throughout the U.S. and meets the needs of Kittitas County and its residents.

If a disaster strikes Kittitas County, the Board of County Commissioners may proclaim a state of emergency if the disaster has the potential to affect life, property, or the public peace (RCW 35.33.081, RCW 36.40.180, and RCW 38.52.070(2)). They may also command the service and equipment of citizens under the provisions and limitations of RCW 38.52.110(2).

PURPOSE OF THE PLAN

The purpose of this Plan is to provide efficient management of disaster debris by:

- Providing a centralized repository of information critical to operating a disaster management program. This repository shall include the location of temporary Debris Management Site (DMS), site criteria for locating new DMS, zone maps, road lists, etc.
- Identifying the rules, regulations and guidelines enacted by FEMA and other agencies governing the disaster debris removal process.
- Providing reference and contact information for key County personnel.
- Identifying the roles and responsibilities of all involved parties.
- Establishing a protocol for public information such as press releases and other debris management information.

PLAN ORGANIZATION

This Plan is detailed in the following eleven primary sections.

Section 1: Introduction
Section 1: Staff Roles and Responsibilities
Section 2: Situation and Assumptions
Section 3: Applicable Rules and Regulations
Section 4: Debris Collection Plan
Section 5: Debris Management Sites
Section 6: Current Resources
Section 7: Contracted Services
Section 8: Private Property Demolition and Debris Removal
Section 9: Public Information Plan
Section 10: Training and Exercises

PLAN METHODOLOGY

Kittitas County Solid Waste and Public Works Departments prepared this plan and are responsible for maintaining the information included in this Plan. FEMA evaluates this plan for their approval and the Board of County Commissioners considers the final draft for adoption. The following tasks were conducted to complete this plan:

- Consulted with other counties in the eastern region of Washington.
- Met with Kittitas County Solid Waste Director and Administrative Assistant.
- Reviewed relevant County documents, Kittitas County Codes (KCC), Washington Revised Administrative Codes (WAC) and FEMA guidance documents.
- Held one-on-one interviews with key internal staff.
- Held meetings with local stakeholders including Kittitas County Public Health Department (KCHD), Emergency Management Services (EMS), Cities of Cle Elum, Ellensburg, Kittitas, and Roslyn, Town of South Cle Elum, Kittitas County Solid Waste, and the Kittitas County Solid Waste Advisory Committee (SWAC).
- Visited solid waste and temporary debris storage and reduction sites.
- Obtained pre-approval for use of all Disaster Debris sites from the Department of Ecology.
- Followed guidelines established by FEMA's Debris Management Plan Outline and Kittitas County's experiences in the 1996 Winter Floods.
- Developed the Plan.
- Sent plan to State office of Emergency Management for their review
- Sent Debris Management Sites information to the State Dept. of Ecology for their review.
- Held public hearing for the completed Plan and submitted a Resolution to the County Commissioner for their adoption.

DISCLAIMER

The County's response to a future emergency, disaster event, or recovery process may be severely impacted. No guarantee of a perfect response or recovery system is expressed or implied by this plan. Kittitas County can only endeavor to make every reasonable effort to respond based on the situation, information, and resources available at the time of the event. The ability to respond could potentially be hindered by the following:

- The normal forms of communications and utilities may be severely interrupted during the early phases of an emergency or disaster.
- Transportation to affected areas may be cut off or delayed because of damage to roads, bridges, airports, and other transportation infrastructure.
- Following an emergency or disaster, there may be a need to provide resources, goods and services to the affected areas.
- Fundamental resources such as water, food, first aid, shelter and sanitation supplies, fuels, and hand tools may be needed. Kittitas County may not have sufficient supplies and equipment on hand for long-term use.
- Disaster response and recovery may be limited by the inability of the general citizenry to be self-sufficient for more than three days without additional supplies of food, water, medical and shelter resources.
- There may be delays in all normal services such as police, fire, EMS, public works, transportation and water/sewer and utilities response due to damage to facilities and equipment and shortages of personnel.
- There may be shortage of critical drugs and medicines at medical facilities due to limited storage capabilities.
- The management and logistics of resources support is highly situational and is dependent upon the event, resource accessibility, transportation systems available, and location of vendors and suppliers.

SECTION 2 - STAFF ROLES AND RESPONSIBILITIES

STAFFING AND ORGANIZATION CHART

FEMA 325 states that "the success of a Debris Management Plan is dependent upon the dedication of the management and staff to fully vest and commit their organization to researching, planning, and implementing a debris removal operations plan effectively and efficiently."

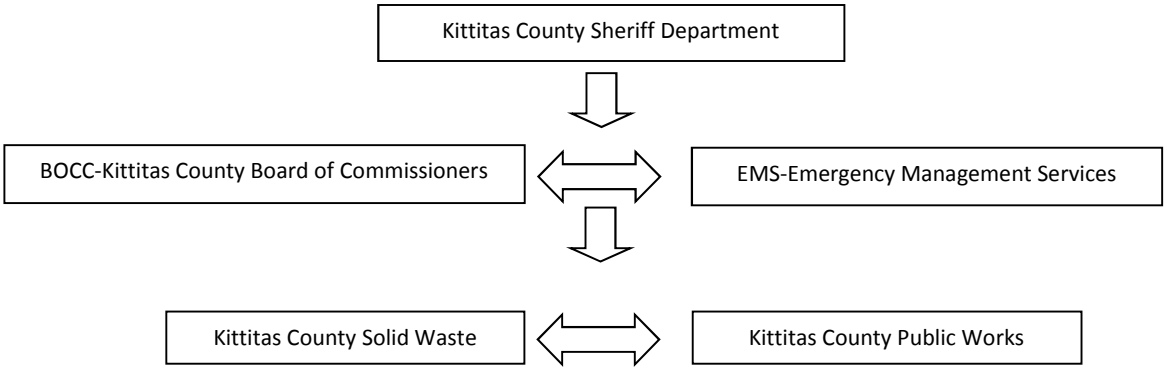
The responsibilities of each County Department and their primary duties and responsibilities to implement recovery plans in the event of a debris generating disaster are described in this section.

The main departments responsible for debris management within Kittitas County are Public Works and Solid Waste. These two departments work together on developing and implementing the Debris Management Plan, with the objective of making it actionable and functional.

The Kittitas County Department of Emergency Management Services (EMS) also works with Solid Waste and Public Works to ensure that the Plan is updated, implemented and operating smoothly. When EMS is activated and operational, it coordinates all preparedness, response, recovery, and mitigation activities in accordance with the Kittitas County Comprehensive Emergency Management Plan (CEMP) for EMS municipalities and unincorporated county areas.

The Kittitas County Board of Commissioners (BOCC), per the Kittitas County Code (KCC) 2.52.010, has authorization to issue a notice-to-proceed for any debris management contractors working on behalf of the County under an emergency declaration. EMS coordinates with the BOCC to ensure that normal or emergency procurement rules are followed during this process.

Table 2.1 Lead Agency Organization



ROLES AND RESPONSIBILITIES

Table 2.2 - Roles and Responsibilities Summary

Department/Division	Primary Duties/Responsibilities
Kittitas County Sheriff Department	• First responder. Enforce laws for road safety and debris removal during emergency.
BOCC-Kittitas County Board of County Commissioners	• Authorize contract(s) for debris hauling contractor(s) during an emergency.
EMS - Emergency Management Services	• Work with FEMA • Coordinate with Solid Waste and Public Works about debris removal and safety • Public awareness
Kittitas County Solid Waste	• Coordinate with FEMA, Public Works and EMS • Oversee debris hauling, location(s) and contractor(s)
Kittitas County Public Works	• Coordinate with FEMA and other county departments • Provide county code(s) and contract(s)

PLAN DEVELOPMENT RESPONSIBILITIES

The Debris Management Plan was developed by a committee consisting of the Solid Waste Director, Public Works Engineer Technician I, Public Works Transportation Manager, Public Works Director, and the Public Works Planner II. This committee conducts annual reviews of this plan for workability and accuracy.

The Solid Waste Director is the Debris Management Coordinator (DMC). Public Works' Engineer Technician I and the Transportation Manager provided assistance to the DMC by coordinating development and review of the draft plan. The Public Works Planner II provided GIS mapping services and debris estimates.

The DMC makes sure the most current version of the plan is available on the County's website, updates the plan with new information and policies, and trains employees as to the plan's major elements and ensures that the County is ready to implement it.

DEBRIS MANAGEMENT COORDINATION

Solid Waste is responsible for debris management planning, debris site selection and approval, staff training, plan maintenance, and Contractor solicitation and selection. Solid Waste facilitates the

development and implementation of all phases of the debris management process, including normal operations, pre-event preparedness, post-event response, post-event recovery, and post-event recovery assessment.

Within Solid Waste, the Director, who is considered the Debris Management Coordinator (DMC), coordinates the following debris management operations:

- Coordinates with designated County departments/divisions prior to and after the event.
- Develops a course of action in coordination with the Public Works Director following an event.
- Acts as the County representative in discussions and meetings with municipal jurisdictions and other entities (i.e. utility companies, Emergency Management Services (EMS), and FEMA. Communicating with various state and federal agencies (i.e. FEMA, Washington State Department of Transportation (WSDOT, etc.) prior to a disaster.
- Schedules training activities and meetings regarding the issue of debris management.
- Activates and oversees WUTC Certificated companies and private monitoring through the duration of the cleanup process.
- Provides the Public Works Director with information to provide the BOCC elected officials and the public with information regarding the progress of the debris removal effort.
- Maintains a list of potential uses of County properties including Temporary Debris Storage and Reduction Sites (DMS). If there are agreements with other disaster relief agencies, such as the Red Cross; Solid Waste maintains copies of those and ensures there is no incompatibility with desired uses.

DEBRIS REMOVAL RESPONSIBILITIES

Public Works serves as the lead agency for all disaster activities and is responsible for disaster debris related activities. This department includes the following divisions: Construction, Engineering/Planning, Engineering Design, Maintenance, Airport, Administration, and Finance.

The Road Maintenance Division conducts emergency road clearing activities during the post-event response phase following a debris-generating event. This division is also a source for identifying potential uses of county properties including Temporary Debris Storage and Reduction Sites (DMS).

Public Works Administration Division maintains information on road closures and debris along public right-of-ways following debris generating events. The Administration Division coordinates with the Road Maintenance Division, and Solid Waste following a disaster.

The Solid Waste Director/DMC coordinates with the Public Works Director and the Emergency Management Services (EMS) during decision making and oversight of debris management activities following a disaster. Administration Operations of EMS and Public Works may delegate some operational responsibilities directly to the Solid Waste Director following activation. Administration Operations of EMS also sets up project billing codes, develops reports for FEMA reimbursement purposes, and otherwise manages any FEMA public assistance projects.

Public Works coordinates with Solid Waste on a pre- and post-event basis for the selection and operation of Debris Management Site (DMS) locations as appropriate. Open lines of communication are maintained by both parties to ensure that land designated as a DMS is still available in the event of a Scenario 2 – High Volume Debris Event. Solid Waste coordinates with the Dept. of Ecology to obtain pre-approval for all disaster debris sites.

DAMAGE ASSESSMENT RESPONSIBILITIES

Public Works provides damage assessment teams, maintains bridge lists, inter-locals for engineering services for local cities, and maintains a list of bridges with scour potential and other infrastructure elements. Community Development Services (CDS) plays a critical role in determining if buildings are safe for occupancy or scheduled for demolition. CDS also assists on the damage assessment teams.

COMMUNICATIONS RESPONSIBILITIES

EMS is responsible for communications during a disaster and will develop press releases regarding the debris removal process. Solid Waste and Public Works staff will provide site and field information to EMS as it becomes available. These include, but are not limited to:

- Proper debris set-out procedures.
- Progress of the debris removal process.
- Explanation of FEMA disaster declarations.
- Deadlines for debris set-out and removal.
- Special and Hazardous Waste Collection sites.
- Locations of residential debris drop-off stations.

EMS or other applicable departments/divisions will ensure that information regarding debris management provided to the public is timely and accurate. This includes general information sent out to citizens during normal operations as well as information sent out during and immediately after a disaster event. The Public Information Officer sits in the Sheriff's office but coordinates with the EMS, Public Works and Solid Waste to ensure accurate information.

Solid Waste will coordinate debris management communications during normal operations. Providing citizens with information regarding the debris management process during the "off season" is an effective way to continually educate the public about the debris management process. Solid Waste coordinates with EMS and Public Works to inform the public regarding updates and procedures. Because radio and television may not be readily available to the general public in the days or weeks immediately following an event, providing this information in print prior to an emergency situation will give many citizens an initial "how-to" regarding the debris management process. These communication tools may include:

- Newspaper advertisements, pamphlets and County web-site content on likely disaster debris protocols, set-out schedules, and methods.

- Interviews with relevant key staff on public access channels regarding the County's disaster debris management process.

ADMINISTRATION AND BOARD OF COUNTY COMMISSIONERS

The Auditor's, Treasurers, and Board of County Commissioners will work closely with Solid Waste and Public Works regarding human resource and timekeeping information, whether the event is FEMA reimbursable or not. If the event is FEMA reimbursable, Solid Waste and Public Works will generate a project worksheet and auditing information.

INFORMATION TECHNOLOGY

The Department of Information Technology (IT) provides services, hardware, internet access, and electrical connectivity to County offices. Information Technology also maintains databases of critical GIS information. This Department plays a critical role in protecting and maintaining the EMS system for use in a disaster.

CONTRACTING AND PROCUREMENT RESPONSIBILITIES

Solid Waste is responsible for initially receiving contractor invoices. The Solid Waste Director conducts a review of contractor invoices and coordinates with BOCC, Public Works Director and Accounts Payable (Auditor's Office) to ensure accuracy of invoices and compliance with the contract. Upon review and acceptance of an invoice, Solid Waste then forwards the invoice to accounts payable staff for release of payment.

CODE ENFORCEMENT

The Code Enforcement Officer and Kittitas County Sheriff Department enforce Codes and are in charge of administration of any commercial property or private property debris removal program. The Solid Waste Department coordinates with the Code Enforcement Division to ensure that any such program is administered in accordance with the Kittitas County Code and FEMA 325 guidance.

BURNING DEBRIS OVERSIGHT

The Kittitas County Fire Marshal (Fire Marshal) is responsible for providing fire and life safety services to the citizens of Kittitas County. In the event that the Clean Air Agency (CAA) allows open-burning or air-curtain incineration for the reduction of disaster debris, the Debris Management Coordinator contacts the Fire Marshal and/or the Kittitas County Fire District to alert them of burning activities (location and method). The Fire Marshal and/or Fire District oversee burning operations by the BOCC and EPA.

LEGAL OVERSIGHT

The Office of the Prosecuting Attorney (Prosecuting Attorney) – represents the County in civil legal matters. The Prosecuting Attorney reviews inter-local or mutual aid agreements, contracts with debris management departments, and contracts for the use of private land for DMS operations on behalf of the County. Legal assistance from the Prosecuting Attorney is also available for any disputes with FEMA or other reimbursement agencies if warranted.

INELIGIBLE DEBRIS PILES

Solid Waste staff will determine if debris placed in the Right of Way (ROW) is ineligible as described in FEMA 325. Ineligible debris piles are tagged by Solid Waste staff and the individuals responsible for the "illegal dumping" are notified of their violation. Solid Waste staff also works closely with Communications to remind the public of deadlines for debris removal set-out dates or closure of residential debris drop-off stations, to limit the amount of illegal dumping associated with the disaster.

PURCHASING

The Purchasing is located in the Public Works Office. Purchasing works with the DMC during the contractor procurement process to ensure that Request for Proposals (RFP) abide by local and state requirements. The Public Works Department assumes the lead role in the development of forms and standard language, the advertisement and notification to prospective contractors, pre-bid meetings, and contract negotiations.

HEALTH AND SAFETY PROCEDURES

The purpose of the Health and Safety Supplement in Appendix E is to support the existing Solid Waste safety plan and/or procedures for debris removal activities. These are recommended baseline safety provisions. Ultimately, health and safety is the responsibility of the contracted parties involved in debris removal activities. This document outlines some of the general steps necessary to provide a safe work environment for debris removal and monitoring employees. In addition, this document identifies some representative work hazards and the appropriate measures to reduce risk of injury.

TRAINING SCHEDULE

In an effort to ensure County staff has a high familiarity with the intricacies of the Solid Waste Plan, the County will organize a Debris Management Exercise (DME) annually. This exercise is particularly useful for County staff unfamiliar with the Plan. Solid Waste will invite appropriate department/division/agency points-of-contact as well as the certificated hauler(s), monitoring, and non-county staff.

The DME will focus primarily on the activities described during the post-event recovery phase of the Plan. Potential topics and training issues to be discussed during the exercise would include:

- FEMA policies and guidance;
- Existing and proposed inter-local or mutual aid agreements with other agencies and their impact on County operations;
- Pre-positioned contracts with heavy equipment firms, debris hauling contractor(s) and monitoring;
- Review of debris collection zones;
- Use and selection of special waste collection sites;
- Use of transfer stations, drop boxes, and Moderate Risk Waste Facility (not for disaster debris);
- Review of truck requirements and certification issues;
- Process for opening and operating one or more DMS locations;
- Load ticket completion in the field; and
- Load ticket data entry and invoice reconciliation.

As they are available and beneficial to the County, County staff takes advantage of training courses and on-line learning opportunities offered by organizations such as the Solid Waste Association of North America (KC-SWANA) and FEMA/Emergency Management Services.

SECTION 3 - SITUATION AND ASSUMPTIONS

BACKGROUND

Kittitas County is located east of the Cascade Mountains in Central Washington. It's bordered by Chelan, Douglas, Grant, King, Pierce and Yakima Counties. Covering 2,297 square miles, Kittitas County's varied topography ranges from Mountainous Range, Agriculture, and Farmlands. The western part of our county consists of the Cascade Mountains with lush forests and I-90 as a main thoroughfare having Snoqualmie Pass for recreation area and water supply. The eastern portion of our county consists of farmlands and graduates into sage land bordered by the Columbia River, also providing a wonderful recreation area.

There have been several declared disasters in Kittitas County during the last fifty years. Table 2-1 below lists some of these events.

Table 3-1 Historical Declarations

Disaster #	Type of Event	Date	Debris Types
N/A	Wind 57-60mph	1950	Vegetation & unknown
N/A	Wind 48-60mph	1956	Vegetation & unknown
N/A	Snow	1968	Transportation
N/A	Landslide (SR 10)	1970	Vegetation, irrigation, transportation
852, 883	Flooding	1990	C & D, vegetation, transportation & unknown
1079,1100	Snow	1996	C&D & unknown
1159	Snow	1997	Unknown, Pass closed 2 consecutive days
1671	Snow-Wind	2006	Power Outages & Transportation
1825	Snow	2009	Transportation
1817	Flooding	2009	Vegetation & household goods
1963-DR-WA	Flooding	2011	Vegetation, transportation, household goods & unknown
5005	Wild Fire (Taylor Bridge Fire)	2012	C & D, household goods, white goods, small animals

*Since 1920 there have been 13 drought years

PURPOSE OF THE PLAN

The Plan provides a coordinated response and recovery blueprint for the County and Solid Waste to provide for the efficient management of disaster debris following a debris-generating event. The Plan works within the framework of Kittitas County's Comprehensive Emergency Management Plan (CEMP) and its purpose is the following:

- Provide a centralized repository of information critical to developing and operating a disaster debris management program (including location of Debris Management Sites (DMS), site criteria for locating new DMS, zone maps, road lists, etc.).
- Identify the rules, regulations and guidelines enacted by FEMA and other agencies governing the disaster debris removal process.
- Provide reference and contact information for key County personnel.
- Identify the roles and responsibilities of all involved parties.
- Establish language and a protocol for pertinent public information such as press releases and other debris management information.

PLANNING ASSUMPTIONS

The unique characteristics of Kittitas County were considered in the development of this plan such as its environment, location, size and development. These characteristics impact how effectively a municipality is able to respond to an emergency. For example:

- Most of the County's population resides along the I-90 corridor.
- The County contains several water sources and numerous smaller streams susceptible to flooding. Flooding may inhibit emergency response by blocking key roadways.
- A major mudslide or earthquake may hamper response and recovery by damaging bridges, overpasses, roadways, transportation facilities, communications systems of EMS, and public safety facilities.
- Each municipality has the responsibility to respond and direct operations to the disaster within their borders. This plan assumes that each municipality will clear their own right of way, stage debris into smaller, neighborhood collection centers from which the G certificated haulers will collect the debris to move it to a larger County DMS.

The different types of emergencies that occur in Kittitas County and potential impacts are listed in Table 2-2 below.

Table 3-2 Characteristics of Possible Events

Incident	Debris Characteristics	Regional Probability	Debris Impact
Wind Storm	Primarily vegetative waste; may also include construction/demolition materials from damaged or destroyed structures, some municipal solid waste from damaged structures. Extended power outages may result in large amounts of putrescible waste from private homes and grocery stores.	High	Moderate
Flooding	Construction/demolition waste, municipal solid waste, and problem waste, including sediment, vegetative waste, animal carcasses, and hazardous materials deposited on public and private property. Much of the debris from flooding events may be considered problem waste because of contamination from wastewater, petroleum, or other substances.	High	Moderate
Earthquake	Primarily construction/demolition waste and municipal solid waste intermixed with problem waste.	Low	Low
Urban, Wild-land, and Wild-land/Urban Interface Fires	Burned vegetative waste, burned construction demolition waste, and problem waste, including ash and charred wood waste and ash-covered debris	High	Moderate
Ice Storms	Primarily vegetative waste from broken tree limbs and branches. May also include construction/demolition waste and putrescible waste from extended power outages.	Low	Low
Volcano	Primarily ash, and ash-covered debris	Low	Low
Landslides	Sediments and construction/demolition waste possibly contaminated with problem waste.	Moderate	Moderate
Plant Disease	Variable amounts of vegetative debris that might require special handling as problem waste with specific disposal characteristics.	High	High
Animal Disease	Variable amounts of putrescible waste that might require special handling as problem waste with specific disposal instructions.	High	High
Nuclear, Chemical, or Biological Accident	Various amounts of contaminated soil, water, construction/demolition waste, and/or municipal solid waste that would require special handling as problem waste with specific disposal instructions.	Low	Low

EFFECTS OF WEATHER AND GEOLOGICAL EVENTS

Following a debris-generating event caused by weather or geological events, the County will most likely experience widespread power outages, impassable road and rail conditions, strain on land and/or cellular phone networks, and loss of communication with key staff and private contractors. Any one of these events may affect the implementation of the Plan following a debris-generating event.

DEBRIS GENERATING EVENT

The Plan has been developed in a manner to address two types of debris-generating scenarios; a low to moderate volume debris-generating event and a high volume debris-generating event. This enables the County to tailor a response according to the amount of debris generated and the severity of the event.

COORDINATING WITH OTHER AGENCIES

During all phases of the debris management cycle, interdepartmental coordination, multi-jurisdictional coordination, and communication with private and public-non-profit agencies are critical to a timely response and debris removal effort. Coordination is an important element of effective and efficient emergency road clearing, right of way debris removal, DMS activation and operation, FEMA documentation, and dissemination of information to the public.

Other agencies, quasi-governmental entities, and incorporated municipalities are involved in the debris management process. Coordination with some or all of these agencies may be necessary following a debris-generating event and must be determined on a case-by-case basis. A brief description of each entity and their potential role in the debris management process is described in this section.

SCHOOL DISTRICTS

There are five school districts within Kittitas County that are eligible for debris removal reimbursement. These districts include:

- Cle Elum-Roslyn
- Ellensburg
- Kittitas
- Thorp
- Easton

Each school district will be responsible for debris cleanup operations on school property, unless the municipality the school is located in assumes this responsibility on their behalf. In that scenario, the municipality will make application for the reimbursement of the costs associated with this debris removal and document debris generated on school district property. Upon completion of debris removal, the municipality will invoice each school district for its reimbursement matching contribution. If the municipalities and the School Districts are working

with the County plan and a cost share plan has been negotiated and documented, the County will assume debris responsibilities for the school districts.

FEMA-REGION X

FEMA Region X is one of the ten (10) FEMA regions throughout the United States. Region X encompasses the states of Alaska, Idaho, Oregon and Washington, and coordinates with numerous Native American tribes. FEMA Region X's responsibilities include, but are not limited to:

- Approval of the Kittitas County Disaster Debris Management Plan.
- Communicating FEMA policy to the County.
- Coordination of a Joint Field Office (JFO) following a disaster.
- Review of first appeals to Office of Inspector General (OIG) audit finding.

CITIES AND TOWNS

The City of Ellensburg is the largest by population in the County of Kittitas. The City of Ellensburg is the main seat for EMS and assists the other cities and towns. Ellensburg will coordinate with the municipalities of Cle Elum, Kittitas, Roslyn and South Cle Elum to enter into an agreement with the county indicating how Solid Waste will assist in Debris Management Removal.

WASHINGTON STATE OFFICE OF ARCHEOLOGY AND HISTORICAL PRESERVATION

The Solid Waste Office is responsible for reviewing proposed DMS locations to ensure sites are not located on properties of historical or archeological significance. The EMS and DMC coordinate to review previous ownership or pre-existing historical issues at the sites.

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT)

WSDOT is responsible for maintaining state owned right of ways within the County limits. Operations for WSDOT activities are conducted through the South Central Regional Maintenance Office. Following a disaster, WSDOT's South Central Region Maintenance Superintendents in Areas 1 and 2 (North and South Kittitas County) will coordinate with Public Works Road Maintenance Department for emergency roadway clearing activities.

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Washington Utilities and Transportation Commission (WUTC) regulate solid waste collection in unincorporated areas of the county. Incorporated cities can contract for garbage service and

can therefore contract for debris hauling in the event of a disaster. A full discussion of the WUTC Impact on this plan is in Section 5.

DEBRIS HAULING

Kittitas County has one waste hauler holding a G certificate from the WUTC that grants that hauler an exclusive franchise for the hauling of solid waste generated in that certificate area. This Hauler and is shown in Appendix A of this plan. The County is required by law to use this hauler for disaster debris removal. Cities are not so obligated. Since their rates are set by a regulatory agency, WUTC, this hauler is deemed compliant with FEMA's request for pre-qualified contractors for debris removal. In the event that the G Certificated hauler cannot meet the obligations of debris removal in their service area, they are obligated to contract for services from another firm who can. The County has requested each hauler to show the County their plans for meeting their disaster debris obligations and a list of pre-qualified debris contractors in the event they are unable to operate or if under Scenario 3 – High Debris Volume Event, the amount of debris exceeds the capabilities of local resources. The Road Maintenance Division will manage any right of way (ROW) work. The Solid Waste Division will manage all other debris removal related services. The scope of services that the WUTC certified hauler will be requested to perform on behalf of the County include:

- Transport vegetative debris from County Right of Ways (ROW) to either a neighborhood collection center for segregation or to a County Debris Management Site (DMS).
- Transport construction and demolition debris from ROW to either a neighborhood collection center for segregation or to a County DMS.
- Haul out segregated debris from neighborhood collection sites to County DMS.
- Transport segregated debris from DMS to either a recycling facility or a location for transport to the Ellensburg Transfer Station or the Upper County Transfer Station.
- Transport commercial and private property demolition and debris.

A pre-qualified contracted tree service company may be asked to perform the following:

- ROW leaning tree and hanging limb cut work.
- ROW partially uprooted stump removal.
- Private property leaning tree and hanging limb cut work and removal.

A pre-qualified licensed hazardous waste collection firm may be asked to provide the following:

- Freon evacuation and white goods removal and processing.
- HHW debris separation, documentation and disposal.

DEBRIS MONITORING

The County is qualified for debris monitoring (to include tree service as well) and hazardous waste collection. The debris monitoring lead will be responsible for ensuring that certificated haulers are in compliance with their contracts as well as the hazardous waste collection. Upon activation in a Scenario 2 (medium volume event) or Scenario 3 (high volume event), the monitoring lead deploys staff to support truck certification, as well as collection and disposal monitoring functions. The monitoring lead will orient employees with operational procedures and refresh staff with a field training program on current debris removal eligibility, FEMA requirements, County debris removal requirements, and safety procedures. Collection monitors will carefully document debris collection information to demonstrate eligibility and ensure proper debris hauling contractor payments and FEMA reimbursement. Responsibilities of the debris monitoring lead may include, but are not limited to, the following activities:

- Issuing load tickets.
- Verifying the estimated amount of debris hauled to the DMS.
- Identifying HHW on the ROW and at DMS locations and ensuring that it is properly collected, segregated, and disposed of at a licensed facility.
- Providing comprehensive program management for the debris removal and cleanup process.
- Communicating with key County personnel on a regular basis.
- Managing an extensive database for reimbursement, invoice reconciliation, and auditing purposes.
- Reviewing and reconciling contractor invoices prior to recommending payments to the County.
- Assisting DEM, Solid Waste, and Finance with the development of FEMA Project Work Sheets (Public Works).

ACCESS TO DATA

During long periods of time when the County is without sufficient critical resources and infrastructure, the County relies on certain manual processes to aid in the debris management process. Following an event, the County may have limited or no access to GIS maps (DMS and list of County maintained roads), electronic recordkeeping or timekeeping for documentation purposes, e-mail, and public information mechanisms.

DISASTER DEBRIS

Classifications of debris described in the Plan are limited to those that would be reimbursable through the FEMA Public Assistance (PA) Grant Program and described in FEMA Publication 325. These include:

- Vegetative
- Hazardous stumps

- Hanging limbs
- Construction & demolition material
- Household hazardous waste (HHW)
- White goods
- Leaning Trees
- Mixed vegetative and C&D
- E-Waste
- Vehicles

The Plan does not address the collection and disposal of municipal solid waste following a debris-generating event. Municipal solid waste in the aftermath of a debris generating event is addressed in Solid Waste's Continuity of Operations (COOP) Plan.

IMPACTS ON DEBRIS GENERATION POTENTIAL

A debris forecast scenario is described in Section 2.5, however it is likely that only part of the total debris generated from a disaster will be the responsibility of the County, to remove as described in Section 3. Many factors may affect how debris is handled and ultimately the party responsible for removing it. These include, but are not limited to:

- Private insurance carried by residents and commercial businesses.
- Federal Highway Administration – Emergency Relief (FHWA – ER) program.
- Eligibility for reimbursement under the FEMA - PA Grant Program.
- Types of recovery programs authorized by the federal government.
- Decisions made by County Administration.

  It is important for the County to also understand that even though debris removal and transport may be the responsibility of another party, the debris may still impact the solid waste stream including disposal capacities at area landfills or transfer stations.

AVAILABILITY OF DEBRIS MANAGEMENT SITES (DMS)

The availability of a Debris Management Site (DMS) is subject to the location, size, environmental conditions and permits, and severity of the debris-generating event which may render some or all of the pre-determined sites unusable. Under these circumstances, the County may need to coordinate with Kittitas County Health Department (KCPH) City of Ellensburg, private and public contractors to identify alternative DMS locations. The County, with assistance from the KHD, has developed a check list for potential debris sites (see Appendix B.) This allows the Disaster Debris planners to quickly screen potential sites.

DIVERSION OF DISASTER DEBRIS REMOVAL

The County is committed to diverting disaster debris from the municipal solid waste stream. Following a debris-generating event, the County will make every effort, when economically or operationally feasible, to explore all options for recycling or beneficially utilizing disaster debris. Further, by managing debris in the County via hog fuel, concrete and asphalt crushing, and composting organic materials, recovery dollars are retained in the County economy and dependence on rail (an identified weak link during an earthquake) is decreased ensuring recovery costs can be managed more efficiently.

VOUCHER SYSTEM FOR DISASTER DEBRIS DROP-OFF STATIONS

The County currently maintains two transfer stations that are available for residents and businesses to properly dispose of solid waste materials. The sites are a collection point for limited types of hazardous waste from homeowners including oil, antifreeze, car batteries, and fluorescent lamps. Businesses may take these materials and others to the Transfer Stations in Cle Elum and Ellensburg, whereas homeowners can take all types of hazardous wastes to the Transfer Stations for free, but with the use of vouchers during and after a disaster event. For the purposes of the Plan, additional specialized disaster debris drop-off stations will be utilized for residents to properly dispose of their disaster debris including, but not limited to: vegetative, C&D, HHW, and white goods. We anticipate the certificated hauler will resume curbside collection of MSW as soon as roads are clear.

DESIGN DISASTER EVENT

The County is subject to natural disasters such as, high winds, ice/snow storms, floods and earthquakes, as well as regional disasters that impact the highways and rail system. Human caused threats are a possibility also.

DEBRIS FORECAST ANALYSIS

Estimating the quantities of debris that may be generated by various natural or human-caused disasters provides a complex analysis challenge. There are endless variables (type of event, severity of event, location of event etc.) that can dramatically impact the quantities of debris that may be generated by a disaster event and virtually no model exists that can accurately estimate debris volumes. The Debris Forecast Analysis is a resource for the County and DMC to use when planning for a debris-generating event; however its results should be tempered with an understanding that a considerable margin of error exists.

LOW VOLUME EVENT DEBRIS-SCENARIO 1

The low volume debris event scenario (Scenario 1) is described as those higher frequency events that have affected the County in the past. Characteristics of a Scenario 1 event include, but are not limited to:

- Result of flooding, winter storm (snow/ice), or high winds (between 75 and 95 miles per hour) in localized areas of the County.
- May not receive a Presidential Disaster Declaration for Category A – Debris Removal.
- Minimum to no impact on critical resources and infrastructure or Solid Waste system.
- DMS will most likely not be operational.
- Debris composition is primarily vegetative with some construction and demolition debris (C&D).
- Debris generation may range between 0 – 700 tons.

DEBRIS ESTIMATE

The highest probability occurrence to affect the County is the flood event scenario. A flood event is represented in the low volume debris scenario. The County maintains historical data from all flood events including volume estimates from the 1996, 2009, 2011, and 2012 floods in which the County utilized its voucher program. Based on that data, the County may expect a minimum of 50 to 1,000 tons of debris as a result of a flood event throughout the County including Cities. The high wind event scenario would likely produce similar debris estimates, perhaps even slightly exceeding those of a flood event.

MEDIUM VOLUME EVENT DEBRIS-SCENARIO 2

The medium volume debris event scenario (Scenario 2) is described as those less typical events that have affected the County in the past such as the 1996 Flood Event. Characteristics of a Scenario 2 event include, but are not limited to:

- Result of flooding, winter storm (snow/ice), or high winds (between 75 and 95 miles per hour) in large sections or the entire County.
- May not immediately receive a Presidential Disaster Declaration for Category A – Debris Removal but field estimates indicate greater than 25 tons of debris.
- Minimum to impact on critical resources and infrastructure or Solid Waste system.
- Centralized DMS may be operational and Cities will open neighborhood debris collection sites.
- Debris composition is primarily vegetative with some C&D and animal carcasses.
- Debris generation may range between 25 and 300 tons. (based on 1996 flood and Taylor Bridge Fire data for Kittitas County).

DEBRIS ESTIMATE

The highest probability occurrence to affect the County is the flood event scenario. A flood event is represented in the medium volume debris scenario.

HIGH VOLUME EVENT DEBRIS-SCENARIO 3

The high volume debris event scenario (Scenario 3) is described as an infrequent event, such as a 100- or 500-year event. This kind of event has the following characteristics:

- Result of severe flooding, ice/snow storm, high winds (above 95 miles per hour), man-made event, or earthquake.
- Immediately receives a Presidential Disaster Declaration for Category A – Debris Removal.
- Significant impacts to public services including electricity, water, communications, roadways, rail lines, and Solid Waste system.
- DMS will be operational.
- Debris composition may include vegetative, C&D, mixed debris, HHW, vehicles.
- Debris generation exceeds 300 tons and may reach several hundred thousand or even millions of cubic yards.

HISTORICAL DATA

When considering the quantities of debris that could be generated by an earthquake or other disaster that significantly impacts structures, it is important to review relevant statistics from events of the recent past. Research conducted on several events over the past 20 years provides guidance to estimating the impact a disaster could have on Kittitas County. Table 2.3 describes several events and their estimated debris quantities or damages sustained by the event.

Table 3.3 – Historical Disaster Data

Location	Disaster	Est. Population	Impact/Debris quantities
Los Angeles, CA	Northridge Earthquake	9,000,000 Metropolitan area	7,000,000 CY 25,000 dwellings uninhabitable 7,000 buildings severely damaged 22,000 buildings moderately damaged
Escambia County, FL	Hurricane Ivan	295,000	6,000,000 CY vegetative debris 1,000,000 CY C&D debris
New York, NY	World Trade Center	18,000,000 Metropolitan area	1,460,000 tons
San Francisco, CA	Loma Prieta Earthquake	1,600,000 Metropolitan area	414 single family homes destroyed 18,000 single family homes damaged
Greene County, MO	2006 Ice Storm	254,000	1,250,000 CY vegetative

FORECASTED DEBRIS

DEBRIS FORECAST FORMULA

In order to develop an estimated quantity of debris that would result from a high volume debris event, a per-household calculation can be applied to the number of households in the County. The forecasted amount of residential debris in Kittitas County is based on the following formula for a totally destroyed household as described in Section 6 of the FEMA 3253:

> An estimate of a one-story, single family dwelling that is approximately 2,000 square feet (40 feet by 50 feet) is used for this calculation. The following formula is used to derive the estimated amount of debris for a totally destroyed household.
>
> 40'x 50' x 1 x 0.20 x 1.3 = 520 Cubic Yards (CY) of debris
>
> - L = Length of building in feet
> - W = Width of the building in feet
> - S = Height of building expressed in stories
> - 20% = Reduction factor due to airspace in a single-family dwelling
> - VCM = Vegetative Cover Multiplier

For purposes of generating debris estimates for this Plan, we have assumed that the high volume debris event would be a major earthquake impacting the region. While the earthquake scenario has a medium probability of impacting the County, it has the greatest opportunity to generate debris and affect the county and therefore will act as the basis for the High Volume Debris estimate.

CALCULATION

A combination of relevant historical data and debris forecast calculations were used to develop the debris forecast in the High Volume Debris event.

The goal of the debris forecast analysis for an earthquake scenario is to provide the County with a realistic amount of debris that could be generated by an event. A Level VII or above on the Modified Mercalli Scale (MMS) could potentially cause a total loss or partial damage to numerous single-family homes in Kittitas County. The historical data from the Loma Prieta Earthquake acts as the basis for the number of homes destroyed or partially damaged by the earthquake.

The estimated number of single family homes destroyed or damaged by a Loma Prieta sized earthquake in Kittitas County is approximately 1,728, or 10% of the total number of single family homes in the county. This estimate was derived from the 2010 Census which identified 22,297 housing units in Kittitas County and 22.5% of these being multi-unit structures, resulting in 17,280 single family homes. Table 2.4 illustrates the estimated cubic yards that could be generated from an earthquake event.

Table 3.4 – Debris Forecast Analysis

	Number of Single Family Dwellings	Cubic Yards (CY)/Home	Debris Quantities (CY)
Homes Destroyed	32	520	16,640
Homes Damaged	1,696	52	88,192
Total	1,728	61	104,832

The estimated cubic yards for an event on the size and scale of the Loma Prieta earthquake to impact Kittitas County is approximately 105,000 cubic yards of debris.

FORECASTED TYPES

Classifications of debris described in the Plan are limited to those that would be reimbursable through the FEMA Public Assistance (PA) Grant Program and described in FEMA Publication 325. These include:

- Vegetative
- Leaning Trees
- Household hazardous waste
- Vehicles
- Hazardous stumps
- E-Waste
- Construction and demolition material
- Dead Animals
- Hanging limbs
- White goods
- Mixed debris (vegetative and C&D)

The Plan does not address the collection and disposal of municipal solid waste (MSW) following a debris-generating event. Managing MSW in the aftermath of a debris generating event is addressed in Solid Waste's Continuity of Operations (COOP) Plan.

Table 3.5 – Forecast by Disaster

Event	Nature of Debris	Probability in Kittitas County	Debris Generation Potential	Regional Debris Impact
Earthquake	Damaged personal property, structural building materials, charred wood, concrete	Low	Low	Low
Ice/Snow Storms	Vegetative	High	High	Low-Moderate
High Winds	Vegetative, construction materials, from damaged or destroyed structures, and personal property	High	High	High
Flood	Sediment, wreckage, personal property and possibility of hazardous materials deposited on private and public properties	High	High	High
Human Caused	Building materials, hazardous substances, concrete, metals, glass, spoiled foods, charred wood, electrical wires, furnishings, appliances, personal effects	Medium	Low to Moderate	Low to Moderate

FORECASTED LOCATIONS

The debris removal process is driven by the amount of debris generated by the event. For the purposes of the Plan, the post-event recovery process has been developed based on two debris event scenarios: a low to medium volume debris event and a high volume debris event. These descriptions are to be used as a guide for the County and the Solid Waste Director for the purposes of deciding the most appropriate course of action following such an event and should be examined on a case-by-case basis. A detailed account of the step-by-step actions of the Solid Waste Director is described in Section 1.

SECTION 4 - APPLICABLE RULES AND REGULATIONS

PLANNING

Kittitas County has identified two (2) DMSs and seven (7) neighborhood collection sites within its jurisdictional boundaries. A representative from the Kittitas County Public Health Department has reviewed the DMS locations on a preliminary basis, and the State Department of Ecology has reviewed and approved these sites. The County Health Department will authorize these sites prior to engaging in debris removal operations. Kittitas County will notify the health department prior to activating the neighborhood collection sites.

RESPONSE

Kittitas County will initiate DMS preparation activities during the response phase. A preliminary plan will be developed for reducing, recycling and disposing of the debris based on general estimates of the type of material generated by the event. Kittitas County may decide to reduce the debris via air curtain incineration or grinding. Once a preliminary determination has been made, this plan will be communicated to the environmental officials for their guidance on the applicability of regulations to the operations and monitoring of the DMS's and disposition of the disaster debris.

The site preparation activities will be initiated by the Debris Removal Manager. In the event that disaster debris crosses jurisdictional boundaries, the Debris Removal Manager will contact their counterparts within neighboring jurisdictions and the County to coordinate efforts in understanding the rules and regulations that will affect operations at the DMSs.

Contact information for the key environmental agencies is provided in Appendix A, Debris Resources. This includes:

Debris Removal Managers in the county and neighboring jurisdictions

Air Quality Regulatory Agency

Local Public Health Department

Local County Solid Waste Department

Local Hazardous Waste Programs

RECOVERY

This section summarizes rules and regulations that apply to the recovery phase of disaster debris management.

WASTE MANAGEMENT PRIORITIES AND RECYCLING

Kittitas County will make reduction and recycling the highest priorities for managing disaster debris. The Debris Removal Manager will coordinate with the debris hauling contractors to ensure maximum

segregation for recyclable materials, and make sure that debris reduction equipment (chipping/grinding/incineration) is operating properly and within the regulations of Air Quality Regulatory Agency and the local fire departments.

AIR QUALITY AND INCINERATION AS A WASTE REDUCTION METHOD

During the recovery phase, the following measures will be taken by the Debris Site Supervisor:

- Monitoring of dust and ensuring proper dust suppression measures are implemented.

Any type of incineration will probably not be allowed in Kittitas County.

HOUSEHOLD HAZARDOUS WASTE MANAGEMENT

Kittitas County will set up household hazardous waste, appliance and special waste collection areas. Household hazardous waste should be collected separately and disposed of at a licensed disposal facility. Contractors listed with the county household hazardous waste management program will be contacted for safely disposing of household hazardous debris. These contractors are listed in Appendix A, Debris Resources.

White good debris that contains ozone depleting refrigerants, mercury, or compressor oils need to have such materials removed by a certified technician before recycling. White goods will be properly disposed of by a licensed disposal company. Puget Sound Energy collects old refrigerators and freezers, and also handles light bulb recycling at the Ellensburg office and at the Ellensburg Transfer Station.

The Air Quality Regulatory Agency will have regulatory authority over the demolition of structures that contain asbestos or lead-based paint.

SECTION 5 - DEBRIS COLLECTION PLAN

UPDATING THE PLAN

The Plan is designed to be a "working document." The Plan is reviewed and updated annually to ensure that information presented in this Plan remains current. The activities described in the following sections are coordinated by the DMC annually to ensure that the Plan is up to date. The DMC maintains a prioritized list of recommendations identified by team members for better response and communication capabilities which are attached as appendices. Improvements and recommendations to these appendices are forwarded for consideration during budget discussions. The DMC changes the plan to reflect any implemented recommendations.

CONTACT LISTS

Solid Waste is responsible for maintaining and annually updating a Debris Management Contact List. A Disaster Management Contact List is in Appendix A. This is a comprehensive list of county staff and departments/divisions involved in the debris management process. The Debris Management Contact List can be used to ensure that key staff and departments are:

- Informed of any training or meetings held in the normal operations phase.
- Called to any coordination meetings immediately following an event and in the weeks thereafter.
- Ready with any information or deliverables that Solid Waste needs for coordinating the debris removal operation.

KITTITAS COUNTY CODE

FEMA requires that a community follow its local ordinances should it engage in a special demolition or other private property debris removal program. To ensure that the Kittitas County has full legal authority to remove hazardous or abandoned disaster debris that poses a threat to public health and safety, or is a detriment to overall public morale and welfare, the Office of the Prosecuting Attorney will conduct a detailed legal review of its existing ordinances, agreements, etc. Issues that may be addressed in the Kittitas County Code include:

- Legal authority to remove debris on private property (including debris placed along private roads as well as more comprehensive Private Property Debris Removal (PPDR) Program.
- Legal authority to condemn and demolish uninhabitable structures.
- Drafting interlocal/mutual aid agreements.

In addition to ensuring that the County has the necessary legal authority for various debris removal programs, the Board of County Commissioners' review will identify potential modifications that could ease the level of effort required by the County to demonstrate to FEMA that it followed its standard policies and procedures.

DEBRIS MANAGEMENT SITES (DMS)

A DMS is a location for the County to temporarily store, reduce, segregate, and/or process debris before it is hauled to its final disposal site. DMS are frequently used to increase the operational flexibility when landfill space is limited or when the landfill is not in close proximity to the debris removal area. The County currently maintains a list of eligible sites to use in the event of a disaster and continues to look for others. The DMC coordinates with Kittitas County Public Health, Cities, interested stakeholders, and the GIS Planner annually to identify additional locations to better serve our citizens and determine whether existing sites are still available. The Solid Waste Department and Kittitas Public Health Department have developed a checklist of potential DMS characteristics that allow the DMC to quickly screen sites. The check list includes a list of permits, who obtains the permits, monitoring requirements, and other necessary items to open a site and get it operational in the least amount of time. This checklist is in Appendix G (Forms).

INTERLOCAL/MUTUAL AID AGREEMENTS

The County currently operates under an inter-local agreement between all cities for the provision of solid waste management services (transfer and disposal). An inter-local or mutual aid agreement may be necessary specifically for debris management activities. The inter-local agreements outline operational expectations and reimbursement procedures of each entity. The Debris Management Coordinator coordinates with various agencies eligible for FEMA reimbursement under the PA Grant program. Copies of debris related inter-local or Mutual Aid agreements are included in Appendix G, and are updated to reflect any changes to these agreements.

ROAD LISTS

Public Works maintains a comprehensive, updated electronic and hard copy list of county and city maintained roads. A comprehensive road list helps ensure that the clean-up process is properly documented for the purposes of:

- FEMA reimbursement;
- Payment responsibility;
- Contractor invoice reconciliation; and
- Debris removal operations on eligible roads.

The DMC continues to work with Public Works to develop a road list from EMS and incorporate the list in the Plan.

FINAL DISPOSAL OPTIONS

A high priority recommendation the DMC is developing is a complete review of the capacity of final disposal sites in or near the County to handle the potential quantities of disaster debris that future debris-generating events may produce. At this time, the DMC is developing a list of all county sites with

grinding, crushing and sorting capacity to determine the potential time for full recovery in Kittitas County. In the event such capacity is deemed insufficient, alternatives will be discussed and developed by the recovery teams. Landfill disposal of the generated debris is considered the least desirable option.

PRIORITIES

Immediately following a medium or large debris generating event, the Plan will most likely be activated. For debris management purposes, the Public Works Road Maintenance Department acts as the lead agency during the Response Phase for the County and each independent Emergency Services Agency will act independently from the County. This period is typically characterized as the period of time during which roadways are cleared of scattered debris, leaning trees, and other obstructions to emergency response vehicles.

The County's prioritized roadway list includes life lines to hospitals, schools, and other care facilities. After prioritized roadways have been cleared, crews then focus on main arterials that are neither State nor US Highways. Until the road priority list is updated, we will be using the existing snow and ice lists, which establish priorities for snow and ice removal on County roads.

RESPONSE OPERATIONS

The Solid Waste Department does not have response activities in its essential functions. In the Public Works Department, Engineering Services and Road Maintenance have activities related to damage and debris estimates and clearing rights of way.

PRELIMINARY DAMAGE ASSESSMENT AND DEBRIS ESTIMATES

Damage assessments are necessary to determine the extent and the location of the debris. Preliminary damage assessments will be gathered by a wide variety of entities, including but not limited to the local chapter of the American Red Cross, local fire districts, numerous county departments, and other related entities. Coordination of these preliminary assessments will be the responsibility of the EOC lead for ESF-14, Long Term Recovery and Mitigation. If possible, additional surveys by helicopter or small aircraft will be collected in order to obtain an aerial view of damaged areas within the County.

Table 5.1 – Damage Assessments

Agencies Engaged	Responsibilities
EMS	Coordinate via ESF-14 Preliminary Damage Assessment
All Participating Cities	Provide County with debris estimates
Public Works Department	Compare critical roads with road clearing priority lists and prepare equipment for mobilization

EMERGENCY ROADWAY CLEARING ACTIVITIES

The Public Works Department and WSDOT activate their respective post-event response plans and commence with road clearance activities. The Public Works Department will follow their emergency road clearing plan, first focusing on major arteries leading to shelters, hospitals, supply points, and other critical locations throughout the County. Each jurisdiction within the County maintains responsibility for emergency road clearing activities within their incorporated limits, unless assistance from the County or other agency is requested.

Table 5.2 – Roadway Responsibilities

Agencies Engaged	Responsibilities
Public Works Road Maintenance Division	Emergency road clearing and documentation-County Roads
WSDOT	Emergency road clearing-FEMA or State Roads
All Cities	Emergency road clearing-City Roads

RECOVERY OPERATIONS

POST-EVENT RECOVERY PHASE PLANNING

The DMC and support staff reviews information from the debris assessment to determine the most appropriate debris management strategy employed during the post-event recovery phase. Factors that may impact this decision may include, but are not limited to:

- Amount and locations of generated debris;
- Type of debris generated – vegetative, C&D and/or hazardous;
- Estimated cost of the debris removal efforts;
- Availability of DMS;
- Ability of residents to self-haul to residential drop-off stations; and
- Availability of outside contractors if needed.

The DMC develops recommendations based on the evaluation of the above criteria to present to Public Works – Administration and the Board of County Commissioners. Following this meeting, the DMC will begin planning for the post-event recovery phase.

Table 5.3 – Post-Event Responsibilities

Agencies Engaged	Responsibilities
Public Works and Solid Waste	Review and evaluate information and develop recommendations for Post-Event Recovery Phase
Solid Waste	Determine debris management strategy
BOCC	Authorize debris management strategy
EMS	Determine debris management strategy
Cities	Determine debris management strategy

Documentation Procedures

Public Works and Solid Waste Directors establish project billing codes for documentation purposes, specific to debris related activities associated with the disaster. Public Works disseminates information regarding these billing codes to relevant personnel.

Table 5.4 – Documentation Responsibilities

Agencies Engaged	Responsibilities
Public Works and Solid Waste	Create and distribute project billing codes for debris management efforts

Public Information

The EMS Public Information Officer develops and issues a press release to various media sources as soon as appropriate information is known following the disaster. Public Works and Solid Waste assist EMS as needed. The subject matter of the press release will be to reassure and comfort the public that the County and Cities are responding and are determining, or have determined a debris removal strategy. Information is provided on the debris removal strategy at this time.

Table 5.5 – Public Information Responsibilities

Agencies Engaged	Responsibilities
Public Works and Solid Waste	Assist EOC in developing a press release
Cities	Develop and issue press release
EMS	Issue press release

Post-Event Recovery

The post-event recovery phase focuses on the removal of disaster generated debris throughout the County. The activities described in this phase are applicable to unincorporated areas of the County and agencies operating under inter-local/mutual aid agreements for the County to provide this service on their behalf.

For the purposes of this Plan, the post-event recovery phase has been tailored to meet three debris-generating event scenarios. The first is a low volume debris event that may only activate the voucher program, the second is a medium volume event and the third is a high volume debris event. The determination of how the County will address debris removal will be made by the DMC and Lead Agencies on a case-by-case basis and in coordination with the County EOC when activated.

DEBRIS EVENT SCENARIOS

Below we describe three event scenarios that entail increasing amounts of external resources both due to the volume of generated debris and the projected damage to County resources.

SCENARIO 1: LOW VOLUME DEBRIS EVENT

Based on data from our January 1996 flood event, the County may expect about 25 tons or 100 cubic yards of mixed debris. The County is able to break even with this level of debris assuming that the County receives 12.5% reimbursement from Washington State to match FEMA's 75% share.

Debris Prioritization and Station Preparation

For this volume of event, the Solid Waste Division intends to activate the voucher program. This program is well known to our citizens and responding agencies. We will take greater care to ensure that each address requesting a voucher is verified as being impacted by the event. The Debris Site staff and Transfer Station staff are also familiar with this program and accept the vouchers, verify the address (based on GIS data that will highlight the eligible and impacted addresses), and turn them in for processing and accounting. While this program has not historically been reimbursable through FEMA, we will continue to work with our Project Officers to create an eligible voucher program. The program is such low cost that it makes sense to keep this useful service available for the low volume event.

Table 5.6 – Low Volume Event Preparation

Agencies Engaged	Responsibilities
Solid Waste Operations	Plan for operation of stations
Public Works	Provide information on debris estimates

Multi-Jurisdictional Coordination

Even if our County is not impacted greatly by an event, other bordering Counties may be. We will communicate with our regional agencies and offer mutual assistance if we can meet their needs.

Table 5.7 – Low Volume Event Coordination

Agencies Engaged	Responsibilities
Solid Waste Operations	Coordination with organizations in need of County assistance
All Cities	Meet with DMC

Public Information

A press release from the EMS Public Information Officer to various media sources will be issued within the first few days after the event. The intent of the press release will be to reassure and comfort the public that the County has opened the voucher program for impacted citizens. The release will include station addresses, hours of operation, as well as the duration of the voucher program.

Table 5.8 – Low Volume Event Public Information

Agencies Engaged	Responsibilities
Public Works and Solid Waste	Assist EOC in developing a draft press release
EMS	Issue Press Release

SCENARIO 2: MEDIUM VOLUME DEBRIS EVENT

The medium volume debris event scenario (Scenario 2) is described as those higher frequency events that have affected the County in the past. This event may or may not receive an immediate presidential disaster declaration; however, documentation will continue in the event one is issued to the County.

Debris Prioritization and Station Preparation

The Debris Management Coordinator (DMC) coordinates with Public Works to estimate the amount, location, concentration of debris throughout the County. Based on the debris data, the DMC will work with the Cities to prepare for opening Neighborhood Drop-off Stations (Stations). The Stations allow residents to self-haul debris generated from the event. The DMC, along with the City Debris Managers, addresses issues associated with the Stations including, but not limited to:

- Location of stations.
- Days and hours of operation.
- Duration of program.
- Type of material accepted.
- Location of collection sites for white goods, HHW, and other special wastes.
- Staging of roll-off boxes or heavy equipment to manage the pile.
- Final disposal locations.
- Site security.
- Dissemination of information to the public.

Table 5.9 – Debris Prioritization and Station Preparation

Agencies Engaged	Responsibilities
Solid Waste Operations	Plan for operation of stations
Public Works	Provide information on debris estimates

Multi-Jurisdictional Coordination

The Debris Management Coordinator (DMC) contacts entities with formalized Interlocal/Mutual Aid agreements to inform them of the County's intent relative to debris removal efforts. All entities will provide an accurate point-of-contact for their organization to the DMC. The DMC also informs participating entities with updates on the progress and debris removal for their respective organization.

Table 5.10 – Multi-Jurisdictional Coordination

Agencies Engaged	Responsibilities
Solid Waste Operations	Coordination with organizations in need of County Assistance
BOCC	Meeting with DMC

Open and Operate Neighborhood drop-off stations

Based on the concentration of debris following the event, the Cities will open and operate neighborhood drop-off stations. The neighborhood drop-off stations are a completely separate operation from the County's current transfer stations. These neighborhood drop-off stations are opened based on the geographic concentration of debris, and provide residents in Kittitas County a location to self-haul debris for management and disposal. The County has identified

sections of the identified DMS for use as neighborhood drop-off stations for unincorporated area citizens. Each City will identify drop off sites within or very near its City.

Personnel to monitor the sites will come from various impacted jurisdictions. We will work to ensure local municipal staff clears each load of material from the public and ensure that all loads certificated haulers remove from the site are accounted for and tracked. Transfer Station staff will also ensure that tickets for material coming from a neighborhood debris site are coded into the scale system appropriately so that site and station paperwork reconcile.

The DMC will assign personnel at the neighborhood drop-off stations to ensure that only residential debris is deposited. The County requires that residents who use these neighborhood drop-off stations provide a copy of their most recent water bill or alternate identification providing proof of residency in the City or the unincorporated area. Solid Waste Department tracks inbound loads of debris and establishes an accounting system in concert with Accounts Payable in the Auditor's Office for FEMA reimbursement purposes.

The DMC coordinates with the Public Works Department to dedicate at least one piece of heavy equipment (example: front-end loader or back-hoe) and operator, or engage a contractor with roll-off boxes at each site to manage the debris pile at stations not located in the cities. The DMC coordinates the establishment of temporary fencing and proper signage to limit access and inform the public of operating hours. The hours of operations are limited during weekdays and expanded hours during weekends.

The DMC also coordinates with the Environmental Cleanup Team and Sheriff's Department to monitor unincorporated sites after operating hours to ensure that illegal dumping at these debris drop-off stations is minimized.

Table 5.11 – Operation of Neighborhood Drop-off Stations

Agencies Engaged	Responsibilities
Solid Waste Operations	Coordination the opening and operation of stations, assign staff to monitor sites; track loads of debris at stations
Public Works-Administration	Assist tracking loads of debris at stations. Coordinate with Solid Waste.
Solid Waste—Environmental Clean Up Team	Monitor Illegal Dumping
Sheriff's Department	Monitor Illegal Dumping

Haul-Out of Debris From Disaster Drop-Off Stations

The DMC coordinates with composting facilities and WUTC certificated recycling and disposal companies to transport debris for final recycling or disposal. To ensure that material is properly

disposed, the DMC works with the WUTC certificated haulers for the transportation of debris from each debris drop-off station to a final recycling or disposal location. Tickets issued at the final recycling or disposal site are provided to the DMC for documentation purposes.

Table 5.12 – Haul-out Coordination

Agencies Engaged	Responsibilities
Solid Waste—Operations	Coordinate the closure and disposal of debris
Composting Facilities	Debris intake and recycling/composting

Public Information

A press release from Public Works and the EOC to various media sources will be issued within the first few days after the event. The intent of the press release will be to reassure and comfort the public that the County has established the neighborhood drop-off stations, include the hours of operation and locations, as well as the duration of the Station program. The press release also states that the County's urban transfer stations and rural drop-box stations will only accept regular business and household waste and will not accept disaster debris.

Table 5.13 – Public Information

Agencies Engaged	Responsibilities
Public Works	Develop draft press release
EMS (to be consistent)	Issue press release

SCENARIO 3: HIGH VOLUME DEBRIS EVENT

The high debris volume event scenario (Scenario 3) is described as an infrequent event, such as an earthquake event. The debris estimates will likely exceed 10,000 to 30,000 cubic yards throughout the County. Due to the lengthy nature of the post-event recovery phase, this section has been subdivided into four milestones. These milestones are only estimates and must be evaluated by the Debris Management Coordinator (DMC) regularly.

Milestone 1: Immediate Recovery (5 Days to 2 Weeks) Ramping Up

The initial milestone during the post-event recovery phase is the period immediately following the emergency road clearing activities and the subsequent two weeks. This period is typically characterized as the "ramping up" period, where WUTC certificated haulers and monitoring contractors begin to mobilize the majority of their assets and debris collection begins. Ramp up activities may be engaged for seven days per week during daylight hours.

Activate Debris Monitoring and Debris hauling Contractors

Based on the determination by the BOCC, Public Works Director, EMS and the DMC, conduct debris monitoring and additional WUTC certificated company assistance is necessary, the BOCC will issue a notice to proceed under the emergency powers authorization. Once the debris monitoring has been conducted and WUTC certificated companies are activated, the DMC conducts a kick-off meeting with the contractors to issue task orders and establish the expectations of the County. At this meeting the DMC provides the debris monitoring department and WUTC certificated companies with updated road lists and the debris collection zone maps. Contractors and certificated haulers begin logistical coordination and equipment ramp-up immediately upon receiving a Notice-to-Proceed.

Table 5.14 – Debris Monitoring and Hauling

Agencies Engaged	Responsibilities
BOCC	Authorizes contracts for hauling and removal of debris
Solid Waste—Operations	Issue notice to proceed to monitoring contractors, and WUTC certified haulers; meet to clarify reporting requirements, scope, and eligibility
WUTC Certified Haulers	Meet with Debris Management Coordinator
Solid Waste—Debris Monitoring	Meet with Public Works, Debris Management Coordinator, EMS and BOCC

Coordinate With Participating Agencies

The DMC contacts all entities with formalized Interlocal/Mutual Aid agreements to inform them of the County's intent relative to debris removal efforts. All entities will provide an accurate point-of-contact for their organization to the DMC. The DMC also informs participating entities with updates on the progress and debris removal for their respective organization.

Table 5.15 – Coordination with Participating Agencies

Agencies Engaged	Responsibilities
Solid Waste—Operations	Coordination with organizations in need of County Assistance
All Cities	Meet with Debris Management Coordinator
All School Districts	Meet with Debris Management Coordinator

PREPARE DMS LOCATIONS BASED ON CONCENTRATION OF DEBRIS

The Solid Waste Director, support staff, Certificated Haulers, and City staff shall meet to discuss the opening and operation of pre-identified DMS locations. The following items should be taken into consideration when opening and operating a DMS:

Qualification criteria:

- Current availability.
- Status of Environmental Assessment.
- Duration of availability.
- Ingress/egress at site.
- Concentration of debris relative to each site.
- Geographic location within the County.

Discussion regarding the most appropriate debris reduction method will be determined by the group as described in FEMA 325. The County will reduce the debris at DMS via grinding as its first option. Upon a review of availability and suitability, the debris monitoring contractors and solid waste operations staff will begin site preparation. As part of the preparation, additional baseline data will be gathered from any newly identified sites to document the state of the land before debris is deposited. Engineering Services' will make their crew available.

- Photograph the site – Digital photos will be taken to capture the original state of the site. Photos will be updated periodically throughout the project to document the progression of the site.
- Record physical features – Records are kept detailing the physical layout and features of the site. At EMS such as existing structures, fences, landscaping, and other features are documented in detail.
- Historical evaluation – The past use of the site will be researched and documented if not completed already. Issues relating to historical or archeological significance of the site should be cleared with the state historical preservation agency via the SEPA Lead Agency in Public Works.
- Sample soil and water – If the site is one that was not subject to an environmental assessment of the site via a permit prior to the disaster event, Solid Waste will contract with a private firm to take soil and water samples before debris reduction activities commence. These samples will help ensure the site is returned to its original state and that the County is not penalized for any pre-existing contamination on the site.

The DMC will oversee monitoring the contractor's activities to ensure that they are in compliance with their contractual obligations, environmental standards, and acting in the best interest of the County and its residents. KCHD will be involved with all site selection determinations and will be included in opening decisions.

Table 5.16 – Debris Monitoring and Hauling

Agencies Engaged	Responsibilities
Solid Waste—Operations	Coordinating meeting and decisions regarding DMS
Department of Public Works	Pre-Event site inspections
WUTC Certificated Haulers	Site inspectors, site planning and preparation
Solid Waste—Debris Monitoring	Documentation of site planning and preparation; Coordinate with Public Works
Private Land Owners	Provide use of land for DMS operation
KCHD	Approval of DMS
Kittitas County Fire Marshal	Approve reduction methods
Department of Public Works	Approve procedures, aide in removal, and planning
BOCC	Approve operation and methods

Begin Truck Certification

In order to properly document operations under a volume based contract and satisfy FEMA PA guidelines, trucks must receive volumetric measurement and certification prior to debris hauling operations in accordance with FEMA 325. The debris monitoring department will be responsible for certification activities in the field. Truck certification occurs at staging areas determined by the debris hauling contractor.

Truck certification documentation should include:

- Vehicle make, model, and plate numbers.
- Contractor, sub-contractor, and driver responsible for truck operation.
- Sketches and diagrams of the loading box.
- Sketches and diagrams of additions (sideboards, bed extensions) and deductions (dog box, missing tailgate) to loading box.
- Volumetric capacity of the measured unit.
- A uniquely assigned truck number.
- Photographs of the truck that capture the driver, the loading box, license plate, and additions and deductions.
- Placards clearly labeling, at a minimum, the unique truck number and truck capacity. It is helpful to also include the prime and sub-contractor names.

Table 5.17 – Truck Certification

Agencies Engaged	Responsibilities
Solid Waste—Operations	Oversees truck certification procedures
Solid Waste—Debris Monitoring	Conducts truck certification and maintains documentation
Public Works	Oversee strategies and provides debris hauling
WUTC—Certificated Haulers	Provides staging areas and provides debris hauling trucks

Prioritize Debris Removal Operations

Public Works informs the DMC and WUTC certificated haulers of the decisions regarding the first priority for ROW debris removal operations. Typically in events that generate both vegetative and C&D debris, residents are quicker to set-out vegetative debris than C&D along the ROW because insurance inspections may be involved for damaged structures. The DMC utilizes preliminary debris estimates, windshield surveys, composition of debris and contractor input to make this decision.

Table 5.18 – Debris Removal Operations

Agencies Engaged	Responsibilities
Solid Waste—Operations	Reviews debris estimates and conducts meeting with Debris Haulers
WUTC Certificated Haulers	Provides input on highest concentration of debris and dedication of assets
Public Works-Road Maintenance	Haul debris and assist with field analysis
DMS site owners	Set up site operations to receive material, set up recycling/recovery guidelines

Initiation of Debris Management Site (DMS) Operations

Upon completion of DMS preparation activities, WUTC certificated haulers will begin to stage debris at the DMS locations. WUTC certificated haulers are required under contract to maintain and manage the DMS locations. This includes:

- Maintain flaggers at ingress and egress of the property.
- Keep tipping and reduction operations at a safe distance from the public.

- Ensure that personnel wear proper safety attire.
- Provide portable toilets (male and female) for staff to use.
- Segregation of debris.
- Supply water trucks on-site to minimize dust.
- Set up Household Hazardous Waste (HHW), appliance, and special waste collection areas (if the site can handle this material, not all current sites are large enough).
- Properly operate debris reduction equipment (chipping/grinding/burning).
- Ensure maximum possible segregation for recyclable materials.

Solid Waste, Parks, and the debris monitoring staff will oversee activities to ensure that debris is properly accounted for and that the site is not a safety hazard.

Throughout the duration of the project, data should be collected for use in the remediation and close-out of the DMS. Collected data can be compared to previous data to establish any remediation actions necessary to return the site to its original state. The following items should be included in an Environmental Monitoring Program:

- Sketches of site operations – During the course of the project, operations at the DMS may expand, condense, or shift. It is important that changes in site operations are documented along with activity locations. The sketches and documentation can assist later in determining areas of concern that may need additional sampling and testing at site closure.
- Documentation of issues at the site – Meticulous records will be kept documenting issues such as petroleum spills, hydraulic spills, or the discovery of HHW within debris at the site. This documentation will assist in remediation during site closure.

Monitors perform Quality Assurance/Quality Control (QA/QC) checks on load tickets to ensure that information captured by collection monitors is complete, perform volumetric load assignment to debris loads on a percentage full basis, and file tickets numerically for a load ticket database. Placards are inspected for authenticity and signs of tampering, and load tickets are verified to ensure that placard information is properly documented.

Table 5.19 – Debris Management Site (DMS) Operations

Agencies Engaged	Responsibilities
Solid Waste—Operations	Oversee Debris Management Site operations
Department of Public Works	Oversee Debris Management Site operations
WUTC Certificated Haulers	Debris Management Site operations
Solid Waste—Debris Monitoring	Document loads and monitor Debris Management Site operations
Kittitas County Fire Marshal	Monitor Reduction methods
KCHD	Monitor Debris Management Site for compliance

Begin ROW Debris Removal

Based on the debris removal prioritization, the debris monitoring department and WUTC Certificated haulers are instructed by Public Works and Solid Waste Directors and the Road Maintenance Manager who will oversee and provide equipment to begin right-of-way debris removal activities. The DMC provides a high-level of oversight and project management for both the monitoring department and debris hauling contractors to ensure that:

- Clean loads of debris are collected, whether they are vegetative, recyclable metals, or White Goods.
- Adequate assets are dedicated to the County.
- Estimated time of completion is reasonable.
- The number of passes throughout the community is satisfied.
- There is no need for opening additional DMS.
- Alternative disposal options have been identified by the contractor.
- Debris “hot spots” have been addressed.
- Customer comments or complaints are resolved.
- Damages to public and/or residential property are repaired.
- FEMA debris eligibility issues are resolved.

Table 5.20 – Debris Removal Management

Agencies Engaged	Responsibilities
Public Works Director and Road Maintenance	Oversee right-of-way debris removal
Solid Waste—Debris Monitoring	Assist with overseeing and conducting debris removal
WUTC Certificated Haulers	Conduct debris removal

Request Contact Information and Meeting With FEMA Public Assistance Officer

The DMC, in concert with the EMS will immediately request the contact information of the designated Public Assistance Officer (PAO) for the disaster from FEMA Region X. Upon receiving the information, the County will request a meeting with FEMA dedicated to the event. During this meeting the County will discuss the following issues:

- Summarize the County's debris removal operations to date.
- Review debris and cost estimates for the County.
- Provide a description of the Solid Waste Debris Management Plan.
- Disseminate contact information for County contractors and primary points of contact.
- Determine what additional information the PAO will need to generate Project Worksheets for the County.

Table 5.21 – FEMA Public Assistance Coordination

Agencies Engaged	*Responsibilities*
Solid Waste—Operations	Collect information to provide to FEMA staff
EMS	Contact FEMA Public information Officer and request meeting to discuss debris management efforts
FEMA Region X	Provide contact information for FEMA Public information Office or other relevant FEMA field staff
FEMA Public Assistance Officer	Attend meeting with County and Cities to discuss debris management

Conduct Meetings / Briefing with Key Personnel

Coordination meetings and briefings with key personnel at the BOCC, Department of Public Works and Solid Waste Directors in coordination with each department to update the status of

the road clearance efforts, DMS openings, contractor asset ramp-up, and pertinent public information for press releases.

Table 5.22 – Key Personnel Coordination

Agencies Engaged	Responsibilities
Solid Waste—Operations	Coordinate briefings and provide information to key personnel; Notify other divisions of debris management strategy
Department of Public Works	Notify other divisions of debris management strategy
BOCC	Notify other divisions of debris management strategy
EMS	Notify other divisions of debris management strategy; Create draft press release
EOC	Issue Press release

Public Information

A press release from the EOC to various media sources will be issued within the first five days following the disaster. The subject matter of the press release will be to reassure and comfort the public that the County is responding and has activated contractors to begin debris removal activities. The Communications Group explains in the press release that the County will be instituting the voucher program for debris dumping by residents. The press release also informs commercial businesses that they will not be included in the County's program, and provide acceptable alternatives for businesses to address disaster debris.

MILESTONE 2: SHORT-TERM RECOVERY (2 WEEKS TO 1 MONTH)

During this period, the WUTC certificated hauler is expected to be fully mobilized with asset configurations and sub-contractor placement dispersed too adequately and simultaneously service to the entire County. Operations continue seven days per week during daylight hours.

Evaluate Debris Collection Priorities

Following the mobilization of initial debris removal efforts, the Solid Waste Director will coordinate with the debris monitoring and debris hauling contractors to:

- Review debris collection priorities;
- Identify additional types of debris (i.e. C&D, White Goods, etc.)
- Ensure assets are directed to the needs;

- Confirm Debris management Sites locations are expanded or opened based on the type of debris; and
    - Make certain every effort is made to limit the amount of clean woody debris in C&D loads. Effective segregation of debris is reliant on the Communication Group's ability to reach residents with an effective message during the post-event response phase with effective follow-up media releases throughout the post-event recovery phase.

The same monitoring and eligibility policies and procedures continue throughout ROW debris removal.

Table 5.23 – Evaluate Debris Collection Priorities

Agencies Engaged	Responsibilities
Solid Waste—Operations Unit	Determine prioritization and provide information to key personnel
WUTC Certificated Hauler	Provide input to Debris Management Coordinator
Solid Waste-Debris Monitoring	Provide input and guidance to Debris management Coordinator

Address Household Hazardous Waste (HHW)

Household Hazardous Waste (HHW) includes:

- Gasoline
- Aerosol spray cans
- Paint
- Lawn chemicals
- Cleaning agents
- Batteries
- Fire extinguishers
- Fluorescent lamps
-

HHW removal is eligible for FEMA reimbursement if the debris is a result of the disaster. HHW is hauled by residents and collected at the Ellensburg Moderate Risk Waste (MRW) facility. Debris Management Sites may be expanded to include HHW collection as necessary.

Should the HHW debris exceed the capacity at the Ellensburg MRW facility, the Debris Management Coordinator:

* Will evaluate the situation and work with the Solid Waste Director and Department of Ecology for approval of an optional off site collection event or possible curb side pick up. Under this scenario the Solid Waste Director works with Public Works and the BOCC to communicate to County residents HHW eligibility following an event. It is important that residents separate HHW from other disaster debris to ensure that HHW does not enter the debris stream at DMS locations.

* Decide whether to establish HHW curbside collection. This helps ensure proper disposal of HHW. Measures should still be taken jointly by the hazardous waste contractor and the Solid Waste monitoring staff to identify, segregates, and disposes of intermingled HHW at Debris Management Sites

Conduct White Goods Debris Removal

White goods include:

- Refrigerators
- Freezers
- Air conditioners
- Heat pumps
- Ovens
- Ranges
- Washing machines
- Clothes dryers
- Commercial chillers

White goods debris removal is eligible for FEMA reimbursement if the debris is a result of the disaster and removed from publicly maintained property and roadways whose maintenance is the responsibility of the County. White goods debris that contains ozone depleting refrigerants, mercury, or compressor oils need to have such materials removed by a certified technician before recycling. The Kittitas County Code, Revised Code of Washington, and federal laws should be followed regarding the final disposal of removed refrigerants, mercury, or compressor oils. The Debris Management Coordinator will determine the need for white goods collection based on input from Solid Waste staff and debris hauling contractors. Under this scenario, the Debris Management Coordinator coordinates with the Public Works and EOC to:

- Communicate to County residents white goods eligibility following an event. It is important that residents separate white goods from other disaster debris to ensure that white goods are not mixed with C&D or vegetative debris during collection.
- Ensure that white goods are properly disposed of at a licensed disposal facility.

Obtain FEMA Guidance for Commercial Property and Private Property Debris Removal

Eligibility or collection of debris off commercial or private property is determined by FEMA on a case-by-case basis following an event. Typically, the debris and devastation must be so widespread that the debris removal from commercial or private property is in the "public interest." Under FEMA Publication 325 guidelines, debris removal from private property is in the "public interest" when doing so:

- Removes threats to the health and safety of the community at large.
- Prevents significant damage to public or private property.
- Assists in the economic recovery and thereby benefit the community at large.

In order for commercial or private property debris removal to be eligible for reimbursement the Debris Management Coordinator submits a written request for approval to the Federal Coordinating Officer (FCO) before private property debris removal operations begin. The request should include the following information:

- **Immediate threat determination** – The County must provide documentation from the State Department of Public Health or the Kittitas County Public Health Department that debris on private property is a threat to public health and safety.

- **Documentation of legal responsibility** – The County must demonstrate that it has the legal authority to enter private property and accept the responsibility to abate hazards, regardless of whether or not a Federal Disaster Declaration is made.

If private property debris removal is authorized and considered for the County and municipalities within the county, the following documentation will be required by FEMA:

- **Right-of-Entry** – The County or municipality must attain a signed Right-of-Entry (ROE) form holding the federal government harmless from any damages caused to private property. The County or municipality may execute ROE forms prior to a disaster under the condition that the ROE does not reference a particular event or disaster number.
- **Photos** – It is in the interest of the County and municipalities to photograph conditions of private property before and after debris removal is completed. The photos will assist in the verification of address and scope-of-work on the property.
- **Commercial and Private property debris removal assessment** – The assessment will be a property specific form to establish the scope of eligible work on the property. The assessment can be in the form of a map or work order, as long as the scope of work can be clearly identified.
- **Documentation of environmental and historic review** – Debris removal efforts on private property must comply with review requirements under 44 CFR (specifically parts 9 and 10).

Table 5.24 –Debris Removal from Commercial and Private Property

Agencies Engaged	Responsibilities
EMS	Determine needs, schedule meetings, provide information to key personnel, and make request to FCO
FEMA—Public Assistance Office	Meets with County to determine needs
Office of the Prosecuting Attorney	Reviews County Authority
Code Enforcement	Provide information on County's authority
Solid Waste—Debris Monitoring	Provides input to Debris Management Coordinator

Open Additional DMS Locations as Necessary

Throughout Milestone 2, the DMC, municipalities, and certificated haulers continually re-evaluate the need to open additional DMS locations. The following factors impact this decision:

- Capacity of existing open sites.
- Drive time from remote portions of the County.
- Wait time at DMS.
- Average loads collected per truck/per day.

Table 5.25 –Opening Additional DMS Locations Responsibilities

Agencies Engaged	Responsibilities
Solid Waste—Operations	Determine needs, schedule meetings, provide information to key personnel
Department of Public Works	Coordinate operation Debris Management Site
WUTC Certificated Haulers	Prepare and operates Debris Management Site
Solid Waste-Debris Monitoring	Document loads and activities

Conduct Daily Meetings with FEMA Debris Team

Daily meetings with the FEMA Debris Team staff may be necessary as the scope of operation increases. These meetings will be scheduled at a regular time and place to ensure attendance. Representatives from the Solid Waste, the DMC, Cities, and EMS will be present to provide FEMA with a report on the progress of the debris removal process and identify any potential problems with the debris removal operation.

Table 5.26 –Daily Meetings with FEMA Debris Team Responsibilities

Agencies Engaged	Responsibilities
Solid Waste—Operations	Coordinates meetings with FEMA, provides timely information on progress of debris mission
FEMA—Debris Team	Meets with Debris Management Coordinator and County personnel
KCDEM	Attend meetings as necessary
Cities	Attend meetings as necessary

Continue Public Information

The BOCC and Public Works Department work with the various media outlets to release a press release on the debris removal process. This press release should focus on the progress of the debris removal operation, proper procedures for setting out and segregating debris, and information on neighborhood drop-off stations.

Table 5.27 – Public Information Responsibilities

Agencies Engaged	Responsibilities
Public Works—Communications	Develop draft press release

EMS	Develop draft press release
EOC	Issue press release

MILESTONE 3: LONG-TERM RECOVERY (1 MONTH AND BEYOND)

This period is characterized with the restoration of basic services and infrastructure, and the re-opening of most businesses. The County should expect the WUTC certificated haulers to complete a first or second pass of debris collection on roads by the beginning of the third milestone. Operational hours may be reduced during this period to accommodate reduced debris density on roadways.

MAINTAIN AND EVALUATE ROW CLEAN-UP

Based on the progress of the WUTC Certificated Haulers, Road Maintenance Division determines the end of the second pass period. At the end of the second pass, the WUTC Certificated Hauler is generally given two to three days off in order to allow residents time to set out more material at the curbside. The Road Maintenance Division will schedule meeting(s) with the contractors and FEMA to discuss:

- Right of Way deadlines for third pass.
- Potential Right of Entry programs.
- Potential hazardous leaning tree and dangerous hanging limb removal programs.
- Deadlines for FEMA reimbursement.

Table 5.28 –Maintain and Evaluate ROW Clean-Up

Agencies Engaged	Responsibilities
Public Works	Evaluate debris removal operations, meet with debris contractors
WUTC Certificated Hauler	Provide input on volume and type of debris
Solid Waste—Debris Monitoring	Provide guidance to DMC
FEMA Debris Team	Meeting with County personnel and provide guidance

HAUL-OUT OF REDUCED MATERIAL FROM DMS TO FINAL DISPOSAL SITE (AS NECESSARY)

The WUTC certificated hauler is expected to begin incineration (if permitted) or grinding reduction operations soon after DMS are operational. This ensures that an over-abundance of un-reduced debris does not negatively impact access and progress. The determination of the

haul out of debris is based on the availability of final recycling and disposal options and the amount of usable space at the Debris Management Site impacted by the storage of reduced debris.

There are two in-county facilities that may process and/or recycle certain components of the disaster debris that have been identified. Other counties and companies that may be able to assist include:

- Ellensburg Cement Products – Grinding, crushing and screening capabilities.
- Central Nursery – with grinding capabilities and can recycle vegetative debris.
- Regional Wenatchee Moderate Risk Waste—hazardous waste product.
- Wenatchee Landfill—C&D, debris, capability of recycling.

Table 5.29 – Haul-Out of Reduced Material from DMS to Final Disposal Site

Agencies Engaged	Responsibilities
Solid Waste	Evaluate debris removal operations, meet with debris contractors
WUTC Certificated Haulers	Haul out debris
Other disposal companies	Disposal/Recycling of debris

Maintain Coordination with External Agencies

Additional coordination meetings may be needed throughout the debris removal process between the County and other external agencies. These meetings can provide a forum for agencies to give an update on their debris removal activities, problems with the County contractors, and estimated timelines for project completion.

Table 5.30 –Maintain Coordination with External Agencies

Agencies Engaged	Responsibilities
Solid Waste	Coordination with organizations in need of County Assistance
All Cities	Meet with EMS/ Debris Management Coordinator
All School Districts	Meet with EMS/ Debris Management Coordinator
Public Works	Coordination with organizations in need of County Assistance

Conduct Bi-Weekly Meetings with FEMA Debris Team

Regular meetings with the FEMA Debris Team staff will continue as the scope of operations expands. These meetings will be scheduled at a regular time and place to ensure attendance. Representatives from the Public Works and Solid Waste – present information to FEMA with reports on the progress of the debris removal process and identify and resolve any potential problems with the debris removal operation.

In addition, the Solid Waste and the Auditor – Accounts Payable will discuss the submission of contractor invoices to FEMA for reimbursement. The County will describe to the FEMA Debris Team or Public Assistance Officer the documentation procedures of contractor activities, provide a copy of the database of tickets developed and filed for audits, and FEMA documentation requests.

Table 5.31 –Maintain Coordination with External Agencies

Agencies Engaged	Responsibilities
Solid Waste	Coordination meetings with FEMA staff
Public Works	Attend meetings and provide guidance to Debris Management Coordinator
Auditor's Office-Accounts Payable	Provide input on contractor invoices
KCPW Finance	Provide input on FEMA reimbursement process
BOCC	Provide approval for account payables
FEMA Debris Team	Attend meetings with County personnel to discuss debris removal
EMS	Attend meetings with County personnel to discuss debris removal
Solid Waste	Coordination meetings with FEMA staff

Begin Leaning Tree and Hanging Limb Removal

The Solid Waste Director, Cities, and Road Maintenance Department determine the necessity of a right-of-way leaning tree and hanging limb debris removal program in the Right-of-Way. Upon authorization by the County, a damage assessment to identify hazardous leaning trees and hanging limbs in the right-of-way along per the guidance and eligibility criteria provided in FEMA 325.

Prior to commencement of the operation, the Debris Management Coordinator and Office of the Prosecuting Attorney review the contract to ensure:

- Scope is consistent with disaster specific FEMA eligibility.
- Scope of work adequately covers work needed to be performed.

Surveys and operations associated with the removal of leaning trees and hanging limbs must be documented and monitored by the debris monitoring department using the documentation requirements established in FEMA 325. The Debris Management Coordinator also informs the FEMA Debris Team prior to beginning the operation to ensure they are aware of the operation.

Table 5.32 –Leaning Tree and Hanging Limb Removal

Agencies Engaged	Responsibilities
Public Works	Coordinates with relevant agencies and provides oversight of program
Office of the Prosecuting Attorney	Review contract(s) to ensure consistency with FEMA
WUTC Certificated Haulers	Provides estimate on volume of debris
Solid Waste and Debris Monitoring	Provide guidance to Debris Management Coordinator
FEMA Debris Team	Notified of program and monitors program

Conduct Commercial and Private Property Debris Removal Program

The Debris Management Coordinator meets with the County's Lead Agencies to determine if a commercial and private property debris removal program is necessary. The Debris Management Coordinator explains the benefits and risks of engaging in this program, (i.e. may or may not be eligible for FEMA reimbursement). Based on the outcome of the meeting, the Debris Management Coordinator may direct the monitoring department and WUTC Certificated Haulers onto commercial or residential private properties with Notice of Hazards and signed Right of Entry permits to remove hazards. Upon a notice to proceed, the County and municipalities will follow their nuisance abatement procedures to remove debris along commercial and private property.

Table 5.33 –Conduct Commercial and Private Property Debris Removal

Agencies Engaged	Responsibilities
Solid Waste and Debris Monitoring	Develop recommendations for conduct of commercial and private property debris removal program, and Monitor and document debris removal program
Public Works	Determine need for program
BOCC	Determine need for program
Cities	Determine need for program
Office of the Prosecuting Attorney	Review program to ensure consistency with FEMA 325
WUTC Certificated Hauler	Conduct debris removal

MILESTONE 4: PROJECT COMPLETION

COMPLETE DEBRIS RECOVERY ACTIVITIES

The Debris Management Coordinator documents the completion of the debris monitoring process for debris removal operations throughout the County. The Debris Management Coordinator, Certificated Haulers, and FEMA coordinate meetings to discuss the completion of tasks associated with the debris removal process. These meeting should focus on the deadlines and timing for the finalization of activities in the field.

Table 5.34 –Completion of Debris Recovery Activities

Agencies Engaged	Responsibilities
Solid Waste and Debris Monitoring	Oversee programs, ensure that projects are complete, continue to monitor operation, and begin project closeouts
WUTC Certificated Haulers	Complete field debris management activities

ADMINISTER ABANDONED VEHICLES AND VESSEL RECOVERY

Following a significant event, abandoned vehicles and vessels may be deposited on the City and County's roadways and property causing a threat to public health and safety. In that case, the Debris Management Coordinator tasks the WUTC Certificated Haulers or the Debris Monitoring Department with removal of these abandoned vehicles and vessels. The Office of the County Prosecutor reviews legal documents to ensure that the County maintains legal responsibility for

the removal of vehicles and vessels, and provide the monitoring department with a process for executing the program through the County's ordinances.

Table 5.35 – Administer Abandoned Vehicles and Vessel Recovery

Agencies Engaged	Responsibilities
Solid Waste and Debris Monitoring	Coordinates with relevant agencies and provides oversight of program; Administer contract, Quality Assurance/Quality Control
Public Works	Coordinates with relevant agencies and provides oversight of program
WUTC Certificated Hauler	Conduct abandoned vehicle & vessel recovery program

Identification and Removal of Ineligible Debris on ROW

In order to minimize ineligible activity findings from FEMA, the Debris Management Coordinator, Code Enforcement Division, and debris monitoring will proactively seek to develop a Project Worksheet to fund the removal of ineligible debris piles for which the responsible party was not identified. This process will include:

- Assembling a team of debris eligibility specialists to identify ineligible debris on the ROW.
- Working with the Environmental Cleanup Team to identify and fine the responsible party.
- Completing due diligence in the identification of the responsible party.
- Developing a Project Worksheet to fund the removal of ineligible debris piles in which the responsible party was not identified.

Table 5.36 –Identification and Removal of Ineligible Debris

Agencies Engaged	Responsibilities
Solid Waste and Debris Monitoring	Coordinates with final disposal sites and provides oversight of program, ensure that debris is properly disposed; Monitor haul-out operations, document loads, begin DMS restoration
Solid Waste-Environmental Clean Up Team	Identify and fine responsible party for illegal dumping
KCDEM	Develop Project Worksheet for ineligible "orphan piles"
Public Works	Assist with Project Worksheet development

Finalize Haul-Out Debris

The Certificated Haulers will continue with haul-out activities until the debris at each Debris management Site location is completely removed. The Debris Management Coordinator will provide debris monitoring, and property owners (Cities, Parks, or Private owners) will coordinate the continuation and finalization of these activities until the County is satisfied that the haul-out activity has been completed.

Once the Debris Management Coordinator has determined that haul-out is complete, the Debris Monitoring will begin restoringDebris Management Site's to their pre-existing condition, per the terms of the contract.

Table 5.37 –Finalize Haul-Out Debris

Agencies Engaged	Responsibilities
Solid Waste and Debris Monitoring	Coordinates with final disposal sites and provides oversight of program, ensure that debris is properly disposed; Monitor haul-out operations, document loads, begin Debris Management Site restoration

Conduct Project Closeout Meetings with FEMA Debris Team and External Agencies

As the debris recovery project draws to a close, the Debris Management Coordinator coordinates with the FEMA Debris Team, KCDEM, KCHD, Cities, and contractors to conduct a final inspection for Kittitas County. This includes, but is not limited to:

- Information on any outstanding Project Worksheets.
- Certified vehicle list that includes:
    - Length, height, and width of each vehicle.
    - Vehicle ID number, tag and name of hauling company.
    - Deductions.
- Daily recap worksheet by date of the Public Works including:
    - Load ticket numbers (numeric order).
    - Vehicle ID.
    - Cubic yards claimed/verified.
    - Road location from which the debris was collected.
    - Copies of that days load tickets in numeric order.
- Labor invoices per day by Public Works claimed for force account labor activities.
- Contract invoices to include:

  - Labor.
  - Site fees (disposal sites).
  - Management fees.
- Consolidated list of roads from which debris was collected for this Public Works.
- All invoices and supporting documentation sorted by Public Works/Date to include any force account labor.
- Copy of contracts, including rate schedules describing:
  - Cost of hauling.
  - Temporary storage or site management.
  - Cost of reduction (i.e. grinding, composting, chipping).
  - Haul out.
  - Disposal (if applicable).
  - Site restoration.

Table 5.38 –Closeout Meetings with FEMA Debris Team and External Agencies

Agencies Engaged	Responsibilities
Solid Waste-Operations	Schedule meeting with FEMA, collecting appropriate documentation
FEMA-Debris Management	Meet with County to discuss project closure
Cities	Attend meetings, provide documentation
ESF-1 (Public Works & Solid Waste)	Attend meetings with FEMA, provide guidance to Debris Management Coordinator

COLLECTION METHOD

The County relies on its certified haulers to haul debris between neighborhood collection sites and the Solid Waste sites as well as from the Solid Waste's to the final disposal site. The County will employ curbside collection techniques as called out in the FEMA Disaster Debris Guidance Manual.

The County will open Solid Waste sites as there is debris, staff, and access.

CURBSIDE COLLECTION

The County will work with the Sheriff's Office, the certificated haulers, and local municipalities to inform citizens well before a disaster about our preferred debris set out plan. We envision four piles – one with

regular garbage (preferably in its can), household hazardous waste, refrigerators (if generated), and disaster debris which includes vegetative and construction/demolition debris.

COLLECTION CENTERS

The County currently has space programmed at its closed landfills for public collection centers. A few of the other sites identified as Debris Management Sites don't have the room and are not close to enough residences to warrant placing a neighborhood center. Please see the maps in Appendix B for sites with and without collection centers.

The County does anticipate that the Cities will open and operate multiple residential collection centers for their citizens. The certificated haulers will remove debris from these sites regularly and take them to the closest open Solid Waste sites. As the Cities continue to refine their debris management plans, the County will incorporate their maps into this plan and map the various collection centers to Solid Waste sites. We will also continue to refine the service call-out procedures to include the certificated haulers and the county contracted debris haulers.

COLLECTING HAZARDOUS WASTE AND WHITE GOODS

Hazardous Waste and White Goods (HHW) includes:

- Lawn chemicals
- Aerosol spray cans
- Paint
- Fire extinguishers
- Cleaning agents
- Batteries
- Fluorescent lamps

HHW removal is eligible for FEMA reimbursement if the debris is a result of the disaster. HHW is hauled by residents and collected at the Lower and Upper County Waste Transfer Stations. Solid Waste may be expanded to include HHW collection as necessary.

Should the HHW debris exceed the capacity at the Ellensburg MRW facility, the Debris Mmanagement Coordinator will evaluate the situation and work with the Solid Waste Director and Department of Ecology for approval of an optional off site collection event or possible curb side pick up.

- Communicate to County residents HHW eligibility following an event. It is important that residents separate HHW from other disaster debris to ensure that HHW does not enter the debris stream at Solid Waste locations.
- Decide whether to establish HHW curbside collection. This helps ensure proper disposal of HHW. Measures should still be taken jointly by the certificated haulers, Cities, and the monitoring departments to identify, segregate, and dispose of intermingled HHW at Solid Waste locations.

White goods debris removal is eligible for FEMA reimbursement if the debris is a result of the disaster and removed from publicly maintained property and roadways whose maintenance is the responsibility of the County or the City. White goods debris that contains ozone depleting refrigerants, mercury, or compressor oils need to have such materials removed by a certified technician before recycling. The Kittitas County Code (KCC), Revised Code of Washington (RCW), and federal laws should be followed regarding the final disposal of removed refrigerants, mercury, or compressor oils. The Debris

Management Coordinator will determine the need for white goods collection based on input from Solid Waste staff, County and City Staff and certificated haulers. Under this scenario, the DMC coordinates with the Public Works and BOCC Group to:.

- Communicate to City and County residents white goods eligibility following an event. It is important that residents separate white goods from other disaster debris to ensure that white goods are not mixed with C&D or vegetative debris during collection.
- Ensure that white goods are properly disposed of at a licensed disposal facility.

White goods include:

- Refrigerators
- Freezers
- Air conditioners
- Heat pumps
- Ovens
- Ranges
- Washing machines
- Clothes dryers
- Commercial chillers

ESTIMATING STAFF, PROCEDURES, AND ASSIGNMENTS

At this time, the Solid Waste Department holds the essential function for Disaster Debris Management. The Solid Waste Division (Solid Waste) anticipates that most of its staff will continue to function in their primary roles for the County at the transfer stations and debris drop off sites. This assumes those stations and debris drop off sitesare available and accessible. In the event that a station is damaged and closed, those staff will either be reassigned to other stations or to DMS operations.

MONITORING STAFF AND ASSIGNMENTS

The County will provide debris monitoring for this assignment in Scenario 3 only – high volume event. The monitoring staff will include Right of Way supervisors, monitoring tower staff, flaggers, as well as site safety officers at the Debris Management Sites. More information on site operations is in section 6.

SOLID WASTE OPERATIONS STAFF

The Solid Waste Division (Solid Waste) anticipates that most of its staff will continue to function in their primary roles for the County at the transfer stations and debris drop off sites. This assumes those stations and drop off sites are available and accessible. In the event that a station is damaged and closed, those staff will either be reassigned to other stations or to DMS operations. In a Scenario 2 event – Low Volume, the County will work with cities and other jurisdictions to field staff to monitor the neighborhood debris drop off sites.

SECTION 6 - DEBRIS MANAGEMENT SITES

Kittitas County has identified three potential Debris management Site locations throughout the County. This represents 350 acres of land to manage construction, demolition, and vegetative debris. Most of these sites can also host a public drop off area, household hazardous waste (HHW) management areas and white goods. See Appendix B for site maps and layouts.

SITE MANAGEMENT

Kittitas County is committed to a safe, environmentally sound and rapid recovery process. To that end, we have identified ten DMS sites, proposed a site lay out for each site, generated equipment lists, and began the process of selecting qualified contractors to manage these sites.

SITE MANAGER

The Solid Waste Director has overall plan coordination responsibility. If the disaster event warrants, the County will hire a debris monitoring staff as the overall program coordinator. The staff will station a site manager for each Debris Management Site the county opens. The Solid Waste Director (Debris Monitoring) will coordinate daily to speed the recovery process.

MONITORING STAFF AND ASSIGNMENTS

In Scenario 1 – Low Volume Solid Waste transfer station site attendants will handle vouchers in the course of their normal activities.

In Scenario 2 – Medium Volume, Solid Waste will work with existing staff and other local jurisdictions to train and station staff at the neighborhood debris management sites. These site monitors will have signage, safety equipment, a camera, traffic control equipment (cones, flags as necessary), sanitary facilities, and other necessary items. Because these types of events often happen in cold weather, we will make sure the staffs have access to hand warmers, boot warmers, and other comfort items to alleviate the cold conditions. The Solid Waste safety officer will tour the sites to ensure safety protocols are followed and that the staffs are safe and as comfortable as possible.

The Solid Waste and Public Works Departments will provide staff for each open Debris Management Site as well as right-of-way monitors. Staff will include monitors, flaggers, equipment operators, traffic controllers, and administrative staff. The contractor will also provide area supervisors to ensure that ROW operations are going smoothly and that debris at the curb is segregated as best the situation allows. The Solid Waste Director will also field regional safety officers to ensure that policies, procedures, and safe work practices are deployed and maintained.

SAFETY PERSONNEL

The Kittitas County EMS and BOCC will provide field safety officers from various departments. The Solid Waste Director is assigned to directing its operations. The draft health and safety plan is attached in Appendix F. The Solid Waste safety officer oversees all site safety operations and will meet monthly with the Debris Monitoring group to review any incidents and attend safety tail gate sessions.

ESTABLISHMENT AND OPERATIONS PLANNING

Kittitas County Solid Waste has selected areas for additional sites. These sites are easily accessible and adequate for various types of debris.

PERMITS

Kittitas County Solid Waste has 3 active sites and is currently working on the types of permits DMS would require and how they will be obtained.

SITE SELECTION

Sites were selected on the basis of location, ownership, size, drainage, proximity to residential areas, and all sites were reviewed by the County Health Department and the State Department of Ecology.

AIR PERMITS

Washington is a no-burn state as codified in WAC 173-425 with a few exceptions for which variances are granted. We will be able to use tub grinders and concrete crushers without obtaining permits, but incinerators will be allowed only if the Governor chooses to override WAC 173-425. Therefore this plan is written with the assumption that incineration will not be a core strategy and we will rely on tub grinders and crushers as our volume reduction strategy.

STATE ENVIRONMENTAL POLICY ACT REVIEW

While we are clear the DMS are exempt from NEPA, we have chosen to run the debris plan through the SEPA process as a non-project action. As recommendations are made we will make necessary improvements to this plan.

LOCATIONS

The following sites are current and potential Temporary Debris Staging and Reduction Sites. The County intends to use its closed landfill sites first. Then, the County will look to other County owned sites, next are private companies with solid waste facility permits and finally other large tracts of land including parks.

Table 6-1 –Primary DMS Locations

Location	Owner	Size	Zoning	Site Permits	Neighboring Uses	Paved Surface(s)	Fenced
Ryegrass	Kittitas County	360 acres	F & Range	YES	Open Space	Partial	Yes
Ellensburg Transfer Station	Kittitas County		Gen.Industrial	YES	Industrial	Yes	Yes
Cle Elum Transfer Station	Kittitas County		Urban Rec & F& Range	YES	F & R	Yes	Yes
Elk Heights Pit	Kittitas County	4.9 acres	Forest & Range	pending	Forest/ Farm	No	
Speckhart Pit	Kittitas County	13.43 acres	Rural 5	pending	Rural Residential	No	
Vantage area-Boat Launch Rd	Kittitas County	7.21 acres	Residential	pending	Residential-Recreational	No	No

Baseline Data for Each Location

Each selected site with the exception of the neighborhood sites, already collects data for water quality and soil quality. Some of them hold permits and are required to take samples and report results to regulatory agencies. This data can and will be used as baseline data should that site be activated. In the event that we activate sites that do not hold permits with monitoring requirements, the Kittitas County Health District will perform the following activities:

- Mobilize a private contractor to obtain soil samples (the County maintains an on-call roster of qualified firms to perform this type of work as needed). Those samples will be analyzed for the Model Toxics Control Act Table A Constituents of Concern.
- Send those samples to the State laboratory for testing.
- Establish locations for surface water sampling.

The data from these pre-opening activities will be held in site files against final soil sampling and water sampling when the sites are closed to determine if any pollution contaminated the site.

Ingress and Egress for Sites

The County will establish access for each site that does not already have a road. All sites are currently laid out such that trucks loop through the site and exit at the same location at which they entered. This minimizes the cost of multiple monitoring towers and takes advantage of existing roads at existing sites. See Appendix B for complete site layouts.

SITE LAYOUTS

The current sites are laid out in Appendix B. In general, all sites are shown with an access road, debris pile area, grinding area (whether the grinder is permanently at that location or brought in periodically), weigh stations, site office with sanitary facility, 6 mil. plastic and berms for the household hazardous waste storage area, compost berms to manage water runoff around the debris piles, and other necessary items. Some sites may not have all specialty areas such as white goods or HHW storage areas.

SITE PREPARATION

As the event moves from response to recovery, the County and municipalities will determine which sites we need to open to support the largest concentration of debris. As that is determined, supplies and equipment will be loaded into each site according to the site layouts in Appendix B. When the sites are sufficiently equipped, the County will authorize operations.

VOLUME REDUCTION METHODS

Kittitas County intends to use every available method to manage event generated disaster debris in Kittitas County. This will allow us to facilitate a more rapid recovery at a lower cost without compromising long term municipal solid waste disposal capacity.

INCINERATION

Kittitas County will comply with the Washington State regulation in WAC 173-455.

GRINDING AND CHIPPING

Kittitas County Solid Waste will be allowed to operate its own grinder without a permit, as will Public Works. One other company, approved on an emergency basis that has a large capacity mobile tub grinder, is ZBK in Cle Elum. This company may be used at the sites described in Appendix B.

RECYCLING & DISPOSAL

Kittitas County Solid Waste has two sites collecting recyclable materials: Cle Elum Transfer Station and Ellensburg Transfer Station. The recyclable materials are transported to a Woodinville, Washington regional recycle center. All recyclable materials will continue to be hauled there unless otherwise notified.

ENVIRONMENTAL MONITORING PLAN

To ensure that recovery operations do not impact the future environmental health of Kittitas County, the Solid Waste and KCHD has discussed and will implement a site by site environmental monitoring plan. The primary concerns for these sites during operations are water and soil contamination.

Soil contamination will be monitored by taking soil core samples at each site just prior to opening. At the close of debris activities, samples will be taken again in the same areas. The two sample sets per site will be analyzed for the Model Toxics Control Act Table A (WAC 173-340-900 table 745-1) constituents of Concern. Those constituents include:

Table 6-2 – Soil Monitoring

Hazardous Substance	CAS Number	Cleanup Level
Arsenic	7440-38-2	20 mg/kg
Benzene	71-43-2	0.03 mg/kg
Benzo(a)pyrene	50-32-8	2 mg/kg
Cadmium	7440-43-9	2 mg/kg
Chromium VI	18540-29-9	19 mg/kg
Chromium II	16065-83-1	2,000 mg/kg
DDT	50-29-3	4 mg/kg
Ethylbenzene	100-41-4	6 mg/kg
Ethylene dibromide	106-93-4	0.005 mg/kg
Lead	7439-92-1	1,000 mg/kg
Lindane	58-89-9	0.01 mg/kg
Methylene Chloride	75-09-2	0.02 mg/kg
Mercury (inorganic)	7439-97-6	2 mg/kg
MTBE	1634-04-4	0.1 mg/kg
Naphthalene	91-20-3	5 mg/kg
PAHs (carcinogenic)		
PCB Mixtures		10 mg/kg
Tetrachoroethylene	127-18-4	0.05 mg/kg
Toluene	108-88-3	7 mg/kg
Total Petroleum Hydrocarbons		Varies
1,1,1 Trichloroethane	71-55-6	2 mg/kg
Trichloroethylene	79-01-6	0.03 mg/kg
Xylenes	1330-20-7	9 mg/kg
Arsenic	7440-38-2	20 mg/kg

The primary sites are already covered by a National Pollution Elimination and Discharge System (either under the municipal blanket permit or specific site Industrial permits). We will monitor these sites for the basic criteria of the existing permit. These criteria include:

Table 6-3 – Site Water Monitoring

Monthly Monitoring	Range	Units	Sample Type	Events Sampled
Turbidity	25	NTU	Grab	Flow
pH	6-9	Standard Units	Grab	Flow
Zinc (total)	117	ug/L	Grab	Flow
Copper	20	ug/L	Grab	Flow
Oil and Grease	15	mg/L	Grab	Flow

Solid Waste will take samples monthly, which is more frequent than required under the permit but most protective of water quality. We will also visually note the quality of the water daily after it runs through the compost perimeter berms and if we see excess sedimentation, we will stop work and implement additional best management practices.

SITE CLOSURE

After the site operations are complete, the property (either jurisdiction-owned or leased) will be restored to its pre-activity environmental state. Restoration of a site involves removing all traces of the operations and possible remediation of any contamination that have taken place during the operations. Debris, processing equipment, storage tanks, protection berms, and other structures built on the site will be removed from the site upon completion of all debris removal and processing operations.

SITE EVALUATION AND RESTORATION

Final restoration of the landscape must be acceptable to the landowner, but within reasonable expectations. Therefore landscape restoration plans will be a part of every lease agreement the County seeks. The final environmental site evaluation is an extension of the environmental monitoring program. Testing similar to the testing done for the baseline study will be conducted to confirm that the site has been returned to its pre-activity state. Test samples will be taken at the same locations as those of the initial assessment and monitoring program. If necessary, additional test samples may be taken at other locations on or adjacent to the site. Based on the results of the testing, additional remediation may be required before the owner takes final acceptance of the site. The lease agreement has provisions to release the jurisdiction from future damages when the site is returned in its original condition or final acceptance is received from the owner.

SECTION 7 - CURRENT RESOURCES

This chapter identifies the internal and external resources that Kittitas County has for debris clearance, removal, and disposal.

STAFF

Debris operations staff are responsible for directing debris operations during and after an incident. The size and composition of staff needed to deal with debris clearance, removal and disposal depends on the magnitude of the disaster. Debris removal staff likely will be comprised of a combination of full-time personnel, personnel from other agencies, and/or contractors depending on the requirements of the incident.

The following table is a summary of the Debris positions and the staff that will fill the role during a disaster debris incident.

Table 7.1 – Debris Roles, Responsibilities, and Training

Debris Management Position	Roles and Responsibilities	Primary and Alternate Staff Identified for Position	Recommended Training and Qualifications
Disaster Removal Manager	Coordinates all debris removal activities related to an incident. Activities include communication among other members of the disaster management team, communication of project status activity and reporting, and dissemination and implementation of policy directives to debris removal personnel.	Public Works Director Solid Waste Director	IS-630, IS-631, IS-632
Debris Collections Supervisor	Oversees collection activities prior to debris arrival at the disposal site and coordinates the debris routing, staffing, and field reporting activities.	Public Works Supervisor Solid Waste Supervisor	IS-630, IS-631, IS-632, E-202
Debris Management Site Supervisor	Manages one or more Debris Management Sites (DMS) and is responsible for overseeing waste separation and environmental protection concerns, as well as filling out paperwork and reporting documentation.	Public Works Director Solid Waste Director	IS-630, IS-631, IS-632
Finance, Admin, and Logistics Staff	Track time for personnel, equipment, and incident costs. These positions also assist with contracting and purchasing resources, completing documentation required for reimbursement of expenses, and provides check-in for demobilizing resources.	Identified Staff	IS-630, IS-631, IS-632, IS-703
Quality Assurance	Ensures the debris operations are cost effective. They do this by monitoring the type and amount of debris during collection, sorting, reduction, and disposal.	Contractors	IS-631, IS-632

Table 7.1continued – Debris Roles, Responsibilities, and Training

Debris Management Position	Roles and Responsibilities	Primary and Alternate Staff Identified for Position	Recommended Training and Qualifications
Structural Engineer	Oversees, inspects, and assesses impacted structures and makes appropriate recommendations on building condemnation and demolition.	Engineering Staff Contracted Engineer	IS-631, IS-632
Debris Management Subject Matter Expert (SME):	Provides information and advice to command staff working in the operations and planning sections to help guide disaster operations.	Solid Waste Director Public Health Official	IS-630, IS-631, IS-632, E-202
Public Information Officer	A Public Information Officer (PIO) familiar with debris management issues should be assigned to the Incident Commander or Joint Information Center (JIC), as necessary. Responsibilities include coordinating with PIOs of other agencies to keep the public informed about all debris removal activities and schedules. Immediately after a disaster and throughout the removal and disposal operation, the PIO is responsible for arranging for public notification of all ongoing and planned debris clearance, removal, and disposal activities.	Appointed Jurisdiction Representative	G-290, E-388, P-403
Legal Staff	Conducts reviews and manages all legal matters in the debris management planning process. In addition to advising the debris management planning staff, the legal department may also perform the following tasks: Contract review Rights of entry permits Community liability Indemnification Condemnation of buildings Land acquisition for DMSs Site closure/restoration and insurance	Jurisdiction Legal Staff	IS-632

EQUIPMENT

During an incident, agency equipment such as trucks, rubber tire loaders, graders, chippers, chain saws, small cranes, dozers and backhoes may be needed to assist with debris clearance and removal operations. Most often these resources will be used for debris clearance from public rights of way in cooperation with the jurisdiction's contract solid waste hauler(s).

Appendix A, Debris Resources, includes a listing of Kittitas County's equipment available for debris operations. Equipment needs will depend on the debris causing incident and will be dictated by the Operations Section and Planning Section during the incident.

TECHNOLOGY

Kittitas County has a variety of tools that can be used to assist with debris operations. Each tool or capability is described in detail below:

GIS Mapping and Modeling: Geographic Information System mapping and modeling can be used to estimate debris volumes and distributions, plan debris clearance operations, and identify debris clearance priorities.

Appendix A, Debris Resources, provides specific contact information for these resources.

CONTRACT RESOURCES

During an incident it may be necessary to contract with other resource providers to augment the jurisdiction's debris management staff and equipment. These resources can be used to assist with specific tasks such as debris clearance or DMS management, or can be hired to manage the entire debris removal and disposal process. Contractors CAN NOT be awarded pre-disaster/stand-by contracts with mobilization costs or unit costs that are significantly higher than what they would be if the contract were awarded post-disaster.

Section 8, Contracted Services, provides instructions for contracting additional resources prior to and during an incident. Appendix A, Debris Resources, includes a table of standby and pre-qualified contract resources available for debris operations.

MUTUAL AID AND INTERLOCAL AGREEMENTS

There are a variety of agreements Kittitas County has in place and can enact to ensure adequate resources and staffing are available during a debris incident.
Agreements applicable to a debris incident are listed below, including details on how the agreement is activated and what requirements are placed on both parties.

MUTUAL AID AGREEMENTS

Public Works Emergency Response Mutual Aid Agreement

- Participation requirement is voluntary.
- Service requirement is voluntary.
- Types of resources available include Public Works equipment and staff.

Emergency Management Assistance Compact

- Participation requirement is voluntary.
- Service requirement: assistance is obligatory "provided that it is understood that the state rendering aid may withhold resources to the extent necessary to provide reasonable protection for such state."
- It is activated when: The governor declares a state of emergency and resources are requested through EMD.
- Types of resources available: All types of resources are available including debris clearance equipment and staff.

State Inter County Mutual Aid Agreement

- Participation requirement is voluntary.
- Service requirement: Lending County acts as an independent contractor of borrowing county in the performance of voluntary emergency assistance during any type of emergency. Reimbursement will be made by Borrower to Lender for costs and labor incurred by Lender beyond the first 8 hours of an asset's use.
- It is activated when: Requests for emergency assistance are directed to the designated contact person(s) on the contact list provided by the Party Counties.
- Types of resources available: Equipment, supplies, personnel, or direct provision of services.

State Fire Mobilization Plan

- Participation requirement is voluntary.
- Service requirement is voluntary.
- It is activated when: The local fire chief, through the regional coordinator, makes a request for mobilization to the State Emergency Operations Center. The chief of the State Patrol makes a decision on mobilization in consultation with the governor's chief of staff. Reimbursement by the WSP will take place for any labor or resources expended after a mobilization is declared. Plan expressly notes that it is not a replacement for local mutual aid agreements and the resources available from such agreements must be expended before a mobilization request will be granted.
- Types of resources available: Firefighters and equipment needed to manage fires, disasters, or other incidents – this is an all-risk agreement.

State Law Enforcement Mobilization Plan

- Participation requirement is unknown.
- Service requirement is unknown.
- How it is activated is unknown.
- Types of resources available: are unknown.

DISPOSAL FACILITIES

During an incident it may be necessary to utilize a variety of resources to dispose of different types of debris. Appendix A, Debris Resources, lists regional disposal resources that can be used during debris operations. Keep in mind that the amount and type of debris each facility accepts may change based on the size and severity of the incident.

RECYCLING AND COMPOSTING FACILITIES

During an incident it may be necessary to utilize a variety of resources to recycle, compost, or otherwise reduce different types of debris. These resources provide an alternative to divert waste from landfills and may provide additional economic and environmental benefits. Appendix A, Debris Resources, lists regional debris processing resources that can be used during debris operations. Keep in mind that the types of waste each facility accepts or is approved to accept may change based on the size and severity of the incident.

SECTION 8 - CONTRACTED SERVICES

Emergency expenditures are not normally integrated into the budgeting process of local governments. However, disasters may occur which require substantial and necessary unanticipated obligations and expenditures. The following statutes cover the financing of emergency response and recovery actions:

1. Counties: RCW 36.40.180 and 36.40.190
2. Cities with populations under 300,000: RCW 35.33.081 and 35.33.101
3. Municipal and county governments are authorized to contract for construction or work on a cost basis for emergency services by RCW 38.52.390.
    a. Records shall be kept so disaster related expenditures and obligations of the county, cities, and towns can be readily identified from regular or general programs and activities.
    b. Disaster-related expenditures and obligations of the county, cities, and towns may be reimbursed under a number of federal programs. The federal government may authorize reimbursement of approved costs for work performed in the restoration of certain public facilities and infrastructure after a Major Disaster declaration by the President or under the statutory authority of certain federal agencies.
    c. Audits of the county's, cities' and towns' disaster-related emergency expenditures will be conducted in the course of normal audits of state and local records. Audits of projects approved for funding with federal disaster assistance funds are necessary at project completion to determine the propriety and eligibility of the costs claimed by the applicant. The federal government conducts these audits.

CONTRACTORS

At this time, Kittitas County Solid Waste is working with the BOCC to determine how the G Certificated haulers, who have a property right to all solid waste generated in Kittitas County, will work with the County and existing state law to accomplish the debris hauling mission. Because the County is legally required to work only with companies holding G certificates from the WUTC, an acceptable contractual system to accomplish the mission needs to be developed.

WUTC certificated haulers have two options to supplement their capacity during an emergency: equipment exchange agreements and formal service agreements. Equipment agreements are informal and do not require commission approval. Service agreements require commission approval. WAC 480-70-151 states: "Service Agreements between companies:

1. A company may enter into an agreement to allow another company to operate in its territory when the first company:
    a. Holds exclusive traditional authority for solid waste collection service in the territory to be serves.

b. Lacks suitable equipment to adequately serve its customers, or is unable to provide service on a temporary basis due to situations such as, but not limited to, road closures, temporary weight limitations, or other temporary restrictions imposed by local jurisdictions.

2. The commission must approve the agreement before any service is provided. To apply for commission approval, the companies must jointly file a copy of the written agreement at least fifteen days before the proposed effective date of the agreement. Companies may request the fifteen-day approval period be waived in the case of an emergency.
3. The agreement filed with the commission must clearly state:
    a. The first company will bill customers for service provided by the second company at rates and charges contained in the first company's filed tariff.
    b. The first company will pay the second company for providing service in compliance with terms stated in the agreement.
    c. The beginning and ending dates of the agreement.
    d. A provision for early termination of the agreement that includes at least five days' notice to the commission and to each party.

The WUTC states that because the rates of a certificated hauler are set in a hearing with public comment, that this should meet FEMA's requirement for a competitive process to pre-qualify contract debris haulers. Further, because there is a regulatory path to obtain additional resources should the WUTC certificated hauler in a particular geographic region be unable to meet its obligations, that this meets the requirement for redundancy.

Below is a list of WUTC certificated haulers currently operating in Kittitas County. Their service area maps are included in the appendices. Because we are aware that two of our G certificated haulers don't have the service capacity to handle the surge from a disaster, we are asking them to either contract with another G certificated hauler in Kittitas County or provide a pre-qualified list of contractors who will manage debris in their area.

Table 8.1 – Certificated Haulers

Name of Company	Contact Name	Address	Phone Number	E-Mail Address
Kittitas County Public Works	Jim Van De Venter		509-962-7524	
City of Ellensburg Public Works	Rodney Berg		509-962-7134	
City of Cle Elum Public Works				
Waste Management	Aaron/Jesse		509-962-4111 or 201-6168	

EMERGENCY CONTRACTING/PROCUREMENT PROCEDURES

Under an emergency declaration, some normal operating procedures may be circumvented in the effort to reduce loss of life and ensure the public health and safety.

Solid Waste Disposal Emergencies: Under Washington State Emergency Services Chapter 38.070. The BOCC is delegated the authority to reduce or eliminate any or all disposal fees.

- Emergency Management: Under Chapter 38.52 of the Washington Administrative Code, the County is authorized to act on behalf of the citizens during an emergency.
- Contractor Approval: Under the Kittitas County Code Chapter 2.48, under an emergency declaration the County Commissioners retainsthe authority to approve contracts over $50,000. All contracts with debris management contracts require that the BOCC sign a notice to proceed. However, Waste Management has the only G certificate for Kittitas County 480.70.131 for emergency conditions.

However, the County has worked to obtain pre-positioned contracts for all identifiable contingencies. These contracts include monitoring, supplies and equipment contracts, solid waste hauling contracts and secondary contracts between our certificated haulers and their back up contractors, environmental laboratories, and temporary agencies for staffing.

DEBRIS OPERATIONS TO BE OUTSOURCED

Solid Waste intends to use as many County personnel as possible to manage the debris sites and operations. However, we recognize the benefit of having external options available to us. To that end, we are completing contracts with the following kind of firms:

1. Disaster Debris Monitoring for Scenario 3 only which will include:
    a. Site monitoring, ROW removal monitoring.
    b. Supplies for equipment and compost berms for DMS site water management.
    c. Tree services to include the dangerous tree removal program and the stump removal program.
2. Environmental Monitoring for Scenario 2 and 3.

GENERAL CONTRACT PROVISIONS

If other services are required, the County will utilize the State Contracts list from which to pull available qualified contractors. These contractors have been through a competitive process.

QUALIFICATION REQUIREMENTS

Kittitas County Solid Waste will use the Request for Proposals process to retain the services of both the Debris Monitoring and the Environmental Monitoring. Basic qualifications will be:

- Availability to Kittitas County.
- Experience in the Pacific Northwest with disasters other than hurricanes.
- Experience training jurisdictions to the written Disaster Debris Plan.

- US Army Corps of Engineer's rating of "satisfactory" or higher.
- Ability to adjust pricing annually.
- Ability to meet Kittitas County bonding and insurance requirements.

SOLICITATION OF CONTRATORS

Solid Waste is currently preparing a Request For Proposals for Debris Monitoring and an Environmental Monitoring. As these contracts are put in place, we will add them to the plan. We intend to complete these contracts by the second quarter of 2015.

SECTION 9 - PRIVATE PROPERTY DEMOLITION AND DEBRIS REMOVAL

All activities in this section will comply with FEMA 325 Public Assistance guidance. Those activities that are not FEMA reimbursable will be kept separate from the activities that are. Such activities may include commercial property debris clearance. Solid Waste would assist commercial properties with debris clearance to speed recovery efforts at separate sites not discussed in this plan.

CONDEMNATION CRITERIA AND PROCEDURES

The County takes the property rights of its citizens very seriously. To ensure the rights of our citizens' County staff and contractors will work with property owners to manage their damaged property and debris generated by the event. If the property owner cannot be located and if the property poses a hazard to human and public health, the County and its contractors will follow the guidelines in ATC 20 and ATC 45.

LEGAL DOCUMENTATION

In Appendix G, there is a sample of a Right of Entry form Solid Waste currently uses to clean up illegally dumped garbage. Solid Waste will continue to use that form as it is simple and familiar. Solid Waste will follow all protocols necessary including insurance review, building official assessment, archeological review, environmental review, verification of ownership, and take photographs.

DEMOLITION PERMITING

The County will work with the Clean Air Agency and our local City and County building departments to ensure all demolition work is done according to regulation.

INSPECTIONS

Inspections will strictly follow the ATC 20 and ATC 45 protocols for inspection of property and structures.

MOBILE HOME PARK PROCEDURES

Solid Waste is working with the Community Development Department to determine the best path forward for debris removal operations in the County's unincorporated mobile home parks. Cities have their own plans for this activity. Currently the County has 8 mobile home parks, 3 in rural areas. This is less than one percent of total County housing stock and decreases every year. Assessors keep track of ownership, parcel numbers, and changes in ownership. All sites are required to have a flood evacuation plan on file with Washington Department of Emergency Management and Planning Department.

NAVIGATION HAZARD REMOVAL PROCEDURES

Solid Waste, EMS and Public Works have established protocols for removing logs from the rivers, creeks and lakes in the County. The County has a boat removal plan(s) and the County will rely on those during a disaster.

DEAD ANIMAL MANAGEMENT

Kittitas County is home to small scale dairies, small equestrian facilities, various livestock operations and small animal farms. It is therefore imperative that there is an established methodology for managing animal mortalities from various causes in a declared disaster. For the majority of events, it is anticipated that there will be relatively few animal mortalities, and in those cases the County will follow the Department of Ecology's On-Farm Composting requirements; see Appendix H. In the event of a large number of animal mortalities, the following actions would be taken and prioritized as presented:

1. Haul dead animals who died of natural causes during cool weather season
2. On-farm compost of pathogen infected animals
3. A site pre-approved by the State Department of Ecology will be opened for mass animal mortalities following Ecology's Mad Cow protocol. This site will be managed by a contractor hired by Solid Waste. This strategy will be especially important for highly contagious pathogens such as Hoof and Mouth.

HUMAN WASTE

The Kittitas County Health District has authority for public health issues. Their published guidance on human waste in a disaster is as follows:

SEWAGE AND GARBAGE DISPOSAL

1. Septic tanks should be checked and pumped out if necessary after flood waters recede. Drain fields should need replacing only if severely damaged or eroded.
2. If temporary pit privies are used, lime should be used in the pit frequently to keep down odors and flies, and again when the pit is abandoned.
3. Garbage should be taken to a county drop-box or transfer station for proper disposal.

SECTION 10 - PUBLIC INFORMATION

PURPOSE AND SCOPE:

To establish a mechanism to provide accurate, coordinated and timely information and warnings to impacted communities, the general public, responders, governments, media, tribes and private sector stakeholders in the event of an emergency or disaster situation. A significant emergency will involve many county and local agencies' media organizations. ESF 15/BOCC coordinates this information to provide the appropriate public information support to federal, state, local and tribal governments.

PLANNING ASSUMPTIONS:

1. Disruption and damage to the telecommunications infrastructure will likely occur in the event of an emergency or disaster. The type and degree of damage will determine the effectiveness and efficiency of the response and recovery efforts.
2. Any undamaged communications infrastructure will be overwhelmed and cease to function.
3. Health and safety information will be disseminated as soon as possible by whatever means available.
4. Requested telecommunications resources may not be available or may be delayed.
5. All public affairs/information officers will endeavor to keep all stakeholders adequately informed with clear, accurate and complete reports of changing situations as soon as possible.

Public Works – Communications coordinates debris management public information messages during the normal operations phase. Providing citizens with information regarding the debris management process during the "off season" is an effective way to continually educate the public about the debris management process. Radio and television may not be readily available to the general public in the days or weeks immediately following an event, so providing this information in print prior to an emergency situation will give many citizens an initial "how-to" regarding the debris management process. Public Works - Communications and the DMC will:

- Develop newspaper advertisements, pamphlets and County web-site content on likely disaster debris protocols, set-out schedules, and methods;
- Work with local phone book printers to include a preparedness and debris policy pull out page;
- Work with our cities to coordinate the messaging;
- Conduct interviews with relevant key staff on public access channels regarding the County's disaster debris management process; and
- Describe the process in the future.

PUBLIC INFORMATION OFFICER

The Board of County Commissioners has the primary responsibility for the coordination of Public Information activities in Kittitas County per ESF #7.

PRE-SCRIPTED INFORMATION

At the time immediately following a debris generating event, Kittitas County Solid Waste would issue a press release that assures the public that the County is prepared and has a plan in place to immediately respond to the event. Information regarding debris removal methods and estimates on when debris removal will begin may not be known at this time.

AGENCIES ENGAGED	RESPONSIBILITIES
Public Works	Develop press release
Emergency Management Services	Develop press release
BOCC	Coordinate information and messages
Sheriff Department	Issue press release

After the initial response to the event, The BOCC, with assistance from Public Works and in conjunction with ESF-15 (Public Information) at the County EOC develops and issues a press release to various media sources as soon as appropriate information is known following the disaster. The purpose of the press release will be to reassure and comfort the public that the County is responding and is determining, or has determined a debris removal strategy. Information will be provided on the debris removal strategy at this time.

AGENCIES ENGAGED	RESPONSIBILITIES
Public Works	Develop draft press release
ESF-15/BOCC	Issue Press Release

DISTRIBUTION PLAN

DISTRIBUTION PROCEDURES

1. Local jurisdictions which have a designated PIO will coordinate information through Kittitas County Emergency Management. Kittitas County EMS assumes lead responsibility as PIO unless the event is isolated to the incorporated community and the jurisdiction chooses to accept the lead role as PIO. Should the local jurisdiction choose to utilize their local PIO through a Joint Information System (JIS), a Joint Information Center (JIC) is activated.
2. The CPIO, or designee at the EOC, with assistance from emergency management staff, will coordinate public information actions with the state PIO if state agencies are involved. Messages will be coordinated through establishment of a JIC, where agency representatives share information throughout the event. This enables local agencies to share information at the state and federal levels if necessary.
3. The CPIO will coordinate the emergency public information response through all phases of natural or human-caused incidents, regardless of the size or extent of the incident. This will be conducted through all phases of the incident. This will be accomplished in collaboration with the Chief Elected Officials, the Kittitas County Director of Emergency Management Services, Incident Commander and the state PIO.

4. Emergency public information will be coordinated through the Kittitas County EOC. If a JIC is established, state emergency public information will be provided to the media and the public through the state EOC. The JIC may coordinate information with the Washington State Emergency Information Center (WEIC) through the State EOC. The state PIO will coordinate the management of this information through all phases of the incident. This is accomplished in collaboration with the Governor's Communications Director.
5. If the event is an Incident of National Significance, public information may be coordinated through a Joint Field Office (JFO), which is a coordinating center for Federal officials, officers and resource coordinators. CPIO still has a responsibility to disseminate the county message.
6. Upon request, Elected Officials, PIOs and the Emergency Management Director arrange incident site visits for state and federal governments and local media, as well as responses to government inquiries about the event. Safety must first be determined and verified by the on-duty safety officer before such visits are made.

PREVENTION AND MITIGATION ACTIVITIES

1. Kittitas County Solid Waste Director conducts public education as part of regular business. The department disseminates preparedness and other public information on its Web site and at fairs, community events and meetings. Much of this information is based on all-hazards planning and specific information is made available which offers insight and suggestions for reducing risks associated with those hazards.
2. The department, in conjunction with incorporated municipalities and special purpose districts, has conducted vulnerability assessments and logged critical facilities through the Kittitas County All-Hazards Mitigation Plan, published separately. This plan is available to the public for review. The plan identifies significant hazard occurrences of the past as well as offering strategy to mitigate potential losses to life and property.

PREPAREDNESS ACTIVITIES

1. Identify and acquire emergency support function-specific training requirements.
2. Identify areas where public education programs (i.e., personal preparedness) are needed.
3. Develop 24-hour shift change and staffing procedures and checklists for supporting agencies.
4. Identify locations for media briefings.
5. Encourage county, local, private and tribal organizations to attend Washington state and FEMA-approved public information courses.
6. Develop and maintain a roster of ESF 15 personnel, including shift change and staffing procedures, address, telephone, cellular, facsimile numbers and e-mail addresses.
7. Develop equipment lists, including methods for disseminating information as well as monitoring media. Ensure that support agencies can access their respective agencies' networks from the County EOC. This must be coordinated with ESF 2 - Communications.
8. Develop and maintain an accurate media contact list. Public Works Communications Group has a list of media contacts they maintain.
9. Develop effective working relationships with the news media to aid information being broadcast in a timely manner to the public.
10. Develop procedures for rumor control inquiries.
11. Prepare and maintain pre-recorded and written messages for various incidents and situations for distribution through various media.

12. Be involved in all phases of exercises, which include planning, development, participation and evaluation.

SECTION 11 - TRAINING AND EXERCISES

This section summarizes training and exercise components necessary to support disaster debris operations. Kittitas County staff participating in disaster debris management operations should have emergency management and position-specific training, depending on their expected role during a debris causing incident. For further information on Kittitas County exercises and training, consult the Kittitas County Comprehensive Emergency Management Plan..

GENERAL EMERGENCY MANAGEMENT TRAINING

General emergency management training requirements are developed as part of National Incident Management System (NIMS). The online courses and additional NIMS and FEMA courses and information are at http://training.fema.gov/. It is recommended that identified staff complete the following courses:

- IS-700 NIMS: An Introduction (available online at http://training.fema.gov/IS/)
- IS-800 NRF: An Introduction (available online at http://training.fema.gov/IS/)
- ICS-100: Introduction to NIMS ICS for Operational First Responders (available online at http://training.fema.gov/IS/)
- ICS-200: Basic All-Hazards NIMS ICS for Operational First Responders (available online at http://training.fema.gov/IS/)
- ICS-300: Intermediate NIMS ICS1 (classroom)
- ICS-400: Advanced NIMS ICS1 (classroom)

These requirements are listed as part of the Fiscal Year 2007 NIMS Training Requirements and the 2008 Five-Year NIMS Training Plan. Additional information on position-based NIMS training requirements is available from FEMA's Emergency Management Institute2 and the State Department Emergency Management Division.

POSITION-SPECIFIC TRAINING

Specific training is available for staff that will support debris management operations. This includes:

[1] ICS-300 and ICS 400 are recommended for Command and General staff, strike team leaders, task force leaders, unit leaders, division/group supervisors, and branch directors, and is recommended for emergency operations center staff

[2] http://training.fema.gov/

IS-630: Introduction to the Public Assistance Program: This class provides an introduction to the FEMA Public Assistance Program and how it applies to local jurisdictions. It is well suited for debris managers, DMS managers, finance and administration staff supporting debris operations, and any other staff who direct or have an active role in debris clearance, collection, and disposal operations. The class is available online through the FEMA Emergency Management Institute.

IS-631: Public Assistance Operations: This class builds on IS-630 and provides additional information on the FEMA Public Assistance Program. It is well suited for debris managers, DMS managers, and finance and administration staff supporting debris operations. The class is available online through the FEMA Emergency Management Institute.

IS-632: Introduction to Debris Operations in FEMA's Public Assistance Program: This class provides an introduction to local debris management operations and the FEMA public assistance program. It is well suited for any staff who will be participating in debris management operations, including Debris Managers, DMS Managers, debris monitors, and finance and administration staff supporting debris operations. The class is available online through the FEMA Emergency Management Institute.

E202 Debris Management: This class provides in-depth training on a variety of debris management topics. The course is delivered in a classroom setting and is provided through a variety of sources, including the FEMA Emergency Management Institute and Emergency Management Division.

EXERCISES

Procedures for disaster debris removal can be tested through discussion-based and operational-based exercises, as defined in the Homeland Security Exercise and Evaluation Program3. The purpose of conducting exercises is to determine the overall efficiency and effectiveness of Kittitas County Operational Disaster Debris Management Plan or a subset of the plan in a disaster scenario. These procedures can be exercised specifically using a debris management scenario, or as part of another exercise. At minimum, operational exercises involving the debris management plan will be conducted as needed.

The plan will be modified based on after action reports (AARs) and improvement plans (IPs) from exercises, as well as actual events.

The exercises will be developed and executed individually and through collaboration with other regional stakeholders. Regional stakeholders that will be considered include:

Federal Agencies

- U.S. Army Corps of Engineers
- Federal Emergency Management Agency
- Environmental Protection Agency

State Agencies

- Emergency Management Division

[3] https://hseep.dhs.gov/pages/1001_HSEEP7.aspx

- Department of Ecology

Local and Regional Jurisdictions

- County Agencies
- Local Health Department/District
- Neighboring Jurisdictions

APPENDIX A
DEBRIS RESOURCES

APPENDIX TABLE A-1
Debris Resources –Staff

Name	Potential Debris Assignment (s)	Phone 1	Phone 2	Email
Patti Johnson	Solid Waste Director	509-962-7070		patti.johnson@co.kittitas.wa.us
Lisa Lawrence	Solid Waste Assistant Director	509-962-7514		Lisa.lawrence@co.kittitas.wa.us
Kirk Holmes	Public Works Director	509-962-7692	509-312-9963	Kirk.holmes@co.kittitas.wa.us
Joe Gilbert	Environmental Health	509-933-8262		joe.gilbert@co.kittitas.wa.us>
Jim Van de Venter	Road Maintenance Manager	509-856-7747	509-962-7524	Jim.VanDeVenter@co.kittitas.wa.us>
Ryan Berge	Lower County Road Foreman	509-856-7749		Ryan.berge@co.kittitas.wa.us
Chuck Reed	Upper County Road Foreman	509-856-7077		Chuck.reed@co.kittitas.wa.us
Gene Dana	County Sheriff	59-962-7615		Gene.dana@co.kittitas.wa.us
Doug D'Hondt	County Engineer	509-962-7690	509-856-7879	doug.dhondt@co.kittitas.wa.us>
Kathy Jurgens	PW Finance System Manager	509-962-7608		Kathy.jurgens@co.kittitas.wa.us
Tim Kauzlarich	Traffic Technician (signage)	509-856-7748		Tim.kauzlarich@co.kittitas.wa.us
Paul Jewell	BOCC	509-962-7508		Paul.jewell@co.kittitas.wa.us
Obie O'Brien	BOCC	509-962-7570		Obie.obrien@co.kittitas.wa.us
Gary Berndt	BOCC	509-962-7569		Gary.berndt@co.kittitas.wa.us

APPENDIX A
ADDITIONAL DEBRIS RESOURCES

APPENDIX TABLE A-2
Debris Resources –Debris Equipment

Equipment Type	Location	Owner	Owner Phone	Notes
Dump Trucks	Lower & Upper County Shops	Kittitas County Public Works	509-962-7523	Multiple dump trucks
Gradall Excavator	Lower County Shop	Kittitas County Public Works	509-962-7523	
Bucket Truck	Lower County Shop	Kittitas County Public Works	509-962-7523	
Loaders	Upper & Lower Shops	Kittitas County Public Works	509-962-7523	Multiple loaders
Backhoes	Upper & Lower Shops	Kittitas County Public Works	599-962-7523	Multiple backhoes
Backhoes	Upper & Lower Transfer Stations	Kittitas County Solid Waste	509-962-7542	

APPENDIX A
DEBRIS RESOURCES

APPENDIX TABLE A-3
Debris Resources – Technology Resources

Resource	Location	Owner	Owner Phone	Notes
GIS	Kittitas County Public Works	Same	509-962-7523	

APPENDIX A
DEBRIS RESOURCES

APPENDIX TABLE A-4
List of Additional Debris Resources – Contract Resources

Company Name	Type of Resource	Phone 1	Phone 2	Verified Processing/Disposal Capacity
Waste Management	Certified Debris Hauler	509-925-9688		

APPENDIX A
DEBRIS RESOURCES

APPENDIX TABLE A-5
Debris Resources – Disposal Facilities

Facility Name	Address	Phone	Type*	Accepted waste types
Ellensburg Transfer Facility	1001 Industrial Way ,Ellensburg	509-962-7204		
Upper County Transfer Station	50 No. 5 Mine Rd, Cle Elum	509-649-2921		
Ryegrass Landfill	25900 Vantage Highway	509-962-7542	Landfill	

**Type could include MSW, inert waste, CDL debris, or special waste*

APPENDIX A
DEBRIS RESOURCES

APPENDIX TABLE A-6
Debris Resources – Recycling and Composting Facilities

Facility Name	Address	Phone	Type*	Accepted waste types
Upper County Transfer Station	50 No. 5 Mine Rd, Cle Elum	509-962-2921		
Ellensburg Transfer Station	1001 Industrial Way, Ellensburg	509-962-7204		

**Type could include metal waste, paper, green waste, or animal waste.*

APPENDIX A
DEBRIS RESOURCES

APPENDIX TABLE A-7
Debris Resources –External Agencies

Agency	Contact	Phone 1	Phone 2	Email
Local Health Department/District	Joe Gilbert	509-933-8262		Joe.gilbert@co.kittitas.wa.us
County Solid Waste Agency	Patti Johnson	509-962-7542		Patti.johnson@co.kittitas.wa.us
Wash.State Dept. of Ecology – Central Regional Office	Susan Billings	509-575-2486		SBIL461@ecy.wa.gov

APPENDIX B

DEBRIS MANAGEMENT SITES CRITERIA

DMS Site Inventory

Site Name:
Site Address: **Site Coordinates:** **N**
Estimated Property Size: acres **W**

Site Owner:
Ownership Type: ☐ Jurisdiction Property ☐ County Property ☐ Private Property
☐ Other (describe)
Owner Address:
Owner Phone:
Owner Email:

Site and Neighboring Properties Characterization

Characteristic	Comments
Current Use	
Proposed Future Land Use	
Current Land use/Zoning	
Restoration Time Requirements	
Proximity to School, Church, or Community Center	
Property Topography	
Environmental Considerations	
Open Water or Wetlands	
Ground Water Wells	
Within 100-year floodplain	
Soil/Slope Integrity	
Surface Water Drainage	
Suitable for use in wet weather	
Prevailing Wind Direction	
Brownfield Site	
Superfund Site	
Archeological or Historic Properties or Artifacts	
Underground Utilities (water, wastewater, natural gas, electricity)	
Noise Control Buffer	
Adjacent to Airport/Airfield	
Access to Electrical Service	
Access to Water Service	
Access to Sewer Service	
Existing Lighting	
Traffic Ingress/Egress Capacity	
Capable of Accepting Heavy Trucks (site and neighboring roads)	
Proximity to Major Roadway	
Fencing and Other Security Features	

Site Preparation Level of Effort ☐ High ☐ Medium ☐ Low
Suitability to Wet Weather ☐ High ☐ Medium ☐ Low

Ability to Serve Spatial Area ☐ High ☐ Medium ☐ Low

List Jurisdictions that could utilize this site:

Closest Landfill Available to This Site:

Recommended Uses for This Site:
☐ C&D
☐ Vegetative
☐ White Goods
☐ Hazardous Waste
☐ Other (describe)

Reduction Methods Acceptable for This Site: ☐ Open Burning ☐ Incineration ☐ Grinding

Site Map:

Date of Site Survey:

Picture Numbers Taken During Site Survey:

Potential Site Rating ☐ Primary ☐ Secondary ☐ Tertiary

APPENDIX C

MAPS OF TEMPORARY DEBRIS MANAGEMENT SITES

APPENDIX D

LIST OF PRE-QUALIFIED CONTRACTORS

1. **Waste Management, 607 N. Railroad Ave, Ellensburg, WA 925-9688**

APPENDIX E

CERTIFIED HAULER SERVICE MAPS

APPENDIX F

HEALTH AND SAFETY PLAN

Health and Safety Plan Supplement

Purpose

The purpose of this Health and Safety Supplement is to support the existing Kittitas County safety plan and/or procedures in regards to debris removal activities. These are recommended baseline safety provisions. Ultimately, health and safety is the responsibility of the contracted parties involved in debris removal activities. This document will outline some of the general steps necessary to provide a safe work environment for debris removal and monitoring employees. In addition, this document will identify some representative work hazards and the appropriate measures to reduce risk of injury.

Dissemination of Information

The debris hauling contractor and monitoring firm project managers will be provided with this document and will be expected to disseminate the information and guidelines to their respective personnel. A copy of the document should be available for consultation. In addition, elements of the document will be reviewed periodically during the project to increase worker awareness.

Compliance

The debris hauling contractor and monitoring firm project managers are responsible for health and safety compliance of their respective personnel and subcontractors. Any crews or individuals that are not compliant shall be suspended from debris removal activities until the situation is remedied. Offenders of safety policies and procedures will be dismissed from the project entirely.

Job Hazard Assessment

Though debris removal activities are fairly similar among events, assessing the particular hazards of each disaster is an important part of maintaining health and safety for the debris removal workers. At a minimum, the following areas of focus should be considered as part of job hazard assessment:

- **Disaster Debris** – Disasters that result in property damage typically generate large quantities of debris which must be collected and transported for disposal. The type of debris varies depending on the characteristics of the region (e.g. terrain, climate, dwelling and building types, population, etc.), age and use of structure and the debris-generating event (e.g. type, event strength, duration, etc.). In addition, the disaster debris produces a host of uneven surfaces, which must be negotiated.

- **Debris Removal** – Often the removal of disaster debris involves working with splintered, sharp edges of vegetative or construction material debris. Many disasters involve heavy rains or flooding. Consequently, disaster debris is damp and heavier than usual. As weights increase, so does the risk of injury.

- **Removal Equipment** – In most disasters, debris must be removed from the public Right-of-Way (ROW) to provide access for emergency vehicles and subsequent recovery efforts. Debris collection and removal requires the use of heavy equipment and power tools to trim, separate and clear disaster debris.

- **Traffic Safety** – The ROW is located primarily on publicly-maintained roads. As a result, much of the debris removal process takes place in traffic of varying levels of congestion. In addition, disasters often damage road signs, challenging safety on the road.

- **Wildlife Awareness** – Disasters are traumatic events for people as well as wildlife. Displaced animals (rodents), reptiles and insects pose a hazard to debris removal workers.

- **Debris Disposal** – After disaster debris is collected it is often transported to a debris management site (DMS). Upon entry to a DMS, the monitoring firm will assess the volume of disaster debris being transported. The collection vehicle will then dispose of the disaster debris and the debris will be reduced either through a grinding operation or incineration or sent offsite for recycling. The DMS is a common area for injury. Response and recovery workers in this environment are more likely to be exposed to falling debris, heavy construction traffic, high noise levels, dust and airborne particles from the reduction process. Load spotters will be trained to watch for hazardous waste and other items that do not belong at the DMS.

- **Climate** – Debris-generating disasters often occur in areas or seasons with extreme weather conditions. The effects of temperature and humidity on physical labor must be monitored, and proper work-rest intervals must be assessed.

Administrative and Engineering Controls

The use of administrative and engineering controls can greatly reduce the threats to public health and safety in debris removal activities. Some common administrative and engineering controls used in the debris removal process are:

Collection Operations

- Conduct debris removal operations during daylight hours only (unless site are fully lit for nighttime operations).
- Limit clean-up operations to one side of the road at a time.

- Limit collection work under overhead lines Work with PUD to clear fallen lines prior to working in that area..
- Inspect piles before using heavy equipment to remove them to ensure that there are no hazardous obstructions.
- Make sure that all collection vehicles have properly functioning lights, horns and back-up alarms.
- Load collection vehicles properly (not overloaded or unbalanced).
- Cover and secure loads, if necessary.
- When monitoring the collection process, stay alert in traffic and use safe driving techniques.
- Watch for hazardous waste, white goods, propane tanks and other hazardous materials.

Power Tools

- Inspect all power tools before use.
- Do not use damaged or defective equipment.
- Use power tools for their intended purpose.
- Avoid using power tools in wet areas.

Debris Reducing Machinery (Grinders/Wood Chippers)

- Do not wear loose-fitting clothing.
- Follow the manufacturer's guidelines and safety instructions.
- Guard the feed and discharge ports.
- Do not open access doors while equipment is running.
- Always chock the trailer wheels to restrict rolling.
- Maintain safe distances.
- Never reach into operating equipment.
- Use lock out/tag out protocol when maintaining equipment.

DMS/Disposal Operations

- Use jersey barriers and cones to properly mark traffic patterns.
- Use proper flagging techniques for directing traffic.
- Monitor towers must not exit into traffic and should have hand and guard rails to reduce trips and falls.
- Monitor towers must have properly constructed access stairways with proper treads and risers and proper ascent angle (4:1 height/width ratio).
- Monitor towers must be surrounded by jersey barriers which protect the tower and monitors from being struck by inbound or outbound collection vehicles.
- Monitor towers should be located uPublic Worksind from dust- and particulate generating activities.
- A water truck should spray the site as necessary to control airborne dust and debris.

Personal Protective Equipment

Personal Protective Equipment (PPE) is the last resort to providing a safe working environment for workers. PPE does not eliminate or even reduce hazards as administrative and engineering controls do. PPE works to reduce the risk of injury by creating a protective barrier between the individuals and work place hazards.

Proper use of PPE includes using PPE for its intended purpose. For example, using the wrong type of respirator might expose the worker to carcinogenic particulates. Properly fitting the equipment to the user may require examination by a medical professional. PPE that does not fit well will not provide maximum protection and will decrease the likelihood of the individual continuing to use the equipment. In addition, improper use may result in serious injury or death. The proper use of the equipment is outlined in detail in the manufacturer's instructions.

The following PPE may be applicable in standard ROW, Right-of-Entry (ROE), and vegetative and construction & demolition debris removal activities:

- **Head Protection** – Equipment designed to provide protection for an individual's head against hazards such as falling objects or the possibility of striking one's head against low hanging objects. PPE used to protect the head must comply with ANSI Z89.1-1986, "American National Standard for Personnel Protection - Protective Headwear for Industrial Workers – Requirements."

- **Foot Protection** – Equipment designed to provide protection for an individual's feet and toes against hazards such as falling or rolling objects, objects that may pierce the sole or upper section of the foot, etc. PPE used to protect the feet and toes must comply with ANSI Z-41-1991, "American National Standard for Personal Protection-Protective Footwear."

- **Hand Protection** – Equipment designed to provide protection for an individual's hands against hazards such as sharp or abrasive surfaces. The proper hand protection necessary is dependent upon the situation and characteristics of the gloves. For instance, specific gloves would be used for protection against electrical hazards while the same gloves may not be appropriate in dealing with sharp or abrasive surfaces.

- **Vision/Face Protection** – Equipment designed to provide protection for an individual's eyes or face against hazards such as flying objects. PPE used to protect eyes and face must comply with ANSI Z87.1-1989, "American National Standard Practice for Occupational and Educational Eye and Face Protection." Again, the proper eye/face protection necessary is dependent upon the situation and characteristics of the equipment. For instance, eye and face protection used by individuals who are welding may not be appropriate for individuals operating a wood chipper.

- **Hearing Protection** – Equipment designed to provide protection for an individual's hearing against prolonged exposure to high noise levels. According to OSHA, the permissible level of sound is an average of 90 decibels over the course of an eight (8)

hour work day. Above the sound exposure level, hearing protection is required. PPE used to protect hearing must comply with ANSI S3.19-1974, "American National Standard Practice for Personal Protection-Hearing Protection."

- **Respiratory Protection** – Equipment designed to provide protection for an individual's respiratory system against breathing air contaminated with hazardous gases, vapors, airborne particles, etc. PPE used to the respiratory system must comply with ANSI Z88.2-1992. In addition, the use of respiratory protection requires a qualitative fit test and in some cases a pulmonary fit test by a licensed medical professional.

PPE Debris Removal Activity

PPE requirements are made based upon the results of the job hazards assessment. The following list of PPE is organized by debris removal activity and is meant to be a representative list. Specific PPE requirements vary from location to location. In general, individuals involved in the debris removal process should personally monitor water consumption to avoid dehydration and use appropriate skin protection (breathable clothes, light colors, sunscreen, etc.). Ultimately, the selection of PPE is the responsibility of the debris hauling contractor and monitoring firm project managers.

Debris Collection Monitoring

The hazards of disaster debris collection monitoring include, but are not limited to: struck by vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps. PPE requirements include:

- Reflective vest;
- Foot protection (rugged shoes or boots, steel toe and shank if required); and
- Long pants.

Debris Disposal Monitoring

The hazards of disaster debris disposal monitoring include, but are not limited to: struck by or caught in/between vehicles, falls or trips on stairs or uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps and struck by falling disaster debris. Monitor towers must be equipped with a first aid kit. PPE requirements include:

- Reflective vest;
- Foot protection (rugged shoes or boots, steel toe if required);
- Long pants; and
- Hard Hat.

Debris Removal

The hazards of disaster debris removal include, but are not limited to: struck by vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps and airborne debris. In addition, PPE requirements include:

- Reflective vest;
- Vision and hearing protection;
- Foot protection (rugged shoes or boots, steel toe and shank if required); and
- Long pants.

Debris Disposal, Reduction, and Recycling

The hazards of disaster debris disposal, recycling, and reduction include, but are not limited to: struck by or caught in/between vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from vegetative or C&D, hazardous waste, sharps, struck by falling disaster debris and airborne particles. PPE requirements include:

- Reflective Vest;
- Foot protection (rugged shoes or boots, steel toe if required);
- Vision and hearing protection;
- Long pants;
- Gloves; and
- Hard Hat.

Debris Cutting and Trim Work

The hazards of disaster debris cutting and trimming work include, but are not limited to: struck by or caught in/between vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from power tools, vegetative or C&D sharps, struck by falling disaster debris and airborne particles. PPE requirements include:

- Reflective Vest;
- Hand and Foot protection (rugged shoes or boots, steel toe if required);
- Vision and hearing protection
- Long pants; and
- Hard Hat

For additional information regarding health and safety requirements, please contact OSHA

APPENDIX G

FORMS

Debris Management Site: Site Preparation Check List

GENERAL INFORMATION	
Date of Review	**County Region** € SW € SE € Central € E € NE € NW
Name of Facility	**Facility Type** € Storage € Recycling € Sorting € Disposal
Site Address	**Zoning, Site Preconditions**
Existing Permits € Discharge € Solid Waste € PSCAA € Land or Conditional Use	**Required Permits** € Discharge € Solid Waste € PSCAA € Land or Conditional Use
SITE LAYOUT AND DESIGN	
Access Routes (Major Streets and Highways) 1. 2. 3.	**Accessibility** € Site has an entrance gate € Site has a surrounding fence
Access Road Conditions € Asphalt or concrete pavement € Gravel road € Dirt road	**Operational Surface** € impervious surface (asphalt or concrete) € Gravel surface € Dirt
Track out € Wheel wash in place to prevent track out	**Containment** € leachate control in place
Grinder Type (type) € wood debris € concrete € mixed	**Monitoring Tower** € present

OPERATION				
Type	**Equipment**			
€ Sorting and Recycling	€ Front loader	€ Tub Grinder	€	€
€ Storage	€	€	€	€

€ Collection	€	€	€	€
€ Disposal	€	€	€	€

ENVIRONMENTAL HEALTH			
Sanitary Facilities	**Drinking Water** € Public Water € Well		**Waste Water** € Sewer € Septic
Water Quality	**Collection** € under ground € surface	**Treatment** € onsite € off site	**Discharge** € onsite € off site
Air Emissions	**Odor control in place** € yes € no		**Particulates** € grinding € burning
Noise	**Hours of Operation** € week days		€ weekends
Safety	**Fire Control** € yes, in place € no, to be set up		

DMS Site Inventory

Site Name:
Site Address: **Site Coordinates:** **N**
Estimated Property Size: acres **W**

Site Owner:
Ownership Type: ☐ Jurisdiction Property ☐ County Property ☐ Private Property
☐ Other (describe)
Owner Address:
Owner Phone:
Owner Email:

Site and Neighboring Properties Characterization

Characteristic	Comments
Current Use	
Proposed Future Land Use	
Current Land use/Zoning	
Restoration Time Requirements	
Proximity to School, Church, or Community Center	
Property Topography	
Environmental Considerations	
Open Water or Wetlands	
Ground Water Wells	
Within 100-year floodplain	
Soil/Slope Integrity	
Surface Water Drainage	
Suitable for use in wet weather	
Prevailing Wind Direction	
Brownfield Site	
Superfund Site	
Archeological or Historic Properties or Artifacts	
Underground Utilities (water, wastewater, natural gas, electricity)	
Noise Control Buffer	
Adjacent to Airport/Airfield	
Access to Electrical Service	
Access to Water Service	
Access to Sewer Service	
Existing Lighting	
Traffic Ingress/Egress Capacity	
Capable of Accepting Heavy Trucks (site and neighboring roads)	
Proximity to Major Roadway	
Fencing and Other Security Features	

Site Preparation Level of Effort ☐ High ☐ Medium ☐ Low
Suitability to Wet Weather ☐ High ☐ Medium ☐ Low
Ability to Serve Spatial Area ☐ High ☐ Medium ☐ Low

List Jurisdictions that could utilize this site:

Closest Landfill Available to This Site:

Recommended Uses for This Site:

☐ C&D
☐ Vegetative
☐ White Goods
☐ Hazardous Waste
☐ Other (describe)

Reduction Methods Acceptable for This Site: ☐ Open Burning ☐ Incineration ☐ Grinding

Site Map:

Date of Site Survey:

Picture Numbers Taken During Site Survey:

Potential Site Rating ☐ Primary ☐ Secondary ☐ Tertiary

ROE No. _____

GPS Location:

Longitude_____

Latitude_____

RIGHT-OF-ENTRY ON PRIVATE PROPERTY FOR DEBRIS REMOVAL

Property Address/Description _____

Name (Owner or Tenant) _____

City _____

Right of Entry

I certify that I am the owner, or an owner's authorized agent, of the property described above. I grant, freely and without coercion, the right of access and entry to said property to the United States Government, including but not limited to the US Army Corps of Engineers and the Federal Emergency Management Agency (FEMA), the State of Washington, Kittitas County, and each of their agencies, agents, contractors, and subcontractors, for the purpose of removing and/or clearing any or all storm-generated debris from the above-described property.

Hold Harmless

I understand that this permit is not an obligation upon the government to perform debris removal. I agree to indemnify and hold harmless the United States Government, the US Army Corps of Engineers, FEMA, the State of Washington, Kittitas County, and any of their agencies, agents, contractors, and subcontractors, for damages of any type whatsoever, either to the above-described property or to persons situated thereon. I release, discharge, and waive any action, either legal or equitable, that might arise by reason of any action of the above entities. I will mark any sewer lines, septic tanks, water lines, and utilities located on the described property.

Duplication of Benefits

Most homeowner's insurance policies have coverage to pay for removal of storm-generated debris. I understand that Federal law (42 United States Code 5155 et seq.) requires me to reimburse the Federal government, through Kittitas County, the cost of removing the storm-generated debris to the extent covered in my insurance policy. I also understand that I must provide a copy of the proof/statement of loss from my insurance company to Kittitas County. If I have received payment, or when I receive payment, for debris removal from my insurance company, or any other source, I agree to notify and send payment and proof/statement of loss to Kittitas County for final recovery by FEMA. I understand that all disaster related funding, including that for debris removal from private property, is subject to audit. (I/We) acknowledge(s) that information submitted will be shared with other government agencies, federal and nonfederal, and contractors, their subcontractors and employees for purposes of disaster relief management and for the objectives of this right of entry.

By signing this document, (I/we) certify that (I/we) (am/are) the owner of this property and /or that (I/we) (am/are) authorized to sign this right of entry.

For the consideration and purposes set forth herein, I hereby acknowledge by my dated signature below.

Signed this _____ day of _____, 2006.

(All owners must sign)

Print Name:_____ Print Name:_____

Signature:_____ Signature_____

Print Name:_____ Signature:_____

Mailing Address (if different from municipal address listed above):

Current Telephone Number(s)

Name of Insurance Company:_____

Policy Number:_____

Please do not remove the following items:

_____

_____

_____

APPENDIX H

ANIMAL MORTALITY PLAN

On-Farm Composting of Livestock Mortalities

August 1, 2005

Publication No. 05-07-034

THIS REPORT IS AVAILABLE ON THE DEPARTMENT OF ECOLOGY HOME PAGE ON THE WORLD WIDE WEB AT *HTTP://WWW.ECY.WA.GOV/BIBLIO/0507034.HTML*

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For persons with a speech or hearing impairment call 711 for relay service or 800-833-6388 for TTY.

FOREWORD

Section 6 of Substitute Senate Bill 5602 (SSB 5602), passed during the 2005 Washington Legislative session, includes a requirement that the Department of Ecology (Ecology), in conjunction with the Department of Health (Health) and Department of Agriculture (Agriculture), develop guidelines for on-farm composting of routine mortalities of bovine and equine animals at livestock animal feeding operations (AFOs). It also broadened existing agricultural exemptions in state solid waste regulations for composting bovine and equine mortalities by eliminating testing for metals and solid waste permit requirements. The bill placed restrictions on use of the compost and mandates that recipients of the material be notified of the nutrient value, pathogen levels, stability, use restrictions and origins of the compost. (Section 6 of SSB 5602 is included in Appendix A)

These guidelines have been developed to provide Washington bovine and equine producers, and those that provide technical assistance to the producers, with an understanding of how to comply with regulatory and the recently revised statutory requirements. It also provides the basics of composting large livestock as one possible animal mortality management tool. Proper composting of other types of livestock is allowed in Washington but is not covered in this guidance document. The focus is on managing what is considered routine, day-to-day livestock mortalities, and may not be suitable for managing mortality due to reportable diseases as listed in WAC 16-70-010 (See Appendix B). Operators who suspect the presence of any of the listed diseases should contact the State Veterinarians office and their local Health Department.

This publication will also be of specific interest to bovine and equine producers seeking alternative disposal options to burial, incineration and rendering as part of development of mortality management plans required in 40 CFR Part 122 for Concentrated Animal Feeding Operations (CAFOs). A companion guidance document is being developed by Agriculture that provides general information on a variety of disposal options for all types of livestock, including composting. Numerous published reports and methods for large and small scale composting techniques for a variety of other livestock are available on-line. It should be understood that animal composting may require some trial and error to achieve acceptable results. You are encouraged to work with your conservation district staff or other professionals to identify the best approach to mortality management at your facility. In the event of an animal emergency, as declared by the Director of the Department of Agriculture, the State Veterinarian's office and the local health department will determine appropriate disposal options.

As Ecology, Agriculture, Health, and the livestock producers gain more knowledge through hands-on experience, this publication may be updated. Most of the information presented in these guidelines is assembled from a variety of sources in the United States and Canada that have researched carcass composting methods and shared their findings with colleagues in the academic, agricultural, and environmental communities. These guidelines are available on-line at http://www.ecy.wa.gov/biblio/0507034.html and it is suggested that you visit this site to ensure you have the most current version available. Also, Agriculture and Health are in the process of reviewing current rules applicable to dead animal disposal requirements. These efforts are intended to eliminate conflicts that create confusion regarding legal animal carcass disposal and associated requirements.

USE OF THE TERMS "COMPOST" & "COMPOSTING"

Before getting started, it is important to understand that the terms "compost" and "composting" as used in this document do not meet the regulatory definitions found in state solid waste regulations. The composting methods described are *adaptations* of conventional large scale composting but the methods are not entirely consistent with all the steps described in regulation to meet the regulatory definition of composting which is "*the biological*

degradation of organic solid waste under controlled conditions designed to promote aerobic decomposition. Natural decay of organic solid waste under uncontrolled conditions is not composting". As used in this document, "compost" and "composting" might be better thought of as "*above ground burial".*

These guidelines describe a practical alternative to traditional mortality disposal methods such as burial, rendering and incineration. They provide detailed steps necessary to achieve safe volume reduction of large animal carcasses and produce a material that may be suitable as a soil amendment when testing indicates the compost meets standards. While the steps do not include the intensive management found in typical large scale composting operations, they do require specific management activities for success.

Understanding the distinction between use of the terms "compost" and "composting" in this document versus solid waste regulation is important. There are fundamental differences in pile management when comparing conventional composting with piles used to decompose horses and cows. For example, typical windrow composting requires, by rule, frequent turnings to promote aerobic conditions, but the process of degrading large animal carcasses in windrows requires, by practicality, that they remain undisturbed for a number of months to allow complete degradation of hair, protein, fats, and smaller bones and other calcium structures in the carcass. While SSB 5602 allows bulk distribution of the compost when statutory conditions are met, operators are encouraged to make on-site use a priority whenever possible as a soil amendment, supplemental co-composting material in future compost piles, or as a biofilter over a pile to help absorb odors. ***On-site use offers substantial advantages over off-site distribution such as reduction of testing and transportation costs, and greater overall biosecurity.***

REQUIREMENTS OF SSB 5602

While the techniques for composting described in this document may prove useful to anyone managing large animal mortalities, SSB 5602 is specifically applicable to bovine and equine livestock producers that wish to compost and distribute materials off-site *and* when the operator anticipates that more than 1000 cubic yards of co-compost material, partially composted material, and unused finished compost in piles will be on-site at any one time. Smaller operations may find that exemptions are already in place that provide regulatory relief for on-farm composting. ***Table 1*** (following page) should prove useful in identifying existing options for managing large carcasses through agricultural composting.

Table 1 - Agricultural Composting Requirements in Washington State[1]

Composting Scenario	Permits Required	Volume Limit	ECY/JHD Notification Required	Meet Performance Standards[2]	Testing Required	Annual Reporting	Allow Inspections	Recipient Notification
All agricultural feedstock is generated on-site and all product is used on-site	No	No	No	Yes	No	No	Yes	N/A
Agricultural feedstock is generated both on-site and off-site but all compost is used on site and the cumulative amount of feedstock, partially composted material, and	No	Yes	No	Yes	No	No	Yes	N/A

Composting Scenario	Permits Required	Volume Limit	ECY/JHD Notification Required	Meet Performance Standards[2]	Testing Required	Annual Reporting	Allow Inspections	Recipient Notification
unused finished compost does not exceed 1000 cy								
Agricultural composting at Registered Dairies when composting is included as part of a certified Dairy Nutrient Management Plan in accordance with RCW 90.64, *Dairy Nutrient Management Act*	No	No	Yes	Yes	Yes	Yes	Yes	No
Agricultural composting when material is distributed off-site and more than 40 cy but less than 1000 cy of agricultural feedstock, partially composted material, and unused finished compost is on-site and composting activities are managed in accordance with a farm management plan that conforms to the standards in the Washington Field Office Technical Guide written by the NRCS[3]	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Agricultural composting when material is distributed off-site and more than 1000 cy of agricultural feedstock, partially composted material, and unused finished compost is on-site and composting occurs in compliance with these guidelines developed as a result of SSB 5602	No	No	Yes	Yes	Yes[4]	Yes	Yes	Yes

1- This table references state solid waste regulations only. Efforts are currently under way to clarify requirements for mortality management in Department of Agriculture and Department of Health regulations. These are being amended to clearly to allow composting of dead animals. Check local regulations to determine if there are any additional requirements.

2- See Appendix C

3- Natural Resources Conservation Service

4- SSB 5602 exempts producers from the metals testing requirements of WAC 173-350-220

HOW DOES SSB 5602 AFFECT ON-FARM COMPOSTING?

SSB 5602 exempts bovine and equine livestock producers from the solid waste permitting and metals testing requirements when compost is distributed off-site in bulk provided that these guidelines and applicable requirements in WAC 173-350-220 are followed at operations expected to accumulate co-composting material, partially composted material, and unused finished compost on-site at any one time **in combined excess of 1000 cubic yards**. To maintain the exemption, the following terms and conditions must be met:

- The composter must follow these guidelines.
- Carcasses must not be known or suspected to be infected with prion-related diseases, spore-forming disease (e.g. anthrax) or other diseases of concern identified by the state veterinarian.
- The operator must compost animals from his/her own animal feeding operation (AFO) and not accept animals from other sources.
- The operator must notify the end user that the compost includes animal mortalities, its nutrient content, pathogen levels, stability rating, and restrictions on uses discussed below.
- Compost may only be applied to agricultural lands that will not be used for root crop production within 3 years after application.
- Compost is applied in a manner that prevents direct contact with any parts of the crops that are harvested for human consumption.
- The composter reports annually to Ecology the number of bovine and equine animals composted and an estimate of the total tonnage or yardage of all co-compost materials used for composting. Ecology will provide annual report forms to producers that have notified the department of the intent to operate under the terms of SSB 5602 required as described below. Annual reports detailing activities for the preceding calendar year are due by April 1.

SSB 5602 provides relief from the permitting requirements and some testing parameters but did not affect other terms and conditions in the state solid waste regulations that apply to AFOs when the 1000 cubic yard threshold is exceeded and when the operator intends to distribute bulk finished material offsite.

To maintain an exempt status, applicable operations must also comply with the following:

- Notify both the local jurisdictional health department and Ecology of the intent to operate under one of the exemptions listed in rule. A list of jurisdictional health departments is available at http://www.doh.wa.gov/LHJMap/LHJMap.htm. Notification forms are available at http://www.ecy.wa.gov/biblio/ecy040154.html
- Allow inspections by Ecology and the local jurisdictional health department at reasonable times
- Meet the performance standards in WAC 173-350-040 (See Appendix C)

- Operate in such a manner that flies and other vectors are not attracted.
- Control odors
- Ensure protection of ground and surface waters

ELEMENTS OF MORTALITY COMPOSTING

Proper management of farm mortalities is an important aspect of sustainable livestock production. Traditional disposal methods have included rendering, burial, incineration and natural decomposition on rangeland. These options are becoming either less acceptable or less available due to disease, biosecurity concerns, environmental matters, and economic considerations. The compost process described in these guidelines involves enveloping the animal in a high carbon source such as saw dust, silage, animal bedding, or similar material in a manner that promotes generation of temperatures high enough to kill human and animal pathogens and promotes microbial activity that will accelerate decomposition of tissue and all but the largest bones in the carcass. It is a process that borrows conventional composting principles that if done properly, can result in a material that meets regulatory standards necessary for bulk distribution when on-farm use is not possible.

The benefits associated with on-farm mortality composting include:

- Prevention of nuisances associated with flies, scavengers, vermin and odors
- Lower operational costs
- Reduced risk to ground and surface water
- Recycling of nutrients from mortalities
- Increased on-farm biosecurity
- Potential to handle large volumes of mortality material

The major factors affecting successful mortality composting include:

- Site Selection
- Pile Type (Windrow vs. Static Pile)
- Co-Composting Materials and carbon to nitrogen ratios (C:N)
- Moisture Content
- Aeration
- Temperature
- pH

SITE SELECTION

When selecting a location to conduct animal composting, the following are minimum considerations:

- Distance to surface water and drinking water wells. Compost activity should be set back at least 300' from these resources.
- Groundwater depth. Composting activities may not adversely impact groundwater resources and should not occur in areas with seasonally high groundwater unless conducted on an impervious surface with leachate collection and means to prevent stormwater run-on.
- Distance to property lines, residences, schools and other public areas. Local regulations should be checked for specific constraints.
- Public acceptance of composting mortalities which necessitates off-site impacts such as odors and negative aesthetics be prevented.
- Available infrastructure such as paved pads, year round access, ability to properly manage leachate and prevent stormwater run-on and run-off
- Wind direction
- Potential Future expansion

WINDROWS VS. STATIC PILES

Windrows and static piles are similar in design. Piles might be more suitable when expecting infrequent mortalities. Windrows may be more suitable for large operations where the need to manage mortalities is ongoing. Walls and roofs are not required in these designs, making it easier to load, unload and mix pile materials. Piles and windrows should be constructed on all weather surfaces such as concrete or asphalt pads or on soils with low permeability. Consult the NRCS or local conservation district office for advice on methods to alter native soils to reduce permeability. Techniques described in NRCS Technical Field Guides addressing pond construction and other soil treatment methods may be useful in conditioning soils to achieve low soil permeability.

With a windrow design, the length of the windrow is extended as mortalities occur. They are typically 4 to 12 feet high and 12 to 20 feet wide and grow in length as mortalities are added to the pile. Piles and windrows should be protected from water running into them. Runoff must be controlled so that it does not pollute surface or groundwater. Static piles are generally more useful for composting single animals. A cow or horse is placed on a minimum 2' deep layer of absorbent co-composting material, taking into account settling and compaction. The base must be large enough so that no part of the animal is any closer than 2 feet from the edge.

Once placed, the animal is covered with at least two feet of co-compost cover and no part of the animal may be left exposed. Both static piles and windrows are turned when pile materials have been left undisturbed long enough for tissue to decompose leaving only large bones. This usually takes between 9-12 months for large carcasses. Because new sections are continually added to the length of windrows over time, certain sections are turned before others as they complete decomposition. Stakes or markers should be inserted along the length of the windrow to help distinguish newly constructed sections from older sections. A log book should be used to keep records of such matters as pile construction dates, temperatures, turning schedules, etc.

CO-COMPOSTING MATERIAL

Mortality management requires the addition of a carbon amendment, or co-composting material, which serves several key functions:

- Surrounds the carcasses making them less accessible and attractive to pests and scavengers
- Absorbs excess liquids released by decomposing carcasses
- Provides structure and porosity that promotes air movement throughout the piles
- Provides an energy source for microbial activity

Co-composting material refers to any material added to the compost pile to aid in the decomposition process and is also sometimes referred to as ***bulking material*.** Typically, these materials need to have a high C:N ratio and be relatively fresh from harvesting or not have undergone significant decomposition. Since mortalities are high in nitrogen, co-com-posting materials high in carbon such as sawdust, corn silage, screened or dried manure solids, or small woodchips should be used when composting dead animals. Other materials may be available regionally that are also suitable as a carbon source.

Particle size should be taken into consideration. The bulking material should be large enough to allow air flow into the pile, but small enough to help prevent rapid cooling and drying of the pile. Particle size ranging from 0.25-1 inches should be targeted but considerations such as how the material compacts and holds water need to be factored in as well. For example, wood chips and straw will work, but research has shown they do not work as well as sawdust due to their larger particle sizes and tough surfaces. With these materials, longer decomposition times may be required, leaching of liquids from piles is more likely, and opportunities for flies and other vectors to become a problem increase.

Larger particle size will create increased porosity and can speed the rate of moisture loss in the pile and result in longer decomposition time and more pile management. Sawdust, with its smaller particle size, has been found to be more absorbent and reduce potential release of leachate, maintain more consistent temperatures, and require less maintenance. If particle size is too small however, anaerobic conditions are likely and carcasses will fail to compost properly.

The carbon material should have moisture content between 50% and 60%. A dry amendment (<20%) will not decompose properly and may require the addition of water to re-establish the proper moisture balance. An excessively wet material may require the addition of a dry amendment before building the pile or after turning to correct the moisture balance. Proportions of co-compost material to carcass weight will vary and require some experimentation dependent on weather, moisture, co-compost material, etc., but as a rule of thumb, it takes approximately 5 lbs. of sawdust or similar material for every pound of carcass that is decomposed.

Experience elsewhere in the United States and Canada has indicated it is possible to use finished compost stockpiles to replace up to 50% of the bulking material. An added benefit of using finished compost, especially as a “blanket” over the pile, is its ability to help capture most odors and insulate the pile in cold weather. Note that substituting more than 50% of the carbon source with finished compost may negatively limit carbon availability and decrease the rate of carcass decomposition.

Table 2 (following page) details the C:N ratio and typical moisture content of some commonly available bulking materials frequently used in composting. Characteristics of many other potential co-composting materials are

available in Appendix A of the “On-Farm Composting Handbook”. This is an excellent resource for agricultural composting and is available by contacting the Natural Resource, Agricultural, and Engineering Service at www.nraes.org.

Table 2 - C:N Ratio and Percent Moisture Values of Common Carbon Sources

Materials	C:N (weight to weight)	% Moisture (wet weight)
Corn stalks	60-73:1	12
Corn silage	38-43:1	65-68
Hay	15-32:1	8-10
Cow Manure solids	11-30:1	67-87
Horse Manure Solids	22-50:1	59-79
Straw	48-150:1	4-27
Sawdust	200-750:1	19-65
Wood chips	451-819:1	–
Leaves	40-80:1	–

Source: On-Farm Composting Handbook, 1992, R. Rynk.

MOISTURE CONTENT

Ensuring that the material used to build the pile has sufficient moisture is one of the most important aspects of successful mortality composting. Also, it is important to make certain that moisture stays within reasonable levels throughout the process. When monitoring pile moisture content, examine materials at least 6" below the surface of the pile. A moisture content of 50% to 60% is optimal. If the moisture content is too low, the carcasses will decompose at a very slow rate.

In general, a handful of material that does not feel moist to the touch and readily crumbles after squeezing is too dry. Low moisture conditions are typically corrected through the addition of water to obtain a damp feel. Water may be added to smaller piles with a hose, while larger piles may require larger equipment, such as liquid manure handling equipment or tank trucks. Once the pile is established and temperatures high enough to kill pathogens are reached, water from manure lagoons or leachate collection devices may not be suitable sources of moisture if the presence of human or animal pathogens of concern is suspected. In most cases, the carcasses will contribute adequate moisture content within the recommended range and piles will not require moisture adjustments.

A pile that is not protected from heavy precipitation may also become excessively wet. As a rule of thumb, the pile is too wet if water can be squeezed from the material. Once the carcasses have decomposed, excess moisture may be reduced by turning the pile and adding additional dry bulking material. Constructing the pile under a roof or covering with a tarp can be effective in protecting the pile from becoming too wet. Any leachate that is generated should be collected and managed in a manner that prevents introduction to ground or surface waters. Saturation resulting from stormwater run-on can be prevented by locating the pile on higher ground or installing measures such as berms or other means to prevent storm water run-on.

AERATION

Composting is most efficient when maintained as an aerobic process. Microorganisms require oxygen to decompose co-compost materials. Oxygen levels should be maintained above 5%. The target range is about 5-15%.

Passive aeration is controlled by variables such as the porosity of the co-composting materials, moisture content in the pile, pile size, and density of the pile. Meters are available to measure oxygen levels within the pile but they can be expensive, particularly if the operator anticipates limited amounts of composting. Conservation district staff or others providing technical assistance may have access to meters however.

If a meter is not available, other indicators of low oxygen include strong ammonia odors, very low pH, or saturated conditions. There are many ways to provide aeration "artificially" but these should be attempted only after consulting conservation staff or qualified compost experts that have experience with mortality composting. Problems with flies, excessive drying, or exposure of animal parts can be experienced with many traditional aeration methods.

TEMPERATURE

The warmer the pile, the faster the microorganisms work, up to a point. Temperatures between 110-150°F (43-65°C) are acceptable, but anything above 158°F (70°C) may be too hot for the compost microorganisms to thrive. High temperatures may also reduce the pile moisture to unacceptable levels. Water can be added to bring temperatures down and correct moisture deficiency. The preferred temperature range is 130-140°F (54-60°C). The operator must ensure the process includes reaching temperatures above 131°F (55°C) at points all around the carcass at a two foot depth from the outer surface for at least 3 consecutive days to kill pathogens.

PH LEVELS

Composting is effective at pH levels between 5 and 10, with 7 being optimum.

RECOMMENDED EQUIPMENT NEEDS

- ***Front end loader or similar machine***: composting requires a front-end or skid-steer loader to move carcasses and bulking material, cover the carcasses, turn and mix the compost, and move the finished compost.

- ***3' Temperature Probe***: temperature is a key indicator in determining the success of a compost pile since microbial activity is directly related to heat. Temperatures should be monitored at least weekly with a temperature probe 3 ft (1 m) in length, except that temperatures should be monitored daily once they reach or exceed 131°F (55°C) to ensure that temperature is maintained for at least 3 consecutive days to kill pathogens. There are both manual and digital temperature probes available at hardware stores, farming supply stores, and on-line.

- ***Rebar or other Lancing Tool***: it is recommended that the rumen be lanced 3-4 times prior to covering the carcasses to prevent bloating. Lancing also exposes the stomach cavity and can speed the onset of decomposition. **Basically, animal composting begins from the inside out.**

- ***Log Book or Forms***: It is important to keep a record of your activities to help troubleshoot in the event of failure of the composting process. Information to be recorded should include the weights of carcasses, type and amount of co-compost material, temperature measurements, weather conditions and any notable observations. If something goes wrong with your composting pile you can look back to see what error or mistakes may have occurred along the way, find a solution, and avoid future failures. Record keeping is required if finished compost is distributed off-site under the conditions of these guidelines. Log books will make annual reporting easier.

- ***Miscellaneous***: It may be useful to have a shovel or pitchfork on hand to maintain your compost pile. It is also a good idea to have access to a water source. In areas where there is not much rain, water may need to be added to the compost pile.

MANAGING MORTALITIES IN COMPOST PILES

The following is a step-by-step procedure for composting livestock mortalities on-farm:

- Start the pile by creating a base. The base should consist of at least 24" of co-composting material. Be sure to account for compaction and settling that will result after placement of the carcass.

- Place the carcass on the base, centered so that no part of the animal is any less than 24" from the edges. Carcasses should not be placed directly on the ground or pad as they will not decompose properly. Do not stack large animal carcasses in the pile.

- Lance the rumen 3-4 times with a sharp object such as a piece of rebar to prevent bloating and encourage quicker onset of decomposition.

- Carcasses must be added to piles within 24 hours after death. If uncertain about the cause of death of the animal and the appropriateness of composting as a means of carcass disposal, consult a qualified veterinarian.

- Cover carcasses with **at least** 24" of co-compost material.

- Once the carcasses are covered with 24" of co-compost material, consider capping the pile with 12-24" of finished compost to provide insulation, retain heat and moisture, prevent the release of odors, and avoid attraction of vectors such as flies and scavengers to the pile;

- Ensure that piles constructed in the open are mounded to promote shedding of rainfall off the pile.

- Check the pile regularly to ensure that the carcass remains adequately covered Settling of the pile as decomposition occurs and windy conditions can move the bulking material and expose the carcass. This can cause heat loss and impact the moisture balance in the pile and result in attraction of flies and scavengers that may further disturb the pile. The decomposition process may be slowed and the exposed carcass may create odor and aesthetic nuisances.

- Monitor the temperature at least once a week, using the 3' thermometer. Note that piles constructed during extremely cold weather may not begin to warm and promote decomposition immediately. Placement of a compost "blanket" utilizing finished material should help insulate the pile and promote heating, even in severe weather. Monitor temperature daily when it reaches 131° F (55° C) to ensure three consecutive days at these temperatures for pathogen reduction.

- After 9 to 12 months, the pile should be turned for the first time to re-introduce oxygen and create a more homogeneous mixture. At this stage, the protein, fats, hair, and other soft tissue should be fully decomposed and only fragments from larger bones should remain recognizable but these will be brittle. Timelines may vary and should be adjusted by the operator as experience and understanding of site specific composting variables is gained.

- Turn the pile at least twice a month after the initial turning and monitor temperatures with the 3' thermometer. When significant heating no longer occurs after turning, the material should be finished.

- If the pile does not produce heat after initial turning, additional nitrogen may need to be added. Manure is generally available and can be used as a nitrogen source but should not be mixed into a pile at a rate exceeding ½ the overall volume.

- The material can be stockpiled, ideally for use in future compost piles, directly land applied to your own property at appropriate agronomic rates, or otherwise used on your own property. Off-site distribution is allowed provided these guidelines are followed, the characteristics of the finished materials meet applicable regulatory standards, and the recipient is provided required documentation.

- If material is to be distributed off-site, it must be tested at this stage for pathogens, pH, stability, and nutrient levels as described below.

FINISHED PRODUCT

Little or no trace of the carcass should be detectable in the finished product. Some bones (skull parts, femurs, teeth) may be visible in the material, but they should be brittle and easily crumbled in most equipment used to spread the compost. Larger bones can be removed and placed back into a new pile for further decomposition if preferred.

If the recommendations provided in this manual are followed, the finished product should have the following characteristics:

- Crumbly texture that allows air to penetrate yet holds moisture, while allowing excess moisture to drain away
- Raw materials are not detectable except for larger bones
- Brown to dark brown in color
- Earthy odor

TESTING REQUIREMENTS

Note: It is not necessary under solid waste rules to test finished compost if all materials are to be used on your own property, regardless of volume. However, if you are a dairy or permitted Concentrated Animal Feeding Operation, you are required to conduct nutrient testing on material used on your property to ensure proper applications and nutrient balance under your Nutrient Management Plan. All facilities are encouraged to work with your Conservation District or similar professional to ensure compost is applied at agronomic rates if land applied. Determining appropriate agronomic applications will necessitate that basic nutrient testing be conducted on the finished material prior to use.

In order to bulk distribute compost produced from bovine or equine mortalities, an operator must test the compost to ensure it meets standards for pathogens, pH, and stability and provide the user with information on nutrient content, limits on the use of the materials, and details of the feedstock (i.e. bovine or equine mortalities).

Allow sufficient lead time for results to be provided by the laboratory. An accredited lab is not required but be certain the laboratory selected is qualified to conduct the necessary tests to ensure compost quality complies with regulatory standards. A list of labs accredited by Ecology can be found at http://www.ecy.wa.gov/programs/eap/labs/labs_main.html

A list of labs that follow "Test Methods for the Examination of Composting and Compost" (TMECC) protocols established by the U.S. Composting Council is available at http://tmecc.org/sta/

COMPOST MUST, AT A MINIMUM, BE TESTED FOR:

- ***Nutrients:*** For purposes of these guidelines the nutrient of concern is nitrogen. An agronomist needs this information to properly calculate application rates. Most labs already uses by the agricultural community are familiar with nutrient testing. Results should be reported on a "dry weight" basis.

- ***Pathogen Levels*** *(Fecal Coliform* ***or*** *Salmonella)*: Levels for fecal coliform must be below 1000 "most probable number" (MPN) per gram of solids. Levels of salmonella must be below 3MPN per 4 grams of solids. Results must be reported on a "dry weight" basis. Many labs are familiar with pathogen tests, but be certain the lab selected understands methods for testing for pathogens in soils or compost.

- ***pH-*** Compost pH must be between 5 and 10. Tests are available for on-site testing and most labs capable of conducting the tests for nutrients and pathogens will also be able to test pH.

- ***Stability-*** Compost stability refers to the biological activity in a compost sample. The biological activity of composting material starts high and goes down as microorganisms consume the raw ***feedstocks***. Measuring stability of the compost tells when the composting process is complete enough to use the end product. Regulations require that this determination be made as outlined in TMECC test standards, Chapter 5.08, "Respirometry". Six methods are offered. Four require lab services. The other two, the Solvita® test and the Dewar Self-Heating test can be conducted on-site. The Dewar method measures the rise in temperature of a compost sample in a Dewar flask over several days. The Solvita® test measures carbon dioxide and ammonia evolution in a compost. Much more information is available for both methods on-line.

TAKING SAMPLES

Please consult TMECC, Method 02.01-B online at http://tmecc.org/tmecc/ for more information related to the method of taking samples described below. This web site offers far greater detail on a variety of matters related to good compost sampling practices.

Composite sampling is the most common approach to preparing compost for analysis and testing. A composite sample is a single sample composed of multiple, well-blended grab samples that represent the traits of interest for an entire pile or windrow.

When sampling, it is critical to ensure instructions for sample preparation and handling provided by the lab conducting the analysis are closely followed. A laboratory will provide advice about the appropriate storage and shipping containers as well as instructions on sample preparation, chain-of-custody, storage temperatures, handling requirements and other specifications. Some will also provide containers and shipping materials.

Before beginning the process of collecting samples, be sure all equipment has been assembled and properly sanitized. (See "*Sanitation/Sterilization" on following page*.)

Following the instructions below should result in preparing a representative sample of compost for analysis:

1. Cut into the pile or wind row in at least 5 locations. The 5 cuts must be randomly assigned and may be selected from either side of the windrow or pile. Cut into the entire vertical depth of the pile and at least into

half of the width of the pile. The cut should expose the middle of the pile from its natural base to its natural peak.

2. Collect 15 1-cup grab samples from various depths and levels from one side of the cut area. Combine and thoroughly mix the 15 grab samples in a sterilized stainless bowl or plastic collection bucket. Place the mixed sample in a sterile 5-gallon mixing pail. Repeat this process for each cut area. Avoid collection of samples from pile or windrow surfaces that are excessively wet, i.e., greater than about 60% moisture, or from the exterior of the pile.

3. Once the composite samples from each of the five cuts have been place in the sterile 5-gal mixing pail, thoroughly mix to make one composite sample.

4. Repeatedly divide the sample in half until you have a 2-gal sample. Gently transfer the 2-gal sample into 2 1-gal sterile plastic resealable storage containers or other sterile containers as directed by the laboratory. Do not compact the compost samples.

5. After transferring samples into the 1-gal containers, chill them to about 39°F (4°C) and follow the laboratory's directions for shipping. Samples should be chilled as soon as possible after collection to ensure they remain representative of the compost being tested.

6. It is recommended that the selected laboratory be contacted prior to sampling to determine if its protocols differ from the directions above.

SANITATION/STERILIZATION

Sanitized equipment is critical when samples are being prepared for pathogen testing. If the lab has supplied the containers, they will usually already be sterilized.

Be certain hands are washed before sanitizing equipment. Utensils such as scoops and mixing containers (stainless steel, plastic, or glass) should be clean and sanitized by first washing with soap and water and rinsing, then sterilized with a 5% bleach solution as is typically found in household bleach.

Containers and utensils should then be triple rinsed with clean distilled water. If preparing equipment ahead of time, wrap containers and utensils in sanitized aluminum foil to avoid re-contaminating sterilized equipment during transport into the field.

Equipment can be sanitized in the field by placing bleach in a squeeze bottle and taking along distilled water in gallon jugs. **Always use caution and appropriate eye and skin protection when using bleach.**

FREQUENTLY ASKED QUESTIONS

WILL A PILE CONTAINING DEAD ANIMALS PRODUCE ODORS AND ATTRACT RODENTS?

As long as the carcasses are properly covered with at least 24" of cover, odors, scavengers, and rodents should not be a problem. Using finished compost as a blanket will further reduce the likelihood of odors.

WHAT HAPPENS TO THE PILE DURING THE WINTER?

Carcasses typically decompose more rapidly when the ambient temperature is warm. Pile temperatures of 122° F or higher may be attained when ambient temperatures are as low as 5° F. Frozen carcasses placed in frozen

bulking material will not decompose during cold weather but they should begin to breakdown once ambient temperatures increase in the spring. Adding more bulking material or finished compost material will also help retain heat in the winter. Avoid turning piles during extremely cold weather.

SHOULD THE PILE BE CONSTRUCTED ON AN ENGINEERED PAD?

A concrete or asphalt pad will reduce the risk of water contamination, improve the ability to control leachate and storm water, and make turning the pile easier. Many farms already have paved areas suitable for composting as described in these guidelines. Techniques to reduce soil permeability may be available through the NRCS or similar organization.

If an engineered pad is not feasible, at a minimum the pile should be located on sloped land that drains into a collection area and a deeper base of co-compost material should be established under the carcasses to increase the ability to absorb any liquids generated in the pile. Any uphill surface water should be diverted away from the compost pile and drainage off the pile should be managed to prevent surface or groundwater contamination.

WILL THERE BE ANY PROBLEMS WITH FLIES?

If carcasses are composted as described above, flies should not be a problem. Research has shown that efforts to improve aeration by placing perforated pipes under the pile have resulted in breeding habitat for flies because the pipes collect leachate and the open ends will draw flies in. Perforated pipes should not be necessary for mortality composting.

CAN COMPOSTED MATERIAL BE APPLIED TO GROW "CERTIFIED ORGANIC PRODUCE"?

It is possible for finished compost to be used in organic food production as long as only natural untreated feedstocks are used.

Questions about the Washington Department of Agriculture's "Organic Food Program" should be directed to (360) 902-1805.

Online information is available at http://www.agr.wa.gov/FoodAnimal/Organic/default.htm

ANIMAL MORTALITY PLAN APPENDIX A - SUBSTITUTE SENATE BILL 5602, SECTION 6

NEW SECTION. **Sec. 1)** A new section is added to chapter 70.95 RCW, to be codified after RCW 70.95.305, to read as follows:

(1) By July 1, 2005, the department of ecology and the department of agriculture, in consultation with the department of health, shall make available to livestock producers clearly written guidelines for the composting of bovine and equine carcasses for routine animal disposal.

(2) Composters of bovine and equine carcasses are exempt from the metals testing and permit requirements under the solid waste handling rules for compost that is distributed off-site if the following conditions are met:

(a) The carcasses to be composted are not known or suspected to be affected with a prion-protein disease such as bovine spongiform encephalopathy, a spore-forming disease such as anthrax or other diseases designated by the state veterinarian;

(b) The composter follows the written guidelines provided for in subsection (1) of this section;

(c) The composter does not accept for composting animal mortalities from other sources not directly affiliated with the composter's operation;

(d) The composter provides information to the end-user that includes the source of the material; the quality of the compost as to its nutrient content, pathogens, and stability; and the restrictions on use of the compost as stated in (f) of this subsection;

(e) The composter reports annually to the department the number of bovines and equines and the amounts of other material composted, including the composter's best estimate of the tonnage or yardage involved; and

(f) The end-user applies the compost only to agricultural lands that are not used for the production of root crops except as prescribed in the guidelines and ensures no compost comes into contact with the crops harvested from the lands where the compost is applied.

(3) If a compost production facility does not operate in compliance with the terms and conditions established for an exemption in this section, the facility shall be subject to the permitting requirements for solid waste handling under this chapter.

Sec. 2) RCW 70.95.315 and 1998 c 156 s 7 are each amended to read as follows:

The department may assess a civil penalty in an amount not to exceed one thousand dollars per day per violation to any person exempt from solid waste permitting in accordance with RCW 70.95.300, 70.95.305, or section 6 of this act who fails to comply with the terms and conditions of the exemption. Each such violation shall be a separate and distinct offense, and in the case of a continuing violation, each day's continuance shall be a separate and distinct violation.

ANIMAL MORTALITY PLAN APPENDIX B - ANIMAL DISEASE REPORTING REQUIREMENTS

Chapter 16-70 WAC

Last Update: 3/1/2000

WAC SECTIONS

16-70-005 **Definitions**

16-70-010 **Reporting diseases -- Requirements**

16-70-020 **Reporting diseases -- Not required, requested only**

Dispositions of sections formerly codified in this chapter:

16-70-001 Promulgation. [Order 1005, Promulgation, filed 7/22/66, effective 8/22/66; Order 655, Promulgation, effective 5/19/53.] Repealed by 00-06-064, filed 3/1/00, effective 4/1/00. Statutory Authority: RCW 16.36.010(1), [16.36.]040 and [16.36.]080 (4).

16-70-030 Reporting diseases -- Lists may be modified. [Order 1005, Regulation 5, filed 7/22/66, effective 8/22/66.] Repealed by 00-06-064, filed 3/1/00, effective 4/1/00. Statutory Authority: RCW 16.36.010(1), [16.36.]040 and [16.36.]080(4).

WAC 16-70-005 Definitions

For the purpose of this chapter:

(1) "Animal" means any animal species except fish and insects including all those so classified as wild, captive wild, exotic wild, alternative livestock, semi-domesticated, domestic or farm.

(2) "Domestic animal" means any farm animal raised for the production of food and fiber or companion animal or both.

(3) "Farm animal" means any species which have normally and historically been kept and raised on farms in Washington, the United States, or elsewhere and used or intended for use as food, fiber, breeding, or draft and which may be legally kept for such use in Washington and are not those animals classified as wildlife or deleterious exotic wildlife under Title 77 RCW.

(4) "Alternative livestock" means any species which can be kept or raised on farms and used or intended for use as food, fiber, breeding, or draft and which may be legally kept for use in Washington and are not those animals classified as wildlife or deleterious exotic wildlife under Title 77 RCW.

(5) "Wild animal" means those species of the class Mammalia whose members exist in Washington in a wild state.

(6) "Exotic wild animal" means those species of animals whose members do not exist in the state of Washington but exist elsewhere in the world in the wild state.

(7) "OIE" means Office International des Epizooties.

(8) "Veterinary laboratory" means a place equipped for performing diagnostic or investigative procedures on submitted specimens from animals and fish or their environment where the tests are conducted by personnel whose primary duties are to conduct such procedures.

[Statutory Authority: RCW 16.36.010(1), [16.36.]040 and [16.36.]080 (4). 00-06-064, § 16-70-005, filed 3/1/00, effective 4/1/00. Statutory Authority: RCW 16.36.096 and 16.36.040. 93-19-127 (Order 5011), § 16-70-005, filed 9/21/93, effective 10/22/93.]

WAC 16-70-010 Reporting diseases - Requirements

(1) Any person licensed to practice veterinary medicine in the state of Washington, veterinary laboratories, and others designated by statute shall report to the director the discovery of the existence or suspected existence among any animals within the state any of the reportable diseases as published by the director of agriculture. Case definitions shall conform to OIE standards under the OIE International Animal Health Code where a case means an individual animal affected by one of the infectious or parasitic diseases recognized by OIE, the criterion by which "affected" is defined and made clear in each instance (for example: Clinical signs, serological evidence, etc.). The OIE International Animal Health Code can be found on the internet under OIE-International Standards. The International Animal Health Code is available in web format or a hard copy version may be ordered from OIE. Exceptions to the above standards are as noted in subsection (3) of this section.

(2) The following listed emergency diseases, suspected or confirmed, shall be reported immediately (by telephone or fax on day discovered) to the office of the state veterinarian whenever encountered among animals within the state:

Table B1 - Foreign or eradicated diseases to be reported immediately

All suspected foreign or eradicated diseases including all of the following diseases:

African Horse Sickness
African Swine Fever
Bovine Spongiform Encephalopathy (BSE)
Caprine and Ovine Brucellosis (excluding Brucella ovis)
Classical Swine Fever (Hog Cholera)
Contagious Bovine Pleuropneumonia
Contagious Equine Metritis
Contagious Agalactia
Contagious Caprine Pleuropneumonia
Dourine
Enterovirus Encephalomyelitis (exotic strains)
Epizootic Lymphangitis
Equine Piroplasmosis
Exotic (velogenic and mesogenic strains) Newcastle Disease
Foot and Mouth Disease (all types)
Glanders
Heartwater
Horse Pox
Japanese Encephalitis
Lumpy Skin Disease
Malignant Catarrhal Fever (foreign strain)
Nairobi Sheep Disease
Ovine Pulmonary Adenomatosis
Peste des Petits Ruminants
Rift Valley Fever
Rinderpest
Salmonellosis (Salmonella abortus ovis)
Screwworm
Sheep Pox and Goat Pox
Surra (Trypanosoma evansi)

Theileriasis (Theilera parva, T. annulata and other foreign species)
Trypanosomiasis (Trypanosoma congolense, T. vivax, T. brucei brucei)
Venezuelan Equine Encephalomyelitis
In addition the following foreign fish diseases are reportable to the director through the director of the Washington department of fish and wildlife:
Epizootic Hematopoietic Necrosis
Herpesvirosis of Salmonids (Onchorynchus Masou Virus Disease)
Spring Viremia of Carp
Viral Hemorrhagic Septicemia (European strain)
The following domestic diseases are also reportable immediately:
Anthrax
Fowl Plague (Highly Pathogenic Avian Influenza)
Rabies
Swine Vesicular Disease
Sylvatic plague
Vesicular stomatitis

(3) The following listed diseases suspected or confirmed shall be reported the next working day, by telephone or fax to the office of the state veterinarian whenever encountered among animals within the state. Case definitions are as indicated for each disease.

Table B2 - Suspected/confirmed diseases to be reported the next working day

Brucellosis (positive serology, abortion, or bacterial culture)
Contagious Ecthyma (sheep, goats, llama, alpaca) (clinical signs or virus isolation)
Chronic Wasting Disease (Cervids) (clinical signs, histopathology, or chemical histopathology)
Equine Encephalitis EEE, WEE (horses) (clinical signs, histopathology, or positive serology with increasing titer)
Fowl Typhoid (Salmonella gallinarum) (bacterial culture and positive serology)
Infectious Coryza (poultry) (clinical signs, bacterial culture and positive serology)
Laryngotracheitis (poultry) (clinical signs, viral culture or positive serology)
Lyme Disease (any species) (clinical signs and positive serology)

Ornithosis or Psittacosis (all birds) (bacterial culture, positive serology, or other positive laboratory diagnostic tests)
Pullorum Disease (Salmonella pullorum or typhoid) (bacterial culture and positive serology)
Potomac Horse Fever (horses) (clinical signs and positive serology)
Pseudorabies (swine) (positive serology)
Scrapie (sheep, goats) (clinical signs, histopathology, or chemical histopathology)
Tuberculosis (clinical signs, history of exposure, responder to tuberculin, granulomas submitted as possible tuberculosis lesions, acid fast organisms not identified as Johne's or benign types, bacterial culture positive for M. tuberculosis, M. bovis or M. avium in a mammal, or other laboratory tests diagnostic for M. tuberculosis, M. bovis or M. avium in a mammal)
Tularemia (sheep, dogs, cats, rabbits, wildlife) (clinical signs, serology or bacterial culture)

(4) The following listed diseases are reportable monthly by the fifth working day of the month to the office of the state veterinarian when diagnosed in the previous month by any veterinary laboratory performing testing or diagnostic procedures on any animal resident in the state of Washington. Only the first case of each individual disease diagnosed each month needs to be reported.

The diseases listed below with others listed in subsections (1) and (2) of this section will be reported on a qualitative basis each month to the National Animal Health Reporting System (NAHRS) by the state veterinarian.

Table B3 - Diseases Reportable Monthly

Anaplasmosis
Atrophic Rhinitis
Babesiosis
Bovine Genital Campylobacteriosis
Avian Infectious Bronchitis
Avian Tuberculosis
Caprine Arthritis/Encephalitis (CAE)
Cysticercosis
Dermatophilosis (Dermatophilus congolensis) cattle only
Duck Viral Enteritis
Duck Viral Hepatitis
Bluetongue

Echinococcosis/Hydatidosis
Enzootic Abortion of Ewes (Ovine Psittacosis, Chlamydia psittaci)
Enzootic Bovine Leukosis (BLV)
Equine Influenza (Virus Type A)
Equine Rhinopneumonitis (1 and 4)
Equine Viral Arteritis (EVA)
Fowl Cholera (Pasteurella multocida)
Fowl Pox
Hemorrhagic Septicemia (Pasteurella multocida)
Horse mange
Infectious Bursal Disease (Gumboro Disease)
Infectious Bovine Rhinotracheitis/Infectious Pustular Vulvovaginitis (IBR/IPV)
Infectious Hematopoietic Necrosis (to be reported by fish laboratories)
Leptospirosis
Maedi-Visna/Ovine Progressive Pneumonia
Marek's Disease
Mycoplasmosis (Mycoplasma gallisepticum)
Ovine Epididymitis (Brucella ovis)
Paratuberculosis (Johne's Disease)
Porcine Reproductive and Respiratory Syndrome (PRRS)
Transmissible Gastroenteritis (TGE)
Trichomoniasis
Q Fever (Coxiella burnetti)

(5) The following list of diseases suspected or confirmed by veterinarians or veterinary laboratories shall be reported if notified to do so by letter from the state veterinarian's office whenever encountered in any animals during the reporting month. These diseases are to be reported by the 10th day of the next month. The case definition will be supplied with notification of required reporting.

Table B4 - Diseases to be reported upon notification by state veterinarian’s office

Anaplasmosis

Aleutian disease (mink)
Atrophic rhinitis
Blackleg
Bovine viral diarrhea
Botulism (horses, swine, mink)
Campylobacteriosis
Coccidiosis (clinical cases only)
Distemper (dogs, mink)
Edema disease of swine
Equine protozoal myeloencephalitis
Equine viral arteritis (abortion or respiratory)
Equine viral rhinopneumonia (abortion)
Erysipelas (swine)
Feline panleukopenia
Heartworm
Histoplasmosis
Influenza (swine) (horses)
Leptospirosis
Leukosis (cattle)
Leukemia (cats)
Listeriosis
Malignant edema (horses, cattle)
Malignant catarrhal fever (sheep)
Mycotic stomatitis
Infectious mastitis (cattle) (goats)
Newcastle disease (lentogenic or low pathogenic strain)
Paratuberculosis (Johne's disease, confirmed only)
Parvo and related viruses (dogs)
Salmonellosis (including paratyphoid and enteritidis in poultry typhimurium (DT 104), S. dublin and S. newport in cattle and any salmonella outbreaks in horses)

Scabies (swine and small animals) (nonotodectic)
Strangles (confirmed Strep. equi)
Tetanus (clostridium tetani) (horses) (sheep)
Transmissible mink encephalopathy
Toxoplasmosis
Transmissible gastroenteritis (TGE of swine)
Tuberculosis (dogs, cats)
Trichomoniasis

[Statutory Authority: RCW 16.36.010(1), [16.36.]040 and [16.36.]080 (4). 00-06-064, § 16-70-010, filed 3/1/00, effective 4/1/00. Statutory Authority: RCW 16.36.096 and 16.36.040. 93-19-127 (Order 5011), § 16-70-010, filed 9/21/93, effective 10/22/93; Order 1005, Regulations 1-3, filed 7/22/66, effective 8/22/66; Order 655, Regulation 1, effective 5/19/53.]

WAC 16-70-020 Reporting diseases - Not required, requested only

The state veterinarian may request reports on any other diseases that concern the director from a statistical or survey standpoint associated with overall disease control measures. Any veterinarian may also voluntarily report any other diseases of this nature on the monthly disease report forms as he/she determines they are pertinent to the purposes of the department and advantageous to disease control in the state.

[Statutory Authority: RCW 16.36.096 and 16.36.040. 93-19-127 (Order 5011), § 16-70-020, filed 9/21/93, effective 10/22/93; Order 1005, Regulation 4, filed 7/22/66, effective 8/22/66.]

APPENDIX C - SOLID WASTE REGULATORY CITATIONS

WAC 173-350-040 Performance standards

The owner or operator of all solid waste facilities subject to this chapter shall:

(1) Design, construct, operate, and close all facilities in a manner that does not pose a threat to human health or the environment;

(2) Comply with chapter 90.48 RCW, Water pollution control and implementing regulations, including chapter 173-200 WAC, Water quality standards for ground waters of the state of Washington;

(3) Conform to the approved local comprehensive solid waste management plan prepared in accordance with chapter 70.95 RCW, Solid waste management -- Reduction and recycling, and/or the local hazardous waste management plan prepared in accordance with chapter 70.105 RCW, Hazardous waste management;

(4) Not cause any violation of emission standards or ambient air quality standards at the property boundary of any facility and comply with chapter 70.94 RCW, Washington Clean Air Act; and

(5) Comply with all other applicable local, state, and federal laws and regulations.

[Statutory Authority: Chapter 70.95 RCW 03-03-043 (Order 99-24), § 173-350-040, filed 1/10/03, effective 2/10/03.]

WAC 173-350-220 Composting facilities

(1) COMPOSTING FACILITIES - APPLICABILITY.

(a) This section is applicable to all facilities or sites that treat solid waste by composting. This section is not applicable to:

(i) Composting used as a treatment for dangerous wastes regulated under chapter 173-303 WAC, Dangerous waste regulation;

(ii) Composting used as a treatment for petroleum contaminated soils regulated under WAC 173-350-320;

(iii) Treatment of liquid sewage sludge or biosolids in digesters at wastewater treatment facilities regulated under chapter 90.48 RCW, Water pollution control and chapter 70.95J RCW, Municipal sewage sludge -- Biosolids;

(iv) Treatment of other liquid solid wastes in digesters regulated under WAC 173-350-330; and

(v) Composting biosolids when permitted under chapter 173-308 WAC, Biosolids management.

(b) In accordance with RCW 70.95.305, the operation of the following activities in this subsection are subject solely to the requirements of (c) of this subsection and are exempt from solid waste handling permitting. An owner or operator that does not comply with the terms and conditions of (c) of this subsection is required to obtain a permit from the jurisdictional health department and shall comply with all other applicable requirements of this chapter. In addition, violations of the terms and conditions of (c) of this subsection may be subject to the penalty provisions of RCW 70.95.315.

(i) Production of substrate used solely on-site to grow mushrooms;

(ii) Vermicomposting, when used to process Type 1, Type 2, or Type 3 feedstocks generated on-site;

(iii) Composting of Type 1 or Type 2 feedstocks with a volume limit of forty cubic yards of material on-site at any time. Material on-site includes feedstocks, partially composted feedstocks, and finished compost;

(iv) Composting of food waste generated on-site and composted in containers designed to prohibit vector attraction and prevent nuisance odor generation. Total volume of the containers shall be limited to ten cubic yards or less;

(v) Agricultural composting when all the agricultural wastes are generated on-site and all finished compost is used on-site;

(vi) Agricultural composting when any agricultural wastes are generated off-site, and all finished compost is used on-site, and total volume of material is limited to one thousand cubic yards on-site at any time. Material on-site includes feedstocks, partially composted feedstocks, and finished compost; and

(vii) Agricultural composting at registered dairies when the composting is a component of a fully certified dairy nutrient management plan as required by chapter 90.64 RCW, Dairy Nutrient Management Act.

(viii) Composting of Type 1 or Type 2 feedstocks when more than forty cubic yards and less than two hundred fifty cubic yards of material is on-site at any one time.

(ix) Agricultural composting, when any of the finished compost is distributed off-site and when it meets the following requirements:

(A) More than forty cubic yards, but less than one thousand cubic yards of agricultural waste is on-site at any time; and

(B) Agricultural composting is managed according to a farm management plan written in conjunction with a conservation district, a qualified engineer, or other agricultural professional able to certify that the plan meets applicable conservation practice standards in the WASHINGTON FIELD OFFICE TECHNICAL GUIDE produced by the Natural Resources Conservation Service.

(x) Vermicomposting when used to process Type 1 or Type 2 feedstocks generated off-site. Total volume of materials is limited to one thousand cubic yards on-site at any one time.

(c) Composting operations identified in subsection (b) shall be managed according to the following terms and conditions to maintain their exempt status:

(i) Comply with the performance standards of WAC 173-350-040;

(ii) Protect surface water and ground water through the use of best management practices and all known available and reasonable methods of prevention, control, and treatment as appropriate. This includes, but is not limited to, setbacks from wells, surface waters, property lines, roads, public access areas, and site-specific setbacks when appropriate;

(iii) Control nuisance odors to prevent migration beyond property boundaries;

(iv) Manage the operation to prevent attraction of flies, rodents, and other vectors;

(v) Conduct an annual analysis, prepared in accordance with the requirements of subsection (4)(a)(viii) of this section, for composted material that is distributed off-site from categorically exempt facilities described in subsection (1)(b)(vii) through (ix) of this section.

(vi) Prepare and submit an annual report to the department and the jurisdictional health department by April 1st for categorically exempt facilities described in subsection (1)(b)(vii) through (ix) of this section. Annual reports are not required for facilities operating under the permit exemption provided in (b)(vii) of this subsection if the composted material is not distributed off-site. The annual report shall be on forms supplied by the department and shall detail facility activities during the previous calendar year and shall include the following information:

(A) Name and address of the facility;

(B) Calendar year covered by the report;

(C) Annual quantity and type of feedstocks received and compost produced, in tons;

(D) Annual quantity of composted material sold or distributed, in tons;

(E) Results of the annual analysis of composted material required by subsection (1)(c)(v) of this section; and

(F) Any additional information required by written notification of the department.

(vii) Allow the department or the jurisdictional health department to inspect the site at reasonable times;

(viii) For activities under (b)(viii) through (x) of this subsection, and registered dairies where compost is distributed off-site, the department and jurisdictional health department shall be notified in writing thirty days prior to beginning any composting activity. Notification shall include name of owner or operator, location of composting operation and identification of feedstocks.

(2) COMPOSTING FACILITIES - LOCATION STANDARDS. There are no specific location standards for composting facilities subject to this chapter; however, composting facilities must meet the requirements provided under WAC 173-350-040(5).

(3) COMPOSTING FACILITIES - DESIGN STANDARDS. The owner or operator of a composting facility shall prepare engineering reports/plans and specifications, including a construction quality assurance plan, to address the design standards of this subsection. Scale drawings of the facility including the location and size of feedstock and finished product storage areas, compost processing areas, fixed equipment, buildings, leachate collection devices, access roads and other appurtenant facilities; and design specifications for compost pads, storm water run-on prevention system, and leachate collection and conveyance systems shall be provided. All composting facilities shall be designed and constructed to meet the following requirements:

(a) When necessary to provide public access, all-weather roads shall be provided from the public highway or roads to and within the compost facility and shall be designed and maintained to prevent traffic congestion, traffic hazards, dust and noise pollution;

(b) Composting facilities shall separate storm water from leachate by designing storm water run-on prevention systems, which may include covered areas (roofs), diversion swales, ditches or other designs to divert storm water from areas of feedstock preparation, active composting and curing;

(c) Composting facilities shall collect any leachate generated from areas of feedstock preparation, active composting and curing. The leachate shall be conveyed to a leachate holding pond, tank or other containment structure. The leachate holding structure shall be of adequate capacity to collect the amount of leachate generated, and the volume calculations shall be based on the facility design, monthly water balance, and precipitation data. Leachate holding ponds and tanks shall be designed according to the following:

(i) For leachate ponds at registered dairies, the design and installation shall meet Natural Resources Conservation Service standards for a waste storage facility in the *Washington Field Office Technical Guide*.

(ii) For leachate ponds at composting facilities other than registered dairies, the pond shall be designed to meet the following requirements:

(A) Have a liner consisting of a minimum 30-mil thickness geomembrane overlying a structurally stable foundation to support the liners and the contents of the impoundment. High density polyethylene geomembranes used as primary liners or leak detection liners shall be at least 60-mil thick to allow for proper welding. The jurisdictional health department may approve the use of alternative designs if the owner or operator can demonstrate during the permitting process that the proposed design will prevent migration of solid waste constituents or leachate into the ground or surface waters at least as effectively as the liners described in this subsection;

(B) Have dikes and slopes designed to maintain their structural integrity under conditions of a leaking liner and capable of withstanding erosion from wave action, overfilling, or precipitation;

(C) Have freeboard equal to or greater than eighteen inches to avoid overtopping from wave action, overfilling, or precipitation. The jurisdictional health department may reduce the freeboard requirement provided that other engineering controls are in place which prevent overtopping. These engineering controls shall be specified during the permitting process;

(D) Leachate ponds that have the potential to impound more than ten-acre feet (three million two hundred fifty-nine thousand gallons) of liquid measured from the top of the dike and which would be released by a failure of the containment dike shall be reviewed and approved by the dam safety section of the department.

(iii) Tanks used to store leachate shall meet design standards in WAC 173-350-330 (3)(b).

(d) Composting facilities shall be designed with process parameters and management procedures that promote an aerobic composting process. This requirement is not intended to mandate forced aeration or any other specific composting technology. This requirement is meant to ensure that compost facility designers take into account porosity, nutrient balance, pile oxygen, pile moisture, pile temperature, and retention time of composting when designing a facility.

(e) Incoming feedstocks, active composting, and curing materials shall be placed on compost pads that meet the following requirements:

(i) All compost pads shall be curbed or graded in a manner to prevent ponding, run-on and runoff, and direct all leachate to collection devices. Design calculations shall be based upon the volume of water resulting from a twenty-five-year storm event as defined in WAC 173-350-100;

(ii) All compost pads shall be constructed over soils that are competent to support the weight of the pad and the proposed composting materials;

(iii) The entire surface area of the compost pad shall maintain its integrity under any machinery used for composting activities at the facility; and

(iv) The compost pad shall be constructed of materials such as concrete (with sealed joints), asphaltic concrete, or soil cement to prevent subsurface soil and ground water contamination;

(v) The jurisdictional health department may approve other materials for compost pad construction if the permit applicant is able to demonstrate that the compost pad will meet the requirements of this subsection.

(4) COMPOSTING FACILITIES - OPERATING STANDARDS. The owner or operator of a composting facility shall:

(a) Operate the facility to:

(i) Control dust, nuisance odors, and other contaminants to prevent migration of air contaminants beyond property boundaries;

(ii) Prevent the attraction of vectors;

(iii) Ensure that only feedstocks identified in the approved plan of operation are accepted at the facility;

(iv) Ensure the facility operates under the supervision and control of a properly trained individual during all hours of operation, and access to the facility is restricted when the facility is closed;

(v) Ensure facility employees are trained in appropriate facility operations, maintenance procedures, and safety and emergency procedures according to individual job duties and according to an approved plan of operation;

(vi) Implement and document pathogen reduction activities when Type 2, 3 or 4 feed stocks are composted. Documentation shall include compost pile temperature and notation of turning as appropriate, based on the composting method used. Pathogen reduction activities shall at a minimum include the following:

(A) In vessel composting - the temperature of the active compost pile shall be maintained at fifty-five degrees Celsius (one hundred thirty-one degrees Fahrenheit) or higher for three days; or

(B) Aerated static pile - the temperature of the active compost pile shall be maintained at fifty-five degrees Celsius (one hundred thirty-one degrees Fahrenheit) or higher for three days; or

(C) Windrow composting - the temperature of the active compost pile shall be maintained at fifty-five degrees Celsius (one hundred thirty-one degrees Fahrenheit) or higher for fifteen days or longer. During the period when the compost is maintained at fifty-five degrees Celsius (one hundred thirty-one degrees Fahrenheit) or higher, there shall be a minimum of five turnings of the windrow; or

(D) An alternative method that can be demonstrated by the owner or operator to achieve an equivalent reduction of human pathogens;

(vii) Monitor the composting process according to the plan of operation submitted during the permitting process. Monitoring shall include inspection of incoming loads of feed stocks and pathogen reduction requirements of (a)(vi) of this subsection; and

(viii) Analyze composted material for:

(A) Metals in Table A at the minimum frequency listed in Table C. Compost facilities composting only Type 1 and Type 2 feed stocks are not required to test for molybdenum and selenium. Testing frequency is based on the feedstock type and the volume of feed stocks processed per year;

(B) Parameters in Table B at the minimum frequency listed in Table C. Testing frequency is based on the feedstock type and the volume of feed stocks processed per year;

(C) Nitrogen content at the minimum frequency listed in Table C; and

(D) Biological stability as outlined in United States Composting Council Test Methods for the Examination of Composting and Compost at the minimum frequency listed in Table C;

(E) The jurisdictional health department may require testing of additional metal or contaminants, and/or modify the frequency of testing based on historical data for a particular facility, to appropriately evaluate the composted material.

Table A - Metals

Metal	Limit (mg/kg dry weight)
Arsenic	< = 20 ppm
Cadmium	< = 10 ppm
Copper	< = 750 ppm
Lead	< = 150 ppm
Mercury	< = 8 ppm
Molybdenum[1]	< = 9 ppm
Nickel	< = 210 ppm
Selenium[1]	< = 18 ppm
Zinc	< = 1400 ppm

[1]Not required for composted material made from Type 1, Type 2 or a mixture of Type 1 and Type 2 feed stocks.

Table B - Other Testing Parameters

Parameter	Limit
Manufactured Inerts	< 1 percent
Sharps	0
pH	5 - 10 (range)
Fecal Coliform	< 1,000 Most Probable Number per gram of total solids (dry weight)
Salmonella	< 3 Most Probable Number per 4 grams of total solids (dry weight)

Table C - Frequency of Testing Based on Feedstocks Received

Feedstock Type	< 5,000 cubic yards	= or > 5,000 cubic yards
Type 1 or Type 2	Once per year	Every 10,000 cubic yards or every six months whichever is more frequent
Type 3	Once per quarter (four times per year)	Every 5,000 cubic yards or every other month whichever is more frequent
Type 4	Every 1,000 cubic yards	Every 1,000 cubic yards or once per month whichever is more frequent

(b) Inspect the facility to prevent malfunctions and deterioration, operator errors and discharges, which may cause or lead to the release of waste to the environment or a threat to human health. Inspections shall be conducted at least weekly, unless an alternate schedule is approved by the jurisdictional health department as part of the permitting process. For compost facilities with leachate holding ponds, conduct regular liner inspections at least once every five years, unless an alternate schedule is approved by the jurisdictional health department as part of the permitting process. The frequency of inspections shall be specified in the operations plan and shall be based on the type of liner, expected service life of the material, and the site-specific service conditions. The jurisdictional health department shall be given sufficient notice and have the opportunity to be present during liner inspections. An inspection log or summary shall be kept at the facility or other convenient location if permanent office facilities are not on-site, for at least five years from the date of inspection. Inspection records shall be available to the jurisdictional health department upon request.

(c) Maintain daily operating records of the following:

(i) Temperatures and compost pile turnings for Type 2, Type 3, and Type 4 feedstocks;

(ii) Additional process monitoring data as prescribed in the plan of operation; and

(iii) Results of laboratory analyses for composted materials as required in (a)(viii) of this subsection. Facility inspection reports shall be maintained in the operating record. Significant deviations from the plan of operation shall be noted in the operating record. Records shall be kept for a minimum of five years and shall be available upon request by the jurisdictional health department.

(d) Prepare and submit a copy of an annual report to the jurisdictional health department and the department by April 1st on forms supplied by the department. The annual report shall detail the facility's activities during the previous calendar year and shall include the following information:

(i) Name and address of the facility;

(ii) Calendar year covered by the report;

(iii) Annual quantity and type of feedstocks received and compost produced, in tons;

(iv) Annual quantity of composted material sold or distributed, in tons;

(v) Annual summary of laboratory analyses of composted material; and

(vi) Any additional information required by the jurisdictional health department as a condition of the permit.

(e) Develop, keep and abide by a plan of operation approved as part of the permitting process. The plan of operation shall convey to site personnel the concept of operation intended by the designer. The plan of operation shall be available for inspection at the request of the jurisdictional health department. If necessary, the plan shall be modified with the approval, or at the direction of the jurisdictional health department. Each plan of operation shall include the following:

(i) List of feedstocks to be composted, including a general description of the source of feedstocks;

(ii) A description of how wastes are to be handled on-site during the facility's active life including:

(A) Acceptance criteria that will be applied to the feedstocks;

(B) Procedures for ensuring that only the waste described will be accepted;

(C) Procedures for handling unacceptable wastes;

(D) Mass balance calculations for feedstocks and amendments to determine an acceptable mix of materials for efficient decomposition;

(E) Material flow plan describing general procedures to manage all materials on-site from incoming feedstock to finished product;

(F) A description of equipment, including equipment to add water to compost as necessary;

(G) Process monitoring plan, including temperature, moisture, and porosity;

(H) Pathogen reduction plan for facilities that accept Type 2, Type 3, and Type 4 feedstocks;

(I) Sampling and analysis plan for the final product;

(J) Nuisance odor management plan (air quality control plan);

(K) Leachate management plan, including monthly water balance; and

(L) Storm water management plan;

(iii) A description of how equipment, structures and other systems are to be inspected and maintained, including the frequency of inspections and inspection logs;

(iv) A neighbor relations plan describing how the owner or operator will manage complaints;

(v) Safety, fire and emergency plans;

(vi) Forms for recordkeeping of daily weights or volumes of incoming feedstocks by type and finished compost product, and process monitoring results; and

(xvii) Other such details to demonstrate that the facility will be operated in accordance with this subsection and as required by the jurisdictional health department.

(5) COMPOSTING FACILITIES - GROUND WATER MONITORING REQUIREMENTS. There are no specific ground water monitoring requirements for composting facilities subject to this chapter; however, composting facilities must meet the requirements provided under WAC 173-350-040(5).

(6) COMPOSTING FACILITIES - CLOSURE REQUIREMENTS. The owner or operator of a composting facility shall:

(a) Notify the jurisdictional health department sixty days in advance of closure. At closure, all solid waste, including but not limited to, raw or partially composted feedstocks, and leachate from the facility shall be removed to another facility that conforms with the applicable regulations for handling the waste.

(b) Develop, keep and abide by a closure plan approved by the jurisdictional health department as part of the permitting process. At a minimum, the closure plan shall include methods of removing solid waste materials from the facility.

(7) COMPOSTING FACILITIES - FINANCIAL ASSURANCE REQUIREMENTS. There are no specific financial assurance requirements for composting facilities subject to this chapter; however, composting facilities must meet the requirements provided under WAC 173-350-040(5).

(8) COMPOSTING FACILITIES - PERMIT APPLICATION CONTENTS. The owner or operator of a composting facility shall obtain a solid waste permit from the jurisdictional health department. All applications for permits shall be submitted in accordance with the procedures established in WAC. In addition to the requirements of WAC 173-350-710 and 173-350-715, each application for a permit shall contain:

(a) Engineering reports/plans and specifications that address the design standards of subsection (3) of this section;

(b) A plan of operation meeting the requirements of subsection (4) of this section; and

(c) A closure plan meeting the requirements of subsection (6) of this section.

(9) COMPOSTING FACILITIES - CONSTRUCTION RECORDS. The owner or operator of a composting facility shall provide copies of the construction record drawings for engineered facilities at the site and a report documenting facility construction, including the results of observations and testing carried out as part of the construction quality assurance plan, to the jurisdictional health department and the department. Facilities shall not commence operation until the jurisdictional health department has determined that the construction was completed in accordance with the approved engineering report/plans and specifications and has approved the construction documentation in writing.

(10) COMPOSTING FACILITIES - DESIGNATION OF COMPOSTED MATERIALS. Composted materials meeting the limits for metals in Table A and the parameters of Table B of this section, and having a stability rating of very stable, stable, or moderately unstable as determined by the analysis required in subsection (4)(a)(viii)(D) of this section, shall no longer be considered a solid waste and shall no longer be subject to this chapter. Composted materials that do not meet these limits are still considered solid waste and are subject to management under chapter 70.95 RCW, Solid waste management -- Reduction and recycling.

[Statutory Authority: Chapter 70.95 RCW. 03-03-043 (Order 99-24), § 173-350-220, filed 1/10/03, effective 2/10/03.]

APPENDIX D - ADDITIONAL RESOURCES

BASICS OF COMPOSTING

Action On Waste: The Composting Process- Fundamental Principles (PDF)
http://www.compost.org/pdf/sheet_1.PDF

NRAES Publications and Resources
http://www.nraes.org/publications/composting.html

LIVESTOCK COMPOSTING

Minnesota Department of Agriculture - Composting Animal Mortalities (PDF)
http://www.mda.state.mn.us/composting/compostguide.pdf

University of Maryland - Composting Animal Mortalities on the Farm
http://www.agnr.umd.edu/ces/pubs/pdf/FS717.pdf

Clemson University Extension
http://www.clemson.edu/camm/Camm_d/contents.htm

Penn State - Composting Research and Cooperative Extension
http://composting.cas.psu.edu/NatRendering.htm

Cornell Waste Management Institute - Cornell Composting - The Science and Engineering of Composting
http://compost.css.cornell.edu/science.html

Ontario (Canada) Agriculture and Food - On-Farm Composting of Livestock and Poultry
http://www.gov.on.ca/OMAFRA/english/livestock/deadstock/facts/03-083.htm

Iowa State University - Composting Dead Livestock: A new solution to an old problem
http://www.leopold.iastate.edu/pubs/other/files/SA8.pdf

Saskatchewan Agriculture, Food, and Rural Revitalization - Composting Animal Mortalities
http://www.agr.gov.sk.ca/docs/livestock/beef/production_information/CompostingAnimalMortalities.pdf

US Department of Agriculture - NRCS Practice Standards for Animal Mortality Facility, # 316
http://efotg.nrcs.usda.gov/references/public/AL/tg316.pdf

US Department of Agriculture – NRCS - Part 637, Environmental Engineering, National Engineering Handbook, Chapter 2-Composting
http://www.info.usda.gov/CED/ftp/CED/neh637-ch02.pdf

Colorado State University, Dairy Cow Necropsy Manual
http://www.cvmbs.colostate.edu/ilm/necropsy/_notes/composting.htm

Alberta (Canada) Department of Agriculture, Food, and Rural Development, On-Farm Composting: Animal Mortality Composting
http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sag2147

Iowa State University - Department of Agricultural and Biosystems Engineering
http://www.abe.iastate.edu/cattlecomposting/overview.asp

CATTLE COMPOSTING

Iowa State University - Department of Agricultural and Biosystems Engineering - Draft Guidelines for Emergency Composting of Cattle Mortalities
http://www.abe.iastate.edu/cattlecomposting/guidelines/Guidelines%20for%20Emergency%20Cattle%20Composting3_2.pdf

On-Farm Disposal of Large Dead Stock in Manitoba (Canada) (PDF)
http://www.gov.mb.ca/conservation/regoperations/livestock/pdf/large-carcass-composting-fs.pdf

Airport Area Disaster Debris Site:

OK next to the old pallet company – could even place in the road ROW to the east. (on Falcon Road ROW).

County owns the property.

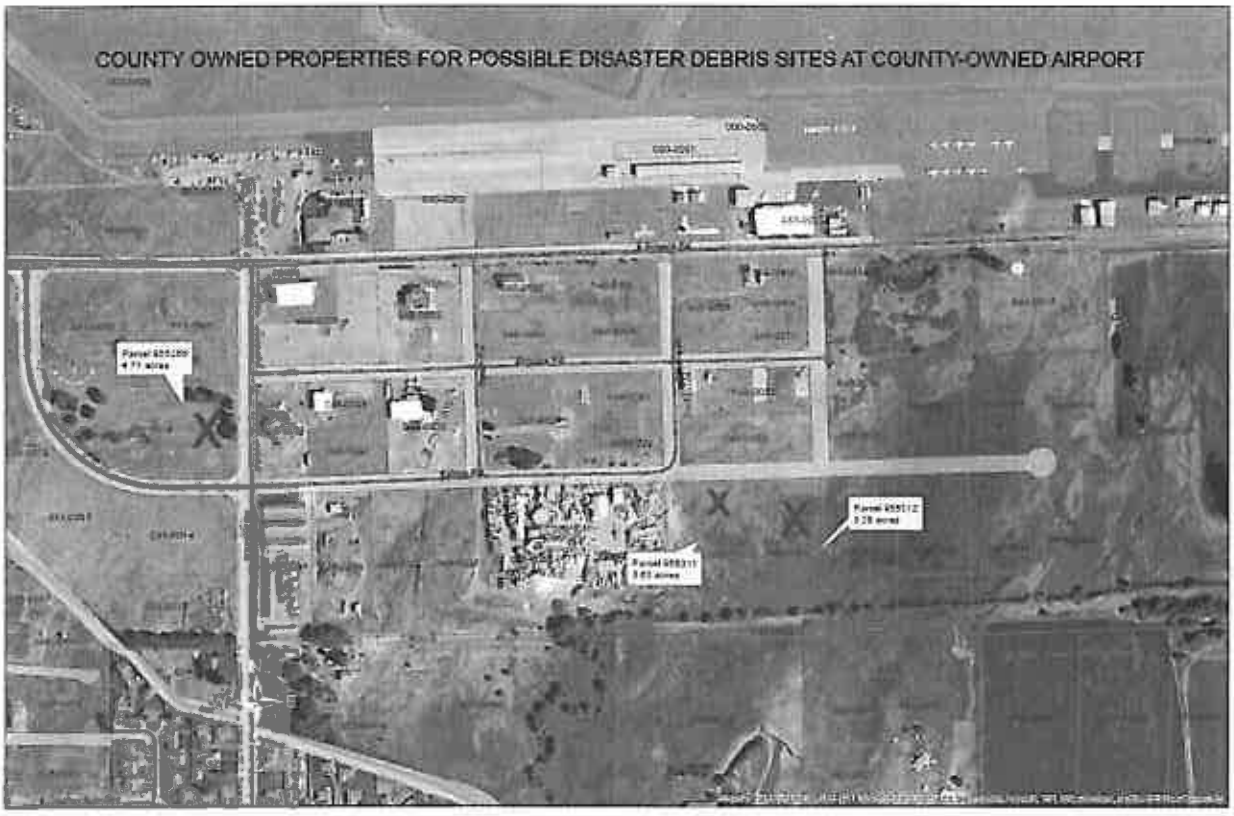
Debris Management Site: Site Preparation Check List

GENERAL INFORMATION	
Date of Review	**County Region** ☐ SW ☐ SE ☐ Central ☐ E ☐ NE ☐ NW
Name of Facility **Kittitas County Airport**	**Facility Type** ☐ Storage ☐ Recycling ☐ Sorting ☐ Disposal
Site Address	**Zoning, Site Preconditions** **Light Industrial with Airport Overlay Zone**
Existing Permits ☐ Discharge ☐ Solid Waste ☐ PSCAA ☐ Land or Conditional Use	**Required Permits** ☐ Discharge ☐ Solid Waste ☐ PSCAA ☐ Land or Conditional Use

SITE LAYOUT AND DESIGN	
Access Routes (Major Streets and Highways) 1. Bowers Road 2. Airport Road 3. Bowers Busienss Loop	**Accessibility** ☐ Site has an entrance gate ☐ Site has a surrounding fence
Access Road Conditions ☐ Asphalt or concrete pavement ☐ Gravel road ☐ Dirt road	**Operational Surface** ☐ impervious surface (asphalt or concrete) ☐ Gravel surface ☐ Dirt
Track out ☐ Wheel wash in place to prevent track out	**Containment** ☐ leachate control in place
Grinder Type (type) ☐ wood debris ☐ concrete ☐ mixed	**Monitoring Tower** ☐ present

OPERATION				
Type	**Equipment**			
☐ Sorting and Recycling	☐ Front loader	☐ Tub Grinder	☐	☐
☐ Storage	☐	☐	☐	☐
☐ Collection	☐	☐	☐	☐
☐ Disposal	☐	☐	☐	☐

ENVIRONMENTAL HEALTH			
Sanitary Facilities	**Drinking Water** ☐ Public Water ☐ Well		**Waste Water** ☐ Sewer ☐ Septic
Water Quality	**Collection** ☐ under ground ☐ surface	**Treatment** ☐ onsite ☐ off site	**Discharge** ☐ onsite ☐ off site
Air Emissions	**Odor control in place** ☐ yes ☐ no		**Particulates** ☐ grinding ☐ burning
Noise	**Hours of Operation** ☐ week days		☐ weekends
Safety	**Fire Control** ☐ yes, in place ☐ no, to be set up		




COUNTY OWNED PROPERTIES FOR POSSIBLE DISASTER DEBRIS SITES AT COUNTY-OWNED AIRPORT
Parcel 955266
4.71 acres
Parcel 955312
3.28 acres
Parcel 955311
3.63 acres
N
W
E
S

Elk Heights Pit

1751 Elk Heights Road

Disaster Debris Site:

Stockpile 4 ecology blocks, then when needed, dig a pit for debris.

Debris Management Site: Site Preparation Check List

GENERAL INFORMATION	
Date of Review **February, 2014**	**County Region** ☐ SW ☐ SE X Central ☐ E ☐ NE ☐ NW
Name of Facility **Elk Heights Pit**	**Facility Type** X Storage ☐ Recycling ☐ Sorting ☐ Disposal
Site Address 1751 Elk Heights Road	**Zoning, Site Preconditions** **Forest & Range**
Existing Permits ☐ Discharge ☐ Solid Waste ☐ PSCAA X Land or Conditional Use	**Required Permits** ☐ Discharge ☐ Solid Waste ☐ PSCAA ☐ Land or Conditional Use

SITE LAYOUT AND DESIGN	
Access Routes (Major Streets and Highways) 1. Elk Heights Road 2. Interstate 90 3. Thorp Prairie Road	**Accessibility** X Site has an entrance gate XSite has a surrounding fence
Access Road Conditions ☐ Asphalt or concrete pavement X Gravel road ☐ Dirt road	**Operational Surface** ☐ impervious surface (asphalt or concrete) X Gravel surface ☐ Dirt
Track out ☐ Wheel wash in place to prevent track out	**Containment** ☐ leachate control in place
Grinder Type (type) ☐ wood debris ☐ concrete ☐ mixed	**Monitoring Tower** ☐ present

OPERATION				
Type	**Equipment**			
☐ Sorting and Recycling	☐ Front loader	☐ Tub Grinder	☐	☐
☐ Storage	☐	☐	☐	☐
☐ Collection	☐	☐	☐	☐
☐ Disposal	☐	☐	☐	☐

ENVIRONMENTAL HEALTH			
Sanitary Facilities	**Drinking Water** ☐ Public Water ☐ Well		**Waste Water** ☐ Sewer ☐ Septic
Water Quality	**Collection** ☐ under ground ☐ surface	**Treatment** ☐ onsite ☐ off site	**Discharge** ☐ onsite ☐ off site
Air Emissions	**Odor control in place** ☐ yes ☐ no		**Particulates** ☐ grinding ☐ burning
Noise	**Hours of Operation** ☐ week days		☐ weekends
Safety	**Fire Control** ☐ yes, in place ☐ no, to be set up		

DMS Site Inventory

Site Name: Elk Heights Pit
Site Address: 1751 Elk Heights Road **Site Coordinates:** N
Estimated Property **Size:** 8.33 acres W

Site Owner: Kittitas County Public Works
Ownership Type: ☐ Jurisdiction Property X County Property ☐ Private Property
☐ Other (describe)
Owner Address: 411 N Ruby St Suite 1 Ellensburg WA
Owner Phone: 509-962-7523
Owner Email:

Site and Neighboring Properties Characterization

Characteristic	Comments
Current Use	Rock pit
Proposed Future Land Use	same
Current Land use/Zoning	Forest & Range
Restoration Time Requirements	
Proximity to School, Church, or Community Center	NO
Property Topography	flat
Environmental Considerations	
Open Water or Wetlands	NO
Ground Water Wells	NO
Within 100-year floodplain	NO
Soil/Slope Integrity	
Surface Water Drainage	Good
Suitable for use in wet weather	YES
Prevailing Wind Direction	
Brownfield Site	NO
Superfund Site	NO
Archeological or Historic Properties or Artifacts	NO
Underground Utilities (water, wastewater, natural gas, electricity)	NO
Noise Control Buffer	Adjacent to I-90 – not necessary
Adjacent to Airport/Airfield	NO
Access to Electrical Service	
Access to Water Service	
Access to Sewer Service	
Existing Lighting	
Traffic Ingress/Egress Capacity	Good
Capable of Accepting Heavy Trucks (site and neighboring roads)	YES
Proximity to Major Roadway	YES
Fencing and Other Security Features	YES

Site Preparation Level of Effort ☐ High ☐ Medium X Low
Suitability to Wet Weather X High ☐ Medium ☐ Low

Ability to Serve Spatial Area XHigh ☐ Medium ☐ Low

List Jurisdictions that could utilize this site:

Closest Landfill Available to This Site: Ryegrass Landfill

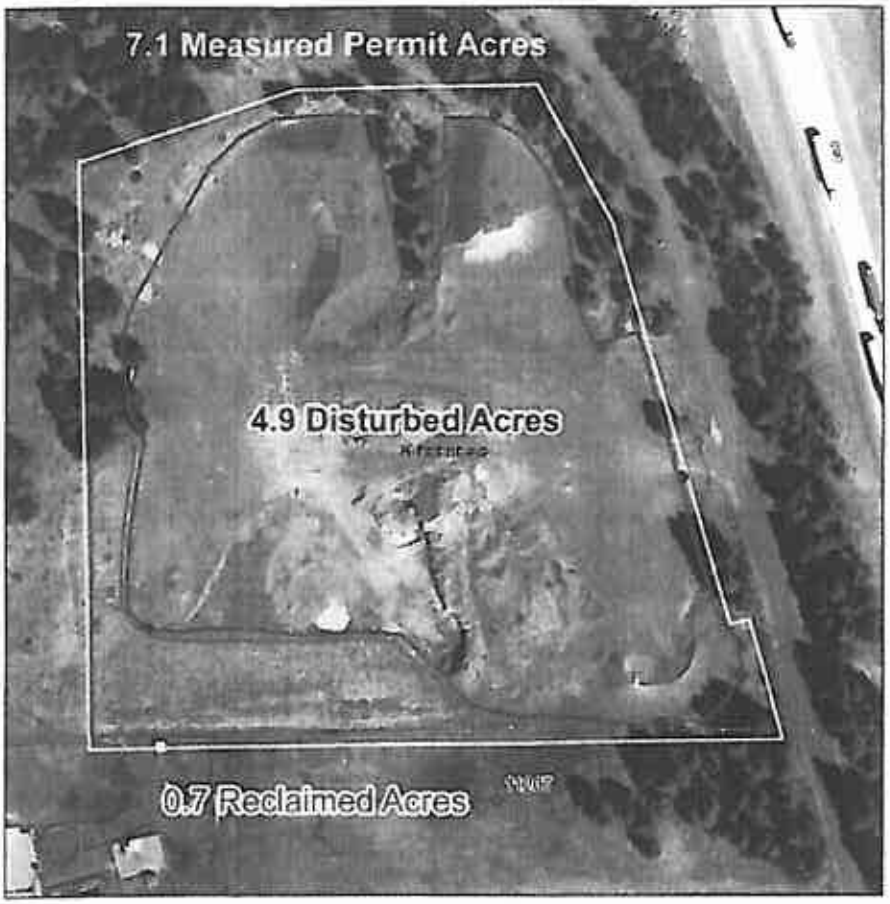
Recommended Uses for This Site:
X C&D
X Vegetative
☐ White Goods
☐ Hazardous Waste
☐ Other (describe)

Reduction Methods Acceptable for This Site: ☐ Open Burning ☐ Incineration ☐ Grinding

Site Map:

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark Commissioner of Public Lands

Aerial Photograph Report



Permit # 70-011207

Kittitas County Public Works --
PS-C-56 Elk Heights

Inspected 10/25/2012
by Coire McCabe

Legend

- permit boundary
- air photo disturbed area
- field disturbed area
- reclaimed area
- proposed

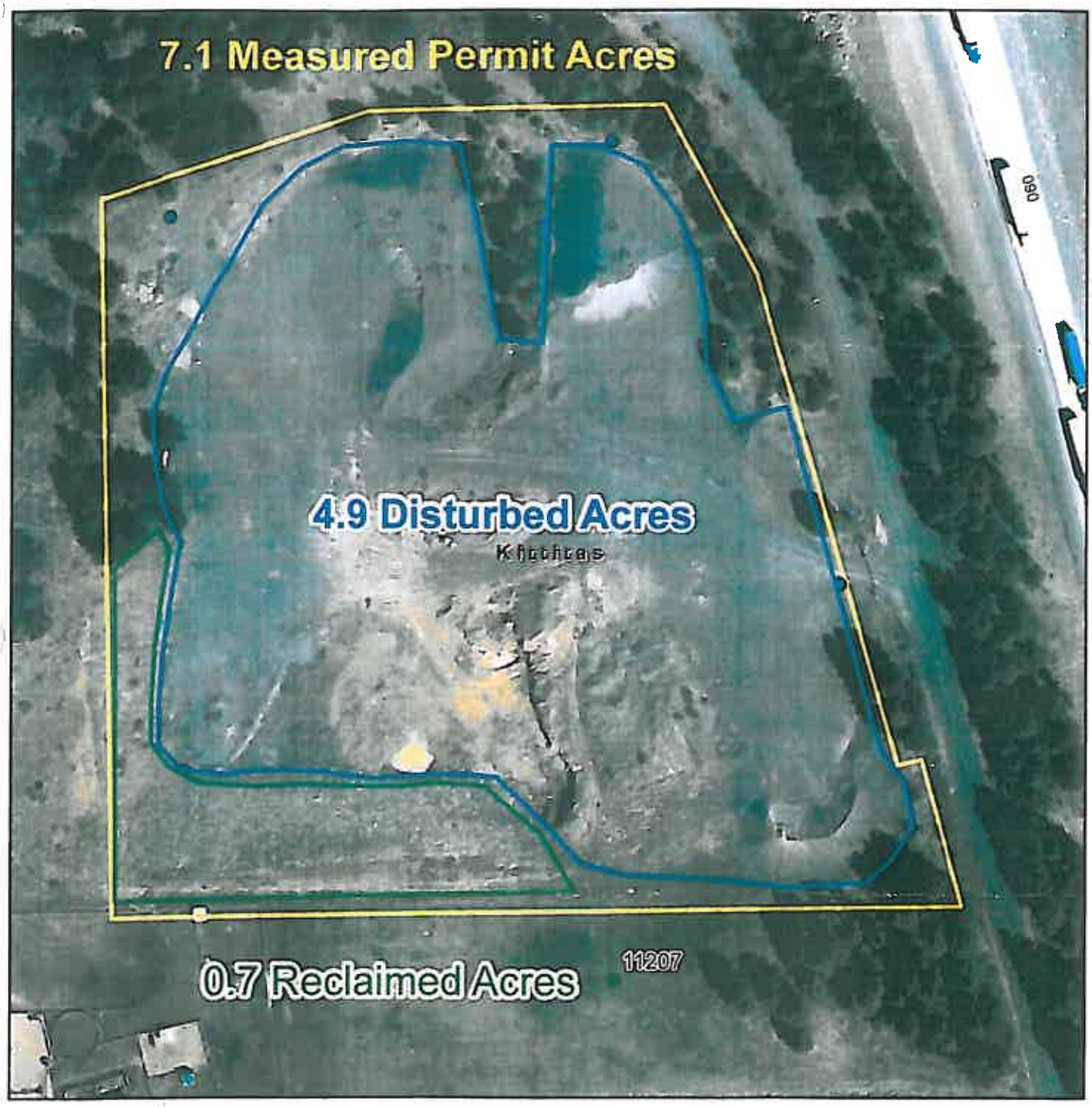
Photo Date: May 4, 2011

N

0 30 60 120 180 240 Feet

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

Aerial Photograph Report



Permit # 70-011207

Kittitas County Public Works --
PS-C-56 Elk Heights

Inspected 10/25/2012
by: Coire McCabe

Legend

- permit boundary
- air photo disturbed area
- field disturbed area
- reclaimed area
- proposed

Photo Date: May 4, 2011

N

0 30 60 120 180 240
Feet


SITE OFF ELK HEIGHTS ROAD
Parcel 337234
8.33 acres
040-0010
040-0011
040-0003
040-0018
040-0007
040-0021
040-0027
040-0025
040-0024
040-0016
Elk Heights Rd
I 90 E
I 90 W
Thorp Prairie Rd
Elk Pond Rd
N
W
E
S

DMS Site Inventory

Site Name: **Ellensburg Transfer Station**
Site Address: 1001 Industrial Way, Ellensburg **Site Coordinates:** **N**
Estimated Property Size: 15+ acres **W**

Site Owner:
Ownership Type: ☐ Jurisdiction Property ☐ County Property ☐ Private Property
X Other (describe) City of Ellensburg
Owner Address: 501 N. Anderson ST Ellensburg WA 98926
Owner Phone: **509-962-7204**
Owner Email:

Site and Neighboring Properties Characterization

Characteristic	Comments
Current Use	Waste transfer station
Proposed Future Land Use	same
Current Land use/Zoning	Incorporated City
Restoration Time Requirements	
Proximity to School, Church, or Community Center	N/A
Property Topography	Flat
Environmental Considerations	
Open Water or Wetlands	
Ground Water Wells	
Within 100-year floodplain	YES
Soil/Slope Integrity	
Surface Water Drainage	
Suitable for use in wet weather	Yes
Prevailing Wind Direction	
Brownfield Site	No
Superfund Site	No
Archeological or Historic Properties or Artifacts	N/A
Underground Utilities (water, wastewater, natural gas, electricity)	YES
Noise Control Buffer	
Adjacent to Airport/Airfield	No
Access to Electrical Service	Yes
Access to Water Service	Yes
Access to Sewer Service	Yes
Existing Lighting	Yes
Traffic Ingress/Egress Capacity	
Capable of Accepting Heavy Trucks (site and neighboring roads)	Yes
Proximity to Major Roadway	Yes
Fencing and Other Security Features	Yes

Site Preparation Level of Effort ☐ High ☐ Medium X Low
Suitability to Wet Weather ☐ High ☐ Medium ☐ Low

Ability to Serve Spatial Area X High ☐ Medium ☐ Low

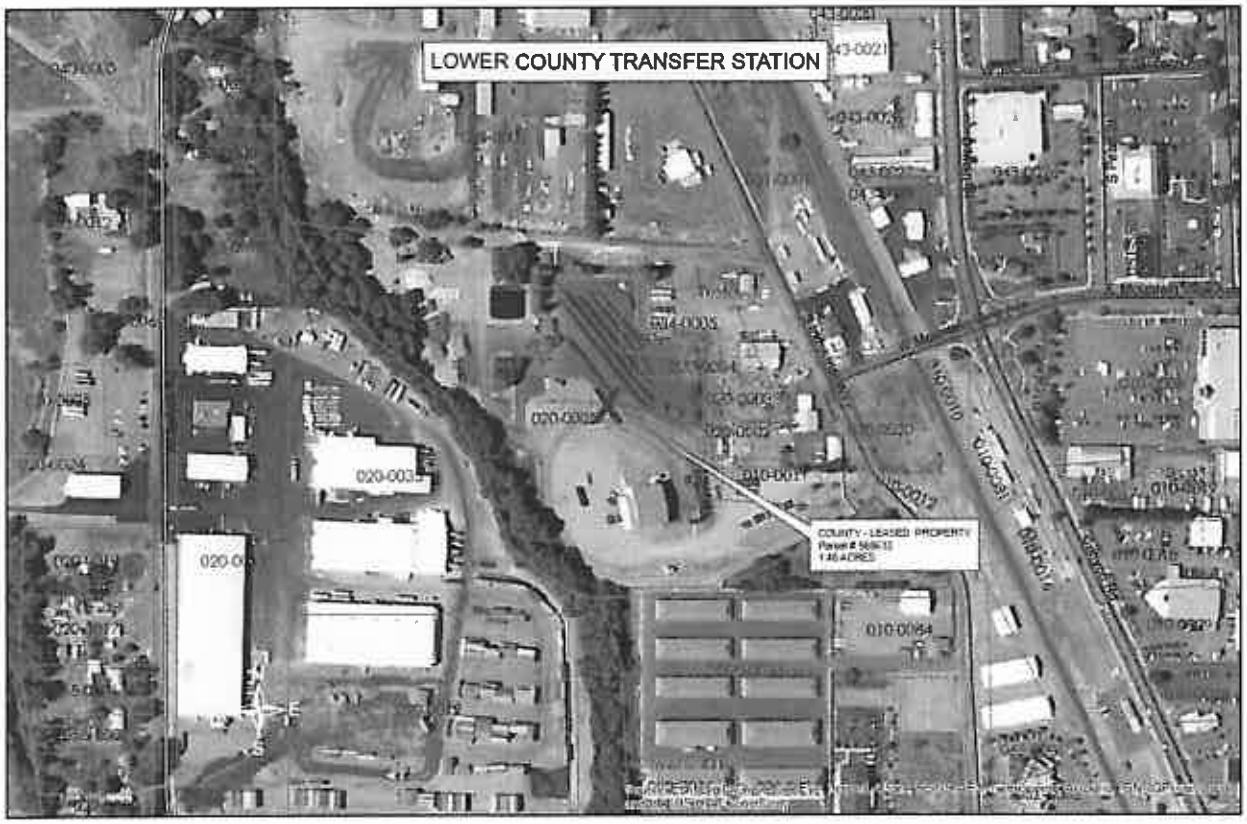
List Jurisdictions that could utilize this site:
Cities of Ellensburg, Kittitas, Thorp area and unicorporated Lower County areas.

Closest Landfill Available to This Site: Ryegrass Landfill

Recommended Uses for This Site:
X C&D
X Vegetative
X White Goods
☐ Hazardous Waste
☐ Other (describe)

Reduction Methods Acceptable for This Site: ☐ Open Burning ☐ Incineration ☐ Grinding

Site Map:




LOWER COUNTY TRANSFER STATION
COUNTY - LEASED PROPERTY
Parcel # 568633
1.46 ACRES
W Jackson Ave
E Jackson Ave
S Main St
S Peal St
E Mountain View Ave
W Mountain View Ave
S Industrial Way
Canyon Rd
040-0003
043-0020
043-0021
043-0022
043-0027
043-0026
034-0001
034-0005
020-0004
020-0003
020-0002
020-0005
020-0035
020-0024
020-0025
020-0012
010-0011
010-0030
010-0010
010-0081
010-0012
010-0016
010-0084
010-0008
010-0017
010-0019
010-0018
N
S
E
W

DMS Site Inventory

Site Name: Cle Elum Transfer Station
Site Address: #50 No. 5 Mine Road, Cle Elum **Site Coordinates:** N
Estimated Property **Size:** 11.13 acres W

Site Owner: Kittitas County Solid Waste
Ownership Type: ☐ Jurisdiction Property X County Property ☐ Private Property

☐ Other (describe)

Owner Address: 925 INDUSTRAIL WAY ELLENSBURG WA 98926
Owner Phone: **509-962-7542**
Owner Email: **Patti Johnson** **patti.johnson@co.kittitas.wa.us**

Site and Neighboring Properties Characterization

Characteristic	Comments
Current Use	SOLID WASTE TRANSFER STATION
Proposed Future Land Use	SAME
Current Land use/Zoning	URBAN RESIDENTAL & RURAL RECREATION
Restoration Time Requirements	
Proximity to School, Church, or Community Center	N/A
Property Topography	FLAT
Environmental Considerations	
Open Water or Wetlands	NONE
Ground Water Wells	
Within 100-year floodplain	NO
Soil/Slope Integrity	
Surface Water Drainage	
Suitable for use in wet weather	YES
Prevailing Wind Direction	
Brownfield Site	NO
Superfund Site	NO
Archeological or Historic Properties or Artifacts	NO
Underground Utilities (water, wastewater, natural gas, electricity)	
Noise Control Buffer	
Adjacent to Airport/Airfield	
Access to Electrical Service	YES
Access to Water Service	
Access to Sewer Service	
Existing Lighting	
Traffic Ingress/Egress Capacity	
Capable of Accepting Heavy Trucks (site and neighboring roads)	
Proximity to Major Roadway	SR 903 ACCESS

Fencing and Other Security Features	FENCED & GATED

Site Preparation Level of Effort	☐ High	☐ Medium	X Low
Suitability to Wet Weather	☐ High	☐ Medium	☐ Low
Ability to Serve Spatial Area	☐ High	☐ Medium	☐ Low

List Jurisdictions that could utilize this site:
CITY OF CLE ELUM, ROSLYN, SOUTH CLE ELUM AND SURROUNDING AREAS INCLUDING EASTON AREA

Closest Landfill Available to This Site: RYEGRASS LANDFILL

Recommended Uses for This Site:
☐ C&D
☐ Vegetative
☐ White Goods
☐ Hazardous Waste
☐ Other (describe)

Reduction Methods Acceptable for This Site: ☐ Open Burning ☐ Incineration ☐ Grinding

Site Map:


PTN PAR C
B23/P1
SURVEY #14373
Sr 903
LOT 2A-1
B23/P187
030-0001
000-0002
000-0006
N
W
E
S

DMS Site Inventory

Site Name: **Ryegrass Landfill Site**
Site Address: 25900 Vantage Hwy, Ellensburg **Site Coordinates:** **N**
Estimated Property **Size:** 450 acres **W**

Site Owner:
Ownership Type: ☐ Jurisdiction Property X County Property ☐ Private Property
☐ Other (describe)
Owner Address: 925 Industrial Way Ellensburg WA 98926
Owner Phone: **509-925-7542**
Owner Email:

Site and Neighboring Properties Characterization

Characteristic	Comments
Current Use	Solid Waste Landfill
Proposed Future Land Use	
Current Land use/Zoning	Forest & Range
Restoration Time Requirements	
Proximity to School, Church, or Community Center	N/A
Property Topography	
Environmental Considerations	
Open Water or Wetlands	
Ground Water Wells	
Within 100-year floodplain	No
Soil/Slope Integrity	
Surface Water Drainage	
Suitable for use in wet weather	Yes
Prevailing Wind Direction	
Brownfield Site	
Superfund Site	
Archeological or Historic Properties or Artifacts	
Underground Utilities (water, wastewater, natural gas, electricity)	
Noise Control Buffer	
Adjacent to Airport/Airfield	
Access to Electrical Service	
Access to Water Service	
Access to Sewer Service	
Existing Lighting	
Traffic Ingress/Egress Capacity	
Capable of Accepting Heavy Trucks (site and neighboring roads)	Yes
Proximity to Major Roadway	Yes
Fencing and Other Security Features	

Site Preparation Level of Effort ☐ High ☐ Medium ☐ Low
Suitability to Wet Weather X High ☐ Medium ☐ Low

Ability to Serve Spatial Area X High ☐ Medium ☐ Low

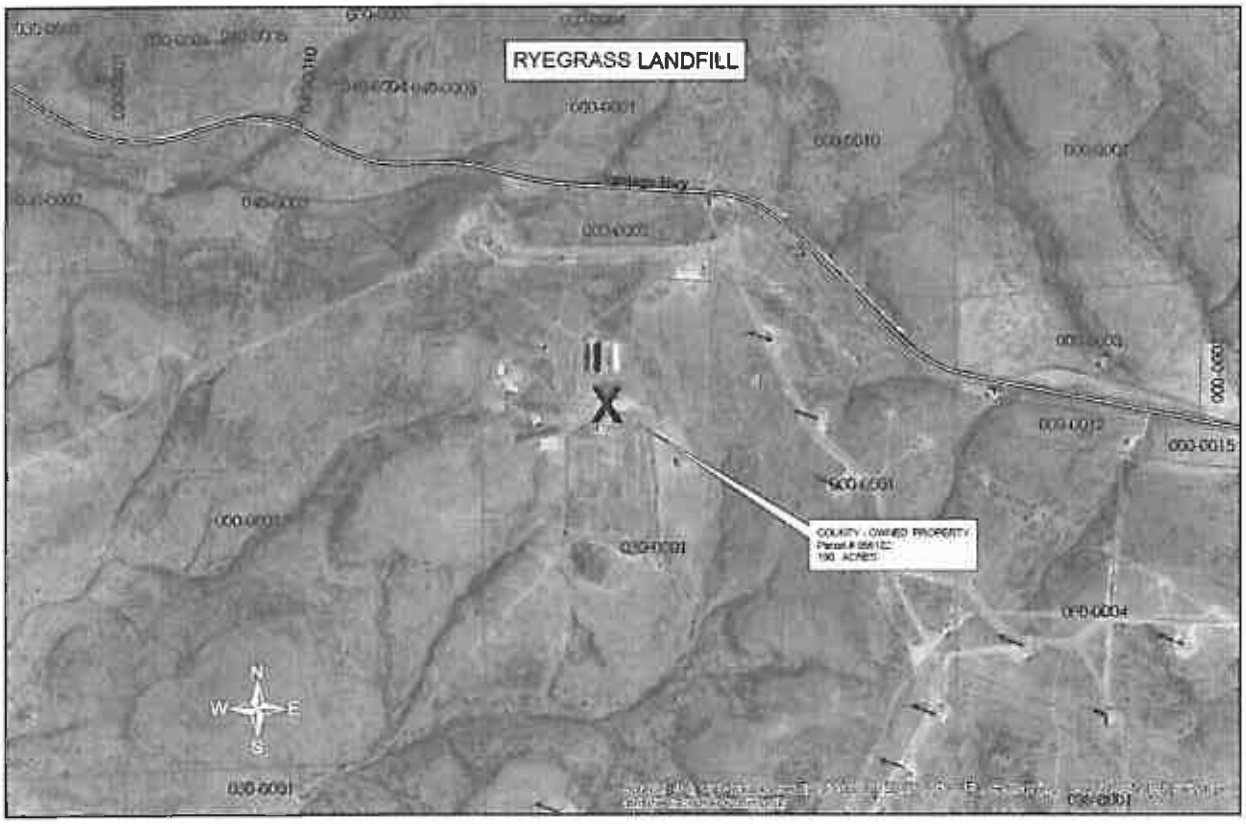
List Jurisdictions that could utilize this site: Kittitas County, City of Kittitas, City of Ellensburg

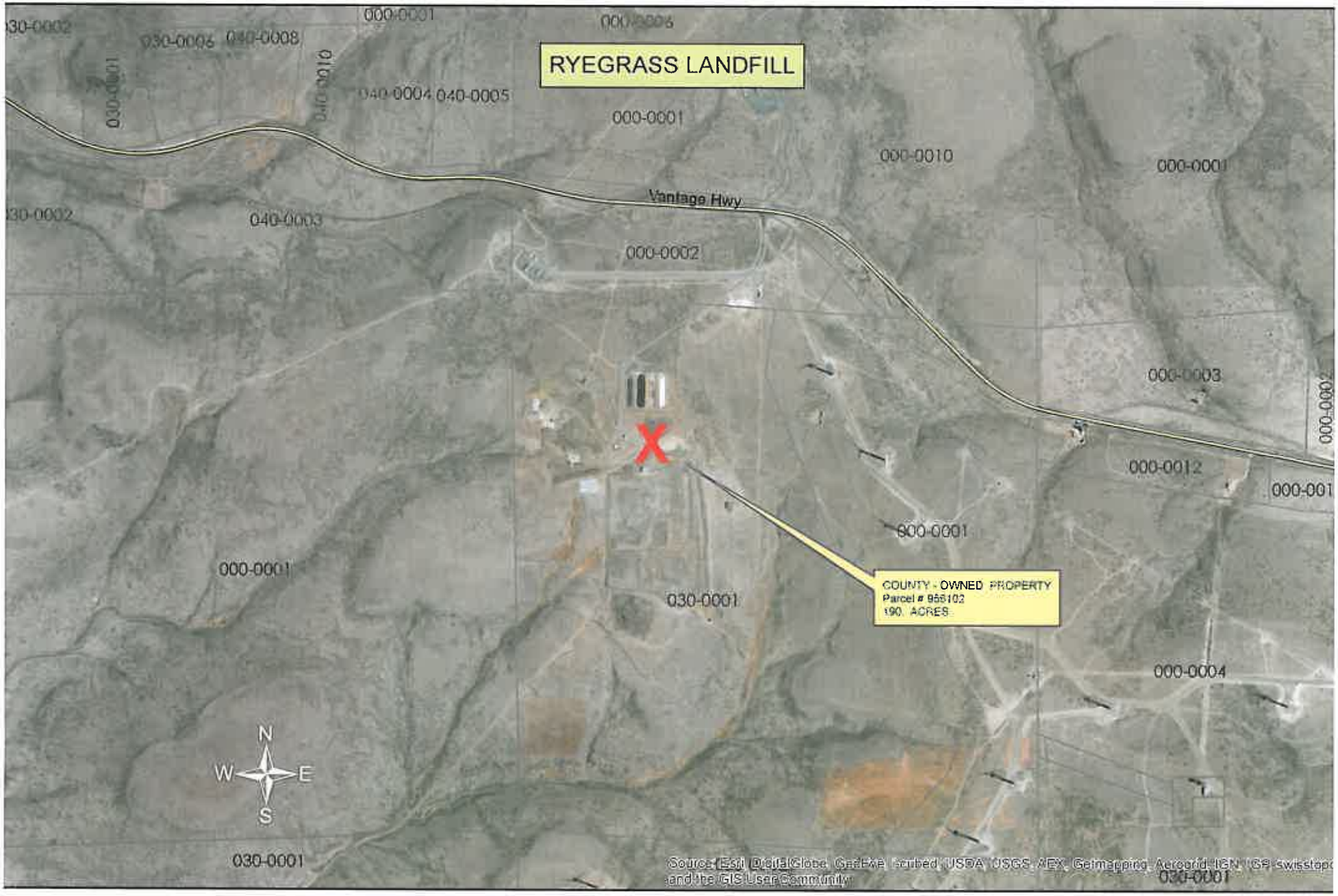
Closest Landfill Available to This Site: This is a landfill site

Recommended Uses for This Site:
☐ C&D
☐ Vegetative
☐ White Goods
☐ Hazardous Waste
☐ Other (describe)

Reduction Methods Acceptable for This Site: ☐ Open Burning ☐ Incineration X Grinding

Site Map:




RYEGRASS LANDFILL
Vantage Hwy
COUNTY - OWNED PROPERTY
Parcel # 955102
190 ACRES
N
W
E
S
030-0001
000-0001
000-0010
000-0003
000-0002
000-0012
000-0004
040-0003
040-0004
040-0005
030-0006
040-0008
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Speckhart Pit Disaster Debris Site:

6610 Westside Road

This site is to be used only if needed – if there is a disaster that affects bridges over he Yakima and people cannot get across the river to the waste dump.

Debris Management Site: Site Preparation Check List

GENERAL INFORMATION	
Date of Review February, 2014	**County Region** ☐ SW ☐ SE ☐ Central ☐ E ☐ NE X NW
Name of Facility Speckhart Pit	**Facility Type** X Storage ☐ Recycling ☐ Sorting ☐ Disposal
Site Address 6610 Westside Road	**Zoning, Site Preconditions** **Rural 5**
Existing Permits ☐ Discharge ☐ Solid Waste ☐ PSCAA X Land or Conditional Use	**Required Permits** ☐ Discharge ☐ Solid Waste ☐ PSCAA ☐ Land or Conditional Use

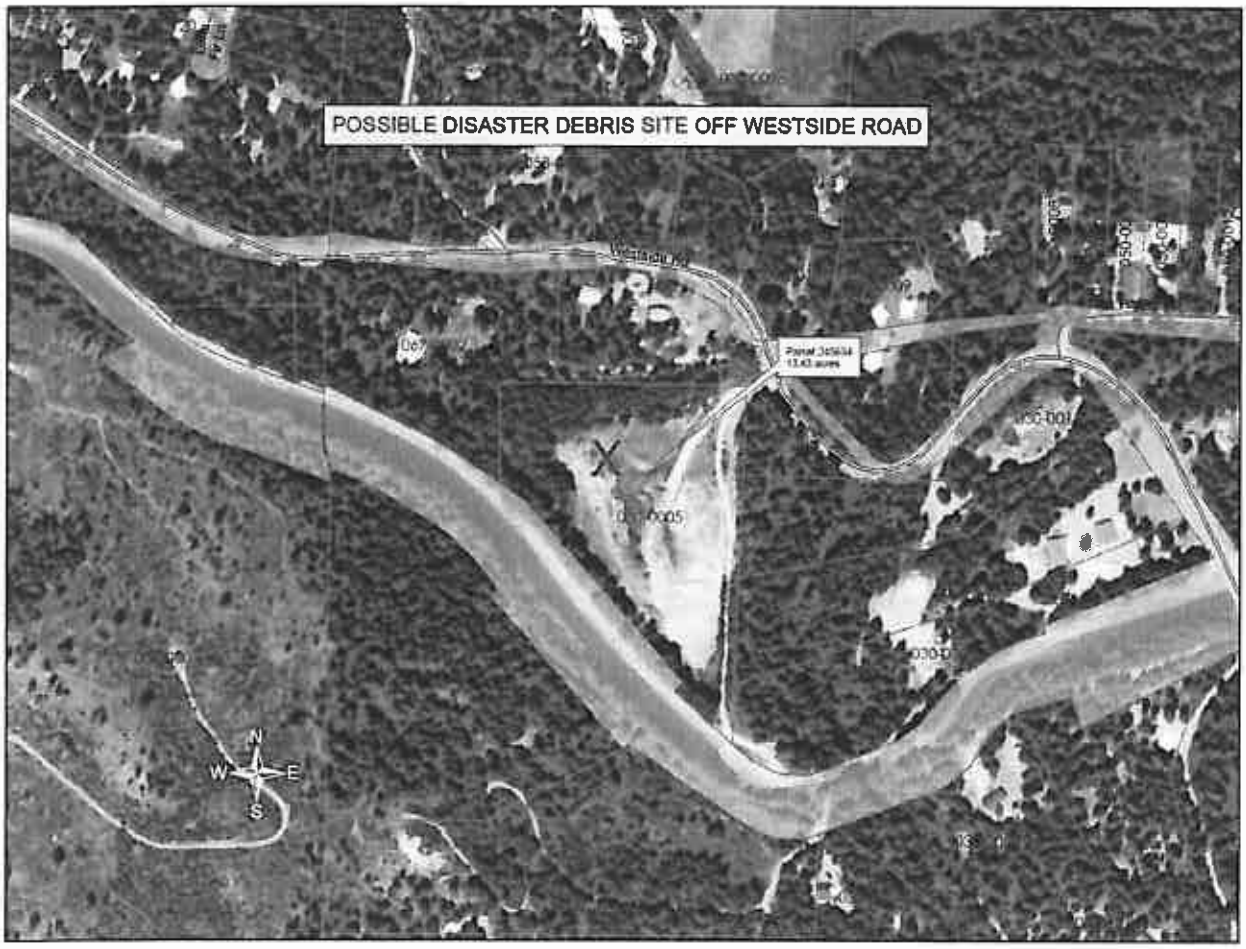
SITE LAYOUT AND DESIGN	
Access Routes (Major Streets and Highways) 1. Westside Road 2. 3.	**Accessibility** X Site has an entrance gate X Site has a surrounding fence
Access Road Conditions ☐ Asphalt or concrete pavement X Gravel road ☐ Dirt road	**Operational Surface** ☐ impervious surface (asphalt or concrete) X Gravel surface ☐ Dirt
Track out ☐ Wheel wash in place to prevent track out	**Containment** ☐ leachate control in place
Grinder Type (type) ☐ wood debris ☐ concrete ☐ mixed	**Monitoring Tower** ☐ present

OPERATION

Type	Equipment			
☐ Sorting and Recycling	☐ Front loader	☐ Tub Grinder	☐	☐
Storage	☐	☐	☐	☐
XCollection	☐	☐	☐	☐
☐ Disposal	☐	☐	☐	☐

ENVIRONMENTAL HEALTH

Sanitary Facilities	**Drinking Water** ☐ Public Water ☐ Well		**Waste Water** ☐ Sewer ☐ Septic
Water Quality	**Collection** ☐ under ground ☐ surface	**Treatment** ☐ onsite ☐ off site	**Discharge** ☐ onsite ☐ off site
Air Emissions	**Odor control in place** ☐ yes ☐ no		**Particulates** ☐ grinding ☐ burning
Noise	**Hours of Operation** ☐ week days		☐ weekends
Safety	**Fire Control** ☐ yes, in place ☐ no, to be set up		



DMS Site Inventory

Site Name: **Speckhart Pit**
Site Address: 6610 Westside Road **Site Coordinates:** **N**
Estimated Property **Size:** 13.43 acres **W**

Site Owner: Kittitas County Public Works
Ownership Type: ☐ Jurisdiction Property X County Property ☐ Private Property
☐ Other (describe)
Owner Address: 411 N. Ruby St Suite 1 Ellensburg WA
Owner Phone: **509-962-7523**
Owner Email:

Site and Neighboring Properties Characterization

Characteristic	Comments
Current Use	Rock pit
Proposed Future Land Use	Same
Current Land use/Zoning	Rural 5
Restoration Time Requirements	
Proximity to School, Church, or Community Center	NO
Property Topography	Flat
Environmental Considerations	
Open Water or Wetlands	NO
Ground Water Wells	NO
Within 100-year floodplain	NO
Soil/Slope Integrity	
Surface Water Drainage	
Suitable for use in wet weather	YES
Prevailing Wind Direction	
Brownfield Site	NO
Superfund Site	NO
Archeological or Historic Properties or Artifacts	NO
Underground Utilities (water, wastewater, natural gas, electricity)	
Noise Control Buffer	N/A
Adjacent to Airport/Airfield	NO
Access to Electrical Service	
Access to Water Service	
Access to Sewer Service	
Existing Lighting	
Traffic Ingress/Egress Capacity	
Capable of Accepting Heavy Trucks (site and neighboring roads)	Good
Proximity to Major Roadway	YES
Fencing and Other Security Features	YES

Site Preparation Level of Effort ☐ High ☐ Medium X Low
Suitability to Wet Weather X High ☐ Medium ☐ Low

Ability to Serve Spatial Area X High ☐ Medium ☐ Low

List Jurisdictions that could utilize this site:

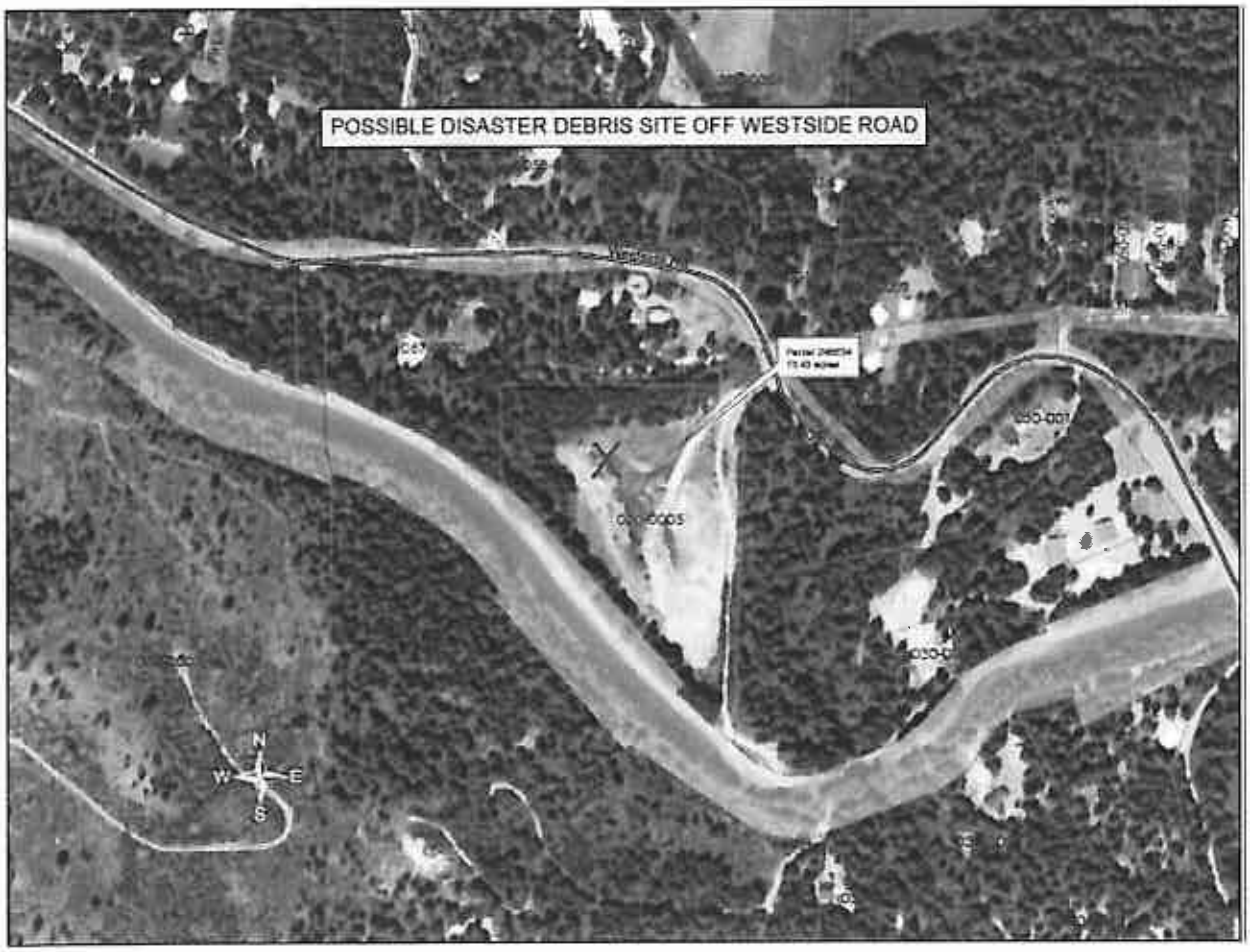
Closest Landfill Available to This Site: Rye grass Landfill

Recommended Uses for This Site: ***This site is to be used only if access across the river to the Upper County Tansfer Station on SR 903 is not available.***

X C&D
X Vegetative
☐ White Goods
☐ Hazardous Waste
☐ Other (describe)

Reduction Methods Acceptable for This Site: ☐ Open Burning ☐ Incineration ☐ Grinding

Site Map:




POSSIBLE DISASTER DEBRIS SITE OFF WESTSIDE ROAD
Westside Rd
Parcel 245634
13.43 acres
N
W
E
S

Debris Management Site: Site Preparation Check List

GENERAL INFORMATION	
Date of Review	**County Region** ☐ SW ☐ SE ☐ Central ☐ E ☐ NE ☐ NW
Name of Facility Vantage Area – Boat Launch Road	**Facility Type** ☐ Storage ☐ Recycling ☐ Sorting ☐ Disposal
Site Address	**Zoning, Site Preconditions** **Residential**
Existing Permits ☐ Discharge ☐ Solid Waste ☐ PSCAA ☐ Land or Conditional Use	**Required Permits** ☐ Discharge ☐ Solid Waste ☐ PSCAA ☐ Land or Conditional Use

SITE LAYOUT AND DESIGN	
Access Routes (Major Streets and Highways) 1. Boat Launch Road 2. Main Street 3. Interstate 90	**Accessibility** ☐ Site has an entrance gate ☐ Site has a surrounding fence
Access Road Conditions ☐ Asphalt or concrete pavement ☐ Gravel road ☐ Dirt road	**Operational Surface** ☐ impervious surface (asphalt or concrete) ☐ Gravel surface ☐ Dirt
Track out ☐ Wheel wash in place to prevent track out	**Containment** ☐ leachate control in place
Grinder Type (type) ☐ wood debris ☐ concrete ☐ mixed	**Monitoring Tower** ☐ present

OPERATION				
Type	**Equipment**			
☐ Sorting and Recycling	☐ Front loader	☐ Tub Grinder	☐	☐
☐ Storage	☐	☐	☐	☐
☐ Collection	☐	☐	☐	☐
☐ Disposal	☐	☐	☐	☐

ENVIRONMENTAL HEALTH			
Sanitary Facilities	**Drinking Water** ☐ Public Water ☐ Well		**Waste Water** ☐ Sewer ☐ Septic
Water Quality	**Collection** ☐ under ground ☐ surface	**Treatment** ☐ onsite ☐ off site	**Discharge** ☐ onsite ☐ off site
Air Emissions	**Odor control in place** ☐ yes ☐ no		**Particulates** ☐ grinding ☐ burning
Noise	**Hours of Operation** ☐ week days		☐ weekends
Safety	**Fire Control** ☐ yes, in place ☐ no, to be set up		

DMS Site Inventory

Site Name: Boat Ramp Road Site
Site Address: **Site Coordinates:** **N**
Estimated Property Size: 7.21 acres **W**

Site Owner: Kittitas County Public Works
Ownership Type: ☐ Jurisdiction Property X County Property ☐ Private Property
☐ Other (describe)
Owner Address: 411 N Ruby St Suite 1 Ellensburg WA
Owner Phone: 509-962-7523
Owner Email:

Site and Neighboring Properties Characterization

Characteristic	Comments
Current Use	N/A
Proposed Future Land Use	
Current Land use/Zoning	Residential
Restoration Time Requirements	
Proximity to School, Church, or Community Center	NO
Property Topography	Gentle Slope
Environmental Considerations	Near Columbia River
Open Water or Wetlands	
Ground Water Wells	
Within 100-year floodplain	NO
Soil/Slope Integrity	
Surface Water Drainage	
Suitable for use in wet weather	NO
Prevailing Wind Direction	
Brownfield Site	NO
Superfund Site	NO
Archeological or Historic Properties or Artifacts	NO
Underground Utilities (water, wastewater, natural gas, electricity)	
Noise Control Buffer	
Adjacent to Airport/Airfield	NO
Access to Electrical Service	
Access to Water Service	
Access to Sewer Service	
Existing Lighting	
Traffic Ingress/Egress Capacity	
Capable of Accepting Heavy Trucks (site and neighboring roads)	
Proximity to Major Roadway	YES
Fencing and Other Security Features	NO

Site Preparation Level of Effort X High ☐ Medium ☐ Low
Suitability to Wet Weather ☐ High ☐ Medium XLow

Ability to Serve Spatial Area ☐ High ☐ Medium ☐ Low

List Jurisdictions that could utilize this site:

Closest Landfill Available to This Site: Ryegrass Landfill

Recommended Uses for This Site:
X C&D
X Vegetative
☐ White Goods
☐ Hazardous Waste
☐ Other (describe)

Reduction Methods Acceptable for This Site: ☐ Open Burning ☐ Incineration ☐ Grinding
Containers only.

Site Map:

Site off Boat Ramp (at MP 0.10) Road for Temporary Disaster Debris – dumpster placement only

[redacted]

Access Road at MP 0.10 on Boat Ramp Road


Vantage Area potential
Disaster Debris Temporary Site
050-0126
Main St
Vantage
Park Rd
042-0001
050-0125
Main St
Holiday Ave
000-0005
000-0002
Boat Ramp Rd
010-0011
X
Access point for dumpsters
010-0001
000-0004
Ext 136
I 90 W
Offramp
I 90 W
I 90 E
N
E
010-0009
010-0002