

WSDOT Flood Risk Assessment Workshop

1/5/22

Q&A for template (Julie Heilman, WSDOT; Casey Kramer, NW)

- **Q: Should the flood risk assessment only focus on flood risk and public health and safety? In some cases, the proposed habitat and restoration design in the PHD may cause an increase in flood risk or an increased risk to public health and safety.**
 - A: The PHD is the first step for communicating the project to co-managers. In some cases, all information may not be available in order to evaluate flood risk and public health and safety. In these cases, the FRA is the next step in evaluating the proposed project to determine if there is an increase to flood risk and public health and safety. In some cases, the proposed design in the PHD may not cause an increase in flood risk or risk to public health and safety. In the case the PHD design does cause an increase to flood risk or a risk to public health and safety, the FRA needs to document them and identify if changes need to occur to the PHD design. If changes need to occur to the PHD design, they need to be communicated to the PEO, WDFW and the Tribe prior to proceeding with the FHD.
- **Q: Is Section 3.3.1 and 3.3.2 required or is it one or the other?**
 - A: If in a detailed SFHA then you will need to potentially use both the effective FEMA flows (Section 3.3.1) and the flows developed as part of the PHD (Section 3.3.2). If the effective FEMA flows and PHD flows match, then there is only a need for one section. If you are not in a detailed SFHA then you only need to assess the flows used for the PHD (Section 3.3.2 will become Section 3.3.1).
- **Q: When starting a PHD, should the design team anticipate areas with potential flood risk so the survey can be captured during the PHD?**
 - A: The team should do their best to anticipate areas of potential flood risk during the PHD and make survey requests accordingly to minimize having the survey crew to go back out on site at a later time.
- **Q – SRH2D allows for steady and unsteady analysis. Are there certain circumstances when the design team needs to use unsteady rather than a steady state analysis?**
 - A: An unsteady vs steady state analysis is a case-by-case basis. Most of the FEMA studies are steady state, in addition most of the projects are likely in a confined area where a steady state analysis is applicable. However, if you have information to show why an unsteady analysis may be needed, contact HQ hydraulics prior to conducting a SRH2D unsteady analysis.

- **Q: Is there a designated WSDOT contact for FEMA data requests?**
 - A – Luke Assink with HQ Hydraulics should be contacted for any FEMA data requests, including effective models. Email: assinkl@wsdot.wa.gov Phone: (360) 705-7269
- **Q: Are climate change flows needed to be assessed for the FRA?**
 - A – No, climate change flows are addressed in the PHD. FEMA does not address climate change; therefore, climate change should be assessed in the PHD and not in the FRA.
- **Q: How are tidal boundary conditions assessed with respect to sea level rise?**
 - A – Sea level rise is addressed in the hydraulics manual. FEMA does not address climate change; therefore, climate change should be assessed in the PHD and not in the FRA.
- **Q: Many of the fish passage projects are in steep mountain channels. How do you deal with supercritical flow that may be present in a FEMA model?**
 - A: The FRA utilizes the PHD SRH-2D model for both existing and proposed conditions, not the FEMA model. For the public health and safety portion of the FRA, a sensitivity analysis using best practices should be used for the downstream boundary condition and the 100-year flow for the upstream boundary condition. If in a detailed SFHA, the FEMA BFE should be used for the downstream boundary condition and the FEMA flow for the upstream boundary condition. If there are large discrepancies between the downstream FEMA BFE and water surface elevations modeled based on best practices with the 2D model or if there are greater than a 0.5-foot difference at the upstream tie in, HQ hydraulics should be notified.
- **Q: Are there any differences for coastal flood studies? If you are in a coastal mapping zone, can the FRA template be simplified.**
 - A: Yes, the template can be simplified when in an area that is completely controlled by a tidal water surface elevation. Contact HQ hydraulics for projects completely controlled by a tidal water surface elevation.
- **Q: What happens if the mapping of a FEMA cross section or BFE is much different than more recent topography data or clearly inaccurate?**
 - A: Contact HQ hydraulics when there are differences in the FEMA FIS/FIRM compared to more recent topography or 2D modeled water surface elevations.
- **Q: How can we learn more about using SRH-2D for PHDs and FRAs?**
 - A: SRH-2D User's Meeting.
Files: <ftp://ftp.wsdot.wa.gov/public/SRH2DMtg/>
Contact: Hannah Morsch, morschh@wsdot.wa.gov, (360) 705-7261

- **Q: What is the latest FEMA guidance for flood risk analysis and mapping?**
 - A: Here is the most recent FEMA reference: https://www.fema.gov/sites/default/files/documents/fema_floodwa_y-analysis-mapping_112021.pdf