

Quinault Indian Nation



# Quinault Indian Reservation Evacuation Plan

To aid in the protection of people before,  
during, and after an emergency situation.

William E. Schlosser, Ph.D.

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This **Quinault Indian Reservation Evacuation Plan**  
Is completed with guidelines published by the  
Federal Emergency Management Administration  
In the development of the **Quinault Indian Nation Comprehensive Emergency Operations Plan**

By the  
Quinault Indian Nation  
Coni Wilson  
Department of Planning,  
Division of Community Services  
Community & Economic Development  
807 Fifth Ave.  
Taholah, WA 98587

Planning services and document authorship provided by

William E. Schlosser, Ph.D.  
Kamiak Ridge, LLC  
1525 NW Kenny Dr.  
Pullman WA 99163

[www.Resource-Analysis.com](http://www.Resource-Analysis.com)



This planning effort has been completed with the consultation by a Planning Committee comprised of representatives of administrative Divisions from the Quinault Indian Nation and planning consultants from Kamiak Ridge, LLC, during 2010 and 2011.

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# Quinault Indian Reservation Evacuation Strategy

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## 1. Purpose

This assessment has been completed subsequent to the adoption of the Quinault Indian Reservation Tribal Hazards Mitigation Plan (W. Schlosser 2010) and its acceptance by the Federal Emergency Management Agency (FEMA) Region X. The natural hazard risk profiles developed in that document are referenced, as are many of the findings prepared in that report. The approach in developing this Evacuation Plan is to develop strategies to safely evacuate residents, visitors, at-risk community members and others to a safe place in the event of an emergency.

### 1.1. Executive Summary

This Quinault Indian Reservation Evacuation Plan seeks to identify areas within, and adjacent to communities of the Quinault Indian Reservation that can offer a high probability of security immediately following a hazard event and subsequent follow-on events (such as an aftershock to an earthquake, road failures or building collapse because of an earthquake, or repeated tsunami waves hitting the Quinault shorelines) where people can assemble. These assembly areas serve many purposes including: 1) physical safety from more than a single hazard event (such as continued earthquakes, a series of tsunami waves that follow a Cascadia Subduction Zone earthquake), 2) a location where Emergency Management staff can account for people exposed to the hazardous event, and 3) areas where medical services can be provided to the injured, and where victims can be transported for other medical care services. In each instance of an evacuation, the assembly areas may not serve for long-term evacuation locations, but they will serve as places that are immediately accessible, and where people can be directed for emergency response information, and further movement to Disaster Recovery Centers as the needs arise.

This Evacuation Plan serves to provide a coordinated approach by the people of the Quinault Indian Nation to save lives of residents, visitors, staff, and emergency responders to protect people, save lives, and begin the process of rebuilding from disasters.

### 1.2. Defining Evacuation

Evacuations are the organized, phased, and supervised withdrawal, dispersal, or removal of civilians from dangerous or potentially dangerous areas, and their reception and care in safe areas (FEMA 2010). Three instigations of evacuation are considered and discussed below, but each will be carried out in response to events as needed to save lives.

- **Spontaneous Evacuation.** Residents or citizens in a threatened area observe an emergency event or receive official word of an actual or perceived threat and, without receiving instructions to do so, elect to evacuate the area. Their movement, means, and direction of travel are usually unorganized and unsupervised.

- **Voluntary Evacuation.** This is a warning to persons within a designated area that a threat to life and property exists or is likely to exist in the immediate future. Individuals issued this type of warning or order are NOT required to evacuate; however, it would be to their advantage to do so.
- **Mandatory or Directed Evacuation.** This is a warning to persons within the designated area that an imminent threat to life and property exists and individuals MUST evacuate in accordance with the instructions of Tribal officials (Quinault Indian Nation Business Council and President).

Generally considering evacuations:

- Spontaneous evacuation will occur when there is sufficient warning of the threat. In general, between 5 and 20 percent of the people at risk will evacuate before being told to do so.
- Most people at risk will evacuate when local officials recommend that they do so. A general estimate is that 80 percent of those at risk will comply when local officials recommend evacuation. The proportion of the population that will evacuate typically increases as a threat becomes more obvious to the public and more serious.
- Some individuals will refuse to evacuate, regardless of the threat.
- Some evacuation planning for known hazard areas can and should be done in advance.
- While some emergency situations are slow to develop, others occur without warning. Hence, there may be time for deliberate evacuation planning or an evacuation may have to be conducted with minimal preparation time. In the case of short notice evacuations, there may be little time to obtain personnel and equipment from external sources to support evacuation operations.
- The need to evacuate may become evident during the day or at night and there could be little control over the evacuation start time.
- In most emergency situations, the majority of evacuees will seek shelter with relatives or friends or in commercial accommodations rather than in public shelter facilities.
- Most evacuees will use their personal vehicles to evacuate when possible; however, transportation may need to be provided for evacuees without personal vehicles.
- When a reservation-wide mass evacuation is recommended, shelters may not be opened on the Quinault Indian Reservation, due to risks and inability to service evacuees where access, power, water, or other necessary options are not available. Off-reservation reception should be arranged in advance.

Directed and Voluntary evacuations should be from the site of the emergency to a designated Assembly Area. When fleeing an area in a Spontaneous Evacuation, people are urged to assemble in the designated Assembly Areas.

### 1.3. Time Estimated for Evacuation

The time that can be anticipated to execute evacuations is highly variable and depends on the type of emergency, the point of threat, the path the hazard follows, and the potential for controlling the hazardous event, and the mobility of the evacuees. For instance, a wildfire that ignites in the forests



of the Quinault may threaten homes and people, but its rate of spread will depend on temperatures, precipitation, wind speed, fire fighting efforts, and other factors that dictate the need for a community or households to evacuate.

Onshore storms that bring a shoreline inundation and high storm swells can generally be predicted within an hour or more of the storm's arrival, but the prediction of the magnitude of the event is more difficult to make. In these cases, and related uncertainty events, residents are encouraged to exercise awareness, tactics of preparedness, and shelter-in-place when appropriate, or execute spontaneous evacuations appropriate to the situation.

An earthquake will happen with no warnings and there is nothing people can do to slow its destructive forces. Evacuation may be required after the first tremor while recovery actions are planned and executed.

A tsunami wave is a highly variable catastrophic event. These events are grouped based on the source region of the event.

- **Far-Source Tsunami:** Generally from Asia (Japan or Russia), or South America (Chile)
  - Historic examples give evidence that the tsunami wave travel times have ranged from 7.5 hours to 9.25 hours to arrive at the Quinault Shorelines. These tsunami waves have a long travel distance but the energy of the tsunami is not necessarily diminished by the distance and they can deliver substantial destructive forces.
  - By the time a tsunami warning has been issued to Quinault Indian Reservation residents, less than 5 hours can remain to evacuate the coastal areas and report to Assembly Areas. Driving cars out of the hazard zones can generally be relied on for evacuation. Evacuees are instructed to not block the roadways as others may be evacuating on these routes and emergency personnel will need this access to assist others.
- **Mid-Source Tsunami:** Generally from Alaska or Hawaii
  - Historic examples give evidence that the tsunami wave travel times have ranged from 4 hours to 5.5 hours to arrive at the Quinault Shorelines. Alaskan earthquake generated tsunami can deliver a wave that is oriented nearly perpendicular to the Quinault coastline. These tsunami waves do not have a long distance to travel and they can deliver substantial destructive forces. By the time a tsunami warning has been issued to Quinault Indian Reservation residents, less than 3 hours can remain to evacuate the coastal areas and report to Assembly Areas. Driving cars out of the hazard zones can generally be relied on for evacuation. Evacuees are cautioned not to block roadways as others may be evacuating on these routes and emergency personnel will need this access to assist others.
- **Close-Source Tsunami From the Cascadia Subduction Zone (CSZ)**
  - Research gives evidence that the tsunami wave travel times to the Quinault Indian Reservation shorelines from a CSZ earthquake can be as short as 15 minutes and deliver a 18' swell within 30 minutes.

- The communities of Taholah, Queets, and along the coastline at Point Grenville, are at the greatest risk exposure to tsunami waves. Taholah, Queets, and Wreck Creek area homes (along the shoreline) are most vulnerable with a 100% exposure to extensive damage from a 9' high wave caused by a CSZ event. The village of Queets would face 75% damage exposure from a 18' high wave caused by a CSZ event. All of SR109 between Moclips and Point Grenville, and again at Taholah faces severe compromise from an 18' high wave caused by a CSZ event.
- A CSZ tsunami can be expected to combine the complications of a major, deep-seated earthquake shaking homes, compromising infrastructure, felling trees, and causing widespread and immediate panic. This scenario is combined with the potential for a forceful tsunami to be formed and directed at the coastline. In this event, the warning period before the impact of the tsunami wave might be only minutes (5 to 15 minutes). These tsunami types are the biggest concern to the people of the Quinault Indian Reservation and all of the northwest Pacific Ocean shoreline. In the CSZ there is a 10% to 14% chance of a magnitude 9.0 earthquake and tsunami in the next 50 years. Other estimates have put this probability at 27% for this portion of the CSZ.
- According to predictions the first incoming tsunami wave will begin to arrive within 15 minutes of the earthquake, and peak within 30 minutes (asperity swell) at 18' above the ordinary high water mark. Incoming swells of 9' are expected to continue for over 8 hours.

The time from warning and evacuation orders to the arrival of a destructive event can be days, hours, minutes, or immediate. Residents of the Quinault Indian Reservation are encouraged to prepare for immediate evacuation for the entire family.

## 2. Derivation

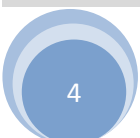
The Evacuation Plan has been derived using data collected from the following sources:

- Quinault Indian Reservation Tribal Hazards Mitigation Plan approved by FEMA Region X, and adopted by the Quinault Indian Nation Tribal Council on October 10, 2010 (Schlosser, 2010).
- Updated physical topographic data (2010 LiDAR data of the southern Quinault coastline).
- Review [will be] made by a Quinault Indian Nation Planning Committee as part of the Quinault Indian Nation Comprehensive Emergency Operations Plan (Schlosser, 2011).
- Adoption of the Hazards Inventory and Vulnerability Assessment (HIVA) is scheduled by the Tribal Business Council of the Quinault Indian Nation at the conclusion of this planning effort (and will be included here).

## 3. Evacuation Sites and Routes

### 3.1. Assembly Areas

This plan has divided the Quinault Indian Reservation into six Disaster Recovery Center (DRC) zones. Each zone is named for the area it covers.



These zones are as follows:

- Amanda Park Village
- Point Grenville & Taholah Ocean Tracts Village
- Queets Village
- Qui-nai-elt Village
- Taholah Village
- Tsa'alal Village

Each evacuation zone is presented on maps and accompanied with evacuation zone flyers for significant potential threats. Each zone includes an Assembly Area where Emergency Response staff and identified authorities can coordinate response and recovery as needed.

Although some of the maps developed for each community present a specific theme, such as TSUNAMI, Evacuation Guides should be used as a starting point for all hazard events, provided that the site remains the logical collection area for people after a disaster strikes. When this suitability changes, efforts will be made to post alternate Assembly Areas for each community area.

These Assembly Areas provide people with a meeting site, in each community, that is predicted to be suitable in most disaster events. However, these sites will not serve people in all emergency instances. For instance, the site designated for Taholah Ocean Tracts was identified as a site suitable for congregating people during a tsunami threat from a Cascadia Subduction Zone earthquake where people would not be subject to inundation by a tsunami wave, but it might not serve equal utility during a wildfire event.

The management of information to people at these sites should treat these initial Assembly Areas as a staging location, where incident information can be shared with evacuees, where people can be directed for emergency response information, and people can be further moved to Disaster Recovery Centers as the needs arise. In all cases, the Assembly Areas have been identified along transportation corridors where people are not required to cross bridges, and where they are fleeing a potential impact of a Close- Source-Tsunami swell (where applicable).

### 3.1.1. Shelter-in-Place Strategy

In some instances, a Shelter-in-Place strategy can be used by residents. This strategy is useful for hazard events that include toxic gas or hazardous chemical spill release. In some cases, a radiological contamination incident can be responded to by people seeking temporary shelter location through a shelter-in-place strategy.

There may be situations that staying where people are can avoid uncertainty outside of a structure. There are other circumstances, such as during a chemical spill incident when specifically how and where people take shelter is a matter of survival. Residents, staff, and visitors should understand the different threats and plan for all possibilities.

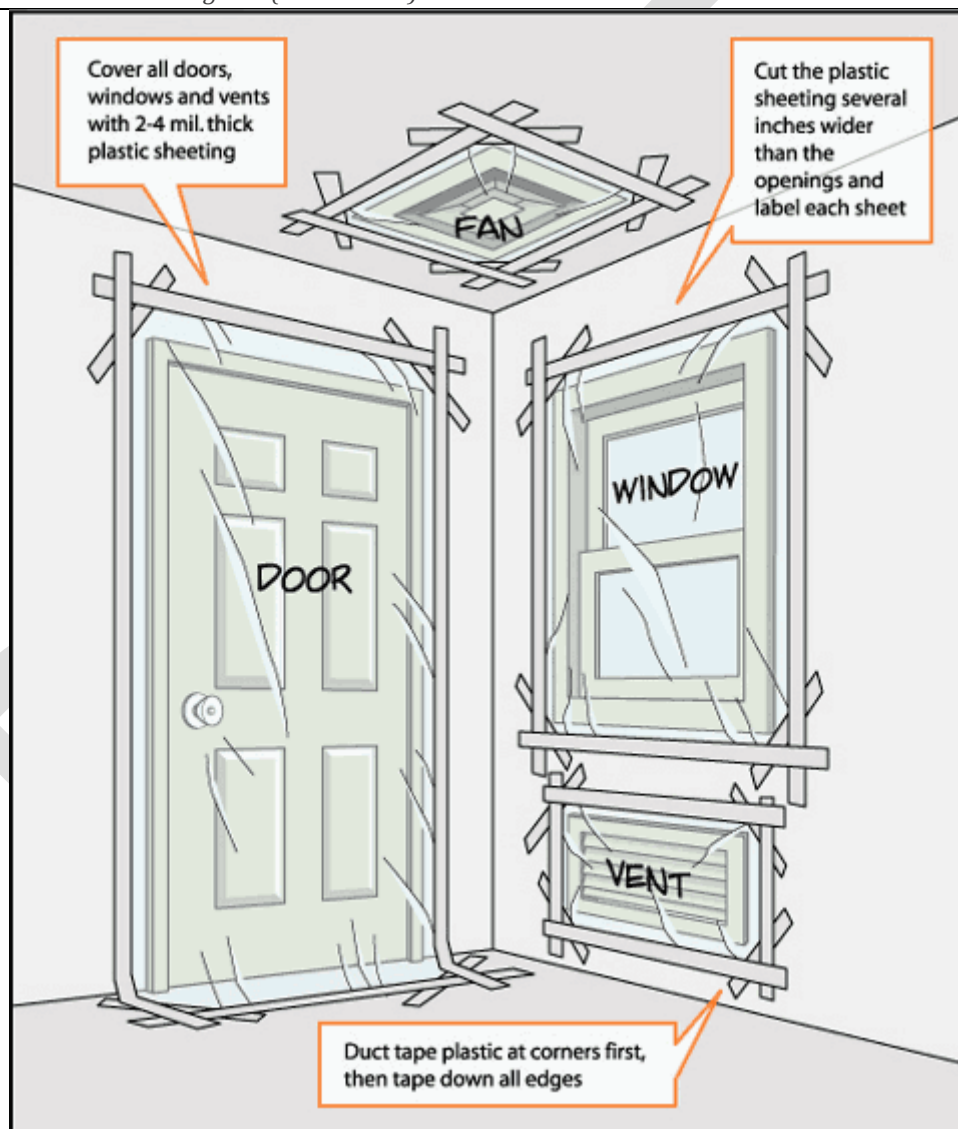
#### 3.1.1.1. Toxic Gas, Hazardous Chemical Spill, Civil Unrest

Sheltering in Place is appropriate when it is not safe for people to walk outside and breathe contaminated air, or to be exposed to mobile threats such as a terrorist sniper or civil unrest mob.

When ordered to do so, sheltering in place can keep people safe while authorities can make breathing apparatuses available to those in need, or mobilize law enforcement personnel as needed.

There are circumstances when a shelter-in-place tactic is not appropriate, such as during a tsunami threat, wildfire event, flood incident, or earthquake. Evacuating a community to an Assembly Area is a decision made by trained Emergency Response Staff of the Quinault Indian Nation. The decision for evacuation will not be made lightly, and when it is ordered, residents should avoid the temptation to argue the appropriateness of the decision: follow orders to save the lives of residents and emergency responders who are trying to assist.

Figure I. Shelter-in-Place Diagram (FEMA 2010).



FEMA has developed several recommendations for improving the likelihood of survival when a shelter in place tactic is used (FEMA 2010). These procedures can improve response effectiveness and save lives and are included here. In this strategy, the occupants of structures can find a confined room or rooms (preferably a group of rooms including a bathroom), that can be sealed off by closing all windows, doors, and turning off ventilation.

- Cover all doors, windows and vents with 2-4 mil. thick plastic sheeting.
- Cut the plastic sheeting several inches wider than the openings and label each sheet.
- Duct tape plastic at corners first, then tape down all edges.

If feasible, develop a system for knowing who is in each building in case there is an emergency.

- Establish a warning system.
- Test systems frequently.
- Plan to communicate with people with hearing impairments or other disabilities.
- Account for all workers, visitors and customers as people arrive in the shelter.
- Use a prepared roster or checklist to account for those in the shelter.
- Use radio, telephone, or other electronic communication devices when possible to communicate with Emergency Services staff – do not leave and re-enter the room to check on the status of the event.

In general, employees cannot be forced to shelter; however, there are circumstances when local officials will order that everyone stay in place. It is important to coordinate in advance about sheltering in place to avoid confusion and allow for cooperation in the event sheltering in place is ordered.

- In commercial and Tribal buildings, assign specific duties to employees in advance; create checklists for each specific responsibility. Designate and train employee alternates in case the assigned person is not there or is injured.
- Store emergency supply kits in designated shelter locations.
- Practice the shelter-in-place plan on a regular basis.
- Storm cellars or basements provide the best protection.
- If underground shelter is not available, go into an interior room or hallway on the lowest floor possible.
- Stay away from windows, doors and outside walls. Go to the center of the room. Stay away from corners because they can attract debris.
- People should stay in the shelter location until the danger has passed and Emergency Response personnel have sounded an "All Clear" announcement. This can range from 30 minutes to several hours, or even several days while human safety is ensured.

The process used to seal the room is considered a temporary protective measure to create a barrier between people and potentially contaminated air outside. It is a type of sheltering that requires preplanning.

- Identify a location to "seal the room" in advance.
  - If feasible, choose an interior room, such as a break room or conference room, with as few windows and doors as possible.
  - If the building is located on more than one floor or in more than one building, identify multiple shelter locations.
  - Stockpile shelf-stable food rations and bottled water for use when needed.

- To "seal the room" effectively:
  - Close the business and bring everyone inside.
  - Lock doors, close windows, air vents and fireplace dampers.
  - Turn off fans, air conditioning and forced air heating systems.
  - Take an emergency supply kit unless there is reason to believe it has been contaminated.
  - Go into an interior room, such as a break room or conference room, with few windows, if possible.
  - Seal all windows, doors and air vents with plastic sheeting and duct tape (Figure I). Measure and cut the sheeting in advance to save time.
  - Be prepared to improvise and use what is on hand to seal gaps so that a barrier between inner and outer air flow is prevented.
  - Emergency Response personnel may not immediately be able to provide information on what is happening and what should be done. However, sheltered people should watch TV, listen to the radio or check the Internet often for official news and instructions as they become available. Two-way radio communication devices should be used when available.

### 3.1.1.2. Radiological Contamination

Radiological emergency management is a term that describes efforts to prevent, prepare for, respond to and recover from an event that could result in significant radiation-related effects. Efforts to prevent radiological emergencies include actions to stop such events from happening and actions that decrease the harmful effects of such an occurrence. Efforts to prepare for a radiological emergency include learning the warning signs and knowing what to do during an emergency. Responding to a radiological emergency means taking appropriate actions to protect yourself and others from harm. Recovering from a radiological emergency includes actions performed after an emergency to return to normal (FEMA 2008).

Radioactive atoms emit radiation. There are three main types of nuclear radiation emitted from radioactive atoms: alpha, beta and gamma. Neutrons are a fourth type of nuclear radiation. When a person is exposed to radiation, their body absorbs a dose of radiation. There are both natural and man-made sources of radiation in the environment (FEMA 2008). Radiation is the most studied environmental hazard in the world.

The biological effects of radiation exposure are dependent on the type of exposure (acute or chronic), the level of exposure, and certain biological factors. The acute biological symptoms due to radiation exposure are not unique except at very high levels of exposure. The long-term effects of high doses of radiation include increased risk of cancer and cataracts with a possibility of life-shortening. Measurable effects of low-level radiation exposure have not been observed but are generally assumed to exist due to the known cancer causing effect of much higher, acute doses. There are three important factors in protecting individuals from radiation release: time, distance, and shielding (FEMA 2008).

The time factor means that the less time an individual remains in a radiation field, the less exposure that individual will receive. The distance factor means that the further an individual remains from a radiation source, the less exposure that individual will receive. The intensity of a radiation field decreases as the distance from the source increases. The shielding factor means that the more material placed between an individual and a radiation source, the less exposure that individual will receive. The intensity of a radiation beam is reduced by absorption and scattering processes with the material. For gamma radiation, dense material such as lead is most effective as a shield. Beta radiation can be shielded by relatively thin amounts of wood or plastic. Alpha is shielded by virtually any material (FEMA 2008).

All of the above mentioned exposure factors may be reduced by an adequate shelter-in-place room. The shelter must provide distance away from the radiation located outside. The shelter acts as shielding and can help prevent inhalation of radioactive material. Sheltering-in-place for extended periods of time can prevent damage and death to people when it is needed because of radioactive material releases to the environment.

Shelter-in-place rooms may be appropriate for DRC facilities such as long-term evacuation sites. When designed into a new structure, the effectiveness of the site can be greatly improved to protect lives and make the sheltering experience more bearable. Shelf-stable food supplies and stored water can be stockpiled within these Shelter-In-Place areas for use when needed.

### 3.2. Zone Check Points

In the event of community evacuation to an Assembly Area, check points at the Assembly Areas to account for people coming out of each evacuation zone are needed. Designation of check points will be made by the Incident Command staff when the Incident Command Post or Emergency Operations Center is activated. In most instances, the Assembly Area will serve as the Zone Check Point. The purpose of the Zone Check Point is to record names and needs of people fleeing the evacuation area.

### 3.3. Transportation

Transportation resources are identified as appropriate in the event of certain emergency situations, but not all. Vehicles can be used for transporting limited mobility people out of evacuation areas to Assembly Areas or DRC(s), shuttling evacuees, moving supplies, and other tasks as appropriate. When possible, encourage people to walk to safety, especially if events, such as an earthquake, tsunami, landslide, or flood, may have compromised road networks.

Not all disasters will facilitate vehicular traffic movement, such as a M9.0 earthquake along the Cascadia Subduction Zone causing high liquefaction factor soils to fail within Villages along the coastline or other areas. In other circumstances, certain vehicles equipped with high clearance and suitable traction tires may be able to traverse areas to aid in the evacuation of mobility challenged segments of the population including elders, pre-school children, or injured people. Best decisions should be considered and applied by the Emergency Response staff accounting for the limitations of time when additional disasters are anticipated (such as a tsunami approaching after an earthquake).

### 3.4. Schools

If the emergency justifies evacuation of a Village area with schools, evacuation of students and school personnel will be facilitated either on foot or with school district buses if they are available at the time of the disaster and if roads are safe to use following the emergency event. All evacuations should take passengers to the designated Assembly Area for the community. Further transportation of vehicles or passengers to other locations should await Incident Command direction before departure. The school staff are accountable for the children head count and supervision during the evacuation.

### 3.5. Day Care

If the emergency justifies evacuation, transportation of Day Care children will be handled by Day Care Facility vehicles, if they are available and if roads are passable. The Day Care staff are accountable for the children head count and supervision during the evacuation.

### 3.6. Elders and Home Bound Residents

Transportation of home bound and elder populations will be handled by senior citizen center vehicles and staff where available. The staff will be responsible for accountability. Elder evacuees in Taholah will be transported to the Roger Saux Health Clinic, all others will be taken to the Assembly Area of their Village area to await other transportation arrangements as needed.

### 3.7. Evacuation routes and backup safety areas

All evacuees are advised of the preferred emergency evacuation routes to use based on the community. The evacuees are advised of backup safety areas in that particular zone to go to, in case the intended safety area is out of reach. The Evacuation routes and safety areas will be clearly marked per emergency situation.

### 3.8. Disaster Recovery Center

The DRC designation is dependent on the emergency that is occurring or going to occur and the anticipated duration of the episode. DRC(s) will be located in a safe area and may be moved at the order of the Incident Commander or EOC Operations. It should be large enough to host the public as needed. More than one DRC can be designated to handle evacuees at each site.

DRCs will be operated by employees and/or volunteers with leadership provided by the Quinault Emergency Operations Center. At least 1 manager and two workers per shift at the DRCs should be assigned. These persons will be responsible for recording the names and needs of evacuees, distribution of food, water, and other needs of all evacuees in coordination with ESF #6 – Mass Care responders. Medical staff will be assigned as available and appropriate to each DRC and in numbers sufficient to service the evacuee needs. Each DRC manager will be assigned a handheld radio for communications needs.

A list of Assembly Areas include:

- Amanda Park Village
  - Amanda Park School
  - Shelter in Place



- Point Grenville
  - QDNR Facility east of SR109 at the top of Swede Hill
  - Shelter in Place
- Queets Village
  - Queets Trading Post
  - Shelter in Place
- Qui-nai-elt Village
  - Bus Stop Area
  - Shelter in Place
- Taholah Village
  - Tribal Headquarters / Division of Natural Resources Building
  - Shelter in Place
- Taholah Ocean Tracts
  - Next to Water Tower in Village
  - Shelter in Place
- Tsa'alal Village
  - Washington State Department of Transportation (Amanda Park Maintenance Facility)
  - Shelter in Place

DRAFT

Figure II. Amanda Park Assembly Area.

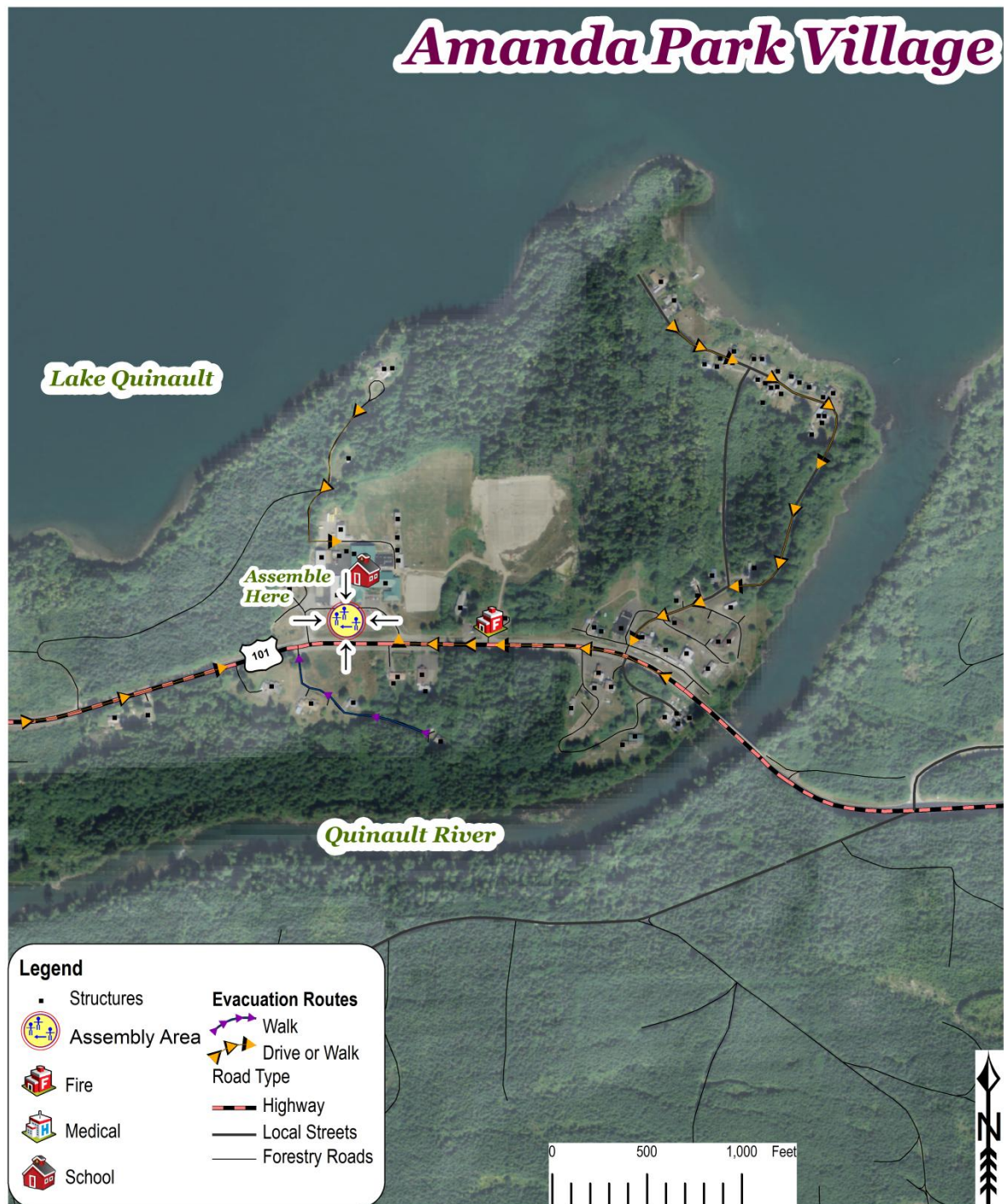


Figure III. Point Grenville and Taholah Ocean Tracts Assembly Area.



Figure IV. Point Grenville and Taholah Ocean Tracts Assembly Areas for Tsunami.

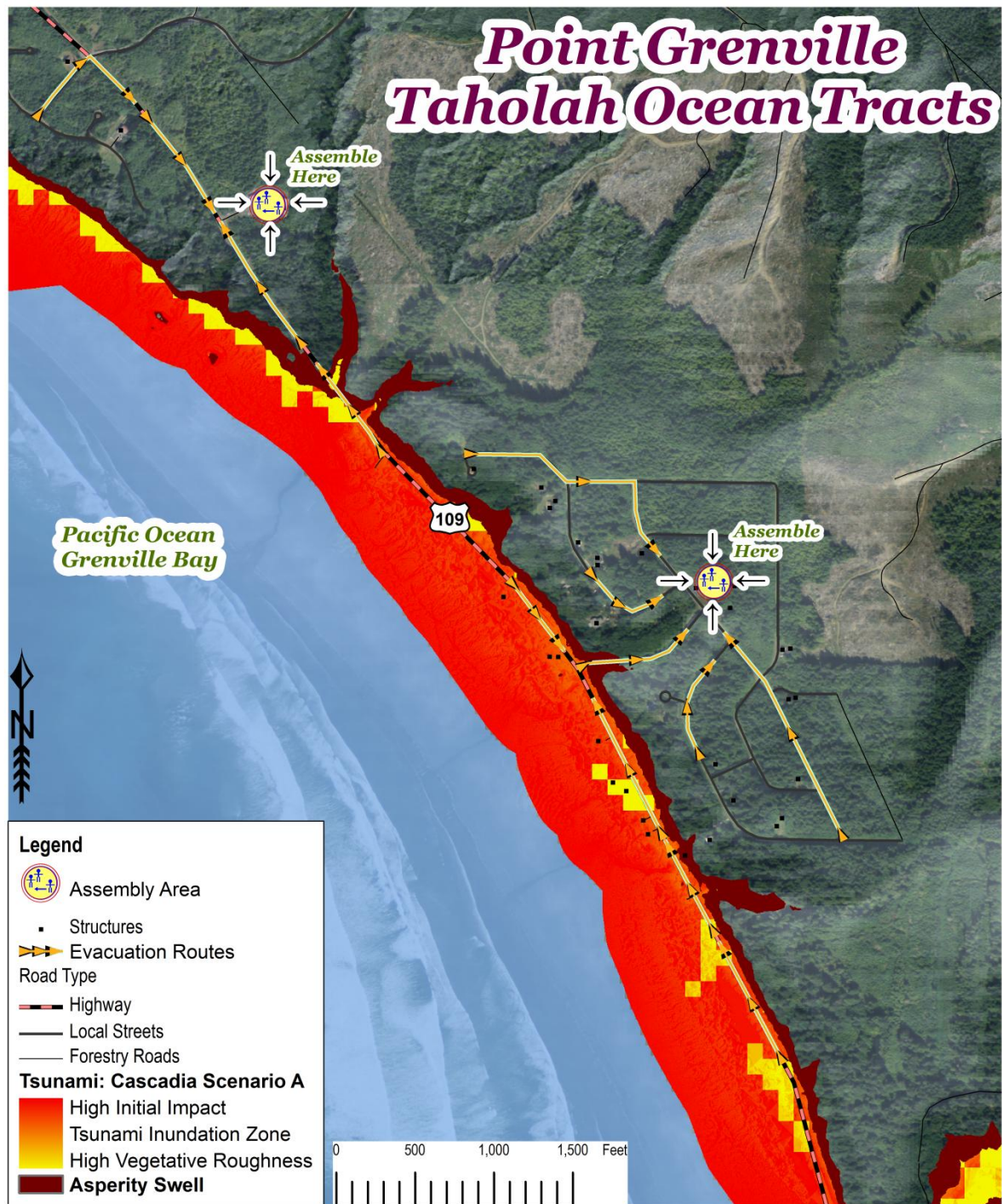


Figure V. Queets Village Assembly Area.

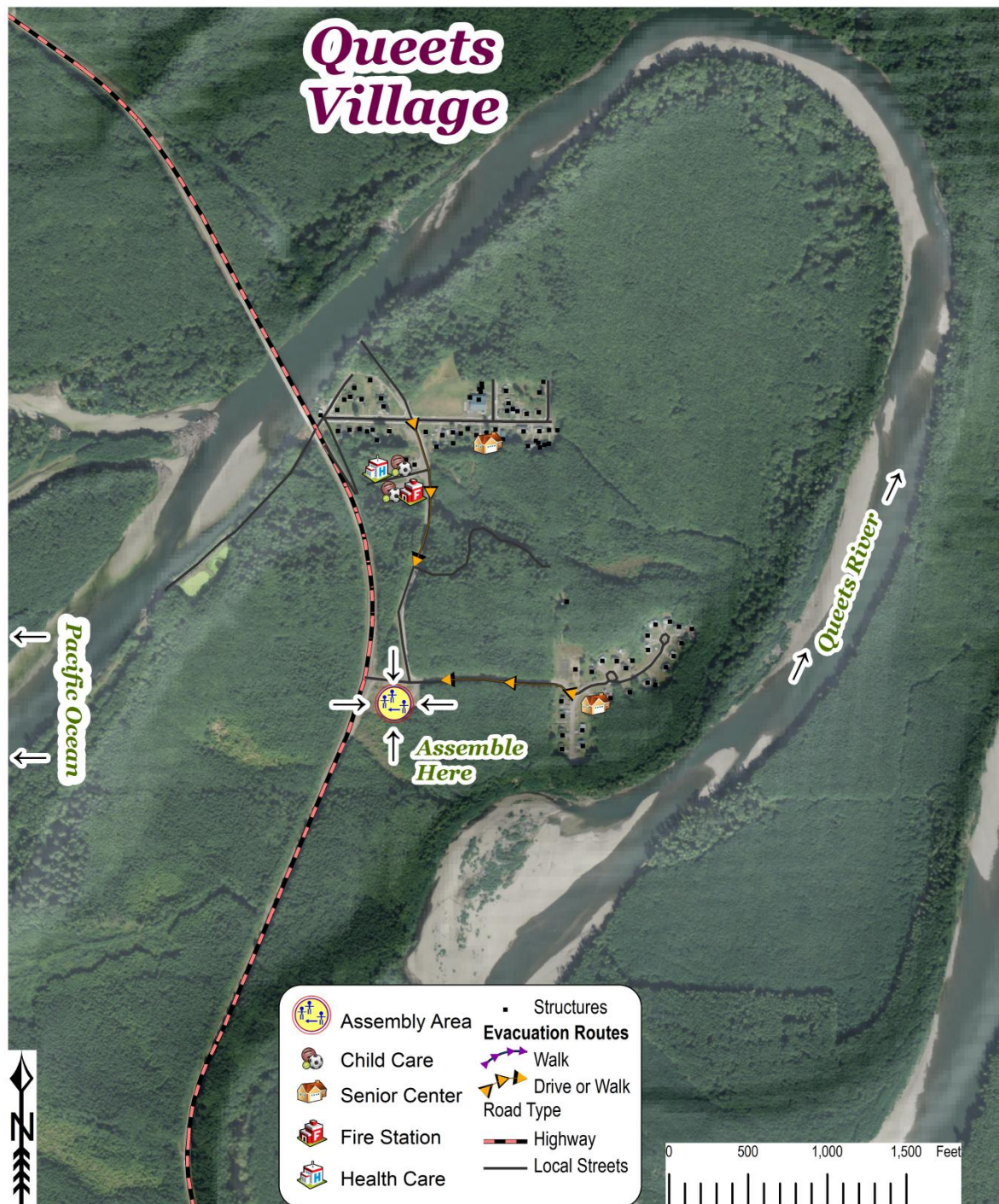


Figure VI. Queets Village Assembly Area for Tsunami

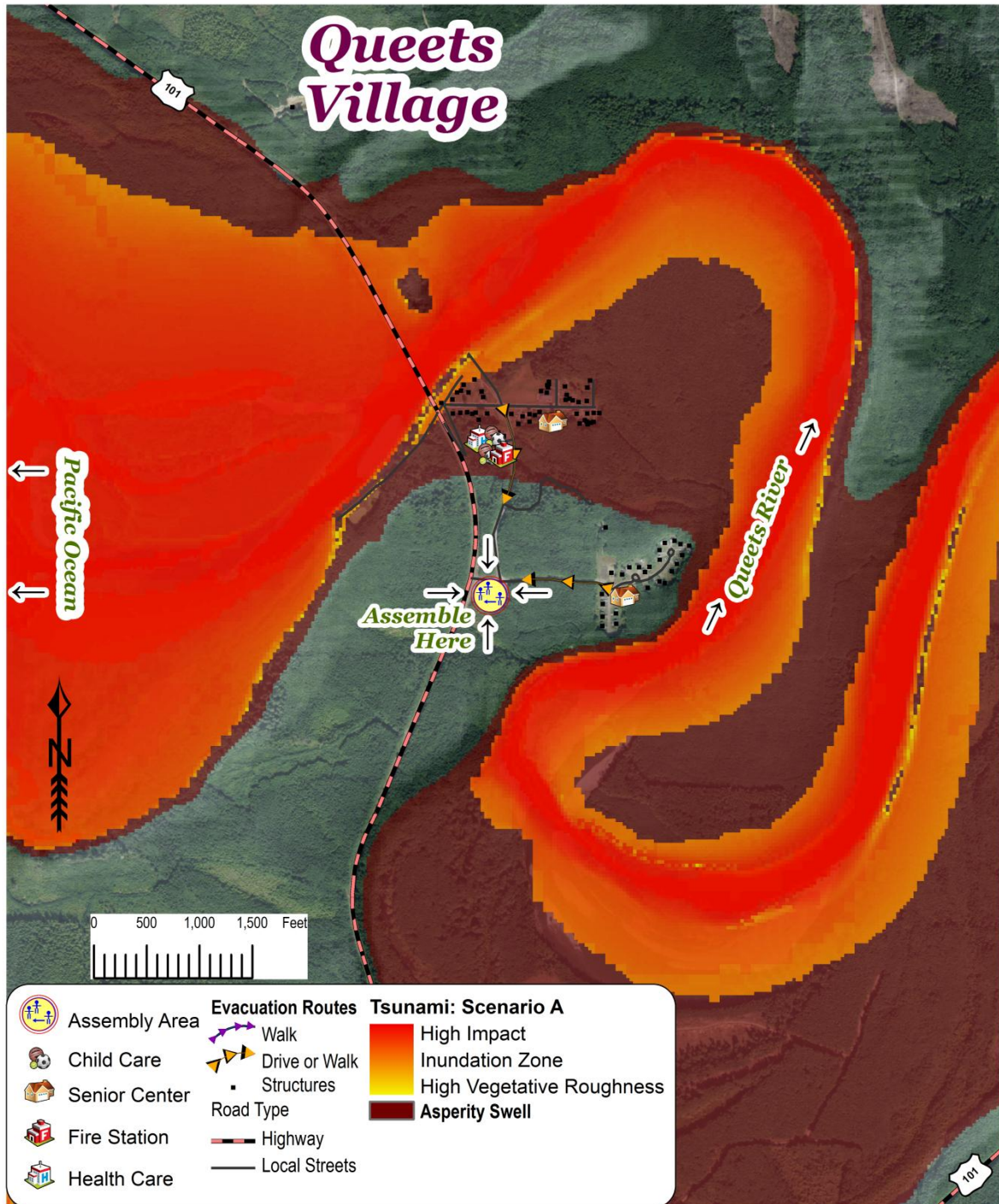


Figure VII. Qui-nai-elt Village Assembly Area.

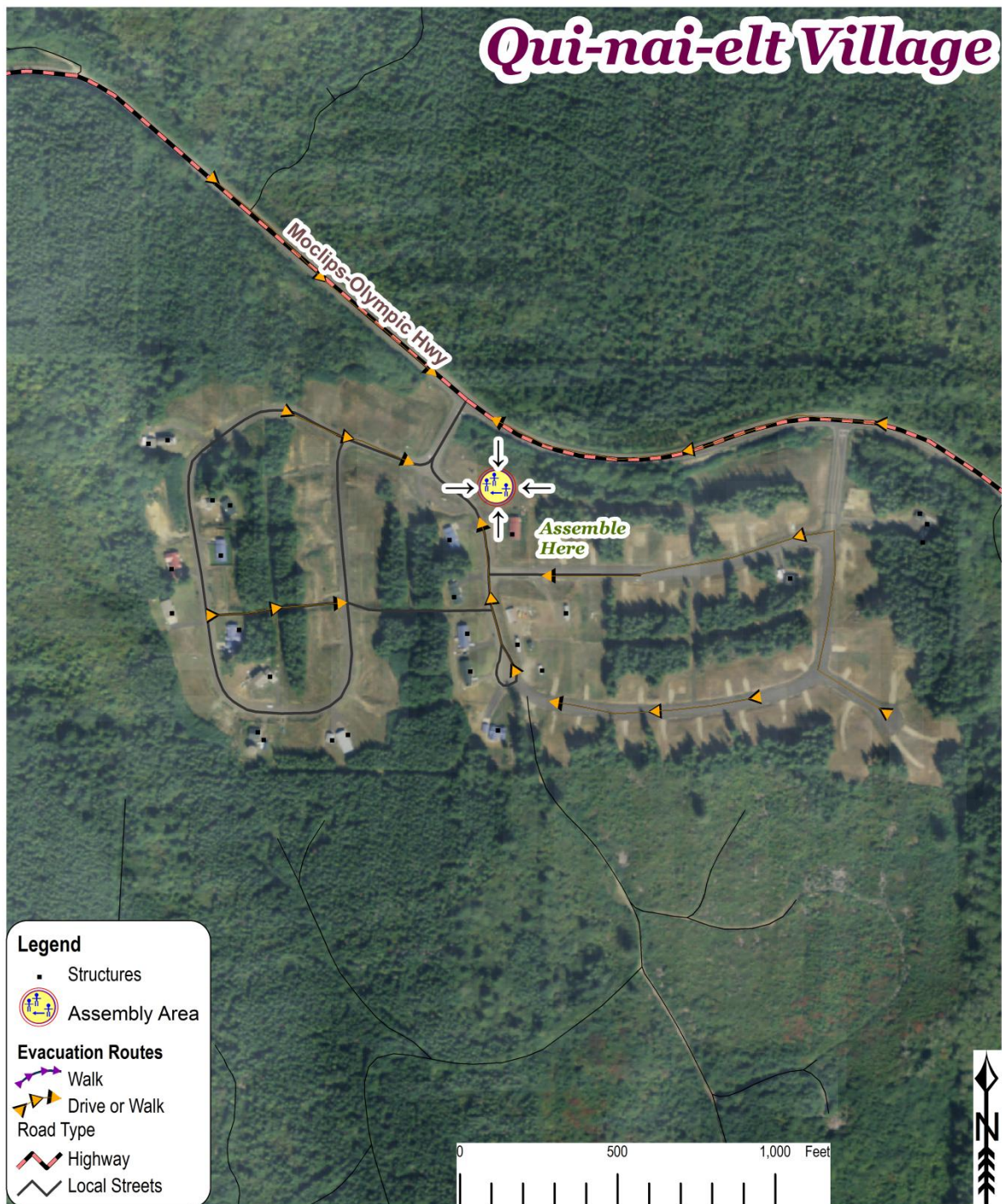


Figure VIII. Taholah Village Assembly Area.

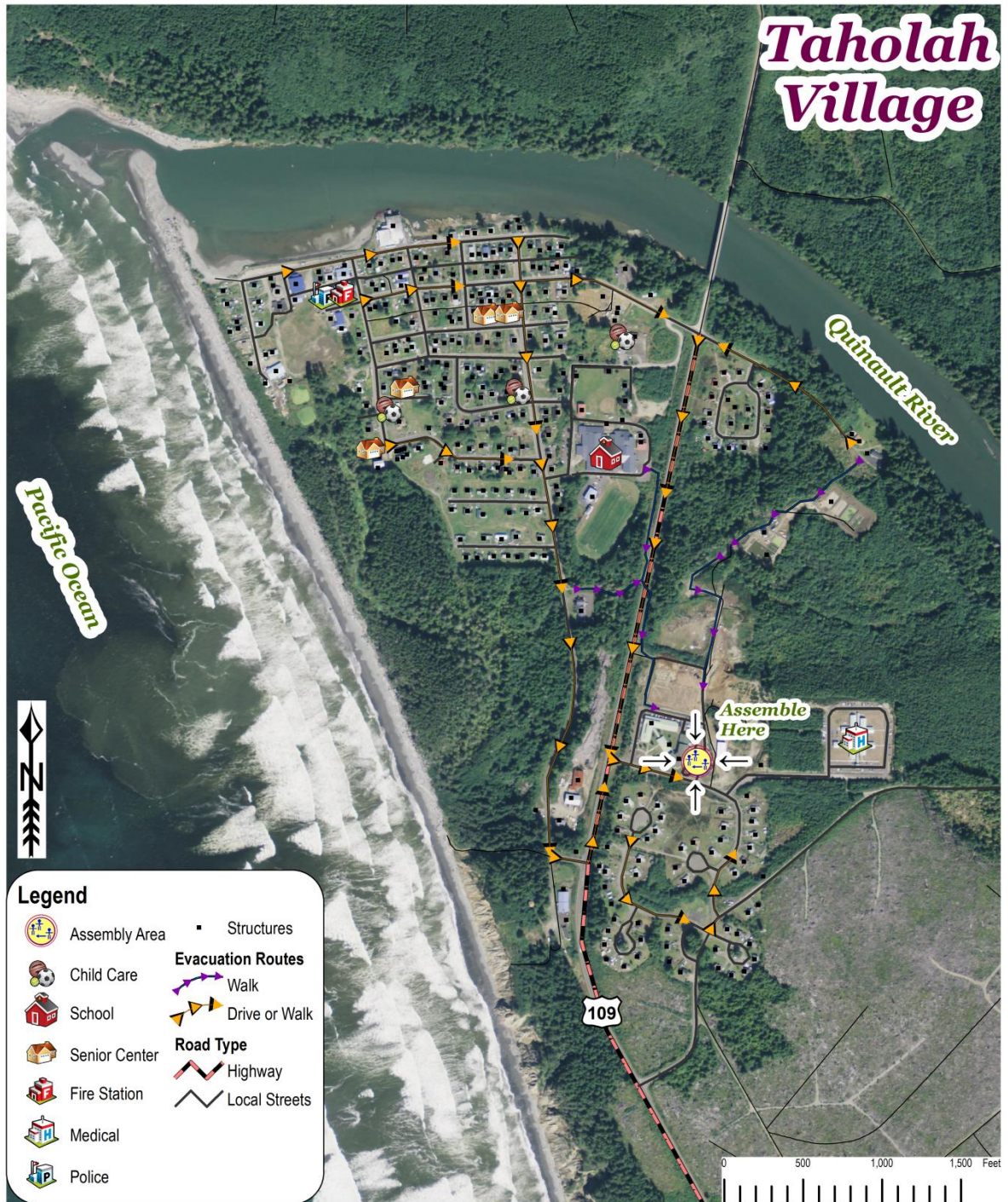




Figure IX. Taholah Village Assembly Area for Tsunami.

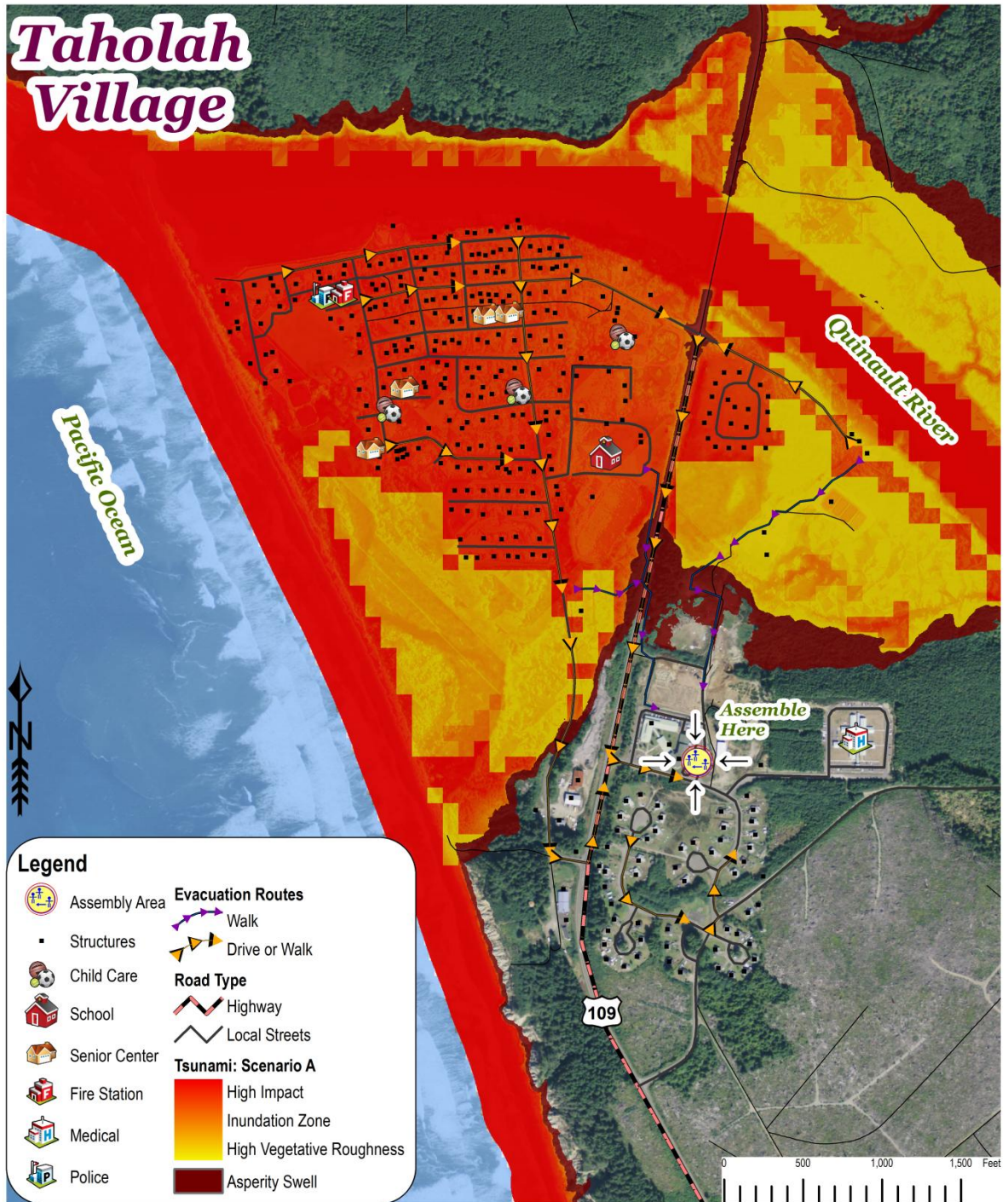
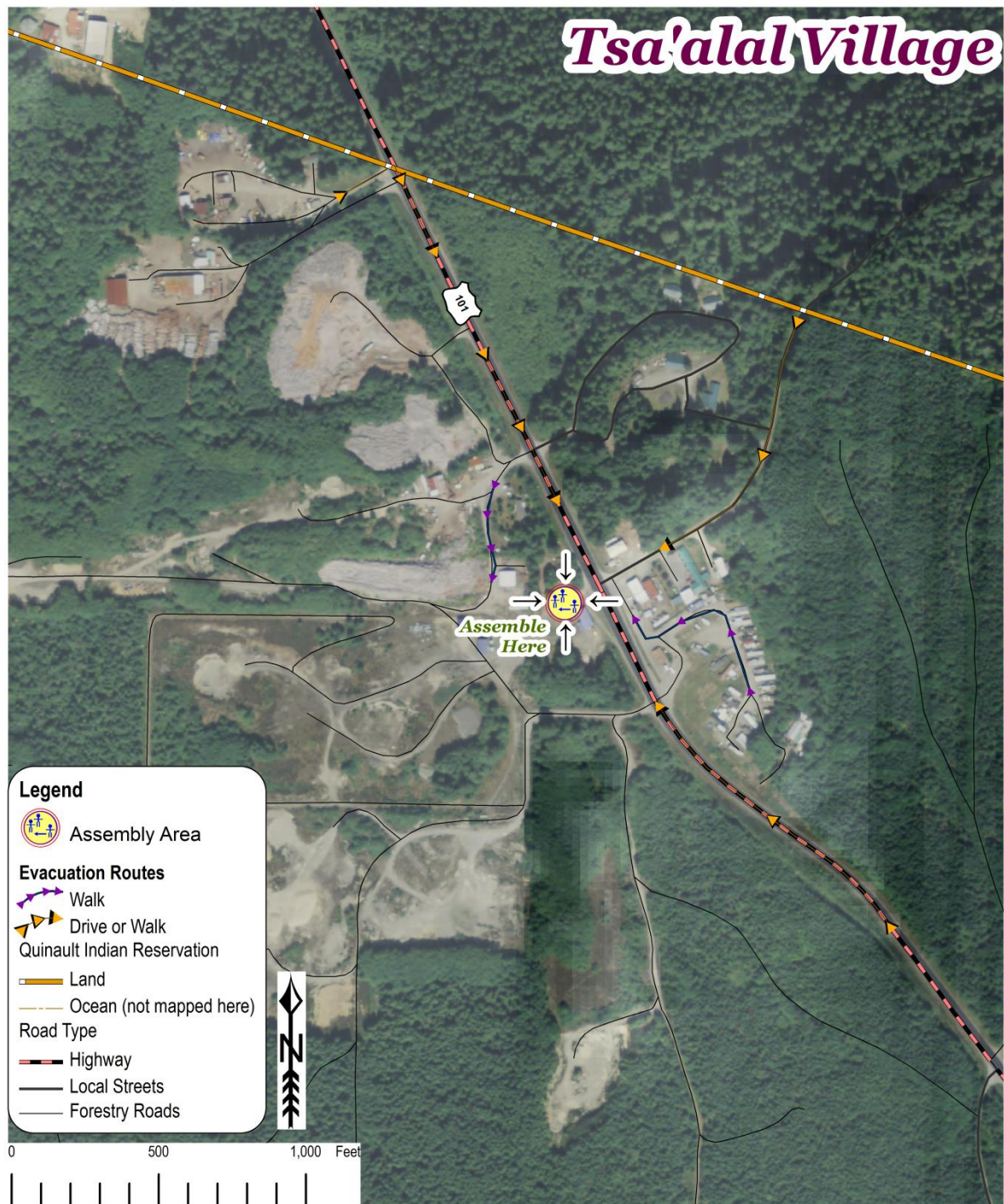


Figure X. Tsa'alal Village Assembly Area.



## 4. Evacuation Protocols, Authorities, Responsibilities

### 4.1. Purpose

This section of the Evacuation Plan describes the provisions that have been made to ensure the safe and orderly evacuation of people threatened by hazards on the Quinault Indian Reservation.

### 4.2. Situation

- 1) There are a wide variety of emergency situations that might require an evacuation of portions or all of the Quinault Indian Reservation.
  - a) Limited evacuation of specific geographic areas might be needed as a result of a hazardous materials transportation incident, tsunami, wildfire, flood, landslide, or severe weather.
  - b) Large scale evacuation could be required in the event of a major hazardous materials spill, extensive flooding, wildfire, or severe weather.
  - c) Based on the situation, sheltering in place may be a viable option instead of evacuation.

#### 4.2.1. Concept of Operations

##### 1) General

Evacuation is one means of protecting the public from the effects of a hazard; protection is achieved by moving people away from the hazard. In planning for an evacuation, the characteristics of the hazard and its magnitude, intensity, speed on of onset, and anticipated duration are all significant factors. These will determine the number of people to be evacuated, the distance people must be moved to ensure their safety, the need for reception facilities, and the extent of traffic control and security required.

##### 2) Evacuation Decisions

- a) The Incident Commander or, for large-scale evacuations, the Emergency Operations Center (EOC) Director shall assess the need for evacuation, plan evacuations, and coordinate support for the evacuation effort. Evacuation planning should resolve the following questions:
  - i) What areas or facilities are at risk and should be evacuated?
  - ii) How will the public be advised of what to do?
  - iii) What do evacuees need to take with them?
  - iv) What travel routes should evacuees use?
  - v) What transportation support is needed?
  - vi) What traffic control is needed?
  - vii) Does the anticipated duration of the evacuation make it necessary to activate shelter and mass care facilities?

viii) How will evacuated areas be secured?

Evacuations that must be conducted because of incidents that occur without warning may have to be planned quickly and carried out with only those resources that can be mobilized rapidly.

- b) The decision to recommend evacuation of the populace in and around the area of an incident site rests with the Incident Commander managing that incident. In general and when possible, the Quinault Indian Nation Tribal Council, represented by the President, shall issue recommendations for large-scale evacuations. When the President or representatives of the Tribal Business Council are not available for time-sensitive decisions, the Director of the EOC is authorized to make the evacuation decision.

#### 4.2.2. Hazard Specific Evacuation Planning

Hazard-specific evacuation planning information has been developed for certain known hazards. The Quinault Indian Reservation Tribal Hazards Mitigation Plan (W. Schlosser 2010), and the Quinault Indian Reservation HIVA (in proc.) describe the potential impact areas for known hazards, the number of people in the threatened areas, and any essential and special needs facilities affected.

#### 4.2.3. Transportation

- 1) **Individuals:** It is anticipated that the primary means of evacuation for most individuals will be personal transportation. However, some individuals do not own vehicles and others will need assistance in evacuating and provision must be made to provide public transportation for these individuals.
- 2) **Special Facilities:** Public Schools have transportation resources; some private schools and daycare facilities also have transportation assets. Many other special facilities rely on commercial or contract transportation for their needs. Unfortunately many of these providers cannot provide sufficient equipment to evacuate a sizeable facility on short notice. Tribal government assistance will be made available to assist in providing transportation to these facilities.
- 3) School buses, ambulances, and other vehicles may provide emergency transportation. Transportation will be under the direction of ESF 1 – Transportation. In cases of large-scale evacuations with advanced warning, pickup points may be designated, or a telephone bank established to receive and process requests for transportation.
- 4) Public information messages that emphasize the need for citizens to help their neighbors who lack transportation or need assistance can significantly reduce requirements for public transportation during an evacuation.

#### 4.2.4. Traffic Control

- 1) Actual evacuation movement will be controlled by ESF 13 – Public Safety and Security.
- 2) If at all possible, two-way traffic will be maintained on all evacuation routes to allow continued access for emergency vehicles.

- 3) For large-scale evacuations where time permits, traffic control devices, such as signs and barricades, will be provided by ESF 1 – Transportation.
- 4) ESF 1 – Transportation will request wrecker services needed to clear disabled vehicles from evacuation routes.

#### 4.2.5. Warning & Public Information

- 1) The Incident Commander will normally arrange for evacuation orders in and around the incident site. The EOC Director will normally disseminate warning for large-scale evacuations beyond the incident site or where evacuation is being conducted because of an imminent threat.
- 2) Advance Notice of Possible Evacuation
  - a) For slowly developing emergency situations, advance warning should be given to affected residents as soon as it is clear that evacuation may be required. Such advance notice is normally disseminated through the media. Advance warning should address suitable preparedness actions, such as securing property, assembling disaster supplies, fueling vehicles, and identifying evacuation routes.
  - b) Special facilities should also be provided advance warning. Such facilities should be requested to review and be prepared to implement their evacuation plans and to keep the EOC informed of their status and any requirements for assistance.

#### 4.2.6. Evacuation Warning

- 1) Evacuation warning should be disseminated through all available warning systems.
- 2) In the case of immediate evacuation in and around an incident site, route alerting using sirens and speaker-equipped vehicles moving through the affected area is usually effective. When possible, two vehicles should be employed. The first to get the attention of the population, and the second to deliver the evacuation message. Door-to-door notification should be considered for large buildings and in rural areas where residences may be some distance from the road.
- 3) Special facilities may be notified directly by on-scene authorities or by the EOC staff. However, if both the incident command staff and the EOC will be making notifications, a specific division of responsibilities for notification should be made so that no facilities are inadvertently overlooked.
- 4) ESF 4 – Firefighting should sweep the evacuation area to insure all those at risk have been advised of the need to evacuate and have responded. Persons who refuse to evacuate will be left until all others have been warned and then, time permitting, further efforts may be made to persuade these individuals to leave.

#### 4.2.7. Emergency Public Information

- 1) Warning messages disseminated through warning systems alert the public to a threat and provide basic instructions. They are necessarily short and to the point. The public will often require amplifying information on what to do during an evacuation. ESF 15 – Public Information will insure that such information is provided to the media on a timely basis for further

dissemination to the public. Provisions must be made to disseminate information to individuals with special needs, including the blind and hearing impaired.

- 2) Amplifying instructions for an evacuation may include information on the location of shelter and mass care facilities, specific evacuation routes, guidance on securing their homes, and the need for evacuees to take certain items with them during an evacuation. When school children are evacuated, parents need timely information on where to pick them up.
- 3) When the incident that generated the need for evacuation is resolved, evacuees must be advised when it is safe to return to their homes and businesses.

#### 4.2.8. Special Facilities

- 1) Special facilities, such as schools, health clinics, hospitals, care centers, day care facilities, and correctional facilities are responsible for the welfare and safety of their clients, patients, and inmates. Each facility should have their own emergency evacuation plan, but in order to effectively implement their plans they must be warned of emergency situations.

##### a) Schools & Day Care Centers

- i) If evacuation of public schools is required, students will normally be transported on school buses to other schools outside of the risk area, where parents can pick them up, if vehicular transportation is possible. It is essential that the public be provided timely information on these arrangements. In the case of large-scale emergency situations with advanced warning, schools will generally be closed and students returned to their homes so they can evacuate with their families.
- ii) Private schools and day care centers, including adult day care facilities, typically do not have significant transportation resources and may require assistance in evacuating.

##### b) Health Clinics, Hospitals, Nursing Homes, & Correctional Facilities

- i) If evacuation of these facilities is required, patients and inmates should be transported, with appropriate medical or security support, to a comparable facility. The facility operator is responsible for making arrangements for suitable transportation and coordinating use of appropriate host facilities. In the case of short-notice situations, facilities may be unable to make the required arrangements for transportation and may need assistance from local government with transportation and in identifying suitable reception facilities.
- ii) Medical patients and prisoners should not be housed in shelter and mass care facilities with the general public.

#### 4.2.9. Handling Pets During Evacuations

- 1) For health reasons, pets are not allowed in emergency shelters operated by the American Red Cross and most other organized volunteer groups. However, a number of studies have indicated that some people, particularly the elderly, will not leave their homes if they cannot take their pets with them. And when people have left pets behind during evacuations, emergency

responders have sometimes had to return to the evacuated area to round up and remove those pets. Hence, it is necessary to make reasonable arrangements for evacuees who come to public shelters with pets. ESF 6 – Mass Care, Emergency Assistance, Housing, and Human Services will coordinate these arrangements with ESF 11 – Agriculture and Natural Resources.

- 2) Depending on the situation and the availability of facilities, one or more of the following approaches will be used to handle evacuees arriving with pets:
  - a) Provide pet owners information on nearby kennels, animal shelters, and veterinary clinics that have agreed to temporarily shelter pets.
  - b) Directing pet owners to a public shelter that has covered exterior corridors or adjacent support buildings where pets on leashes and in carriers may be temporarily housed.

#### 4.2.10. Access Control & Security

- 1) In an evacuation, the security of evacuated areas is extremely important. Those who have evacuated may not do so in the future if their property has been damaged or stolen during their absence. ESF 13 – Public Safety and Security should establish access control points to limit entry into evacuated areas and, where possible, conduct periodic patrols within such areas to deter theft by those on foot. ESF 4 – Firefighting will take measures to ensure continued fire protection.
- 2) If an evacuated area has sustained damage and cannot be reoccupied for an extended period of time, it may be desirable to implement a permit system to limit access to emergency workers, homeowners, business owners, utility worker, and contractors restoring damaged structures and removing debris.

#### 4.2.11. Return of Evacuees

- 1) Return of evacuees to their homes or businesses in evacuated areas requires the same considerations, coordination, and control as the original evacuation. For limited incidents, the Incident Commander will normally make the decision to return evacuees and disseminate it as appropriate. For large-scale evacuations, that decision rests with the head executive officer and is disseminated through the media.
- 2) The following conditions should prevail in the evacuated area before evacuees are authorized to return:
  - a) The threat has been resolved.
  - b) Sufficient debris has been removed to permit travel and roads and bridges are safe to use.
  - c) Downed power lines have been removed; ruptured gas, water, and sewer lines have been repaired; and other significant safety hazards have been eliminated. However, utility services may not have yet been fully restored.
  - d) Structures have been inspected and determined safe to reoccupy
  - e) There is adequate water available for firefighting.

- 3) For return and re-entry, it may be necessary to provide transportation for those who lack vehicles and traffic control on return routes.
- 4) Public information intended for returnees should address such issues as:
  - a) Documenting damage for insurance purposes
  - b) Caution in reactivating utilities and damaged appliances
  - c) Cleanup instructions
  - d) Removal and disposal of debris

#### 4.2.12. Organization and Responsibilities

- 1) Organization
  - a) The implementation of this evacuation plan is based on the ESF's identified in the EOP Base Plan.
  - b) Incident Command System (ICS) – Emergency Operations Center (EOC) Interface
    - i) As noted previously, the Incident Commander will normally determine the need for, organize, and conduct limited evacuations in the immediate vicinity of the incident site; if large-scale evacuation is required, the Quinault Indian Nation Tribal Council President should make the recommendation for such an evacuation.
    - ii) A division of responsibility for evacuation tasks should be agreed upon between the Incident Commander and the EOC Director; the Incident Commander will normally manage evacuation operations at the scene, while the EOC coordinates operations beyond the incident site, such as coordinating traffic control along evacuation routes, arranging for the activation of shelter and mass care facilities, and advising adjacent jurisdictions of the evacuation.
- 2) Assignment of Responsibilities
  - a) Quinault Indian Nation Tribal Council President will (when possible):
    - i) For emergencies or disasters, recommend that citizens evacuate, when appropriate
    - ii) Approve release of warnings, instructions, and other emergency public information relating to evacuation
    - iii) Coordinate evacuation efforts with other adjacent jurisdictions that may be affected by the evacuation, where appropriate
    - iv) Direct the relocation of essential resources (personnel, equipment, and supplies) that are at risk out of the incident location
    - v) Direct the opening of local shelter and mass care facilities, if needed and if available



- b) The Incident Commander will:
  - i) Identify risk areas in the vicinity of the incident site and determine protective actions for people in those risk areas
  - ii) If evacuation of risk areas and special facilities is required, plan, organize, and conduct evacuation with the resources assigned
  - iii) Request support from the EOC to assist in coordinating evacuation activities beyond the incident site, such as activation of shelter and mass care facilities, if required
- c) ESF 5 – Emergency Management will:
  - i) Develop and maintain evacuation planning information for known risk areas, including population of the area, and primary evacuation routes
  - ii) Review the evacuation plans of special facilities with known risk areas and determine possible needs for evacuation support
  - iii) Coordinate evacuation planning to include:
    - (1) Selection of suitable evacuation routes, based on recommendations from law enforcement
    - (2) Movement control, based on recommendations from law enforcement
    - (3) Transportation arrangements
    - (4) Shelter and mass care arrangements
- d) ESF 13 – Public Safety and Security will
  - i) Time permitting, secure and protect facilities in evacuation areas
  - ii) Recommend evacuation routes to the Incident Commander and EOC staff
  - iii) Assist in evacuation by providing traffic control
  - iv) Secure and protect or relocate prisoners
  - v) Coordinate law enforcement activities with other emergency services
  - vi) Assist in Public Warning
  - vii) Provide information to the Public Information Officer (PIO) for news releases.
- e) ESF 4 – Firefighting will:
  - i) Be responsible for fire protection in the vacated areas
  - ii) Assist in public warning
  - iii) Assist in evacuating of special needs populations

- f) ESF 15 – Public Information will:
  - i) Disseminate emergency information on public evacuations
  - ii) Coordinate news releases and public announcements with news media
- g) ESF 3 – Public Works and Engineering will:
  - i) Provide traffic control devices upon request
  - ii) Assist in keeping evacuation routes open
  - iii) Provide barricade and barrier to restrict entry into evacuated areas and other control areas
- h) The EOC will:
  - i) Coordinate transportation for evacuees without vehicles or who need assistance in evacuating, determining and establishing pickup points if necessary
  - ii) Coordinate transportation assistance for the evacuation of special facilities
  - iii) Coordinate all transportation relating to relocation of essential resources
  - iv) Provide information to the PIO on pickup points, or special pickup routes for those requiring transportation
- i) ESF 6 – Mass Care, Emergency Assistance, Housing, and Human Services will:
  - i) For short-term evacuations, coordinate with ESF 5 – Emergency Management and the operators of government facilities, schools, churches, and other designated facilities for use of their facilities as temporary relocation centers as appropriate
  - ii) For other than short-term evacuations, coordinate with ESF 11 and ESF 5, to open shelters and activate mass care operations
- j) ESF 11 – Agriculture and Natural Resources will:
  - i) Coordinate arrangements to provide temporary facilities for pets arriving with evacuees
  - ii) Be prepared to provide shelter managers with information on procedures for handling evacuees with pets
- k) Special Facilities (schools, health clinics, hospitals, nursing homes, correctional facilities) will:
  - i) Close and supervise evacuation of their facilities
  - ii) Coordinate appropriate transportation for evacuees and enroute medical or security support
  - iii) Arrange for use of suitable host facilities
  - iv) Request emergency assistance from adjacent jurisdictions if assistance cannot be obtained from other sources

- v) Ensure assigned personnel are trained and knowledgeable of evacuation procedures.
- vi) Disseminate public information to advise relatives and the general public of the status of their facilities and the patients, students, or inmates served by those facilities.

#### 4.2.13. Direction and Control

##### 1) General

- a) The Quinault Indian Nation Tribal Council has the general responsibility for recommending evacuation, when that is the most suitable means of protecting the public from a hazard.
- b) In situations where rapid evacuation is critical to the continued health and safety of the population, the on-scene Incident Commander may recommend evacuation of people at risk in and around an incident scene and direct and control the required evacuation.
- c) Large-scale evacuations and evacuations conducted on the basis of imminent threat where there is no current incident scene will normally be coordinated and directed by the EOC.

##### 2) Evacuation Area Definition

- a) Areas to be evacuated will be determined by those officials with the authority to recommend evacuation based on the counsel of those individuals and agencies with the necessary expertise, the use of specialized planning materials or decision aids, the recommendations of state and federal agencies, and, where appropriate, advice from other subject matter experts. Evacuation recommendations to the public should clearly describe the area to be evacuated in with reference to known geographic features, such as roads and rivers.
- b) The hazard situation that gave rise to the need for evacuation should be continually monitored in case of changing circumstances, such as an increase in rainfall or wind shift, changes the potential impact area and, thus, the area that must be evacuated.

#### 4.2.14. Evacuation Movement

##### 1. Rest and Refueling Facilities

Evacuees should use service stations within Quinault Indian Reservation for rest, refueling, and minor vehicle maintenance when possible and nearby facilities when required. Fuel filling stations should be encouraged to extend their operating hours during the initial stages of the evacuation. Other jurisdictions are expected to identify rest and refueling facilities within their area as well.

In some hazard events and in some villages, the rest and refueling areas may be within the evacuation zone. Attention should be given to the “window of opportunity” available in the face of each potential or active disaster and the location of the service station.

##### 2. Disabled Vehicles

Disabled vehicles should not be permitted to block evacuation routes; they should be removed from roadways as soon as possible. ESF 3 – Public Works and Engineering will assist stranded motorists as towing and repair services may be degraded as the evacuation proceeds.

#### 4.2.15. Traffic Direction and Control

- 1) Traffic control points may need to be established. ESF 13 – Public Safety and Security will establish and operate them in the event of an evacuation.
- 2) ESF 13 – Public Safety and Security personnel staffing control points should provide regular reports to the EOC on the size of the evacuation traffic flow through each traffic control point.

#### 4.2.16. Coordination of Reception Facilities

- 1) Although special facilities are responsible for arranging reception services for their clients, ESF 5 – Emergency Management should be prepared to assist in this effort, if required, by coordinating with emergency management officials in host areas to identify suitable reception facilities. As noted above, prisoners and medical patients cannot be housed in shelters for the general population.
- 2) ESF 6 – Mass Care, Emergency Assistance, Housing, and Human Services, or designee, assisted by the local American Red Cross should maintain contact with shelter management officials in host areas to coordinate shelter openings and closings, and identify shelters where public transportation vehicles should discharge evacuees. To reduce congestion, some of the closest public shelters should be earmarked for those using public transportation. Information on the reception area shelters to be used by those arriving via public transportation must be provided to ESF 1 – Transportation.

#### 4.2.17. Public Information

- 1) ESF 15 – Public Information will disseminate information on evacuation procedures through all available media.
- 2) Provisions should be made to disseminate evacuation information to special needs populations, including the blind, hearing-impaired, and non-English speaking individuals.

#### 4.2.18. Coordination with Reception Areas

Regular coordination should be maintained with emergency management officials in those adjacent jurisdictions that are hosting evacuees from the local area in order to provide information to evacuees. The purpose of this coordination is to provide evacuees information on current conditions in the evacuated areas, notify people when they can return to evacuated areas, and coordinate return routes, and if necessary, public transportation for those evacuees who require it.

#### 4.2.19. Security of Evacuated Areas

- 1) Access control points will be established to limit access to evacuated areas and patrols will be established to maintain security in evacuated areas. Access control points cannot be selected in advance, but ESF 13 – Public Safety and Security personnel should be prepared to establish and operate them as soon as it is clear which areas need to be secured.
- 2) In general, access to tsunami or storm-damaged areas should be limited in order to reduce public exposure to dangerous conditions and curtail theft of property from vacant homes and businesses. Access should initially be limited to:

- a) Emergency service and public works personnel
- b) Utility company employees engaged in restoring utility services
- c) Contractors restoring damaged buildings, clearing roads, and removing debris
- d) Commercial vehicles delivering food, essential supplies, life support equipment, construction supplies, and related materials
- e) Residents of the affected area, when it is determined that it is safe to reenter the area to salvage belongings and make repairs
- f) Media representatives prepared to access and evacuate the area for reporting purposes

Before announcing the decision to authorize a general return of residents to an evacuated area, local officials should notify emergency management officials in those adjacent jurisdictions which may be affected by the return traffic flow in order to ensure that traffic control resources can be deployed.

#### 4.2.20. Public Service Limitation Policy

Depending on the nature of the disaster causing an evacuation, public safety personnel and equipment may not be able to respond to requests for emergency assistance. Personnel and equipment may have to be pulled off the streets and put in safe locations until after the incident has subsided.

### 4.3. Increased Readiness Actions

#### 1) Level 4: Normal Conditions

#### 2) Level 3: Increased Readiness

- a) Increased Readiness may be appropriate if there is a greater than normal threat of a hazard which could necessitate evacuation. Level 3 readiness actions may include:
  - (1) Reviewing information on potential evacuation areas, facilities at risk, and evacuation routes
  - (2) Monitoring the situation
  - (3) Informing first responders and local officials of the situation
  - (4) Checking the status of potential evacuation routes and shelter/mass care facilities

#### 3) Level 2: High Readiness

- a) High Readiness may be appropriate if there is an increased risk of a hazard that necessitates evacuation. Level 2 readiness actions may include:
  - (1) Monitoring the situation
  - (2) Alerting response personnel for possible evacuation operations duty
  - (3) Coordinating with special facilities to determine their readiness to evacuate

- (4) Checking the status of resources and enhancing short-term readiness if possible. Monitoring the availability of transportation assets and drivers
- (5) Advising the public and special facilities to monitor the situation

**4) Level 1: Maximum Readiness**

- a) Maximum readiness is appropriate when there is a significant possibility that evacuation operation may have to be conducted. Level 1 readiness actions may include:
  - (1) Activating the EOC to monitor the situation and track resource status.
  - (2) Placing first responders and transportation providers in an alert status; placing off-duty personnel on standby.
  - (3) Updating the status of resources
  - (4) Checking the status of evacuation routes and pre-positioning traffic control devices.
  - (5) Updating plans to move government equipment to safe havens
  - (6) Selecting shelter/mass care facilities for use
  - (7) Providing information to the public on planned evacuation routes, securing their homes, and what items they need to take with them. Preparing to issue public warning if it becomes necessary

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## 5. Quinault Indian Nation Pre-Disaster Preparations

Although the concepts of this Evacuation Plan are intuitive and follow a logical series of events that are designed to serve the protection of people during and after an emergency situation, the Nation will be served better by acquiring and deploying supplies and constructing facilities to facilitate these activities. The following activities and acquisitions are recommended to facilitate the activities identified in this plan.

- Targeted NIMS, CERT, and NWCG training of staff and residents
- Posting of signs for evacuation routes and assembly area locations
- Acquisition of radio communications equipment and training for users
- Construction of shelters with food and water
- McBride Aloha Mainline Bypass Road construction

### 5.1. NIMS, CERT, and NWCG Training

The Nation will be served by a cadre of people, both residents and staff, that are trained in the National Incident Management System (NIMS) protocols. The NIMS system was formally adopted by the Quinault Indian Nation in 2010. A schedule of training for staff is being implemented (as of 2011) for Quinault Indian Nation staff. Residents have been introduced to the Community Emergency Response Training (CERT) by Quinault Indian Nation staff through training programs. The National Wildfire Coordinating Group (NWCG) provides training and certification of wildland firefighters through a system that NIMS was built on initially. NWCG training is a core element of the QDNR staff involved in wildland fire fighting. This collection of training for staff and residents will serve the protection of lives and property.

### 5.2. Signage

Evacuation routes should lead to Assembly Areas, and Assembly Areas should be marked on the ground. These locations are marked on maps used in this document, and in other maps created as part of this endeavour. However, visitors to the Reservation and residents who have not studied these maps may not know the specifics of the locations of either. A strong recommendation of the authors of this document, is to procure Evacuation Route signs, with direction arrows, and post them on the evacuation routes leading to Assembly Areas.

Additional signs indicating Evacuation Assembly Area should also be procured and posted in each community. The Evacuation Route signs should lead to the Assembly Areas as appropriate. These signs should be posted soon, not after an evacuation becomes necessary. The presence of these signs will assist residents by making the locations more familiar and their uses apparent.

### 5.3. Radio Communications Equipment

Radio communications equipment should be deployed to each community. In communities such as Taholah, Queets, and Amanda Park, emergency services facilities are present and the sheltering of the radio equipment can be made by the fire station staff. In the Villages of Tsa'alal, Qui-nai-elt, Point Grenville, and Taholah Ocean Tracts, radio equipment should be entrusted to community members and forward deployed to these locations for use during an emergency. Radio

communications will allow incident command to quickly communicate with areas that have been the site of evacuations in response to an emergency. Emergency response staff should not rely on being able to deploy communications equipment during an emergency event. Communications equipment deployed in advance of disaster will allow incident command to communicate efficiently and effectively with evacuees and schedule further response as needed.

Interoperable radio communications within the Quinault Indian Reservation is not currently set up and operating. Additional planning efforts are underway by the Quinault Indian Nation to secure needed funding and training for staff and residential responders. A full radio communication infrastructure includes radio repeaters, base units, hand-held units, and people trained in the operations of emergency communications protocols. A communications infrastructure, forward deployed to each community on the Quinault Indian Reservation with trained people operating them, will save lives and increase the ability of responders to direct efforts to the places they are most needed.

#### 5.4. Shelters with Food and Water

Disaster Recovery Centers are locations where people can find shelter during and after an emergency event that makes homes inaccessible or destroys structures. A DRC can be temporary housing erected in the form of tents, mobile trailers, or temporary ridged shelters. It can also be a more permanent structure solution for sheltering.

A permanent solution can come in the form of a Tribal Longhouse erected in Taholah, Queets, and Amanda Park. These Tribal Longhouses can be designed to serve the primary purpose of a community gathering place, located in areas outside of expected natural disaster exposure (out of the tsunami zone, not in soil liquefaction risk areas, or within low wildfire risk fuels). The design of these structures can incorporate the following amenities:

- Kitchen and Dining Room facilities
- Walk-in coolers and refrigerators, stocked with supplies for emergencies
- Shelf-stable food supply pantries stocked with supplies for use in emergencies
- Back-up power generators with fuel supplies
- Bedding for evacuees
- Shower facilities
- Central Communications capabilities
- Shelter-in-Place rooms

DRC sites do not need to be created at the Assembly Areas in each community. The evacuation of people to these Assembly Areas serves to collect and then direct people further from the site of the emergency to a safe area, when needed, to where longer term housing can be provided. In the event of the DRC site's damage, the Assembly Area also serves to redirect people to alternative sites.

Communities not hosting one of the Tribal Longhouses may benefit from the DRC utility of the Longhouses in other Villages. For instance, a wildfire threatening homes in Qui-nai-elt Village may necessitate an evacuation of that village, but use of the Longhouses in Amanda Park, Taholah, or Queets may still be a feasible option for the evacuees. Other similar scenarios can be developed. A



limitation to this exchange of evacuees to DRC sites may be complicated by the closure of roads to the Villages hosting the Tribal Longhouses. In the event of a Cascadia Subduction Zone earthquake and close-source-tsunami along the coastline, it would be problematic for evacuees from other villages to enter, or for Taholah evacuees to leave Taholah using State Highway 109.

### 5.5. McBride/Aloha Mainline Bypass Road

The McBride/Aloha Mainline Bypass Road (Figure XI) was identified in the Quinault Indian Reservation Tribal Hazards Mitigation Plan (W. Schlosser 2010) adopted by the Quinault Indian Nation in October 2010. The attention given to SR109 along the stretch from Moclips to Point Grenville serves many purposes. First, the residents of Taholah Ocean Tracts must rely on SR109 to gain access out of the area for daily activities and during emergency situations. Taholah Ocean Tracts residents and neighboring residents must cross through high risk tsunami exposure areas as they reach SR109. Second, this route is the only reliable way for street traffic to access Taholah or for Taholah residents to access the rest of the region. If any part of SR109 is compromised, then neither side can access the other over a reliable all-situation road surface.

Consideration has been given to the enhancement of forest roads in the area to circumvent SR109 north of Point Grenville from the McBride road to the Moclips River near the Village of Qui-nai-elt. This access begins at McBride Road where it intersects SR109 heading eastward until it intersects the Aloha Mainline. The route then turns southerly along the Aloha Mainline until it intersects with the Moclips / Olympic Highway (Cook Creek Road). The total distance to traverse is 10.9 miles and currently, the road has a gravel base and is impassable by highway passenger vehicles (several steep climbs). These roads have been designed and maintained for logging trucks and 4x4 pickup trucks used by forestry staff.

A spur line to this route accesses Taholah Ocean Tracts from the northeast, and thus avoids the low-lying SR109 (Figure XI). This access would provide residents of Taholah Ocean Tracts and evacuees to this village with egress out of the region when needed because of an emergency event.

While reconstruction of roads can be accomplished along these routes, the formation of the roadbed should incorporate several site specific geotechnical techniques to increase the durability and serviceability of this proposed emergency access route. In order for this route to be used for an emergency vehicle traffic, substantial improvements to the travel surface (paving), ditching, road widening, and even re-routing is required.

This route is an integral part of large-scale evacuation needs for the Quinault Indian Nation involving the movement of residents, Quinault Nation staff, and emergency responders during and after an emergency event. Fortification of the road, agreements with landowners for ingress and egress, and stabilization of the road for paved two-lane vehicular traffic is needed. This infrastructure enhancement is set as an immediate priority for the Quinault Indian Nation.

Figure XI. McBride/Aloha Mainline Bypass Road.



## 6. Works Cited

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### 6.1. Acronyms Used

Cascadia Subduction Zone (CSZ), 3	(FEMA), 1
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Disaster Recovery Center (DRC), 4	National Incident Management System (NIMS), 33
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## 7. Document Distribution

This table describes where “official” copies of this plan will be maintained and thus, where updates will be distributed.

Name	Organization	Role

## 8. Approvals

This document will be submitted to Quinault Indian Nation Tribal Business Council for Adoption. The signed adoption will be inserted into this document.

DRAFT