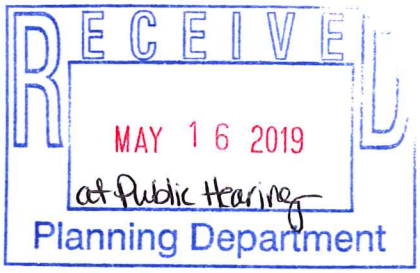
May 16, 2019

Testimony to Planning Commission: You may read the complete May 8th hydrology report at the Planning Department website.

Friends of Baker Creek hired PBS Engineering to do a hydrology study. Civil and Water Resources Engineer Justin Maynard prepared a written summery that I will read.



May 13, 2019

Catherine Olsen
Friends of Baker Creek
2650 NW Pinot Noir Drive
McMinnville, OR 97128

Via email: cdolsen@earthlink.net

Regarding: Baker Creek Hydrologic Analysis
McMinnville, OR
PBS Project 71440.000

Dear Catherine:

This letter summarizes the analysis and findings of the Baker Creek Hydrologic Analysis, completed by PBS Engineering and Environmental on May 8, 2019. The analysis applied technically sound methods to estimate runoff from the approximately 26 square mile Baker Creek watershed. A hydrologic model was developed and calibrated based on stream gage statistics in nearby watersheds as well as equations published by the USGS and developed specifically for Western Oregon. Industry standard hydraulic modeling software was used to estimate floodplain extents and elevations based on current soil data, land cover information, and elevation data intended in part for use in watershed-scale studies.

This analysis indicated first and foremost that effective FEMA floodplain mappings are in need of revision to reflect modern data and statistics not available at the time of original mapping. The technical basis for current FEMA flood mapping for Baker Creek is a detailed study performed prior to the original 1983 mapping. The 2010 modernization simply placed the previously established base flood elevations over updated topography without estimating flood flows or water surface elevations based on modern data. The results of the PBS study show that areas of the wide floodplain currently mapped as "Zone X" (areas of 500-year flood risk) can be inundated at approximately a 2-year return period. This magnitude of flood frequency has been verified anecdotally by residents and was documented photographically on numerous occasions.

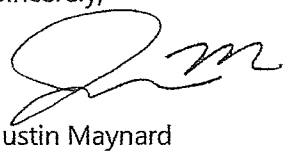
Development currently planned in the vicinity of the floodplain would potentially place residential lots in an area of flood risk without a FEMA flood hazard designation, leaving potential buyers unaware of the risk and allowing for blockage of a floodplain. Currently planned developments and the recent installation of tiled drain systems on altered agricultural lands in a small area of the watershed have an impact on runoff characteristics. Allowed to occur unchecked as urban growth continues, further development and agricultural activities that increase runoff volume and peak intensity can have a much greater aggregate impact on the floodplain.

Beyond near-term activities, replacement of forested and grassland land covers lying west of the City could irrevocably alter drainage patterns, even further compound impacts on the Baker Creek floodplain, and put life and property in the City of McMinnville and Yamhill County at risk.

Consideration of such factors is a necessary part of protecting residents and businesses from increased flood risk, whether by way of revised flood hazard mapping, foresight in policy-making to mitigate impacts to Baker Creek and other watersheds, or other efforts to maintain watershed and stream health.

Please feel free to contact me at 360.567.2105 or justin.maynard@pbsusa.com with any questions or comments.

Sincerely,



Justin Maynard
Civil/Water Resources Engineer