

UPDATED REVISED PLANNING ASSUMPTIONS AND OUTCOMES FOR THE LOCAL ACTIONS NON-DAM (LAND) ALTERNATIVE

Date: October 4, 2021
To: Chehalis Basin Board Members
From: Andrea McNamara Doyle, Director, Office of Chehalis Basin
Re: Revised Planning Assumptions and Outcomes for the Local Actions Non-Dam Alternative

Background

At the September 2, 2021 Chehalis Basin Board meeting, Board members discussed draft planning assumptions and outcomes for a local actions non-dam (LAND) alternative that a new LAND Steering Group would be developing. On September 10, Office of Chehalis Basin staff circulated draft revisions to the planning assumptions and outcomes based on the September Board meeting discussions and invited additional feedback from board members in advance of the October 7 meeting. This memorandum incorporates the additional feedback received to date, and replaces the September 10 draft. Major changes and refinements since the September board meeting now include the following:

- Notes that the LAND Steering Group may choose to revise the assumptions and/or outcomes for Board consideration.
- Adds references to both current and future 100-year flood conditions in 2080.
- Revises the implementation timeframe assumption to emphasize moving expeditiously with planning and the need for sustained investment over longer term for implementation.
- Three options for the geographic focus area assumption for the Board to consider.
- Explicitly acknowledges the Board's vision for a phased approach to developing the LAND Alternative and comprehensive Basin-wide roadmap for flood damage reduction.
- Notes in the assumption regarding focus on existing development that there are separate efforts to integrate information on the 2080 predicted 100-year floodplain into local floodplain management.

- Adds a new planning assumption acknowledging the Board's vision of a phased approach to the LAND alternative and comprehensive Basin-wide roadmap that incorporates existing analyses and concurrent planning efforts to describe how the LAND alternative would consider:
 - Local projects from the Chehalis River Basin Flood Authority
 - Transportation improvement projects by the Washington State Department of Transportation and local governments.

The sections below include the full text of the revised draft LAND alternative planning assumptions and outcomes for your further consideration and possible approval at the next Board meeting.

Local Actions Non-Dam (LAND) Alternative Planning Assumptions and Outcomes – *Revised Based on the 9/2/2021 Board Meeting*

Planning Assumptions

Staff recommends the development and evaluation of a LAND Alternative use the following planning assumptions. These planning assumptions were adapted from the 2020-2021 Local Actions Program advisory group process. Once the LAND Steering Group is convened, it may choose to provide revisions or additions to the draft planning assumptions below for Board consideration.

1. Implementation Timeframe

The LAND Alternative will consider a timeframe of up to 30 years to implement the actions necessary to achieve the draft outcomes outlined below to address current and future flood conditions, while recognizing that different actions may take longer or shorter to implement. This timeframe will require moving expeditiously with planning and sustaining investments to achieve the full benefits.

2. Geographic Focus Area

Option A (Geographic focus similar to that of the dam): The LAND Alternative will focus on the current and future 100-year floodplain of the mainstem Chehalis River at and upstream of the confluence with the Skookumchuck River, and include the current and future 100-year floodplains of the major tributaries to the mainstem Chehalis River in the upper basin: Skookumchuck, Newaukum, and South Fork Chehalis Rivers. All experience the most significant flood damage from current and future 100-year flood events and generally correspond to the areas where the proposed flood retention facility/airport levee project would have the greatest flood damage reduction benefit.

Option B (Basin-wide): The LAND Alternative will focus on the current and future 100-year floodplain in the Chehalis River Basin, including the mainstem Chehalis River and all of its major tributaries. To assist in comparing the LAND Alternative and proposed flood protection dam, actions that address flood damages only downstream of the confluence with the Skookumchuck River will be identified separately from actions that affect areas at and upstream of the confluence with the Skookumchuck River.

Option C (Primary and secondary focus areas): The LAND Alternative will have as its primary focus area the current and future 100-year floodplain of the mainstem Chehalis River at and upstream of confluence with the Skookumchuck River, including the current and future 100-year floodplains of the major tributaries to the mainstem in the upper basin: Skookumchuck, Newaukum, and South Fork Chehalis Rivers. A secondary focus area may include the current and future 100-year floodplains of the mainstem and major tributaries of the Chehalis River downstream of the Skookumchuck River, including the Black, Satsop, Wynoochee, Wishkaw, and Humptulips Rivers. To assist in comparing the LAND Alternative and proposed flood protection dam, actions that address damages in the primary focus area will be given priority for more detailed-level design and analysis. Actions that address flood damages only in the secondary focus area should be identified separately and considered during this phase as time and budget allows.

3. Future Flood Conditions

The LAND Alternative will plan for the current and future 100-year flood conditions that are predicted for 2080 when considering outcomes and actions to include in the program.

4. Basin-Wide Coordination

The LAND Alternative will require any projects funded through the program to be designed, implemented, and mitigated to avoid making flood damage worse in other areas.

5. Focus on Existing Development

The LAND Alternative will focus on protection of existing development from flood damage, not address new development in the floodplain. The Board acknowledges that preventing the development of new

structures in areas vulnerable to channel erosion or mainstem or tributary flooding from current and 2080 predicted 100-year flood levels is an important outcome; however, the Board assumes that this outcome is being addressed under the integrated activities of the Chehalis Basin Strategy, including work with local and tribal governments on floodplain management ordinances and building code standards.

These separate efforts related to future land use and development will include working with local governments to:

- Adopt model floodplain management ordinances that exceed the State and National Flood Insurance Programs' minimum requirements.
- Use construction and building code standards that 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.
- Offer incentives to direct future development out of harm's way.
- Incorporate information about the extent of the 2080 predicted 100-year floodplain into local floodplain management.

6. No Dam Assumption

The LAND Alternative will focus on flood damage reduction solutions in absence of the proposed Flood Retention Expandable (FRE) facility and airport levee improvement project. This will likely include a mix of localized infrastructure, floodproofing/elevation, and acquisition/relocation strategies.

The Board acknowledges that the LAND Alternative will have different effects, benefits, and costs than the proposed dam/airport levee project, including social, ecological, and economic benefits and costs. The Board recognizes that the LAND Alternative will achieve flood damage reduction benefits through different means than water retention. The Board further recognizes that the LAND Alternative may include local actions that have effects beyond this area, and that some of these actions could become part of a comprehensive flood damage reduction strategy whether or not the proposed dam/airport levee project is implemented.

7. Use of Phased Approach and Relationship to Existing Analyses & Concurrent Planning Efforts

The Board envisions a phased approach to the LAND alternative and acknowledges that individual actions that could be considered by the Board for inclusion in the Board's comprehensive Basin-wide roadmap for flood damage reduction will move through different levels of detailed design and review on different schedules.

The LAND Alternative will consider and draw from existing and concurrent flood damage reduction projects and analyses being led by other local governments and state agencies to promote efficiencies and synergies. Existing projects/analyses/planning efforts for the LAND Alternative to consider include:

- Local projects completed and proposed by the Chehalis River Basin Flood Authority or others, including projects focused on addressing different kinds of current and future flood damage risks such as risk of damages posed by minor and moderate flooding (e.g., 5-10 year recurrence levels).

- Transportation improvement projects unrelated to flooding that are being considered by Washington State Department of Transportation as part of WSDOT's congestion relief and practical solutions planning efforts for I-5 and State Highways 6 and 12.
- Transportation improvement projects completed and proposed by local governments as part of their efforts to protect key county and city intersections and interchanges and improve emergency services.

Outcomes

Staff recommends the Board use the following measurable flood damage reduction outcomes to guide the development of a LAND Alternative and the evaluation of what can feasibly be achieved within a timeframe of up to 30 years. The outcomes do not identify precise targets for structures protected from flood damage, as the Board recognizes that there will be diminishing returns from a benefit/cost perspective. Once the LAND Steering Group is convened, it may choose to provide revisions or additions to the draft outcomes below for Board consideration.

1. Valuable Structures Protected from Mainstem, Catastrophic Flooding

The amount of existing homes, businesses, and public buildings in the focus area that could be vulnerable to flood damage by current or 2080 predicted 100-year flood levels in the basin would be significantly reduced, because they are protected by localized infrastructure, flood-proofed/elevated, or the structure has been removed.

2. Critical Facilities Protected

The amount of critical facilities in the focus area that could be vulnerable to flood damage by current or 2080 predicted 100-year flood levels would be significantly reduced, because they are protected by localized infrastructure, elevated/flood-proofed, or relocated.

3. Farmland and Rural Structures Protected

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 significantly reduced while protecting ecological processes.

4. Environmental Justice Advanced

Communities with environmental justice concerns would suffer less hardship and damage from flooding, would not be disproportionately burdened by actions to reduce flood damage, and would be improved by flood solutions.

Outcomes Not Included

The outcomes above are similar to those the Board used in directing the local actions advisory groups last biennium. However, several outcomes the Board approved to guide the previous local actions advisory group process in 2020 are not included here for the LAND effort, because of the more focused geographic area and staff's recommendation that they be addressed through other efforts and considered later for inclusion as part of the comprehensive, basin-wide flood damage Roadmap after the LAND alternative has been developed. These include:

- Homes & Businesses Protected from Seasonal Urban Flooding
- Lower Basin Properties & Businesses Protected from Coastal Storm Surges
- Transportation Routes Protected

Next Steps

At the October 7, 2021 Board meeting, staff will ask for your approval of these revised LAND alternative planning assumptions and outcomes, including a decision about which option you prefer for Planning Assumption 2 related to the geographic focus area:

- 2A (geographic focus area similar to that of the dam)
- 2B (Basin-wide) or
- 2C (Primary and secondary focus areas).