

Vancouver Energy
Operations Facility Oil Spill Contingency Plan
EFSEC Application for Site Certification No. 2013-01
Docket No. EF131590



Appendix H
Trajectory Analysis

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Tesoro Vancouver Terminal Trajectory Planning



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1.0 Trajectory Analysis

This trajectory analysis is intended to comply with WAC 173P182P230(4)(c)(v) which requires a description of the geographic area that could be impacted from a spill at the location based on a forty-eight hour worst case spill trajectory analysis.

The trajectory analysis was conducted using speed/time/distance calculations with stream velocity data obtained from the U.S. Geographic Survey being used as the prime mover.

To select the stream velocity for the trajectory historical data from 2013 was examined and an average velocity of 2 feet per second (1.2 knots) was selected.

No wind was used in determining the trajectory. Wind is likely to result in spilled oil beaching rather than continuing down river.

2.0 Description of the Geographic Area

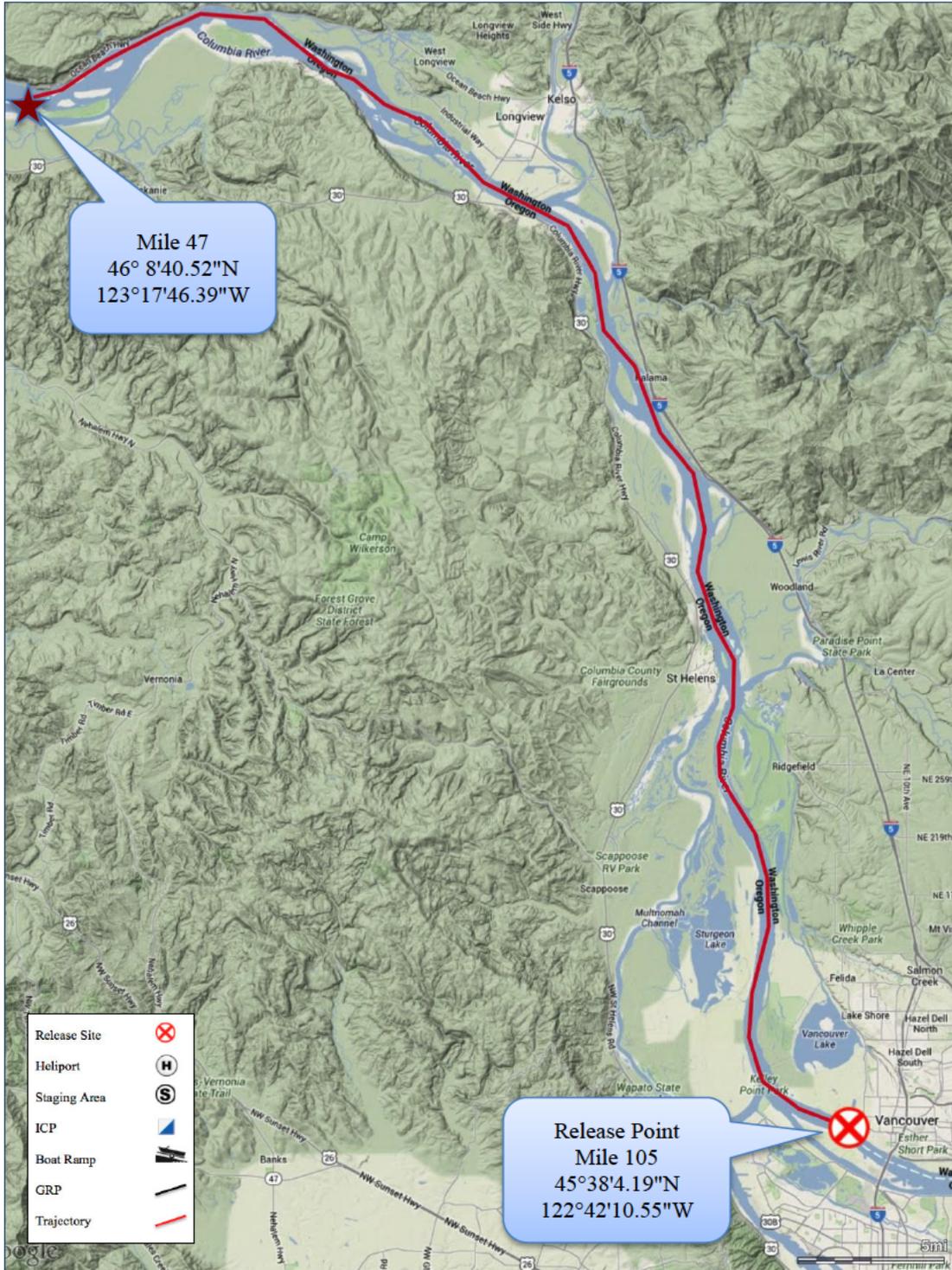
The geographic area of potential impact from an incident originating in Vancouver, Washington within 48 hours of release is the Lower Columbia River from river mile 105 (45°38'4.19"N, 122°42'10.55"W) to river mile 47 (46° 8'40.52"N, 123°17'46.39"W).

3.0 Planning Area Maps

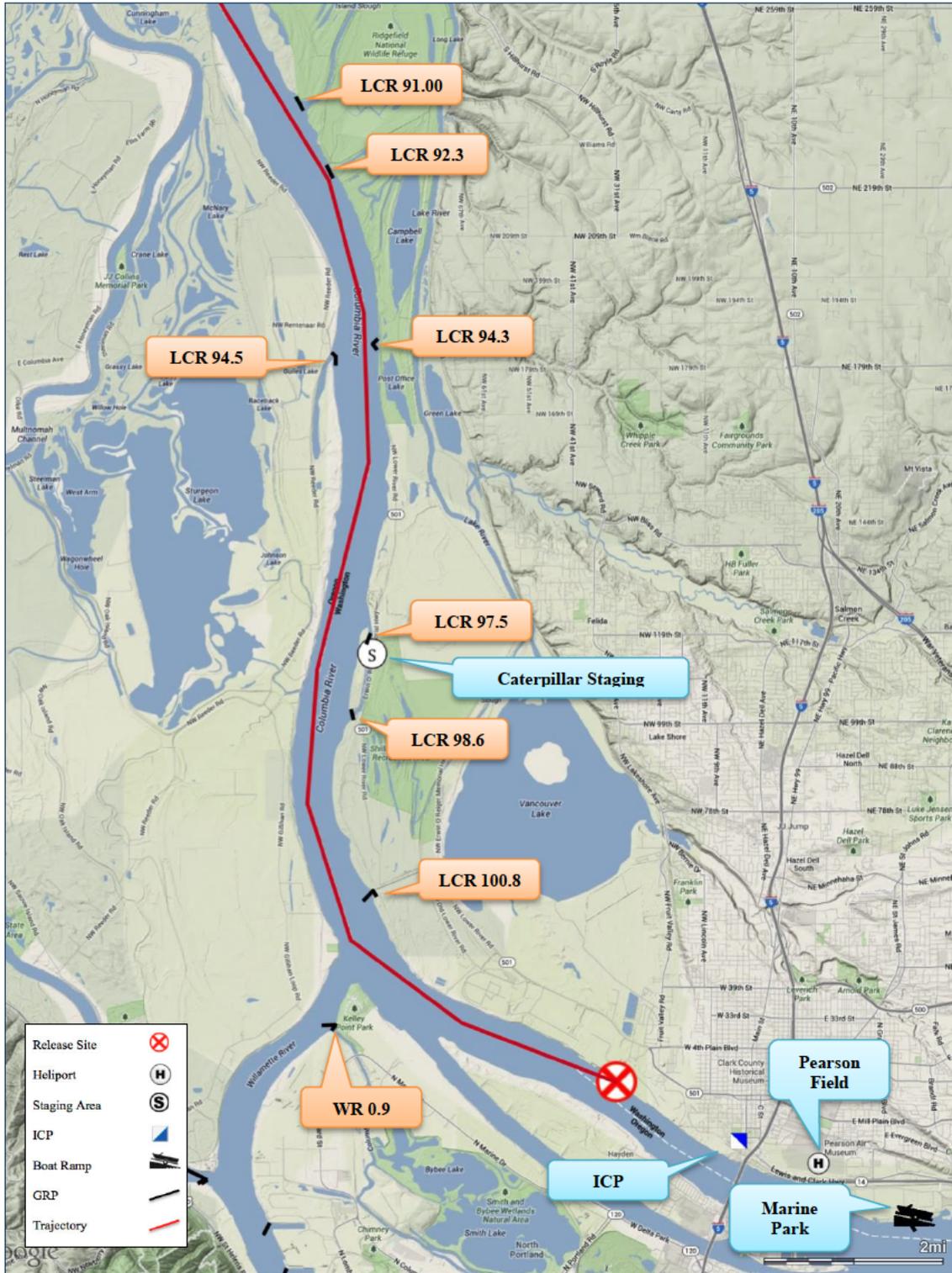
Planning Area Maps are provided in this Section that represent the linear distance traveled in miles based on historical average stream velocity (see section 4). Maps are provided for 48 hours from the time of an incident.

Release Site	
Heliport	
Staging Area	
ICP	
Boat Ramp	
GRP	
Trajectory	

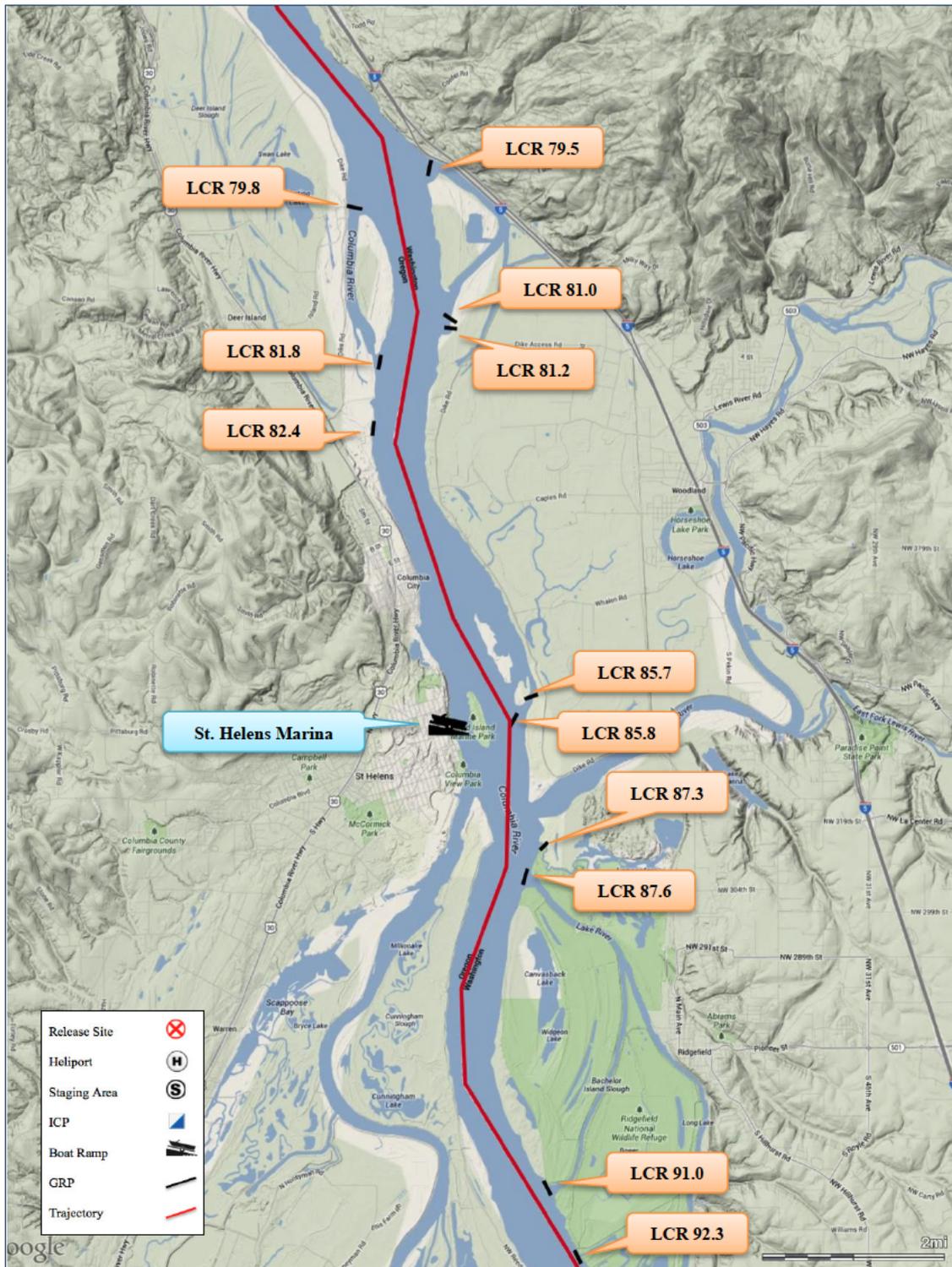
3.1 48-Hour Trajectory River Mile 105 - 47



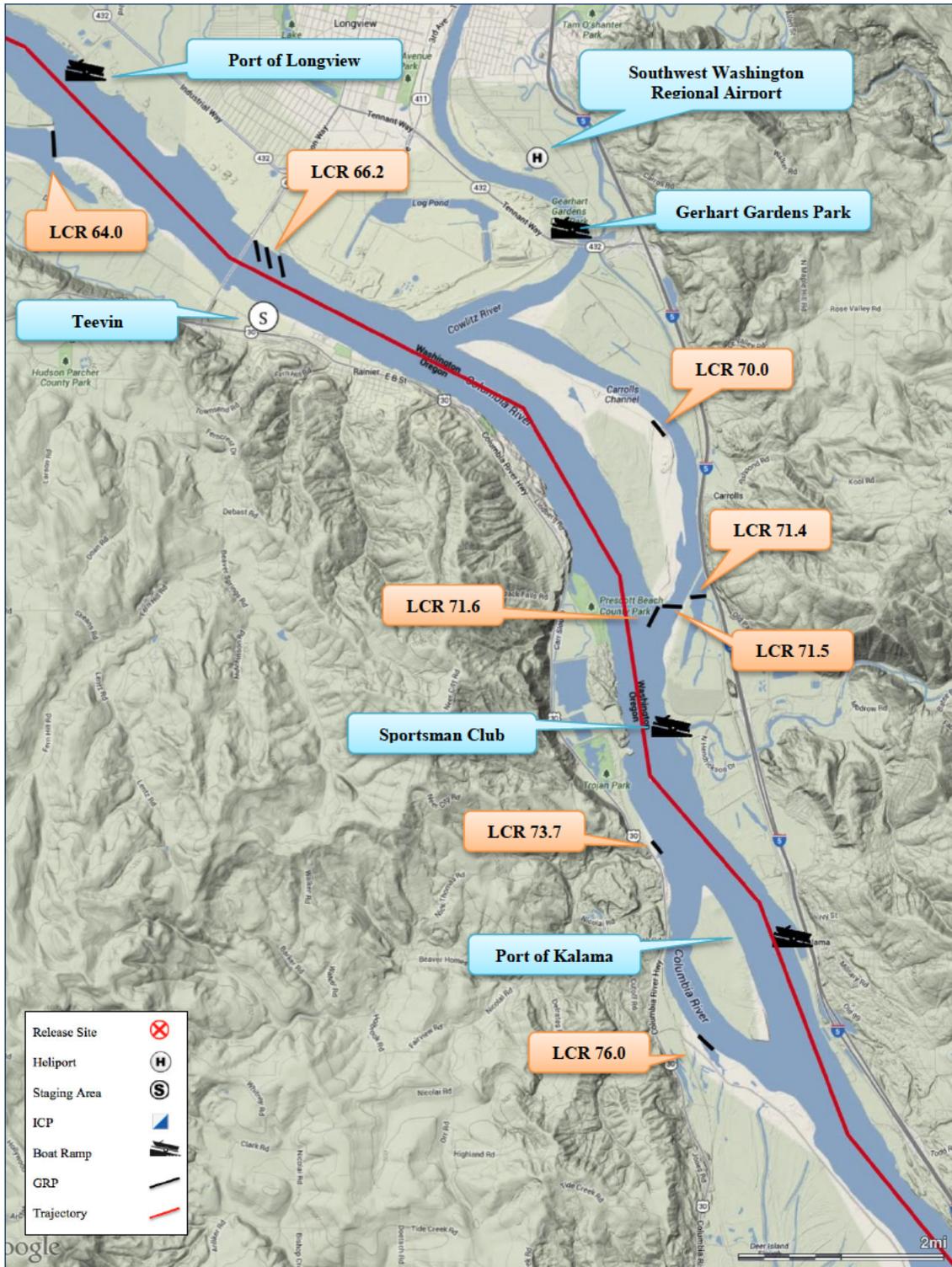
3.2 48 Hour Trajectory River Mile 105 – 91



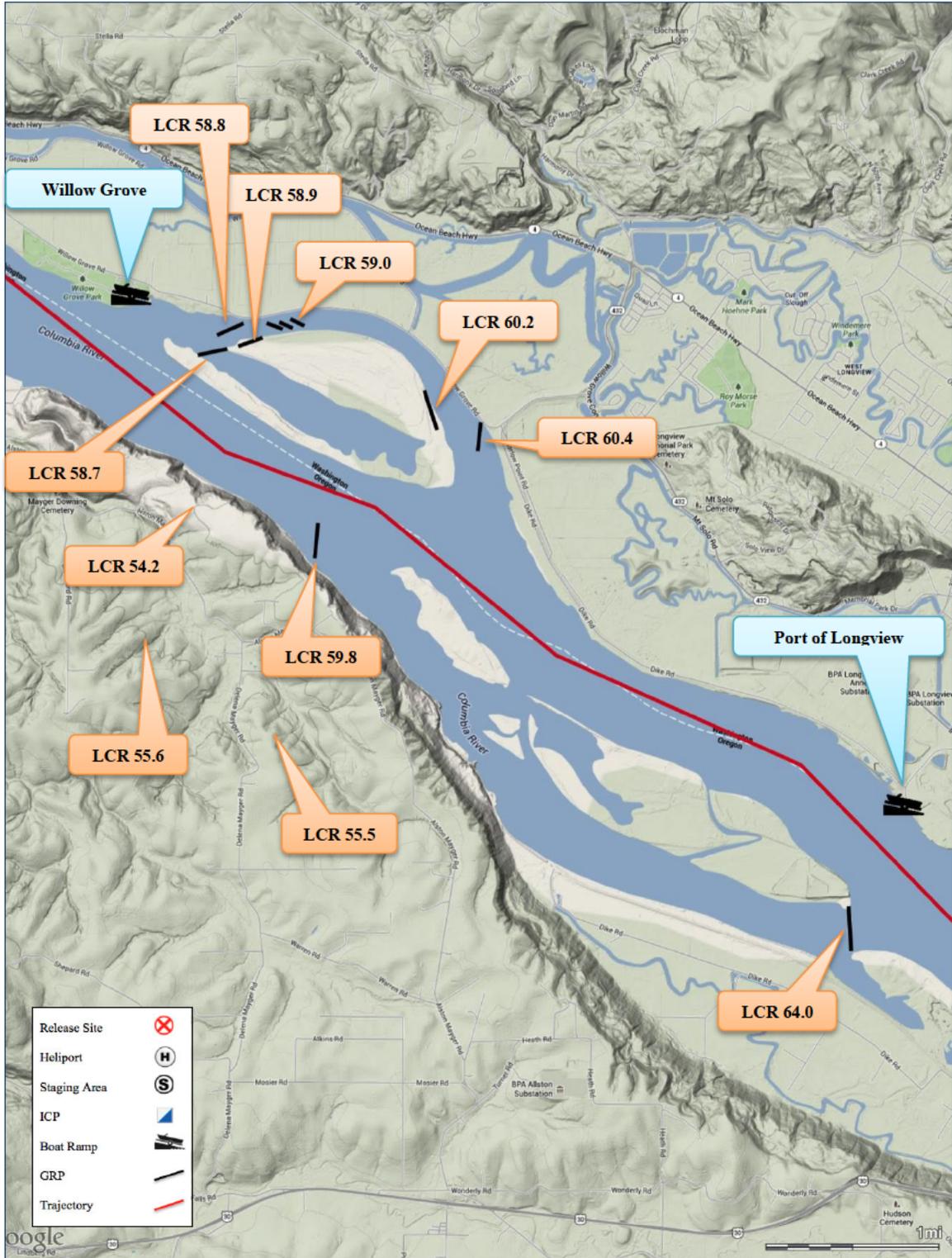
3.3 48 Hour Trajectory River Mile 91 – 78



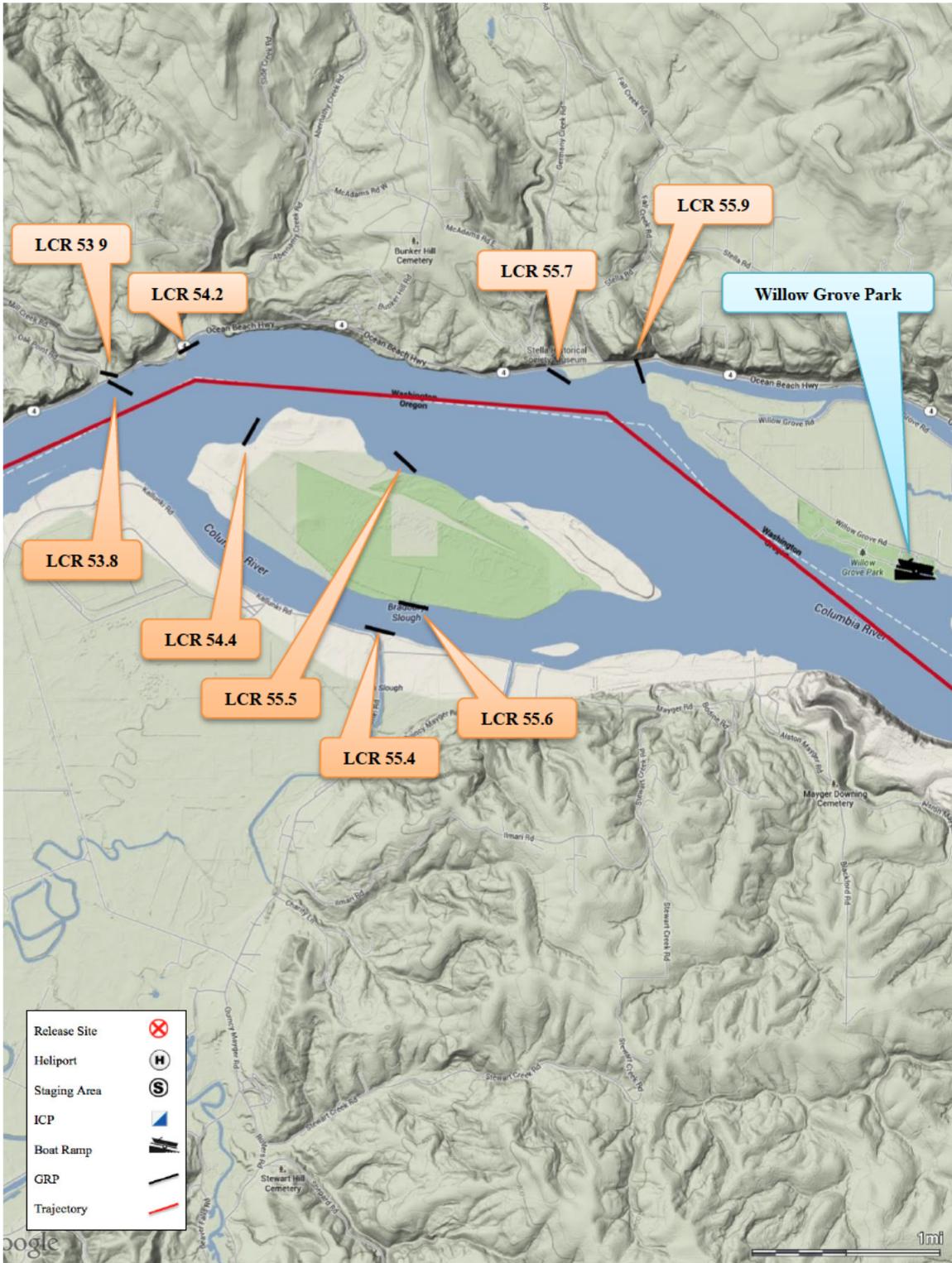
3.4 48 Hour Trajectory River Mile 78 – 63



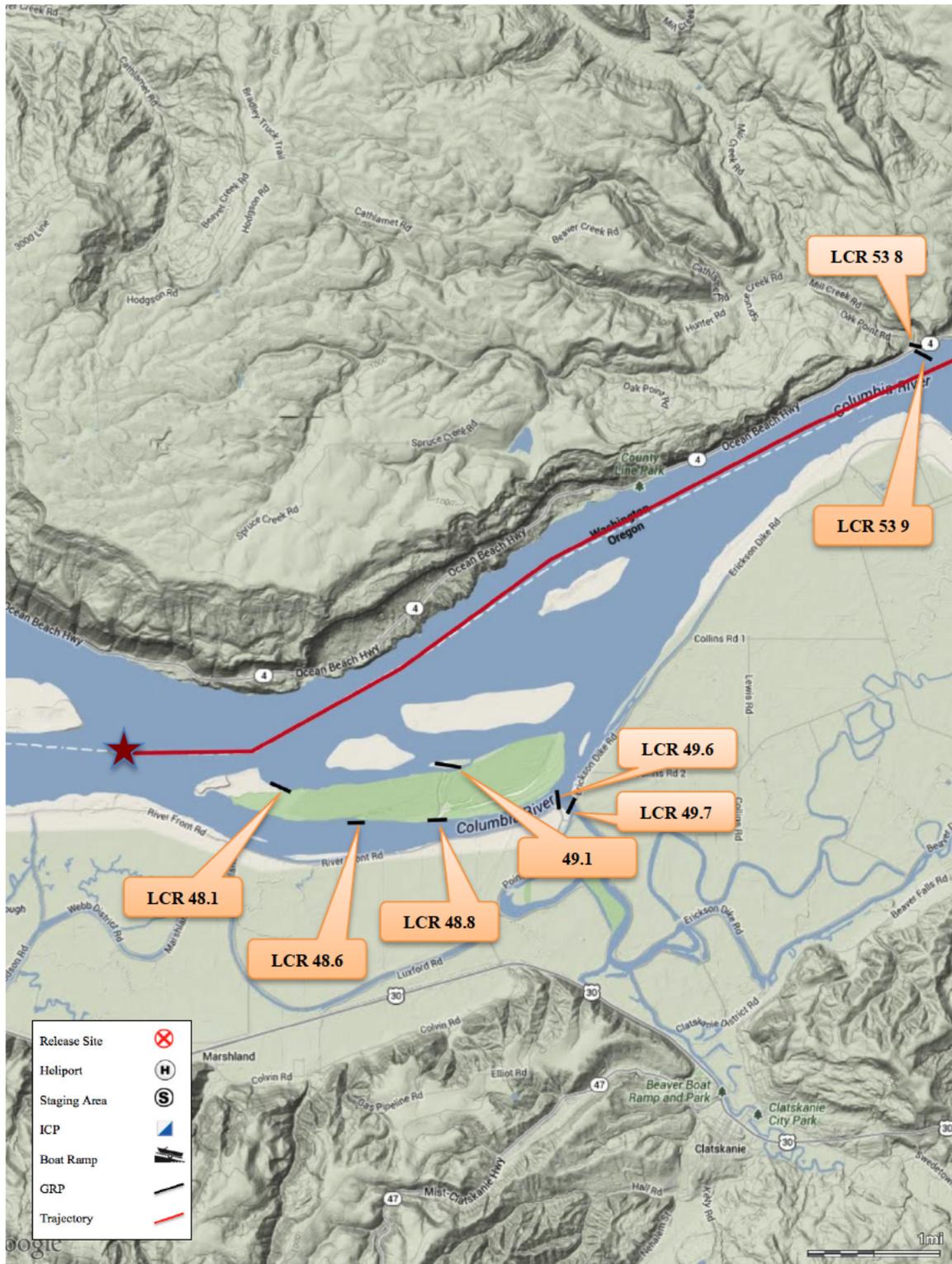
3.5 48 Hour Trajectory River Mile 63 – 57



3.5 48 Hour Trajectory River Mile 57 – 53



3.5 48 Hour Trajectory River Mile 54 – 47



4.0 Stream Velocity

Stream velocity data was obtained from the U.S. Geographic Survey.

<http://nwis.waterdata.usgs.gov>

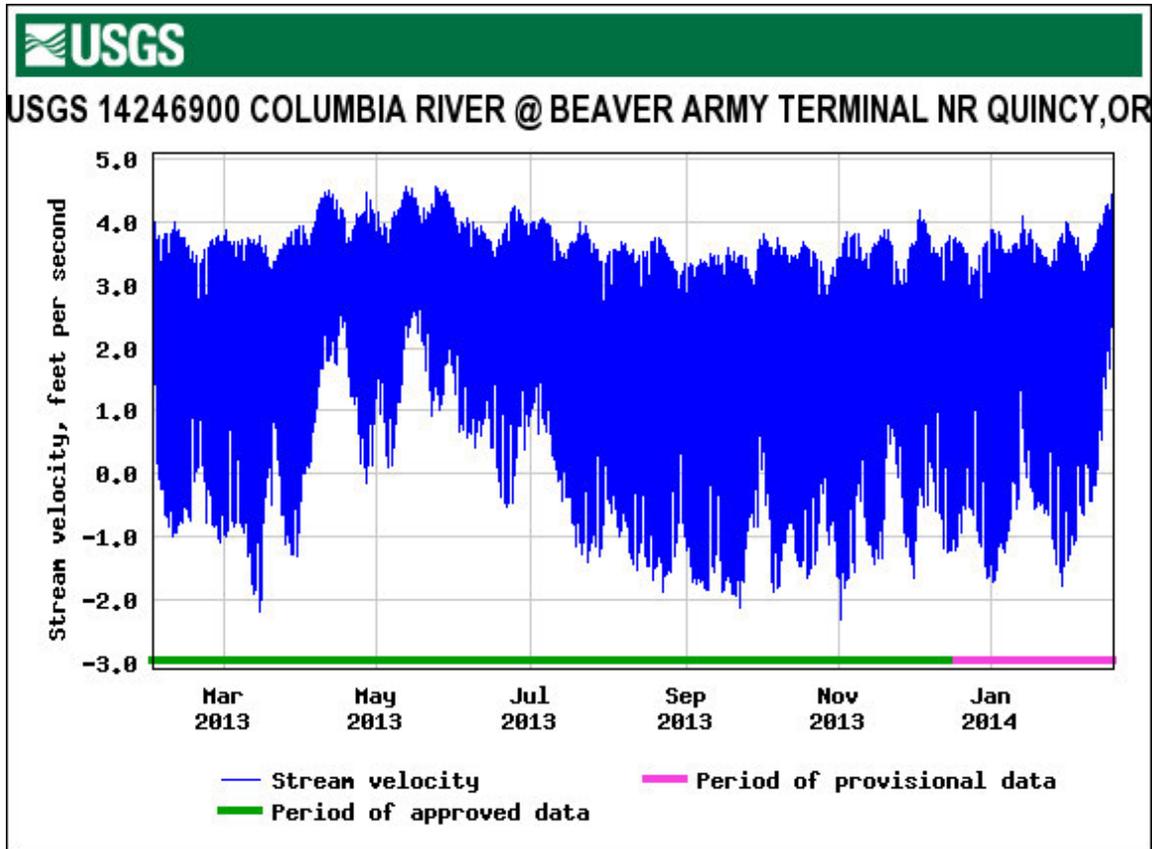


Figure 1 Stream Velocity in feet per second

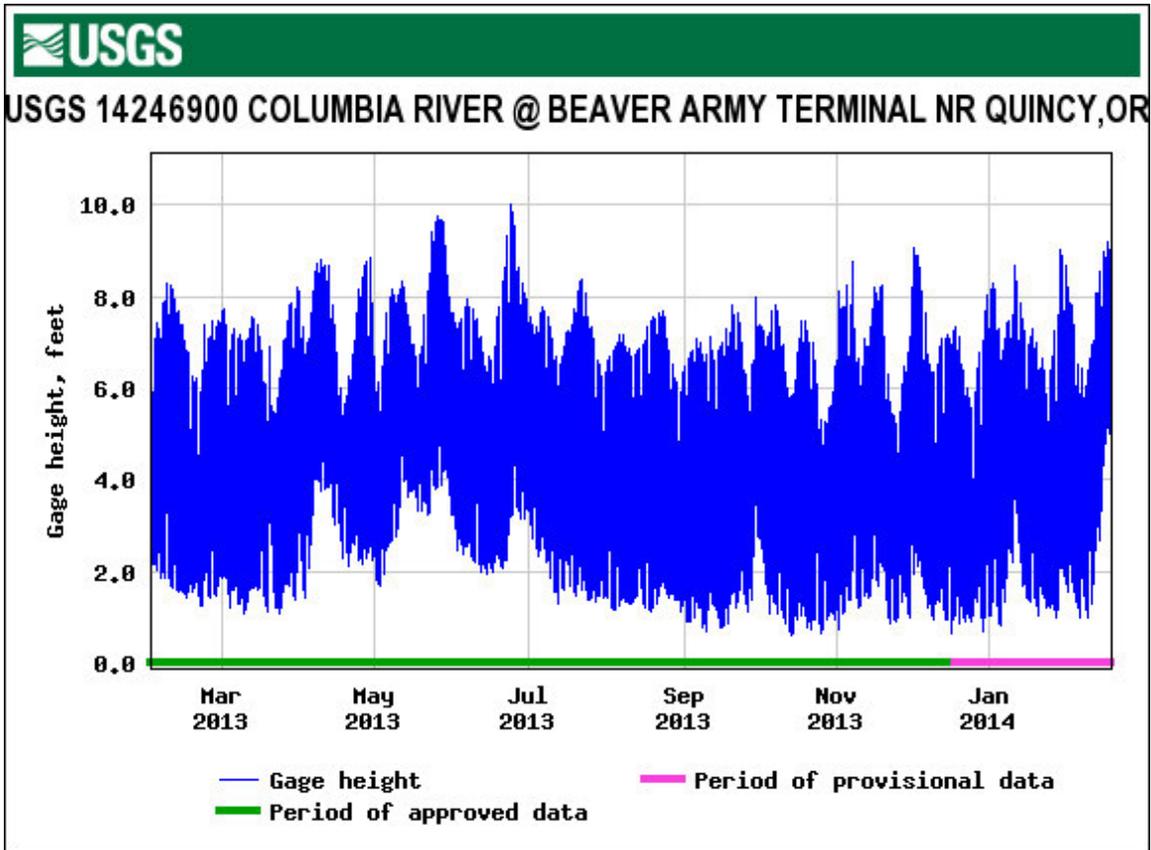


Figure 2 Gage Height, feet