PUBLIC DRAFT
ENVIRONMENTAL IMPACT REPORT
NORTH COAST RAILROAD AUTHORITY
RUSSIAN RIVER DIVISION
FREIGHT RAIL PROJECT

Prepared for:

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Santa Rosa, California 95407

November 2009

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ENVIRONMENTAL IMPACT REPORT
NORTH COAST RAILROAD AUTHORITY
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FREIGHT RAIL PROJECT

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APPENDICES

ACRONYMS AND ABBREVIATIONS

AADT	average annual daily traffic
ABAG	Association of Bay Area Governments
ACE	Alternate Commuter Express
ADL	Aerially-deposited lead
AHERA	Asbestos Hazard Emergency Response Act
AHM	acutely hazardous material
ANSI	American National Standard Institute
APCD	Air Pollution Control District
APCO	Air Pollution Control Officer
APE	Area of Potential Effect
AREMA	American Railway Engineering and Maintenance-of-Way Association
AQMD	Air Quality Management District
ASHARA	Asbestos School Hazard Reauthorization Act
BAAB	Bay Area Air Basin
BAAQMD	Bay Area Air Quality Management District
BCDC	Bay Conservation and Development Commission
bgs	Below ground surface
BMP	Best Management Practice(s)
BNSF	Burlington Northern Santa Fe
BTEX	benzene, toluene, ethylbenzene, and xylenes
BTU	British Thermal Unit
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational and Health Administration
Caltrans	California Department of Transportation
CAR	Capital Assessment Report
CARB	California Air Resources Board
CBC	California Building Code
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CE	Categorical Exemption
CESA	California Endangered Species Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CGP	County General Plan
CGS	California Geological Survey
CH_4	Methane

ACRONYMS AND ABBREVIATIONS (Continued)

CHRIS	California Historical Resource Information System
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CPUC	California Public Utilities Commission
CTS	California tiger salamander
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	Decibel
dBA	A-weighted decibel
DFG	Department of Fish and Game
DEIR	Draft Environmental Impact Report
DHS	Department of Health Services
DMMO	Dredged Materials Management Office
DMU	Diesel Multiple Units
DOSH	Division of Occupation Safety and Health
DOT	Department of Transportation
DTSC	Department of Toxic Substance Control
DWR	Department of Water Resources
ECD	Environmental Consent Decree
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know
ERD	Eel River Division
ERP	Emergency Response Plan
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
F	Fahrenheit
FARS	Fatality Analysis Reporting System
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMCSA	Federal Motor Carrier Safety Administration
FMP	Fishery Management Plan
FRA	Federal Railroad Administration
FTA	Federal Transit Administration

ACRONYMS AND ABBREVIATIONS (Continued)

GCOR	General Code of Operating Rules
GHG	greenhouse gases
GWP	Global Warming Potential
HAP	Hazardous Air Pollutant
HCP	Habitat Conservation Plan
HR	Hydrologic Region
HSWA	Hazardous and Solid Waste Act
Hz	Hertz
ICCTA	Interstate Commerce Commission Termination Act
IS	Initial Study
ISO	International Organization for Standardization
LBP	Lead-based paint
LDL	Larson-Davis Laboratories
L_{dn}	Day/night sound level
LEPC	Local Emergency Planning Committee
L_{eq}	equivalent sound level
LOS	Level of service
LTS	Less Than Significant
LTSM	Less Than Significant with Mitigation
L_v	decibel vibration velocity levels
MBTA	Migratory Bird Treaty Act
MCAQMD	Mendocino County Air Quality Management District
MCCMA	Marin County Congestion Management Agency
MCOG	Mendocino Council of Governments
MCSO	Mendocino County Sheriff Office
MEI	Maximally Exposed Individual
$\mu g/m^3$	microgram(s) per cubic meter
MND	Mitigated Negative Declaration
mph	miles per hour
MP	Milepost
MSL	mean sea level
MTC	Metropolitan Transportation Commission
MUTCD	Manual on Uniform Traffic Control Devices
N20	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCAB	North Coast Air Basin

ACRONYMS AND ABBREVIATIONS (Continued)

NCCP	Natural Community Conservation Plan
NCD	Novato Consent Decree
NCRA	North Coast Railroad Authority
NCRWQCB	North Coast Regional Water Quality Control Board
NCSA	National Center of Statistics and Analysis
NCSD	Napa County Sheriff's Department
NCUAQMD	North Coast Unified Air Quality Management District
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NI	No Impact
NMFS	National Marine Fisheries Service
NOA	Naturally Occurring Asbestos
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
No.	Number
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NPPA	Native Plant Protection Act
NRHP	National Register of Historic Places
NSCAPCD	Northern Sonoma County Air Pollution Control District
NVUSD	Napa Valley Unified School District
NWI	National Wetland Inventory
NWIC	Northwest Information Center
NWP Co.	Northwestern Pacific Railroad Company
NWPRA	Northwestern Pacific Railroad Authority
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
OSHA	Federal Occupational and Health Administration
Pb	Lead
PCB	Polychlorinated biphenyls
PM	particulate matter
PM_{10}	particulate matter equal to or less than 10 microns in aerodynamic diameter
PNA	Polynuclear aromatic hydrocarbons

ACRONYMS AND ABBREVIATIONS (Continued)

Ppm	parts per million
PPV	peak particle velocity
PRC	Public Resource Code
PRMD	Permit and Resource Management Department
PS	Potentially Significant
PTC	Positive Train Control
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Plan
RMS	Root-mean square
ROC	Reactive organic compounds
ROG	reactive organic gases
ROW	Right-of-Way
RRD	Russian River Division
RTP	Regional Transportation Plan
RTIP	Regional Transportation Improvement Plan
RWQCB	Regional Water Quality Control Board
RWT	Rails-with-Trails
S	Significant
SARA	Superfund Amendments and Reauthorization Act
SCSD	Sonoma County Sheriff's Department
SCTA	Sonoma County Transportation Authority
SEIR	Supplemental Environmental Impact Report
SEL	sound exposure level
SF_6	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMART	Sonoma Marin Area Rail Transit
SMHM	Salt-marsh harvest mouse
SO_2	sulfur dioxide
SO_x	sulfur oxides
SOFA	Switching Operations Fatality Analysis
SSM	Supplemental Safety Measures
ssp.	Species
SSPP	System Safety Program Plan
STB	Surface Transportation Board
STIP	State Transportation Improvement Plan
SVOC	semivolatile organic compounds
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

ACRONYMS AND ABBREVIATIONS (Continued)

TAC	Toxic Air Contaminant
TAM	Transportation Authority of Marin
TCM	Transportation control measures
TDS	Total Dissolved Solids
THPO	Tribal Historic Preservation Officer
TIP	Transportation Improvement Plan
TMDL	Total Maximum Daily Load
TOG	Total organic gases
TSCA	Toxic Substances and Control Act
TSM	Transportation System Management
UBC	Uniform Building Code
UPRR	Union Pacific Railroad
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USDE	United States Department of Energy
USDOT	U.S. Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VMT	vehicle miles traveled
VOC	volatile organic compound
VTA	Valley Transportation Authority
WDR	Waste Discharge Requirement
WMP	waste management plan
WQC	Water Quality Certification

EXECUTIVE SUMMARY

In accordance with the California Environmental Quality Act (CEQA), this Draft Environmental Impact Report (DEIR) analyzes the potential environmental impacts associated with the proposed North Coast Railroad Authority (NCRA) Russian River Division (RRD) freight rail project.

PROJECT BACKGROUND

NCRA is proposing to resume rail service over the RRD of the Northwestern Pacific Railroad (NWP). The NWP is an existing railroad that has provided rail service dating back to the early 1900's. NCRA was formed in 1989 by the California Legislature under the North Coast Railroad Authority Act, Government Code Sections 93000, *et seq*. The Act was intended to ensure continuation of railroad service in Northwestern California and envisioned a railroad playing a significant role in the transportation infrastructure serving a vital part of the State that suffers from restricted access and limited transport options. Although it was chartered by a state mandate, operating funding to NCRA was not provided at the time of acquisition in 1992.

In 1993, NCRA; the Golden Gate Bridge, Highway, and Transportation District (Bridge District); and Marin County set up a joint-powers authority called the Northwestern Pacific Railroad Authority (NWPRA). This entity took over the ownership of rail facilities and tracks along the RRD between Healdsburg and Lombard (Napa County) where the railroad then connects to the national rail network through the California Northern Railroad.

Until 1998, freight service operated twice daily along the NWP, carrying mainly natural resource products. The RRD became inoperable as a result of damage sustained during the winter storms of 1997-1998.

Once NCRA completed essential disaster-related repairs to the RRD, commercial freight service resumed between Lombard and Penngrove, Sonoma County, in January 2001. However, service was temporarily discontinued in September 2001 because the operator lacked capital to continue operations. Subsequently, NCRA identified additional repairs, and maintenance and infrastructure improvements that would be necessary to restore facilities on the RRD.

In 1997, the Sonoma County Transportation Authority and Marin Planning Agency conducted a study that recommended that a commission be formed to guide the design and implementation of passenger train service. In 1998 the Counties of Sonoma and Marin formed the Sonoma-Marin Area Rail Transit (SMART) Commission to carry out this direction. On January 1, 2003 the Sonoma-Marin Area Rail District was created with the passage of California State Assembly Bill 2224. The district consolidated the existing SMART Commission, NWPRA, and the Golden Gate Bridge, Highway and Transportation District Authority and assets over the rail corridor into a single rail district.

The NWP from Healdsburg to Lombard is owned by the SMART District. NCRA has a perpetual freight service easement over SMART right-of-way between Healdsburg and Lombard, and SMART has a perpetual passenger service easement over the portion of the right-of-way owned by NCRA between Healdsburg and Cloverdale. AB 2224 provides that SMART must work with NCRA and the Federal Railroad Administration (FRA) "to achieve safe, efficient, and compatible operations of both passenger rail and freight service along the rail line in Sonoma and Marin Counties."

The rail line is an operating railroad per the Surface Transportation Board (STB). The freight service will be operated by an independent contracted operator. NCRA has currently entered into a contractual agreement with Northwestern Pacific Railroad Company (NWP Co.). Rehabilitation of the line is required before trains may safely resume operations on the line. Rehabilitation activities are necessary to bring the rail line into conformance with FRA Class 2/3 Standards, and to address safety issues identified in FRA Emergency Order No. 21. The rehabilitation activities from Lombard to Windsor (Milepost (MP) 62.9) are covered under a Notice of Exemption filed June 2007 and are currently being funded by the State and investments by the operator. NCRA has submitted a request for federal funding; however, since it is unknown whether or not the request will be approved, what the ultimate project will include, and when the monies would be allocated, it is currently assumed that there will be no federal funding for the proposed project. If and when federal funding becomes available, the appropriate NEPA evaluation would be conducted.

NCRA and, to the extent applicable to the rail lines it operates, its operator will be required to be in compliance with an Environmental Consent Decree (ECD) that was signed by the California Justice Department, North Coast Regional Water Quality Control Board (NCRWQCB), Department of Toxic Substance Control (DTSC), and

Department of Fish and Game (DFG). The ECD, among other things, requires that NCRA prepare and implement plans to clean up existing waste (currently scattered rail ties), conduct all rail operations in accordance with applicable environmental laws, and to handle, manage, store, transport, and dispose of hazardous materials and waste in a manner that is protective of human health and the environment.

NCRA and, to the extent applicable to the rail lines it operates, its operator will also be required to be in compliance with a Consent Decree issued by the Superior Court of the State of California on November 3, 2008 (Novato Consent Decree). This Consent Decree requires that approximately 17 miles of the track, between MP 35.5 and MP 18.7, be continuous welded track, that from MP 29.5 to 25.9 fencing be constructed on either side of the track, and that quiet zones and landscaping be established within the city and its sphere of influence, roughly between MP 28.5 and MP 21.9 to minimize noise and glare from operations. In addition restrictions on operations between MP 35.5 and MP 18.7 regarding time of operation, type of locomotive and number of railcars and trains are included. The Novato Consent Decree requires that NCRA apply to the Federal Highway Administration (FHWA) and Caltrans for federal funding. NCRA has submitted such a request; however, since it is unknown whether or not the whole request, a portion of the request, or none of the request will be approved, and if it is approved, if and when the monies would be allocated; it is currently assumed that there will be no federal funding for the proposed project. If and when federal funding becomes available, the appropriate NEPA evaluation would be conducted.

PROJECT PURPOSE, NEED AND OBJECTIVES

NCRA and its operator propose to resume the operations of freight service in the rail corridor from Willits to Lombard for transport of general freight to serve the communities in the rail corridor. In this rail corridor, the operator could also transport solid waste to landfills beyond the four-county area, and may replace the diesel truck hauling currently used for this service. The project does not propose the transport of hazardous waste, dangerous, highly flammable or explosive material. This area has historically been serviced by the railroad and the proposed project will reestablish reliable, fuel efficient and cost effective service to the businesses and public utility entities within the service area, and resumes service to former customers whose businesses have been adversely impacted by the lack of rail service. Resumption of rail service will also advance statewide air quality goals embodied in AB32 and related legislation as well as meeting

the objectives indentified in the Draft CEQA Guideline Amendments for Greenhouse Gas (GHG) emissions issued by the Govenor's Office of Planning and Research (OPR).

The need for a renewed reliable freight service in Mendocino, Sonoma, Marin, and Napa Counties is apparent by the rapidly growing congestion and truck traffic along U.S. Highway 101 from Willits to Novato, and on CA Highway 37 that connects U.S. Highway 101 in Novato to Interstate Highway 80 in Solano County. The capacity of the highway system to accommodate quick and cost-effective commercial truck traffic has not kept pace with the growth of travel demand in this area, and this trend is expected to continue in the future in spite of several major highway improvement projects that are currently in progress. Reestablishing the rail service will help reduce the truck traffic on the local highways and community roads. In addition, the state of the art locomotives being proposed are more fuel efficient than the heavy diesel trucks currently being used to transport freight.

The need for a cost-efficient, alternative method of transportation to deliver commercial goods and freight in the area is supported by:

- The capacity constraints on existing systems, particularly U.S. and CA Highways 101, 121, 37, and 12 that result in travel delays and congestion. The rail service would remove a portion of the current commercial truck traffic on the roadways thus reducing traffic congestion and pavement wear on local roadways. "Depending on the density of the commodity, one railcar may move the same weight or volume as four or five trucks" (American Association of State Highway and Transportation Officials, 2003). According to the Traffic Impact Study prepared by Dowling Associates for the proposed project, the proposed project could potentially reduce diesel truck traffic in the RRD corridor by 20% to 25%.
- The increasing unreliability and safety concerns of existing travel modes due to congestion, inclement weather, and accidents. A reduction in the number of commercial trucks on the local roadways will result in increased safety on the roads.
- The absence of four-lane highways and freeways connecting U.S. Highway 101 with Interstate Highway 80.
- The reduction of air and GHG emissions associated with replacing heavy diesel trucks by locomotives. By removing a portion of the current commercial (possibly

including solid waste) truck traffic on the roadways, rail service would decrease diesel emissions from trucks, resulting in a net improvement in air quality and reduction in GHG emissions.

- The California Air Resources Board (CARB) identified the air quality benefits of a transport mode shift of freight from trucks to rail as part of the state-wide Goods Movement Action Plan (CARB, 2007).
- The superior fuel efficiency of state-of-the-art locomotive compared to heavy duty diesel trucks. Movement of freight on rail is measurably more efficient. One ton of goods can be moved more than 436 miles with one gallon of fuel according to the Association of American Railroads, May 21, 2008.
- Provide for the rehabilitation and repair of the rail line to ensure safe and reliable operations.

The purpose of the proposed project is to provide efficient, reliable, and cost-effective rail service in Mendocino, Sonoma, Marin, and Napa counties. The following project objectives have been identified to achieve this goal:

- Provide a fuel efficient alternative transportation option to trucking for commercial freight across the four-county area.
- Provide a fuel efficient alternative transportation option to trucking for hauling solid waste across the four-county area.
- Provide an alternative cost-effective option to the disposal of solid waste in local landfills.
- Provide for the ability to perform efficient maintenance of the rail corridor to address fire hazards, flooding mitigation, and deterrence of illegal activities within the rail right-of-way.
- Fulfill the State mandate to provide the continuation of railroad service on the RRD division of the Northwestern Pacific Railroad and help alleviate the growing concerns for efficient goods movement.
- Advance statewide air quality goals embodied in AB 32 and related legislation.

PROJECT DESCRIPTION SUMMARY

The NCRA rail corridor extends approximately 142 miles from Willits in Mendocino County, California southward to Lombard in Napa County. From Willits the line runs southward generally following Highway 101 through Redwood Valley, Calpella, Ukiah, Hopland, Cloverdale, Geyserville, Healdsburg, Windsor, Santa Rosa, Rohnert Park, Cotati, Petaluma, and Novato. South of Novato, at Highway 37, the line runs eastward near the shore of San Pablo Bay, over the Petaluma River, past Black Point, past the old station at Schellville, over the Napa River, and terminates in Lombard north of the city of American Canyon. Freight service will not extend south of Highway 37 along the Highway 101 corridor. Additionally, this project does not propose nor authorize freight service north of Willits. The proposed project location is shown in Figure ES-1.

The proposed project will include general railroad freight service (to and from customers along the line) and potential hauling of solid waste in enclosed containers. In addition, the proposed project will include the rehabilitation, construction, and repair activities that are necessary to bring the rail line into conformance with FRA Class 2/3 Standards to address safety issues identified in FRA Emergency Order No. 21 and to continue with ongoing maintenance and repairs during operations.

The start up phase of reestablishing freight service operation is anticipated to begin in the 2010 and will consist of three round trips per week from Windsor south (three north bound and three south bound). The number of cars per train is estimated to be fifteen cars.

As the freight service becomes established, it is anticipated that the economics of the region could support an increase in the number of trains to two round trips per day (two north bound and two south bound), six days a week. The number of cars per train is estimated to be 25 cars for one round trip and 60 cars for the other round trip. The 60-car train would go from Willits to Lombard. The other trains would initiate with 10 cars in Willits and increase to up to 25 cars from Redwood Valley to Lombard.

Reestablishing freight service in the region may involve the addition of a train providing solid waste hauling services for the area. Although speculative at this point, the train could run from Santa Rosa to the Cal Northern connection at Lombard. (Currently, the disposition of the county's solid waste is in a state of flux. The county is considering divesting itself of its solid waste assets when the current county hauling contracts expire

in approximately three years. Accordingly, whether rail will ultimately be involved in the disposition of the county's solid waste is uncertain at this time.)

The solid waste services could involve one round trip per day (one north bound and one south bound), six days a week. The number of cars per train is estimated to be 60 cars. The railroad operator could load and unload completely enclosed highway trailers that contain solid waste on railroad flat cars using sidings and portable ramps (therefore, the proposed project includes the loading and unloading of solid waste containers at two conceptual rail sidings using portable ramps). All solid waste transfer into containers would occur in existing transfer facilities within the County of Sonoma. If and when a contract is entered into with the county to conduct solid waste hauling services, the potential impacts associated with the re-routing of the containerized solid waste trucks to the conceptual loading and unloading areas at rail sidings will be identified and evaluated as a separate project. Although this potential is speculative, the impacts of the rail traffic resulting from hauling solid waste are being analyzed at this time so that the possible impacts can be considered.

The train size and volumes are based on an economic analysis by NWP Co., the current operator of the rail line, such analysis demonstrates that the RRD is an independently economically feasible project. Figure ES-2 provides a diagram of the total train movements associated with both general freight traffic and potential solid waste hauling once rail service is resumed. Figure ES-2 shows the train movements that have been analyzed in this DEIR.

In accordance with the Novato Consent Decree, the train movements over approximately 17 miles of the track (from MP 35.5 to MP 18.7) will be temporarily restricted to no more than a cumulative total of six one-way commercial freight train trips per week with no more than 18 cars. No trains can be operated between the hours of 7:00 pm and 8:00 am, except for "work engines" that may be required to address an emergency. These restrictions will be in place until the requirements of the Novato Consent Decree are met.

PURPOSE AND USE OF THE ENVIRONMENTAL IMPACT REPORT

NCRA has prepared this DEIR pursuant to CEQA and California Administrative Code, Title 14. The purpose of this DEIR is to evaluate the environmental effects associated

with implementation of the proposed project. Section 15121 of the CEQA Guidelines states the purpose of an EIR "is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project."

NCRA, acting as the CEQA lead agency, has a duty pursuant to CEQA guidelines to neither approve nor carry out a project as proposed unless the significant environmental effects have been mitigated to an acceptable level, where possible (CEQA Guidelines §15091 and §15092). An acceptable level is defined as eliminating, avoiding, or substantially lessening the significant effects. If such a reduction is not possible, a lead agency must adopt Findings and a Statement of Overriding Considerations. As defined in CEQA Guidelines §15093, a Statement of Overriding Considerations balances the benefits of a project against its unavoidable environmental consequences.

This DEIR provides decision makers, public agencies and the general public with information on the environmental effects associated with the proposed project and project alternatives.

SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

The scope of this DEIR focuses on the NCRA RRD Freight Rail Project operations on an existing segment of the NWP track from Willits in Mendocino County to Lombard in Napa County. The DEIR addresses the impacts resulting from the resumption of operations of the railroad, routine maintenance and repair of the rail line during operations, three significant rehabilitation sites: Bakers Creek, Foss Creek, Black Point Bridge, and the new construction of Lombard Siding MP 1.0 - MP 2.0. In addition, the November 3, 2008 Novato Consent Decree requires continuous welded track between MP 35.5 and MP 18.7, improvements to existing crossings to create quiet zones within the city and its sphere of influence, roughly between MP 28.5 and MP 21.9, landscaping at places to be determined within the city, roughly between MP 28.5 and MP 21.9, and the addition of fencing on either side of the track from MP 29.5 to MP 25.9.

The following agencies may be consulted in regards to the routine maintenance, track repairs and construction activities, as appropriate:

- U.S. Army Corp of Engineers (USACE)

- U.S. Fish and Wildlife Service (USFWS)
- California Department of Fish and Game (CDFG)
- California Department of Transportation (Caltrans)
- Federal Railroad Administration (FRA)
- Air Quality Districts
- Regional Water Quality Control Boards (RWQCB)
- San Francisco Bay Conservation and Development Commission (BCDC)
- National Marine Fisheries Service (NMFS)
- State Historic Preservation Office
- State Lands Commission
- Sonoma-Marin Area Rail Transit District (SMART)
- City of Novato
- Local Cities and Counties

This DEIR contains a description of the proposed project, descriptions of the regulatory and environmental settings for each of the identified resource areas, identification of potential impacts and mitigation measures for impacts found to be potentially significant for each of the identified resource areas, an analysis of cumulative impacts, and an analysis of the proposed project alternatives.

The scope of this DEIR is based on the results of the Initial Study (IS), initial review of the proposed project by agency representatives, environmental consultants, comments received during the public scoping process, comments received on the March 9, 2009 DEIR during the public review period and requirements identified in the ECD and the Novato Consent Decree.

In accordance with Sections 15063 and 15082 of CEQA Guidelines, the NCRA, as lead agency, prepared a Notice of Preparation (NOP) of an EIR. The NOP was circulated to local, state, and federal agencies, and to other stakeholders in July 2007. The IS was prepared, which determined that the proposed project would have either no, or less than significant impacts on Aesthetics, Agricultural Resources, Population and Housing, Public Services, Mineral Resources, Utilities and Service Systems; and Recreational

Resources. These resources required no further analysis and are excluded from this DEIR.

As indicated in the IS, the DEIR addresses a wide range of resource analyses, including: Air Quality; Biological Resources; Cultural Resources; Geology, Soils and Seismicity; Growth Inducing Impact; Hazardous Materials; Land Use and Planning; Noise; Public Facilities and Safety; Transportation; and Water Resources.

After the NOP and IS were issued in June 2007, public and agency consultation and scoping meetings were conducted. The scoping period was from July 10, 2007 to August 31, 2007. Copies of the scoping meeting notices are provided in Appendix B. The comments received during this period were reviewed, evaluated, and incorporated into the DEIR as appropriate.

The following scoping and informational meeting were held:

- July 19, 2007 – Community meeting conducted by Novato City Council.
- July 31, 2007 – Public scoping meeting held at Novato Unified School District Education Center.
- August 29, 2007 – Public scoping meeting held at City of Santa Rosa City Hall.
- August 30, 2007 – Agency (NCRWQB, DFG, Caltrans, and Attorney General's office) consultation meeting held at NCRWQB.
- August 31, 2007 – Agency scoping meeting held at City of Petaluma City Hall.

The following agencies and groups were notified during the scoping and public review periods:

Attorney General's Office, California Department of Justice	Napa County
Bay Area AQMD	National Marine Fisheries Service, Long Beach
CDFG, Bay-Delta Region	National Marine Fisheries Service, Sonoma
CDFG, Northern Region	North Coast Regional Water Quality Control Board
California Department of Transportation	Northern Sonoma County APCD
California Public Utilities Commission	Office of Historic Preservation, California Department of Parks and Recreation
California State Lands Commission	Pinoleville Pomo Nation
City of Cloverdale	Potter Valley Tribe
City of Cotati	Redwood Valley Rancheria of Pomo
City of Healdsburg	San Francisco Bay Conservation and Development Commission
City of Novato	San Francisco Bay Regional Water Quality Control Board
City of Petaluma	San Rafael Public Library
City of Rohnert Park	Santa Rosa Public Library
City of Santa Rosa City Hall	She Bel Na Band of Pomo Indians
City of Sonoma	Sherwood Valley Rancheria of Pomo
City of Ukiah	Shute, Mihaly & Weinberger
City of Willits	Sonoma County Recorder
Cloverdale Rancheria of Pomo Indians	Sonoma-Marin Area Rail Transit District (SMART)
County of Humboldt	St. Helena Public Library
County of Marin	State Clearinghouse
County of Trinity	Stewarts Point Rancheria
Coyote Valley Band of Pomo Indians	The Federated Indians of Graton Rancheria, Novato
Department of Toxic Substances Control	The Federated Indians of Graton Rancheria, Santa Rosa
Dry Creek Rancheria of Pomo Indians	Town of Windsor
Eureka Public Library	U.S. Army Corps of Engineers, Regulatory Branch
Friends of the Eel River, Petaluma	U.S. Fish and Wildlife Service, Arcata
Friends of the Eel River, Redway	U.S. Fish and Wildlife Service, Sacramento
Guidiville Band of Pomo Indians	Ukiah Public Library
Hopland Band of Pomo Indians	Ulrike Giessel
Lytton Rancheria of Pomo Indians	Weaverville Public Library
Mendocino County AQMD	Yokayo Tribe
Mendocino County Assessor-County Clerk-Recorder	

PUBLIC REVIEW

This document was circulated to local, state, and federal agencies and to interested organizations and individuals to review and comment on the report. The public comment period was 45 days long, initiating on March 9, 2009. During the public comment period written comments were submitted to the NCRA and received during two public hearings.

The public hearings were held on April 14, 2009 at 6:30 pm at the Petaluma City Hall and on April 16, 2009 at the Willits Community Center.

REVISED AND RECIRCULATED DEIR

Since the March 9, 2009 DEIR was circulated, new information that is considered significant has been made available. In accordance with CEQA 15088.5, the March 9, 2009 DEIR is being revised and recirculated to provide the public with the opportunity to comment on the revisions. Because the new information affected many sections throughout the document, the entire DEIR is being recirculated.

Previous comments on the March 9, 2009 DEIR will still be considered part of the public record, but written responses to these comments will not be included in the final EIR. The public is therefore advised to submit new comments on the recirculated DEIR.

This document represents the DEIR which is currently being recirculated for public review and comment.

Publication of this DEIR marks the beginning of a 45-day public review period, during which written comments may be submitted to the NCRA at the following address:

North Coast Railraod Authority
Attention: Mitch Stogner
419 Talmage Road, Suite M
Ukiah, California 95482

FINAL EIR PUBLICATION

Comments received in response to the revised and recirculated DEIR will be addressed in a Response to Comments addendum document which, together with the DEIR, will constitute the Final EIR. The NCRA will then consider EIR certification, and upon

certification, NCRA may proceed to take action on project approval by NCRA Board of Directors.

MITIGATION MONITORING AND REPORTING

In January 1989, California enacted AB 3180 (Cortese Bill), which required lead agencies to "adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment" (CEQA Section 21081.6, CEQA Guidelines Section 15097). The specific "reporting or monitoring" program required by AB 3180 is not required by CEQA Guidelines to be included in the EIR. Throughout the DEIR, however, mitigation measures have been clearly identified and presented in language that will facilitate establishment of a monitoring program. Measures adopted by the NCRA as conditions for approval of the proposed project will be included in a Mitigation Monitoring and Reporting Program to ensure compliance.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The environmental analysis incorporated in this DEIR identifies the environmental impacts of the proposed project, the level of impact and the proposed mitigation measures. Significance criteria have been developed for each environmental issue analyzed in this DEIR and are defined in each of the impact analysis sections. Impacts are categorized as follows:

1) Significant and Unavoidable;
2) Potentially Significant;
3) Less than Significant;
4) Less than Significant with Mitigation;
5) No impact; and
6) Beneficial.

Less than Significant with Mitigation

The majority of potential impacts were determined to be less than significant with mitigation. Table ES-1 describes the potential impacts of the proposed project and the mitigation measures.

Significant and Unavoidable

A noise and vibration assessment was conducted for the proposed project and based on this data, the proposed project would be expected to produce at least a moderate level of impact at noise-sensitive uses directly adjacent to the tracks. The project-related noise impact increases substantially near grade crossings due to the use of train warning horns which results in a significant impact. A significant number of residential land uses lie within 100 feet of the NWP tracks which may be impacted by long term operations of the proposed project freight trains due to train vibration. Train horns are considered necessary for safety reasons and are required by FRA regulations. These potential impacts are considered significant and unavoidable impacts.

If it is determined that trains will need to be operated at night, the proposed project would be expected to have a potentially significant impact to the residences directly adjacent to the tracks due to the locomotive headlights causing a disturbance in sleep patterns; however the lights would be of a short duration due to the rapid passing of the train along the track. The headlights are considered necessary for safety reasons and are required by FRA regulations. These potential impacts are considered significant and unavoidable impacts.

Project Benefits

Based on the conclusions set forth in this DEIR, project related benefits would occur in the areas of air quality, transportation, public safety and land use and planning.

Air Quality

As discussed in Section 3.1, Air Quality, the proposed project would result in a net air quality benefit and a decrease in GHG.

The proposed project will result in additional pollutant emission from the locomotives, support equipment and affected traffic at grade crossings (accounting for future growth). However, the project will result in a net decrease in emissions due to displacing existing truck traffic hauling freight on roadways with a more efficient means of hauling freight by rail using state-of-the-art locomotives.

The proposed project results in a net decrease in GHG due to displacing truck traffic for hauling freight. By way of example, according to the USEPA, a typical 2-person household generates about 41,500 pounds of CO_2 per year or about 21 tons. The net reduction in CO_2 emission from the proposed project for future operations (year 2033) is about 41,390 tons per year or equivalent to approximately 1,970 households (Air Quality Technical Report, Kleinfelder 2008).

Transportation

As discussed in Section 3.10, Transportation, the proposed project results in a beneficial impact on traffic by diverting some freight that would otherwise travel by truck. Approximately 800 to 880 truck trips per day would be removed from the Highway 101 corridor. This represents a 20% to 25% reduction of truck traffic and is a beneficial impact on the transportation in the project area for congestion relief and pavement wear (Traffic Impact Study, Dowling, 2008 [Appendix I]).

Public Facilities and Safety

As discussed in Section 3.9, Public Facilities and Safety, because the proposed project will reduce truck traffic and have a beneficial impact on traffic congestion, there will be a corresponding improvement to road safety and a reduction to road wear.

In addition, public safety will be improved when pedestrian and bicycle trails that meet the NCRA Trail Guidance criteria are constructed near the railroad track versus along roadways. This will reduce the risk of bicycle and pedestrian accidents with automobiles and trucks in the overly congested roadways throughout the RRD corridor. The final trail guidelines may be found on NCRA's website.

Land Use and Planning

As discussed in Section 3.7, Land Use and Planning, the proposed project supports numerous goals and objectives in the land use and general plans for the cities and counties in the project area. Numerous plans have identified the need for an alternative mode of transportation for the movement of goods throughout the region and the need to establish and maintain a fully operational rail transportation system. The proposed project will provide a beneficial impact to the region by helping the counties and cities meet their identified goals.

CUMULATIVE IMPACTS

CEQA requires that impacts of cumulative projects be considered in the EIR. The project may have environmental effects that are individually limited, but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects.

The identification of probable future projects is to be based on the standards of practicality and reasonableness. Probable future projects include unapproved projects that were undergoing environmental review at the time that the NOP for the proposed project was submitted.

The cumulative project list for this DEIR includes projects that are either reasonably foreseeable or are expected to be constructed or operated in the vicinity of the proposed project that were considered to have the potential of a significant cumulative impact in combination with the proposed project. The cumulative projects identified include:

- SMART;
- Shamrock Materials, Inc.;
- Willits Bypass;
- Re-routing of containerized solid waste to the proposed project loading and unloading areas, and
- NCRA's Rehabilitation of the rail line between Lombard and Windsor.

A summary of these projects and anticipated cumulative environmental impacts is provided in Section 4.0 of this DEIR.

ALTERNATIVES ANALYZED IN THE DEIR

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of alternatives to the proposed project which could reasonably attain most of the basic objectives and goals of the proposed project and reduce the degree of environmental impact.

The key objectives of the proposed project are to fulfill the State of California mandate to provide the continuation of railroad service to Northwestern California and to help alleviate the growing concerns for efficient goods movements in California. The goals of the project are therefore to reestablish reliable, fuel efficient, and cost effective rail service to the businesses and public service entities within the proposed project area and resume service to former customers whose businesses have been adversely impacted by the lack of a cost effective means of goods transportation.

Several requirements have been identified in order to feasibly meet the proposed project goals and objectives. These requirements include the following:

- The existing NWP track must be used in order to make the proposed project feasible and meet the State mandate.
- The rail must operate in a safe manner and in accordance with FRA, applicable environmental regulations and the Environmental Consent Decree.
- The frequency/number of train movements and size of the trains must be sufficient to make the proposed project economically feasible.
- The frequency/number of train movements and size of the trains must be sufficient to meet the needs of the businesses along the rail corridor.
- The type of goods that will be hauled must be consistent with the demand of businesses along the rail corridor.

The potential alternatives to the proposed project include the No Project Alternative, Reduced Freight Trains Alternative, the Biofuel Replacing Diesel Fuel Alternative and the Relocation of the Railroad Alternative.

It was determined that only the proposed project met the key objectives and significantly reduced the degree of environmental impact.

IMPACT SUMMARY

A summary of the potential impacts associated with the proposed project and the proposed mitigation is provided in Table ES-1.

Table ES-1
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
AIR QUALITY			
Bakers Creek – Rehabilitation and Construction Activities			
Impact AQ-BC1: The proposed project would generate dust and other criteria air pollutant emissions during rehabilitation activities. These activities may utilize gasoline and diesel power equipment.	PS	**Mitigation AQ-BC1:** Gasoline and diesel powered equipment shall be used for relatively short periods and shall meet the applicable CARB emission standards. Dust mitigation shall also be employed as necessary and in accordance with air quality regulations and NCRA's BMPs. Therefore the impacts from rehabilitation activities are considered to be less than significant after mitigation.	LTS
Foss Creek – Rehabilitation and Construction Activities			
Impact AQ-FC1: The proposed project would generate dust and other criteria air pollutant emissions during rehabilitation activities. These activities may utilize gasoline and diesel power equipment.	PS	**Mitigation AQ-FC1:** Gasoline and diesel powered equipment shall be used for relatively short periods and shall meet the applicable CARB emission standards. Dust mitigation shall also be employed as necessary and in accordance with air quality regulations and NCRA's BMPs. Therefore the impacts from rehabilitation activities are considered to be less than significant after mitigation.	LTS
Black Point Bridge – Rehabilitation and Construction Activities			
Impact AQ-BP1: The proposed project would generate dust and other criteria air pollutant emissions during rehabilitation activities. Project related construction will be limited to the rehabilitation of the existing bridge electrical and mechanical systems. These activities may utilize gasoline and diesel power equipment.	PS	**Mitigation AQ-BP1:** Gasoline and diesel powered equipment shall be used for relatively short periods and shall meet the applicable CARB emission standards. Dust mitigation shall also be employed as necessary and in accordance with air quality regulations and NCRA's BMPs. Therefore, the impacts from construction related activities are considered to be less than significant after mitigation.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Lombard Siding (MP 1.0 – MP 2.0) – Rehabilitation and Construction Activities			
Impact AQ-LS1: Construction of the siding from MP 1.0 to MP 2.0 will include grading, placement of track ballast and clean fill, placement of 5,300 feet of new track, extending a culvert, reestablishing drainage ditches, widening an existing timber deck bridge, the embankment, and constructing culverts. The construction activities that will be necessary to construct the siding for the interchange with the Cal Northern line between MP 1.0 and MP 2.0, could cause an adverse air quality impact.	PS	**Mitigation AQ-LS1:** Maintenance and construction activities related to the operations of the railroad will be conducted in accordance with air quality regulations and NCRA's BMPs.	LTS
Novato Consent Decree (MP 35.5 – MP 18.7)			
Impact AQ-NCD1: Construction of the quiet zones would generate dust and other criteria air pollutant emissions from the use of gasoline and diesel powered equipment.	PS	**Mitigation AQ-NCD1:** Construction activities and the use of gasoline and diesel powered equipment shall be used for relatively short periods and shall meet applicable CARB emission standards. Dust mitigation shall also be employed as necessary and in accordance with air quality regulations and NCRA's BMPs. Therefore, the impacts from these minor construction activities are considered less than significant after mitigation.	LTS
Operations			
Impact AQ-OP1: The routine and emergency maintenance activities that will be necessary to allow for safe and efficient operations of the railroad, such as bridge repair, brush cutting, and grade crossing signal maintenance, could cause an adverse air quality impact.	PS	**Mitigation AQ-OP1:** Maintenance activities related to the operations of the railroad will be conducted in accordance with air quality regulations and NCRA's BMPs.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
BIOLOGICAL RESOURCES			
Bakers Creek – Rehabilitation and Construction Activities			
Impact BIO-BC1: If conducted improperly, the transport and placement of clean fill and excavation activities may impact the stream habitat and water quality. The installation of the structure and fill placement will likely require operation of equipment within the creek channel and adjacent banks, which will temporarily disturb the sediments and vegetation. These activities may impact sensitive aquatic resources, and could also adversely affect other organisms and communities in the vicinity of work areas. The Biological Field Report (Appendix E) identifies key species and habitats in the area that should be protected. These activities will result in suspended sediments, and may directly injure organisms, bury or alter habitat features, or block migration of fish and invertebrates. The work activities could cause mortality, harm or disturbance to state- and federally-listed species, if they are present in or near work areas. Migratory passageways for adult or juvenile salmonids, including steelhead, could be temporarily blocked, depending on the final design grade and condition.	PS	**Mitigation BIO-BC1a:** Activities in stream zones shall be conducted in conformance with permits and operations plans required by NCRWQB, CDFG, and other agencies. Work within the stream and riparian habitat areas will be conducted during the appropriate work window (dry season), which will be determined in consultation with CDFG, USFWS, and NOAA Fisheries. Bakers Creek is an intermittent stream, so the work window will likely occur during the summer months when the creek is dry, but regardless, shall be conducted in compliance with specific permit conditions. **Mitigation BIO-BC1b:** A qualified biological monitor shall be present during critical rehabilitation work periods (e.g., grubbing and clearing, culvert installation, pouring concrete, placing rip-rap). If a listed or protected species is encountered, work shall be stopped immediately at that location, the appropriate agency or agencies (USFWS, NOAA Fisheries and/or CDFG) shall be notified. Work shall not resume at that location prior to the agencies' approval, or as agreed to in prior consultation with the agencies. All work shall be conducted in compliance with specific permit conditions. **Mitigation BIO-BC1c:** While working in stream zones that harbor federal- or state-listed fish species, NCRA shall comply with all conditions and implement any protective measures, including work windows, determined in consultation with NOAA Fisheries and CDFG, and other agencies as appropriate. All work shall be conducted in compliance with specific permit conditions.	LTS
Impact BIO-BC2: The timing of the rehabilitation work, if in an area not disturbed by noise and during breeding and nesting season (February 15 to September 15), may cause nest	PS	**Mitigation BIO-BC2:** Trees and shrubs in the construction zones shall be trimmed or removed between September 1 and January 31 to reduce potential impacts on nesting birds. If vegetation must	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
abandonment for species covered under the MBTA. Rehabilitation activities could affect raptors and other birds nesting in vegetation or adjacent to work areas. Trimming or removal of vegetation could destroy or disturb active nests. Equipment noise, vibration, lighting and other human-related disturbance could disrupt nesting, feeding or other life cycle activities, and could cause nest abandonment or nesting failure. Because active nests of most bird species are protected by the federal MBTA and Section 3503 of the California Fish and Game Code, any disturbance could be significant.		be removed during the period from February 1 to August 31, a qualified biologist shall conduct pre-construction surveys for nesting birds. If an active nest is found, the bird shall be identified to species and the approximate distance from the closest work site to the nest estimated. No additional measures need be implemented if active nests are more than the following distances from the nearest work site: (a) 300 feet for raptors; or (b) 75 feet for other non-special-status bird species. If active nests are closer than those distances to the nearest work site and there is the potential for destruction of a nest or substantial disturbance to nesting birds due to work activities, a plan to monitor nesting birds during construction shall be prepared and submitted to the USFWS and CDFG for review and approval. Disturbance of active nests shall be avoided until it is determined that nesting is complete and the young have fledged. If rehabilitation work is likely to occur during the nesting season of cliff swallows (March 1 to July 31), the area shall be periodically inspected for swallow nests by a qualified monitor prior to the onset of rehabilitation work efforts. As appropriate, nests shall be knocked down by a biologist only prior to being one-third completed. Inspection of structures shall start in late February. All work shall be conducted in compliance with specific permit conditions.	
Impact BIO-BC3: Use of heavy equipment other than on-rail equipment and the storage of materials and supplies could cause damage to sensitive vegetation and wildlife habitat within temporary work areas. Operation of vehicles and equipment in temporary construction access and staging areas, parking of vehicles and placement of equipment and materials in temporary laydown and storage areas could remove or crush vegetation, damage tree roots, compact soil, or collapse animal burrows. Accidental spill or release of a hazardous material could potentially harm wildlife and impair the recruitment and establishment of on-site	PS	**Mitigation BIO-BC3:** Construction access, staging, storage, and parking areas shall be located on ruderal or developed areas. Vehicle travel adjacent to wetlands and riparian areas shall be limited to existing roads and designated access paths. Sensitive natural communities outside of the proposed project work area (i.e., wetlands, waters, riparian zones and oak woodlands) shall be conspicuously marked in the field to minimize impacts on these communities, and work activities shall be limited to outside the marked areas. Workers shall be educated on the potential impacts and measures that will be taken to avoid work in sensitive areas. Qualified biologists shall identify sensitive biological resources and	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
vegetation (please refer to Section 3.6, Hazardous Materials). Temporary work areas would be located mostly in ruderal and developed areas, but may overlap small portions of other upland plant communities including oak woodland, mixed scrub, and non-native grassland. Construction-related impacts on common plant communities would be less than significant. However, impacts on wildlife in work areas could be considered significant if they interfere substantially with wildlife movement, impede the use of breeding sites, or conflict with local policies that protect wildlife species and habitats.		monitor rehabilitation activities to assure successful implementation of NCRA's BMPs (Appendix B). All work shall be conducted in compliance with specific permit conditions.	
Impact BIO-BC4: There could be temporary disturbance of wetlands/waters of the United States at the Bakers Creek site. Construction activities could impact wetlands and other waters at the rehabilitation work site. Operation of vehicles and equipment in these areas could adversely affect wetland and stream habitat by disrupting soil and damaging or removing wetland and riparian vegetation. Ground disturbance and other activities within and adjacent to stream zones could result in increased erosion, water turbidity and sediment transport into waterways.	PS	**Mitigation BIO-BC4:** Upon completion of the rehabilitation work at the site, all temporarily disturbed natural areas (if any), including stream banks, shall be returned to original contours and in accordance with the permit conditions. Affected wetlands, stream banks or stream channels shall be stabilized prior to the rainy season and/or prior to reestablishing flow. For wetland areas, the top six inches of native topsoil shall be stockpiled and replaced following work. Wetland and riparian vegetation shall be reestablished as appropriate. All work shall be conducted in compliance with specific permit conditions.	LTS
Impact BIO-BC5: The proposed work at Bakers Creek could result in the introduction or spread of noxious weeds in the vicinity of the rehabilitation area. Proposed work activities could inadvertently spread existing populations of invasive weeds and/or introduce new species from contaminated sources. Invasive plants could be introduced or spread at any time of year by transfer of seeds or plant fragments on vehicles and heavy equipment; through erosion control practices such as placement of hay bales, seeding or mulching; and during planting of landscaping or reestablishment of natural vegetation within the right-of-way. Because this could conflict with policies to limit the spread of invasive weeds, this	PS	**Mitigation BIO-BC5:** During work activities, the following NCRA's BMPs shall be implemented to reduce the spread of exotic invasive plants in the rehabilitation site work areas as follows: • Avoid vehicle travel through weed-infested areas at the site. • Avoid soil disturbance and the removal of existing vegetation (exotic or native) during construction activities. • Use only certified weed-free straw and mulch or weed-free fiber roll barriers or sediment logs. • Use only certified weed-free native seed mixes and native plants that are appropriate to the pre-existing or adjacent natural habitat for revegetation.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
impact is potentially significant.			
Impact BIO-BC6: The proposed rehabilitation work at Bakers Creek could result in the loss of individuals or habitat of special-status plant species. Rehabilitation work at Bakers Creek could potentially affect Clara Hunt's milkvetch and/or Colusa layia, a listed special-status species. The Clara Hunt's milkvetch and Colusa layia have the potential to occur in non-native grasslands or oak woodlands similar to those in the Bakers Creek rehabilitation sites. Although surveys conducted in potential habitat for Clara Hunt's milkvetch and Colusa layia did not detect these species, protocol surveys have not been completed at the site.	PS	**Mitigation BIO-BC6:** Prior to rehabilitation, a plant survey shall be conducted in any unaltered vegetated area that will be disturbed, pursuant to protocols established in consultation with appropriate agencies prior to the initiation of work activities. All work shall be conducted in compliance with specific permit conditions.	LTS
Foss Creek – Rehabilitation and Construction Activities			
Impact BIO-FC1: The transport and placement of clean fill material and rip-rap may impact the stream habitat and water quality. The installation of the structure and fill placement will likely require operation of equipment within the creek channel and adjacent banks, which will temporarily disturb the sediments and vegetation. The installation of sheet piles will require the use of a pile driver, which can generate significant noise levels and underwater sound pressure levels. These activities will result in suspended sediments and elevated noise and sound pressure levels, which may directly injure organisms, bury or alter habitat features, or block migration of fish and invertebrates. The work activities could cause mortality, harm or disturbance to state- and federally-listed species, if they are present in or near work areas. Migratory passageways for adult or juvenile salmonids, including steelhead, could be temporarily or permanently blocked, depending on the final design grade and condition.	PS	**Mitigation BIO-FC1a:** Activities in stream zones shall be conducted in conformance with permits and work plans required by NCRWQB, CDFG, and other agencies. Work within the stream and riparian habitat areas will be conducted during the appropriate work window (dry season), which will be determined in consultation with CDFG, USFWS, and NOAA Fisheries. In addition, work shall implement the BMPs identified for these projects. All work shall be conducted in compliance with specific permit conditions. **Mitigation BIO-FC1b:** A qualified biological monitor shall be present during critical rehabilitation work periods (e.g., grubbing and clearing, culvert installation, sheet pile installation, pouring concrete, placing rip-rap). If a listed or protected species is encountered, work shall be stopped immediately at that location, the appropriate agency or agencies (USFWS, NOAA Fisheries and/or CDFG) shall be notified. Work shall not resume at that location prior to the agencies' approval, or as agreed to in prior consultation with the agencies. All work shall be conducted in	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		compliance with specific permit conditions. **Mitigation BIO-FC1c:** While working in stream zones that harbor federal- or state-listed fish species, NCRA shall comply with all conditions and implement any protective measures, including work windows, determined in consultation with NOAA Fisheries and CDFG, and other agencies as appropriate. All work shall be conducted in compliance with specific permit conditions. **Mitigation BIO-FC1d:** A vibrating hammer will be used, instead of a drop hammer, to install all sheet piles. The vibration method minimizes noise levels and disturbance to wildlife. This method is also preferred by resource agencies as a means to avoid harmful effects to fish species that have been observed during the use of drop hammers. **Mitigation BIO-FC1e:** Sheet piles will be located above the mean high water level of the creek.	
Impact BIO-FC2: The timing of the rehabilitation work at the site, if in an area undisturbed by noise and during breeding and nesting season (February 15 to September 15), may cause nest abandonment for species covered under the MBTA. Rehabilitation activities could affect raptors and other birds nesting in vegetation or on bridges in or adjacent to work areas. Trimming or removal of vegetation could destroy or disturb active nests. Equipment noise, vibration, lighting and other human-related disturbance could disrupt nesting, feeding or other life cycle activities, and could cause nest abandonment or nesting failure. Structure-nesting species such as cliff swallows could have their nests disturbed and breeding success compromised. Because active nests of most bird species are protected by the federal MBTA and Section 3503 of the California Fish and Game Code, any disturbance could be significant.	PS	**Mitigation BIO-FC2:** Trees and shrubs in the construction zones shall be trimmed or removed between September 1 and January 31 to reduce potential impacts on nesting birds. If vegetation must be removed during the period from February 1 to August 31, a qualified biologist shall conduct pre-construction surveys for nesting birds. If an active nest is found, the bird shall be identified to species and the approximate distance from the closest work site to the nest estimated. No additional measures need be implemented if active nests are more than the following distances from the nearest work site: (a) 300 feet for raptors; or (b) 75 feet for other non-special-status bird species. If active nests are closer than those distances to the nearest work site and there is the potential for destruction of a nest or substantial disturbance to nesting birds due to work activities, a plan to monitor nesting birds during construction shall be prepared and submitted to the USFWS and CDFG for review and approval. Disturbance of active	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		nests shall be avoided until it is determined that nesting is complete and the young have fledged. If rehabilitation work is likely to occur during the nesting season of cliff swallows (March 1 to July 31), the area shall be periodically inspected for swallow nests by a qualified monitor prior to the onset of rehabilitation work efforts. As appropriate, nests shall be knocked down by a biologist prior to being one-third completed. Inspection of structures shall start in late February. Alternative methods to prevent cliff swallow nesting on structures may be used with prior approval by the CDFG. NCRS has developed BMPs to avoid or minimize these potential impacts (Appendix B). All work shall be conducted in compliance with specific permit conditions and NCRA's BMPs.	
Impact BIO-FC3: Use of heavy equipment other than on-rail equipment and the storage of materials and supplies could cause damage to sensitive vegetation and wildlife habitat within temporary work areas. Operation of vehicles and equipment in temporary construction access and staging areas, parking of vehicles and placement of equipment and materials in temporary laydown and storage areas could remove or crush vegetation, damage tree roots, compact soil, or collapse animal burrows. Accidental spill or release of a hazardous material could potentially harm wildlife and impair the recruitment and establishment of onsite vegetation (please refer to Section 3.6, Hazardous Materials). Temporary work areas would be located mostly in ruderal and developed areas, but may overlap small portions of other upland plant communities including oak woodland, mixed scrub, and non-native grassland. Construction-related impacts on common upland plant communities would be less than significant. However, impacts on wildlife in work areas could be considered significant if they interfere substantially with wildlife movement,	PS	**Mitigation BIO-FC3a:** Construction access, staging, storage, and parking areas shall be located on ruderal or developed lands. Vehicle travel adjacent to wetlands and riparian areas shall be limited to existing roads and designated access paths. Sensitive natural communities (i.e., wetlands, waters, riparian zones and oak woodlands) shall be conspicuously marked in the field to minimize impacts on these communities, and work activities shall be limited to outside the marked areas. Workers shall be educated on the potential impacts and measures that will be taken to avoid them. NCRA has developed BMPs to avoid or minimize these potential impacts. Identification of sensitive biological resources and monitoring by a biologist will assure successful implementation of NCRA's BMPs. All work shall be conducted in compliance with the site specific permits. **Mitigation BIO-FC3b:** Qualified biologists shall monitor rehabilitation activities that could potentially cause significant impacts on sensitive biological resources. All rehabilitation activities shall be conducted in accordance with NCRA's BMPs	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
impede the use of breeding sites, or conflict with local policies that protect wildlife species and habitats.		(Appendix A).	
Impact BIO-FC4: There could be temporary disturbance of wetlands/waters of the United States at the Foss Creek site. Construction activities could impact wetlands and other waters at the rehabilitation work site. Operation of vehicles and equipment in these areas could adversely affect wetland and stream habitat by disrupting soil and damaging or removing wetland and riparian vegetation. Ground disturbance and other activities within and adjacent to stream zones could result in increased erosion, water turbidity and sediment transport into waterways. Oil, gas and other pollutants could also be released into water bodies (please refer to Section 3.6, Hazardous Materials).	PS	**Mitigation BIO-FC4:** Upon completion of the rehabilitation work at the site, all temporarily disturbed natural areas (if any), including stream banks, shall be returned to original contours. Affected wetlands, stream banks or stream channels shall be stabilized prior to the rainy season and/or prior to reestablishing flow. For wetland areas, the top six inches of native topsoil shall be stockpiled and replaced following work. Wetland and riparian vegetation shall be reestablished as appropriate. All work shall be conducted in compliance with specific permit conditions.	LTS
Impact BIO-FC5: The proposed work at Foss Creek could result in the introduction or spread of noxious weeds in the project corridor. Proposed work activities at Foss Creek could inadvertently spread existing populations of invasive weeds and/or introduce new species from contaminated sources. Invasive plants could be introduced or spread at any time of year by transfer of seeds or plant fragments on vehicles and heavy equipment; through erosion control practices such as placement of hay bales, seeding or mulching; and during planting of landscaping or reestablishment of natural vegetation within the right-of-way. Because this could conflict with policies to limit the spread of invasive weeds, this impact is potentially significant.	PS	**Mitigation BIO-FC5:** During work activities, the following NCRA BMPs shall be implemented to reduce the spread of exotic invasive plants in the rehabilitation site work areas as follows: • Minimize vehicle travel through weed-infested areas at the site. • Minimize soil disturbance and the removal of existing vegetation (exotic or native) during construction activities. • Use only certified weed-free straw and mulch or weed-free fiber roll barriers or sediment logs. • Use only certified weed-free native seed mixes and native plants that are appropriate to the pre-existing or adjacent natural habitat for revegetation. All work shall be conducted in compliance with specific permit conditions.	LTS
Impact BIO-FC6: The proposed rehabilitation work at Foss Creek could result in the loss of individuals or habitat of	PS	**Mitigation BIO-FC6:** Prior to rehabilitation, a plant survey shall be conducted in any vegetated area that will be disturbed, pursuant to protocols established in consultation with appropriate agencies	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
special-status plant species. Rehabilitation work at Foss Creek could potentially affect Clara Hunt's milkvetch and/or Colusa layia, a listed special-status species. The Clara Hunt's milkvetch and Colusa layia have the potential to occur in non-native grasslands or oak woodlands similar to those in the Foss Creek rehabilitation sites. Although surveys conducted in potential habitat for Clara Hunt's milkvetch and Colusa layia did not detect these species, protocol surveys have not been completed at the two sites.		prior to the initiation of work activities. All work shall be conducted in compliance with specific permit conditions.	
Black Point Bridge – Rehabilitation and Construction Activities			
Impact BIO-BP1: The timing of the rehabilitation work at the site, if in an area undisturbed by noise and during breeding and nesting season (February 15 to September 15), may cause nest abandonment for species covered under the MBTA. Rehabilitation activities could affect raptors and other birds nesting in vegetation or on bridges in or adjacent to work areas. Equipment noise, vibration, lighting and other human-related disturbance could disrupt nesting, feeding or other life cycle activities, and could cause nest abandonment or nesting failure. Structure-nesting species such as cliff swallows could have their nests disturbed and breeding success compromised. Because active nests of most bird species are protected by the federal MBTA and Section 3503 of the California Fish and Game Code, any disturbance could be significant.	PS	**Mitigation BIO-BP1:** If an active nest is found on the bridge or in the vicinity of the work site, the bird shall be identified to species and the approximate distance from the closest work site to the nest estimated. No additional measures need be implemented if active nests are more than the following distances from the nearest work site: (a) 300 feet for raptors; or (b) 75 feet for other non-special-status bird species. If active nests are closer than those distances to the nearest work site and there is the potential for destruction of a nest or substantial disturbance to nesting birds due to work activities, a plan to monitor nesting birds during construction shall be prepared and submitted to the USFWS and CDFG for review and approval. Disturbance of active nests shall be avoided to the extent possible until it is determined that nesting is complete and the young have fledged. If rehabilitation work is likely to occur during the nesting season of cliff swallows (March 1 to July 31), the area shall be periodically inspected for swallow nests by a qualified monitor prior to the onset of rehabilitation work efforts. As appropriate, nests shall be knocked down by a biologist prior to being one-third completed. Inspection of structures shall start in late February. Alternative methods to prevent cliff swallow nesting on the bridge may be used with prior approval by the CDFG.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Lombard Siding (MP 1.0 – MP 2.0) – Rehabilitation and Construction Activities			
Impact BIO-LS1: The siding from MP 1.0 to MP 2.0 is located in an area occupied primarily by wetlands and open grasslands. The construction activities of the siding for the interchange with the Cal Northern line between MP 1.0 and MP 2.0, could cause an adverse impact to biological resources. Construction of the new siding will be conducted in accordance with NCRA's BMPs, but will impact sensitive habitats due to the filling of 0.2 acres of seasonal wetlands and loss of 0.69 acres of mudflat habitats.	PS	**Mitigation BIO-LS1:** The wetlands and mudflats will be fully evaluated and confirmed in coordination with permitting and resource agencies. Losses of the habitats will be mitigated by creation of an equivalent habitat at a 1:1 ratio, or other compensatory mitigation determined appropriate by the permitting agencies.	LTS
Novato Consent Decree (MP 35.5 – MP 18.7)			
Impact BIO-NCD1: There could be disturbance of wetlands/waters of the United States during construction if additional intersections of the NWP Line requiring quiet zone improvements are identified by the regulatory agencies. Construction activities could impact wetlands and other waters at the quiet zone sites. Operation of vehicles and equipment in these areas could adversely affect wetland and stream habitat by disrupting soil and damaging or removing wetland and riparian vegetation. Ground disturbance and other activities within and adjacent to stream zones could result in increased erosion, water turbidity and sediment transport into waterways.	PS	**Mitigation BIO-NCD1:** Local jurisdictions and state and federal agencies shall be consulted prior to work in wetlands to ascertain any requirements to protect wetlands. Work shall be conducted in compliance with any specific permit requirements, and NCRA's BMPs. Upon completion of the construction work at the site, all temporarily disturbed natural areas (if any), including stream banks, shall be returned to original contours and in accordance with the permit requirements. Affected wetlands, stream banks or stream channels shall be stabilized prior to the rainy season and/or prior to reestablishing flow. For wetland areas, the top six inches of native topsoil shall be stockpiled and replaced following work. Wetland and riparian vegetation shall be reestablished as appropriate.	LTS
Impact BIO-NCD2: Use of heavy equipment other than on-rail equipment and the storage of materials and supplies could cause damage to sensitive vegetation and wildlife habitat within temporary work areas. Operation of vehicles and equipment in temporary construction access and staging areas, parking of vehicles and placement of equipment and materials in temporary laydown and storage areas could remove or crush vegetation, damage tree roots,	PS	**Mitigation BIO-NCD2:** Construction access, staging, storage, and parking areas shall be located on ruderal or developed areas. Vehicle travel adjacent to wetlands and riparian areas shall be limited to existing roads and designated access paths. Sensitive natural communities outside of the proposed project work area (i.e., wetlands, waters, riparian zones and oak woodlands) shall be conspicuously marked in the field to minimize impacts on these communities, and work activities shall be limited to outside the marked areas. Workers shall be educated on the potential impacts	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
compact soil, or collapse animal burrows. Temporary work areas would be located mostly in ruderal and developed areas, but may overlap small portions of other upland plant communities including oak woodland, mixed scrub, and non-native grassland. Construction-related impacts on common plant communities would be less than significant. However, impacts on wildlife in work areas could be considered significant if they interfere substantially with wildlife movement, impede the use of breeding sites, or conflict with local policies that protect wildlife species and habitats.		and measures that will be taken to avoid work in sensitive areas. Qualified biologists shall identify sensitive biological resources and monitor rehabilitation activities to assure successful implementation of NCRA's BMPs. All work shall be conducted in compliance with specific permit conditions.	
Impact BIO-NCD3: Additional intersections requiring quiet zone improvements that may be required by regulatory agencies may be located in areas now occupied by wetlands. Some wetlands, particularly those on the railroad right-of-way created as a result of deferred maintenance of drainage swales, may require filling to construct quiet zone improvements.	PS	**Mitigation BIO-NCD3:** The wetlands shall be fully evaluated and confirmed in coordination with permitting and resource agencies. Losses of the habitats will be mitigated by creation of an equivalent habitat at a 1:1 ratio, or other compensatory mitigation determined appropriate by the permitting agencies.	LTS
Impact BIO-NCD4: Safety fencing between MP 29.5 to MP 25.9 may restrict the migration of sensitive species across the railroad right-of-way.	PS	**Mitigation BIO-NCD4:** Plans for the fencing shall be reviewed by a qualified biologist. If it is ascertained that sensitive species are in the area, and that the fence could create a significant impact through the impedance of their migration, appropriate measures shall be incorporated into the fence design to mitigate the impact by allowing unrestricted migration across the right-of-way.	LTS
Operations			
Impact BIO-OP1: Initially resuming railroad operations if in an area undisturbed by noise and during the breeding and nesting season, (February 15 to September 15), may cause nest abandonment for bird species covered under the MBTA. Operational activities could affect raptors and other birds nesting in vegetation or on bridges in or adjacent to the rail corridor. The introduction of noise, vibration, and lighting associated with trains running along the line during nesting season could disrupt nesting, feeding or other life cycle	PS	**Mitigation BIO-OP1:** To reduce potential impacts to breeding and/or nesting birds, the rehabilitation brushing activities shall occur between September 16 and February 14, or a time frame to be developed in coordination with a qualified biologist who shall have identified nest locations of species covered under the MTBA.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
activities, which could cause nest abandonment or nesting failure. Additionally, structure-nesting species such as cliff swallows could have their nests disturbed and breeding success compromised. Active nests of most bird species are protected by the federal MBTA and Section 3503 of the California Fish and Game Code.			
Impact BIO-OP2: Maintenance and repair activities associated with the operations of the railroad could result in disturbance to stream zones, special-status species and/or nesting birds during railway maintenance activities. Routine and emergency maintenance and repair activities at stream crossings (e.g. repair of flood-damaged crossing structures or slide-prone portions of the railroad grade) could temporarily affect stream zones and associated fish and wildlife species in the vicinity of work areas. These activities could cause ground disturbance in stream channels and banks and could affect water quality by increasing turbidity, sedimentation or discharging oil, gas or other pollutants into watercourses. Use of herbicides for vegetation control, particularly near wetlands and watercourses, could have adverse effects on fish and wildlife species. Individual fish or wildlife, including special-status species, could be harmed or temporarily displaced by these activities. Maintenance vehicles and equipment and trimming of vegetation could disturb nesting birds and other animals that occur within, or move through, the corridor. Nesting birds are protected by federal MBTA and the CFGC, and special-status species are of concern to the resource agencies.	PS	**Mitigation BIO-OP2a**: NCRA has developed BMPs to protect habitat and species which shall be implemented during all maintenance and repair activities (Appendix A). The resource agencies will be consulted to develop additional appropriate protective measures, if necessary. **Mitigation BIO-OP2b**: To minimize impacts to aquatic resources, if herbicides are applied during weed maintenance the activities shall be conducted in accordance with herbicide spraying procedures outlined in the NCRA's BMPs (see Section 3.6, Hazardous Materials).	LTS
Impact BIO-OP3: Bridge maintenance activities within the water (for example, pile splicing, repairs to drifting piles, or pile replacement) may impact sensitive fish species and other sensitive wildlife resources. Maintenance work activities that could cause excessive underwater noise impacts, such as pile driving, could harm or disturb fishes including steelhead, Chinook and coho salmon, and Sacramento splittail. These	PS	**Mitigation BIO-OP3a:** All work shall be conducted in compliance with specific permit conditions and NCRA's BMPs. **Mitigation BIO-OP3b:** A vibrating hammer will be used to install any piles necessary for rehabilitation activities. A vibrating hammer, when compared to drop hammers or other methods of pile installation, has been demonstrated to minimize noise levels	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
activities would be temporary and confined to a relatively small area, and would potentially affect only a small number of individuals of these species. Maintenance activities could alter river flow or hinder fish passage.		and underwater sound pressure levels. In the event that any other work activities cause excessive noise that could harm fish species, protective measures shall be developed in coordination with CDFG and NOAA Fisheries so that noise levels are either reduced or the impacts are avoided or minimized in some other manner. NCRA's BMPs will also be implemented to avoid or minimize potential impacts. All work shall be conducted in compliance with specific permit conditions.	
CULTURAL RESOURCES			
Bakers Creek – Rehabilitation and Construction Activities			
Impact CR-BC1: During rehabilitation activities at Bakers Creek, which involves the replacement of the existing culvert with a concrete arch structure and back filled with new material to reconstruct the embankment to prior conditions, a previously unidentified cultural resource may be found during excavation.	PS	**Mitigation CR-BC1:** If a cultural resource is identified during rehabilitation activities, all work shall be stopped and a qualified specialist with knowledge in the specific cultural resource shall be present to monitor the site. Workers shall be trained to identify cultural resources in accordance with state agency approved BMPs as outlined in the agency approved operations plans required by the Environmental Consent Decree (see Section 3.6, Hazardous Materials).	LTS
Foss Creek – Rehabilitation and Construction Activities			
Impact CR-FC1: During rehabilitation activities of the Foss Creek bank, involving the construction of a retaining wall system to prevent future erosion, a previously unidentified cultural resource may be found during excavation.	PS	**Mitigation CR-FC1:** If a cultural resource is identified during rehabilitation activities, all work shall be stopped and a qualified specialist with knowledge in the specific cultural resource shall be present to monitor the site. Workers shall be trained to identify cultural resources in accordance with state agency approved BMPs as outlined in the agency approved operations plans required by the Environmental Consent Decree (see Section 3.6, Hazardous Materials).	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Black Point Bridge – Rehabilitation and Construction Activities			
Impact CR-BP1: Rehabilitation of the Black Point Bridge may cause a substantial adverse change in the significance of this historical resource via the proposed mechanical and electrical system improvements to update its operation from a manual swing mechanism to mechanical automation.	PS	**Mitigation CR-BP1:** Plans for automation shall be submitted to the SHPO to ensure consistency with the Secretary of Interior's Standards for the Treatment of Historic Properties. Under the requirements of California PRC (Section 5024.5a), the lead agency (NCRA) must provide notice and a summary of the proposed action to the SHPO, who shall have 30 days after receipt of the notice and summary to review and comment. A project that has been determined to conform with the Secretary of the Interior's Standards for the Treatment of Historic Properties can generally be considered to be a project that will not cause a significant impact (14 CCR § 15126.4(b)(1)).	LTS
Lombard Siding (MP 1.0 – MP 2.0) – Rehabilitation and Construction Activities			
Impact CR-LS1: During construction of the new siding at MP 1.0 – MP 2.0, near Lombard, a previously unidentified cultural resource may be discovered.	PS	**Mitigation CR-LS1:** If a cultural resource is identified during construction activities, all work shall be stopped and a qualified specialist with knowledge in the specific cultural resource shall be present to monitor the site. Workers shall be trained to identify cultural resources in accordance with state agency approved BMPs as outlined in the agency approved operations plans required by the Environmental Consent Decree (see Section 3.6, Hazardous Materials).	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Novato Consent Decree (MP 35.5 – MP 18.7)			
Impact CR-NCD1: During construction of quiet zone, a previously unidentified cultural resource may be discovered.	PS	**Mitigation CR-NCD1:** If a cultural resource is identified during construction activities, all work shall be stopped and a qualified specialist with knowledge in the specific cultural resource shall be present to monitor the site. Workers shall be trained to identify cultural resources in accordance with state agency approved BMPs as outlined in the agency approved operations plans required by the Consent Decree (see Section 3.6, Hazardous Materials, for details).	LTS
Operations			
N/A	LTS		
GEOLOGY, SOILS, AND SEISMICITY			
Bakers Creek – Rehabilitation and Construction Activities			
Impact GEO-BC1: Fill material may be released to Bakers Creek if not placed and managed properly during construction, leading to siltation at the site and downstream from the site.	PS	**Mitigation GEO-BC1a:** Agency approved operations plans and BMPs for construction and the management of earthen materials shall be implemented during the rehabilitation activities. These BMPs shall include storm water control measures such as silt fences, contractor training for work in sensitive areas, and project controls to prevent the spill of excess soil from the embankment as it is being constructed. **Mitigation GEO-BC1b:** Planning and construction activities shall be conducted in coordination with the appropriate permitting agencies, and adhere to permitting requirements. Additional mitigation measures regarding potential impacts to biological and water resources are provided in Section 3.2: Biological Resources, and Section 3.11: Water Resources.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Foss Creek – Rehabilitation and Construction Activities			
Impact GEO-FC1: Fill material may be released to Foss Creek if not placed and managed properly during rehabilitation activities, leading to siltation at the site and downstream from the site.	PS	**Mitigation GEO-FC1a:** Agency approved operations plans and BMPs for construction and the management of earthen materials shall be implemented during the rehabilitation activities. These BMPs shall include storm water control measures such as silt fences, contractor training for work in sensitive areas, and project controls to prevent the spill of excess soil from the embankment as it is being constructed. **Mitigation GEO-FC1b:** Planning and construction activities shall be conducted in coordination with the appropriate permitting agencies, and adhere to permitting requirements. Additional mitigation measures regarding potential impacts to biological and water resources are provided in Section 3.2: Biological Resources, and Section 3.11: Water Resources.	LTS
Lombard Siding (MP 1.0 – MP 2.0) – Rehabilitation and Construction Activities			
Impact GEO-LS1: If not controlled, conducted in dry weather, or improperly engineered, grading operations and the resulting new siding may leave the site to be susceptible to erosion from surface runoff.	PS	**Mitigation GEO-LS1a:** Agency approved operations plans and BMPs for construction and the management of earthen materials shall be implemented during the rehabilitation activities. These BMPs shall include storm water control measures such as silt fences, contractor training for work in sensitive areas, and project controls to prevent the spill of excess soil from the embankment as it is being constructed. **Mitigation GEO-LS1b:** Planning and construction activities shall be conducted in coordination with the appropriate permitting agencies, and adhere to permitting requirements. Additional mitigation measures regarding potential impacts to biological and water resources are provided in Section 3.2: Biological Resources, and Section 3.11: Water Resources.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Novato Consent Decree – Rehabilitation and Construction Activities			
N/A	LTS		
Operations			
Impact GEO-OP1: Parts of the rail line are susceptible to erosion from surface runoff, particularly sloping areas adjacent to drainage swales, creeks and rivers that feed the Russian, Napa, and Petaluma Rivers. The rail line is most susceptible to impacts where it is located against hill slopes and runoff flows to the tracks. If the rail embankment has not been graded properly or the drainage system (ditches and culverts) has not been properly engineered or maintained, water can pond and run off the slope, causing severe erosion. Embankment fill slopes leading to bridge crossings are more susceptible to long-term erosion. Portions of the alignment in northern Marin County and southern Sonoma County cross marshlands, and are adjacent to creeks and bridge crossings. In general, these areas are stable; however, flooding caused by high storm runoff coupled with high tides can cause localized erosion and loss of fill beneath the rail bed. Debris that accumulates against bridge piles in creeks may impede flow and dam the creek. This may cause water to rise to the level of the embankment, overtop, and severely erode the rail line. In addition, portions of the proposed project may be subject to landslides and slope movement that could cause damage to the rail line and bridges. The hill areas north of Cloverdale are susceptible to landslides and slope movement. These slopes are inherently unstable due	PS	**Mitigation GEO-OP1:** Drainage ditches, culverts, embankments, and the entire rail line shall be regularly inspected and maintained and immediately after significant storms. Inspections shall be performed in accordance with AREMA standards, FRA regulations, and agency-approved operation plans (described in Section 3.6, Hazardous Materials).	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
to weak underlying materials, or due to over steepening or loading of existing stable slopes. Along the rail line, several areas have been identified with these conditions including the slopes immediately adjacent to tunnels along the line, which presently exhibit rockfalls and shallow slumping.			
Impact GEO-OP2: The rail line and bridges are susceptible to significant ground shaking and liquefaction from earthquakes that could damage the line. In addition, the rail line could be damaged by displacement where active faults cross the line along the Lombard to Novato segment and in Bakers Creek (Figure 3.4-2). Potential impacts vary based on a number of factors including distance to the epicenter, magnitude of the earthquake, duration of ground shaking, nature of the underlying soils, and the construction of the structures.	PS	**Mitigation GEO-OP2:** Operations shall be stopped and the rail line and bridges shall be immediately inspected after a significant earthquake. Inspections shall be performed in accordance with AREMA standards, FRA regulations, and the agency-approved operation plans (described in Section 3.6, Hazardous Materials).	LTS
Impact GEO-OP3: Fill material may be released to streams, creeks, and rivers if not placed and managed properly during repair of culverts or embankments that may be damaged during earthquakes or storms, leading to siltation at the site and downstream from the site.	PS	**Mitigation GEO-OP3a:** Agency approved operations plans and BMPs for maintenance activities and the management of earthen materials shall be implemented during the rehabilitation activities. These BMPs shall include storm water control measured such as silt fences, contractor training for work in sensitive areas, and project controls to prevent the spill of excess soil from the embankment as it is being constructed. **Mitigation GEO-OP3b:** Routine maintenance and repair activities shall be conducted in coordination with the appropriate permitting agencies, and adhere to permitting requirements. Additional mitigation measures regarding potential impacts to biological and water resources are provided in Section 3.2: Biological Resources, and Section 3.11: Water Resources.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
GROWTH INDUCING IMPACTS			
Rehabilitation and Construction Activities			
N/A	LTS		
Operations			
N/A	LTS		
HAZARDOUS MATERIALS			
Bakers Creek – Rehabilitation and Construction Activities			
Impact HM-BC1: There is the potential that hazardous materials and waste could be mismanaged during the rehabilitation activities and potentially impact the surrounding resources.	PS	**Mitigation HM-BC1:** NCRA's BMPs for the management of hazardous materials and waste shall be implemented during the rehabilitation activities. If fill material is required, it shall be derived from a permitted quarry or certified as clean fill.	LTS
Foss Creek – Rehabilitation and Construction Activities			
Impact HM-FC1: There is the potential that hazardous materials and waste could be mismanaged during the rehabilitation activities and potentially impact the surrounding resources.	PS	**Mitigation HM-FC1:** NCRA's BMPs for the management of hazardous materials and waste shall be implemented during the rehabilitation activities. If fill material is required, it shall be derived from a permitted quarry or certified as clean fill.	LTS
Black Point Bridge – Rehabilitation and Construction Activities			
Impact HM-BP1: There is the potential that hazardous materials and waste could be mismanaged during the rehabilitation activities and potentially impact the surrounding resources.	PS	**Mitigation HM-BP1:** NCRA's BMPs for the management of hazardous materials and waste shall be implemented during the rehabilitation activities.	LTS
Impact HM-BP2: Rehabilitation activities (paint removal) at Black Point Bridge may impact fish and wildlife by introducing	PS	**Mitigation HM-BP2:** Unless tested and shown to be free of lead-based paint, paint removal shall be conducted in accordance with	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
lead-based paint into the Petaluma River.		the Cal/OSHA Construction Standard (which lists prohibited activities and proper work practices). The CDFG shall be consulted in order to obtain and comply with any permitting requirements. Engineering controls that will prevent LBP from being released to the environment shall be implemented.	
Lombard Siding (MP 1.0 – MP 2.0) – Rehabilitation and Construction Activities			
Impact HM-LS1: Construction of the siding from MP 1.0 to MP 2.0 will include minor grading, placement of track ballast and clean fill, placement of 5,300 feet of new track, extending a culvert, reestablishing drainage ditches, widening an existing timber deck bridge, the embankment, and constructing culverts. There is the potential that hazardous materials and waste could be mismanaged during the construction of the new siding at Lombard.	PS	**Mitigation HM-LS1:** NCRA's BMPs for the management of hazardous materials and waste shall be implemented during the construction activities. If fill material is required, it shall be derived from a permitted quarry or certified as clean fill.	LTS
Novato Consent Decree (MP 35.5 – MP 18.7)			
Impact HM-NCD1: There is the potential that hazardous materials and waste could be mismanaged during the rehabilitation activities and potentially impact the surrounding resources.	PS	**Mitigation HM-NCD1:** NCRA's BMPs for the management of hazardous materials and waste shall be implemented during the rehabilitation activities.	LTS
Operations			
Impact HM-OP1: Spills and releases may occur during fueling and light running maintenance and repair activities.	PS	**Mitigation HM-OP1:** NCRA's BMPs shall be implemented and shall include safe pre-determined fueling areas, spills and overtopping prevention procedures, and requirements for secondary containment such as drip pans or equivalent impervious ground covering.	LTS
Impact HM-OP2: Spraying herbicides along the rail line for weed abatement may cause impacts on and off the railroad right-of-way.	PS	**Mitigation HM-OP2:** NCRA's BMPs shall be implemented. These BMPs shall include selection of a licensed and experienced spraying contractor, use of herbicides authorized for use by the local permitting agencies, the use of alternative brush control	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		measures as feasible, prohibition of spraying within 20 feet of a water course, and implementation of the Agency required monitoring program (see Section 3.6.1.4).	
Impact HM-OP3: There is the potential that hazardous materials and waste could be mismanaged during routine maintenance and repair activities such as bridge, culvert, grade crossing signal, or track maintenance.	PS	**Mitigation HM-OP3:** Maintenance activities shall be conducted in accordance with NCRA's BMPs and applicable permits.	LTS
LAND USE AND PLANNING			
Rehabilitation and Construction Activities			
N/A	LTS		
Operations			
N/A	LTS		
NOISE			
Rehabilitation and Construction Activities			
N/A	LTS		
Operations			
Train Noise			
Impact N-OP1: Airborne train noise generated by rail operations will exceed FTA/FRA and local jurisdictional impact criteria where houses are present immediately adjacent to the rail right-of-way. Noise exposure generated by proposed project freight train	S	N/A	S

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
operations is expressed in terms of the noise exposure contour information presented in Appendix H. Based on this data, the proposed project would be expected to produce at least a moderate level of impact at noise-sensitive uses directly adjacent to the tracks. No mitigation measures that would reduce the impact to a less than significant level are known or recommended at this time. Therefore, this impact is considered significant and unavoidable.			
Warning Horn Noise			
Impact N-OP2: Warning horn noise generated by rail operations will exceed FTA/FRA and local jurisdictional impact criteria at vehicle crossings. The proposed project-related noise impact increases substantially near grade crossings due to the use of train warning horns. Along some sections of the line, there is the potential for severe impact contours near residential uses that are within approximately 700 feet of the tracks (Category 2). The application of quiet zones is not included as a part of this proposed project except within a 6.3 mile stretch of trail/road roughly between MP 28.5 and MP 21.9. The potential application of quiet zones along portions of the proposed project corridor would help to reduce the number of people potentially impacted by the rain warning horn. However, quiet zones would not mitigate noise exposure to a less than significant level. Noise exposure produced by freight train events without the warning horn would still produce a moderate noise exposure impact at many residential uses within approximately 375 feet of the tracks, with severe impacts within approximately 150 feet of the tracks in some sections. The removal of warning horns can not be considered as a possible mitigation since that would significantly increase the	S	N/A	S

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
impact to safety at many crossings and would violate FRA safety regulations. Neither NCRA nor its operator is willing to accept the liability from decreased safety associated with the removal of warning horns, and the cost to construct quiet zones exceeds project funding. No mitigation measures that would reduce the impact to a less than significant level are known or recommended at this time. Therefore, this impact is considered significant and unavoidable.			
Freight Train Vibration			
Impact N-OP3: Groundborne vibration generated by rail operations will impact exceed FTA/FRA impact criteria along some parts of the rail line. It is expected that adjacent uses with high sensitivity to groundborne vibration (Category 1) could be impacted by the proposed project train operations if they are within 225 feet of the tracks. Likewise, residential uses (Category 2) could be impacted by vibration produced by the proposed project freight trains within 100 feet of the tracks, and institutional uses (Category 3) could be impacted if they are within 70 feet of the tracks. For the proposed project, it is believed that a significant number of residential uses lie within 100 feet of the rail tracks, and may be impacted by long-term operations of the proposed project freight trains. No mitigation measures that would reduce the impact to a less than significant level are known or recommended at this time. Therefore, the project-related impact regarding groundborne vibration from long-term freight train operations is considered significant and unavoidable.	S	N/A	S
Impact N-OP4: Groundborne vibration generated by rail operations may impact historic structures such as train depots located within many of the towns and cities along the rail line.	PS	**Mitigation N-OP4:** The SHPO shall be consulted and recommendations shall be implemented if it is found to have a significant impact on historic structures.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact N-OP5: Routine repair activities such as bridge, grade crossing signals, and track maintenance could introduce groundborne vibration into the surrounding areas. Based on the reference levels for equipment and a reduction of -6 VdB per doubling of distance from the construction equipment source(s), daytime construction vibration levels could impact residential structures (Category III) at distances of no more than 90 feet from the source(s).	PS	**Mitigation N-OP5:** Ongoing maintenance activities will be short-term and temporary and conducted in accordance with NCRA's BMPs. For situations where residences are within 90 feet of the maintenance activities, alternative techniques will be used to minimize groundborne vibration, if feasible.	LTS
PUBLIC FACILITIES AND SAFETY			
Rehabilitation and Construction Activities			
N/A	LTS		
Operations			
Impact PFS-OP1: The proposed project could result in the creation of a hazardous condition (i.e. pedestrian/train conflicts), with regard to safety of the public and schools. There are 47 schools located within ½ mile of the project area, including 9 schools located within 500 feet. The proximity of these schools to the rail line presents a potential for rail-related accidents involving school children.	PS	**Mitigation PFS-OP1:** In order to educate the communities with school children within close proximity to the rail line, NCRA and its operator shall work with Operation Lifesaver to accomplish this task. Operation Lifesaver is a nationwide, non-profit information safety program dedicated to educating the public on how to reduce collisions, injuries and fatalities at at-grade rail crossings. This is a free service to create awareness, especially to children, of the hazards that may occur on railroad property and at at-grade crossings. In addition, standard safety measures shall be employed including fencing and other physical safety structures, signage, and other physical impediments designed to promote safety and minimize pedestrian/train accidents.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact PFS-OP2: The proposed project could result in at-grade crossing collisions.	PS	**Mitigation PFS-OP2:** All at-grade crossings shall have the FRA-required safety guards as required by regulations. The crossing safety devices shall be routinely inspected and maintained in accordance with FRA regulations. Horns will be used as required to increase awareness of an approaching train. Train lights will be used at night time to increase visual awareness.	LTS
Impact PFS-OP3: A train derailment or flying debris could impact people using bike or pedestrian paths along the railroad.	PS	**Mitigation PFS-OP3a:** The procedures identified in the NCRA Trail Projects on the NWP Line Rights-of-Way: Designs, Construction, Safety, Operations and Maintenance Guidelines" shall be implemented. These guidelines require that any public agency requesting a trail along the rail shall submit feasibility, safety studies and environmental compliance. **Mitigation PFS-OP3b:** NCRA's operator shall comply with all applicable CPUC and FRA regulations which enumerate rules, instructions, and training to promulgate safe operation.	LTS
Impact PFS-OP4: If it is determined that the freight trains need to be operated at night, the proposed project could impact the residences directly adjacent to the tracks due to the locomotive headlights, causing a disturbance in sleep patterns. Locomotive headlights are considered necessary for safety reasons and are required by FRA regulations. The impact associated with locomotive headlights would be of a short duration due to the rapid passing of the train along the track. No mitigation measures that would reduce the impact to a less than significant level are known or recommended at this time. Therefore, this impact is considered significant and unavoidable.	S	N/A	S

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
TRANSPORTATION			
Rehabilitation and Construction Activities			
Bakers Creek – Rehabilitation and Construction Activities			
N/A	LTS		
Foss Creek – Rehabilitation and Construction Activities			
N/A	LTS		
Black Point Bridge – Rehabilitation and Construction Activities			
N/A	LTS		
Lombard Siding (MP 1.0 – MP 2.0) – Rehabilitation and Construction Activities			
N/A	LTS		
Novato Consent Decree (MP 35.5 – MP 18.7)			
Impact T-NCD1: Traffic delays may occur during the construction of quiet zone improvements roughly between MP 28.5 and MP 21.9.	PS	**Mitigation T-NCD1:** The appropriate construction permits shall be obtained from the City of Novato. As part of the permit approval process, a traffic control plan shall be prepared and implemented. Construction activities shall be conducted outside of peak commute hours.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Operations			
Impact T-OP1. Traffic queue lengths at the intersections shown in Table 3.10-7 could exceed the available storage area (roadway space available for vehicles to wait) in the opening year of NCRA freight operations, causing traffic to back up across the at-grade crossing upstream from the traffic signal.	PS	**Mitigation T-OP1:** In cooperation with local jurisdictions, interconnects between traffic signals and train crossing signals shall be installed to preempt normal signal operations and allow queues to clear before the train crosses.	
Impact T-OP2: Road blockages due to NCRA freight operations could interfere with movement of emergency service vehicles near the rail line. In response to concerns about the implications of potential emergency vehicle delays at grade-crossings for the SMART project, SMART interviewed operations professionals with other agencies in the Bay Area that provide passenger/commuter or freight rail service were interviewed. Persons contacted included: Robert Doty, Director of Rail Transportation at Caltrain, Brian Schmidt, Director of Rail Services at Altamont Commuter Express (ACE), David Kutrosky, Deputy Director of Finance and Planning with the Capitol Corridor, and Bill Capps, Service Planning Manager with the Valley Transportation Authority (VTA). All four agency representatives stated that emergency vehicle delays created by rail service had not presented significant issues or problems in the jurisdictions through which they operate. All four also confirmed that there is currently no mechanism that would allow trains to yield to emergency vehicles at grade crossings. These agency representatives, however, did suggest that a key step to minimize the possibility of delay due to passenger train service was to ensure, through station design, that trains "fit" and do not block existing streets when they dwell at stations. For freight service it is assumed that trains would not be	PS	**Mitigation T-OP2:** The emergency services operations that would be affected by the proposed project shall be provided with an emergency hotline to NCRA's operator's dispatcher so that trains can be stopped or held back in the event of an emergency.	

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
stopping at sidings that block crossing streets. With respect to emergency vehicles dispatched from fire stations, the larger cities along the proposed project corridor right-of-way, including Novato, Petaluma, Rohnert Park, and Santa Rosa, all have multiple (ranging from three to eight) fire stations with at least one on each side of the railroad tracks. This distributed approach to fire service coverage, and in some cases paramedic services as well, minimizes the probability of these emergency responders needing to cross tracks and potentially encountering a grade-crossing delay.			
WATER RESOURCES			
Bakers Creek – Rehabilitation and Construction Activities			
Impact WR-BC1: During construction for rehabilitating the railway at the Bakers Creek site, construction activities will require the transport, placement of fill, and structural features that could potentially result in erosion, increased sedimentation and possibly alterations to stream flows.	PS	**Mitigation WR-BC1a:** The proposed project shall comply with the NPDES permit process which requires project applicants to file a NOI and prepare and submit a construction SWPPP to the RWQCB. The SWPPP will contain a detailed mitigation plan containing BMPs for erosion and sediment control. Typical BMPs may include the use of silt fencing, temporary or permanent retention or detention basins, check dams, buffer strips adjacent to streams, and other similar devices or methods. **Mitigation WR-BC1b:** The proposed project shall comply with all requirements necessary for a Streambed Alteration Agreement from the California Department of Fish and Game. **Mitigation WR-BC1c:** The proposed project design for this site shall adhere to the guidelines for fish passage set forth by the California Department of Fish and Game and the National Marine Fisheries Service. These agencies shall be consulted with prior to finalization of the design to assure success and minimize potential impacts. **Mitigation WR-BC1d:** The proposed project shall comply with the	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		WDRs issued by the RWQCBs.	
Impact WR-BC2: Rehabilitation activities could cause adverse impacts on surface waters through the release of hydrocarbons and similar pollutants. During construction, the operation of equipment and vehicles in close proximity to surface water bodies could result in accidental discharges of oil or other contaminants into streams.	PS	**Mitigation WR-BC2:** Construction activities shall be restricted to the approved work window (dry season) as designated by the regulatory agencies. NCRA shall implement procedures, BMPs, and monitoring programs as required by the regulatory agencies.	LTS
Foss Creek – Rehabilitation and Construction Activities			
Impact WR-FC1: During construction for rehabilitating the railway at the Foss Creek site, construction activities will require the transport, placement of fill, and placement of structural features that could potentially result in erosion, increased sedimentation and possibly alterations to stream flows.	PS	**Mitigation WR-FC1a:** The proposed project shall comply with the NPDES permit process which requires project applicants to file a NOI and prepare and submit a construction SWPPP to the RWQCB. The SWPPP will contain a detailed mitigation plan containing BMPs for erosion and sediment control. Typical BMPs may include the use of silt fencing, temporary or permanent retention or detention basins, check dams, buffer strips adjacent to streams, and other similar devices or methods. **Mitigation WR-FC1b:** The proposed project shall comply with all requirements necessary for a Streambed Alteration Agreement from the California Department of Fish and Game and the WDRs from the RWQCB. **Mitigation WR-FC1c:** The proposed project design for this site shall adhere to the guidelines for fish passage set forth by the CDFG and the NMFS. These agencies shall be consulted with prior to finalization of the design to assure success and minimization of potential impacts. **Mitigation WR-FC1d:** The proposed project shall comply with the WDRs issued by the RWQCBs.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact WR-FC2: Rehabilitation activities could cause adverse impacts on surface waters through the release of hydrocarbons and similar pollutants. During construction, the operation of equipment and vehicles in close proximity to surface water bodies could result in accidental discharges of oil or other contaminants into streams.		**Mitigation WR-FC2:** Construction activities shall be restricted to the approved work window (dry season) as designated by the regulatory agencies. NCRA shall implement procedures, agency approved BMPs, and monitoring programs as required by regulatory agencies.	
Black Point Bridge – Rehabilitation and Construction Activities			
N/A	LTS		
Lombard Siding (MP 1.0 – MP 2.0) – Rehabilitation and Construction Activities			
Impact WR-LS1: The siding from MP 1.0 to MP 2.0 is located in an area that is partially occupied by wetlands. Construction of the new siding and ongoing maintenance activities related to the operations of the railroad will be conducted in accordance with NCRA's BMPs, but will impact sensitive habitats due to the filling of 0.2 acres of seasonal wetlands and loss of 0.69 acres of mudflat habitats.	PS	**Mitigation WR-LS1:** The wetlands and mudflats will be fully evaluated and confirmed in coordination with permitting and resource agencies. Losses of the habitats will be mitigated by creation of an equivalent habitat at a 1:1 ratio, or other compensatory mitigation determined appropriate by the permitting agencies.	LTS
Impact WR-LS2: During construction of the siding from MP 1.0 to MP 2.0, construction activities will require the transport, placement of fill, and placement of structural features that could potentially result in erosion and increased sedimentation.	PS	**Mitigation WR-LS2a:** The proposed project shall comply with the NPDES permit process which requires project applicants to file a NOI and prepare and submit a construction SWPPP to the RWQCB. The SWPPP will contain a detailed mitigation plan containing BMPs for erosion and sediment control. Typical BMPs may include the use of silt fencing, temporary or permanent retention or detention basins, check dams, buffer strips adjacent to streams, and other similar devices or methods. **Mitigation WR-LS2b:** The proposed project shall comply with all requirements necessary from the CDFG and the WDRs from the RWQCB.	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact WR-LS3: Rehabilitation activities could cause adverse impacts on surface waters through the release of hydrocarbons and similar pollutants. During construction, the operation of equipment and vehicles in close proximity to surface water bodies could result in accidental discharges of oil or other contaminants into wetlands.	PS	**Mitigation WR-LS3:** NCRA shall implement procedures, agency approved BMPs, and monitoring programs as required by the regulatory agencies.	LTS
Novato Consent Decree (MP 35.5 – MP 18.7)			
Impact WR-NCD1: There could be disturbance of wetlands/waters of the United States during construction of quiet zone improvements if additional intersections of the NWP Line requiring quiet zone improvements are identified by the regulatory agencies. Construction activities could impact wetlands and other waters at the quiet zone sites. Operation of vehicles and equipment in these areas could adversely affect wetland and stream habitat by disrupting soil and damaging or removing wetland and riparian vegetation. Ground disturbance and other activities within and adjacent to stream zones could result in increased erosion, water turbidity and sediment transport into waterways.	PS	**Mitigation WR-NCD1:** Local jurisdictions and state and federal agencies shall be consulted prior to work to ascertain any requirements to protect water resources. Work shall be conducted in compliance with any specific permit requirements, and the NCRA BMPs. Upon completion of the construction work at the site, all temporarily disturbed natural areas (if any), including stream banks, shall be returned to original contours and in accordance with the permit requirements. Affected wetlands, stream banks or stream channels shall be stabilized prior to the rainy season and/or prior to reestablishing flow.	LTS
Operations			
Impact WR-OP1: Water crossings could become clogged with debris that could reduce drainage capacity and cause structural failure of culverts or bridges. This debris could impede water flow within a designated 100-year flood plain. Inadequate drainage could also cause excessive erosion that could compromise the railroad embankment in the vicinity of the crossings.	PS	**Mitigation WR-OP1:** NCRA's BMPs, Operations Plans and monitoring programs shall be implemented. These plans and procedures outline routine maintenance of the rail line which shall include regular inspection and clearing of debris at stream crossings. Routine inspection and debris removal will help prevent clogging and deterioration of drainage facilities. Maintaining adequate drainage will reduce the risk of flooding that can occur when surface water accumulates behind clogged culverts and/or bridges, resulting in a long-term beneficial effect. Proper maintenance will also prevent damage to bridge and water control structures, and help prevent erosion of the railroad	LTS

Table ES-1 (Continued)
Summary of Findings

Potential Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		embankment and adjacent upland areas.	
Impact WR-OP2: Routine maintenance activities could temporarily increase surface erosion, sedimentation and stream flow alterations due to temporary work performed in the water.	PS	**Mitigation WR-OP2a:** Routine maintenance activities shall comply with any applicable NPDES permit process requirements. If applicable, a NOI and construction SWPPP shall be prepared and submited to the RWQCB. The SWPPP will contain a detailed mitigation plan containing BMPs for erosion and sediment control. **Mitigation WR-OP2b:** Routine maintenance activities shall adhere to the guidelines for fish passage set forth by the CDFG and the NMFS. When working in water, these agencies shall be consulted with prior to finalization of the design to assure success and minimization of potential impacts. **Mitigation WR- OP2c:** Routine maintenance activities shall comply with any applicable WDRs issued by the RWQCBs.	LTS
Impact WR-OP3: Routine maintenance activities occurring in water at bridges or culverts could cause adverse impacts on surface waters through the release of hydrocarbons and similar pollutants. During maintenance activities, the operation of equipment and vehicles in close proximity to surface water bodies could result in accidental discharges of oil or other contaminants into streams.	PS	**Mitigation WR-OP3:** Accidental spills from routine maintenance activities shall be avoided by implementing NCRA's BMPs and Operations Plans. The BMPs and/or plans incorporate exclusion zones adjacent to streams and other bodies of water, and specific procedures for spill containment and cleanup in the event of an accident. Protocols shall be followed for oversight and inspection of construction activities to assure compliance with the operations plans.	LTS

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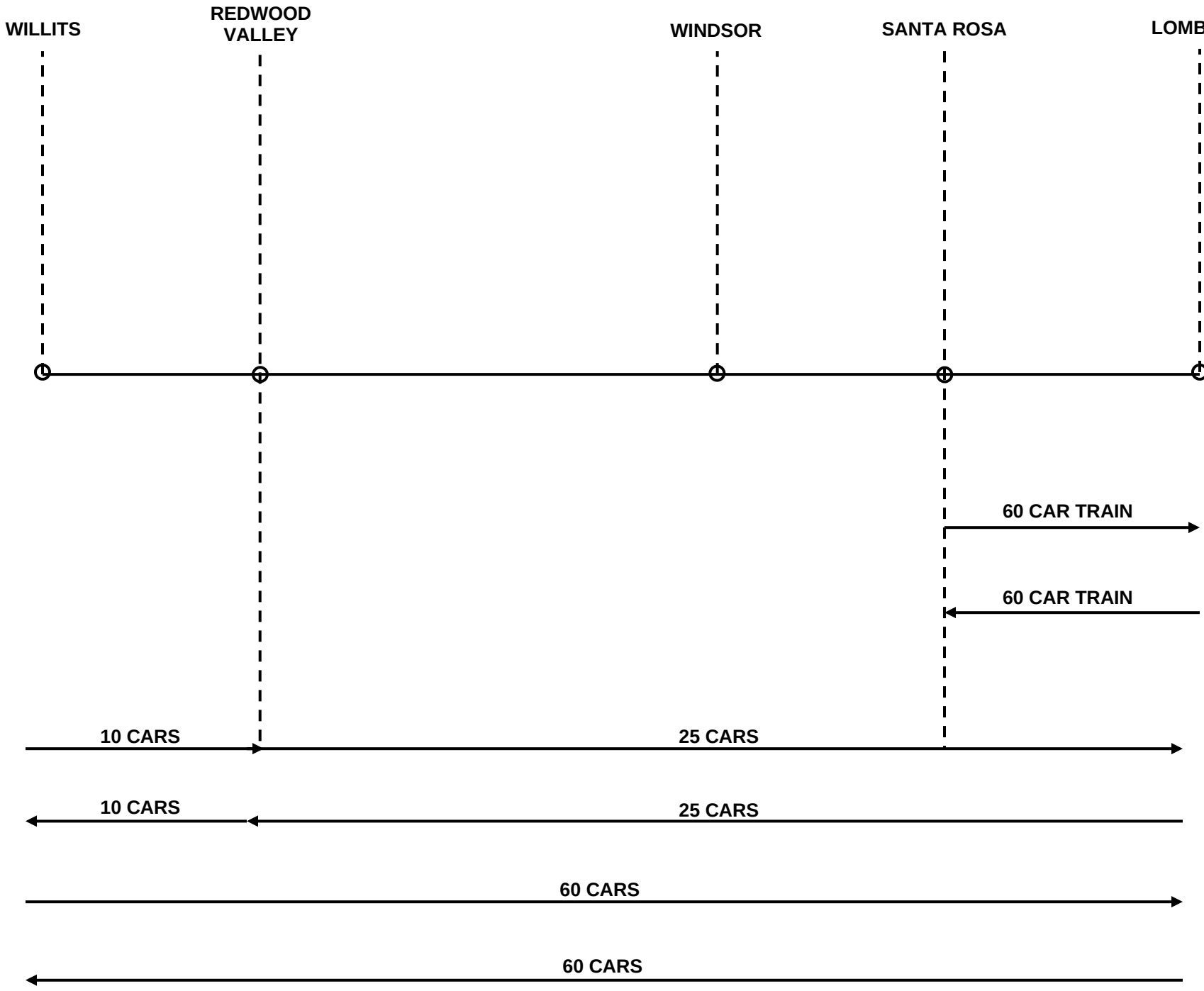
KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com	PROJECT NO. 78207 DRAWN: 5/10/08 DRAWN BY: IPM CHECKED BY: BE FILE NAME: Figure ES-1	PROJECT LOCATION MAP NORTH COAST RAILROAD AUTHORITY RUSSIAN RIVER DIVISON FREIGHT RAIL PROJECT	**FIGURE** ES-1



(NOT TO SCALE)

NOTES:

EACH LINE REPRESENTS A TRAIN

DENOTES OUTBOUND

DENOTES INBOUND

NUMBER OF CARS DENOTES MAXIMUM

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PROJECT NO.	78207
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DRAWN BY:	IPM
CHECKED BY:	BE
FILE NAME:	Figure ES-2

PROPOSED TRAIN MOVEMENT

NORTH COAST RAILROAD AUTHORITY
RUSSIAN RIVER DIVISON
FREIGHT RAIL PROJECT

FIGURE

ES-2