

OREGON TASK FORCE 1

URBAN SEARCH & RESCUE

POSITION DESCRIPTION

STRUCTURAL SPECIALIST



Functional Description

The Structural Specialist is responsible for performing the various structural assessments for the task force during incident operations. The Oregon USAR Structural Specialist reports directly to the Search Team Manager.

Description of Duties

The Structural Specialist is responsible for:

1. Assessing the immediate structural condition of the affected area of task force operations, which includes identifying structure types and specific damage and structural hazards.
2. Recommending the appropriate type and amount of structural hazard mitigation in order to minimize risks on site to task force personnel.
3. Adhering to all safety procedures.
4. Cooperating with and assisting other search and rescue resources.
5. Accountability, maintenance, and minor repairs for all issued equipment.
6. Performing additional tasks or duties as assigned during a mission.
7. Monitoring assigned structure for condition changes while rescue and recovery operations are proceeding.
8. Assuming an active role in implementing approved structural hazard mitigation as a designer, inspector, and possibly a supervisor.
9. Coordinating and communicating the structural related hazard mitigation with US&R Safety Officer and Incident Safety Officer.

Position Requirements and Criteria

Individuals who meet the following requirements and criteria will be eligible to become Structural Specialist in the Oregon US&R Task Force. The intent of these requirements is to select personnel fully capable of providing competent information management for the urban disaster environment. The requirements and criteria for the position are identified in the following categories.

Task Force General Requirements

- A. Must be physically fit as governed by the sponsoring organization.
- B. When on assigned rotation able to mobilize within 2 hours of request and be self sufficient for at least 72 hours.
- C. Must be capable of improvising and functioning for long hours under adverse conditions.
- D. Must be able to function safely at heights and on or around rubble.
- E. Must be aware of the signs, symptoms, and corrective measures of critical incident stress syndrome.

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- F. Must understand and adhere to safe working practices and procedures as required in the urban disaster environment.
- G. Must have a working knowledge of the Oregon US&R Response Systems and organizational structures, operating procedures, safety practices, terminology, knowledge of all task force equipment, and communications protocols.
- H. Must have successfully completed, as a minimum, the First Responder Awareness Level for Hazardous Materials per OSHA Standard 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response or equivalent.
- I. Must understand the needs of and provide support to their counterparts with the task force specific operations, techniques and application of tools and equipment.
- J. Must be current on annual training on Bloodborne Pathogens per 29 CFR 1910.1030 Standard on Bloodborne Pathogens (Oregon OSHA OAR 437, Division 2/Z, Toxic and Hazardous Substances).

Skills

- 1. Currently licensed as a structural engineer.
- 2. Ability to identify vertical load and lateral force resisting framing systems and be able to identify the critical elements within those systems.
- 3. Ability to identify failure indications of building materials, including:
 - Knowledge of how basic building materials and framing systems perform.
 - Knowledge of how building materials typically fail under various loading conditions.
 - Knowledge of typical falling and collapse hazards from previous failures.
- 4. Ability to identify building features that could provide entry or access to victims such as ducts, shafts, etc.
- 5. Able to recommend practical solutions for US&R operations in compromised structures.

Knowledge

- 1. Comprehensive knowledge of building materials, to include:
 - Knowledge of the design and construction techniques for wood, masonry, concrete, and steel.
 - Knowledge of the design and construction techniques utilizing architectural materials such as unreinforced masonry and concrete.
- 2. Knowledge of the behavior of structures under adverse loading conditions.
- 3. Ability to identify features that allow for the determination of the condition of structures subjected to adverse loading from:
 - Earthquakes-ability to evaluate the remaining lateral force system capacity in the event of aftershocks.
 - Hurricanes and tornadoes- ability to evaluate the lateral force system and areas of local stress.
 - Flood or dam collapse.
 - Fire or explosion.
 - Landslide or avalanche.
 - Transportation accidents.

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4. Knowledge of the appropriate types of structural hazard reduction methods for various types of collapsed structures, including:
 - Shoring and bracing and availability of appropriate materials.
 - Removal of collapsed structural components and hazards, or debris removal.
 - Methods for creating safe havens.
 - Identification of unsafe areas that must be restricted.
5. Knowledge of victim access methods, including:
 - How and where to penetrate various building types to minimize risks.
 - Effects of lifting large structural components and the ability to calculate weights for rigging and lifting operations.
 - Knowledge of safe rescue practices and procedures.

Structural Specialist Requirements

1. Basic Incident Command System (I-200) or equivalent
2. Currently certified Structural Engineer in the state of Oregon as defined in Oregon Administrative Rules (OARS) Division 40 section 820-040-0020 Structural Engineering
3. Must currently hold additional certificate to perform engineering services on “Significant Structures” per ORS 672.129 Professional Engineers and Land Surveyors
4. Successful completion of FEMA Structure Specialist Course.
5. OR-TF1-USAR Awareness