

February 2020
Proposed Chehalis River Basin Flood Damage Reduction Project
SEPA Draft Environmental Impact Statement

Appendix M

Visual Quality Discipline Report

Publication No.: 20-06-002



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About this Document

This discipline report has been prepared as part of the Washington Department of Ecology's (Ecology's) State Environmental Policy Act (SEPA) Environmental Impact Statement (EIS) to evaluate a proposal from the Chehalis River Basin Flood Control Zone District (Applicant).

Proposed Action

The Applicant seeks to construct a new flood retention facility and temporary reservoir near Pe Ell, Washington, and make changes to the Chehalis-Centralia Airport levee in Chehalis, Washington. The purpose of the Applicant's proposal is to reduce flooding originating in the Willapa Hills and improve levee integrity at the Chehalis-Centralia Airport to reduce flood damage in the Chehalis-Centralia area.

Time Frames for Evaluation

If permitted, the Applicant expects Flood Retention Expandable (FRE) facility construction would begin in 2025 and operations in 2030, and the Airport Levee Changes construction would occur over a 1-year period between 2025 and 2030. The EIS analyzes probable impacts from the Proposed Action and alternatives for construction during the years 2025 to 2030 and for operations from 2030 to 2080. For purposes of analysis, the term "mid-century" applies to the operational period from approximately 2030 to 2060. The term "late-century" applies to the operational period from approximately 2060 to 2080.

Scenarios Evaluated in the Discipline Report

This report analyzes probable significant environmental impacts from the Proposed Action, the Local Actions Alternative, and the No Action Alternative under the following three flooding scenarios (flow rate is measured at the Grand Mound gage):

- **Major flood:** Water flow rate of 38,800 cubic feet per second (cfs) or greater
- **Catastrophic flood:** Water flow rate of 75,100 cfs
- **Recurring flood:** A major flood or greater that occurs in each of 3 consecutive years

The general area of analysis includes the area in the vicinity of the FRE facility and temporary reservoir; the area in the vicinity of the Airport Levee Changes; and downstream areas of the Chehalis River to approximately river mile 9, just west of Montesano.

Local Actions Alternative

The Local Actions Alternative represents a local and nonstructural approach to reduce flood damage in the Chehalis-Centralia area. It considers a variety of local-scale actions that approximate the Applicant's purpose through improving floodplain function, land use management actions, buying out at-risk properties or structures, improving flood emergency response actions, and increasing water storage from Pe Ell to Centralia. No flood retention facility or Airport Levee Changes would be constructed.

No Action

Under the No Action Alternative, no flood retention facility or Airport Levee Changes would be constructed. Basin-wide large and small scale efforts would continue as part of the Chehalis Basin Strategy work, and local flood damage reduction efforts would continue based on local planning and regulatory actions.

SUMMARY

This discipline report describes the visual setting along the Chehalis River and its tributaries within the study area. It also describes potential visual quality, or aesthetic, impacts and proposed mitigation for the Proposed Action, Local Actions Alternative, and No Action Alternative. Construction and operation impacts of the Proposed Action and alternatives are summarized in Tables M-1 and M-2. Visual quality refers to how well the visual environment meets viewer preferences for the natural and built environments, which can vary according to the sensitivity of the viewers and how much they are exposed to certain views.

The study area is largely rural, either forested or agricultural in character. The proposed FRE facility site is currently a managed forest on Weyerhaeuser land, where public access is provided through a limited number of permits annually. The site is not visible from any designated scenic route. The airport levee is near the privately owned Riverside Golf Course and RV Park and the Chehalis-Centralia Airport. The existing levee is low and subordinate in the visual setting. The proposed increase in height of 4 to 7 feet would make the levee more visibly prominent but would not obstruct any scenic views.

Table M-1
Summary of Visual Quality Impacts

IMPACT	IMPACT FINDING	MITIGATION PROPOSED (SUMMARIZED, SEE SECTION 3.2.4)	SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACT
PROPOSED ACTION (FRE FACILITY AND AIRPORT LEVEE CHANGES) – CONSTRUCTION			
Large-scale construction activities for the Flood Retention Expandable (FRE) facility would occur in an area that is undeveloped and valued for its rural character, but with limited public viewers. The FRE facility structure would change the visual setting; however, it would not be incompatible with the landscape. The site is not visible from any designated scenic route.	Moderate	<p>VISUAL-1: Locate temporary construction access roads, staging areas, and stockpile sites within previously disturbed areas.</p> <p>VISUAL-2: Phase construction to minimize the amount of construction-related equipment and materials stored in the area.</p> <p>VISUAL-3: Meet all Forest Practices permit requirements for reclaiming and revegetating quarry sites and roads not on managed forestland.</p>	No

IMPACT	IMPACT FINDING	MITIGATION PROPOSED (SUMMARIZED, SEE SECTION 3.2.4)	SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACT
Removal of trees in the temporary reservoir would change the visual character to scrub-shrub vegetation. It would occur in a setting where forest management regularly results in clearcut areas; however, it would cover a larger single area.	Moderate	None	No
Potential for turbidity from FRE construction to affect the appearance of the river downstream of the FRE facility, but the National Pollutant Discharge Elimination System (NPDES) permit would require measures to ensure that no thresholds are exceeded.	Minor	None	No
Construction activities, materials, and equipment would be visible from Riverside Golf Course and RV Park, but would be short term and small in scale.	Minor	None	No
PROPOSED ACTION (FRE FACILITY AND AIRPORT LEVEE CHANGES) – OPERATIONS			
The FRE facility structure would change the visual setting; however, it would not be incompatible with the landscape. Public visibility would be limited to Weyerhaeuser permit holders in nearby areas, and no designated scenic views would be obstructed.	Moderate	None	No
Continued removal of large trees in the temporary reservoir would keep the visual character to scrub-shrub vegetation. It would occur in a setting where forest management regularly results in clearcut areas; however, it would cover a larger single area.	Moderate	None	No
When inundated, the temporary reservoir would modify and contrast sharply with the existing forested setting but would remain a compatible feature with the rural character.	Moderate	None	No

IMPACT	IMPACT FINDING	MITIGATION PROPOSED (SUMMARIZED, SEE SECTION 3.2.4)	SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACT
The FRE facility would permanently change the visual character in an area that is undeveloped and valued for its rural character, but it would be visible only along nearby ridgelines where the public has limited access. It would not be visible from designated scenic routes or recreational trails.	Minor	None	No
Huckleberry Quarry and roads in managed forest would have visual impacts, but there would be few viewers. The quarry and roads would be required to be revegetated and reclaimed.	Minor	None	No
The North and South Quarries and roads not in managed forest would have visual impacts, but there would be few viewers.	Minor	VISUAL-3: Meet all Forest Practices permit requirements for reclaiming and revegetating quarry sites and roads not on managed forestland.	No
Increased height of airport levee would be visible from roads, airport, and a recreation area, but would not obstruct any designated scenic views or alter the character of the area.	Minor	None	No

Table M-2
Summary of Visual Quality Impacts from Alternatives

IMPACT	IMPACT FINDING
LOCAL ACTIONS ALTERNATIVE	
Floods would continue to cause long-term damage and changes to visual character.	Continuing substantial flood risk
Construction activities, materials, and equipment would cause short term change in character.	Minor
Most elements would occupy a small visual portion of the landscape.	No impact to minor
Land use management or floodplain storage would likely reinforce the rural character of the study area.	No impact to minor
NO ACTION ALTERNATIVE	
Floods would continue to cause long-term damage and changes to visual character.	Continuing substantial flood risk

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1 INTRODUCTION

1.1 Resource Description

Visual quality, or aesthetics, refers to how well the visual environment meets viewer preferences for the natural and built environments, which can vary according to the sensitivity of the viewer and how much they are exposed to certain views. Visual impacts are typically identified through technical, institutional, and public considerations. Technical considerations are assessed using spatial dominance, scale and contrast, and compatibility of a project. Institutional and public considerations are based on laws and policies that concern visual resources and public comments.

1.2 Regulatory Context

To determine how well the alternatives would meet viewer preference for the natural and built environments, plans, policies, and regulations relevant to the study area were reviewed to identify applicable planning policies and regulations pertinent to the protection of views and visual resources. These policies generally promote the preservation of natural, open, and rural areas and views of the shoreline.

Table M-3 identifies the laws, plans, and policies relevant to visual quality in the study area.

Table M-3
Regulations, Statutes, and Guidelines for Visual Quality

REGULATION, STATUTE, GUIDELINE	DESCRIPTION
FEDERAL	
<i>Visual Resource Assessment Procedure for US Army Corps of Engineers</i>	Although not required for this type of project, these guidelines provide a useful framework for assessing visual impacts from the types of landscape modifications for this project (Corps 1988).
STATE	
<i>Washington State Scenic and Recreational Highways Strategic Plan 2010-2030</i>	Establishes goals and performance measures consistent with the state’s transportation policy goals (WSDOT 2010).
Scenic and Recreational Highway Act of 1967 (Revised Code of Washington [RCW] 47.39.020)	Created a scenic and recreational highway system; the purpose of a scenic and recreational highway designation is to identify highways in areas that are natural in character, along watercourses or through mountainous areas, or in areas with a view of such scenery.
Washington Shoreline Management Act of 1971 (RCW 90.58, Washington Administrative Code 173-26)	Requires all local jurisdictions with Shorelines of the State to adopt Shoreline Master Programs consistent with the Shoreline Management Act, which emphasizes appropriate shoreline land use, protection of shoreline environmental resources, and protection of the public’s right to access and use state shorelines.

REGULATION, STATUTE, GUIDELINE	DESCRIPTION
LOCAL	
<i>Lewis County Comprehensive Plan</i>	<p>Prepared to meet the requirements in the Growth Management Act (RCW 36.70A), provides goals and polices to guide development and protect natural and cultural resources including the following (Lewis County 2017a):</p> <p><i>Natural Environment (NE): Preserve the natural and scenic beauty of Lewis County, and minimize the impact of development on the county’s environmental resources.</i></p> <p><i>Rural: Maintain the rural character of Lewis County.</i></p>
<i>Lewis County Shoreline Master Program</i>	<p>Adopted in October 2017 (Lewis County 2017b), provides policies regarding public access (Section 4.06.01) that refer to protection of visual quality, including the following:</p> <p><i>A. Protect and enhance the public’s visual and physical access to Shorelines of the State to the greatest extent feasible.</i></p> <p><i>G. Ensure that development minimizes interference with the public’s visual access to the water through standards for design, construction, and operation.</i></p>
<i>Chehalis Comprehensive Plan 2017</i>	<p>Prepared to meet the requirements in the Growth Management Act, developed in accordance with Countywide Policies for Lewis County, and includes several shared policies; regarding visual resources, this includes Goal NE (City of Chehalis 2017):</p> <p><i>Preserve the natural and scenic beauty of Lewis County, and minimize the impact of development on Lewis County’s environmental resources.</i></p>

2 METHODOLOGY

2.1 Study Area

The study area for visual quality is defined as the areas near the proposed construction from which construction activities and/or completed infrastructure could be visible. Two study areas were considered: 1) the area from which construction and/or completion of the Flood Retention Expandable (FRE) facility would be visible; and 2) the area from which construction and/or completion of the raised airport levee would be visible.

To determine the visibility of the FRE facility and the Airport Levee Changes, a desktop survey (ArcGIS Viewshed analysis) and site visit were conducted. Because of the height of the proposed FRE facility, the height of surrounding topography, and the presence of dense vegetation, construction activities and completed infrastructure associated with the FRE facility would only be visible in the immediate vicinity of the site and from neighboring ridgelines (Figure M-1). Figure M-2 shows the FRE facility study area, the visibility analysis results, and the key viewpoint (KVP) evaluated from the FRE facility site. A site visit on March 15, 2019, confirmed the proposed FRE facility would not be visible from Pe Ell, State Route (SR) 6, or the Willapa Hills State Park Trail. SR 6 is designated as a scenic and recreational highway in Washington (Ecology 2017).

Because of the height of the existing airport levee and the surrounding topography, the Airport Levee Changes would be visible up to the highest point of the Riverside Golf Course, to the west of the levee, and the airport property to the east (Figure M-3). Although the levee would likely be intermittently visible from Interstate 5 (I-5), the distance from the levee and the presence of buildings and other structures in the foreground would result in the levee being a minor, undistinguishable feature within the overall I-5 viewshed.

Figure M-1
Visual Quality Study Area

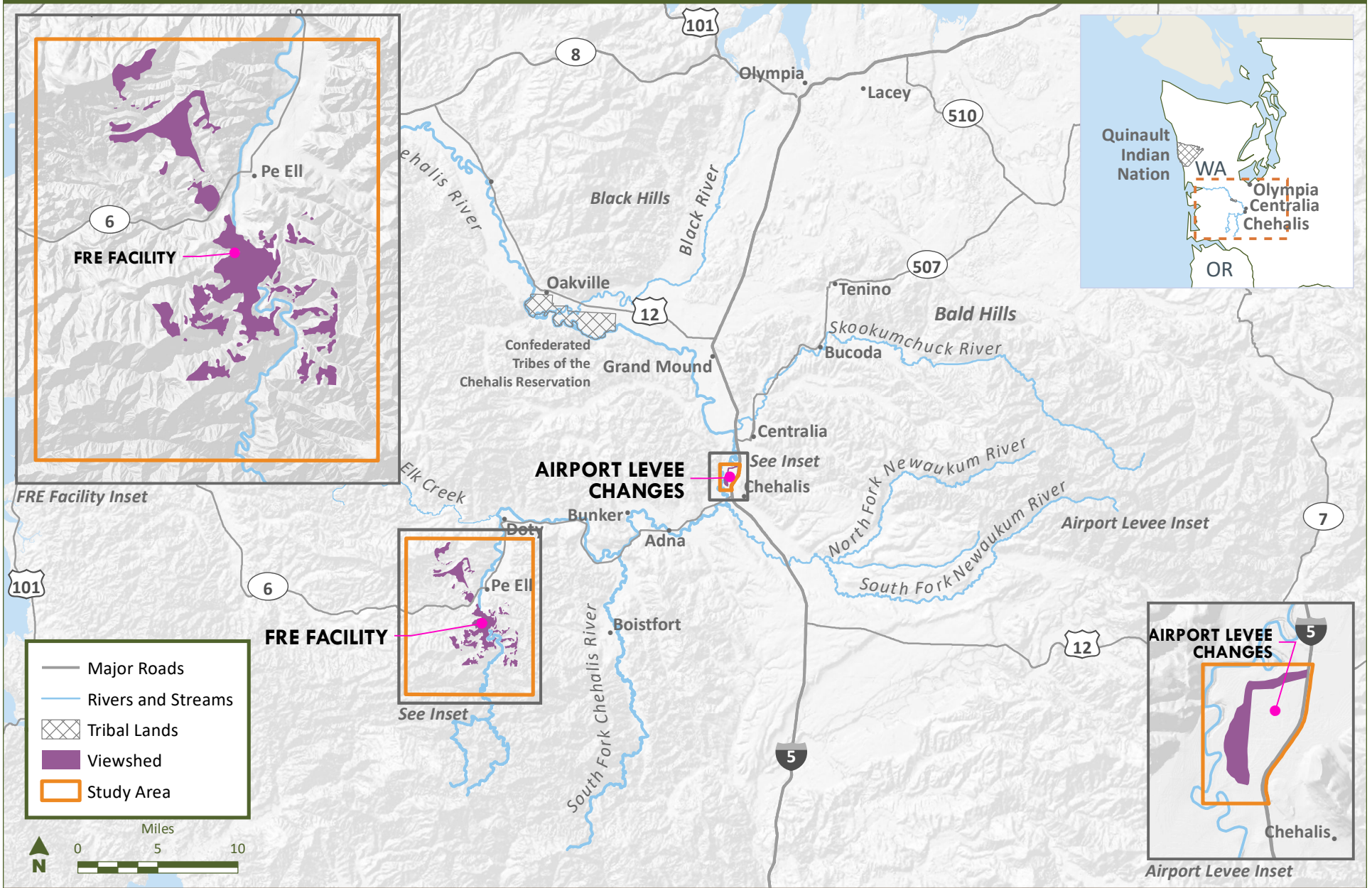


Figure M-2

Key Viewpoint Location Near FRE Facility

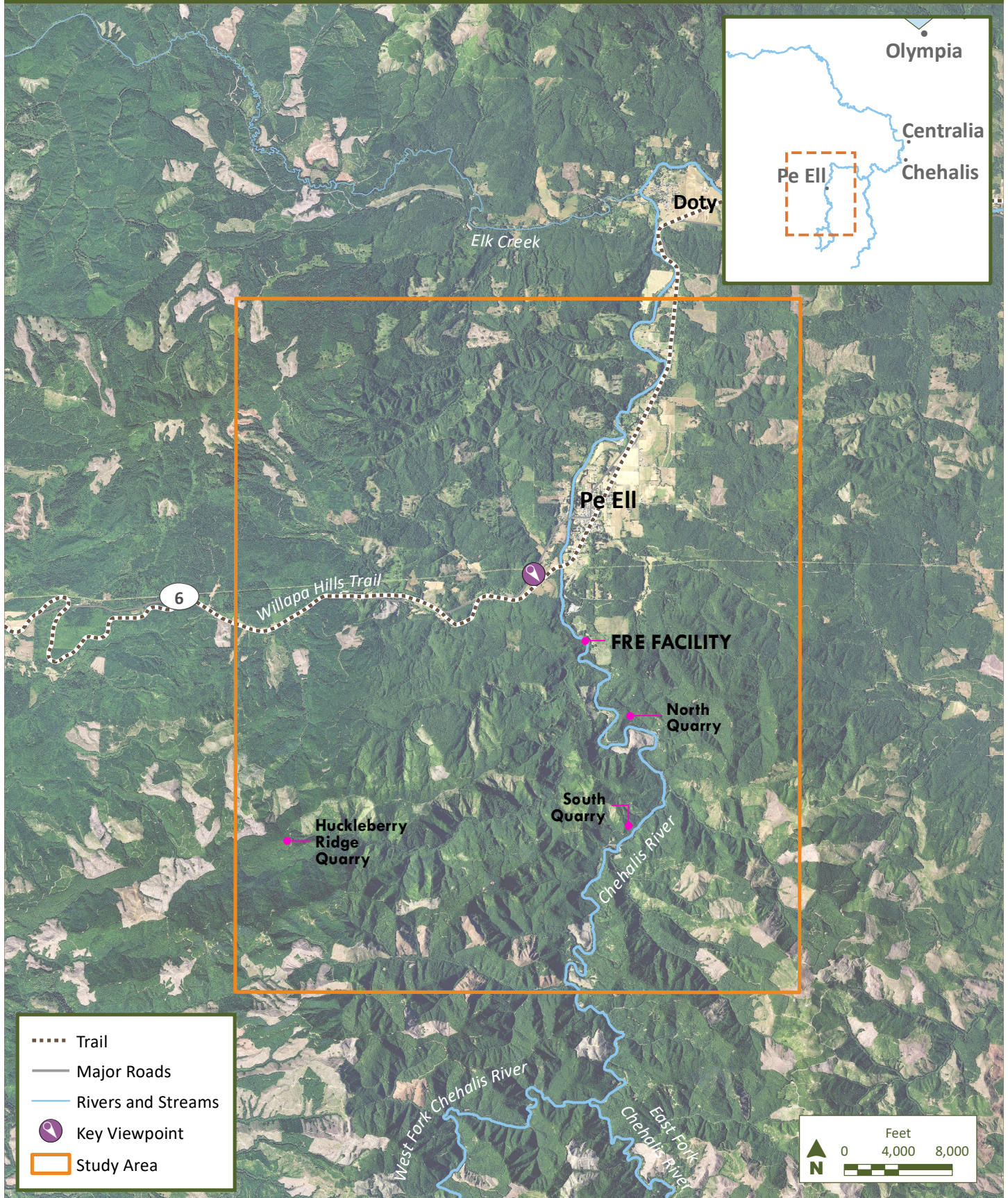
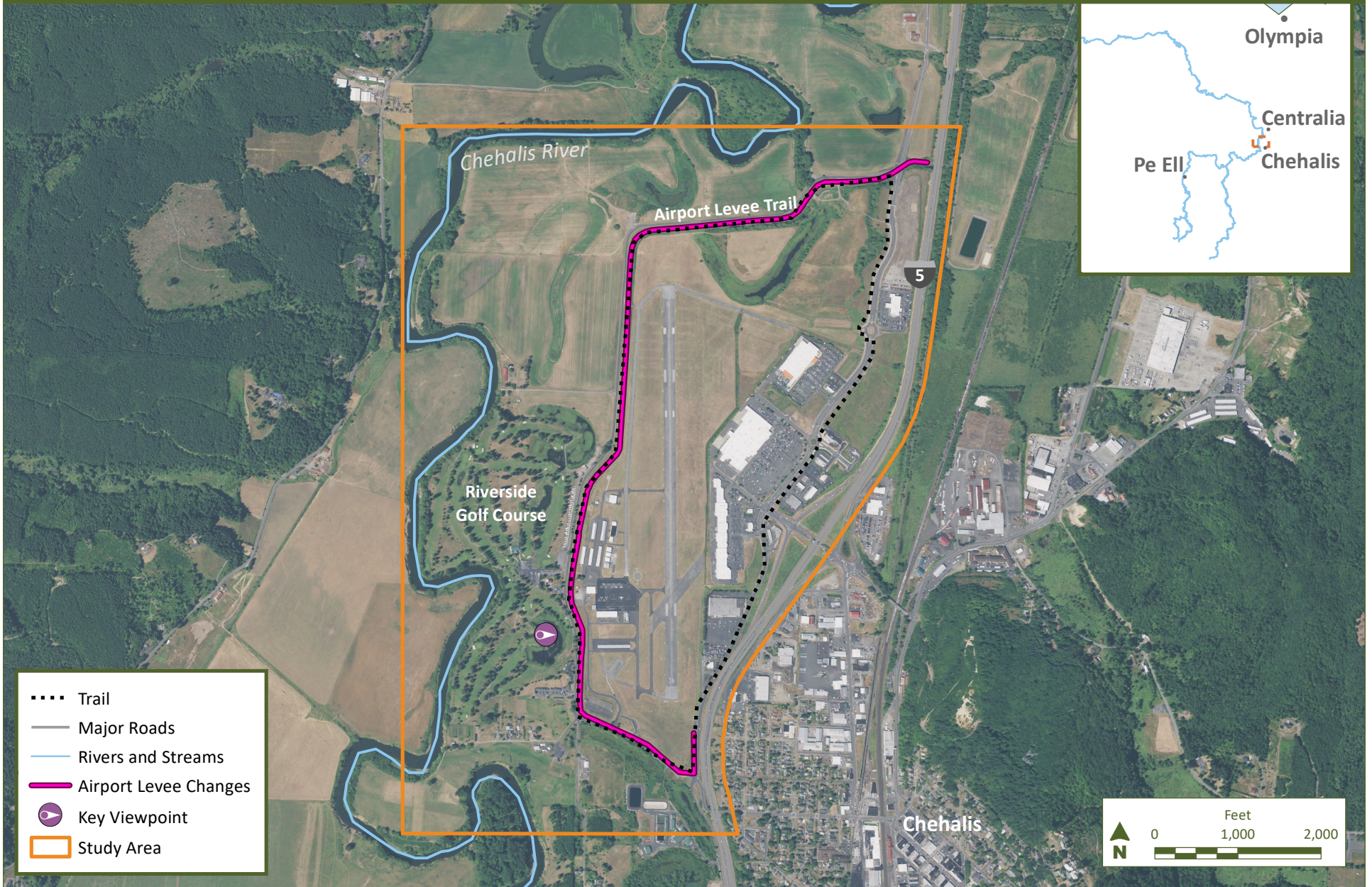


Figure M-3

Key Viewpoint Location Near Airport Levee Changes



2.2 Affected Environment

This section describes the visual character of the regional landscape of the Chehalis Basin as well as the specific character of the study areas.

2.2.1 Regional Landscape

Characterization of the regional landscape provides a frame of reference for assessing changes to visual quality within the study areas. The regional landscape covers a broad physiographic area in which landforms, water resources, vegetation, and climate tend to exhibit common characteristics. These common characteristics, repeated throughout the region, give the landscape its overall visual character.

The mainstem Chehalis River flows approximately 125 miles, beginning in the unglaciated foothills and low mountains of the Willapa Hills. It initially follows a narrow valley with forested hillsides. The valley broadens downstream of River Mile 100, near Doty, as it draws water from tributaries originating in three additional mountain ranges: Black Hills, Cascade Range foothills, and southern Olympic Mountains (Ruckelshaus Center 2012). The visual experience along the Chehalis River valley is generally characterized by a floodplain 1 to 2 miles in width, in a sparsely populated, largely agricultural area, with forested hillsides in the distance (see Figure M-4). As the river reaches Chehalis, the landscape includes more suburban and urban developments, including I-5 and railroad lines, which cut through the river's floodplain.

Views from highways, rail lines, and trails are predominately rural and forested, with the population distributed throughout the rural areas but concentrated in small towns, which are largely located in or near the floodplain (Ruckelshaus Center 2014). Many transportation corridors, including I-5, state highways, and local roadways, run along or intersect the mainstem, principal rivers, floodplains, and shorelands. They offer intermittent views of the adjacent waterbodies and land uses.

Due to their predominantly rural visual settings, portions of SR 6, U.S. Route 12 (US 12), and SR 105 are designated scenic and recreational highways, as described in Revised Code of Washington 47.39.020(11) and (26). None of the designated portions of US 12 or SR 105 fall within the viewshed of either the FRE facility or the airport levee. A designated portion of SR 6 does fall within the viewshed, as discussed here.

Figure M-4

View of the Chehalis River Valley from SR 6 Looking South Toward Pe Ell



2.2.2 FRE Facility Site

The FRE facility site, including the temporary reservoir area, is located on Weyerhaeuser-owned forestland and private land and is accessible only by permit via a gravel road. It is not visible from any public roadway. The visual setting of the FRE facility site provides relatively natural views next to the river, with riparian vegetation, gravel bars, rock, and woody material. The Chehalis River and its tributaries wind through narrow valleys among rolling hills. Shoreline areas are heavily vegetated. Upland areas are forested, predominantly with conifers (see Figure M-5), although much of the area has been logged, resulting in a patchwork of different-aged stands of trees. Additionally, logging roads with river crossings, recent clearcuts, and newly replanted areas are visible on either side of the upper Chehalis River and its tributaries. The study area extends north (downstream from the FRE facility site) and includes a section of SR 6, the nearest public highway, in an area where the valley is broad and open, with views dominated by pasture and farmland. The section of SR 6 in the study area is the only designated scenic and recreational highway within the FRE facility study area (see Table M-4 in Section 2.4).

Figure M-5

View of Proposed FRE Facility Site from Chehalis River Mile 108 Looking South



2.2.3 Airport Levee Site

The airport levee is an earthen berm that rises approximately 9 feet above the surrounding ground elevation to limit flooding at the airport (Corps 2019). It extends along a portion of the airport's western perimeter and is topped with crushed gravel. The study area for views of the airport levee is at the northwest edge of Chehalis. While Chehalis is urban in character, the levee stands between the airport and the river, where the surrounding land is either in recreational or agricultural use. The levee is a co-dominant feature in this context.

The levee begins at the parking lot near the south side of the airport and continues north for 2 miles along NW Airport Road (Figure M-6). The levee is used by pedestrians as a recreational trail. The area around the levee is characterized as primarily open space with Chehalis-Centralia Airport and I-5 to the east and the golf course, RV park, NW Airport Road, and agricultural lands to the west. The Chehalis-Centralia Airport contains several large building and hangars as wells as a runway. Features on the golf course include vegetation such as conifer trees and artificial water features.

Figure M-6

View of Airport Levee from NW Airport Road Looking North



2.3 Studies and Reports Referenced/Used

The following studies and reports were used to evaluate visual quality impacts:

- *Chehalis Basin Strategy Programmatic Environmental Impact Statement* (Ecology 2017)
- *Chehalis Basin Flood Hazard Mitigation Alternatives Report* (Ruckelshaus Center 2012)
- *Governor's Chehalis Basin Work Group: 2014 Recommendation Report* (Ruckelshaus Center 2014)

2.4 Technical Approach

To assess the potential for significant adverse impacts on visual quality, aerial imagery and maps of the study areas were reviewed and a site visit was made. Visual resource assessment forms were annotated, and two KVPs were selected, based on where the Proposed Action would have the highest potential for people to observe changes when contrasted with the existing surroundings. The two KVPs are at the

Willapa Hills State Park Trail/SR 6 (Figure M-2) and at the Riverside Golf Course (Figure M-3). Photographs were taken at the two KVP locations. Using commonly accepted protocols, visual simulations were prepared to assist in displaying the degree of impact the Proposed Action features would have on the visual setting of their surrounding landscape. This information was used to apply the impact assessment procedures described here.

The *Visual Resources Assessment Procedure for US Army Corps of Engineers* (Corps 1988) was adapted for this analysis because it provides an accepted framework for visual assessment for a project of the scale and character of the Proposed Action. The Visual Resources Assessment Procedure is composed of two parts: the Management Classification System and the Visual Impact Assessment Procedures. The Management Classification System establishes the degree and nature of visual change acceptable, typically by an agency that manages the resource. However, in this case, both the FRE facility and Airport Levee Changes are on non-federal lands and a Management Classification System was not required at these sites.

The two components with potential to affect visual resources, the FRE facility and Airport Levee Changes, are in separate locations. Each study area described previously was evaluated as a “Landscape Similarity Zone” for an initial assessment of visual resources using the Visual Resources Assessment Procedure. This initial step indicated that the number of users in each zone was low, and extremely low for the FRE facility site, due to restricted public access. This, combined with the lack of visibility of the FRE facility site from public rights-of-way, led to a determination that visual impacts would be low regardless of the uniqueness of the landscape and the scale of the project; therefore, a detailed assessment of that site was not indicated. The airport levee, while in an area of higher visibility, was determined to have low to average visual quality, and the project is not of a scale to warrant detailed analysis. For these reasons, numerical scores for management classification were not developed. The affected environment was documented based on a review of the study area landscape and its uniqueness within the regional landscape, with reliance on adopted policies to determine specific features that are valued.

The next step in the analysis evaluated the degree of contrast created by the Proposed Action from each of the KVPs and the simulation results. In addition, consistency with local plans and polices was considered to assist with the determination of significance. The Visual Resources Assessment Procedure was applied to this analysis as it details a systematic method to:

- Evaluate and classify existing aesthetic or visual quality
- Assess and measure visual impacts caused by water resource projects
- Evaluate the beneficial or adverse nature of the visual impacts
- Make recommendations for changes in plans, designs, and operations of water resource projects

Visual effects resulting from the project alternatives were identified in terms of spatial dominance, scale and contrast, and compatibility, as follows:

- **Spatial Dominance:** The prevalent occupation of a space in a landscape by an object(s) or landscape element
 - **Dominant:** The modification is the major object in the visual setting or occupies a large part of a confined setting.
 - **Co-dominant:** The modification is one of the major objects in the visual setting, or occupies a confined setting, and its features are of equal visual importance with other objects.
 - **Subordinate:** The modification is insignificant and occupies a minor part of the setting.
- **Scale Contrast:** The difference in absolute or relative scale in relation to other distinct objects or areas in the landscape
 - **Severe:** The modification is much larger than the surrounding objects.
 - **Moderate:** The modification is slightly larger than the surrounding objects.
 - **Minimal:** The modification is much smaller than the surrounding objects.
- **Compatibility:** The degree to which landscape elements and characteristics are still unified within their setting
 - **Compatible:** The modification is harmonious within the setting.
 - **Somewhat Compatible:** The modification is more or less harmonious.
 - **Not Compatible:** The modification is not harmonious within the setting.

Potential impacts were evaluated using the previously described factors, in consideration of applicable laws and policies to determine significance, and mitigation measures are suggested based on their ability to reduce adverse impacts.

As described in the *Visual Resources Assessment Procedure for US Army Corps of Engineers* (Corps 1988), visual impacts are identified considering technical, institutional, and public considerations. Technical considerations are assessed by considering the spatial dominance, scale and contrast, and compatibility of a project. Institutional and public considerations are considered based on laws and policies that concern visual resources and public comments received during scoping.

Table M-4 shows applicable laws and policies that address visual impacts and includes a discussion of the consistency of the Proposed Action with each policy.

Table M-4
Applicable Visual Quality Laws, Plans, and Policies and Policy Consistency

PLAN, POLICY, REGULATION	DESCRIPTION	POLICY CONSISTENCY
WASHINGTON STATE		
<p><i>Washington State Scenic and Recreational Highways Strategic Plan 2010-2013</i> (WSDOT 2010)</p>	<p>Portions of SR 6, US 12, and SR 105 are designated as a scenic and recreational highway per RCW 47.39 and 47.42. However, only a portion of SR 6 is in the study area of the proposed FRE facility. The purpose of this designation is to identify highways typically located in areas that are natural in character, along watercourses or through mountainous areas, or in areas with a view of such scenery (RCW 47.39.020). SR 6 offers views of the Chehalis River valley as well as rural, forested lands. The <i>Washington State Scenic and Recreational Highways Strategic Plan 2010-2030</i> establishes goals and performance measures consistent with the state’s transportation policy goals; however, corridor management plans that identify specific sites for protection of views have not been developed for the management of the highway segments in the Chehalis Basin.</p>	<p>The Proposed Action would not be visible from SR 6.</p>
<p>Washington State Shoreline Management Act</p>	<p>The Shoreline Management Act requires each Washington State county to develop and implement a Shoreline Master Program to manage the development of the shorelines.</p>	<p>State policies guide development of local Shoreline Master Programs. Consistency with local plans constitutes consistency with the Shoreline Management Act. The policies of the <i>Lewis County Shoreline Master Program</i> are addressed below.</p>
LEWIS COUNTY		
<p><i>Lewis County Comprehensive Plan</i> (FRE facility site is zoned Forest Resource)</p>	<p>Open space areas in Lewis County “provide visual and physical corridors to protect the rural character of the county...” (Lewis County 2017a). Lewis County recognizes the importance of open space corridors that link regions of the county and providing physical and visual relief to the built environment.</p>	<ul style="list-style-type: none"> • The FRE facility would not be visible from populated areas, and therefore would not alter the rural character of Lewis County. • The airport levee is adjacent to a developed area and would not alter the rural character of Lewis County.

PLAN, POLICY, REGULATION	DESCRIPTION	POLICY CONSISTENCY
NE GOAL 1.0	“Preserve the natural and scenic beauty of Lewis County, and minimize the impact of development on the county’s environmental resources”	<ul style="list-style-type: none"> • The FRE facility would not be visible from populated areas, and therefore would not alter the natural and scenic beauty of Lewis County. • The airport levee is in a developed area and would not alter the natural and scenic beauty of Lewis County.
POLICY NE 1.4	“Encourage the preservation of natural buffers along the county’s rivers, lakes, and streams”	Buffers would be removed near the FRE facility and for the temporary reservoir, but they would not be visible from populated areas.
OBJECTIVE 3B – ATTRACTIVE MAJOR CORRIDORS	“Maintain a visually attractive appearance along the I-5 corridor”	The Airport Levee Changes would be intermittently visible from I-5. However, because the levee is directly adjacent to a heavily developed and urbanized area, it would not detract from the visual setting of I-5.
RURAL GOAL 1.0	“Maintain the rural character of Lewis County”	The Proposed Action would not reduce the rural character of Lewis County. The FRE facility would not be visible from populated areas and the airport levee is adjacent to a heavily developed area.
POLICY RURAL 1.1	<p>“Encourage rural development, outside of defined urban growth areas, in a pattern and density that:</p> <ul style="list-style-type: none"> • Complements rural character¹ <p>Ensures the visual compatibility of rural development with the surrounding rural lands (including the preservation of expansive views of nature and natural resource lands)”</p>	The Proposed Action would not reduce the rural character of Lewis County. The FRE facility would not be visible from populated areas and the airport levee is adjacent to a heavily developed area.

PLAN, POLICY, REGULATION	DESCRIPTION	POLICY CONSISTENCY
<p><i>Lewis County Shoreline Master Program (Rural Conservancy)</i></p>	<p>Several waterbodies in the Chehalis River Basin, including the Chehalis River, are regulated under the Shoreline Master Program. The <i>Lewis County Shoreline Master Program</i> (Lewis County 2017b) regulates the use and development of shorelines and includes policies and regulations to protect aesthetic resources. The FRE facility would require a shoreline conditional use permit to be allowed in the Rural Conservancy shoreline environment.</p>	<p>Approval requires the Chehalis River Basin Flood Control Zone District (Applicant) to demonstrate the Proposed Action is consistent with the policies of RCW 90.58.020 and the <i>Lewis County Shoreline Master Program</i>, is compatible with other uses, and causes no significant impacts on the shoreline environment, among other criteria. Policies related to visual quality are described herein. The Proposed Action would change the visual setting of the temporary reservoir area by changing the shoreline and its uses, but would not cause significant impacts on visual resources due to the low number of sensitive viewers.</p>
<p>5.13.01 POLICIES H.</p>	<p>“Encourage preservation of scenic views and vistas”</p>	<p>No scenic views or vistas would be adversely affected.</p>
<p>5.13.02 REGULATIONS F.</p>	<p>“Trails shall be planted or landscaped to provide a visual buffer for adjoining dissimilar uses or scenic areas. The Shoreline Administrator may condition proposals to: 1. Select species that are suitable for the local climate and have minimal demands for water, minimal vulnerability to pests, and minimal demands for fertilizers 2. Incorporate native species”</p>	<p>The FRE facility would not change any views from trails in the study area. Additionally, views from the levee trail would not be altered.</p>
<p>5.13.02 REGULATIONS B.8.</p>	<p>“Provide and/or maintain visual access to scenic vistas on public roads, where feasible. Visual access may include, but is not limited to turnouts, rest areas, and picnic areas.”</p>	<p>No scenic views or vistas would be adversely affected.</p>
<p>5.13.02 REGULATIONS B.</p>	<p>“As part of shoreline permit review process, the County shall evaluate shoreline conditions on an ongoing basis to... protect and enhance visual quality. Specific issues to address in evaluations include, but are not limited to the following: Changing visual character as a result of new development or redevelopment and individual vegetation conservation practices along shoreline and upland areas”</p>	<p>The Proposed Action would change the visual setting of the temporary reservoir area by creating an expanded shoreline and open riparian forested community.</p>

PLAN, POLICY, REGULATION	DESCRIPTION	POLICY CONSISTENCY
4.06.01 POLICIES A.	“Protect and enhance the public’s visual and physical access to Shorelines of the State to the greatest extent feasible”	The temporary reservoir area would close permanently once construction begins; however, views are already restricted due to the limited number of permits available via Weyerhaeuser.
Management Policies	“Development within the Rural Conservancy shoreline environment designation shall be consistent with the following policies: Uses in the Rural Conservancy shoreline environment designation should include those that sustain the shoreline area’s physical and biological resources and do not substantially degrade ecological functions or the rural or natural character of the shoreline area.”	The Proposed Action would result in the presence of an expanded shoreline and an open riparian forested community when the temporary reservoir is not inundated. When these features are present, the area would still exhibit rural character, just with different features than what is currently found in the study area.
CITY OF CHEHALIS		
<i>Chehalis Comprehensive Plan 2017</i>	Used to guide future development and ensure its compliance with the Growth Management Act; specific policies regarding visual resources are listed herein	See discussion of specific policies.
NE GOAL	Preserve the natural and scenic beauty of Lewis County, and minimize the impact of development on Lewis County’s environmental resources	The FRE facility is not expected to affect the scenic beauty of Lewis County. The levee would be visible, but its location is not part of a scenic area (it is adjacent to a highly developed area).
9.1	Parks, recreation, scenic areas and scenic byways, and viewing points should be encouraged	The Proposed Action would not have any adverse effects on any scenic areas and byways or viewpoints.

Note:

1. Rural character is defined in RCW 36.70A.030(16) and refers to the patterns of land use and development established by a county in the rural element of the Comprehensive Plan. Lewis County adopts the following narrative to explain how the Comprehensive Plan is designed to maintain the rural character of the county: “Rural character in Lewis County is defined by areas: (a) In which open space, the natural landscape, and vegetation predominate over the built environment.”

3 TECHNICAL ANALYSIS AND RESULTS

3.1 Overview

This section describes the probable visual quality impacts of the Proposed Action (Section 3.2), Local Actions Alternative (Section 3.3), and No Action Alternative (Section 3.4). This section also evaluates required permit conditions and planning document requirements that could address the impacts identified (Section 3.2.3). When probable significant adverse environmental impacts remain after considering these, the report identifies mitigation measures that could avoid, minimize, or reduce the identified impact below the level of significance (Section 3.2.4).

3.2 Proposed Action

3.2.1 Impacts from Construction

This section analyzes the impacts from construction of a flood retention facility (referred to as an FRE facility), development of a quarry to provide aggregate for the FRE facility, constructing or upgrading roads to the quarry, constructing a temporary bypass tunnel, and constructing and operating a temporary fish trap-and-transport facility. It also analyzes the impacts from construction activities associated with changing the airport levee.

3.2.1.1 *Direct*

3.2.1.1.1 *Flood Retention Expandable Facility*

The FRE facility site is currently on private land, so public access and views of the area are limited to Weyerhaeuser workers and occasional recreational users who receive permits from Weyerhaeuser. Under the Proposed Action, access to the area would be restricted once construction begins, further limiting the number of people exposed to construction impacts. The public would not be present in the area during construction, only construction workers and other authorized personnel.

Construction of the FRE facility would result in adverse impacts on visual quality because large-scale construction activities would take place in an area that is undeveloped and valued for its rural character. Impacts from construction would include construction-related activities near the FRE facility, such as the creation of one or more proposed quarry sites, mining at proposed quarry sites, the construction or upgrading of roads to quarries, concrete production, and truck transport of materials as well as their associated impacts, such as fugitive dust. Construction of the FRE facility would cause **moderate** adverse impacts on the visual setting because it would be a dominant structure in a previously undeveloped area, but where public visibility would be limited to Weyerhaeuser permit holders in nearby areas, and the FRE facility would not obstruct any designated scenic views.

All non-flood-tolerant trees within a 600-acre area in the temporary reservoir would be permanently removed and replaced by water-tolerant trees and shrubs during construction. Removal of forest vegetation would adversely affect the visual quality of the area adjacent to and within the inundation area. While it would occur in a setting where there are often clearcut areas, the size of clearcut areas is limited under Forest Practices Rules, and the reservoir area would be a larger single area. As a result, removal of trees and vegetation in the temporary reservoir area is considered a **moderate** adverse impact on visual quality.

As described in the *Transportation Discipline Report* (ESA 2020a), the creation and use of quarries during construction would require several miles of upgrading and widening of existing forest roads as well as the potential to create new temporary road segments. This construction and upgrading of roads would require tree clearing and create a more developed looking landscape, resulting in adverse impacts on visual quality. In addition, when transporting materials and equipment there would be an increased number of trucks on roadways near the FRE facility, including in surrounding towns like Pe Ell. This increase in truck traffic would likely cause intermittent adverse effects on visual quality. The presence of construction equipment, such as backhoes, tractors, cranes, and trucks, would also contrast with the natural landscape near the FRE facility and the quarry areas, potentially causing temporary adverse impacts. The Huckleberry Quarry and roads in managed forests must meet Forest Practices permit requirements for construction. For the North and South Quarries and roads that are not in managed forests, a mitigation measure is included in Section 3.2.4 to follow Forest Practices permit requirements to reduce impacts, including visual impacts.

In-water construction activities in the Chehalis River would include the installation and later removal of temporary stream crossings and work area isolation measures, including cofferdams and a temporary bypass tunnel to route flows around the construction site. These activities would be required to have shoreline and National Pollutant Discharge Elimination System (NPDES) permits. The permits would require measures to ensure the water quality standards are not exceeded.

These adverse visual impacts from temporary construction activities would be **minor** because construction would not be visible to the public and would be short term. While no specific permit is required for visual impacts, best management practices (BMPs) that minimize visual impacts, such as those for turbidity, dust, and erosion control, would be required in the shoreline, Forest Practices, and NPDES permits, further minimizing visual impacts.

3.2.1.1.2 *Airport Levee Changes*

Potential short-term impacts on visual quality would occur during construction of the Airport Levee Changes, due to views of construction activities. Fugitive dust, exposed construction debris, heavy equipment, and erosion control measures would all be present and viewable near construction, which would temporarily create an unattractive visual setting during the construction period for airport users, Riverside Golf Course and RV park patrons, residents of surrounding properties, passing traffic, and trail

users. These would be **minor** adverse impacts on the visual setting because they would be both short term and small in scale.

3.2.1.2 Indirect

3.2.1.2.1 Flood Retention Expandable Facility

Construction related disturbance of sediments would likely result in short-term increases in turbidity, which could be visible downstream of the in-water construction activities. However, these short-term visual changes would not be unlike turbidity that occurs during storm events. These would be **minor** adverse impacts on the visual setting because they would be both short term and small in scale.

3.2.1.2.2 Airport Levee Changes

No indirect impacts on visual quality from the construction of the proposed Airport Levee Changes are anticipated.

3.2.2 Impacts from Operation

This section analyzes the impacts from operation of the FRE facility, including impacts resulting from the change of land use from commercial forestry to the FRE facility and temporary reservoir, and the changed airport levee.

3.2.2.1 Direct

3.2.2.1.1 Flood Retention Expandable Facility and Temporary Reservoir

This section examines impacts the FRE facility would have on the visual setting and on members of the public who could experience impacts.

As described previously for construction impacts, the site is currently in an area where public access and views are limited to Weyerhaeuser workers and occasional recreational users who are allowed only by permit. Before construction of the FRE facility begins, the Chehalis River Basin Flood Control Zone District (Applicant) would acquire the land and permanently close the area for recreation, further limiting the number of people who would be affected by impacts on visual quality. As such, the only possible viewers would be people who could see the FRE facility from nearby ridgelines and hilltops downstream and outside of the study area. The closing of the area would result in a loss of visual resources; however, because of the limited amount people who use the area and the availability of many other visual resources found throughout the Chehalis Basin, this is considered a **minor** adverse impact. Impacts on recreation are evaluated in the *Recreation Discipline Report* (ESA 2020b).

Although changes associated with the FRE facility site may be visible in other parts of the Weyerhaeuser's Pe Ell South Permit Area, the number of viewers would be limited (e.g., hunters and other permit holders using the Weyerhaeuser property). These viewers are not considered to be sensitive to these views due to their transient presence in the vicinity of the site, and because their hunting experience

would not be adversely affected by changes to the visual environment. All other impacts associated with hunting within the study area are described in the *Recreation Discipline Report*.

The 270-foot-tall FRE facility would be a dominant feature when viewed from immediately downriver, occupying a large portion of the visual setting where the Chehalis River currently runs. The FRE facility would strongly contrast with the setting because it would be much larger than any other built objects in a largely forested valley. The setting of the proposed FRE facility is valued for its rural character, as reflected in Lewis County shoreline management and Comprehensive Plan policies. The FRE facility would change that visual setting; however, the FRE facility would not necessarily be incompatible with the rural character. This setting is not pristine, with roads, small buildings, and regular logging on nearby hillsides. As with many rural landscapes, this is a working landscape, and the presence of a flood retention facility, while visually dominant when encountered in this setting, would generally be perceived as part of the working rural landscape by the few people who would be allowed near it. Because of its remote location and forested setting, it would not be visible from anywhere frequented by the public.

The Huckleberry Quarry would be west of the FRE facility; however, due to its remote location, very few viewers would experience its impacts. After construction, the Huckleberry Quarry and roads located on commercial forestland would be reclaimed and revegetated to standards established by the Washington Department of Natural Resources (DNR) under required Reclamation Permit and Forest Practices permit. Revegetation would be required to stabilize slopes, reduce erosion and turbidity, mask mining contours, and restore the scenic value of the land to the extent feasible.

The North and South Quarry locations would be directly adjacent to the temporary reservoir or FRE facility and would not be in managed forest. Therefore, very few viewers would see the impacts associated with them, as described previously. For quarries and roads that are not in managed forests, a mitigation measure is included in Section 3.2.4 to follow Reclamation Permit and Forest Practices permit requirements to reduce impacts.

All large trees within a 600-acre area in the temporary reservoir would be removed periodically. Removal of forest vegetation would adversely affect the visual quality of the area adjacent to and within the inundation area. Removal of trees and vegetation is considered a **moderate** adverse impact on visual quality because it would occur in a setting where forest management regularly results in clearcut areas but would cover a larger single area.

The Chehalis River is a visual resource that contributes to the rural character of the area, which is acknowledged and protected in the Rural Conservancy shoreline environment (as described in Section 3.2.3). The temporary reservoir, when filled, would be a dominant feature when viewed from the temporary reservoir shoreline or open areas like nearby ridgelines. When inundated, the temporary

reservoir would modify the rural landscape and would contrast sharply with the existing forested setting, but would remain a compatible feature with the rural character.

The visual character of the shoreline in the temporary reservoir would change. During construction, trees would be removed along the shoreline, changing the shoreline to shrub-scrub. When the temporary reservoir is not inundated, the river would appear as it does now; however, an expanded shoreline with riparian shrub vegetation would be present where currently there is upland forest. This expanded shoreline area would be a co-dominant feature, large in scale and moderate in contrast, that would be compatible with the visual setting when there is no inundation. Additionally, inundation would likely cause extensive vegetation die-offs within the temporary reservoir area, resulting in temporary impacts on visual quality until replanting and regrowth occur.

As shown in Figure M-1, the FRE facility would not be visible from populated areas (e.g., Pe Ell) or scenic viewpoints like the Willapa Hills State Park Trail. The viewshed analysis indicated the only public roadway the FRE facility could potentially be visible from was a portion of SR 6, southwest of Pe Ell (Figure M-7). However, as shown in Figure M-7, the FRE facility would be obscured from the KVP by vegetation and topography. Therefore, the FRE facility would have no impact on users of the scenic highway.

Overall, operation of the FRE facility would cause **moderate** adverse impacts on the visual setting because it would be a dominant structure in a previously undeveloped area, but where public visibility would be limited to Weyerhaeuser permit holders in nearby areas, and the FRE facility would not obstruct any designated scenic views. The temporary reservoir would have **moderate** adverse impacts because while it would be located in an area where logging is common, it would require large-scale clearing and inundation of a large area that has not previously been inundated.

The *Chehalis Basin Strategy Programmatic Environmental Impact Statement* (Ecology 2017) found that a similar flood retention facility could potentially cause a significant adverse impact on visual resources. However, the more detailed and site-specific methodology used for this analysis also considers the low number of viewers that would actually be affected. As described in Section 2.4, using the *Visual Resources Assessment Procedure for US Army Corps of Engineers* (Corps 1988), changes in character, although dominant and contrasting sharply with the existing character of the FRE facility site, would not be significant because a limited number of viewers would experience the contrast.

Figure M-7

Key Viewpoint Location Near FRE Facility



Key Viewpoint Location:	Willapa Hills State Park Trail/SR 6 roadside (Latitude N46°33'28.9" Longitude W123°18'49.7")
Day/Time of Photo:	March 15, 2019, 11:55 AM
Viewing Direction:	Southeast
Project Information:	Proposed Action FRE facility site (in distance) would not be visible behind existing hills and trees.

3.2.2.1.2 Airport Levee Changes

This section examines the impacts that changes to the levee would have on the visual setting.

Users of Riverside Golf Course and RV Park would see the Airport Levee Changes. Because of their proximity to the levee and recreational use of the property (resulting in relatively long view durations), users of the golf course and RV park are likely sensitive to visual changes. The visual quality of views from the golf course varies, with some locations having lower visual quality because NW Airport Road, the airport levee, and the airport are the dominant visual features. There are also many locations on the golf course where the levee is not visible or is partially obscured by vegetation. The KVP location shown in Figure M-3 was selected for visual simulation because it has the clearest view of the levee from the golf course. As shown in Figure M-8, at this location on the golf course, the manicured grass, constructed pond, and surrounding trees and shrubs are the dominant visual features. As a result, the airport hangars and levee blend into the middle ground and are less prominent against the hills in the background.

Figure M-8 shows a visual simulation of the raised levee height from the KVP. Like the current levee, the raised levee would be a co-dominant feature that is compatible with the existing visual setting. It would be moderately larger and more prominent, but would appear as a grassy mound or hill. The raised levee would change the visual setting by obstructing a large portion of the view of the airport from the golf course and surrounding area (Figure M-8). Views of the distant hills would not be obstructed. Any adverse impacts would be considered **minor** adverse impacts on the visual setting of the area.

3.2.2.1.3 Changes in Inundation

Any reduction in flooding or inundation downstream of the FRE facility would not affect visual resources.

3.2.2.2 Indirect

3.2.2.2.1 Flood Retention Expandable Facility and Temporary Reservoir

After a flood occurs and water is slowly released from the FRE facility, it could increase turbidity downstream. This would be a **minor** visual impact because temporarily increased turbidity is also a result of natural events like storms.

3.2.2.2.2 Airport Levee Changes

No indirect impacts on visual quality from the operation of the proposed Airport Levee Changes are anticipated.

Figure M-8

Visual Simulation of Airport Levee Changes



Key Viewpoint Location:	Riverside Golf Course (Latitude N46°40'20" Longitude W122°59'18.5")
Day/Time of Photo:	March 15, 2019, 10:27 AM
Viewing Direction:	East
Project Information:	Proposed Action levee elevation depicted is 7 feet higher than the existing levee.

3.2.3 Required Permits

The *Land Use Discipline Report* (Anchor QEA 2020) provides information on the shoreline and Forest Practices permits required for the construction and operation of the FRE facility and the Airport Levee Changes. Effects on visual quality are part of the consideration for approval of local shoreline permits.

3.2.4 Proposed Mitigation Measures

This section describes the mitigation measures being proposed for the Applicant to implement that would reduce impacts related to visual quality from construction and operation of the Proposed Action. These mitigation measures would be implemented with, or as part of, the required permits, plans, and approvals described in Section 3.2.3.

The Applicant will implement the following measures to mitigate impacts on visual quality:

- **VISUAL-1:** To address construction-related visual impacts, mitigation is proposed for the Applicant to locate temporary construction access roads, staging areas, and stockpile sites within previously disturbed areas.
- **VISUAL-2:** To address construction-related visual impacts, mitigation is proposed for the Applicant to phase construction to minimize the amount of construction-related equipment and materials stored in the area.
- **VISUAL-3:** To reduce visual impacts from construction, mitigation is proposed for the Applicant to meet all Forest Practices permit requirements for reclaiming and revegetating the North and South Quarry sites and roads not on managed forestland.

3.2.5 Significant and Unavoidable Adverse Impacts

Compliance with laws and implementation of the measures described previously would reduce impacts on visual quality. There would be **no significant and unavoidable adverse impacts** on visual quality.

3.3 Local Actions Alternative

3.3.1 Impacts from Construction

This section analyzes the potential impacts from construction of local actions such as strategic floodproofing (elevating buildings, building berms or floodwalls), floodplain storage improvement (placing wood in rivers, restoring riparian areas, reforesting floodplain areas), and channel migration protection (placement of wood in rivers).

3.3.1.1 Direct

Potential short-term adverse **minor** adverse impacts on visual quality would occur during construction of the Local Actions Alternative elements. Views of construction activities and related impacts such as fugitive dust, exposed construction debris, heavy equipment (backhoes, tractors, cranes, and trucks), and erosion control measures could be present.

3.3.1.2 Indirect

No indirect impacts on visual quality from construction of the Local Actions Alternative are anticipated.

3.3.2 Impacts from Operation

This section analyzes the potential impacts from operation and implementation of local actions, such as adopting higher development and construction standards, strategic floodproofing, buy-out of at-risk properties or structures, floodplain storage improvement, channel migration protection, and early flood warning systems.

3.3.2.1 Direct

The Local Actions Alternative would not result in large changes to the visual setting of the study area. Most of the elements associated with the Local Actions Alternative would be subordinate features, occupying a small portion of the landscape. The elements would be relatively the same size or slightly smaller than objects already present in the study area and would therefore have a minimal scale contrast. Because the elements would be nonstructural and occur in mostly urban areas, they would be compatible with the existing setting.

If land use management or floodplain storage were implemented, they would likely reinforce the rural character of the study area. Land use management would include the preservation of open space within urban areas and the implementation of low-density zoning, while floodplain storage improvements would include reforestation and riparian restoration. The buy-out of at-risk properties or structures and the early flood warning system elements would have no adverse impact on visual quality in the study area; although buy-outs would result in structures being removed. Additionally, if channel migration protection occurred, the use of objects like large wood would not adversely affect the rural character of the study area. Therefore, **no adverse impacts** on visual quality from these elements are anticipated under the Local Actions Alternative.

If floodproofing or channel migration protection were implemented, it could create some minor changes to the visual setting. These would have **minor** adverse impacts on the visual setting because, like the levee, all impacts would be present in an already developed area.

3.3.2.2 *Indirect*

No indirect impacts on visual quality from the operation of the Local Actions Alternatives are anticipated.

3.3.2.3 *Flood Changes and Impacts*

Flooding would likely continue throughout the study area and would not be substantially reduced through implementation of the elements of the Local Actions Alternative. The study area would continue to experience substantial flood risk with floods continuing to cause long-term damage and changes to visual character.

3.4 No Action Alternative

Under the No Action Alternative, visual quality impacts from the construction or operation of the Proposed Action would not occur. Although the Proposed Action would not occur, it is assumed that local flood damage reduction efforts would continue based on local planning and regulatory actions.

Flooding would continue throughout the study area and would not be substantially reduced through implementation of flood damage reduction actions included in the No Action Alternative. The study area would continue to experience substantial flood risk with floods continuing to cause long-term damage and changes to visual character.

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