

EARTHQUAKE AND TSUNAMI

Work description: Earthquake and Tsunami

Scope: Preparation for and response to a report of or event of Tsunami and/or Earthquake

References: HNL-09007 Emergency Management Plan
 City and County of Honolulu Department of Emergency Management Hyper Alert, Emergency Notification System
 Tsunami Emergency Plan – Dept. of Land and Natural Resource State of Hawaii

PPE and precautions	Competencies or qualifications	Licenses or permits required
N/A	N/A	N/A

Tools and equipment required

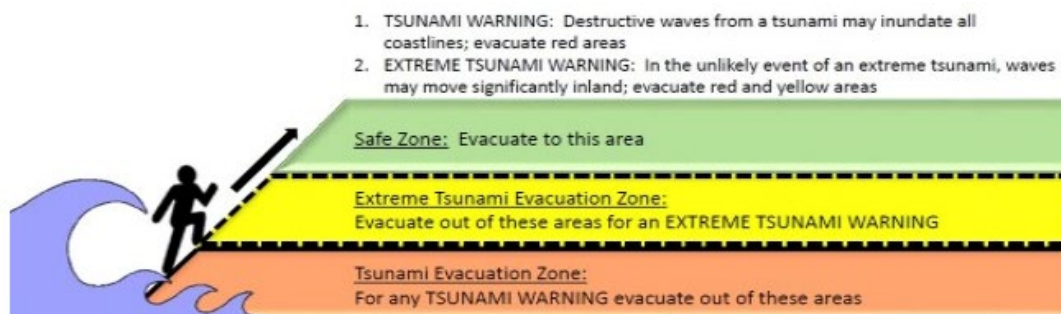
Two-way radio and or cellular telephone if available (for ERT Leaders)


Warning

Tsunami as series of very dangerous, large, long ocean waves that approach the shore slow down but increase dramatically in height. Tsunamis strike with devastating force and quickly flood all low-lying coastal areas threatening life and property. Historically, locations in Hawai'i have been flooded with water more than 30 feet deep.

Tsunami Preparedness
All

HRH has identified which H RTP locations are in which Tsunami Evacuation Zones and established appropriate actions for each location. The City and County of Honolulu Department of Emergency Management identifies 3 such zones.



The tsunami zone for each location is identified on the Tsunami Inundation Zone Map enclosed within the Location Specific Emergency Action Plan

Tsunami Alert Level
All


The Pacific Tsunami Warning Center issues the following Tsunami Alert Levels which are monitored by HRH


Tsunami Information Statement	If a Tsunami Information Statement is issued, there is no tsunami threat.
Tsunami Watch	If a Tsunami Watch is issued, general advice is that you should prepare and be ready to act because a tsunami may occur.
Tsunami Advisory	If a Tsunami Advisory is issued, general advice is that you should move away from beaches and low-lying coastal areas and evacuate harbors/marinas. You can expect strong currents and dangerous waves in coastal areas and waterways. But significant land flooding is not expected.
Tsunami Warning	If a Tsunami Warning is issued, general advice is that you should quickly leave Red Tsunami Evacuation Zones (outlined in a bold line) to Green Safe Zones as indicated on the Tsunami Evacuation Map.
Extreme Tsunami Warning	If an Extreme Tsunami Warning is issued, general advice is that you should quickly leave Yellow Extreme Tsunami Evacuation Zones (outlined in a dotted line) and Red Tsunami Evacuation Zones (outlined in a bold line) to Green Safe Zones as indicated on the Tsunami Evacuation Map.

Approved By:	<input type="checkbox"/> Director, Operations and Maintenance	<input type="checkbox"/> Department Manager	<input type="checkbox"/> Manager, HSE (Operations and Maintenance)
Signature:			
Date:			

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Work Instruction	
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		Warning A very large magnitude 9+ earthquake may cause an extreme tsunami. There may only be 3.5 hours to evacuate before the first wave arrives.
OCC Response to Tsunami Alert Levels <i>OCC</i>	The following steps must be taken by the OCC in response to the different Alert Levels to protect people, assets and the railway	
	Tsunami Information Statement	No action
	Tsunami Watch Tsunami Advisory	Prepare for possible Tsunami, Alert all staff of status Monitor for further information
	Tsunami Warning	Prepare for possible Tsunami, Instruct all to move to safe green zones Monitor for further information
	Extreme Tsunami Warning	Instruct all to move to safe green zones Determine whether to suspend train service and return vehicles to MSF
General Response to Tsunami Alert Levels <i>All</i>	The following steps must be taken by employees, contractors and visitors in response to the different Alert Levels	
	Tsunami Information Statement	No action
	Tsunami Watch	<ul style="list-style-type: none">• GET to a place of REFUGE:<ul style="list-style-type: none">○ Seek immediate shelter (see the Emergency Map).○ If you are outside the building, take yourself inside one of the building nearby and seek shelter in the dedicated areas.• STAY INSIDE:<ul style="list-style-type: none">○ Remain sheltered until the HRH ERT Leader provides all clear notification.○ Follow the directions from authorities and ERT Leaders.• STAY TUNED:<ul style="list-style-type: none">○ Use available mobile services to stay tuned to Hyper alert messages○ Attempt to operate your HRH handheld radio.○ A List of Emergency Broadcast Radio for Honolulu is following listed:<ul style="list-style-type: none">➤ KSSK-AM 590 kHz; FM 92.3 MHz➤ KRTR-FM 96.3 MHz➤ KZOO-AM1210 kHz (Japanese)➤ KREA-AM 1540 kHz (Korean)➤ KNDI-AM 1270 kHz (Multi-Cultural Radio: Ilocano, Tagalog, Cantonese, Mandarin, Okinawan, Vietnamese, Laotian, Hispanic, Samoan, Tongan, Marshallese, Chuukese, Pohnpeian and English).
	Tsunami Advisory	
	Tsunami Warning	
Extreme Tsunami Warning		
Instructions for ERT <i>ERT</i>	All ERT Leaders and ERT member reached by any Emergency calls / Alert, must follow the following procedure:	
	ERT Leaders	<ul style="list-style-type: none">• Reach the Sheltered Areas and manage the emergency from that point.• Maintain the contact with Local Authorities and Sheltered Areas by two-way radio and or cellular telephone if available• Refer to location specific Emergency Response Plans for additional information regarding evacuation routes, rendezvous points etc
	ERT Members	<ul style="list-style-type: none">• Assist all personnel and visitors to reach the designated shelter in place area.• Close External Building doors
Earthquakes <i>OCC</i>	Distant Earthquakes	<ul style="list-style-type: none">• For earthquakes that occur around the Pacific Rim, OCC will monitor if there is a tsunami Watch, Advisory, or Warning for Hawaii.• Response will be as above

Work Instruction		
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	<div><div>Local Earthquakes <i>All</i></div><div><ul style="list-style-type: none">• DROP<ul style="list-style-type: none">○ Drop down onto your hands and knees so the earthquake doesn't knock you down.• COVER<ul style="list-style-type: none">○ Cover your head and neck with your arms to protect yourself from falling debris. Stay away from glass and windows.• HOLD<ul style="list-style-type: none">○ Hold on to any sturdy covering so you can move with it until the shaking stops.○ Stay where you are until the shaking stops. Do not go outside until the shaking stops.○ The earthquake may have caused a local tsunami that could arrive in a few minutes. Follow the instructions above for Tsunami. Do not wait for a tsunami warning to be issued.</div></div>	
Reinstatement of Service / Access	If any event should lead to the closing of the location or the guideway, HRH staff will do a complete visual inspection before the area can be placed back in service. This inspection is required every time the area is shutdown, even if the threatening event does not take place.	