Appendix E: Plate 12

Potential Impact of Permanent Ground Deformation to Metro Emergency Transportation Routes

Cascadia Subduction Zone Magnitude 9.0 Earthquake

Wet (Saturated) Soil Scenario

-123°

45.5°

COLUMBIA CO.

TILLAMOOK CO.

WASHINGTON CO.

YAMHILL CO.

CLARK CO.

SKAMANIA CO.

MULTNOMAH CO.

CLACKAMAS CO.

MARION CO.

HOOD RIVER CO.

WASCO CO.

Banks

North Plains

Forest Grove

Cornelius

Hillsboro

Gaston

Portland

Troutdale

Gresham

Beaverton

Milwaukie

Happy Valley

Tigard

Lake Oswego

King City

Tualatin

Sherwood

West Linn

Oregon City

Gladstone

Sandy

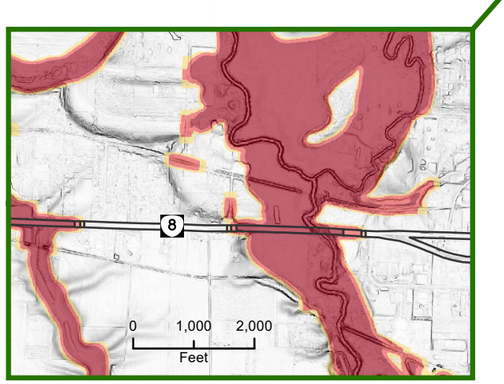
Wilsonville

Estacada

Canby

Molalla

47 26 30 8 10 205 210 99E 212 224 211 213 5



Closeup, Oregon Highway 8, showing potential permanent ground deformation (same color scale as main map)

Miles 0 2.5 5 10

Kilometers 0 4 8 16

Potential Permanent Ground Deformation

- < 0.5 meters
- 0.5 – 1.0 meters
- 1.0 – 2.0 meters
- > 2.0 meters

Permanent ground deformation takes the maximum of earthquake-induced landslide and lateral spread from liquefaction (Plate 8).

Probability of occurrence for road areas with > 0.5 m permanent ground deformation is between 20% and 30% (Plate 9).

Emergency Transportation Routes in Columbia County (OR) and Clark County (WA) not analyzed nor fully represented in this map.

Highway labels are placed on areas with minimal to no ground deformation (< 0.5 m).

Not all cities are labeled.

Source Data:
Emergency Transporation Routes: Metro, 2006
Cities: Metro Regional Land Information System (RLIS), May 2017
Projection: Lambert Conformal Conic, EPSG 2913. Unit: International Feet.
Horizontal Datum: NAD 1983
Map Author: John M. Bauer
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