Date: November 7, 2012

Community/Project No.: King County Flood Insurance Study (FIS)

Subject: LOMR 11-10-0033P Review Comments

Background information:
The City of Burien, Washington was granted a Letter of Map Revision (LOMR) 11-10-0033P effective November 4, 2011. This LOMR added AE zones and revised previously approved VE zones in study reaches established as part of LOMR 07-10-0686P, effective January 13, 2009.

A countywide Flood Insurance Study (FIS) for Incorporated King County is currently in progress.

Comparison of LOMR-11-10-0033P and King County Model Approaches:

LOMR-07-10-0686P and LOMR-11-10-0033P were based on the findings of the Technical Report entitled 'City of Burien, Coastal Flood Hazard Zone Delineation', written by Coast and Harbors Engineering of Edmonds Washington, dated June 29, 2007. The wind data used in the analysis was taken from a single location, the West Point Lighthouse CMAN Station, which at the time had a record length of only 23 years (1984-2006). The tide data used in the analysis was taken from the NOAA tide gauge in Elliot Bay, Seattle which, although having a record more than sixty years in length (1939-present), was analyzed only for the 23 years for which wind data from West Point was available. These results were used to drive a numerical wave model, SWAN, results from which were used as input to transect-based coastal runup analyses. In consequence, the extremal analyses performed to determine the 1:100 year flood elevations at each transect were based on only 23 years of data.

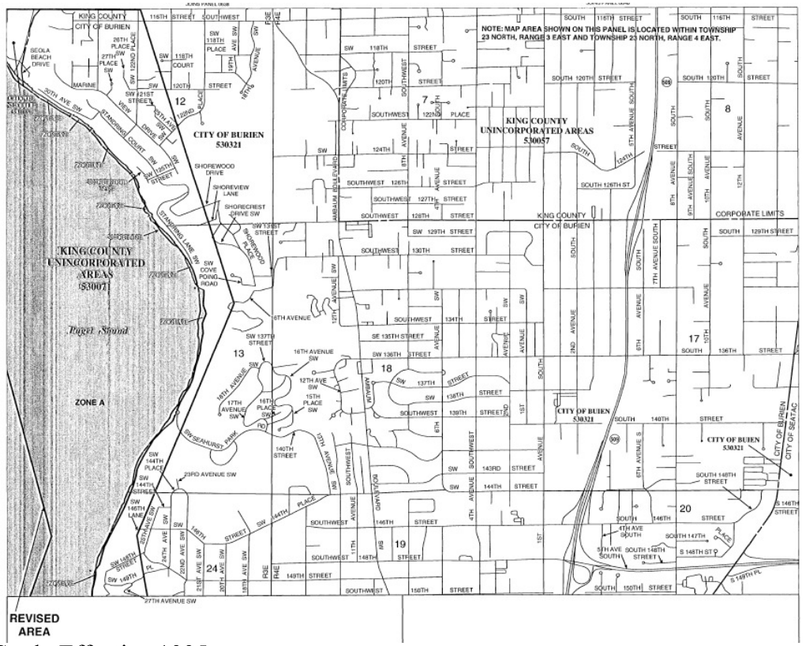
In contrast, the draft Coastal Flood Hazard Study Technical document dated December 22, 2011 for the Incorporated Areas of King County, Washington and written by Northwest Hydraulic Consultants adopted an approach in which a 1,000-year sequence of meteorological and hydrodynamic parameters was synthesized by explicit computation of astronomical tides, coupled with random selection of other parameters (i.e. winds and tidal residuals) from theoretical distributions that had been fitted to records of available local measurements that were 60-70 years in length. These results were also used to drive SWAN, results from which were used as input to transect-based coastal runup analyses.

Comparison of Workmaps:
Prior to the LOMR-07-10-0686P engineering study, base flood elevations (BFEs) were not specific to the City of Burien shoreline. The LOMR-11-10-0033P study added AE zones and reduced the BFEs effective through LOMR-07-10-0686P. If the countywide study supersedes LOMR 11-10-0033P study in Area One: Marine View Drive SW, the base flood elevation (BFE) will be reduced by one foot in the northern two reaches and will remain the same in the southern two reaches. In Area Two: Three Tree Point, the BFEs would be reduced to the south of the Three Tree Point, but would increase north of the point, as indicated in the comparison exhibit provided as reference to this technical memorandum.

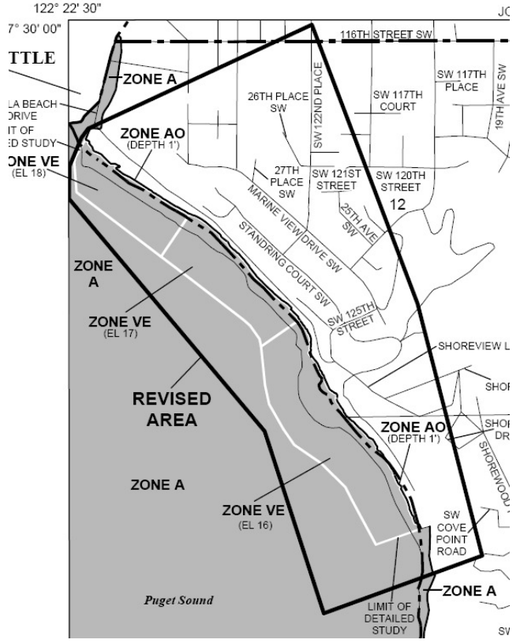
Recommendation:

It is recommended that the draft Incorporated Areas of King County, Washington study supersede LOMR-11-10-0033P. The methodology adopted in The Incorporated Areas of King County, Washington study is more robust than the earlier study in that it addresses a much longer time period for both the data utilized (60-70 years) and for the simulations performed (1,000 years). This recommendation should be presented to FEMA for final approval.

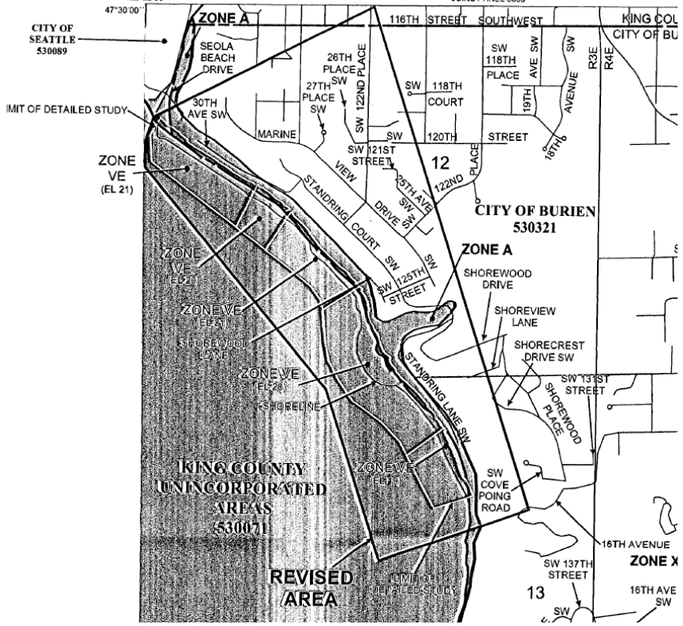
Area One: Marine View Drive SW



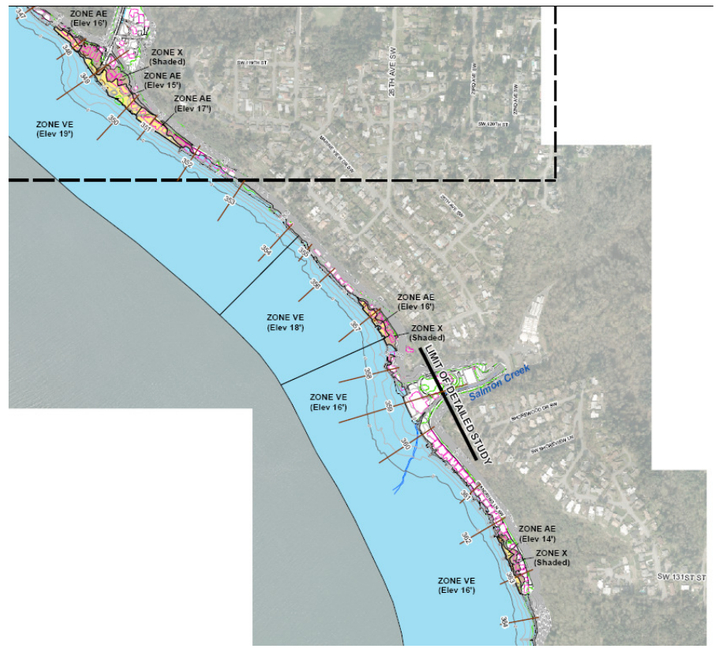
Study Effective 1995



LOMR 11-10-0033P
Study Effective 2011

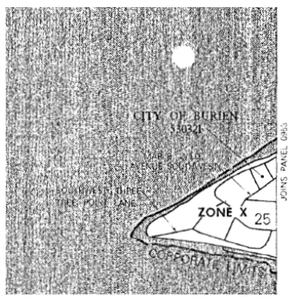


LOMR 07-10-0686P
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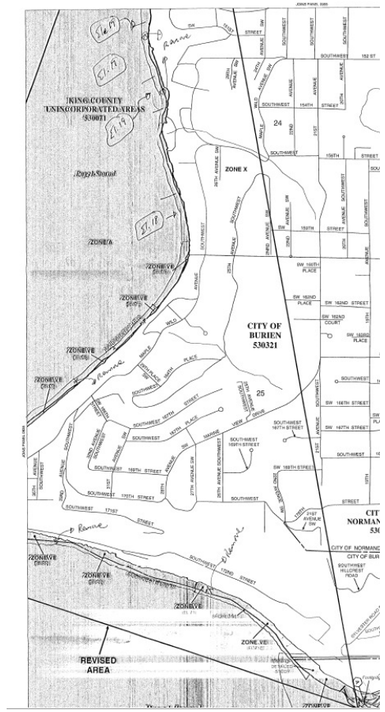


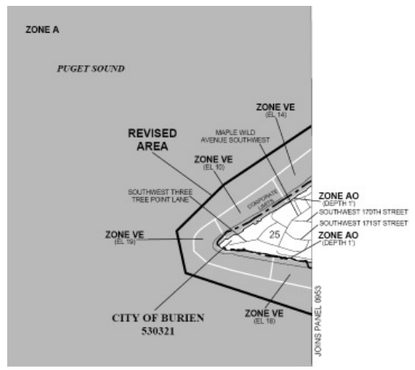
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Area Two: Three Tree Point

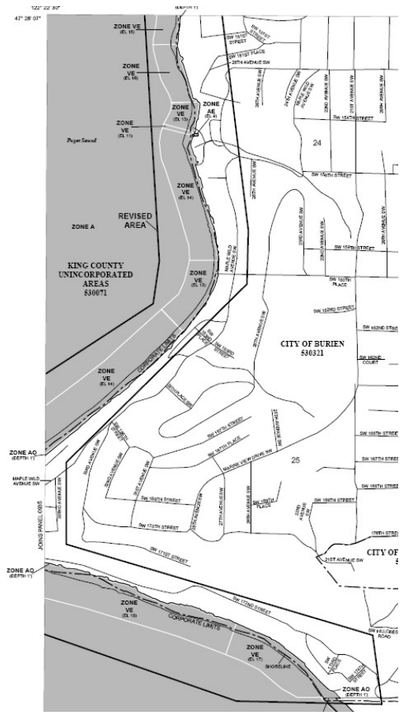


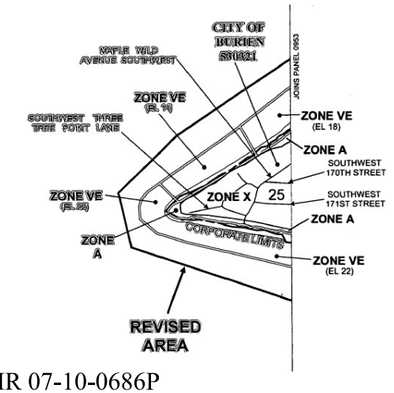
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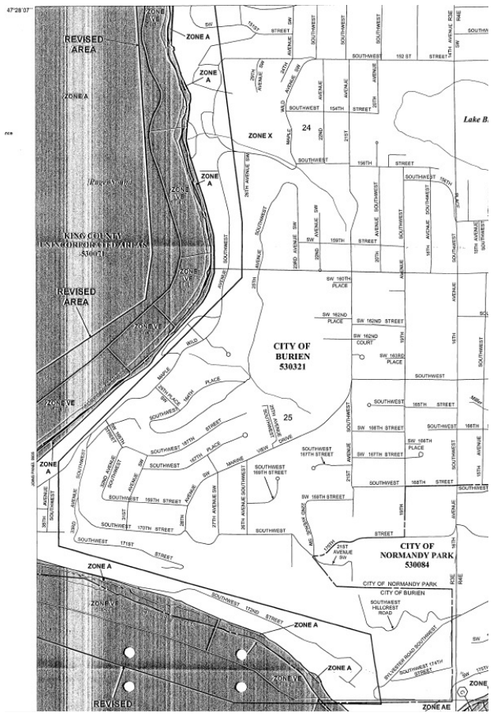


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Study Effective 2011





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