



TO: Community Development Department
THROUGH: Steve Adams, City Engineer
FROM: Beth Britell, Civil Engineer
Dalton U. Vodden, Associate Engineer
RE: Applicant Response Dated August 5, 2019
Application #NR-2018-005
12225 & 12205 SE 19th Avenue
DATE: August 13, 2019

The applicant has provided a statement in response to testimony and comments made at the planning commission hearing. Please find below staff responses with relevant statements from applicants.

Applicant: The 2-year flow in the Willamette River is approximately 329,000 cfs

Staff response: The applicant does not provide the data source used to determine the 2-year flow. The applicant later states that the base flood (100-year flood or annual exceedance probability of 1%) is 375,000 cfs, suggesting that the 100-year flow is only 46,000 cfs more than the 2-year flow. It appears the applicant has reported the 50-year flow as the 2-year flow. The 2-year recurrence interval flood has an annual exceedance probability of 50%.

Based on the Preliminary Flood-Duration Frequency Estimates Using Naturalized Streamflow Records for the Willamette River Basin, Oregon (USGS Open-File Report 2018-1020) the 2-year recurrence interval flood on the Willamette River near Portland, Oregon approximately 200,000 cfs, rather than 329,000 cfs. Other studies indicate that the 2-year recurrence interval is a low as 160,000 cfs, based on analysis of USGS 14211720 Willamette River at Portland, located at Morrison Bridge.

The applicant calculated bankful stage by routing the incorrect 2-year flow through a HEC-RAS hydraulic model. It appears that the applicant's determination of bankful stage may be incorrect.

Based on the discrepancies described above it is not possible at this time to determine whether the applicant has met MCC 18.04.150.F.c. Please revise the 2-year flow and recalculate bankful stage.

Section 18.04.050(F)(2)(d)(1) states that the proposed excavation fill not increase flood impacts for surrounding properties as determined through hydrologic and hydraulic analysis.

This section of MCC pertains to offsite mitigation of fill only and is not applicable to this development proposal.

The developer requests that the project be approved with the condition to certify a "No-Rise in accordance with standard engineering practice and that the encroachment will not increase flood levels within the community during the occurrence of the base 100-year flood discharge.

MCC 18.04.150.F.g states "excavation and fill required for the construction of detention facilities or structures, and other facilities, shall be designed to reduce or mitigate flood impacts and improve water quality".

A "No-Rise" study is required to document that a structural encroachment into the FEMA floodway will not result in an increase in the FEMA base flood elevation. A "No-Rise" analysis is not required to document compliance with Metro Title 3, or balanced cut and fill within the 1996 inundation area.

A hydraulic and hydrologic analysis of flood impacts in the floodplain, rather than the floodway, demonstrating reduction or mitigation of flood impacts such as reduction flood velocity or reduction in flood depth, in addition to evidence the proposed grading will improve water quality would meet MCC 18.04.150.F.g.

Commission Questions and Responses. How often would the storm water facility be inundated by flood waters? The site where bio swell is to be located has not been flooding since 1996.

The applicant does not have historical knowledge of the presence or absence of floodwaters on site to support this statement.

Additional staff comments not addressed by the applicant:

1. Drainage impacts on neighboring properties or adherence to Oregon Drainage Law based on the proposed grading was not addressed.
2. Stormwater detention analysis was not included in the applicant's response. The inclusion of a detention facility on-site would greatly alter proposed site grading and the current balanced cut and fill calculations. Stormwater detention is required per Public Works Standards section 2.0043 unless the applicant can demonstrate that the proposed development will not increase stormwater runoff volumes or peak discharges.
3. Design of detention area to avoid fish being trapped during high flow events was not addressed.