

Air Quality Memorandum South Kelso Railroad Crossing Project

Cowlitz County, Washington

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Executive Summary

The City of Kelso is proposing to construct a new grade separated crossing where Hazel Street meets the BNSF Railway to alleviate safety issues that result with at-grade crossings in the area, referred to as the South Kelso Railroad Crossing Project (project). This report was prepared to document the affected environment as it relates to Air Quality requirements and to identify potential affects from the project. The project would be located in an area that is in attainment with all federal and state air quality thresholds; therefore, analysis of long-term (operational) affects is not required. Short-term (construction) affects were analyzed qualitatively and applicable mitigation measures, such as the use of dust suppressants during ground disturbance activities, have been identified for use in the State Environmental Policy Act (SEPA) documentation. No other affects are anticipated to air quality from implementation of the project.

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Abbreviations and Acronyms

AGC	Association of General Contractors
BMPs	best management practices
CE	Categorical Exclusion
CO	carbon monoxide
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
GHG	greenhouse gas
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO ₂	nitrogen dioxide
O ₃	ozone
Pb	lead
PM _{2.5}	Particulate Material 2.5 microns in size or less
PM ₁₀	Particulate Material 10 microns in size or less
ppm	parts per million
SAAQS	State Ambient Air Quality Standards
SIPs	State Implementation Plans
SO ₂	sulfur dioxide
µg/m ³	one-millionth of a gram
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation

1 Introduction

The South Kelso Railroad Crossing Project is a long-term effort by the City of Kelso to meet safety demands associated with the residents living in South Kelso and the BNSF railroad.

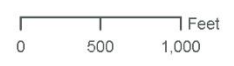
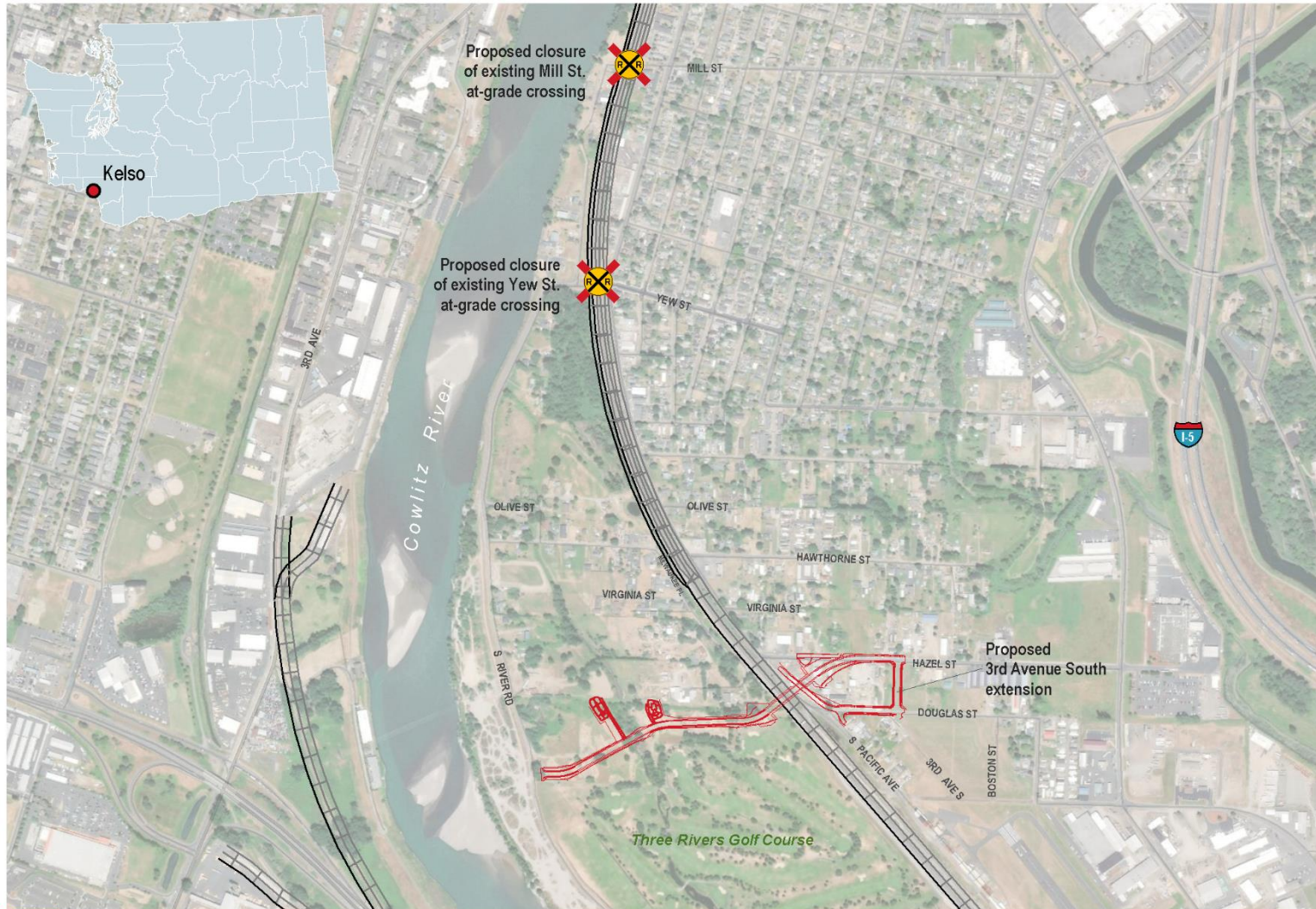
This report was prepared in support of the State Environmental Policy Act (SEPA) documentation for the project and presents the potential air quality affects from the project. It includes a discussion of the project's status with regard to the transportation conformity rules, analysis methodology, project-area conformity status, the affected environment, and a discussion of potential short-term construction impacts.

2 Project Description and Background

Rail improvements and capacity expansion to the rail network linking Seattle and Portland were recently completed as part of the federally funded High-Speed Rail (HSR) Program. A significant portion of the HSR improvements occurred in Cowlitz County with the construction of the Kelso to Martin's Bluff Project (KMB). KMB added a third main track, new signal improvements, new railroad bridges, and maintenance access roads. With these Kelso-area rail improvements, existing at-grade crossings at Mill Street and Yew Street within the KMB project area have been identified for removal and replacement with a grade separation.

In anticipation of closing the crossings at Mill and Yew Streets, the City of Kelso completed the City of Kelso Railroad Crossing Study in 2013 that evaluated grade separation options resulting in the selection of Hazel Street Option 2A as the preferred alternative. Option 2A would revise the Hazel Street alignment just east of the tracks and construct a new bridged portion of the street to cross over South Pacific Avenue and the tracks at an approximate 90-degree angle; the elevated bridge crossing is approximately 400 feet in length. Hazel Street would be extended west to an intersection with South River Road.

The existing connection between South Pacific Avenue and Hazel Street would be closed with a new connection provided via Douglas Street and a newly constructed extension of 3rd Avenue South. The Douglas Street and South Pacific Avenue intersection would be improved to accommodate the increased traffic, and Douglas Street would be widened to include bike lanes and sidewalks. The extension and improvement of 3rd Avenue South between Douglas Street and Hazel Street would complete the connection. Improvements to Hazel Street, Douglas Street and 3rd Avenue South will require property acquisition from adjacent landowners. With the construction of the grade separation at Hazel Street complete, the City would move forward with closure of the existing at-grade crossings at Mill and Yew Street to vehicle traffic. The existing crossing arms will be removed. Access control measures will be installed and a cul-de-sac or hammer head will be constructed to facilitate vehicle turnaround on the west side of the closed crossings. Figure 1 Vicinity Map with Build Alternative Alignment.



— Crossing Alignment
 Railway

FIGURE 1
 PROJECT AREA

CITY OF KELSO: RAILROAD GRADE SEPARATION

PATH: G:\PROJECTS\WASH\00\0\0\0\CITY_OF_KELSO\008634\KELSO RR GRADE SEPARATION_1008117417_2_29\MAP_DOCS\SEPA\F0UR\ET_PROJECT_AREA.MXD - USER: MDALZELL - DATE: 11/06/2018



Conformity Status and Analysis Methodology

2.1 Relevant Laws and Regulations

The U.S. Environmental Protection Agency (EPA) has established the National Ambient Air Quality Standards (NAAQS) to protect the public from air pollution. The Washington Department of Ecology (Ecology), which is responsible for maintaining compliance with the NAAQS in Washington State, has established State Ambient Air Quality Standards (SAAQS) that are at least as stringent as the NAAQS. The NAAQS and SAAQS are listed in Table 1.

Table 1 NAAQS and SAAQS

Pollutant	Averaging Time	Federal	Washington
Carbon monoxide (CO)	8-hour ^a	9 ppm	9 ppm
	1-hour ^a	35 ppm	35 ppm
Lead (Pb)	3-month rolling average	0.15 µg/m ³	-
Ozone (O ₃)	8-hour ^b	0.075 ppm	0.08 ppm
	1-hour	-	0.12 ppm
Nitrogen dioxide (NO ₂)	Annual arithmetic mean	0.053 ppm	0.05 ppm
	1-hour	0.1 ppm	-
Sulfur dioxide (SO ₂)	1-hour	0.075 ppm	0.4 ppm
	3-hour	0.5 ppm	-
	24-hour	-	0.1 ppm
	Annual arithmetic mean	-	0.02 ppm
PM ₁₀	Annual arithmetic mean	-	50 µg/m ³
	24-hour	150 µg/m ³	150 µg/m ³
PM _{2.5}	Annual arithmetic mean	12 µg/m ³	-
	24-hour	35 µg/m ³	-

Sources: EPA Office of Air Quality Planning and Standards (OAQPS) and the Washington Administrative Code (WAC 173, Sections 470, 474, and 475)

Note: ppb = parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter;

PM₁₀ = particulates with an aerodynamic diameter less than or equal to 10 micrometers; PM_{2.5} = particulates with an aerodynamic diameter less than or equal to 2.5 micrometers.

- a. Not to be exceeded more than once per year.
- b. To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008).
- c. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
- d. To attain this standard, the 3-year average of the 99th percentile of the annual distribution of the daily maximum 1-hour average concentration must not exceed 75 ppb.
- e. Note that the federal 3-hour SO₂ standard is a secondary standard set to protect public welfare, rather than a primary standard set to protect public health.
- f. To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³.

2.2 Washington State Department of Transportation Guidelines

Washington State Department of Transportation (WSDOT) is tasked with ensuring that all federally funded projects meet all state and federal air quality requirements. In the event this project acquires federal grant funds, WSDOT review and approval of the environmental documentation including air quality will be required. Transportation conformity (40 CFR 93) determination is a process that the FHWA and WSDOT use to ensure that a given project does not cause or contribute to a violation of the NAAQS. Pursuant to the CAA, transportation conformity only applies to projects that would be located in



a nonattainment or maintenance area. A nonattainment area is one that currently experiences ambient air quality in excess of the standards provided in Table 1 and maintenance areas are those that may have exceeded the NAAQS and/or SAAQS but have entered into a maintenance plan with EPA to address exceedances. This project is located in an attainment area, which means that ambient air quality has been determined to be below the NAAQS and/or SAAQS listed in Table 1. As a result, transportation conformity does not apply to this project.

WSDOT guidance via their Environmental Manual (WSDOT 2018) indicates that for most projects short-term effects relating to construction of a project are to be analyzed qualitatively. Some larger projects may require more detailed construction emissions analysis; however, this project would not be characterized as a larger project requiring such analysis. The qualitative discussion includes descriptions of best management practices (BMPs) for reducing fugitive dust and other agreements to reduce construction emissions that WSDOT typically enters into with local municipalities.

Additionally, according to the WSDOT greenhouse gas (GHG) emissions analysis is only required for National Environmental Policy Act (NEPA) Environmental Assessments and Environmental Impact Statements. Since this project is being permitted as a Categorical Exclusion (CE) no GHG analysis is required.

3 Affected Environment

The affected environment was established by reviewing monitoring data from the closest CO monitor to the project, located in Portland, Oregon at 5824 SE Lafayette Street. For the last three years of quality checked data (EPA AirData 2014, 2015, and 2016) at this monitor, the 8-hour average has ranged from approximately 0.2 ppm to 0.3 ppm.

4 Environmental Consequences

4.1 Short-Term (Construction) Effects on Air Quality

Construction activities can cause minor short-term increases in air pollutant emissions during installation of specific project elements. The construction contractor will be required to comply with all local, state, and federal regulations concerning air pollution abatement related to construction activities, and projects that require earthwork or otherwise have the potential to create fugitive dust are required to use best management practices (BMP) to control dust. Therefore, construction activities are not expected to cause significant air quality impacts.

5 Mitigation

No long-term air quality impacts are anticipated as a result of the project; therefore, no mitigation is required.

Mitigation measures for potential short-term (construction) impacts normally include best management practices (BMPs) for dust suppression. To reduce the effect of construction delays on traffic flow and resulting emissions, road or lane closures should be restricted to non-peak traffic periods when possible.

A list of BMPs for the control of fugitive dust compiled by the Associated General Contractors (AGC) of Washington in the publication Guide to Handling Fugitive Dust from Construction Projects (AGC 1998) is presented below.

The control measures listed below are not mutually exclusive. Most situations require the use of two or more methods for any particular situation, and several methods will be employed to handle the variety of situations that make up a particular project. BMPs to reduce fugitive dust emissions include:

- Covering – fabric/other for erosion control
- Dust suppressants – chemical
- Erosion controls
- Filter fabric around catch basins
- Flocculating agents
- Minimize size of disrupted surface area
- Paving or planting of disturbed soil areas
- Schedule work: reschedule work around especially windy days
- Speed reduction
- Street sweepers
- Vehicle spillage reduction – covered loads
- Water spray
- Wheel wash

6 References

- Associated General Contractors of Washington (AGC). 1998. Guide to Handling Fugitive Dust from Construction Projects.
- Code of Federal Regulations. 40 CFR 51, Requirements for Preparation, Adoption, and Submittal of Implementation Plans.
- Washington Department of Transportation. 2018. WSDOT Environmental Manual.
- 40 CFR 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans.
- U.S. Environmental Protection Agency (US EPA). 2015. AirData Annual Summary 2015.
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