FEMA US&R Operations Manual, Annex H - FEMA US&R and USACE Concept of Operations (CONOPS)

FEMA National US&R Response System

February 2022

FEMA

FEMA US&R DOCUMENT: 308

Next Revision: February 2026

FEMA US&R Operations Manual
Annex H - US&R and USACE Concept of Operations

Annex H is an Operational Draft – According to FEMA US&R Doctrine, an Operational Draft is working doctrine that defines new techniques, methods, or concepts that the FEMA US&R Branch intends to test in real-world operations before finalizing as enduring doctrine, typically after a period of 12-18 months. The StS Subgroup and USACE will work to finalize this Annex after 18 months, once it has been sufficiently tested in real-world operations.

The content and update of this document is the responsibility of the National US&R Response System's Structures Specialist Subgroup. The Subgroup is delegated this responsibility under the auspices of the Advisory Organization (AO) as outlined in the System's Administration Manual Annex A.

Document Name: US&R Operations Manual, Annex H – FEMA US&R and USACE Concept of Operations
FEMA US&R Document Number: 308
Revision Cycle: As required, at a minimum every 4 years
Next Revision: February 2026
Issued to FEMA US&R System: Program Directive 2023-005 on May 5, 2023

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This document supersedes previous versions and incorporates all other applicable FEMA US&R documents, policies, and procedures.

Cover Photo Credit: Photo taken by Tom Niedernhofer, USACE showing Scott Acone, USACE StS leaving a collapsed structure in Haiti.

Foreword

This Concept of Operations provides an overview for Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) personnel to train and maintain qualified personnel for the National Urban Search and Rescue (US&R) Response System in conjunction with the US Army Corps of Engineers (USACE) US&R Program.

The National Urban Search and Rescue (US&R) Response System (the System) provides for the coordination, development, and maintenance of the Federal effort with resources to locate and extricate victims, provide immediate medical treatment to survivors trapped in collapsed structures, and conduct other life-saving operations.

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CHAPTER 1: INTRODUCTION

1-1. Purpose

This Concept of Operations (CONOPS) outlines the support that will be provided by the U. S. Army Corps of Engineers (USACE) to the FEMA National Urban Search and Rescue (US&R) Response System during response operations. This CONOPS includes the specific roles and responsibilities, tasks, integration, and actions required to ensure a seamless and coordinated response. These actions as described are for planning purposes and event specific operational requirements may dictate changes to various details during an actual response.

A. This CONOPS is not intended to replace existing documents that already detail FEMA Headquarters responsibilities (e.g., the National Response Framework [NRF] or Standard Operating Procedures [SOPs]).

B. Consistent with the NRF and National Incident Management System (NIMS), FEMA will plan for the worst-case scenario, but will adapt its planning approach and operational response accordingly.

C. FEMA coordinates Federal support under the authority of the Stafford Act to states or under the Economy Act to other Federal departments and agencies requesting assistance.

D. One or more Federal Coordinating Officers (FCO) will be appointed for a Stafford Act declaration to execute Stafford Act authorities, including commitment of FEMA resources and the mission assignment of other Federal departments or agencies.

1-2. Applicability and Scope

This Concept of Operations is applicable to the U.S. Army Corps of Engineers (USACE) and the FEMA National US&R Response System.

Under the National Response Framework, the U.S. Army Corps of Engineers is assigned as a supporting agency for Emergency Support Function #9 – Search and Rescue. FEMA is assigned as the primary agency for ESF #9. The Department of Defense, and specifically USACE, maintains a cadre of volunteer Structures Specialists (StS) to augment the National US&R Response System. Through a Mission Assignment process, USACE may be requested to deploy their Structures Specialists to support deployed task forces and as well as the FEMA US&R Incident Support Team (IST). The FEMA US&R IST will make recommendations to the FEMA US&R Branch for the quantity of USACE Structures Specialists that are to be requested.

For the purposes of this CONOPS, the missions that USACE provides to ESF #9 are different and separate from the ESF #3 Infrastructure Assessment Mission which does not necessarily require Structures Specialists for considering habitability and occupancy assessments. The U.S. Army Corps of Engineers is designated as the primary agency for Emergency Support Function #3 – Public Works and Engineering and has a number of responsibilities under that ESF.

1-3. Background

The FEMA US&R Branch is responsible to develop national US&R policy, provides planning guidance and coordination assistance, standardizes task force procedures, evaluates task force operational readiness, funds special equipment and training within available appropriations, and reimburses, as appropriate, task force costs incurred as a result of ESF #9 deployment.

The National US&R Response System is prepared to deploy and immediately initiate operations in support of ESF #9. The task forces are staffed primarily by emergency services personnel who are trained and experienced in collapsed structure search and rescue (SAR) operations and possess specialized expertise and equipment. From the earliest years of the FEMA US&R Response System, the U.S. Army Corps of Engineers has been an integral part of the training and staffing of the Structures Specialist position on task forces. In 1991, the USACE was tasked by U.S. Army Forces Command (FORSCOM) to develop a cadre of specially trained structural engineers for worldwide response. Upon activation under the National Response Framework, FEMA US&R task forces are considered Federal assets under the Homeland Security Act of 2002, the Robert T. Stafford Disaster Relief and Emergency Assistance Act, and other applicable authorities.

The National US&R Response System is a framework for structuring local emergency services personnel into integrated Federal response resources. The 28 System Sponsoring Agencies employ the tools, equipment, skills, and techniques necessary to maintain US&R task forces. FEMA can deploy these agencies to assist state, tribal, territorial, and local governments to rescue survivors of structural collapse and wide-area disaster incidents or to assist in other search and rescue activities. Once activated, the task force is required to position all its personnel and equipment at its embarkation point within four hours, if being deployed by ground transport, or at an identified Aerial Port of Embarkation (APOE) within six hours of activation if deployed by air transport.

1-4. Authorities and Foundational Documents

A number of authorities and documents apply to the support provided by the USACE to the FEMA National US&R Response System.

A. National Response Framework (NRF), Fourth Edition, October 2019

The National Response Framework (NRF) outlines Federal responsibilities and provides the framework for coordinating civil-military requirements. The NRF is designed to ensure that all levels of government across the nation have the capability to work efficiently and effectively together using a national approach to domestic incident management. It serves as the core strategic national-level plan for coordinating Federal incident management activities for terrorist attacks, disasters, and catastrophic incidents. Under the NRF, the Department of Defense could be asked to provide capabilities that other agencies do not possess or that have been exhausted. USACE assistance under the NRF may include personnel, equipment, and supplies in the absence of, or to reinforce other national disaster system resource capabilities.

B. Emergency Support Function #9 – Search and Rescue Annex (June 2019)

The ESF #9 Annex of the NRF provides an overview of federal responsibilities carried out by the ESF #9 Coordinator (FEMA), the ESF #9 Primary Agencies (FEMA, USCG, DOD, and DOI), and ESF #9 Supporting Agencies. These agencies are responsible to deploy Federal SAR resources to provide lifesaving assistance to local, state, tribal, territorial, and insular area authorities, including local SAR Coordinators and Mission Coordinators, when there is an actual or anticipated request for Federal SAR assistance. During incidents or potential incidents requiring a unified SAR response, Federal SAR responsibilities reside with ESF #9 primary agencies that provide timely and specialized SAR capabilities. Support agencies provide specific capabilities or resources that support ESF #9.

Within the National Response Framework, the Department of Defense serves as both a Primary Agency and Support Agency for ESF #9. As a component of DOD, USACE is designated as a Supporting Agency for ESF #9 and has four specific responsibilities under the National Response Framework as listed on Page 9 of the Annex:

A. Deploys specially trained and equipped structural engineers to augment DHS/FEMA US&R task forces, ISTs, military technical rescue organizations, and general purpose troops during structural collapse incidents and other disaster response missions.

B. Provides technical support for rescue engineering capability and advises task force leaders and commanders to assess damage, mitigate hazards, enable safe entry, and assure mobility throughout a disaster site to enable rescue and lifesaving operations.

C. Develops doctrine, training programs, and national standards for structural collapse response operations; conducts initial training courses, advanced coursework, exercises and continuing education for all DHS/FEMA US&R Structures Specialists, and other organizations requiring this capability.

D. Maintains specialized, pre-positioned, deployable equipment caches to support US&R/Disaster Response operations.

C. Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended, 42 U.S.C.)

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (The Stafford Act) was enacted by Congress *"to provide an orderly and continuing means of assistance by the Federal Government to State and local governments in carrying out their responsibilities to alleviate the suffering and damage which result from... disasters..."* It is the statutory authority for Federal disaster assistance within the United States. It empowers the President to establish a program for disaster preparedness and response, which the President has delegated to FEMA. The Stafford Act provides procedures for declaring an emergency or major disaster, as well as the type and amount of Federal assistance available. The Stafford Act authorizes the President to provide Department of Defense assets for the relief efforts, once the President formally declares an emergency or a major disaster. Department of Defense assets for emergency work may be provided on a limited basis prior to the Presidential declaration.

D. Title 44 of the Code of Federal Regulations (CFR), Emergency Management and Assistance

The CFR is a codification of the general and permanent rules and regulations published in the FEDERAL REGISTER that contain critical policies and procedures. Title 4 is entitled, “Emergency Management and Assistance,” and Chapter 1 of Title 44 contains the regulations issued by the Federal Emergency Management Agency (FEMA), including those related to implementing the Stafford Act.

E. National SAR Plan Supplement to the IAMSAR Manual - 2018

This document provides an overview of Supporting Agency Actions that USACE performs, specifically mentioning that USACE develops doctrine, training programs, and national standards for structural collapse response operations, conducts initial training courses, advanced coursework, exercises and continuing education for all DHS/FEMA US&R Structures Specialists

and other organizations requiring this capability (Page C-13).

F. DoD Instruction 3003.01 – DoD Support to Civil Search and Rescue (SAR)

In accordance with DoD Instruction 3003.01, the Department of Defense supports civil authorities providing SAR service to the fullest extent practicable on a non-interference basis with primary military duties according to applicable national directives, plans, guidelines, and agreements; under the authority of and consistent with the provisions of the National Search and Rescue Plan (NSP); and on a reimbursable basis according to the Economy Act or the Stafford Act. When directed by the Secretary of Defense, Commander, USNORTHCOM, or Commander, USPACOM, will provide military support to FEMA US&R task forces in a U.S. Government response to a catastrophic incident.

G. DoD Directive 3025.18 - Defense Support of Civil Authorities (DSCA)

DoD Directive 3025.18 is the DoD policy for providing disaster assistance within the United States (including pursuant to the Stafford Act). DoD Directive 3025.18 recognizes a Federal military commander's "immediate response" authority. This authority allows Federal military commanders to provide disaster relief within the United States "under imminently serious conditions and if time does not permit approval from higher authority." Specific language regarding USACE is included on page 3: (5) Support provided by the USACE when accomplishing missions and responsibilities under the authority of section 701n of title 33, U.S.C. (Reference (m)) and Executive Order 12656 (Reference (n)).

H. The Economy Act of 1932 (The Economy Act) (31 U.S.C. § 1535)

The Economy Act authorizes agencies to enter into agreements to obtain supplies or services by interagency acquisition. It requires other Federal departments and agencies to reimburse DoD for services or assistance provided and is implemented by DoD Instruction 4000.19, *Interservice and Intragovernmental Support.* An annual interagency agreement (IAA) between FEMA and USACE provides funding towards the Structures Specialist Training Services contract managed by USACE.

I. The Posse Comitatus Act (18 U.S.C § 1385)

The Posse Comitatus Act and DoD policy generally prohibit Federal military forces from performing direct civilian law enforcement-type functions. The USACE support provided to FEMA US&R would not in any way be considered a law enforcement type function. The Posse Comitatus Act does not apply to the National Guard when operating under State command and control. It does apply to National Guard personnel in a Federal (Title 10) status.

J. The Structures Specialist Field Operations Guide

The Field Operations Guide (FOG) was developed by the FEMA US&R Structures Subgroup in cooperation with the U.S. Army Corps of Engineers (USACE) as a working reference tool for US&R Rescue Team Personnel, especially Structures Specialists (StS) during response operations. It condenses information provided during the StS1 and StS 2 training courses and was designed to be expanded in order to incorporate new information.

K. FEMA Mission Assignment Guide

The Federal Emergency Management Agency (FEMA) Mission Assignment (MA) Guide provides an operational framework for the development, approval, issuance, execution, reimbursement, and closeout of a MA at the incident management (IM) and incident support (IS) levels. The Mission Assignment process outlined in the MA Guide ensures that mission-assigned agencies are aware of the tasking, understand the scope of the mission, estimate the expected cost and time of completion, and document the MA for record and reimbursement purposes. The MA is a work order that FEMA issues to another federal agency directing the completion of a specific request for assistance. The MA includes funding, managerial controls, and guidance. FEMA will issue a MA in anticipation of, or in response to, a Presidential declaration of an emergency or a major disaster.

L. FEMA Response Federal Interagency Operational Plan, 2nd Edition – August 2016

The Federal Emergency Management Agency (FEMA) Response Federal Interagency Operational Plan (FIOP) describes how the Federal Government delivers core capabilities for the Response mission area. Specifically, the Response FIOP is an all-hazards plan that describes how the Federal Government coordinates its efforts to save lives, protect property and the environment, and meet basic human needs following an emergency or disaster. The Response FIOP describes how the Federal interagency partners will provide support to the local, state, tribal, territorial, and insular area entities in the following manners:

L-1. Improve coordination and integration of incident management communications and increase situational awareness and understanding across the whole community

L-2. Provide a proactive and integrated Federal response to incidents

L-3. Maximize the integration of incident-related mission area activities

L-4. Maximize efficient utilization of shared resources needed for effective incident management.

Annex A of the Response FIOP provides a table of ESF to Core Capability Alignment. This Annex provides two descriptions of support provided by ESF #3 (USACE) towards Mass Search and Rescue Operations (Page A-6):

L-5. Provide specially trained and equipped engineers to augment FEMA US&R task forces, Incident Support Teams, military technical rescue organizations, and general-purpose troops during structural collapse incidents and other disaster response missions.

L-6. Provide debris removal equipment and expertise to support SAR, as required.

M. Public Law 84-99 (Section 5 of the Flood Control Act of 1941)

The Public Law 84-99 is the Corps of Engineers' basic authority to provide for emergency activities in support of State and Local governments prior to, during, and after a flood event. The Flood Control and Coastal Emergencies (FCCE) appropriation provides funding for PL 84-99 authorized activities. Under PL 84-99, the Corps can provide both emergency technical and direct assistance in response to flood and coastal storms, such as hurricanes and nor'easters. In addition, the Corps can assist if there is a flood threat from damage caused by earthquakes to flood risk

management projects. The assistance must be requested by the State and it must be supplemental to State and Local actions including resources and capabilities, as well as National Guard assets.

Due to these unique missions, USACE has many subject matter experts that can be requested by FEMA to provide assistance in areas such as emergency management, flood risk management, landslides, construction, urban search and rescue, oceanography, hydrology and hydraulics, and engineering fields that respond when needed.

N. DOD Joint Publication 3-28 – Defense Support of Civil Authorities – October 29, 2018

The Joint Publication 3-28 provides joint doctrine to plan, conduct, and assess defense support of civil authorities. JP 3-28 sets forth joint doctrine to govern the activities and performance of the Armed Forces of the United States in joint operations, and it provides considerations for military interaction with governmental and nongovernmental agencies, multinational forces, and other interorganizational partners. Specifically, it cites USACE support of FEMA US&R in Chapter IV, Page 6:

> The USACE Urban Search and Rescue Program deploys specially trained and equipped structural engineers (Structures Specialist Cadre) to augment FEMA urban SAR task forces, incident support teams, military technical rescue organizations, and other forces during structural collapse incidents and other disaster response missions. This rescue engineering capability provides technical support and advice to task force leaders and commanders to assess damage, mitigate hazards, enable safe entry, and assure mobility throughout a disaster site to enable rescue and life-saving operations. The Urban Search and Rescue Program develops doctrine, training programs, and national standards for structural collapse response operations and conducts initial training courses, advanced coursework, exercises and continuing education for all FEMA urban SAR structures specialists. On order, the program deploys its cadre to conduct heavy structural assessments in support of USACE responsibilities and other military and civil contingency requirements. USNORTHCOM and United States Transportation Command (USTRANSCOM) provide the following support to FEMA urban SAR: strategic and tactical airlift, logistics, C2, incident support team augmentation, and skilled and unskilled military forces augmentation. The USACE leads the training for structures specialists and maintains a cadre of structures specialists that are deployed as part of an incident support team engineering cell and urban SAR task forces.

O. DOD Joint Publication 3-06 – Joint Urban Operations – November 20, 2013

The Joint Publication 3-06 provides joint doctrine to govern the activities and performance of the Armed Forces of the United States in joint operations and provides the doctrinal basis for interagency coordination. Specifically, it cites USACE support of FEMA US&R in Chapter III, Page 29:

> **e. Urban SAR Program**. The US Army Corps of Engineers Urban SAR program provides technical and operational support to the Federal Emergency Management Agency urban SAR program and other state, local, and international urban SAR programs. The US Army Corps of Engineers leads the training for structures specialists, and maintains a cadre of structures specialists deployed as part of incident support team engineering cell, and urban SAR task

forces.

(1) Urban SAR is a dangerous undertaking when conducted in buildings that are fully or partially collapsed. Typically, these structures are multistoried and contain heavy debris with a high potential for additional collapse. Engineers trained as structures specialists can evaluate a damaged building in order to reduce the risks to rescue personnel and victims. Structures specialists design shoring systems to stabilize structures for rescuers to gain safe access to the victims. The structures specialists are trained in Rescue Systems 1 (a basic rescue skills course), critical incident stress awareness and management, and hazardous material awareness. They also receive instruction in structural collapse patterns, hazard identification and building monitoring, rapid assessment of buildings, building triage and marking systems, and advance shoring and shoring calculations.

(2) The US Army Corps of Engineers structures specialist cadre is an essential component of the urban SAR task forces and the incident support team with the ability for fast deployment in a life-saving mission. The structures specialist brings engineering expertise to the urban SAR task force. Responsible for evaluating the immediate structural conditions at the incident and recommending the appropriate hazard mitigation, the structures specialist serves a vital function to the task force.

P. USACE National Emergency Preparedness Program – February 2014

To support Continuity of Operations, Continuity of Government and Catastrophic Disaster planning, the USACE utilizes the National Emergency Preparedness Program (NEPP) throughout the USACE area of responsibility. The NEPP provides funding for training, acquisitioning, and staffing under the direction of the Chief Directorate of Civil Works, Headquarters, and USACE (CECW-HS). National USACE provides civil disaster planning assistance, regarding USACE authorities to FEMA, other federal agencies, and state response partners. In addition to funding training, the NEPP also provides funding for Catastrophic Disaster Response Planning. This category of funding applies to scenario-specific planning activities of national significance (i.e., Hurricanes, Earthquakes, Terrorist Attacks, etc.) as assigned. Activities in this class include development of plans, in accordance with appropriate Federal, state and local entities, for response to natural/man-made disaster that are catastrophic as to impact national security.

Q. USACE Operation Order 2010-89, USACE Urban Search and Rescue Program

The six-page Operations Order (Op-Order) clarifies that USACE provides the Structures Specialist (StS) position for the FEMA National US&R Response System and the military. This Op-Order also describes the responsibilities to develop and facilitate all training for StS on FEMA US&R Task Forces. Additionally, the Op-Order describes an agreement with FEMA that USACE maintain a separate cadre of fifty (50) StS personnel to deploy to augment task forces, the FEMA US&R Incident Support Team (IST), and other DoD elements. This Op-Order designates South Pacific Division (SPD) to manage the HQ USACE US&R Program as a national program and provides a summary of how other USACE Commands, Districts, Centers, and Offices have responsibilities to support the USACE US&R Program.

R. USACE Fragmentary Order 6 (ESF #3 Mission PRT Reconfiguration) to Operations Order 2014-11, USACE Response to All Hazards Events

The seven-page Fragmentary Order (Frag-Order) provides a summary of changes made to both ESF #3 and ESF #9 support provided by the USACE following an analysis by their Director of Contingency Operations. The analysis resulted in a reduction in some USACE requirements. The Frag-Ord continues to reinforce the information in Op-Order 2010-89 that designates South Pacific Division (SPD) to manage the HQ USACE US&R Program as a national program, maintain three deployable StS Equipment Caches in the East, Central, and West US&R Divisions and a Cold Weather Cache, and provides a summary of how other USACE Commands, Districts, Centers, and Offices have responsibilities to support the USACE US&R Program. Based on the analysis referenced above, this order specifically notifies on page 5 that the USACE US&R Program shall prepare for a reduction in the US&R StS Cadre from fifty (50) personnel to at least thirty (30) fully trained and deployable USACE StS personnel.

S. Applied Technology Council 20 (ATC-20) - Procedures for Postearthquake Safety Evaluation of Buildings (1989)

The ATC-20 report provides procedures and guidelines for making on-the-spot evaluations and decisions regarding continued use and occupancy of earthquake damaged buildings. Written specifically for volunteer structural engineers and building inspectors, the report has become the de facto national standard for safety evaluation of earthquake-damaged buildings. The report includes rapid and detailed evaluation procedures for inspecting buildings and posting them as INSPECTED (apparently safe, green placard), LIMITED ENTRY (yellow placard) or UNSAFE (red placard). Also included are special procedures for evaluation of essential buildings (e.g., hospitals), evaluation procedures for nonstructural elements and geotechnical hazards, and guidance on human behavior following earthquakes. The ATC-20 set consists of two documents:

R-1. The ATC-20 report, *Procedures for Postearthquake Safety Evaluation of Buildings.* The ATC-20 report was published in 1989 and is 152 pages.

R-2. The ATC-20-2 Report, *Addendum to the ATC-20 Postearthquake Building Safety Evaluation Procedures*. The ATC-20-2 Addendum contains revised placards and safety assessment forms, based on ATC-20 use following the 1989 Loma Prieta, 1992 Cape Mendocino, 1992 Landers, 1992 Big Bear, and 1994 Northridge earthquakes and was published in 1995 and is 94 pages.

R-3. The 159-page ATC-20-1 is the *Field Manual: Postearthquake Safety Evaluation of Building* was published in 2005 as a companion to ATC-20.

The USACE South Pacific Division is responsible for USACE support to the Applied Technology Council and for the selection of ATC-20 Training Officers.

T. Applied Technology Council 45 (ATC-45) – Field Manual: Safety Evaluation of Buildings after Windstorms and Floods (2004)

The 132-page document provides guidelines and procedures to determine whether damaged or potentially damaged buildings are safe for use after windstorms or floods, or if entry should be restricted or prohibited. Formatted as an easy-to-use pocket guide, the *Manual* is intended to be used by structural engineers, building inspectors, and others involved in post disaster building

safety assessments. Advice is provided on evaluating structural, geotechnical, and nonstructural risks. Also included are procedures for Rapid Safety Evaluation, procedures for Detailed Safety Evaluation, information on how to deal with owners and occupants of damaged buildings, information on field safety for those making damage assessments, and example applications of the procedures. The USACE South Pacific Division is responsible for USACE support to the Applied Technology Council and for the selection of ATC-45 Training Officers.

1-5. Definitions

IST Structures Specialist (StS): A position on the IST that reports directly to the IST Planning Section Chief and is responsible for ensuring various structural assessments for the IST during incident operations. Source: FEMA US&R Operations Manual, Annex E – Position Descriptions.

Mission Ready Package – Structures Specialist (MRP-StS): A US&R resource consisting of specific equipment and two FEMA US&R Structures Specialists or two USACE Structures Specialists. This MRP will report to either the IST Structures Specialist or a deployed US&R Task Force Structures Specialist. Source: Annex D – Mission Ready Package Concept of Operations.

Rapid Bridge Assessment: Conducted by a Structures Specialist (StS) to evaluate bridges along an access routes for US&R Task Force personnel and equipment, as well as safe evacuation routes. These assessments may require bridge closures. The RBA-1 form should be used by the StS to aid in proper Bridge Assessments.

Rapid Structure Triage (RST): Refers to the process of very quickly evaluating several collapsed structures and determining which structures will receive operational priority. This process will be most appropriate for disasters that occur suddenly and cause collapse of many structures. This may be done immediately following the disaster by special RST teams or local responders.

Structures Specialist (StS): A position on a task force responsible for performing the various structural assessments for the task force during incident operations. The StS is a specially trained structural engineer that has completed the USACE Structural Specialist 1 course and meets all required training and experience requirements. A Structures Specialist may either be a member of a FEMA US&R Task Force or from a cadre of US&R trained US Army Corps of Engineers.

Structure Hazard Mitigation Plan: Completed during and following structural assessments, this plan typically become part of the Incident Action Plan (IAP). Structure mitigation plans can include recommendations for shoring, bracing, hazard avoidance, structure element tieback, monitoring or other structural hazard mitigations. Plans may start as rough sketches but can be changed and improved as the incident progresses. US&R Structure Hazard Mitigation forms have been developed for the StS to efficiently develop and communicate mitigation methods and locations (MIT-1 and MIT-Log).

Structural Monitoring: The monitoring of structurally compromised elements that are often extremely difficult or time consuming to mitigate prior to lifesaving US&R operations (e.g., a column, wall, roof or floor that has lost intermediate support). The fundamentals of structural monitoring for US&R include a Monitoring Plan, effective Emergency Communication Plan, Specialized Monitoring Tools and Trained Monitoring Personnel.

US Army Corps of Engineers (USACE): Under the National Response Framework, the U.S. Army Corps of Engineers is assigned as a supporting agency for Emergency Support Function #9 – Search

and Rescue. USACE is the federal agency withing the Department of Defense responsible by way of Interagency Agreement with FEMA to conduct the training of US&R structural engineers for the National US&R Response System. USACE is also responsible to maintain a cadre of volunteer Structures Specialists (StS) to augment the National US&R Response System.

USACE US&R Program Manager: The full time USACE employee responsible for the overall management of the USACE Urban Search and Rescue Program and for the delivery of the StS 1 and StS2 and StS Regional Trainings.

1-6. Mission

The USACE and their Structures Specialists (StS) serve a vital function to the FEMA National US&R Response System. The FEMA US&R Incident Support Team Engineering Cell makes specific assignments for the Corps' Structures Specialists. Assignments may be to augment the Task Forces, the Military, or to other agencies and departments. StS design shoring systems to stabilize structures for rescuers to gain safe access to those who are trapped inside a damaged structure. These "Specialists" evaluate the immediate structural conditions at the incident and recommend the appropriate hazard mitigation for rescue personnel during incident operations.

The USACE Structures Specialists (StS) Cadre is comprised of at least 30 trained USACE engineers with at least 5 years of engineering experience consisting of structural design and basic construction techniques for building systems comprised of wood, masonry, concrete, and steel. The Corps' StS meet specific requirements to fill this FEMA US&R Position Description. The USACE Structures Specialists are trained in Rescue Systems 1, a course developed by the State of California that covers topics on team organization; rescue, and environmental considerations; use of ropes; knots, rigging, pulley systems, descending, rappelling, belaying tools and techniques; subsurface rescue techniques; breaking, breaching and heavy lifting using of cribbing, wedges, cutting/prying and hydraulic tools; use of fire service ladders in specialized rescue situations; and day and night simulated rescue exercises. The course reviews structural collapse patterns, hazard identification and building monitoring, rapid assessment of buildings, building triage and marking systems, advanced shoring, and shoring calculations. StS are equipped and uniformed to deploy within a 6-hour window and prepared to minimally survive in austere conditions. Mission durations are short, usually 6 to 10 days. Once activated and deployed, the USACE Structures Specialists would either be attached to one of the 28 FEMA US&R Task Forces or be assigned to work directly with the FEMA US&R Incident Support Team. The USACE also maintains three prepositioned equipment caches in the eastern, central, and western regions of the United State to enable rapid deployment to support lifesaving operations. During a meeting on February 28, 2011 between the USACE Headquarters and FEMA US&R Branch, FEMA agreed that the needs for a USACE StS cadre would be 50 personnel. That assessment did not consider any mission in support of the military or other Agency, such as those described in Section 3-4 of this document.

Mission Priorities

As stated in the StS Field Operations Guide (Section 8-2), the specific mission priorities will be decided by the affected State in conjunction with the FEMA US&R Incident Support Team or US&R Task Force Leader. Based on input from State Emergency Management personnel and the status of the Federal US&R mission, the following priorities are listed for USACE StS planning purposes:

A. Priority 1: Support to FEMA Task Forces for either backfilling or augmentation. Support the FEMA Incident Support Team (IST) engineering element.

B. Priority 2: Support to the Military by providing Structures Specialist augmentation with technical rescue operations.

C. Priority 3: Technical assistance to State, Regional, and Local jurisdictions with rescue efforts.

D. Priority 4: Other agency support.

1-7. General Concept of Operations

The general concept of operations is for the US Army Corps of Engineers Urban Search & Rescue Program (USACE US&R Program) to be ready to deploy specially trained and equipped structural engineers (Structures Specialist Cadre) to augment FEMA Urban Search & Rescue Task Forces, incident support teams, military technical rescue organizations, and general-purpose troops during structural collapse incidents and other disaster response missions.

The FEMA National Urban Search & Rescue (US&R) Response System (the System) is designed to ensure rapid, coordinated, and flexible Federal US&R all-hazard response capability. This concept of operations is designed to facilitate the rapid mobilization of the USACE Structures Specialists to support the FEMA US&R response. Preparation for, response to, recovery from, and mitigation against catastrophic incidents requires a coordinated response led by FEMA and will involve federal, state, local, and tribal governments, the private sector, and nongovernmental organizations (NGOs) in support of FEMA Regional response efforts.

1-8. Critical Assumptions

The following assumptions are considered valid for an all-hazards response scenario:

A. Governors of affected states will immediately declare disaster emergencies.

B. The President will declare a state of emergency and execute an emergency or major disaster declaration under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act).

C. State and local governments will provide immediate support to their citizens. FEMA will activate Federal resources and deploy or preposition them for quick response to a state request for assistance, in order to stabilize an incident within 72 hours.

D. Multiple FEMA Regions, states, localities, and tribal nations may be affected, and multiple incidents may occur simultaneously or sequentially in contiguous and/or noncontiguous areas.

E. Widespread damage and large numbers of impacted populations will likely increase search and rescue (SAR) operations rapidly taxing or exceeding the response capacities and resources of local jurisdictions.

F. State, local and tribal jurisdictional ability to establish an effective incident command structure may be compromised.

G. Some members of the population will refuse to comply with orders for public safety due to various reasons (e.g., safety of household pets), which can affect planning assumptions and may increase response operations.

H. Widespread damage to communications infrastructure may require implementation of special communications procedures to ensure continuity of operations if a catastrophic incident damages existing communication infrastructure.

I. Anticipated impacts on transportation infrastructure may require US&R ISTs and US&R Task Forces to be assigned to separate operational areas.

J. Widespread damage to buildings and structures will require a significant amount of Rapid Triage Assessments over a large geographical area by USACE and FEMA US&R Structures Specialists.

K. There will be international offers of assistance.

L. Other national incidents or requests for international support to a disaster could occur simultaneously with response operations in the United States.

CHAPTER 2: ORGANIZATION

2-1. USACE Program Management Roles and Responsibilities

The USACE Urban Search and Rescue Program Management office is based in San Francisco, California and is responsible for the year-round management, staffing, training courses, and deployment of USACE Structures Specialists. The USACE US&R Program ensures the training and readiness of their cadre of USACE Structures Specialists for deployment when requested via Mission Assignment.

The USACE US&R Program Manager has the following responsibilities:

A. Act as the primary point of contact for USACE with the FEMA US&R Branch.

B. Act as the primary point of contact for USACE with other federal agencies involved with structural collapse response operations.

C. Coordinate closely with the USACE ESF #3 Team Leader as appropriate for any USACE US&R Program Activities.

D. Provides subject matter expertise on the capabilities of the USACE StS program.

E. Represent the USACE at annual FEMA US&R meetings.

F. Serve as a member of the FEMA US&R Advisory Organization (AO) Structures Subgroup.

G. Manage the annual Interagency Agreement between the USACE and FEMA US&R Branch.

H. Coordinate and schedule the delivery of StS courses and regional training events throughout the year.

I. Manage the periodic review, revision, and publishing of all StS course curriculum in coordination with the AO Structures Subgroup.

J. Coordinates the involvement of USACE Structures Specialist to attend US&R exercises.

K. Mange the periodic review, revision, and publishing of the USACE doctrine, to include the US&R StS Field Operations Guide and Shoring Operations Guide.

L. Manage the periodic review, revision, and publishing of forms used by the USACE and FEMA US&R Structures Specialists.

M. Manages the content on the www.disasterengineer.org website.

2-2. USACE Structures Specialist Roles and Responsibilities

When deployed, a USACE and FEMA US&R Structures Specialist performs the same duties as described in the Structures Specialist Position Description in Annex E of the FEMA US&R Operations Manual. The Structures Specialist will perform various structural assessments for the task force during incident operations. The StS reports directly to the Planning Team Manager but will often be assigned to the Search Team or Rescue Team Manager. The StS may be assigned other duties working directly in support of the US&R IST Structures Specialist or as a Technical Liaison to the AHJ (Agency Having Jurisdiction) or some other Agency.

A. Description of Duties - The Structures Specialist is responsible for the following:

A-1 Assessing the structural condition within the area of task force operations, which includes identifying structure types and specific damage and structural hazards.

A-2 Recommending the appropriate type and amount of structural hazard mitigation in order to minimize risks to task force personnel.

A-3 Provide input to task force tactical action plans as appropriate.

A-4 Cooperating with and assisting other search and rescue resources.

A-5 Providing accountability, maintenance, and minor repairs for all issued equipment.

A-6 Performing additional tasks or duties as assigned during a mission.

A-7 Monitoring assigned structure for condition changes while rescue and recovery operations are proceeding.

A-8 Assuming an active role in implementing approved structural hazard mitigation as a designer, inspector, and possibly a supervisor.

A-9 Coordinating and communicating the structural related hazard mitigation with US&R IST Structures Specialist.

A-10 Performing additional tasks or duties as assigned.

B. Common Structures Specialist Tasks

The rescue engineering capability of the StS provides technical support and advice to task force leaders and commanders to assess damage, mitigate hazards, enable safe entry, and assure mobility throughout a disaster site to enable rescue and lifesaving operations.

B-1. Rapid Structural Triage

Rapid Structure Triage (RST) refers to the process of very quickly evaluating several collapsed structures and determining which structures will receive operational priority. This process will be most appropriate for disasters that occur suddenly and cause collapse of many structures. This may be done immediately following the disaster by special RST teams or local responders.

B-2. Structural Assessment

Following RST, more detailed structural assessments are required for buildings prioritized for US&R operations. StS perform assessments of the assigned structures' exterior and interior to determine structure type, location of falling, collapse or other hazards, continuity of load paths and access points. This would include:

B-2.1 Clearly mark the structure(s) assessed at the point of entry in accordance with the standard marking system.

B-2.2 Draw a crude plan to indicate possible access points, location of structural hazards and the most productive methods of hazard reduction.

B-2.3 Note the indication of normal egress routes (i.e., corridors, stairs, etc.) for any possible voids or victim locations.

B-2.4 Clearly mark off hazardous areas that are to be avoided.

B-2.5 Use the Structure/Hazards Evaluation Form to capture information (StS Forms HAZ-1, 2 and 3). Refer to Appendix C for a detailed list of forms used by the StS.

B-3. Structure Hazard Mitigation Plans

During and following structural assessments, US&R forces need to consider alternatives that will reduce risk for Search & Rescue Operations. StS must very quickly develop the Structure Hazard Mitigation Plans, which could become part of the Incident Action Plan (IAP). Structure mitigation plans can include recommendations for shoring, bracing, hazard avoidance, structure element tieback, monitoring, or other structural hazard mitigations. Plans may start as rough sketches but can be changed and improved as the incident progresses. US&R Structure Hazard Mitigation forms have been developed for the StS to efficiently develop and communicate mitigation methods and locations (MIT-1 and MIT-Log).

B-4. Structural Monitoring

This task generally refers to the monitoring of structurally compromised elements that are often extremely difficult or time consuming to mitigate prior to lifesaving US&R operations (e.g., a column, wall, roof or floor that has lost intermediate support). The fundamentals of structural monitoring for US&R include a Monitoring Plan, effective Emergency Communication Plan, Specialized Monitoring Tools and Trained Monitoring Personnel.

B-5. Coordination with Heavy Equipment Operations

While Task Force personnel include trained Riggers and Equipment Operators, more sensitive heavy equipment operations may require StS coordination and advice when operating in and near full or partially collapsed structures. Examples may include identifying centers of gravity for unusual debris/rubble shapes and materials for proper rigging; identifying stable crane operating location based on various subgrade features and load distribution alternatives with outriggers and crib-mats; strategic debris removal that doesn't compromise partial support to damaged structural elements; Heavy Equipment "ordering" based on reach and weight of heaviest pick (see StS Form "CU-1").

B-6. Mapping

As multiple task forces conduct US&R operations in collapsed structures, accurate mapping of breach and tunneling operations helps to monitor progress and location of individual task forces relative to one-another. StS tools and mapping capabilities provide useful information to TFL's.

B-7. Shore Inspections

After shoring mitigation measures are in place, periodic inspection should be done to check for signs of distress or overloading (e.g., cupped wedges). After construction, the shores should also be checked for proper construction (check orientation, bracing, gussets, nail patterns, header/sole contact, tight wedges – Refer to StS form "SHOR-1").

B-8. Tunnel Hazard Evaluations

Unique hazards associated with tunnel collapses require careful assessment by StS. The use of the T-HAZ-1 form aids in the evaluation of hazards and development of mitigation measures to promote safer US&R Operations.

B-9. Rapid Bridge Assessments

In order to access routes for US&R Task Force personnel and equipment, as well as safe evacuation routes, StS may often be required to perform rapid bridge assessments, which may require bridge closures. The RBA-1 form should be used by the StS to aid in proper Bridge Assessments.

B-10. Liaison with Engineers

The StS may be requested to represent the Task Force or IST at engineering related planning meetings held by the authority having jurisdiction, or to work with private contractors and local authorities. The StS may also be asked to translate consulting engineers' requests into US&R specific language. The StS may also be asked to work with the US&R Planning Section regarding potential flooding impacts to US&R operations.

B-11. Other Missions as Assigned

The StS may be tasked to evaluate damaged and undamaged structures for occupancy by the task force or IST and may accompany the IST Forward Observers.

2-3. USACE Capabilities

A. Types of Configurations

The USACE US&R Program maintains three different rosters of USACE StS personnel that can deploy when requested. The USACE can deploy personnel to support FEMA US&R and ESF #9 in the following configurations:

A-1 Type 1 USACE StS Strike Team – 26 Personnel

This team configuration is a total of twenty-six (26) USACE personnel that are deployed along with their specialized equipment. The FEMA US&R IST will assign all USACE StS members as appropriate once they arrive to the IST.

A-1.1 Two personnel are assigned as the USACE IST Liaisons/SME's (providing 24-hour coverage in 12 hours shifts)

A-1.2 The remaining twenty-four personnel are assigned as USACE Structures Specialists (StS) that will forward deploy and embed with FEMA US&R Task Forces. The 24 forward deployed USACE personnel are expecting to be divided into two different 12-hours shifts for the purpose of providing 12 personnel per shift in order to staff the 24-hour operations that FEMA US&R Task Forces will be conducting.

A-1.3 The Type 1 USACE Strike Team will be prepared to be assigned to the IST and/or US&R Task Forces for up to 10 days and working 16 hours per day.

A-2 Type 2 USACE StS Strike Team – 7 Personnel

This team configuration is a total of seven (7) USACE personnel that are deployed along with their specialized equipment. The FEMA US&R IST will assign all USACE StS members as appropriate once they arrive to the IST.

A-2.1 One person is assigned as the USACE IST Liaisons/SME's and works with the IST

A-2.2 The remaining six personnel are assigned as USACE Structures Specialists (StS) that will forward deploy and embed with FEMA US&R Task Forces. The six forward deployed USACE personnel are expecting to be divided into two different 12-hours shifts for the purpose of providing three personnel per shift in order to staff the 24-hour operations that FEMA US&R Task Forces will be conducting.

A-2.3 The Type 2 USACE Strike Team will be prepared for assignment to the IST and/or US&R Task Forces for up to 10 days and working 16 hours per day.

A-3 USACE StS Mission Ready Package – 2 Personnel

This team configuration is a total of two (2) USACE personnel that are deployed along with specific equipment listed in the StS MRP Cache List and can be located on www.responsesystem.org. The FEMA US&R IST will assign the USACE StS MRP to a task force or team as appropriate.

A-3.1 The USACE StS MRP is designed to be a stand-alone unit that does not become a logistical burden to the task force or team to which it is assigned. The concept of the MRP is to supplement the capacity of a jurisdiction, team, or unit that does not have any or may require additional trained Structures Specialists.

A-3.2 Once they are embedded with a team, the MRP mission may require the StS to be able to consult and advise jurisdictions or team leaders about their unique StS evaluation capabilities. StS personnel may be required to suggest how to best utilize their subject matter expertise.

A-3.3 The daily tactical assignments given to the USACE StS MRP will come from the leadership of the team they are assigned to embed with.

A-3.4 Daily updates should be provided by the StS MRP back to the US&R IST Structures Unit whenever possible to keep the IST informed on their activities and to exchange any relevant information.

A-4 USACE Infrastructure Assessment Planning and Response Team (IA PRT)

This USACE team does not support FEMA US&R and is rather an ESF #3 PRT that has two main functions: (1) augment local public works primarily for residential rapid safety assessments and (2) provide a management cell for technical assistance missions for which there is no planning and response team; including but not limited to, water/wastewater facility assessments and critical public infrastructure. This capability is listed in this document for information purposes, as Infrastructure Assessment PRT's are sometimes confused with "Structures Specialists." Members of the USACE StS Cadre often support IA PRT missions due to their expertise and rapid deployability. However, the USACE US&R StS Cadre has a very different capability. The IA PRT would most likely be deployed to support an impacted local jurisdiction (city or county government) as described in Section 3-4.

2-4. USACE Structures Specialist Cadre Size

In accordance with USACE Operation Order (OPORD) 2015-11, the USACE currently maintains a cadre of 30 personnel across the country that are fully trained and ready to deploy in the US&R Structures Specialist position when activated using a Mission Assignment by the FEMA National US&R Response System. The current cadre size of 30 USACE StS is only a few more than the 26 personnel needed to staff a Type 1 StS Strike Team. A future USACE Fragmentary Order (FRAGO) will be necessary to authorize an increased USACE StS cadre size that will better address expected support needed by FEMA and other partners during large, widespread structural collapse disasters. Determining the required size of the USACE StS cadre is in part based on an assessment of how many mission assignments may be sent to the USACE from partners identified in Section 3-1. It is important to consider that unique and specific training is required to deploy as a US&R trained structures specialist (StS) supporting a FEMA US&R task force and that just-in-time training is not an option to ensure USACE can deploy a Type 1 StS Strike Team of qualified personnel.

2-5. USACE Personnel Equipment

The following list is contained in Section 8 of the USACE Structures Specialist Field Operations Guide (FOG) and is included here as a reference for the equipment USACE personnel will bring with them during a deployment. The most current version of the USACE StS FOG is located on the www.disasterengineer.org website and is updated every two years by the U.S. Army Corps of Engineers.

Personal Protective Equipment	Equipment	Personal Gear
US&R Helmet & Headlamp	Copies of StS Forms	Go-Bag and Backpack
Safety Googles	Calculator	Sleeping Bag
Hearing Protection	Tape Measures	Clothing for 10 days
Safety Gloves and Kneepads	Laser Distance Meter	72 hours of food (MREs)
Half Face Respirator & Cartridges	Inclinometer	Extra batteries
Safety Toe Boots	Knife Tool	Bandanna or Neck Shield
Long sleeve BDU uniforms	Geology Hammer	Absorbent Towel
Rain Gear and Heavy Coat	Digital Camera	Personal Hygiene Items
Sunscreen and Insect Spray	Pocket Air Horn & Whistle	Medications

2-6. USACE Personnel Support Requirements

The following list is provided to allow the FEMA IST or US&R Task Forces to anticipate any support requirements or equipment that will need to be issued to any assigned and embedded USACE personnel during the incident.

A. Meals: The USACE StS bring meals with them in their go-bag to feed themselves for 72 hours. The three USACE StS Regional Cache's also have enough MRE's to support a Type 2 USACE StS Strike Team for an additional 72 hours (a total of 48 MRE's are in each USACE StS Regional Equipment Cache).

A-1 Depending on the event, Mission Assignment and number of USACE Strike Teams deployed, the USACE StS Equipment Caches may or may not be available.

A-2 For IST planning purposes, meals will need to be provided by the IST or Task Force to a USACE StS once they have been assigned and integrated into the IST or Task Force.

B. PPE: Replacement cartridges for their half-face respirators once both of their sets of filters become no longer usable.

C. Radio: A portable radio programmed to FEMA or State US&R frequencies. This requirement may need to be supported by either the FEMA US&R IST or Mobile Emergency Response Support (MERS). NOTE: USACE StS do not deploy with radios capable of operating on the FEMA US&R frequencies.

D. The task force's StS Equipment Cache: Access to the Task Force StS Equipment Cache will be needed to support standard StS tasks, including but not limited to monitoring equipment, GPS, measuring and other hand tools, etc.

E. Sleeping arrangements: The IST will need to provide either a cot to sleep on or a hotel room, based on where the USACE StS personnel are embedded. The USACE StS personnel will bring a sleeping bag with them as part of their go-kit. The USACE personnel may have to be assigned two personnel to a hotel room, based on availability.

2-7. FEMA US&R Branch Roles and Responsibilities

The FEMA US&R Branch is based in Washington DC and perform tasks such as development and administration of policies and procedures, administering the task force Cooperative Agreements (Response and Readiness), Cooperative Agreement tracking, budget/acquisitions, response reimbursements, national training delivery/exercise development, cadre management, as well as after action reporting.

The FEMA US&R Branch is responsible for developing and administering the System, and its responsibilities include:

A. Promulgating the Regulations, standards, policies, procedures, directives, and overall concept of operations for the System.

B. Maintaining overall direction and control of System resources engaged in System activities, as contemplated in the regulations, standards, policies, procedures, directives, and overall concept of operations for the System.

C. Maintaining an advisory and consultative structure for communicating and consulting with System participants with respect to the responsibilities set forth in this section, as appropriate.

D. Developing, scheduling, and delivering FEMA-Sponsored training and exercises.

E. Evaluating System and performance in accordance with the Regulations, standards, policies and procedures and directives of the System.

F. Advising, Alerting, Activating, Transferring and Demobilizing System resources.

G. Establishing, developing, administering, Advising, Alerting, Activating, Transferring, Demobilizing, and maintaining overall direction and control of System management resources, as appropriate.

H. Scheduling and conducting periodic meetings of System Advisory Organization entities and other consultative bodies.

I. Ensuring proper coordination and cooperation of System activities within FEMA, between FEMA and other DHS components and entities, and between FEMA and other Federal, state, local, and private-sector entities.

CHAPTER 3: RESPONSE OPERATIONS

3-1. On-Site Organizational Structure

During response operations, the Structures Specialist is responsible for performing various structural assessments and disaster engineering tasks for the Task Force during incident operations. The Structures Specialist reports directly to the Planning Team Manager, but during operations will normally be assigned to the Search Team Manager or Rescue Team Manager.

The USACE Structures Specialists bring a unique set of skills and knowledge to a disaster and their expertise may need to be leveraged and embedded with forward deployed US&R task forces and first responders in several different ways. The USACE Structures Specialist may find themselves working under one of a few different organizational frameworks based on the disaster and the needs of deployed task forces and responders:

A. The USACE StS could be embedded with a FEMA US&R Task Force to augment and support their rostered Structures Specialists.

B. The USACE StS could be embedded with a State Urban Search and Rescue Task Force that does not have members that are trained Structures Specialist.

C. The USACE StS could respond jointly and could receive a mission assignment to support one or more National Guard CBRN Enhanced Response Force Packages (CERFP) or CBRN Task Forces that are working in a unified command structure with FEMA US&R and State US&R Task Forces and does not have a member of the unit that is a trained Structures Specialist.

D. The USACE StS could be asked to support the local impacted jurisdiction to perform structural assessments and technical assistance in the absence of qualified structural engineers operating in the disaster area. These assessments may not be directly related to urban search and rescue, and instead be focused on determining safety assessments of transportation bridges and roadways, or to assess the structural integrity of dams and levees. These assessments may be required in support of ESF #9 prior to, during and following US&R operations (i.e., verifying route access to affected areas; assessing dams/levees and associated safety of US&R operations, etc.).

E. A USACE StS Strike Team could be asked by the FEMA IST to act as a stand-alone unit that performs Rapid Structural Triage (RST) over a wide area and report their findings to the FEMA IST for assignment to task forces operating in the area.

F. The USACE StS could be embedded to provide technical support and structural assessments to other federal agencies, to include the FBI, ATF, DEA, USCG, and NIST.

G. The USACE StS could be embedded with an international US&R task force that needs expertise in the construction methods and materials of structures unique to North America.

3-2. Headquarters and IST Organizational Structure

A. The USACE US&R Program Manager - When USACE personnel are deployed under a Mission Assignment to support ESF #9, the USACE US&R Program Manager, in close coordination with the USACE ESF #3 Team Lead, is responsible to provide USACE Headquarters the operational overhead and management support to their personnel that are forward deployed to the disaster site. The responsibilities of the USACE US&R Program Manager during a deployment include:

A-1 Activate the appropriate USACE StS Strike Team or MRP

A-2 Activate, roster, and mobilize the USACE StS personnel that will deploy to the disaster area.

A-3 With support from USACE logistics, ship/transport USACE Equipment Caches to the deployment location.

A-4 Coordinates directly with NRCC ESF #9 and ESF #3 Team Lead as necessary throughout activation and deployment process.

A-4.1 Coordinate with the USACE ESF #3 Team Lead to provide regular updates to USACE Headquarters of StS activities in the field.

A-4.2 Conduct conference calls with FEMA US&R Branch as required.

A-5 Assure consultation with the USACE Critical Incident Stress Management (CISM) team upon return to their home station.

B. The USACE IST Structures Specialist Liaison – When attached to the FEMA US&R IST, the USACE IST StS Liaison is assigned to work with the IST Structures Specialist to coordinate the efforts of all deployed Structures Specialists. The responsibilities of the USACE IST Liaison during a deployment include:

B-1 Provide support to the FEMA Incident Support Team StS

B-2 Provide forward deployed management and coordination for USACE personnel

B-3 Provide regular situation reports to the USACE US&R Program Manager

B-4 Assist with logistical support of the forward deployed USACE personnel

3-3. Mission Assignments

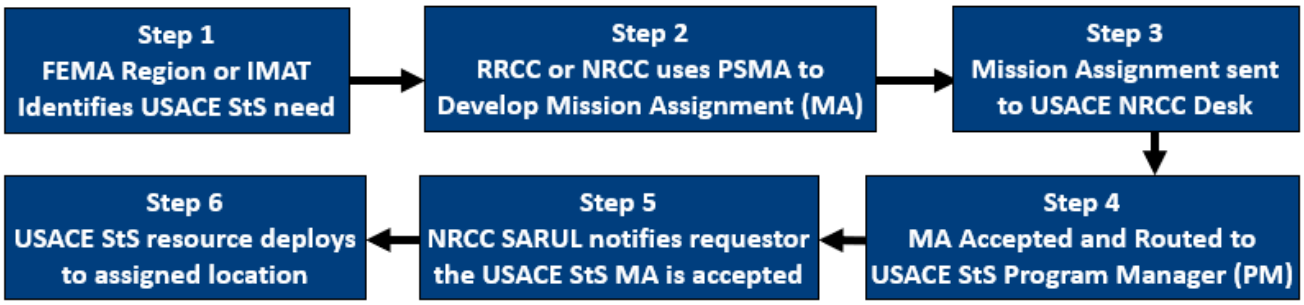
Requesting the activation and deployment of a USACE Strike Team or Mission Ready Package requires the development of a Mission Assignment (MA) within WebEOC by either the affected FEMA Regional Response Coordination Center (RRCC) or by the ESF #9 Desk in the National Response Coordination Center (NRCC).

The FEMA Mission Assignment Guide provides an operational framework for the development, approval, issuance, execution, reimbursement, and closeout of a MA at the incident management (IM) and incident support (IS) levels. Mission Assignments issued to the USACE for ESF #9 support will be at the incident management level. An overview of the MA process as it relates to the USACE is detailed in *Appendix G – USACE Activation using Mission Assignments.*

The Mission Assignment will contain the reporting location, the number of USACE personnel

requested and any USACE StS Equipment Cache deployment that should accompany the USACE Structures Specialists and where the cache should be shipped.

Once the Mission Assignment is accepted, the USACE US&R Program Manager will begin making travel arrangements for USACE Structures Specialists and track their movement to the impacted area, where they will either embed with the FEMA US&R IST or their assigned Task Force.



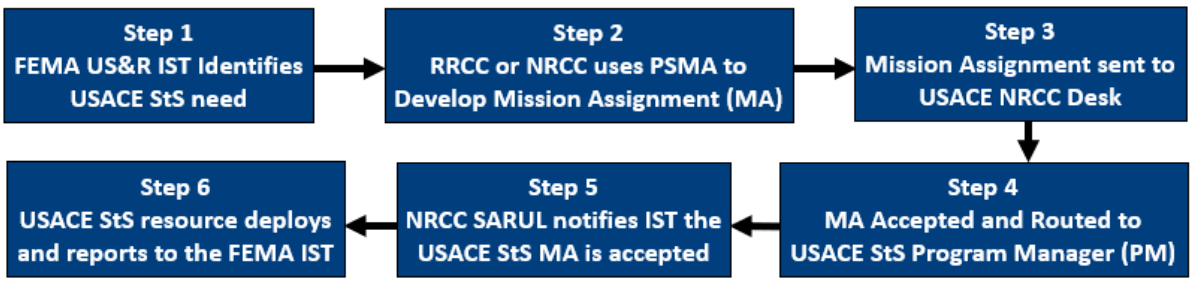
Process for FEMA Region or IMAT to Request USACE StS Resources

3-4. Types of Teams Requesting Support from USACE StS

Section 3-1 provided seven different scenarios in which USACE Structures Specialists (StS) may be requested to deploy and provide engineering support and subject matter expertise. Additional information will accompany any request for USACE StS support and each of the different teams listed below will have unique needs based on the type of disaster and the operational environment. This Section is designed to provide a summary of the typical types of StS support each requesting agency would require. The sourcing of USACE StS personnel may come from across the USACE cadre and may already be enroute or already deployed into the impacted area. An example is that the Type 1 USACE Strike Team may have the 26 StS personnel divided and embedded to augment a number of different federal, state and National Guard teams listed below. Additionally, an approximate total number of teams that might request each type of support from USACE is listed.

A. Augment a FEMA US&R Task Force: During an earthquake or other disaster in which significant structural damage has occurred, there may be a need for a StS to accompany each of the four squads on a Type 1 US&R Task Force. In this scenario, a FEMA US&R task force could request additional USACE StS personnel to support the two FEMA StS that deployed with the Type 1.

A-1 There are 28 federal US&R task forces and each one may request an augmentation of two USACE StS.



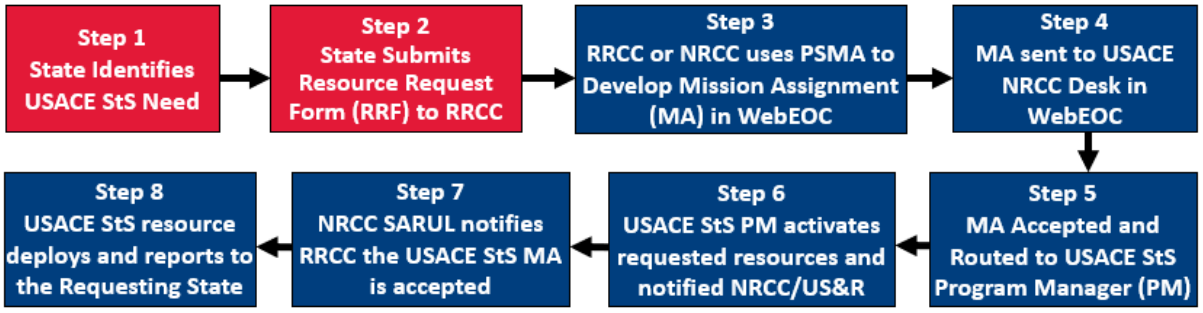
Process for FEMA IST to Request USACE StS Resources

B. Embed with a State or Regional US&R Task Force: State and Regional US&R task forces have traditionally faced challenges to deploy with trained and qualified Structures Specialists. Many state teams have indicated that having qualified StS and Heavy Riggers is a limiting factor and therefor may request USACE StS to embed and augment their team in the disaster area. Per OPORD 2010-89, Appendix A, the USACE StS may be embedded to support states and regional task forces. The following numbers are provided for planning purposes:

B-1 There are approximately four state sponsored Type 1 US&R task forces sponsored by different states. Each of these teams could request two FEMA or USACE StS personnel.

B-2 There are approximately five state sponsored Type 2 US&R Task Forces sponsored by different states or regions. Each of these teams could request one or two FEMA or USACE StS personnel.

B-3 There are approximately twenty state sponsored Type 3 US&R Task Forces sponsored by different states or regions. Each of these teams could request one or two FEMA or USACE StS personnel.



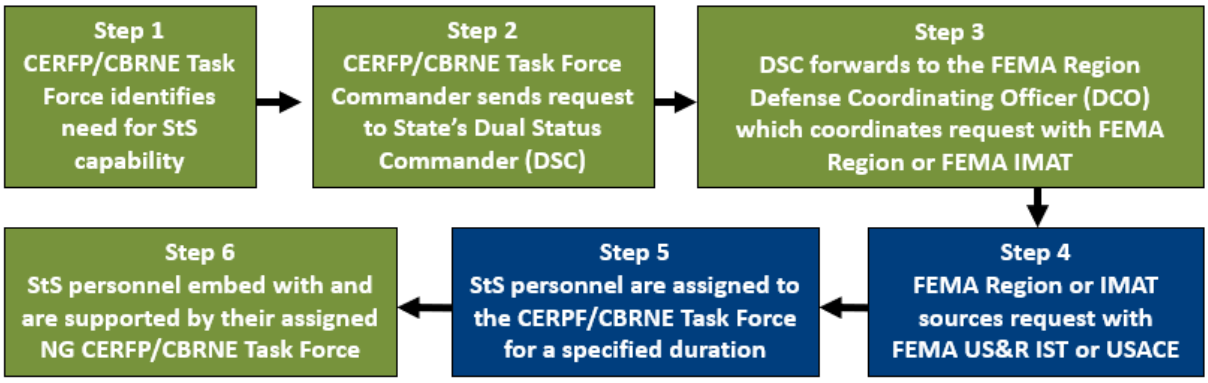
Process for State to Request of USACE StS Resources

C. Embed with a National Guard CERFP/CBRN Task Force: The National Guard CERFP and CBRN Task Forces do not have any personnel trained as Structural Specialists or in structural engineering. Each CERFP and CBRN Task Force have search and extraction (S&E) elements with fifty personnel trained in structural collapse search and rescue and bring equipment to conduct breaching and breaking and the construction of some shoring systems.

C-1 There are currently seventeen CERFP in the United States and ten CBRN Task Force in the United States trained in search and extraction/search and rescue techniques. Each of these units could request one or two FEMA or USACE StS personnel when operating in a structural collapse environment.

C-2 A force-multiplier concept is to partner a CERFP or CBRN Task Force with a FEMA US&R Type 1 Task Force and integrate the rescue squads to provide additional manpower and increase the capacity of each squad. This integrated “FEMA Blue” and “National Guard Green” squad would then be able to rely on the FEMA StS structural assessments to make operational decisions.

C-3 Below is a diagram that outlines a process by which deployed CERFP or CBRN Task Force could request StS capabilities from FEMA.



Process for National Guard Units to Request of USACE StS Resources

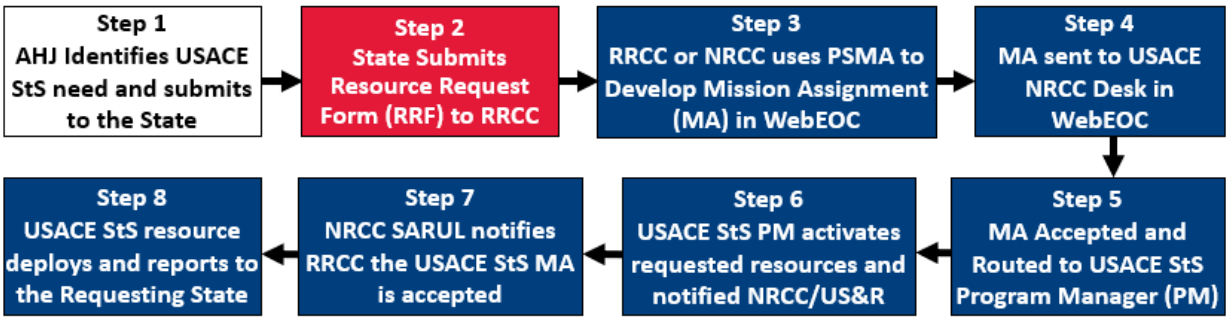
D. Embed with the 911th Technical Rescue Engineer Company (TREC): The 911th TREC does not have any personnel trained as Structures Specialists. The 911th TREC responds to disasters in the Military District of Washington (MDW)/National Capital Region (NCR). USACE and first responders working with the 911th require heightened security clearances to operate in sensitive governmental areas.

D-1 In accordance with Joint Publication 3-06, "Joint Urban Operations," the USACE Structures Specialists Cadre is an essential component of urban SAR task forces and the incident support team with the ability for fast deployment in a life-saving mission. The StS brings engineering expertise to the urban SAR task force. JFHQ-NCR (Joint Forces Headquarters - National Capital Region) RESEM OPORD 13-28 further incorporates USACE StS into the 911th TREC to enhance rescue operations. When responding, USACE elements will be in direct support to the 911th TREC Commander. The 911th TREC could request between two and seven USACE StS personnel (a type 2 StS strike team).

D-2 The 911th TREC Commander, when activated for ESF9 NCR response, will notify the USACE Operations Center (UOC) for request and activation of USACE StS assets. Mission assignment details will be provided as necessary.

D-3 An updated memorandum of agreement is being coordinated with the 911th TREC, which further establishes the USACE StS roles within their TREC and concept of operations relative to Mission Assignments.

E. Support an Impacted Local Jurisdiction: The USACE StS may be requested by a local jurisdiction (city or county government) to provide technical support in conducting engineering assessments of either structures, bridges, or tunnels. This type of technical support would be any requests made for assistance that either occur outside of a disaster declaration or after the initial phase of response operations has concluded. This type of USACE StS technical support would most likely be considered non-life safety related and designed to assist with determining which buildings are safe to enter for recovery/restoration activities. This type of USACE support could be requested weeks after the US&R task forces have demobilized and the local jurisdiction is requesting assistance from specially trained structural engineers for a non-rescue related reason.



Process for AHJ to Request of USACE StS Resources

F. Provide Technical Support to Other Federal Agencies: The USACE StS may be requested to embed with and provide technical support to one or more other federal agencies (OFA) that are conducting a response or investigations based on their primary responsibilities. The other federal agencies could include:

F-1. Federal Bureau of Investigation (FBI)

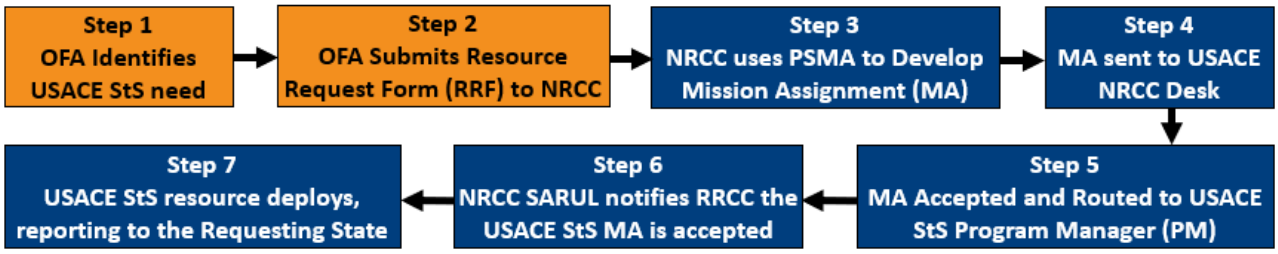
F-2. Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF)

F-3. United States Drug Enforcement Agency (DEA)

F-4. United States Coast Guard (USCG)

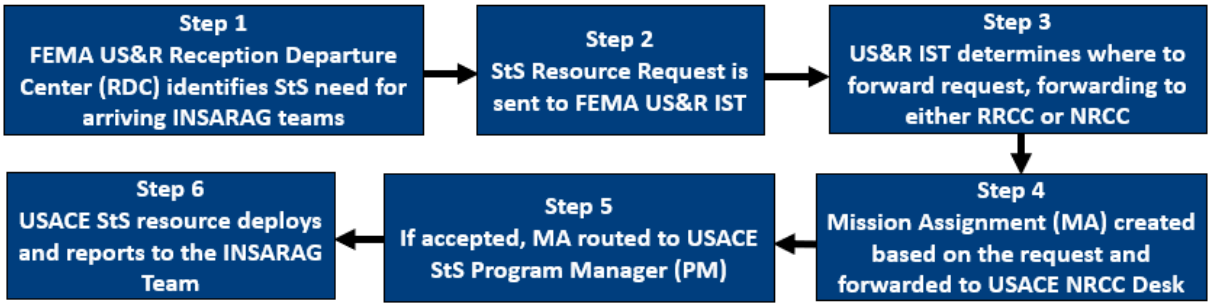
F-5. Customs and Border Patrol (CBP)

F-6. National Institute of Science and Technology (NIST)



Process for Other Federal Agency Request of USACE StS Resources

G. Embedded with an International US&R Task Force: International Search and Rescue Team meeting the INSARAG Heavy certification are required to deploy with trained structural engineers but in some cases, the INSARAG team may request a StS with more familiarity with United States building codes and construction types. In this case, the USACE StS may be requested to embed with INSARAG teams that have arrived at the FEMA US&R Reception Departure Center (RDC) and have made a formal request to be accompanied by a Structures Specialist (StS).



Process for FEMA Reception/Departure Center to Request USACE StS Resources for INSARAG Teams

3-5. Activation

Once a Mission Assignment has been accepted by the USACE, the FEMA US&R Branch, the USACE US&R Program Manager, and the US&R IST Structures Specialist will conduct a conference call to discuss any pertinent details not covered in the Mission Assignment and to brief USACE on the current situation and answer questions. Due to the time sensitivity of ESF #9 missions, MA's may be issued verbally to the USACE while the MA is being processed in WebEOC. This enables the USACE to expeditiously activate and mobilize their StS Strike Teams. Refer to Appendix I, the USACE StS Cadre Activation Standard Operating Procedures (SOP), which describes the internal processes followed by USACE HQ and the USACE US&R Program Manager to ensure all activation steps are accomplished.

USACE StS personnel will arrange their travel using their USACE issued travel card to move from their home duty station to the incident site specified in the Mission Assignment. Rental cars and refueling are also arranged by the USACE StS personnel using their travel card. The USACE StS personnel retain all receipts as is required by their joint travel regulations. The intent is that USACE StS personnel will be travelling within 6 hours of notification and pending the availability of flights.

A. The FEMA US&R Branch in consultation with the IST Leader and IST Planning Team evaluates the need for USACE Structures Specialists. The need for USACE StS support may be for one or more of the following reasons:

- **A-1** To integrate with a deployed FEMA US&R Task Forces.
- **A-2** Work directly with the FEMA US&R IST Engineering Cell.
- **A-3** Assigned to integrate with State US&R Task Forces working in the impacted area that lack trained Structures Specialists.
- **A-4** Assigned to integrate with National Guard CERFPs or CBRN Task Forces working in the impacted area that lack trained Structures Specialists.

B. The FEMA US&R Branch will develop the Mission Assignment within WebEOC and submit for review and acceptance by USACE. Refer to Section 3-3 and Appendix G for more details.

C. Once the Mission Assignment is accepted, the USACE US&R Program Manager will activate the USACE StS Cadre and assemble StS Strike Team personnel for deployment. The deploying StS personnel, with the support of their local District EOC, will begin making travel arrangements and track their movement to the impacted area, where they will either embed with the FEMA US&R IST or their assigned Task Force. Refer to Section 3-3 and Appendix G for more details.

D. The activated USACE Structures Specialists will provide updates to the USACE US&R Program Manager and the IST Structures Specialist on their progress as they move to their assigned location and will notify when they arrive at their assigned location.

E. Once the activated USACE Structures Specialists arrive to their assigned location (either a task force or to the IST), they will continue to report to the Structures Specialist of that unit until they are re-assigned by the FEMA US&R IST.

3-6. Logistics of USACE Strike Teams

Once a USACE StS Strike Team is activated (either a Type 1 or Type 2), the USACE Program Manager coordinates the shipment of a USACE Equipment Cache to the location indicated on the Mission Assignment.

A. Reference Appendix E for the equipment contained in a USACE StS Equipment Cache Section 8 of the USACE Structures Specialist Field Operations Guide describes the three StS equipment caches maintained by USACE at the following locations:

A-1 Western Region – South Pacific Division, Moffett Field, CA

A-2 Central Region – Mississippi Valley Division, St Louis District, MO

A-3 Eastern Region – New England District, Concord, MA

B. Reference Section 2-5 for a list of personnel issued equipment they bring in their go-bags

C. The USACE StS personnel will rent their own vehicle at the airport and submit for reimbursement using the normal USACE travel process.

D. USACE StS members are responsible for their own meals during a deployment and are on per-diem unless the disaster is severe enough that local restaurants are closed. In that circumstance, the USACE StS will utilize the MREs in their three-day personal supply. If one of the three USACE StS Equipment Cache's is deployed to their location, they can use the MRE's in that cache (a total of 48 MRE's). If three-day personal supply of MRE's is consumed, and if meals are still not available in the disaster area, the USACE will then need to arrange for resupply of their MREs by submitting a request to the FEMA US&R IST.

E. Sleeping arrangements are the responsibility of the deployed USACE StS personnel and they will secure their own lodging at a hotel when attached to the IST. If USACE StS personnel are embedded with task forces near the impacted area, that receiving task force will be asked to provide sleeping accommodations along with the other task force members, to include providing a sleeping cot.

F. Once deployed to the incident site, as supplies and equipment are consumed in the USACE StS equipment cache, any resupply required is coordinated with the FEMA US&R IST Logistics Section.

3-7. On-Site Operations of the Structures Specialist

The overall responsibilities of both USACE and Task Force Structures Specialists is summarized in the Operational Checklist contained in Section 9 of the USACE Structures Specialist Field Operations Guide. The Operational Checklist describes what tasks need to be accomplished during the activation, assembly, preparing for departure, arriving at the mobilization center, on-site operations,

and demobilization stages of the incident.

The USACE Structures Specialist Field Operations Guide (FOG) was developed as a working reference tool for both USACE and Task Force StS's to ensure operational continuity during response operations. The FOG is also used extensively by Rescue Specialists. The FOG also contains a summarized list of ten tasks a Structures Specialist can accomplish for a US&R Task Force entitled "WHAT CAN StS DO FOR THE TASK FORCE."

A. Earthquakes

The response to an earthquake is the primary reason the FEMA US&R System was established, and it is expected that a catastrophic earthquake will require a significant number of structural assessments in the impacted area. The most likely utilization of USACE Structures Specialists at a large earthquake would be to assist FEMA US&R Task Forces and other US&R teams with Rapid Structural Triage, performing Structural Assessments and developing hazard mitigation plans of assigned structures in the impacted area. With numerous, widespread collapsed structures associated with a sudden, large catastrophic earthquake, the Rapid Structural Triage (RST) process rapidly assesses the affected area to determine which structures will receive operational priority. The RST process will also help identify structures that may require more detailed assessment and search requirements. The RST is typically done immediately following the disaster by special assessment teams or local responders. If not previously accomplished, US&R Task Forces should be prepared to perform Recon of their assigned area and the StS will be a critical member of the team conducting the recon and RST. Based on the operational priorities established following the RST, the USACE StS will be assigned to various Task Forces by the FEMA US&R IST to support US&R operations at priority structures, performing necessary structural assessments and providing hazard mitigation recommendations. The USACE StS would either augment or backfill the US&R Task Force StS position(s).

A-1 **New Madrid Earthquake Zone** - For planning purposes, previous National Level Exercises of the New Madrid Earthquake Zone (NMSZ) have identified the need for at a minimum fifty-eight (58) additional USACE Structures Specialists to be deployed and support US&R operations in the six impacted states. This estimation is based on data contained in the Mid-America Earthquake (MAE) Center Study – Volume 2, dated October 2009 and the assumption that 25 of the 28 FEMA US&R Task Forces will be activated and each of those task forces will require 2 additional USACE StS (a total of 50 USACE StS). Also required will be 4 USACE StS to both the IST-East and the IST-West (a total of 8 USACE StS).

A-1.1 For planning purposes, the 2019 National Level Exercise "Shaken Fury" identified expected Federal, State and National Guard Bureau (NGB) US&R resource requirements for response to a NMSZ Magnitude 7.7 earthquake. Excluding the 58 USACE StS required to augment FEMA Task Forces, a minimum 118 additional StS would be required to support State and NGB US&R team operations.

A-2 **Cascadia Earthquake Zone** - For planning purposes, previous Cascadia Earthquake Zone National Level Exercises have identified the need for approximately thirty (32) additional USACE Structures Specialists to be deployed and support US&R operations in the impacted states. This estimation is based on initial FEMA US&R response expectations from 2 IST's and 14 Western and Central Division Task Forces (excluding WA-TF1), and that each of

those task forces will require 2 additional USACE StS (a total of 28 USACE StS). Also required will be 2 USACE StS to both the IST-North and the IST-South (a total of 4 USACE StS).

A-2.1 Refer to the current FEMA Region 10 Cascadia Earthquake Response Plan for specifics regarding anticipated US&R and USACE requirements and response considerations. For planning purposes, the 2016 National Level Exercise "Cascadia Rising" identified expected Federal, State and NGB US&R resource requirements for response to a magnitude 7.7 earthquake. Excluding the 58 USACE StS required to augment FEMA Task Forces, the planning assumptions are for a minimum 118 additional StS would be required to support State and NGB US&R team operations.

A-3 **San Andres Earthquake Zone** - Eight (8) USACE StS personnel were deployed to Fillmore and Santa Monica, CA after the 1994 Northridge Earthquake to evaluate building stability and shoring requirements in support of FEMA US&R Task Forces that were working to remove important building contents. The FEMA US&R Structures Specialist position was still relatively new in 1994 resource capabilities were still being built by both FEMA and USACE.

A-4 **Additional Earthquake Considerations** - Four different Type 2 USACE Strike Teams deployed over a two-month timeframe rotating into Haiti. These twenty-four different USACE StS personnel deployed to support rescue and recovery operations.

B. Hurricanes

The response to a hurricane may require USACE Structures Specialists to assist with the Rapid Structural Triage performed after the hurricane landfall. Additionally, if enough time exists before the arrival of hurricane force winds, the StS's may perform windshield surveys of their assigned area to determine any structures that have the potential to collapse once the hurricane makes landfall. One mission USACE StS may find given to them during a hurricane response is to embed with a state or regional US&R task force that does not have trained structural engineers.

C. Structural Collapse / Terrorist Incident

The response to a structural collapse or terrorist incident may require USACE Structures Specialists to support the Task Force Structures Specialists with building assessment and monitoring. A FEMA US&R Task Force will most likely not be the first on scene to a structural collapse or terrorist incident and the impacted jurisdiction may have begun the process of assessing and monitoring the structure. The Structures Specialists will want to contact the local jurisdiction's engineers and consult with them about efforts already underway.

C-1 Review the following document for a Structures Specialist overview of the response to the Pentagon after the September 11, 2001 attack: *A Review of the Temporary Shoring Used to Stabilize the Pentagon After the Terrorist Attacks of Sept 11th, 2001* - Published May 3, 2002 by Mr. Leo J. Titus, Jr.

C-2 Thirteen (13) USACE StS personnel deployed from April 21 to May 5, 1995 to support the eleven (11) FEMA US&R Task Forces that responded to the bombing of the Alfred P. Murrah Federal Building in Oklahoma City. The USACE StS personnel coordinated with the FEMA US&R IST to support the overall rescue mission. Two USACE StS personnel

supported the FBI to determine building stability and shoring requirements in order to collect forensic evidence.

C-3 During the 2021 Champlain Tower collapse in Surfside, the USACE US&R Program Manager deployed along with USACE StS personnel at the request of the AHJ from June 28 to July 16 as part of the overall federal support to Miami-Dade County. A total of eight (8) USACE StS personnel deployed under a Mission Assignment received from FEMA Region 4 to support the IST StS. Once on scene, the USACE US&R Program Manager served as the Deputy to the IST StS until the arrival of an additional rostered IST StS position. An additional four (4) USACE StS personnel rotated into the collapse site to support the National Institute of Standards and Technology (NIST) under an Interagency Agreement.

D. Improvised Nuclear Device or Nuclear Detonation

The response to an improvised nuclear device (IND) or nuclear weapon detonation will pose unique challenges for the USACE Structures Specialists to support the Task Force Structures Specialists with building assessment and monitoring in a contaminated hot zone which will presents significant challenges A FEMA US&R Task Force will most likely not be the first on scene to a nuclear detonation and the impacted jurisdiction may have begun the process of building assessments from a distance.

Annex A of the Response FIOP provides a table of ESF to Core Capability Alignment. This Annex provides two descriptions of support provided by ESF #3 (USACE) towards Environmental Response/Health and Safety (Page A-4):

D-1 For incidents involving a blast or explosion associated with a CBRN threat agent resulting in a contaminated debris field, ESF #3 (USACE), in consultation with ESF #10 (EPA) and the Federal Emergency Management Agency (FEMA):

D-1.1 Provide Structures Specialist expertise to support inspection of damaged CBRN-contaminated infrastructure and employ temporary stabilization measures or take other actions as necessary to address structural instability concerns.

D-1.2 Provide recommendations on demolitions after a determination is made that a building is unstable and creates an imminent hazard to workers and/or after ESF #10, in conjunction with other appropriate local, state, tribal, territorial, insular area, and Federal authorities, decide that demolition is the desired cleanup approach.

D-2 For planning purposes, previous Gotham Shield National Level Exercises involving a nuclear detonation have identified the need for approximately fifty-six (56) additional USACE Structures Specialists to be deployed and support US&R operations.

D-3 For additional information and planning assumptions about the response to an IND or nuclear weapon detonation, refer to the NORTHCOM Playbooks.

E. Flooding/Dam/Levee Assessments

The response to a flooding incident may require the USACE Structures Specialists to conduct dam and levee assessments as water levels rise and potential exists for overtopping or erosion of the ground surrounding the dams and levees. The dams and levees would be near to the operational

area and their failure/overtopping may impact response efforts.

The USACE maintains an inventory of Dams and Levees, for which routine and periodic inspections are performed as part of their Dam Safety and Levee Safety Programs. Some members of the USACE Structures Specialist Cadre support these safety programs as part of their full-time responsibilities within the USACE. As such, they are knowledgeable on the evaluation of dams and levees. The IST Engineering Cell should determine if any such experts are part of the USACE personnel deployed to support US&R operations. As early/first responders to a disaster site, the structural/civil engineering background of the StS make them likely candidates to provide initial assessments of any impacted dam/levee systems. The USACE US&R Program has provided training modules on emergency inspections of Dams and Levees as part of the regional training curriculum. An emergency inspection checklist is under development for use by US&R StS. It is expected that more extensive follow-up actions and response would take place by USACE or local jurisdiction.

F. Tunnel Assessments

The potential exists that tunnel assessments will need to be performed by USACE Structures Specialists assigned to US&R Task Forces. The mechanism of damage to the tunnel could be from a variety of incidents to include a hurricane, earthquake, or terrorist incident. In this case, the Tunnel/Hazards Evaluation Form (T-HAZ-1) will be utilized by the StS during these assessments. In addition to structural assessments of tunnels, the USACE also has significant capabilities for dewatering operations from inside of tunnel systems after hurricane flooding.

G. Bridge Assessments

The potential exists that USACE Structures Specialists may be required to perform bridge and roadway assessments to determine the safest way for US&R members to transit into the impacted area. The mechanism of damage to the bridges and roadways could be from a variety of incidents to include a hurricane, earthquake, or terrorist incident. The Rapid Bridge Assessment Form (RBA-1) will be utilized by the StS during these assessments.

The USACE North Atlantic Division's Regional Center of Expertise for Bridge Inspection and Evaluation provides professional engineering expertise to conduct bridge inspections as necessary to ensure the continued safety of our public and project bridge inventory. These special USACE teams have the following bridge assessment capabilities:

G-1. Fully capable and certified for bridge inspection and evaluation of short span and high-level complex bridges

G-2. Twelve certified inspectors - 80 hours National Bridge Inspection Standards (NBIS) Safety Inspection course

G-3. Inspectors trained in fatigue and fracture, CEBIS management, scour evaluation, and load rating

G-4. Six Industrial Rope Access Trade Association (IRATA) certified Level 1 rope access technicians capable of accessing any area on a bridge structure

G-5. Familiar with USACE, Federal Highway Administration (FHWA), American Association of State Highways and Transportation Officials (AASHTO), and NBIS regulations

G-6. Access to structures is facilitated using special equipment, rigging, or rope access.

G-7. The team owns a US-60 under-bridge access vehicle and a man lift.

G-8. The team owns rigging and safety equipment to deploy six rope access technicians who are IRATA Level 1 certified for technical climbing.

H. Demobilization

The decision to demobilize USACE Structures Specialists deployed at an incident will be made after discussions between the FEMA US&R Branch, the USACE US&R Program Manager, the ESF #3 Team Lead, and the FEMA US&R IST. In most cases, the deployed USACE personnel will be notified by the US&R IST Structures Specialist about 24 hours before they will be demobilized so they have an opportunity to close out their missions and arrange travel back to their home base.

H-1 The FEMA US&R IST Engineering Cell evaluates when the USACE Structures Specialists will be demobilized based on the remaining StS related missions.

H-2 The FEMA US&R IST Leader coordinates with the US&R IST Structures Specialist and USACE IST Liaison (if deployed) to determine a demobilization date and time.

H-3 The USACE Structures Specialists that were assigned to embed/work with US&R Task Forces conduct a final out brief and returns any issued gear (radio, cot, etc.).

H-4 The USACE Structures Specialists provide their assigned Task Force any necessary copies of forms/documents completed during the incident.

H-5 The USACE IST Liaison conducts a final out brief with the IST Engineering Cell and provides any necessary copies of forms/documents completed during the incident and returns any issued gear (radio, cot, etc.).

H-6 The USACE StS and/or the USACE IST Liaison coordinates with their Headquarters Element all travel arrangements to return their personnel from the incident site back to their home station. Refueling and return of rental cars will be the responsibility of the deployed USACE personnel.

H-7 The USACE US&R Program Manager and the USACE Operations Center will support and track the return travel of their USACE personnel and notify the NRCC once all USACE personnel have arrived at their home duty station.

H-8 All deployed USACE StS personnel will coordinate with their local USACE District or Division for submission of all travel voucher and supporting receipts incurred during their deployment. All reimbursement costs associated with the USACE StS Equipment Cache deployment to the disaster will be coordinated by the USACE StS Program Manager for submission to FEMA Finance.

3-8. Mission Ready Package – Structures Specialist

The primary mission of a Structures Specialist (StS) Mission Ready Package (MRP) is to be able to provide engineering input and subject matter expertise for a host agency which either does not have its own integrated structural engineering capability or needs additional support. The StS MRP is staffed by either two USACE Structures Specialists or two FEMA US&R Structures Specialists and their primary mission is to offer engineering advice and liaison services for an IST or an Incident

Management Team (IMT). The re-supply and shelter for the StS MRP must be provided by the requesting agency or task force. Once the StS MRP arrives on scene, one MRP is capable of continuous 12-hour operations. For 24-hour operations, the FEMA IST should order two or more StS MRPs.

Annex F provides more details about the StS MRP and also provides the list of equipment that is brought by the two Structures Specialists on the deployment and will be carried in their SUV or truck. The request and activation process for a StS MRP will follow the same Mission Assignment processes for other USACE resources.

A. The following list provides various situations in which the FEMA US&R IST would request the activation and deployment of a StS Mission Ready Package:

A-1 The StS MRP could be asked to provide additional structural engineers to a deployed FEMA US&R task force (Refer to Section 3-4 A).

A-2 The StS MRP could be asked by the impacted state or local Authority Having Jurisdiction (AHJ) that has a structural collapse team or US&R task force, but they do not have adequate subject matter expertise that can serve in the capacity of a Structures Specialist to advise rescue operations (Refer to Section 3-4 B).

A-3 The StS MRP could be asked to provide additional structural engineers to a deployed National Guard CERFP or CBRN Task Force (Refer to Section 3-4 C).

A-4 The StS MRP could be asked to provide additional structural engineers to a deployed and support Other Federal Agencies, such as the FBI or USCG or NIST (Refer to Section 3-4 F).

CHAPTER 4: TRAINING AND EXERCISES

4-1. Structures Specialist Position Requirements

When deployed, a USACE and FEMA US&R Structures Specialist performs the same duties as described in the Structures Specialist Position Description in Annex E of the FEMA US&R Operations Manual.

A. Functional Description - The Structures Specialist will perform various structural assessments for the task force during incident operations. The StS reports directly to the Planning Team Manager but will often be assigned to the Search Team or Rescue Team Manager. The StS may be assigned other duties working directly in support of the US&R IST Structures Specialist or as a Technical Liaison to the AHJ (Agency Having Jurisdiction) or some other Agency.

B. Description of Duties - The Structures Specialist is responsible for the following:

B-1 Assessing the structural condition within the area of task force operations, which includes identifying structure types and specific damage and structural hazards

B-2 Recommending the appropriate type and amount of structural hazard mitigation to minimize risks to task force personnel

B-3 Provide input to task force tactical action plans as appropriate

B-4 Cooperating with and assisting other search and rescue resources

B-5 Providing accountability, maintenance, and minor repairs for all issued equipment

B-6 Performing additional tasks or duties as assigned during a mission

B-7 Monitoring assigned structure for condition changes while rescue and recovery operations are proceeding

B-8 Assuming an active role in implementing approved structural hazard mitigation as a designer, inspector, and possibly a supervisor

B-9 Coordinating and communicating the structural related hazard mitigation with US&R IST Structures Specialist

C. Required Training

The USACE Structures Specialist shall adhere to the following:

C-1 Meet all Administrative and General training requirements, the same as listed in US&R Operations Manual Annex E – Position Descriptions for FEMA Structures Specialists.

C-2 Complete the FEMA US&R GPS Awareness Level Course (Course Code: 9G6200)

C-3 Attend the Rescue Systems 1 (Course Code: RS1) which is typically delivered in the State of California.

C-4 Complete the U.S. Army Corps of Engineers (USACE) Structures Specialist 1 Training course (Course Code: StS-1)

C-5 Attend the *U.S. Army Corps of Engineers (USACE) StS Regional Training* every two years

D. Recommended Training

The USACE Structures Specialist should complete the following:

D-1 *FEMA US&R Structural Collapse Specialist – Instructor-Led Training* (Course Code: 9P2631)

D-2 FEMA US&R Planning Team Training – Instructor-Led Training (Course Code: 9P6131)

D-3 Attend the *U.S. Army Corps of Engineers (USACE) Structures Specialist 2 Training* course (StS-2) every four years

D-4 *FEMA US&R GPS Operations Level Course* (Course Code: 9G6210)

E. Required Experience

The Structures Specialist shall meet the following requirements:

E-1 Be currently licensed as a Professional Engineer (PE) specializing in structures or equivalent. The criteria for qualifying as equivalent to PE are as follows:

E-1.1 Bachelor of Science degree in civil engineering (or similar curriculum) from a college or university that is recognized by a state licensing board

E-1.2 Five years of experience in any phase of structural engineering, including the teaching of subjects pertaining to structures, structural safety, and structural collapse

E-1.3 A Statement of Understanding (SOU) approved by the individual's supervisor and District Commander expressing the support of their leadership

E-1.4 Individuals who are licensed architects by any state may be considered as having equivalent certification, based on the requirements listed above

E-2 Possess a minimum of five years of experience in structure design and analysis to include evaluation of existing structures, field investigation or construction observation experience

4-2. Structures Specialist 1 (StS1) Training Course

The Structures Specialist 1 training (StS1) is the mandatory course that must be completed prior to deploying as a Structures Specialists for either the FEMA US&R System or the USACE. The delivery of this course is coordinated by the USACE US&R Program Manager and is typically offered once a year.

The Federal Emergency Management Agency's National Urban Search and Rescue (US&R) Response System, in conjunction with the U.S. Army Corps of Engineers (USACE), schedules the Structures Specialist Training Course (StS1) yearly, usually during the last week in October. Offered every year since 1992, this 6-day course is presented at the NASA Ames Research Center, Moffett Field, California.

This very important training is offered to Task Force Structures Specialist (StS) candidates who have not previously taken StS1. Prerequisites for this course include a current Professional Engineer's License (P.E.) and experience practicing in some area of structural engineering. Students must also meet the requirements of his/her Task Force for local training and other participations.

Students who are not a licensed P.E. but have been scheduled to sit for their Professional Engineer's exam and have the support of their Task Force and Task Force StS, may also apply.

This course consists of a series of case studies, lectures, field exercises, and presentations of past rescue incidents. There are exercises and written examinations throughout the course. The StS candidate will be introduced to the concept of Rescue Engineering as compared to the "Normal" practice of Structural Engineering. The Rescue Engineer must act "Offensively" to provide timely information and alternatives to their Task Force, in order to reduce risk during lifesaving operations. The "Normal" Civil/Structural Engineer needs to act "Defensively", with greater deliberation in order to protect the public, and carefully comply with building codes.

Starting on Day 1 the StS1 student is exposed to the concepts of Rescue Engineering such as; Causes of Collapse, Critical Building Characteristics, Structural Collapse Patterns, and Hazard Identification. Following this we present mitigation methods such as: Monitoring, Shoring, and Rigging. Classroom learning is enhanced by field sessions that teach the use of Total Stations, GPS, Cranes and Rigging, as well as how to build FEMA Shoring.

The StS is also introduced to the personnel accountability system used in the FEMA National US&R Response System, as well as the "StS Forms" that are used to record Rescue Engineering practices. On the final day the student is asked to evaluate several structures during tabletop exercise to measure their readiness to become Structure Specialists.

4-3. Structures Specialist 2 (StS2) Training Course

The Structures Specialist 2 training (StS2) is the advanced course is offered to Structures Specialist (StS) members who previously completed the introductory Structures Specialist Training (StS1) and need this refresher training. It is recommended that this training be completed every 4 years, unless the StS has been deployed to a major building collapse incident.

The StS2 class will attempt to simulate an "Incident Response" as much as possible. Students will be divided into teams for accountability and travel. Normal incident accountability will be practiced within each team, and ICS 214 forms will be completed each day. The course includes a series of advanced lectures, tabletop and field exercise scenarios that will challenge students to exercise judgment and make the type of time-sensitive decisions that are required at an actual rescue response site. Structures Specialists are required to be in full uniform for the StS2 course and operate as part of a team or squad. Classroom training covers a series of scenarios and case studies. This includes failure mode analysis, StS responsibilities, search and rescue concepts of operation, structure assessment, triage, and physical shoring testing. Field training will test the student's physical and mental skills and covers monitoring of structures with both low and high-tech equipment, disaster applications for global positioning systems, disaster engineering tasks during confined space operations, operations while donning protective HAZMAT suits and full-face masks, rubble pile exercises and use of Structures Specialist "Forms", shift change and hand-off, and out-of-the-box engineering.

4-4. Structures Specialist Regional Training

The StS Regional Training was started in 2007 to provide an opportunity for both FEMA and USACE Structures Specialists to attend a workshop to cover practical applications for reviewing and practicing the skills required on a deployment. This two-day Regional Training is generally conducted three times a year, typically over a weekend, and is hosted by a pre-determined task

force. The Structures Subgroup will select the location of each of the three StS Regional Trainings approximately one year in advance of the delivery, with one being held in East, West, and Central Divisions.

The StS Regional Training curriculum is broad, and each session covers the needs of the Structures Specialist based on feedback from previous deployments and input from the Structures Subgroup. Training is targeted towards skills that the StS needs during a deployment and to best prepare the engineers to operate immediately upon arrival at a rescue response. Topics could include new engineering principles or practices useful during a US&R response or reviewing the newest uses of Survey123/Quick Capture applications. The training topics offered at the Regional Training are the same for several years to ensure all Structures Specialists in each Division have an opportunity to attend and receive the same information.

4-5. Structures Specialist – Total Station Training

This self-paced course describes how to set up and operate the Total Station for Urban Search & Rescue missions. This awareness training is designed to be task-specific for individuals and teams, as well as provide the knowledge base for exercises and live workshops for military contingency or civil disaster-related response environments.

The course can be accessed at: https://rsc.usace.army.mil/Training/Civil-Level-Two/USR-Total-Station

4-5. Continuing Education and Exercises

USACE Structures Specialists are encouraged to regularly communicate and coordinate with the Structures Specialists that are members of FEMA US&R Task Forces near their USACE duty station. The purpose of this coordination is to facilitate the USACE member to be able to attend and collaborate during continuing education training and full-scale exercises that are sponsored by the FEMA US&R Task Force. These continuing education and exercise opportunities build better understanding and relationships with the FEMA StS's near their duty station. Networking with FEMA StS's during required and regional training as well as communication with the USACE US&R Program Manager will provide opportunities for the USACE StS's to participate in Task Force quarterly training and annual exercises.

4-6. Collaboration

The USACE StS Cadre is comprised of full time USACE employees stationed across the United States. These personnel are encouraged to contact the closest FEMA US&R Task Force to find opportunities to participate in locally hosted training and exercises to expand their knowledge and to build relationships with Structures Specialists on FEMA US&R task forces. USACE StS Cadre is also encouraged to contact any local state/regional US&R task forces if a FEMA Task Forces is not located nearby. The same type of collaboration and relationship building is equally encouraged.

Finally, the USACE StS Cadre may also contact any local National Guard CERFP units or CBRN Task Forces and explore opportunities to attend any exercises or training events. The National Guard Bureau's J39 Countering Weapons of Mass Destruction Division is the program office for the CBRN Response Enterprise comprising 57 WMD Civil Support Teams, 17 CERFPs, and 10 CBRN Task Forces; the J39 can also be contacted to coordinate training, exercises, response, and doctrine. These different types of collaboration will allow USACE StS personnel to better understand the units they may be embedded with during a response as outlined in Section 3-4 of this document.

4-7. Partnerships and Additional Training Opportunities

The USACE StS Cadre and FEMA US&R StS are encouraged to join state and national engineering organizations and associations and to explore opportunities to become involved with local training events. These organizations and associations can provide cross-training in structural assessments and an opportunity to recruit potential StS applicants. Many earthquake prone areas have hosted courses on how to utilize the ATC-45 and ATC-20.

Pre-scripted Mission Assignment (PSMA) Title: (FOS) Search and Rescue: Structures Specialist (StS) Strike Team EXECUTION
PSMA Number: 302
PSMA Common Name: Type 1 USACE ESF #9 Structures Specialist (StS) Strike Team
Assistance Requested: USACE Structural Support to FEMA US&R Incident Support Team (IST)

Actions to be Taken by USACE:

1. Activate and pre-position or maintain a Type 1 US&R Structures Specialists Strike Team to support the FEMA US&R IST Engineering Cell.
2. Pre-position one of three USACE specialized equipment caches to the location of the FEMA US&R IST Engineering Cell.
3. Coordinate and integrate USACE resources into FEMA US&R efforts.
4. This Mission Assignment (MA) includes providing a USACE Liaison/SME to the FEMA US&R IST.

The Type 1 USACE StS Strike Team:

A total of twenty-six (26) personnel will be deployed along with their specialized equipment. The FEMA US&R IST will assign all USACE StS members as appropriate once they arrive to the IST.

1. 2 personnel assigned as USACE IST Liaisons/SME's (providing 24-hour coverage in 12 hours shifts)
2. 24 personnel assigned as USACE Structures Specialists (StS) that will forward deploy and embed with FEMA US&R Task Forces. The 24 forward deployed USACE personnel are expecting to be divided into two 12-hours shifts for the purpose of providing 12 personnel per shift to staff the 24-hour operations that FEMA US&R Task Forces will be conducting.
3. The Strike Team will be prepared for assignment to the IST and/or US&R Task Forces for up to 10 days and working 16 hours per day.

FEMA US&R IST Support Requirements for this PSMA:

1. Each USACE StS member will need a portable radio programmed to US&R frequencies issued to them by the IST or MERS
2. If a hotel in not available near the IST, then each USACE StS members will need a cot to sleep on if they are assigned to work at the IST.
3. If the USACE StS member is forward deploy with US&R Task Forces, they will need a cot supplied to them.

Previous PSMA #

1. PSMA-USACE-ESF 9-213
2. PSMA-USACE-ESF 9-215

Pre-scripted Mission Assignment (PSMA) Title: (FOS) Search and Rescue: Structures Specialist (StS) Strike Team EXECUTION
PSMA Number: 302
PSMA Common Name: Type 2 USACE ESF #9 Structures Specialist (StS) Strike Team
Assistance Requested: USACE Structural Support to FEMA US&R Incident Support Team (IST)

Actions to be Taken by USACE:

1. Activate and pre-position or maintain a Type 2 US&R Structures Specialists Strike Team to support the FEMA US&R IST Engineering Cell.
2. Pre-position one of three USACE specialized equipment caches to the location of the FEMA US&R IST Engineering Cell.
3. Coordinate and integrate USACE resources into FEMA US&R efforts.
4. This Mission Assignment (MA) includes providing a USACE Liaison/SME to the FEMA US&R IST.

The Type 2 USACE StS Strike Team:
A total of seven (7) personnel will be deployed along with their specialized equipment. The FEMA US&R IST will assign all USACE StS members as appropriate once they arrive to the IST.

1. 1 person assigned as USACE IST Liaisons/SME's
2. 6 personnel assigned as USACE Structures Specialists (StS) that will forward deploy and embed with FEMA US&R Task Forces. The 6 forward deployed USACE personnel are expecting to be divided into two 12-hours shift for the purpose of providing 3 personnel per shift to staff the 24-hour operations that FEMA US&R Task Forces will be conducting.
3. The Strike Team will be prepared for assignment to the IST and/or US&R Task Forces for up to 10 days and working 16 hours per day.

FEMA US&R IST Support Requirements for this PSMA:

1. Each USACE StS member will need a portable radio issued to them by the IST or MERS
2. If a hotel in not available near the IST, then each USACE StS members will need a cot to sleep on if they are assigned to work at the IST.
3. If the USACE StS member is forward deploy with US&R Task Forces, they will need a cot supplied to them.

Previous PSMA #

1. PSMA-USACE-ESF 9-213
2. PSMA-USACE-ESF 9-215

The following forms and documents are used by the Structures Specialist in the performance of their responsibilities on the task force. The most current version of these forms are located on the www.disasterengineering.org website that is maintained and updated by the FEMA Structures Subgroup and the U.S. Army Corps of Engineers.

A. **Rapid Struct Triage (RST-1)** – This form is used to aid in prioritizing US&R Operations by rapidly determining Probability of Viable Victims and Assessment of Relative Risks for numerous collapsed structures. This form is filled out by the Structures Specialist. If completed by a non-StS, the RST-1 form should be reviewed and approved by an StS whose name shall be included on the form. Instructions to fill out this form are located on the bottom of RST-2.

B. **Rapid Struct Triage (RST-2)** – This form is a continuation of the RST-1 form and is used to rapidly assess additional structures affected by a large disaster event, determining Probability of Viable Victims and Relative Risks to US&R personnel. This form is filled out by the Structures Specialist. If completed by a non-StS, the RST-1/2 form should be reviewed and approved by an StS, whose name shall be included on the form. Instructions to fill out this form are located on the bottom of RST-2.

C. **Hazards Evaluation Form (HAZ-1)** – This form is used to document a more detailed structural assessment of hazards for individual buildings/structures (when necessary). The HAZ-3 checklist form should be used FIRST (prior to HAZ-1 form) during initial exterior assessments. Each HAZ-1 form is building/structure specific. Different buildings/structures should utilize a separate series of HAZ forms. Hazards should be identified and documented relative to building structural systems and individual void systems, as well as recommended points of access, egress, and associated strategies. This form is filled out by a Structures Specialist. If filled out by a non-StS, it should be done so with input and approval by a StS whose name shall be included on the form.

D. **Hazards Evaluation Form (HAZ-2)** – This is the back of the HAZ-1 form and provides additional space to sketch the structure and pertinent hazards. This form is filled out by the Structures Specialist. If filled out by a non-StS, it should be done so with input and approval by a StS whose name shall be included on the form.

E. **US&R Structure / Hazards Checklist (HAZ-3)** – This form is a checklist for preliminary structure hazard assessment tasks that should be completed by an StS prior to entering a structure and before completing the HAZ-1 form. This promotes avoidance of significant hazards and minimizing exposure prior to development of mitigation measures.

F. **Hazards Mitigation Form (MIT-1)** – This form is completed by the StS after detailed structural assessments have been performed using the HAZ forms. The purpose of this form is to document types of mitigation recommended, their location and priority. The mitigation plan recommendations developed on the MIT-1 form may become part of the IAP. This form is filled out by the Structures Specialist. If filled out by a non-StS, it should be done so with instruction and approval from a StS whose name shall be included on the form. Instructions to fill out this form are in Section 9 of the FOG.

G. **Hazards Mitigation Log (MIT-Log)** – This form is used in conjunction with the MIT-1 form and documents the actions taken to complete the specific mitigations relative to specific hazards. The MIT-Log is a living document used to further monitor the condition of installed mitigation measures. This form is filled out by the Structures Specialist and used as a communication tool to Hand-off to the oncoming StS after shift change.

H. US&R Struct. Monitoring Form (MON-1) – This form is intended for use with Total Station monitoring instruments. It is used to identify monitoring setup and to record associated control points. This form may be used to record data from other monitoring devices. This form is filled out by the Structures Specialist(s).

I. US&R Struct. Monitoring Form (MON-2) – This is a continuation of the MON-1 form and provides additional space to document additional control and monitoring points. This form is filled out by the Structures Specialist(s).

J. US&R Struct. Monitoring Form (CP-Log) – This form is used in conjunction with the MON-1 and MON-2 forms. This form is filled out by the Structures Specialist to record additional or alternate Control Points, as well as periodic follow-up readings from various Instrument Points, if necessary.

K. US&R Struct. Monitoring Log (MON-Log) – This form is used in conjunction with Total Station Monitoring Instruments and MON-1/MON-2 forms. This form is used to record Monitoring Point coordinates and subsequent periodic readings to monitor and measure potential movement of the monitored structure. This form is filled out by the Structures Specialist and may be used to record data from other monitoring devices. Some guidance on Control and Monitoring Point numeric systems is provided in Section 5 of the FOG in the subsection titled "TOTAL STATION" under "Building Monitoring Setup."

L. US&R Struct. Monitoring Log (MON-Log-P) – This form is a variation of the MON-Log form, but in portrait orientation. This allows for recording more subsequent monitoring point readings/measurements. This form is filled out by the Structures Specialist and may be used to record data from other monitoring devices.

M. US&R StS Shift Change Form (Handoff) – The form is used to communicate a summary of operations that occurred in the prior StS shift and the priorities for the oncoming StS working during the next operational shift. This form is filled out by the Structures Specialist.

N. US&R Crane Use/Order Form (CU-1) –This form is used by the Structures Specialist to determine the size and type of crane that may be necessary for heavy lifts during rescue operations. The form can also be used to evaluate the load lifting limitations of existing cranes or heavy equipment.

O. US&R Shoring Check List (SHOR-1) –This form is used by the Structures Specialist as a checklist to assist with development of shoring plans and follow-up condition monitoring of new or existing shoring constructed during US&R operations.

P. US&R Tunnel / Hazards Evaluation Form (T-HAZ-1) – This form is used to document structural assessment of hazards relative to operations in damaged or collapsed tunnels. This form is filled out by the Structures Specialist.

Q. US&R Rapid Bridge Assessment Form (RBA-1) –This form is used by the Structures Specialist to conduct and document Rapid Bridge Assessments following various disaster events.

The following equipment is specific to the Structures Specialist and a copy of the 2020 FEMA Approved Equipment Cache List for a FEMA US&R Type 1, 2, and Type 3 Task Force:

Structures Specialist Equipment	Manufacturer / Vendor – Meet or Exceed This Quality	Model / Part #(s) Meet or Exceed This Quality	TA-0000.00	Type / Quantity	Unit Of Issue
Vest, Backpack/Equipment, (for carrying tools)	SECO	8265-50 FLO	TA-0101.00	2	each
Binoculars, waterproof	Nikon	Aculon T11 8-24x25 (Black)	TA-0102.00	2	each
Compass, navigation, high quality	Suunto	KB-14/360R	TA-0103.00	2	each
Range Finder, laser range	Bushnell	Sport 850 4x20, 202205	TA-0104.00	2	each
Documentation kit, including documents, forms, pens, pencils, mylar sheets			TA-0105.00	2	each
Paper, Weatherproof, 8x8 GRID, 8 - 1/2"x 11, 100 Shts / pkg	Rite in the Rain	372-MX	TA-0105.01	1	pack
Pen, All weather	Rite in theRain	#37	TA-0105.02	10	each
Gauge, Crack	Avongard	Avongard Strain Gauges	TA-0106.00	12	each
Hammer, geology	Estwing	E3-22P	TA-0107.00	2	each
Level, Electronic	Macklanburg-Duncan	# 92288	TA-0108.00	4	each
Marking Kit, (includes the items listed below)			TA-0109.00	2	each
Tape, Cordoning, DANGER, Roll	Abatix	BTPD	TA-0109.01	1	roll
Tape, Cordoning, CAUTION, Yellow, roll	Abatix	BTPC	TA-0109.02	1	roll
Flagging Ribbon, Survey, Red, 1-3/16" X 300' roll	Ben Meadows	101412	TA-0109.03	2	roll
Crayon, Marking, Red	Dixon	71126	TA-0109.05	6	each
Light stick, Cyalume, 12-hour duration, Yellow	Cyalume Technologies	6260-01-196-0136	TA-0109.06	24	each
Flagging Ribbon, Survey, Yellow, 1-3/16" X 300' roll	Ben Meadows	101400	TA-0109.07	12	roll
Flagging Ribbon, Survey, White, 1-3/16" X 300' roll	Ben Meadows	101404	TA-0109.08	12	roll
Crayon, Marking, Yellow	Dixon	71125	TA-0109.09	6	each
Crayon, Marking, Black	Dixon	71124	TA-0109.10	6	each
Tape, Measuring, 30'	Stanley	33-430	TA-0110.00	2	each
Tape, Measuring, 30'	Lufkin	PSFE100	TA-0111.00	2	each
Detector, Metal, handheld	Zircon	MT6 / 58594	TA-0112.00	2	each
Plumb bob, 8 oz, w/lines	Stanley	47-973	TA-0113.00	4	each
Pointer, Laser	Quartet	MP1200Q / Class 3A	TA-0114.00	2	each
Meter, Range, Hand-held	Leica	Disto I7500E	TA-0115.00	2	each
Screwdriver, Phillips #2 X 18"	Old Forge	5218P	TA-0116.00	2	each
Anchors, Masonry 1/4" x 1-1/4" (100 per box)	Tapcon	TCH14114	TA-0117.00	6	box
Tapcon Driver Kit Deluxe	Buildex	TCIT	TA-0117.01	2	each
Epoxy, Rapid set, 2 part putty, paste grade	Polymeric Systems	Repair-it-Quick Putty Stick	TA-0118.00	2	pack
Calculator, scientific	Hewlett-Packard	HP-35S	TA-0119.00	2	each

Structures Specialist Equipment	Manufacturer / Vendor – Meet or Exceed This Quality	Model / Part #(s) Meet or Exceed This Quality	TA-0000.00	Type / Quantity	Unit Of Issue
Camera, digital, water / shock resistant, GPS, 16 MP w/accessories: Carry case, 2 batteries (EN-EL12), charger, cables, adapters, memory card, mini tripod, software, manual	Nikon	Coolpix AW 130	TA-0120.00	2	each
Card, Memory, 16 gigabyte, Digital Camera	SanDisk	SDSU-016G-AN6IN	TA-0120.01	4	each
Clinometer, foresters type, calibrated for 100' with rubber protective cover	Brunton	Omni Slope	TA-0121.00	2	each
Kneeboard, tri-fold,	ASA	ASA - KB3 VFR	TA-0122.00	2	each
Meter, Weather/Wind	Kestrel	4500	TA-0123.00	2	each
Penetrometer, Pocket	Lang	Regular	TA-0125.00	2	each
Tape, Measuring, 300', fiberglass English open reel	Lufkin	PSFE300	TA-0126.00	1	each
Telescope, compact, 30 x 50 w/tripod, case	Leupold	120560 Kit	TA-0127.00	1	each
Light, Clip-on	Pelican	Versabrite / 2250	TA-0131.00	2	each
Tripod, Laser Station, Heavy duty wood/fiberglass, Quick Clamp	CST/Berger	60-WDF20	TA-0132.00	2	each
Case, Shipping, Hard Shell, for Tripod	SECO	8160-31	TA-0132.01	2	each
Total Station Nivo 5M+, Kit, each kit to include 1 of each items TA-0133.01 & TA-0133.08	Nikon	HNA30560	TA-0133.00	2	kit
Charger, Dual, for Nivo Total Station	Nikon	HQJ27000	TA-0133.01	1	per kit
Battery, spares, for Nivo Total Station (2 required for each unit)	Nikon	67201-01-SPN	TA-0133.02	2	per kit
Pole, Sectional, for Total Station Mini Prism	Leica	GLS115	TA-0133.03	1	per kit
Prism, Mini, with Holder, for Total Station	Leica	GMP111	TA-0133.04	1	per kit
Straps, Carrying, Total Station Case Carrying Straps	Nikon	HXA20668	TA-0133.05	1	per kit
Eyepiece, Diagonal, for Nivo Total Station	Nikon	HED14001	TA-0133.06	1	per kit
Field Operations Guide, USACE StS, Current Edition	USACE	USACE StS FOG	TA-0133.07	1	per kit
Inverter, Power, 12v to 120v, 100 watt	Whistler	XP=100I	TA-0133.08	1	per kit
Tape, Reflective, 60 x 60mm, 20/pkg	Leica	763534-1 GMZ31	TA-0134.00	1	per kit
Notebook, Universal, 4 5/8" x 7" Spiral, All Weather	Rite in the Rain	373	TA-0135.00	5	each
Notebook, Field, 4 5/8" x 7" Spiral, All Weather	Rite in the Rain	353	TA-0136.00	5	each
Notebook, Journal, 3 1/4" x 5", Spiral, All Weather	Rite in the Rain	393-M	TA-0137.00	5	each

The following equipment is described in Section 8 of the USACE Structures Specialist Field Operations Guide and lists the equipment contained in the three USACE Structures Specialist Equipment Caches stored at the following three locations:

A. Western Region – South Pacific Division, Moffett Field, CA
B. Central Region – Mississippi Valley Division, St. Louis, MO
C. Eastern Region – New England District, Concord, MA

Monitoring and Measurement Equipment			
Quantity	Description	Quantity	Description
2	Nikon Total Station (one Nivo 5.M and one N Series) with a tripod and an extra battery for each	6	Garmin RINO 53O HCx GPS w/Radio, loaded with US Maps, battery adaptor
1	Spotting Scope with tripod	6	Smart Levels
1	Hilti Laser Level	1	Crack Gage Kit

Office Equipment			
Quantity	Description	Quantity	Description
1	Mobile Printer and Hand Scanner	1	Office Supply Kit (Pens, Paper, Forms, etc.)
1	Digital Camera and 500GB drive	2	Solar Notebook Chargers
6	FOG's, SOG's, and Field Notebooks	1	Surge Protectors & International Adaptors
1	HAZMAT Response Guidebook	1	Calculator
1	Power Inverter (375 Watts)		

Safety Equipment			
Quantity	Description	Quantity	Description
1	Full Body Harness	2	LED Lantern
1	Rescue Rope (150-ft) & Hardware	6	Dust Masks & Work Gloves
6	Personal Floatation Devices		Tarps, Tiedown Straps, Lashing
1	First Aid Kit	1	SteriPEN Water purifier & Solar Charging Case
1	Extension Cord	6	PAPR Kits (Full face Respirator, NiMH Battery, filters, etc) *kits stored in individual cases

Tools			
Quantity	Description	Quantity	Description
1	Hilti Laser Level	2	Electric Distance Meters
1	DeWalt Inspection Camera	2	Flashlights and glow-sticks
1	Plumb-Bob	1	Anemometer (Wind Meter)
1	Penetrometer	1	Binoculars
1	3 lbs. Hammer	2	Geologist Hammer
1	Pry Bar	2	Tarps
2	Measuring Tapes (2 ea of 300' Flexible & 25' steel)	1	Chalk Line/Chalk

Wireless Building Monitoring System (WBMS)			
Quantity	Description	Quantity	Description
2	WBMS Sensors	1	WBMS Receiver
2	Android Smartphone		WBMS Various Mounting Plates and Straps
1	Screwdrivers, Ratchet Set, Blade, Pliers, Clamps	1	18 volt Hammer Drill and Tapcon Fasteners
2	System Batteries		

Refer to the *FEMA US&R Operations Manual, Annex D – Mission Ready Packages Concept of Operations* for a complete explanation of the purpose and organizational design of the Mission Ready Package. The information below mirrors *Appendix F of Annex D - Mission Ready Packages Concept of Operations*.

RESOURCE:	Structures Specialist Advisory Module		
RESOURCE CATEGORY:	Search and Rescue (ESF #9)	**KIND:**	Structural
OVERALL FUNCTION:	Resource provides engineering input for a host agency which either does not have its own integrated structural engineering capability or needs additional support. One MRP is capable of continuous 12-hour operations. For 24-hour operations, order two or more MRPs.	**COMPOSITION & ORDERING SPECIFICATIONS:**	2 Structures Specialists The primary mission for this module is engineering advice and liaison services for an IST or an IMT. Re-supply and shelter for the team must be provided by the requesting agency. Law enforcement support will be provided by the local agency or ESF-13 response.

CAPABILITIES:			**Notes:**
COMPONENT:	**METRIC:**	**DETAILS:**	
Personnel	Structures Specialist	2 FEMA US&R Structures Specialists or 2 USACE US&R Structures Specialists	
Vehicles	Transportation	Vehicle capable of transporting personnel and equipment.	SUV type preferred
Equipment	Materials and supplies	Self-sustaining for 72 hours to include personal protective equipment, food, water, and fuel. Basic first aid for equipment at BLS level. Basic communications equipment for communications with the command element. Communications equipment suitable for assignment. Discipline specific equipment to accomplish the mission objectives, to include engineering tools suitable for assignment, see FEMA Mission Ready Package Equipment Cache List for equipment details.	

The FEMA Mission Assignment (MA) Guide provides a detailed operational framework for the creation, approval, issuance, execution, reimbursement, and closeout of a MA at the incident management (IM) and incident support (IS) levels. Mission Assignments issued to the USACE for ESF #9 support will be at the incident management level. The content of this Appendix is based on a summary of the *FEMA Mission Assignment Guide* (September 2017).

A MA is a work order that FEMA issues to another federal agency directing the completion of a specific request for assistance. A MA includes funding, managerial controls, and guidance. FEMA issues MAs in anticipation of, or in response to, a Presidential declaration of an emergency or a major disaster. The *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (Stafford Act) authorizes MAs.

The Mission Assignment Process is organized into four major steps, and this Appendix discusses Step 1: Creation, Approval, Issuance, and Execution. The remaining three steps are not relevant to the response operations and therefore not covered in this Appendix because they involve the reimbursement, approval of expenditures, and closeout of the MA. Refer to the *FEMA Mission Assignment Guide* for more information on Step 2, 3, and 4.

A. Two categories of MAs established by FEMA policy and federal regulations exist: Federal Operations Support and Direct Federal Assistance.

B. **Federal Operations Support (FOS)** – These MAs provide federal-to-federal support allowing FEMA to execute its mission. The primary purpose of a FOS MA is to augment the capacity and capability of the Emergency Support Functions (ESF) to pre-position and deliver critical goods and to execute the federal disaster response mission. FEMA may issue a pre-declaration FOS MA for response support for an incident in which a declaration is reasonably likely, as well as anytime throughout a declared incident.

> **Example FOS Mission Assignment**
> The USACE could receive a Mission Assignment to deploy a Type 1 USACE StS Strike Team to work with the FEMA US&R IST while they are working in a unified command structure with the State SAR Branch. This USACE StS Strike Team may be further sub-divided to move forward and embed with deployed FEMA or State US&R task forces

B-1 When Mission Assignments are issued to USACE for ESF #9 support to the FEMA US&R Branch, those are categorized as Federal Operations Support (FOS) in order to provide federal-to-federal support for FEMA ESF #9 to execute its mission. The FOS MA is to augment the capacity and capability of ESF #9 to pre-position and execute the federal disaster response mission. FOS MAs are:

B-1.1 Requested by FEMA or Other Federal Agencies (OFAs) for federal agency support, and
B-1.2 Issued before or after a declaration for response support

C. Direct Federal Assistance (DFA) – These MAs allow for the support of the Federal Government during incident operations to provide goods and services for eligible emergency work when an STT government has exhausted its own capabilities to provide these services. DFA MAs are subject to a cost share with the STT governments requesting assistance. The State/Tribal/Territorial Approving Official (S/T/TAO) must sign DFA MAs.

C-1. When Mission Assignments are issued to USACE for ESF #9 support to states, tribal, or territories, those are categorized as Direct Federal Assistance (DFA). DFA MAs are:

C-1.1 Requested by State, Tribal or Territory for federal agency support,

C-1.2 Issued after a declaration for response support when the state has exhausted all of their own capabilities.

C-1.3 The MA must be signed by the State/Tribal/Territorial Approving Official (S/T/TAO).

D. Basic Steps for Mission Assignment Creation, Approval, Issuance, and Execution

D-1 Creation of the MA – The WebEOC Mission Assignment Form is completed by one of the four people: the RRCC Operations Section Chief (OSC), the RRCC Resource and Capability Branch Chief (RCBD), the NRCC ESF #9 SAR Unit Leader, or the ESF #3 Team Lead. The WebEOC form is used when speed is critical for life-saving and life-sustaining MA's.

D-2 Enter MA in eCAPS - The MA is entered into eCAPS by the FEMA NRCC Comptroller.

D-3 Route MA - The MA is routed within the NRCC according to the Mission Assignment Guide.

D-4 Statement of Work (SOW) – The SOW must be clear and concise language regarding how the assigned agency will provide the requested assistance. The SOW includes who is performing the task, what type of task is to be done, where the task is to be performed, and how they will complete the task. Two pieces of information created based on the SOW:

D-4.1. Period of Performance (POP) – Pre-declaration FOS MAs are short in nature and are for things such as pre-positioning team and resources until the President issues an emergency or major disaster declaration. Following a Presidential declaration, FEMA converts pre-declaration MAs to the appropriate funding stream. The POP

D-4.2. Cost Estimate – The cost estimate will be based on the SOW and the POP and considered seven different costs described in the Table 5 of Mission Assignment Guide. One of the easiest ways to estimate costs is developing the Pre-Scripted Mission Assignments in advance.

D-5 Approval in eCAPS - The MA Manager routes the MA in eCAPS for review and approval. The standard routing of the MA is: MA Manager → FEMA Project Manager (PM) → Comptroller → Federal Approving Official (FAO).

D-5.1 Only two signatures are required for an agency to act on a MA: FAO and the Comptroller.

D-6 **State/Tribal/Territorial Approval** – The MA is reviewed by the requestor at the STT to verify it meets the request and they agree to the cost share for the work. An electronic or printed MA is signed by the STT and uploaded by the MA Manager into eCAPS and WebEOC.

D-7 **Issuance** - Once all parties have approved the MA, the NRCC MA Manager does the following:

D-7.1 Ensures that a copy of the approved MA is available in eCAPS and WebEOC

D-7.2 Provides copies of the approved MA to the S/T/TAO, the PM, and the OFA AO for execution

D-7.3 Ensures that copies of the FSA/FTA, all delegation memoranda, and the original copy of manually processed/signed MAs are sent to the FFC to be maintained in the FFC's files

D-7.4 Establishes a file for each issued MA maintained with up-to-date documentation as necessary throughout the life cycle of the MA.

D-7.5 Ensures MAs in eCAPS are rerouted to the appropriate reviewers during shift or staff changes in order to continue to process and track open mission assignments.

D-8 Once the Mission Assignment is accepted, the USACE US&R Program Manager will begin making travel arrangements for USACE Structures Specialists and track their movement to the impacted area, where they will either embed with the FEMA US&R IST or their assigned Task Force. Refer to Appendix J for examples of how an AHJ, a task force, or the IST could request USACE StS support.

The following equipment is stored at Moffett Field in California for use during the StS1 and StS2 courses but could also be deployed if needed.

Monitoring and Measurement Equipment			
Quantity	Description	Quantity	Description
2	Nikon Total Station (one Nivo 5.M and one N Series) with a tripod and an extra battery for each	6	Garmin RINO 53O HCx GPS w/Radio, loaded with US Maps, battery adaptor
1	Spotting Scope with tripod	6	Smart Levels
1	Hilti Laser Level	1	Crack Gage Kit

Office Equipment			
Quantity	Description	Quantity	Description
1	Mobile Printer and Hand Scanner	1	Office Supply Kit (Pens, Paper, Forms, etc.)
1	Digital Camera and 500GB drive	2	Solar Notebook Chargers
6	FOG's, SOG's, and Field Notebooks	1	Surge Protectors & International Adaptors
1	HAZMAT Response Guidebook	1	Calculator
1	Power Inverter (375 Watts)		

Safety Equipment			
Quantity	Description	Quantity	Description
1	Full Body Harness	2	LED Lantern
1	Rescue Rope (150-ft) & Hardware	6	Dust Masks & Work Gloves
6	Personal Floatation Devices		Tarps, Tiedown Straps, Lashing
1	First Aid Kit	1	SteriPEN Water purifier & Solar Charging Case
1	Extension Cord	6	PAPR Kits (Full face Respirator, NiMH Battery, filters, etc) *kits stored in individual cases

Tools			
Quantity	Description	Quantity	Description
1	Hilti Laser Level	2	Electric Distance Meters
1	DeWalt Inspection Camera	2	Flashlights and glow-sticks
1	Plumb-Bob	1	Anemometer (Wind Meter)
1	Penetrometer	1	Binoculars
1	3 lbs. Hammer	2	Geologist Hammer
1	Pry Bar	2	Tarps
2	Measuring Tapes (2 ea of 300' Flexible & 25' steel)	1	Chalk Line/Chalk

Wireless Building Monitoring System (WBMS)			
Quantity	Description	Quantity	Description
2	WBMS Sensors	1	WBMS Receiver
2	Android Smartphone		WBMS Various Mounting Plates and Straps
1	Screwdrivers, Ratchet Set, Blade, Pliers, Clamps	1	18 volt Hammer Drill and Tapcon Fasteners
2	System Batteries		

US&R Structures Specialist (StS) Cadre Activation and Deployment Standard Operating Procedures

SPD SUPPORTING DIVISION

NRCC/RRCC — Paige Caldwell: (202) 672-3257 / 202-646-1387

- ESF #9 communicates need for StS Cadre support to ESF #3 TL/AT.
- ESF #3 TL notifies SPD US&R StS Cadre PM and/or SPD EOC of requirement and provides MA to SPD.
- ESF #3 TL informs UOC of US&R StS Cadre Mission and Activation.

UOC — Duty Officer: 202-761-1001

- UOC monitors the mission and briefs HQ Leadership on mission status and execution.
- Includes StS Mission status in daily reports.

SPD EOC — Jeff Qunell: 916-502-4145 / 415-503-6616; SPD EOC: 415-503-6600

- SPD US&R Program Mgr, designated alternate StS Cadre POC's and/or RCO staff identifies StS's to fill the requirement.
- Each designated StS mobilizes upon notification of confirmed MA (per SOU, mobilization may take place in advance of travel orders for lifesaving mission). Each StS shall report to the FEMA IST StS for Task Force assignment.
- Coordinates directly with NRCC ESF 3 & 9 staff as necessary throughout activation and deployment process.
- SPD MIPR's funds to deploying StS organizations as necessary.
- SPD EOC provides names of deploying StS's to supported District for processing of personnel taskers. (NOTE: Due to the urgency and life saving nature of these missions, StS' will likely deploy prior to being formally tasked in ENGLink.)
- SPD, with support from Logistics, shall ship US&R Equipment Cache(s) to the deployment location.
- SPD closes out all ESF #9 MA's received.
- Coordinates directly with the supported Division & District as required throughout mission execution.

SUPPORTED DISTRICT

- The supported district is responsible for coordinating and issueing taskers for each deploying StS.
- The Supported District is responsible for maintaining personnel accountability and upward reporting via the StS Team Leader.

NOTE: There may be situations when the ESF #9 lead at FEMA HQ contacts SPD and/or the StS Cadre Program Manager directly. If/when this occurs, SPD will coordinate directly with the ESF #3 TL at the NRCC to initiate the process as defined above.

US&R Structures Specialist (StS) Cadre Activation and Deployment Standard Operating Procedures

SPD IMPACTED/SUPPORTED DIVISION

NRCC/RRCC — Paige Caldwell: (202) 672-3257 / 202-646-1387

- ESF #9 communicates need for StS Cadre support to ESF #3 TL/AT.
- ESF #3 TL notifies SPK EOC of requirement and provides MA to SPK.
- ESF #3 TL informs UOC of US&R StS Cadre Mission and Activation.

UOC — Duty Officer: 202-761-1001

- UOC monitors the mission and briefs HQ Leadership on mission status and execution.
- Includes StS Mission status in daily reports.

SPK EOC — SPK EOC: 800-370-7001 / Jessica Fischer: 916-557-6903

- SPK EM staff coordinates with appropriate US&R StS Alternate POC's or Team Leader(s) to identify StS's to fill requirement. NOTE: StS Cadre is comprised of three teams on a rotating schedule. Each team (Red, White and Blue) have designated Team Leaders and Assistant Team Leaders. **Doug Wesemann** is an SPK StS and POC.
- Each designated StS mobilizes upon notification of confirmed MA (per SOU, mobilization may take place in advance of travel orders for lifesaving mission). Each StS shall report to the FEMA IST StS for Task Force assignment.
- SPK EOC Coordinates directly with NRCC ESF 3 & 9 staff as necessary throughout activation and deployment process.
- SPK MIPR's funds to deploying StS organizations as necessary.
- SPK EOC provides names of deploying StS's to supported District for processing of personnel taskers. (NOTE: Due to the urgency and life saving nature of these missions, StS' will likely deploy prior to being formally tasked in ENGLink.)
- SPK, with support from Logistics, shall ship US&R Equipment Cache(s) to the deployment location.
- SPK closes out all ESF #9 MA's received.
- Coordinates directly with the supported Division & District as required throughout mission execution.

SUPPORTED DISTRICT

- The supported district is responsible for coordinating and issueing taskers for each deploying StS.
- The Supported District is responsible for maintaining personnel accountability and upward reporting via the StS Team Leader.

NOTE: SPD has designated SPK as the primary back-up district should the event directly impact the San Francisco area resulting in SPD being the impacted/supported MSC.

A. Below are three examples of how an AHJ, a task force, or the IST may request USACE StS support prior to or during response operations.

B. **ICS 213** – Below is an example of an ICS 213 written by the IST StS to the IST Leader and is requesting USACE StS resources. This request would be submitted to the IMAT, to the FEMA Region, to the NRCC.

GENERAL MESSAGE (ICS 213)

1. Incident Name (Optional): **Hurricane Irene (2011-06-3327EM2011)**		
2. To (Name and Position): **IST Planning Section Chief / IST Leader**		
3. From (Name and Position): **Dave Weber, White IST StS**		
4. Subject: USACE StS Resources Request	**5. Date:** 08-27-2011	**6. Time** 0945

7. Message:

Request 3 USACE StS:
1 Team Leader (SME) StS to be assigned to the IST (Weber, StS)
2 StS to be assigned to North Branch Div/Group Supervisor

SME StS report to Weber (573.999.5545) at IST BoO, Hyatt Dulles, Herndon VA
2 StS report to North Branch Director, Ernie Rhodes (314.486.5488) at JB Maguire, NJ

2 StS will be assigned as directed by Rhodes to the Div Supervisors:
Les Crews (202.570.2090)
Ted Karuris (619.843.5698)

ISTL (Tom Miner) will need to request these assets verbally to the NRCC and paperwork can follow

USACE StS Program Manager: Jeff Qunell, Mobile: 916-502-4145, email: Jeffrey.J.Qunell@usace.army.mil

8. Approved by: Name: Dave Weber Signature: _____ Position/Title: White IST StS

9. Reply:

10. Replied by: Name: _____ Position/Title: _____ Signature: _____

ICS 213 Date/Time: _____

C. ICS 213 Resource Request (RR) – Below is an example of an ICS 213 RR written by the IST StS to the IST Leader requesting a cadre of six USACE StS and additional IST StS. This resource request would be submitted to the IMAT, to the FEMA Region, to the NRCC.

RESOURCE REQUEST MESSAGE (ICS 213 RR)

1. Incident Name: 59th Presidential Inauguation			**2. Date/Time** 18Jan21/1145		**3. Resource Request Number:**		
Requestor	**4. Order** (Use additional forms when requesting different resource sources of supply.):						
	Qty.	Kind	Type	Detailed Item Description: (Vital characteristics, brand, specs, experience, size, etc.)	Arrival Date and Time: Requested	Arrival Date and Time: Estimated	Cost
	1			US Army Corps of Engineers 6-person StS Cadre w/ full cache			
	1			IST StS (recomend Alan FIsher, MA-TF1)			
	5. Requested Delivery/Reporting Location: Washington DC area. Initially reporting to Red IST location						
	6. Suitable Substitutes and/or Suggested Sources:						
	7. Requested by Name/Position: Peter Keating, Structures Specialist, Red IST			**8. Priority:** ☒ Urgent ☐ Routine ☐ Low	**9. Section Chief Approval:**		
Logistics	**10. Logistics Order Number:**				**11. Supplier Phone/Fax/Email:**		
	12. Name of Supplier/POC:						
	13. Notes:						
	14. Approval Signature of Auth Logistics Rep:				**15. Date/Time:**		
	16. Order placed by (check box): ☐ SPUL ☐ PROC						
Finance	**17. Reply/Comments from Finance:**						
	18. Finance Section Signature:				**19. Date/Time:**		
ICS 213 RR, Page 1							

D. Memorandum for Record (MRF) – Below is MRF for a Verbal Mission Assignment that was received by FEMA Region 4 from the State of Florida for a USACE StS Strike Team to support the US&R IST at the Champlain Tower Collapse. The Mission Assignment was approved verbally and this MFR is to document after the fact that a verbal authorization was given by Region 4. This is used to support the creation of the Mission Assignment in WebEOC after the fact.

MFR for Verbal Mission Assignment

Memorandum for Record

SUBJECT: FEMA Verbal Mission Assignment for Search and Rescue (SAR) Support to ESF #9– Direct Federal Assistance

1. On 1 July 2021, verbal funding authority for the following mission assignment has been issued by Paul Helland at FEMA's IOF in Florida for the U.S. Army Corps of Engineers.

Mission: Search and Rescue (SAR) Support to ESF #9 - (DFA)

Scope to Read:

In support of the State of Florida request, as directed by and in coordination with FEMA, USACE will deploy the Structural Specialist (StS) Strike Team to augment FEMA US&R in support of disaster operations. USACE will provide liaison support to the FEMA US&R Incident Support Team (ST). The Incident Support Team (IST) will assign all USACE StS members as appropriate.

USACE is responsible for providing personnel and/or equipment necessary to accomplish the mission.

FEMA Program Code: 3560-EM

Mission Assignment Number: COE-SAD-03V

Event and Name Description: Miami-Dade Infrastructure Failure / Surfside Building Collapse

Disaster State (2 letter designation): FL

Estimated Completion Date: 31 July 2021

Amount Authorized: $195,000.00

2. Funding for this mission assignment may be entered into the Corps of Engineers Financial Management System (CEFMS) accounting system based upon a verbal authority. The funding citation is 2021-06-3560-EM-9044-2508-D. The source appropriation is 70X0702. A written Mission Assignment (MA) will follow up this verbal mission assignment within 2-3 days.

Melissa Shirah
Digitally signed by Melissa Shirah
DN: dc=org, dc=fleoc, ou=DEM_Users, ou=Recovery, cn=Melissa Shirah, email=Melissa.Shirah@em.myflorida.com
Date: 2021.07.01 20:59:23 -04'00'
State Approving Official

PAUL R HELLAND
Digitally signed by PAUL R HELLAND
Date: 2021.07.01 20:39:44 -04'00'
Paul Helland
Operations Section Chief
FEMA RIV IMAT

Tony Hill
ESF #3 Team Lead
USACE

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