

# Seismic Risk Assessment and Mitigation Plan

## Frequently Asked Questions

Oregon Health Authority Drinking Water Services

1. Why do community water systems with more than 300 connections need to conduct a seismic risk assessment and mitigation plan?

The Oregon Resilience Plan was developed in 2013 and provides the state's road map for earthquake preparedness. The goal is to identify critical infrastructure needed to supply water during an emergency, and identify projects to be completed in the next 50 years to ensure that piped water can be provided in the event of a strong earthquake. The plan and related information can be found at [www.oregon.gov/gov/policy/orr](http://www.oregon.gov/gov/policy/orr). Water supply infrastructure is addressed in Section 8 beginning on page 203.

2. Which systems need to submit a seismic risk assessment and mitigation plan?

Every community water system with more than 300 connections that intends to submit a master plan after January 10, 2018 is required to conduct a seismic risk assessment and mitigation plan if any of their facilities are located in Areas VII through X of Plate 7. Plate 7 is available at <http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/PLANREVIEW/Documents/seismic-map.pdf>.

3. What must be included in a seismic risk assessment?

The seismic risk assessment must identify critical facilities needed to supply key community needs, including at a minimum: fire suppression, essential health care and first aid, emergency response, and drinking water supply points. The result would be a list of infrastructure backbone components including supply, treatment, distribution, and storage elements that are needed in order to continue to supply water for essential community needs immediately after a Cascadia subduction zone earthquake.

The assessment must also evaluate the likelihood and consequences of seismic failures for each facility identified as critical. General information for assessing various facilities by construction date and material can be found in the Oregon Resiliency Plan, which also references the American Lifelines Alliance (2001) Seismic Fragility Formulations for Water Systems, [www.americanlifelinesalliance.org](http://www.americanlifelinesalliance.org).

4. What must be included in the mitigation plan?

Based on the critical facilities identified to form the backbone, the mitigation plan consists of projects that will be completed over the next 50-year time period to upgrade, retrofit, or rebuild these facilities so that they will continue to provide water following a Cascadia subduction zone earthquake. The mitigations would include planned capital improvement projects, upgrades to minimize water loss from each critical facility, or recommendations for further study or analysis. The mitigation plan must also include a schedule as to when these mitigation efforts will be completed, within the 50 year planning horizon.

5. Are other formats of Plate 7 available?

Yes. Labels in pdf files (such as city names) can be turned off on the toolbar on the left hand side of the Adobe Acrobat Reader screen.

GIS files can be downloaded at <http://www.oregongeology.org/pubs/ofr/p-O-13-06.htm>. Under Publication Preview, click on "Download zip file (1.85 GB)". Refer to "Read me" file for instructions. Open the Appendix folder. Click on the .rar file (a zip utility such as WinZip is needed to open this GIS data file). The GIS layer for Plate 7 is "Oregon\_M\_9\_Scenario\_Site\_PGV." This file has the raw data and will need to be classified into the Mercalli rankings as shown on Plate 7. Remember that the Area X category includes the tsunami inundation zone.

6. Is any funding available to assist in development of this assessment and plan?

After July 1, 2018, systems serving 3,300 connections or less will be eligible for up to \$20,000 from the Drinking Water State Revolving Fund to complete the seismic risk assessment and mitigation plan. Funds will be awarded on a first-come, first-serve basis with submittal of a Letter of Interest. Funds cannot be used for mitigation activities (design or construction).

7. Are there additional technical resources to help develop the seismic risk assessment and mitigation plan?

Yes. Technical resources have been compiled in a document located at <http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/PLANREVIEW/Documents/seismic-references.pdf>.

**For more information, contact Drinking Water Services at 971-673-0405**