Public Works & Engineering

Emergency Support Function (ESF) 3

Coordinating:

Department of Enterprise Services (DES)

Primary(s):	
Department of Ecology (ECY)	Department of Enterprise Services (DES)
Department of Health (DOH)	
Supporting:	
Department of Licensing (DOL)	Department of Labor and Industries (L&I)
Washington Military Department (WMD)	Department of Natural Resources (DNR)
Department of Transportation (WSDOT)	

Purpose

This document is a supporting annex of the Comprehensive Emergency Management Plan (CEMP) and operates in conjunction with all its annexes by coordinating the capabilities and resources to facilitate the delivery of services, technical assistance, engineering expertise, construction management, and other support to response operations. ESF 3 orchestrates the Public Works & Engineering stakeholders, activities, and services provided under the primary Core Capability of Infrastructure Systems. Additionally, ESF 3 supports the execution of the following Core Capabilities based on intersecting activities with other ESFs: Operational Coordination, Critical Transportation, Environmental Response/Health & Safety, Logistics & Supply Chain Management, and Situational Assessment.

Primary Response Core Capability	
Infrastructure Systems	Stabilize critical infrastructure functions, minimize health and safety threats, and efficiently restore and revitalize systems and services to support a viable, resilient community.

Support Response Core Capabilities	
Operational Coordination	Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of Core Capabilities.
Critical Transportation	Provide transportation (including infrastructure access and accessible transportation services) for response priority objectives, including the evacuation of people and animals and the delivery of vital response personnel, equipment, and services into the affected areas.
Environmental Response/Health & Safety	Conduct appropriate measures to ensure the protection of the health and safety of the public and workers, as well as the environment, from all hazards in support of responder operations and the affected communities.
Logistics & Supply Chain Management	Deliver essential commodities, equipment, and services in support of impacted communities and survivors, to include emergency power

Support Response Core Capabilities	
	and fuel support, as well as the coordination of access to community staples. Synchronize logistics capabilities and enable the restoration of impacted supply chains.
Mass Care Services	Provide life-sustaining and human services to the affected population, to include hydration, feeding, sheltering, temporary housing, evacuee support, reunification, and distribution of emergency supplies.
Situational Assessment	Provide all decision makers with decision-relevant information regarding the nature and extent of the hazard, any cascading effects, and the status of the response.

Authorities and Policies

Revised Code of Washington (RCW):

39.26.130, Public Contracts and Indebtedness, Emergency Purchases.
Outlines emergency purchasing policies and procedures for state agencies.

43.19.450, Department of Enterprise Services, Engineering and Architecture.
Defines "state facilities" and identifies designee for contract of architectural, engineering or related services for major repair to existing state facilities.

43.21A.085/087 Department of Ecology, Technical assistance officer and units.
Details coordination of voluntary compliance by wastewater facilities with regularity laws, also details the authority to issues orders and assess penalties to wastewater facilities.

43.70.195, Department of Health, Public water systems—Receivership actions brought by secretary—Plan for disposition.
Details DOH's protocol for distributing or transferring ownership of drinking water systems

43.70.680, Department of Health, Volunteers for emergency or disaster assistance.
Details the activation of qualified volunteers to aid in the response to an incident requiring health care providers.

43.155.065, Emergency public works projects.
Establishes low-interest or interest-free loans for emergency public works projects.

77.55, Department of Fish and Wildlife, Construction Projects in State Waters
Reviews laws and regulations pertinent to a construction project that effects state salt and fresh waterways.

86.16.035, Department of Ecology – Control of dams and obstructions.
Empowers ECY to supervise and control all dams and obstructions of streams, including regulation of these structures.

Washington Administrative Code (WAC):

173-175-610, Department of Ecology, Dam Safety Emergencies.
Provides guidance to ECY for responding to dam emergencies.

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Situation Overview

An emergency or disaster may cause unprecedented structural damage. Structures may be destroyed or severely weakened; homes, public buildings, bridges, and other facilities may have to be reinforced or demolished to ensure safety. Debris may make streets and highways impassable. Public utilities may be damaged and be partially or totally inoperable. Similarly, equipment in the immediate event area may be damaged or inaccessible. Sufficient resources may not be available to state and local jurisdictions to meet emergency requirements.

Concept of Operations

Functions include but are not limited to:

- Infrastructure protection and emergency repair; Coordinate damage assessments through Preliminary Damage Assessment (PDA) teams and the WAsafe system.
- Establish situational awareness for the status of water and wastewater systems statewide.
- Critical infrastructure repair. Re-establish baseline functionality in lifeline critical infrastructure to enable the response mission and stabilize the affected population.
- Participate with other relevant ESFs to remove debris according to the incident's debris removal strategy.
- Emergency contracting support for lifesaving and life-sustaining services.

This ESF is concerned with contributing to the overall execution of the following critical tasks in support of the core capabilities listed for this ESF. The agency responsibilities associated with supporting the execution of these critical tasks are described in the Responsibilities section of this document.

Infrastructure Systems	
Critical Task I.D.	**Critical Task Description**
1	Decrease and stabilize immediate infrastructure threats to the affected population, to include survivors in the heavily damaged zone, nearby communities that may be affected by cascading effects, and mass care support facilities and evacuation processing centers with a focus on life-sustainment and congregate care services.
2	Re-establish critical infrastructure within the affected areas to support ongoing emergency response operations, life sustainment, community functionality, and a transition to recovery.
3	Provide for the clearance, removal, and disposal of debris.

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Infrastructure Systems	
Critical Task I.D.	**Critical Task Description**
4	Formalize partnerships with governmental and private sector cyber incident or emergency response teams to accept, triage, and collaboratively respond to cascading impacts in an efficient manner.

Operational Coordination	
Critical Task I.D.	**Critical Task Description**
2	Enhance and maintain command, control, and coordination structures consistent with the National Incident Management System (NIMS) to meet basic human needs, stabilize the incident, and transition to recovery.

Critical Transportation	
Critical Task I.D.	**Critical Task Description**
2	Ensure basic human needs are met, stabilize the incident, transition into recovery for an affected area, and restore basic services and community functionality.
3	Clear debris from any route type (i.e., road, rail, airfield, port facility, waterway) to facilitate response operations.

Environmental Response/Health & Safety	
Critical Task I.D.	**Critical Task Description**
1	Identify, assess, and mitigate worker health and safety hazards, and disseminate health and safety guidance and resources to response and recovery workers.
3	Detect, assess, stabilize, and clean up releases of oil and hazardous materials into the environment, including buildings/structures, and properly manage waste.
4	Identify, evaluate, and implement measures to prevent and minimize impacts to the environment, natural and cultural resources, and historic properties from all-hazard emergencies and response operations.

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Logistics & Supply Chain Management	
Critical Task I.D.	**Critical Task Description**
1	Mobilize and deliver governmental, nongovernmental, and private sector resources to save lives, sustain lives, meet basic human needs, stabilize the incident, and transition to recovery, to include moving and delivering resources and services to meet the needs of disaster survivors.
2	Enhance public and private resource and services support for an affected area.

Mass Care Services	
Critical Task I.D.	**Critical Task Description**
1	Move and deliver resources and capabilities to meet the needs of disaster survivors, including individuals with access and functional needs.

Situational Assessment	
Critical Task I.D.	**Critical Task Description**
1	Deliver information sufficient to inform decision making regarding immediate lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs and stabilize the incident.
2	Deliver enhanced information to reinforce ongoing lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs, stabilize the incident, and transition to recovery.

Whole Community Involvement

ESF 3 must take into consideration the involvement of the whole community when organizing a response within the SEOC; this includes coordinating with all organizations and individuals that are relevant to the Critical Tasks listed above. Actions and priorities should be further coordinated with entities outside of government bodies; this includes all private sector, non-governmental, faith-based, and other organizations that have ownership or input into public works and engineering response activities. ESF 15 should be notified of information to be made available for public consumption and provided with all details to ensure messaging is achieved to the whole community.

Organization

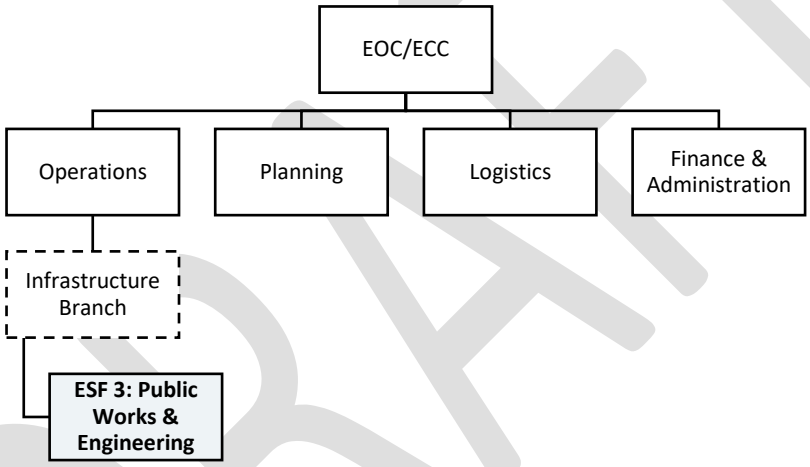
ESF 3 is a component of the Operations Section of the SEOC, as organized within the structures of the Incident Command System (ICS). ESF 3 personnel should remain flexible to adapt to the

unique conditions of all hazards and scale the ESF 3 structure to meet the needs of the response.

Mobilization

Upon SEOC activation, the SEOC Supervisor will activate an Operations Section Chief. This Chief will determine if an ESF 3 function is needed and will activate ESF 3 through the appropriate Primary Agency State Agency Liaison (SAL) point of contact. This point of contact will determine which supporting agencies are required for a given operational period, and further mobilize contacts. If the situation merits, the Operations Section Chief, in consultation with Operations Section staff and leads from ESF 1, 2, & 12, will activate an Infrastructure Branch director to accommodate more appropriate span of control and provide a streamlined process for critical infrastructure response information.

Structure



Direction, Control & Coordination

Horizontal Integration

This annex is an interagency plan that provides direction to state government entities concerned with responding to critical infrastructure issues following a disaster. It also notes a linkage to Recovery Mission Area through the Infrastructure Systems Core Capability. This connection is important to consider during Response activities, however formal Recovery guidance should be obtained by referencing the Washington Restoration Framework (WRF), specifically the Infrastructure Systems Recovery Support Function (RSF).

Response

This annex defines the roles and responsibilities of ESF 3, and compliments similar plans that outline other ESFs within the SEOC. In general, this plan is most likely to be integrated with similar plans for ESF 1, 2 and 12 as part of the Operation Section's Infrastructure

Branch, however it should also be prepared to integrate horizontally with any other state response plan or annex. Integration with state plans during response operations includes:

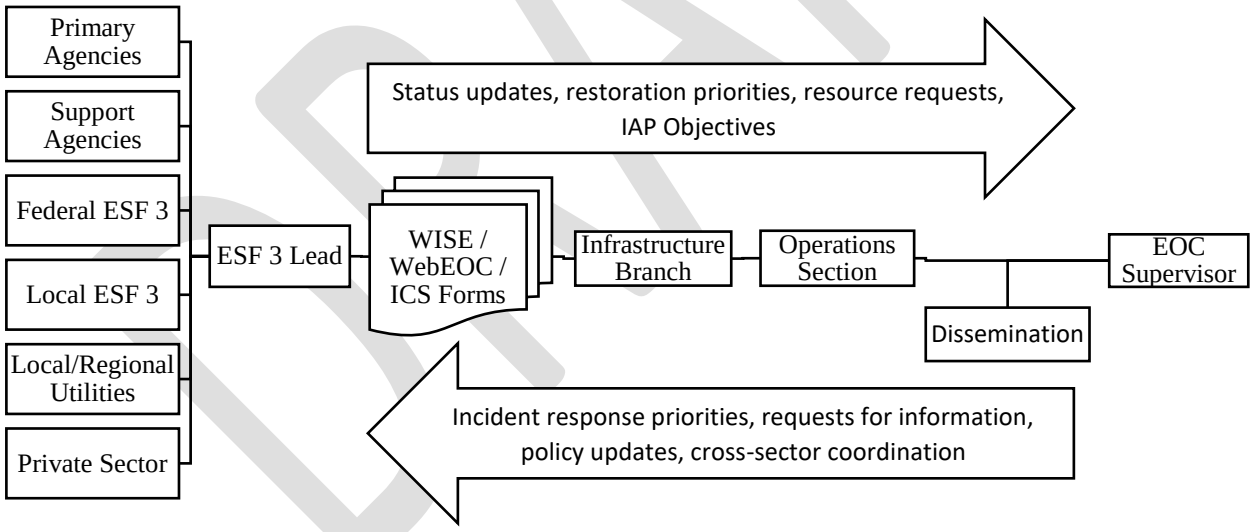
WA DOH Basic Response Plan – Annex 10: Environmental Public Health Response
DOH agency response plan that covers the Office of Drinking Water.

Recovery
The structures and bodies laid out in this annex should integrate horizontally into structures and bodies established by the Washington Restoration Framework to address the Recovery mission area. Integration with federal and local plans during recovery operations includes:

Vertical Integration

This ESF Annex should integrate vertically to federal response plans, as well as county and city plans at the local level. It may be common for relevant federal and local plans to be similarly titled around ESF 3, however this annex should remain flexible to coordinate with other plans or bodies that align with the Core Capabilities and Critical Tasks listed in this annex.

Information Collection, Analysis, & Dissemination



Information Collection

ESF 3 gathers information from its member agencies (both primary and supporting), federal and local ESF 3 counterparts, local and regional water/wastewater utilities, water utility districts, relevant private sector water/wastewater organizations, and other sources as necessary. The type of information to be collected is first determined by the ESF's Essential Elements of Information (EEI) list, but may be adjusted to fit the needs of the incident.

Essential Elements of Information (EEIs)

The following categories are a baseline list of facilities and systems which should be considered for information collection. They may not include all relevant EEIs as the impact of a given disaster may require unique information collection needs.

• **Federally-focused EEIs**	○ Status and location of Public Works Planning and Response Teams (PRT). ○ Status of river gauge and levees. ○ Status of debris removal; in particular, estimated total and percentage complete by county. ○ Status of public water supply, including potential issues with respect to the restoration of non-operational systems and status of public wastewater systems. ○ Status of critical public facilities, including the number of completed assessments. ○ Status and location of the Local Government Liaison. ○ Status of mission assignment for ESF #3 Lead. ○ Limiting factors or shortfalls. ○ Number and names of public water services facilities that are operational, non- operational, and out of contact. ○ Number and names of waste water treatment plants that are operational, non- operational, and out of contact.
• **Disaster Impact Numbers**	○ Number of people without access to drinking water ○ Number of people without wastewater treatment collection service ○ Number of buildings/facilities/systems needing inspection
• **State Structures and Facilities**	○ Status (operational, damaged, destroyed, unknown) ○ Approximate restoration date
• **Dams**	○ Status (operational, damaged, destroyed, unknown) ○ Approximate restoration date
• **Raw Water Supply**	○ Environmental status of water source ○ Quantity of water available
• **Raw Water Storage Systems and Facilities**	○ Status (operational, damaged, destroyed, unknown) ○ Approximate restoration date ○ Quantity of water available

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• **Raw Water Transmission Systems and Facilities**	○ Status (operational, damaged, destroyed, unknown) ○ Approximate restoration date
• **Water Regulatory, Oversight or Industry Organizations**	○ Status (operational, damaged, destroyed, unknown) ○ Approximate restoration date
• **Treated (finished) Water Storage Systems and Facilities**	○ Status (operational, damaged, destroyed, unknown) ○ Approximate restoration date ○ Quantity of water available
• **Treated Water Distribution Systems and Facilities**	○ Status (operational, damaged, destroyed, unknown) ○ Approximate restoration date
• **Wastewater Facility**	○ Status (operational, damaged, destroyed, unknown) ○ Approximate restoration date
• **Water Treatment Facility**	○ Status (operational, damaged, destroyed, unknown) ○ Approximate restoration date

Information Analysis

Using available information, provide water/wastewater utility restoration priorities, facility status reports, and resources requests to inform the SEOC Incident Action Plan (IAP).

Information Dissemination

Information is to be disseminated to the Operations Section Chief (or Infrastructure Branch Director if activated) utilizing the SEOC incident management software (WebEOC and WISE), or best available system as allowed under the circumstances.

Responsibilities

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Response Mission Area			
Core Capability	**Critical Task I.D.**	**Activity/Action**	**State Agency / Organization**
Infrastructure Systems	1	Provides trained personnel to conduct post-earthquake safety analysis of Department of Enterprise Services facilities and state-owned buildings as available	DES
Infrastructure Systems	1	Evaluate dam infrastructure to determine if an emergency condition exists and take subsequent action to mitigate the hazard to the dam and the potential consequences of dam failure	ECY
Infrastructure Systems	1, 2	Provides initial damage assessment and estimates of state-owned facilities if able as a member of Preliminary Disaster Assessment (PDA) teams	DES, MIL (NG), WSDOT
Infrastructure Systems	1, 2	Participate in Public Works (PW) teams to conduct inspections of state and local facilities	DES, MIL (NG), WSDOT, DNR
Infrastructure Systems	1, 2	Contact the Washington Safety Assessment Facilities Evaluators (WAsafe) coordinators to initiate resource requests and deployments of building safety assessors.	MIL (EMD), DES
Infrastructure Systems	1, 2	Provide assessment and condition reports for flood control facilities such as dams.	ECY
Infrastructure Systems	1, 2	Assist in determining the operating status of wastewater collection and treatment systems. Onsite technical assistance may be available.	ECY
Infrastructure Systems	2	Provide technical assistance to operators of wastewater collection and treatment systems addressing abnormal events; and/or returning to normal operations.	ECY, DOH
Infrastructure Systems	1, 2	Assist identifying critical water and wastewater infrastructure needs.	DOH
Infrastructure Systems	1, 2	Assist determining the operating status of water and wastewater systems.	DOH
Infrastructure Systems	2	Provides Hydraulic Project Approval, including permitting and permit requirements	DFW

Response Mission Area			
Core Capability	**Critical Task I.D.**	**Activity/Action**	**State Agency / Organization**
Infrastructure Systems	2	Examines new electrical installations, boilers, pressure vessels, and manufactured housing.	L&I
Infrastructure Systems	1, 2	Verifies licenses of professional and technical personnel assisting in response and recovery activities.	DOL
Infrastructure Systems	1, 2	Provides licensee information as necessary.	DOL
Infrastructure Systems	3	Coordinate emergency route clearance and debris removal during response operations with state and local debris removal plans & frameworks.	EMD, ECY, DES, WSDOT
Critical Transportation	3	Reconstructs, repairs, and maintains the state transportation system. Designates alternate routes in coordination with local jurisdictions and ports.	WSDOT
Critical Transportation	3	Coordinates the mobilization of personnel and equipment required for engineering services that support the transportation system.	WSDOT, EMD, DES
Environmental Response/Health & Safety	3	Assist investigation and analysis for incidents involving accidental or intentional contamination of wastewater collection and treatment systems within scope of statutory authority.	ECY, DOH
Environmental Response/Health & Safety	3	Assist investigations into spills and sources of water pollution.	ECY
Environmental Response/Health & Safety	3	Assist with monitoring of surface and groundwater for contamination. If drinking water intakes were affected, DOH would be responsible for monitoring activities.	ECY, DOH
Environmental Response/Health & Safety	3	Assists with determining if local water sources are potable and identifying actual or potential hazardous materials that could affect drinking water supplies.	DOH

Response Mission Area			
Core Capability	**Critical Task I.D.**	**Activity/Action**	**State Agency / Organization**
Environmental Response/Health & Safety	3	Ensures health related information is provided to all water utility customers during an emergency event.	DOH
Environmental Response/Health & Safety	3	Supplies laboratory services and equipment to detect hazardous materials.	L&I
Logistics & Supply Chain Management	2	Coordinate with support agencies to supply requested services and resources.	DES
Situational Assessment	1, 2	Collect and analyze EEIs, as categorized by this document and adjusted to fit the need of the incident, to inform the SEOC, set utility restoration priorities, relay resource requests, and contribute to the SEOC's incident action plan (IAP)	DES, DOH, ECY

Resource Requirements

Micro-level

ESF 3 needs to be located within the broader SEOC. ESF 3 must have at least 1 individual with adequate training commensurate to execute the structures and coordination outlined in this annex. Under ideal circumstances, it will have at least 2 work stations within one of the pods on the SEOC floor, to include all relevant office resources, information/communication technologies, and supporting personnel resources as determined appropriate by the CEMP and SEOC Supervisor.

Training Requirements

- IS 100, 200, 230, 700, 800
- SEOC Foundations Course
- WebEOC Training

Recommended Training

- ICS 300, 400

Macro-level

ESF 3 requires a reliable method for communicating with ESF 3 stakeholders statewide. This includes communication and information sharing with federal and local ESF 3, local and regional utilities, and relevant private sector organizations. Regular communication and information

exchange should also be expected with counterparts in neighboring states. When deploying personnel beyond the SEOC, resources are required to transport personnel and coordination should occur to ensure access to relevant communities and facilities while performing ESF 3 duties as assigned.

References and Supporting Guidance

WA DOH Office of Drinking Water Emergency Response Planning Guide for Public Drinking Water Systems

Guide and resources for public drinking water systems to develop emergency response plans.

WA DOH Office of Drinking Water Health Advisory Manual

Provides guidance on issuing drinking water health advisories.

WA ECY Inventory of Dams Report

Comprehensive list of dams within the state of Washington.

Terms and Definitions

Dams

Man-made structures that can impound 10 acre-feet or more of watery material at the dam crest elevation.

Hydraulic Project

The construction or performance of work that will use, divert, obstruct, or change the natural flow or bed of any of the salt or freshwaters of the state.

Preliminary Damage Assessment (PDA) Teams

Preliminary damage assessment is a mechanism for determining the affect and ratio of damage and the resulting unachieved needs of private and public sectors. Information collected through preliminary damage assessment is used by the state as a basis for a governor's request for a presidential declaration.

Public Works (PW) Teams

Supports and/or supplements state & local public works teams addressing damage to public works infrastructure.

Raw water storage

Facilities and systems that store raw water intended for human consumption. This includes storage reservoirs and tanks.

Raw water supply

Environmental sources of water for human consumption including both ground water and surface water.

Raw water transmission

Facilities and systems that transmit raw water to include aqueducts, catch basins, and water pipelines.

Treated (finished) water storage

Facilities and systems that store potable water including clear wells, covered & uncovered reservoirs, standpipes, and water towers/tanks.

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Treated water distribution

Facilities and systems that distribute treated (finished) water including control centers, monitoring systems, backflow preventers, booster disinfection facilities, fire hydrants, meters, pumping stations, service lines and transmission/main lines.

Washington Safety Assessment Facilities Evaluators (WAsafe)

A coalition of American Institute of Architects (AIA), American Society of Civil Engineers (ASCE), Structure Engineers Association of Washington (SEAW), Washington Association of Building Officials (WABO), and Washington State Department of Health (DOH). The objective of WAsafe is to assist building officials with building safety assessments following a disaster by developing a group of qualified volunteers to assist in building assessments.

Wastewater facilities

Facilities and systems used to convert wastewater into an effluent that can be returned to the water cycle with minimum impact on the environment, or directly reused.

Water regulatory, oversight or industry organizations

Organizations charged with regulating or facilitating operations within the water/wastewater sector. This include organizations at the international, federal, regional, state, or local level and might be public, non-profit or private sector entities.

Water treatment facility

Facilities or systems that improve the quality of water to make it more acceptable for drinking, industrial water supply and/or irrigation.

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