

**CONSENT DECREE ASSESSMENT
NORTH COAST RAILROAD AUTHORITY**

July, 2002

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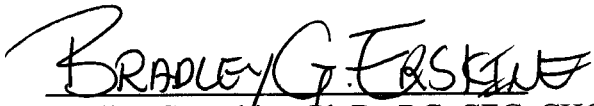
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Kleinfelder Job No.: 12768
July, 2002

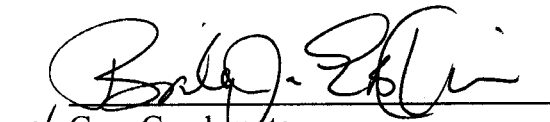
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1.0 INTRODUCTION AND PURPOSE

On July 14, 1999 the Department of Fish and Game (DFG), Department of Toxic Substances Control (DTSC), North Coast Regional Water Quality Control Board (NCRWQCB) [collectively: “State Agencies”] and the North Coast Railroad Authority (NCRA) entered into a Consent Decree in an effort to resolve claims in a complaint filed by the State Agencies alleging violations of the Fish and Game Code, Health and Safety Code, and Water Code (Consent Decree and Stipulated Judgment, Mendocino County Superior Court Case No. CV80240) [“Consent Decree”].

The Consent Decree requires the NCRA to perform a collection of corrective actions in order to provide for appropriate injunctive relief. As a result, the NCRA engaged Kleinfelder, as part of the Willdan Team, to conduct an assessment of the rail line, write operations and maintenance plans, perform site characterization studies, and remediate soil and groundwater to obtain compliance with paragraphs 3 through 49 of the Consent Decree. This report presents the results of the Consent Decree Assessment, the first step toward compliance.

The assessment was performed by Kleinfelder Associates between February 8, 2002 and April 4, 2002 under subcontract to Willdan. The assessment covered the main rail line from Napa to Eureka and the following maintenance facilities listed from north to south:

- Eureka
- Scotia
- South Fork
- Thompson Bluff
- Alderpoint
- Fort Seward
- Nashmead
- Bell Springs
- Dos Rios
- Willits
- Novato

The purpose of the assessment was to achieve the following:

1. Conduct a comprehensive review of NCRA's level of compliance with the requirements, laws, and regulations cited in the Consent Decree.
2. Develop a plan for regulatory approval that would, when implemented, establish compliance as the rail line is repaired and ultimately reopened.

The plan presented in this assessment is envisioned to be a fluid process that may be modified depending on funding, constraints due to CEQA requirements, unanticipated regulatory requirements, and new data. As such, this plan should be reviewed periodically to assure that the items specified in each paragraph of the Consent Decree are addressed.

This work was conducted under Contract Number 2002-01 Task Order 001 under subcontract to Willdan's On-Call Professional and Technical Services Contract for the NCRA Capital Projects Program.

2.0 ASSESSMENT PROCEDURES

2.1 REGULATORY FILE REVIEW

Kleinfelder began the assessment by conducting a regulatory file review of documents related to environmental issues along the NCRA right-of-way and maintenance facilities. Documents were obtained from the DFG, DTSC, NCRWQCB, and the NCRA. More than 400 communications, technical reports, data sets, and other documents were received and reviewed.

One of the purposes of the file review is to collect all relevant material and establish a single comprehensive library. The documents were organized and cataloged on an Excel spreadsheet, presented in Table 1. It is anticipated that this spreadsheet will become the nucleus of a database for data tracking and access by the NCRA, State Agencies, and the Willdan team. These documents will be a critical source of information when tasks recommended in this assessment are initiated.

Documents that were directly relevant to the assessment task were reviewed. The principal goal of the review was to develop familiarity with the history of past operations, environmental compliance issues, and the condition of the rail line and maintenance facilities when operations ceased several years ago.

2.2 SITE RECONNAISSANCE

The field reconnaissance began with an aerial survey of the rail line between Ukiah and South Fork. In attendance were representatives from DFG and NCRA. Most of this line segment follows the Eel River where ground access is poor. Kleinfelder then performed a field site reconnaissance along the line from Napa and Willits, and from South Fork and Eureka. These segments are very accessible, and much of the line is visible along highways. Several portions of the Willits-South Fork segment were inspected on the ground where access was provided by

unpaved roads. All of the maintenance facilities were visited except for Nashmead, Bell Springs, and Thompson Bluff.

The primary goal of the reconnaissance was to observe existing conditions along the rail line and at the maintenance facilities. Particular attention was focused on the principal issues cited in the consent decree and other issues as revealed during the file review. The principal issues include:

- Disposal of rail ties and debris.
- Rail cars in the Eel River.
- Earthen materials along the Eel River embankment.
- Storage of petroleum products and hazardous waste.
- Spills of petroleum and waste materials.
- Above-ground storage tanks.
- Storm water and surface water.

2.3 REPORTING

Data collected from the file review, site reconnaissance, and discussions with former rail staff and NCRA, DFG, DTSC and NCRWQCB personnel was organized and analyzed in this assessment report. The report is organized as follows:

- Section 1 introduces the project.
- Section 2 describes the methods used to conduct the survey.
- Section 3 describes the conditions along the rail line and at the maintenance facilities.
- Section 4 summarizes the results of the reconnaissance.
- Section 5 presents requirements for compliance.
- Section 6 discusses CEQA compliance issues.
- Section 7 presents the estimated costs.
- Section 8 discusses the anticipated schedule to meet compliance objectives.
- Section 9 presents the summary and conclusions.

3.0 DESCRIPTION OF RAIL LINE AND FACILITIES

3.1 MAIN RAIL LINE

The following describes the conditions along the rail line at the time of the site reconnaissance. The term “rail line” is defined in this assessment as the NCRA rail system from Napa to Eureka excluding the maintenance facilities described below. Ground reconnaissance of the Eureka-South Fork and air reconnaissance of the Napa-Willits segments and the Willits-South Fork segment revealed four types of operations that have similar functions. These are:

- The primary (main) rail line characterized by a single track within a narrow (approximately 16 feet wide) easement.
- Switching areas where one or more side rails are present.
- Rail stations.
- Flange oiler stations (curve greasers).

Each of these is described separately below. The location of the rail line and maintenance facilities is shown on Plate 1. Site photos are shown on Plate 1-1.

3.1.1 Rail Line

The main rail line consists of a single pair of rails supported by standard rail ties on a gravel base. The function of the line is to move trains from one point to another. Although trains may have occasionally stopped along the line for a variety of purposes, there are no facilities and little access to initiate repairs, maintenance, or other significant operations other than emergency situations. Major releases of oil or other petroleum products comparable to those at the maintenance facilities were not observed. Only minor staining within the rails was observed during the reconnaissance.

The rail line along the Napa-Willits and Eureka-South Fork segments are relatively free of discarded ties and debris. These sections of track appear to have been well maintained, probably due to good access and high visibility from highways. In contrast, the Willits-South Fork

segment has been poorly maintained and managed with respect to tie and debris removal. Ties have been stacked at numerous locations, often at the edge of the Eel River embankment. Numerous ties have also been randomly discarded. Many of these were observed on the embankment, and may eventually enter the Eel River if not removed. Metal culverts and other debris have also migrated down the embankment following washouts during heavy storms.

The rail car specified in the Consent Decree was reportedly located at Milepost 175 near Nashmead. This car was not observed because of our inability to access the Nashmead maintenance facility during the assessment. Kleinfelder anticipates inspecting the rail car during the site assessment/site characterization phase of the project, and plan to make recommendations at that time.

Earth movement and landslides have frequently occurred along the Willits-South Fork segment. They range in size from small washouts affecting the track only to major slides entering the Eel River. Slides have been assessed by the Capital Improvement Assessment team in a companion document produced by Willdan.

3.1.2 Switching Areas

One switching area, consisting of a 200-foot long side rail encountered near Dos Rios, may be representative of others that exist along the rail line. Switching areas are primarily used for transportation purposes. No storage structures or other improvements were present at the site. However, the area was large enough for vehicles and other equipment work during switching operations. Debris at the site included a small pile of fragmented rail ties, an overturned boxcar, and scattered canisters. Thick oil deposits comparable to those at the maintenance facilities were not observed on the side rail.

3.1.3 Rail Stations

A number of rail stations are present in many of the towns along the rail line. Several of these stations were previously investigated by the Southern Pacific Railroad, and remedial activities were implemented. One example of these is the Novato Station, where soil sampling, removal,

and confirmation sampling have occurred. Further research is needed to ascertain whether regulatory closure (No Further Action status) has been obtained at these stations.

However, other rail stations have apparently not been investigated, particularly those north of Ukiah. One example is the Hopland Station located in downtown Hopland. The Hopland Station consists of a small 1910- to 1920-era station, two side rails, and abandoned rail equipment. One side rail was heavily stained with oil, and debris was piled at one side of the station. The rear of the station was locked, but an employee of the Hopland Utility district who leases a small office in the structure stated that waste oil products were once stored at the site and some may still remain. The site therefore has similar characteristics to the maintenance facilities along the line, and may reflect conditions at other local rail stations.

3.1.4 Flange Oilers

Flange oilers are located near sharp curves and a few feet outside of the rails, but within the railroad right-of-way. They store and dispense grease from a rectangular or square box. The box typically is installed partially or completely below grade, with the top accessible for maintenance. As each wheel of a train rolls over the trigger of the oiler, a measured amount of curve grease is dispensed onto the track to reduce friction between wheels and rails.

If not managed or repaired when broken, a considerable amount of excess grease may accumulate on the ground with time. One flange oiler was observed approximately 2 miles north of the Cloverdale station. The flange oiler appeared to be in need of repair and maintenance, and grease staining was observed within the tracks from historical use.

3.2 EUREKA

3.2.1 Site Location and Description

The Eureka Maintenance Yard (site) is an approximately 1.6 acre parcel located at 4 West 2nd Street, Eureka, California. It is a relatively level parcel bounded by the following streets: Waterfront Drive to the north; Commercial Street to the east; 2nd Street to the south; and an alley

to the west. For the purposes of this assessment, distinction was not made between land owned by the NCRA, and Union Pacific (UP) Railroad property leased to the NCRA.

The northern quarter of the site is occupied by the main rail line and two side rails. Two North Coast Railroad engines and other rail vehicles are parked on the southern side rail. The eastern part of the site is paved and occupied by the NCRA administration building. A hazardous waste containment shed is located on the northwestern corner of the paved area. Located at the southwestern and unpaved part of the site (“UP Property”) are two storage boxcars, a soil stockpile, loading ramp, and scattered equipment, drums, and debris. Pondered water was observed in a depressed area along 2nd Street.

3.2.2 Site Observations

The following section describes the conditions of the Eureka Facility at the time of Kleinfelder’s site reconnaissance. An aerial photograph is shown on Plate 2-1. Site photos are shown on Plate 2-2.

3.2.3 Surface Drainage

According to the Storm Water Pollution and Prevention Plan (SWPPP) prepared for the Eureka Site by Kleinfelder in 1997, most of the surface water on the paved area (photo E2-1) flows southward to 2nd Street where it enters a storm drain inlet located at the intersection of 2nd Street and the alley. Surface water along the rail line flows easterly to a storm drain located at Waterfront Drive and Commercial Street. Surface water within the unpaved area flows to the depressed ponded area where it infiltrates into the soil.

3.2.4 Storage of Petroleum Product and Waste

The primary storage location for viable product and waste is the containment shed located on the northwest corner of the paved area. Access to the shed was locked and not available during the site reconnaissance. However, some drums and other items were visible through the opening along the door. According to the County Hazardous Material Inventory Reporting Form dated 4/26/99, the shed (“Building 1”) included a secondary containment with virgin products in 5-

gallon pails, waste in 5-gallon pails, 30 gallons of “aerosols”, 55 gallons of hydraulic oil, 70 gallons of 40W motor oil, 220 gallons of waste oil, and two drums of waste absorbents and other waste materials. According to Mendocino County Department of Environmental Health, who is the Certified Unified Program Agency (CUPA) for the site, little or no changes have occurred since this date, and the legal period of storage has been exceeded.

Two locked boxcars situated on the open soil area and adjacent to the side rail potentially store waste products. According to County records, the eastern boxcar (“Building 2”) housed a pallet with “good lead-acid batteries” and a pallet of “waste lead-acid batteries”. There was no visible or written evidence of secondary containment. The County records indicated that the remaining boxcar, “Building 3”, did not store hazardous materials on April 26, 1999.

3.2.5 Drums and Former Storage Containers

Four drums containing unidentified waste materials are stored adjacent to the western boxcar. One of the drums is dated 4/15/99. Other discarded empty storage containers include former grease and oil drums, and a fuel tank located on a loading ramp.

3.2.6 Surface Staining

Several areas with surface staining were noted within the rail and storage areas. The most significant staining of soil was noted along the side rail where locomotive maintenance occurred, and beneath heavy equipment. Observation of soil staining within the storage yard was impaired by the damp conditions during the site reconnaissance. An oily sheen was not observed on the ponded water.

3.2.7 Rail Ties

Approximately 200 apparently unused rail ties were neatly stored within the storage yard area. The ties are not supported by pallets or placed on an impervious surface.

3.2.8 Soil Stockpiles

An elongate soil stockpile is present along the northern part of the storage area. The stockpile is relatively old as indicated by the mature growth of pampas grass. It is reported that the soil was placed on plastic sheeting in 1992 by a company working for Eureka Southern (previous owner/operator of the NCRA operations) during site operations transfer to the NCRA. The soil was reportedly oil-impacted material removed from undisclosed track beds in the Eureka area.

3.2.9 Inert Debris

A variety of metal parts and equipment is stored along the soil stockpile in the storage yard. A considerable amount of railroad-generated debris and trash from an unknown source was scattered throughout the site, particularly adjacent to the boxcars and the northern margin of the soil stockpile.

3.3 SCOTIA

3.3.1 Site Location and Description

The Scotia Maintenance Yard (site) is an approximately 1-acre area located at the intersection of the rail line and Bridge Street in Scotia, California. The rail line in this area was apparently cut into the upper part of the Eel River escarpment near the flood plain. The southeastern boundary is adjacent to a residential community consisting of small homes that were probably built in the early 1900's by the Pacific Lumber Corporation for employee housing. The houses are located up-slope from the rail line. To the northwest is a relatively flat area occupied by a maintenance or storage structure, which falls off steeply to the Eel River bed.

The facility is defined by the rail line and a side rail, located primarily south of Bridge Street. Stored rail ties, an abandoned vehicle, and assorted debris are present north of Bridge Street. A locked Pullman car, storage shed, a fenced area (possible a former AST site), two boxcars with an attached maintenance shed, and a small cylindrical concrete structure are present South of Bridge Street.

3.3.2 Site Observations

The following section describes the conditions of the Scotia Facility at the time of Kleinfelder's site reconnaissance. An aerial photo of the site is shown on Plate 3-1. Site photos are shown on Plate 3-2.

3.3.3 Surface Drainage

The site is relatively flat, and no engineered or natural drainage systems are apparent. It appears that surface water generally flows southwestward and infiltrates into soil against the cut slope along the southeastern boundary. However, it is not certain where excess water flows during periods of heavy rainfall.

3.3.4 Storage of Petroleum Product and Waste

Oil supply and waste products were present within the south boxcar and adjacent maintenance shed. The north boxcar and Pullman car were locked and unavailable for inspection. According to County records, the Scotia facility accumulated 50 gallons of used oil per month. In the south boxcar, Kleinfelder observed an aboveground storage tank (AST), approximately 4 feet in diameter, containing oil; several drums partially filled with an unknown liquid (presumably oil or waste oil), labeled waste oil drums, and an unattached hazardous waste label.

The floor of the boxcar and shed was covered with oil and grease, and no secondary containment was present. The floors are not liquid-tight and in very poor condition.

3.3.5 Drums and Former Storage Containers

Several empty oil drums and grease drums were observed within the southern boxcar and within the yard.

3.3.6 Surface Staining

A thick deposit of oil was noted within the side rail tracks near the boxcars. Potential oil staining is present within the former AST area.

3.3.7 Rail Ties

Approximately 30 rail ties were neatly stored within the northern part of the site. The ties are not supported by a pallet, and are stored on bare ground.

3.3.8 Soil Stockpiles

A soil stockpile was located along the western side of the main rail near the fenced area. The origin of the stockpile is uncertain at this time. However, similar stockpiles at other sites suggest that it may be oil-impacted soil derived from excavation at the Scotia site or other parts of the rail line.

3.3.9 Inert Debris

A relatively small amount of debris has been discarded within yard. A significant quantity of discarded parts, debris, and trash (much of it stained with petroleum) was located in the maintenance shed and southern boxcar.

3.4 SOUTH FORK

3.4.1 Site Location and Description

The South Fork Maintenance Yard (site) is an approximately 1-acre area located about one mile east of Highway 101 on Dyerville Loop Road, south of Scotia, California. The site is relatively isolated, bounded by Dyerville Loop Road to the west and the embankment of the Eel River to the east. An aerial photograph of the site is shown on Plate 4-1. Site photographs are shown on Plate 4-2.

The main rail line and one side rail, several mobile homes, three storage sheds, and some miscellaneous rail equipment occupy the site. Debris is scattered at several locations.

3.4.2 Site Observations

The following section describes the conditions of the South Fork Facility at the time of Kleinfelder's site reconnaissance.

3.4.3 Surface Drainage

The site is relatively flat, and no engineered or natural drainage systems are apparent. Surface water will generally pond and infiltrate into the underlying soils. Water near the eastern boundary may flow down the escarpment into the Eel River during periods of heavy rainfall.

3.4.4 Storage of Petroleum Product and Waste

The primary storage location for petroleum product and waste was a containment shed located on the southern part of the site. Although the cement foundation was designed to supply secondary containment, a drainpipe presumably designed to discharge standing water from the structure was not equipped with a valve or capped. The containment shed houses a gasoline and diesel AST, and a variety of oily wastes.

Two other sheds located at the site reportedly housed viable product and wastes prior to construction of the containment shed. Assorted debris and household items are stored in these structures. The northern shed was moved from the soil surface approximately 8 feet to its present position on a concrete slab.

3.4.5 Drums and Former Storage Containers

The site was relatively free of empty drums and containers common to some of the other maintenance sites.

3.4.6 Surface Staining

Several areas with surface staining were noted at the site. The most significant staining on soil was noted within the side rail, and beneath heavy equipment. Oil residue within the side rail

appears to have been periodically covered with gravel and soil. Soil staining was also observed adjacent to the containment shed and the older storage sheds.

3.4.7 Rail Ties

Small quantities of rail tie fragments were scattered throughout the site.

3.4.8 Soil Stockpiles

Several soil stockpiles reportedly from the excavation of petroleum-impacted material were present on the site. According to a former rail employee living in one of the on-site trailers, most of the stockpiled material was derived from excavation activities (location not disclosed) approximately two years ago. The stockpiles were covered with plastic until disposal arrangements could be made. Plans apparently fell through and the stockpiles were abandoned. North of the covered stockpiles is a large uncovered soil stockpile, currently covered with weeds and annual grasses. The date and source of this material was not determined. Rail workers eventually used this stockpile to load materials onto rail cars.

3.4.9 Inert Debris

Large amounts of debris including scrap metal, wood, trash, tires, parts and equipment were scattered throughout the yard. Several historic rail vehicles were abandoned on the side rail.

3.5 FORT SEWARD

3.5.1 Site Location and Description

The Fort Seward Maintenance Yard (site) is an approximately 1.5 acre area located at the northeastern edge of the rural Fort Seward community, California. The site is originally sloped gently toward the river, and was graded flat to accommodate the railroad and maintenance area. To the southwest of the site are inhabited and vacant homes and a former Shell gas station. The northeast side of the site falls steeply into the Eel River.

The site is defined by the rail line and a parallel side rail. The most notable feature at the site is a vacant two-story Tudor-style building formerly used as a cookhouse and bunkhouse. South of the cookhouse is a long, concrete, loading ramp along the side rail. A boxcar formerly used to store petroleum products and waste was situated along the tracks at the eastern side of the site.

3.5.2 Site Observations

The following section describes the conditions of the Fort Seward Facility at the time of Kleinfelder's site reconnaissance. An aerial photo of the site is shown on Plate 5-1. Site photos are shown on Plate 5-2.

3.5.3 Surface Drainage

The site is relatively flat, and no engineered or natural drainage systems are present. Surface water tends to pool in a slightly depressed area between the track and side rail, and infiltrates into the soil. Water near the northeast boundary may drain downhill toward the Eel River during periods of heavy rainfall.

3.5.4 Storage of Petroleum Product and Waste

Approximately thirty grease drums, three 55-gallon oil drums, and several waste buckets were stored or discarded within the boxcar. Some contained grease and oil waste product. The wood floor of the boxcar was heavily stained with petroleum, and no secondary containment was present.

3.5.5 Drums and Former Storage Containers

In addition to the drums stored in the boxcar, one 55-gallon oil drum partly filled with product was stored in the cookhouse garage.

3.5.6 Surface Staining

A thick deposit of oil was noted within the side rail in front of the loading dock and cookhouse. Soil staining that may be present at the site may have been masked from the wet conditions that existed during two site visits.

3.5.7 Rail Ties

Two or three discarded rail ties were observed at the Fort Seward site.

3.5.8 Soil Stockpiles

A soil stockpile was present between the cookhouse and loading ramp. The soil appears to have been excavated from the end of the ramp creating a depression that accumulates water during storms.

3.5.9 Inert Debris

Metal debris and refuse have accumulated adjacent to the cookhouse. Scrap automobiles are stored on the loading ramp. Except for these two locations, the Fort Seward site is generally free of discarded debris and trash.

3.6 ALDERPOINT

3.6.1 Site Location and Description

The Alderpoint maintenance yard is located adjacent to the Eel River in the community of Alderpoint, California. The rail line and maintenance yard was graded along the originally steep bank of the Eel River, which slopes to the northeast. Vacant residential trailers occupy the land up-slope from the yard.

The Alderpoint yard is relatively small, occupied by the rail line, a side rail, a boxcar used as an office and petroleum storage, and a containment structure. A cyclone fence surrounds the yard.

3.6.2 Site Observations

The following section describes the conditions of the Alderpoint Facility at the time of Kleinfelder's site reconnaissance. An aerial photo of the site is shown on Plate 6-1. Site photos are shown on Plate 6-2.

3.6.3 Surface Drainage

The site is relatively flat, and no engineered or natural drainage systems are apparent. Surface water generally ponds on the site and infiltrates into the soil. Surface water may flow over the bank toward the Eel River in periods of heavy precipitation.

3.6.4 Storage of Petroleum Product and Waste

Oil supply and waste products were present within the south boxcar. No secondary containment was observed. The wood floor of the boxcar was in poor condition and heavily stained with oil. It is likely that petroleum products have impacted the soil beneath the floorboards.

The containment structure adjacent to the boxcar was locked and not available for inspection. However, the hazardous business plan on file with Humboldt County Department of Environmental Health shows that a 550 gallon diesel tank, two drums containing 110 gallons of waste oil and several 5 gallon pails of "virgin material" are currently inventoried. According to Humboldt County, the chemical inventory for Alderpoint has not changed since the last inventory report, which is several years old.

3.6.5 Drums and Former Storage Containers

In addition to the drums in the boxcar, one empty 55-gallon drum used for refuse is present in the yard area.

3.6.6 Surface Staining

A thick deposit of oil were noted within the side rail and covered with gravel.

3.6.7 Rail Ties

Stored or discarded rail ties were not observed at the site.

3.6.8 Soil Stockpiles

Soil stockpiles were not observed at the site.

3.6.9 Inert Debris

With the exception of the boxcar, the site was relatively free of discarded debris. Debris in the boxcar included engine parts, office furniture, and refuse.

3.7 ISLAND MOUNTAIN

3.7.1 Site Location and Description

The Island Mountain maintenance facility is an approximately 10-acre yard located in a remote section along the Eel River in the community of Island Mountain, California. The site may be accessed with permission via an unpaved road through private land. In addition to a maintenance yard for the railroad, Island Mountain is the location of a permitted quarry used to provide base material and ballast. The site is defined by the rail line and two side rails constructed along a steeply sloping ridge.

The quarry occupies the southern third of the site up-slope of the rail line. Two cement powder storehouses are located above the head of the quarried area. No relic equipment or debris associated with the quarry operations was observed.

Several structures associated with past rail and possibly quarry operations are scattered throughout the site. These include:

- The foundations and electrical lines related to former mobile housing units were present in the northern part of the site. Small sheds and propane tanks are present near this former housing area.

- On the slopes above the tracks are a dilapidated house (probably not used for several decades), and four trailers that were used for temporary housing for construction employees.
- Two approximately 8-foot diameter aboveground storage tanks with unknown contents (probably used for heating oil) were present below the house.
- On the main line were a loading ramp and 10 rail cars that appeared to be in operable condition.
- Two boxcars containing drums of petroleum product and waste were situated near the edge of the embankment.
- Down the embankment above the Eel River was a passenger car formerly used as a schoolhouse.
- Approximately 50 rail ties and moderate amounts of scrap metal and other debris were present across the yard.

3.7.2 Site Observations

The following section describes the conditions of the South Fork Facility at the time of Kleinfelder's site reconnaissance. An aerial photo is shown on Plate 7-1. Site photos are shown on Plate 7-2.

3.7.3 Surface Drainage

The majority of the site is relatively flat, and no engineered or natural drainage systems are apparent. Surface water will generally pond and infiltrate into the underlying soils. Water near the river escarpment may flow down toward the Eel River during periods of heavy rainfall.

3.7.4 Storage of Petroleum Product and Waste

Numerous drums and containers containing petroleum product and waste are stored in the two boxcars. Petroleum product includes engine oil, hydraulic oil, and curve grease. Several drums are labeled as non-RCRA hazardous waste. The floors of the boxcars are covered with oil, and no secondary containment was noted. The boxcars were not secure.

Two large aboveground storage tanks are present on the slope below the dilapidated house. The contents of the tanks are not known. However, they may have been used to store fuel oil or

diesel fuel. The tanks are surrounded by heavy-gauge sheet metal, which did not appear to offer secondary containment.

3.7.5 Drums and Former Storage Containers

Empty drums and containers that formerly held petroleum products were stored in the boxcars. In general, the site was relatively free of empty drums and containers common to some of the other maintenance sites.

3.7.6 Surface Staining

Several areas with surface staining were noted at the site. The most significant staining on soil was present near the boxcars and within the side rail where rail vehicle maintenance occurred.

3.7.7 Rail Ties

Several large piles of discarded rail ties were present at the site. Isolated ties were scattered in the southern part of the yard. Rail ties were generally present in the rail areas, and do not appear to have been discarded down the river embankment.

3.7.8 Soil Stockpiles

Soil stockpiles were not noted at the site, with the exception of one pile that appeared to be composed of quarried material (as opposed to excavated petroleum-impacted soil as found at other sites).

3.7.9 Inert Debris

Large amounts of debris including scrap metal, wood, trash, tires, parts and equipment were scattered throughout the yard. Some of this debris has been discarded over the river embankment near the top of the slope.

An old passenger car reportedly used as a schoolhouse has slid down the embankment near the bridge at the north part of the site. The rail car was observed about 10 to 15 feet above the river. The interior of the rail car was not inspected during the site reconnaissance.

3.8 DOS RIOS

3.8.1 Site Location and Description

The Dos Rios maintenance facility (site) is an approximately 1000-foot long yard located at 11000 Laytonville-Dos Rios Road in the community of Dos Rios, California. The site is situated on a moderate to steep slope adjacent to the Eel River. Immediately up-slope of the site is a cluster of small residences that comprise Dos Rios.

The site was occupied by the main rail line, a side rail, and three storage sheds. Metal debris, a large rail tie stockpile, and a soil stockpile were observed during the site reconnaissance. Several abandoned rail cars and rail equipment were located on the side rail.

3.8.2 Site Observations

The following section describes the conditions of the Dos Rios Facility at the time of Kleinfelder's site reconnaissance. An aerial photo is shown on Plate 8-1. Site photos are shown on Plate 8-2.

3.8.3 Surface Drainage

The site is relatively flat, and no engineered or natural drainage systems are present. Surface water will generally pond and infiltrate into the underlying soils. Water near the river escarpment may flow down toward the Eel River during periods of heavy rainfall.

3.8.4 Storage of Petroleum Product and Waste

Two sheds located on the south side of the site contained either viable product or hazardous wastes:

- The southern shed stored oil drums, oil and grease wastes, and a diesel storage tank. This unit provided secondary containment and was locked. A chemical inventory form from the Hazardous Materials Business Plan dated April 5, 1999 records an average storage of 150 gallons of Diesel #2, 50 gallons of hydraulic oil, 30 gallons of motor oil, and 50 gallons of waste oil. According to the Mendocino County Department of Health Services who inspected the site on May 20, 2002, the inventory has not changed significantly since that time. A report from the County is expected within a month of the inspection.
- The northern shed was probably the primary site storage unit prior to construction of the southern shed. A drum of curve grease, two lead-acid batteries, miscellaneous parts, and assorted debris were observed in the shed. The wood floor was stained with petroleum product. This structure was not equipped with secondary containment.

3.8.5 Drums and Former Storage Containers

One empty oil drum was observed in a small shed located about 300 feet north of the two storage units, and another was observed outside. Several containers are stockpiled with other debris against the northern shed.

3.8.6 Surface Staining

Soil between the rails of the side rail were heavily stained with oil. Staining was observed between the sheds.

3.8.7 Rail Ties

A large pile of disposed rail ties was present near the northern boundary of the site. A smaller pile was noted adjacent to a soil stockpile, and individual ties were scattered around the site.

3.8.8 Soil Stockpiles

A large soil stockpile was present in the central part of the site. The source of the pile or the reason for its storage at Dos Rios was not known.

3.8.9 Inert Debris

Metal scrap and debris were prevalent at the site. Some of the debris was noted at the edge of the Eel River embankment.

3.9 WILLITS

3.9.1 Site Location and Description

The Willits Maintenance Yard is a relatively large, approximately 10 acre facility located at 288-290 Commercial Street, Willits, California. The site is level and bisected by Willits Creek that flows eastward. Willits High School and residential neighborhoods are adjacent to the site on the west, and commercial buildings occupy the adjacent land to the east.

The eastern part of the site is dominated by the main rail line, several side rails, and assorted rail cars and rail equipment. A spur diverges to the southwest from the main line, adjacent to a fenced area, the former location of a diesel AST used to fuel engines.

Two administrative buildings occupy the southwestern part of the site. The radio tower building is located near the entrance gate by the Skunk Train parking lot. The employee headquarters building is located near the spur and former AST site.

On the northern part of the site is the Locomotive Operations Maintenance Area (LOMA), also commonly referred to as the Bullpen. The Bullpen was fenced, paved, and contained a structure used for storage of petroleum product and wastes, a maintenance garage, and a grease pit used for working beneath diesel engines. The Bullpen also functioned as an equipment storage area and boneyard.

3.9.2 Site Observations

The following section describes the conditions of the Willits Facility at the time of Kleinfelder's site reconnaissance. An aerial photo of the site is shown on Plate 9-1. Site photos of the site are shown on Plate 9-2.

3.9.3 Surface Drainage

Surface drainage within the Bullpen flows to a central storm drain consisting of a concrete sump and a drop inlet for the concrete sump. The drain was designed to remove water to the north into

a drainage swale, which flows to an unnamed tributary to Outlet Creek. However, the concrete sump was filled with water at the time of the assessment, indicating that it is plugged and not allowing water to flow as designed.

The grease pit beneath a locomotive contained water with a slight surface sheen. The water surface was about two feet below grade in mid-March. The water level reportedly fluctuates seasonally, indicating that the pit is permeable to groundwater.

3.9.4 Storage of Petroleum Product and Waste

Petroleum product and waste were stored in a locked structure within the Bullpen. This storage unit contained the following items on March 20th:

- A containment unit storing drums, canisters, buckets, and other containers of waste liquid and solid waste, some of which were labeled as hazardous waste.
- A contained flammable material locker storing petroleum products such as oil.
- A pallet of used Ni-Cd batteries.
- Unlabeled waste in an area labeled "Battery Storage Area" without secondary containment.
- Drums labeled "Hazardous Waste" without secondary containment.
- Highly flammable rail heater gel.

According to the Mendocino County Department of Environmental Health who inspected the facility on March 20, 2002, the chemical inventory was similar to the inventory taken on August 24, 1999 except for the addition of new wastes in the battery storage area and the rail heater material. A compliance report is expected within a month of the inspection.

3.9.5 Drums and Former Storage Containers

Several 55-gallon drums, grease drums, buckets, and other containers that formerly held petroleum products were observed on the ground and within abandoned truck trailers outside of the Bullpen area. A storage tank, reportedly moved from the diesel AST site, is stored in one of these trucks.

3.9.6 Surface Staining

Surface staining with oil and possibly hydraulic fluid was noted in several areas at the site. The most notable locations were the rail lines, beneath equipment in the Bullpen, the former AST site, and within sand in the Bullpen area.

3.9.7 Rail Ties

A pile of burned rail ties were present on the western side of the site between the Bullpen and AST area.

3.9.8 Soil Stockpiles

Soil stockpiles were not observed at the site.

3.9.9 Inert Debris

Scrap metal, equipment parts, refuse, and other debris piles were scattered at the site.

3.10 NOVATO STATION

3.10.1 Site Location and Description

The Novato Station is located on the eastern side of the Novato historic downtown district. Residential units are located to the east, and commercial buildings occupy the land to the west.

The site is comprised of two areas, occupying a total of about 1-acre. To the south is the Depot area, occupied by the old Novato Station and a partially burned depot. To the north is a maintenance yard. A small shed occupies the northern end of the maintenance yard. In general, the site is well maintained and free of debris and stored materials.

3.10.2 Site Observations

The following section describes the conditions of the Novato Station at the time of Kleinfelder's site reconnaissance. An aerial photo of the site is shown on Plate 10-1. Site photos of the site are shown on Plate 10-2.

3.10.3 Surface Drainage

The site is relatively flat, unpaved, and no engineered or natural drainage systems are present. Surface water will generally pond and infiltrate into the underlying soils.

3.10.4 Storage of Petroleum Product and Waste

Drums or containers of product or waste were not observed at the site. The station house was not accessible at the time of the reconnaissance. However, it is unlikely that waste materials are stored there.

3.10.5 Drums and Former Storage Containers

One empty oil drum was observed in the maintenance area. The drum appeared to be used as a refuse container.

3.10.6 Surface Staining

Soil between the rails of the side rail was lightly to moderately stained with oil.

3.10.7 Rail Ties

Approximately 20 rail ties were stored in the equipment yard.

3.10.8 Soil Stockpiles

No soil stockpiles were observed at the site.

3.10.9 Inert Debris

The site was relatively free of debris and refuse.

3.11 BELL SPRINGS, NASHMEAD, AND THOMPSON BLUFF

3.11.1 Bell Springs and Nashmead

Three attempts to survey the Bell Springs and Nashmead maintenance facilities were not successful due to accessibility difficulties, heavy rain, and snow.

According to rail personnel familiar with these sites, both were rather small operations, and sheds that formerly stored petroleum product and waste have been removed. Relatively clean conditions were reported. Hazardous Material Business Plans for these sites were not among the records obtained and catalogued during this assessment.

The North Coast Regional Environmental Task Force 1997 Case Number B65335 documented at Bell Springs excessive amounts of illegal grading and filling, two large tanks mounted on a flatcar, nine 55-gallon drums containing petroleum lubricants, oil spills, and numerous rail ties. Ties were buried at both Bell Springs and Nashmead. An underground fuel tank at Bell Springs was reported in the case document. The written accounts appear to indicate that the petroleum products were related to the grading operations rather than long-term maintenance activities.

Therefore, a site inspection is required to reconcile the conflicting descriptions of the Bell Springs site, and verify conditions at Nashmead. For the purposes of this assessment, it is assumed that these sites have at a minimum a side rail with oil staining and discarded rail ties and other debris similar to the other small facilities along the rail line. The actual conditions will be observed during subsequent tasks.

3.11.2 Thompson Bluff

Kleinfelder was unable to locate the Thompson Bluff site using road maps and aerial photographs. NCRA staff, former rail employees, and County officials that were interviewed

were not aware of a maintenance facility with this name. The Task Force document reported a flange oiler and several drums (one partially filled) located on the river embankment at the site. No records of a Hazardous Material Business Plan were found during the document search. Because the South Fork facility is located near the community of Thompson Bluff, these may be two names given to the same facility. For the purposes of this assessment Kleinfelder will assume that environmental issues reported for Thompson Bluff are actually associated with South Fork. Recommendations and costs associated with Thompson Bluff will be reported if this site is validated during the course of the project.

4.0 RESULTS

Kleinfelder's assessment of the present site conditions and rail operations revealed that a number of plans must be developed and implemented, and tasks performed to meet the requirements specified in the Consent Decree, referenced Cleanup and Abatement Orders and regulations, and other regulations not cited in the Consent Decree but required by law. Some of the requirements set forth in the Consent Decree involve cleanup and waste management activities that are required whether or not the rail line reopens. Others reference management practices that will be required during operation of the rail line.

The following is a summary of Consent Decree issues and actions that are required to achieve compliance regardless of whether or not the rail line will operate in the future.

1. Treated rail ties are improperly stored or disposed of along the main line and maintenance facilities. All waste rail ties need to be removed, transported off-site, and recycled or disposed of in accordance with state regulations. Usable ties need to be recycled or properly stored in accordance with regulations.
2. Debris such as culverts is situated where they may impact the Eel River and its tributaries. All such debris should be removed and disposed of.
3. Empty drums, canisters, buckets, and other containers formerly holding petroleum products and waste are improperly discarded or stored at the maintenance facilities. These materials should be removed and properly recycled or disposed of at a recycling facility or permitted landfill.
4. Storage units such as boxcars are heavily stained with petroleum products. These units need to be decommissioned and decontaminated.
5. Gasoline and diesel above-ground storage tanks (AST's) are present within containment sheds at several of the maintenance facilities. A former AST has been placed in a truck at the Willits facility. Two large AST's possibly containing oil are located at the Island Mountain facility. These tanks should be managed in accordance with a Spill Prevention, Control, and Countermeasures Plan, or decommissioned (product removed and cleaned).
6. Petroleum products and waste are improperly stored at several maintenance facilities. Properly stored waste has exceeded the legal time limits. Waste should be characterized, packaged, labeled, and removed from the sites. Usable products may remain as long they are

stored in shippable containers, and managed in accordance with applicable regulations and under the program established by the Certified Unified Program Agency (CUPA).

7. Petroleum-impacted water in the sump at the Willits facility may be a threat to the waters of the state. This water should be sampled and the threat mitigated.
8. Some surface contamination, such as oil-soaked sand at the Willits facility and thick oil deposits on side rails, may be a threat to surface water resources. These areas and materials should be characterized and remediated.
9. Visible staining and historical records document a history of unreported releases at most of the maintenance facilities. Illegal burial of rail ties have been reported at several maintenance facilities. Detailed site assessment and subsequent site characterization of these facilities need to be conducted. Remediation needs to be conducted based on the results.
10. Soil with reported petroleum contamination has been stockpiled at several maintenance facilities. These stockpiles should be tested, removed, and disposed of as indicated by testing results.
11. Earthen materials resulting from past landslides and/or rail operations threaten the Eel River and its tributaries. These materials should be removed or stabilized as required by the State Agencies.
12. A rail car is identified in the Eel River. This car is required to be removed by the State Agencies.

As the rail line becomes operational, the NCRA and its operators must conform to provisions of the Consent Decree and must adhere to federal, state, and local environmental regulations. Activities that fall under these regulations include the following:

1. Storm water at maintenance facilities must be managed to minimize the threat to surface water resources.
2. Maintenance activities must be conducted in a manner that will prevent spills to soil, groundwater, or surface water resources. If spills occur, response actions need to be conducted to contain the spill, remediate impacts to soil, groundwater, or surface water, and prevent additional spills.
3. Petroleum and hazardous materials and waste must be inventoried and managed in a manner that will mitigate risk to human health and the environment.
4. Wastes must be characterized, managed, and properly disposed of or recycled.
5. Flange oilers should be maintained to minimize spills and eliminate the threat to surface waters.
6. Maintenance activities should be conducted in a manner to prevent the threat to the Eel River.

5.0 RECOMMENDATIONS FOR COMPLIANCE

This section describes a set of plans and activities that, if implemented, will achieve compliance with the Consent Decree. Each activity must be conducted according to the terms and conditions specified in the Consent Decree, as well as required by federal, state, and local regulations. In addition, each activity must be preceded by review for compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). A description and table of contents or content summary is presented for each. Section 5.1 presents the plans designed to conduct cleanup, investigation, and remediation that are required whether or not the rail line operates. Section 5.2 presents the plans to manage petroleum products, waste, earthen materials, storm water, and above ground storage tanks when the rail line opens.

5.1 PLANS AND REQUIREMENTS NOT RELATED TO RAIL OPERATIONS

5.1.1 Waste and Debris Cleanup Plan

Removal of rail ties, drums, petroleum products, hazardous waste and miscellaneous debris should be conducted safely and in accordance with federal, state, and local regulations. In addition, the process must be well documented in order to demonstrate compliance with several paragraphs of the Consent Decree. To achieve these objectives, this work should be conducted in accordance with a Waste and Debris Cleanup Plan (WDCP), which will specify methods of collecting, transporting and disposing of waste and debris, as well as training and documentation requirements.

The WDCP will be a comprehensive document designed for use along the rail line, maintenance facilities, and any other site requiring waste and debris cleanup. It will not be designed for work in sensitive areas (wetland, riparian, riverine, archeologically or culturally sensitive area or a habitat area in which designated species (state or federal) may be located). Those areas require site-specific workplans following CEQA review.

A preliminary outline of the WDCP is presented below. The Plan will require review and approval of the State Agencies prior to implementation.

- I. Introduction, Scope and Purpose of Plan
 - A. Waste and Debris Removal Along Rail Line
 - B. Waste and Debris Removal at Rail Yards
 - C. Removal of Off-Spec Chemicals
 - D. Recycling/Disposal Options

- II. Facility-Specific Waste/Debris to be Removed, and Removal Schedule
 - A. Eureka
 - B. Scotia
 - C. South Fork
 - D. Fort Seward
 - E. Alderpoint
 - F. Island Mountain
 - G. Bell Springs
 - H. Nashmead
 - I. Dos Rios
 - J. Willits
 - K. Others

- III. Rail Line Debris Removal
 - A. Regulatory Requirements
 - B. Feasibility of Debris Removal
 - C. Description and Locations of Debris to be Removed
 - D. Methods of Debris Removal
 - 1. Rail ties
 - 2. Concrete and Other Debris
 - 3. Contaminated debris

- IV. Waste Characterization Procedures
 - A. Testing
 - B. Containerization
 - C. Short-Term Storage

- D. Labeling
 - E. Transportation and Disposal
- V Training, Certification, and Documentation
- A. Contractor Certifications
 - B. Worker Training
 - C. Recordkeeping
- VI Completion Report of Debris Removal Activities
- A. Summary of Work
 - B. Supporting Documentation
 - C. Request for Consent Decree Compliance Certification

5.1.2 Environmental Site Assessments

The Consent Decree requires that a Site Characterization Plan (SCP) be developed for the Willits and Island Mountain facilities on the basis of historical mismanagement of and visible evidence from petroleum products, hazardous materials, and hazardous waste. However, all of the maintenance facilities that Kleinfelder assessed for this report have Recognized Environmental Conditions (RECs) based on a history of multiple spills and leaks, visible heavy staining on side rails and near storage sheds, petroleum-contaminated soil stockpiles from unfinished remediation activities, discarded drums and canisters, reports of buried rail ties and drums, and other evidence. As a result, each of the facilities will require some sampling and testing to characterize impacts to soil and groundwater resources. The sampling and testing program for each site will be developed in a Site Characterization Plan (SCP) (described in the following section).

A preliminary Environmental Site Assessment (ESA) needs to be conducted at each facility to provide essential data for the SCPs. The purpose of the ESA is to define the location and nature of potential spills and releases, which will define sample locations, sampling intervals, and chemical testing requirements for site characterization. Data from the ESA will also be used to prepare the Waste and Debris Cleanup Plan.

The work conducted during the ESA for each site will be based on ASTM standard 1527-00 for Phase I Environmental Site Assessments, modified to meet the particular needs of the Consent Decree. The principal elements of the ESA are summarized below:

- Obtain and review governmental regulatory databases.
- Obtain and review historical aerial photographs and topographic maps.
- Review regulatory files (already acquired).
- Review previous soil investigation reports.
- Interview former rail personnel.
- Conduct a site reconnaissance.
- Produce a detailed site map.
- Inventory all visible sources of potential releases.

The principal product from each assessment will be a site map showing the locations of potential releases, and the type of release that may have occurred (diesel spill; grease; waste oil; solvent use; etc.), and the potential lateral extent of contamination. A second map showing the location of drums, waste, rail ties, and debris will be produced for the Debris and Waste Cleanup Plan.

5.1.3 Site Characterization Plan

A Site Characterization Plan (SCP) will be designed based on the results of the ESA. The purpose of the SCP is to present a strategy to characterize the lateral and vertical extent of contaminated soil and groundwater, and characterize the chemical composition of the contaminant plumes. Once implemented, data from the soil and groundwater investigation will be used to develop a strategy for remediation, or document that contaminants do not represent a threat to human health and the environment.

The basic elements of the SCP are as follows:

- Utility clearance procedures.
- Health & Safety Plan.
- Training requirements.
- Boring locations and sampling intervals.

- Sampling procedures.
- Decontamination procedures.
- Analyses to be performed.
- Quality assurance.
- Grouting procedures.
- Disposition of Investigation-Derived Waste.

A preliminary report will be prepared for review by the State Agencies. The purpose of the preliminary report is to present the data and provide recommendations for further sampling if data gaps are present. Additional rounds of sampling will be conducted until the State Agencies concur that the site is fully characterized. Once characterized, a final report will be produced.

5.1.4 Remediation Plan

A Remediation Plan (RP) will be developed for each site on the basis of data contained in the site characterization report. The purpose of the RP is to identify the most cost-effective method to mitigate threats to human health and the environment, and to specify the protocol by which remedial activities shall be conducted. The ultimate goal is to obtain site closure from the State Agencies and achieve compliance with the Consent Decree.

The RP has two main components. The first is a feasibility study to screen viable alternatives and recommend a method of remediation. Based on the soil and groundwater characterization data and physical constraints of the site, several remedial alternatives, including no action, will be compared on the basis of cost, technical feasibility, environmental benefits, overall effectiveness, and other factors. The objective is to establish a Preferred Alternative that constitutes the best approach.

The second component is the plan for implementing the selected alternative. This plan will present data in sufficient detail for contractors to bid on the remediation project. The nature of soil and groundwater impacts and the selected remedial approach varies greatly from site to site, but the principal elements of the plan are similar:

- Proposed cleanup levels for soil and groundwater,

- Physical description of the soil and groundwater requiring remediation,
- Contractor certification and training requirements,
- Health and Safety requirements,
- Access and site security,
- Ingress and egress,
- Identification of disposal or recycling facilities,
- Labeling and transport requirements,
- Waste characterization testing,
- Handling and stockpiling of waste,
- Compaction testing requirements,
- Confirmation sampling results, including quality assurance testing,
- Assessment of effectiveness (meeting cleanup goals),
- Final inspection requirements.

Once completed, a final report and request for site closure will be submitted to the State Agencies.

5.2 PLANS AND REQUIREMENTS RELATED TO RAIL OPERATIONS

5.2.1 Programmatic Compliance Program Plan

The purpose of the Environmental Compliance Program Plan (ECPP) is to create programmatic-level compliance procedures that unify all environmental operations throughout the entire line. It will create the standard to be followed regardless of location or operator, and will track notifications, deadlines, expiration dates, and other regulatory requirements. A database can be created as part of the ECPP to track individual deadlines such as dates of required reviews and updates of program elements, reporting requirements, and other key compliance milestones.

The ECPP will unify and track adherence of requirements specified in the following plans that are required by the Consent Decree:

- Spill Prevention, Control and Countermeasures (SPCC) Plan,
- Waste Management Plan, including facility contingency plans,

- Facility specific Hazardous Materials Management Plans,
- Flange Oiler Management Plan, and
- Facility specific Storm Water Pollution Prevention Plans.

An example of the utility of the ECPP pertains to personnel training. Generators of hazardous waste must have a written personnel training program. SPCC plans also require a training program, as do contingency plans, storm water plans, etc. The ECPP will consolidate such requirements into a comprehensive training program. Therefore, the NCRA's designated environmental compliance officer will have a single reference point to oversee compliance at individual facilities and rail right-of-way among different operators. The ECP will also include some environmental compliance items not specified in the Consent Decree that are likely to apply at rail yards. Additional elements of the ECPP may include documentation regarding:

- Worker protection.
- Emergency planning and community right-to-know.
- Water quality control standards and discharges.
- Discharges of industrial wastewater to publicly-owned treatment works (POTWs).
- Asbestos and lead-based paint regulation.
- Pesticide use and regulation (if applicable).
- The Safe Drinking Water and Toxics Enforcement Act (Proposition 65).

The ECP will incorporate by reference the documents required at individual facilities. Below is a typical outline of the ECPP:

- I. Introduction
 - A. Purpose and Objectives of ECPP
 - B. Description of Facilities covered by the ECPP
- II. Regulatory Background and Requirements
- III. Requirements for Each Facility
 - A. Regulatory Requirements
 - B. Lease Requirements

- IV. Corporate Health and Safety Programs
 - A. Injury and Illness Prevention Program Summary
 - B. Hazard Communication Program Summary
- V. Inspection Programs and Requirements
 - A. Facility-Specific Inspection Programs
 - B. Rail Right-of-Way Inspection Program
- VI. Training Programs and Requirements
- VII. Database of Compliance Milestones and Deadlines

5.2.2 Spill Prevention, Control and Countermeasures Plan and Contingency Plan

A Spill Prevention, Control and Countermeasures Plan (SPCC Plan) is required at non-transportation related facilities storing a quantity of "oil" above any of the following storage thresholds:

- Above ground storage of more than 660 gallons in a single container.
- Total above ground storage capacity of more than 1,320 gallons.
- Total underground storage capacity of more than 42,000 gallons.

"Oil" includes petroleum, fuel oils, gasoline, diesel, crude oil, and other petroleum refined products. It also includes non-petroleum oils such as vegetable or animal oils.

Both State and Federal requirements apply to SPCC Plans. California's Above Ground Petroleum Storage Act (APSA) defines requirements for facilities in California. Federal regulations for these facilities are codified at Title 40 of the Code of Federal Regulations (40 CFR) Part 112.

A Facility Response Plan (FRP) is required under the SPCC regulations for certain facilities that could cause substantial harm to the environment. Regulations in 40 CFR 112.20(f)(1) contain an initial screening process for a substantial harm facility. If a facility does not meet the substantial harm requirements, the USEPA Regional Administrator may determine that a facility poses

substantial harm to the environment and can still require preparation of an FRP. The expected oil storage quantities and locations do not appear to warrant preparation of an FRP.

In California, facilities regulated under the SPCC program also must file a storage statement and pay a storage fee every two years to the State Water Resources Control Board (SWRCB). Storage fees depend on oil storage capacity at each facility. Each facility regulated under the SPCC Program will be required to file the storage statement and pay associated fees.

The Consent Decree requires that prudent actions be taken to address spills. A contingency plan will be developed in conjunction with the Waste Management Plan and Hazardous Materials Management Plan (described below) to address this item. The SPCC plan will then incorporate the contingency plan by reference.

The required elements of the SPCC Plan are codified in 40 CFR 112.7. SPCC plans will be required at each facility storing quantities of oil exceeding the storage thresholds mentioned above. SPCC plans should be prepared/revised at a minimum within six months after each facility begins operations, and fully implemented within one year after beginning operations [40 CFR 112.3(b)]. Below is a typical outline for the SPCC Plan:

- I. Engineering Certification
- II. Compliance Inspection Plan
 - A. Purpose
 - C. Management Approval
- III. Facility Contacts
 - A. Facility Owner and Operator
 - B. In-house Response Team
 - C. Outside Contractor(s)
 - D. Emergency Contacts
- IV. Facility Description
 - A. Facility Identification
 - B. Site Topography

- C. Facility Drainage Pathways
- D. Facility Operation
- E. Facility Storage
 - 1. Equipment Containing Oil
 - 2. Potential Spill Locations
- V. Spill History
 - A. Description
 - B. Corrective Action
 - C. Prevention
- VI. Spill Prevention and Countermeasure Procedures
 - A. Drainage Control
 - B. Bulk Storage Tanks/Secondary Containment
 - C. Facility Transfer Operations
 - D. Facility Loading/Unloading Operations
 - E. Inspection Procedures/Lighting
 - F. Record Keeping
 - G. Site Security/Major Equipment Security
 - H. Personnel Training
 - I. Countermeasure Procedures, Spill Response
 - J. Spill Control Equipment/Materials
- VII. Spill Prevention and Countermeasure Improvements

5.2.3 Waste Management Plan

Procedures to manage wastes generated from ongoing operations will be specified in the Waste Management Plan (WMP). The WMP will address regulatory requirements for accumulation, storage, treatment, transport and disposal of wastes. Additional hazardous waste generator requirements also will be addressed, including obtaining an EPA identification number, permit requirements for hazardous waste treatment, facility inspection requirements, developing a contingency plan, etc.

A general outline of the WMP is presented below.

- I. Introduction
 - A. Identification and Descriptions of Individual Maintenance Facilities
 - B. Management Structure, Names of Responsible Personnel
 - C. Purpose and Objectives of Plan
- II. Regulatory Background and Requirements
 - A. Consent Decree Requirements
 - B. Environmental Regulations - 22 CCR 66261, 66262, 66265, 66266
 - C. Storage Time Limits (90-day Rule)
 - D. Treatment Requires Permit from DTSC
 - E. Security Requirements
 - F. Waste Minimization
 - G. Employee Training
 - H. Contingency Plan Implementation and Notification Requirements
- III. Handling and Storage Requirements for Wastes
 - A. Railroad ties
 - B. Steel rails
 - C. Other Debris (culverts, scrap metal, etc.)
 - D. Empty Containers
 - E. Used Oil and Used Oil Filters
 - F. Lead Acid Batteries
 - G. Earth (from Landslides, Remediation, Grading, etc.)
 - H. Hazardous Waste Determination (based on generator knowledge of waste generating process and/or laboratory analysis)
- IV. Container Management
 - A. Inspections at Least Weekly in Product and Waste Storage Areas
 - B. Storage Only in Shippable Containers
 - C. Labeling Requirements
- V. Transportation and Recycling/Disposal Requirements
 - A. Hazardous Waste Transporters Must Be State Registered
 - B. Uniform Hazardous Waste Manifest Requirements and Distribution of Copies

- C. Waste Profiling (Pre-Approval by Recycling/Disposal Facility)
- D. Land Disposal Restrictions

5.2.4 Hazardous Materials Management Plan

A Hazardous Materials Management Plan (HMMP), sometimes referred to as a Hazardous Material Business Plan is required at each facility storing hazardous materials above any of the following storage thresholds:

- 55 gallons for liquids (one drum),
- 500 pounds for solids, or
- 200 cubic feet for compressed gases (typically one compressed gas cylinder).

The HMMP must be submitted to the local agency administering the program. The plan includes an inventory of hazardous materials (including hazardous substances and hazardous wastes) stored at the facility, and a site plan showing the locations of stored hazardous materials, along with locations of emergency response equipment, evacuation routes, and other elements.

The required elements of the HMMP may vary by each local jurisdiction. Therefore, the exact requirements are subject to change. In general, each HMMP will contain the following elements:

- I. Facility Identification
 - A. Business name, address, phone number
 - B. Standard Industrial Classification Number
 - C. Description of Business Activities
- II. Emergency Contacts (Primary and Alternate)
- III. Owner/Operator Name
- IV. Inventory Information
 - A. Chemical Names (include common names)
 - B. Chemical Abstract Service Numbers
 - C. Hazardous Waste Categories
 - D. Total Estimated Amount of Hazardous Waste Handled Each Year
 - E. Average Daily Amount

- F. Physical State (solid, liquid, gas) and Storage Temperature/Pressure
 - G. Physical and health hazards
- V. Site Map
- A. Site Orientation, Adjacent Property Use, Adjacent Streets etc.
 - B. Loading Areas
 - C. Storm and Sewer Drains
 - D. Evacuation Routes and Procedures, Access and Egress Points
 - E. Facility Information (location of each HM handling area, type of storage, locations of emergency response equipment)
- VI. Emergency Notification Procedures
- VII. Certification

5.2.5 Flange Oiler Management Plan

The Consent Decree, paragraph 10, requires that NCRA/NWP develop a Flange Oiler Management Plan (FOMP) for submittal to DFG, DTSC, and the NCRWQCB. Numerous flange oilers are located along the line, with the majority of these between Willits and Eureka.

Under a Memorandum of Understanding (MOU) between the Secretary of the Department of Transportation (DOT) and the Administrator of the United States Environmental Protection Agency (EPA), the jurisdictions of different federal agencies at SPCC-regulated facilities were finalized. The EPA guide entitled SPCC Requirements and Pollution Prevention Practices for Facilities Conducting Large Volume Transfer Operations (November 1999) reiterates the EPA's position regarding dividing authority between agencies as follows:

- **Vessels:** The US Coast Guard regulates pipelines or hoses leading to and from over-water operations for transfers to or from a vessel with a capacity of 250 barrels (10,500 gallons) or more.
- **Bulk Storage:** EPA regulates terminals and any transfer sites within a terminal. The first valve in the secondary containment area constitutes the change in jurisdiction.
- **Pipelines:** The Office of Pipeline Safety regulates the transportation-related portion of pipelines running to or from a fixed facility.
- **Rail Yards:** Authority is divided in rail yards. DOT regulates railcars and tracks; EPA regulates operations within a rail yard.

Flange oilers are located a few feet outside of the rails, but within the railroad right-of-way. In our opinion, flange oilers do not fall within SPCC Plan requirements. SPCC requirements apply to non-transportation related facilities. In 40 CFR 112, Appendix I, paragraph (2)(D), railroad right-of-way is defined as a transportation-related facility. Flange oilers, which are an integral component of rail transportation, are not required to be included in an SPCC Plan. For this and other reasons, a separate FOMP is required by regulation.

The required elements of the FOMP are described in paragraph 10 of the consent decree. Below is a typical outline for the FOMP to be developed.

- I. Introduction
 - A. Project History
 - B. Purpose of Flange Oilers
 - C. Requirements for Rail Operation
- II. Regulatory Background and Requirements
 - A. SPCC Regulations - Exempt
 - B. Consent Decree Requirements
- III. Equipment Description
 - A. Number of existing units and locations on line (with maps)
 - B. Unique flange oiler identification number for each unit
 - C. Makes and models of each unit
 - D. Estimated dispensing rates (daily, annually) and grease storage capacities
 - E. Age of each unit (estimated)
 - F. Estimated equipment life and replacement timetable
- IV. Environmental Impacts - Guiding Principles
 - A. Extent of impacted soil / sediment from flange oilers
 - B. Fate of contaminants
 - C. Runoff control measures
 - D. Minimize release of hazardous substances to the environment

- V. Assessment of Alternatives
 - A. Biodegradable grease or vegetable oil
 - B. Lubrication on-board locomotives
 - C. Equipment upgrades
 - D. Others?
- VI. Recommended Alternative
- VII. Flange Oiler Maintenance and Inspection Program
 - A. Discussion of major system components
 - B. Routine maintenance items and frequency
 - C. Common operating problems
 - D. Alternative operations
 - E. Inspection schedule and checklist
 - F. Standard Operating Procedures
 - Inspection procedures for flange oilers
 - Re-filling procedure for grease reservoir
 - Replacement procedure for flange oilers
 - Storage and disposal of flange oiler grease cans
- VIII. Plan Review and Update Schedule

5.2.6 Storm and Surface Water

5.2.6.1 Background

Paragraphs 30 and 31 of the Consent Decree require the NCRA to revise and be in compliance with the provisions of the Storm Water Pollution Prevention Plans (SWPPPs) for both the Willits and Eureka Facilities. The Consent Decree has broader requirements for protection of the water quality and beneficial uses of the waters adjacent to the North Coast Railroad right-of-way. This section describes the regulatory requirements, the current conditions of the facilities relative to storm water issues, and recommendations for protecting water quality and beneficial uses of waters adjacent to the rail line as required by the Consent Decree.

5.2.6.2 Regulatory Summary

The following is a discussion of State of California storm water regulations and Department of Fish and Game Wildlife Protection Codes. These regulations must be applied to each facility that will be under the NCRA's purview.

In 1972, the Clean Water Act (CWA) was amended to protect the waters of the United States from any point source that is not in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. In 1987, the CWA was further amended to provide a regulatory framework for regulating municipal and industrial storm water discharges under the NPDES program. In November of 1990, the U.S. Environmental Protection Agency (EPA) finalized regulations that established application requirements for storm water permits. On behalf of the State of California, the California State Water Resources Control Board (SWRCB) was granted an NPDES permit by the EPA to allow discharge of storm water to waters of the United States within the State of California. The SWRCB then issued Water Quality Orders for storm water discharges associated with either industrial activities or construction activities. Water Quality Order 97-03-DWQ (General Industry Permit) regulates storm water discharges associated with industrial activities. Water Quality Order 99-08-DWQ (Construction Permit), as amended by SWRCB Resolution 2001-046, regulates storm water discharges associated with construction activities.

The General Industry Permit only regulates storm water discharge from the types of facilities identified in Attachment 1 to the General Industry Permit. Included in that list are Transportation Facilities with Standard Industrial Classification of 40XX (Railroad Transportation) which have vehicle maintenance shops or equipment cleaning operations. As a result, NCRA must develop a storm water program for any facility that conducts any of these activities described above.

The Construction Permit regulates storm water discharge from the following types of construction projects:

- Projects that will disturb (clearing, grading, stockpiling, or excavating) soil from five or more acres land,

- Projects that may disturb less than five acres of soil but are part of a larger common plan that will disturb greater than five acres, and
- Projects that may result in a significant water quality impairment.

It should be noted that according to the Construction Permit, “*Construction activity does not include routine maintenance to maintain the line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety*”. However, the RWQCB does have the jurisdiction to require construction or maintenance projects to comply with the provisions of the Construction Permit. Since the reactivation of the rail line is being considered a new project under the California Environmental Quality Act (CEQA) and soil will likely be disturbed from more than five total acres of land, NCRA should develop a storm water program for the reactivation of the rail line.

Fish and Game Code Section 1600 was developed to protect and conserve the fish and wildlife resources of the State of California. Fish and Game Code Section 1601 regulates construction activities that may adversely affect wildlife areas. This includes any project that may:

- Divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake designated by the Department of Fish and Game (DFG).
- Use material from the streambeds designated by the DFG.
- Result in the deposition or disposal of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, designated by the DFG.

5.2.6.3 General Industry Program

Kleinfelder visually observed the Eureka, Scotia, South Fork, Alderpoint, Fort Seward, Dos Rios, and Willits facilities as part of this Consent decree Assessment. In general, Kleinfelder observed the following:

- None of these facilities are active.
- Best management practices have not been implemented at the facilities.
- Engineered storm water conveyance systems are not present.
- The facilities were generally engaged in poor house keeping practices.

As a result, the NCRA should develop a comprehensive storm water program that incorporates the rail line and each of the facilities. Since NCRA will be running the railroad with possibly several operators, Kleinfelder recommends that the NCRA become the lead agency in a group storm water program. The following is a brief description of NCRA's storm water responsibilities.

- **Submit a Notice of Intent for all facilities.** NCRA should submit one Notice of Intent (NOI) for the maintenance facilities. NCRA is responsible for storm water discharge from the facilities.
- **Economic Evaluation of Storm Water Pollutant Reduction Systems.** The General Industry Permit and Sections 301 and 402 of the CWA require control of pollutant discharge by "*best available technology economically achievable (BAT) and best conventional pollutant control technology*". Since it is possible that many of these facilities will be renovated, new state-of-the-art storm water pollutant control measures can be incorporated into the final design. An economic evaluation of what will be feasible should be conducted prior to including the new storm water system into the final design. Upon completion of the economic evaluation, the new storm water system should be designed to meet both the economic constraints and to effectively reduce pollutants from entering storm water run-off.
- **Develop (or Revise) SWPPPs for each facility that conducts maintenance.** The SWPPPs must be developed to comply with the provisions of the General Industry Permit. A template should be developed first that is approved by the RWQCB. Once the template is approved, SWPPPs should be developed for each site based upon the new conditions of the site after reactivation. Copies of the SWPPPs will be present both on-site and in a central location to be determined by the NCRA. The objective of the SWPPPs is to instruct operators on how to prevent pollution from entering storm water run-off through the implementation of Best Management Practices (BMPs). It should be noted that the BMPs include provisions for protecting waters adjacent to the rail line from sediment or earthen materials (i.e., landslides or mudslides) removed during track repair or maintenance.
- **Conduct annual site compliance audits.** On an annual basis, NCRA should conduct a comprehensive audit of each facility for compliance with their SWPPP. The audit should be conducted to assess if BMPs are being properly implemented and if modifications to the SWPPP are appropriate.
- **Conduct annual training.** On an annual basis, NCRA should conduct storm water pollution prevention training for personnel that conduct maintenance of the rail line or rail line equipment. The training should be conducted and documented per the requirements of the site specific SWPPP.
- **Develop a Group Storm Water Monitoring Plan (GMP).** The GMP must be developed to comply with the provisions of the General Industry Permit. NCRA will implement the GMP on behalf of the individual facility operators. This includes organization and collection of storm water samples from appropriate facilities.

- **Prepare annual compliance reports.** On behalf of the entire group, NCRA should complete an annual compliance report. The annual compliance report will include, at a minimum, the results of wet weather and dry weather observations for all facilities, the results of the annual site compliance audits, and the results of the annual storm water sampling events.

The following is a brief description of the storm water responsibilities for each facility operator.

- **Conduct monthly wet weather observations.** Observations should be conducted in accordance with the provisions of the General Industry Permit and the GMP.
- **Conduct dry weather observations.** Observations should be conducted in accordance with the provisions of the General Industry Permit and the GMP.
- **Conduct training.** Facility operators should conduct on-site training for all personnel that will be conducting maintenance activities of the rail line or rail line equipment. This training should be conducted in addition to the annual training conducted by the NCRA. This training should be conducted in accordance with the site specific SWPPPs.
- **Implement their site specific SWPPP.** Each Facility operator is responsible for the implementation of their site specific SWPPP.

5.2.6.4 Construction Permit

The construction storm water program should be developed as a separate program from the General Industry program. NCRA will be responsible for developing and implementing the program. The following is a summary of the construction storm water program.

- **Submit a Notice of Intent for construction activities.** NCRA should submit one Notice of Intent (NOI) for all construction-related activities (including reactivation activities for the rail line).
- **Develop Construction related SWPPPs.** The construction SWPPPs must be developed to comply with the provisions of the Construction Permit. Copies of the SWPPPs will be present both on-site and in a central location to be determined by the NCRA. The objective of the SWPPPs is to instruct operators on how to prevent pollution from entering storm water run-off through the implementation of Best Management Practices (BMPs). It should be noted that the BMPs should include provisions for protecting waters adjacent to the rail line from sediment or earthen materials (i.e., landslides or mudslides) removed during track maintenance.
- **Develop Storm Water Monitoring Plan (SWMP).** Much of the construction activity will occur in areas where impaired water bodies are located. As a result, monitoring of the construction site must be completed in accordance with the Construction Permit and SWRCB Resolution 2001-046. NCRA will implement the SWMP on behalf of the construction contractors. This includes organization and collection of storm water samples from

appropriate facilities. In addition, the SWMP should be developed to comply with DFG code 1601.

- **Prepare annual compliance reports.** NCRA should complete an annual compliance report. The annual compliance report will include, at a minimum, the results of wet weather and dry weather observations for all sites, and the results of the annual storm water sampling events.
- **Submit Notice of Termination.** At the completion of the construction-related activities, NCRA should submit a Notice of Termination (NOT). The NOT serves as formal notification to the RWQCB that construction related activities have been completed.

6.0 COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) AND THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The Consent Decree and supporting documents were reviewed against the requirements of the California Environmental Quality Act (CEQA) and, in general, the National Environmental Policy Act (NEPA). The entire Consent Decree program requires a review under CEQA prior to the decisions concerning the implementation of the various activities. Some of the activities involve clearances or permits from Federal Agencies. Copies of this Consent Decree Assessment Report should be provided to the following Federal Agencies, at minimum, for their information, comment and ultimate use: Army Corps of Engineers, U.S Fish and Wildlife Service, National Marine Fisheries Service, and the Federal Emergency Management Agency.

Many of the activities appear to fall within the Categorical Exemption provisions of CEQA, especially Section 15330 **Minor Actions to Prevent, Minimize, Stabilize, Mitigate or Eliminate the Release or Threat of Release of Hazardous Waste or Hazardous Substances**. Other activities will require separate CEQA or NEPA documentation prior to the decision to carry them out, owing, in general, to their nature or location. A review of the Exceptions to the Categorical Exemptions (Guideline Section 15300.2) is to be made as a part of the documentation.

For the **waste debris and cleanup activities**, there has been a division of tasks due to the anticipated timing of the activities, the differences in the environmental document required, and the permits or consultation /coordination involved.

Other activities will require deferral to the overall Capital Project Program because they may not be appropriately separated from the long term decisions related to the reopening, upgrade or landslide stabilization actions which are subject to future consideration by the NCRA Board. The principle examples of these are the landslides. Any action or activities involving the landslides

and their clearance must be deferred to the overall program. Site assessments, however, may be performed that do not include any construction or similar conduct.

The NCRA CEQA resolution needs to be reviewed and updated consistent with the policies of the Board and the requirements of the CEQA. In addition, a document needs to be created that addresses the issue of independent utility. The purpose of this document is to provide the information upon which to base the findings that certain activities may proceed to be conducted without waiting for the completion of the environmental document (EIR/EIS) recommended for the overall capital program under CEQA and NEPA.

In order to provide for the separation, tracking and consideration of various similar activities, four categories of effort are proposed. They are:

I. Waste Debris and Cleanup and Storm Water Compliance at Maintenance Facilities-General

This category includes general cleanup of the main rail line and maintenance facilities, such as removal of rail ties, debris, oil drums, waste drums, and other spent rail equipment and materials. It also includes the preparation and implementation of Storm Water Pollution Prevention Plans (SWPPP).

II. Waste Debris and Cleanup Where Sensitive Areas Are Located, or Permits/Clearances Are Needed Prior to the Initiation of Activities

For the purpose of this category, sensitive areas are those where the waste or debris are located in a wetland, riparian, riverine, archeologically or culturally sensitive area or a habitat area in which designated species (state or federal) may be located. This category includes development of plans, conducting environmental clearances and permit acquisition.

III. Site Assessment, Characterization and Remediation

This category includes site investigations, the preparation of site characterization plans and remediation. It includes environmental clearances and permit acquisition.

IV. Consent Decree Environmental Compliance Plans and Programs

This category includes the various plans and programs specified by the Consent Decree to be prepared.

It is anticipated that various activities beyond those previously stated will be identified during the preparation, consultation and processing of the above cited documents. As a result, they will require separate environmental (CEQA/NEPA) review or be deferred to the overall capital program environmental documentation.

Each paragraph of the Consent Decree has been placed into at least one of the categories provided above (See Table 2). In some cases more than one category has been assigned owing to the nature of the activity or the need of further study to gain clarity in the activity as described in the decree. This has been done for informational purposes and not specifically for CEQA/NEPA documentation purposes.

7.0 ESTIMATED COSTS

This section presents the estimate of costs associated with conducting site investigations, performing remedial actions, and implementing environmental management programs required to achieve compliance with the Consent Decree as proposed in this assessment.

The discussion of costs is broken into the two principal categories defined in this assessment: those associated with the past operation of the rail line and maintenance facilities (current site conditions); and those associated with future rail operations.

Compliance requirements within the two categories may be illustrated using the Island Mountain facility as an example. If the NCRA chooses to exclude Island Mountain as a maintenance facility once the rail line reopens, several actions are still required to achieve compliance with the Consent Decree. Drums, waste, rail ties, and other debris must be properly removed and disposed of or recycled; boxcars and other storage units must be decontaminated and decommissioned; and the two large storage tanks must be decommissioned by removing product (if present), cleaned, and possibly removed from the site. In addition, a soil and groundwater characterization study must be performed and appropriate remedial actions implemented to achieve site closure.

If Island Mountain is to be re-established as a maintenance facility, then the railroad would operate under the programmatic or site-specific plans which include:

- The Hazardous Materials Management Plan for the storage of petroleum products and wastes.
- The Waste Management Plan for the handling, labeling, transportation, and disposal of wastes.
- The Spill Prevention, Control, and Countermeasures Plan for above ground storage tanks.
- The Storm Water Pollution and Prevention Plan for control of storm water and prevention of impacts to the Eel River.

The plans and programs described in this assessment were envisioned for long-term operation of the rail line. Some of the paragraphs of the Consent Decree, however, may be relevant to the present condition of the rail line or activities that will occur during repair or construction prior to operation. Examples are project- or site-specific training, hazardous waste management, and contingency planning, all of which are required under state regulations. It is anticipated that compliance during the pre-operation period, or during remediation activities that may continue after the rail line opens, will be obtained through the implementation of site-specific work plans or technical specifications.

7.1 COSTS ASSOCIATED WITH FUTURE RAIL OPERATIONS

7.1.1 Methodology

The costs associated with future rail operations are primarily associated with the preparation and implementation of environmental management plans and programs required by the Consent Decree. They will be similar to programmatic plans commonly developed for large industrial facilities, but customized to reflect the uniqueness of NCRA rail operations. To develop a cost estimate for each plan, Kleinfelder first developed a baseline cost based on previous experience with businesses with large operations. Additional costs were then added to reflect additional time needed to include issues unique to the NCRA (such as the Eel River), multiple reviews and aggressive oversight by the state agencies, and expectations by the public and other stakeholders.

7.1.2 Costs

The following are the estimated costs to prepare the plans specified in Section 5. The costs are based on the assumption that maintenance activities will be conducted at 10 sites, and each will store petroleum products, accumulate wastes, and have at least one aboveground storage tank. These costs do not incorporate the cost to maintain compliance, which is considered to be a normal O&M function.

| Name | Comment | Cost |
|---|--|------------------------------|
| ECPP: Environmental Compliance Program Plan | One document will be prepared for the entire rail line, with site-specific information for each facility contained in an appendix. | \$40,000 - \$50,000 |
| SPCC: Spill Prevention, Control, and Countermeasures Plan | One SPCC is required for each site with tanks exceeding the storage thresholds described in Section 5. Cost is for an assumed 10 SPCCs. | \$70,000 - \$100,000 |
| WMP: Waste Management Plan | One document will be prepared for the entire rail line, with site-specific information for each facility contained in an appendix. | \$40,000 - \$60,000 |
| CP: Contingency Plan | One CP is required for each maintenance facility that stores petroleum products and accumulates waste. Cost is for an assumed 10 CPs. | \$50,000 - \$60,000 |
| HMMP: Hazardous Material Management Plan | One document will be prepared for the entire rail line, with site-specific information for each facility contained in an appendix. | \$30,000 - \$40,000 |
| FOMP: Flange Oiler Management Plan | One FOMP will be prepared for the entire rail line. | \$20,000 - \$30,000 |
| C-SWPPP: Construction Storm Water Pollution and Prevention Plan | One SWPPP will be prepared for the entire rail line. Cost includes the Notice of Intent and Notice of Termination. | \$50,000 - \$65,000 |
| I-SWPPP: General Industrial Storm Water Pollution and Prevention Plan | One SWPPP and Group Monitoring Program Plan will be prepared for the entire rail line, with site-specific information contained in the appendix. Cost includes the NOI and NOT | \$120,000 - \$160,000 |
| CEQA Compliance and Permitting | Costs include labor, permits, and reporting | \$50,000 - \$100,000 |
| Project Management | Assumed at 15% of total cost | \$71,000 – 86,000 |
| | TOTAL: | \$541,000 - \$751,000 |

7.2 COSTS ASSOCIATED WITH PAST OPERATIONS & CURRENT SITE CONDITIONS

7.2.1 Methodology

7.2.1.1 Environmental Site Assessments and Other Plans

Environmental Site Assessments (ESAs) conducted at the maintenance facilities and rail stations will be significantly more comprehensive than basic Phase I ESAs following the ASTM standard. ASTM Phase I ESAs merely identify the existence of “Recognized Environmental Conditions,” which are generally the potential for impacts to be present at the site. The ESAs conducted for Consent Decree Compliance will provide detailed baseline information needed to conduct soil and groundwater investigations; develop the Waste and Debris Cleanup Plan, Site Characterization Plans and Remedial Action Plans; and perform remedial activities. The baseline maps prepared as part of the assessments will be used for identifying locations of waste and debris in need of cleanup, locations of soil borings and wells, plotting the lateral extent of contamination, and contractor bid specifications. They will also be an important source of information when renovation of maintenance facilities is required.

To estimate costs, Kleinfelder relied on the procedural requirements and level of effort associated with past work at private-sector industrial or government facilities with extended histories and under critical examination by regulators and the public. One example is a series of ESAs associated with divestiture by PG&E of large power plants operating since before the 1970s. Another example is assessments associated with closure and reuse of military facilities or those leased by the Department of Energy. For the NCRA case, Kleinfelder accounted for time required to work in remote locations; effort to produce a product that can be used for other tasks; the extraordinary number of technical documents and communications requiring critical review; regulatory review process; and high standards expected by the State Agencies and other stakeholders. Costs associated with the preparation of the Waste and Debris Cleanup Plan, Site Characterization Plans, and Remediation Plans also were estimated based on past experience.

7.2.1.2 Site Cleanup

Kleinfelder contacted several waste management companies to obtain unit costs for packaging wastes, transportation of waste and debris, recycling and disposal of waste, and equipment and labor. One company accompanied Kleinfelder to the Willits and Dos Rios facilities to become acquainted with the physical characteristics of the sites and envision procedural requirements. Some of the unit costs are as follows:

- \$200/drum: Transportation and disposal (T&D) of non-RCRA waste.
- \$185/drum: Repackaging of non-transportable drums.
- \$350/drum: T&D of repackaged Pb-acid batteries.
- \$35/drum: Empty drums.
- \$12/load: 20-yard bins containing rail ties.
- \$5/load: Scrap and recyclable metal.
- \$700/day: Excavator.
- \$60/hour: Labor, crew of three.
- \$70/hour: Vacuum truck.

Using this data and drawing from experience with site cleanups, Kleinfelder estimated the cost of cleanup of the Willits, Island Mountain, and Eureka facilities; a basic maintenance site such as Dos Rios or Scotia; and a typical rail station such as Hopland or Schellville. For the purposes of this estimate, 10 rail stations were assumed to require cleanup. Additional costs were added for remote sites or those with access difficulties. Work included general labor, decommissioning waste storage units (including boxcars), and specialty work such as removal and disposal of contaminated water at Willits and decon water. Other assumptions included:

- All wastes are non-RCRA or recyclable.
- Removal of storage units, such as the tank car, are not required for CD compliance.
- Demolition of structures following decontamination is not required for compliance.
- Former aboveground storage tanks may be reused, and will not require destruction and disposal.

In addition, the removal of the rail car from the Eel River and rail ties and debris from the embankment is assumed to be conducted by the Capital Improvement Team (as opposed to a separate contractor) since these activities will be best conducted during repair of the rail line. It is

expected that the rail ties on the embankment will be stored on the side of the tracks opposite the river, creeks, or other sensitive areas, and the rail car will be torch-cut and the sections moved to the rail. Only the component of costs associated with collecting the rail ties on rail cars, transporting them to a central location such as Willits, and T&D of the ties and debris from Willits were included in the costs.

7.2.1.3 Soil and Groundwater Investigations

Kleinfelder anticipated the level of effort needed to conduct soil and groundwater investigations at the maintenance facilities and rail stations using data collected during the site reconnaissance, review of technical reports providing soil characterization data at some of the sites, and experience with petroleum-impacted sites. It was assumed that each site would be sampled using a hollow-stem auger drill rig, and each site will be readily accessible, and the first round of sampling will characterize the sites to the satisfaction of the NCRA and State Agencies. Based on the technical and site data, a cost was developed for a single boring using the following parameters:

- Average soil boring equals 15 feet bgs
- Four samples collected at 1.0, 5.0, 10.0, and 15.0 feet
- The samples will be analyzed as follows:
 - 4 samples for Total Petroleum Hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl-tert butyl ether (MTBE)
 - 4 samples for diesel (TPH-d), motor oil (TPH-mo), and kerosene (TPH-k)
 - 3 samples for the CAM 17 metals
 - 2 samples for volatile organic compounds (VOCs)
 - 1 sample for polynuclear aromatic hydrocarbons (PAHs)
 - 1 sample for PCBs
 - Based on the metal results, 6 analyses using the Waste Extraction Test (WET) and 4 analyses using the Total Threshold Leaching Procedure (TCLP) for waste disposal options

Kleinfelder estimates that 350 borings will be required for the first round of sampling. The total number of borings required for each site was estimated based on the size of each facility, and the estimated number and size of potentially impacted areas within each facility. A total number of borings was then calculated, which allowed calculation of analytical costs. The drilling costs

were estimated based on the number of days required to mobilize to each site and drill the required borings.

The unit costs used for the cost estimates are as follows:

- \$5,000/day: Drill rig, project management, site geologists, and ODCs.
- \$1,855/boring: Laboratory costs for the analyses specified above.

For the purpose of this cost estimate, it was assumed that the level of effort required for a second round of sampling would be half of the first round. Kleinfelder assumes that sufficient samples will be collected in the second round to adequately characterize the sites.

7.2.1.4 Remediation

Waste management contractors were contacted to obtain unit costs for excavation, transportation, and disposal of petroleum-impacted soil. The unit costs used for this cost estimate are as follows:

- \$4/ton Excavation
- \$2/ton Loading
- \$30/ton Transportation
- \$25/ton Disposal
- \$15/ton Backfill
- \$5/ton Compaction

Assuming an average excavation depth of 3 feet (surface scraping), Kleinfelder estimated the amount of soil requiring removal based on site observations and experience with petroleum-impacted sites. The volume of the stockpiled soil observed at some of the sites was estimated, and assumed to require excavation and disposal. The total estimated amount of soil, 1,450 yards of stockpiled soil and 4,050 yards of excavated soil, represents the lower volume required for remediation because it assumes that all locations require a surface scraping only to reach target cleanup levels. Additional and deeper excavations would increase the volume significantly. The number of days required to perform the remediation was estimated assuming that each site would be remediated in sequence until complete. The cost for excavation, transportation, disposal,

backfilling and compaction was then estimated using the unit costs specified above. Costs of additional testing for disposal options, project oversight and management, and ODC's were added to arrive at the lower-end cost given in the cost table below. The upper-end cost was estimated by increasing the depth and width of the excavated soil by 2 feet, producing a greater amount of soil and field time.

The estimate for groundwater cleanup assumes that monitoring wells will be required, but no significant remediation will be required. This estimate assumes a total of 30 monitoring wells will be required to achieve site closure, with 10 wells requiring quarterly monitoring for one year; 10 wells requiring quarterly monitoring for two years; and 10 wells requiring quarterly monitoring for three years. The assumed unit costs are as follows:

- One round of sampling will require two weeks to complete.
- Average cost per well is \$10,000, including installation and destruction.
- Analytical costs per well, per round is \$600.
- Quarterly reports for each site are required (\$2,000 each round).

Kleinfelder feels that the cost derived using these assumptions represent the high end of the cost range. Because groundwater impacts may be restricted to heavy-end hydrocarbons rather than solvents, the number of wells and sampling events required to achieve site closure may be much less.

Because there is virtually no groundwater chemical data, the magnitude of impacts to groundwater and required groundwater remediation cannot be estimated at this time. However, most impacts at the site are likely to be related to heavy-end petroleum hydrocarbons that are relatively immobile and carry a relatively low risk. The exceptions are gasoline and diesel spills at the former storage tank sites, and the Willits facility where surface water resources (creeks) are located within and adjacent to the site boundaries. Identification of groundwater contaminant plumes may require extensive additional investigation and remediation, which may raise the costs significantly.

7.2.2 Costs

The following are the estimated costs to conduct cleanup and remediation activities specified in Section 5. These costs do not incorporate the cost to maintain compliance, such as groundwater monitoring, which may be considered to be an O&M function.

| Task | Comments | Cost |
|---|--|----------------------------------|
| Site Assessments | One ESA will be prepared for each maintenance facility and rail station. | \$230,000 - \$400,000 |
| WDCP: Waste and Debris Cleanup Plan | One plan and one set of technical specifications will be prepared for the entire line, with site-specific information provided in an appendix. | \$50,000 - \$65,000 |
| Sensitive Area Cleanup Plan | Cleanup will be conducted during repair of the line rather than by a specialized contractor requiring separate bid documents. | \$30,000 - \$50,000 |
| Site Cleanup- Maintenance Facilities | The site cleanup will remove waste, debris and rail ties, and will decontaminate storage units. | \$175,000 - \$350,000 |
| Site Cleanup- Rail Line and Sensitive Areas | Rail ties will be managed and recycled, and not disposed of in a landfill. | \$100,000 - \$200,000 |
| SCP: Site Characterization Plans | One SCP will be prepared for each maintenance facility and rail station (10 total). | \$200,000 - \$300,000 |
| Soil and Groundwater Investigations | An investigation, based on the results of the ESA's, will be conducted at each maintenance facility and rail station | \$750,000 - \$995,000 |
| RP: Remediation Plans | One RP and technical specification will be prepared for each maintenance facility and rail station. | \$400,000 - \$600,000 |
| Soil Remediation | Soil remediation costs will vary greatly depending on target cleanup levels. | \$875,000 - \$1,500,000 |
| Groundwater Monitoring Wells | Cost depends highly on State Agency requirements for site closure. | \$300,000 - \$660,000 |
| CEQA Compliance and Permitting | Cost includes labor, permitting, and reporting | \$200,000 - \$250,000 |
| Project Management | Assumes 15% of total cost | \$496,000 - \$805,000 |
| | TOTAL: | \$3,806,000 - \$6,175,000 |

7.3 UNCERTAINTY AND LIMITATIONS

The total estimated cost of compliance with the Consent Decree assuming reopening of the rail line is as follows:

| | |
|-------------------------|----------------------------------|
| Future Rail Operations: | \$541,000 - \$751,000 |
| Current Conditions: | \$3,806,000 - \$6,175,000 |
| TOTAL: | \$4,347,000 - \$6,926,000 |

Many of the assumptions used to produce these estimates were based on preliminary data and experience with similar scenarios rather than direct data. For example, the number of soil borings estimated to conduct the soil and groundwater investigations were based on site observations rather than data derived from a full site assessment. Similarly, estimates of the soil volumes requiring removal was based on selective data obtained from several rail stations along the southern part of the line rather than comprehensive data obtained from soil and groundwater chemical data at the maintenance facilities. As a result, a significant degree of uncertainty may be associated with several of these estimates. This section attempts to place the cost estimates into context by identifying where most of the uncertainty lies.

A review of the cost estimated provided in Sections 7.1 and 7.2 show that the costs of Consent Decree compliance may be broken into three primary elements that constitute the bulk of the costs outside of project management and CEQA compliance:

- Development of plans and programs, accounting for 14% of the total lower-end estimate.
- Site Assessments and Soil Investigations, accounting for 31% of the lower-end estimate.
- Remediation and monitoring, accounting for 31% of the lower-end estimate.

Each of these will be discussed independently below.

7.3.1 Development of Plans and Programs

The cost to prepare the various environmental plans and programs are related primarily to the level of effort required to write, produce, and review documents. In developing the estimates listed in Section 7.1, Kleinfelder anticipated costs associated with the complexity of rail

operations, review by multiple agencies, and high public expectations. The uncertainty, therefore, is primarily related to the uncertainty in estimating labor hours needed to produce the documents. Kleinfelder feels that this uncertainty is small relative to uncertainty associated with other project tasks, and should not greatly change the total cost estimate.

7.3.2 Soil and Groundwater Investigations

The major costs associated with soil and groundwater investigations are related to the number and depth of borings required to sample soil and groundwater (labor and drilling costs), and the number and type of analyses required to characterize the nature and extent of contamination (analytical costs). Compared to plan and program development, the uncertainty associated with these investigations is significant due to the following:

1. Site Assessments that provide the data needed to design the soil and groundwater investigations have not been conducted. Therefore, the unit cost for each boring and the required total number of borings are uncertain.
2. The cost estimate assumes one round of sampling will be required to adequately characterize each site. In reality, several rounds of sampling may be required to define contaminant plumes or collect data needed for risk assessment.
3. Additional sites requiring soil and groundwater characterization may be discovered as the rail project progresses.
4. Unanticipated concerns requiring specialized studies may appear as the project progresses.

7.3.3 Remediation and Monitoring

The greatest uncertainty within the cost estimate lies in the costs associated with remediation and groundwater monitoring. This uncertainty is associated with the following elements:

1. The lateral and horizontal distribution of soil contamination will not be established until soil characterization is completed. The assumptions used for this estimate, based on relatively few data points from soil investigations at rail stations, may not be fully applicable to the more complex maintenance facilities. In particular, the surface area and depth of contamination requiring excavation may be very different than the assumed parameters. A small change in lateral extent and depth could significantly increase the costs.
2. Work conducted at the remote sites and adjacent to the Eel River could be much more difficult than anticipated in this assessment. Implementation of controls to protect the Eel River could be time consuming, and access to these sites across private land could prove to be very inefficient.

3. Perhaps the greatest uncertainty lies in the absence of cleanup criteria for site closure at this time. A relatively small decrease in target cleanup levels could have a dramatic effect on the volume of soil requiring excavation. For example, the reduction of a target level of 400 mg/kg to 100 mg/kg TPH-mo (motor oil) at a simple plume could result in a 65-fold increase in the volume of soil required to be excavated. In addition, the State Agencies may call for numerous monitoring wells and long-term monitoring if threats to the Eel River and other sensitive areas are apparent. On the other hand, they may relax monitoring requirements if groundwater impacts are caused wholly by heavy-end hydrocarbons and the geologic conditions are not conducive for lateral migration and natural attenuation.

8.0 SCHEDULE

A GANTT chart depicting the project schedule is presented as Table 3 in the rear of this document. The schedule is broken into three components that are mutually independent from one another:

1. Depicted at the top of the chart is the Project management task referring to programmatic management by the Prime Contractor, Willdan. This task is functional from the beginning of the project (this assessment task) through the life of the contract or full compliance with the Consent Decree, whichever comes first.
2. Depicted in the central part of the chart are the tasks associated with cleanup, site characterizations, remediation, and monitoring. The various tasks are present, end-to-end, showing the maximum length of time required for completion of all tasks. In reality, many of the tasks will be grouped or performed concurrently to save money and compress the schedule.
3. Depicted at the bottom of the chart are the programmatic planning tasks. These tasks are also presented end-to-end for illustrative purposes. In reality, some of the plans will be initiated near the beginning of the project while others will be held until required data or CEQA documentation is obtained.

The chart as presented shows a 45-month period required for meeting all compliance criteria. Note, however, that much of the time is allocated to remediation and monitoring. These tasks carry the largest uncertainty with respect to cost and time because the specific requirements depend on data obtained from earlier tasks and State Agency requirements that are not predictable at this time. In addition, some of the earlier tasks will likely be conducted simultaneously. Therefore, it is possible to compress the schedule significantly through efficient time management and coordination between NCRA, the Willdan Team, and the State Agencies.

9.0 CONCLUSIONS AND RECOMMENDATIONS

This assessment revealed several areas where work is needed for compliance with the Consent Decree at the present time, during repair and construction, and during routing operation once the line reopens. Based on the assessment, a program consisting of actions and management plans were identified in Section 5.0 that, if implemented and maintained, would lay the groundwork for sustained compliance.

Table 2 presents a matrix that summarizes the results of this assessment by paragraph of the Consent Decree. Table 2 is intended to show the method that will be used to meet each compliance objective specified in each paragraph. Table 2 is organized as follows:

- **Column 1** cites the paragraph number of the Consent Decree.
- **Column 2** is a transcription of the Consent Decree.
- **Column 3** specifies which part of the rail line is affected by the requirements stated in each paragraph (main line, Willits, all facilities, etc.).
- **Column 4** specifies the compliance status for each paragraph. Each compliance category is defined as follows:

Category A: NCRA appears to have addressed the issues specified in the Consent Decree, and may be found to be in compliance if inspected by the Compliance Officer.

Category B: NCRA appears to have addressed the bulk of issues in the Consent Decree, and are nearly compliant.

Category C-1: The paragraph in the Consent Decree appears to refer to future compliance issues during full operation of the rail line (rail cars are actually running). However, full compliance requires development and successful implementation of management plans that have not been written and approved by the State Agencies.

Category C-2: The paragraph in the Consent Decree appears to refer to future compliance issues during full operation of the rail line (rail cars are actually running). However, some of the issues specified in the CD appear to be applicable to present conditions as defined in Category D, below.

Category C-3: The paragraph in the Consent Decree appears to refer to future compliance issues during full operation of the rail line (rail cars are actually running). However, some of the issues specified in the CD appear to be applicable to

cleanup, repair, construction, or maintenance activities that may occur prior to full rail operations.

Category D: Little or no change in the compliance status appears to occurred since the Consent Decree was signed.

- **Column 5** specifies the action required to achieve compliance, and the anticipated milestone that would allow NCRA to obtain compliance status from the State Agencies.
- **Column 6** summarizes the guiding plans or documents relevant the paragraph or action.
- **Column 7** places each paragraph into the CEQA category discussed in Section 6.

A point for point comparison of the Consent Decree (Column 2) and the proposed action (Column 4) demonstrates that the assessment addressed each required action specified in the Consent Decree, and the assessment is sufficiently complete to move forward toward achieving compliance. Most importantly, Table 2 shows that compliance with the Consent Decree is potentially obtainable if each plan or response is implemented.

Kleinfelder recommends that the following steps be taken to begin the path toward compliance. The first path cites actions to address issues that are not dependent on opening of the rail line (these must be conducted whether the rail line opens or not). The second path cites actions to address issues required before the rail line operates. Because they are related to a functioning rail line, these actions must be conducted only if the rail line opens.

Kleinfelder further recommends that the first path be initiated immediately. Additional delay in removing hazardous waste from the maintenance facilities, cleanup of rail ties along the rail line and Eel River, and remediation soil and groundwater may result in significant and irreversible damage to soil, groundwater, and surface water resources. In addition, additional inaction at some of the facilities may result in a direct and significant threat to human health. For example, the inactive maintenance facility at Willits is an attractive nuisance for students at Willits High School who routinely enter by pulling down or climbing the fence.

9.1 ACTIONS THAT ARE NOT RELATED TO RAIL OPERATIONS

1. Perform Environmental Site Assessment
2. Prepare Waste And Debris Cleanup Plan
3. Begin waste and debris cleanup
4. Prepare Site Characterization Plan
5. Conduct soil and groundwater investigation
6. Conduct Feasibility Study
7. Prepare Remediation Plan
8. Conduct remediation (conducted after CEQA review)
9. Obtain site closure

9.2 ACTIONS RELATED TO RAIL OPERATIONS

1. Prepare Environmental Compliance Program Plan
2. Prepare Hazardous Materials Management Plan
3. Prepare Waste Management Plan
4. Prepare Storm Water Pollution and Protection Plan
5. Prepare Spill Prevention, Control, and Countermeasures Plan
6. Prepare Flange Oiler Management Plan
7. Prepare Monitoring and Reporting Plan
8. Prepare Monitoring and Reporting Programs
9. Implement each plan when required
10. Follow up with regular inspections and scheduled sampling

Note that the two paths can be conducted simultaneously. For example, writing the Waste Management Plans for rail operations (Path 2) is not dependent on completing the site assessments or site Characterization Plans for environmental cleanup (Path 1). In addition, some of the actions within each path may be conducted concurrently. For example, the Site Characterization Plan and Waste and Debris Cleanup Plan (Path 1) may be written concurrently.