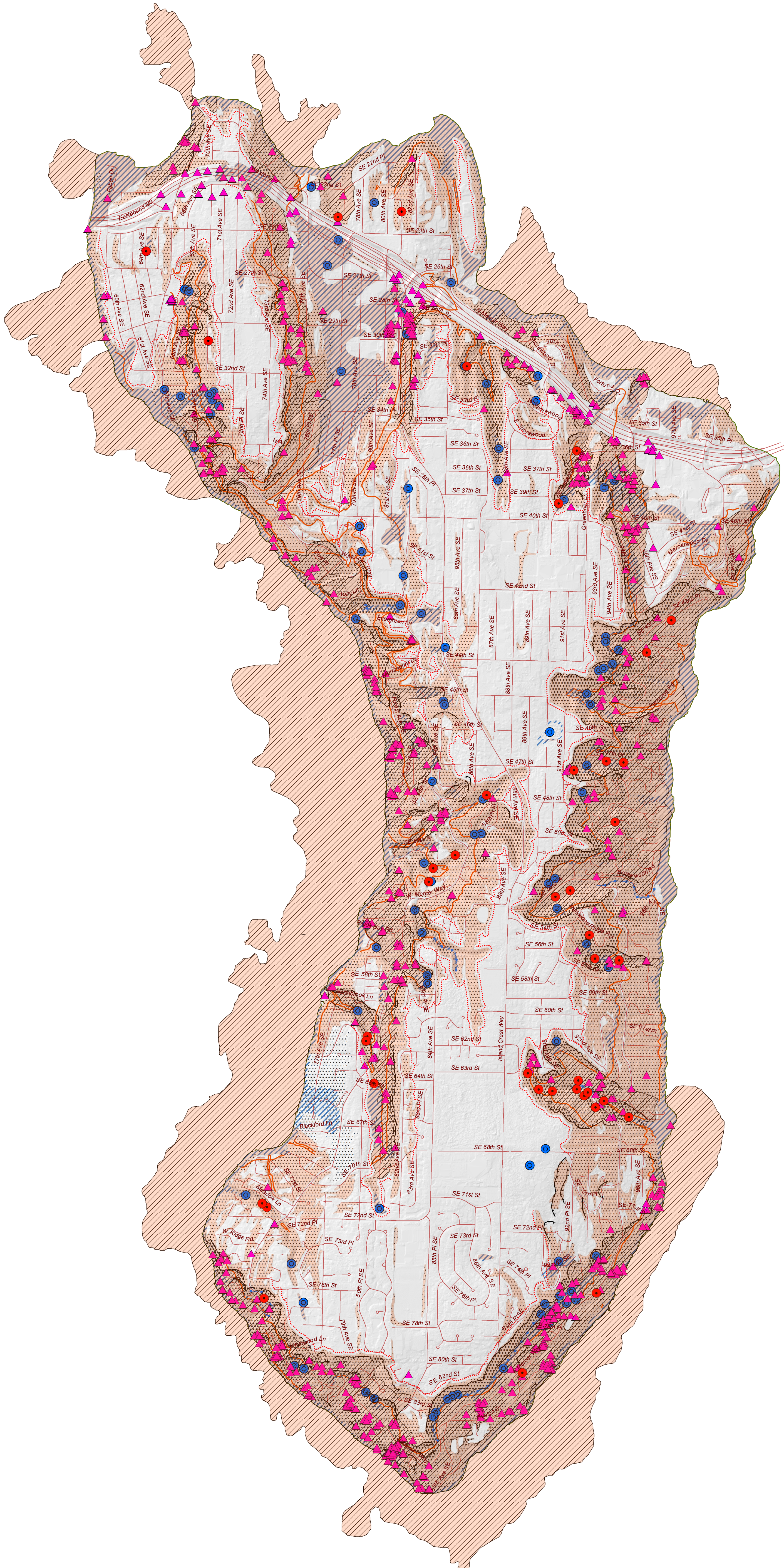
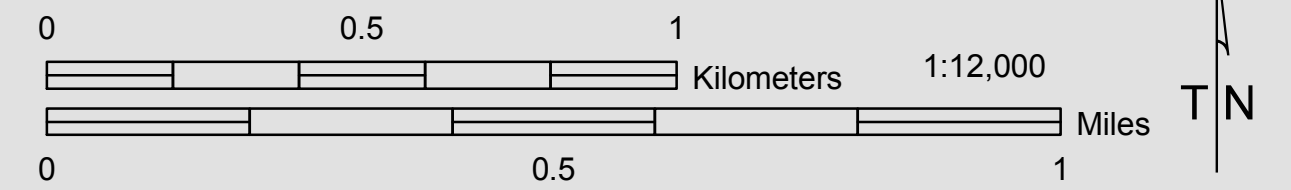


# Mercer Island Landslide Hazard Assessment

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## LANDSLIDE HAZARD AREAS (WAC 365-190-080 4d and MICC 19.16.010)

Landslide hazard areas include areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors.

Areas susceptible to landsliding on Mercer Island include:

- Areas of historic failure or that have been documented on published maps; *See mapped known landslides below;*
- Slopes steeper than 15%, intersecting a geologic contact of relatively permeable deposits over relatively impermeable deposits, and with springs or groundwater seepage; *See mapped potential slide areas below;*
- Areas that have shown movement during the Holocene epoch (last 10,000 years) or which are covered by Holocene-age mass wasting deposits; *See mapped known landslides below;*
- Slopes parallel or sub-parallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials; *None identified on map, but may be locally present;*
- Slopes having gradients steeper than 80% subject to rockfall during seismic shaking; *See slope classification below;*
- Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action; *See mapped erosion locations below;*
- Areas that show evidence of, or are at risk from snow avalanche; *None identified on Mercer Island;*
- Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding; *None identified on Mercer Island;*
- Any area with a slope of 40% or steeper and with a vertical relief of ten or more feet except where composed of consolidated rock; *See slope classification below.*

### Landslide hazard areas include the following mapped areas:

- |                         |  |
|-------------------------|--|
| <b>Landslide Hazard</b> | Landslide Hazard Area (Known or Suspect) |
|                         | Landslide Hazard Assessment Setback      |

### For all other areas hazard is unknown or unquantified

#### Supplemental Data

- |  |  |
|--|--|
| <b>Known Landslides (i,iii)</b>            | Identified Landslide Location  |
|  | Scarp  |
|  | Landslide and Mass Wasting Deposits; subaerial and subaqueous  |
| <b>Slope (v) Class (ix)</b>                | Slope 80% and higher   |
|  | Slope 40-79%   |
|  | Slope 15% and higher, and  |
| <b>Potential Slide Area (ii)</b>           | Geologic contact of coarse-grained deposits over fine-grained deposits where slope >= 15%, and                               |
|  | Area where water less than 10 feet below ground surface based on limited data set (other areas of shallow water present), or |
|  | Spring Locations, or   |
|  | Spring lines.  |
| <b>Areas of Rapid Stream Incision (vi)</b> | Areas of moderate to rapid stream incision/erosion; may result in unstable slopes and/or stream banks                        |

## GENERAL NOTES FOR GEOLOGICAL HAZARDS MAPS

This map is one of a suite of revised Geological Hazard Maps for the City of Mercer Island. This suite includes maps showing Seismic Hazards, Landslide Hazards, and Erosion Hazards.

Other geological and/or natural hazards may exist and geological events may occur on Mercer Island that are not specifically identified on these maps. Examples of geologic hazards and hazardous events that are not identified on these maps include, but are not limited to, tsunamis and seiches in Lake Washington.

These maps are for the sole use of the staff of the City of Mercer Island's Development Services Group (DSG) for the purposes of permit application evaluation. These maps provide DSG staff a general assessment of known or suspect geological hazard areas for which the City will require site and project-specific evaluation by a Washington State-licensed engineer, geologist or engineering geologist prior to issuing a permit for site development. All areas have not been specifically evaluated for geologic hazards and there may be locations that are not correctly represented on these maps. It is the responsibility of individual property owners and map users to evaluate the risk associated with their proposed development. No site-specific assessment of risk is implied or otherwise indicated by the City of Mercer Island by these maps.

The City of Mercer Island is using guidance provided by the State of Washington regarding the definition of geologically hazardous areas in accordance with WAC 365-190-080 and the Growth Management Act. "Geologically hazardous areas", by State definition, "include areas susceptible to erosion, sliding, earthquake, or other geological events. They pose a threat to the health and safety of citizens when incompatible commercial, residential, or industrial development is sited in areas of significant hazard."

This new set of maps represents an update of the 2002 Geologic Hazard Map Series and is based on a review of Best Available Science for the Seattle Fault and related events, a new Geological Map of Mercer Island by Troost and Wisner (2006), and a geologic database of Mercer Island compiled by GeoMapNW at the University of Washington. Information about data used for the maps, references, and data limitations are all described in an associated "Read Me" document. The digital version of these maps is accompanied by a meta data file containing pertinent information about map construction. These data and maps are all available on the City of Mercer Island website.

