

# Hoquiam Queen Ave Pump Station

11-12-2020

## PART I – Outcomes (per memo [here](#)):

In the space provided please comment on how your project contributes to or advances each of the eight (8) outcomes presented below. Note: The Chehalis Basin Board has not yet set specific numeric target for each of these outcomes.

### **1. VALUABLE STRUCTURES PROTECTED FROM MAINSTEM, CATASTROPHIC FLOODING**

X percent of all structures in each county that could be flooded by the 2080 predicted 100-year flood levels in the basin would no longer be vulnerable to flood damage, because they are protected by localized infrastructure, flood-proofed/elevated, or the structure has been removed.

The design and construction of the NSL West Levee in conjunction with this pump station improvement on the interior portion of the levee will protect businesses and localized infrastructure from flooding during the 100-year event. The pump station is designed to pump the 25-year storm event and allow gravity discharge for the 100-year. The above ground facilities allow for flow by gravity with enough head to remove impact from river elevations

### **2. HOMES & BUSINESSES PROTECTED FROM SEASONAL URBAN FLOODING**

Municipal stormwater systems in all basin cities and towns would be capable of adequately accommodating stormwater runoff levels and protecting homes and businesses from seasonal flood damage.

Additional projects will be required for existing conveyance infrastructure to collect and convey the 25-year event to all the existing stormwater pump stations. The City has identified correcting storm system deficiencies in the Comprehensive Surface Water Master Plan and the TimberWorks Flood Resiliency Plan completed with the City of Aberdeen. These improvements when complete, will protect homes and businesses from seasonal flood damage.

### **3. LOWER BASIN PROPERTIES & BUSINESSES PROTECTED FROM COASTAL STORM SURGES**

The Cities of Aberdeen and Hoquiam will complete:

- Construction and certification of the North Shore Levee and obtain a letter of map revision removing at least 3,100 properties and 990 businesses from the FEMA Special Flood Hazard Area designation.
- Construction and certification of the North Shore Levee West Segment and obtain a letter of map revision removing at least 2,000 properties and 360 businesses from the FEMA Special Flood Hazard Area designation.

This pumpstation project is being built with the foresight and planning underway for the North Shore Levee West Segment along with the Aberdeen/Hoquiam North Shore Levee. While the pump station provides standalone flood protection for homes and businesses, the pump station is necessary to achieve FEMA Special Flood Hazard designation.

The construction of the North Shore Levee West drives the need to upgrade and improve the stormwater pump stations adjacent to the levee and Hoquiam River to discharge basin flows on the interior side of the proposed levee structure.

### **4. FARMLAND AND RURAL STRUCTURES PROTECTED**

4.A. The number of locations where migrating river channels and bank erosion pose a high risk of near-term damage to valuable structures or loss of economically productive land uses would be reduced by an average of

The proposed pump station facilities will be located on the interior side of the proposed West Levee structure. The levee will be designed to minimize or reduce the potential for erosion or damage, therefore not impacting the proposed stormwater pump station project. The levee is being designed with freeboard to address climate

<p>X per year over up to 30 years, while protecting ecological processes.</p> <p>4.B. Protective measures prevent flood damage from increasing above the damage to commercial agricultural operations that occurred in the 1990 flood, while protecting ecological processes.</p>	<p>change and sea level rise. With the historical construction, built environment and topography of Hoquiam, building a certified flood levee is the only feasible way to protect critical facilities and infrastructure.</p>
<p><b>5. CRITICAL FACILITIES PROTECTED</b></p> <p>X percent of all critical facilities that could be flooded by 2080 predicted 100-year flood levels would no longer be vulnerable to flood damage, because they are protected by localized infrastructure, elevated/flood-proofed, or relocated.</p>	<p>The combination of the NSL West and stormwater pump station improvement program are designed to protect the critical facilities with the flood basin. All existing critical facilities and available building sites within Hoquiam are in the flood zone therefore 100% of the current and future critical facilities will be protected by this project.</p>
<p><b>6. TRANSPORTATION ROUTES PROTECTED</b></p> <p>6.A. A substantial reduction in the overtopping and closure of I-5 and the BNSF rail mainline would be achieved for 2080 predicted 100-year flood levels, and alternative routes would be available to minimize negative effects of closures on freight mobility and commerce.</p> <p>6.B. Key county and city intersections and interchanges would not be closed due to flooding, and for flood events that result in short-term closures, alternative routes would be available to ensure emergency services are not interrupted.</p> <p>6.C. A substantial reduction in the closures of State Highways 6 and 12 due to flooding would be achieved, and alternative routes would be available to ensure emergency services are not interrupted and to minimize negative effects of closures on freight mobility and commerce.</p>	<p>State Highway 101 and 109 run through the project site and are subject to flooding. The levee design and pump stations will protect the highways and local roadways from flooding during a 100 year flood event.</p> <p>The levee design includes stop log components along highways/roadway as well as the elevation of the top of the levee designed to account for required free board with sea level rise and wave run up.</p> <p>The measures as designed will ensure that emergency services and freight mobility will not be hindered during a major flood event.</p>
<p><b>7. ENVIRONMENTAL JUSTICE ADVANCED</b></p> <p>Communities with environmental justice concerns would suffer less hardship and damage from flooding, would not be economically disadvantaged by displacement or otherwise disproportionately adversely affected by actions to reduce flood damage, and would be improved by flood solutions.</p>	<p>The City of Hoquiam has a high level individuals living in poverty (18.3%), unemployed (19.3%) and has a median household income of \$42,250. Low income individuals in the community are economically disadvantaged further from the impacts of flooding and FEMA flood insurance requirements that they simply can't afford. Constructing the pump station will protect the citizens from flooding and the ultimate construction of the flood levee will be a huge boost to environmental justice as they will no longer be required to purchase flood insurance which has been as high as \$10,000 annually for an individual home</p>
<p><b>8. PREVENT NEW AT-RISK DEVELOPMENT</b></p> <p>No new structures would have been developed that are vulnerable to channel erosion or mainstem or tributary flooding from 2080 predicted 100-year flood levels,</p>	

because all basin local governments have adopted model floodplain management ordinances that exceed the State and National Flood Insurance Programs' minimum requirements; all local government construction and building code standards support flood damage risk reduction through measures such as subdivision set-asides, filling restrictions, freeboard height of new buildings, critical facility placement and protection, and non-conversion agreements; and incentives direct future development out of harm's way.

## **PART II – Erosion Areas of Concern (per presentation, pg. 6 [here](#)):**

In the space provided please comment on whether or not your project is in one of the erosion areas of concern and if so how your project works to lessen erosion hazard risk (to people, structures and livelihoods).

The location of the proposed stormwater pump station will be within the interior side of the proposed levee. The 10<sup>th</sup> Street pump station will be located away from the River and therefore no impacts for erosion is anticipated.

## **PART III – Climate Change (per presentation, pg. 16 [here](#)):**

In the space provided please comment on whether or not your project factors in or can rise to climate change projections, in this case 26% increase in precipitation (or 50%).

The levee design elevation takes into account sea level rise. The proposed stormwater pump stations are designed to pass the 25 year event. If the pumps cannot keep up with future flows, the pumps which are designed to last or run for 20 years can be upgraded with larger pumps as required.

## **PART IV – ASRP (Near-Term Priority Areas) (per pg. 7 [here](#))**

The combination of the levee and stormwater pump station improvement program is designed to limit or prevent new at risk development.

New home construction or substation redevelopment in Hoquiam is currently required to elevate properties 3 feet above the base flood elevation in accordance with the NFIP.

### **PART V – Picture**

Below is a picture I have and am using to identify your project. Please provide me a different picture if you wish (and think if you think it better depicts your project).

