Draft Environmental Impact Statement: Interim Action for Cleanup of the Levee Zone

Former Fueling and Maintenance Facility
Skykomish, Washington

Prepared by:

The RETEC Group, Inc.
1011 SW Klickitat Way, Suite 207
Seattle, WA 98134-1162

Prepared for:

Washington State Department of Ecology

WASHINGTON STATE DEPARTMENT OF ECOLOGY

March 3, 2006

draft

For additional copies of the document, contact

Washington State Department of Ecology
Susan Lee, Public Involvement Coordinator
3190 160th Avenue SE
Bellevue, WA 98008-5452
425-649-4486
Email: slee461@ecy.wa.gov

http://www.ecy.wa.gov/programs/tcp/sites/bnsf_sky/bnsf_sky.html

To receive this document in alternative format,
please contact Susan Lee at 425-649-4486 (Voice) or 711 or 1-800-833-6388 (TTY).

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

March 3, 2006

RE: Draft Environmental Impact Statement (EIS) for Interim Action for Levee Cleanup BNSF Former Fueling and Maintenance Facility, Skykomish, Washington.

This draft EIS evaluates significant environmental impacts associated with the Interim Action for cleaning up the Levee Zone at the Former Fueling and Maintenance Facility in Skykomish, Washington (BNSF Skykomish Site). The plan for the Interim Action is described in the Draft Engineering Design Report (EDR). In addition to the draft EIS, a number documents are available for public review and comment through April 3, 2006. These documents include the drafts of the EDR, Public Participation Plan, NPDES Permit, and the Agreed Order for an Interim Action for cleanup. The EIS was prepared by The RETEC Group, Inc. for the Washington State Department of Ecology (Ecology).

Ecology will carefully consider public comments received on this EIS as well as on the other documents that are available for review during this comment period. A final EIS will be prepared after Ecology has considered comments received from the public.

The former fueling and maintenance facility is currently owned and operated by BNSF. Historical activities since the facility opened in the late 1890s included refueling and maintaining locomotives and operating an electrical substation for electric engines. Some of these activities released contaminants to the surrounding environment. BNSF has accepted responsibility for cleaning this historical contamination at the site, consistent with the Model Toxics Control Act. The BNSF railroad still runs through town, but rail yard activities are limited to track maintenance and snow removal.

The fueling and maintenance operations released petroleum hydrocarbons (bunker C and diesel with associated compounds) that must be cleaned up. Petroleum hydrocarbons have impacted soil, ground water, surface water, and sediment in areas throughout the site including the Levee Zone area targeted for cleanup during this Interim Action. The petroleum contamination extends from the rail yard beneath the historic district of the Town of Skykomish and is discharging into the Skykomish River.

The Levee Zone includes the area directly west of the Skykomish Bridge on the south side of the South Fork Skykomish River to approximately 700 feet westward along the river and approximately 135 feet south and upland from the river's shoreline. This area also includes five residences. Work in the river will extend approximately 10 to 30 feet toward the water from the river's ordinary high-water mark.

A Remedial Investigation Report, a Supplemental Remedial Investigation Report and a Feasibility Study were prepared by BNSF and accepted by Ecology in 2005 as having enough information to make cleanup decisions for this site. A Draft Cleanup Action Plan (DCAP) for the entire site is being written by Ecology, and should be ready for public review and comment in the fall of 2006. The Interim Action for Cleanup of the Levee Zone meets the requirements of the Model Toxics Control Act. The action is proposed to begin in May 2006 under an Agreed Order pursuant to the MTCA, and will be consistent with the future DCAP.

The overall remedial objective of the Levee Zone Interim Action is to protect the South Fork Skykomish River and clean up residential and public properties by removing existing petroleum contamination that underlies these properties and discharges to the river. Ecology believes this cleanup action to be the only cleanup alternative that provides for a permanent, achievable and expeditious cleanup that meets state cleanup regulatory requirements.

The action is intended to be the final cleanup action for this zone. The Levee Zone Interim Action is the first phase of a multi-phased cleanup for the entire site that includes the remaining portions of the Northwest Developed Zone, the Northeast Developed Zone, the Rail Yard Zone, the South Developed Zone, and the Former Maloney Creek Channel Zone. Subsequent cleanup actions will continue in 2007 and will be detailed in an overall site-wide final cleanup action plan available in late 2006 to early 2007.

The proposed interim action for cleanup includes a considerable amount of excavation, grading, and the temporary relocation of people and homes. The Draft EIS evaluates existing conditions, the significant adverse environmental impacts that would result from the alternatives, and mitigation measures for the no-action alternative and the proposed action.

Some of the impacts identified include impacts to the environment and to humans from increased erosion and sedimentation, dust, odor, noise and vibration from increased traffic and construction activities, relocation of people and houses including impacts to the operations of the school and to adjacent and nearby neighbors. The EIS identifies steps to reduce the impact of the cleanup on people in the town and on the environment.

Additionally, the EIS identifies a number of plans, some of which remain to be prepared prior to the Interim Action. These plans include the following:

Relocation Plan
Traffic Control Plan
Air Monitoring Plan
Health and Safety Plan
Cultural and Archaeological Resources Management Plan
Stormwater Pollution Prevention Plan
Replanting Plan for Levee
Emergency Spill Response Plan
Erosion and Sediment Control Plan

We appreciate your review and careful consideration of the draft EIS and other documents during this comment period. A public meeting is scheduled in the Town during the evening of March 14, 2006. Please share your comments and suggestions with Ecology by April 3, 2006.

Sincerely,

Tim L. Nord, Manager
Land and Aquatic Cleanup Section
Toxics Cleanup Program

FACT SHEET

Project Title:

Interim Action for Cleanup of the Levee Zone, Former Fueling and Maintenance Facility, Skykomish, Washington.

Proposed Action:

The Proposed Action consists of excavating approximately 70,000 cubic yards of petroleum-contaminated soils and sediment within the Levee Zone of the BNSF Former Fueling and Maintenance Facility located in Skykomish, Washington. Clean overburden materials will be temporarily stockpiled for use as backfill. Soil and sediment exceeding the applicable remediation level identified in the project's administrative order will be transported to a permitted Subtitle D landfill for disposal. After the excavation is completed, the flood control levee will be replaced. Five residential structures will be moved out of the Levee Zone and these structures will be returned to their original locations at the end of the project unless the owners elect to build new structures. Project mitigation and restoration activities will be required for natural resources, private property and public infrastructure that are disturbed by the proposed action.

Project Location:

The project is located in the Town of Skykomish, Washington. Skykomish is approximately 47 miles east of Everett, Washington on U.S. Highway 2 The Town of Skykomish is situated on the left bank (south side) of the South Fork Skykomish River, parallel and to the south of Washington State Highway 2.

Proponent:

BNSF Railway Company
2454 Occidental Street, Suite 1A
Seattle, Washington 98134

Lead Agency:

Washington State Department of Ecology
P.O. Box 47775
Olympia, Washington 98504-7775

Responsible Official:

Tim L. Nord
Section Manager
Land and Aquatic Cleanup
Toxics Cleanup Program
Washington State Department of Ecology
P.O. Box 47775
Olympia, Washington 98504-7775

draft

Contact Person:

Louise Bardy
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, Washington 98008

Required Approvals:

The Proposed Action will be conducted at Ecology's direction under a Model Toxics Control Act (MTCA) Administrative Order. In accordance with Ecology Policy 130B (Permit Exemptions for Remedial Actions under MTCA, February 17, 1995), and MTCA (RCW 70.105D.090), work conducted pursuant to a MTCA order is exempt from the procedural requirements of state and local permits, including chapters 70.94, 70.95, 70.105, 75.20 (Hydraulic Permit), 90.48 (Water Quality), and 90.58 (Shorelands) RCW.

All local and state substantive requirements must be addressed. Certain federal permits are required for the levee reconstruction work. Applicable federal permits include:

- Permit for Discharges of Material into Navigable Waters pursuant to Sections 401 and 404 of the Clean Water Act (33 USC Sections 1341 and 1344), 40 CFR Part 230 [Section 404(b)(1) guidelines], 33 CFR Parts 320 (general policies), 323 and 325 (permit requirements), and 328 (definition of waters of the United States).

- National Pollutant Discharge Elimination System Waste Discharge (NPDES) Permit No. WA-003212-3 (Section 402 of the Clean Water Act).

Local and state permits would ordinarily be required, but the Proposed Action is exempt from the procedural requirements of such permits if conducted pursuant to the MTCA administrative order issued by Ecology. The substantive requirements that would ordinarily be included in these permits will be incorporated into the MTCA order, and are listed below:

- Hydraulic Project Approval, including a Joint Aquatic Resource Permit Application (JARPA), from the State Department of Fish and Wildlife

- Town of Skykomish Shoreline Substantial Development Permit

- King County special use permit for septic drainfields

- Water quality protection requirements.

The substantive requirements of the Town of Skykomish zoning, flood plain management, and Critical Area Ordinance must also be met. The work must also comply with Title 13 of the Code of the King County Board of Health (on-site septic systems).

draft

Authors and Principal Contributors:

Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452
Project Lead: Dawn Hooper
Additional contributors include: Peter Adolphson, Louise Bardy, Susan Lee, Tim Nord, Dave South, Richard Thomas, Ron Timm

The RETEC Group, Inc.
1011 SW Klickitat Way, Suite 207
Seattle, WA 98134-1162
Project Lead: John Guenther, LHG
Additional contributors include: Sarah Albano, Dan Berlin, Steve Howard

Date of Issue:

March 3, 2006

Comments Due by:

April 3, 2006. Submit to Louise Bardy at above address or lbar461@ecy.wa.gov

Public Meetings:

Public Meeting	Availability Session
March 14, 2006	April 1, 2006
6:00 p.m. – 8:30 p.m.	10:00 a.m. – 1:00 p.m.
Community Center	Community Center
208 Railroad Avenue, Skykomish	208 Railroad Avenue, Skykomish

Cleanup Start Date: Anticipated May 2006

Location of Draft EIS and other documents open for review.

Skykomish Library, 100 5th Avenue
Skykomish, 360-677-2660

WA Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008
425-649-7190 (Call for an appointment)

Ecology's Web Site:
http://www.ecy.wa.gov/programs/tcp/sites/bnsf_sky/bnsf_sky.html

Historical materials, including a 2003 draft EIS, are available at the Ecology address and webpage as listed above.

draft

Table of Contents

1 Summary 1-1
1.1 Introduction 1-1
1.2 Purpose and Objective for the Proposal 1-2
1.3 Summary Description of the Alternatives 1-4
1.3.1 The No Action Alternative 1-4
1.3.2 The Proposed Action Alternative 1-4
1.4 Summary of Significant Impacts and Reasonable Mitigation Measures . 1-5

2 Proposed Action and the No Action Alternatives 2-1
2.1 Introduction 2-1
2.1.1 Town of Skykomish Description 2-1
2.1.2 Site Description and History 2-2
2.1.3 Project History 2-3
2.1.4 Regulatory Requirements 2-4
2.1.4.1 Applicable or Relevant and Appropriate Requirements 2-4
2.1.4.2 Permits 2-5
2.2 Description of the Proposed Action Alternative 2-6
2.2.1 Building Relocation/Demolition 2-6
2.2.2 Excavation of Levee, Soils, and Sediments 2-7
2.2.3 Reconstruction and Restoration 2-8
2.3 Description of the No Action Alternative 2-9

3 Existing Conditions, Environmental Impacts and Mitigating Measures in the Natural Environment 3-1
3.1 Geology/Soils 3-1
3.1.1 Existing Conditions 3-1
3.1.1.1 Topography 3-1
3.1.1.2 Geology and Soils 3-1
3.1.1.3 Sediments 3-2
3.1.1.4 Geologic and Natural Hazards 3-3
3.1.2 Environmental Impacts 3-3
3.1.2.1 Topographic Impacts 3-3
3.1.2.2 Soils Impacts 3-3
3.1.2.3 Sediment Impacts 3-3
3.1.2.4 Geologic Impacts 3-4
3.1.3 Mitigation Measures 3-4
3.1.3.1 Topographic Mitigation 3-4
3.1.3.2 Soil Mitigation 3-4
3.1.3.3 Sediment Mitigation 3-4
3.1.4 The No Action Alternative 3-5
3.1.5 Significant Unavoidable Impacts 3-5
3.1.6 Cumulative Impacts 3-5
3.2 Air 3-5
3.2.1 Existing Conditions 3-5
3.2.2 Dust and Odor 3-6
3.2.3 Environmental Impacts 3-6

draft

Table of Contents

3.2.4 Mitigation Measures 3-7
3.2.5 The No Action Alternative 3-8
3.2.6 Significant Unavoidable Impacts 3-8
3.2.7 Cumulative Impacts 3-8
3.3 Water 3-8
3.3.1 Existing Conditions 3-8
3.3.1.1 Groundwater Quantity and Quality 3-8
3.3.1.2 Surface Water Quantity and Quality 3-9
3.3.1.3 Flooding 3-10
3.3.2 Environmental Impacts 3-10
3.3.2.1 Potential Product Releases and Surface Water Impacts 3-10
3.3.2.2 Erosion and Sedimentation Impacts 3-11
3.3.2.3 Hydraulic Diversion Impacts 3-11
3.3.2.4 Flooding Impacts 3-11
3.3.3 Mitigation Measures 3-12
3.3.3.1 Potential Product Releases and Surface Water Mitigation 3-12
3.3.3.2 Erosion and Sedimentation Mitigation 3-12
3.3.3.3 Hydraulic Diversion Mitigation 3-13
3.3.3.4 Flooding Impact Mitigation 3-14
3.3.4 The No Action Alternative 3-14
3.3.5 Significant Unavoidable Impacts 3-14
3.3.6 Cumulative Impacts 3-14
3.4 Plants and Animals 3-14
3.4.1 Existing Conditions 3-15
3.4.1.1 Vegetation and Terrestrial Habitat 3-15
3.4.1.2 Fisheries and Aquatic Habitat 3-16
3.4.1.3 Threatened and Endangered Species 3-17
3.4.2 Environmental Impacts 3-18
3.4.2.1 Land Clearing and Terrestrial Habitat Impacts 3-18
3.4.2.2 Aquatic Habitat Impacts 3-18
3.4.3 Mitigation Measures 3-18
3.4.3.1 Land Clearing and Terrestrial Habitat Mitigation 3-18
3.4.3.2 Aquatic Habitat Mitigation 3-19
3.4.4 The No Action Alternative 3-19
3.4.5 Significant Unavoidable Impacts 3-19
3.4.6 Cumulative Impacts 3-19

4 Existing Conditions, Environmental Impacts and Mitigating Measures in the Built Environment 4-1
4.1 Environmental Health 4-1
4.1.1 Existing Conditions 4-1
4.1.1.1 Contamination 4-1
4.1.1.2 Noise 4-1
4.1.1.3 Vibration 4-1
4.1.1.4 Risk of Explosion 4-1
4.1.2 Environmental Impacts 4-2

draft

Table of Contents

4.1.2.1 Contamination Impacts 4-2
4.1.2.2 Construction Noise Impacts 4-2
4.1.2.3 Construction Vibration Impacts 4-3
4.1.2.4 Risk of Explosion Impacts 4-3
4.1.3 Mitigation Measures 4-3
4.1.3.1 Contamination Exposure Mitigation 4-3
4.1.3.2 Noise Mitigation 4-4
4.1.3.3 Vibration Mitigation 4-4
4.1.3.4 Risk of Explosion Mitigation 4-4
4.1.4 The No Action Alternative 4-4
4.1.5 Significant Unavoidable Impacts 4-4
4.1.6 Cumulative Impacts 4-4
4.2 Land and Shoreline Use 4-5
4.2.1 Existing Conditions 4-5
4.2.1.1 Current Land Use Designations 4-5
4.2.1.2 Aesthetics 4-6
4.2.1.3 Cultural and Historic Resources 4-6
4.2.1.4 Housing 4-7
4.2.1.5 Parks and Recreation 4-8
4.2.1.6 Light and Glare 4-8
4.2.2 Environmental Impacts 4-8
4.2.2.1 Existing Land Use Designations 4-8
4.2.2.2 Aesthetics Impacts 4-8
4.2.2.3 Cultural and Historic Resources Impacts 4-8
4.2.2.4 Housing Impacts 4-9
4.2.2.5 Parks and Recreation Impacts 4-10
4.2.2.6 Light and Glare Impacts 4-10
4.2.3 Mitigation Measures 4-10
4.2.3.1 Aesthetics Mitigation 4-10
4.2.3.2 Cultural and Historic Resources Mitigation 4-11
4.2.3.3 Housing Mitigation 4-11
4.2.3.4 Parks and Recreation Mitigation 4-12
4.2.3.5 Light and Glare Mitigation 4-12
4.2.4 The No Action Alternative 4-12
4.2.5 Significant Unavoidable Impacts 4-12
4.2.6 Cumulative Impacts 4-13
4.3 Transportation 4-13
4.3.1 Existing Conditions 4-13
4.3.1.1 Highway and Street System 4-13
4.3.1.2 Pedestrian System 4-13
4.3.1.3 School Student Transportation 4-13
4.3.1.4 Parking Spaces 4-14
4.3.2 Environmental Impacts 4-14
4.3.2.1 Highway and Street System Impacts 4-14
4.3.2.2 Residential Traffic Impact 4-14

draft

Table of Contents

4.3.2.3 Commercial Traffic Impact 4-15
4.3.2.4 Pedestrian Traffic Impacts 4-15
4.3.2.5 School Access Impacts 4-15
4.3.3 Mitigation Measures 4-16
4.3.3.1 Vehicle System Traffic and Parking Mitigation 4-16
4.3.3.2 Pedestrian System Mitigation 4-16
4.3.3.3 School Access Obstruction Mitigation 4-17
4.3.4 The No Action Alternative 4-17
4.3.5 Significant Unavoidable Impacts 4-17
4.3.6 Cumulative Impacts 4-17
4.4 Public Services and Utilities 4-17
4.4.1 Existing Conditions 4-18
4.4.1.1 Schools 4-18
4.4.1.2 Utilities 4-18
4.4.1.3 Septic Systems 4-18
4.4.1.4 Stormwater Management 4-19
4.4.1.5 Emergency Services 4-20
4.4.2 Environmental Impacts 4-20
4.4.2.1 School Impacts 4-20
4.4.2.2 Utilities Impacts 4-20
4.4.2.3 Septic Impacts 4-21
4.4.2.4 Stormwater Management Impacts 4-21
4.4.2.5 Emergency Services Impacts 4-21
4.4.3 Mitigation Measures 4-22
4.4.3.1 School Mitigation 4-22
4.4.3.2 Utilities Mitigation 4-22
4.4.3.3 Emergency Services Mitigation 4-23
4.4.4 The No Action Alternative 4-23
4.4.5 Significant Unavoidable Impacts 4-23
4.4.6 Cumulative Impacts 4-23

5 References 5-1

draft

List of Tables

Table 1 Summary of Impacts and Mitigation Measures 1-6

List of Figures

Figure 2-1 Regional Location Map

Figure 2-2 General Site Layout and Site Boundary

Figure 4-1 Skykomish Historic Commercial Zone and Affected Structures

List of Attachments

Attachment A SEPA Distribution List

draft

1 Summary

The Washington State Department of Ecology (Ecology) issued a State Environmental Policy Act (SEPA) Determination of Significance (DS) for a Model Toxics Control Act (MTCA) interim action for cleanup for the Levee Zone and part of the Northwest Developed Zone of the Former BNSF Fueling and Maintenance Facility in Skykomish, Washington. The DS requires Ecology to prepare an Environmental Impact Statement (EIS) to evaluate the significant adverse environmental impacts that will result from the proposed action. The EIS will evaluate existing conditions, environmental impacts identified in the DS, and mitigation measures for a no action alternative and the proposed action.

The Levee Zone and part of the Northwest Developed Zone of the Former BNSF Fueling and Maintenance Facility (referred to as Levee Zone throughout this document) includes the area directly west of the Skykomish Bridge on the south side of the South Fork Skykomish River to approximately 700 feet (ft) westward along the river and approximately 135 ft south and upland from the river's shoreline. This area also includes five residences. Work in the river will extend approximately 10 to 30 ft waterward from the river's ordinary high water mark (Figure 2-2).

A Remedial Investigation Report, Supplemental Remedial Investigation Report and Feasibility Study (RI/FS) were prepared by BNSF and accepted by Ecology as having enough information to make cleanup decisions for this site. A Draft Cleanup Action Plan (DCAP) for the entire site is being written by Ecology and should be ready for public review and comment in the fall of 2006. The Levee Zone interim action for cleanup is proposed to begin in May or June 2006 under an Agreed Order pursuant to the MTCA and will be consistent with the future DCAP.

The proposed interim action for cleanup includes a considerable amount of excavation and grading and the temporary relocation of people and homes. Although there will be significant temporary adverse environmental impacts from this action, the overall goal of this interim action for cleanup is to prevent the release of petroleum to the South Fork Skykomish River.

1.1 Introduction

This Draft EIS (DEIS) evaluates existing environmental conditions, significant adverse environmental impacts and mitigation measures associated with the cleanup for the Levee Zone and part of the Northwest Developed Zone of the Former BNSF Fueling and Maintenance Facility located in Skykomish, Washington. This DEIS has been prepared pursuant to the requirements of Chapter 43.21C Revised Code of Washington (RCW), State Environmental Policy Act and Chapter 197-11 Washington Administrative Code (WAC) SEPA Rules. The scope of this DEIS was defined by Ecology in

Draft

the DS. The distribution list is provided as Attachment A to the Draft EIS. Cleanup of the Levee Zone is the initial phase of cleanup of the site.

This DEIS is one in a series of documents required under SEPA and MTCA pertaining to the proposed action. Documents completed pursuant to Agreed Order No. DE 91TC-N213 and referenced in this DEIS include:

- **Remedial Investigation (RI; RETEC, 1996) and the Supplemental RI (RETEC, 2002a):** presenting the results of investigations of the nature and extent of contamination at the site.

- **Final Feasibility Study (RETEC, 2005a) and the Final Draft Feasibility Study and EIS (RETEC, 2003a):** evaluating the extent of impacts and the feasibility of remedial alternatives for the overall site

- **Draft Engineering Design Report (Draft EDR; RETEC, 2006):** describing the proposed interim action for cleanup in detail.

Additional documents that support the proposed Levee Zone Interim Action for Cleanup include an NPDES Permit (Ecology, 2006a) and an Agreed Order (Ecology/BNSF, 2006) which will define BNSF's and Ecology's respective responsibilities related to the proposed action. A site-wide Cleanup Action Plan (CAP) is being written by Ecology and that document will guide the overall remedial actions of the Former BNSF Fueling and Maintenance Facility.

This DEIS addresses the proposed Levee Zone Interim Action for Cleanup, which consists of the following: temporary relocation of five residences along West River Drive, Railroad Avenue and sections of 5th and 6th Avenues; excavation of the flood control levee, underlying soils and sediments along the south bank of the South Fork Skykomish River within approximately 135 ft of the shoreline; reconstruction of the levee; and restoration of natural resources, private property and public infrastructure that are disturbed by the remedial action.

The proposed Levee Interim Action for Cleanup is being done under the authority of Chapter 70.105D RCW, Hazardous Waste Cleanup – Model Toxics Control Act (MTCA), and its implementing regulations, Chapter 173-340 WAC, The Model Toxics Control Act Cleanup Regulations. This statute and its implementing regulations apply to all remedial actions at the site.

1.2 Purpose and Objective for the Proposal

Environmental investigations have shown that the project area contains contamination with petroleum hydrocarbons (diesel and bunker C) in soil, groundwater, surface water and sediment. Overall site contamination is

described in the FS. The contaminants are known to be toxic above established concentrations, and some components are known human carcinogens. Hydrocarbons seeping into the South Fork Skykomish River and floating on the groundwater north of the railyard are primary concerns because these are areas in which significant exposure is more likely. The overall remedial objective of the Levee Zone Interim Action Cleanup is to protect the South Fork Skykomish River and remediate residential and public properties by removing existing petroleum contamination that underlies these properties and discharges into the river. Ecology believes this cleanup action is the only cleanup alternative that provides for a permanent, achievable and expeditious cleanup that meets state cleanup regulatory requirements.

The proposed action is intended to be the final cleanup action for this zone. The Levee Zone interim action for cleanup is the first phase of a multi-phase cleanup for the entire site that includes the remaining portions of the Northwest Developed Zone, the Northeast Developed Zone and the Rail Yard Zone, the South Developed Zone and the Former Maloney Creek Channel Zone. Subsequent cleanup actions will continue in 2007 and will be detailed in an overall site-wide final cleanup action plan available in late 2006-early 2007.

Compliance monitoring will be conducted during and after remediation to demonstrate that the river is being protected and that remediation levels are met on the residential and public properties. In accordance with WAC 173-340-410, monitoring will be completed in the following three phases:

- Protection Monitoring is intended to "confirm that human health and the environment are adequately protected during construction and operation and maintenance period" (WAC 173-340-410 (1)(a)). Protection monitoring will therefore occur during excavation activities as well as during the installation of an air sparging system if that system is needed. Protection monitoring focuses on short-term risks such air quality and wastewater and stormwater treatment in and around construction areas.

- Performance Monitoring will be conducted to "confirm that the … cleanup action has attained cleanup standards" (WAC 173-340-410 (1) (b)). Soil and sediment samples will be collected and analyzed to confirm that the excavation work has achieved remediation levels before areas are backfilled.

- Confirmation Monitoring is performed to "confirm the long-term effectiveness of the cleanup action"(WAC 173-340-410 (1)). New groundwater monitoring wells may be installed and periodic sampling of groundwater from selected wells will be conducted to confirm that groundwater cleanup standards are attained, or if an

air sparging system is needed. Conformational monitoring plans for the Levee Zone will be developed as part of the overall cleanup plans for the site.

Since the Levee Zone Interim Action for Cleanup is one component of an overall cleanup for the site, a site-wide compliance monitoring plan will be developed and implemented in conjunction with the overall site-wide Cleanup Action Plan (CAP).

1.3 Summary Description of the Alternatives

This DEIS evaluates the No Action and Proposed Action Alternative. SEPA requires the evaluation of the No Action Alternative as a benchmark against which the Proposed Action can be evaluated.

1.3.1 The No Action Alternative

The No Action Alternative considers the Levee Zone in its existing condition and is defined as what would be most likely to happen if the proposed action did not occur within the Levee Zone. Under the No Action Alternative, the Levee Zone would remain in its existing condition. Currently, petroleum contamination in subsurface soil and in groundwater within the Levee Zone acts as a source of contamination of surface water and sediments in the South Fork Skykomish River.

Under the No Action Alternative, conditions within the Levee Zone would remain much the same as they are today. Current levels of soil and groundwater contamination would continue to be monitored and the existing interim actions would continue to be implemented over time to contain current site conditions. Sorbent booms have been strategically placed along the riverbank to contain free product seeping into the river. The subsurface barrier wall installed by BNSF in 2001 would be maintained and oil recovery wells installed by BNSF behind the wall would continue to be used to collect and remove free petroleum from the soil and groundwater. These interim protective measures, while helpful and important, have not been entirely effective at eliminating all petroleum discharges to the river.

1.3.2 The Proposed Action Alternative

The Proposed Action Alternative consists of excavating approximately 70,000 cubic yards of petroleum-contaminated soils and sediment within the Levee Zone. Clean overburden materials will be stockpiled for use as backfill. Soil exceeding the remediation level of 3,400 ppm NWTPH-Dx and sediment exceeding the cleanup level of 40.9 ppm NWTPH-Dx will be transported to a permitted Subtitle D landfill for disposal. After the excavation is completed, approximately 750 lineal feet of an existing flood control levee will be replaced. Five residential structures will be moved out of the Levee Zone and these structures will be returned to their original locations at the end of the

project unless the owners elect to build new structures. Project mitigation and restoration activities will be required for natural resources, private property and public infrastructure that are disturbed by the proposed action.

1.4 Summary of Significant Impacts and Reasonable Mitigation Measures

Table 1-1 summarizes probable significant adverse impacts resulting from the Proposed Action and the No Action Alternatives. The Proposed Action includes mitigation of all impacts identified such that no long-term, significant adverse impacts on natural resources or the built environment have been identified.

draft

Table 1 Summary of Impacts and Mitigation Measures

Element of the Environment	Impacts of the Proposed Action Alternative	Impacts of the No Action Alternative	Proposed Measures to Mitigate Impacts
Geology/Soils			
Topography	Temporary alteration of site topography from excavation, grading and backfilling of the project area.	None.	The project area will be graded to its original topography.
Geology	Replacement of an estimated 70,000 cubic yards of native sediment and soil.	None.	Replacement of contaminated sediment and soil with comparable material that is not contaminated.
Soils	Excavation and replacement of soil.	Existing subsurface soil contamination.	Replacement of contaminated soil with comparable material that is not contaminated.
Sediments	Excavation and replacement of sediment.	Existing sediment contamination.	Replacement of contaminated sediment with comparable material that is not contaminated.
Natural Hazards and Seismic Events	Vulnerability of exposed contaminated sediment, soil and water. Potential for off site impacts	Potential release of contamination and oil booms during high water.	Spill prevention and sediment and erosion control BMPs.
Flooding	Vulnerability of Town to flooding increases while levee is removed.	None.	Replacement of the levee before high water in the Fall. Cofferdam system during construction.
Air			
Dust	Dust from excavation activities, construction related traffic, and newly exposed soil will impact residents and businesses.	Dust generated from currently exposed soil and existing traffic conditions.	Dust control during construction, plastic sheeting and re-vegetation of new areas of exposed soil as quickly as possible.
Odor	Petroleum product odor from exposing soil and groundwater during construction.	Odor from existing product seepage along river.	Plastic sheeting on stockpiles, and removal of odor sources.

Draft

Table 1 Summary of Impacts and Mitigation Measures

Element of the Environment	Impacts of the Proposed Action Alternative	Impacts of the No Action Alternative	Proposed Measures to Mitigate Impacts
Water			
Groundwater Quantity and Quality	Potential release of contaminated groundwater during construction.	Existing seepage of product along base of levee.	Contaminant source removal, on-site water treatment and containment.
Surface Water Quantity and Quality	Potential erosion and sedimentation release of contaminated water and reduction in surface water flows during construction.	Existing seepage of product along base of levee.	Erosion control BMPs, contaminant source removal and on-site water treatment and discharge per NPDES permit.
South Fork Skykomish River	Potential erosion and sedimentation during construction. Potential release of contaminated water during construction. Temporary disturbance of riverbed.	Existing seepage of product along base of levee.	Erosion control BMPs, contaminant source removal and aquatic habitat enhancement.
Plants and Animals			
Vegetation and Terrestrial Habitat	Land clearing and temporary loss of terrestrial habitat.	None.	Re-vegetation and terrestrial habitat enhancement.
Fisheries and Aquatic Habitat	Temporary disruption of the river substrate and turbidity.	Existing sediment contamination and river water quality impacts.	Replacement of contaminated sediment with clean sediment. Aquatic and riparian habitat enhancement.
Threatened and Endangered Species	Temporary loss of terrestrial roosting habitat and aquatic habitat.	Contaminated river substrate and river water quality impacts.	Re-vegetation of shoreline and habitat enhancement.

draft

Table 1 Summary of Impacts and Mitigation Measures

Element of the Environment	Impacts of the Proposed Action Alternative	Impacts of the No Action Alternative	Proposed Measures to Mitigate Impacts
Environmental Health			
Noise	Noise from construction equipment and truck traffic will impact residents and businesses.	Existing conditions.	Mufflers and limited hours of operation and. Meetings with community members will be held to address specific concerns and identify necessary mitigation throughout the duration of the project.
Contamination	Temporary exposure, handling and transportation of contaminated soils and water.	Existing conditions.	Removal of contaminated soil, sediment and groundwater.
Vibration	Construction-related vibrations may impact nearby structures.	Existing conditions.	Monitoring and repair of structures if necessary.
Risk of Explosion	Possible temporary above ground fuel storage.	Existing conditions.	Contained explosion proof fuel storage tank and spill response planning.
Land and Shoreline Use			
Aesthetics	Temporary loss of trees and vegetation.	Existing conditions.	Landscape and planting plan and restoration of levee area to no less than current conditions.
Historic Resources	Temporary disturbance of historic structures from movement, vibration and utilities modifications.	Existing conditions.	Replacement and monitoring of historic structures to existing conditions. Repair and reconstruction.
Cultural and Archaeological Resources	Potential discovery and disturbance of resources.	Exiting conditions.	Cultural and archaeological resources management plan and monitoring.
Housing	Temporary displacement of four or five residences. Temporary construction related disruption to nearby residences. Possible demolition of one unoccupied residence.	Existing conditions.	Provide alternative housing and moving expenses. Restore housing to original location or owner can rebuild per current code.

Draft

Table 1 Summary of Impacts and Mitigation Measures

Element of the Environment	Impacts of the Proposed Action Alternative	Impacts of the No Action Alternative	Proposed Measures to Mitigate Impacts
Parks and Recreation	Temporary use restrictions.	Existing conditions.	Enhanced recreational opportunities along river by eliminating contamination in sediments and surface water. Opportunity for Town to create public spaces and river access during or after levee reconstruction.
Light and Glare	Possible portable construction lighting.	Existing conditions.	Shield and focus lighting away from roads and residences.
Transportation			
Highway and Street System	Temporary obstructions and detours.	Existing conditions.	Traffic control and signage. Temporary access west of school to West River Drive.
Pedestrian System	Temporary obstructions and detours.	Existing conditions.	Pedestrian traffic control and signage. Emergency ingress and egress to school. Temporary access West of school to West River Drive.
School/Student Transportation	Temporary vehicle and pedestrian access and parking obstructions.	Existing conditions.	Traffic control and scheduling coordination. Maintain bus access via 6th Street and Railroad Ave. Emergency ingress and egress to school for students and vehicles.
Parking Spaces	Temporary loss of parking areas along streets.	Existing conditions.	Identify interim parking locations.

draft

Table 1 Summary of Impacts and Mitigation Measures

Element of the Environment	Impacts of the Proposed Action Alternative	Impacts of the No Action Alternative	Proposed Measures to Mitigate Impacts
Public Services and Utilities			
Schools	Temporary access and use constraints from construction traffic and activities. Temporary noise and dust disturbances.	No change.	Identification of alternative school access locations. Provide transportation to alternative outdoor recreation areas until school property is restored.
Utilities	Relocation or temporary displacement of water, phone and electric utilities. Removal of private septic systems.	Existing conditions.	Relocation of utilities and replacement of private septic systems and re-connection to public septic system serving school and superintendent's residence.
Stormwater Management	Stormwater flow diversions and potential for erosion.	Existing conditions.	Engineered stormwater management plan consistent with NPDES Permit.
Flood Control	Temporary levee removal and flood vulnerability.	Existing conditions.	Reconstruction of the levee to current design.
Emergency Services	Temporary detours and construction obstructions north of Railroad Ave. and west of 5th Street.	Existing conditions.	Identification of emergency access routes to area north of Railroad Ave. and west of 5th Street.
General Mitigating Measures			
Meetings with community members will be held to personally address resident or business-specific concerns and identify necessary mitigation throughout the duration of the project. In addition, a toll-free number will be established for community members to report concerns or problems.			

draft

2 Proposed Action and the No Action Alternatives

2.1 Introduction

The project area, or Levee Zone, is part of a larger site known as the BNSF Former Maintenance and Fueling Facility located in the east King County Town of Skykomish (Figure 2-1). As outlined in Section 2.1 of the FS (RETEC, 2005a), historical activities since the facility opened in the late 1890s included refueling and maintaining locomotives and operating an electrical substation for electric engines. These activities released contaminants to the railyard and surrounding environment. BNSF has accepted responsibility for cleaning this historical contamination at the site consistent with the MTCA and SEPA. The BNSF facility is currently used as a base of operations for track maintenance and snow removal crews.

The Proposed Action is the first phase of the site cleanup which consists of the temporary relocation of five residences, excavation of the levee, underlying soils and sediments along the south bank of the South Fork Skykomish River within approximately 135 ft of the shoreline including beneath the five residences, reconstruction of the levee, and restoration of natural resources, private property and public infrastructure that are disturbed by the remedial action.

2.1.1 Town of Skykomish Description

The Town of Skykomish is situated predominantly within Section 26, Range 11 East, Township 26 North, W.M. in King County and located approximately 47 miles east of Everett, Washington. The Town of Skykomish is situated on the left bank (south side) of the South Fork Skykomish River, parallel and to the south of Washington State Highway 2. The town is accessed from Highway 2 by a Washington State Department of Transportation bridge.

The Town of Skykomish is a rural town divided into five zoning districts: residential, commercial, industrial, historic commercial, and public (Ordinance 235, 1995). As detailed in Section 2.1.1.1 of the FS (RETEC, 2005a), the industrial zone of Skykomish consists of the railyard with commercial zones north of the South Fork of the Skykomish River and south of the railyard. North of the railyard is a Historic Commercial Zone while the remainder of the town is public or residential.

The majority of businesses in Skykomish are small and include retail, gas stations, motels, restaurants, and hotels that cater to local residents and tourists (Town of Skykomish, 1993). Besides the BNSF railroad maintenance activities, there is no other industry in Skykomish. The National Forest Service maintains a depot in Skykomish.

draft

Skykomish was built near the mouth of Maloney Creek where it connects to the South Fork of the Skykomish River. Maloney Creek was diverted from its original course in approximately 1912, and many channel modifications have occurred since then (USFS, 1991). The original course of Maloney Creek was located along the southern boundary of the railyard, and developed into a marshy area collecting stormwater drainage from the railyard and the southern part of town. The current course of Maloney Creek runs south of town.

To protect the town from flooding from the South Fork Skykomish River, the United States Army Corps of Engineers (USACE) constructed a flood control levee in 1951 along the riverfront east and west of the Skykomish Bridge, which was built in 1939.

No logging or mining activities are ongoing in the Skykomish area. The town is surrounded on all sides by the Snoqualmie-Mount Baker National Forest. This portion of the National Forest is in Management Area 27-SF, part of which is Scenic Forest. Scenic Forest is managed to enhance viewing and recreational experiences (USFS, 1990 and USFS/USDI BLM, 1994). Scenic forest is a designation made by the U. S. Forest Service (USFS) to describe land managed to enhance viewing and recreational experience. These areas include parcels with various designations that influence the Forest Service's management of each parcel. Area 27-SF includes stands such as Late Successional Reserve, which are managed for the growth and protection of old growth forest, recommended Wild and Scenic River, and many other designations all managed in different ways to enhance viewing and recreational experiences.

2.1.2 Site Description and History

The Former BNSF Maintenance and Fueling Facility site comprises the area in Skykomish where soil, groundwater, surface water and sediment exceed the site-specific cleanup levels. This area is approximately south of the South Fork Skykomish River, north of the Old Cascade highway, east of the west end of West River Road, and west of the furthest east house on Railroad Avenue (Figure 2-2). Historically, Skykomish was the commercial center of the Upper Skykomish Valley. The Town of Skykomish was incorporated in 1909, and mining, lumbering, milling, and the railroad were its economic mainstays. In 1929 the town had a population of 929, but it has since declined to its current level of 214 (U.S. Census Bureau, 2001). It is estimated that seasonal residents bring the total population to between 250-300 people (Blanck, 2003). Skykomish is at an altitude of approximately 950 ft above mean sea level (msl).

Section 2.1.1 of the FS (RETEC, 2005a) details the history of Skykomish from the start of train service to Seattle in 1893 when the Town of Skykomish became a center for railroad operations, including a roundhouse, turntable, and electrical generating substation related to the Cascade Tunnel. Five

draft

operational eras have been defined, Coal and Steam, Oil and Steam, Electric, Diesel and Maintenance.

The BNSF railroad still runs through town, and current railyard activities include track maintenance and snow removal. The railroad continues to be a BNSF main transcontinental route with approximately 24 trains passing through Skykomish daily (Yates, 2003a).

Today the town is economically dependent on tourism and on the USFS maintenance yard and ranger station. The other major employer is the Skykomish School District.

2.1.3 Project History

The project history is detailed in the FS. Since early 1991, when Ecology designated the former maintenance and fueling facility a high priority cleanup site, BNSF and Ecology have been working together through a series of formal negations and legal agreements (Agreed Orders) to select and implement early interim action for cleanup work.

Investigations performed by BNSF with oversight by Ecology since 1993 have revealed petroleum contamination in soil, groundwater, the South Fork Skykomish River and the former Maloney Creek that exceeds state standards. The contamination has migrated beyond the railroad property and has been found underneath homes and businesses in Skykomish and in "seeps" on the banks of the South Fork Skykomish River.

Overall site contamination is described in the FS. In the Project Area, contamination consists of the following:

- **Soils –** Subsurface soils contain petroleum and its components (e.g., polynuclear aromatic hydrocarbons or PAHs) to an approximate 15-ft depth.
- **Groundwater –** Mixtures of both floating and dissolved diesel and bunker C are present in groundwater beneath the site at concentrations greater than allowed under state law.
- **Surface Water –** Diesel and bunker C mixtures from upland areas are seeping into the river after being transported underground by groundwater.
- **Sediments –** Diesel and bunker C mixtures from upland areas are present in sediments along the riverbank at seep locations.

BNSF implemented an interim action for cleanup during 2001 by enhancing its product recovery system in an effort to eliminate contaminants from

draft

seeping into the South Fork Skykomish River. An Interim Action is any action that partially addresses cleanup at a site. The Interim Action for Cleanup in 2001 included construction of an underground barrier wall west from the bridge along West River Road to intercept petroleum migrating underground toward the River. Recovery wells were installed behind (upgradient of) the wall and at the ends of the wall to determine where contaminants accumulate. Temporary recovery operations are conducted from these wells. During the second phase, the wells that contained the most petroleum product were converted into product recovery wells that currently skim petroleum from groundwater. Additional recovery wells were later installed.

2.1.4 Regulatory Requirements

The Proposed Action has been designed in accordance with the Washington Administration Code (WAC) 173-340, the Model Toxics Control Act (MTCA) Cleanup Regulations as described in the Draft EDR (RETEC, 2006). Under MTCA, Ecology developed site-specific cleanup levels and remediation levels which are presented in the FS (RETEC, 2005a).

2.1.4.1 Applicable or Relevant and Appropriate Requirements

Applicable or relevant regulatory requirements include health and safety regulations, stormwater management, noise and odor control, waste characterization, hauling of excavated materials, zoning and land use, historic preservation, solid waste management, excavation, backfilling, grading, endangered species protection, and air and water quality. These are detailed in Sections 2.2.1 through 2.2.9 of the EDR (RETEC, 2006) and are listed here for reference:

- **WAC 296-155:** Safety Standards for Construction Work
- **29 Code of Federal Regulations (CFR) 1910.21:** Occupational Safety and Health Standards
- **Revised Code of Washington (RCW) 70.107; WAC 173-60:** Washington Noise Control Act
- **WAC 173-303:** Dangerous Waste Regulations
- **RCW 46:** Motor Vehicles
- **WAC 173-304:** Solid Waste Management
- **WAC 173-460 and the Puget Sound Clean Air Agency:** air emissions criteria for the site

draft

- **Clean Water Act Sections 401, 402 and 404:** Discharge of pollutants to surface water, construction activities within wetlands and waters of the U.S.

- **RCW 90.56:** Plans, standards, and penalties associated with oil and hazardous substance spill prevention and response.

2.1.4.2 Permits

The Proposed Action will be conducted at Ecology's direction under a MTCA Order. In accordance with Ecology Policy 130B (Permit Exemptions for Remedial Actions under MTCA, February 17, 1995), and MTCA (RCW 70.105D.090), work conducted pursuant to a MTCA order is exempt from the procedural requirements of state and local permits, including chapters 70.94, 70.95, 70.105, 75.20 (Hydraulic Permit), 90.48 (Water Quality), and 90.58 (Shorelands) RCW. All local and state substantive requirements must be addressed during remedial design as described in Section 2.3 of the Draft EDR (RETEC, 2006) and a new Agreed Order. Certain federal permits are required for the levee remediation work. Applicable federal permits are detailed in the Draft EDR and include:

- 404 Permit (Section 404 of the Clean Water Act) which includes water quality conditions (Section 401 of the Clean Water Act) and consultation with NOAA-Fisheries and the United States Fish and Wildlife Service (USFWS) pursuant to the Endangered Species Act

- National Pollution Discharge Elimination System (NPDES) permit (Section 402 of the Clean Water Act).

The following local and state permits would ordinarily be required, but the Proposed Action is exempt them from if conducted pursuant to a MTCA order issued by Ecology. The substantive requirements that would ordinarily be included in these permits will be incorporated into the EDR and/or the MTCA order, and are listed below:

- Hydraulic Project Approval, including a Joint Aquatic Resource Permit Application (JARPA), from the State Department of Fish and Wildlife

- Town of Skykomish Shoreline Substantial Development Permit

- King County special use permit.

The substantive requirements of the Town of Skykomish zoning, flood plain management, and Critical Area Ordinance must also be met. The work must

draft

also comply with Title 13 of the Code of the King County Board of Health (on-site septic systems).

2.2 Description of the Proposed Action Alternative

The Proposed Action Alternative consists of the temporary relocation of five residences, excavation of the levee, underlying soils and sediments along the south bank of the South Fork Skykomish River within approximately 135 ft of the shoreline, reconstruction of the levee, and restoration of natural resources, private property and public infrastructure that are disturbed by the remedial action. A more detailed description of the Proposed Action Alternative, including implementation guidelines is included in the Draft EDR.

Mobilization and site preparation will consist of bringing equipment and materials to the site and preparing the Project Area for the remedial action. Site preparations, as detailed in the EDR, include locating all underground public and private utility lines, clearing and grubbing of the vegetation on the levee. A temporary access road will be built west of the school between Railroad Avenue and West River Road. Additional haul routes will use existing roads. Electricity and telephone lines will be re-routed by the utilities prior to the excavation. Final locations for the electricity and telephone lines will be determined by the utilities, Town of Skykomish, and BNSF.

2.2.1 Building Relocation/Demolition

The Proposed Action involves temporary relocation of five residences and associated out-buildings:

- The Teacherage on School property
- The Mackner residence on West River Drive
- The Moore residence on 6th Street
- The two Mitchell residences on the corner of West River Drive and 5th Street.

Prior to relocation of buildings, utilities will be disconnected. The buildings will be temporarily relocated within Town during the levee cleanup implementation. It will not be possible for residents to inhabit the structures while they are displaced – the buildings will remain vacant. Any existing foundations, garages, porches, out-buildings, side walks, patios, driveways and landscaping will be cleared and materials disposed of appropriately. BNSF will provide alternative housing and moving expenses pursuant to access agreements with each property owner. Each house will be restored to its original location at the end of the project unless the owner elects to have

BNSF demolish the structure so that the owner can build a new structure consistent with the Town's current zoning, shoreline development, building codes and SEPA ordinance. Building new structures is not part of the proposed action.

BNSF will develop the existing 6-foot public right-of-way west of the School for access to West River Drive during the project. BNSF is negotiating with the owner of the unoccupied residence at 303 West River Drive, and may demolish that residence to create additional space for vehicle and pedestrian access during the project. This temporary access point will be closed at the end of the project once West River Drive is restored. Any additional use of the property at 303 West River Drive will be at the owner's discretion consistent with the Town's current zoning, building codes and SEPA ordinance and is not part of the proposed action.

2.2.2 Excavation of Levee, Soils, and Sediments

Soil and sediments will be excavated from the Levee Zone within and adjacent to the South Fork Skykomish River. Excavation includes the removal of all sediment exceeding 40.9 mg/kg by NWTPH-Dx and all soils exceeding 3,400 mg/kg by NWTPH-Dx. In addition, there will be removal of all soils within this excavation area exceeding 40.9 mg/kg by NWTPH-Dx within 25 feet shoreward of the mean annual high water mark or to a depth of 10 feet below the elevation of the toe of the levee, whichever criteria is met first. The proposed excavation extends west from the 5th Avenue Bridge approximately 750 feet, includes the levee and sediments along the levee, and soils approximately 135 feet landward of the levee as shown in Figure 2-2 and in Figure C-16 (Skykomish Levee Remediation Construction Sections) in the Draft EDR. The excavation will remove parts of the existing stormwater sewer system on West River Road, 5th Avenue, and 6th Avenue as well as the existing septic systems serving four of the residences. The school's septic system, which also serves the Teacherage, will not be disturbed by the proposed interim action for cleanup.

As detailed in the Draft EDR, the excavation depth along the southern edge of the cleanup area is anticipated to be about 15 feet. It is planned to slope the upper five feet of the excavation, then, install sheet pile to create a vertical 10-foot high wall for the remainder of the excavation (this process is referred to as "shoring"). This will facilitate continuation of remediation to the south in the future.

Materials excavated from the Project Area will be segregated into three types of stockpiles: material impacted with petroleum exceeding the remediation level of 3,400 mg/kg, material impacted with petroleum between the cleanup level of 22 mg/kg and the remediation level of 3,400 mg/kg, and clean material (i.e., petroleum is less than the cleanup level of 22 mg/kg). Some of the clean material will be used to fill the large sandbags that will make up two

parallel cofferdams that will be placed in the South Fork Skykomish River to divert the river away from the active excavation. The excavation will be completed in the wet, meaning that there will be some standing water in the excavation. A small flow gradient into the excavation will be maintained using dewatering procedures specified in the Engineering Design Report.

Excavated materials will be characterized visually and then analyzed according to the Sampling and Analysis Plan (SAP; Appendix G of the Draft EDR [RETEC, 2006]) to determine if concentrations exceed 3,400 mg/kg NWTPH-Dx. Soils with concentrations exceeding 3,400 mg/kg NWTPH-Dx will be loaded into dump trucks and transported to a lined spoils staging area on the railyard. These materials will then be disposed of at an off-site facility. Based on the FS, RI, and Supplementary RI, excavated soils are expected to consist of mixtures of silt, sand, gravel, cobbles, and boulders. Contaminants are generally trapped in the finer portions of the soil (silt, sand, and fine gravel). In the absence of NAPL, little contamination is retained in the coarse gravel, cobbles, and boulders. BNSF may elect to set up a screening operation which will segregate the larger cobble from the finer soil. This would allow the larger clean material to be blended with the backfill in the excavation.

Soils with concentrations below 22 mg/kg NWTPH-Dx may be used for backfill on site and will be stockpiled separately under the Proposed Action.

Once areas of the excavation have reached their proposed extent, confirmation samples will be collected as outlined in the Draft EDR and SAP to determine if the excavation has achieved appropriate remediation or cleanup levels.

2.2.3 Reconstruction and Restoration

Reconstruction and restoration will consist of backfilling areas of excavation, reconstruction of the levee, replacement of the stormwater system, foundations, garages, outbuildings and septic tanks and drainfields, moving buildings back to their original locations, and utility infrastructure restoration and reconnection. Existing roads within the Project Area will be restored and in the case of West River Road, enhanced to meet existing King County Road Standards (1993). Damaged surfaces will be replaced in kind.

Backfill material will include stockpiled clean excavated soil and approved imported soil. As detailed in the Draft EDR, significant compaction of the backfill placed in standing water will not be feasible. Backfill materials above the water table will be compacted as specified in the EDR.

Levee reconstruction details are provided in the Draft EDR and include at a minimum: a 3 ft thick armor rock layer on the waterward side of the levee, large woody debris and a 2 ft high ledge at the toe of the levee for habitat enhancement, native vegetation above the ordinary high water mark consistent with the landscape plan included in the Draft EDR and a retaining wall on the

south side of the levee to allow West River Road to be expanded to a width of 22 ft as specified in the King County Road Standards.

2.3 Description of the No Action Alternative

Under the No Action Alternative, site conditions would remain much the same as they are today. Current levels of soil and groundwater contamination would continue to be monitored and some interim actions may be implemented over time as deemed necessary to prevent the exacerbation of current site conditions (i.e., boom maintenance and skimmer wells).

The contamination in the levee area consists of free petroleum product (LNAPL). The free product acts as sources for both soil contamination and dissolved hydrocarbons in groundwater. Free product is also seeping into the South Fork Skykomish River adjacent to the upland plumes.

The No Action Alternative includes continued use of the existing barrier wall and associated free product skimming system. This system (wall and skimmers) is collecting free product at the site at the leading edge of the plume and should ultimately result in the cessation of seeps to the South Fork Skykomish River once product beneath the levee and down-gradient of the barrier wall is depleted. Oil recovery booms will continue to be maintained along the River to recover oil. Long-term groundwater monitoring will also be performed. The No Action Alternative will not fully protect people or ecological receptors from exposure to surface or subsurface contamination.

The No Action Alternative would not significantly affect the built environment. No roads, buildings or utilities would be physically damaged or disrupted. The No Action Alternative does impact the Town of Skykomish's ability to maintain subsurface utilities such as water and the stormwater sewer system since they lie within impacted soil. The natural environment would continue to be significantly and adversely impacted by the contamination present.

Draft

3 Existing Conditions, Environmental Impacts and Mitigating Measures in the Natural Environment

3.1 Geology/Soils

This section describes existing conditions, impacts and mitigation measures for the geology and soils element of the natural environment. In accordance with 197-11-444 WAC, the geology and soils element of the natural environment includes topography, geology, soils, sediments and natural hazards.

3.1.1 Existing Conditions

3.1.1.1 Topography

The topography of the town and the surrounding area south of the river is shown on Figure 2-6 of the FS (RETEC, 2005A) and in Figure C-3 of the Draft EDR (RETEC, 2006a). A detailed description of the town topography is contained in Section 2.2.1.4 of the FS (RETEC, 2005A). The area of the town affected by the levee remedial action is relatively flat, between 920 and 925 ft (NAVD88) above sea level, gently sloping from east to west towards the South Fork Skykomish River. The flood control levee is approximately fifteen ft high along the southern portion of the river for flood protection.

The top of the levee is at approximate elevation 930 ft (NAVD88). The levee is approximately 550 ft long and slopes down to the river with a 2:1 slope to a swale at elevation 916.5 ft. A bank-parallel river bar rises to about elevation 917 ft and is about 10 ft wide, before sloping into the river.

3.1.1.2 Geology and Soils

The Former Maintenance and Fueling Facility is located in the Skykomish Valley on the southern bank of the South Fork Skykomish River. The Skykomish Valley is a classic, glacially scoured valley with steep sidewalls and a relatively flat bottom. The South Fork Skykomish River, flowing from east to west adjacent to the site, now occupies the northern side of the valley at the railyard. Over time, the river has meandered from the north side of the valley to the south side of the valley, as evident in the riverine deposits that dominate the geology on the valley floor. These deposits include sand, gravel, cobbles and boulders.

The Town of Skykomish is primarily underlain by highly heterogeneous glaciofluvial sediments. These glaciofluvial sediments consist mainly of sand and gravel, and underlie a generally thin layer of topsoil and/or fill. Figure 2-3 in the FS (RETEC, 2005A) presents a typical cross section through the site that illustrates the variability of the soils underlying the town.

The primary soil units in Skykomish consist of at least 50 ft (corresponding to total depth of deep borings) of sand and gravelly sand with discontinuous silty and clayey lenses. The local lithology can be broken up into three distinct units within the shallow Quaternary deposits found underlying the site:

1) Upper topsoil and fill (1 to 2 ft thick)
2) Gravelly sand and sandy gravel (11 to 22 ft thick)
3) Lower silt (3 to 10.5 ft thick where penetrated).

Subsurface conditions encountered during investigation of the levee and river bottom are illustrated in Figure 4-2 and 4-3 of Appendix B of the Draft EDR (RETEC, 2006a).

Based on the USACE levee construction as-built drawings (USACE, 1951), the levee embankment was constructed on native soils. Fill materials were placed above the pre-existing ground surface where the elevations were lower than the design levee elevations. The fill materials are comprised of mostly sand and gravel. Boulders armor the surface of the north side of the berms, but the percentage of boulders within the berm is unknown. Pre-existing sewer and storm drain pipes were shown to extend through the embankment to the river side although pre-trenching operations associated with the slurry wall demonstrated the existence of only two storm sewer lines penetrating through the levee.

Subsurface soil conditions encountered during the installation of the barrier wall parallel to the levee are illustrated on the as-built drawing included in Appendix A of the Draft EDR (RETEC, 2006a). As shown, the subsurface soils in the barrier wall area consisted of mostly sand, gravel and cobbles, with scattered boulders and discontinuous silt deposits. Generally, boulders were present at deeper zones of the barrier wall trench. Previous site investigations have not reached bedrock.

3.1.1.3 Sediments

Substrates within the South Fork Skykomish River are dominated by sand, gravel, and cobbles. Larger boulder substrates are more frequent along the northern portions of the channel, with smaller cobbles, gravels, and sands occurring along the southern shore. Larger cobbles, boulders, and riprap associated with the base of the flood control levee are also present along the southern shoreline. Gravels and sands occupy many of the interstices of larger substrates within the river channel.

Based on a visual inspection of the river bed, the estimated median grain size (D50) is 2 inches (50 mm, 0.17 ft). The coarse, cohesion-less nature of the river bed material suggests that the river bed should support in-river cofferdams (necessary for levee excavation) without significant settlement. The riverbed load is assumed to be subject to some transport during flood

Draft

stages of the river and the distribution of the bed load is assumed to change seasonally in response to river flow.

The river bed in front of the levee slopes from 917.11 ft (NAVD88) just downstream of the bridge to 915.64 ft at 550 ft downstream of the bridge. This is a slope of 0.0028 (1.47 ft/530 ft = 0.28 ft/100 ft = 0.16º).

3.1.1.4 Geologic and Natural Hazards

Geologic and natural hazards that could potentially affect the proposal include seismic activity, flooding and erosion hazards. Flooding and erosion hazards are evaluated in Section 3.3.

The site is located in seismically active western Washington. In the past 50 years, earthquakes have been felt in Skykomish, Washington in 1965, 1996, and 2001 (USGS, 2006). The 1996 quake was centered near Duvall, and the 1965 and 2001 quakes were centered south of Seattle (USGS, 2006).

3.1.2 Environmental Impacts

The proposed action will temporarily impact site topography, soils and sediments. These impacts will result from excavation and grading activities, truck traffic and work in the river.

3.1.2.1 Topographic Impacts

Existing site terrain is relatively flat. The topography of the project area will be temporarily altered from its existing condition as a result of excavation, fill and grading activities. There will be no long term topographic changes resulting from the project.

3.1.2.2 Soils Impacts

Approximately 70,000 cubic yards of soils and sediment will be excavated from the project area as described in detail in the Draft EDR (RETEC, 2006). Temporary soil impacts will result from the construction of access and haul roads, utilities relocation and preparation of staging areas. Soils exposed from excavation activities and soil stockpiles may be vulnerable to erosion.

Construction backfill including soil, sand, and gravel will be supplied locally from approved sources and quarries. A possibility exists that backfilled soils may be subject to recontamination from up-gradient contamination. The proposed sheet pile installation as described in the Draft EDR is intended to impede the potential for recontamination of the clean imported fill.

3.1.2.3 Sediment Impacts

A relatively large amount of sediment will be excavated from the river. Details regarding sediment excavation are provided in the Draft EDR (RETEC, 2006). Impacts may include temporarily increased turbidity,

draft

sedimentation as well as impacts to benthic habitat. Excavated river sediment will be replaced with imported substrate of comparable type and gradation to existing materials.

3.1.2.4 Geologic Impacts

Geologic hazards that could potentially affect the project include seismic hazards (i.e., earthquakes). Based on the historic record of seismic activity recorded for the Town of Skykomish, the likelihood of a significant seismic event during site work is relatively low. An earthquake occurring during the project work could potentially breach the cofferdam, depending on the severity.

3.1.3 Mitigation Measures

3.1.3.1 Topographic Mitigation

The area will be returned to existing topography resulting in no long-term changes.

3.1.3.2 Soil Mitigation

Section 6.2.2 of the Draft EDR (RETEC, 2006a) identifies chemical testing and gradation requirements of overburden materials and imported backfill. Impacted soils will be stockpiled in lined, bermed areas to contain any water generated erosion. In the event that dust or odors exceed site-specific action levels outlined in the air monitoring plan that is being prepared, engineering measures such as tarping, watering, or foam may be implemented.

3.1.3.3 Sediment Mitigation

Section 6.2.2 of the Draft EDR (RETEC, 2006a) identifies chemical testing and gradation requirements of backfill. Disturbed sediments will be replaced with substrate of comparable type and gradation. Replacement sediment will be chemically tested to ensure no adverse impacts from fill. The cofferdam will be used to prevent contamination of sediments downstream from the project area. Oil absorbent booms will also be placed on the riverside of the second cofferdam to provide tertiary containment and prevent recontamination of downstream sediments.

Geologic and Natural Hazard Mitigation

In the event of an earthquake, the cofferdam will be inspected to confirm it was undamaged. Spill response personnel will be on call at all times. If a breach to the cofferdam results from an earthquake, spill response personnel will mobilize to contain contamination and prevent downstream impacts.

draft

3.1.4 The No Action Alternative

Under the No Action Alternative, the proposed project would not be implemented. The site topography, soils, sediments and geology would not be altered and would remain the same as described in Section 3.1.1 Existing Conditions. Contamination may continue to impact river sediment if the project is not implemented.

3.1.5 Significant Unavoidable Impacts

In consideration of the reasonable mitigation measures identified in Section 3.1.3, no significant unavoidable adverse impacts on soils, sediments or geology have been identified. The project design would minimize potential risks from natural hazards.

3.1.6 Cumulative Impacts

No significant cumulative impacts on soils, sediments, or geology have been identified.

3.2 Air

This section describes existing conditions, impacts and mitigation measures for the air element of the natural environment. In accordance with 197-11-444 WAC, the air element of the natural environment includes dust and odor. Additional detailed information on climate is contained in Section 2.2.3 of the FS (RETEC, 2005A).

3.2.1 Existing Conditions

Air quality is generally assessed in terms of whether concentrations of air pollutants are higher or lower than ambient air quality standards set at levels protective of human health. Based on ambient monitoring data collected from a network of monitoring stations throughout the region, areas are designated as being in “attainment” or “non-attainment” for particular pollutants.

Skykomish is currently in attainment of ambient air quality standards for all criteria pollutants. This status indicates that the region meets the National Ambient Air Quality Standards (NAAQS) for all pollutants. However, the site is located on the boundary of an area that was designated as non-attainment for ozone until 1996. This area, which incorporates all but the extreme northwest portion of King County, is currently subject to a maintenance plan for ozone approved by the United States Environmental Protection Agency (EPA). The maintenance plan for ozone addresses fuel specifications for mobile sources, inspection and maintenance programs for automobiles, and industry-specific rules. The only significant sources of ozone precursors in the Skykomish area are automobile and train traffic. This project will not be directly affected by the current ozone maintenance plan. The Puget Sound

draft

Clean Air Agency (PSCAA) is currently in the process of updating the maintenance plan for the region.

3.2.2 Dust and Odor

Automobiles, which travel in the town and on the busier Northeast Stevens Pass Highway (U.S. 2) at the north end of town, are sources of dust. Approximately 24 trains pass through Skykomish on a daily basis (Yates, 2003a) and are responsible for diesel exhaust emissions, but they do not routinely stop and idle in town. Periodic railroad operations on the railyard such as re-grading lead to dust. Dust emanating from the railyard is reduced by the annual application of a dust suppressant. No stationary industrial sources of air pollution have been identified in the proximity of the site.

No industrial odor sources are present in Skykomish. Emissions resulting from diesel exhaust from daily trains passing through Skykomish are a source of odors. Seepages of hydrocarbons have been noted at a number of locations along the South Fork Skykomish Riverbank. These seepages are the source of hydrocarbon odors along the levee, particularly during low flow conditions, calm winds and warm temperatures.

3.2.3 Environmental Impacts

Depending on weather conditions, there is the potential for a significant amount of dust to be generated from construction related activities. Sources of dust include the open excavation, areas of exposed soil (e.g., soil stockpiles and temporary dirt roads) and from truck and vehicular traffic. Exhaust odor and particulates will also be generated from trucks and other construction equipment.

In addition to settling on the exterior of nearby vehicles, residences, businesses and the school, wind-blown dust can be transported through open doors and windows and settle within the interior of these structures.

Petroleum products exposed to the atmosphere can have a strong and distinctive odor. Especially during times when the weather is warm and still, it is likely that petroleum odors will be noticeable during project construction activities involving product exposure, including excavation and short-term staging of contaminated material in stockpiles. Odors generated from construction equipment exhaust, petroleum product exposure and stockpiles of contaminated material are likely to be noticeable to nearby residents, businesses and the school.

Adjacent and near-by neighboring properties will also be impacted by construction generated dust during cleanup activities. BNSF and Ecology will meet with impacted landowners and residents to discuss issues and specific concerns, and subsequently to take measures to address these issues and identify reasonable and appropriate mitigating measures.

draft

3.2.4 Mitigation Measures

Excavation and grading activities will be carried out in a manner that minimizes emissions of dust and odor (fugitive emissions). Engineering controls will be implemented to control dust that may include the use of water, soil cement and temporary asphalt surfaces.

The Site-Specific Health and Safety and Air Monitoring Plans (to be prepared under separate covers) will specify air monitoring requirements and limits for nuisance dust, auto emissions and petroleum vapors. These plans will detail the locations of site perimeter monitoring stations (e.g., perimeter of excavation and stockpiled soils) and present action levels that will result in protection of workers surrounding the site. The plan is intended to ensure protection of site workers and nearby residents from airborne particulates and petroleum vapors.

In the event specified limits for nuisance dust are exceeded, the designated Health and Safety officer on site will assess the concern and take appropriate action (the on-site health and safety officer will have authority to immediately stop work if necessary and notify Ecology thereafter). No health and safety concerns are anticipated to persons on adjacent properties. Structures, including adjacent and nearby neighboring structures, that are significantly impacted by project-related construction generated dirt and dust will be washed by project personnel.

There are no standard methods for mitigating odors caused by exposed petroleum products in the environment. The odors will be mitigated naturally by wind, and odor generation will be decreased by reducing allowable truck idling periods and restricting the areas where they are allowed to idle. Odor generated from exposed product will be temporary and diminish following completion of the project. Specific air quality impact mitigating measures will be identified and described in the Air Monitoring Plan. Mitigating measures may include prompt recovery of petroleum once exposed. A toll free call-in line will be established for contacting a designated project representative who will be capable of requesting quantitative (e.g., portable photo-ionization detector) air quality testing.

The Northwest Clean Air Agency (NWCAA) and Ecology (WAC 173-460) provide air emissions criteria for the site. Measures will be provided as described above and according to NWCAA Regulation I, Section 9.15, as necessary, to suppress any fugitive dust generated during site excavation and grading that exceeds these criteria.

draft

3.2.5 The No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed. Dust and odor conditions would not be altered and would remain the same as described in Section 3.2.1.

3.2.6 Significant Unavoidable Impacts

No significant unavoidable permanent or long term adverse impacts on air have been identified. However, depending on the weather and local atmospheric conditions, significant dust may be generated from project related construction activities and significant odors may be generated from exposed product. The project design and operational procedures will minimize potential risks from construction-generated dust and odor.

3.2.7 Cumulative Impacts

No significant cumulative impacts to air have been identified.

3.3 Water

This section describes existing conditions, impacts and mitigation measures for the water element of the natural environment. In accordance with 197-11-444 WAC, the water element of the natural environment includes groundwater and surface water quantity and quality and flooding.

3.3.1 Existing Conditions

3.3.1.1 Groundwater Quantity and Quality

Unconfined groundwater is encountered at depths ranging from approximately 3 to 17 ft below ground surface throughout most of the site. The groundwater is generally shallowest close to the South Fork Skykomish River and increases in depth to the south. The shallow groundwater is hydraulically connected with surface water in the South Fork Skykomish River.

The groundwater levels throughout the site are influenced by the river level, precipitation, temperature, and local drainage. These factors cause the groundwater levels to vary seasonally. Figure 2-10 of the FS (RETEC, 2005a) shows hydrographs with monthly groundwater levels during 2002 and 2003. Groundwater elevations are generally higher during late fall, winter, and spring (November to April) and lower in the summer and early fall (June to early November) (RETEC, 2001). Detailed descriptions of groundwater movement are provided in Section 2.2.2.4 of the FS (RETEC, 2005a).

Hydraulic conductivity values have been determined by slug testing to range from 41 to 84 ft/day, and the average hydraulic conductivity is 64 ft/day. Further details are described in the FS (RETEC, 2005a). Groundwater usually

draft

has some vertical component to flow; however, the vertical flow is restricted by the silt aquitard that underlies much of the site.

Groundwater flow throughout the project area is generally to the north or northwest. Groundwater contour maps and additional details on groundwater flow are contained in the Supplemental RI (RETEC, 2002a). To the west of 4th Street, the groundwater flows from the southeast to the northwest with an average gradient of 0.01 ft per ft (RETEC, 2002a). The hydraulic gradient indicates that groundwater flows at an average rate of 2.5 feet per day (ft/day) (RETEC, 2002a).

A 600-ft long subsurface barrier wall was installed in 2001 to intercept the migration of free product towards the river. Fluid levels collected from selected wells behind the wall indicate that groundwater does not appear to be mounding behind the wall and that groundwater passes under the wall without hindrance.

No water supply wells are located in the Town of Skykomish. The people of Skykomish are served by two public water supply wells that are located about 1,100 ft east (upgradient) of Skykomish. The primary well is completed to a depth of 216 ft below ground surface (bgs) and is screened across three intervals between 181 and 216 ft bgs. A backup well is located adjacent to the primary well and is completed to a depth of 219 ft bgs. In 1993, the water system pumped an average of 70,000 gallons per day and 2,100,000 gallons per month. Storage capacity was provided by one water tank with a capacity of 220,000 gallons. Water from the public water system has been sampled and no contaminants related to the site have been detected.

3.3.1.2 Surface Water Quantity and Quality

The South Fork Skykomish River is the only surface water feature likely to be affected by the Proposed Action.

South Fork Skykomish River

The South Fork Skykomish River is a fast flowing river with fluctuating flow and water levels throughout the year. It receives its water from small, upstream tributaries and spring snowmelt and flows from the project site north into Snohomish County. The South Fork Skykomish River contains flowing water all year.

Water levels are lowest in the late summer (July, August, September, October), based on river flow, gauged at the Gold Bar gauging station approximately 20 miles downstream of the town, and on river height gauged at a Snohomish County-maintained electronic water level gauge on the 5th Street Bridge over the South Fork Skykomish River. A heavy storm event can cause the water level to rise several feet within a few hours as the water flow increases.

draft

Low-velocity areas are present in the river margin along the base of the levee throughout much of the southern shoreline. Particularly downstream of the bridge, large riprap and cobble substrates form a vertical shoreline edge along the south riverbank which is approximately 1 to 2 ft in height, relative to the riverbed elevation. The larger riprap and boulders present along this shoreline reduce flow velocities near the bank by creating eddies where water flows around these larger substrates. Low-flow areas are also present within the interstices of the larger boulders and riprap. The base of this shoreline edge is at approximately 4.5 to 5 ft gauge height. Flows above this gauge height result in inundated areas along the levee toe, and flows below this gauge height result in dry areas along the levee toe.

3.3.1.3 Flooding

The 100-year and 500-year flood maps are provided in Figure 2-9 of the FS (RETEC, 2005a), which was prepared using 2003 FEMA data. The 100-year flood is anticipated to flood all of the areas to the west of 5th Street and north of the railroad tracks. The flood protection levee on the southern side of the South Fork of the Skykomish River functions to divert heavy flows downstream away from the town. However, much of the town will flood from water wrapping around the levee and backing up in the former Maloney Creek channel.

Correlation of river elevation and peak discharge for three sections along the river in front of the levee are presented in Table 3-2 of the Draft EDR (RETEC, 2006a). This table also shows the river stage at the gauge on the bridge.

The river generally floods during higher water levels in the spring rather than during lower water in the summer. Peak summer flow is much less than peak spring flow.

3.3.2 Environmental Impacts

Groundwater, surface water and hyporheic water (i.e., subsurface river water) will enter the excavation when the base of the excavation is below the water level. These different sources of water within the excavation will be treated as surface water for purposes of describing potential impacts and mitigation.

3.3.2.1 Potential Product Releases and Surface Water Impacts

Contamination in the levee zone consists of free and residual petroleum product. The free product acts as a source for both soil contamination and dissolved hydrocarbons in groundwater. Free product is also seeping into the South Fork Skykomish River adjacent to the upland plumes. Contaminated groundwater and free product are likely to be exposed within the excavations during site work.

draft

Disturbance of the river sediments during sediment excavation will result in the release of contamination and turbidity. Contaminated and turbid river water will be contained and treated prior to discharge.

Contaminated sediment and soil will need to be drained prior to removal from the work area. The water from these sediments and soils is likely to be contaminated.

3.3.2.2 Erosion and Sedimentation Impacts

Exposed soils are subject to erosion by rain, stormwater or water flowing in the river. These eroded soils could be transported and deposited off site as sediment.

Eroded soils can result in turbidity and sedimentation of surface water. Turbid (cloudy or muddy) surface water looks unclean and can result in sedimentation. Sedimentation can adversely affect fisheries and other aquatic habitat and obstruct stormwater flow and treatment.

3.3.2.3 Hydraulic Diversion Impacts

River water will be diverted around the construction area using a free-standing cofferdam constructed with flexible intermediate bulk containers (FIBCs) or an equivalent diversion technology. The FIBC (see http://www.fibca.com) will be lined with impermeable material to prevent water flowing through the cofferdam.

Potential impacts caused by the placement of the cofferdams include the following:

- Impacts on water levels in the river caused by constriction of the channel
- Impacts on scour within the riverbed caused by the river diversion and channel constriction
- Short-term changes in erosion and sedimentation areas caused by the modification of the river flow due to the cofferdam.

3.3.2.4 Flooding Impacts

Localized scour may occur in the river bed due to flood flows and the cofferdam restricting the river cross-section. Calculations indicate that flood flows in excess of 12,000 cfs will result in local scour on the order of 2 ft. This sort of event would likely result from a rain storm generated “flash” flood event. In the event that the cofferdam is breached or overtopped, or that local scour occurs due to flooding, turbid or contaminated water leaving the site could adversely impact fisheries downstream from the project area.

draft

3.3.3 Mitigation Measures

3.3.3.1 Potential Product Releases and Surface Water Mitigation

Construction water is expected to be contaminated with free product. Construction water treatment will be needed during construction for the water that is pumped from the excavation. Construction water will be collected and treated prior to being discharged from the site. Treatment will include free product recovery and compliance with the NPDES permit conditions.

The water treatment facility will be lined to handle any minor leaks. This water will be treated according to the processes outlined in the Draft Water Treatment Engineering Report (RETEC, 2005b). The nominal capacity of the treatment is 500 gpm, with a maximum flow of 1,000 gpm. Decontamination water will not be treated in the water treatment system but will be disposed of off-site at a licensed facility.

The cofferdams will be monitored during the remedial action to ensure that minimum leakage into the active excavation area occurs. Should a breach of either cofferdam occur, immediate measures will be taken to repair the dam. Tertiary absorbent booms will be maintained around the outer cofferdam throughout the entire project in the event that both dams are breached at the same time. Downstream water quality is not expected to be affected by the project activities, but monitoring below the NPDES discharge will be conducted as required by the NPDES permit. A spill response contractor will be called in as needed to recover any substances that have accidentally been released. An Emergency Spill Response Plan is required as a condition of the NPDES permit. The Emergency Spill Response Plan will describe additional measures for mitigating potential product releases.

Measures to control upland sources that will remain following the levee cleanup have been evaluated for the inclusion in the final design. A sheet-pile wall will be installed across a portion of the southern levee zone boundary as part of the interim action for cleanup to impede upland source of contamination from re-contaminating the clean backfill material.

3.3.3.2 Erosion and Sedimentation Mitigation

Sediment and erosion controls are detailed in the Stormwater Pollution Prevention Plan (Appendix E of the Draft EDR (RETEC, 2006a)) and shall meet the following requirements:

- Use ditches, berms, pumps and other methods necessary to divert and drain surface water away from excavations and other work areas.

Draft

- Prevent sediment from entering the river, roadways, storm sewers, or catch basins.

- Any storm water coming in direct contact with source material or any other contaminants shall not be allowed to leave the project site without treatment.

- Divert seepage water into sumps and pump to storage tank for testing and, if necessary, on-site treatment or disposal at an approved off-site facility.

- Install a temporary outfall from the construction stormwater treatment system to the river.

- Inspect and repair or replace damaged components of temporary erosion and sediment controls on a regular basis as described in the project specifications. Inspect immediately after rain or flooding events, and inspect daily during prolonged rain events.

3.3.3.3 Hydraulic Diversion Mitigation

Two parallel cofferdams will be placed in the South Fork Skykomish River to divert the river water away from the active excavation during project construction activities.

Sediment and erosion controls are identified above and in Appendix E of the Draft EDR (RETEC, 2006a). During placement of the cofferdams, efforts to minimize mixing of sediment as well as standard Best Management Practices (BMPs) will be implemented to mitigate potential erosion and sedimentation concerns.

Studies are being conducted to examine the effects of the cofferdam on river flow and scour. These studies may analyze the following:

- Estimate range of instantaneous flow exceedance probabilities to generate a flow-frequency relationship for the project at the time of construction

- Model the probable flows with HEC-RAS or similar software to show the backwater impacts of the proposed cofferdam and the resulting freeboard

- Analyze potential scour in concert with the flow-frequency analysis and backwater modeling of 1) existing conditions and 2) conditions with the cofferdam in place.

draft

3.3.3.4 Flooding Impact Mitigation

The final grade of the site will be constructed to match current conditions. There will be no long-term change in grade. The riverward face, position, and height of the levee will be constructed to match the current conditions, thus maintaining the current level of flood protection for the Town and flow characteristics of the South Fork Skykomish River. The 100-year or 500-year floodplains will not change as a result of the project.

The following elements will be implemented to avoid or mitigate impacts from flooding:

- Monitor weather and river flows to prepare for potential high flows
- Inspect cofferdam on a regular basis to ensure its intact in the event of a flood
- Remove equipment from the excavation in the event of flooding
- A boom and spill response team will be available to respond to potential water quality impacts if the cofferdam is breached or overtopped.
- If river levels exceed those specified in the Draft EDR at the scheduled project start time, it may be necessary to postpone the project.

3.3.4 The No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed. Groundwater and surface water conditions would not be altered and would remain the same, as described in Section 3.3.1.

3.3.5 Significant Unavoidable Impacts

Construction activities have the potential to affect surface and groundwater quality from contaminated stormwater runoff and flooding. The project has numerous design elements and mitigation measures that, if employed, should reduce or eliminate impacts on water quality. Therefore, no significant unavoidable adverse impacts on water quality are expected.

3.3.6 Cumulative Impacts

No significant cumulative impacts on water quality are expected.

3.4 Plants and Animals

This section describes existing conditions, impacts and mitigation measures for the plants and animals element of the natural environment. In accordance

draft

with 197-11-444 WAC, the plants and animals element of the natural environment includes vegetation, terrestrial and aquatic habitat and threatened and endangered species.

3.4.1 Existing Conditions

This section describes the vegetation and terrestrial habitat, fisheries and aquatic habitat, and threatened and endangered species at the site. Additional information on terrestrial species is provided in Sections 2.2.4, 2.2.5, and 2.2.6 of the FS (RETEC, 2005a).

3.4.1.1 Vegetation and Terrestrial Habitat

The south bank of the South Fork of the Skykomish River is developed and disturbed to the water's edge along most of its length. Young and mid-successional-aged deciduous trees and scattered patches of shrubs are present along portions of the shoreline. Riparian habitat is poorly developed along the shoreline.

The riprap flood control levee occupies less than one acre along the south side of the river. Adequate soil is present to support understory vegetation and low density of trees and shrubs along the top and sides of the levee. Understory plants on the levee consist of swordfern (*Polystichum munitum*), Himalayan blackberry (*Rubus discolor*), and giant knotweed (*Polygonum sachalinense*). The top and southern sides of the levee are dominated by grasses and shrubs with a few scattered small trees. Grand fir (*Abies grandis*), black hawthorn (*Crataegus douglasii*), tall Oregon grape (*Mahonia aquifolia*), and snowberry (*Symphoricarpos albus*) are present. Orchardgrass (*Dactylis glomerata*), English plantain (*Plantago lanceolata*), common tansy (*Tanacetum vulgare*), and mullein (*Verbascum thapsis*) are among the common non-native species present at the levee.

Low quality habitat exists in other areas of the proposed work. Habitat in these areas includes buildings, paved roads and sidewalks, paved and graveled driveways, turf grass lawns, home gardens, and a variety of trees and shrubs.

A detailed description of the regional vegetation zone is described in Section 2.2.5 of the FS (RETEC, 2005A).

The WDFW, USFS, and USFWS were contacted to determine the presence of special status wildlife species in the vicinity of the site (Township 26 North, Range 11 East, Sections 26, 27, 33, 34, and 35). Section 2.2.5.2 of the FS (RETEC, 2005A) provides descriptions of these special status species. No special status species have been identified in the area of this work.

draft

3.4.1.2 Fisheries and Aquatic Habitat

Fish and aquatic biota habitat are present in the South Fork Skykomish River. The South Fork Skykomish River channel immediately below the Skykomish River Bridge ranges from approximately 150 to 250 ft wide. The channel gradient in this area averages approximately 27 ft per mile. The channel contains mostly glide habitat, with occasional riffles at lower flows. Larger sections of riffle are present approximately 2,900 ft downstream of the existing levee. Substrate within the channel varies in size from large boulders and cobbles to smaller gravels and sands. Larger boulder substrates are more frequent along the northern portions of the channel, with smaller cobbles, gravels, and sands occurring on a gravel bar adjacent to the southern shore.

Low-velocity shoreline habitat, which provides refuge for migrating juvenile salmonids, is present along the base of the existing levee throughout much of the site. The larger riprap and boulders present along this shoreline reduce flow velocities near the bank by creating eddies where water flows around these larger substrates. Low-velocity areas are also present within the interstices of the larger boulders and riprap.

Natural low flows within the Snohomish River basin (including the South Fork Skykomish River), particularly during the summer months, may limit fish access to low-velocity shoreline habitat areas. These natural low flows may also limit access to pockets of spawning gravels, while also potentially dewatering redds.

Overhanging vegetation present along the shoreline offers refuge from predators for juvenile fish, while helping to reduce water temperatures and increase water quality. In addition, overhanging vegetation provides a food source for juveniles through the deposition of detritus, which is a primary food source for aquatic insect larvae. Other food sources include benthic invertebrates present in the surface layers of sediment in the riverbed.

Aquatic habitat features present near the site include boulder substrates that provide refuge from high flows, large woody debris that provides refuge from predators, and large holding pools for migrating fish. The Biological Evaluation (BE) (Grette, 2005a) and BE Addendum (Grette, 2005b) describe the aquatic habitat present in the area of the proposed project in greater detail.

Several species of fish may occur in the upper South Fork of the Skykomish River, including Chinook salmon (*Oncorhynchus tshawytscha*), bull trout (*Salvelinus confluentus*), coho salmon (*O. kisutch*), pink salmon (*O. gorbuscha*), chum salmon (*O. keta*), steelhead (*O. mykiss*), coastal cutthroat trout (*O. clarki clarki*), sockeye salmon (*O. nerka*), pacific lamprey (*Entosphenus tridentatus*), river lamprey (*Lampetra ayresi*), and mountain whitefish (*Prosopium williamsoni*). Chinook salmon and bull trout are the only species listed as threatened or endangered. Details on threatened and

endangered species are included in the next section. Details on all other fish mentioned above are contained in Section 2.2.6.2 of the FS (RETEC, 2005a).

The juveniles of the salmonid species would be expected to utilize the shoreline edge habitat of the South Fork of the Skykomish River upon emergence. Juvenile coho, pink, and chum salmon typically emerge from the gravel from late February and early March through April and May. The low-velocity shoreline edge habitat of the South Fork would be used by these species. However, pink and chum generally migrate to estuarine waters immediately after emergence, and would likely only be present for a very short period.

Historically, Sunset Falls presented a barrier to the upstream migration of anadromous fish in the South Fork of the Skykomish River. Anadromous fish access to the upper South Fork has only been possible since 1952, when a trap and haul operation was commended by the Washington Department of Fisheries at Sunset Falls. This operation continues on a regular basis by the Washington Department of Fish and Wildlife.

3.4.1.3 Threatened and Endangered Species

The USFWS, USFS, and the WDFW provided information on federally listed, proposed, and candidate wildlife species and Washington State threatened and endangered species that may occur in the vicinity of the site. Three listed species of birds are known to occur in the general vicinity of the site. These species (bald eagle, marbled murrelet, and northern spotted owl) are discussed in Section 2.2.5.3 of the FS (RETEC, 2005a) and in the BE (Grette, 2005a). Three listed mammal species (canada lynx, gray wolf, and grizzly bear) could potentially occur in the site vicinity; however, no suitable habitat for these three mammals is present in the site vicinity and no sightings of the species have been documented (USFS, 2003). These species are not expected to occur in the site vicinity (USFS, 2003; Stinson, 2001) and are not discussed further in this document.

Two threatened or endangered species of fish occur in the South Fork of the Skykomish River: Puget Sound chinook salmon and bull trout. Juvenile chinook would be expected to be present within the South Fork of the Skykomish River near the Town of Skykomish from mid- to late-February through May. Juvenile bull trout rear in their natal headwater streams, and are not expected to be present within the South Fork. As mentioned above, water levels within the South Fork at this time are such that the shoreline edge habitat is available to juvenile salmonids. Details on chinook salmon, bull trout, and coho salmon (listed as a federal candidate species) are discussed in Section 2.2.6.2 of the Draft EDR and in the BE (Grette, 2005a).

draft

3.4.2 Environmental Impacts

3.4.2.1 Land Clearing and Terrestrial Habitat Impacts

Clearing and grubbing of the existing vegetation (including brush and trees) and debris along the existing levee and upland areas will be done to enable remediation activities. Access will be allowed to the Town so that they can remove a few trees for replanting by the Town outside of the project boundary. Other vegetation and debris will be disposed of at an appropriate municipal landfill.

Necessary land clearing and grubbing activities will result in the loss of vegetation and terrestrial habitat. Although the vegetation that will be removed consists primarily of shrubs and grasses, several evergreen trees ranging in size from approximately 15 to 60 ft in height will be removed. In addition, the landscaping from the yards of the five homes that are to be temporarily displaced will also be removed.

3.4.2.2 Aquatic Habitat Impacts

River sediment consisting of sand, gravel and cobbles will be excavated from the river. This disturbance will result in the temporary loss of aquatic habitat to fish and benthic fauna within the project area.

The in-river work will occur during low flow conditions and will be isolated by the use of a double and parallel cofferdam system. Following construction of the cofferdam, the work area will be inspected for the presence of fish and any fish observed will be physically transported outside of the work area. Pumps to remove water from within the cofferdam area will be screened to prevent fish from entering the pumps.

3.4.3 Mitigation Measures

3.4.3.1 Land Clearing and Terrestrial Habitat Mitigation

Following completion of the levee reconstruction, native vegetation will be replanted along the waterward face in accordance with the project planting plan. The newly planted vegetation will provide cover and foraging opportunities for migrating juvenile salmonids along the toe of the new levee during high flows. The planting plan is included in the BE Addendum (Grette, 2005b) and in Sections 3.2.3 and 5.1 of the Draft EDR (RETEC, 2006). Vegetation is to be placed along the waterward face of the levee, with various species selected above and below the ordinary high water mark (OHWM). The OHWM is based on the annual, or one-year, flood level of 922.0 ft.

Landscape planting on the levee will enhance the environment and help preserve the natural resources. The landscaping must meet all federal, state and local laws and necessary permits must be obtained, if applicable.

draft

The upland project areas will also be landscaped and replanted as part of project restoration activities.

3.4.3.2 Aquatic Habitat Mitigation

Restoration will occur in the disturbed area of the river as well as along the levee. River bottom substrate will be replaced in the disturbed area and matched to existing substrate types. Impacts to benthic fauna are expected to be temporary and recover rapidly as a result of substrate matched to existing substrate and drifting of benthic invertebrates into the project area.

Amenities will be added to the shoreline that will improve habitat quality for juvenile salmon. Benches will be constructed along the waterward base of the levee, which will provide a vertical drop of approximately 2 ft down to the river channel. The edge will be formed by large riprap or boulder substrates. The benches will provide a convoluted shoreline edge, contributing to habitat complexity along the reconstructed levee. Detailed description of the restoration activities are included in the BE (Grette, 2005a) and the BE Addendum (Grette, 2005b).

Other improvements include placement of large woody debris (LWD) embedded in the riverbank, as shown in Figure C-27 of the Draft EDR (RETEC, 2006). The LWD will provide cover for juvenile salmonids and will create areas along the shoreline with slower flows. Boulders will be placed just upstream of the woody debris to protect recreational users of the river from floating into the debris.

3.4.4 The No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed. Site vegetation and terrestrial and fisheries habitat would not be altered and would remain the same as described in Section 3.4.1.

3.4.5 Significant Unavoidable Impacts

With the implementation of mitigation measures, no significant unavoidable adverse impacts on upland vegetation, wildlife and habitat, fish, and threatened or endangered species have been identified.

3.4.6 Cumulative Impacts

No significant cumulative impacts on fish and wildlife and their respective habitat, vegetation, and threatened or endangered species have been identified.

draft

4 Existing Conditions, Environmental Impacts and Mitigating Measures in the Built Environment

4.1 Environmental Health

This section describes existing conditions, impacts and mitigation measures for the environmental health element of the built environment. In accordance with 197-11-444 WAC, the environmental health element of the built environment includes toxic and hazardous materials, noise and risk of explosion. Vibration has been added for analysis due to the likelihood of construction and excavation related vibration that may potentially affect nearby structures.

4.1.1 Existing Conditions

4.1.1.1 Contamination

Existing conditions within the levee zone includes contamination with petroleum hydrocarbons in the form of free product, dissolved hydrocarbons in groundwater and soil contamination. Free product also seeps into the South Fork Skykomish River along the riverbank. The depth to contamination varies from approximately 2 feet to 15 feet below the ground surface.

The nature and extent of soil and groundwater contamination is described in detail in the FS (RETEC, 2005a).

4.1.1.2 Noise

The two main sources of noise in Skykomish are trains passing through the BNSF railyard and vehicular traffic along U.S. Highway 2. Stationary idling locomotives exceed 85 dB (the occupational limit) at 30 feet (Union Pacific Railroad, 1999) while a train traveling 30 to 40 miles per hour produces 88.7 dB of noise at a distance of 100 feet (RETEC, 2003b). Approximately 24 trains pass through Skykomish on average each day, but do not regularly stop and idle in town. Idling in town would result in additional noise sources.

4.1.1.3 Vibration

Existing sources of vibration in the Town of Skykomish include railroad and vehicular traffic and temporary construction projects (e.g., Publics Works and road improvement projects).

4.1.1.4 Risk of Explosion

Existing risks of explosion present in Skykomish include the transportation of explosive and flammable materials on rail cars that travel through the town, residential and commercial above ground propane tanks and the school's

heating oil tank. Since there are no service stations located on the south side of the river, fuel trucks, excluding those used for home heating oil, do not enter the town.

4.1.2 Environmental Impacts

4.1.2.1 Contamination Impacts

Contaminated water, sediments and soils will be exposed, handled and transported during project activities. Contaminated water will be drained from sediment excavated from the river and from soils excavated from below the groundwater level from the upland portion of the project.

Contaminated water will be contained within the excavation work areas both in and out of the river. Water collected from the excavation or from the impacted soils stockpile area will be pumped and treated before discharging in accordance with the NPDES permit conditions.

Contaminated sediments and soils will be excavated, drained if necessary, and transported by truck to a designated stockpile storage area before being permanently transported off site. Trucks hauling contaminated sediments and soils will pass through the Town of Skykomish.

Although the work areas will be secured to protect the public from direct exposure to contamination, site workers will likely come in direct contact with contaminated water, sediments and soil.

4.1.2.2 Construction Noise Impacts

Construction related noise will be generated from truck traffic, excavation activities (scraping and banging) and heavy equipment engine noise. Some heavy equipment will be equipped with safety alarms (beepers) that are activated when the equipment is operating in reverse. These safety alarms are intended to be very loud for safety purposes. Pneumatic hammers or hammering with the bucket of an excavator may be used for the sheet piling installation.

Some construction activities will be loud. These construction related noises will adversely impact businesses, residents and school activities. The Maloney Store is located on the northwest corner of 5th Street and Railroad Avenue. Although access to the Maloney Store will be maintained throughout the duration of the project, construction traffic and associated noise will be heavy at times at this intersection. The residences located at the west end of West River Road near the west end of the excavation will also be impacted by construction related noise. Although these noise impacts will be a significant nuisance, they are not likely to pose any health or safety concerns.

draft

4.1.2.3 Construction Vibration Impacts

Construction related vibration will be generated from truck traffic, excavation activities and heavy equipment. Vibrations may also be caused by pneumatic hammers or hammering with the bucket of an excavator during sheet piling installation.

Vibration can dislodge dirt and dust that can then be transported by wind and gravity. Significant vibrations could also potentially disturb items inside of residences and businesses that are not adequately secured.

Temporary vibrations are likely to adversely impact local businesses and school activities. Some of the local residences are also likely to be impacted by vibrations. Although these impacts may be considered a nuisance, they are not likely to pose any health or safety concerns.

Construction generated vibrations could potentially adversely impact the structural integrity of historic structures located near project work areas. These impacts may include cracking of masonry or other rigid building materials.

4.1.2.4 Risk of Explosion Impacts

It may be necessary to construct a temporary fuel storage facility. This would result in an increased risk of explosions due to the increased volume of combustible material.

4.1.3 Mitigation Measures

4.1.3.1 Contamination Exposure Mitigation

Areas where contaminated water, sediments and soils are exposed to the atmosphere will be secured by using construction and safety fencing and clearly marked with appropriate signage. These areas will have restricted access points accessible only to those workers with certification to perform work on contaminated sites.

Contaminated media containment control will be utilized including the use of the cofferdam, Baker Tanks, sorbent materials, plastic sheeting, fencing and signage. Contaminated media handling and access control measures are detailed in the Draft EDR. Additional information regarding the mitigation of potential contaminant releases is provided in the Stormwater Pollution Prevention and Erosion and Sediment Control Plan.

Excavated sediment and soil exceeding specific levels of contamination will be transported off site and disposed of at a permitted and lined Subtitle D landfill.

draft

4.1.3.2 Noise Mitigation

Construction noise could be reduced by providing mufflers on engines, using quieter equipment or construction practices, and turning off equipment when not in use. To reduce construction noise at nearby receptors, the construction industry's best management practices for noise will be incorporated into construction plans and contractor specifications. Ear protection may be required for some site workers.

Adjacent and near-by neighboring properties will also be impacted by construction noise during cleanup activities. BNSF and Ecology will meet with impacted landowners and residents to discuss issues and specific concerns, and subsequently to take measures to address these issues and identify reasonable and appropriate mitigating measures.

4.1.3.3 Vibration Mitigation

To reduce construction generated vibration at nearby receptors, truck routes and speed limitations will be established and the construction industry's best management practices for vibration reduction could be incorporated into construction plans and contractor specifications. Structural monitoring of nearby historic structures will also be performed.

4.1.3.4 Risk of Explosion Mitigation

Fuel will be stored in approved containers that meet all relevant fire codes. Fixed fueling facilities will include berms and spill protection and collection devices. An emergency spill response plan will also be prepared for any on site fuel storage.

4.1.4 The No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed and contamination, noise and vibration would remain at levels as described in Section 4.1.1 Existing Conditions.

4.1.5 Significant Unavoidable Impacts

Noise will be significant at times and will likely temporarily disturb nearby residents, businesses and the school. However, with the implementation of mitigation measures, no long term significant unavoidable adverse impacts from contaminant exposure, noise, vibration or risk of explosion have been identified. A toll-free call line for complaints will be established.

4.1.6 Cumulative Impacts

With the implementation of mitigation measures, no cumulative impacts from contaminant exposure, noise, vibration or risk of explosion have been identified.

draft

4.2 Land and Shoreline Use

This section describes existing conditions, impacts and mitigation measures for the land and shoreline use element of the built environment. In accordance with 197-11-444 WAC, the land and shoreline use element of the built environment includes land use designations, aesthetics, cultural and historic resources, housing and parks and recreation.

4.2.1 Existing Conditions

4.2.1.1 Current Land Use Designations

This section describes how the Town of Skykomish is zoned. It also describes the Town of Skykomish Critical Areas Ordinance (CAO; Ordinance 269, 1998), which includes Skykomish-specific code information pertaining to shoreline use within the levee zone.

The Town of Skykomish is a rural town and is surrounded on all sides by the Mt. Baker-Snoqualmie National Forest. It is divided into five zoning districts: residential, commercial, industrial, historic commercial, and public (Ordinance 235, 1995). The industrial zone of Skykomish consists of the railyard. The Town of Skykomish has designated a Historic District/Historic Commercial Zone north of the railyard. The Skykomish Historic District/Historic Commercial boundary is shown on Figure 4-1.

The remainder of the town is residential with the exception of the public buildings, such as the school, community center, and town hall. There is a public park outside of the city limits on the north side of the South Fork of the Skykomish River.

The majority of businesses in Skykomish are small and include retail, gas stations, motels, and hotels that cater to local residents and tourists (Town of Skykomish, 1993). Besides the BNSF railroad maintenance activities, there is no other industry in Skykomish. The National Forest Service maintains a depot in Skykomish.

The Levee Zone includes land in four of the five designated zoning districts; the Public, Residential, Commercial and Historic District/Historic Commercial zones.

The CAO was adopted to designate and classify environmentally sensitive and hazardous areas, including wetlands, fish and wildlife habitats, flood hazard areas, geologic hazard areas, and aquifer recharge areas. The CAO regulates alterations in and adjacent to critical areas to protect natural resource values, public resources and facilities, and public safety. The CAO also meets the requirements of the Washington Growth Management Act (RCW 36.70A) with regard to the protection of critical areas and the Shoreline Management

Draft

Act (RCW 90.58) with regard to protecting shorelines. Areas within the 100-year floodplain are defined as Flood Hazard areas under the CAO.

The riverbank portion of the levee zone is a designated critical area and is subject to the provisions of the CAO and Shoreline Management Act.

4.2.1.2 Aesthetics

The Town of Skykomish led a visioning project to identify and describe a Vision for the future of Skykomish (Berryman & Henigar & University of Washington, August 2005). As part of the Vision, the Town passed Resolution No. 212 on July 11, 2005 to make recommendations for the levee design. Resolution No. 213 was passed on September 12, 2005, and replaced Resolution No. 212 with recommendations for the levee design. The overall vision for the levee is to create a "park-like area that affords views and access to the river." Most of the recommendations included in Resolution No. 213 are associated with landscaping and river access to achieve their park-like vision for the levee. BNSF and the Town are currently negotiating the conditions under which BNSF would pay to incorporate some or all of the concepts articulated in Resolution No. 213.

The Town's Comprehensive Plan, prepared in accordance with the requirements of the State Growth Management Act, also provides guidance for preserving and protecting aesthetic resources.

Additional aesthetic conditions pertaining to the historic character of the Town of Skykomish are described in the following cultural and historic resources section.

4.2.1.3 Cultural and Historic Resources

The Town of Skykomish includes designated areas, structures and buildings listed on the National and State Registers of Historic Places. The Town also includes an area zoned by the Town of Skykomish as Historic District/Historic Commercial. The designated Historic zone is shown on Figure 4-1. Additional detailed information pertaining to cultural and historic resources in the Town of Skykomish can be found in the Cultural Resources Assessment Report (NAAI, 2005).

The Historic zone lies mainly to the north of the railyard and is defined differently by the National Register of Historic Places and an Interlocal Agreement for landmark services between the Town of Skykomish and King County. The Town of Skykomish Zoning Ordinance #235 encompasses all areas covered by the national and local historic designations.

The National Register of Historic Places is defined as Railroad Ave., from 3rd Street to west of N 6th Street., and part of Old Cascade Hwy. The National

draft

Register designation includes 12 buildings and the Skykomish Bridge as well as the Skykomish Masonic Hall along Old Cascade Highway.

Prior to the national designation of the Skykomish Historic Commercial District, the Great Northern Depot and Maloney's General Store were listed separately in the National Register of Historic Places. The local designation includes 12 buildings as well but does not include the bridge.

Based on the findings of the Cultural Resources Assessment Report, one area identified as having potential for the discovery of archaeological (i.e., pre-historic) resources is partially located within the project area.

4.2.1.4 Housing

The majority of housing units in Skykomish are single-family residences (U.S. Census Bureau, 2001) including some mobile homes and approximately one-third of these are used as seasonal residences. The commercial buildings are predominantly small retail but also include gas stations, a church, motels, and hotels that cater to local residents and tourists (Town of Skykomish, 1993). There are 10 commercial buildings on the overall site.

The most recent census (U.S. Census Bureau, 2001) reports 214 people living in Skykomish of which 29 (13 percent) are under the age of 19. It is estimated that up to 30 seasonal residents live in Skykomish at any time of the year (Dohran, 2003). The decline of the railroad as a primary form of transportation resulted in the loss of railroad-related jobs in Skykomish. Now the school is the major year-round employer in Skykomish. Since automotive use has increased, residents of Skykomish have been able to commute to major employment centers and Skykomish has become more accessible to seasonal residents and visitors. The economy of Skykomish is now dependent on tourism and the USFS (Town of Skykomish, 1993).

The levee zone cleanup action involves the temporary relocation of five residences. At the owners' discretion, some or all of these houses may be permanently relocated or demolished and replaced by new structures. The Teacherage is a historic structure and would need to be documented if the owner elects to have it demolished rather than relocated temporarily. It is anticipated that the residential structures will be relocated to a temporary staging area on the BNSF railyard property located in the vicinity of the south side of Railroad Avenue where Third Street intersects with Railroad Avenue during the duration of the levee zone cleanup implementation.

The locations of the five residential structures that will be affected by site work are shown on Figure 4-1. If acquired by BNSF, the unoccupied residence at 303 West River Drive may be demolished as part of developing a temporary access point west of the School. There are no plans for future use of that parcel which are part of this proposed action.

Draft

4.2.1.5 Parks and Recreation

Skykomish has one small community park that is south of U.S. Highway 2 and north of the South Fork of the Skykomish River. The park, which includes a baseball diamond, lies approximately half a mile east of the 5th Street Bridge over the South Fork Skykomish River. In addition, there is a small park, the Depot Park, located at the intersection of 5th Street and Railroad Avenue. Other nearby recreational facilities include the South Fork of the Skykomish River and neighboring National Forest lands. There are no trailheads or camping grounds within the Town of Skykomish limits nor is there public access to the river on or near the site, although the public can access the river using a path just north of the Skykomish River Bridge across the South Fork Skykomish River.

4.2.1.6 Light and Glare

Current light and glare sources include sparse street and residential lighting. Additional lighting sources are in place around the school building and the commercial businesses.

4.2.2 Environmental Impacts

4.2.2.1 Existing Land Use Designations

The proposed action will not result in any direct impacts or changes to current land use designations. Indirect impacts may result if at some time in the future, the Town elects to change land use or zoning designations based on recreational opportunities created by project mitigation.

4.2.2.2 Aesthetics Impacts

Aesthetic impacts would be limited to visual impacts. These visual impacts include the temporary loss of vegetation on the levee and upland areas including the yards of the residential structures that would be moved. Additionally, some currently overhead utilities may be moved to new overhead locations or buried.

4.2.2.3 Cultural and Historic Resources Impacts

Two of the five residential structures to be temporarily relocated and the Skykomish School are of historic significance. The two historic residential structures will be temporarily relocated from the construction area and extensive excavation and construction-related activity will occur in close proximity to the school.

The school was built in 1936 and has a masonry exterior. Due to their rigidity, masonry structures can be vulnerable to vibration caused damage (e.g., cracking). Construction generated vibrations could potentially damage the school's exterior.

draft

Some relatively minor modifications to the exterior of the school may be necessary for the connection of new or relocated utilities.

Historic or archaeological artifacts could be encountered or disturbed during site excavation activities. The disturbance of artifacts can interfere with the historical or archaeological interpretation of the discovery.

4.2.2.4 Housing Impacts

The levee zone cleanup action involves the temporary relocation of five residential and associated structures (see Figure 4-1). Prior to the relocation of these structures, utilities including power, telephone, water, septic systems and natural gas would be disconnected. This work is typically limited to the confines of the crawl space of the home.

The process by which buildings are typically moved involves jacking the structure onto large beams that span the length of the structure. The buildings would then be moved in their entirety to the temporary staging area in Town as described in Section 4.2.1.4. The building would remain on the beams throughout the duration of the levee zone cleanup in anticipation of their restoration to their original locations and orientations. It will not be possible for residents to inhabit the structures while they are displaced. These residences will be properly secured and protected by BNSF during the period of relocation.

Any existing foundations, porches, side walks, patios, driveways, garages, out-buildings and landscaping will be cleared or excavated and materials disposed of appropriately as described in the Draft EDR.

Cosmetic or structural damage to the residential structures could potentially result from relocating them to the designated staging area.

The unoccupied residence at 303 West River Drive may be demolished if it is acquired by BNSF and it would not be rebuilt as part of the proposed action. Future use of that property will be at the owner's discretion, consistent with local zoning, shoreline development and building codes as well as SEPA. The owners of the five residential structures that can be relocated and restored to their current locations have the option of electing to demolish their homes or permanently relocate them. If they want the homes permanently relocated, they must provide a suitable site within the Town of Skykomish. If they choose to build new homes on their property after the project is complete, the owners will need to comply with local zoning, shoreline development and building codes as well as SEPA. Building new homes is not part of the proposed action.

The teacher's residence will be reconnected to the school's public septic system following relocation. The other four residential septic systems will be destroyed. Although new temporary septic systems will be constructed for

each of the four relocated residences, these septic systems will not be permitted for permanent use.

Adjacent and near-by neighboring properties will also be impacted during the cleanup construction. BNSF and Ecology will meet with impacted landowners or residents to discuss issues and specific concerns, and subsequently to take measures to address these issues and identify reasonable and appropriate mitigating measures.

4.2.2.5 Parks and Recreation Impacts

No direct impacts to parks have been identified. However, public access and recreational use of the levee and shoreline area within the levee zone will be restricted throughout the duration of the project.

The school playground will be utilized as a construction-related staging area and may not be used for recreational purposes during the duration of the project.

4.2.2.6 Light and Glare Impacts

Although it is not anticipated that construction activities will occur outside of daylight hours, portable construction lighting may be necessary due to construction delays or timing constraints that make working during the evening hours necessary.

4.2.3 Mitigation Measures

4.2.3.1 Aesthetics Mitigation

The upland portion of the project area, including the levee and yards of affected residences, will be re-planted and restored. The levee will be re-vegetated in accordance with the Replanting Plan submitted with the Biological Evaluation (BE) as part of the JARPA application. Affected residential properties will be replanted and restored in accordance with individual residential site restoration plans as developed through the Relocation Guidelines.

Where possible, the Town recommendations for the levee design have been included in the Draft EDR. In addition to specific recommendations included in Resolution No. 213, the Town has participated throughout the levee remediation design process and has weighed in on design decisions throughout the design process. The Draft EDR includes amenities and enhancements that have been included in the design at the Town's request.

The community Visioning Report identifies aesthetic mitigation opportunities. Additional mitigation may result from community discussions with BNSF that include consideration of a boat launch, professional landscaping, decorative patterns/colored concrete for a retaining wall, colored railings, conduits/wires

draft

for future installation of electrical, phone and cable infrastructure, installation of below ground power and telephone lines, and installation of a sprinkler system. With the exception of the sprinkler system, these enhancements are considered "optional" because they are not required as part of the cleanup and/or levee reconstruction. In addition, the community has completed a GMA Comprehensive Plan that includes aesthetic impact mitigation considerations.

4.2.3.2 Cultural and Historic Resources Mitigation

The two historic residential structures that are to be temporarily relocated from the project area will be inspected prior to moving, watched closely by project personnel as they are being moved and inspected again at their temporary storage location. These residences will also be inspected prior to moving them back to their original locations, monitored during moving and inspected during and after fitting them on their newly constructed foundations.

To mitigate against potential damage to the historic residential structures by vandalism and theft, security will be provided by fencing, lighting and security personnel.

The school and other historic structures in the vicinity of the project area will be periodically inspected for evidence of construction-related damage during the duration of the project.

Site workers will be briefed on the recognition of historic and cultural resources (e.g., artifacts). Additionally, a plan outlining steps to take in the event that a historic or cultural artifact is uncovered will be developed.

Any historic structure that an owner elects to demolish rather than restore to its original location will be documented with interior and exterior photos and a survey. Construction of any new buildings in the project area is beyond the scope of the proposed action but the owner would have to comply with local zoning, shoreline development and building codes as well as SEPA.

4.2.3.3 Housing Mitigation

New foundations will be constructed on each residential lot prior to moving the houses back to their original locations. Each yard will be restored with landscaping and driveways will be replaced. Utilities including power, telephone and water will be reconnected to each residence.

Reconstruction of temporary private residential septic systems is discussed in Section 4.4 Public Services and Utilities. Given that the systems are temporary, these properties will be connected to a community septic system when constructed.

The personal disruption to the affected residents due to the temporary relocation of the five residential structures and associated displacement of

draft

residents will also be mitigated by providing individual property owners with alternative housing and paying for the cost of moving. Access agreements are currently being developed between BNSF and the School District and between BNSF and each of the individual home owners according to Relocation Guidelines.

Adjacent and near-by neighboring properties will also be impacted. BNSF and Ecology will meet with impacted landowners and residents to discuss issues and specific concerns, and subsequently to take measures to address these issues and identify reasonable and appropriate mitigating measures.

4.2.3.4 Parks and Recreation Mitigation

Following completion of the levee reconstruction, the levee will provide recreational access to the river including fishing opportunities and pedestrian access.

4.2.3.5 Light and Glare Mitigation

Light and glare impacts caused by portable construction lighting, if necessary, would be directed away from homes and roads as much as possible and focused on the work areas. The lights would be shielded and turned off when not necessary.

4.2.4 The No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed. Land and shoreline use would not be altered and would remain the same as described in Section 4.2.1 Existing Conditions.

4.2.5 Significant Unavoidable Impacts

The relocation of five residential structures is significant and unavoidable. However, with the implementation of the mitigation measures described in Section 4.2.3, no long term or permanent significant unavoidable adverse impacts to aesthetics, cultural and historic resources, parks and recreation, light and glare have been identified. If any homeowner elects to demolish their home and not rebuild, that would reduce the housing stock in Skykomish and could reduce the historic significance of the area. The unoccupied residence at 303 West River Drive may be demolished and not replaced.

Despite the implementation of the mitigating measures described in Section 4.2.3, adjacent and near-by neighboring properties will also be adversely impacted. BNSF and Ecology will meet with impacted landowners and residents to discuss issues and specific concerns, and subsequently to take measures to address these issues and identify reasonable and appropriate mitigating measures.

draft

4.2.6 Cumulative Impacts

With the implementation of mitigation measures, no cumulative impacts to aesthetics, cultural and historic resources, parks and recreation, light and glare have been identified.

4.3 Transportation

This section describes existing conditions, impacts and mitigation measures for the transportation element of the built environment. In accordance with 197-11-444 WAC, the transportation element of the built environment includes vehicular and pedestrian traffic and parking. School access has been added for analysis due to the likelihood that construction traffic and excavation activities will potentially affect school access.

4.3.1 Existing Conditions

4.3.1.1 Highway and Street System

There is no public transportation within Skykomish or to Skykomish. U.S. Highway 2 is a federal highway. U.S. Highway 2 goes west from Skykomish to Everett, Washington, and east from Skykomish to Wenatchee, Washington.

The Washington State Department of Transportation (WSDOT) maintains the steel truss bridge into town from U.S. Highway 2. The bridge is 102 feet long with 10 feet of clearance (Department of Highways, 1938).

There are about 3.3 miles of local roads composed predominantly of asphalt concrete in Skykomish (Town of Skykomish, 1993).

The average annual daily traffic count for U.S. Highway 2 north of town is approximately 4,750 vehicles (Taylor, 2003). There is limited traffic within Skykomish itself and there are no traffic lights.

The Town of Skykomish includes a main line rail corridor connecting Seattle with Spokane, Washington.

4.3.1.2 Pedestrian System

Although no official pedestrian traffic survey has been completed for the Town of Skykomish, it has been observed that pedestrians and bicyclists use both the streets and sidewalks for recreational, occupational and school purposes.

4.3.1.3 School Student Transportation

The school provides pedestrian, vehicle and school bus access from Railroad and Sixth Streets. During the summer months prior to September 15th, an estimated 6 to 12 employee and visitor vehicles may be parked outside the school along either or both of these streets.

School buses load and unload along both streets and turn around by heading north on 6th Avenue, turning west on West River Road, backing up on West River Road by the Mackner Residence, and then turning south on 6th Avenue.

4.3.1.4 Parking Spaces

Parking is available along both sides of all of the streets within the project area. Except for the on street parking, no public or private designated parking areas are located within the project area.

4.3.2 Environmental Impacts

4.3.2.1 Highway and Street System Impacts

Construction traffic including dump trucks and heavy equipment will be intense on 5th Street, Railroad Avenue, West River Road and 6th Street during construction. West River Road will be included as part of the remediation area, therefore the entire road will not be accessible by the general public, including emergency vehicles. Temporary access roads for the residents living west of West River Road and north of the school yard will be required. The school entrance and some residential houses are located on Sixth Street. The street will be used as an access and haul road but will remain open throughout the construction.

Traffic will be reduced to one lane of travel along all the through streets (except West River Road) within the Town limits throughout the construction period. Signage related to the project will be that typical of a road construction project with traffic controls and authorized personnel access.

There may be impacts to the road surface due to increased volumes of construction equipment.

The project will require the transportation of an estimated 70,000 cubic yards of contaminated sediment and soil from the levee zone to the temporary stockpile storage areas as described in Section 4.7 of the Draft EDR. This will result in frequent truck trips between these two areas for a period of up to four months. A Traffic Control Plan has been prepared for the project and is included in the Draft EDR.

Although highly unlikely, there is a remote potential for disruption of the main line rail corridor that bisects the Town of Skykomish. A significant construction related accident could temporarily disrupt rail service between Seattle and Spokane, Washington.

4.3.2.2 Residential Traffic Impact

The levee remediation work will create traffic disruption, as well as temporary power shut off, to residents located immediately south of the excavation area. A temporary road will be constructed west of the school to provide access for

draft

residents located at the west end of West River Road. This road will be at least 6' wide and will be substantially wider if BNSF can acquire the unoccupied residence at 303 West River Drive. Residents located along the east end of West River Road may not be able to access their driveways from West River Road; rather they may have to access their homes from either 5th or 6th Street during construction. It is anticipated that most construction work will occur during daylight hours. It is also anticipated that there will be some construction related traffic associated with the construction water treatment plant that may operate 24 hours per day and that some construction activities may extend past daylight hours on occasion. It may be necessary to work weekends in order to complete work during the fish window.

Traffic impacts will also be experienced by adjacent residents and businesses. Construction related traffic will cause a significant amount of noise and dust.

4.3.2.3 Commercial Traffic Impact

Business owners have indicated concerns regarding traffic disruption from previous construction projects. Business customer parking and delivery vehicles could be delayed by construction related traffic detours. However, all commercial businesses located in the Town of Skykomish should be accessible during the levee zone cleanup project.

4.3.2.4 Pedestrian Traffic Impacts

Sidewalks will be temporarily removed and pedestrian access will be restricted within the levee zone and project work areas.

4.3.2.5 School Access Impacts

The levee zone cleanup work will create traffic disruption that cannot be avoided. This traffic disruption is likely to impact the Skykomish School due to its proximity to the levee zone. BNSF is working with the Skykomish School District to obtain access to a portion of their playground for use as a staging area.

Construction work located waterward (north) of the ordinary high water mark cannot begin until July 1, 2006 based on the "fish window." However, it is likely that equipment mobilization to the site and moving of residences will begin by May 15, 2006, and construction work on and south of the ordinary high water mark will begin mid-June 2006, at the latest.

Every effort will be made to coordinate the initiation of work in June 2006 with the end of the 2005 – 2006 school year. Traffic disruptions may impact parking and access to the Summer School program. All work on the north side of the ordinary high water mark must be completed by September 15, 2006. Equipment demobilization and the majority of the disruptive work should be completed prior to Monday, October 2, 2006.

draft

Since the school yard will likely be needed as a staging area for subsequent remediation work in other parts of Town, it may not be worthwhile to restore the school yard during the fall of 2006, in which case BNSF would provide transportation to alternative outdoor recreation facilities identified by the School District during the 2006 – 2007 school year.

4.3.3 Mitigation Measures

4.3.3.1 Vehicle System Traffic and Parking Mitigation

Traffic control measures are described in the Traffic Control Plan included in the Draft EDR. The construction access and haul roads to the project site will be selected to ensure the maximum safety and efficient traffic flow. The northern half of the school yard will be used as the construction staging area, with the only available existing access roads to the Project Area being via 6th Street and West River Road. An entrance gate will be established at the south side of the school yard staging area. Plans of the proposed access/haul roads are included in the Draft EDR and may be modified based on comments from Town officials, emergency personnel, and local residents and businesses.

Roads and sidewalks that are damaged or destroyed during construction will be repaired or reconstructed to pre-project conditions.

The Town has requested permission to use a portion of the railyard north of the main line and west of the 5th Street crossing for parking during the annual antique car show (Show 'n Shine) scheduled for August 26, 2006. During this time heavy equipment that will usually be staged on the railyard may be staged at the Town's "burn dump," an approximately 1.6-acre area about a five-minute drive from town.

The Revised Code of Washington (RCW) Title 46, Motor Vehicles, governs the transportation of non-hazardous soils.

4.3.3.2 Pedestrian System Mitigation

Temporary chain link fencing will be installed along the perimeter of the Project Area and around all stockpile, excavation, staging, and work areas. Warning signs will be posted at every entrance gate and at least every 50 feet along the fence warning the general public that the project site contains physical and chemical hazards and that access is forbidden to unauthorized personnel.

In addition to the contractor personnel, at least one RETEC or BNSF project supervisor representative will be on-site at all times when field work is in progress. This field representative or supervisor may also be the site health and safety officer, and will endeavor to restrict access to the active work zone by any unauthorized personnel.

Draft

All of the sidewalks that were either removed or damaged as a result of the proposed construction activities will be replaced.

4.3.3.3 School Access Obstruction Mitigation

Fencing and signage will be erected around and adjacent to the school. Emergency evacuation, ingress and egress routes will be identified and marked with signage.

A flagger or traffic control officer will be available to assist with student, staff and school bus movements if the school board deems it necessary.

4.3.4 The No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed. Transportation systems, parking and access would not be altered and would remain the same as described in Section 4.3.1 Existing Conditions.

4.3.5 Significant Unavoidable Impacts

Temporary project related construction traffic impacts will be significant and cannot be avoided. However, with the implementation of the mitigation measures described in Section 4.3.3, no significant long term or permanent adverse impacts to pedestrian or vehicular traffic have been identified. Additionally, a toll-free line for complaint reporting will be established.

Despite the implementation of applicable best management practices and mitigating measures, adjacent and near-by neighboring properties will also be impacted by construction noise during cleanup activities. BNSF and Ecology will meet with impacted landowners and residents to discuss issues and specific concerns, and subsequently to take measures to address these issues and identify reasonable and appropriate mitigating measures.

4.3.6 Cumulative Impacts

With the implementation of mitigation measures, no cumulative impacts to pedestrian or vehicular traffic have been identified.

4.4 Public Services and Utilities

This section describes existing conditions, impacts and mitigation measures for the public services and utilities element of the built environment. In accordance with 197-11-444 WAC, the public services and utilities element of the built environment includes schools, utilities, stormwater systems and emergency services.

draft

4.4.1 Existing Conditions

4.4.1.1 Schools

The Skykomish Elementary and High Schools of School District 404 are located at 105 Sixth Street. There are 76 students enrolled in grades K through 12 for the 2005–2006 school year. The School District stretches from Index in Snohomish County to the eastern side of Stevens Pass. School buses bringing students to school enter the Town of Skykomish on 5th Street, take a right on Railroad Avenue, and then a right onto 6th Street. The buses turn left at the three-way intersection at the end of the block and turn around (Moore, 2003).

4.4.1.2 Utilities

No water supply wells are located in the Levee Zone. The people of Skykomish are served by two public water supply wells that are located about 1,100 feet east (upgradient) of Skykomish. The primary well is completed to a depth of 216 feet. A backup well is located adjacent to the primary well and is completed to a depth of 219 feet bgs. In 1993, the water system pumped an average of 70,000 gallons per day and 2,100,000 gallons per month. Storage capacity was provided by one water tank with a capacity of 220,000 gallons. Water from the public water system has been sampled and no contaminants related to the site have been detected.

Overhead power and communications lines are present throughout the Town and within the project area.

Based on the barrier wall completion report (RETEC, 2002b), during the barrier wall construction in August 2001, one water supply line and a previously damaged storm sewer pipe were located along the West River Road corridor.

4.4.1.3 Septic Systems

There is currently no municipal sewage treatment system in Skykomish. The five affected residents located in the Levee Zone use private individual septic systems consisting of tanks and leach fields to treat and dispose of sanitary waste. These private individual septic systems are considered non-conforming because the levee zone is within a designated FEMA 100-year floodplain and current land use regulations restrict the construction of new septic systems within the floodplain.

Following completion of the levee zone cleanup and relocation of the affected residences, the Teacherage will be connected to the school's existing public septic system. The school's existing public septic system will not be disturbed by the levee zone cleanup activities. New temporary private individual septic systems will be constructed for each of the other relocated residences necessitating future connection to a permanent community septic system when available.

draft

4.4.1.4 Stormwater Management

There is no municipal storm water treatment system in Skykomish. There are three catchments that capture and pipe stormwater in the Town of Skykomish: the town catchment, the former Maloney Creek catchment, and the railyard catchment. The town catchment captures stormwater runoff north of the railroad tracks; the former Maloney Creek catchment, south of the railroad tracks; and the railyard catchment, from the south side of the railroad tracks.

Surface water infiltrates in unpaved areas on the north side of the railroad tracks.

North of the railroad tracks, stormwater accumulates in one of four collection basins that flow by way of one of three culverts through the berms to the west of the South Fork Skykomish River Bridge and directly into the South Fork Skykomish River. In unpaved areas on the north side of the railroad tracks, stormwater does not accumulate in these collection basins but infiltrates through surface soil.

The catchment area for the former Maloney Creek channel is approximately 42 acres. It is bounded by 5th Street to the west, the railroad tracks to the north, and extends no further than the residential areas to the east and south.

Stormwater runoff passes along ditches and through culverts in the former Maloney Creek catchment area. Twenty-four-inch culverts generally pass in the east/west direction under streets and driveways along the Old Cascade Highway. The easternmost culvert passes under 4th Street and passes under each street and driveway to the west until it passes under the Old Cascade Highway in the northwest direction, connecting the flow to the former Maloney Creek channel. Water then flows through the channel to the west, receiving runoff from the railyard.

Flow from the former Maloney Creek channel then passes through a 36-inch culvert under the fire station to the southwest. After the culvert, the stream runs approximately 400 feet until it joins the current Maloney Creek channel, leading to the South Fork of the Skykomish River.

The former Maloney Creek channel receives runoff from the railyard. Stormwater on the southern side of the railyard flows to the west along the tracks to a depression just east of 5th Street. At this depression, one culvert passes from this depression to the south where it discharges into the former Maloney Creek channel. Another culvert historically transferred stormwater from this depression to the north under the tracks, but has since been blocked by a telephone pole, which stops flow through this culvert.

draft

4.4.1.5 Emergency Services

The Town of Skykomish contracts fire fighting services through a contract with King County Fire District No. 50 and police protection through a contract with the King County Sheriff (Yates, 2003b). Road maintenance including snow plowing and repairing of road surfaces (Yates, 2003b) is also provided under contract by King County. The nearest hospital to Skykomish is approximately 40 miles to the west in Monroe, Washington.

4.4.2 Environmental Impacts

4.4.2.1 School Impacts

The project will create noise and traffic disruption that cannot be avoided to the Skykomish School due to its proximity to the proposed work area. Construction work north of the levee can not begin until July 1, 2006 based on the "fish window." However, it is likely that equipment mobilization to the site and moving of residences will begin June 1, 2006, and construction work on and south of the levee will begin mid-June 2006, at the latest. The school will be able to reopen no later than September 15, 2006.

At a minimum, the school playfields will be unavailable during the construction phase of the project. During this time, the school playfields will not be available for school or other recreational activities and BNSF will provide transportation to alternative outdoor recreations facilities identified by the School District. Depending on weather conditions, it may not be possible to completely restore the school yard during 2006, in which case the work would be completed in 2007 and transportation to alternative outdoor facilities would continue until the school yard is fully restored.

Access to the north of the school will be maintained but may be restricted at times during construction activities. A significant amount of noise, dust and vibration will be noticeable at times during coinciding school and construction activities. Construction generated dust will likely enter the school through open windows and doors during construction activities. Parking near the school will be limited and restricted by construction equipment, worker staging and work areas. School utilities (e.g., power and communications) may be temporarily disrupted or relocated. However, the School's septic system will not be disturbed during the levee zone cleanup activities.

4.4.2.2 Utilities Impacts

Utilities in the project area include power and telephone lines and a storm drain system. Puget Sound Energy will be contracted to relocate the overhead power lines that are next to the levee excavation area. These lines, as well as the telephone line (Verizon) that runs on the same poles, will either be moved to private property on the south side of West River Road or these utilities will be rerouted through the lines on the south side of the school to the effected

Draft

homes. The storm drain system in the project area will be replaced as part of this remedial action. The details of the temporary rerouting of utilities (including the question of under-grounding the lines) and the final permanent establishment of the utilities will be worked out with the utility companies, the Town and associated affected residents (where appropriate) prior to construction.

4.4.2.3 Septic Impacts

Each of the private septic systems for four of the five residential structures requiring relocation will be decommissioned, disconnected and removed from the project area. The septic connection from the teacher's residence will be disconnected and capped during construction. After the teacher's residence is replaced to its original location, the connection to the school's public septic system will be restored.

The current residential structures located in the Levee Zone use private individual septic systems consisting of tanks and leach fields to treat and dispose of sanitary waste. These private individual septic systems are considered non-conforming because the levee zone is within a designated FEMA 100-year floodplain and current land use regulations restrict the construction of new septic systems within the floodplain.

Following completion of the levee zone cleanup and relocation of the affected residences, the Teacherage will be connected to the school's existing public septic system. The school's existing public septic system will not be disturbed by the levee zone cleanup activities. New temporary private individual septic systems will be constructed for each of the other relocated residences. Eventually these residences will become part of a community system. The funding and design for the permanent system has not yet been defined and is beyond the scope of the proposed action.

4.4.2.4 Stormwater Management Impacts

Because the area to be disturbed during remedial activities is between one and five acres, remedial action and construction activities must adhere to substantive requirements of the NPDES permit conditions. These requirements are included in the individual NPDES permit that is being issued for this interim action for cleanup. A Stormwater Pollution Prevention Plan has been prepared that includes Best Management Practices (BMPs) for managing stormwater during remedial activities. These BMPs are outlined in the Stormwater Management Manual for Western Washington (Ecology, 2005).

4.4.2.5 Emergency Services Impacts

Emergency service access will be maintained throughout the duration of the project. However, there could be construction related detours that could cause delays to emergency vehicles.

4.4.3 Mitigation Measures

4.4.3.1 School Mitigation

Pedestrian and school related vehicular traffic, including school buses, will be controlled using fencing and signage. In addition, a flagger or traffic control officer will be employed and strategically located throughout the duration of the project when school is in session.

4.4.3.2 Utilities Mitigation

Prior to commencing any on-site activities, all underground public and private lines will be located and marked with paint. Drawings C-5 and C-6 of the Draft ERD show the approximate locations of all known utility lines on the site.

It should be noted that construction is planned to not interfere with the school's drain field. The southern extent of remediation and associated shoring are placed so that no activity will occur over the drain field during this remediation period.

Septic System Mitigation

Each of the five affected residents located in the Levee Zone use private individual septic systems consisting of tanks and leach fields to treat and dispose of sanitary waste. These private individual septic systems are considered non-conforming because the levee zone is within a designated FEMA 100-year floodplain and current land use regulations restrict the construction of new septic systems within the floodplain.

Following completion of the levee zone cleanup and relocation of the affected residences, the Teacherage will be connected to the school's existing public septic system. The school's existing public septic system will not be disturbed by the levee zone cleanup activities. New temporary private individual septic systems will be constructed for each of the other relocated residences that will include the capability to be connected to a future municipal sewage treatment system.

Stormwater Management Mitigation

The Clean Water Act addresses pollution from oil and hazardous substance releases, providing EPA and the U.S. Army Corp of Engineers with the authority to establish a program for preventing, preparing for, and responding to the discharge of pollutants to waters of the United States (including wetlands). RCW 90.56 outlines plans, standards, and penalties associated with oil and hazardous substance spill prevention and response. All work will comply with these federal and state regulations. A Spill Response contractor will be on-call for the duration of the remedial action.

draft

Because the area to be disturbed during remedial activities is between one and five acres, remedial action and construction activities must adhere to the requirements of the NPDES permit conditions. Although this permit program is administered by Ecology, it is a requirement of federal law and this MTCA cleanup action is not exempt form this federal permit requirement. A Stormwater Pollution Prevention Plan has been prepared and included as (Appendix E) in the Draft EDR that includes Best Management Practices (BMPs) for managing stormwater during remedial activities. These BMPs are outlined in the Stormwater Management Manual for Western Washington (Ecology, 2005).

4.4.3.3 Emergency Services Mitigation

Access for emergency response vehicles (fire, ambulance) will be maintained at all times. A temporary road will be constructed west of the school to provide access for residents located at the west end of West River Road. A temporary access road will also be constructed through the west side of the school yard from Railroad Street to the west side of the school. This access road may be used for emergency vehicle access and as an evacuation route for the school. Access will also be maintained for ingress and egress from the north of the school.

In order to maintain or accommodate emergency vehicle access throughout the Town during construction activities, the Skykomish Fire Marshall will be contacted prior to moving the five residences or closing any of the public roads.

An Emergency Spill Response Plan will be prepared and included in the Draft EDR. The Spill Response Plan will identify potential spill hazards and provide directions for project personnel who would respond to spills or releases of toxic or flammable materials.

4.4.4 The No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed. Public services and utilities would not be altered and would remain the same as described in Section 4.4.1 Existing Conditions.

4.4.5 Significant Unavoidable Impacts

With the implementation of mitigation measures, no significant unavoidable adverse impacts to public services and utilities are identified. The most significant public services and utilities impacts identified are those described in the school impacts section.

4.4.6 Cumulative Impacts

With the implementation of mitigation measures, no cumulative impacts to public services and utilities are identified.

draft

5 References

Berryman and Henigar and the University of Washington, 2005. *Vision for Skykomish: A Community Defined Vision for the Future of Skykomish*.

Blanck, Elaine, USFS Skykomish Ranger District, 2003, Personal communication to Dan Berlin, The RETEC Group, Inc., number of seasonal residents each year in Skykomish, Washington (July 28).

Department of Highways, 1938. Primary State Highway No. 15 Skykomish River Bridge at Skykomish. State of Washington.

Dohran, Renee. USFS Skykomish Ranger District, 2003. Personal communication to Sarah Albano, The RETEC Group, Inc., number of seasonal residents during winter and summer seasons in USFS bunkhouse, Skykomish, Washington (August 1).

Grette Associates, 2005a. *Biological Evaluation, Skykomish Levee Remediation Project*. Prepared for the BNSF Railway Company. March 1.

Grette Associates, 2005b. *Levee Planting Plan and Monitoring Program, Skykomish Levee Remediation Project*. Prepared for the BNSF Railway Company. December.

King County Department of Transportation – Road Services Division, 1993, *King County Road Standards*. King County, Washington.

Moore, Michael, Town of Skykomish School District, 2003. Personal communication to Sarah Albano, The RETEC Group, Inc., Skykomish schools (April 18).

Northwest Archaeological Associates, Inc., *Cultural Resource Assessment for the Former Maintenance and Fueling Facility Project, Skykomish, King County, Washington*. NWAA Report Number WA 05-16. Prepared for The RETEC Group, Inc., Seattle, Washington. July 11.

RETEC, 1996. *Remedial Investigation for the Former Maintenance and Fueling Facility in Skykomish, Washington*. Seattle, Washington: Remediation Technologies, Inc. January 1996.

RETEC, 2001. *Interim Action Basis of Design for LNAPL Barrier System: BNSF Former Maintenance and Fueling Facility, Skykomish, Washington, Vol. 1 of 2*. Seattle, Washington: The RETEC Group, Inc. August 10, 2001.

RETEC, 2002a. *Supplemental Remedial Investigation: BNSF Former Maintenance and Fueling Facility, Skykomish, Washington.* Seattle, Washington: The RETEC Group, Inc. July 12, 2002.

RETEC, 2002b. *Subsurface LNAPL Barrier System Phase 1 Interim Action Completion Report: Former BNSF Fueling and Maintenance Facility, Skykomish, Washington*. Seattle, Washington: The RETEC Group Inc. February 15.

RETEC, 2003a. *Final Draft Feasibility Study and Environmental Impact Statement: Former Maintenance and Fueling Facility, Skykomish, Washington*. Seattle, Washington: The RETEC Group, Inc. September 3.

RETEC, 2003b. *RETEC EHS Program Industrial Hygiene Monitoring for Occupational Noise Exposure*. Chicago, Illinois: The RETEC Group, Inc. April 2003.

RETEC, 2005a. *Final Feasibility Study, Former Maintenance and Fueling Facility, Skykomish, Washington*. Prepared for the BNSF Railway Company. March 15.

RETEC, 2005b. *Draft Engineering Report – Levee Remediation Process Water Treatment and Discharge, Skykomish, Washington.* Seattle, Washington: The RETEC Group, Inc., July 20, 2005.

RETEC, 2006. *Draft Engineering Design Report, Levee Remedial Action; Former Maintenance and Fueling Facility, Skykomish, Washington*. Prepared for the BNSF Railway Company. March 2.

Stinson, D.W., WDWF, 2001. Washington State recovery plan for the lynx. Washington Department of Fish and Wildlife, Olympia, Washington. 78 pp. + 5 maps.

Taylor, Sam, Washington Department of Transportation (WDOT), 2003. Personal regarding Annual Average Daily Traffic count for U.S. 2 near Skykomish, Washington. April 02, 2003.

Town of Skykomish, 1993. *Comprehensive Land Use Plan*, written 1993. Adopted as Ordinance 235 in 1995.

Town of Skykomish, 1998. Critical Areas Ordinance (Ordinance 269). Passed March 13, 1998.

Union Pacific Railroad, 1999. *Minimum Safety Requirements for Engineering Department Contractors*. PB-20834. September 1999.

U.S. Army Corps of Engineers, 1951, Drawing No. E-2-6-74.

U.S. Census Bureau, 2001, Census 2000, Tables DP-1 through DP-4, geographic area: Skykomish Town. http://www.psrc.org/datapubs/census2000/profiles/Skykomish.pdf.

draft

U.S. Forest Service (USFS), 1990. *Mt. Baker-Snoqualmie Land and Resource Management Plan*.

U.S. Forest Service (USFS), 1991. *Environmental Assessment, Maloney Creek Short Term Flood Control Project*. Skykomish Ranger District, Mr. Baker-Snoqualmie National Forest. November.

U.S. Forest Service 2003. Personal communication, D. Oberlag, Wildlife Biologist, Skykomish Ranger District, Mt. Baker-Snoqualmie Forest, Skykomish, Washington, and K. Smayda, Smayda Environmental, Seattle, Washington, March 14, 2003.

U.S. Forest Service and USDI Bureau of Land Management 1994. *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl*. Volumes I and II. Portland, Oregon.

USGS, 2006. US Earthquake Information by State – Washington. http://earthquake.usgs.gov/regional/states.php?regionID=47&region=Washington. Page last modified February 6, 2006.

Washington State Department of Ecology, 1995, Permit Exemptions for Remedial Actions under MTCA. February 17.

Washington State Department of Ecology – Water Quality Program, 2005. *Stormwater Management Manual for Western Washington*. February.

Washington State Department of Ecology, 2006a. National Pollutant Discharge Elimination System Permit.

Washington State Department of Ecology, 2006b. *Public Participation Plan*.

Washington State Department of Ecology and BNSF Railway Company, 2006. Agreed Order.

Yates, Chris, Skykomish Town Clerk, 2003a. Personal communication to Dan Berlin, The RETEC Group, Inc., train traffic through Skykomish, Washington (May 30).

Yates, Chris, Skykomish Town Clerk, 2003b. Personal communication to Sarah Albano, The RETEC Group, Inc., fire and police protection in Skykomish, Washington. March 27, 2003.

draft

Figures

draft

Attachment A

SEPA Distribution List

draft

DESIREE GOULD
SCHOOL DIST #404

NOAA FISHERIES
NW REGION

ELAINE BABBY
PUGET SOUND ENERGY

KC ROAD SERVICES DIV
M/S KSC 0315

TOWN OF SKYKOMISH

KWAME AJYEI
PUGET SOUND CLEAN AIR AGENCY

GTE TELEPHONE OPERATIONS
(VERIZON)

STEVE HULSMAN
WA DEPT OF HEALTH

DARYL WILLIAMS
TULALIP TRIBE

TOM BEAN
KING CO WATER & LAND
RESOURCES DIV

BARBARA BUSSE
USFS

JERRY & ANDREA DINSMORE
INDIVIDUAL

ALLENE MARES
PUBLIC HEALTH SEATTLE-KING CO

KELLIE KVASHIKOFF
ENVIRON & NAT RESOURCES DEPT –
SNOQUALMIE TRIBE

RICK AYDELOTTE
INDIVIDUAL

KATHY THORNBURGH
SNOHOMISH CO SURFACE WATER

DAVE CLARK
WATER & LAND RESOURCES DIV

PATRICIA CRAIG
INDIVIDUAL

ELAINE CUMMINS
KING CO HEALTH DEPT

LINDA CYRUS
KING CO LIBRARY

HENRY GOBIN
MANAGER CULTURAL RESOURCES –
TULALIP TRIBES

KEN ELLIOTT
KING CO HEALTH DEPT

BOB PFIFER
WA DEPT FISH & WILDLIFE

CARL KITZ
USEPA

BARRY GALL
USFS

LORNA GOEBEL
INDIVIDUAL

RICK & SUSAN GORANSON
INDIVIDUAL

ROB BANES
DEPT OF HEALTH
OFFICE OF ENVIRON ASSESS

REX BAKEL/JANET GARNER
INDIVIDUAL

DON & MAGGIE WHEATLEY
INDIVIDUAL

JULIE KOLER
KING CO HISTORIC PRES OFFICER

CURT KRAEMER
WA DEPT OF FISH & WILDLIFE

draft

GREG BISHOP
KING CO HEALTH DEPT

JUDITH LEE
GEOGRAPHIC IMP UNIT
US EPA REGION 10

DICK & ROBERTA MITCHELL
INDIVIDUAL

KEN ZIEBART
WA DEPT OF ECOLOGY

MICHAEL MOORE
SKYKOMISH ENVIRON COALITION

MICHAEL FERNANDEZ
INDIVIDUAL

TOM EATON
USEPA

TONY OPPERMAN
WA DEPT OF FISH & WILDLIFE

DARYL PETRARCA
LSI ADAPT

JAMES KNISLEY
INDIVIDUAL

JOHN ROBINSON
INDIVIDUAL

LARRY & LISA JOHNSON
INDIVIDUAL

MEGAN SMITH
WATER & LAND RESOURCES DIV

RALPH SVRJCEK
WA DEPT OF ECOLOGY

LAW OFFICES OF BELL & INGRAM
ATTN: DAVID CARSON

CHERYL A WOODALL
USDA FOREST SERVICE
GIFFORD PINCHOT NAT FOREST

ROGER WAGONER
BERRYMAN & HENIGAR

CHARLES SUNDBERG
KING CO HISTORIC PRESERVATION

RYAN IKE
US FEMA REGION 10

JANET CARROLL
SURFACE WATER MGMT
SNOHOMISH CO

CRILLY RITZ
CULTURAL RESOURCES
SNOHOMISH CO PUBLIC WORKS

JIM GREEN
US ARMY CORPS OF ENGINEERS

TERI WILLIAMS
NATURAL RESOURCES
THE TULALIP TRIBES

MARIAMNE KINGSBURY
PUGET SOUND ENERGY

DAVE LUZI
TULALIP TRIBE

SEPA/NEPA REVIEWER
PUGET SOUND REG COUNSEL

ROBERT & CHARLOTTE MACKNER
INDIVIDUAL

NEIL STAFHEST
US POSTAL SERVICE

KATHE HAWE
REGIONAL NEPA COORDINATOR

SEPA/NEPA REVIEWER
PUGET SOUND REG COUNCIL

JAMIA HANSEN-MURRAY
SEPA/NEPA REVIEWER
US FOREST SERVICE

JEFF KRAUSMAN
US FISH & WILDLIFE

draft

RANDY POPLOCK
KING CO HOUSING & COMM DEVEL

LEA BOYLE
S KING CO ENVIRON SERVICES
PUGET SOUND ENERGY

SEPA/NEPA REVIEWER
US ARMY CORPS OF ENGINEERS

JOHN ANDERSON
PUGET SOUND CLEAN AIR AGENCY

CHRIS BERGER
SKYKOMISH WATERSHED LEAD
SNOHOMISH CO PUBLIC WORKS

OLIVIA RUGO
KING CO WATER & LAND RESOURCES

KAY JOHNSON
KING CO LIBRARY SYSTEM

MARK MITCHELL
KING CO DEPT OF DEV & ENV SRVCS

ERIC JENSEN
KING CO COMMUNITY DEV PRGM

PAUL INGHRAM
BERRYMAN & HENIGAR

BILL JOLLY
WA PARKS & RECREATION

RUSSELL HOLTER
WA OFFICE OF ARCHEOL & HIST PRES

DR ROBERT WHITLAM
WA OFFICE OF ARCHEOL & HIST PRES

ERNIE COMBS
WS DOT

DAVE DIETZMAN
WA DEPT OF NATURAL RESOURCES
REX THOMPSON
INDIVIDUAL

MARCIA HENNING
WA DEPT OF HEALTH

JAN HAYWOOD
WA DEPT OF HEALTH

CYNTHIA PRATT
WA DEPT FISH & WILDLIFE

ERIK WHITE
WA DEPT FISH & WILDLIFE

JEANNE TRAN
WA DEPT OF ECOLOGY NWRO

REBEKAH PADGETT
WA DEPT OF ECOLOGY NWRO

BARBARA RITCHIE
ENVIRONMENTAL REVIEW
WA DEPT OF ECOLOGY

KARIN BERKHOLTZ
WA DEPT COMMUNITY DEVELOP

BILL WESTWOOD
MNGR ENVRION AFFAIRS
VERIZON NW

TOM HUBBARD
SNOHOMISH CO PUBLIC WORKS

CANDICE SOINE
SNOHOMISH CO PUBLIC WORKS

BILL MAVROS
WA FISH & WILDLIFE

SCOTT WHITE
ESA LEAD

US POSTAL SERVICE
SKYKOMISH BRANCH

draft