



2.0 PROJECT DESCRIPTION

The NCRA is proposing to resume rail service over the RRD of the NWP. The NWP is an existing railroad that has provided rail service dating back to the early 1900's. The RRD of the NWP is approximately 142 miles long extending from Willits in Mendocino County, California to Lombard, Napa County, California. This rail corridor runs parallel to U.S. Highway 101 corridor through Mendocino, Sonoma, Marin, and Napa counties to Novato, California. At Ignacio, south of Novato, the rail corridor runs east/west along CA Highways 37 and 121 near the north shore of San Pablo Bay, to Lombard, north of the City of American Canyon, where the NWP connects to the currently operating California Northern Railroad (Cal Northern).

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. In 1992, the state purchased the ERD of the NWP. In 1996, NCRA purchased the segment of the railroad line from Willits to Healdsburg, including a perpetual easement to operate rail freight service between Healdsburg and Lombard.

Currently, the NWP Line from Willits to Healdsburg is owned by NCRA, and from Healdsburg to Lombard is owned by SMART District. NCRA has a perpetual freight service easement over SMART right-of-way, and SMART has a perpetual passenger service easement over the portion of the right-of-way owned by NCRA between Healdsburg and Cloverdale. SMART's enabling legislation (Assembly Bill (AB) 2224) provides that the District must work with NCRA and the FRA "to achieve safe, efficient, and compatible operations of both passenger rail and freight service along the rail line in Sonoma and Marin Counties." Coordination of SMART's passenger rail service and NCRA's freight service is governed by an existing Operating Agreement. Prior to the institution of commuter service, a coordination agreement will be negotiated with SMART to address these issues.



2.1 PROJECT OBJECTIVE, PURPOSE AND NEED

This section summarizes the proposed project objectives, purpose, and need; describes the history of development of the proposed project and existing characteristics of the proposed project corridor; provides a description of the proposed project's operational components; and establishes the basis for the environmental analysis.

The freight service will be operated by an independent contracted operator. NCRA has currently entered into a contractual agreement with NWP Co. NWP Co. proposes 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, NWP Co. could also transport solid waste to landfills beyond the four-county area, replacing the diesel truck hauling currently used for this service. The proposed 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 service entities within the proposed project area, and provides an opportunity to resume service to former customers whose businesses have been adversely impacted by the lack of service. Resumption of rail service will also advance statewide air quality goals embodied in AB 32 and related legislation.

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, could reduce the number of diesel trucks by 20 to 25% in the RRD corridor.
- 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 emissions and GHG associated with replacing heavy diesel trucks by locomotives. By removing a portion of the current commercial (freight 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 NWP Railroad and help alleviate the growing concerns for efficient goods movement.
- Advance statewide air quality goals embodied in AB 32 and related legislation.

2.2 PROJECT LOCATION

The proposed project corridor extends approximately 142 miles from Willits in Mendocino County, California southward to Lombard in Napa County. Mendocino, Sonoma, Marin and Napa counties are located on the west coast of California north of San Francisco. In Mendocino County, the incorporated local jurisdictions in the proposed project corridor include Willits and Ukiah. In Sonoma County, the incorporated local jurisdictions in the proposed project corridor include Cloverdale, Healdsburg, Windsor, Santa Rosa, Rohnert Park, Cotati and Petaluma. In Marin County, the incorporated local jurisdiction in the project corridor includes Novato. Freight rail service will pass through the County of Napa, but not pass through any incorporated jurisdiction in Napa County.

A map of the proposed project corridor is shown in Figure 2.2-1.



2.3 OVERVIEW OF NWP HISTORY AND FACILITIES

2.3.1 History of the NWP Facilities (Russian River and Eel River Divisions)

The NWP was created in 1907 through the consolidation of six separate railroad companies held by the Santa Fe and Southern Pacific railroads.

Prior to 1907, rail service from Eureka to San Francisco was not possible because of the 106-mile gap within the Eel River canyon. In January 1907, the Southern Pacific and the Santa Fe formed the jointly-owned NWP, and agreed to build the last segment of the line. The articles of incorporation stipulated that the two companies would take turns managing the line in alternate years. Eight years later, in October, 1914 the Eel River section was completed and the cities of Eureka and San Francisco celebrated the achievement with a gold spike ceremony at Cain Rock, four miles south of Alderpoint.

In 1984, ownership of the NWP was split at Willits between two organizations. The Southern Pacific Railroad operated the RRD, while the ERD between Willits and Arcata was sold to the Eureka Southern Railroad. Between 1984 and 1996, the ERD of the NWP and the RRD of the NWP were operated separately as two distinct and economically independent rail lines serving their respective regions.

NCRA was formed in 1989 by the California Legislature under the North Coast Railroad Authority Act to ensure continuation of railroad service in Northwestern California. Although it was chartered by a state mandate, no operating funding was provided at the time of acquisition.

In 1992, NCRA purchased the ERD. A separate transaction in 1996 added the portion of the RRD between Healdsburg (Sonoma County) and Willits to NCRA's holdings. 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.



Freight service and related maintenance of this portion of the NWP became the responsibility of NCRA under an agreement with NWPRA dated August 19, 1996. Until 1998, freight service operated twice daily along the NWP, carrying mainly natural resource products. Both the RRD and ERD 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. Meanwhile, the repair of the ERD continued to be delayed due to the lack of funding required for extensive environmental investigations, repairs and the lack of freight service opportunities.

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 SMART Commission to carry out this direction. On January 1, 2003 the Sonoma-Marine 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 FRA "to achieve safe, efficient, and compatible operations of both passenger rail and freight service along the rail line in Sonoma and Marin Counties."

2.3.2 Current Status and Operational Issues

The RRD rail line is an operating railroad per the Surface Transportation Board (STB), and it will be operated by NCRA's contracted operator in accordance with the STB's



decision dated September 7, 2007. However, 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 (MP 62.9) are considered a separate project from the proposed project and are covered under a Notice of Exemption filed June 2007. NCRA has submitted a request for federal funding for the proposed project; however, it is unknown whether or not the request will be approved and if it is approved, what portion, if any, of the applied-for project will be approved, and if and when the monies would be allocated. Therefore, it is currently assumed that there will be no federal funding for the proposed project. If and when federal funding was to become available, the appropriate NEPA evaluation would be conducted.

This DEIR will be considered by the NCRA Board, and certification of this Environmental Impact Report by the NCRA Board will satisfy Section IV. (D) of the agreement entitled, "Agreement for the Resurrection of Operations upon the Northwestern Pacific Railroad Line and Lease dated September 2006," with NWP Co. and will, if the project is approved, result in the operation of freight commerce on the line. A separate Agreement has been negotiated by NCRA that requires the operator to comply with the mitigation measures contained in this document, as the mitigation measures apply to the operator.

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 North Coast Regional Water Quality Control Board (NCRWQCB), Department of Toxic Substance Control (DTSC), and DFG.

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). The Novato 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, it is unknown whether or not the request will be approved and if it is approved, if and when the monies would be allocated. Therefore, it is currently assumed that there will be no federal funding for the proposed project. If and when federal funding was to become available, the appropriate NEPA evaluation would be conducted.

NCRA has not identified reasonable foreseeable funding for restoration of the ERD. It also lacks the funding required for extensive geotechnical, engineering, and environmental investigations, and evaluations and repairs to review the feasibility of any such future restoration. Even if there was funding for environmental investigations, the study of such matters without being able to identify a reasonably foreseeable commencement date impacts any ability to have an accurate baseline for an ERD specific or cumulative environmental review.

Geotechnical and engineering studies to date for the Eel River Canyon of the railroad indicate the cost to rehabilitate the ERD is in the range of \$40 million to \$600 million. As discussed below, this exceeds currently available funding and combined with an uncertain rail/traffic potential makes the ERD economically unviable. If, in the future, a plan to rehabilitate the ERD is considered, a conceptual project would be developed and a preliminary environmental investigation would be performed for the proposed project to determine the appropriate class of action/environmental evaluation to be conducted. The environmental review for the ERD would evaluate impacts both in the ERD and impacts due to increased train traffic in the RRD.

There have been various reports prepared as to the cost of rehabilitating the ERD. These estimates vary from a low of \$40 million to a high of over \$600 million. In July 1999, Shannon and Wilson, Inc., Geotechnical and Environmental Consultants, studied the cost of repair due to storm-related events in 1998 identifying several alternative recommendations varying from approximately \$40 million to approximately \$70 million. In December 1998, URS Greiner Woodward Clyde Consultants prepared a geological and geotechnical report for the Federal Emergency Management Agency covering the cost of landslide mitigation estimating such costs at \$641.8 million.



NCRA's on-call engineer, HNTB, has also conducted preliminary reconnaissance in the ERD but has not yet reached a conclusion as to the estimated costs for restoration of service. For purposes of this analysis, it is assumed that the actual costs will be no less than the estimated minimum costs in 1999 of approximately \$40 million due to inflation in construction materials and further deterioration due to lack of maintenance since 1999.

NCRA's identifiable funding is sufficient only to restore the RRD. Without identifiable funding it is unlikely that the ERD will be restored unless NCRA identifies potential funding and secures such funding. Because the public funding process is so lengthy, it is unlikely that funding will be available for restoration of the ERD for a substantial period of time, if ever.

Any environmental review of the ERD would be premature because baseline conditions are likely to change substantially between the present and the time when NCRA could effectively secure funding to conduct a review. The conditions in the ERD with its substantial soil movement issues are likely to change dramatically between the present and any foreseeable time that a project could be commenced. Hence environmental review of the ERD would be meaningless and would be financially wasteful as the review would likely have to be repeated at such time as the relevant baseline could be determined. Conversely, NCRA has sufficient identified funding for restoration of the entire RRD which restoration is likely to be completed within a reasonable time following the preparation of the final EIR.

Furthermore, the RRD was operated for many years by Southern Pacific Railroad, former owner of the entire Northwestern Pacific Railroad, as a separate division for operational efficiency in recognition that the two divisions presented different operational issues. Southern Pacific Railroad sold the ERD separately from the RRD in 1992, and it continued service over the RRD. Southern Pacific subsequently leased the RRD to the California Northern Railroad on August 27, 1993, with California Northern operating the RRD independently of the ERD, interchanging with NCRA at Willits.

The southern terminus of the RRD is defined by the connection with the National Rail System at Lombard. The northern terminus of the RRD is Willits, a population center which historically served as the northern terminus.



The restoration of the RRD, separate and distinct from the ERD, would provide an economically viable and independent segment. This is evident from the fact that in 2006 NCRA issued a Request for Proposals to the railroad industry which allowed the respondents the latitude to propose operations over any portion of the Northwestern Pacific Line. NCRA received at least four proposals from respondents proposing operations only over the RRD and no proposals for operations on the ERD. The proposal of the NWP Co. provided for securing an option to provide service over the ERD and the option has not been exercised. When and if the option is exercised for the ERD, such exercise of option will be subject to an environmental analysis in light of the existing circumstances at that time. There is no indication that NWP Co. is likely to exercise the option because there is no basis to speculate as to when the rehabilitation of the ERD will either be commenced or completed.

In addition, NWP Co. prepared an economic analysis that demonstrates that the RRD is independently economically viable.

Therefore, this DEIR reviews activities on the RRD and does not address speculative operations on the ERD as part of the proposed project. Since any ERD operations are neither reasonably foreseeable nor a reasonably foreseeable consequence of the operations on the RRD; no cumulative analysis of the RRD and ERD is required or possible.

2.3.3 Existing Facilities of the Russian River Division

2.3.3.1 *Description of the Rail Corridor Alignment*

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 the towns of 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, the proposed project does not propose nor authorize freight service north of Willits.



2.3.3.2 *Mainline Track, Sidings, & Spur Tracks*

The RRD consists of one mainline track and sidings. The existing sidings are strategically placed along the mainline for train meets (train passing) and temporary storage. One new siding between MP 1.0 and MP 2.0 will be added for operations to allow the interchange with the Cal Northern line near Lombard.

2.3.3.3 *Rail Yards, Stations and Maintenance Facilities*

Along the rail line are a number of former railroad stations, such as at Schellville, a maintenance and switching yard at Willits, and a storage facility at Cloverdale. As discussed below, none of these facilities will be used for major repairs or major maintenance. However, some may be used for train switching, storage and/or light running maintenance and repairs.

Light running maintenance and light repairs include minor servicing activities such as brake repair, minor engine repair, oil changes, and other scheduled servicing tasks. Servicing activities will involve storage and handling of relatively small amounts of petroleum-based hazardous materials, particularly oil, waste oil, grease, and small amounts of diesel fuel. These materials will be stored, handled, and disposed of in accordance with NCRA's Environmental Compliance Program Plan (ECP) applicable regulations, and an environmental Environmental Consent Decree (see Chapter 3.5-Hazardous Materials).

Stations

The majority of the railroad stations are planned to be renovated by SMART, in the future, to be used in conjunction with their proposed passenger rail service. NCRA's operator plans to use the Schellville station as an office, but will not construct any new stations for the purpose of freight service. However, the siding at the Schellville station will be used as a light running maintenance area.

Willits Yard

The former Willits Yard is located in the northern part of the town of Willits. For much of the railroad's history this site was the primary location for major repairs and maintenance of rail equipment, engines, a switching station, and refueling operations. At



one time, the Willits Yard had several structures for administrative purposes, a rail depot, a roundhouse for engine repair, and two Bunker-C oil above ground storage tanks.

NCRA and/or its operator will not use the Willits Yard for major repairs or major maintenance. The operator will contract with existing modern facilities outside the RRD right-of-way for major repair and maintenance. The Willits Yard will be used for train switching, storage, and for light repairs and light maintenance as well as storage for small quantities of hazardous waste generated during light maintenance activities.

Cloverdale Depot and Maintenance Facility

Two modern facilities are present along the line east of downtown Cloverdale. The first is a modern passenger train depot that includes a small office. Just north of the depot is a modern maintenance building used primarily for equipment storage and minor repairs and storing of NCRA maintenance-of-way equipment. NCRA plans to use the modern maintenance building for similar purposes.

Schellville Maintenance Area

Separate from the Schellville station, NCRA's operator will locate a maintenance trailer or railcar on or adjacent to yard tracks. It will be secure, self contained and used for the storage of maintenance supplies and may be used for small quantities of hazardous waste generated from the light maintenance activities.

2.3.3.4 Grade Crossings, Tunnels and Bridges

There are 104 wood, asphalt, gravel, or concrete road crossings along the rail line between Willits and Lombard. Several of these have been repaired or upgraded in recent years.

Signals and gates are present at major crossings and intersections, and these are currently being repaired or replaced to meet FRA and California Public Utilities Commission (CPUC) standards, and to be compatible with possible future upgrades by SMART. Depending upon the volume of traffic and type of road, the crossings will have various warning devices. Railroad locomotive horns will blow at crossings (except in identified quiet zones) to be in compliance with FRA safety regulation requirements.



There are 121 bridges located between Willits and Lombard. Most of the bridges are small wood trestle structures that span drainage channels or creeks (which typically are not flowing year round) feeding the Russian River, Petaluma River, and San Pablo Bay. Several steel bridges are present as well: the Russian River bridge at Healdsburg, the Haystack Landing bridge crossing the Petaluma River in Petaluma, the Black Point bridge crossing the Petaluma River near Black Point east of Novato, the Wingo Bridge crossing an inlet creek in the former town of Wingo, and the Brazos vertical lift bridge crossing the southern Napa River. See Section 2.5 for details on proposed bridge rehabilitation at Black Point Bridge.

Five tunnels designated Tunnels 5 through 9 are located between Lombard and Willits. The five tunnels of the South Section were among the earliest constructed for the railway, in approximately 1889. The tunnels were excavated by drill and blast methods and initially left unsupported. Over time, several types of lining were installed in less stable tunnel segments including timber sets and lagging, concrete, and later steel sets and gunite. Tunnel 8 and two segments of Tunnel 6 are situated in relatively competent rock and were left unlined. Tunnel lengths in the south section range from 267 to 1,762 feet. In general, the Tunnels 5 through 9 are in relatively good condition. Some rockfall has occurred in the unlined segments of Tunnel 6 and 8, but the quantities of total rockfall remain low. Additional deterioration of the timber lining was observed in a few locations.

2.4 PROPOSED OPERATIONS

2.4.1 Frequency and Size of Trains

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. The freight service identified in the proposed project is based on an economic analysis prepared by NWP Co.

The start up phase of reestablishing freight service operation is anticipated to begin in 2010 and will consist of three round trips per week (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, the NWP Co. economic analysis indicates 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 train 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, a 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 highway trailers that contain solid waste (in closed containers) on railroad flat cars using sidings and portable ramps. All transfers of solid waste into containers would occur in existing transfer facilities at the County of Sonoma.

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. The impacts of the hauling of the containerized waste are being analyzed to provide a conservative analysis of the impacts associated with the proposed project. 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.

The train size and volumes are based on the economic analysis prepared by NWP Co. Figure 2.2-2 provides a diagram of the total train movements associated with both



general freight traffic and potential solid waste hauling once rail service is resumed. These train movements 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.

2.4.2 Facilities

2.4.2.1 Use of Existing NCRA Facilities Located Adjacent to the Railroad

In addition to the three light maintenance areas identified in Section 2.3.3.3, it is planned that NCRA’s operator will use some of the existing areas located within their potential rail customers’ facilities for the parking of engines and rail cars, switching, and light running maintenance and fueling of diesel engines and support equipment. When necessary, the support equipment for the railroad will be upgraded or revitalized to assure reliability and compliance with current regulations.

If emergency fueling along the line is necessary, it will be conducted by transferring fuel directly from a tanker truck to the railroad diesel locomotives. No above ground or underground storage tanks will be constructed. Tanker trucks will access the line along access roads that are currently present throughout the line. Fueling will be conducted in compliance with applicable regulations and laws, the Environmental Consent Decree, and in conformance with NCRA’s BMPs.

Light running maintenance and light repairs include minor servicing activities such as brake repair, minor engine repair, oil changes, and other scheduled servicing tasks. Servicing activities will involve storage and handling of relatively small amounts of petroleum-based hazardous materials, particularly oil, waste oil, grease, and small amounts of diesel fuel. These materials will be stored, handled, and disposed of in accordance with applicable regulations, the Environmental Consent Decree, and in conformance with NCRA’s BMPs.



Locomotives and other heavy equipment will be transported to offsite railroad maintenance facilities for scheduled and non-schedule routine and major repairs and servicing.

2.4.2.2 *New Facilities – Lombard Siding (MP 1.0 – MP 2.0)*

Major scheduled and non-scheduled repairs and servicing will be conducted off the proposed project site in existing facilities; therefore, no additional maintenance yards or fueling stations will need to be constructed. Additional sidings are not necessary prior to the start-up of freight service except for the construction of a one mile siding between MP 1.0 and MP 2.0 to allow operations to interchange with the Cal Northern line near Lombard (See Section 2.5.4).

2.5 PROPOSED REHABILITATION, CONSTRUCTION, AND REPAIR ACTIVITIES

Maintenance and repairs of the track associated with the operations of the railroad, as well as four areas that either require significant rehabilitation or involve new construction are evaluated in the proposed project.

These four areas include: 1) track and embankment repairs at Bakers Creek north of Cloverdale required as a result of a severe storm event, 2) Foss Creek north of Healdsburg where the creek has severely eroded the railroad embankment, 3) mechanical repairs to the Black Point Bridge, an historically significant bridge at the mouth of the Petaluma River, and 4) a new siding at Lombard to allow rail interchange with the Cal Northern line. The four sites are summarized below.

In addition, per the requirements of the November 3, 2008 Novato Consent Decree, improvements to the track between MP 35.5 and MP 18.7 will include the construction of quiet zones, track welding, landscaping, and the addition of fencing on either side of the track. These activities are described in Section 2.5.5.

2.5.1 Bakers Creek

2.5.1.1 *Statement of Damage*

Bakers Creek is located in McGee Canyon in Mendocino County in the vicinity of the City of Redwood Valley, California. The railroad crosses Bakers Creek on an 80 foot



embankment built in 1900 with two 48" steel culverts 183 ft long. Historically, these culverts conveyed creek flows through the embankment and downstream of the crossing. On December 31, 2005 and New Years Day 2006, two record storm events dropped over 9 inches of rain in the Bakers Creek Watershed causing record flooding and the failure of the railroad embankment at railroad at approximately MP 124.8. As a result of the above series of storms, the State of California declared Mendocino and several other counties eligible for disaster relief. The railroad embankment failure caused the erosion of approximately 20,000 cubic yards of embankment material. This material was deposited up to 700 feet downstream of the railroad crossing.

2.5.1.2 General Bakers Creek Information

Bakers Creek has a watershed of 2.3 square miles in the privately owned, primarily undeveloped, McGee Canyon which is located in the United States Geological Survey (USGS) 7.5' Topographic Quads for the Laughlin Range and Redwood Valley. The approximate Latitude is 39.26 and the approximate Longitude is 123.23.

The Creek's low flow channel, 100 feet upstream and downstream of the embankment failure, varies between 3 to 8 feet wide; in the area of the washout, a pool measuring about 30 feet wide has developed. Baker's Creek is potentially subject to USACE and NCRWQCD jurisdictions pursuant to Sections 404 and 401 of the Clean Water Act respectively. This area would also be subject to CDFG pursuant to Sections 1600-1607 of the California Fish and Game Code. In the area of the failed embankment, creek banks are generally devoid of vegetation.

2.5.1.3 Conceptual Baker's Creek Repairs

Engineered plans for repair of the embankment will not be finalized until consultation with the DFG, the NCRWQCB, and other agencies are completed. For the purpose of this DEIR, it is assumed that the repair of the embankment will occur off-winter when Bakers Creek is dry. Clean imported fill material will be transported by rail, and a new embankment will be constructed in kind, including the installation of a new culvert to pass a 100 year storm event. Because failure of the embankment introduced silt into Bakers Creek, it is likely that some form of stream restoration permit or agreement will be required.



The proposed repairs include: the reconstruction of the failed embankment, reconstruction of about 200 feet of track, and the construction of a creek conveyance structure through the railroad embankment. The following are the primary items of work needed for the proposed repairs.

Remove Remains of the Existing 2-48" Steel Culverts

It is proposed to place a new arch culvert to span the creek in the same location as the original culverts. Prior to installing the new arch culvert, two 48" steel pipe culverts measuring about 183 linear feet will need to be removed along with soil material that partially eroded in the embankment failure area. This will require the excavation of approximately 5,000 cubic yards of material that will later be used in reconstruction of the embankment.

New Arch Culvert

It is proposed to construct a concrete arch culvert with a 20 foot span and an 8 foot rise to allow for a natural stream bottom and a capacity of more than double the original two 48" steel culverts that failed during the 100 year plus storm event. The construction of the arch will require the placement of concrete footings outside the limits of the creek channel on which pre-cast concrete arch segments will be placed to complete the arch. At each end of the arch and footings pre-cast concrete spandrel walls will be placed to retain the embankment fill. It is estimated that a total of approximately 1,100 cubic yards of concrete and 1,000 lbs of reinforcement steel will be required to construct this arch culvert.

Embankment Reconstruction

Reconstruction of the embankment will require the placement and compaction of approximately 20,000 cubic yards of clean fill material. The material will consist partially of the eroded material from the failed embankment and also clean fill material that will be transported to the site on railroad right-of-way by rail. The embankment will be reconstructed to match the same elevation and cross-section of the original embankment.



Vegetation

The reconstructed fill slopes will be hydroseeded with approved plant material to help control erosion. This would consist of native varieties adapted to stream banks and riparian zones in northern California.

2.5.2 Foss Creek

2.5.2.1 *Statement of Damage*

In the last three to five years there have been several storm events which caused Foss Creek to overflow its banks in Healdsburg. The railroad runs parallel and immediately adjacent to Foss Creek for about 3,500 feet in Healdsburg. Within this reach of Foss Creek, as a result of the above storms, about 90 feet of railroad retaining wall was washed out.

It appears that this damage precipitated from the failure of the west bank of the creek which redirected the creek to the east undermining the railroad's timber crib wall causing the wall to fail and the embankment to subsequently erode ("storm damage"). A contributing factor to the storm damage is an existing 84-inch concrete pipe immediately upstream of this area that confines the Creek. The concrete pipe greatly increases the stream velocity during a storm event increasing the risk of streambed erosion and slope failure.

Based on a recent survey of the storm damage, it is estimated that about 250 cubic yards of embankment material has eroded thereby undermining the railroad track bed and creating a safety concern for railroad maintenance equipment and pedestrian trespassers. The survey also revealed that approximately 90 feet of the existing 150 foot steel rail and creosoted timber pole crib wall was washed out.

2.5.2.2 *General Foss Creek Information*

Foss Creek has a watershed of about 3.5 square miles in a heavily developed part of Healdsburg. The City has had storm retention ponds constructed to mitigate increases in runoff from development in the last few years.



Foss Creek's low flow channel, 100 feet upstream and downstream of the storm damage, varies between 3 to 5 feet wide and the centerline of flow is generally located about 20 to 25 feet from the centerline of the railroad track and about 12 feet below the top of rail.

Foss Creek is potentially subject to USACE and North Coast Regional Water Quality Control Board jurisdictions pursuant to Sections 404 and 401 of the Clean Water Act respectively. Foss Creek is also subject to California Department of Fish and Game pursuant to Sections 1600-1607 of the California Fish and Game Code. The California Department of Fish and Game has in the recent past undertaken a 75 foot Foss Creek Bank Stabilization project in the general vicinity of the storm damage. Their project included rip rap placement and possible concrete gravity block wall placement along with the planting of vegetation to control future erosion.

Foss Creek is considered habitat for the endangered Steelhead Trout and Chinook and Coho Salmon and supports a relatively mature riparian canopy of willow (*Salix* spp.), coast live oak (*Quercus agrifolia*), black oak (*Quercus kelloggii*), sycamore (*Platanus racemosa*), and gum tree (*Eucalyptus* sp.). The understory in the vicinity of the failed embankment is primarily vegetated with Himalayan blackberry (*Rubus discolor*). Ruderal vegetation growing along the eroded bank and railroad embankment includes oat (*Avena* sp.), rip-gut brome (*Bromus diandrus*), quaking grass (*Briza minor*), miniature lupine (*Lupinus bicolor*), and vetch (*Vicia sativa*). The channel of Foss Creek immediately adjacent to the failed embankment measures approximately 10-15 feet wide at the ordinary high water mark. Wetland vegetation growing in and adjacent to the channel consists of watercress (*Rorippa nasturtium aquaticum*), pennyroyal (*Mentha pugelium*), and small spike rush (*Eleocharis acicularis*).

2.5.2.3 Conceptual Foss Creek Repairs

As in the case of Bakers Creek, the final engineered plans for repair of the embankment will not be finalized until appropriate consultation with the regulatory agencies is completed. It is assumed that the repair will require permitted restoration of the creek to its original course and character, importation of clean fill material by rail, reconstruction of the embankment and rail line, and the placement of scour protection, likely rip rap, along the base of the embankment to prevent scour during high flows.



The proposed repairs include: the removal of about 40 feet of the remains of the existing failed creosoted timber crib wall, removal of approximately 75 cubic yards of stream bank material deposited in the stream channel, realignment of about 70 feet of Foss Creek, construction of 150 feet of retaining wall, placement of approximately 200 cubic yards of railroad embankment, placement of rip rap, and planting of vegetation. Approximately 0.08 acre (or 3,500 square feet) would be affected during the proposed work.

New Wall

It is proposed to construct about 150 feet of new wall about three feet behind the existing wall. The wall is proposed to be a steel sheet pile wall that would be installed using a vibratory hammer. A wall is proposed due to the fact that there is not sufficient room to place an earth embankment without placing additional fill into the streambed.

Remove Existing Wall

The wall which is constructed as a crib wall consists of vertical steel rails driven into the ground at about 20 foot intervals with 12-inch diameter creosoted timber poles stacked behind the rails. After the new wall is constructed about three feet behind the existing wall, all the steel rails and creosoted timber will be removed and disposed of off site.

Railroad Embankment

Once the new wall is constructed, the void behind the wall would be filled using an engineered clean fill compacted to 95%. The material would be trucked in on the rail and compacted using vibratory portable hand held equipment. It is estimated that 200 cubic yards will be required to replace the eroded material.

Excavation of Creek Bank Material

In order to restore about 70 feet of the original creek alignment, approximately 75 cubic yards of material will be required to be removed from the western bank. This material was deposited from the failure of the creek bank adjacent to the railroad. The material would be removed using an excavator that would be mounted on the rail. No heavy equipment would be operated in the stream bed. This will be done during the low flow period generally June 15 through October 15. In order to dewater the work area, a



sandbag coffer dam would be installed at the upstream end of the 84-inch concrete pipe during the excavation and reestablishment of the creek flow line. It is anticipated that the dam would need to be in place for no more than one 10 hour period to complete the work; if necessary, a small pump may be used to re-route creek flows from this location downstream of the work area.

Rip Rap Placement

In order to control future erosion, rip rap would be placed on both of the creek banks. About 350 cubic yards would be placed on the east bank adjacent to the new wall and 120 cubic yards placed on the west bank to restore the failed west bank.

Vegetation

The western slope rock protection would be “plugged” with willow sprigs collected from willows growing in the vicinity of the proposed work in order to enhance wildlife habitat values and increase riparian canopy cover which benefits fish species. Disturbed slopes on the eastern bank in the vicinity of the railroad would be hydroseeded with a native seed mix adapted to stream banks in northern California.

2.5.3 Black Point Bridge

The Black Point Bridge is a steelthrough truss swing span bridge built in 1911 across the Petaluma River at Black Point, east of the city of Novato. In its open position, the bridge is parallel to the River allowing ships and barges to navigate between pile-supported fenders on either side of the navigation channel. When a train needs to cross the River, the bridge rotates over the River and connects the rail line by a motor-driven center pivot. Currently, the motor to turn the bridge is located on the center span and is accessible only by using a boat to cross from the rail to the center span in the navigation channel.

Planned repairs to the bridge would modify and replace the mechanical and electrical systems of the swing span in order to automate the bridge. This would eliminate the need for rail workers to navigate the channel and would instead allow the bridge to be turned from the land. No work will be performed in the water or from the water, all work will be performed on the bridge using rail access.



2.5.4 Lombard Siding (MP 1.0 – MP 2.0)

This proposed new siding would be 5,300 feet long located within the railroad right-of-way between MP 1.0 and MP 2.0 just before the interchange at Lombard. The right-of-way is 60 feet wide for the first 3,600 feet, then 110 feet wide the remaining 1,700 feet at this location.

The siding will be located 15 feet south of and parallel to the mainline. There are two private crossings located within this siding length, one at MP 1.5 and one at MP 1.8. There is a 15-foot cattle pass located at MP 1.37 that would require widening 15 feet to the south. This is a timber ballasted deck bridge with concrete abutments. It is possible that this structure could be replaced with a properly sized culvert if no longer used for farming.

Construction of this siding will involve the following activities:

- Grading of approximately three acres of right-of-way and the placement of about 8,900 cubic yards of imported clean fill subgrade material. In addition 1,100 cubic yards of sub-ballast material would be placed under the new siding and between the two tracks for proper drainage. Sub-ballast is a well graded crushed rock placed on top of the subgrade material.
- Placement of about 800 cubic yards of track ballast under the siding. Track ballast consists of well graded drain rock.
- Placement of 5,300 feet of new track including turnouts and other related track material.
- Culvert extension at MP 1.2 and reestablishment of drainage ditches.
- Widening of the existing 15-foot ballasted timber deck bridge at MP 1.37.
- Federal and state wetlands-related permits for construction impacting wetlands.

This document is written assuming that NCRA begins freight service before SMART begins passenger service. If the SMART project is approved and funded, additional sidings to handle train meets would be necessary and are addressed in both this and SMART's cumulative impact sections of the respective EIRs.



2.5.5 Novato Consent Decree (MP 35.5 – MP 18.7)

As the result of the litigation “City of Novato vs. NCRA”, on November 3, 2008 a Consent Decree was issued by the Superior Court of the State of California in and for the County of Marin. The terms and conditions of the Consent Decree are associated with certain activities being undertaken by NCRA to “lease, repair, rehabilitate, restore and/or upgrade rail improvements in and along the NWP Line” within the City of Novato, Marin County.

The Parties (Novato, NCRA and its operator (NWP Co.)) involved recognize that the implementation of the Consent Decree will avoid prolonged and complicated litigation. Although the litigation was directed at a Categorical Exemption under CEQA for certain activities associated with the maintenance of the track (not the actual operations of the freight trains), the Parties recognize that the implementation of the Consent Decree may also result in further mitigation of some of the potential environmental impacts associated with the operation of freight trains on the NWP Line.

The Consent Decree requires that NCRA and its operator complete certain “Work” (obligations and/or activities) within the “Low Emission Engine Division”. The “Low Emission Engine Division” is defined as MP 35.5 (approximately 5 miles north of the City of Novato) to MP 18.7 (approximately 5 miles east of the City of Novato).

The “Work” involves improvements to the track that will reduce the noise associated with the operations of the freight trains. In addition, the “Work” sets forth obligations that require NCRA’s operator to use environmentally friendly locomotive engines that meet specified “Engine Emission Criteria” as soon as feasibly possible. Therefore the identified “Work” is being addressed as part of the proposed project and included in this DEIR. The following is a summary of the required “Work”:

- Improvements required for the establishment of quiet zones at identified track crossings;
- Welding of the rail as described in the Novato Consent Decree;
- Use of environmentally friendly engines as described in the Novato Consent Decree;
- Installation of landscaping improvements at the track crossings; and



- Installation of fencing improvements at the identified track crossings.

During the time in which this work is being completed, NCRA and its operator have agreed to run no more than a cumulative total of six one-way commercial freight train trips per week with no more than 18 cars in the identified “Low Emission Engine Division.” 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.

If all of the identified “Work” is not completed by December 31, 2011, NCRA and its operator have agreed to not operate any freight trains in the “Low Emission Engine Division” until the “Work” is completed.

The Consent Decree requires that NCRA shall apply for funding to complete the identified “Work”. NCRA is pursuing funds to underwrite the “Work.” Since it is unknown what the federally funded project would consist of, and whether or not federal funds would be available and when, it is currently assumed that there would be no federal funding for the “Work.” If and when federal funding becomes available, the appropriate NEPA evaluation would be conducted.

2.5.5.1 *Quiet Zones*

The purpose of installing the quiet zone warning devices and supplemental safety measures (SSMs) is to eliminate the need for locomotives to blow their horn at the identified intersections. This will minimize the potential impact associated with noise of the horn during the operation of the freight trains.

Quiet zone warning devices and SSMs shall be designed and installed at identified intersections in the City of Novato. The identified intersections include the following:

1. Rush Creek Place (MP 28.5);
2. Golden Gate Place (MP 28.4);
3. Olive Avenue (MP 28.3);
4. Grant Avenue (MP 28.1);
5. Pedestrian/Bike Crossing (Manuel Drive) (MP 27.5);
6. Novato Creek (Private) (MP 26.9);



7. Wetlands Access (Private) (MP 26.2);
8. Hanna Ranch Road (MP 25.9);
9. Private Crossing (Highway 37) (MP 24.4);
10. Renaissance Road (MP 23.5);
11. Private Crossing (Harbor Drive Business Park) (MP 23.2);
12. Grandview Avenue (MP 23.0);
13. Private Driveway (Hunter's Club Drive) (MP 22.9);
14. Trail crossings immediately to the east of Petaluma River (MP 21.9); and
15. Other intersections of the NWP Line with pedestrian trails or vehicular right-of-ways as may be required or recommended by the regulatory agencies.

Specific types of equipment and repairs include:

- Centerline striping;
- "Do Not Stop on Tracks", "No Parking", No Horn", and other signs specific to traffic control;
- Blackout signs "No Left Turn Train Coming;"
- Quad gates;
- Short pedestrian gates and swing gates at the pedestrian crossings;
- Cables with locks to block maintenance road access to only appropriate personnel at private crossings; and/or
- Median improvements.

The following list of SSMs is based on one preliminary field review conducted with CPUC, FRA and others on September 25, 2008. The final SSMs and/or other measures required for the establishment of quiet zones will be determined by inputting possible measures into the "FRA Risk Calculator." The list of SSMs identified below is incorporated as part of the proposed project. Other measures which achieve equal or superior safety results and cause no additional environmental impacts may be substituted in lieu of some of the following improvements.



- All Crossings: Improved centerline striping and “Do Not Stop on Tracks” signs.
- Rush Creek Place:
 - No parking signage with curb
 - Short 10’ to 15’ mountable median on east within railroad right-of-way
 - Right turn only sign within Water District parking lot
 - Signage “No Horn”
 - Education program
- Golden Gate Place:
 - Signage “No Horn”
 - Education program
- Olive Avenue:
 - City has plans to widen street, so SSMs may have to be coordinated with widening or re-implemented after widening work has been completed.
 - 2-Blackout signs “No Left Turn Train Coming” along Railroad Avenue.
 - Signage “No Horn”
- Grant Avenue:
 - Quad gates
 - Signage “No Horn”
- Pedestrian/Bike Crossing Manuel Drive:
 - Short pedestrian gates and swing gates
 - Tactile strips
 - Signage “No Horn”
- Novato Creek (Private):
 - Signs
 - Cables with locks
- Wetlands Access (Private):



- Signs
- Cables with locks
- Hanna Ranch Road:
 - 200 feet of 3 foot wide median (100 feet east and west)
 - Signage “No Horn”
- Novato Sanitary District Private Crossing off Hwy 37
 - Signs
 - Cable with locks
 - Signage “No Horn”
- Renaissance Road:
 - Signage “No Horn”
 - Signs
- Private Crossing (Harbor Drive Business Park):
 - Signage “No Horn”
 - Move key pad for gate to north of the track
 - Education program
- Grandview Avenue:
 - Note that this is on County property
 - Signage “No Horn”
 - Signs

2.5.5.2 *Track Welding*

The purpose of welding the joints in the track is to minimize the potential noise and vibrations associated with the operation of the freight trains. The welded rail improvements will be carried out within the existing right-of-way. There are an estimated 275 joints that require the existing joint material to be removed and the joint



field welded. The limits of this work are from approximately MP 35.5 to MP 18.7. The exact number and location of the welds will be determined in the field.

2.5.5.3 *Use of Environmentally Friendly Engines*

The Consent Decree has set “Engine Emission Criteria”. The purpose of the criteria is to ensure that NCRA’s operator utilizes the most environmentally friendly locomotive engines as soon as possible in the “Low Emission Engine Division.”

The criteria requires that NCRA’s operator immediately take those steps necessary to order and acquire at the earliest possible date (with a targeted acquisition date of no later than January 2010) locomotive engines to be operated in the “Low Emission Engine Division” which meet the following criteria:

- The engine, if it is not a genset, has been certified as meeting EPA’s Tier 3 emission standards applicable to the most stringent standards.
- The engine, if it is a genset, has been verified by California Air Resources Board as either “Ultra Low Emitting Locomotive or meeting any other emission standard applicable to gensets, whichever is more stringent.

If NCRA’s operator does not acquire such an engine by January 2010, a statement will be submitted to the City of Novato explaining why and what the next steps are to obtain such an engine.

As soon as EPA certifies any locomotive engines as meeting EPA’s Tier 4 emission standards or the EPA Tier 4 locomotive emission standards become effective (whichever is earlier), any engine that is acquired or purchased to be operated in the “Low Emission Engine Division” must meet the Tier 4 standards. All locomotive engines operating in the “Low Emission Engine Division” shall meet the “Engine Emission Criteria” by December 2011 or NCRA and NWP Co have agreed to refrain from operating any freight trains or freight engines of any kind and at any time in the “Low Emission Engine Division.”



2.5.5.4 *Installation of Landscaping*

The purpose of the landscaping improvements is to mitigate the potential impacts of direct glare on residences and businesses from the lights of the trains traveling through Novato. NCRA shall work with the City of Novato to identify the exact location, number, type and size of the plants and trees that will be planted along the NWP line and within the NWP right-of-way. A landscaping irrigation system will be installed and a maintenance program developed and implemented to ensure the establishment and ongoing health of the landscaping. It is anticipated that low maintenance shrubs will be planted near the fence line and low maintenance evergreen trees or tall vertical shrubs will be planted behind the shrubs.

2.5.5.5 *Installation of Fencing*

The purpose of the fencing is to prevent access to the tracks by persons and animals except at lawful crossings. The fencing improvements shall be in accordance with NCRA and SMART's trail guidelines. The installation of the fencing will not require substantial land acquisition or traffic disruption. Fencing will be installed along both sides of the NWP line from approximately MP 29.5 to MP 25.9.

2.5.5.6 *Additional Funding*

In the event that funding becomes available in excess of what is required to complete the "Work," NCRA may choose to apply such funding to similar improvements along the RRD after completing any necessary environmental review.

2.5.6 Maintenance and Repair Activities Associated with the Operations of the Railroad

The following provides a description of typical maintenance and repair activities that may be conducted to maintain the railroad in compliance with FRA Class 2/3 Standards during the operation of the railroad.

2.5.6.1 *Track Work*

This activity includes maintenance and repair work that may be required on the track. The work may involve rail removal and replacement, removal and replacement of



deteriorated ties, grading and replacement of lost ballast and soil substructures and removal of vegetation (brushing) that has encroached on the railroad. The work will typically be conducted from the rail with rail-mounted equipment or from within the railroad right-of-way or access. NCRA's BMPs will be employed to minimize the effects of this work and agency approvals and permits will be obtained as necessary.

2.5.6.2 *Culvert Work*

Culverts of various sizes carry stormwater either through or off of the railroad right-of-way. The culverts range in size from eighteen to forty-eight inches in diameter. If repair work is required on the culverts, it typically will occur in the dry season, unless an emergency occurs during the wet season. There may be the need to remove vegetation, soil and other debris that affects their proper functioning. Excavation for removal and replacement of culverts will typically occur in already disturbed areas within the railroad right-of-way. NCRA's BMPs will be employed to control sediment and to minimize the effects of this activity and agency approvals and permits will be obtained as necessary.

2.5.6.3 *Bridge Work*

The bridges within the Russian River Division of the NCRA are composed of wood and steel. Typical bridge repair work is generally minor in nature and may involve the replacement of one or more bridge components such as decking, deck ties and timber guards, struts, bents, bracing, handrails and piles. Piles that may have deteriorated will be cut aboveground or above the waterline and spliced with a replacement pile. Work will usually be done from the rail with rail-mounted equipment. If possible, the work will be performed during the dry months so that the work can be conducted out of the water. There will typically be no need to work in water, construct coffer dams or otherwise impact water or waterways. However, if there is a need to repair a pier and the creek or river is flowing, especially for those bridges that are over creeks or rivers that do not experience a dry season, permits will be pursued with the necessary agencies. In addition to the structural maintenance and repair work, electrical and mechanical repairs and maintenance of the bridges operating systems may be necessary. NCRA's BMPs will be employed at the appropriate instances to minimize the effects of the bridge activity and agency approvals and permits will be obtained as necessary.



2.5.6.4 Tunnel Work

Five tunnels designated Tunnels 5 through 9 are located between Lombard and Willits. In general, the Tunnels 5 through 9 are currently serviceable. If repairs are needed during the operation of the railroad, the appropriate agencies will be contacted to identify if there are potential concerns with sensitive species such as bats, and if so, the necessary agency approvals and permits will be obtained.

2.6 CUMULATIVE BASELINE

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 reasonably foreseeable future projects has been based on the standards of practicality and reasonableness. Reasonable foreseeable future projects include unapproved projects that are undergoing environmental review at the time that the NOP is submitted.

This DEIR has identified cumulative projects, including past, present, and reasonable foreseeable future projects that initiated environmental review since the time that the NOP was filed for the NCRA RRD freight rail project. The following probable future projects have been considered in this DEIR:

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



2.7 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 the RRD of the Northwestern Pacific Railroad 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, the Environmental Consent Decree, and Novato 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.



2.8 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.

2.8.1 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 CO₂ per year or about 21 tons. The net reduction in CO₂ 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).

2.8.1.1 *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).



2.8.1.2 *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.

2.8.1.3 *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.

2.9 SIGNIFICANT AND UNAVOIDABLE IMPACTS

The analysis found that the following significant and unavoidable impacts may result from the proposed project:

2.9.1 Noise and Vibration

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.

Warning horn noises generated by rail operations may exceed FTA/FRA and local jurisdictional impact criteria.

Groundborne vibration generated by rail operations may exceed FTA/FRA impact criteria along certain parts of the rail line.



2.9.2 Public Facilities and Safety

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 headlight, causing a disturbance in sleep patterns.

2.10 IMPACT SUMMARY

A summary of the potential impacts associated with the proposed project and the proposed mitigation is provided in Section 3.0, Table 3.0-1.

2.11 INTENDED USE OF THE ENVIRONMENTAL IMPACT REPORT

The NCRA, as lead agency, has prepared this DEIR to provide the public, regulatory agencies and other interested parties an analysis of the potential environmental impacts of the operation of the RRD and certain identified significant rehabilitation activities. The DEIR has been prepared in accordance with CEQA, the State Environmental Impact Report Guidelines and California Administrative Code, Title 14.

The maintenance and repair activities associated with the operation of the railroad, the three significant rehabilitation activities and the new construction of the Lombard Siding that are identified in the DEIR may require consultation with and potentially permits from some of the following regulatory agencies:

- 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)
- Three Air Quality Districts (Northern Sonoma County Air Pollution Control District, Mendocino County Air Quality Management District and Bay Area Air Quality Management District)



- Regional Water Quality Control Boards (RWQCB)
- San Francisco Bay Conservation and Development Commission (BCDC)
- National Marine Fisheries Service (NMFS)
- State Historic Preservation Office
- City of Novato
- State Lands Commission
- Local Cities and Counties
- Sonoma-Marín Area Rail Transit District (SMART)



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Legend

- Rehabilitation Activities Location
- Rail Line with Mileposts
- County Boundary



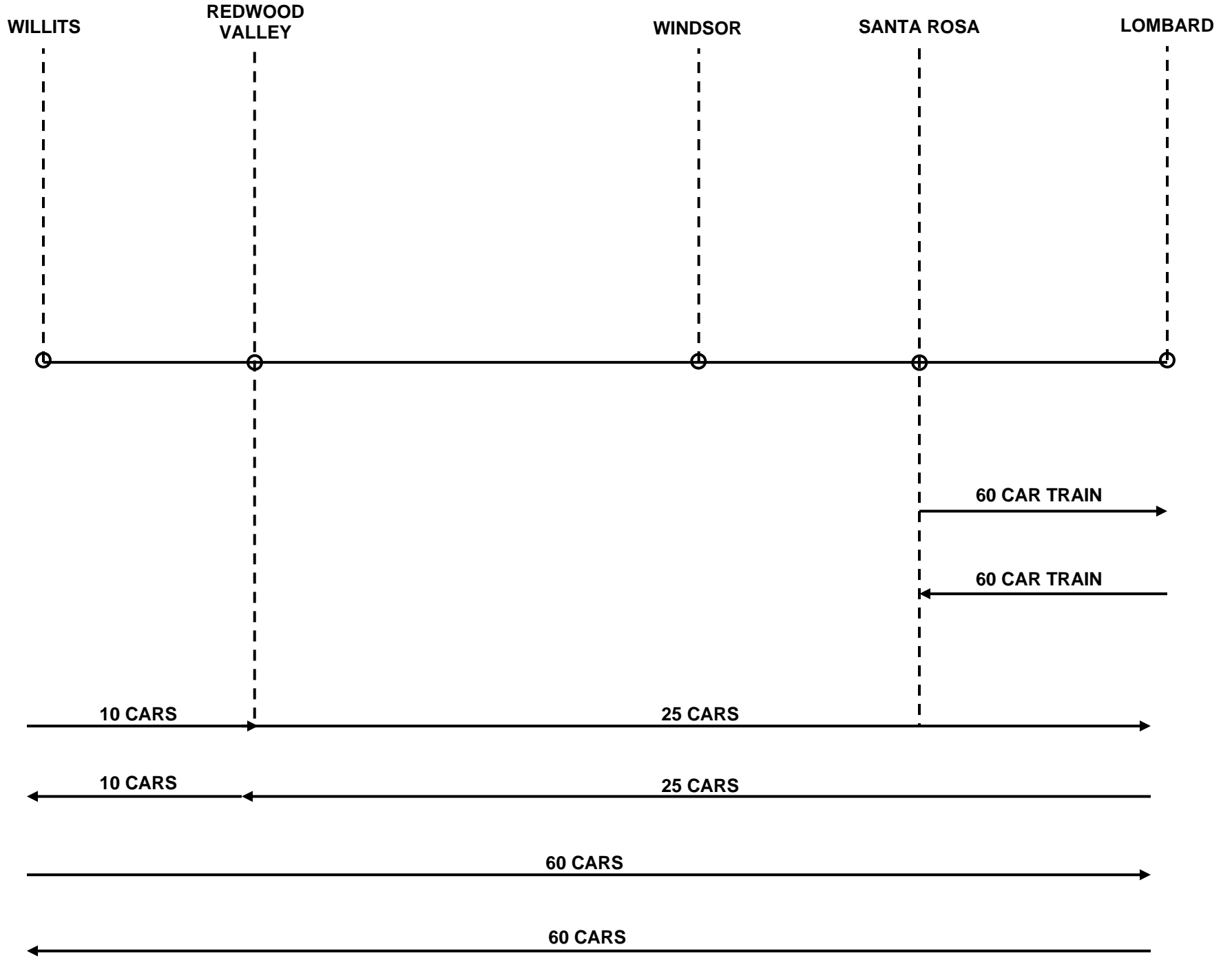
PROJECT NO.	78207
DRAWN:	5/10/08
DRAWN BY:	IPM
CHECKED BY:	BE
FILE NAME:	Figure 2.1-1

PROJECT LOCATION MAP

NORTH COAST RAILROAD AUTHORITY
RUSSIAN RIVER DIVISION
FREIGHT RAIL PROJECT

FIGURE

2.2-1



(NOT TO SCALE)

NOTES:

EACH LINE REPRESENTS A TRAIN

→ DENOTES OUTBOUND

← DENOTES INBOUND

NUMBER OF CARS DENOTES MAXIMUM



PROJECT NO.	78207
DRAWN:	5/10/08
DRAWN BY:	IPM
CHECKED BY:	BE
FILE NAME:	Figure 2.2-1

PROPOSED TRAIN MOVEMENT

NORTH COAST RAILROAD AUTHORITY
RUSSIAN RIVER DIVISION
FREIGHT RAIL PROJECT

FIGURE

2.2-2