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BEFORE THE
SURFACE TRANSPORTATION BOARD

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STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Volume II

Exhibits 7-29

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REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 7

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United States Government Accountability Office

GAO

Report to Congressional Requesters

August 2007

RAILROAD BRIDGES AND TUNNELS

Federal Role in Providing Safety Oversight and Freight Infrastructure Investment Could Be Better Targeted



GAO-07-770

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August 2007

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Highlights

Highlights of GAO-07-770, a report to congressional requesters

RAILROAD BRIDGES AND TUNNELS

Federal Role in Providing Safety Oversight and Freight Infrastructure Investment Could Be Better Targeted

Why GAO Did This Study

Freight railroads account for over 40 percent (by weight) of the nation's freight on a privately owned network that was largely built almost 100 years ago and includes over 76,000 railroad bridges and over 800 tunnels. As requested, GAO provides information on this infrastructure, addressing (1) the information that is available on the condition of railroad bridges and tunnels and on their contribution to railroad congestion, (2) the federal role in overseeing railroad bridge and tunnel safety, (3) the current uses of public funds for railroad infrastructure investments, and (4) criteria and a framework for guiding any future federal role in freight infrastructure investments. GAO reviewed federal bridge safety guidelines and reports, conducted site visits, and interviewed federal, state, railroad, and other officials.

What GAO Recommends

GAO recommends that DOT (1) develop a systematic, risk-based methodology for selecting railroads for bridge safety surveys and (2) ensure that its *Framework for a National Freight Policy* identifies national goals, stakeholder roles, and funding mechanisms and revenue sources to maximize the national public benefits of federal freight infrastructure investments. DOT agreed with the first recommendation and said that it would consider the second recommendation.

www.gao.gov/cgi-bin/getrpt?GAO-07-770.

To view the full product, including the scope and methodology, click on the link above. For more information, contact JayEtta Z. Hecker at (202) 512-2834 or heckerj@gao.gov.

What GAO Found

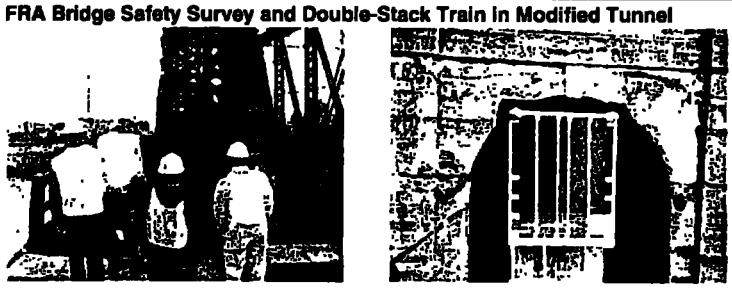
Little information is publicly available on the condition of railroad bridges and tunnels and on their contribution to congestion because the railroads consider this information proprietary and share it with the federal government selectively. Major (Class I) railroads maintain detailed repair and inspection information, while other (Class II and III) railroads vary, from keeping detailed records, to lacking basic condition information. Despite their age, bridges and tunnels are not the main cause of congestion, although some do constrain capacity. Because bridge and tunnel work is costly, railroads typically make other investments to improve mobility first.

The federal role in overseeing the safety of railroad bridges and tunnels is limited because FRA has determined that most railroads are sufficiently ensuring safe conditions. FRA has issued bridge management guidelines, makes structural observations, and may take enforcement actions to address structural problems. However, FRA bridge specialists use their own, not a systematic, consistent, risk-based, methodology to select smaller railroads for safety surveys and therefore may not target the greatest safety threats.

Federal funds are used to meet many different goals, but are not invested under any comprehensive national freight strategy, nor are the public benefits they generate aligned with any such strategy. Some state investments are structured to produce state and local economic and safety benefits, and public-private partnerships have facilitated investments designed to produce public and private benefits.

GAO has identified critical questions that can serve as criteria for reexamining the federal role in freight investments—including railroad bridge and tunnel investments—and a framework for implementing that role that includes identifying national goals, clarifying stakeholder roles, and ensuring that revenue sources and funding mechanisms achieve maximum national public benefits. The Department of Transportation's draft *Framework for a National Freight Policy* takes a step forward, but more is needed to guide the implementation of a federal role in freight transportation investments.

FRA Bridge Safety Survey and Double-Stack Train in Modified Tunnel



Sources: left to right, GAO and BNSF Railway (used with permission)

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Abbreviations

AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ASLRRA	American Short Line and Regional Railroad Association
CBO	Congressional Budget Office
CREATE	Chicago Region Environmental and Transportation Efficiency program
DHS	Department of Homeland Security
DOD	Department of Defense
DOT	Department of Transportation
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
RRIF	Railroad Rehabilitation and Improvement Financing
STRACNET	Strategic Rail Corridor Network
TSA	Transportation Security Administration

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GAO
Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

August 6, 2007

The Honorable James L. Oberstar
Chairman
The Honorable John L. Mica
Ranking Republican Member
Committee on Transportation and Infrastructure
House of Representatives

The Honorable Bennie G. Thompson
Chairman
Committee on Homeland Security
House of Representatives

The Honorable Elijah E. Cummings
House of Representatives

Freight railroads have been an important part of the U.S. transportation network for over 150 years and account for over 40 percent of the ton-miles[1] of the intercity freight transported in the United States. Much of the current U.S. freight railroad network was originally built by private corporations in the late 1800s and early 1900s and is still privately owned, including most of the nation's over 76,000 railroad bridges and over 800 railroad tunnels. While many parts of the railroad infrastructure, such as signals and track, have been replaced and upgraded, bridges and tunnels, which are the single most expensive railroad infrastructure components, have not been replaced and are still being used, some long after their originally predicted useful life. In the future, however, with projected increases in railroad traffic and further aging, these expensive components may need replacement, presenting funding challenges to private railroads.

This report responds to your request for information on issues related to bridges and tunnels on the national freight railroad network. Specifically, this report addresses the following questions:

[1]A ton-mile is a standard industry measure that represents 1 ton of freight transported 1 mile.

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(1) What information is available on the condition of railroad bridges and tunnels and on the contribution of this infrastructure to railroad network congestion?

(2) What is the federal role in overseeing railroad bridge and tunnel safety?

(3) How are public funds currently used for freight railroad infrastructure capital investments, including those for bridges and tunnels?

(4) What criteria and framework could be used to guide the future federal role, if any, in freight-related capital investments, including those for railroad bridges and tunnels?

Our overall approach to addressing these topics was to (1) review federal legislation, regulations, and guidance; transportation planning literature; and forecasts of future freight railroad demand and capacity from private railroads, public agencies, and industry organizations; (2) interview a wide variety of representatives; and (3) review pertinent documentation from railroads of various sizes; federal, regional, state, and local governments; and industry groups. In particular, we interviewed representatives from six Class I railroads, two Class II railroads, and nine Class III railroads.[2] At the federal and state levels, we interviewed officials from six federal agencies that have some relationship dealing with railroad bridges and tunnels on the freight railroad network—including officials in the Department of Transportation's (DOT) Federal Railroad Administration (FRA), which has primary responsibility for overseeing the safety of the nation's freight railroad network—as well as officials in nine state DOTs. We selected the railroads and the state and local government agencies for interviews to include a cross section of characteristics, including geographic diversity, the presence of noteworthy public-private partnerships between the railroads and government agencies, and state DOTs that actively participated in planning or funding railroad infrastructure projects. We conducted our review from June 2006 through July 2007 in accordance

[2]For 2006, the Surface Transportation Board, a bipartisan, independent adjudicatory agency administratively housed within DOT responsible for resolving railroad rate issues, has defined Class I railroads as railroads earning adjusted annual operating revenues of $319.3 million or more. Class II railroads are those earning between $25 5 million and $319.3 million, and Class III railroads are those earning less than $25 5 million. The scope of this report covers freight railroads of all classes.

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with generally accepted government auditing standards. See appendix I for further details about our scope and methodology.

Results in Brief

Little information is publicly available on the condition of railroad bridges and tunnels, and on their contribution to congestion, but private freight railroads collect and maintain this information to varying degrees and use it to set investment priorities. This information will be increasingly important to the railroads as the demand for freight transportation grows, aggravating existing freight railroad congestion problems and further straining the railroads' infrastructure, which includes aging and expensive bridges and tunnels. Class I freight railroads collect and maintain detailed information on the condition of their bridges and tunnels—including inspection reports, condition information, structural ratings, design drawings, and maintenance and repair histories—and on the extent to which these structures contribute to network congestion. Class II and III railroads vary in the amount of information they collect and maintain on their bridges and tunnels, with some maintaining the same level of detailed information as the Class I railroads and others lacking the information needed to produce a complete list of their bridges, having no maintenance records, and keeping inaccurate or incomplete records of inspection, according to our review of FRA records. Freight railroads of all classes view condition and congestion information as proprietary and share it with the federal government selectively; and the government plays a limited role in collecting such information because there are no FRA regulations governing railroad bridges and tunnels. Furthermore, according to FRA's Chief Structural Engineer, the expense of collecting and maintaining the information may not be justified by the potential safety benefits. While most bridges and tunnels are not the main cause of freight railroad congestion, some structures are chokepoints and do constrain capacity. For example, opening a movable bridge operated by a Class I railroad over the Mississippi River for more than an hour during peak periods can delay that railroad's traffic all the way to the West Coast. Freight railroads use bridge and tunnel condition and network congestion information, along with other information, to set investment priorities to generate the greatest private return on their investment. According to several Class I railroad representatives, railroad bridge replacement typically has a lower rate of return on investment, making it more likely that railroads would invest in other enhancements before rehabilitation or replacement of railroad bridges.

The federal role in overseeing railroad bridge and tunnel safety is limited because FRA has determined that railroads responsible for bridges and

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tunnels are sufficiently ensuring these structures' stability. Historically, FRA track personnel have provided bridge and tunnel safety oversight. Under the authority originally granted by the Federal Railroad Safety Act of 1970, FRA has the authority to enforce railroad safety; and in the 1970s and early 1980s, FRA had considered issuing bridge safety regulations. However, FRA determined that railroads were already inspecting bridges using industry standards. As a result, in 1995 FRA decided to issue guidelines instead of regulations to guide railroad bridge management programs, and hired bridge specialists to make observations about bridge and tunnel conditions under these guidelines. If FRA identifies a structural concern, it attempts to work cooperatively with the railroad and takes enforcement action only if there is an immediate concern for safety. Other federal agencies, including the Department of Homeland Security's (DHS) Transportation Security Administration (TSA) and the U.S. Coast Guard, also have limited roles in railroad bridge and tunnel safety related to their particular missions. FRA bridge specialists have conducted safety surveys of all seven Class I railroads' bridge management programs and assessed those programs using FRA guidelines. These specialists also conduct 25 to 35 safety surveys per year of Class II and III railroads, covering a small portion of the nation's 549 Class II and III railroads. The specialists use their own criteria to select these railroads. FRA has not established a systematic, consistent risk-based methodology for selecting the Class II and III railroads for bridge safety surveys; and as a result, FRA may not be targeting those whose bridges or tunnels are most likely to present safety risks. We are therefore recommending that FRA implement such a methodology for selecting Class II and III railroads for bridge safety surveys. In commenting on a draft of this report, DOT and FRA officials agreed with the need for a consistent, risk-based selection methodology; and FRA officials noted that it had already begun to implement our recommendation.

Public funds may currently be used for a variety of capital investments in freight railroad infrastructure, including bridges and tunnels, but federal investments are typically not targeted to maximize national public benefits, whereas some state and public-private partnership investments are strategically targeted to achieve specific state, local, and private benefits. Overall, the current federal investment in freight railroad infrastructure is small compared with the railroads' own investment. For example, in calendar year 2006, Class I, II, and III railroads invested an estimated $9 billion in freight railroad infrastructure while the federal government provided an estimated $263 million during fiscal year 2006. A number of federal agencies make federal funding available for freight-related infrastructure projects through different funding mechanisms to

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achieve certain transportation goals. However, the extent to which these mechanisms have been used for freight railroad infrastructure is generally limited, and much of the funding has gone for projects that primarily benefit localities or regions, such as railroad-highway grade crossing improvements or infrastructure improvements for Class II and III railroads, rather than projects that would maximize national public benefits, such as capacity-enhancing improvements to bridges and tunnels on major freight routes. DOT has taken an important step toward targeting federal freight-related transportation investments by issuing a draft *Framework for a National Freight Policy*;[1] however, the objectives of this framework are not always clear, and the document does not explicitly identify criteria for federal investment, opportunities to incentivize more private investment, or opportunities to leverage private and other public funds to add freight transportation capacity. At the state level, some states target investments in freight railroad infrastructure to produce various state and local benefits. For example, the Kansas DOT administers a loan program for short line[4] railroads in the state that haul locally produced agricultural products. Public-private partnerships have also facilitated investments designed to produce both public and private benefits. Although the current federal investment in freight railroad infrastructure is relatively small, growing congestion—resulting from the aging of the nation's freight transportation infrastructure and projected increases in demand for freight transportation—is expected to spur calls for a greater federal role in freight transportation, especially greater federal funding for freight-related infrastructure such as expensive railroad bridges and tunnels that constrain capacity on key freight routes. Federal funding is, however, constrained by the nation's long-term fiscal imbalance; and, as we have reported, federal funding mechanisms favor truck and marine transport over railroad transport and distort competition in freight transportation.

In our past work reexamining the federal role in transportation and other policy areas, we identified a number of critical factors and questions—involving the relevance and purpose of the federal role, performance measurement, targeting of benefits, affordability, and cost effectiveness—

[1]DOT, *Framework for a National Freight Policy (Draft)*, (Washington, D.C., Apr. 10, 2006).

[4]According to the American Short Line and Regional Railroad Association (ASLRRA), short line railroads are generally Class III railroads that are less than 350 miles long or provide switching and/or terminal services.

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that could be used as criteria to examine the future federal role in freight-related transportation investments, including investments in railroad bridges and tunnels.[5] These factors underscore the need for a federal role that promotes equitable, mode-neutral investments of scarce federal funds in projects designed to achieve national goals and produce national benefits. While DOT's draft *Framework* represents an important step toward determining the federal role in freight transportation, it lacks several components that we have identified as key to such an approach, including setting national goals for federal investment in freight-related infrastructure across all modes; clearly defining federal and other stakeholder roles; and identifying cost-effective revenue sources and funding mechanisms that can be applied to maximize the national benefits of federal investments.[6] Accordingly, we are recommending that DOT ensure that its draft *Framework* includes clear national goals, establishes roles, and identifies funding mechanisms for federal freight-related infrastructure investments, including freight railroad investments. In commenting on a draft of this report, DOT officials said they are considering this recommendation.

Background

Currently, seven Class I railroads own and maintain over 61,000 bridges and over 800 tunnels, and 40 Class II and 509 Class III railroads own and maintain over 15,000 bridges.[7] According to FRA documents, in 2002, the U.S. railroad network contained approximately one bridge for every 1.4 miles of track. Class I railroads operate on approximately 70 percent of the total route miles in the United States and generate 90 percent of total railroad revenues. Class II and III railroads also play a critical role in the national freight railroad network, serving as feeders to Class I main lines. According to the American Short Line and Regional Railroad Association

[5]GAO, *21st Century Challenges: Reexamining the Base of the Federal Government*, GAO-05-325SP (Washington, D.C.: Feb. 1, 2005) and GAO, *Intercity Passenger Rail: National Policy and Strategies Needed to Maximize Public Benefits from Federal Expenditures*, GAO-07-15 (Washington, D.C.: Nov. 13, 2006).

[6]GAO-07-15. GAO, *Intermodal Transportation: Potential Strategies Would Redefine Federal Role in Developing Airport Intermodal Capabilities*, GAO-05-727 (Washington, D.C.: July 26, 2005), pp. 26-27; and GAO, *Marine Transportation: Federal Financing and a Framework for Infrastructure Investments*, GAO-02-1033 (Washington, D.C · Sept 9, 2002), p. 17.

[7]ASLRRA does not maintain a precise count of the number of tunnels on Class II and III railroads. The association's General Superintendent of Safety and Operating Practices estimates that there are at least 30 tunnels of or over 100 feet in length on these railroads.

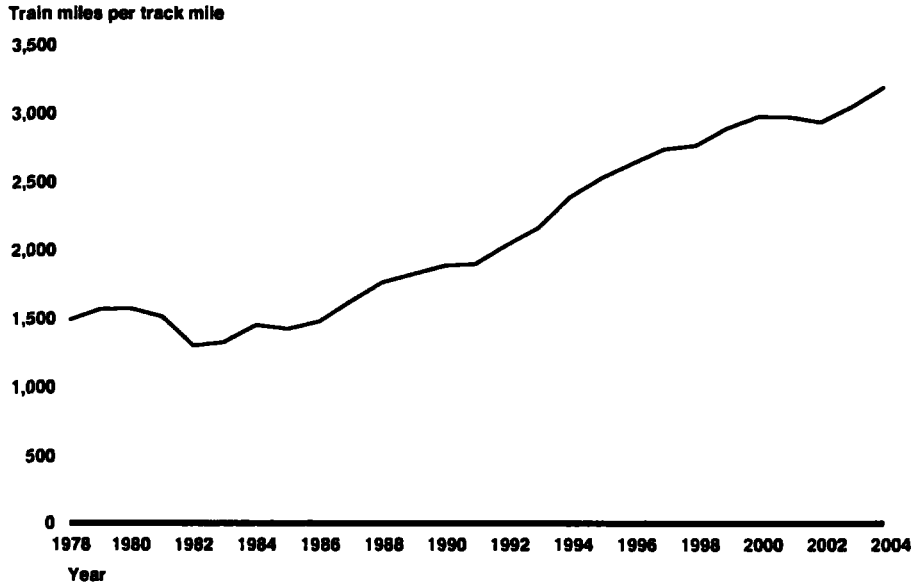
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(ASLRRA), Class II and III railroads handle one out of every four carloads moved on the U.S. freight railroad system.

Between 1978 and 2004, railroad traffic on Class I railroads increased dramatically while the number of railroad track miles decreased, as evidenced by an increase in the ratio of train-miles to track-miles (see fig. 1).[8] In addition, freight volumes increased, as evidenced by a 105 percent increase in ton-miles per route-mile[9] since 1990, from 8.63 million in 1990 to 17.70 million in 2005 (see fig. 2). These changes have focused more and heavier traffic over fewer core lines, thereby increasing both the strain on and the importance of key bridges and tunnels, such as those over the Mississippi River and underneath Baltimore.

Figure 1: Annual Train-Miles per Track-Mile for Class I Railroads, 1978 to 2004



Source: Congressional Budget Office.

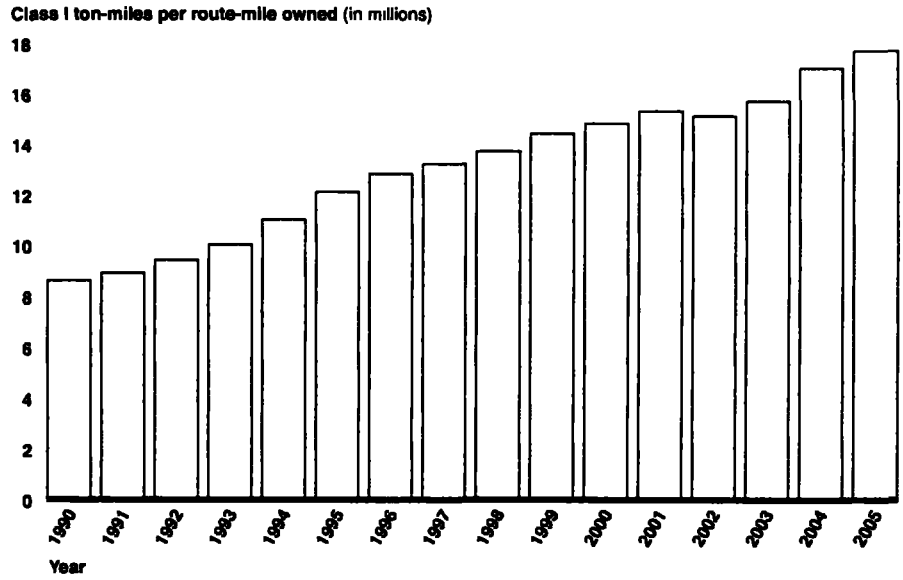
[8]A track-mile is equivalent to 1 mile of track, which includes main track, yard tracks, and sidings. A train-mile refers to a train traveling a distance of 1 mile.

[9]A route-mile is the measure of 1 mile of aggregate roadway, which excludes yard tracks and sidings, and does not consider that a mile of roadway may include parallel tracks.

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Figure 2: Class I Railroad Annual Ton-Miles per Route-Mile Owned



Source: Association of American Railroads (AAR)

Bridges and tunnels on the freight railroad network are aging and are susceptible to a variety of conditions that may cause wear or deterioration. Railroad bridges are constructed from timber, steel, masonry or concrete, or a combination of these materials. According to an FRA bridge survey completed in 1993, more than half of the nation's railroad bridges were built before 1920.[10] This survey, which FRA's Chief Structural Engineer told us is largely applicable today, found that 36 percent of railroad bridges were made of timber, 32 percent of steel, and 20 percent of masonry; the remaining 12 percent of bridges were not identified by bridge type. Increased weight and traffic can cause fatigue in timber and steel bridges. Timber bridges are also susceptible to decay from weather and insects, and steel bridges near salt water may be susceptible to high rates of corrosion. Masonry bridges are more vulnerable to the effects of time and nature than to the weight of traffic, but reinforced concrete bridges are susceptible to the effects of traffic loads. According to FRA, from 1998

[10]FRA survey results were reported in DOT, Office of Inspector General, *Audit Report: FRA's Interim Statement of Policy on the Safety of Railroad Bridges*, TR-1999-077 (Washington, D.C., Mar. 31, 1999).

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through 2006 a total of 22 train accidents, involving one injury and no fatalities, were attributed to bridge structural failures. The most recent fatality resulting from a bridge structural failure occurred in 1957. Likewise, very few major railroad tunnels have been built within the last 50 years, according to FRA's Chief Structural Engineer, although some have undergone maintenance or capacity expansion in recent years. Some tunnels are driven directly through rock; some are lined with brick or stone masonry, concrete, or timber; and many tunnels include two or more types of construction. Tunnels do not take stress from train traffic in the same way that bridges do, but they are susceptible to drainage issues, and timber-lined tunnels are particularly susceptible to fires. According to FRA, from 1982 through 2006 there were five reportable train accidents whose cause could have been related to the tunnel structure. One of these accidents resulted in two injuries, and none of the accidents resulted in a fatality.

Many railroad bridges and tunnels were designed to have long useful life-spans, but were built for use by different types of trains. Until recent years, stress from locomotives and cars did not exceed the original design loads for bridges. For example, steel bridges built between 1895 and 1916 were engineered for steam locomotives that inflicted greater stress on bridges than today's locomotives. However, because of their increased weight, freight cars are approaching the design load limits of older bridges. Railcar weight standards have increased from 263,000 pounds to 286,000 pounds, and some cars now weigh as much as 315,000 pounds; however, approximately 45 percent of Class II and III railroad lines are not equipped with track capable of handling 286,000 pound cars, according to ASLRRA. In addition, freight cars have increased in height as increased intermodal freight traffic has led to double-stacking intermodal containers on railroad cars. Some bridges and tunnels do not have the clearance needed to accommodate these double-stack intermodal trains.

The majority of the freight railroad network is privately owned, and federal economic regulation of freight railroads has decreased since the federal government deregulated the railroad industry in 1980. All seven Class I railroads are privately owned, and according to ASLRRA, approximately 95 percent of Class II and III railroads are privately owned, with the rest owned by government entities. Private railroads have an incentive to maintain their infrastructure in order to maintain business operations, and most railroads privately finance their infrastructure maintenance and improvement projects.

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Railroads invest large amounts in fixed assets such as track, signals, bridges, and tunnels. The Association of American Railroads (AAR) estimates that in calendar year 2006 Class I railroads alone invested over $8 billion in "capital commitments," that is, expenditures for capital projects and operating leases. Compared with other industries, railroads invest a higher percentage of revenue in their infrastructure. For example, in 2000, the average U.S. manufacturer spent 3.7 percent of revenue on capital spending, while railroads spent 17.8 percent—almost five times as much, according to an analysis of U.S. Census data prepared by the American Association of State Highway and Transportation Officials (AASHTO).[11] As railroads take steps to increase their capacity—by increasing the size or weight of railroad cars or by adding track—some of their bridges and tunnels may require alterations. A bridge's configuration and condition dictates weight restrictions, and most bridges and tunnels cannot accommodate the additional track, if needed, without replacement or significant reconstruction. Similarly, the dimensions of some bridges and tunnels restrict railroad car height and width. Because bridges and tunnels are the most expensive pieces of railroad infrastructure, with replacement and construction costs ranging from 11 to 550 times as much per linear foot as regular track, capacity expansion projects involving bridge and tunnel work require significant capital investment.

While the freight railroad industry is projected to grow substantially with expected increases in freight traffic, the industry's ability to fund this projected growth, including making needed capital infrastructure investments in railroad bridges and tunnels, is largely uncertain. For private companies seeking to maximize returns to stakeholders, railroad investment poses a substantial risk. A railroad contemplating an infrastructure investment must be confident that the market demand for that infrastructure will hold up for 30 to 50 years. Furthermore, while railroads own and maintain their own infrastructure, some other modes of transportation, such as the trucking and maritime barge industries, use infrastructure that is owned and maintained by the government, providing them with a competitive price advantage over railroads. We have previously reported that railroad investment is critical to freight mobility and economic growth, and investments in railroad projects can produce public benefits, such as (1) reducing highway congestion, (2) strengthening intermodal connections and the efficiency of the publicly

[11]AASHTO, *Transportation—Invest in America: Freight-Rail Bottom Line Report*, (Washington, D.C.. Jan. 16, 2003).

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owned transportation system, and (3) enhancing public safety and the environment.[12] (See the list of related GAO products at the end of this report.) However, even when the public benefits of freight projects may be sufficient to warrant public funding, federal funding mechanisms may not be well tailored to freight projects. Whereas freight projects are frequently intermodal, most federal funding mechanisms are focused on one mode. In addition, freight projects generate private benefits, raising questions about whether and how to provide public support for them.

Little Information Is Publicly Available on Bridge and Tunnel Conditions and Congestion, Although Major Railroads Collect, Maintain, and Use This Information to Prioritize Investments

Major railroads[13] collect and maintain detailed information on the condition of their bridges and tunnels and on the extent to which these structures contribute to network congestion, but less is known about how much information Class II and III railroads collect. Freight railroads generally consider this information proprietary, citing concerns over security and liability, and they selectively share bridge and tunnel information with the government. Meanwhile, the federal government plays a limited role in collecting information on railroad bridges and tunnels because they are privately owned and maintained. In addition, FRA has no regulations or standards for railroad bridges and tunnels; and, in FRA's view, the safety benefits that might accrue from collecting and maintaining information on their condition would not justify the expense. Various other federal agencies collect some information on railroad bridges and tunnels that pertain to their mission. While most bridges and tunnels are not the main cause of freight railroad congestion, some structures are chokepoints and do constrain capacity. Freight railroads set maintenance and investment priorities by considering bridge and tunnel information, together with comparable information on other components of their network infrastructure, and identify those repairs and improvements that will improve safety, provide the highest return on investment, and increase capacity. A bridge or tunnel is likely to cost more to repair—and much more to replace—than other components of railroad infrastructure networks, such as track or signals. As a result, railroads of all classes are more likely to invest in other components sooner and to consider extensive bridge or tunnel repair or replacement as one of their last investment options.

[12]GAO, *High-Risk Series: An Update*, GAO-07-310 (Washington, D.C.: Jan. 31, 2007), pp. 18-19.

[13]Major railroads refers to Class I railroads.

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Railroads Collect and Maintain Information on the Condition of Their Bridges and Tunnels to Varying Degrees

Class I railroads, which own over 75 percent of U.S. railroad bridges and over 800 tunnels, maintain detailed information on the condition of their bridges and tunnels and generally have the resources to invest in a robust maintenance and inspection regime; however, less is known about the information Class II and III railroads collect on bridge and tunnel conditions, according to FRA's Chief Structural Engineer. Officials from five of six Class I railroads with whom we spoke said they maintain bridge and tunnel information electronically in databases—including data on location, age, and other characteristics of the structures; inspection reports; condition information, maintenance histories, design drawings or construction documents; and other pertinent information.[14] While Class I railroad bridge departments vary in size, these departments all have in-house bridge inspectors, engineers, and maintenance-of-way crews that conduct inspections, carry out maintenance and repair activities, and may also design and construct bridges. Class I railroads use in-house bridge inspectors to conduct inspections at least once a year on all bridges and tunnels to monitor safety and assess current conditions.[15] For example, one Class I railroad we interviewed has over 100 personnel dedicated to bridge inspections on their network.

According to the limited data we have, Class II and III railroads collect and maintain less information on their bridges and tunnels, and the reliability of the data collected may be poor. Based on our discussions with two Class II and nine Class III railroads, and on the documentation of 43 bridge safety surveys of Class II and III railroads that FRA completed from January 2004 through March 2007,[16] Class II and III railroads collect less information on the condition of their bridges and tunnels, generally contract out bridge and tunnel inspection and repair work, and have less in-house bridge expertise. For example, 18 of the 43 Class II and III railroads reviewed by FRA since January 2004 could not produce some critical documentation related to the safety of their bridges, including past

[14]Officials with whom we spoke from the other Class I railroad said the railroad is converting its paper inspection materials to an online database.

[15]Some Class I railroads inspect a subset of bridges and tunnels more frequently—based on condition, structure type, bridge type, age, or traffic levels—such as requiring an inspection every 6 months for timber trestle bridges and pin-connected steel bridges, because of their increased potential for deterioration.

[16]FRA officials told us that they conduct, on average, about 25 to 35 bridge safety surveys per year of Class II and III railroads, but they retained documentation on only 43 completed bridge safety surveys of Class II and III railroads that they conducted from January 2004 to March 2007.

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bridge inspection reports, design documents, or complete bridge inventories. Furthermore, only 16 of 43 Class II and III railroads, surveyed by the FRA inspect their bridges at least once a year. Also, according to FRA officials, many Class II and III railroads lack the in-house bridge expertise to conduct their own bridge inspections and rely instead on outside consultants. For example, according to the 43 FRA bridge safety surveys of Class II and III railroads, 26 of the railroads contracted out bridge inspections, 7 did not conduct bridge inspections, 4 did not mention who conducted the railroad's bridge inspections, 4 conducted inspections in-house, 1 had an informal inspection arrangement, and 1 was found to have no bridges. In addition, 8 bridge safety surveys provided to us by FRA either found inconsistencies between bridge inspection reports and actual bridge conditions or found insufficient detail in inspection reports.

One Class III railroad representative with whom we spoke stated that the true condition of that railroad's bridges, all of which were built by railroads not in existence today, is unknown because the railroad does not have design or construction documents, lacks past maintenance and inspection records, and has never conducted a complete engineering study to determine its bridges' load-carrying capacity. FRA officials stated that, based on the limited data they have, they believe that some Class III railroads do not have the training or experience needed to recognize critical structural deficiencies or even understand the severity and urgency of identified bridge or tunnel defects. However, FRA officials also stated that some Class II and III railroads have very good bridge management practices because they use qualified outside consultants to perform safety and inspection processes.

The Federal Government Does Not Have Comprehensive Data on the Nation's Railroad Bridges and Tunnels

The federal government's efforts to collect data on railroad bridges and tunnels are limited in scope, and the data are not updated regularly. FRA collects railroad traffic information and maintains geographic data on U.S. freight railroad lines; however, this information does not show the location of bridges or tunnels on these routes. FRA maintains records of railroad accident and incident reports, some involving bridges and tunnels, dating back to 1982, but the information collected is limited to accident descriptions, repair costs, structure locations, and information about the train, crew, and track involved in the accidents and does not show bridge or tunnel condition, age, structure type, or design documents. In addition, as part of the Railroad Rehabilitation and Improvement Financing (RRIF)

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loan application process,[17] FRA's Office of Railroad Development hires independent engineering firms to verify the condition of the infrastructure and the feasibility of proposed infrastructure improvements. These assessments may provide detailed information on specific railroad infrastructure, including bridges and tunnels; however, the data are limited to the projects submitted in the RRIF loan application process. Furthermore, while FRA collects and updates data on track defects from its track inspections, it collects less information on bridges and tunnels, because the FRA has regulations detailing track standards but only guidelines for bridges.

Although FRA has authority to obtain records related to the safety of railroad operations, including those involving bridges and tunnels, FRA officials expressed concern about the agency becoming a repository for railroad bridge and tunnel data. In addition, FRA's Chief Structural Engineer stated that the expense of collecting and maintaining a comprehensive railroad bridge and tunnel inventory could not be justified from a safety standpoint because railroads already maintain inventories of their own bridges and tunnels, which FRA officials review.

No comprehensive inventory exists on the nation's railroad bridges and tunnels; however, through unrelated initiatives over the years, FRA has obtained some information on bridges and tunnels, although, in some cases, this information has not been updated regularly. For example, in 1993, FRA compiled a list of railroad bridges over navigable waterways based on data from the U.S. Coast Guard. However, the list has not been regularly updated. Other federal agencies collect some information on railroad infrastructure as it pertains to their mission, but this information is not comprehensive or exclusive to railroad structures. This information is mainly collected by Department of Defense (DOD), DHS, TSA, the Coast Guard, the Army Corps of Engineers, and the Environmental Protection Agency and centers on either security or construction permitting functions.

[17]The RRIF program was established by the Transportation Equity Act for the 21st Century (TEA-21) and amended by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. Under this program, FRA is authorized to provide direct loans and loan guarantees for the acquisition, improvement, or rehabilitation of intermodal or railroad equipment or facilities, including track, rail, bridges, yards, and buildings.

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Railroad Bridges and Tunnels Are Aging but Are Not Generally the Main Cause of Freight Railroad Congestion, Although Some Are Chokepoints

While railroad bridges and tunnels are aging, their condition is not the main cause of freight railroad congestion; however, some critical bridges and tunnels are chokepoints on the freight railroad network.[18] According to FRA officials and railroad representatives with whom we spoke, many of these structures are reaching or have exceeded their originally estimated useful life. For example, an FRA bridge survey completed in 1993 found that more than half of the nation's railroad bridges were built before 1920 and, according to FRA's Chief Structural Engineer, very few railroad tunnels have been built within the last 50 years. As a bridge ages, it undergoes natural deterioration, including corrosion, and weather-related stresses. In addition, fatigue may occur in some components of older bridges because of stress resulting from repeated heavy freight train operations. FRA's Chief Structural Engineer told us that, as bridges and other components of railroad infrastructure age and their condition worsens, the railroads may need to increase their investment in inspection, maintenance, and replacement to keep existing railroad lines serviceable. One Class I railroad representative said his railroad has a growing inventory of about 300 to 400 older bridges that are deteriorating and therefore need additional inspections and assessments. Quantifying the future maintenance and replacement needs of the freight railroad network is difficult, since private railroads do not make information on the condition of railroad bridges and tunnels publicly available because of concerns over sharing proprietary information and losing competitive advantage. However, the American Society of Civil Engineers gave railroad infrastructure a "C-" grade in its 2005 assessment of the nation's infrastructure, noting that limited capacity on the freight railroad network has created significant chokepoints and delays.[19]

Although officials at a few railroads with whom we spoke expressed some concerns about the effect of aging bridges on congestion, they were more concerned about the effect of increased train traffic on congestion. Demand for freight railroad capacity has increased over the last decade with some Class I railroads reaching record traffic levels, especially in ethanol, coal, and intermodal traffic. The demand for such capacity is expected to continue increasing. For example, the DOT has projected a 55 percent increase in freight railroad traffic from 2000 to 2020. Increased train traffic places additional stress on existing infrastructure, especially

[18]A chokepoint is a place where there is recurring congestion or delay.

[19]American Society of Civil Engineers, *2005 Report Card for America's Infrastructure* (Washington, D.C.: 2005).

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railroad bridges; requires capacity expansion investments in rolling stock, infrastructure, and personnel; and increases congestion on the railroad network.

Class I railroads consider congestion a networkwide problem whereas officials of the Class II and III railroads with whom we spoke said they generally experience congestion around crossings, yards, and interchanges with Class I railroads. Although officials from four of the nine Class II and III railroads with whom we spoke said they currently experience congestion on their entire networks, generally, those railroads were more concerned about upgrading existing infrastructure to handle the heavier railcars and longer trains being demanded by Class I railroads than they were with increasing capacity. The American Short Line and Regional Railroad Association estimates that out of the 48,000 miles of track owned by Class II and III railroads, 20,000 to 25,000 miles need to be upgraded to handle the heavier railcars that are becoming the industry standard. ASLRRA estimated these upgrades would cost $7 billion to $11 billion. Officials at seven of the nine Class II and III railroads with whom we spoke said the railroads had completed or needed to complete track or bridge upgrades to accommodate heavier railcars.

Several factors contribute to congestion on freight railroad networks, including grade crossings and passenger trains, both of which can decrease freight railroad capacity and cause freight train delays. Bridges or tunnels may also cause network congestion. For example, single-track bridges and tunnels constrain capacity on double-track lines, as do low clearances that do not accommodate double-stack intermodal trains, bridges that open for marine traffic,[20] and other structural characteristics such as sharp curves and steep grades that require slower train speeds. Deteriorated bridge and tunnel conditions can also contribute to congestion by requiring reduced train speeds, closures, and increased time out of service for maintenance. Where repairs or improvements to bridges and tunnels may not be financially viable or sufficiently profitable, railroads may institute slow orders or shut down lines and reroute traffic. In some cases, especially for Class III railroads, a bridge or tunnel closure can isolate a shipper and cripple a railroad's entire network.

[20]33 C.F R. Ch. 1, Part 117. Railroad bridges over navigable waterways are required by law to open for marine traffic.

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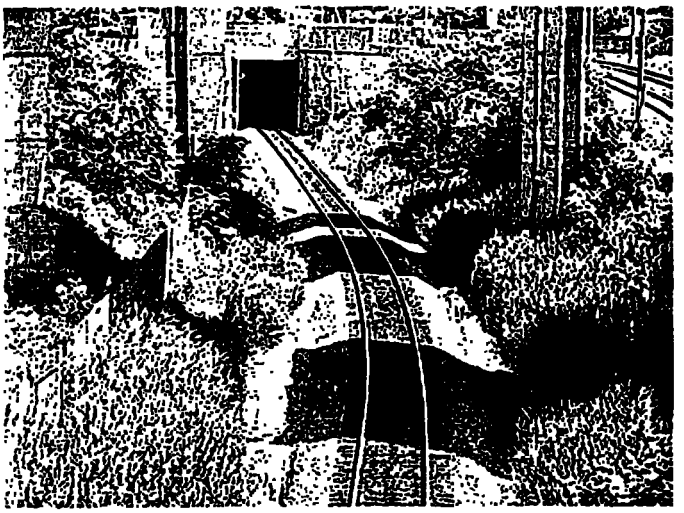
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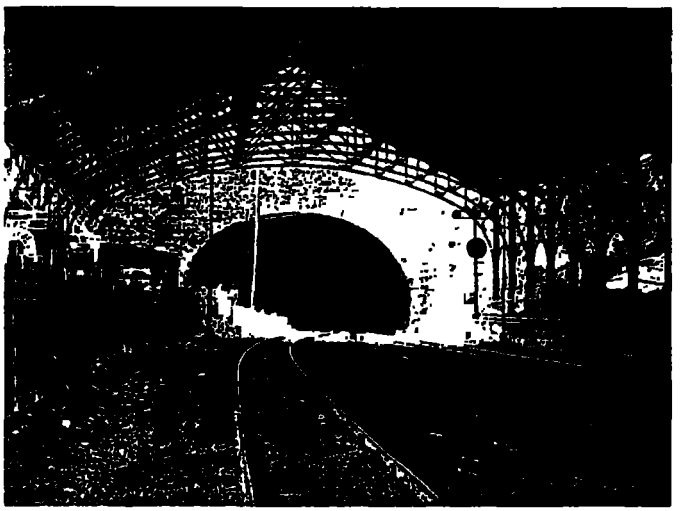
Although FRA officials estimated that 10 percent or less of freight railroad congestion is attributable to capacity constraints caused by railroad bridges and tunnels, railroad officials whom we spoke with identified some key bridges and tunnels as chokepoints on their networks. For example, one chokepoint is a moveable bridge that is one of only a few bridges across the Mississippi River owned by a Class I railroad. According to railroad officials, during peak periods, the bridge must open up to 15 times per day for river traffic while accommodating between 65 and 70 trains per day. Each opening for river traffic generally takes an average of 25 to 30 minutes, although the bridge is sometimes open for more than an hour, causing train delays as far as the West Coast. In addition, this bridge is closed for routine maintenance for over an hour several times a week. Another chokepoint is the 1.7 mile Howard Street Tunnel (see fig. 3), constructed in 1895 under downtown Baltimore, Maryland, which is the largest and most expensive obstacle to transporting double-stack railcars from Baltimore to Chicago. The tunnel regularly causes passenger and freight train delays in the Baltimore area and beyond because it is a single-track tunnel with insufficient clearance for double-stack railcars on a double-track main line. Grades in and curves near the Howard Street tunnel also contribute to congestion, constraining freight traffic to 25 miles per hour through the tunnel. In addition, during a fire in the tunnel in 2001, freight traffic was rerouted, resulting in 18- to 36-hour delays.

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Figure 3: Howard Street Tunnel (Baltimore, Maryland) West entrance (left) and East entrance





Source GAO.

Railroads Use Condition and Congestion Information with Other Information to Prioritize Investment, Including Projects Designed to Address Deterioration and Congestion

Freight railroad officials with whom we spoke consider information on bridge and tunnel conditions and congestion, along with information on demand, cost, and other factors, to set infrastructure maintenance and investment priorities. According to all of the Class I railroad officials with whom we spoke, maintaining or increasing safety is one of their highest investment priorities, along with return on investment. Hence, most Class I railroad officials with whom we spoke said the railroads consider immediate safety concerns first, ongoing maintenance and asset replacement next, and capacity expansion last when prioritizing bridge and tunnel projects.

Bridge and tunnel rehabilitation or replacement is expensive, and the costs are highly variable, depending on the complexity of the structure's design, the length and location of the structure, the construction materials, and the type of replacement structure. The cost of replacing a bridge can range from $600,000 for a small timber trestle bridge on a lightly trafficked Class III railroad line to $100 million to replace a large steel bridge with a 2,500-foot moveable span located on a Class I railroad's main line. See appendix II for more examples of railroad bridge and tunnel costs. Because replacement costs are high, railroads prefer to use asset extension programs and replace components rather than replacing entire structures to address deterioration and extend the useful life of their bridges and

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tunnels. Often, an individual component of a bridge may deteriorate faster than other components; therefore, replacing the component could significantly extend the life of the entire bridge.

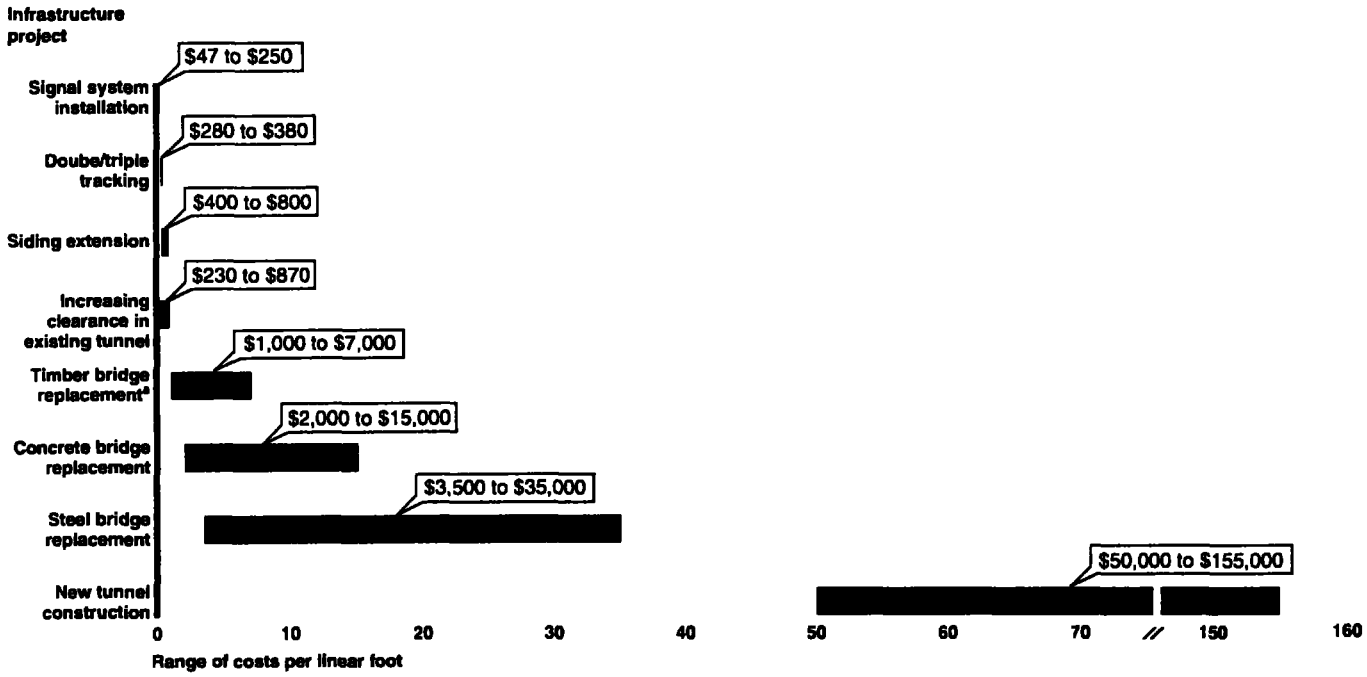
Bridge and tunnel replacement is typically one of the last options railroads choose to address infrastructure deterioration and mitigate congestion. Railroads typically try to improve their processes before enhancing infrastructure to mitigate congestion. Process improvements and other strategies generally cost less and are more cost effective than infrastructure enhancements. Class I railroads have used a number of process improvements to mitigate congestion, including updating their operating plans to reflect changes in business volume and traffic mix, increasing train lengths and the number of fully loaded cars per train, double-stacking trains, decreasing car cycle times, increasing service, hiring more train crews, and using pricing strategies to shape demand.

When process improvements can no longer reduce congestion, railroads use infrastructure enhancements to expand the capacity of their networks. Infrastructure enhancements include adding sidings or track, expanding yards and terminals, upgrading signal systems, and rehabilitating or replacing bridges and tunnels. Per linear foot, bridge and tunnel replacement costs more than other infrastructure improvements, as shown in figure 4. Moreover, according to several Class I railroad representatives with whom we spoke, bridge replacement typically has a lower return on investment than other infrastructure improvements. Consequently, railroads invest in other enhancements before rehabilitating or replacing bridges.

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Figure 4: Range of Railroad Infrastructure Improvement Costs (Dollars in thousands per linear foot)



Source: GAO analysis based on interviews with railroad and industry association officials and estimates from other rail infrastructure studies.

[a]Generally timber bridges are not being replaced with another timber bridge, but rather they are being replaced by either culverts or bridges with concrete and steel components. The low-end example represents a timber bridge replaced by a culvert and the high-end example represents a timber bridge replaced by a steel and concrete structure.

While bridge and tunnel work is expensive for all freight railroads, railroads vary in their ability to make these investments. Class I railroads generally have more resources than Class II and III railroads to invest in bridge and tunnel inspection, maintenance, rehabilitation, and replacement. According to AAR, in 2006, the seven Class I railroads spent an average of $1.2 billion each for capital investments, while all the Class II and III railroads surveyed by ASLRRA spent an average of over $795,000 each in 2004. Class II and, to a greater extent, Class III railroads face challenges in funding bridge and tunnel rehabilitation or replacement efforts because they may have limited funds, lack in-house bridge and tunnel expertise, and own bridges and tunnels purchased from Class I railroads on lines that those railroads had disinvested in. When repairs or improvements to bridges or tunnels are not financially feasible for Class II or III railroads, the railroads may instead modify their operations—by, for

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example, reducing train speeds over bridges or in tunnels. According to ASLRRA, some railroads may even stop operating on routes when bridge or tunnel repairs are both unavoidable and unaffordable. As a result, according to FRA officials, fewer serious problems are found on bridges and in tunnels owned by Class I railroads than on bridges or in tunnels owned by smaller railroads. Nonetheless, in response to several accidents caused by bridge failures, near accidents involving bridges, and results from its bridge safety surveys, FRA is developing a formal rail safety advisory on railroad bridges, to be released in late 2007, that will urge all railroads to increase their attention on bridge safety and bridge management programs.

The Federal Role in Overseeing Railroad Bridge and Tunnel Safety Is Limited

Freight railroads are responsible for the structural safety of their bridges and tunnels; moreover, the federal government does not regulate railroad bridge and tunnel inspection requirements or conditions. In 1995, after determining that railroads were already inspecting bridges according to detailed industry standards, FRA decided to issue advisory guidelines for railroad bridge management instead of regulations. Because FRA has general authority over railroad infrastructure safety, it may make observations of and assess bridge and tunnel conditions, but it does not routinely inspect these structures to monitor their condition. FRA bridge specialists may make observations while investigating complaints, following up on track inspectors' concerns, and conducting bridge safety surveys. If an FRA bridge specialist determines that there is a safety problem, FRA attempts to work cooperatively with the railroad to correct the problem rather than shut down the railroad's operations. FRA has taken enforcement action to protect public safety when there is a documented problem of immediate concern over a structure's stability. Other federal agencies also have limited roles in railroad bridge and tunnel safety. FRA's bridge safety oversight has evolved; however, bridge specialists individually apply different criteria in their selection of railroads for bridge safety surveys. FRA has not established a systematic, consistent risk-based approach to selecting Class II and III railroads for bridge safety surveys. As a result, FRA may not be selecting the railroads whose bridges or tunnels are most likely to present safety issues.

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Federal Railroad Bridge and Tunnel Safety Efforts Are Limited Because FRA Has Determined That Railroads Are Sufficiently Ensuring Structural Stability

Historically, the federal role in railroad bridge and tunnel safety has been narrow. The federal government does not routinely inspect railroad bridges or tunnels and does not regulate their condition. After a highway bridge collapsed in 1967, Congress debated instituting bridge inspection standards that would apply to railroad bridges, but railroads were already inspecting their bridges according to their established industry standards. In 1968, Congress required national inspection standards for highway bridges; however, current law does not regulate railroad bridge conditions or establish inspection standards. Under the authority originally granted to it by the Railroad Safety Act of 1970[21] to issue safety regulations as necessary, from 1975 to 1981 FRA considered establishing bridge safety regulations based on industry standards created by the American Railway Engineering and Maintenance of Way Association. However, according to FRA, these standards are actually recommendations for a thorough bridge management program, including very detailed specifications for particular types of bridges, rather than minimum inspection standards. In light of the industry's detailed safety standards and the low frequency of accidents caused by structural conditions on bridges or in tunnels, FRA determined that regulating bridge or tunnel structural conditions or requiring inspections would not be cost-effective to FRA when considering the cost of implementation and enforcement. Additionally, while establishing minimum standards might improve some railroads' structural management policies and procedures, it could also influence some railroads to reduce the frequency or effectiveness of their inspections.

FRA observes and assesses bridge and tunnel conditions, but does not inspect these structures to regulate their condition. Although FRA does not regulate bridge and tunnel conditions, it does regulate track conditions, and it uses track inspectors, as well as bridge specialists, to identify potential bridge and tunnel safety issues. Historically, FRA track personnel have overseen bridge and tunnel safety.[22] Under the authority originally granted by the Federal Railroad Safety Act of 1970, an FRA track inspector may take action to address a structural concern identified on a bridge or in a tunnel, such as a visible crack in a steel beam, to ensure the

[21]The Federal Railroad Safety Act of 1970 has been codified at 49 U.S.C. Chapter 201. Applicable civil and criminal penalties are found at 49 U.S.C Chapter 213.

[22]Prior to 1981, regional track engineers oversaw bridges and tunnels, but by 1982 FRA had reclassified these employees as safety specialists. Engineering qualifications are not required for this revised role, and incoming safety specialists sometimes lacked the bridge and tunnel knowledge of the previous regional track engineers.

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safety of the public and railroad employees. Additionally, in 1992, FRA's Office of Safety established the position of Bridge Engineer (currently filled by FRA's Chief Structural Engineer) to assist track personnel in identifying and resolving issues of bridge structural integrity and to oversee standards regulating the safety of railroad bridge workers.[23] After completing a bridge survey in 1993, FRA concluded that most railroads were inspecting bridges to a higher standard than would be required by any FRA-issued minimum standards, which prompted FRA to issue guidelines for bridge management rather than regulations. In 1995, FRA began implementing these guidelines as part of its Bridge Safety Assurance Program. FRA has hired five full-time bridge specialists since 2000 to implement this program.[24] These specialists provide expertise to track personnel and work with them to relieve some of the track personnel's inspection workload related to railroad structures as well as carry out other activities to promote bridge safety. Besides the Chief Structural Engineer, the program now includes one bridge specialist at FRA headquarters[25] and four bridge specialists in the field. Each field bridge specialist is responsible for all of the passenger and freight railroad infrastructure in two FRA regions and one or two Class I railroads (whose infrastructure usually spans multiple FRA regions). In addition to addressing bridge structural concerns, FRA bridge specialists address tunnel structural concerns. However, FRA's involvement in tunnels is not as extensive as its involvement in bridges, since bridges are more affected by stress from trains moving over them than tunnels are from trains moving through them.[26] In addition, there are many more railroad bridges in the United States than there are tunnels.

[23]49 C.F.R. §§214.101-214.117 Bridge worker safety regulations include provisions such as requirements for railroads to provide personal protective equipment and for railroad workers to use fall protection systems when necessary.

[24]FRA also has a position for a second Structural Engineer in the Office of Safety Headquarters. The position has been vacant for several months, and FRA is presently recruiting a successor.

[25]The bridge specialist at FRA headquarters is not assigned to particular railroads or regions. The specialist works with field specialists on larger investigations that require two or more persons. The specialist also coordinates complaint investigations and other issues that come through FRA headquarters, and conducts training for bridge specialists and FRA track and signal inspectors.

[26]The forces caused by the weight and movement of a train through a tunnel are distributed through the supporting bedrock or stable ground. By contrast, individual bridge components experience direct stress from a passing train. Therefore, bridges are more subject to degradation from heavier loads than are tunnels.

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In observing bridge conditions, FRA bridge specialists use FRA advisory guidelines for railroad bridge management programs.[27] These guidelines recommend, among other things, that organizations responsible for the safety of a bridge ensure that a qualified engineer determines the weight-bearing capability of a bridge; collect bridge design, construction, maintenance, and repair records; and have a competent inspector periodically inspect structures. The guidelines do not pertain to tunnels or other types of structures on railroad property. FRA encourages, but does not require, that railroads comply with these guidelines because the railroads are responsible for inspecting, maintaining, and ensuring the safety of bridges and tunnels that carry their track. However, when a bridge or tunnel owner fails to resolve a structural problem, FRA can use legal means, including emergency orders, to ensure safety.[28]

Federal Enforcement of Bridge and Tunnel Structural Safety Is Primarily Limited to Addressing Immediate Safety Concerns

FRA is the primary federal agency responsible for overseeing the safety and structural integrity of railroad bridges and tunnels. FRA bridge specialists perform both enforcement and nonregulatory activities aimed at ensuring the safety of railroad structures. Other federal agencies have more limited roles in railroad bridge and tunnel safety related to their particular missions.

FRA bridge specialists play a number of roles[29] intended to promote bridge and tunnel safety, most of which involve responding to identified safety issues. One of their principal roles is to alert FRA's Chief Structural Engineer when they encounter an immediate bridge or tunnel safety concern so that an emergency order may be issued if necessary. These safety concerns may be identified in response to a track inspector's findings, in response to an accident or a complaint, or through independent observation of a railroad's bridges or tunnels. Each bridge specialist has numerous safety responsibilities as part of the Bridge Safety Assurance Program. In particular, the FRA bridge specialists are involved in the following activities:

[27]FRA's bridge inspection guidelines, issued in 2000, can be found in the Statement of Agency Policy on the Safety of Railroad Bridges 49 C.F.R. §213, app C.

[28]49 C F.R. §§216.21 – 216 27.

[29]FRA bridge specialists also have the authority to enforce FRA track safety standards and bridge worker safety regulations.

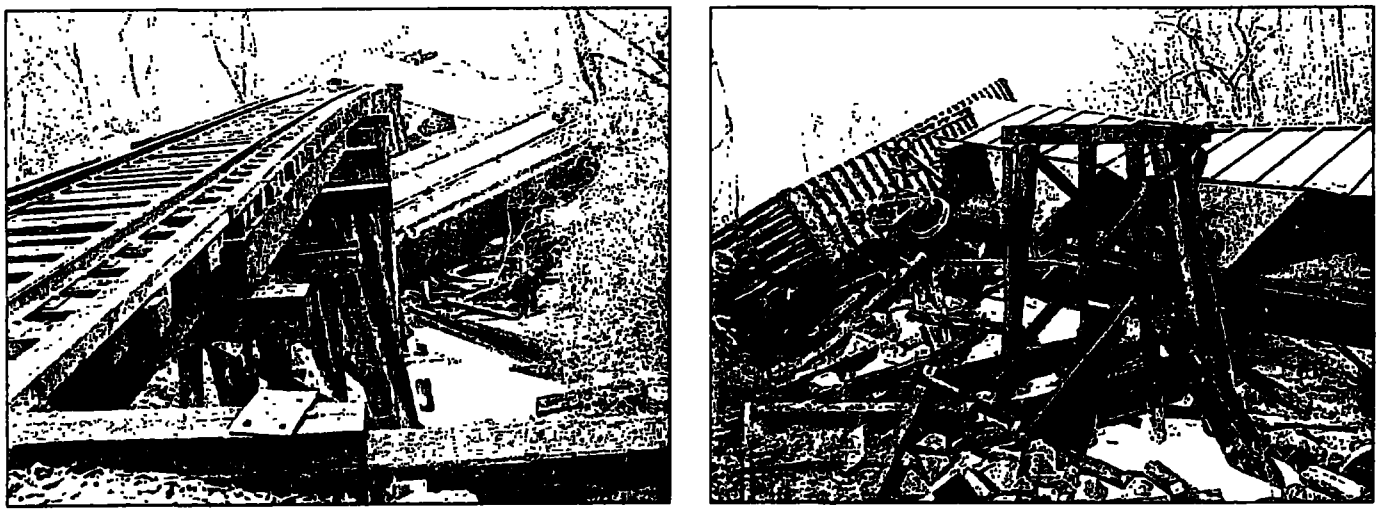
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- *Enforcement.* If a bridge specialist notices a track defect on or near a bridge or tunnel, the specialist typically first recommends remedial actions, such as a reduction in train speeds over the affected track segment. If conditions warrant, the FRA Administrator may issue an emergency order. However, FRA prefers to seek cooperative solutions with railroads and has issued only three emergency orders for bridges and none for tunnels since 1970.

- *Accident Investigation.* When an accident occurs on a bridge or in a tunnel, one or more bridge specialists may conduct an on-site investigation. In the case of a bridge or tunnel structural failure, the bridge specialist may identify the individual component that caused the failure, although the entire structure may need to be replaced after the accident (see fig. 5).

Figure 5: Structural Failure of a Bridge in Mississippi



Source. FRA.

- *Complaint Investigation.* Bridge specialists are responsible for addressing and investigating almost all formal complaints concerning bridges and tunnels filed by the general public, Members of Congress, and railroad employees. According to FRA, most formal bridge complaints from the public are related to aesthetic issues rather than the stability or safety of a structure. Bridge specialists may also conduct structural evaluations in response to

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concerns identified by FRA track personnel or as part of a complaint investigation.

- *Monitoring Compliance Agreements*. In response to systemic safety concerns that FRA identifies on a railroad through the bridge specialists' or track personnel's activities, FRA may work with the railroad to implement a compliance agreement to improve safety across the entire railroad. FRA often initiates a compliance agreement to avoid issuing an emergency order for the railroad to cease operations on a bridge. FRA has found that compliance agreements can be an effective tool to address systemic weaknesses in a railroad's bridge management practices, while emergency orders usually address serious safety problems on specific bridge structures.

- *Training*. At FRA conferences, the bridge specialists teach FRA track inspectors about bridge conditions. This training supports communication between FRA track staff and bridge specialists and is designed to increase the number of FRA personnel that can detect immediate safety concerns on bridges.

- *Conducting Bridge Safety Surveys*. During a bridge safety survey, a bridge specialist interviews railroad bridge staff and uses FRA guidelines as criteria for reviewing a railroad's bridge management policies, procedures, and records. After reviewing the railroad's records and policies, the bridge specialist observes a sample of the railroad's bridges and compares the results of the sample observation with the railroad's bridge inspection reports to determine the inspection reports' reliability. The bridge specialist documents the findings and follows up with the railroad to document any necessary repairs to structures or improvements to bridge management procedures.

Besides FRA, several federal agencies have responsibilities related to railroad bridges and tunnels in areas such as security and clearance for maritime traffic. Within DHS, TSA has issued freight railroad security action items in cooperation with the railroad industry, but compliance with these action items is voluntary. Much as FRA monitors compliance with its guidelines, TSA security inspectors assess a railroad's compliance with TSA's action items and may make recommendations if the railroad does not comply with certain items. Additionally, TSA issued a proposed rule in December 2006 that would require freight railroads and other transportation entities to allow TSA and DHS to enter, inspect, and test property, facilities, and records relevant to railroad security. Also within

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DHS, the U.S. Coast Guard is responsible for overseeing all bridges over navigable waterways and for assessing obstructions to maritime traffic. The Coast Guard regulates movable bridge schedules and prescribes bridge lighting for navigational safety. Within the DOD, the Transportation Engineering Agency designates STRACNET, a network of railroad lines that form the minimum railroad network required to meet the transportation needs of the military. The Transportation Engineering Agency does not directly oversee the condition of bridges or tunnels on this network.

FRA Is Not Using a Systematic, Consistent, Risk-Based Methodology to Target Bridge Safety Surveys to Class II and III Railroads

FRA's field bridge specialists monitor bridges and tunnels in a large area and have not been able to assess the bridge policies or the bridges and tunnels of many of the Class II or Class III railroads in the specialists' assigned areas. Furthermore, as previously discussed, the railroads share information on the condition of their bridges and tunnels with the federal government selectively. As a result, the structural conditions of some bridges and tunnels and the practices used to inspect and maintain them, particularly on Class III railroads, are largely unknown to the federal government. According to ASLRRA, there are 549 Class II and III railroads in the United States. Although FRA has conducted bridge safety surveys on all of the Class I railroads, FRA officials estimate that they have conducted, on average, approximately 25 to 35 bridge safety surveys per year on Class II and III railroads since the introduction of the field bridge specialists in 2004. As we mentioned earlier, our analysis of FRA's completed bridge safety surveys during this period showed that some of the surveyed Class II and III railroads had sound bridge management practices and records, but most did not. The limited number of bridge safety surveys that the FRA bridge specialists have been able to accomplish relative to the number of Class II and III railroads could indicate potential bridge and tunnel safety concerns on railroads that FRA has not surveyed.

According to FRA, the goal of the Bridge Safety Assurance Program is not to monitor all railroads, but rather to identify railroads whose bridge management policies and bridge conditions may lead to safety threats. However, the FRA bridge specialists do not select Class II and III railroads for bridge safety surveys using a consistent methodology based on a comprehensive, prioritized assessment of safety issues that could focus FRA's inspection and enforcement resources on those railroads that could have the greatest safety risks. Each field bridge specialist uses individually developed criteria, based on personal experience and other available information–such as whether a railroad's bridges carry passenger traffic–

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to help identify Class II and III railroads as candidates for bridge safety surveys. This is in contrast to how FRA implements its National Inspection Plan to target inspections of other railroad safety areas. This plan provides guidance to each FRA regional office on how its inspectors should divide their work, by railroad and by state, on the basis of trend analyses of available accident, inspection, and other data. Before implementing this plan, FRA had a less structured, less consistent, and less data driven approach to planning inspections, under which each region prepared its own inspection plan, on the basis of judgments and available data. The use of data was not consistent from region to region, and individual inspectors had greater discretion to select sites for inspection using their own knowledge of their inspection territories.

In our previous work, we have noted that risk management can help to improve safety by systematically identifying and assessing risks associated with various safety hazards, prioritizing them so that resources may be allocated to address the highest risk first, and ensuring that the most appropriate alternatives to prevent or mitigate the effects of hazards are designed and implemented.[30] FRA's safety oversight role in other areas, such as operating practices and track, includes inspections that focus on compliance with minimum standards; however, these inspections do not attempt to determine how well railroads are managing safety risks on their systems. In contrast, by examining how railroads manage safety risks during its bridge safety surveys, FRA is, in part, addressing risk-management issues, even though it has not established a systematic, risk-based methodology to select Class II and III railroads that may need additional oversight. For example, one bridge specialist is contacting all Class III railroads in one region to obtain specific information on their bridge management policies, such as whether a railroad has regular inspections by a qualified civil engineer and how the railroad records and uses the bridge inspection data, to better identify railroads for bridge safety surveys. Additionally, FRA's Chief Structural Engineer is considering a research project that would use new technology to measure the stress trains inflict on timber bridges. If this project were implemented, FRA would analyze stress data that might indicate bridge problems and a need for monitoring problematic bridges.

[30]GAO, *Rail Safety: The Federal Railroad Administration Is Taking Steps to Better Target Its Oversight, but Assessment of Results Is Needed to Determine Impact*, GAO-07-149 (Washington, D.C., Jan. 26, 2007), p. 35.

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Federal Investments in Freight Railroad Infrastructure Are Typically Not Targeted to Maximize National Benefits, Whereas Some State and Private Investments Are Strategically Targeted

Federal, state, and local governments make limited investments in freight railroad infrastructure, including bridges and tunnels, in an effort to enhance the public benefits associated with freight and passenger transportation. However, federal investments in all modes of freight-related infrastructure are not aligned with a national freight policy or with a strategic federal freight transportation plan. DOT has developed a draft *Framework for a National Freight Policy*, but it lacks a strategic federal component that specifies federal goals, roles, and revenue sources and funding mechanisms. In contrast, some states structure their investments in freight railroad infrastructure to produce public benefits at the state and local levels, and some public-private partnerships have facilitated investments designed to produce public and private benefits. Freight congestion and demand are expected to increase, and given the highly constrained fiscal environment, the federal government may be challenged to increase the efficiency of the national multimodal freight transportation system.

Federal Funding for Freight Railroad Infrastructure Is Not Guided by a National Freight Strategy and Is Generally Not Targeted to Maximize National Benefits

While the private sector is largely responsible for investing in the freight railroad infrastructure that it owns and maintains—an estimated $9 billion during calendar year 2006—the federal government invests some public funds in this infrastructure as well—an estimated $263 million during fiscal year 2006. The federal government funds freight railroad infrastructure investments through the General Fund and the Highway Trust Fund, and funding mechanisms include loans, grants (such as formula grants and legislative earmarks), and tax expenditures (such as tax credits). However, these funding mechanisms are (1) targeted toward individual transportation modes and address different transportation safety and economic issues, (2) are administered by different agencies that have different missions, and (3) are not coordinated by a strategic federal multimodal freight transportation policy to maximize specific national public freight transportation benefits[31] (see table 1). For example, in accordance with its mission to protect maritime economic interests, the U.S. Coast Guard administers the Truman-Hobbs program to alter railroad

[31]Potential public benefits of public investment in freight railroad transportation include supporting economic development, enhancing transportation system efficiency, improving mobility and decreasing congestion, improving the environment and air quality, and enhancing safety and security. On a national scale, these benefits could accrue to regions of national interest whose freight flows impact multiple states, large urban areas, and international gateways.

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and highway bridges that obstruct maritime traffic (see fig. 6).[32] While this program can enhance maritime, railroad, and highway freight mobility, it is targeted toward maritime traffic and is not coordinated with other DOT freight mobility investments.

Table 1: Examples of Federal Funding Mechanisms That Support Freight Railroad Infrastructure

Funding mechanism	Revenue source	Example	Federal agency
Loan	General Fund	RRIF loans can be used by railroads, state and local governments, and other entities to finance certain activities such as track and bridge rehabilitation.	FRA
Grant[a]	General Fund	The Truman-Hobbs program funds the alteration of railroad and highway bridges that are deemed hazards to maritime navigation.	U.S. Coast Guard
	Highway Trust Fund	Legislative earmarks have been used to fund federally designated Projects of National and Regional Significance that include railroad components, such as the Heartland Corridor Project, which will increase tunnel clearances to accommodate double-stacked trains.	Federal Highway Administration
Tax expenditure	General Fund revenue forgone	The Railroad Track Maintenance Credit is available to Class II and III railroads for 50 percent of their qualified track maintenance expenses during a taxable year.	Internal Revenue Service

Source: GAO analysis of programmatic and fiscal year 2006 financial data from FHWA, FRA, U.S. Coast Guard, and the Joint Committee on Taxation.

[a]Examples of other federal grant programs that also fund, to some extent, freight railroad infrastructure investments include High Priority Projects, Congestion Mitigation and Air Quality, Transportation Improvements, Public Lands Highways, and Railway-Highway Crossings (Section 130).

[32]33 C.F.R. §§116.01. Alterations may include structural changes, replacement, or removal of a bridge.

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Figure 6: Barge Navigating through the Narrow Channel of a Moveable Railroad Bridge Eligible for Truman-Hobbs Funding on the Mississippi River in Iowa



Source: GAO

Today's federal investments in freight railroad infrastructure are not guided by a clear federal freight strategy. In 2006, DOT attempted to move beyond the traditional modal approach to freight transportation by developing a draft *Framework for a National Freight Policy*, which, among other things, incorporates some previously established federal freight railroad infrastructure funding mechanisms. Although this draft *Framework* represents an important step toward developing a national intermodal freight transportation policy, it does not go far enough, in our view, toward delineating a clear federal role and strategy for carrying out that policy. DOT describes its draft *Framework* as a living document and emphasizes that the nation's freight transportation challenges are of such a nature and magnitude that governments at all levels and the private sector must work together to address them. We agree, and we note that as the draft *Framework* evolves, DOT and other stakeholders will have an opportunity to clarify their respective freight strategies.

As we have reported, the federal approach to a given transportation strategy should include clearly and consistently defined goals, roles, revenue sources, and funding mechanisms to ensure that federal

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investments in the nation's intermodal freight transportation infrastructure will maximize national public benefits.[33] DOT's draft *Framework* sets forth some "objectives" for freight transportation, together with strategies and tactics for achieving them; acknowledges that a variety of public and private stakeholders play important roles in freight transportation; and identifies some funding mechanisms and other tools that the federal government can use to support freight infrastructure. However, in some instances, these objectives are vague, and federal and other stakeholders' roles and funding mechanisms are not clearly and consistently defined. For example, one DOT draft *Framework* objective is to "add physical capacity to the freight transportation system in places where investment makes economic sense," with supporting strategies and tactics that include focusing on facilitating regionally based solutions for freight gateways and projects of national or regional significance and utilizing and promoting new and expanded financing tools, such as RRIF, to incentivize private sector investment. To implement this objective, DOT would need to define "economic sense" and develop criteria—as the draft *Framework* says—to identify specific freight gateways and projects of national or regional significance; and determine whether federal revenues should be used to help subsidize any project components and, if so, which federal funding mechanisms would be most appropriate.

As we have also reported, federal investments should be directed to maximize national public benefits. Allocating benefits and their costs among beneficiaries is difficult[34] and may be subject to interpretation. Hence, it will be important for DOT to define national benefits and to establish criteria for determining whether federal investments are warranted. DOT's draft *Framework* suggests, but does not explicitly identify as such, certain criteria for federal investment, such as a project's national or regional significance, opportunities to incentivize more private investment in transportation infrastructure, and opportunities to leverage private and other public funds to add freight transportation capacity.

Without a federal freight strategy, the existing federal freight funding mechanisms are not designed to maximize national public benefits. For example, although all railroads may apply for RRIF loans, the only freight

[33]GAO-02-1033, p. 17 and GAO-07-15, p. 90.

[34]GAO, *Highway and Transit Investments: Options for Improving Information on Projects' Benefits and Costs and Increasing Accountability for Results*, GAO-05-172 (Washington, D.C : Jan. 24, 2005).

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railroads that have been awarded loans have been Class II and III railroads, whose operations tend to be more regional and local. Also, the Federal Highway Administration's (FHWA) Section 130 grant program mainly benefits localities by improving or eliminating railroad-highway grade crossings and the public safety benefits of the program are more local than national. Benefits from the Truman-Hobbs program's investments directly accrue primarily to private maritime shipping and secondarily to railroad companies by improving each mode's infrastructure, thereby enhancing the efficiency of freight transportation. On the other hand, depending on the project, legislative earmarks can generate public and private benefits that could be national, regional, and local in scope; however, these projects do not compete for funding against other alternatives. For example, through the Projects of National and Regional Significance program, Congress earmarked funds to support the Chicago Region Environmental and Transportation Efficiency (CREATE) project, which is mainly designed to reduce railroad congestion in the nation's largest railroad hub[35]—the effects of which, among other things, could improve the mobility of the national freight railroad network, improve local commuter railroad service, and reduce railroad-highway grade crossing hazards and congestion. Finally, Class II and III railroads can use the Railroad Track Maintenance Credit—a tax credit—to offset capital investment expenditures, but as previously stated, individual Class II and III railroad operations tend to benefit the private and local sectors more than the nation as a whole.

Some State Investments in Freight Railroad Infrastructure Are Targeted to Achieve State and Local Benefits

In contrast to the federal government, some states that invest in freight railroads administer various goal-oriented and criteria-based programs that are funded through a mixture of state and federal resources specifically to produce anticipated state and local benefits. Some states have been helping short line railroads maintain track in their jurisdictions for almost 20 years. For example, the Tennessee DOT provides approximately $8 million in grants annually to 18 of 20 Class III railroads in the state to fund track and bridge work, including bridge inspections and rehabilitation projects. As we have previously reported, governments at all levels—including states—have increasingly been providing support for freight railroad improvement projects that offer potential public benefits, and over 30 states have published freight plans that describe their

[35]One-third of all freight railroad traffic in the United States originates, terminates, or passes through the Chicago area.

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goals and approach to freight-related investments.[36] The scope of state-administered freight railroad programs includes railroad infrastructure improvements, construction of intermodal facilities, elimination of public railroad-highway grade crossings, and inspection of bridges. For example, the Pennsylvania DOT administers a matching grant program—funded at $10.5 million as of October 2006—to support freight railroad maintenance and construction costs; and eligible recipients include freight railroads, transportation organizations, municipalities, municipal authorities, and other eligible users of freight railroad infrastructure.

Officials from three of the nine state DOTs whom we interviewed are developing and implementing multimodal freight policies. However, such initiatives may be limited by state and federal funding criteria that restrict most state transportation spending to highway infrastructure. As we have reported, efforts to improve freight mobility are hampered by the highly compartmentalized structure and funding of federal transportation programs—often by transportation mode—that gives state and local transportation agencies little incentive to systematically compare the trade-offs between investing in different transportation alternatives to meet mobility needs because funding is tied to certain programs or types of projects.[37] Officials from several state agencies and oversight organizations whom we interviewed stated that funding available for freight projects, regardless of mode, would be more useful than "stovepiped" funding that would be available only for investment in certain transportation modes.

Officials at six of the state agencies and oversight organizations whom we interviewed administer freight railroad programs that have identified programmatic goals, eligibility criteria, and funding sources aimed at generating state and local benefits. For example, officials from the Kansas DOT told us that the goals of its loan program for local and regional railroads are to improve railroad lines, enhance railroads' customer service to shippers, limit the number of trucks on highways, and increase

[36]GAO, *Freight Railroads: Industry Health Has Improved, but Concerns about Competition and Capacity Should Be Addressed*, GAO-07-94 (Washington, D.C.: Oct. 6, 2006), p. 59.

[37]For example, while passenger and freight travel occurs on all modes, federal funding and planning requirements focus largely on highways and transit, making it difficult for freight projects to be integrated into the transportation system. See GAO, *Freight Transportation: Short Sea Shipping Option Shows Importance of Systematic Approach to Public Investment Decisions*, GAO-05-768 (Washington, D.C.: July 29, 2005), p. 35.

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state and local economic vitality by transporting local agricultural products. While officials from some state agencies that we interviewed acknowledged that public benefits are difficult to quantify for any public investments, six state agencies and oversight organizations we interviewed were trying to quantify them. For example, the Kansas DOT sponsored a study which found that the short line railroad system saves the state an estimated $49 million annually in pavement damage costs.

The scope of state freight railroad programs may be either broad, including infrastructure investments of all kinds for railroads of all sizes, or narrow, focusing on eligible projects and award recipients. For example, the Pennsylvania DOT has two broad grant programs for freight railroads and shippers, both of which may be used to fund maintenance and new construction projects. In contrast, the Tennessee DOT makes funds available specifically to Class III railroads by allocating funds for track and bridge rehabilitation. State freight railroad initiatives have supported investments in track rehabilitation and other infrastructure improvements, railroad acquisition and line preservation assistance, intermodal facility construction and increased industrial access to railroads, and road and railroad-highway crossing safety enhancements.

Some of the state entities we interviewed reported using a number of funding mechanisms for their freight railroad programs. Specifically, 6 of the 12 said they provide grants and long-term below-market rate loans, and one state reported issuing tax-exempt bonds. Some of these states require that entities applying for loans or grants secure matching funds. States fund freight railroad programs through state general funds, user fees, federal Section 130 and other grants, and other sources. Some states have taken an innovative approach to funding freight railroad infrastructure. For example, Tennessee created a user-fee based Transportation Equity Fund to support investments in nonhighway infrastructure, including short line freight railroad track and bridge rehabilitation. The fund is financed through the revenue from state sales taxes on diesel fuel paid by railroad, air, and water transportation modes; and the portion available for the Tennessee Short Line Railroad Rehabilitation Track and Bridge grant program is typically $7 million to $8 million annually. The program's purpose is to preserve freight railroad service and thereby contribute to the state's economic development. Construction grants are funded at a 90 percent state and 10 percent local (nonstate) matching share. Each grant can be matched with in-kind work, cash contributions or both.

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Public-Private Partnerships Have Supported Some Freight Railroad Investments Designed to Produce Both Public and Private Benefits

States, localities, and railroads have used public-private partnerships as a strategic approach to develop freight-related transportation solutions that benefit both sectors.[38] In using this approach to resolve freight issues, public and private participants of the partnerships we reviewed identified common goals, individual roles, and funding sources and mechanisms, which have affected partnership outcomes. In some cases, these partnerships have supported railroad bridge and tunnel projects. A well-structured partnership balances the various strengths, limitations, and respective contributions of both the public sector—federal, state, local, and regional—and private sector participants in order to secure specific public and private freight-related benefits.

Both the public and the private sectors have initiated freight railroad public-private partnerships. For example, according to AASHTO representatives we interviewed, in 2002 the Delaware DOT approached a Class I railroad to reopen the Shellpot Bridge, which had been out of service since 1994. The state associated the abandonment of this bridge with increased congestion on the Northeast Corridor and saw it as a threat to the competitiveness of the Port of Wilmington in attracting freight traffic. The state and the railroad jointly developed the project's goals, roles, and funding mechanisms. The state agreed to finance the approximately $13.5 million cost of restoring the bridge by contributing $5 million in state grant appropriations and funding the remainder by issuing tax-exempt bonds. The railroad agreed to compensate the state over a 20-year period by paying a fee for each train car that uses the bridge. In another public-private partnership, members of the Kansas City Terminal Railway Company[39] and their project designer approached the state of Missouri and the Unified Government of Kansas City/Wyandotte County, Kansas, to propose assisting in financing the construction of two flyovers and the rehabilitation of a bridge. The purpose of these three infrastructure improvement projects was to separate freight trains from different railroads at several points where they came together to form what amounted to four-way stops for trains in the Kansas City region and caused a significant chokepoint on the U.S. freight railroad network (see

[38]For purposes of this report, a public-private partnership is a strategy that public and private entities mutually agree to use to implement a specific freight railroad project or group of projects. Some representatives of state DOTs and railroads told us that they consider any investment that is supported by public and private funds, such as a grade crossing or siding project, to be a public-private partnership.

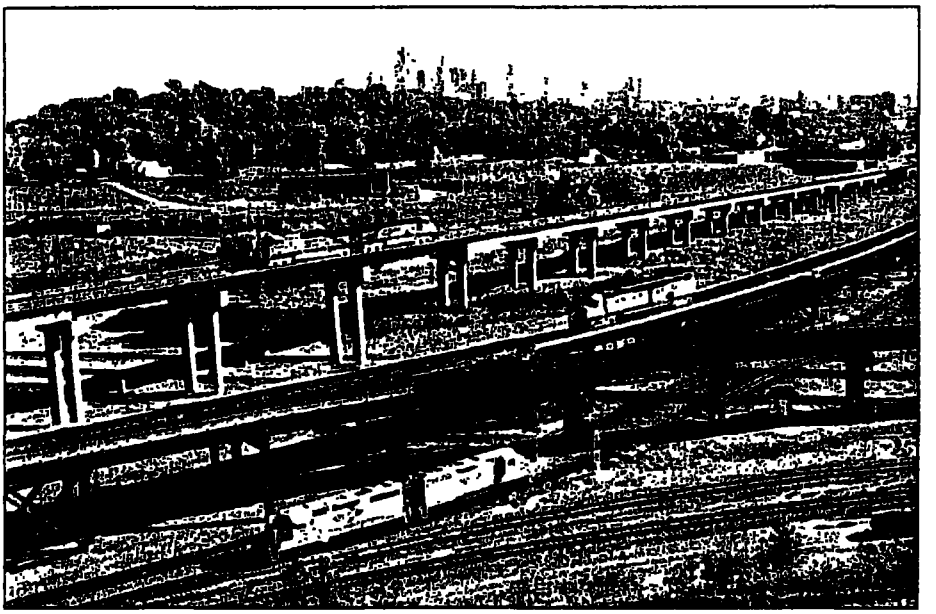
[39]The Kansas City Terminal Railway Company is made up of four Class I and one Class II railroads that meet in Kansas City, Missouri.

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fig. 7). The railroads had already determined the goals of their proposed public-private partnership and came to the bargaining table with proposed roles and funding mechanisms. The railroads acknowledged that they could pursue the project using strictly private market resources; however, a wholly private project would have taken longer to complete. The state and county saw value in relieving their communities of the grade-crossing congestion this chokepoint caused, determined the project risk was acceptable, and each agreed to issue tax-exempt bonds that totaled over $190 million, which will be repaid by the railroads through user fees. In both the Delaware and Kansas City cases, the entities that initiated the partnership brought well-defined goals, identified stakeholder roles, and guaranteed a set amount of funding to the public-private partnership over a period of years.

Figure 7: Kansas City Flyovers



Sources: BNSF (used with permission) and GAO (digitally altered)

Public-private partnerships can make funds available and define goals and roles for all stakeholders for large, expensive freight railroad projects when it is difficult for a public or private entity to fund the entire project on its own, or when a project is not part of a railroad's strategic plan, but would be beneficial to a locality's or a region's quality of life. For example,

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public and private players bring various strengths and limitations to the partnerships. The private sector often can bring a more global view of freight needs to the project planning process, help identify and implement projects, contribute significant funds, and promote efficient use of infrastructure. The public sector can offer various public financing tools, such as low-interest loans and private activity bonds,[40] to create incentives for private investments in freight railroads that would not otherwise be made and to generate anticipated public benefits.

Public-private partnerships also present certain challenges. As we heard from both public and private freight railroad stakeholders, the extent to which the public sector can engage the private sector, identify anticipated public benefits from railroad investments, and provide funding that is commensurate with those benefits, affects partnership outcomes. Our past work has shown that an integral part of public-private partnerships is ensuring that sound analytical approaches are being applied locally and meaningful data are available, not only to evaluate and prioritize infrastructure investments but also to determine whether public support is justified in light of a wide array of social and economic costs and benefits.[41] Moreover, as private entities that own most of the nation's railroad infrastructure, freight railroads typically have not worked with the public sector because of concerns about the requirements and regulations associated with federal funding.[42] These railroads need to be convinced that a proposed infrastructure project will yield financial returns for the company. Still another challenge is to reconcile the lengthy planning and construction time associated with public infrastructure projects with the shorter planning and investment horizons of private companies.

[40]Qualified private activity bonds are tax-exempt bonds issued by a state or local government, the proceeds of which are used for a defined qualified purpose by an entity other than the government issuing the bonds.

[41]GAO, *Freight Transportation: Strategies Needed to Address Planning and Financing Limitations*, GAO-04-165 (Washington, D C.: Dec. 19, 2003), p. 5.

[42]GAO, *Surface Transportation: Many Factors Affect Investment Decisions*, GAO-04-744 (Washington, D.C.: June 30, 2004), p. 32.

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Growing Freight Congestion and Demands May Challenge the Federal Government to Strategically Invest Limited Funds to Maximize National Public Benefits

Overcoming congestion and improving mobility is one of the biggest transportation challenges facing the nation. Congestion increases delays and creates economic losses that cost Americans roughly $200 billion a year, according to DOT estimates.[43] As we have previously reported, increases in freight traffic on all modes over the next 10 to 15 years are expected to put greater strain on ports, highways, airports, and railroads.[44] In addition, we have found that this increase in freight transportation demand seems to be particularly acute on highways, since trucks transport over 70 percent of all freight tonnage nationally and freight truck traffic on urban highways more than doubled from 1993 through 2001. The increased congestion, coupled with long lead times for completing infrastructure projects (5 to 15 years), may put pressure on all stakeholders, including the federal government, to find other more effective investments to increase freight mobility.

Increasing the capacity of the nation's freight railroad network could be one way to meet future growth in freight transportation demand. However, as mentioned previously, aging railroad bridges and tunnels present physical constraints to meeting this projected increased demand for freight railroad transportation on key routes, thereby constraining capacity. For example, as we previously mentioned, 100-year-old bridges and tunnels that are currently in use—such as the moveable bridge over the Mississippi River and the Howard Street Tunnel in Baltimore—create chokepoints on the freight railroad network due to their operating conditions or outdated design. Currently, freight railroads are investing billions of dollars in freight railroad infrastructure to increase capacity, but because they invest in projects that will maintain or increase safety or provide the highest return on its investment, other investments may take priority over their most expensive pieces of infrastructure, bridges and tunnels. In addition, we have found that the railroads' long-term ability to meet the projected growth in demand for freight railroad transportation is uncertain, which may increase pressure for public investment in private railroad infrastructure.

As we have previously reported, Congress is likely to receive further requests for funding and face additional decisions about how to invest in

[43]GAO, *Performance and Accountability: Transportation Challenges Facing Congress and the DOT*, GAO-07-545T (Washington, D.C.: Mar. 6, 2007), p. 7.

[44]GAO-07-545T, p. 11.

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the nation's freight railroad infrastructure.[45] However, Congress's ability to respond to these requests may be limited by (1) federal funding constraints and increased demand for infrastructure investment in other transportation modes, (2) differences in federal funding for different transportation modes, and (3) the lack of a strategic federal freight transportation plan to guide federal investments in freight transportation infrastructure.

Revenue from current federal transportation sources may not be sustainable. Because revenue from traditional transportation funding mechanisms such as the Highway Trust Fund may not keep pace with the increase in transportation demand, we designated transportation financing as a high-risk area in January 2007.[46] The recently enacted transportation funding authorization, the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), is expected to outstrip the growth in trust fund receipts. As a result, the Department of the Treasury and the Congressional Budget Office (CBO) are forecasting that the trust fund balance will steadily decline and be negative by the end of fiscal year 2011. In addition, the nation's long-term fiscal challenges will constrain decision makers' ability to use other funding mechanisms, such as grants and tax expenditures, for transportation needs.

Differences in federal funding for different transportation modes have created a competitive disadvantage for freight railroads. Because the federal government has an interest in an efficient national freight transportation system, the federal role in freight transportation needs to recognize that the freight transportation system encompasses many modes that operate in a competitive marketplace and are owned, funded, and operated by both the private and the public sectors. However, current federal transportation policy treats each freight transportation mode differently, thereby creating competitive advantages for some modes over others. For example, trucking companies and barges use infrastructure that is owned and maintained by the government, while railroads use infrastructure that they pay taxes on, own, and maintain. Trucking and barge companies pay fees and taxes for the government-funded infrastructure they use, but their payments generally do not cover the costs they impose on highways and waterways. The federal subsidy that

[45]GAO-07-94, p. 5.

[46]GAO-07-310, p. 16.

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makes up the difference between the government's costs and users' payments gives trucking and barge companies a competitive advantage over the railroads.[47] CBO has observed that if all modes do not pay their full costs, the result is inefficient use of roads and waterways and greater government spending than otherwise would be necessary if capacity investments are made in anticipation of demand that does not occur.

Examining Critical Questions and Implementing a Framework That Identifies Goals, Stakeholder Roles, Revenue Sources, and Funding Mechanisms Could Guide a Federal Role in Freight-Related Infrastructure Investments

As noted earlier in this report, the federal government lacks a strategic freight transportation plan to guide its involvement in freight-related capital infrastructure investments. DOT's draft *Framework for a National Freight Policy* represents an initial step toward such a plan, but it assumes a federal role without indicating whether federal involvement is appropriate or, when appropriate, what the goals of federal investment should be, what specific roles the federal government and other stakeholders should play, and what federal revenue sources and funding mechanisms should be used to support freight-related investments. As we have previously reported, critical factors and questions can be used as criteria for determining the appropriateness of a federal role and a framework with components that we believe would be helpful in guiding any future federal freight-related investments. Implementing this GAO framework would include setting national goals for federal investment in freight-related infrastructure, clearly defining federal and other stakeholder roles, and identifying sustainable revenue sources and cost-effective funding mechanisms that can be applied to maximize the national public benefits of federal investments.

GAO's Critical Questions and Framework Could Guide Future Federal Investment in Freight-Related Infrastructure

In light of the federal government's long-term fiscal imbalance, it is important for federal policy makers to determine how the federal government can support efficient, mode-neutral, transparent, and sustainable investments in freight-related infrastructure. In our report on 21st century challenges facing the federal government, we defined critical factors and questions that are useful as criteria for determining the appropriate federal role in a government program, policy, function, or

[47]GAO-07-94, p. 62.

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activity.[18] These critical factors and questions are designed to address the legislative basis for a program, its purpose and continued relevance, its effectiveness in achieving goals and outcomes, its efficiency and targeting, its affordability and sustainability, and its management. The factors and questions can be used as criteria for determining the appropriateness of federal involvement in freight-related transportation, including freight railroad projects, as shown in table 2.

Table 2: GAO's Critical Factors and Questions for Determining the Appropriateness of a Federal Role in Freight-Related Transportation

Factors	Questions
Relevance and purpose of the federal role	Are some freight transportation issues of nationwide interest? If so, is a federal role warranted based on the likely failure of private markets or state and local governments to address underlying freight problems or concerns? Does current federal involvement in freight infrastructure encourage or discourage the private and other public sectors from investing their own resources to address the problem?
Measuring success	Do current federal funding mechanisms and programs for freight-related infrastructure have outcome-based performance measures and are all applicable costs and benefits considered?
Targeting benefits	Are current funding mechanisms for freight-related infrastructure targeted to generate national benefits in areas with the greatest needs and the least capacity to meet those needs?
Affordability and cost effectiveness	Do current revenue sources and funding mechanisms for federal freight-related infrastructure encourage state and local governments and the private sector to invest their own resources? Are these revenue sources sustainable and are the funding mechanisms affordable in the long term? Do these funding mechanisms use the most cost-effective or net beneficial approaches when compared with other tools and program designs?

Source GAO.

If federal policy makers determine that there is an appropriate role for the federal government in freight infrastructure investments, including those related to railroads, the implementation of that role should have several components. From our past work on transportation investment—in such areas as intercity passenger rail, intermodal transportation, and marine transportation—we have defined a systematic framework that can also guide the implementation of any future federal role in freight-related infrastructure investments.[19] Our framework's components include setting

[18]GAO, *21st Century Challenges: Reexamining the Base of the Federal Government*, GAO-05-325SP (Washington, D.C.: Feb. 1, 2005), p. 14.

[19]See GAO-07-15, p. 90; GAO-05-727, pp. 26-27; and GAO-02-1033, p. 17.

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national goals, establishing clear stakeholder roles, and providing sustainable funding (see table 3).

Table 3: Three Components of GAO's Framework Applied to Federal Involvement in Freight-Related Infrastructure Investments

Component	Description
Set national *goals*.	These goals, which would establish what federal participation in the freight transportation system is designed to accomplish, should be specific, measurable, achievable, and outcome-based.
Establish and clearly define stakeholder *roles*, especially the federal role relative to the roles of state and local governments and private railroads.	The federal government is one of many stakeholders involved in freight-related investments, including those involving freight railroads. Others include state and local governments, port authorities, shippers, and the railroads themselves. Given the broad range of beneficiaries, it is important to gain consensus on what the transportation system is to achieve and to help ensure that the federal role does not negatively affect the participation or role of other stakeholders.
Determine which *revenue sources* and *funding mechanisms* will maximize the impact of any federal expenditures and investment.	This component can help expand the ability to provide funding resources and to promote cost-sharing responsibilities. Given the current budgetary environment and the long-range fiscal challenges confronting the nation, federal funding for future freight-related transportation projects, including those involving freight railroads, will require a high level of justification and should be prioritized to maximize national public benefits.

Source: GAO

In conjunction with GAO's framework, it would also be important to evaluate freight investments periodically to determine the extent to which expected benefits are being realized. Evaluations also create opportunities for periodically reexamining established goals, stakeholder roles, and funding approaches, and provide a basis for modifying them as necessary.[50] In addition, evaluations help to ensure accountability and provide incentives for achieving results. Encouraging or requiring the identification of all project costs and of all parties who will bear the costs can help ensure that the costs are apportioned among all stakeholders equitably.[51] Leading private and public organizations that we have studied

[50]GAO-07-15, p. 90.

[51]One commonly used definition of the term "equitable" is the principle that beneficiaries should pay for project costs, commensurate with the benefits they receive from projects. However, in some cases, the combined private and public benefits may substantially exceed the combined costs. For example, if the cost of a project is $100 million, and private benefits are $80 million and public benefits are $80 million, then in this case, an equitable public sharing of the cost could be 80 percent private and 20 percent public, which would not displace private investments that would have occurred in the absence of public funding. See GAO-05-768, p. 31.

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in the past have stressed the importance of developing performance measures and then linking investment decisions and their expected outcomes to overall strategic goals and objectives.[52]

Goals of a Future Federal Role in Freight-Related Infrastructure Investment Should Be Structured to Maximize National Benefits

The first component of GAO's framework for guiding the federal role in freight-related infrastructure investment is a set of clearly defined national goals.[53] Such goals can help chart a clear direction, establish priorities among competing demands, and specify the desired results of any federal investment. Since many stakeholders are involved in the freight transportation system, the achievement of national goals for the system hinges on the federal government's ability to forge effective partnerships with nonfederal entities. Decision makers need to balance national goals with the unique needs and interests of all nonfederal stakeholders in order to leverage the resources and capabilities of state and local governments and the private sector. National goals should be structured in a way that allows for reliably estimating and comparing national public benefits and national public costs. As we have previously reported,[54] quantifying public benefits can be difficult, yet an effort should be made to determine that the anticipated public benefits are sufficient to justify the proposed levels of public investment.[55] For example, at the state level, the Pennsylvania DOT evaluates and justifies freight railroad investments, in part, by estimating the wear and tear imposed by trucks on highways.

The primary goal of federal investments in freight infrastructure should be to maximize the national public benefits of the investments. One way to focus these goals could be through federally designated Projects of National and Regional Significance, a program that has been designed to address critical national economic and transportation needs and has funded highway and railroad infrastructure projects. For example, one goal could be to improve intermodal freight mobility—which encompasses air, railroad, water, and highway facilities and infrastructure—at designated ports of national significance that serve multistate regions and/or large populations.

[52]GAO-07-15, p. 90.

[53]GAO, *Marine Transportation: Federal Financing and a Framework for Infrastructure Investments*, GAO-02-1033 (Washington, D.C : Sept. 9, 2002), p. 18.

[54]GAO-04-744, p. 22

[55]GAO-04-165, p. 40.

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Federal policy makers and other stakeholders could define their respective roles in many different ways once the goals for the federal role in freight transportation infrastructure have been established. However, the key elements in defining the federal and other stakeholder roles would be to create incentives for collaboration, secure benefits, and promote equity for all stakeholders, both public and private, that invest in freight-related infrastructure projects. Defining these elements is especially important for the federal role in freight railroad infrastructure investments because, while most of that infrastructure is privately owned, investments to improve safety and increase capacity may benefit stakeholders at all levels (national, regional, state, local and private sector).

Public and Private Stakeholder Roles for Future Involvement in Freight-Related Infrastructure Investments Should Be Clearly Defined

In our prior work, we have found that, in defining stakeholder roles, it is important to match capabilities and resources with appropriate goals.[56] This is important for federal participation because other stakeholders may want to emphasize other priorities and use federal funds in ways that may not achieve national public benefits. This can happen if other stakeholders seek to (1) transfer a previously local function to the federal arena or (2) use federal funds to reduce their traditional levels of commitment. One aim of federal participation in infrastructure investments is to promote or supplement expenditures that would not occur without federal funding—to avoid substituting federal funding for funding that would otherwise have been provided by private or other public investors.[57]

Further refinements to DOT's draft *Framework* could help to define stakeholder roles in two ways, first by acknowledging that the interests of federal, state, and local entities may compete, and second by recognizing where public and private sector interests meet and diverge. When the federal government invests in freight railroad infrastructure, it could justify its involvement by establishing criteria for projects that (1) are based on national freight goals, (2) are designed to capture national freight transportation benefits, and (3) direct funds to state, local, and private entities that would spend the funds in accordance with the national goals. For example, the federal government might justify its investment in a project that had national goals of improving interstate freight mobility, reducing pollution and congestion, and enhancing safety on a multistate railroad and highway transportation corridor. In contrast, states and

[56]GAO-02-1033, p. 22.

[57]Ibid.

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localities seek public benefits that accrue within their jurisdictions, such as improved automobile safety at grade crossings and reduced air pollution within a regional attainment area, and are able to channel state, local, and discretionary federal funds accordingly. When examining public versus private interests, public stakeholders must recognize that railroads are privately owned and invest resources to maximize shareholder returns and enhance the efficiency and capacity of their operations. Some railroad infrastructure projects have spillover effects that produce public benefits, such as more efficient goods movement. Yet other railroad infrastructure projects that could benefit the public do not meet railroads' internal return-on-investment criteria, and therefore the railroads would not invest in them, and the public would not realize the benefits.

One possible way of defining stakeholder roles could be through public-private partnerships. As we have stated earlier, public-private partnerships create a forum for bringing diverse stakeholders together around an issue of mutual interest to determine how best to share resources, identify stakeholder responsibilities, and achieve public and private benefits. Encouraging public-private partnerships to provide efficient solutions to freight transportation needs could increase the likelihood that the most worthwhile improvements would be implemented and that projects would be operated and maintained efficiently.[38] One example of a public-private partnership that addresses various private and public stakeholder interests in railroad infrastructure is the CREATE project in the Chicago area. The drive to make significant investments in the Chicago area's railroad infrastructure came from public and private railroad stakeholders because of their concern over the heavy railroad congestion in that area.[39] Under the CREATE project, stakeholders established individual roles that included owning and managing specific projects and assuming joint financial obligations. The railroads initially invested $100 million to begin addressing their interests, the federal government has added $100 million by designating CREATE as a Project of National or Regional Significance, and the state of Illinois and the city of Chicago have pledged $100 million and $30 million, respectively, to begin addressing passenger railroad projects. CREATE stakeholders also plan to leverage other federal, state, and private funds over the lifetime of the project. The Alameda Corridor Program in the Los Angeles area provides another example of how

[38]GAO-05-768, p. 31.

[39]The Chicago area is the largest railroad hub in the nation, with one-third of all railroad traffic originating, terminating, or passing through the area.

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effective partnering allowed the capabilities of the various stakeholders to be more fully utilized. Called the Alameda Corridor because of the street it parallels, the program created a 20-mile, $2.4 billion railroad express line connecting the ports of Los Angeles and Long Beach to the transcontinental railroad network east of downtown Los Angeles. The express line eliminates approximately 200 street-level railroad crossings, relieving congestion and improving freight mobility for cargo. This project made substantial use of local stakeholders' ability to raise funds. While the federal government participated in the cost, its share was about 20 percent of the total. In addition, about 80 percent of the federal assistance is in the form of a loan rather than a grant.

Future Federal Role in Freight-Related Infrastructure Investments Should Meet Federal Goals While Recognizing Federal Financial Constraints

A well-designed and strategic national freight transportation policy—of which there is a federal component—can help encourage investment by other public and private stakeholders and maximize the application of limited federal dollars for freight-related infrastructure.[60] While it is important to ensure that such a policy promotes federal investments in freight infrastructure that generate national public benefits, especially when those investments are in privately owned and operated freight railroad infrastructure, it is also important to note that any federal investments will face federal financial constraints. Although federal investments could be crucial to securing the national public benefits of certain freight-related infrastructure projects that would not otherwise proceed, the scarcity of federal funds puts a premium on justifying and targeting the use of federal funds for these projects to address critical needs and maximize benefits.

As we have previously reported, determining the scope of government involvement in transportation investments entails three major steps: (1) determining that the project is worthwhile by applying a rigorous cost-benefit analysis or similar study; (2) justifying government involvement on the basis of known criteria; and (3) deciding on the level of public subsidy consistent with local, state, regional, or national interests and benefits.[61] Currently, most federal freight investments come from the fiscally constrained General Fund and Highway Trust Fund; and typically these investments are not subject to a thorough benefit-cost analysis or to the consistent application of project criteria, nor are they funded with the

[60]GAO-02-1033, p. 22.

[61]GAO-04-165, p. 42.

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assurance that the funding provided by public and private beneficiaries is commensurate with the benefits these parties receive.

Federal investments in freight infrastructure must be justified and meet objective criteria to maximize the impact of federal funds. Justifying government involvement in freight infrastructure projects involves identifying and quantifying project costs and public and private benefits, and having clear guidelines specifying the conditions under which public involvement is warranted. Given constraints on federal, state, and local funding, we have advocated that public entities implement project justification tools such as benefit-cost analysis to better assess proposed transportation investments and accordingly target limited funds.[62] Results-oriented assessments can be used to determine what is needed to obtain specific national outcomes.[63] In October 2006, we recommended that DOT, as it continues to draft the *Framework for a National Freight Policy*, consider strategies to create a level playing field for all freight modes and recognize the highly constrained federal fiscal environment by developing mechanisms to assess and maximize public benefits from federally financed freight transportation investments.[64] Furthermore, as we testified in March 2007, the federal government should make ensuring accountability for results, as well as maximizing benefits, high priorities in deciding on federal investments in transportation infrastructure.[65] Unfortunately, we have found that formal analyses are not often used in deciding among alternative projects, evaluations of outcomes are not typically conducted, and the evaluations that are done show that projects often do not produce anticipated outcomes. The public sector faces many challenges in quantifying national, regional, state, and local benefits, while railroads are more able to determine the monetary and operational benefits of proposed infrastructure projects and can invest accordingly. For example, railroads can assess how much each hour of train delay costs them, but public entities cannot easily quantify the environmental benefits of faster freight railroad transport and less truck traffic.[66]

[62]GAO-07-94, pp. 61 and 63.

[63]GAO-02-1033, pp. 19-20.

[64]GAO-07-94, p. 62.

[65]GAO-07-545T, p. 14.

[66]In an attempt to address this issue, in March 2005, DOT publicly released the Intermodal Transportation and Inventory Cost software model that enables users to identify the effects of traffic diverted from trucks to railroads.

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Representatives of three state DOTs we interviewed acknowledged the difficulty of quantifying public benefits, which may make it difficult to judiciously allocate scarce transportation funds to those projects that may accrue the highest public benefits.

According to the Transportation Research Board (TRB), public support for freight infrastructure projects must be established on a project-by-project basis to determine if a project produces certain benefits, such as reductions in the external costs of transportation, efficiencies in the transportation system beyond those recognized by the private sector, or improvements in public safety.[67] TRB stated that if government involvement cannot be justified on one of these grounds, the private sector should undertake the project. One federal program that awards funds using project justification criteria is the Federal Transit Administration's discretionary New Starts program. This program is the federal government's primary source of funds for capital investment in locally planned, implemented, and operated transit. Potential New Starts projects must meet certain project justification criteria (e.g., mobility improvements and operating efficiencies) and demonstrate adequate local financial support (e.g., the ability of the sponsoring agency to fund the operation and maintenance of the entire system once the project is built). A comparable approach could be designed so that freight railroad infrastructure investments—proposed by state or local governments, private railroads, or public-private partnerships—meet appropriate project justification criteria, demonstrate public and private support, and provide the lowest cost to the federal government. Different funding mechanisms and revenue sources could also be used to implement any future federal role in freight infrastructure investments. See appendix III for a more complete discussion of these revenue sources and funding mechanisms.

Conclusions

Projected increases in freight transportation demand will likely increase the importance of the nation's freight railroad infrastructure. Bridges and tunnels are critical and expensive parts of infrastructure. Because most of

[67] According to TRB, external costs are borne by nonshippers or the general public. Examples of external costs include health and other damages caused by air pollution; noise generated by trucks, towboats, and locomotives; and the traffic delays and congestion that an additional truck or barge imposes on other users of roadways and waterways. See Transportation Research Board, *Special Report 252: Policy Options for Intermodal Freight Transportation* (Washington, D C.: 1998) and Transportation Research Board, *Special Report 271: Freight Capacity for the 21st Century* (Washington, D.C.: 2002).

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the freight railroad network is privately owned, the railroads have a keen financial interest in maintaining and investing in their bridges and tunnels. The federal role in overseeing the public safety of these structures, and in funding improvements to them, has been limited.

Concerning the safety area, we have found in our prior work that a risk-management approach to oversight of companies' overall management of safety risks provides an additional assurance of safety in conjunction with inspections. FRA has adopted this risk-management approach in applying its guidelines for bridge management during its bridge safety surveys of individual railroads. However, a more consistent and systematic approach in selecting railroads for bridge safety surveys based on data about railroads' bridge management programs, such as whether or not the railroads have regular inspections by a qualified civil engineer and how they record and use that bridge inspection data, could enhance the effectiveness of the FRA's limited resources available for bridge and tunnel safety. This approach could help target FRA's limited bridge inspection resources toward railroads that present the greatest safety risk, especially numerous short lines that may have more deteriorated infrastructure and less technical and financial resources to maintain their bridges and tunnels.

With respect to the federal role in freight-related infrastructure, including railroad bridges and tunnels, the federal approach to such investments needs to be better structured to maximize achieving national public benefits such as increased freight mobility, reduced congestion, and improved environmental quality. Although the current federal structure of loans, credits, and grants administered by different agencies with different missions from disparate funding sources may attain some national public benefits, that structure is not guided by a national freight strategy and may miss opportunities for an even higher return of national public benefits for federal expenditures. DOT has taken a first step in the direction of articulating such a strategy by developing its *Framework for a National Freight Policy*, but we believe that the agency needs to go further in developing a true national freight transportation strategy that can help organize and unify the current structure to achieve that higher return. Our past work on public investments in transportation has found that such a strategy should focus on national freight transportation related goals, involve all public and private stakeholders, and distribute costs equitably across all public and private beneficiaries.

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Recommendations for Executive Action

- To enhance the effectiveness of its bridge and tunnel safety oversight function, we recommend that the Secretary of Transportation direct the Administrator of the Federal Railroad Administration to devise a systematic, consistent, risk-based methodology for selecting railroads for its bridge safety surveys to ensure that it includes railroads that are at higher risk of not following the FRA's bridge safety guidelines and of having bridge and tunnel safety issues.

- To help better focus limited federal resources, we recommend that the Secretary of Transportation ensure that its draft *Framework for a National Freight Policy* :

  - includes clear national goals for federal involvement in freight-related infrastructure investments across all modes, including freight railroad investments;

  - establishes and clearly defines roles for all public and private stakeholders; and

  - identifies funding mechanisms for federal freight-related infrastructure investments, including freight railroad investments, which provide the highest return in national public benefits for limited federal expenditures.

Agency Comments

We provided a draft of this report to DOT for review and comment prior to finalizing the report. DOT and FRA officials—including FRA's Associate Administrator for Safety— generally agreed with the information in this report, and they provided technical clarifications, which we have incorporated in this report as appropriate. These officials agreed with the recommendation related to the methodology for selecting railroads for bridge safety surveys and said that they are already taking steps to implement it, and DOT officials said that they would consider the recommendation concerning changes to DOT's draft *Framework for a National Freight Policy*.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. We will then send copies of this report to the appropriate congressional committees and to the Secretary of Transportation. We will

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also make copies available to others upon request. In addition, this report will be available at no charge on the GAO Web Site at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or heckerj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff that made key contributions to this report are listed in appendix IV.



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Appendix I: Scope and Methodology

To determine what information is maintained by railroads on the condition of their bridges and tunnels, and the contribution of this infrastructure to congestion, we reviewed documentation from railroads on bridge and tunnel data management policies, inspection procedures, sample inspection reports, and capital improvement plans. We also determined the federal role in collecting and reporting information on railroad bridges and tunnels by interviewing officials from federal agencies, state agencies, freight railroads, and industry associations (see table 4), and by reviewing bridge and tunnel data collected and maintained by these federal agencies. To determine to what extent bridges and tunnels contribute to freight railroad congestion, we reviewed literature on freight railroad congestion, railroad corridor plans, and freight demand studies to identify current levels of freight railroad congestion, major factors contributing to congestion, and proposed solutions. We also interviewed representatives from industry associations and railroads to understand how this information is used, what challenges railroads face in maintaining and replacing railroad bridges and tunnels, and what strategies railroads use to enhance capacity and alleviate congestion. We did not independently verify the accuracy of public or private bridge and tunnel condition information, inspection reports, or congestion information. In addition, we did not independently assess the conditions of bridges and tunnels.

To identify the federal role in overseeing railroad bridge and tunnel safety, we reviewed public laws and interviewed officials from the public agencies and railroads listed in table 4. In particular, we discussed the Federal Railroad Administration's (FRA) structural safety oversight role with FRA's Chief Structural Engineer, all five FRA bridge specialists, and one FRA regional track specialist, and asked railroads about their interactions with FRA. We reviewed examples of FRA's bridge safety survey documentation to determine the content of these surveys and what actions FRA takes after assessing a railroad's bridge conditions. We also accompanied an FRA bridge specialist on a bridge safety survey and other informal bridge and tunnel observations. We reviewed examples of FRA emergency orders, compliance agreements, and structural observation reports to determine how FRA enforces its oversight role. Because there are more bridges than tunnels in the United States and because FRA has established a policy on bridge safety, we reviewed more information on railroad bridges than on tunnels. Moreover, because we used FRA's records to understand FRA processes and actions, we did not independently verify the reliability of the data in this sample of FRA's observation records.

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To determine how public funds are currently used for railroad infrastructure investments, including those for bridges and tunnels, we interviewed the entities included in table 4 and synthesized relevant information from these entities, as well as from the Federal Highway Administration and the Joint Committee on Taxation. We did not independently verify the accuracy of the self-reported cost information provided by the railroads, public agencies, and professional associations. We reviewed Department of Transportation's (DOT) draft *Framework for a National Freight Policy*. We also analyzed pertinent legislation and analyzed and synthesized relevant information from our reports and other ongoing work.

To determine what criteria and framework could be used to guide the future federal role in freight-related infrastructure investments, including those for railroad bridges and tunnels, we relied extensively on perspectives gained from our past work in transportation and infrastructure systems and federal investment strategies. We also reviewed DOT's *Draft Framework for a National Freight Policy*. We used our prior work and conventional economic reasoning to identify key considerations regarding possible revenue sources and funding mechanisms for federal government support for freight-related infrastructure investment and to evaluate potential revenue sources and funding mechanisms on the basis of those considerations.

In addressing all of our objectives, we conducted five site visits to

- observe the conditions of selected bridges and tunnels on Class I, II, and III railroads;
- understand maintenance and deterioration issues inherent in different geographies and structure types;
- interview railroad and state agency personnel who manage, inspect, and maintain these structures;
- interview railroad operations personnel who monitor traffic capacity and congestion and finance personnel who determine capital investment priorities and allocations; and
- meet with state and local transportation agency officials.

For a complete list of all entities interviewed, including those interviewed as part of our site visits, see table 4. We selected our site visit locations—

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Baltimore, Maryland and Washington, D.C.; Illinois and Iowa; Kansas and Missouri; Ohio and West Virginia; and Oregon—based on geographic distribution and the presence of large and small railroads, private-public partnership stakeholders, and state DOTs involved in freight railroad or large freight railroad public-private partnerships.

In addition to interviews conducted as part of our site visits, we interviewed representatives from the six largest Class I freight railroads in the United States;[1] Amtrak; industry associations; federal, state, and local transportation officials; and federal agencies involved with collecting information on, overseeing, or providing funding for railroad bridges and tunnels. We also interviewed additional state agencies based on their involvement in railroad bridge and tunnel oversight, freight railroad funding, or major freight railroad public-private partnerships. Table 4 lists the names and locations of all railroads; federal, state, and local agencies; industry associations; and transportation, engineering, and academic experts we interviewed as part of our review.

Table 4: Names and Headquarters Locations of Entities Contacted

Name	Headquarters location
Class I freight railroads	
BNSF Railway Company[a]	Fort Worth, TX
Canadian National Railway[a]	Montreal, Quebec
CSX Transportation[a]	Jacksonville, FL
Kansas City Southern Railway[a]	Kansas City, MO
Norfolk Southern[a]	Norfolk, VA
Union Pacific Railroad Company[a]	Omaha, NE
Class I passenger railroads	
National Railroad Passenger Corporation (Amtrak)[a]	Washington, D.C.
Class II freight railroads	
Iowa Interstate Railroad[a]	Cedar Rapids, IA
Wheeling and Lake Erie Railway Co.[a]	Brewster, OH
Class III freight railroads	
Albany and Eastern Railroad Company[a]	Lebanon, OR
Belt Railway Company of Chicago[a]	Bedford Park, IL

[1]We did not interview Canadian Pacific, whose railroad lines in the United States comprise the smallest Class I freight railroad.

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Cedar Rapids and Iowa City Railway Co. (CRANDIC)[a]	Cedar Rapids, IA
Iowa Northern Railway Company[a]	Cedar Rapids, IA
Kansas City Terminal Railway Co.[a]	Kansas City, KS
Ohio Central Railroad Company[a]	Coshocton, OH
Port of Tillamook Bay Railroad[a]	Tillamook, OR
SEMO Port Railroad[a]	Scott City, MO
Watco Companies, Inc.[a]	Pittsburg, KS
Federal agencies	
U.S. Army Corps of Engineers	Washington, D.C.
U.S. Department of Defense Surface Deployment and Distribution Command: Transportation Engineering Agency	Newport News, VA
U.S. Department of Energy	Washington, D.C.
U.S. Department of Homeland Security United States Coast Guard Transportation Security Administration	Washington, D.C. Washington, D.C. Arlington, VA
U.S. DOT Federal Highway Administration Federal Railroad Administration Office of Safety and Compliance[a] Office of Railroad Development Office of Policy and Program Development	Washington, D.C.
U.S. Environmental Protection Agency	Washington, D.C.
State agencies and oversight organizations	
Illinois DOT[a]	Springfield, IL
Kansas DOT[a]	Topeka, KS
Louisiana DOT and Development	Baton Rouge, LA
Maryland DOT[a]	Hanover, MD
Missouri DOT[a]	Jefferson City, MO
Ohio DOT[a]	Columbus, OH
Ohio Rail Development Commission[a]	Columbus, OH
Oregon DOT[a]	Salem, OR
Pennsylvania DOT	Harrisburg, PA
Pennsylvania Public Utilities Commission	Harrisburg, PA
Public Utilities Commission of Ohio[a]	Columbus, OH
Tennessee DOT	Nashville, TN
Local agencies	
Chicago DOT[a]	Chicago, IL
Columbus Regional Airport Authority[a]	Columbus, OH
Unified Government of Wyandotte County and Kansas City, Kansas[a]	Kansas City, KS

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Industry associations	
The American Association of State Highway and Transportation Officials	Washington, D.C.
American Short Line and Regional Railroad Association	Washington, D.C.
The Association of American Railroads	Washington, D.C.
Transportation, engineering, and academic experts	
Dr. Kazuya Kawamura, University of Illinois at Chicago	Chicago, IL
National Academy of Railroad Sciences[a]	Overland Park, KS
TranSystems[a]	Kansas City, MO
URS Corporation[a]	San Francisco, CA

Source: GAO.

[a]Indicates representatives were included in a site-visit.

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Appendix II: Examples of Bridge and Tunnel Maintenance, Component and Structural Replacement Costs on Selected Railroads

Bridge type	Description of work	Cost estimates
Maintenance		
Bridge ties	Replacing a bridge tie	$450 per tie
Moveable steel bridge	Moveable bridge annual maintenance	$50,000 to $1 million
Component replacement or repair		
Timber bridge	Replaced several timber components	$40,000 to $50,000
Timber bridge	Replacing timber approach span	$239,000
Timber bridge	Replacing timber substructure and deck with steel and concrete components	$3 - $3.5 million
Concrete bridge	Concrete bridge pier replacement	$225,000
Concrete bridge	Abutment replacement	$75,000
Concrete bridge	Replacing stone arches with culverts	$50,000
Steel bridge	Upgrade steel to handle 286,000-lbs. railcars	$100,000
Moveable steel bridge	Replacement of several steel components	$1 million
Moveable steel bridge	Fender system replacement caused by barge strike	$200,000 to $600,000
Tunnel	Replacing timber lining in tunnel with concrete lining	$800,000
Tunnel	Upgrading ventilation system	$3.5 million
Tunnel	Opening or "day-lighting" tunnel	$3 million
Replacement		
Timber bridge	Timber bridge replacement	$600,000 to $700,000
Steel bridge	Steel bridge replacement	$22 - $44 million
Moveable steel bridge	Moveable swing span replacement	$25 - $40 million
Moveable steel bridge	Replacement of a moveable swing span bridge with a lift span bridge	$100 million

Source: GAO analysis of interviews with railroad officials

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Appendix III: Considerations of Funding Sources and Mechanisms Available for Federal Funding of Freight-Related Infrastructure

Different funding mechanisms and revenue sources can be used to implement any future federal role in freight infrastructure investments. Two main revenue sources are available to the federal government in financing freight infrastructure investments: (1) general revenue, which comes primarily from broad-based personal and business income taxes and (2) beneficiary financing revenue (such as user fees or fuel taxes), which comes from taxes or fees assessed to specific groups that would benefit from the federal investment. Revenue from both of these sources could be used to increase investment in freight railroad infrastructure beyond the level that the railroads would provide without federal support. We note, however, that all revenue sources do have opportunity costs, that is, the costs of any benefits forgone from alternative investments that could have been made with that revenue.

As discussed earlier in this report, the federal government currently uses three main funding mechanisms to support freight railroad infrastructure: grants, loans, and tax credits.[1] Each funding mechanism has its own advantages and limitations, but some implications would apply to each. For example, while the three mechanisms may make federal subsidies available for freight infrastructure investments, they may not necessarily increase the total amount of funding provided for those investments. Instead, these subsidies might result in the substitution of federal funds for the railroads' own funds for investments that they would have made themselves, even without federal support. Revenue sources and potential funding mechanisms need to be evaluated in terms of several key considerations—including equity, sustainability, and efficiency for revenue sources, and efficiency and transparency for funding mechanisms—as discussed below.

- *Equity* - Equity is often assessed according to two principles: the benefit principle and the ability-to-pay principle. Equity occurs according to the benefit principle when those who pay for a service are the same as those who benefit from the service. Under the ability-to-pay principle, those who are more capable of bearing the burden of taxes or fees pay more in taxes and fees than those with less ability to pay, and a tax or fee structure is generally considered more equitable if that is the case. The use of general revenues is most equitable according to the benefit principle when the benefits are diffused across all taxpayers. Benefit financing sources (per-container or per-railroad-car fees or commodity-specific taxes) can be a

[1]Tax credits are reductions in tax liabilities based on preferential provisions of the tax code, resulting in forgone tax revenue for the federal government.

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more equitable funding source when the benefits are more focused on a locality or set of users and it is possible to collect the additional revenues from beneficiaries through higher fees or taxes. Either approach could be consistent with the ability-to-pay principle depending on how the revenue source is structured. A combination of beneficiary financing, federal general revenue, and local matching funds could also be used to enhance equity in order to link the amount of payment for an infrastructure investment to the anticipated amount of private, national, and local benefits gained, although these benefits may be hard to quantify.

- *Sustainability* - Sustainability can be defined as the ability of a revenue source to maintain a given level of federal expenditure for an investment over time. Technological change or inflation could affect the sustainability of some beneficiary financing revenue sources by influencing revenue levels or their purchasing power. But these sources can be more sustainable if they have the flexibility to respond to reductions in demand or consumption and can be indexed to inflation or otherwise periodically adjusted. The sustainability of general revenue could be affected by the federal government's long-term structural fiscal imbalance.

- *Efficiency* - Efficiency implications exist for both the choice of revenue source and the choice of funding mechanism. For revenue sources, efficiency can be assessed based on the impact of economic behavioral changes likely to result from use of each source and by how much accountability[2] is provided. Using general revenue rather than beneficiary financing revenue sources is likely to cause smaller behavioral changes than using beneficiary financing. Beneficiary financing is likely to cause larger behavioral changes in raising a given amount of revenue because the impacts of a revenue increase would be more concentrated in a geographic location (for example, a user fee assessed for using a specific bridge or other structure) or on a group of beneficiaries (for example, a diesel fuel tax assessed only on railroads). However, these behavioral changes can have either negative or positive consequences on economic efficiency, such that in different circumstances increasing revenues from either funding source could be less efficient or more inefficient. In terms of accountability, the efficiency of a revenue source can be enhanced by

[2]Accountability can be defined as ensuring that the beneficiaries of a service pay the full social cost of that service. Although this concept is similar to the benefit principle for assessing equity, in discussing the effects of accountability on efficiency, we are concerned with the accountability it provides rather than the fairness. For example, if the beneficiaries do not pay the full social cost of a benefit, they may seek to have more of the service provided by the government even when the additional amounts of that service cost more than their actual value to provide.

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collecting funds from the groups that are benefiting from federal investments in freight infrastructure. For funding mechanisms, efficiency can be defined as the amount of benefit gained for the amount of federal resources provided. Grants may generally be more efficient than loans in that their administrative costs may be lower. For tax credits, efficiency—or the benefits gained for the forgone tax revenue—is both difficult to calculate and difficult to control, because private firms often control the use of the credited funds rather than the government. Therefore, the government may have less opportunity to direct the funds toward generating specified national public benefits than it does for grants or loans.[3] To increase the efficiency of grants, maintenance of effort provisions[4] could be incorporated to decrease the likelihood that the funding provided through them will be substituted for other funds, rather than combined with other funds to increase the total investment. Although tax credits do not involve outlays of federal funds, they do have analogous costs in forgone tax revenue that would have to be considered in evaluating their efficiency.

- *Transparency* - Transparency can be defined as the extent to which the costs of federal infrastructure investments are visible when using a funding mechanism. The commitment of federal resources is visible if there is a direct appropriation for a federal grant or loan program. With a

[3]In some cases, the government controls the allocation of funds for certain tax credits. For example, officials from the Department of the Treasury (and a group of external reviewers) review and score New Markets Tax Credit applications and then make specific allocations of the Credit itself to qualified applicants. See GAO, *Tax Policy: New Markets Tax Credit Appears to Increase Investment by Investors in Low-Income Communities, but Opportunities Exist to Better Monitor Compliance*, GAO-07-296 (Washington, D.C.: Jan. 31, 2007) p. 7.

[4]Maintenance of effort provisions would require the entity receiving the grant to maintain a certain level of spending over the duration of the grant in order to receive the grant.

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grant or a loan, the federal government can readily demonstrate how much money was invested in what infrastructure. These funding mechanisms can also be guided by objective, transparent criteria in conjunction with congressional control over annual funding levels. With tax credits for railroad infrastructure investment, however, it is less visible how much the investment is costing the government through forgone revenue, and it is harder for Congress to make trade-offs with other discretionary spending programs.

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Appendix IV: GAO Contact and Staff Acknowledgments

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Staff Acknowledgments

In addition to the contact named above, Rita Grieco (Assistant Director); Jay Cherlow; Steve Cohen; Elizabeth Eisenstadt; Alana Finley; Greg Hanna; Carol Henn; Bert Japikse; Richard Jorgenson; Denise McCabe; Elizabeth McNally; Sara Ann Moessbauer; Josh Ormond; Laura Shumway; Ryan Siegel; and James Wozny made key contributions to this report.

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 8

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TUNNEL CONDITION ASSESSMENT-
COOS BAY and ROSEBURG/SISKIYOU BRANCHES
CENTRAL OREGON and PACIFIC RAILROAD



for
RailAmerica
Roseburg, Oregon

September 2004

Milbor – Pita & Associates, Inc.
Geotechnical & Tunnel Consultants
Job #1474

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Milbor-Pita & ASSOCIATES, INC.

24 Sept 2004
#1474

Central Oregon and Pacific (CORP) Railroad
PO Box 1083
Roseburg, Oregon 97470
Attn: Mr. Dan Lovelady, General Manager
cc: Mr. Marc Bader, Engineer, RailAmerica, Inc.

RE: Tunnel Condition Assessment-Coos Bay and Roseburg / Siskiyou Branches, Central Oregon and Pacific Railroad, Roseburg, OR

INTRODUCTION

General

This report presents the tunnel condition assessment completed by Milbor-Pita & Associates, Inc. (MPA) for the tunnels along the Coos Bay and Roseburg/Siskiyou Branch lines of the Central Oregon and Pacific Railroad (CORP). The tunnel locations are shown on the Vicinity Map (Figure 1). The primary purposes of the report are to provide CORP with a condition assessment of each tunnel, recommendations and cost estimates for short and long-term liner rehabilitation work, and schedule and similar estimates to improve clearances to Plate "F" and Plate "H" criteria.

Authorization

Our work was conducted in general accordance with our proposal letter dated 1Sep04 and authorized by Dan Lovelady on 20Sep04. This report has been prepared for the exclusive use of CORP and its authorized agents, for specific application to this project in accordance with generally accepted geotechnical/civil engineering practices.

Purpose and Scope of Work

The scope of this study is to:

- Assess the overall condition of each tunnel, including lining, drainage, and ballast conditions;
- Provide recommendations for short-term (1-5 years) and long-term (5+ years) maintenance programs for each tunnel in the above areas;
- Assess the compatibility of each tunnel for Plate "F" and Plate "H" clearances; and
- Provide engineer level cost estimates and schedules for any rehabilitation and clearance improvement work.

The methodology of work completed for this phase of the project included:

- Providing a reconnaissance of the tunnels to assess their condition;
- Collecting and reviewing readily available data for the tunnels, including original SPRR design standards and clearance diagrams; and

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- Preparing this report, which includes the following information:
    1. General condition of the tunnels,
    2. Short-term and long-term rehabilitation recommendations, priorities, and engineer level cost estimates,
    3. Typical repair drawings,
    4. Plate "F" and Plate "H" compatibility and improvement recommendations and engineer level cost estimates; and
    5. Railroad tunnel inspection forms.
- Presenting the findings at meeting in Roseburg or another agreed upon location.

SITE CONDITIONS

The following site conditions are based on the tunnel investigations by Gerry Millar and Carol Ravano of MPA on 1-2 September 2004. Observations were made by walking each tunnel. Access to the tunnels was provided by local CORP personnel in a CORP hy-rail truck. The Railroad Tunnel Inspection Forms for each tunnel are included in Appendix A. Photos of the tunnels are included in Appendix B.

General Conditions

The original tunnel construction in the 1880's consisted of drill and blast excavation with occasional support with timber sets and portal structures. The geology along both branches is characterized by generally slabby to massive blocky ground, which is good tunneling ground, away from the highly weathered portal areas. The notable exception is Tunnel 13 (Siskiyou Branch), which was excavated in poorly lithified volcanic breccia and ash flows, and sections of Tunnels 13 and 15 (Coos Bay Branch) which were excavated in part in soil. Approximately 8746 lineal feet (LF) of the tunnels are unlined or lined with a thin (1 to 4 inches) layer of gunite placed in the 1970's and 1980's. The unlined sections are located on the Roseburg/Siskiyou Branch and reflect the original 1880's construction dimensions.

Larger clearance requirements and continued rock loosening led the Southern Pacific Railroad (SPRR) to enlarge the tunnels, place continuous timber sets as support and to place concrete portal structures in the 1920's. The significant maintenance effort required to replace timber sets, not to mention serious traffic interference from fires, led the SPRR to a program of replacing the timber with steel sets (size: W8 x 31) covered with gunite (gunite over steel sets (GOSS)), as shown in Figure 1. This program took place in the 1970's and early 1980's. In recent years, as a result of tunnel fires and maintenance programs, timber sets have been replaced with fiber-reinforced shotcrete. Summaries of the liners for each of the tunnels are shown on Tables 1 and 2.

Currently, on the Coos Bay Branch, there are:

- 2994 LF of tunnel lined with GOSS,
- 3997 LF lined with timber sets,
- 362 LF lined with bare steel,
- 4579 LF lined with shotcrete,

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- 100 LF of unlined tunnel, and
- 909 LF of concrete portal lining.

On the Roseburg/Siskiyou Branch, there are:

- 3042 LF of tunnel lined with GOSS,
- 1142 LF lined with timber sets,
- 60 LF lined with bare steel,
- 574 LF lined with shotcrete,
- 3493 LF of unlined tunnel, and
- 240 LF of concrete portal lining.

Note: These totals do not include the completed lining lengths for Tunnel 13, which is currently under repair.

Tunnel Rating System

The tunnels are rated "A", "B", or "C" for both liner integrity, track structure and drainage conditions. A rating of:

- "A" indicates that no remedial work is needed beyond regular maintenance.
- "B" indicates that there is remedial work will eventually be required (long-term work) and we have estimated a 5-plus year timeline for this work.
- "C" indicates that the remedial work should be done as soon as possible; there is a possibility of interruption to rail traffic if not accomplished in a timely manner.

These are summarized below in the Short-term and Long-term Rehabilitation Recommendation sections below.

RECOMMENDATIONS

Short Term Liner Rehabilitation Recommendations

Based on the information gathered during our tunnel reconnaissance, there are localized areas of tunnels in both branches in which we recommend for immediate remedial support. These are identified in Tables 1 and 2 with a rating of "C". These are summarized below with engineer level cost estimates shown in Table 3. The direct cost for the short-term rehabilitation work is estimated to be $608,000; however we estimate an additional cost of 30% for mobilization and CORP support costs. The latter percentage will vary depending on the size of the project package (i.e. larger packages will result in a smaller percentage mobilization cost).

Coos Bay Branch

- Tunnel 13 - 60 LF of timber sets near middle of tunnel are unstable due to seepage deterioration. Pull timber sets and reline with reinforced shotcrete.
- Tunnel 15 - Very deteriorated timber at north end for 200 LF, including localized timber segment crushing and fallout in the crown.
- Tunnel 20 - Void above GOSS approx. 200 ft from north portal. This void needs to be backfilled with concrete. Localized sloughing of thin shotcrete liner requires additional reinforced shotcrete or rock bolts and mine straps.

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Siskiyou Branch

- Tunnel 14 - 60 LF of wet, deteriorated timber supports in center of tunnel should be pulled, the crown rock bolted and shotcreted. Some collapse occurred in Spring 2004 in this area.

Long Term Liner Rehabilitation Recommendations

The long-term rehabilitation requirements, which we identified during our reconnaissance, are related to the removal of timber sets in areas of unstable ground or areas of seepage, deteriorated gunite in GOSS sections, loose or failing shotcrete arch lining, or loose slabs of rock in unlined sections. These are identified in Tables 1 and 2 with a rating of "B", and are summarized below with engineer level cost estimates shown in Table 4. The cost for the long-term rehabilitation work is estimated to be $1,400,000. It should be noted that some of the timber removal and re-lining would improve existing clearances to Plate "F".

Notes on the condition of the track structure are presented on the Tunnel Inspection Forms in Appendix A, and categorized in Tables 1 and 2. However, the costs to repair or improve the track structure are not included in this report.

Coos Bay Branch

- Tunnel 13 - 340 LF of bare steel sets need to be formed with channel lagging and backfilled with concrete or covered with shotcrete.
- Tunnel 15 – Repair crack in south portal concrete structure.
- Tunnel 17 - Portions of GOSS need new shotcrete.
- Tunnel 18 - 50 LF of timber in poor condition. Replace with steel sets and shotcrete.
- Tunnel 19 – 500 LF of arch needs additional shotcrete or rock bolt and straps for. Shotcrete missing in 2 locations.

Roseburg Branch

- Tunnel 5 - 100 LF of rock to be bolted and strapped in crown. 4-10 ft long rock bolts placed at 4 ft centers.
- Tunnel 6 - 80 LF of rock to be bolted and strapped in crown. 4-10 ft long rock bolts placed at 4 ft centers.
- Tunnel 7 - 77 LF of rock to be bolted and strapped in crown. 4-10 ft long rock bolts placed at 4 ft centers.
- Tunnel 9 – Needs drainage ditch.

Siskiyou Branch

- Tunnel 14 – 600 LF of timber sets should be replaced with shotcrete and rock bolts.

Possible Clearance Improvement Programs

The required clearance envelopes for Plates "F" and "H" were plotted onto the clearance cross-sections for the Coos Bay and Roseburg/Siskiyou Branches provided by CORP, and developed by CANAC in 2001. These are shown in Appendices C and D. For Plate

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"F" clearance, we have used a standard of 17'6" ATR by 5'0" half-width, plus 1" per degree of track curvature. For Plate "H" clearance, we have used a standard of 20'6" ATR by 4'6" half-width, plus 1" per degree of track curvature.

Proposed Plate "F"

All of the tunnels on the Coos Bay Branch currently meet the Plate "F" standard.

There are 5 tunnels on the Roseburg/Siskiyou Branch that do not meet the Plate "F" standard. For Tunnels 5, 6, and 8, the proposed clearance improvement work consists of the removal of rock by drill-and-blast methods, with only minor securing of loose slabs with rock bolts. The rock "tights" are less than 12 inches, requiring the drilling of short blast holes in the haunches and crown (see photo #10). The CANAC clearance diagrams are summary plots of the tightest points around the tunnel perimeter for long distances in the tunnel; actual locations of "tights" may be significantly less than the entire length of the tunnel. To gain clearance in Tunnel 13, the track will have to be lowered approximately 18 inches; an alternative would be to re-mine the tight sections (replace GOSS) since most of the tunnel will clear Plate "F" after the current re-opening program is completed. To gain clearance in Tunnel 14, the coffin timber sets would have to be removed and replaced with shotcrete and rock bolts (see photo #11). This is summarized in Table 5.

Because the amount of rock to be removed per lineal foot of tunnel is minimal (<1 cubic yard) and the timber sets in Tunnel 14 can be easily removed, all of the work could be performed from hy-rail trucks without the need for air dumps or flat cars. The estimated cost of this work is $500 per lineal foot for blast excavation of rock, and $1000 per lineal foot for timber set replacement with rock bolts or shotcrete.

Proposed Plate "H" (Double Stack)

We have analyzed the tunnels on the Roseburg/Siskiyou Branch for Plate "H" clearance. Plate "H" clearance will require similar but more extensive work as outlined for Plate "F" clearance. Rock sections would require up to 24 inches of blast excavation in the arch (Tunnels 3-8), significant replacement of GOSS sections with larger-dimension steel sets and shotcrete (Tunnels 2-4, 9, 15), and a major track lowering in Tunnel 13. Track lowering in Tunnels 2, 3 and 15 is likely not feasible because of bridges near the tunnels forming "hard" track elevations. In order to make an accurate cost estimate for this work, we will need to obtain additional information, especially about the nature of the ground above the GOSS sections requiring replacement. With the current available information, we estimate a cost of at least $7,000,000.

Summary

In general, most of the lengths of the tunnels on the Coos Bay and Roseburg/Siskiyou Branches were excavated in fair to good ground, and require only a moderate repair program for immediate stability problems. Long-term maintenance requirements relate

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mostly to the replacement of timber sets with a shotcrete and rock bolt lining or the installation/repair of GOSS. All of the tunnels on the Coos Bay Branch meet the clearance standards for Plate "F". Five tunnels on the Roseburg/Siskiyou Branch do not meet the Plate "F" standards. In Tunnels 5, 6, and 8, the removal of rock above the spring line is necessary to meet the standard. In Tunnel 13, the track will need to be lowered or GOSS replaced with higher GOSS. In Tunnel 14, the replacement of timber sets with a shotcrete liner gains necessary clearance.

Plate "H" clearance on the Roseburg/Siskiyou Branch will be costly to obtain because of the long lengths of tight rock in Tunnels 4-8 and GOSS in Tunnels 2, 3, 9 and 15, and the deep track lowering in Tunnel 13. However, a more refined engineer level cost estimate can be obtained with further investigation to determine the geology above the tunnels and accurate measurements within the tunnel.

CLOSURE

The conclusions and recommendations presented in this report are based on surface observations accomplished for this study. We would be pleased to submit a detailed proposal for the clearance measurement, liner probing, and engineering design work should you require it for the next phase of this program.

We appreciate the opportunity to be of service to you. Should you have any questions, or request additional information, please do not hesitate to call.

Milbor-Pita & Associates, Inc.

Carol Ravano, P.E.
Project Engineer

Gerry Millar, L.E.G.
Project Manager

Attachments:

Table 1	Coos Bay Tunnel Assessment Summary
Table 2	Roseburg/Siskiyou Tunnel Assessment Summary
Table 3	Short-Term Rehabilitation Cost Summary
Table 4	Long-Term Rehabilitation Cost Summary
Table 5	Plates "F" and "H" Clearance Summary
Figure 1	Vicinity Map
Figure 2	Plate "F" Clearance Standard
Figure 3	Plate "H" Clearance Standard
Appendix A	Railroad Tunnel Inspections Forms
Appendix B	Site Photos
Appendix C	Coos Bay Plates "F" and "H" Clearance Diagrams
Appendix D	Roseburg/Siskiyou Plates "F" and "H" Clearance Diagrams

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		CORP	Table 1	Coos Bay Branch Tunnel Condition Assesment				
Tunnel	Liner						Track Structure/ Drainage	Tunnel Liner Remarks
	GOSS (lf-rating)	Unlined (lf-rating)	Shotcrete (lf-rating)	Timber (lf-rating)	Concrete (lf-rating)	Steel (lf-rating)		
13	599-A	100-A		1319-B	129-A	340-B	B	15 deteriorated timber sets should be pulled and shotcreted Concrete footing should be formed under GOSS sections. Improve drainage at S portal.
14	34-A		383-A		54-A		A	No work Required.
15	367-B			1643-C	111-B	22-B	C	Severe crushing and seepage deteriortion of many crown segments, some of which have fallen out. Install overlay liner of steel sets and shotcrete in about 200 lf of the timber section. Minor repair of crack in South Portal concrete structure with soil anchors.
16	508-A				109-A		A	No rehab work required
17	415-B		186-A	417-A	182-A		C	GOSS needs new shotcrete. Track structure is very muddy; seriously plugged drainage.
18	900-A			598-A/B	54-A		C	South 50 lf of timber sets need overlay liner of steel sets and shotcrete.
19	50-A		3002-A-B		54-A		C	500 lf of shotcrete section requires additional 3 inches of fiber reinforced shotcrete and localized rock bolts/mine straps.
20	62-C		700-A/B		108-A		B	Void above GOSS 200 lf from North Portal should be formed and backfilled with concrete Approx. 100 cy of shotcrete or 2000 lf of rock bolts with mine straps are needed for adjacent area.
21	59-A		308-A		108-A		A	No rehab work required.
TOTAL	2994	100	4579	3977	909	362		
NOTES							Rating of Liner	"A" indicates No Remedial Work Required.
	1. GOSS refers to gunite over steel sets and reinforcing fabric. 2. Shotcrete liner almost always refers to unreinforced gunite. 3.Timber sets are 10" by 14" cedar or redwood.Concrete is reinforced with #6 to #8 rebars. 4. Steel is W8-31 with no shotcrete (gunite) covering.							"B" indicates that Remedial work will eventually be required long-term, estimated at greater than 5 years from the present.
								"C"- indicates that the remedial work should be done as soon as possible; there is the possibility of interruption to train travel if not accomplished in a timely manner.

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Table 2 Roseburg/Siskiyou Branch Tunnel Condition Assesment

Tunnel	Liner						Track Structure/ Drainage	Tunnel Liner Remarks
	GOSS	Unlined	Shotcrete	Timber	Concrete	Steel		
	(lf-rating)	(lf-rating)	(lf-rating)	(lf-rating)	(lf-rating)			
2	387-A		45-A				B	No rehab work required.
3	311-A		60-A		59-A		A	No rehab work required.
4	261-A	62-A					A	No rehab work required.
5	77-A	239-B			25-A		B	100 lf of rock to be bolted and strapped.
6	70-A	446-B					A	80 lf of rock to be bolted and strapped.
7		77-B			51-A		A	77lf of rock to be bolted. Shotcrete sidewalls
8	96-A	2669-A			54-A		B	No rehab work required.
9	1466-A		140-A	448-A	51-A		B	No rehab work required.
13								Under construction due to fire November 2003
14	109-A		329-A	694-B/C		60-A	B	60 lf in center of tunnel-pull timber sets, bolt and shotcrete.Collapse of some timber sets in Spring 2004; others pulled at that time.
15	265-A						A	No rehab work required.
TOTAL	3042	3493	574	1142	240	60		

NOTES

1. GOSS refers to gunite over steel sets and reinforcing fabric.
2. Shotcrete liner almost always refers to unreinforced gunite.
3. Timber sets are 10" by 14" cedar or redwood.
4. Concrete is reinforced with #6 to #8 rebars.
5. Steel is W8-31 with no shotcrete (gunite) covering.

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Table 3-Short Term (1 to 5 Years) Maintenance Costs						
Tunnel	**Type of Instability**	**Proposed Remedial Work**	**Units**	**Unit Cost**	**Item Cost**	**Total Cost**
Coos Bay Branch						
13	Deteriorated timber sets should be pulled and shotcreted. Improve drainage at S portal.	60 lf of timber sets need to be pulled and area shotcreted	15 sets	$500/set	$7,500	
			60 cy of shotcrete	$750/cy	$45,000	$52,500
15	Severe crushing and seepage deterioration of many crown segments, some of which have fallen out.	Install overlay liner of steel sets and shotcrete in about 200 lf of the timber section.	200 LF	$2000/lf	$400,000	$400,000
20	Void above GOSS 200 lf from North Portal should be formed and backfilled with concrete. Approx. 100 cy of shotcrete or 2000 lf of rock bolts with mine straps are needed for adjacent areas.	Void should be formed and backfilled with concrete. Approx. 100 cy of shotcrete or 2000 lf of rock bolts with mine straps are needed for adjacent area.	20 cy Concrete	$500/cy	$10,000	
			100 cy shotcrete	$750/cy	$75,000	$85,000
Siskiyou Branch						
14	60 lf in center of tunnel-pull timber sets, bolt and shotcrete.Collapse of some timber sets in Spring 2004; others pulled at that time.	60 lf of timber sets should be pulled, crown rock bolted and shotcreted.	15 sets	$500/set	$7,500	
			60 cy shotcrete	$750/cy	$45,000	
			600 LF	$30/LF	$18,000	$70,500
Notes:	1. Costs do not include CORP flagging, work train, and engineering support or contractor mob. Assume these costs at 30% of item costs.					
	2. Track structure rehab work not covered by this Table.				TOTAL	$608,000

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Table 4-Long Term (5+ years) Maintenance Costs

Tunnel	Type of Instability	Proposed Remedial Work	Quantity	Unit Cost	Item Cost	Total Cost
Coos Bay Branch						
13	Incomplete GOSS installation	340 lf of bare steel sets to be covered with shotcrete.	340 LF	$1000/LF	$340,000	$340,000
15	Minor repair of crack in South Portal concrete structure with soil anchors.	Install IBO bolts with mine straps across the crack.	100 LF soil anchors	$80/LF	$8,000	$8,000
17	Seriously deteriorated gunite in GOSS section.	Add fiber reinforced shotcrete over GOSS.	100 cy	$750/cy	$75,000	$75,000
18	50 lf of deteriorated timber sets	Install GOSS.	50 LF	$2000/LF	$100,000	$100,000
19	Exceptionally thin gunite layer is scaling off of arch.	Add fiber reinforced shotcrete (3 inches) in arch	200 cy	$750/cy	$150,000	$150,000
20		Drainage improvements needed. See Note 3.				
			TOTAL			$673,000
Roseburg Branch						
5	100 LF of loose rock in arch	4-10 ft long rock bolts at 4 ft centers. Drainage improvements needed.	1000 LF	$40/LF	$40,000	$40,000
6	80 LF of loose rock in arch.	4-10 ft long rock bolts at 4 ft centers.	800 LF	$40/LF	$32,000	$32,000
7	77 LF of loose rock in arch.	4-10 ft long rock bolts at 4 ft centers.	800 LF	$40/LF	$32,000	$32,000
8	Drainage improvements needed					
9	Drainage improvements needed	Construct drainage ditch				
Siskiyou Branch						
14	600+/- LF of timber sets supporting blocky ground; many sets continue to deteriorate because of seepage.	Replace timber sets	600 LF	$1000/LF	$600,000	$600,000
15	Fouled ballast.	Fouled ballast needs replacement				
Roseburg/Siskiyou Branch			TOTAL			$704,000

Notes

1. Track structure rehab work not covered by this Table.
2. Assume additional 30% to costs for Contractor Mob, CORP flagging & overhead costs.
3. Drainage improvements by ditching to be done by CORP maintenance crews. Therefore, costs not included in this estimate.

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Table 5 -Clearance for Plates "F" and "H"

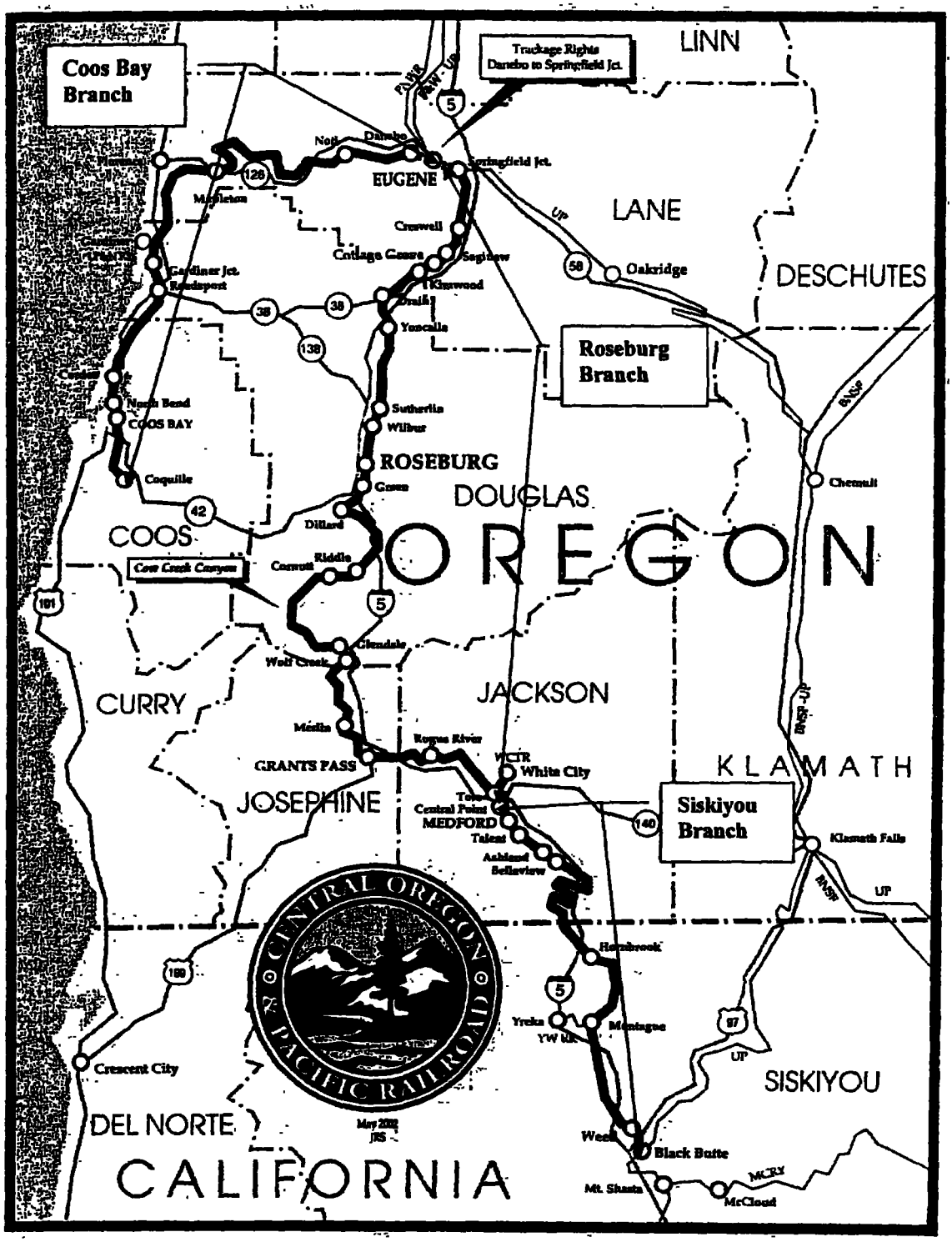
Tunnel	Cleared for Plate "F"	Work Required	Costs	Cleared for Plate "H"	Work Required	Costs
Coos Bay						
13	Yes	None	0	No	NA	
14	Yes	None	0	No	NA	
15	Yes	None	0	No	NA	
16	Yes	None	0	No	NA	
17	Yes	None	0	No	NA	
18	Yes	None	0	No	NA	
19	Yes	None	0	No	NA	
20	Yes	None	0	No	NA	
21	Yes	None	0	No	NA	
		TOTAL				
Siskiyou/Roseburg						
2	Yes	NA	0	No	Replace arch with shotcrete or larger steel segments.	$200,000
3	Yes	NA	0	No	Replace arch with shotcrete or larger steel segments.	$400,000
4	Yes	NA	0	No	Drill and blast rock sections; lower track 18" or replace arch with shotcrete or larger steel segments in GOSS section	$500,000
5	No	Drill and blast about 6" from springline to springline for clearance	$120,000	No	Drill and blast about 2' from springline to springline for clearance; 1 week of work	$200,000
6	No	Drill and blast about 6" from springline to springline for clearance	$220,000	No	Drill and blast about 2' from springline to springline for clearance	$400,000
7	Yes	NA	0	No	Drill and blast about 2' from springline to springline for clearance	$65,000
8	No	Drill and blast about 6" from springline to springline for clearance	$1,350,000	No	Drill and blast about 2' from springline to springline for clearance	$2,250,000
9	Yes	NA	0	No	Some arch liner notching/arch segment replacement/timber set replacment.	$300,000
13	under construction	Lower track 18"	$1,000,000	under construction	Lower track 48"	$1,300,000
14	No	Replace timber sets with shotcrete/rockbolts	$750,000	No	Replace timber sets with shotcrete/rockbolts and some additional rock excavation	$1,200,000
15	Yes	NA	0	No	Lower track 8" or replace arch with shotcrete or larger steel segments.	$550,000
		TOTAL	$3,440,000		TOTAL	$7,365,000

Notes

1. Drill and blast cost for Plate "F" clearance is estimated at $500/LF
2. Drill and blast cost for Plate "H" clearance is estimated at $800/LF
3. Timber replacement with shotcrete and rock bolts is estimated at $1000/LF
4. Track lowering is estimated at $300/LF for Plate "F", $400/LF for Plate "H"
5. Costs do not include CORP flagging, work train, and engineering support or contractor mob. Assume these costs are 30% of item costs
6. Drill & Blast costs for Plate "F" clearance assume entire length of rock section is "tight", likely "tights" are local and costs will be significantly less

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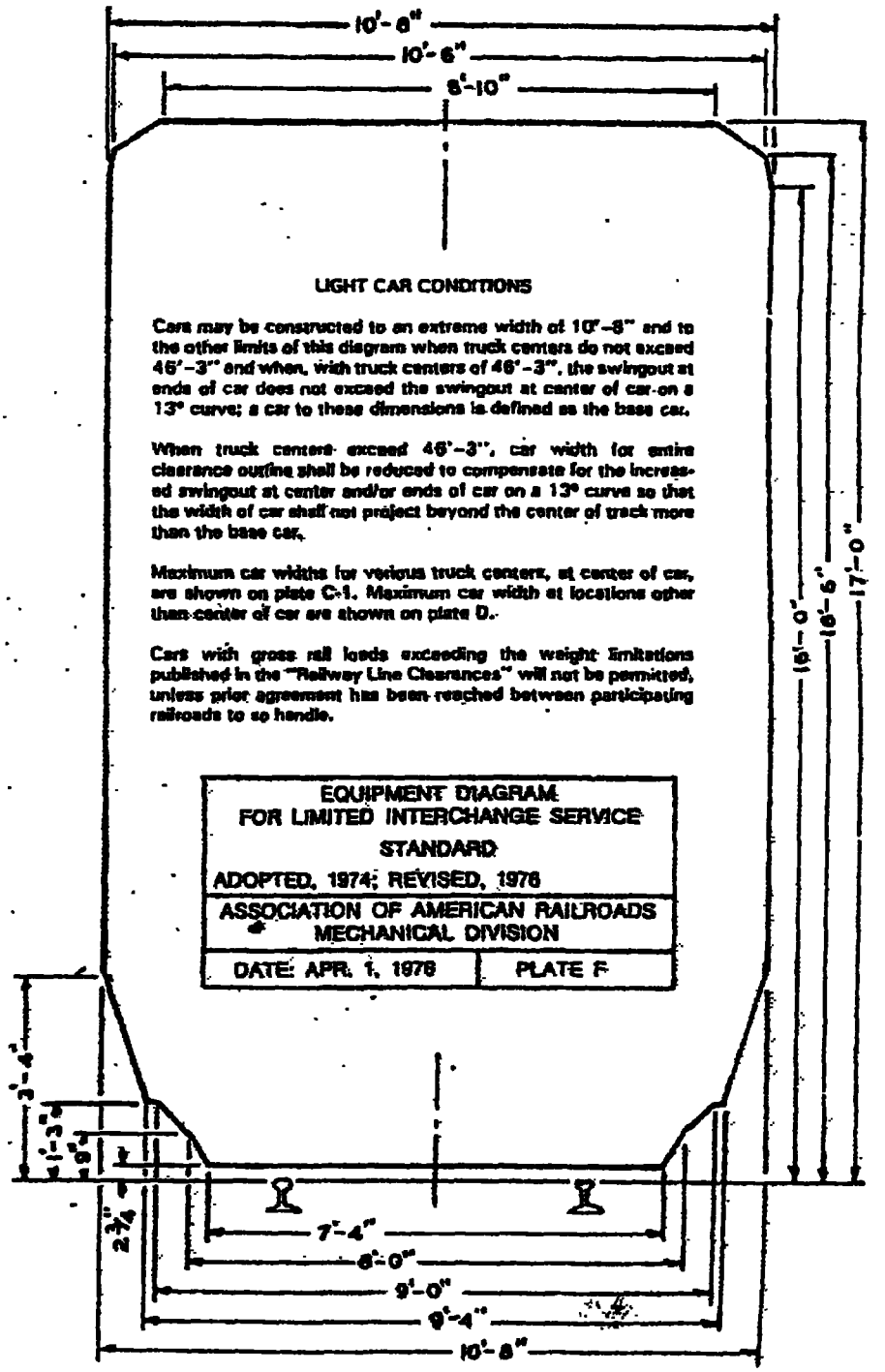


Milbor-Pita & Associates, Inc Geotechnical & Tunnel Consultants 17270 Woodinville-Redmond Rd. NE ph: 425-486-6561 Woodinville, WA fax: 425-488-2660	Central Oregon and Pacific Railroad Tunnel Condition Assessment	Vicinity Map	
		#1474	FIGURE 1

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LIGHT CAR CONDITIONS

Cars may be constructed to an extreme width of 10'-8" and to the other limits of this diagram when truck centers do not exceed 46'-3" and when, with truck centers of 46'-3", the swingout at ends of car does not exceed the swingout at center of car on a 13° curve; a car to these dimensions is defined as the base car.

When truck centers exceed 46'-3", car width for entire clearance outline shall be reduced to compensate for the increased swingout at center and/or ends of car on a 13° curve so that the width of car shall not project beyond the center of track more than the base car.

Maximum car widths for various truck centers, at center of car, are shown on plate C-1. Maximum car width at locations other than center of car are shown on plate D.

Cars with gross rail loads exceeding the weight limitations published in the "Railway Line Clearances" will not be permitted, unless prior agreement has been reached between participating railroads to so handle.

EQUIPMENT DIAGRAM
FOR LIMITED INTERCHANGE SERVICE
STANDARD
ADOPTED, 1974; REVISED, 1976
ASSOCIATION OF AMERICAN RAILROADS
MECHANICAL DIVISION
DATE: APR. 1, 1976 | PLATE F

The 2-3/4" above top of rail is absolute minimum under any and all conditions of lading, operation, and maintenance.

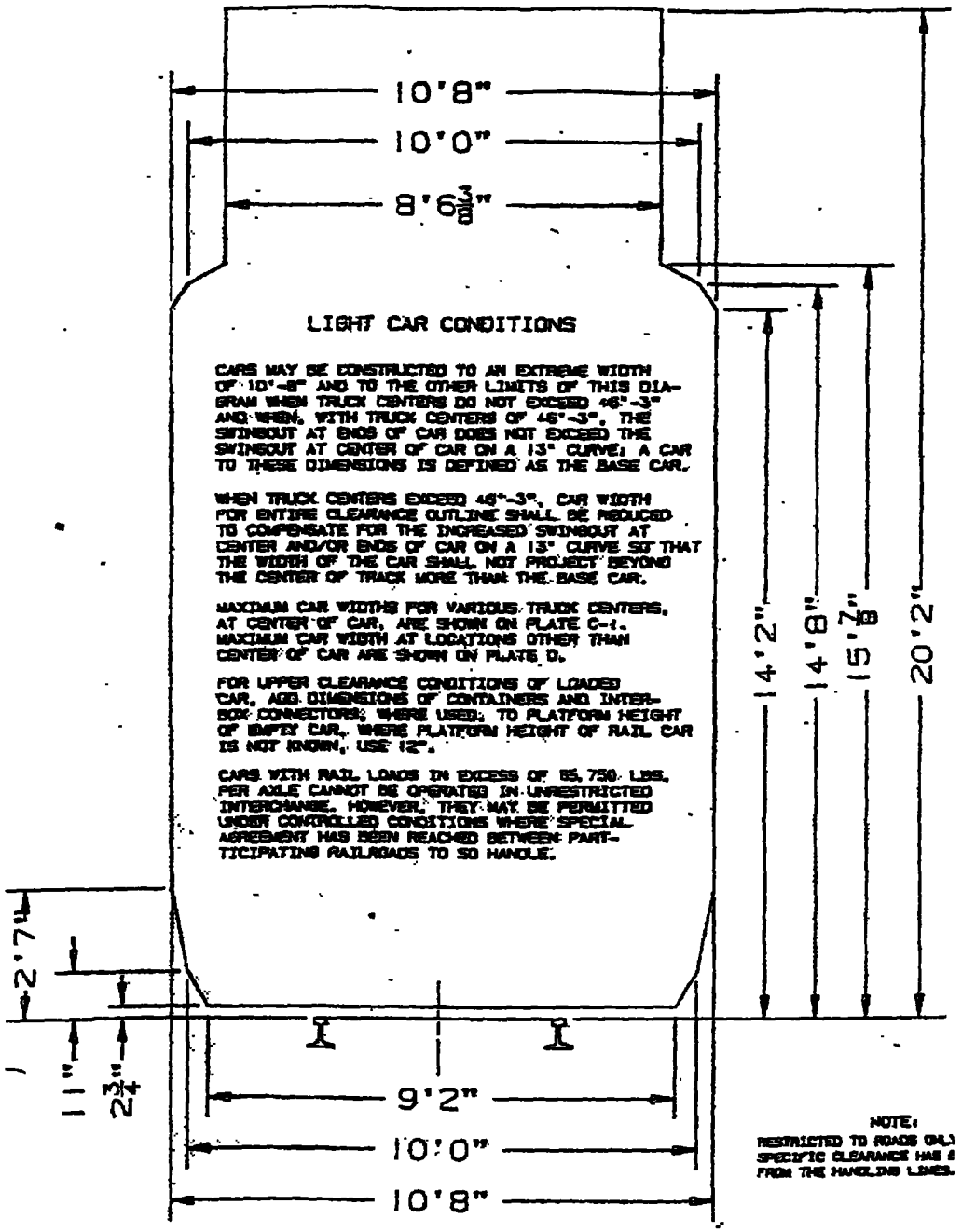
Milbor-Pita & Associates, Inc Geotechnical & Tunnel Consultants 17270 Woodinville-Redmond Rd. NE ph: 425-486-6561 Woodinville, WA fax: 425-488-2660	Central Oregon and Pacific Railroad Tunnel Condition Assessment	Plate "F" Clearance Standard #1474 FIGURE 2

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EQUIPMENT DIAGRAM
FOR DOUBLE-STACK CONTAINER CARS
STANDARD

S-2040-91 ADOPTED, 1991



The 2-3/4" above top of rail is absolute minimum under any and all conditions of lading, operation, and maintenance.

Milbor-Pita & Associates, Inc Geotechnical & Tunnel Consultants 17270 Woodinville-Redmond Rd. NE ph: 425-486-6561 Woodinville, WA fax: 425-488-2660	Central Oregon and Pacific Railroad Tunnel Condition Assessment	Plate "H" Clearance Standard #1474 FIGURE 3

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APPENDIX A

Railroad Tunnel Inspection Forms

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Milbor-Pita & ASSOCIATES, INC.

RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 1 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 13
Division: Coos Bay Branch

MP: 669.47

Length: 2487 ft
Curve: 8° / Tangent
Height:
Width:

No. of Tracks: One
Grade: 0.60%
Year Built: 1883/1928
Speed: 10 mph

Lining: GOSS: 599'; Concrete: 129'; Timber: 1319; Steel: 340'; unlined: 100'
Ground: Massively bedded sandstone, minor shale, very good ground
Cover: Max. 100 ft
Min. 0 ft at portals
Drainage: Wet in ditch, entire tunnel
Utilities in Tunnel: No
Structure over Tunnel: None
Est. Track Time: +10 hours
Trains per Day: 2

Track Type: CWR/wood ties
Ballast Condition: Wet and muddy
Ballast Thickness: No shoulder ballast
Portal Structures: Concrete
Bridges: South end
Switches: No
Sidings: Vaughn MP 668.3
Road Access: No
Mob. Area: No

Condition Assessment

- Localized instability in timber sets near middle of tunnel due to seepage. Pull timber sets and re-line with reinforced shotcrete.
- Construct concrete footing under GOSS.
- 340 lf of bare steel sets should be formed with channel lagging and backfilled with concrete, or covered with reinforced shotcrete.
- Drainage at S portal need to be improved.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 1 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 14
Division: Coos Bay Branch

MP: 681.09

Length: 471
Curve: 8°
Height:
Width:

No. of Tracks: One
Grade: -0.60%
Year Built: 1883/1928
Speed: 20 mph

Lining: GOSS: 34'; concrete: 54'; shotcrete: 383'
Ground: Massively bedded sandstone, very hard; good rock mass
Cover: Max. 300 ft
Min.
Drainage: dry tunnel
Utilities in Tunnel: No
Structure over Tunnel: Road over S portal
Est. Track Time: 10+ hours
Trains per Day: 2

Track Type: Jointed/wood ties
Ballast Condition: Good
Ballast Thickness:
Portal Structures: N- Concrete; S-GOSS
Bridges: North end
Switches: No
Sidings:
Road Access: S end-secondary road
Mob. Area: No

Condition Assessment

- Very good shotcrete lining over rock.
- Dry tunnel with good track structure.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 1 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 15
Division: Coos Bay Branch

MP: 720.73

Length: 2143
Curve: Tangent
Height:
Width:

No. of Tracks: One
Grade: -0.40%
Year Built: 1883/1928
Speed: 20 mph

Lining: GOSS: 367'; concrete: 111'; timber: 1643'; steel: 22'
Ground: Sandstone
Cover: Max. 150 ft
Min. 0 ft at portals
Drainage: Wet and very muddy. Water above ties in places.
Utilities in Tunnel: No
Structure over Tunnel: Road over S portal
Est. Track Time: 10+ hours

Track Type: CWR/wood ties
Ballast Condition: Fouled
Ballast Thickness:
Portal Structures: Concrete
Bridges: Both ends
Switches: East End
Sidings: Canary MP 721.3
Road Access: N and S ends
Mob. Area: No

Trains per Day: 2

Condition Assessment

- Very deteriorated timber at N end for 200 lf; local crushing at crown. Timbers are currently on 1 to 2 ft centers. Every other timber set should be pulled and replaced with a steel set, tied in at the base, and shotcreted. Where there is enough room between the existing timber sets, the timber sets could be left intact and steel sets placed between the timber sets.
- Bare steel sets and inadequate gunite over GOSS should be shotcreted.
- Complete track structure and drainage improvements needed.
- Significant, 30 ft long crack along W side of S portal concrete. Repairable with soil anchors and mine straps.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 1 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 16
Division: Coos Bay Branch

MP: 721.64

Length: 617
Curve: 7°
Height:
Width:

No. of Tracks: One
Grade: 0.40%
Year Built: 1883/1928
Speed: 25 mph

Lining: GOSS: 508'; concrete: 109'
Ground: Sandstone
Cover: Max. 100 ft
Min. 0 ft at portals
Drainage: Dry
Utilities in Tunnel: No
Structure over Tunnel: No
Est. Track Time: 10+ hours

Trains per Day: 2

Track Type: CWR/wood ties
Ballast Condition: Good
Ballast Thickness:
Portal Structures: Concrete
Bridges: No
Switches: No
Sidings: Canary MP 721.3
Road Access: N end
Mob. Area: No

Condition Assessment

- Good dry tunnel.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 1 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 17
Division: Coos Bay Branch

MP: 727.70

Length: 1200 ft
Curve: 2°/Tangent
Height:
Width:

No. of Tracks: One
Grade: +0.40% /-0.40%
Year Built: 1883/1928
Speed: 25 mph

Lining: GOSS: 415'; concrete: 182'; timber: 417'; shotcrete: 186'
Ground: Massive sandstone
Cover: Max. 200 ft
Min. 0 ft at S portal
Drainage: Seriously blocked
Utilities in Tunnel: No
Structure over Tunnel: No
Est. Track Time: 10+ hours

Track Type: CWR/wood ties
Ballast Condition: Wet
Ballast Thickness:
Portal Structures: Concrete
Bridges: S end
Switches: N end
Sidings: Canary MP 721.3; spur at N end
Road Access: No
Mob. Area: No

Trains per Day: 2

Condition Assessment

- Portions of GOSS need new shotcrete.
- Drainage at N end blocked. Very muddy track; seriously plugged drainage.
- Timber sets in good condition.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 1 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 18
Division: Coos Bay Branch

MP: 734.48

Length: 1552 ft
Curve: Tangent
Height:
Width:

No. of Tracks: One
Grade: +0.40%
Year Built: 1883/1928
Speed: 25 mph

Lining: GOSS: 900'; concrete: 54'; timber: 598'
Ground: Massive to bedded sandstone, very good ground.
Cover: Max. 100 ft
Min. 20 ft at portals
Drainage: Seriously blocked
Utilities in Tunnel: No
Structure over Tunnel: No
Est. Track Time: 10+ hours
Trains per Day: 2

Track Type: Jointed/wood ties
Ballast Condition: Very muddy
Ballast Thickness:
Portal Structures: S-Concrete; N-GOSS
Bridges: S end
Switches: S end
Sidings: Kroll MP 732.8
Road Access: 4WD to S portal
Mob. Area: No

Condition Assessment

- South 50 lf of timber in poor condition. Replace by pouring footing wall about 3' high, and place steel sets and shotcrete.
- Very muddy track structure, especially in N half of tunnel. Blocked drainage.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 1 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 19
Division: Coos Bay Branch

MP: 745.62

Length: 4184 ft
Curve: Tangent
Height:
Width:

No. of Tracks: One
Grade: +0.40%
Year Built: 1883/1928
Speed: 25 mph

Lining: GOSS: 50'; concrete: 54'; shotcrete: 3002'
Ground: Massive to slabby sandstone, very good condition.
Cover: Max.
Min.
Drainage: Very muddy throughout
Utilities in Tunnel: No
Structure over Tunnel: No
Est. Track Time: 10+ hours
Trains per Day: 2

Track Type: CWR/wood ties
Ballast Condition: Very muddy
Ballast Thickness:
Portal Structures: S-Concrete; N-GOSS
Bridges: N end
Switches: No
Sidings: Lakeside MP 752.1
Road Access: N portal
Mob. Area: No

Condition Assessment

- Very muddy track structure.
- Shotcrete missing in 2 locations. Crown needs additional reinforced shotcrete or rockbolts/straps.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 1 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 20
Division: Coos Bay Branch

MP: 750.12

Length: 870 ft
Curve: 2°
Height:
Width:

No. of Tracks: One
Grade: -0.40%
Year Built: 1883/1928
Speed: 25 mph

Lining: Concrete: 108'; shotcrete: 700'; GOSS: 62'
Ground: Massive to slabby sandstone in good rockbolt and shotcrete ground
Cover: Max.
Min.
Drainage: Wet throughout
Utilities in Tunnel: No

Track Type: Jointed/wood ties
Ballast Condition: Muddy
Ballast Thickness:
Portal Structures: Concrete
Bridges: S end
Switches: No
Sidings: Lakeside MP 752.1
Road Access: No
Mob. Area: No

Structure over Tunnel: No
Est. Track Time: 10+ hours
Trains per Day: 2

Condition Assessment

- Void above GOSS 200ft from N portal. Build bulkhead, fill with concrete backfill. Re-shotcrete adjacent to this area.
- Localized sidewall sloughing of thin shotcrete; needs additional reinforced shotcrete or rock bolts/mine straps.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 1 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 21
Division: Coos Bay Branch

MP: 751.21

Length: 475 ft
Curve: 4°
Height:
Width:

No. of Tracks: One
Grade: 0.40%
Year Built: 1883/1928
Speed: 25 mph

Lining: Concrete: 108'; shotcrete: 308'; GOSS: 59'
Ground: Massive sandstone
Cover: Max.
Min.
Drainage: Water in ditches
Utilities in Tunnel: No

Track Type: Jointed/wood ties
Ballast Condition: Good
Ballast Thickness:
Portal Structures: Concrete
Bridges: S end
Switches: No
Sidings: Lakeside MP 752.1
Road Access: No
Mob. Area: Yes

Structure over Tunnel: No
Est. Track Time: 10+ hours
Trains per Day: 2

Condition Assessment

- Entire timbered section of tunnel (308') re-lined with fiber reinforced shotcrete and rock bolts in 1999 after fire.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 2
Division: Roseburg

MP: 520.96

Length: 432 ft
Curve: 10°
Height: 22'6"
Width: 17'

No. of Tracks: One
Grade: -1.25%
Year Built: 1883/1928
Speed: 20 mph

Lining: Shotcrete: 45'; Gunite over steel sets (GOSS): 387'
Ground: Slabby rock; slate to green schist
Cover: Max. 80 ft
Min. 0 ft at portals
Drainage: Good
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time: 10+ hours
Trains per Day: 2

Track Type: Jointed/wood ties
Ballast Condition: Wet and muddy
Ballast Thickness:
Portal Structures: GOSS
Bridges: North end; retaining wall at South end
Switches: No
Sidings: No; spur at MP 521.7
Road Access: At MP 521
Mob. Area: Cornut-MP 540; Glendale-MP 580

Condition Assessment

- Good mob area at county road (MP 521), water supply in area. Lining in good condition.
- Clears Plate "F".
- Plate "H" clearance requires max 18" track lowering or replacement of arch segments with shotcrete or larger steel segments.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 3
Division: Roseburg Branch

MP: 518.58

Length: 430 ft
Curve: 10°
Height:
Width: 17'

No. of Tracks: One
Grade: -1.25%
Year Built: 1883/1928
Speed: 20 mph

Lining: Shotcrete: 60'; GOSS: 310'; Concrete: 59'
Ground: Slabby hard rock
Cover: Max. 100 ft
Min. 0 at portals
Drainage: Dry tunnel, no drains
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time: 10+ hours
Trains per Day: 2

Track Type: Jointed/wood ties
Ballast Condition: Dry
Ballast Thickness:
Portal Structures: N:GOSS; S: Concrete
Bridges: No
Switches: No
Sidings:
Road Access: No
Mob. Area: Cornut MP 540; Glendale MP 580

Condition Assessment

- Good condition.
- Clears Plate "F".
- Plate "H" clearance requires max 18" track lowering or replacement of arch segments with shotcrete or larger steel segments.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 4
Division: Roseburg Branch

MP: 516.01

Length: 323 ft
Curve: 12°
Height:
Width:

No. of Tracks: One
Grade: -1.00%
Year Built: 1883/1928
Speed: 20 mph

Lining: GOSS: 261';unlined: 62'
Ground: Slabby; schistose
Cover: Max. 50 ft
Min. 0 ft over half of tunnel
Drainage: Dry
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time: 10+ hours
Trains per Day: 2

Track Type: Jointed/wood ties
Ballast Condition: Dry
Ballast Thickness:
Portal Structures: GOSS
Bridges: No
Switches: No
Sidings:
Road Access: No
Mob. Area:

Condition Assessment

- Lining in good condition.
- Clears Plate "F".
- Plate "H" clearance requires max 18" track lowering or replacement of arch segments with shotcrete or larger steel segments.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

Tunnel No.: 5
Division: Roseburg Branch

MPA Job No. 1474
Railroad: CORP

MP: 515.72

Length: 341 ft
Curve: 10°
Height:
Width:

No. of Tracks: One
Grade: -1.00%
Year Built: 1883/1928+++
Speed: 20 mph

Lining: Concrete: 25'; GOSS: 77'; unlined: 239'
Ground: Very good-massive to slabby
Cover: Max. 50 ft
Min. 0 ft.
Drainage: Dry at N; slightly muddy at S portal
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time: +10 hours
Trains per Day: 2

Track Type: Jointed/wood ties
Ballast Condition:
Ballast Thickness:
Portal Structures: Concrete/GOSS
Bridges: N end
Switches: No
Sidings: No
Road Access: No
Mob. Area:

Condition Assessment

- Lining in good condition.
- Muddy at north and south ends.
- Approx. 100 lf requires rock bolt and mine straps.
- Minor "tights" in rock section for Plate "F" clearance.
- Some track lowering or GOSS arch segment replacement required for Plate "H".

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 6
Division: Roseburg Branch

MP: 514.72

Length: 516 ft
Curve: 10°
Height: 22'6"
Width: 17'

No. of Tracks: One
Grade: -1.00%
Year Built: 1883
Speed: 20 mph/1928

Lining: GOSS: 70'; unlined: 446'
Ground: Very good-blocky
Cover: Max. 100 ft
Min. 0 ft.
Drainage: Dry
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time: 10+ hours

Trains per Day: 2

Track Type: New jointed/wood ties
Ballast Condition: New
Ballast Thickness:
Portal Structures: GOSS
Bridges: No
Switches: No
Sidings: No
Road Access: Both ends with 4WD
Mob. Area:

Condition Assessment

- Lining/rock in good condition.
- Approx. 100 lf requires rock bolt and mine straps.
- Minor "tights" in rock section for Plate "F" clearance.
- Some track lowering or GOSS arch segment replacement required for Plate "H".

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 7
Division: Roseburg Branch

MP: 514.06

Length: 128 ft
Curve: 10°
Height:
Width:

No. of Tracks: One
Grade: -1.00%
Year Built: 1883/1928
Speed: 20 mph

Lining: Concrete: 51'; unlined: 77'
Ground: Very good massive to slabby
Cover: Max. 75 ft
Min. 0 ft. at portals
Drainage: Dry
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time: 10+ hours
Trains per Day: 2

Track Type: Jointed/wood ties
Ballast Condition: Dry
Ballast Thickness:
Portal Structures: Concrete
Bridges: No
Switches: No
Sidings: No; small stub track on S end
Road Access: N about MP 514.5; both ends with 4WD
Mob. Area:

Condition Assessment

- Lining and rock in good condition.
- Clears Plate "F".
- Some track lowering or concrete arch notching required for Plate "H".

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 8
Division: Roseburg Branch

MP: 505.15

Length: 2819 ft
Curve: 6°/Tangent
Height:
Width:

No. of Tracks: One
Grade: -1.92%
Year Built: 1883/1928
Speed: 25 mph

Lining: Concrete: 54'; unlined: 2669'; GOSS 96'
Ground: Very good massive rock
Cover: Max. 150 ft
Min. 0 ft. at portals
Drainage: Water in ditches
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time: 10+ hours

Trains per Day: 2

Track Type: Jointed/wood ties
Ballast Condition: New ballast and track at N end.
Ballast Thickness:
Portal Structures: Concrete
Bridges: No
Switches: No
Sidings: No
Road Access: No
Mob. Area:

Condition Assessment

- Lining and tunnel in good condition.
- Minor "tights" in rock section for Plate "F" clearance.
- Some track lowering or GOSS arch segment replacement required for Plate "H".

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Milbor-Pita & ASSOCIATES, INC.

RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

Tunnel No.: 9
Division: Roseburg Branch

Length: 2105 ft
Curve: Tangent
Height:
Width: Concrete- 17'4"; GOSS-18'

Lining: Concrete: 51';timber: 448'; GOSS: 1466'; shotcrete: 140'
Ground: Some unstable ground
Cover: Max. 250 ft
Min. 0 ft. at portals
Drainage: Wet and fouled ballast both end
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time: 10+ hours

Trains per Day: 2

MPA Job No. 1474
Railroad: CORP

MP: 490.58

No. of Tracks: One
Grade: +1.52%
Year Built: 1883/1928
Speed: 25 mph

Track Type: Jointed/wood ties
Ballast Condition:
Ballast Thickness:
Portal Structures: Concrete
Bridges: No
Switches: No
Sidings: Leland MP 494.1; stub track N end
Road Access: 4WD to N and S ends
Mob. Area: Stub track N end

Condition Assessment

- Clears Plate "F".
- Some arch liner notching/arch segment replacement/timber set replacement for Plate "H" clearance.
- Severe ballast fouling. Establish drainage ditch.
- Steel at 2' to 4' spacing.
- Invert struts under GOSS at N end. Purpose is questionable since there are no signs of deformation in sidewalls.
- Very wet section of GOSS 200 ft back from S portal.

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Milbor-Pita & ASSOCIATES, INC.

RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 13
Division: Siskiyou Branch

MP: 411.3

Length: 3107 ft
Curve: Tangent
Height:
Width:

No. of Tracks: One
Grade: +3.67%
Year Built: 1883/1928/2004
Speed: 10 mph

Lining: GOSS; Steel Sets/concrete;Shotcrete
Ground: Unstable ground in center section; volcanic breccia and tuff/ash
Cover: Max. 250 ft
Min. 0 ft. at portals
Drainage: generally good except at portals
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time:
Trains per Day: Currently closed

Track Type: CWR/wood ties
Ballast Condition:
Ballast Thickness:
Portal Structures: GOSS
Bridges: No
Switches: N end
Sidings: Siskiyou MP 412.2
Road Access: North end; 4WD to S
Mob. Area: North end

Condition Assessment

- Tunnel is under reconstruction due to tunnel fire in November 2003.
- Plate "F" requires 18" track lowering to clear GOSS.
- Plate "H" requires 48" track lowering to clear GOSS.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 14
Division: Siskiyou Branch

MP: 414.6

Length: 1192 ft
Curve: 14°/Tangent
Height:
Width:

No. of Tracks: One
Grade: -3.40%
Year Built: 1883/1928/1960's
Speed: 10 mph

Lining: Steel: 60'; timber: 754'; GOSS: 109'; shotcrete: 329'
Ground: Granite and gneiss, massive; blocky; good solid rock for rockbolts.
Cover: Max. 150 ft
Min. 0 ft. at portals
Drainage: Fairly dry in N 2/3rds of tunnel; wet in S 1/3rd
Utilities in Tunnel: Fiber Optic Cable
Structure over Tunnel: None
Est. Track Time: 10+ hours
Trains per Day: 2

Track Type: Jointed/wood ties
Ballast Condition:
Ballast Thickness:
Portal Structures: GOSS
Bridges: No
Switches: No
Sidings: Siskiyou MP 412.2
Road Access: No
Mob. Area: No

Condition Assessment

- Some timber sets pulled after collapse in Spring 2004. 60 lf of wet, deteriorated timber supports in center. Sets should be pulled, crown rock bolted and shotcreted.
- Plate "F" clearance requires replacement of timber sets with shotcrete/rock bolts.
- Plate "H" clearance requires replacement of timber sets with shotcrete/rock bolts and some additional rock excavation.

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RAILROAD TUNNEL INSPECTION FORM

By: Gerry Millar, Carol Ravano
Date: 2 Sept 2004

MPA Job No. 1474
Railroad: CORP

Tunnel No.: 15
Division: Siskiyou Branch

MP: 415.2

Length: 265 ft
Curve: 7.5°
Height:
Width:

No. of Tracks: One
Grade: -3.40%
Year Built: 1883/1960's
Speed: 20 mph

Lining: GOSS
Ground: Blocky rock
Cover: Max. 60 ft
Min. 0 ft. at portals
Drainage: Muddy
Utilities in Tunnel: Fiber Optic Cable; signal underground at S portal
Structure over Tunnel: None
Est. Track Time: 10+ hours

Track Type: Jointed/wood ties
Ballast Condition: Severely fouled
Ballast Thickness:
Portal Structures: GOSS
Bridges: North end
Switches: No
Sidings: Siskiyou MP 412.2
Road Access: No
Mob. Area: No

Trains per Day: 2

Condition Assessment

- Lining in good condition.
- Clears Plate "F".
- Plate "H" clearance requires 8" track lowering or replacement of GOSS arch segments with shotcrete and/or steel sets.

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APPENDIX B

Site Photos

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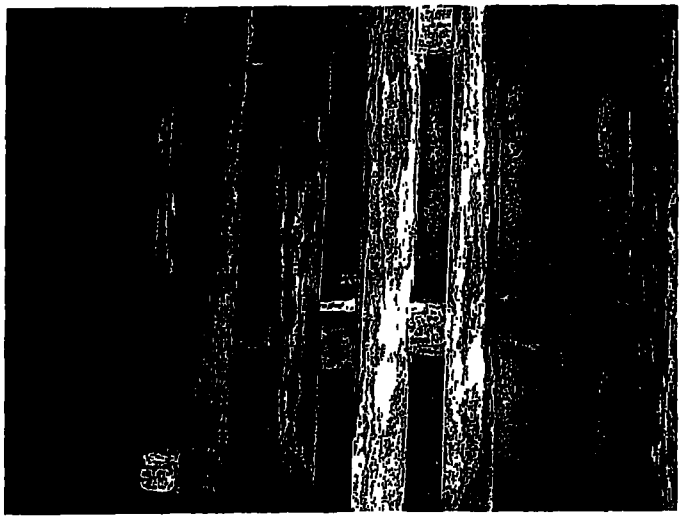


Photo 1-Deteriorated Wood sets-typical; Tunnel 13-Coos Bay Branch

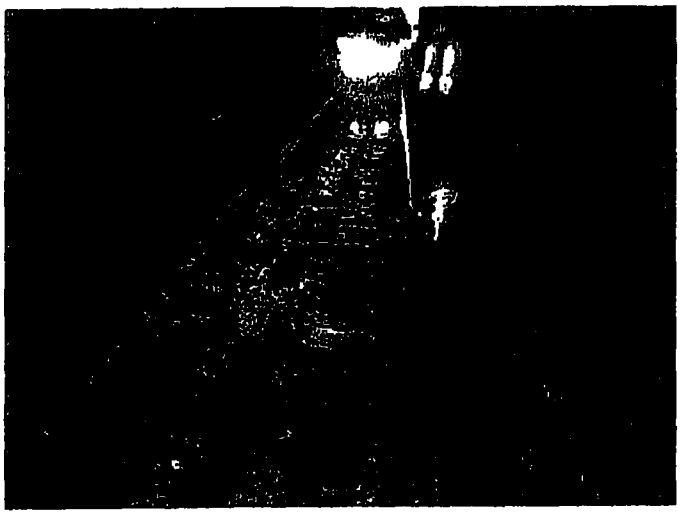


Photo 2-Fouled Ballast-typical; Tunnel 13-Coos Bay Branch

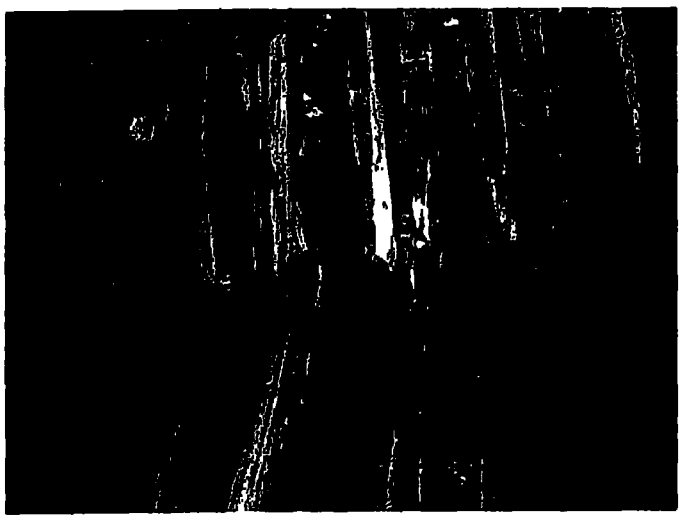


Photo 3- Localized crushing of wood sets; Tunnel 15-Coos Bay Branch

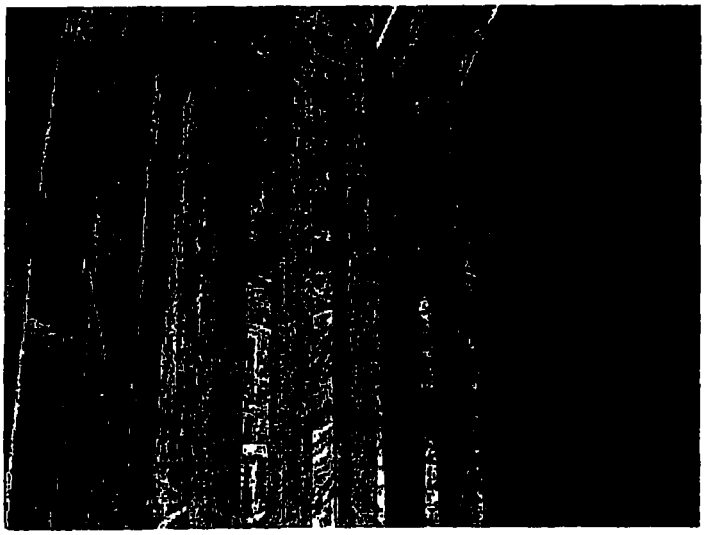


Photo 4-Steel sets with no concrete; Tunnel 15-Coos Bay Branch



Photo 5-Timber sets in good condition and drainage ditch; Tunnel 15-Coos Bay Branch



Photo 6-Deteriorated GOSS-typical; Tunnel 15-Coos Bay Branch



Photo 7-Crack in South portal sidewall; Tunnel 15-Coos Bay Branch

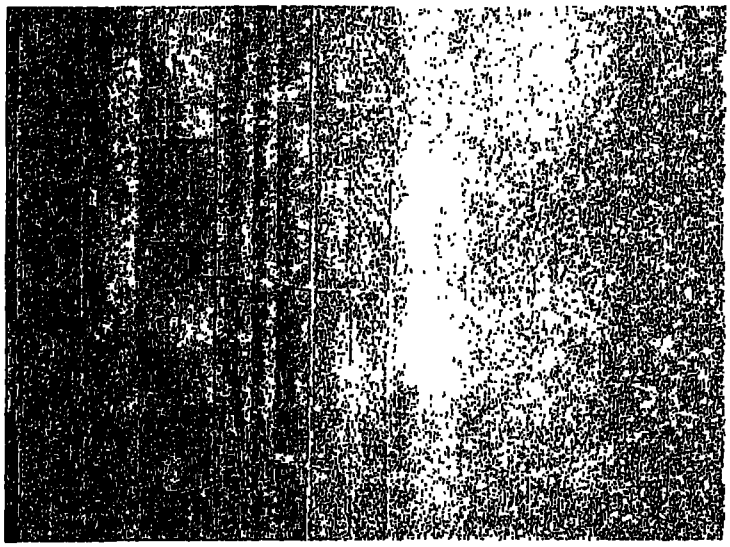


Photo 8- Shotcrete over GOSS, incomplete in areas; Tunnel 17-Coos Bay Branch



Photo 9- Void above GOSS; Tunnel 20-Coos Bay Branch



Photo 10-Portal with tight rock. Note lower clearance in rock after portal concrete-typical; Tunnel 4-Roseburg

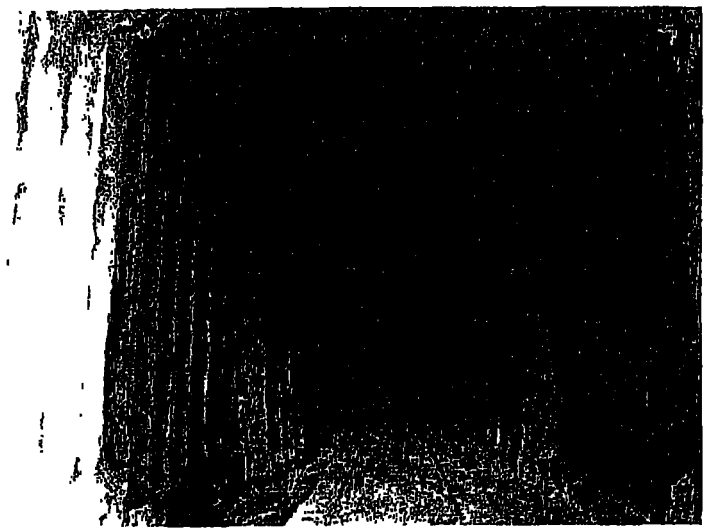


Photo 11-Coffin timber sets with lower clearance than GOSS; Tunnel 14-Siskiyou Branch



Photo 12-Collapse in sidewall; Tunnel 14-Siskiyou Branch

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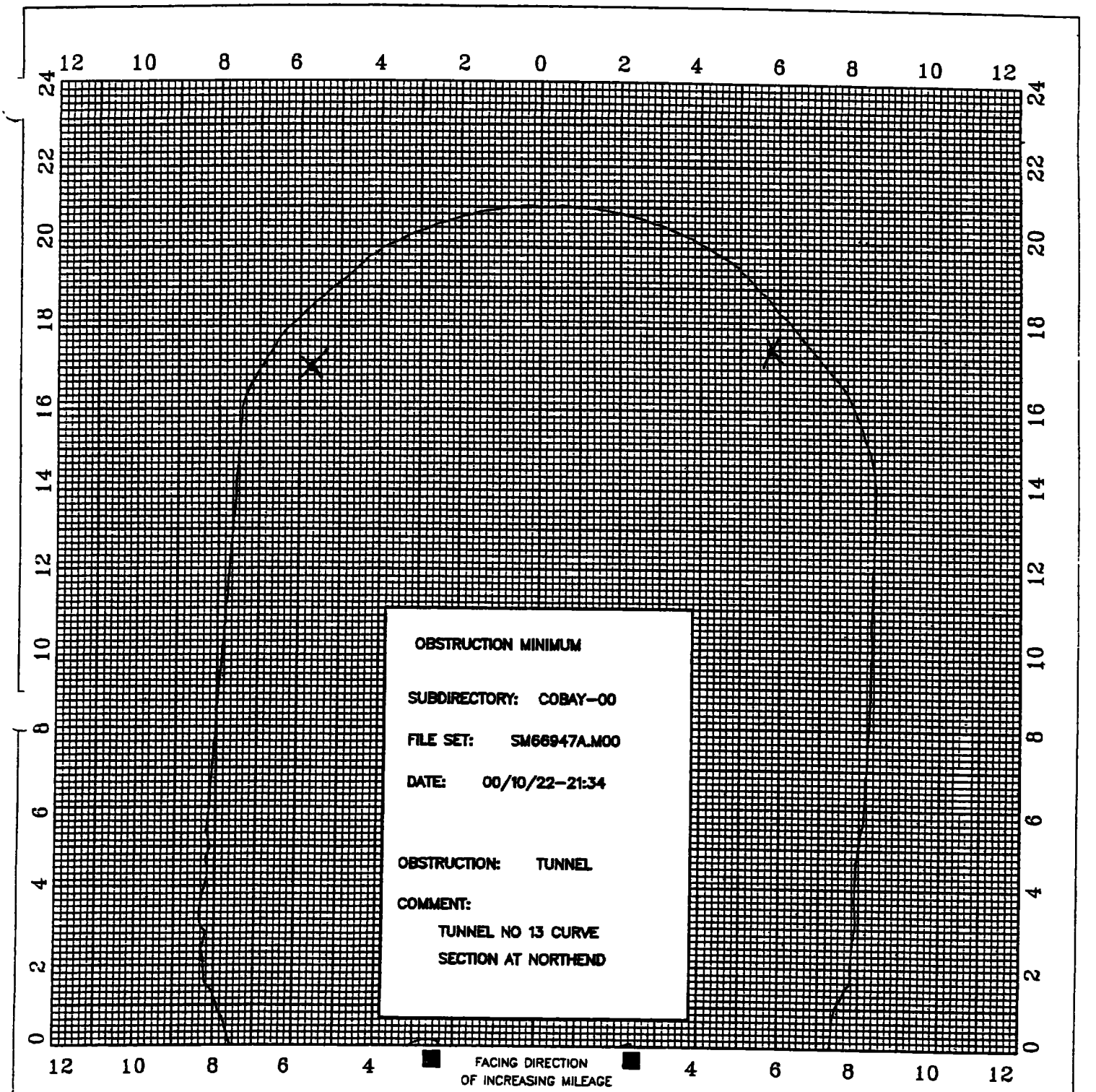
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APPENDIX C

Coos Bay
Plates "F" and "H" Clearance Diagrams

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PREPARED BY:	A. GODIN
DATE	Tue Jan 23 10:58:53 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

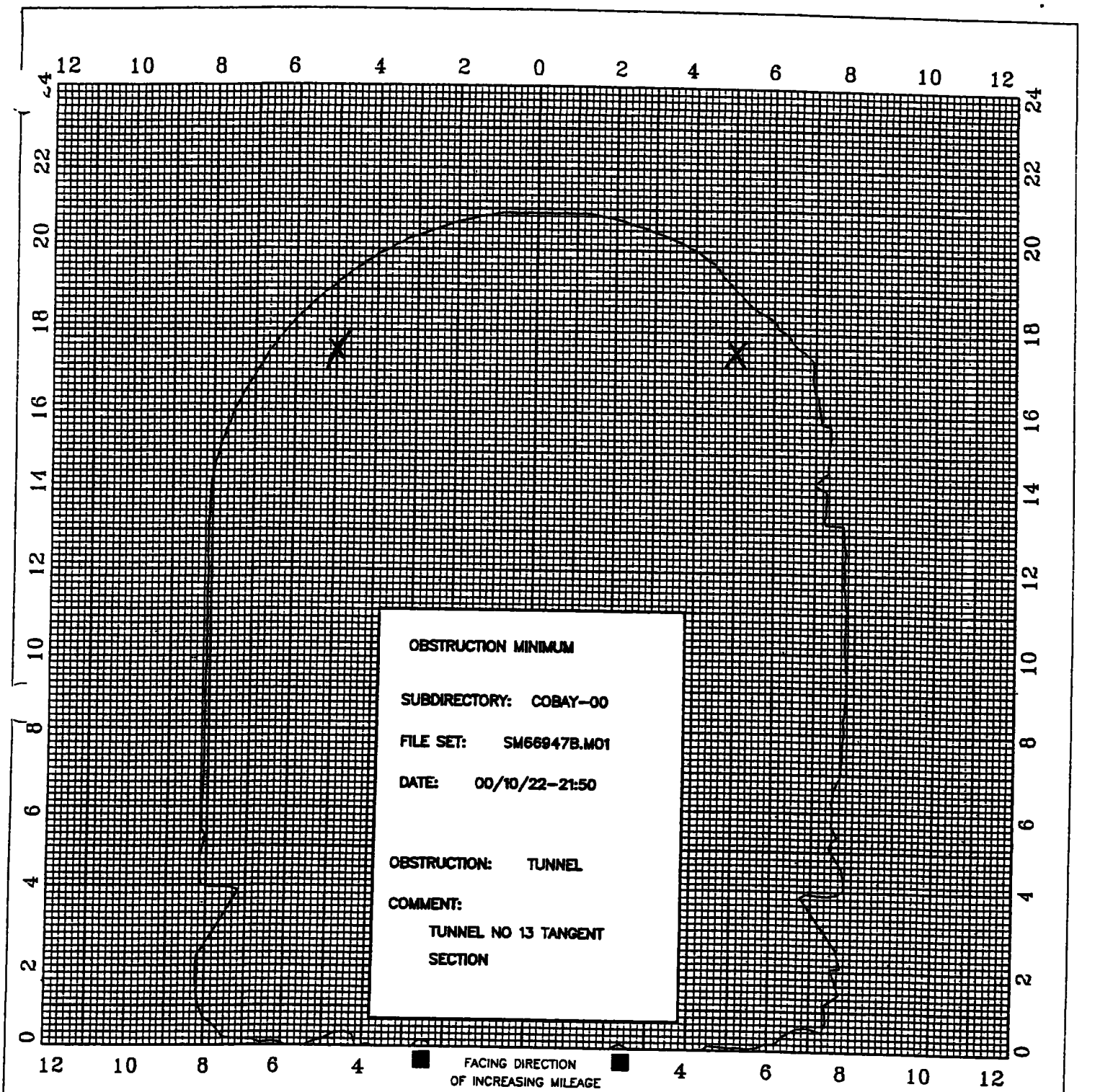
SUBDIVISION NAME	COOS BAY
MILEAGE FROM 669.47 TO	
DEGREE OF CURVE 9.0	DIRECTION OF CURVE LEFT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

Plate "F" -
Plate "H" -

CORP-C-000337

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PREPARED BY:	A. GODIN
DATE	Tue Jan 23 10:58:55 2001
LOCATION	

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

SUBDIVISION NAME	COOS BAY
MILEAGE FROM 669.47	TO
DEGREE OF CURVE	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

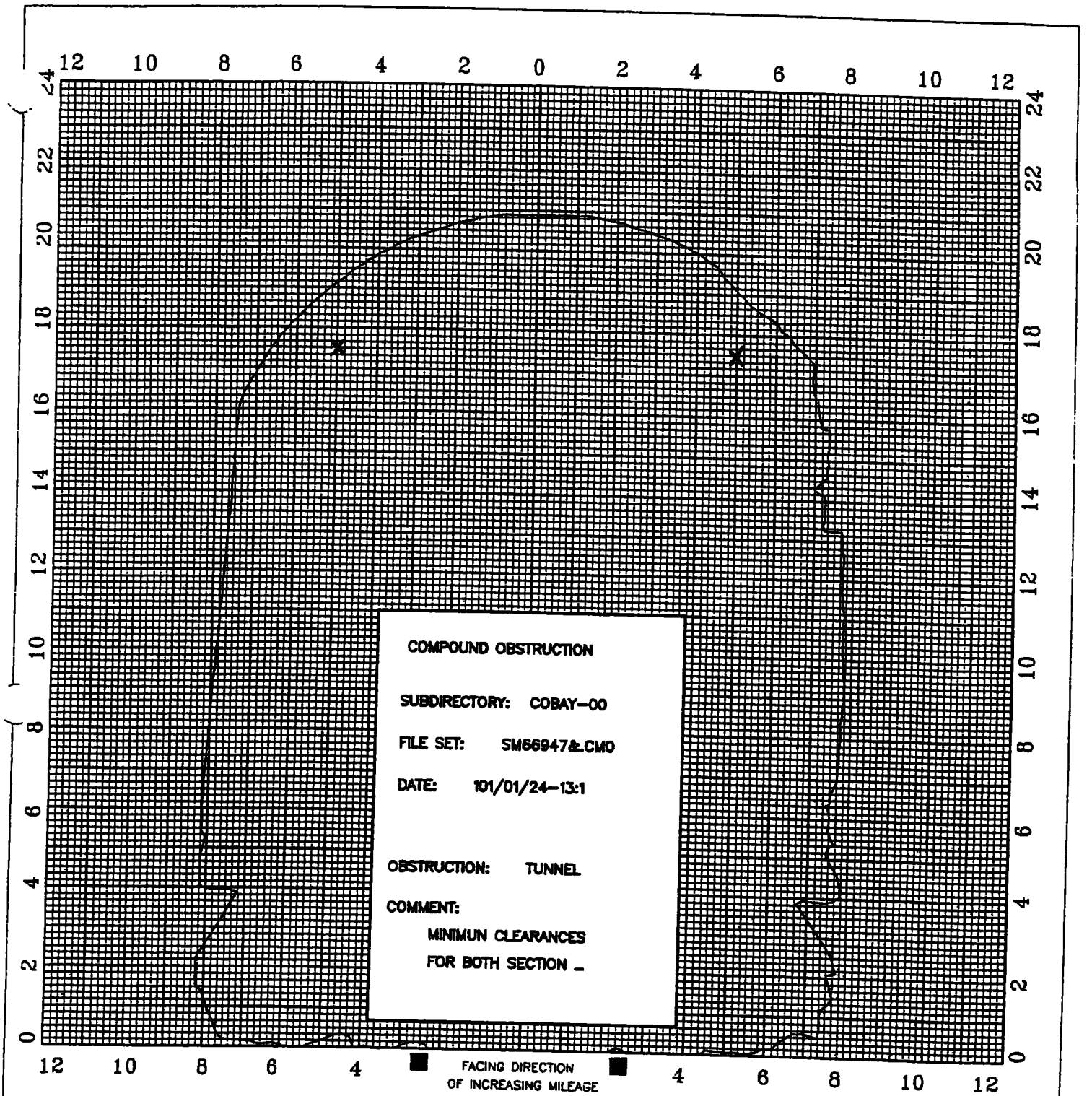
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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

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PREPARED BY:	A. GODIN
DATE	Wed Jan 24 13:49:43 2001
LOCATION	

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

SUBDIVISION NAME	COOS BAY
MILEAGE FROM 669.47	TO
DEGREE OF CURVE	DIRECTION OF CURVE
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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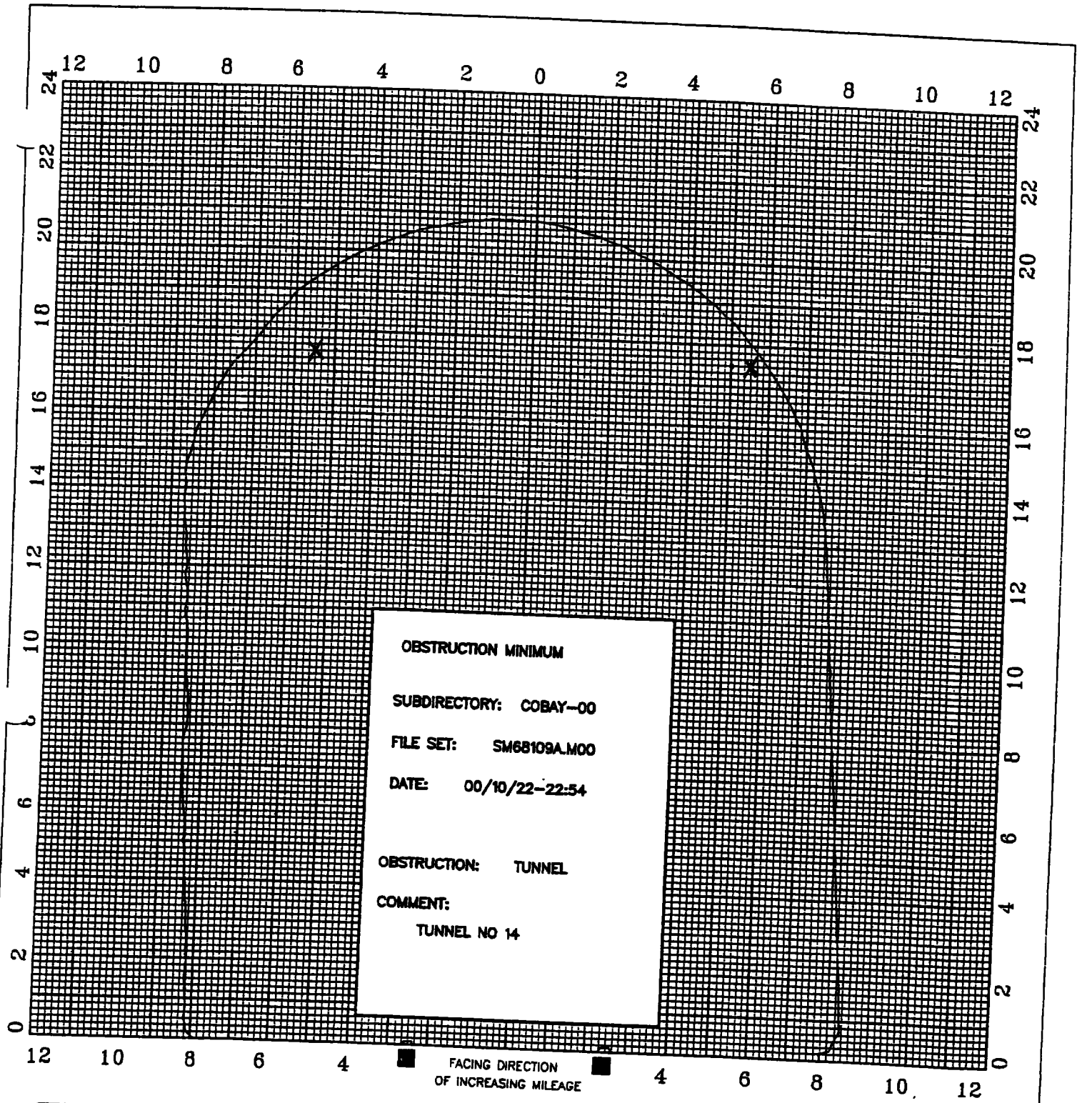
COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

CGRP-C-000339

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PREPARED BY:	A. GODIN
DATE	Tue Jan 23 13:25:22 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

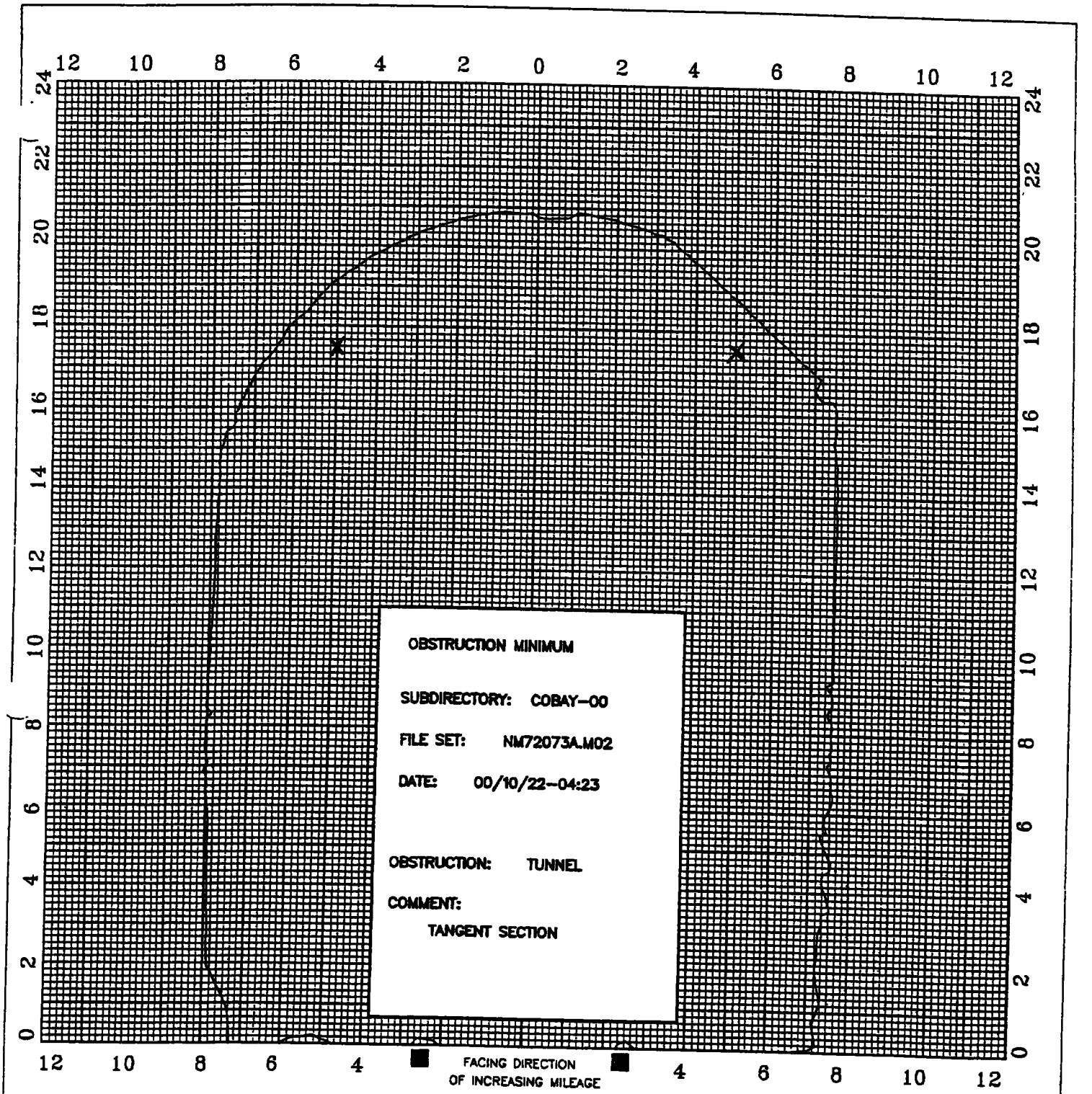
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DEGREE OF CURVE 6.0		DIRECTION OF CURVE RIGHT
PERMISSABLE CCG.		WEIGHT LIMITATION
SEGMENT NUMBER		SUPER ELEVATION

CORP-C-000340

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DATE	Tue Jan 23 16:51:11 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

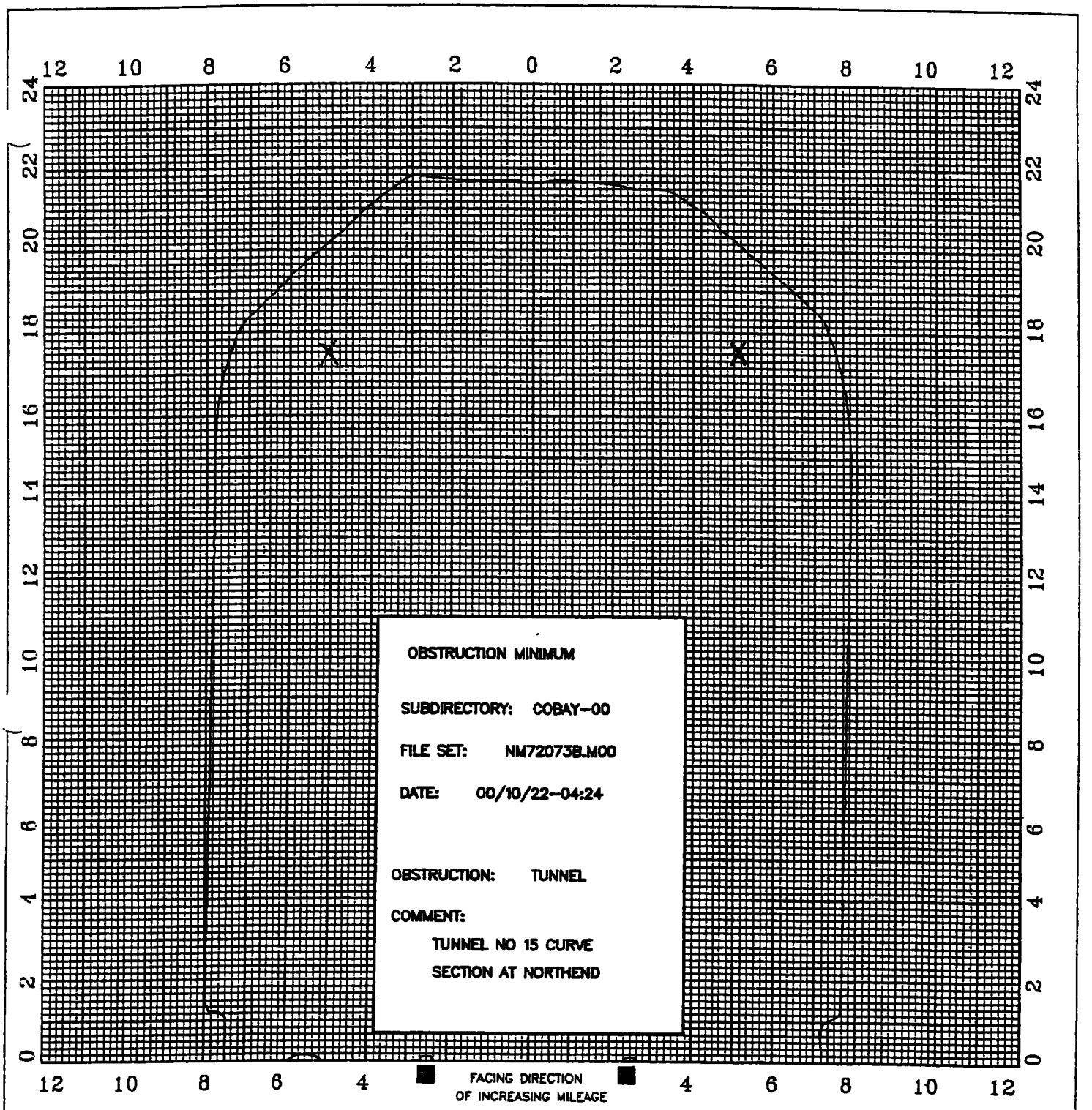
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SOUTH

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MILEAGE FROM	720.73 TO
DEGREE OF CURVE	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

COOP-C -000341

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PREPARED BY: A. GODIN	
DATE Tue Jan 23 16:51:14 2001	
LOCATION	

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

SUBDIVISION NAME COOS BAY	
MILEAGE FROM 720.73 TO	
DEGREE OF CURVE 1.0	DIRECTION OF CURVE LEFT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CONFIDENTIAL

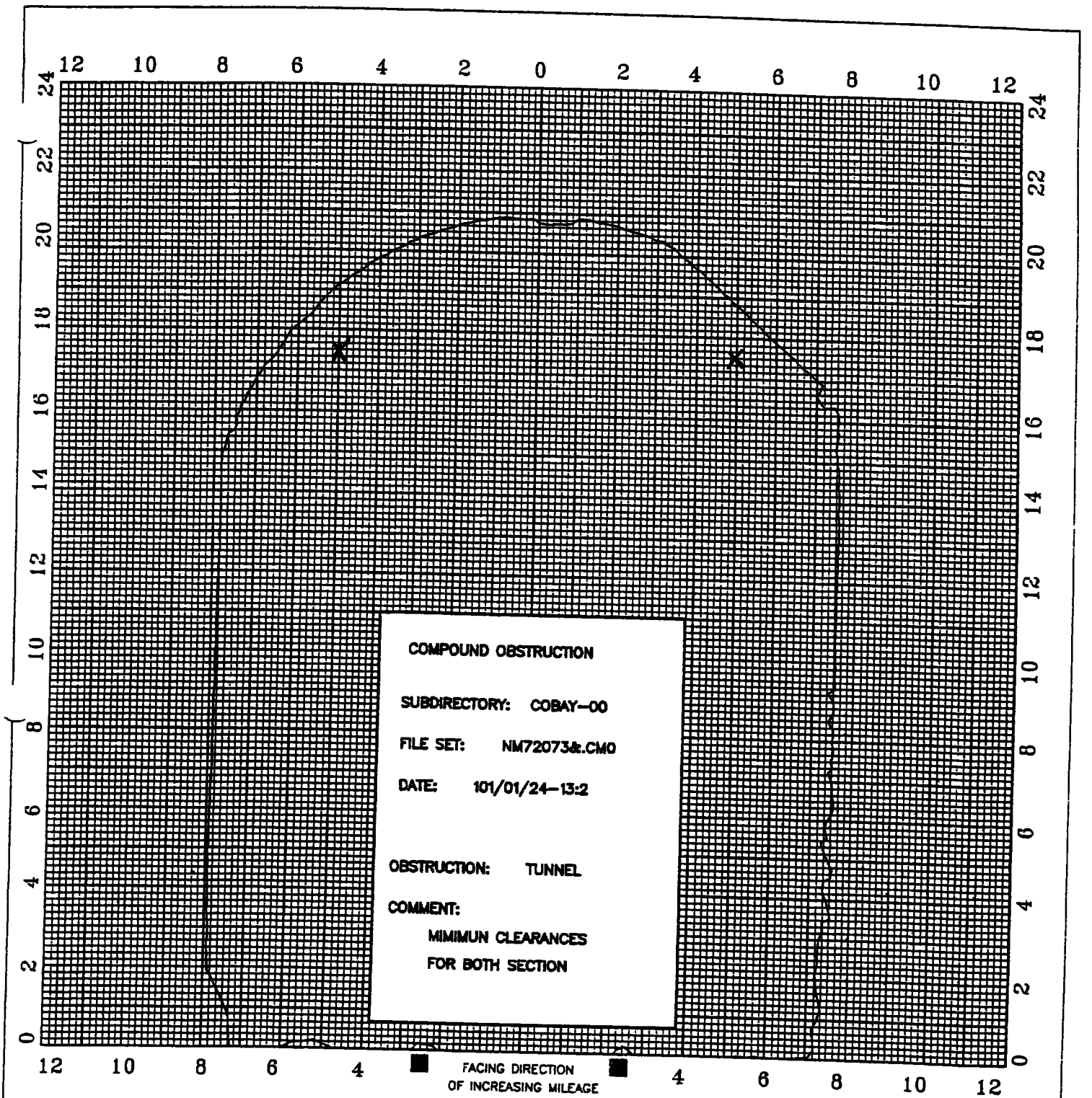
COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

CORP-C-000342

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DATE	Wed Jan 24 13:30:20 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

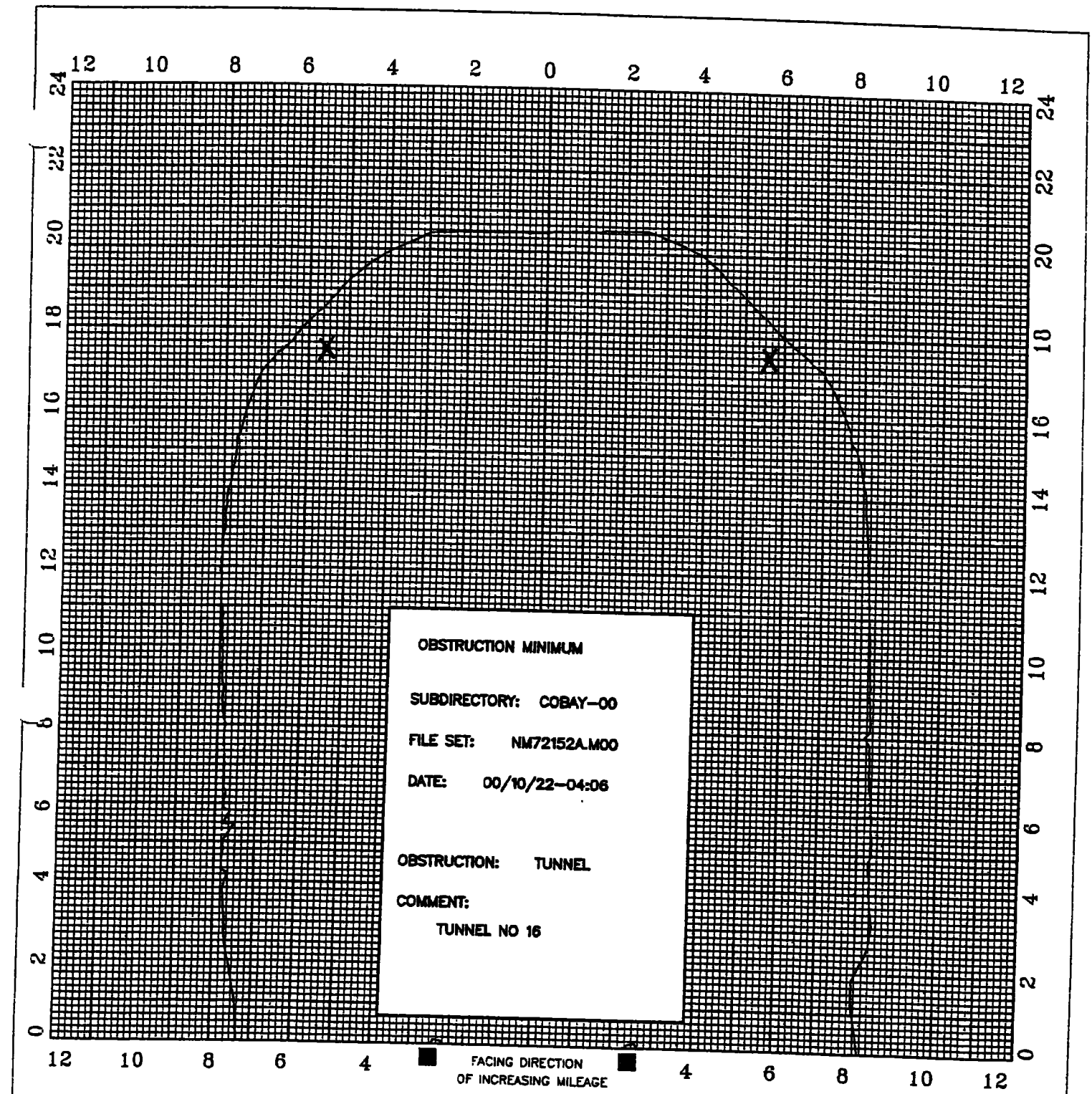
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MAIN TRACK
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SOUTH

SUBDIVISION NAME	COOS BAY
MILEAGE FROM 720.73 TO	
DEGREE OF CURVE	DIRECTION OF CURVE
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000343

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PREPARED BY:	A. GODIN
DATE	Tue Jan 23 16:53:10 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

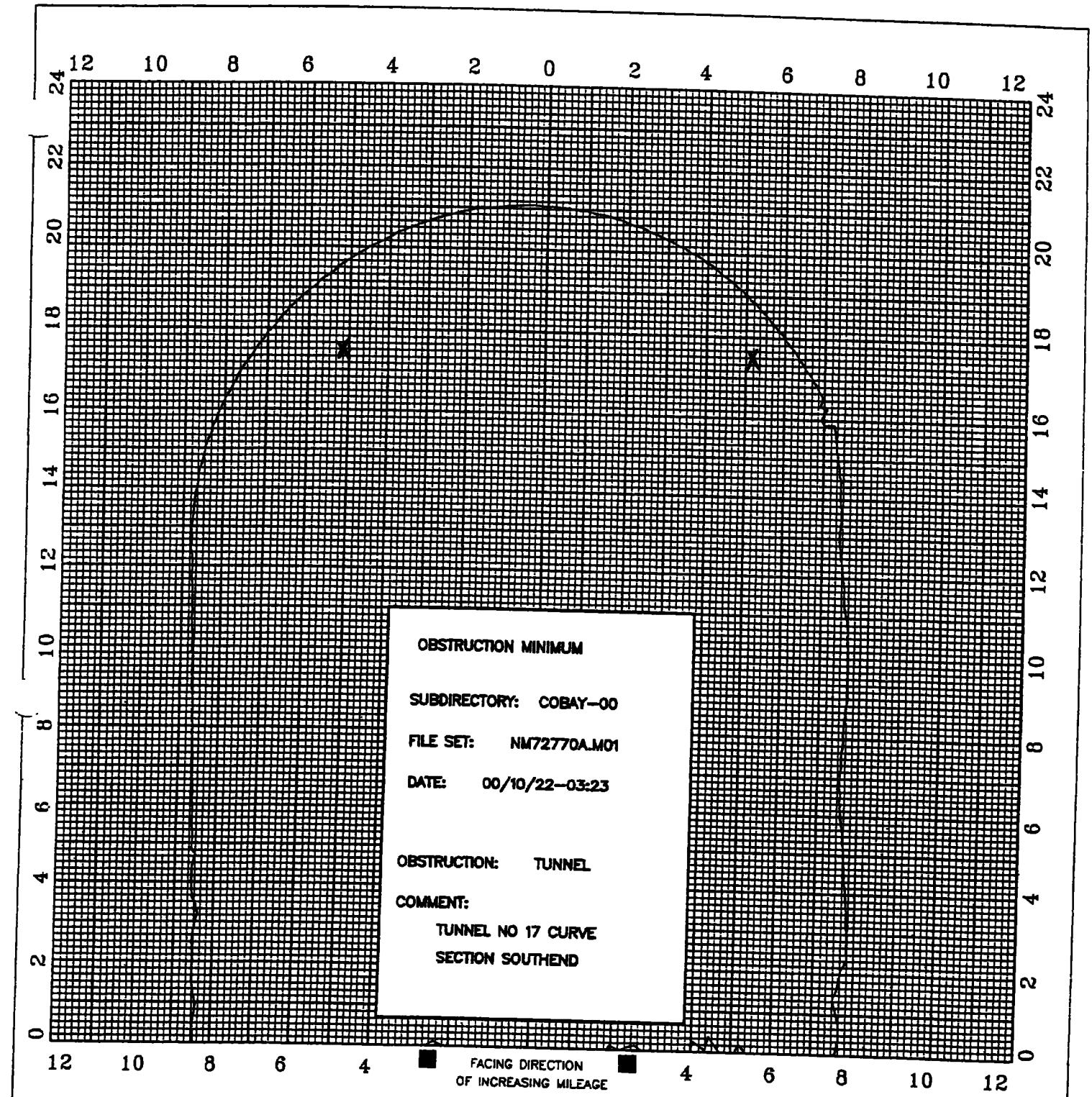
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DIRECTION OF CURVE	RIGHT
PERMISSABLE CCG.	
WEIGHT LIMITATION	
SEGMENT NUMBER	
SUPER ELEVATION	

CORP-C-000344

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PREPARED BY:	A. GODIN
DATE	Tue Jan 23 16:53:17 2001
LOCATION	

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TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

SUBDIVISION NAME	COOS BAY	
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DEGREE OF CURVE	~ 2.0	DIRECTION OF CURVE RIGHT
PERMISSABLE CCG.		WEIGHT LIMITATION
SEGMENT NUMBER		SUPER ELEVATION

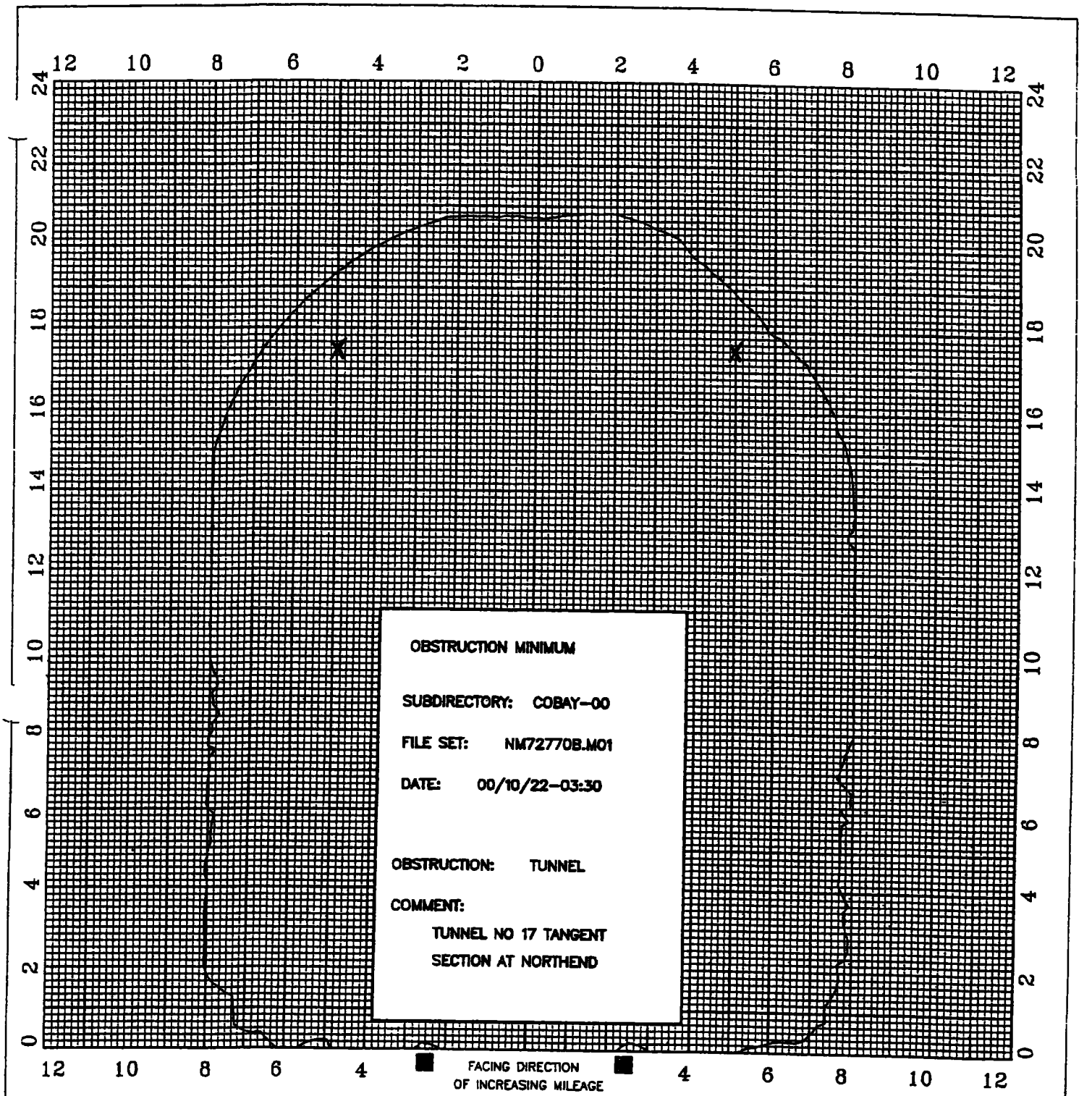
COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

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DATE	Tue Jan 23 16:53:20 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

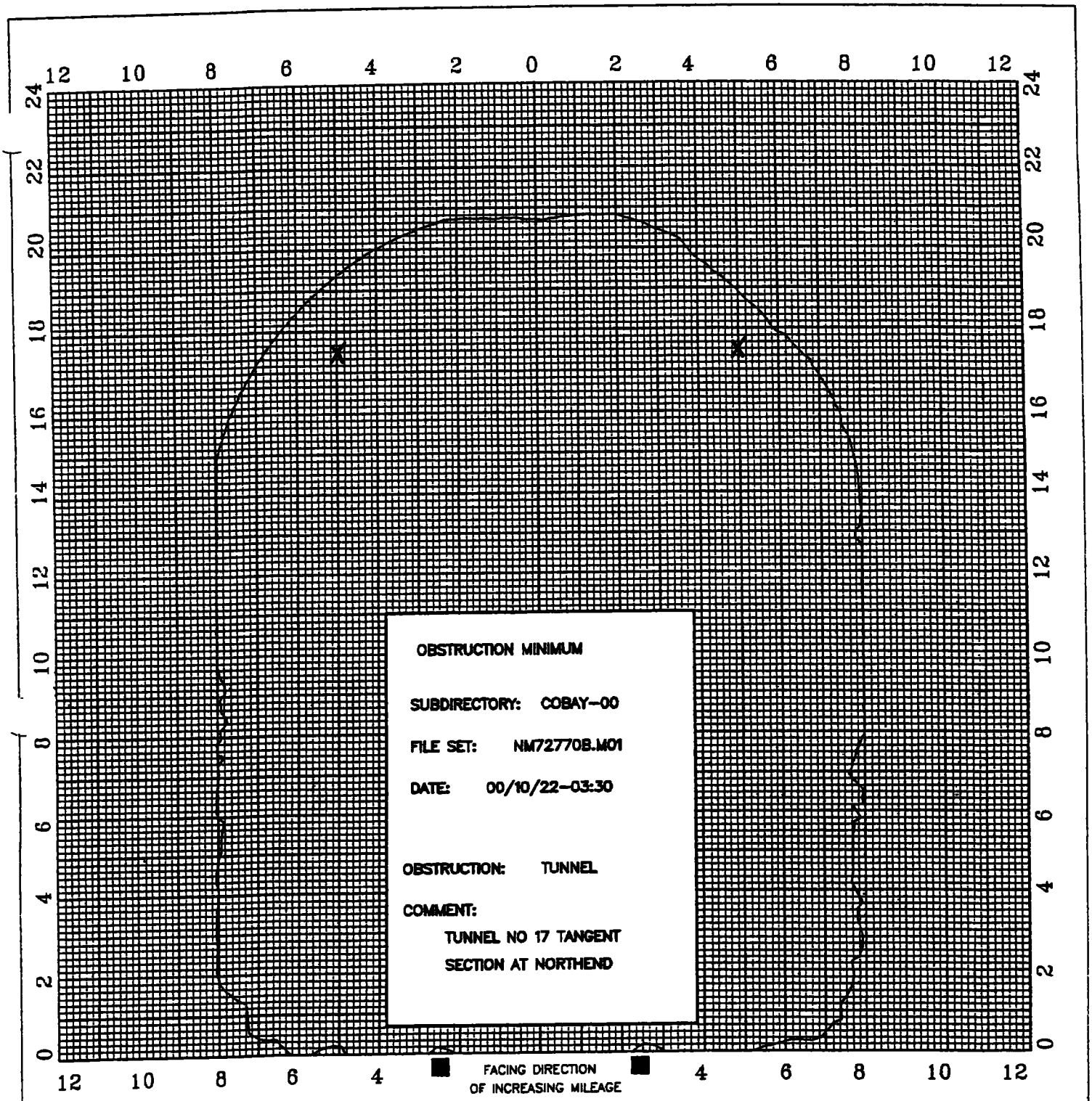
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DEGREE OF CURVE	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000346

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DATE Tue Jan 23 16:53:20 2001	
LOCATION	

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

SUBDIVISION NAME COOS BAY	
MILEAGE FROM 727.70 TO	
DEGREE OF CURVE	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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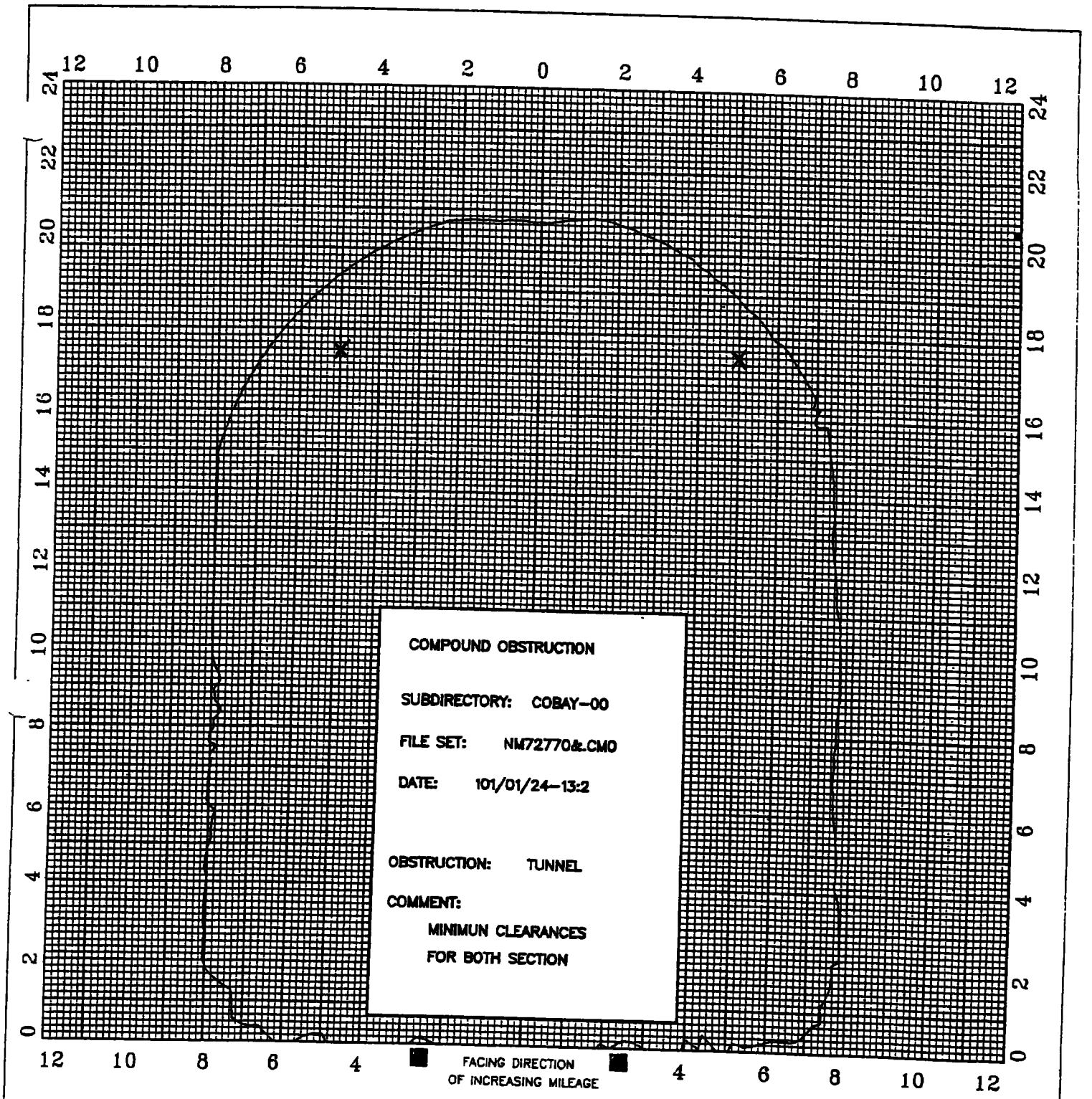
COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

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DATE	Wed Jan 24 13:31:43 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

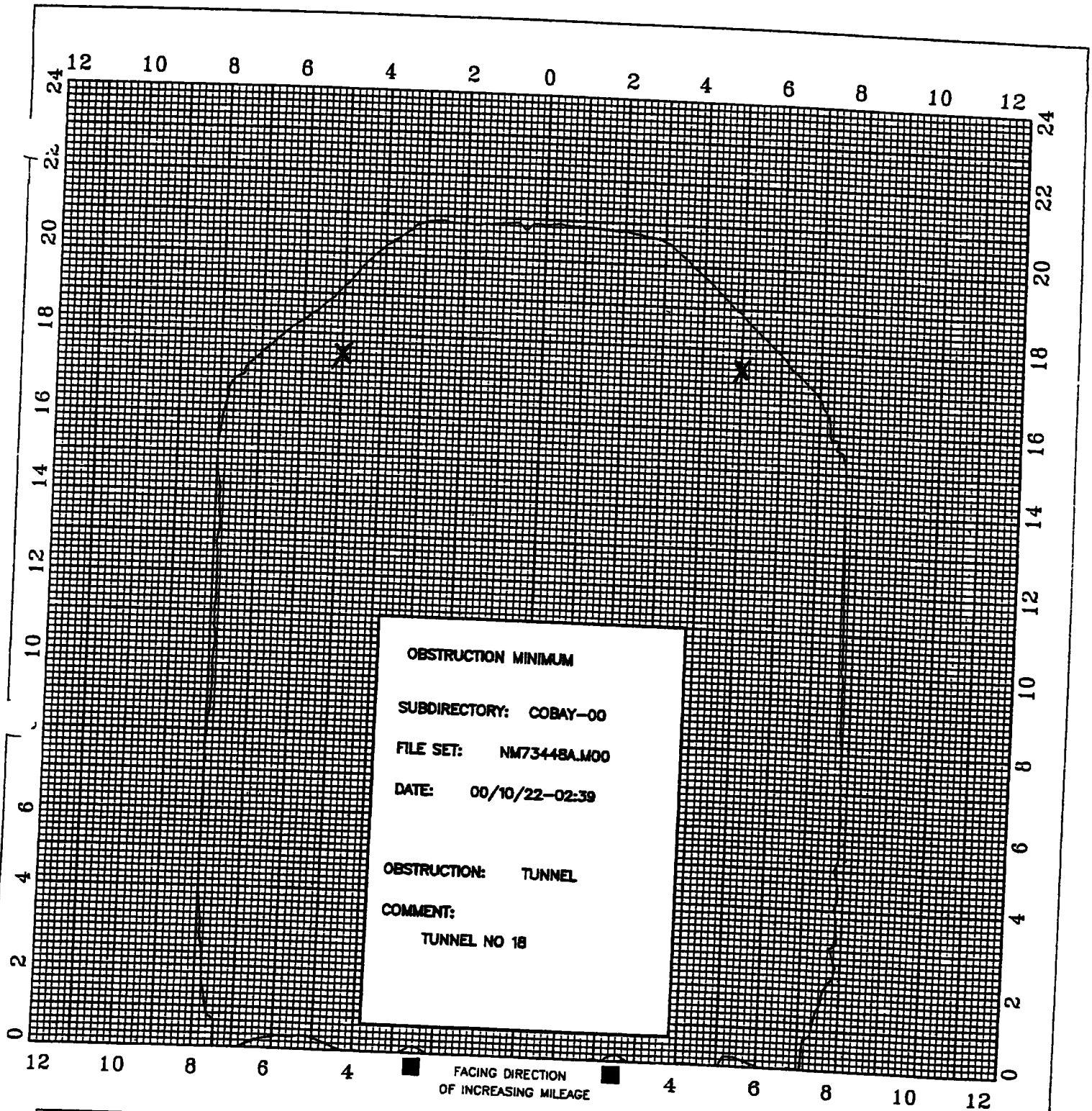
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MAIN TRACK
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DEGREE OF CURVE		DIRECTION OF CURVE
PERMISSABLE CCG.		WEIGHT LIMITATION
SEGMENT NUMBER	-	SUPER ELEVATION

CORP-C-000348

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PREPARED BY:	A. GODIN
DATE	Tue Jan 23 16:54:54 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

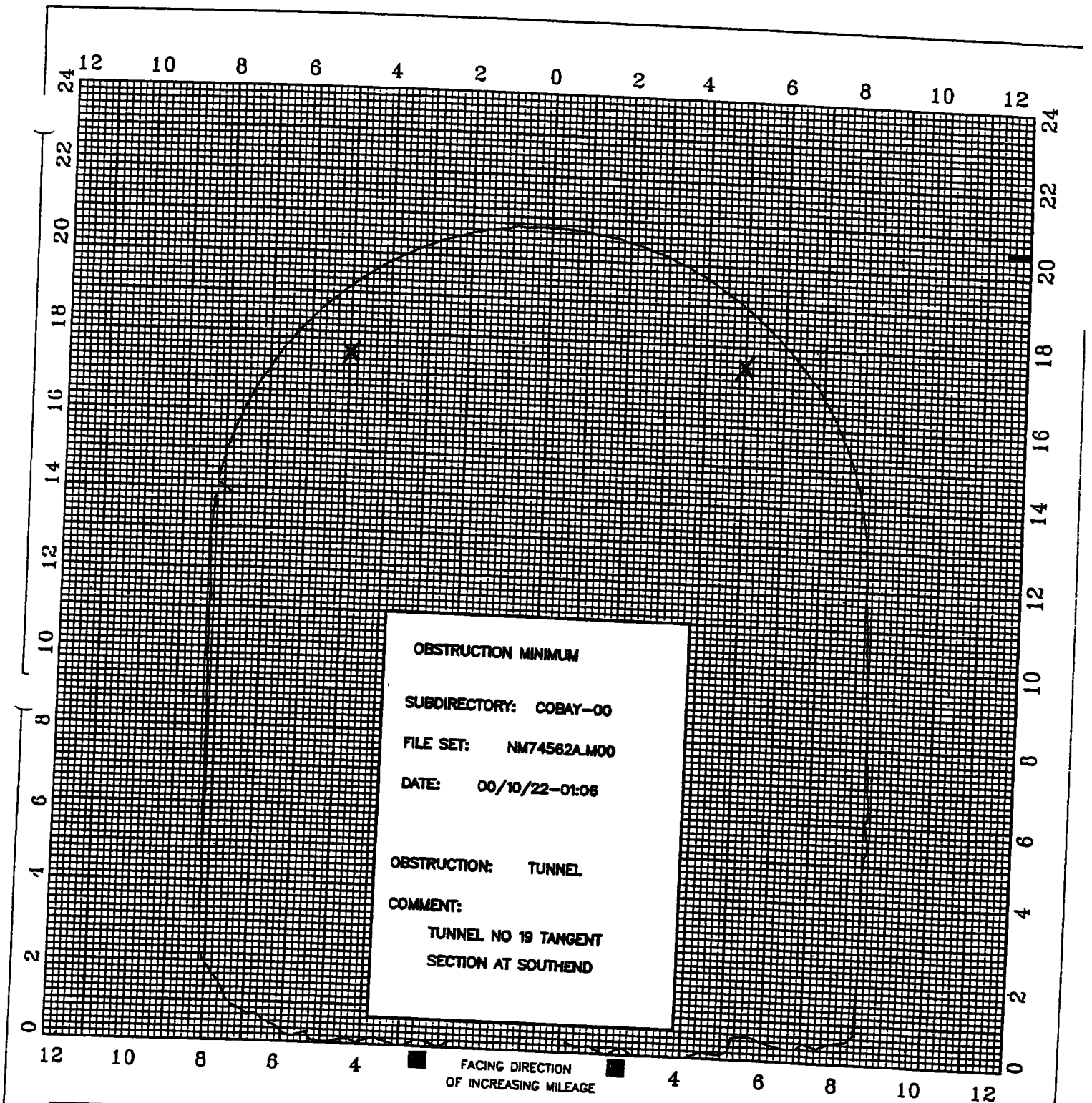
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DEGREE OF CURVE		DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.		WEIGHT LIMITATION
SEGMENT NUMBER		SUPER ELEVATION

CORP-C-000349

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PREPARED BY:	A. GODIN
DATE	Tue Jan 23 17:15:20 2001
LOCATION	

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

SUBDIVISION NAME	COOS BAY
MILEAGE FROM 745.62	TO
DEGREE OF CURVE	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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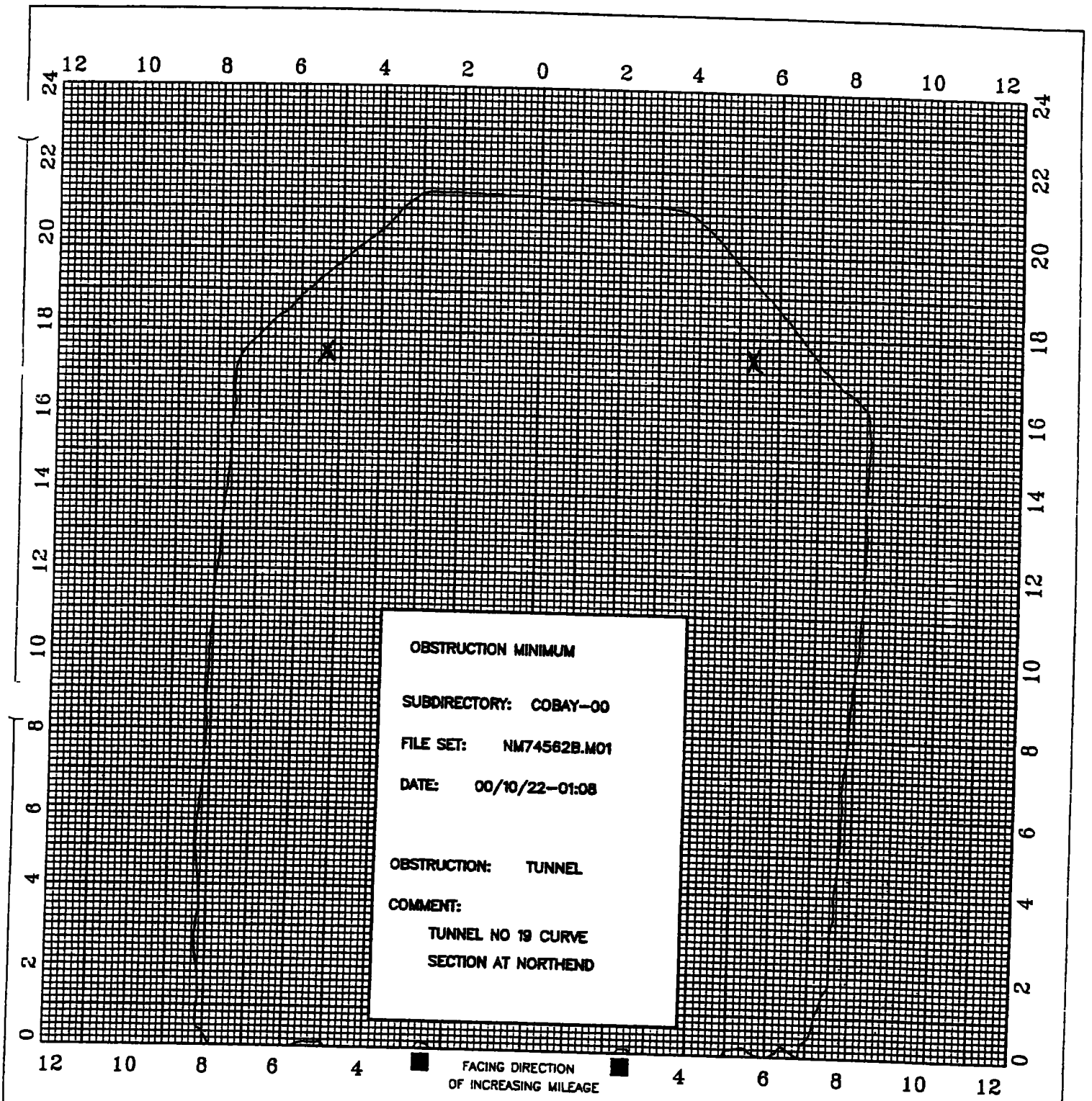
COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

CORP-C-000350

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PREPARED BY:	A. GODIN
DATE	Tue Jan 23 17:15.22 2001
LOCATION	

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

SUBDIVISION NAME	COOS BAY
MILEAGE	FROM 745.62 TO
DEGREE OF CURVE 4.0	DIRECTION OF CURVE LEFT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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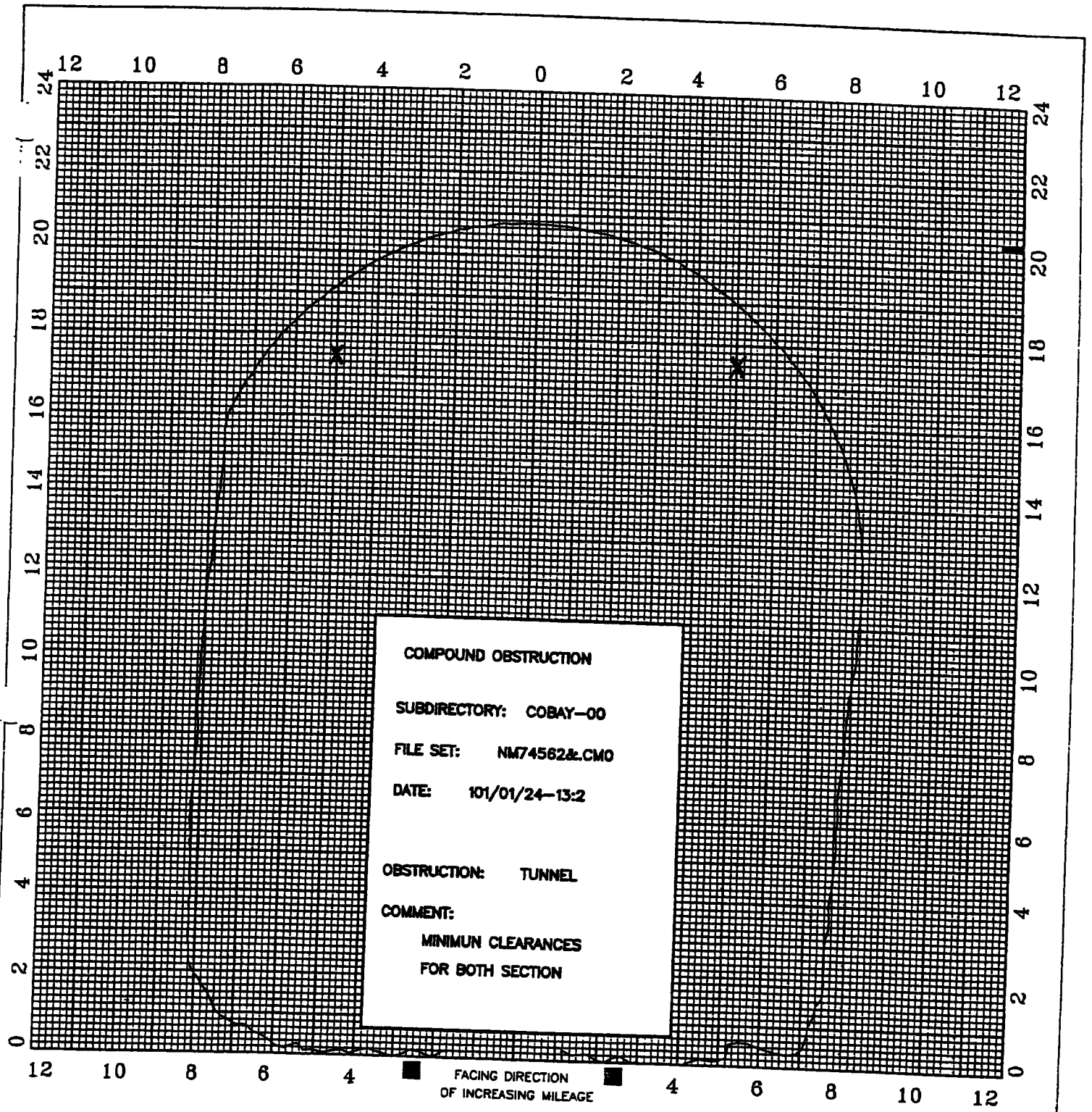
COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

CORP-C-000351

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PREPARED BY: A. GODIN	
DATE: Wed Jan 24 13:33:55 2001	
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

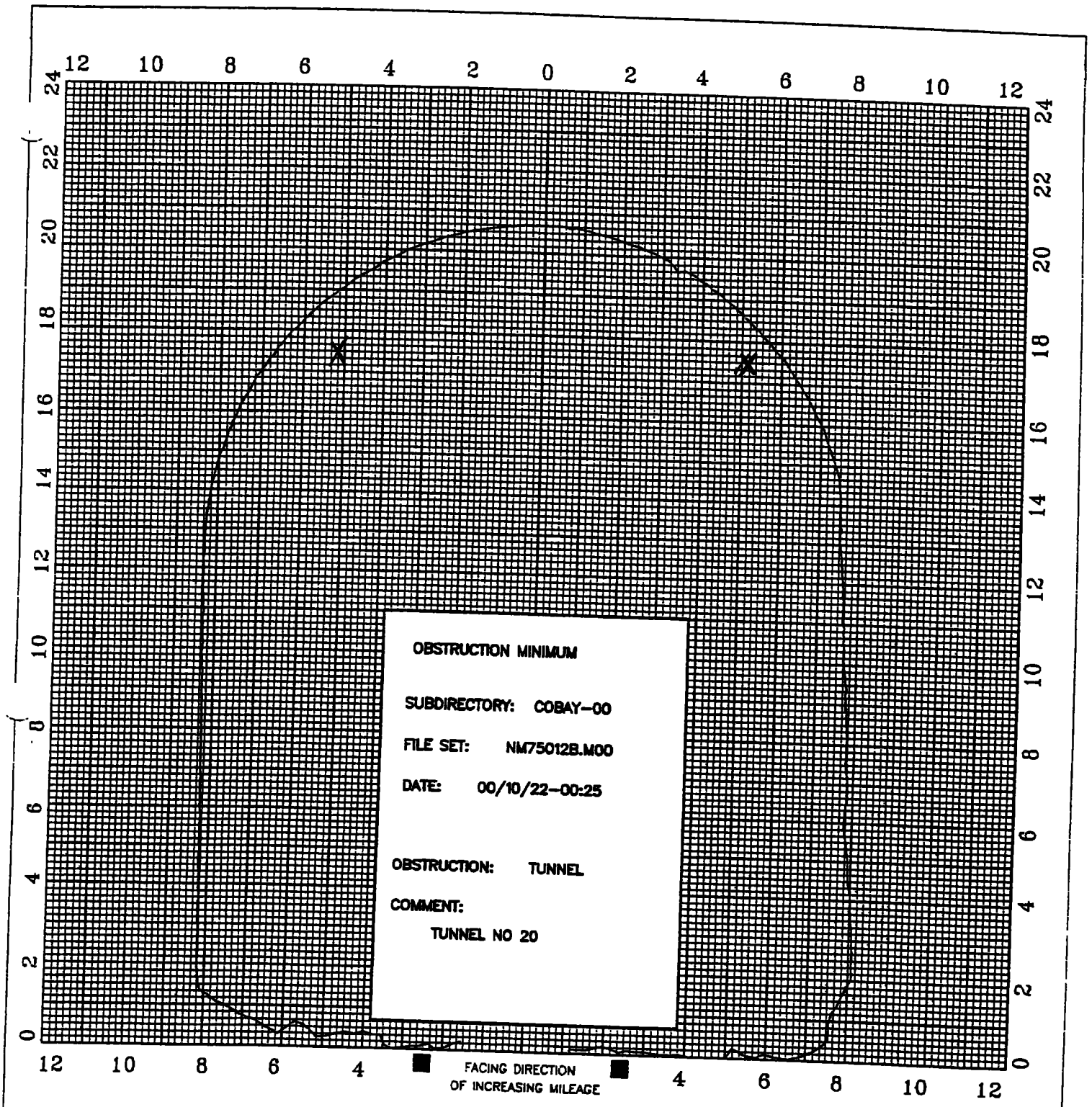
TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

SUBDIVISION NAME: COOS BAY	
MILEAGE FROM 745.62 TO	
DEGREE OF CURVE	DIRECTION OF CURVE
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000352

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PREPARED BY:	A. GODIN
DATE	Wed Jan 24 13:05:49 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

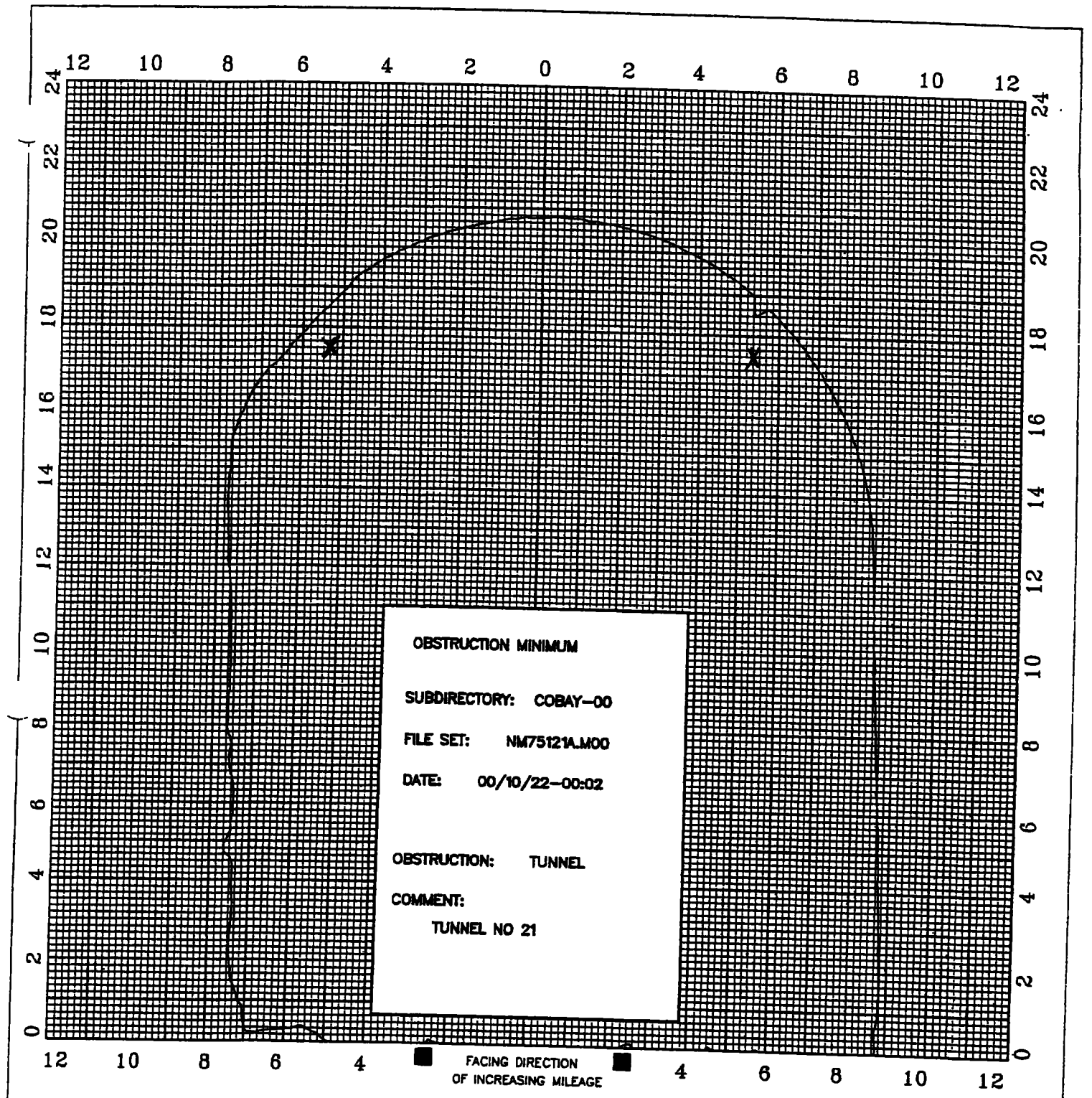
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MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

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MILEAGE	FROM 750.12	TO
DEGREE OF CURVE	2.0	DIRECTION OF CURVE RIGHT
PERMISSABLE CCG.		WEIGHT LIMITATION
SEGMENT NUMBER		SUPER ELEVATION

CORP-C-000353

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PREPARED BY:	A. GODIN
DATE	Wed Jan 24 13:05:54 2001
LOCATION	

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
SOUTH

SUBDIVISION NAME	COOS BAY	
MILEAGE	FROM 751.21	TO
DEGREE OF CURVE	4.0	DIRECTION OF CURVE RIGHT
PERMISSABLE CCG.		WEIGHT LIMITATION
SEGMENT NUMBER		SUPER ELEVATION

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

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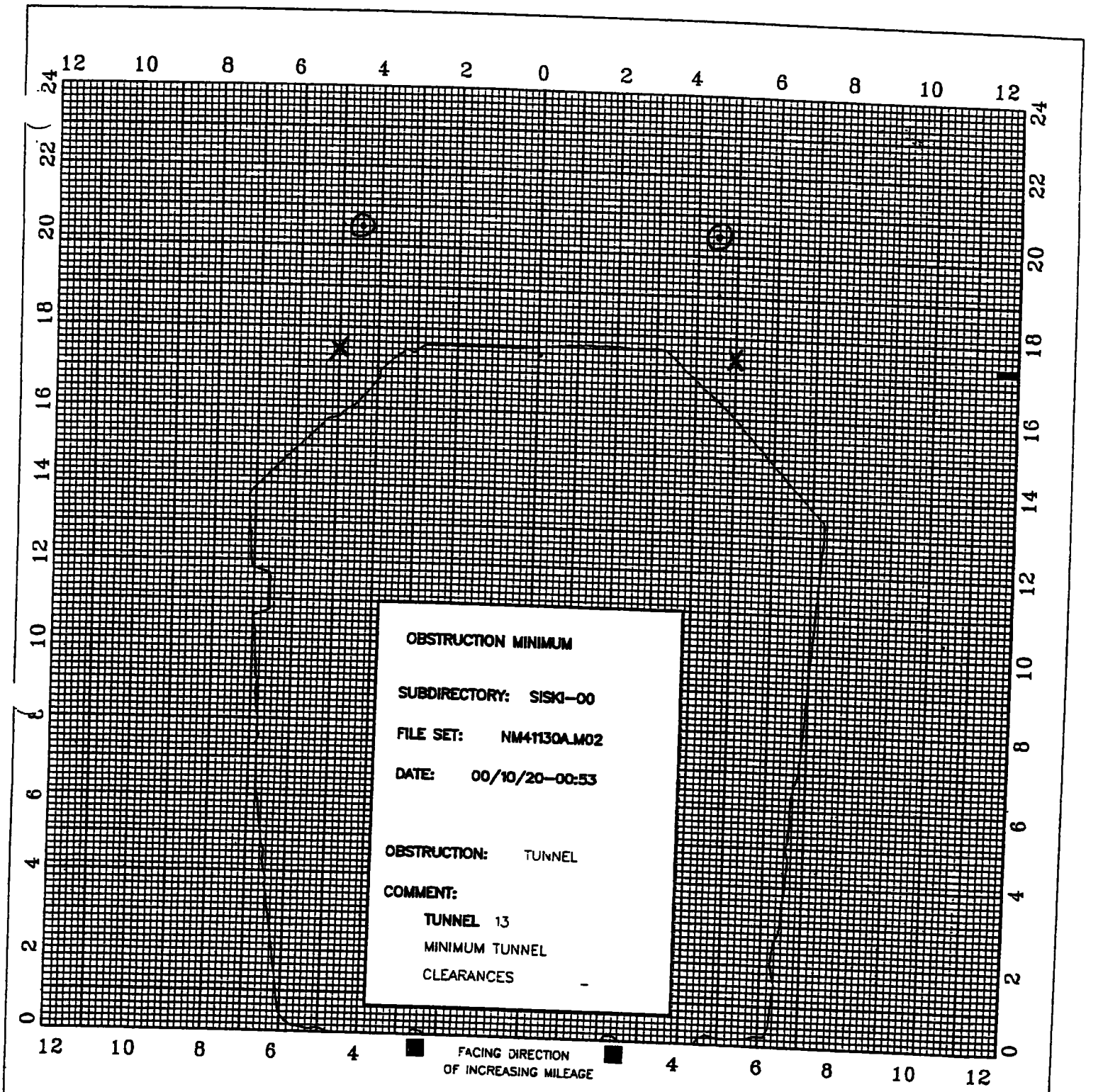
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APPENDIX D

Roseburg/Siskiyou
Plates "F" and "H" Clearance Diagrams

CONFIDENTIAL

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PREPARED BY: A. GODIN	
DATE: Wed Dec 20 14:17:50 2000	
LOCATION	

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TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME: SISKIYOU	
MILEAGE FROM 411.30 TO	
DEGREE OF CURVE	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

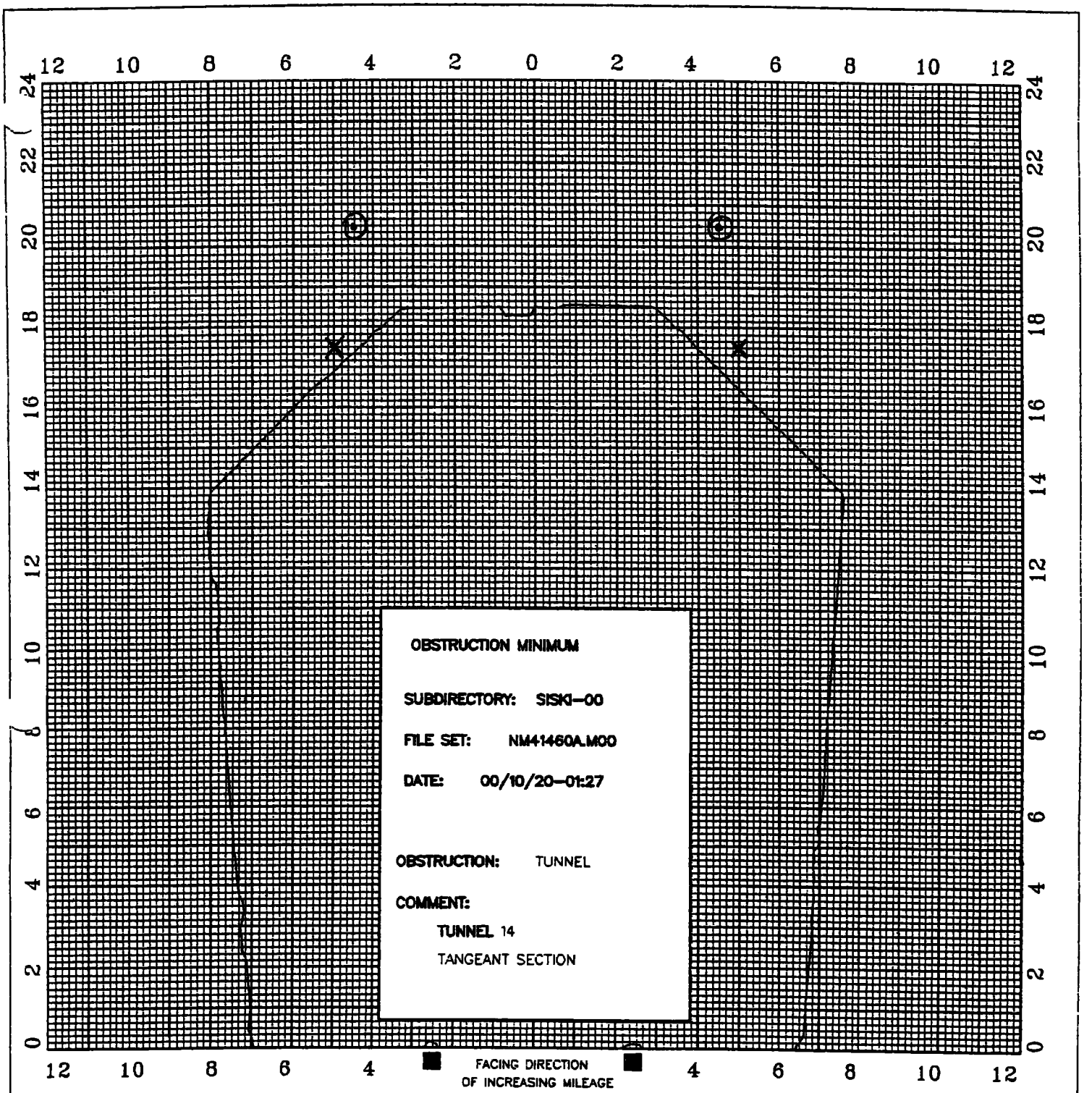
Plate "F" - X

Plate "H" - O

CORP-C-000356

CONFIDENTIAL

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PREPARED BY:	A. GODIN
DATE	Thu Dec 21 10:00:00 2000
LOCATION	

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	SISKIYOU
MILEAGE FROM	414.60 TO
DEGREE OF CURVE	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CONFIDENTIAL

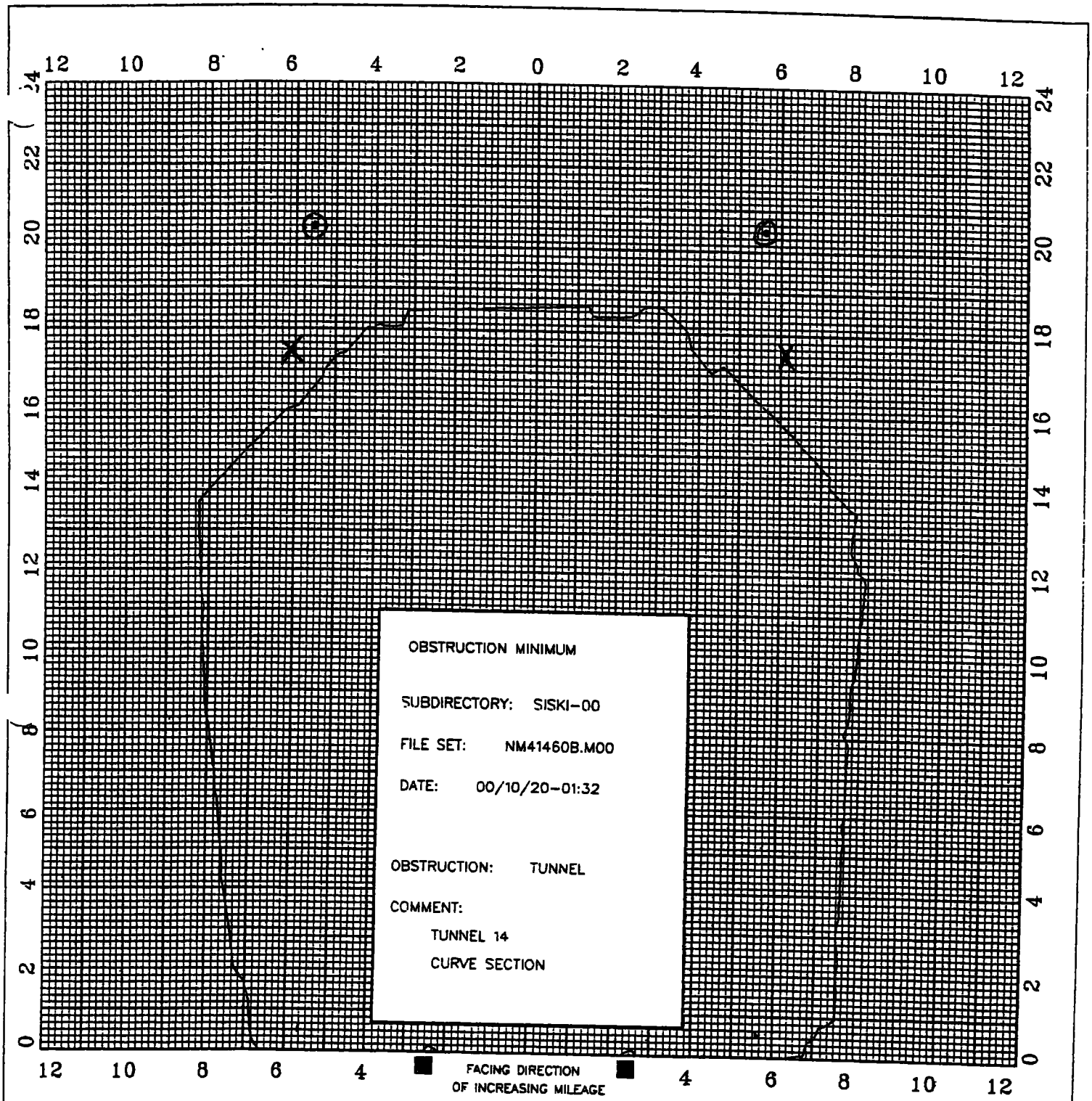
COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

CORP-C-000357

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PREPARED BY: A. GODIN	
DATE Thu Dec 21 10:00:02 2000	
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

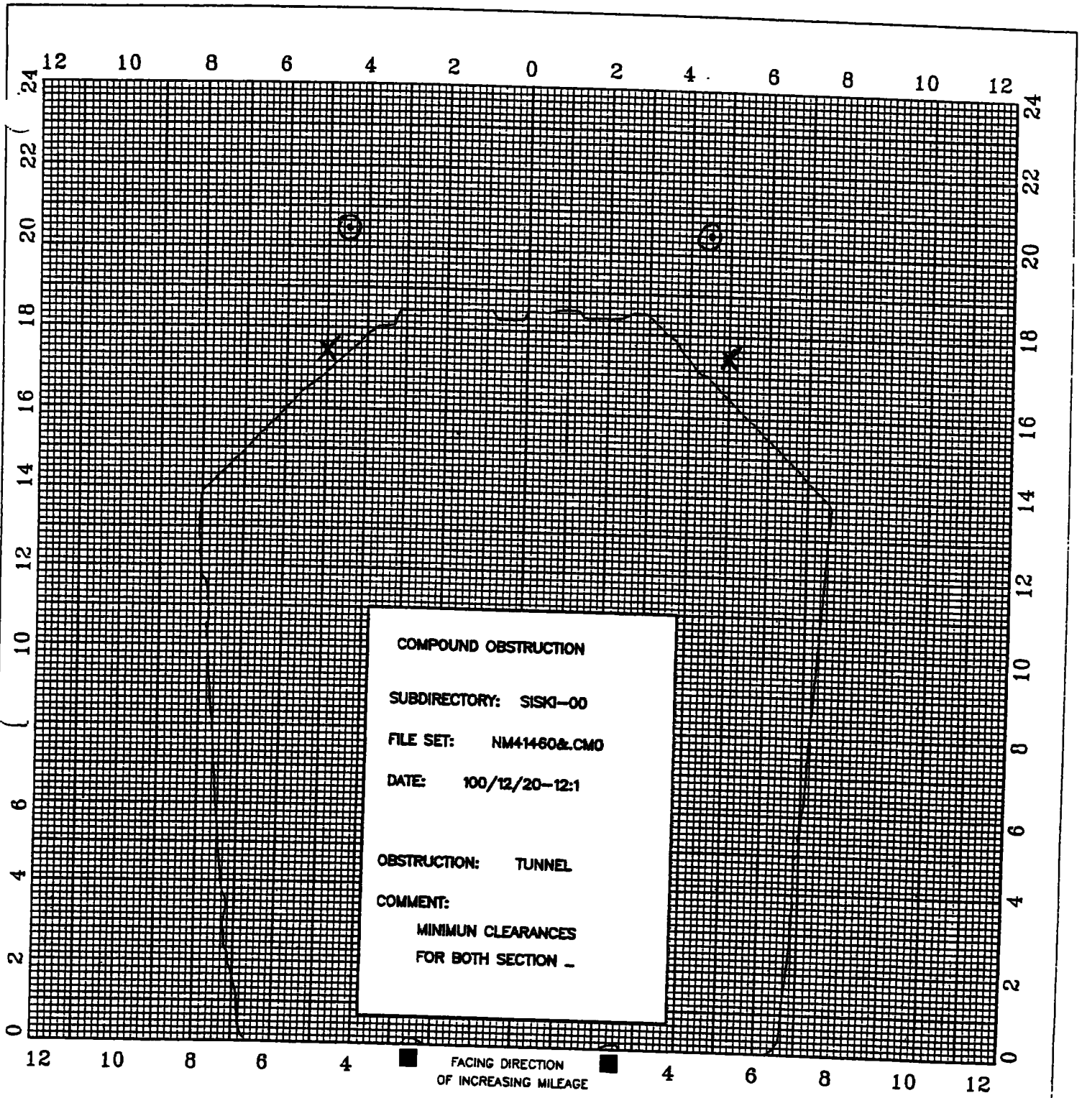
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MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME SISKIYOU	
MILEAGE FROM 414.60 TO	
DEGREE OF CURVE 13.0	DIRECTION OF CURVE RIGHT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000358

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PREPARED BY:	A. GODIN
DATE	Wed Dec 20 12:37:44 2000
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

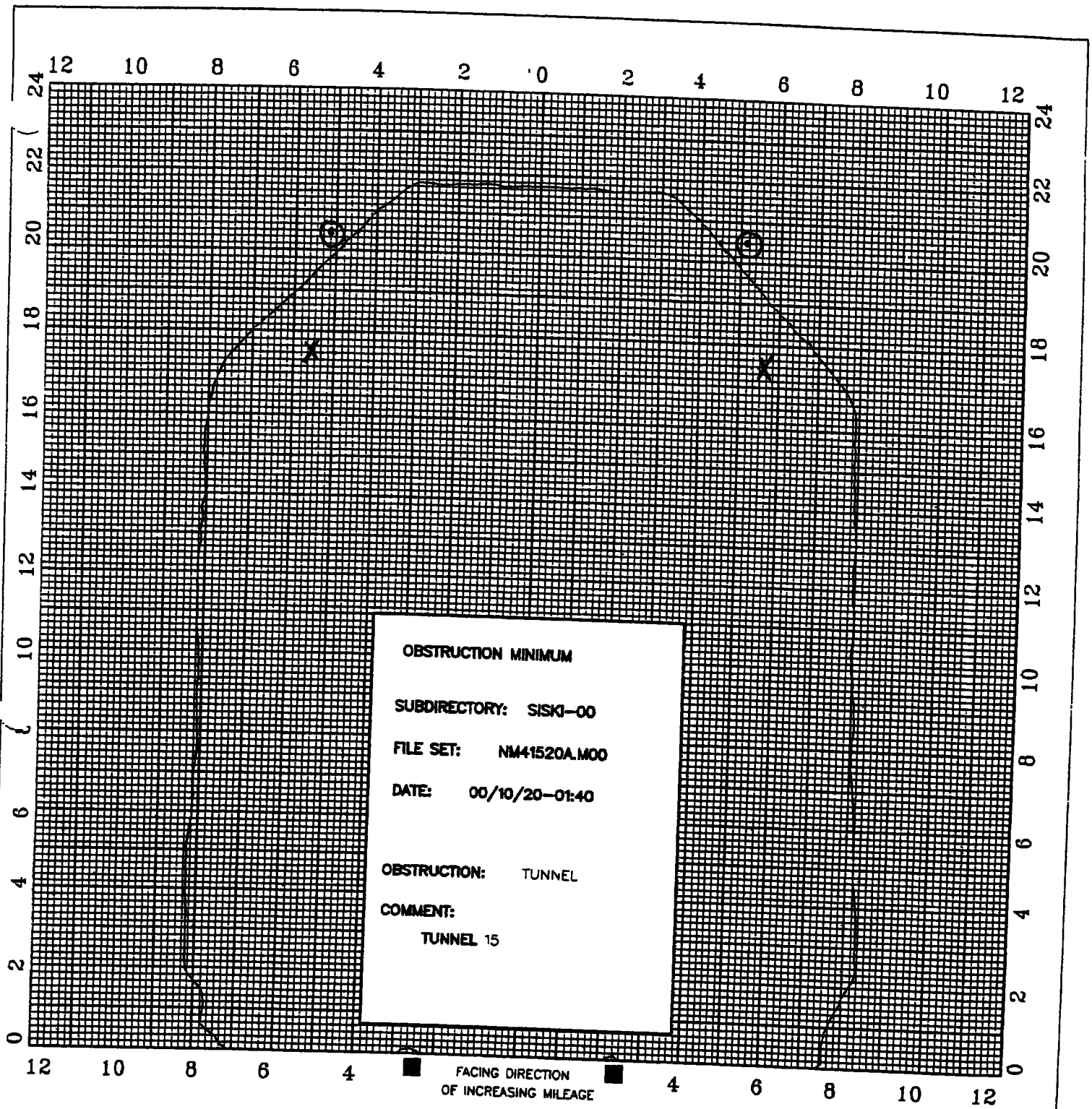
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MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	SISKIYOU
MILEAGE FROM 414.60	TO
DEGREE OF CURVE	DIRECTION OF CURVE
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000359

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PREPARED BY:	A. GODIN
DATE	Thu Dec 21 10:00:33 2000
LOCATION	

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COP CENTRAL OREGON PACIFIC

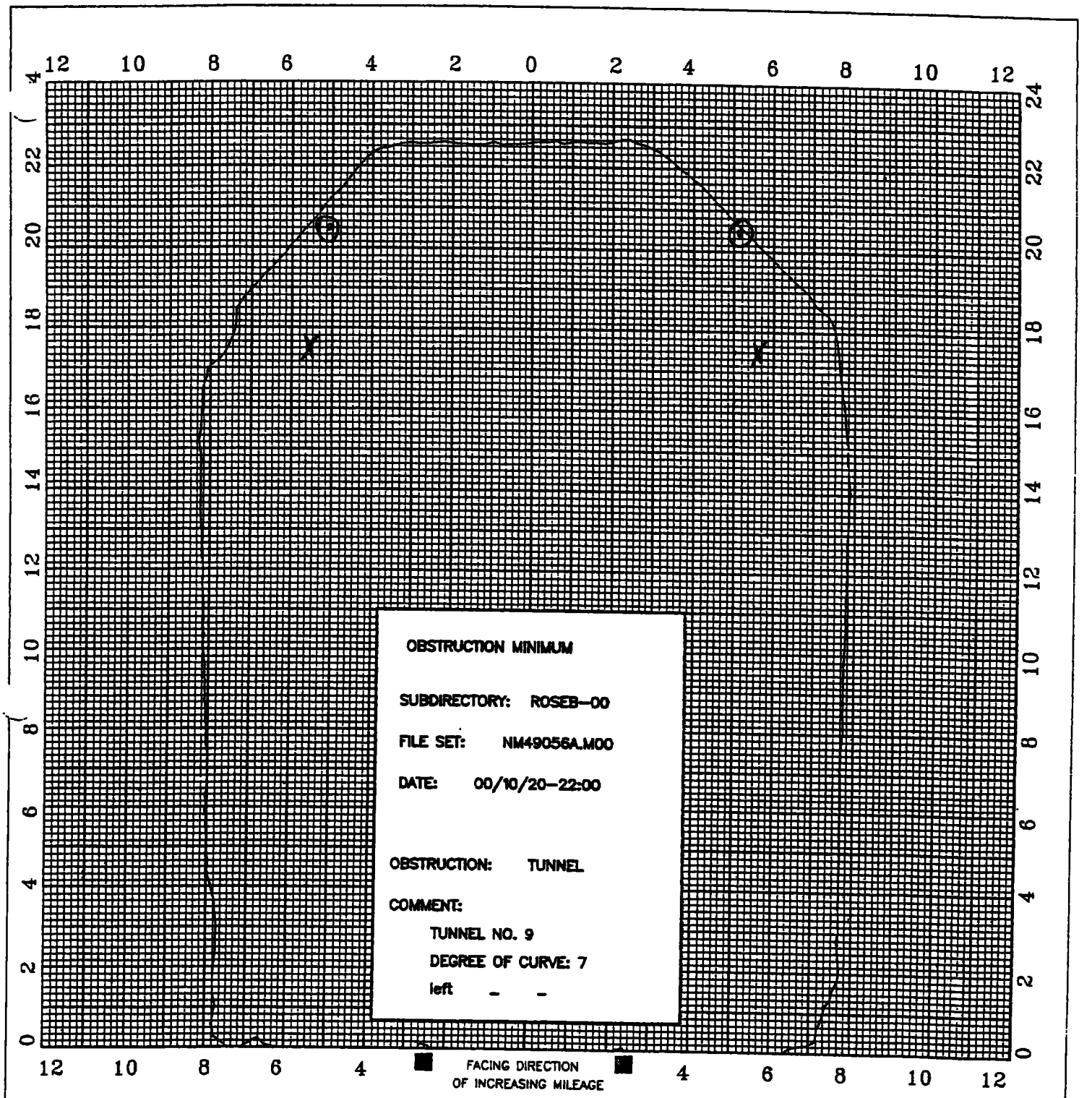
CLEARANCE DIAGRAM

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	SISKIYOU
MILEAGE FROM 415.20	TO
DEGREE OF CURVE 7.5	DIRECTION OF CURVE LEFT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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PREPARED BY: A. GODIN	
DATE Thu Jan 11 11:13:24 2001	
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

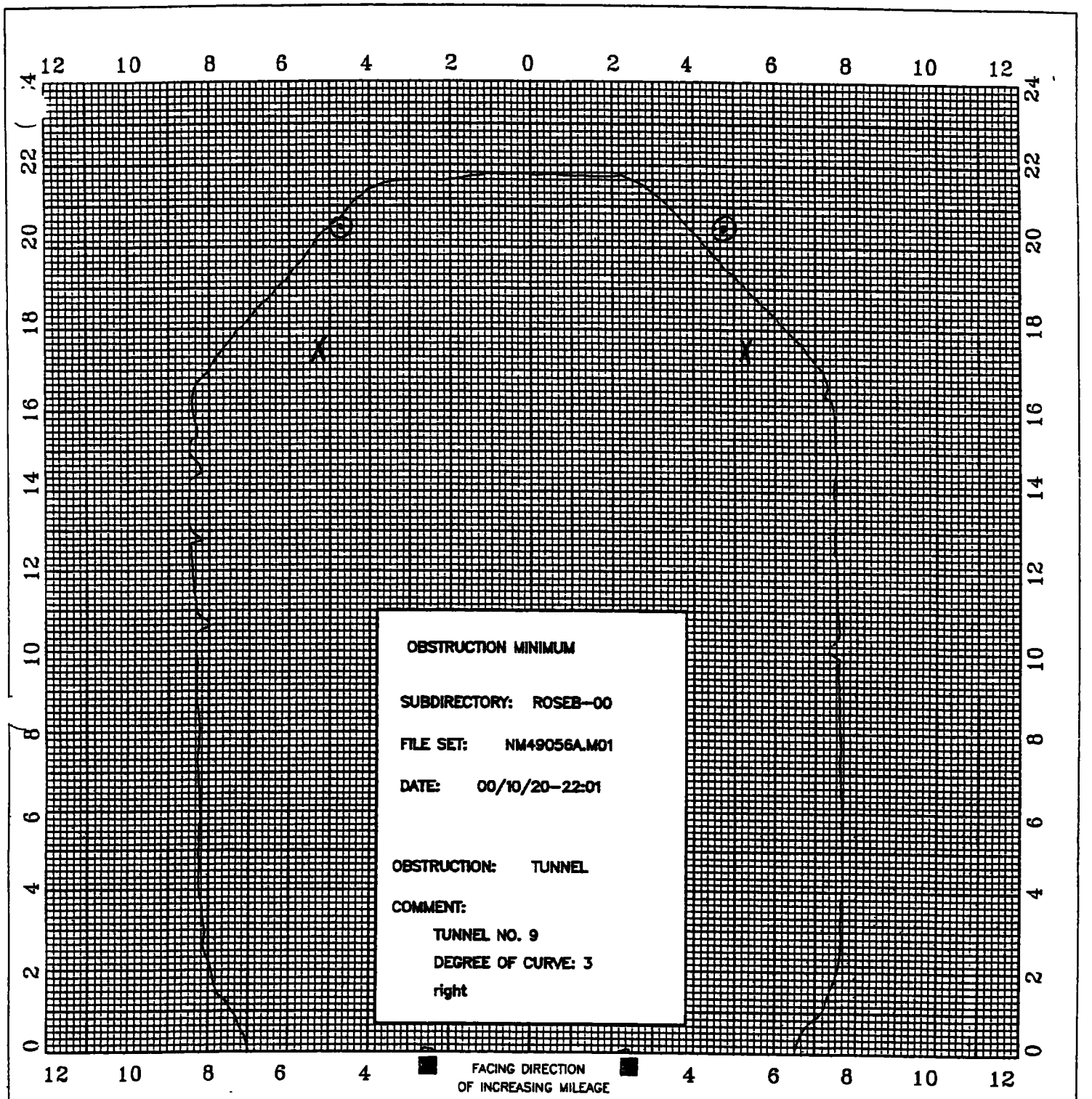
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SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME ROSEBURG	
MILEAGE FROM 490.56 TO	
DEGREE OF CURVE 7°	DIRECTION OF CURVE LEFT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000361

CONFIDENTIAL

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PREPARED BY: A. GODIN	
DATE Thu Jan 11 11:13:26 2001	
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

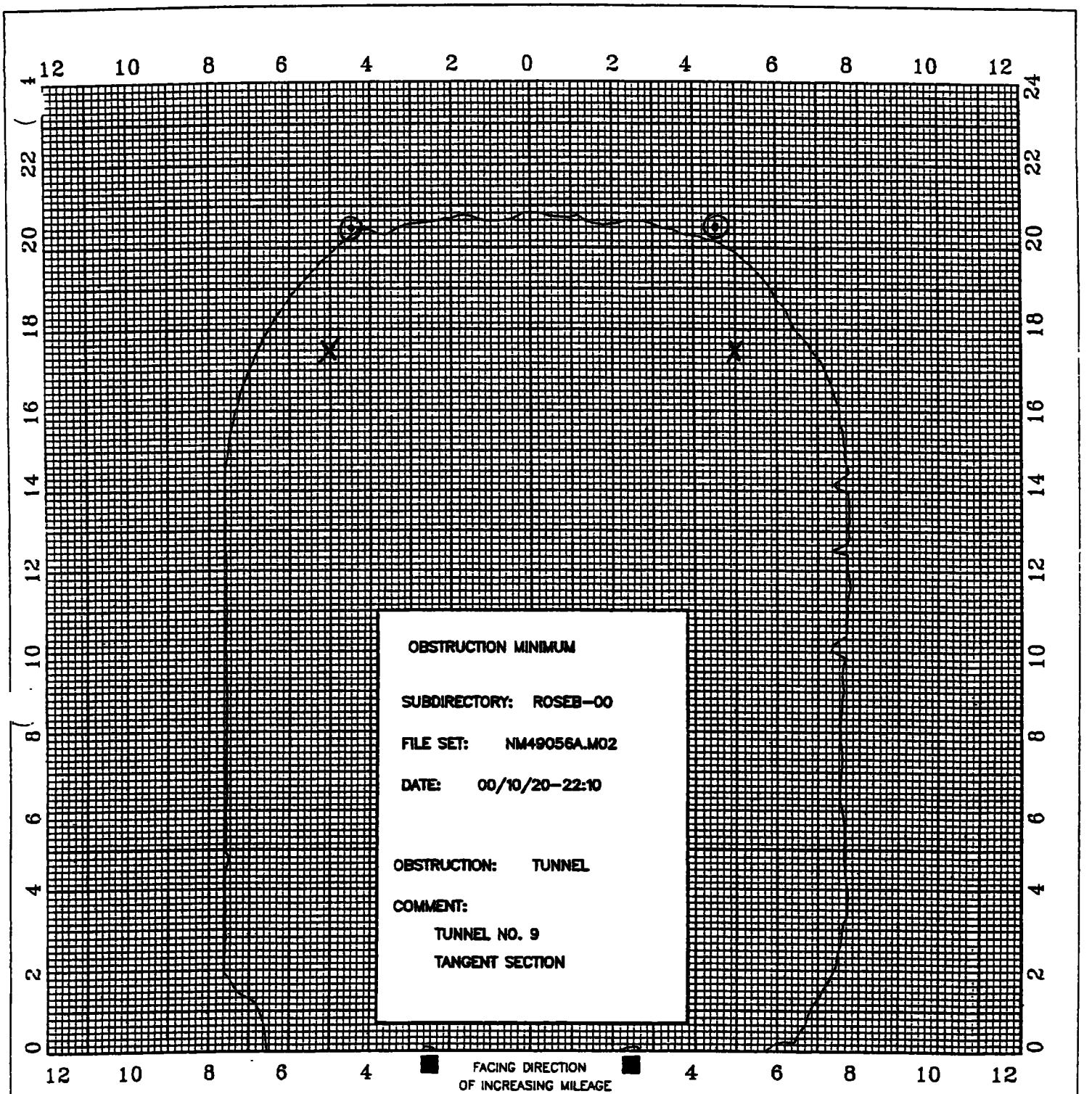
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SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME ROSEBURG	
MILEAGE FROM 490.56 TO	
DEGREE OF CURVE 3.	DIRECTION OF CURVE LIGHT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000362

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PREPARED BY: A. GODIN	
DATE Thu Jan 11 11:13:28 2001	
LOCATION	
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TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME ROSEBURG	
MILEAGE FROM 490.56 TO	
DEGREE OF CURVE .	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

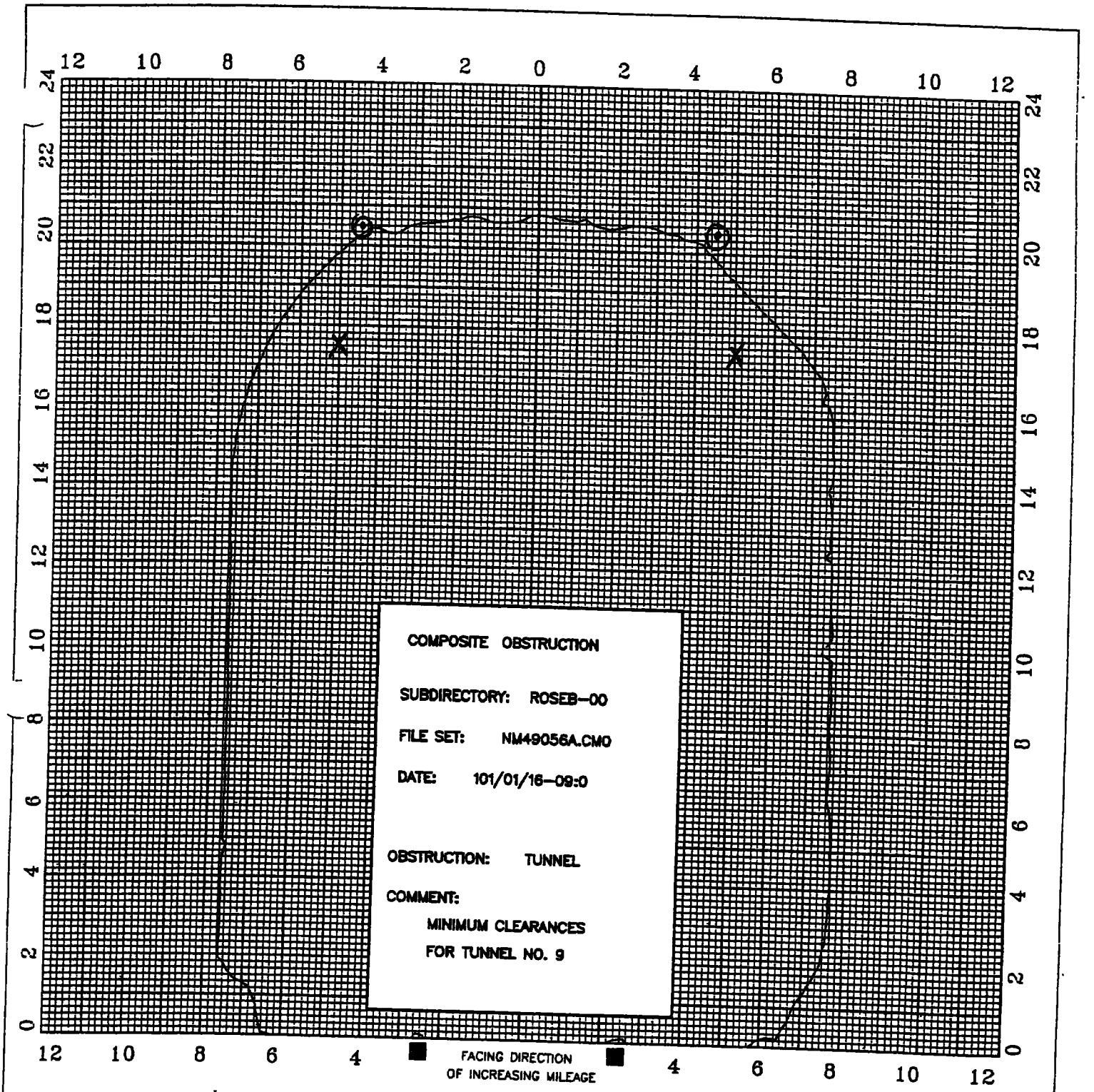
COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

CORP-C-060363

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PREPARED BY:	A. GODIN
DATE	Tue Jan 23 12:59:55 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

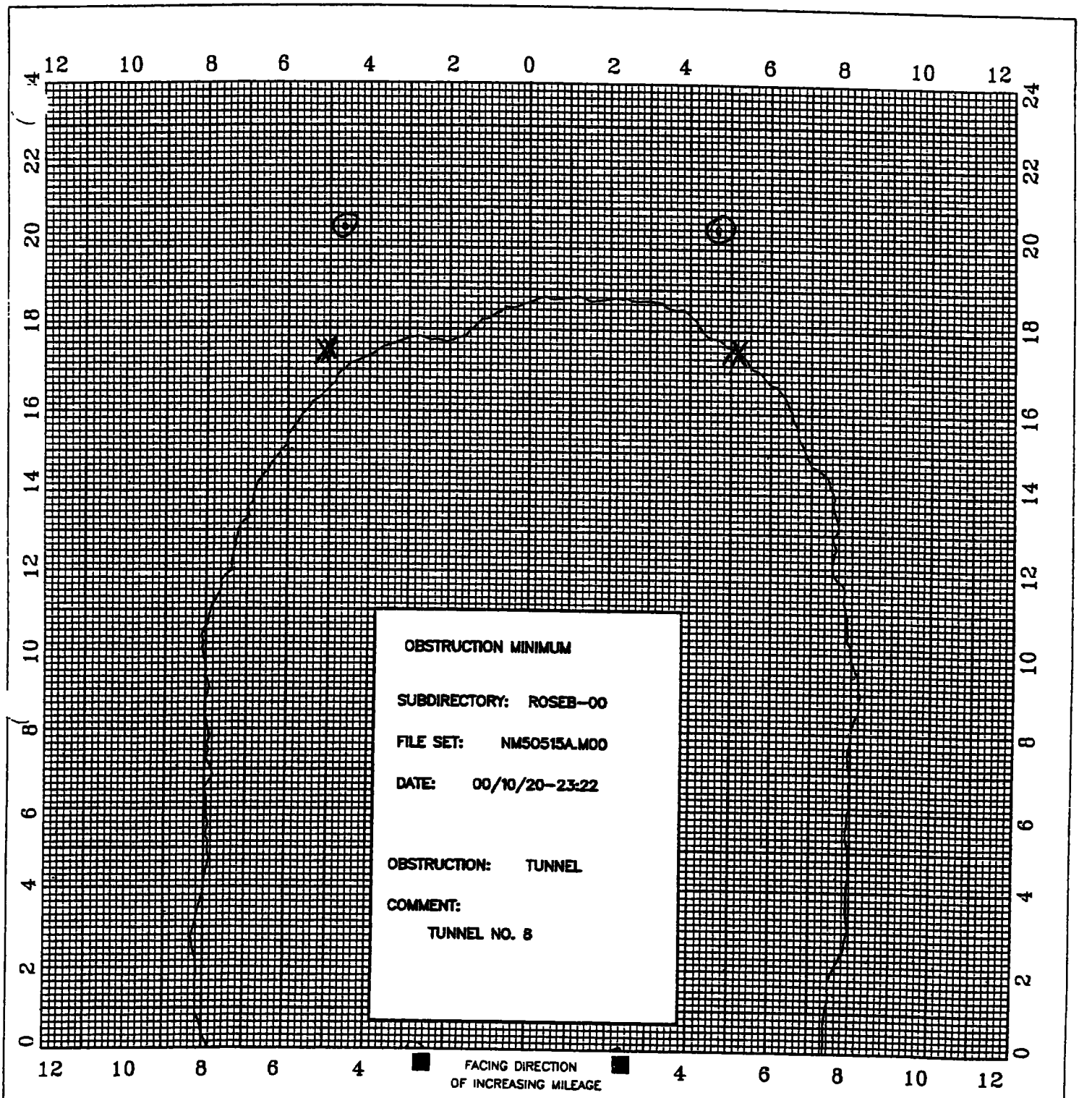
CLEARANCE DIAGRAM

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NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE FROM 490.56 TO	
DEGREE OF CURVE	DIRECTION OF CURVE
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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PREPARED BY:	A. GODIN
DATE	Thu Jan 11 11:19:08 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

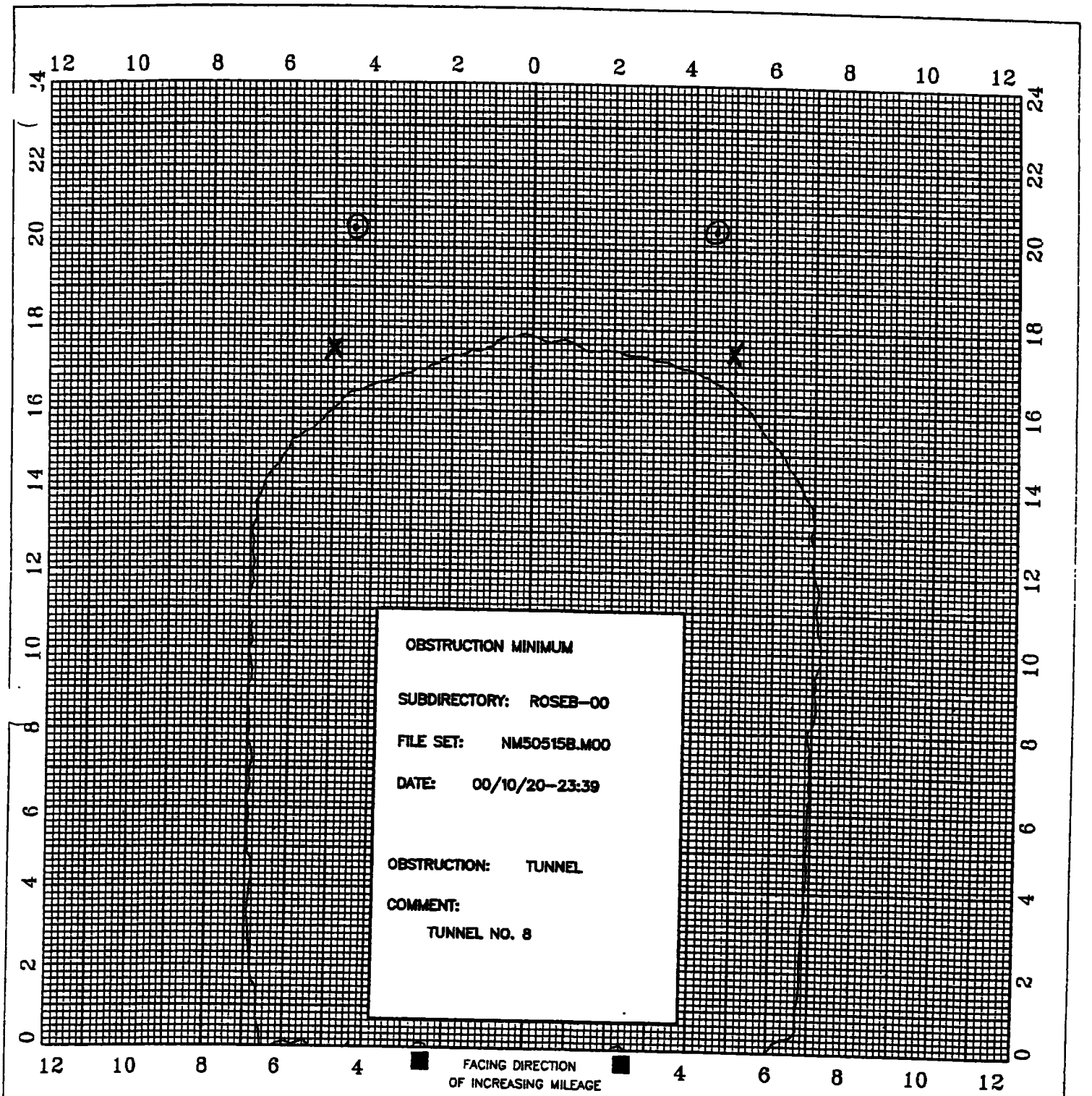
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MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE FROM 505.15	TO
DEGREE OF CURVE 2.0	DIRECTION OF CURVE LEFT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000365

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PREPARED BY:	A. GODIN
DATE	Thu Jan 11 11:19:10 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

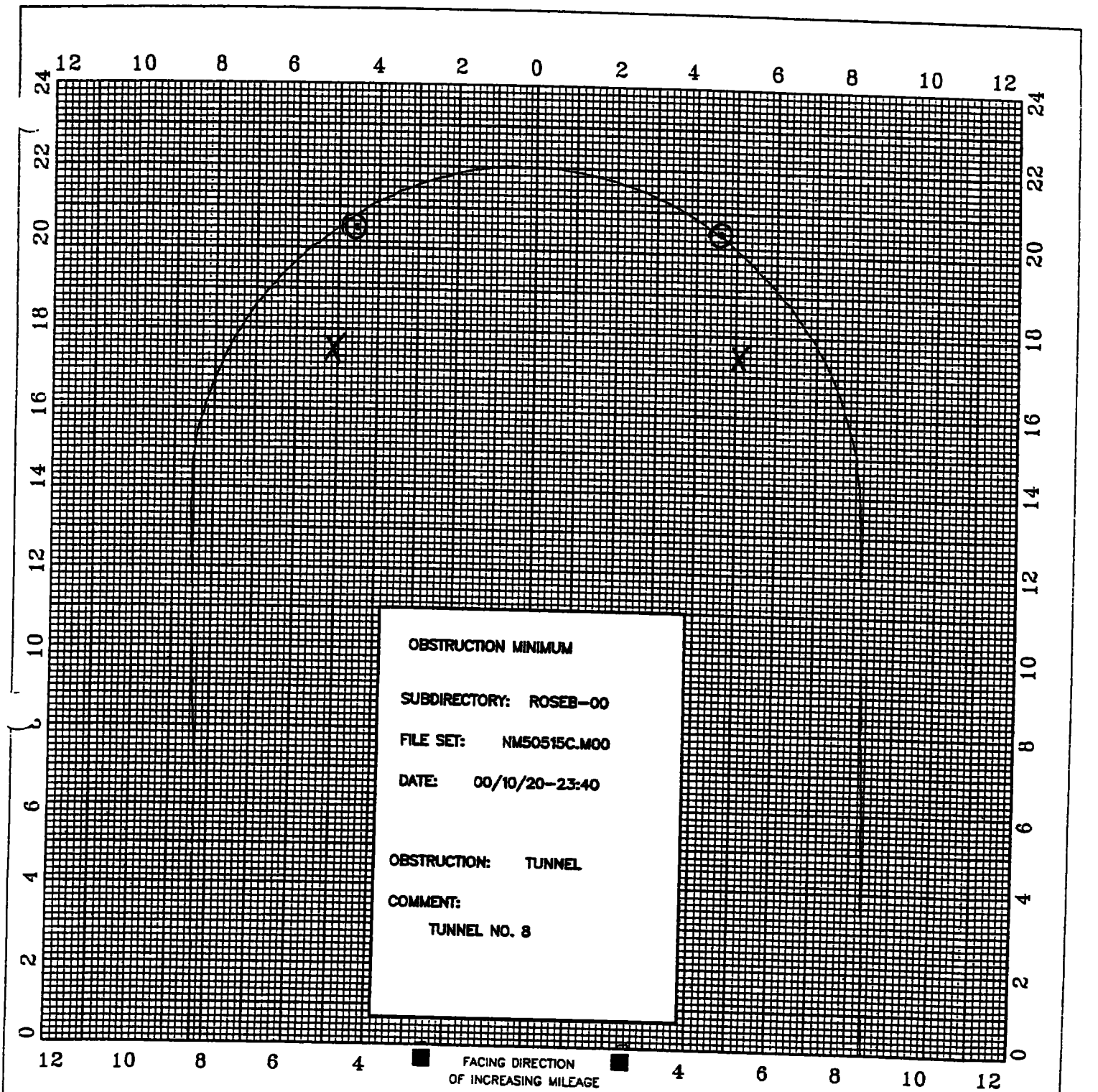
CLEARANCE DIAGRAM

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE FROM 505.15	TO
DEGREE OF CURVE	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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PREPARED BY:	A. GODIN
DATE	Thu Jan 11 11:19:12 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

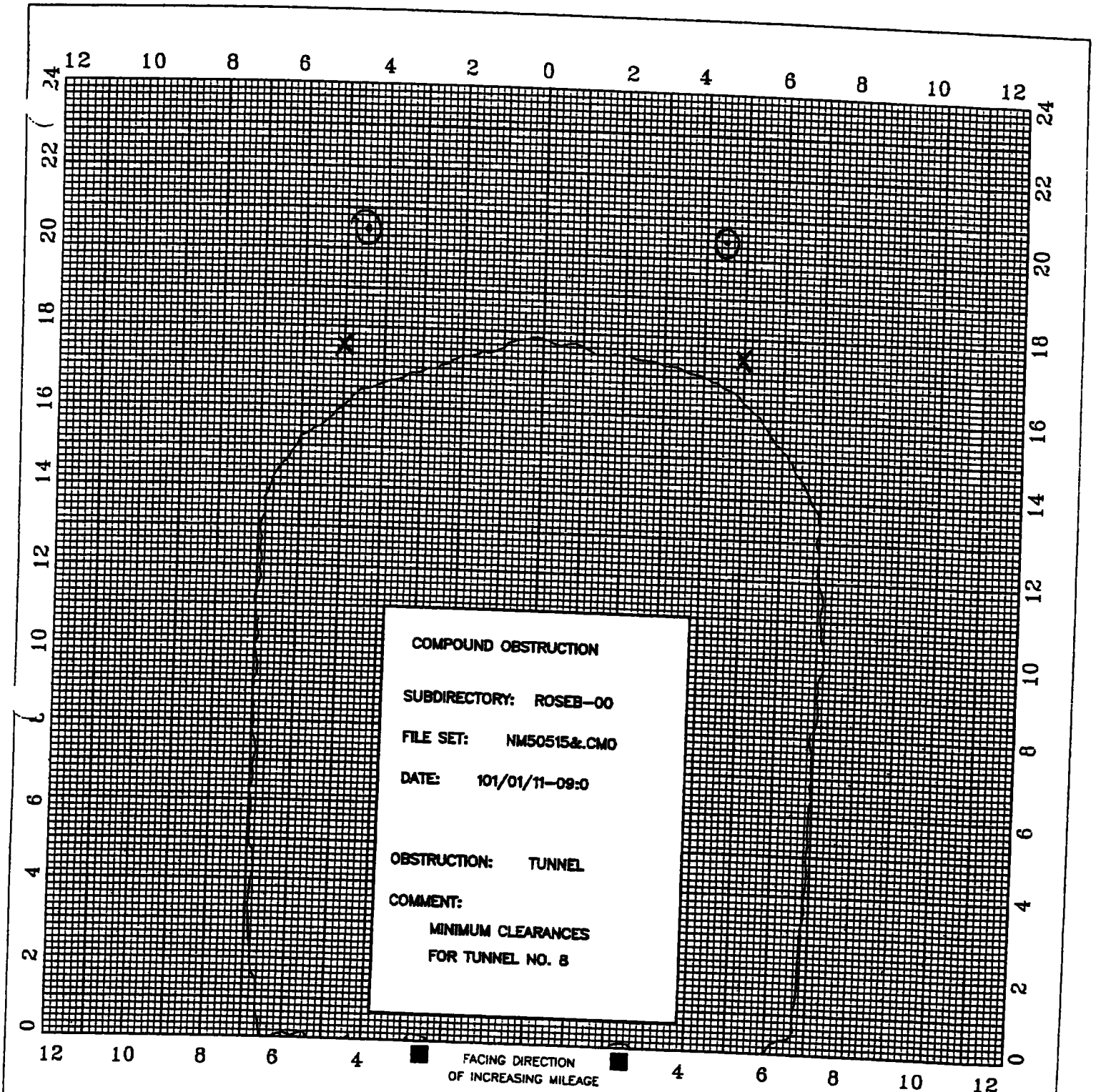
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MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE FROM 505.15	TO
DEGREE OF CURVE 1.0	DIRECTION OF CURVE RIGHT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

ORP-C-000367

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PREPARED BY:	A. GODIN
DATE	Fri Jan 12 08:33:01 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

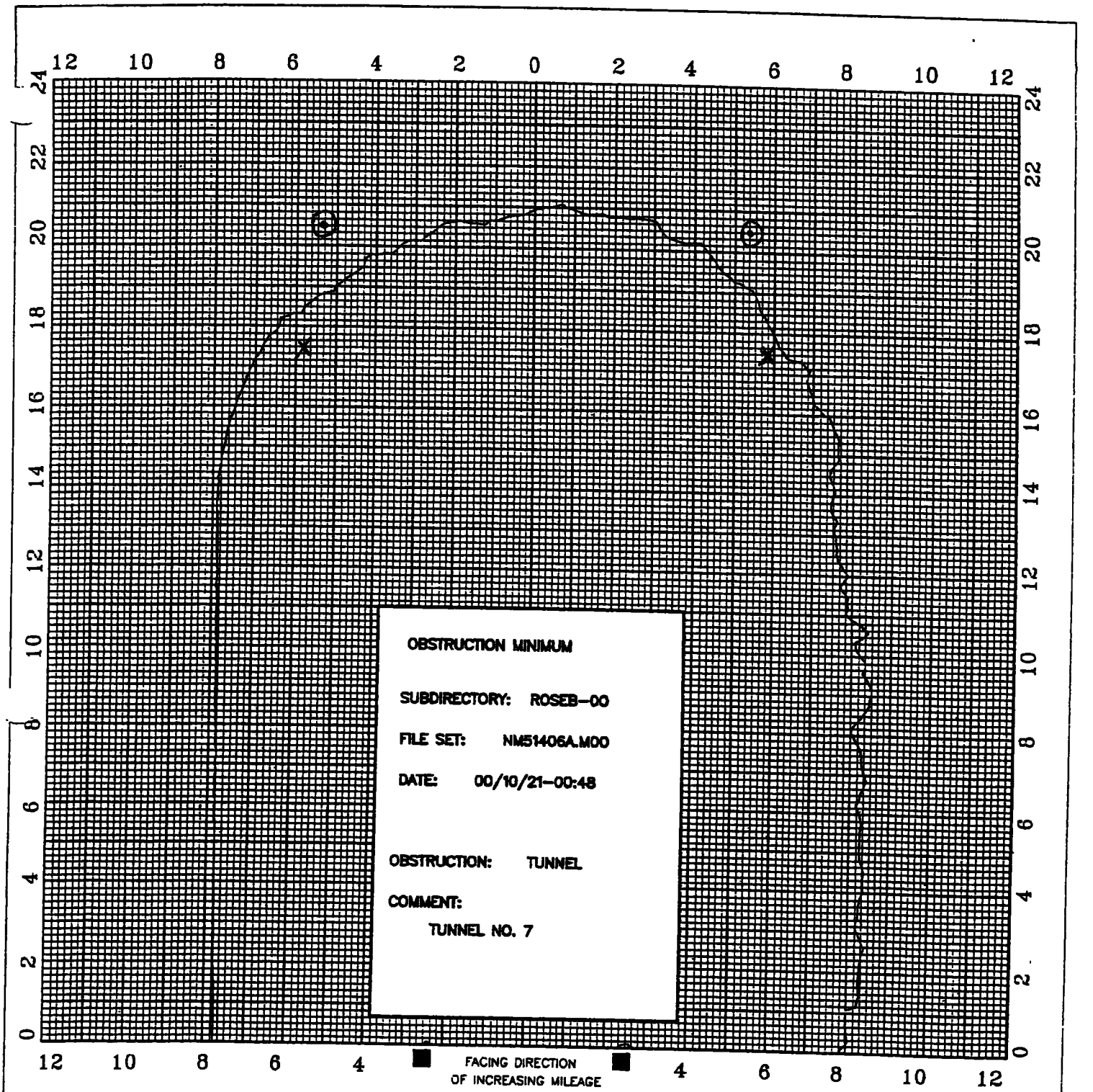
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MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE FROM 505.15 TO	
DEGREE OF CURVE	DIRECTION OF CURVE
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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CORP-C-000368

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PREPARED BY:	A. GODIN
DATE	Thu Jan 11 11:22:27 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

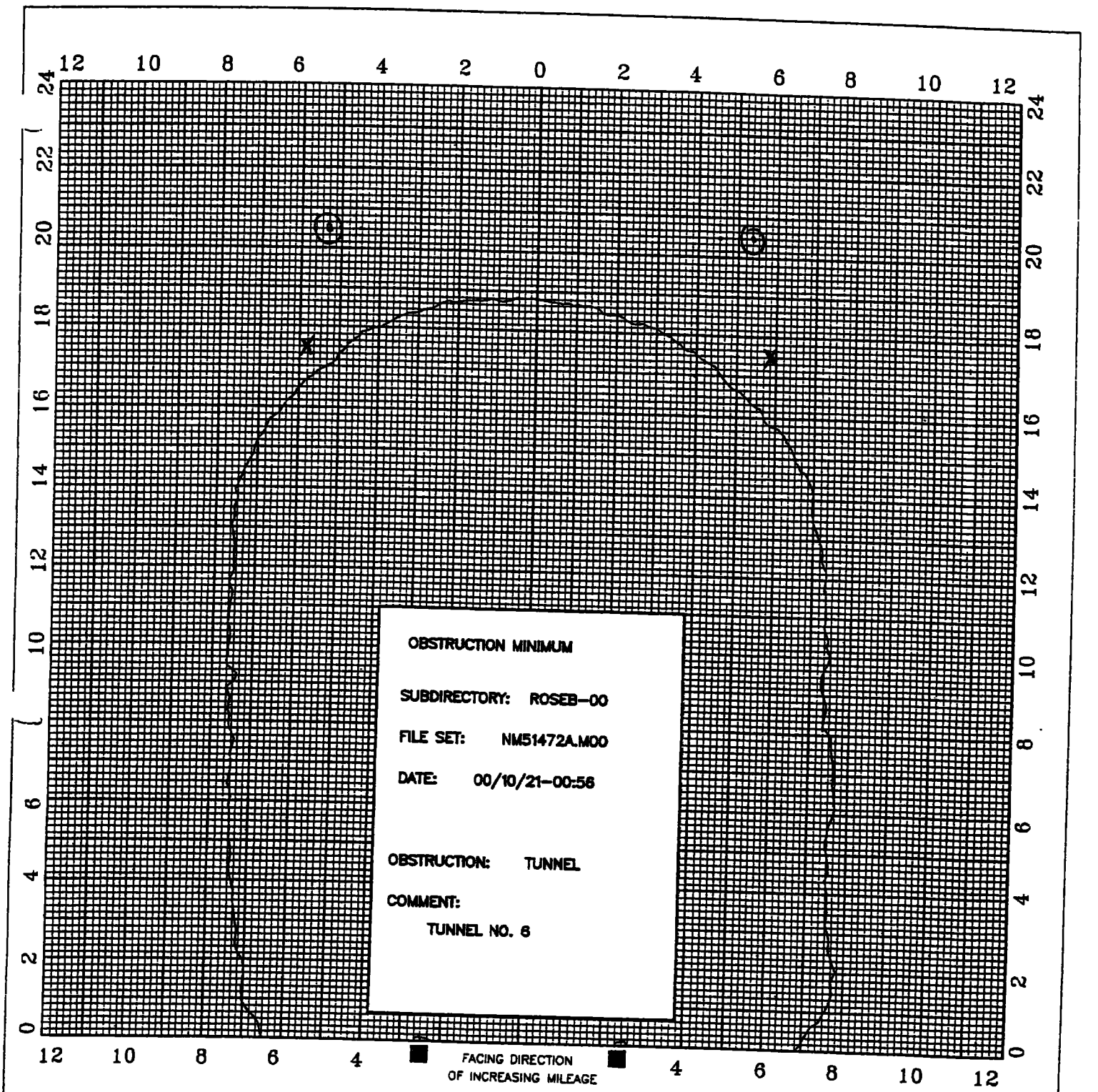
CLEARANCE DIAGRAM

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE FROM 514.06	TO
DEGREE OF CURVE 10.0	DIRECTION OF CURVE RIGHT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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PREPARED BY:	A. GODIN
DATE	Thu Jan 11 11:27:12 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

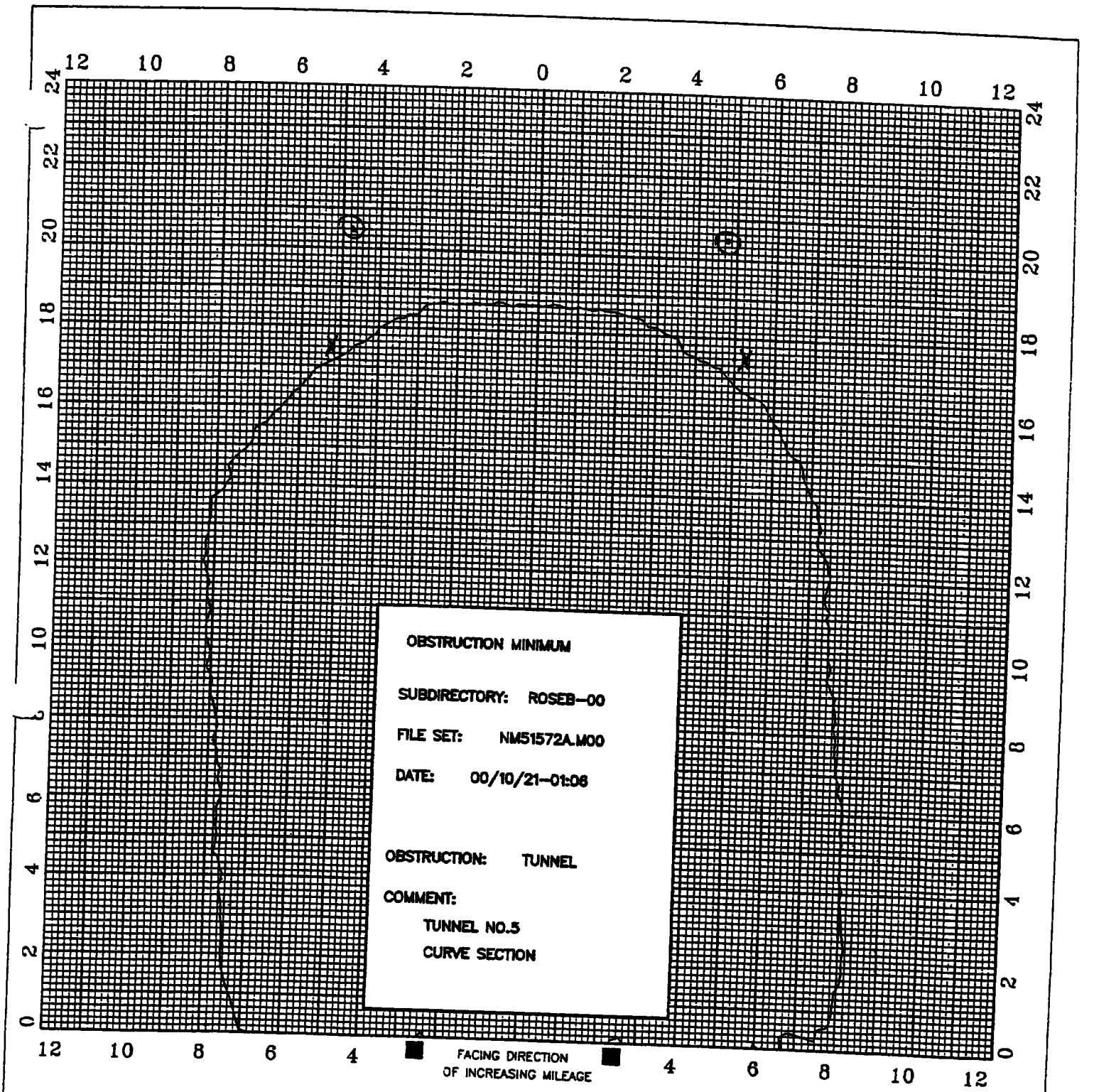
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MAIN TRACK
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NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE FROM 514.72	TO
DEGREE OF CURVE 10.0	DIRECTION OF CURVE RIGHT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000370

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PREPARED BY:	A. GODIN
DATE	Thu Jan 11 11:27:27 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

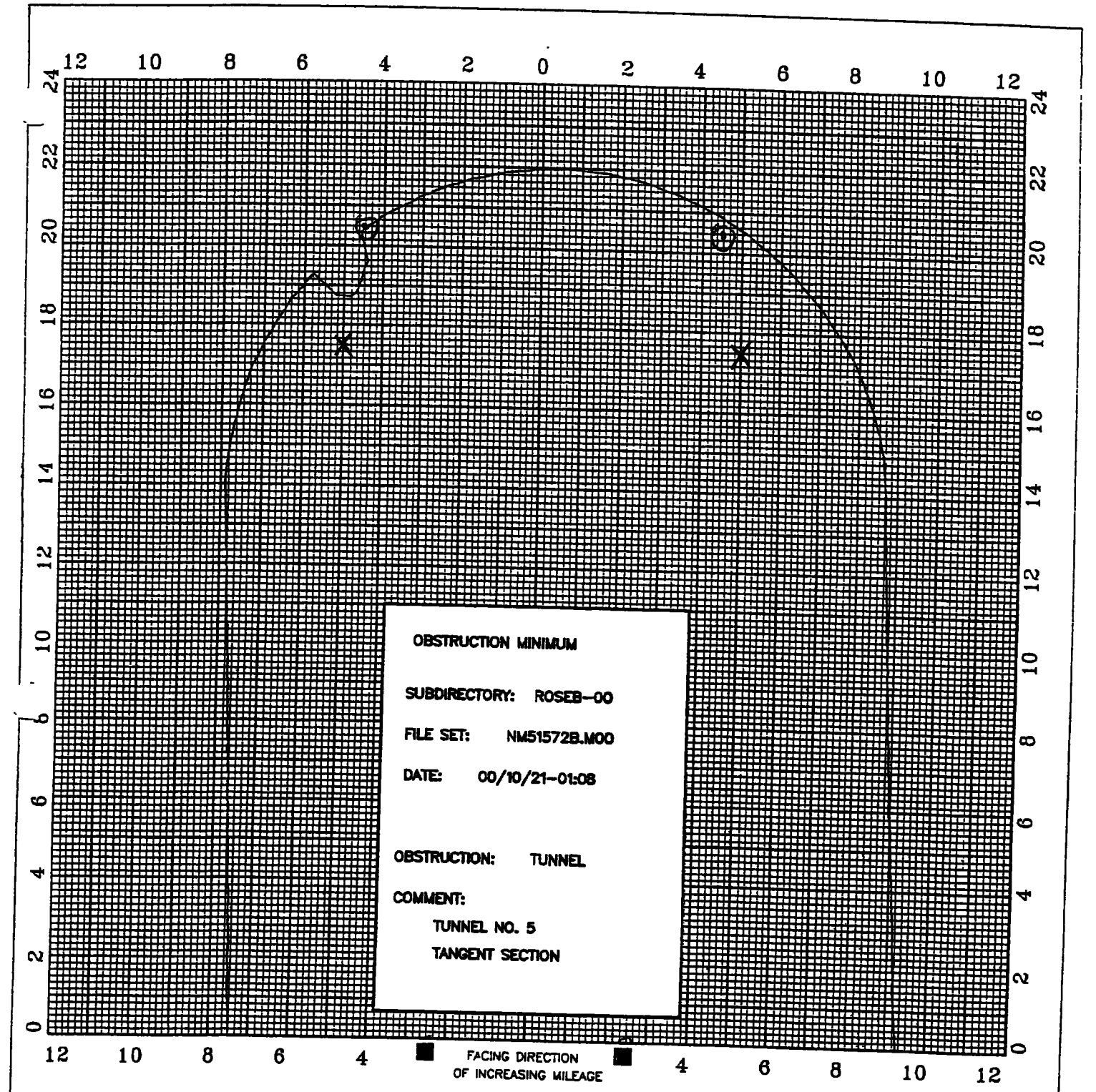
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TRACK IDENTIFICATION
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NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE FROM 515.72	TO
DEGREE OF CURVE 3 .	DIRECTION OF CURVE
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION 4

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PREPARED BY:	A. GODIN
DATE	Thu Jan 11 11:27:29 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

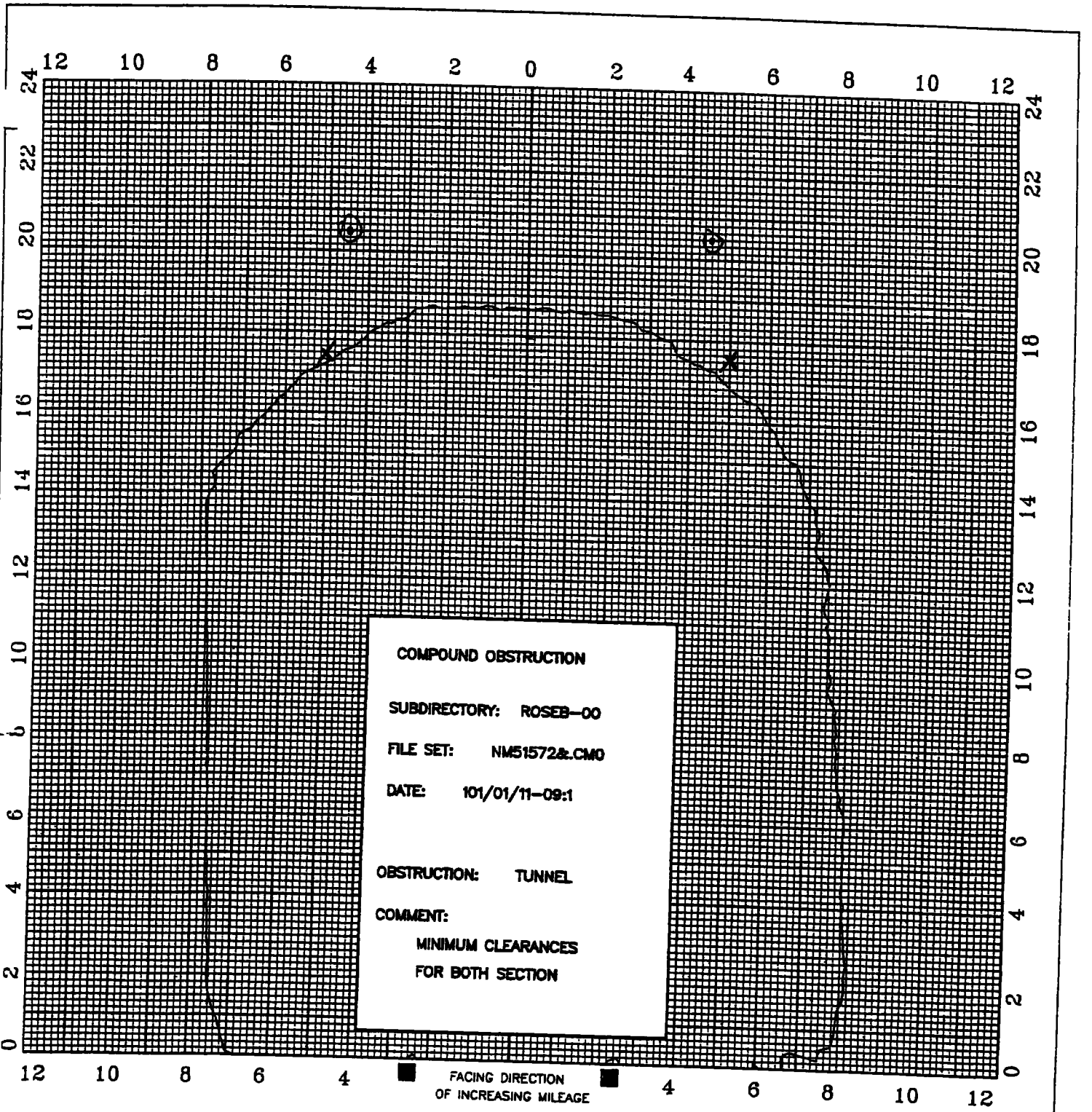
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MILEAGE FROM 515.72	TO
DEGREE OF CURVE	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CORP-C-000372

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PREPARED BY:	A. GODIN
DATE	Fri Jan 12 08:33:03 2001
LOCATION	

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	ROSEBURG
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PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

CONFIDENTIAL

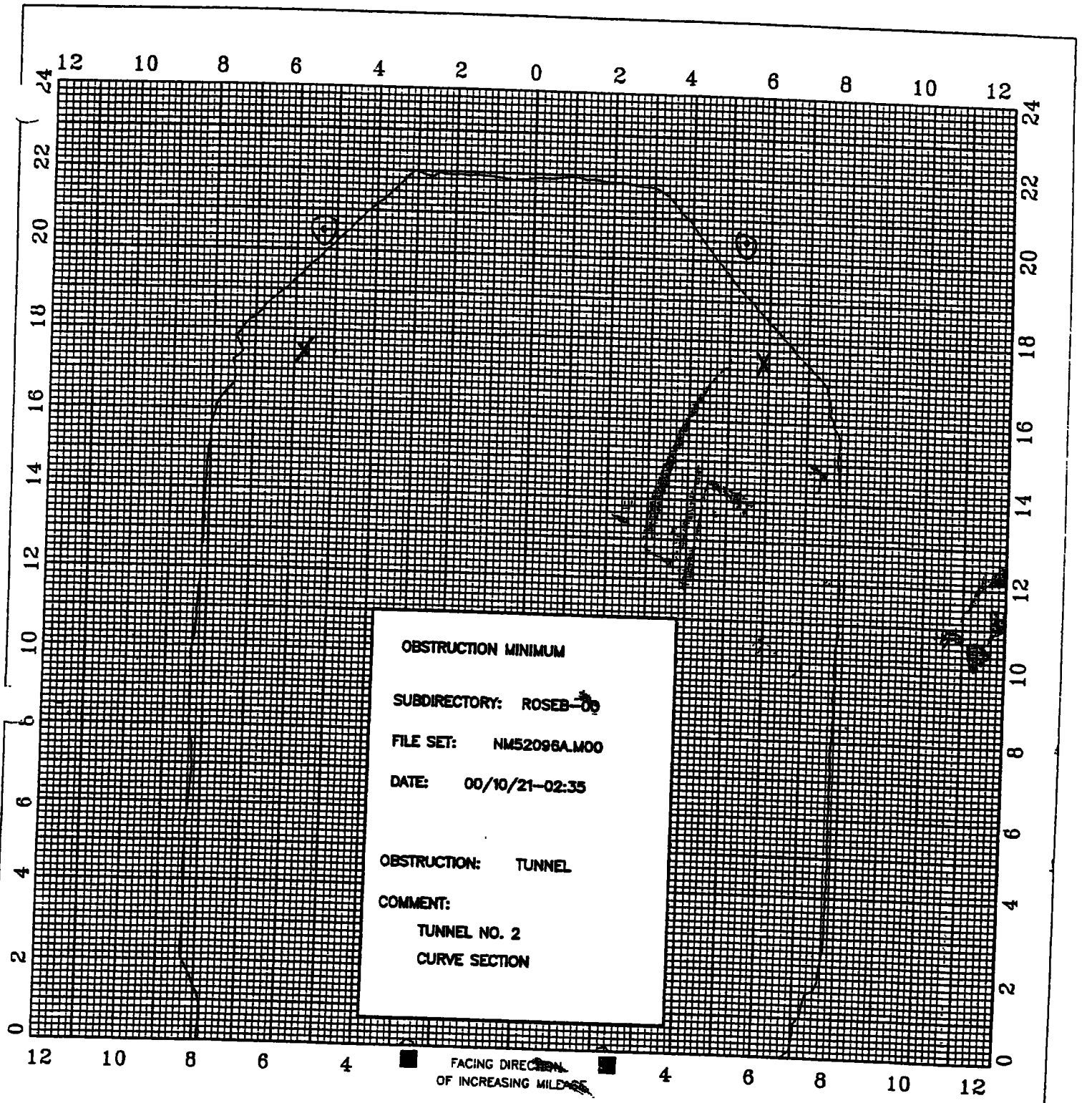
COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

CORP-C-000373

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PREPARED BY:	A. GODIN
DATE	Fri Jan 12 09:00:35 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

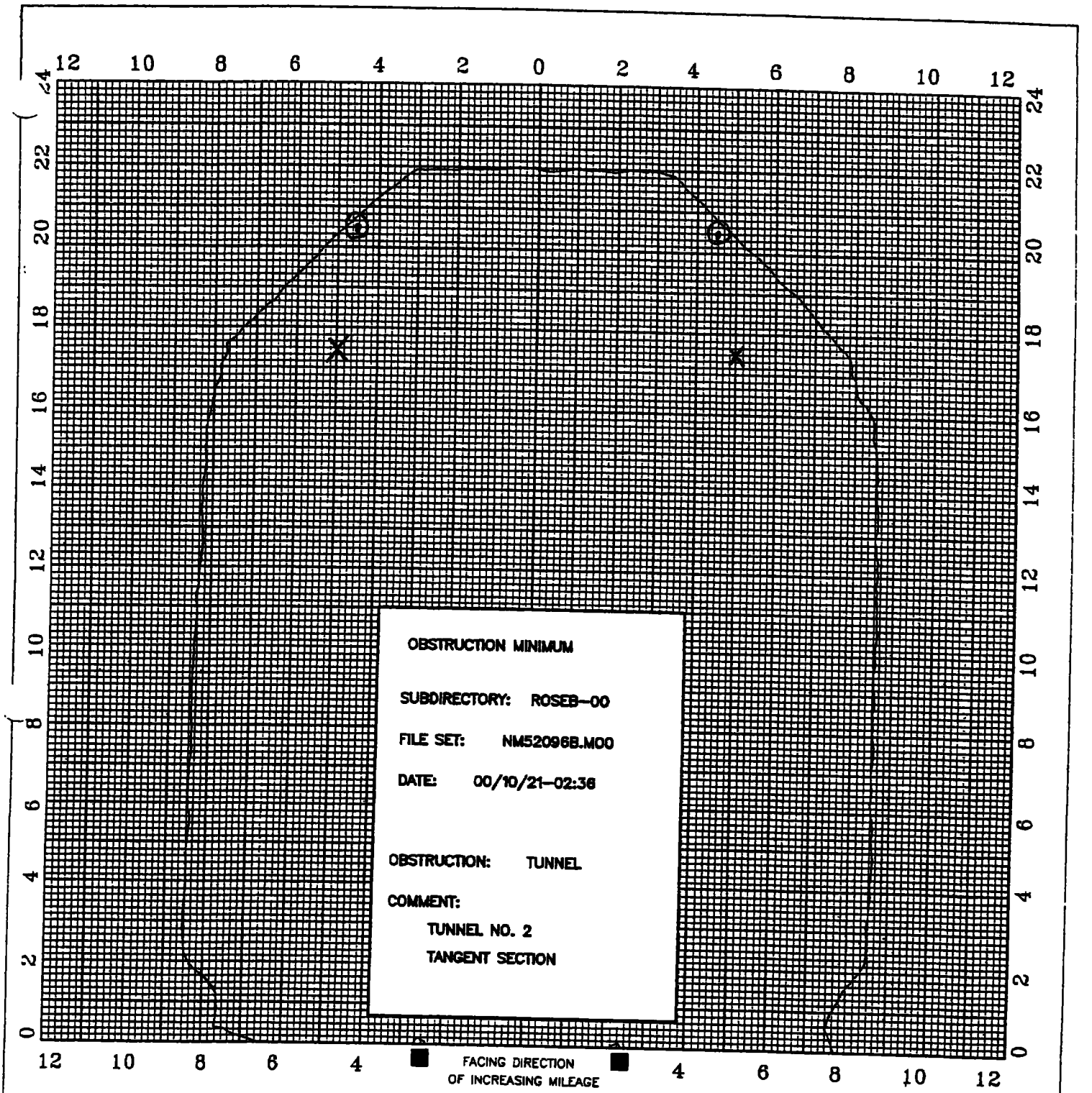
CLEARANCE DIAGRAM

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE	FROM 520.96 TO
DEGREE OF CURVE 10.0	DIRECTION OF CURVE LEFT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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PREPARED BY:	A. GODIN
DATE	Fri Jan 12 09:00:36 2001
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

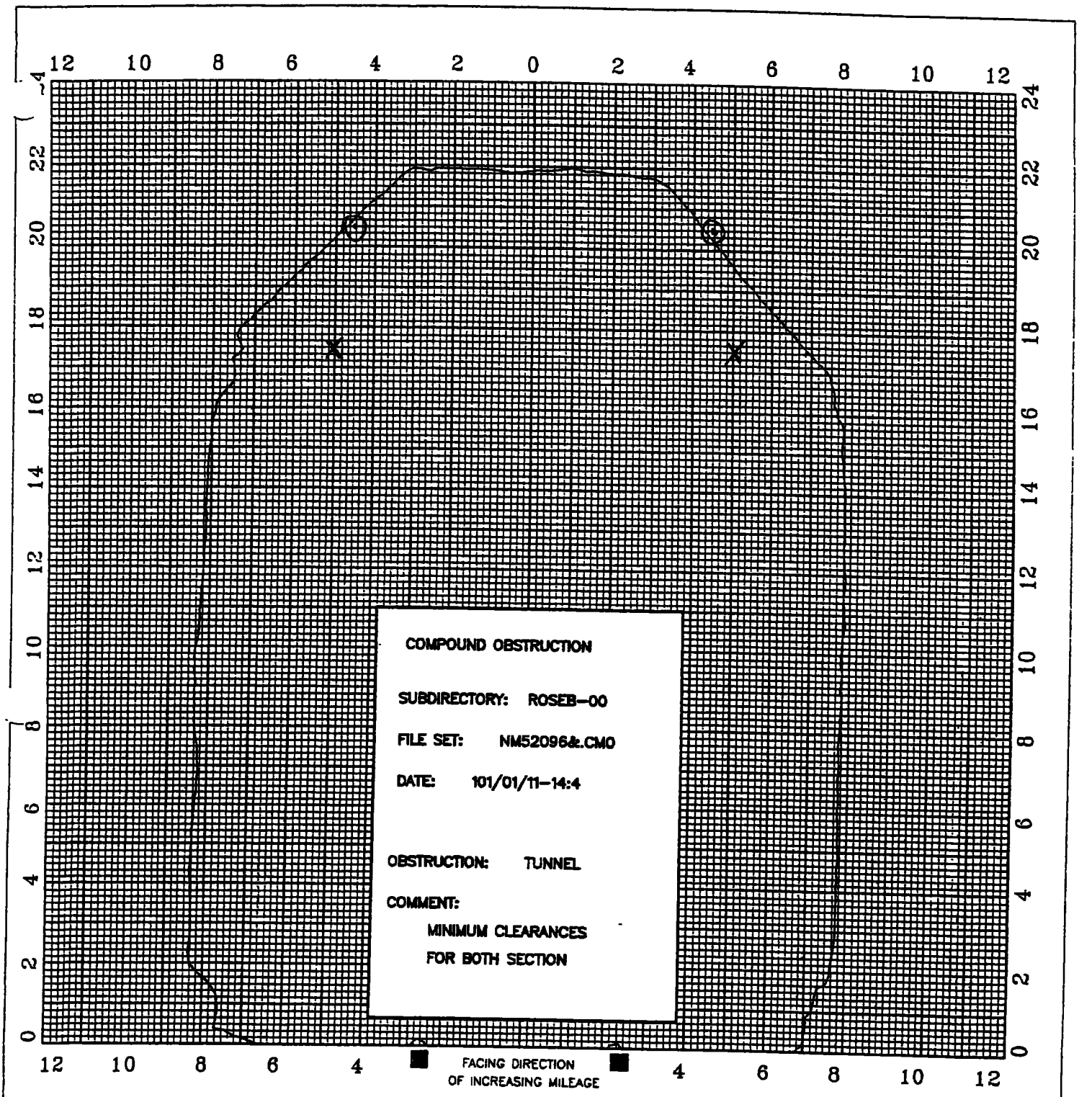
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SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME	ROSEBURG
MILEAGE FROM 520 96	TO
DEGREE OF CURVE .	DIRECTION OF CURVE TANGENT
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION .

CORP-C-000375

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PREPARED BY: A. GODIN	
DATE Fri Jan 12 16:06:15 2001	
LOCATION	

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COP CENTRAL OREGON PACIFIC

CLEARANCE DIAGRAM

TRACK IDENTIFICATION
MAIN TRACK
SHOWN FACING DIRECTION:
NORTH

SUBDIVISION NAME ROSEBURG	
MILEAGE FROM 520.96 TO	
DEGREE OF CURVE	DIRECTION OF CURVE
PERMISSABLE CCG.	WEIGHT LIMITATION
SEGMENT NUMBER	SUPER ELEVATION

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 9

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Johnson Western Gunite Company

940 DOOLITTLE DRIVE, SAN LEANDRO, CALIFORNIA 94577-1021

510-568-8112 FAX 510-568-1601

Tuesday, March 01, 2005

Att: Mark Bader

Re: Corp Tunnel Repair Project Coos Bay Tunnels 13,15 & 20

As per your request we respectfully submit the following for your review:

Item	Description	Unit	Quantity	Unit Price	Item Cost
00700-1	Mobilization	LS	1	$ 121,500.00	$ 121,500.00
00700-2	Delay Time	HR	1	$ 2,000.00	$ 2,000.00
02310-1	Timber Set Rem.	EA	20	$ 7,000.00	$ 140,000.00
02341-1	Rock Bolts (RGRB)	LF	600	$ 150.00	$ 90,000.00
02341-3	Mine Straps	EA	20	$ 800.00	$ 16,000.00
03361-1	Shotcrete (steel fiber)	CY	220	$ 1,125.00	$ 247,500.00
03361-2	Shotcrete (syn fiber)	CY	330	$ 1,160.00	$ 382,800.00
					$ 999,800.00

Notes:

- Waste material will be stockpiled at locations designated during site visit to be removed at a later date by others.
- Corp will supply flagman for all operations.
- Railroad Insurance included.
- A third flatcar will be required.
- Cleanup of existing track contamination excluded.
- Pricing is based on quantities listed above. Any reduction in these amounts may be subject to renegotiation of submitted unit pricing
-

I hope the aforementioned meets with your approval I will be on site Thursday March 3rd, 2005 and look forward to the successful negotiation of the Coos Bay Tunnel Repair Project. Should you require any further information please do not hesitate to contact our offices.

Sincerely

Reg P. Ryan
Johnson Western Gunite Company

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 10

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Drill Tech Drilling & Shoring, Inc.
3200 Wymore Way
Antioch CA. 94509

Bid Schedule
CORP Tunnel Repair Project
Coos Bay Tunnels 13, 15 and 20

Item		Unit	Quantity	Unit Price	Item Cost
00700-1	Mobilization	LS	1	$ 80,000-	$ 80,000-
00700-2	Delay Time	Hr	1	450-	$ 450-
02310-1	Timber Set Rem.	EA	20	1500-	$ 30,000-
02341-1	Rock Bolts (RGRB)	LF	600	80-	$ 48,000-
02341-3	Mine Straps	EA	20	300-	$ 6000-
03200-1	Steel Reinforcement	Ton	24	6000-	$ 144,000-
03361-1	Shotcrete (steel fiber)	CY	180	800-	$ 144,000-
03361-2	Shotcrete (syn fiber)	CY	330	750-	$ 247,500-
				TOTAL	$699,950.00

Brett K. Mainier 5/6/05
Brett K. Mainier

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Coos Bay Tunnel Retrofit Work Plan

Drill Tech Drilling & Shoring, Inc.

1. Timber Set Removal

We plan on removing the timber sets with an excavator mounted on a flatcar. No more than 5 sets will be removed in front of the advancing shotcrete ground support.

2. Re-lining Methods

The shotcrete will be batched onsite with a Cemen-Tech Batch Plant using 3000# bags of premixed shotcrete. Shotcrete will either be applied by hand or via a robotic shotcrete arm. Rock bolts will be installed with jack-legs or an excavator mounted drill. All of the above operations will occur from flatcars.

3. Protection Methods

Utilities will be protected with rubber belting, viscuun and plywood as applicable. Best Management Practices will be utilized to insure maximum protection of the existing environment and improvements.

4. Equipment Requirements

Preferably, we will require three (3) flatcars, one (1) side dump gondola and one (1) water tanker. If the railroad cannot provide a side dump, a fourth flatcar could be used.

5. Work Shifts and Schedule

We propose to work the entire uninterrupted work window, regardless of length. We believe that the Railroad proposed schedule is reasonable. A detailed CPM schedule would be supplied upon award of project to Drill Tech. The work crew is anticipated to vary between 5 and 10 men.

6. Staging Areas

The staging areas indicated on the bid documents are the areas anticipated for staging.

7. Resumes

See attached resumes for Brett Mainer and Tim Giles.

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BRETT K. MAINER, P.E., G.E.

(updated May 6, 2005)

Education

M.S. Geotechnical Engineering from University of California at Davis

B.S. Civil Engineering from University of California at Davis

Work Experience

2000 to Present - Engineering Manager, Drill Tech Drilling and Shoring, Inc.

1997 to 2000 - Project Engineer, Sanders and Associates Geostructural Engineering, Inc.

1994 to 1997 - Staff Engineer, Berlogar Geotechnical Consultants

Registration

Registered Civil Engineer (California and Nevada)
Registered Geotechnical Engineer (California)
Cal Osha Certified Gas Tester
Cal Osha Certified Tunnel Safety Representative

Partial List of Design Experience

- Designed over 100 temporary soil nail shoring walls on over 30 separate projects
- Designed over 100 permanent soil nail walls on over 60 separate projects
- Designed over 25 tieback walls
- Designed 9 tunnels (NATM and Modified Horseshoe Shapes) ranging in size up to 34 feet in diameter in mixed soils, fractured rock, and hard rock
- Designed many miscellaneous shoring, underpinning and falsework projects
- Designed numerous soldier pile, conventional concrete, masonry, MSE, Keystone, and Rockery Retaining Walls
- Designed numerous foundations (CIDH, Micropile, Spread and Continuous Footings)
- Performed earthquake hazard analysis (including liquefaction analysis) on numerous projects and numerous foundation structures

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Timmy John Giles
P.O. Box 376
Tabiona, UT 84072
435-848-5739

DOB: 1/29/1968

EDUCATION:
Tabiona High School
1986 Diploma

LICENCES:
Cal Osha Certified Blaster
Cal Osha Certified Tunnel Safety Representative
Cal Osha Certified Gas Tester

WORK EXPERIENCE:

1984
Worked hauling hay and helping ranchers do all necessary chores. Helped father on farm.
Tabiona, UT

1985

Company:	Mt. Tabby Resort
Location:	Tabiona, UT
Job Duties:	Carpenter helper, constructed a large long club house on Tabby Mountain. Job completed.
Foreman:	Don Skipworth
	Worked on surrounding farms, also.

1986

Company:	Neil Peterson Construction Contractor
Job Duties:	construction, building a church, reading blue prints, framing, concrete and laborer. Job completed
Foreman:	Neil Peterson- Huntington, UT

Company:	Harris and Western
Location:	Hanna, UT
Job Duties:	Operating loader, loading tractor-trailers, shipping tunnel equipment. Job completed.

Company:	Osberg Construction
Location:	Tabiona, UT
Job Duties:	Laying and back filling 42" concrete pipe, laborer. Job completed.
Foreman:	Mike Casper

1987

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Company: Traylor Brothers Construction
Location: Muck Valley, CA
Job Duties: Drilling and Blasting 12' diameter tunnel in lava rock, ring steel, lagging Loci operator, clean up shifter, set forms, poured concrete. Job completed.
Foreman: Ron Giles

1988

Company: Obayashi Flood Control Project
Location: San Pedro, San Antonio TX
Job Duties: .5 miles 27' outside diameter blue shell, drilled and blasted, shifter in the shaft and on the top, supplied heading with segments and supplies, operated equipment 966 loader, hydraulic cranes, loci, back hoe, set wooden forms, shifter on grout operations. Job completed.
Project Mgr.: Paul Zick
Walker: Ron Giles

1990

Company: Obayashi Flood Control Tunnel Project
Location: Lone Star, San Antonio, TX
Job Duties: 3.5 mile tunnel 27' outside diameter blue shell, shifter on top and in the shaft, supplied tunnel with segments, rail, fan line, operated heavy equipment 966 loaders, cranes, loci, back hoe, batch plant operator, worked in 2200' top heading, installed lattice girders, rock bolts, spiling, shotcrete, drilling and blasting. Job completed.
Walker: Ron Giles

1992

Company: Obayashi and Dillingham
Location: Waxahachie, TX
Job Duties: Heading shifter, excavating with T.B.M lining tunnel, 14,200' diameter shell with pre-cast segment lining: including two adits, 300' with lattice girders, hydraulic cranes, T.B.M experience, clean up, drilling and blasting, shipped out equipment, etc... Job shut down by government.
Walker: Ron Giles

1994

Company: C.R. Frederick Construction
Location: Spanish Fork Canyon, Spanish Fork, UT
Job Duties: Laborer, laying 8'6" diameter metal pipe, backhoe filling for the Central UT Project. Job completed.
Foreman: Mont Wilson

Company: Harper Construction
Location: Wolf Creek Pass, Highway 35 Hanna, UT
Job Duties: Worked on pipe crew 24" culvert pipe and back filling, installed two 8'6" multi plates, operated sheep foot, compactor, loader and scraper. Job shut down for winter.

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Foreman: Troy Johansen

1995
Company: Red Path Construction
Location: Spanish Fork, UT
Job Duties: Core drilling and grouting 6 miles of tunnel for the Central UT Project.
Walker: Pat Hamlet

1995-1996
Company: Miners Inc.
Location: Strawberry Valley, UT
Job Duties: Walker, demolished 100' of tunnel lining and hooked two new tunnels together, drilled and blasted, operated hoist, loader, backhoe. Job completed.
Project Mgr.: Bill Walker
Superintendent: John Stubblefield

1996
Company: Kulchin/Condon
Location: Provo Canyon, Provo, UT
Job Duties: installed soil nails and grout

Company: 21st Century Drilling and Blasting
Location: Provo Canyon, Provo, UT
Job Duties: Blasting, handling , loading and shooting dynamite, drilling with 350 Ingersol Air Track. Job shut down for winter.
Superintendent: Mike McDaniels

1996-1997
Company: Traylor Brothers, Metro Red Line Project
Location: Los Angeles, CA
Job Duties: Tunnel operator/lead man, driller, operated road header, shotcrete robot, ST 5 and 455 track loaders, installed lattice girders, rock bolts and spiling.
Superintendent: Jackson Graham, Tom Combs
Walker: Ron Giles

1997-1998
Company: Obayashi Corporation
Location: Provo Canyon, Provo, UT
Job Duties: Setting forms, hanging wire for concrete walls, drilling, blasting, setting and pouring concrete in a 35'x50'x300' tunnel, walker. Job completed.
Project Mgr.: Jim Stevens
Superintendent: Mont Wilson
Walker: Tim Giles

1999-2000

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Company: Bob Fords Construction
Location: Western U.S. locations
Job Duties: Remodeling Albertsons supermarkets, labor, construction, reading blueprints. Job completed.
Superintendent: Bob Ford

2000

Company: Drill Tech Drilling & Shoring, Inc.
Location: Hanna, UT
Job Duties: drill operator, grout and install soil nails, hung wire, shotcrete. Job completed.
Superintendent: Greg Hemstock

2001-2002

Company: Obayashi/W.W. Clyde
Job Duties: Tunnel shifter, mining with T.B.M, all tunnel duties, drilling , laying rail, changing cutters, drill and blast 20'x22'x170' adit, installing rock bolts, wire and pans.
Project Mgr.: Jim Stevens
Superintendent: Jeff Early
Walker: Ron Giles

2002-Current

Company: Drill Tech Drilling & Shoring, Inc.
Location: Clos de la Tech Wine Tunnels
O'Shaughnessy Dam Outlet Shaft
Various Soil Nail Wall Projects - Reno, Las Vegas, Sacramento
Union Pacific Railroad Tunnel Retrofit work in Various Locations
Contact Grouting Foreman at Caltrain Tunnels in San Francisco and PG&E Tunnel in Auburn

Job Duties: Foreman on 32' diameter mixed face tunnels (Clos de la Tech) and foreman on drop raised 9' diameter drill and blast shaft (O'Shaughnessy), drilling, blasting (blaster in charge), shotcrete, lattice girders, steel sets, operating equipment, supervising and directing crew.

Project Mgrs: Brett Mainer, Mark Hood, Shannon Creson

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 11

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(202) 736 8711 FAX

phemmersbaugh@sidley com

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SINGAPORE
SYDNEY
TOKYO
WASHINGTON D C

FOUNDED 1866

July 28, 2008

By Hand
Sandra Brown
Troutman Sanders, LLP
401 Ninth Street, NW Suite 1000
Washington, D.C. 20004

Re: Port of Coos Bay Feeder Line Application -- STB Fin. Dkt. No. 35160

Dear Ms. Brown:

Enclosed please find Central Oregon & Pacific Railroad Inc.'s ("CORP") Responses and Objections to the Port of Coos Bay's discovery requests in the above-captioned proceeding. Also enclosed are documents that are responsive to the Port's discovery requests. CORP is prepared to produce additional responsive documents containing confidential and commercially sensitive information, once an appropriate Protective Order is issued in this proceeding. Such an order is necessary to shield confidential information from potentially harmful public disclosure.

If you would like to discuss this request, please contact Terry Hynes or me.

Very truly yours,

Paul A. Hemmersbaugh
Counsel to Central Oregon & Pacific Railroad

PAH:aat
Enclosure

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BEFORE THE
SURFACE TRANSPORTATION BOARD

Oregon International Port of Coos Bay – Feeder Line Application – Coos Bay Line of the Central Oregon & Pacific Railroad, Inc.	)	Finance Docket No. 35160

CENTRAL OREGON & PACIFIC RAILROAD, INC.'S RESPONSES AND OBJECTIONS TO OREGON INTERNATIONAL PORT OF COOS BAY'S FIRST SET OF INTERROGATORIES, REQUESTS FOR PRODUCTION OF DOCUMENTS, AND REQUEST TO ENTER UPON LAND

Pursuant to 49 C.F.R. Part 1114 and other applicable rules and authority, Central Oregon & Pacific Railroad, Inc. ("CORP"), by its attorneys, Sidley Austin LLP, responds as follows to Oregon International Port of Coos Bay's ("The Port") First Set of Interrogatories, Requests for Production of Documents, and Request to Enter Upon Land (the "Discovery Requests").

General Objections

CORP's General Objections, set forth herein, apply to each and every one of the specific interrogatories and document requests that follow. CORP's objections shall not waive, limit, or prejudice any objections it may later assert.

1. CORP objects to any and all definitions and/or instructions to the extent they either expand upon or conflict with 49 C.F.R. Part 1114, Subpart B. CORP further objects to these Discovery Requests to the extent that they seek to impose obligations on CORP greater than, or inconsistent with, those imposed under 49 C.F.R. Part 1114, Subpart B.

2. CORP objects to each and every Interrogatory and Document Request to the extent that it seeks information protected by the attorney-client privilege, the attorney work product doctrine, or any other applicable privilege, protection, or exemption from discovery or disclosure. In the event that any such privileged, protected, or exempt information is

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BEFORE THE
SURFACE TRANSPORTATION BOARD

Oregon International Port of Coos Bay – Feeder Line Application – Coos Bay Line of the Central Oregon & Pacific Railroad, Inc.	)	Finance Docket No. 35160

CENTRAL OREGON & PACIFIC RAILROAD, INC.'S RESPONSES AND OBJECTIONS TO OREGON INTERNATIONAL PORT OF COOS BAY'S FIRST SET OF INTERROGATORIES, REQUESTS FOR PRODUCTION OF DOCUMENTS, AND REQUEST TO ENTER UPON LAND

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General Objections

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1. CORP objects to any and all definitions and/or instructions to the extent they either expand upon or conflict with 49 C.F.R. Part 1114, Subpart B. CORP further objects to these Discovery Requests to the extent that they seek to impose obligations on CORP greater than, or inconsistent with, those imposed under 49 C.F.R. Part 1114, Subpart B.

2. CORP objects to each and every Interrogatory and Document Request to the extent that it seeks information protected by the attorney-client privilege, the attorney work product doctrine, or any other applicable privilege, protection, or exemption from discovery or disclosure. In the event that any such privileged, protected, or exempt information is

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inadvertently produced or provided, such disclosure or production is not intended as, and should not be construed as, a waiver of any applicable privilege, protection, or exemption.

3. CORP objects to each and every Discovery Request to the extent that it seeks information or data that is not relevant to the subject matter of this proceeding or is not reasonably calculated to lead to the discovery of admissible evidence.

4. CORP objects to each and every Document Request to the extent that it is: (a) overly broad; (b) vague and/or ambiguous; (c) fails to describe with reasonable particularity the information sought; (d) seeks information that is not within the possession, custody or control of CORP; or (e) would impose an undue burden that outweighs any relevance or probative value the information sought may have in this proceeding.

5. CORP objects to each and every Discovery Request to the extent that it requests information or material that it is: (a) already in the possession of the Port; (b) publicly available or otherwise readily available or accessible to the Port from other sources; or (c) as accessible or available to the Port as it is to CORP and producing responsive information would impose substantially the same or greater burden on CORP as it would impose on the Port.

6. CORP objects to Instruction 6 to the extent it seeks to impose obligations broader than those imposed by 49 C.F.R. Part 1114. CORP further objects to Instruction 6 on the grounds of impracticability -- if a potentially responsive document has been lost or destroyed: (a) CORP would not necessarily be aware of that event; (b) CORP would most likely be unaware of the circumstances of loss or destruction of specific documents; and (c) CORP would be unable to determine the authors, recipients, dates of creation, contents, which can usually only be obtained by reviewing the unavailable document.

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7. CORP objects to the definition of "Document" to the extent it seeks to impose obligations broader than those imposed by 49 C.F.R. Part 1114. CORP further objects to the definition of Document to the extent it seeks information or data that is privileged, protected by the attorney-client work product doctrine, or otherwise protected, exempted, or excluded from discovery or disclosure by an applicable privilege, protection, rule, or doctrine. In these Responses, CORP will interpret the term "Document" as excluding any data or other information that is protected from discovery or disclosure by such privilege, protection, doctrine, or rule.

8. CORP objects to the multiple definitions of "Identify" to the extent they seek to impose obligations beyond, in addition to, or inconsistent with discovery obligations under 49 C.F.R. Part 1114. CORP further objects to the multiple definitions of "Identify" as vague and ambiguous.

9 CORP objects to the definitions of " 'Identify' when used in reference to a natural person" or to other entities as seeking to impose obligations or requirements beyond, in addition to, or inconsistent with discovery obligations under 49 C.F.R. Part 1114. CORP has no duty to investigate or disclose the business addresses, telephone numbers, employers, and/or job titles or business activities of third parties. Furthermore, these definitions would impose an undue burden that outweighs any relevance or probative value the information sought may have in this proceeding.

10. CORP objects to the definition of " 'Identify' when used in connection with a document" as seeking to impose obligations or requirements beyond, in addition to, or inconsistent with discovery obligations under 49 C.F.R. Part 1114. CORP has no duty to search for, gather, and catalog every document possibly implicated by an interrogatory with the more than eight pieces of information specified as required by the definition. This definition would

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impose an undue burden that outweighs any relevance or probative value the information sought may have in this proceeding. CORP will respond to any interrogatory asking it to "identify" particular documents as if it were a request for production of those documents and respond in accordance with 49 C.F.R.§ 1114.30.

11. CORP objects to the definitions of "relating to" and "relates to" as overly broad, unduly burdensome, vague, and ambiguous.

12. CORP objects to the Port's requests for "all" information and documents as unduly burdensome. CORP will produce such relevant, non-privileged information as can be located in a reasonable search.

13. CORP objects to the Port's requests relating to information relating to "the Line" as defined in Definition No. 9 to the extent that these requests call for CORP to perform special studies to obtain this information. CORP does not separately maintain data regarding "the Line" (as defined by the Port) in the ordinary course of business. CORP further objects to the definition of "Line" to the extent that it includes track over which CORP discontinued service pursuant to the authority granted in STB Docket No. AB-515 (Sub-No. 1X), *Central Oregon & Pac. R.R., Inc. – Discontinuance Exception – in Coos County, OR.*

14. CORP objects to the Port's failure to limit its requests to a relevant time period as overbroad and unduly burdensome. The Port seeks information that is not relevant to this proceeding and is not reasonably calculated to lead to the production of admissible evidence. Subject to, and without waiving this objection, unless otherwise indicated, CORP's responses will cover the period from 2005 to the present.

15. CORP does not concede the relevance, materiality, competence, or admissibility as evidence of any of the information requested in these Discovery Requests. By producing

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responsive documents or information. CORP does not concede such information or documents are relevant, material, or admissible into evidence, and any such production is not intended to waive any of CORP's objections to any of these Discovery Requests. CORP reserves its rights to object on any ground to the use of the responses provided herein, in this proceeding or any appeal thereof, or in any subsequent proceeding or action.

16. CORP objects that the Port has not moved for a Protective Order in this proceeding. CORP objects to producing commercially sensitive, confidential and proprietary information, including shipper-specific data, in the absence of an appropriate Protective Order. Subject to the objections asserted in this response, CORP will produce responsive documents and business records to the Port as soon as the Board enters an appropriate protective order, and eligible representatives of the Port execute the confidentiality agreements or undertakings prescribed by such Protective Order.

17. CORP's General Objections, Specific Objections, and responses are based upon information presently known to it. CORP reserves the right to rely upon facts, documents, or other evidence that it may develop or that may subsequently come to its attention; to assert additional objections; and to supplement or amend these responses at any time.

Specific Objections

In addition to its General Objections (which shall apply in full to each and every Discovery Request, without further enumeration), CORP also asserts Specific Objections to each Interrogatory and Document Request. CORP preserves all of its General Objections set forth above, and none of the following Specific Objections shall waive or limit the scope, breadth, generality, or applicability of those General Objections.

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INTERROGATORIES

Interrogatory No. 1 Please state the milestone markers for the portion(s) of the Line that is (are) owned by CORP.

Response:

Subject to the General Objections, CORP responds that it owns the portion of the Line between Milepost 652.11 and Milepost 763.13.

Interrogatory No. 2 Please state the name(s) and milepost marker(s) for all stations located on the portion(s) of the Line that is (are) owned by CORP.

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in CORP's Application for authority to abandon and discontinue service over the Line filed July 14, 2008 in STB Docket No. AB-515 (Sub-No. 2) ("Abandonment Application"); (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). Subject to and without waiving its objections, CORP responds that the stations on the portion of the Line owned by CORP are: Danebo (MP 651.11); Veneta (MP 660.50); Noti (MP 665.30); Vaughn (MP 668.30); Richardson (MP 685.00); Swisshome (MP 697.10); Suislaw (MP 698.80); Tide (MP 699.20); Mapleton (MP 705.30); Beck (MP 710.30); Wendson (MP 715.00); Cushman (MP 716.30); Canary (MP 721.30); Kroll (MP 738.30); Gardiner Junction (MP 739 30); Reedsport (MP 744.00); Lakeside (MP 752.10); Hauser (MP 759 30); and Cordes (MP 763 00).

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Interrogatory No. 3 **Please state CORP's system operating revenues and operating costs from providing rail transportation services by year for each of the following years: 2007, 2006, 2005, 2004, and 2003.**

Response:

CORP specifically objects to this Interrogatory as irrelevant to this proceeding. The annual revenues and operating costs of CORP as a whole have no relevance to the Feeder Line Application. CORP further objects to this Interrogatory as overbroad and not reasonably calculated to lead to the discovery of admissible evidence by seeking irrelevant information for years prior to 2005.

Interrogatory No. 4 **Please state CORP's operating revenues and operating costs from providing rail transportation service by each major branch of the CORP rail system for each of the years 2007, 2006, 2005, 2004, and 2003.**

Response:

CORP specifically objects to this Interrogatory as irrelevant to this proceeding. The annual revenues and operating costs of CORP's branches have no relevance to the Feeder Line Application. CORP further objects to this Interrogatory as overbroad and not reasonably calculated to lead to the discovery of admissible evidence by seeking irrelevant information for years prior to 2005. CORP also objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is publicly available; or (ii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). In addition, CORP specifically objects to this Interrogatory because CORP does not maintain data by branch line in the ordinary course of business and therefore the Interrogatory would require CORP to perform a special study. *See e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). Subject to and without waiving its objections, CORP responds that it will provide the Port with estimated

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operating revenues and operating costs for the Coos Bay Subdivision (defined as the CORP-owned and CORP-leased line from Danebo to Coquille) for 2005, 2006, and 2007, subject to an appropriate protective order.

Interrogatory No. 5 Please state CORP's system operating profits (net revenues) for each of the years 2007, 2006, 2005, 2004, and 2003.

Response:

CORP specifically objects to this Interrogatory as irrelevant to this proceeding. The system operating profits of CORP as a whole have no relevance to the Feeder Line Application. CORP further objects to this Interrogatory as overbroad and not reasonably calculated to lead to the discovery of admissible evidence by seeking irrelevant information for years prior to 2005

Interrogatory No. 6 Please state CORP's operating profits (or losses) from rail operations on the Line for each of the years 2007, 2006, 2005, 2004, and 2003.

Response:

CORP specifically objects to this Interrogatory as irrelevant to this proceeding. CORP's operating losses from rail operations on the Line in past years dating back to 2003 are not relevant to the issues raised in the Feeder Line Application. CORP further objects to this Interrogatory as overbroad and not reasonably calculated to lead to the discovery of admissible evidence by seeking irrelevant information for years prior to 2005. In addition, CORP specifically objects to this Interrogatory because CORP does not maintain data by branch line in the ordinary course of business and therefore the Interrogatory would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). Subject to and without waiving its objections, CORP responds that it will provide the Port with estimated total operating losses for the Coos Bay Subdivision (defined as the CORP-owned and CORP-leased line from Danebo to Coquille) for 2005, 2006, and 2007, subject to an appropriate protective order.

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Interrogatory No. 7 Please explain the basis for the statement "Coos Bay line currently operates at an annual deficit of approximately $1,500,000" as contained in the CORP / RailAmerica presentation, "Central Oregon & Pacific Railroad Partnership for Coos Bay Rail Line" dated Nov. 14, 2007.

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent that it seeks information that (i) is contained in the CORP Abandonment Application or in CORP's submissions in Finance Docket No. 35130; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). Subject to and without waiving its objections, CORP states that the estimate was based on an allocation of CORP's total 2006 revenues and costs among the Coos Bay Subdivision and other CORP subdivisions. CORP also refers the Port to CORP's response to Interrogatory No. 6 and to Exhibit 1 to CORP's Abandonment Application.

Interrogatory No. 8 Please identify all sources of revenue arising from the Line that are not associated with railroad operations, and identify the amount of such revenues, by type, on an annual basis for years 2007, 2006, 2005, 2004, and 2003.

Response:

CORP specifically objects to this Interrogatory as irrelevant to this proceeding. CORP's non-rail revenues on the Line in past years dating back to 2003 are not relevant to the issues raised in the Feeder Line Application. CORP further objects to this Interrogatory as overbroad and not reasonably calculated to lead to the discovery of admissible evidence by seeking irrelevant information for years prior to 2005. In addition, CORP specifically objects to this Interrogatory because CORP does not maintain data by branch line in the ordinary course of business and therefore the Interrogatory would require CORP to perform a special study. *See,*

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e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co., STB Docket No. 42104 (May 19, 2008). Subject to and without waiving its objections, CORP responds that for purposes of the Abandonment Application, CORP prepared certain special studies for the Abandonment Segment and Discontinuance Segment of the Coos Bay Subdivision (as defined in the Application). Those special studies include calculations of non-rail revenue for the Coos Bay Subdivision for the Base Year and the Forecast Year. *See* Abandonment Application Ex. 1.

Interrogatory No. 9 Please generally describe CORP's regular, weekly service schedule for the Line that was applicable in 2007, including (a) the number of inbound and outbound train trips; (b) the number of shippers served; (c) the approximate number of carloads moved inbound and outbound; (d) locations of switching operations; (e) switching services performed; (f) the number of train crew personnel involved in CORP's weekly operations; and (g) the number of locomotives used to provide the service

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). Subject to and without waiving its objections, CORP states that information sufficient to derive the answer to this interrogatory may be found in the Abandonment Application and in business records that will be produced to the Port.

Interrogatory No. 10 If CORP last provided regular service on the Line on other than a weekly basis, then please generally describe that service, including (a) the number of inbound and outbound train trips; (b) the number of shippers served; (c) the approximate number of carloads moved inbound and outbound; (d) locations of switching operations; (e) switching services performed; (f) the number of train crew personnel; and, (g) the number of locomotives used to provided the service.

Response:

See response to Interrogatory No. 9.

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Interrogatory No. 11 Please identify the CORP employee who had primary responsibility for CORP's rail operations on the Line at the time CORP announced the Embargo.

Response:

CORP specifically objects to the vague and ambiguous term "primary responsibility." Subject to and without waiving its objections, CORP responds that Kevin Spradlin, General Manager of CORP, was responsible for rail operations on the Line in September 2007.

Interrogatory No. 12 Please identify by name and milepost all customers on the Line that were served by CORP in the year 2007.

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP further objects to the request for customers to be identified by "milepost." CORP does not maintain customer milepost data in the ordinary course of business; the Port can determine the milepost location of customers on the Line from the business records CORP will supply, which identify customers by station, and during the course of any inspection conducted by the Port pursuant to its Request for Right to Enter Upon and Inspect Land. Subject to and without waiving its objections, CORP responds that it will produce business records from which the answer to this interrogatory can be derived, namely records identifying 2007 traffic on the Line by shipper, commodity, and station. CORP also refers the Port to the Verified Statement of John H. Williams in the Abandonment Application and Attachments B, C, and D to that Verified Statement. Mr. Williams' statement analyzes the traffic on the Coos Bay Subdivision and provides detailed data about that traffic in 2005, 2006, and 2007.

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Interrogatory No. 13 **For each customer identified in response to Interrogatory No. 12, please state the number of inbound and the number of outbound railcar shipments that CORP handled and, to the extent possible, the respective customer commodities and railcar types used for service.**

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP also specifically objects to this Interrogatory to the extent that a response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). In particular, CORP does not maintain data on railcar types used in handling specific shipments in the ordinary course of business. (As noted in the application, 97% of traffic on the Line consists of forest products, and the Port readily can determine the appropriate car types for transporting this traffic.) Subject to and without waiving its objections, CORP responds that it will produce business records from which information responsive to this interrogatory can be derived, namely records identifying 2007 traffic on the Line by shipper, commodity, and station. CORP also refers the Port to the Verified Statement of John H. Williams in the Abandonment Application and Attachments B, C, and D to that Verified Statement. Mr. Williams' statement analyzes the traffic on the Coos Bay Subdivision and provides detailed data about that traffic in 2005, 2006, and 2007.

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Interrogatory No. 14 Please identify by name and milepost all customers on the Line that were served by CORP in the year 2006.

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP further objects to the request for customers to be identified by "milepost." CORP does not maintain customer milepost data in the ordinary course of business; the Port can determine the milepost location of customers on the Line from the business records CORP will supply, which identify customers by station, and during the course of any inspection conducted by the Port pursuant to its Request for Right to Enter Upon and Inspect Land. Subject to and without waiving its objections, CORP responds that it will produce business records from which the answer to this interrogatory can be derived, namely records identifying 2006 traffic on the Line by shipper, commodity, and station. CORP also refers the Port to the Verified Statement of John H. Williams in the Abandonment Application and Attachments B, C, and D to that Verified Statement. Mr. Williams' statement analyzes the traffic on the Coos Bay Subdivision and provides detailed data about that traffic in 2005, 2006, and 2007.

Interrogatory No. 15 For each customer identified in response to Interrogatory No. 14, please state the number of inbound and the number of outbound railcar shipments that CORP handled and, to the extent possible, the respective customer commodities and railcar types used for service.

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly

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available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP also specifically objects to this Interrogatory to the extent that a response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). In particular, CORP does not maintain data on railcar types used in handling specific shipments in the ordinary course of business. (As noted in the application, 97% of traffic on the Line consists of forest products, and the Port readily can determine the appropriate car types for transporting this traffic.) Subject to and without waiving its objections, CORP responds that it will produce business records from which information responsive to this interrogatory can be derived, namely records identifying 2006 traffic on the Line by shipper, commodity, and station. CORP also refers the Port to the Verified Statement of John H. Williams in the Abandonment Application and Attachments B, C, and D to that Verified Statement. Mr. Williams' statement analyzes the traffic on the Coos Bay Subdivision and provides detailed data about that traffic in 2005, 2006, and 2007.

Interrogatory No. 16 Please identify by name and milepost all customers on the Line that were served by CORP in the year 2005.

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available, or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP further objects to the request for customers to be identified by "milepost." CORP does

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not maintain customer milepost data in the ordinary course of business; the Port can determine the milepost location of customers on the Line from the business records CORP will supply, which identify customers by station, and during the course of any inspection conducted by the Port pursuant to its Request for Right to Enter Upon and Inspect Land. Subject to and without waiving its objections, CORP responds that it will produce business records from which the answer to this interrogatory can be derived, namely records identifying 2005 traffic on the Line by shipper, commodity, and station. CORP also refers the Port to the Verified Statement of John H. Williams in the Abandonment Application and Attachments B, C, and D to that Verified Statement. Mr. Williams' statement analyzes the traffic on the Coos Bay Subdivision and provides detailed data about that traffic in 2005, 2006, and 2007.

Interrogatory No. 17 For each customer identified in response to Interrogatory No. 16, please state the number of inbound and the number of outbound railcar shipments that CORP handled and, to the extent possible, the respective customer commodities and railcar types used for service.

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP also specifically objects to this Interrogatory to the extent that a response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). In particular, CORP does not maintain data on railcar types used in handling specific shipments in the ordinary course of business. (As noted in the application, 97% of traffic on the Line consists of forest products, and the Port readily can

determine the appropriate car types for transporting this traffic.) Subject to and without waiving its objections, CORP responds that it will produce business records from which information responsive to this interrogatory can be derived, namely records identifying 2005 traffic on the Line by shipper, commodity, and station. CORP also refers the Port to the Verified Statement of John H. Williams in the Abandonment Application and Attachments B, C, and D to that Verified Statement. Mr. Williams' statement analyzes the traffic on the Coos Bay Subdivision and provides detailed data about that traffic in 2005, 2006, and 2007.

Interrogatory No. 18 For each year 2005, 2006, 2007, state the total number of railcars handled by CORP over the Line by type of commodity.

Response:

CORP objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP also specifically objects to this Interrogatory on the grounds that response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). Subject to and without waiving its objections, CORP responds that it will produce business records from which information responsive to this interrogatory can be derived, namely records identifying 2005, 2006, and 2007 traffic on the Line by shipper, commodity, and station. CORP also refers the Port to the Verified Statement of John H. Williams in the Abandonment Application and Attachments B, C, and D to that Verified Statement. Mr. Williams' statement analyzes the traffic on the Coos Bay Subdivision and provides detailed data about that traffic in 2005, 2006, and 2007.

Interrogatory No. 19 Please identify all reports, surveys, samples, studies, memoranda, or compilations of information pertaining to the physical condition of the Line.

Response:

CORP specifically objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP also specifically objects to this Interrogatory on the grounds that response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). CORP further objects to this Interrogatory as vague, ambiguous, and overbroad. Subject to and without waiving its objections, CORP will produce business records from which information responsive to this interrogatory may be derived or ascertained.

Interrogatory No. 20 Please identify all reports, surveys, samples, studies, memoranda or compilations of information pertaining to the dollar value of the physical assets (track, ties, other track material) comprising the Line.

Response:

CORP specifically objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means.") CORP also specifically objects to this Interrogatory on the grounds that response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB

Docket No. 42104 (May 19, 2008). CORP further objects to this Interrogatory as vague, ambiguous, and overbroad. Subject to and without waiving its objections, CORP responds that it has no reports, surveys, samples, studies, memoranda, or compilations of information related to the dollar value of the physical condition of the Line, other than the analysis of the Coos Bay Subdivision provided in CORP's Abandonment Application and workpapers.

Interrogatory No. 21 Please identify (including nature of the work and milepost marker) and state the dollar amount of each expenditure on any physical assets (track, ties, other track material) since September 22, 2007 that was made by CORP for the purpose of repairing or rehabilitating the Line.

Response:

CORP specifically objects to this Interrogatory because it seeks information that is irrelevant to the subject matter of this proceeding. CORP also specifically objects to this Interrogatory on the grounds that response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). In particular, CORP does not in the ordinary course of business account for maintenance of way expenses by location or milepost marker. *See* Abandonment Application, V.S. Baranowski at 4-5. Subject to and without waiving its objections, CORP responds that since the Coos Bay Subdivision has been embargoed CORP employees have removed fallen trees and debris from the track on the embargoed line. CORP also has installed fences and gates on tunnels on the embargoed line. On the nonembargoed line between Vaughn and Danebo, CORP has performed normal maintenance. Because CORP does not account for maintenance expenses by location, CORP cannot state the dollar amount of its maintenance expenses for this segment since September 22, 2007. CORP notes that it has provided maintenance of way expense calculations for the Coos Bay Subdivision during the Base Year. *See* Abandonment Application, Ex. 1 and V.S. Baranowski.

Interrogatory No. 22 Please state the total amount of money that CORP has spent on the repair or rehabilitation of the Line since Sept. 22, 2007.

Response:

CORP specifically objects to this Interrogatory because it seeks information that is irrelevant to the subject matter of this proceeding. CORP also specifically objects to this Interrogatory on the grounds that response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). In particular, CORP does not in the ordinary course of business account for maintenance of way expenses by location or milepost marker. *See* Abandonment Application, V.S. Baranowski at 4-5. Subject to and without waiving its objections, CORP responds that it cannot state the dollar amount of its maintenance expenses for the repair or rehabilitation of the Line since September 22, 2007 because it does not maintain that information in the ordinary course of business. CORP notes that it has provided maintenance of way expense calculations for the Coos Bay Subdivision during the Base Year. *See* Abandonment Application, Ex. 1 and V.S. Baranowski.

Interrogatory No. 23 Please identify all plans, proposals, presentations, or reports related to resumption of rail service over the Line by CORP after Sept. 22, 2007.

Response:

CORP specifically objects to this Interrogatory because it seeks information that is irrelevant to the subject matter of this proceeding. CORP further objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP also objects to the extent that this

Interrogatory seeks information that is in the Port's possession or is otherwise available to it. Subject to and without waiving its objections, CORP responds that during October and November 2007 it discussed proposals for restoring service on the line to shippers, Oregon legislators, and the Oregon Department of Transportation. On November 14, 2007 CORP presented a plan for a public/private partnership to restore service on the Line. This plan was presented to the Port and other interested stakeholders. After CORP's initial proposal was rejected, CORP presented an alternative plan to restore service on the Coos Bay Line, which was presented to Oregon Governor Kulongowski on April 9, 2008. CORP's proposals are described in more detail in CORP's Response to the Board's Order to Show Cause, filed on May 12, 2008 in STB Finance Docket No. 35130. Indeed, CORP proposals were attached to the Port's June 3, 2008 reply filing in that proceeding as Exhibits 23 and 30.

Interrogatory No. 24 Please identify all plans, proposals, presentations, or reports of CORP related to removing the conditions and/or circumstances that caused CORP to embargo the Line on or about Sept. 21, 2007.

Response:

CORP specifically objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). CORP also objects to the extent that this Interrogatory seeks information that is in the Port's possession or is otherwise available to it. Subject to and without waiving its objections, CORP incorporates by reference its response to Interrogatory No. 23.

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Interrogatory No. 25 Please identify the CORP employee who has primary responsibility for rehabilitation or repair of the Line and/or the circumstances that caused CORP to embargo the Line.

Response:

CORP specifically objects to the vague and ambiguous term "primary responsibility." Subject to and without waiving its objections, CORP responds that Kevin Spradlin, General Manager of CORP, was responsible for rail operations on the Line in September 2007.

Interrogatory No. 26 Please identify all reports, studies, plans, presentations, or proposals relating to CORP's operation of the Line prepared since January 1, 2004.

Response:

CORP specifically objects to this Interrogatory because it seeks information that is irrelevant to the subject matter of this proceeding. CORP also objects because the Interrogatory's request for "all" reports, studies, plans, presentations, or proposals related to operation of the Line is grossly overbroad. Subject to and without waiving its objections, CORP states that information relevant to CORP's operation of the Coos Bay Subdivision is set forth in the CORP Abandonment Application and in CORP's operating plan in existence as of the date of the embargo, which CORP will produce to the Port subject to an appropriate protective order.

Interrogatory No. 27 Please describe CORP's trackage, haulage, or other rights over any railroad line(s) owned by the Union Pacific Railroad ("UPRR") or any other railroad in the vicinity of Danebo, Eugene, and/or Coquille including the distances and milepost markers relevant to those rights, the fees or compensation paid to UPRR or other railroad on an annual basis, and the nature of the right(s).

Response:

CORP specifically objects to this Interrogatory because it seeks information that is irrelevant to the subject matter of this proceeding. CORP also specifically objects to the Interrogatory's requests for calculations of "fees or compensation" because CORP does not maintain that information in the ordinary course of business and calculating it would require

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CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). Subject to and without waiving its objections, CORP states that information responsive to this interrogatory may be derived or ascertained from business records that were appended to CORP's Response to the Board's Order to Show Cause, filed on May 12, 2008 in STB Finance Docket No. 35130, namely CORP's agreements with Union Pacific, and from business records that CORP will produce to the Port subject to an appropriate protective order. CORP also refers the Port to the Verified Statement of Paul Lundberg at 3-4 in CORP's Abandonment Application.

Interrogatory No. 28 On a per car basis, please state the compensation paid by UPRR to CORP as a handling carrier on the Line for the years 2007, 2006, 2005, 2004, and 2003.

Response:

CORP specifically objects to this Interrogatory because it seeks information that is irrelevant to the subject matter of this proceeding. CORP further objects to the particularly irrelevant request for information that predates 2005. Subject to and without waiving its objections, CORP refers the Port to CORP's Response to the Board's Order to Show Cause, filed on May 12, 2008 in STB Finance Docket No. 35130, and particularly to the Verified Statement of Paul Lundberg at pages 3-4

Interrogatory No. 29 For the years 2007, 2006, 2005, 2004, and 2003, please state the total compensation paid by UPRR to CORP as a handling carrier on the Line.

Response:

CORP specifically objects to this Interrogatory because it seeks information that is irrelevant to the subject matter of this proceeding. CORP further objects to the particularly irrelevant request for information that predates 2005. Moreover, CORP specifically objects to this Interrogatory because CORP does not track total handling carrier compensation from Union Pacific for service on the Line in the ordinary course of business, and compiling this information

would require CORP to undertake a burdensome special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008).

Interrogatory No. 30 If you contend that UPRR's compensation of CORP as a handling carrier on a per car basis was unreasonably low or non-compensatory in any respect for the years 2007, 2006, 2005, 2004, and 2003, then please explain why the compensation was unreasonably low or non-compensatory, and what amount would have been compensatory.

Response:

CORP specifically objects to this Interrogatory because it seeks information that is irrelevant to the subject matter of this proceeding. CORP further objects to the particularly irrelevant request for information that predates 2005. CORP specifically objects to the terms "unreasonably low" and "non-compensatory" as undefined, susceptible of multiple interpretations, and seeking legal conclusions. To the extent that these terms can be understood and do not seek legal conclusions, the information sought in this Interrogatory cannot be obtained without performing a special study to determine a compensatory rate. Subject to and without waiving its objections, CORP states that its Abandonment Application details the unprofitability of the Line and the necessary subsidy for profitable service over the Line. *See* Abandonment Application Ex. 1. CORP notes in particular the fact that its projected traffic increase between the Base Year and the Forecast Year resulted in greater projected operating losses -- a fact that is attributable to the cap on the annual adjustment to the Handling Carrier Charge paid by UP to CORP. *See* Abandonment Application, V.S. Baranowski at 14

Interrogatory No. 31 Please describe the physical condition of the Line, including the condition of the track, ties, other track materials, based on your most recent inspection, and identify the date of the inspection and the names of the persons who conducted it.

Response:

Subject to and without waiving its objections, CORP states that the most recent comprehensive track inspection on the Line was conducted November 4 – 7 2007 by various

Federal Rail Administration Track Safety Inspectors accompanied by CORP personnel. The overall tie condition from MP 720 - MP 765 is good. The tie conditions outside of these limits are marginal for Class 2 track in most areas and marginal for Class 1 in others. The surface of the track is poor due to the extreme amount of precipitation this Line gets and the resulting poor ballast conditions. The overall rail condition is good with the mainline comprised of 5 1/2" base rail or larger. Some of the 113# jointed rail segments are beginning to show indications of becoming "surface bent" due to the accumulated tonnage and 4 hole angle bars. This condition makes it difficult to keep the joints surfaced. The high precipitation volume is conducive to rapid vegetation growth that must be periodically mowed back. Further information from which the answer to this interrogatory may be ascertained is contained in CORP's Abandonment Application and in business records that will be produced subject to an appropriate protective order.

Interrogatory No. 32 Please identify each formal or informal complaint regarding your rail service on the Line made by any shipper, Federal, State, or local government, including (a) the name of the person making the complaint, (b) the subject matter of the complaint; (c) the date of the complaint; (d) any actions you took in response to the complaint; (e) the date of your response actions, if any; and (f) the management-level person in your company primarily responsible for responding the complaint.

Response:

CORP specifically objects to this Interrogatory because it seeks information that is irrelevant to the subject matter of this proceeding. Subject to and without waiving its objections, CORP states that the answer to this Interrogatory may be derived or ascertained from business records that CORP will produce to the Port subject to an appropriate protective order

Interrogatory No. 33 **Please identify each person you have retained, or expect to retain as an expert witness or outside consultant in connection with this proceeding, or the STB's show cause proceeding.**

Response:

CORP specifically objects to this interrogatory because it is premature and calls for privileged work product information.

Interrogatory No. 34 **Please state the number of derailments that occurred on the Line for each year from 2003 to 2007, and state (a) the location of the derailment; (b) the cause (to the extent known); (c) which portions of the Line were taken out of service, if any; and (d) the number of hours that any such portions, respectively, were out of service.**

Response:

CORP specifically objects to this Interrogatory on the grounds that response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). CORP further objects to this Interrogatory as irrelevant to the subject matter of this proceeding. Subject to and without waiving its objections, CORP states that information responsive to this interrogatory may be derived or ascertained from business records that CORP will produce to the Port subject to an appropriate protective order.

Interrogatory No. 35 **Please identify each occasion when the Line was taken out of service between January 1, 2003 and the present, in whole or in part, for any reason or cause, other than routine maintenance, for any period of time greater than four consecutive hours, and for each such occasion, state (a) the reason or cause for the Line being taken out of service (b) the portions of the Line taken out of service; (c) the amount of time, in hours, that the Line (or portions thereof) was out of service; and (d) the action(s) taken to restore service.**

Response:

CORP specifically objects to this Interrogatory as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available, or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to

produce information that is available from public records or through less intrusive means."). CORP objects to the request to identify every service outage of more than four hours as grossly overbroad; the Interrogatory would have CORP list every instance where weather conditions, a derailment or other circumstances caused the briefest interruption of service. CORP also specifically objects to this Interrogatory on the grounds that response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). CORP simply does not maintain or compile the sort of detailed information the Port requests. CORP further objects to this Interrogatory as irrelevant to the subject matter of this proceeding, and particularly irrelevant for time periods before 2005. Subject to and without waiving its objections, CORP states that in November 2006, Tunnel No. 15 near Milepost 721 on the Line collapsed, resulting in the temporary closure of the tunnel while repairs could be effected. CORP further states that from time to time service on the Line has been briefly suspended as a result of weather conditions (such as snowstorms), a derailment or other circumstances.

Interrogatory No. 36 Please state whether CORP interchanges rail traffic with the Portland & Western Railroad ("P&W") or the BNSF Railway Company ("BNSF") at or in the vicinity of Eugene, Oregon.

Response:

Subject to and without waiving its objections, CORP states that it interchanges traffic with the Portland & Western Railroad ("P&W") in the vicinity of Eugene, Oregon and that CORP does not interchange traffic with the BNSF Railway Company in the vicinity of Eugene, Oregon.

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Interrogatory No. 37 **If CORP does interchange rail traffic with P&W or BNSF, at or in the vicinity of Eugene, Oregon, then please identify the typical location(s) of such interchange(s), and state the approximate number of times such interchange(s) occur on a weekly basis, and the approximate number of cars interchanged per week for each railroad (CORP, P&W, and BNSF).**

Response:

Subject to and without waiving its objections, CORP states that it typically interchanges 81 inbound carloads of rail traffic weekly with the P&W at Eugene, Oregon. CORP typically interchanges 52 outbound carloads weekly with the P&W at Eugene. Many of these interchanged carloads do not travel over the Coos Bay Subdivision. CORP does not interchange traffic with the BNSF Railway Company in the vicinity of Eugene, Oregon.

Interrogatory No. 38 **Please describe all capital investment, including milepost marker, cost, and nature of the work, on the Line in the last five years.**

Response:

CORP objects to this Interrogatory as irrelevant to the subject matter of this proceeding. CORP also objects to this Interrogatory on the grounds that a response would require CORP to perform a special study. *See, e.g., Entergy Ark., Inc. v. Union Pac. R.R. Co.*, STB Docket No. 42104 (May 19, 2008). CORP does not maintain capital investment data by branch or by milepost marker in the ordinary course of business. Subject to and without waiving its objections, CORP states that information responsive to this interrogatory may be derived or ascertained from business records that CORP will produce to the Port subject to an appropriate protective order.

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Interrogatory No. 39 **Please identify and describe all locomotives and rolling stock used by CORP on the Line, including the assigned locomotive or railcar number, the type of locomotive or railcar, and the nature of CORP's interest (such as leased or owned).**

Response:

CORP specifically objects to this interrogatory as overbroad, unduly burdensome, and not reasonably calculated to lead to the discovery of admissible evidence. CORP objects to the requests for locomotive and railcar numbers as particularly irrelevant and burdensome. Subject to and without waiving its objections, CORP provided service over the Line with one SW1500 switch engine in Coos Bay, two GP-38 locomotives from Coos Bay to Mapleton, and two GP-40 locomotives with two slugs from Mapleton to Eugene. All of these locomotives were leased by CORP. Cars on the Line were generally supplied by Union Pacific, and included box cars, hoppers, centerbeams and flats. In addition, Georgia Pacific provided its own cars for transportation of wood chips and logs.

Interrogatory No. 40 **Please explain in summary form how CORP services, repairs, and/or maintains all locomotives and rolling stock identified and described in response to Interrogatory No. 39, including the locomotive or railcar shop location (or other service location) and whether CORP typically performs such work or engages contractors.**

Response:

Subject to and without waiving its objections, CORP responds that locomotives used on the Line typically were serviced by CORP personnel at a CORP facility in Eugene, Oregon. Repairs to railcars on the Line were typically performed by CORP personnel who would travel to the location of the railcar needing repair.

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Interrogatory No. 41 Describe all known instances of stolen, lost, or vanished rail, equipment, or track assets on the Line since the Embargo, including their approximate value and whether the rail, equipment, or assets were replaced by CORP.

Response:

Subject to and without waiving its objections, CORP responds that it is not aware of any instances of stolen, lost, or vanished rail equipment or track assets on the Line since the embargo.

RESPONSES TO REQUESTS FOR PRODUCTION OF DOCUMENTS

CORP incorporates by reference to each of its responses to the following document requests all of its General Objections to these Discovery Requests, and all of its specific objections to the foregoing Interrogatories, to the full extent they are applicable.

Document Request No. 1 Please produce all documents relating to CORP's responses to Interrogatories 1 though 41.

Response:

CORP specifically objects to the vague and overbroad request for "all" documents that "relate to" to its interrogatory responses. Subject to and without waiving its objections, CORP will produce documents referred to in its interrogatory responses subject to an appropriate protective order.

Document Request No. 2 Please produce your most recent track charts and maps for the Line.

Response:

CORP specifically objects to the Port's duplicative and burdensome request, which asks CORP to re-produce many track charts and maps that are in the Port's possession. Subject to and without waiving its objections, CORP will produce responsive documents in its possession, custody, or control that have not previously been produced to the Port.

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Document Request No. 3 **Please produce all maps or other documents showing ownership interests in the real property comprising the Line.**

Response:

CORP objects to this Request as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available, or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). Subject to and without waiving its objections, CORP will produce valuation maps for the segment of the Line between Vaughn and Danebo to the Port. The Port already possesses valuation maps for the remainder of the Line owned by CORP. CORP also refers the Port to the Verified Statements of Charles W. Rex III and Patricia L. Chapman appended to the Abandonment Application, and all supporting exhibits and workpapers. Additional documents related to ownership interests in the real property comprising the Line may be reviewed at the offices of Sidley Austin LLP, 1501 K Street, N.W., Washington, D.C. 20005, subject to the entry of an appropriate protective order.

Document Request No. 4 **Please produce all maps or other documents showing the boundaries of real property in which CORP has a fee interest along or within the corridor of the Line.**

Response:

CORP objects to this Request as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). Subject to

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and without waiving its objections, CORP refers the Port to its Response to Document Request No. 3. Additional documents responsive to this Request may be reviewed at the offices of Sidley Austin LLP, 1501 K Street, N.W., Washington, D.C. 20005, subject to the entry of an appropriate protective order.

Document Request No. 5 Please produce all documents relating to the value of the real property underlying the portion of the Line owned by CORP.

Response:

CORP objects to this Request as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). Subject to and without waiving its objections, CORP refers the Port to the Verified Statement of Charles W. Rex III appended to the Abandonment Application and to supporting workpapers. Additional documents responsive to this Request may be reviewed at the offices of Sidley Austin LLP, 1501 K Street, N.W., Washington, D.C. 20005, subject to the entry of an appropriate protective order.

Document Request No. 6 Please produce all documents relating to the value of the tracks, ties, and other track material comprising the portion of the Line owned by CORP.

Response:

CORP objects to this Request as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). Subject to and without waiving its objections, CORP refers the Port to Attachment 1 to the Verified

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Statement of Mark R. Bader, attached to the Abandonment Application, and to supporting workpapers. Mr. Bader's verified statement in the Abandonment Application only includes the portion of the Line between Vaughn and Cordes. CORP does not currently have any responsive documents related to the value of tracks, ties, and other track material for the segment between Vaughn and Danebo. At this time CORP has not performed the special study necessary to determine this information, but it will do so in preparing its evidence in this proceeding.

Document Request No. 7 Please produce all documents related to any notice that CORP provided to shippers on the Line before it embargoed the Line on or about Sept. 21, 2007.

Response:

Subject to and without waiving its objections, CORP will produce responsive documents in its possession, custody, or control that have not previously been produced to the Port. The embargo notice was attached as Exhibit 7 to CORP's Response to the Board's Show Cause Order in Docket No. 35130, and the Port's reply filing in that proceeding attached a press release announcing the embargo as Exhibit 25. CORP notes that shippers on the Line were also notified verbally of the embargo. CORP does not possess documents related to those verbal notifications.

Document Request No. 8 Please produce a list or roster of CORP employees for the years 2007, 2006, and 2005.

Response:

CORP specifically objects to this Request as irrelevant to the subject matter of this proceeding. Subject to and without waiving its objections, CORP will produce responsive documents in its possession, custody, or control subject to an appropriate protective order.

Document Request No. 9 **Please produce all documents related to any complaints concerning CORP's rail service over the Line in the years 2007, 2006, or 2005.**

Response:

CORP specifically objects to this Request as irrelevant to the subject matter of this proceeding. Subject to and without waiving its objections, CORP will produce responsive documents in its possession, custody, or control subject to an appropriate protective order.

Document Request No. 10 **Please produce all documents related to the railway tunnels on the Line, including without limitation any documents relating to repairs, costs of repairs, structural stability, and safety of rail operations in tunnels.**

Response:

CORP specifically objects to this request for "all documents . . . without limitation" as overbroad and unduly burdensome. CORP further objects to the lack of any time limitation on this Request. The Port's Request for documents that predate 2005 is particularly burdensome and unnecessary. CORP further objects to this Request as unduly burdensome to the extent it seeks information that (i) is contained in the CORP Abandonment Application; (ii) is publicly available; or (iii) is otherwise readily available to the Port. *See Duke Energy v. Norfolk So. Co.*, STB Docket Nos. 42069, 42070 (July 26, 2002) ("[I]t is unduly burdensome to require a party to produce information that is available from public records or through less intrusive means."). Subject to and without waiving its objections, CORP will produce responsive documents in its possession, custody, or control that have not previously been produced to the Port. CORP notes that its May 12, 2008 Response to the Board's Show Cause Order in Docket No. 35130 included the most current reports on the conditions of the tunnels on the Line, namely the 2007 reports by Shannon & Wilson and the Federal Railroad Administration attached as Exhibits 6 and 8 to that filing.

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Document Request No. 11 Beginning with the year 2000, please produce all documents relating to abandonment and/or discontinuance of service over the Line.

Response:

CORP specifically objects to this Request as irrelevant to the subject matter of this proceeding. Subject to and without waiving its objections, CORP states that it has no responsive, nonprivileged documents in its possession, custody or control except the Abandonment Application and supporting workpapers.

Document Request No. 12 Please produce CORP's audited financial statements for the years 2007, 2006, and 2005.

Response:

CORP specifically objects to this Request as irrelevant to the subject matter of this proceeding as the Port has conceded that the Going-Concern Value (GCV) of the Line is zero or less. Subject to and without waiving its objections, CORP states that it does not prepare audited financial statements in the normal course of business.

Document Request No. 13 Please produce all agreements with UPRR or any other railroad regarding revenue divisions, trackage rights, haulage rights, or other rights on or relating to your operations on the Line.

Response:

CORP specifically objects to this Request as irrelevant to the subject matter of this proceeding. CORP further objects on the grounds that the Port already possesses CORP agreements with Union Pacific which were appended to CORP's Response to the Board's Show Cause Order. Subject to and without waiving its objections, CORP will produce responsive documents in its possession, custody, or control subject to an appropriate protective order.

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Document Request No. 14 Please produce all documents related to car hire or other rail car charges paid by CORP in the last three years.

Response:

CORP specifically objects to this Request as irrelevant to the subject matter of this proceeding, overbroad, and unduly burdensome. Subject to and without waiving its objections, CORP will produce responsive documents in its possession, custody, or control subject to an appropriate protective order.

RESPONSE TO REQUEST FOR RIGHT TO ENTER UPON AND INSPECT LAND

Request No. 1: Please grant a right of access to the Port and its counsel or consultants retained in connection with this proceeding to enter upon the Line and related CORP property for all lawful purposes related to this proceeding in STB Finance Docket No. 35160, including inspection, survey, measuring, testing, photographing and sampling. The Port will work with CORP to determine an appropriate time and manner for this inspection.

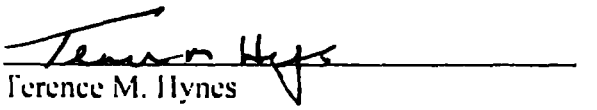
Response:

Subject to and without waiving its objections, CORP will permit the Port to inspect the Line subject to the following provisions: (1) that the agents of the Port performing said inspection be accompanied by an agent or agents of CORP at all times while on CORP property; (2) that the Port execute an appropriate liability waiver and indemnity agreement for potential liability for any accidents or incidents that may occur while the Port's representatives are on the Line or related CORP property; (3) that the Port provide evidence that it is insured for all activities on the Line during the inspection; (4) that the inspection does not damage the Line or the rail assets on the Line; and (5) that the time and manner of the inspection be reasonable and agreed-to by the parties in advance.

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Respectfully Transmitted.



Scott G. Williams
Senior Vice President and
General Counsel
RailAmerica, Inc.
5300 Broken Sound Boulevard N.W.
Boca Raton, Florida 33487
(561) 994-6015

Terence M. Hynes
Paul A. Hemmersbaugh
Matthew J. Warren
Sidley Austin LLP
1501 K Street, N.W.
Washington, D.C. 20005
(202) 736-8000

Counsel for Central Oregon & Pacific Railroad, Inc

Dated: July 28, 2008

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VERIFICATION

I, Paul Lundberg, being duly authorized by Central Oregon & Pacific Railroad, Inc.; declare under penalty of perjury that the foregoing Responses to Interrogatories are true and correct to the best of my knowledge, information and belief.

Paul Lundberg

Date: 7/28/08

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CERTIFICATE OF SERVICE

I hereby certify that I have caused the foregoing Responses And Objections to the Oregon International Port of Coos Bay's First Set of Interrogatories and Requests for the Production of Documents and Request to Enter Upon Land to be served by first class mail, postage prepaid, this 28th day of July 2008, on counsel for the International Port of Coos Bay:

Sandra L. Brown
Michael H. Higgins
David E. Benz
Troutman Sanders LLP
401 9th Street, NW
Suite 1000
Washington, DC 20004

Matthew Wolfe

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 12

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StarTribune.com MINNEAPOLIS - ST. PAUL, MINNESOTA

Bridge too decrepit to use, too costly to tear down

By KEVIN GILES, Star Tribune
July 8, 2008

Removal of a deteriorating Mississippi River swing bridge that once connected Washington and Dakota counties has hit another snag because a federal agency must evaluate the bridge's cultural and historical significance.

Closed to vehicle traffic since 1999 and trains since 1980, the JAR Bridge between St. Paul Park and Inver Grove Heights is awaiting at least partial demolition because it's considered dangerous to barge traffic and to anyone who might trespass on it.

"This bridge is not safe for kids, for pedestrians, for a trail," said Wayne Sandberg, assistant county engineer in Washington County. "It's very dangerous and people need to stay off it."

The bridge was built over the Mississippi River in 1895 -- when Grover Cleveland was president -- for the South St. Paul Beltline Railroad to connect the South St. Paul stockyards with main rail lines that ran through St. Paul Park. Trains traveled on the top deck, cars on the bottom. The JAR Bridge, also known as the Chicago Rock Island and Pacific Railroad Bridge or Newport Rail Bridge, was the metro area's last toll bridge for vehicle traffic. Crossing it once cost 75 cents.

The bridge was popular with commuters trying to avoid traffic jams at the Wakota freeway bridge on Interstate Hwy. 494 a few miles to the north.

Washington and Dakota counties inherited the bridge when it went into tax forfeiture after several years of private ownership.

The east side of the bridge, in Washington County, no longer is connected to public roads, Sandberg said. That land is now owned by Marathon Oil Corp., which has a refinery there. On the west side, in Dakota County, a guardrail blocks the road to the bridge. But on a recent summer day, two young men were fishing from the automobile deck while others were walking atop the upper train deck. Many of the railings are broken or missing and the end of the Dakota County side -- where the swing span would connect if it wasn't locked open -- has no barriers. Graffiti covers the narrow paved road inside the bridge.

The U.S. Coast Guard no longer wants to lead the evaluation of the bridge's culture and history, a necessary step before removal, Sandberg said. He said the counties are working to find another agency to do that. The Coast Guard wants at least some of the bridge removed because the swing portion -- which is turned parallel to shore to allow barges to pass -- leaves a narrow navigation channel.

"Potential danger is high," Sandberg said. "When that bridge is dark at night it's pretty

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difficult for the barge operator to see anything."

Removal of the 1,661-foot bridge will cost at least $5 million, he said.

"We just don't have the resources to turn this thing back into a functional bridge," Sandberg said. Parts of the bridge could be saved for their historical novelty, he said, such as installing the swing span in the park or reusing portions as pedestrian bridges. But nobody has indicated interest in doing so, he said.

"It always a matter of who wants this thing. It's pretty big," Sandberg said. "Anyone who takes it immediately assumes all the future liability for it."

Kevin Giles • 651-298-1554

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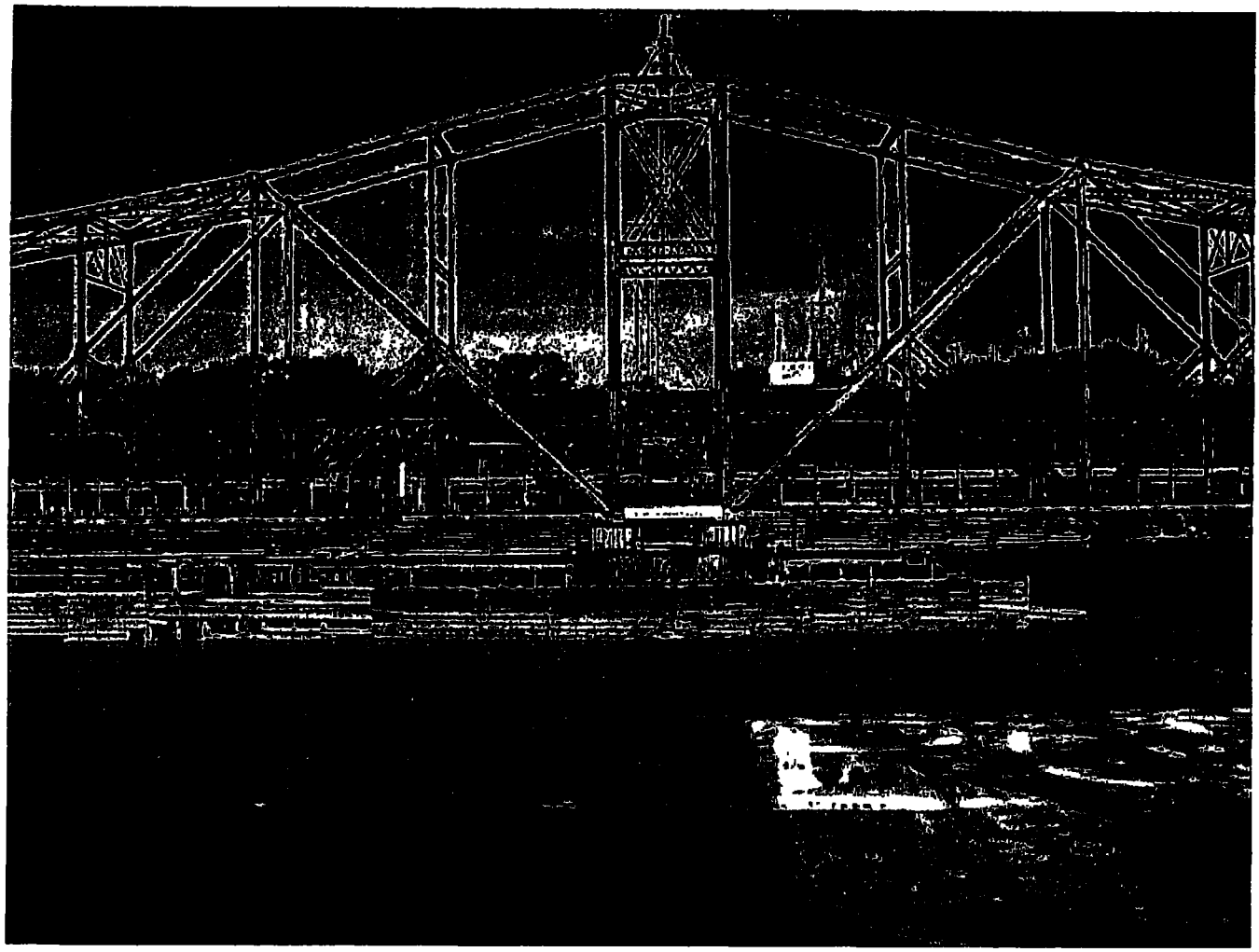
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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 13

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STATON
COMPANIES
DEMOLITION
ENVIRONMENTAL
SITEWORK
CONTRACTORS
OR CCB # 03371

DATE: September 08, 2008

TO: Port Of Coos Bay

FROM: Ron Richey (ron@statonco com)

SUBJECT: CORP; Bridge 716.4 (Siuslaw), Bridge 739.68 (Umpqua); Demolition

Please accept our +/- 10% budget proposal to perform specific bridge demolition services at the above referenced project as follows:

SCOPE OF SERVICES

Provide all labor, equipment, transportation, disposal fees to remove and dispose of the 2 bridges referenced above. Port of Coos Bay (POCB) to provide all Local, State, and Federal permits. Work over water, and in-stream protection for pile removal, and column/footing removals, will consist of floating silt curtains and floating log or sock booms. Costs for any additional in water work protection measures are not included in this proposal. Staton assumes working weight on existing bridges to be 100 tons. Staton to cut or break all pile off at existing grades, or mud line. Pile extraction is not included in this proposal. Concrete piers to be removed to 2' below grade on land, or to mud line in water. Changes to above work scope or methods will require pricing re-evaluation. Working depth in water at low tide assumed at 20' or less. Proposal is valid for 60 days. Bid items can be separated but may require minor price adjustments for additional mobilization and start up costs.

PRICE OF SERVICES (Proposal Valid For 60 Days)

BID ITEM	Bridge 716.4 (Siuslaw)	SCHEDULE	Bridge 739.68 (Umpqua)	SCHEDULE
Mobilization	76,510.00	2 weeks	76,510.00	2weeks
Steel Spans	438,605.00	6 weeks	865,550.00	16 weeks
Wood Spans	26,430.00	6 days	36,308.00	1 week
Pile Removal	43,372.00	4 weeks	26,783.00	6 weeks
Pier Removal	104,660.00	6 weeks	281,062.00	16 weeks
Engineering	25,000.00	NA	25,000.00	NA
Diver Verifications	20,000.00	15 days	20,000.00	15 days
Wood Trestle Over Wet Land	821,360.00	4 weeks	0.00	NA
Bridge Over Roads/Highways	131,340.00	2 weeks	$11,000.00 NA	NA
TOTALS	**$1,687,277.00**		**$1,342,213.00**	

EXCLUSIONS

Permits, bond (add 1.75%). Coffer dams or in water stream protection other than listed above Wetland work area protection. "Engineered" demolition plans. Earthwork other than to accomplish bridge removal.

Relative to the exclusions and assumptions listed on this proposal, we have developed a table of price options that may be of some use in your evaluation. Although Staton does not perform this type of work, and these numbers are not bid items, we have obtained some range of magnitude costs from firms that do. We suggest that you perform your own price requests from experienced contractors in their respective fields in this work.

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STATON
COMPANIES
DEMOLITION
ENVIRONMENTAL
SITEWORK
CONTRACTORS
OR CCB # 03371

WORK ITEM	Bridge 716.4 (Siuslaw)	SCHEDULE	Bridge 739.68 (Umpqua)	SCHEDULE
Coffer Dam/De-water	$600K – 900K	12-15 Weeks	$1 5M - $1.9M	8-10 Weeks
Permitting	$65K	NA	$65K	NA
Pile Removal	$250K - $350K	6-8 weeks	$250K - $350K	6-8 weeks
Wet Land Protection	$128K	2-4 Weeks	NA	
Water @ 30' deep	Add $187K	Add 4 weeks	Add $437K	Add 8 Weeks
Engineered Plans	$50K	NA	$50K	NA

Yours Very Truly
Staton Companies
RON RICHEY
PortofCoosBay CORP 090808
G.M.

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 14

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
EUGENE FIELD OFFICE
1600 EXECUTIVE PARKWAY, SUITE 210
EUGENE, OREGON 97401-2156

REPLY TO
ATTENTION OF:

February 3, 2003

Operations Division
Regulatory Branch
Corps No. 2002-00934

Mr. Alan Rumbaugh
International Port of Coos Bay
PO Box 1215
Coos Bay, OR 97420

Dear Mr. Rumbaugh:

The U.S. Army Corps of Engineers (Corps) has reviewed the Port of Coos Bay's request for Department of the Army authorization to rehabilitate the Coos Bay Railroad Bridge. The bridge spans Coos Bay at Channel Mile 9.0, near North Bend, Coos County, Oregon. The work is shown in the enclosed drawings (Enclosure 1). The project site is located in Sections 3 and 10 of Township 25 South, Range 13 West, W.M.

The project involves the removal of the existing riprap from the base of Pier 8 to allow for the installation of a steel sheet pile form, two (2) to three (3) feet outside of and around the existing pier footing. The enclosure will be backfilled with approximately 700 cubic yards of concrete to a height of two to three feet above the existing concrete pile cap. The riprap would be placed back around the base of the pier.

Fender piles made of high-density polyethylene or glass fiber reinforced plastic will be driven along the channel faces of footings of Piers 8 and 10. Fender piles will be placed horizontally and anchored to the footings with steel bolts. Approximately 7,000 board feet of the fender piles will be installed at each site. The repairs to the actual structure are regulated by the Coast Guard under Section 9 of the Rivers and Harbors Act, rather then the Corps.

This letter verifies that your project is authorized under the terms and limitations of Nationwide Permit 03, Maintenance. Your activities must be conducted in accordance with the conditions found in Regional Conditions (Enclosure 2) and General Conditions (Enclosure 3) and the following special condition:

- Permittee shall adhere to the conservation measures and the nondiscretionary terms and conditions specified in the National Marine Fisheries Service's Biological Opinion dated December 20, 2002 (Enclosure 4).

The Oregon Department of Environmental Quality has provided their Certification Conditions (Enclosure 5) dated January 22, 2002. You must comply with these conditions.

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Oregon Coastal Zone Management (CZM) consistency concurrence from the Department of Land Conservation and Development (DLCD) has not been issued for this permit. Therefore, this authorization will not become valid until CZM concurrence has been issued by DLCD. By copy of this letter, we are notifying DLCD of your proposed work and thus requesting their concurrence. CZM concurrence for your proposed work will be considered by Ms. Christine Valentine, Oregon Department of Land Conservation and Development, 635 Capital Street NE, Suite 200, Salem, Oregon 97301-2540.

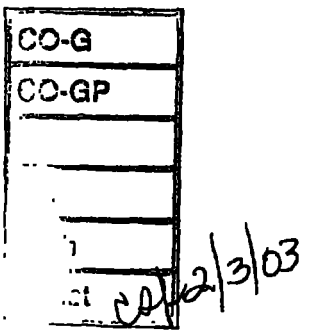
This verification is valid for a period of two (2) years from the date of this letter unless the nationwide permit expires, is modified, reissued, or revoked prior to that date. All the nationwide permits are scheduled to be modified, reissued, or revoked in March 2007. If you commence or are under contract to commence this activity before the date the nationwide permit expires, is modified or revoked, you will have twelve (12) months from the date of the modification or revocation to complete the activity under the present terms and conditions of the current nationwide permit. We also direct your attention to the Special Conditions (Enclosure 2) that require the transfer of this permit if the property is sold and General Condition 14 that requires you to submit a signed certificate when the work is completed. A "Compliance Certification" is provided (Enclosure 6).

Failure to comply with any of the listed conditions could result in the Corps initiating an enforcement action. This authorization does not obviate the need to obtain other permits where required. Permits, such as those required from the Oregon Division of State Lands (ODSL) under Oregon's Removal /Fill Law, must also be obtained before work begins.

If you have any questions regarding this nationwide permit verification, please contact Kelly Urbanek at the Coos Bay Field Office, PO Box 604, North Bend, Oregon 97459 or telephone 541-266-9497.

Sincerely,

Lawrence C. Evans
Chief, Regulatory Branch



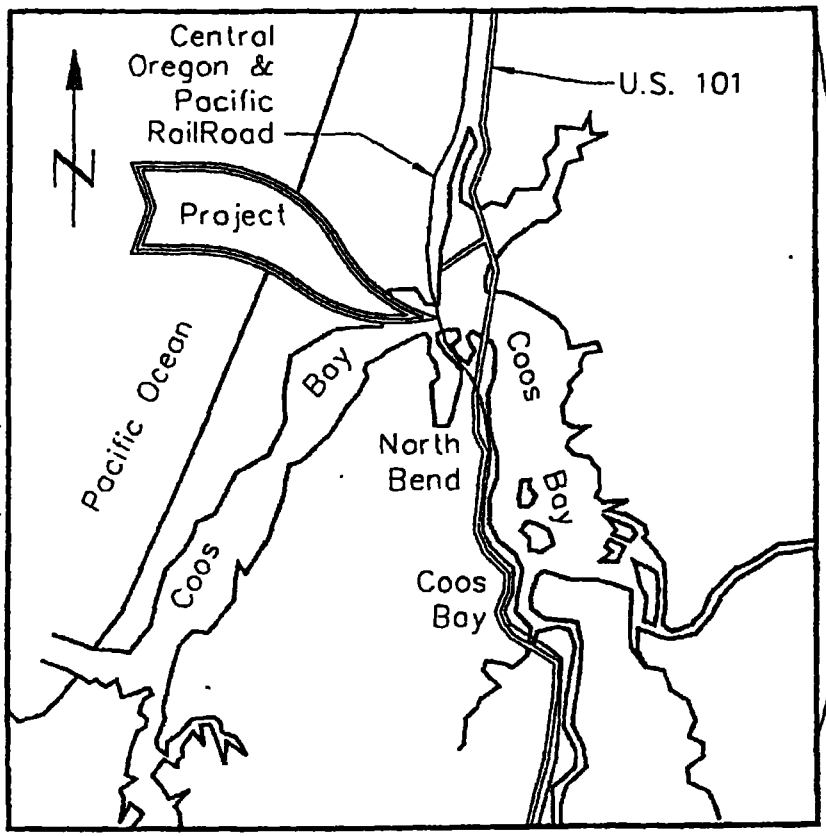
Enclosures

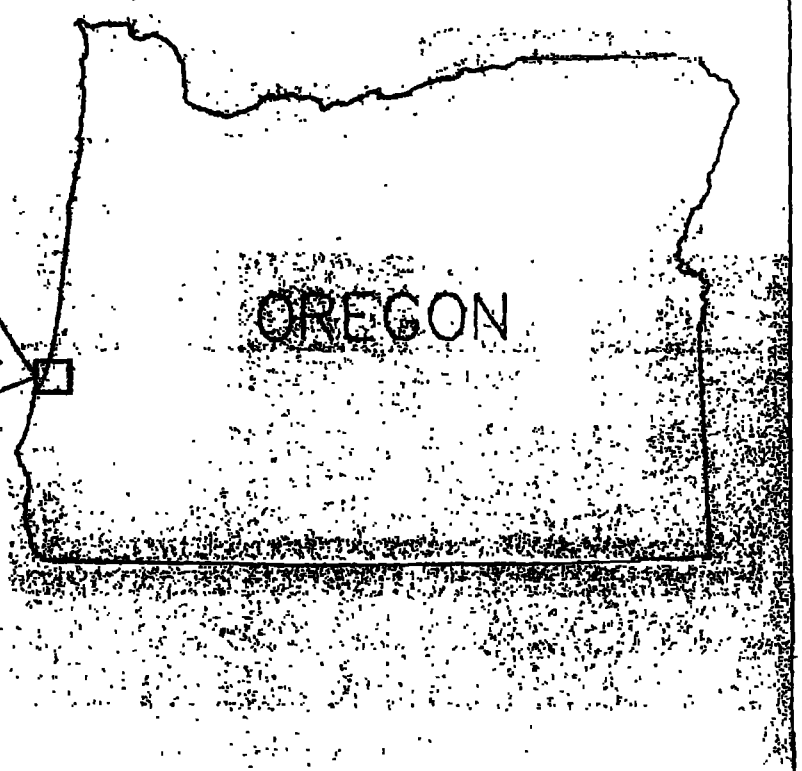
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Oregon Division of State Lands (Lobdell)
Oregon Department of Environmental Quality (Melville)
Oregon Department of Land Conservation & Development (Valentine)
Coos Bay Field Office

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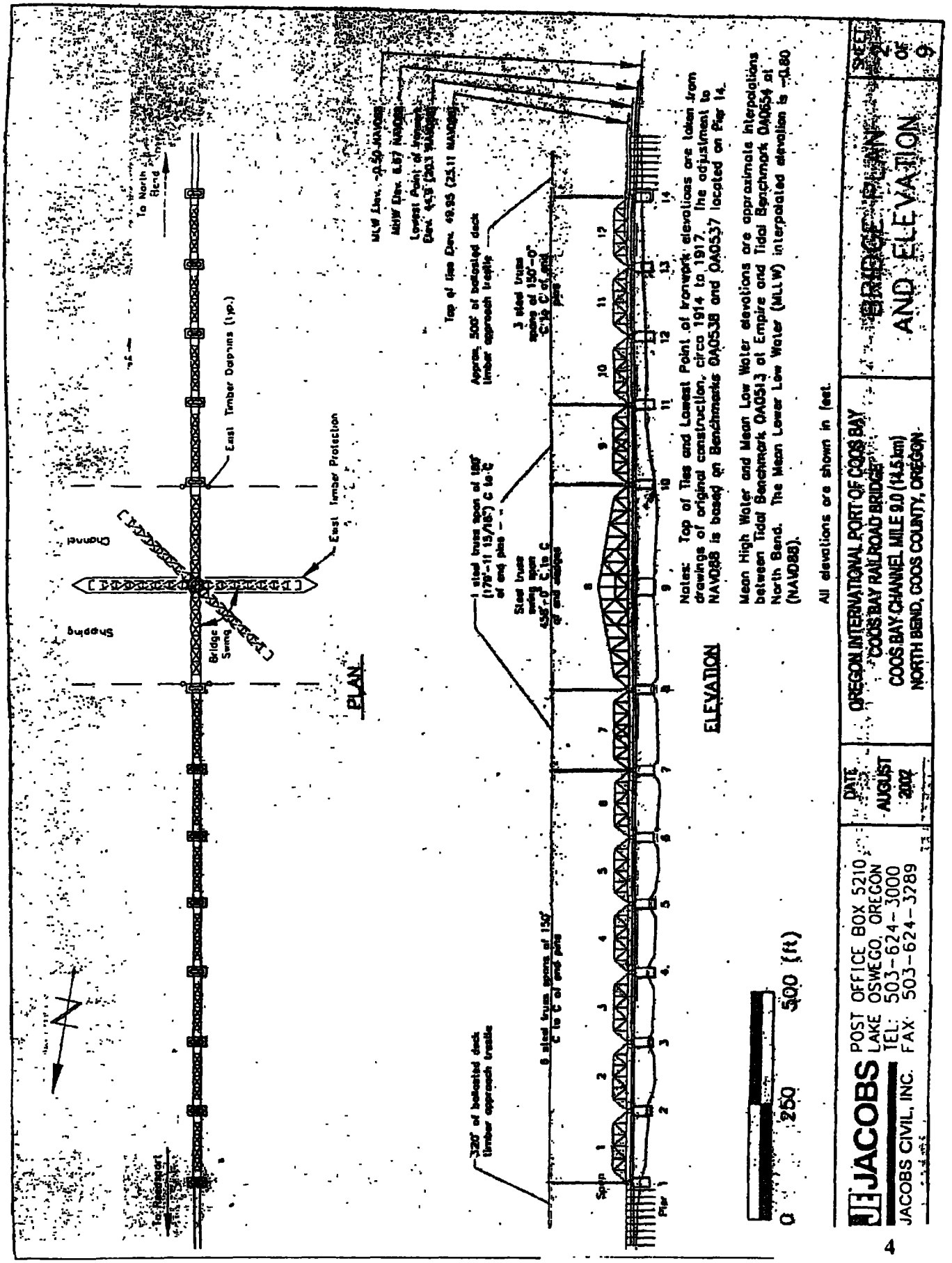


JE JACOBS JACOBS CIVIL, INC.	POST OFFICE BOX 5210 LAKE OSWEGO, OREGON. TEL: 503-624-3000 FAX: 503-624-3289	DATE AUGUST 2002	OREGON INTERNATIONAL PORT OF COOS BAY COOS BAY RAILROAD BRIDGE COOS BAY CHANNEL MILE 9.0 (14.5 km) NORTH BEND, COOS COUNTY, OREGON	LOCATION MAP	SHEET 1 OF 9

Enclosure (1)

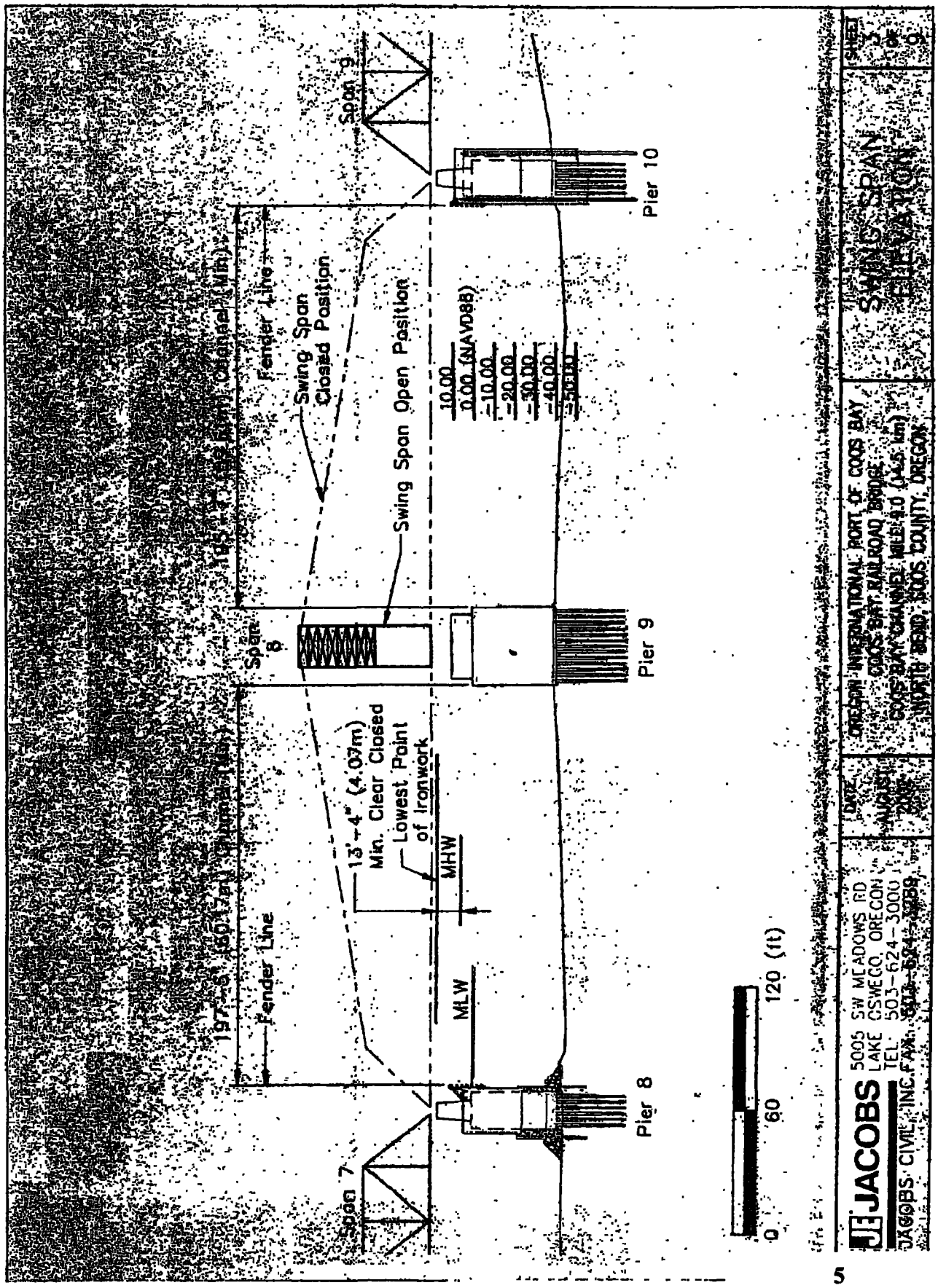
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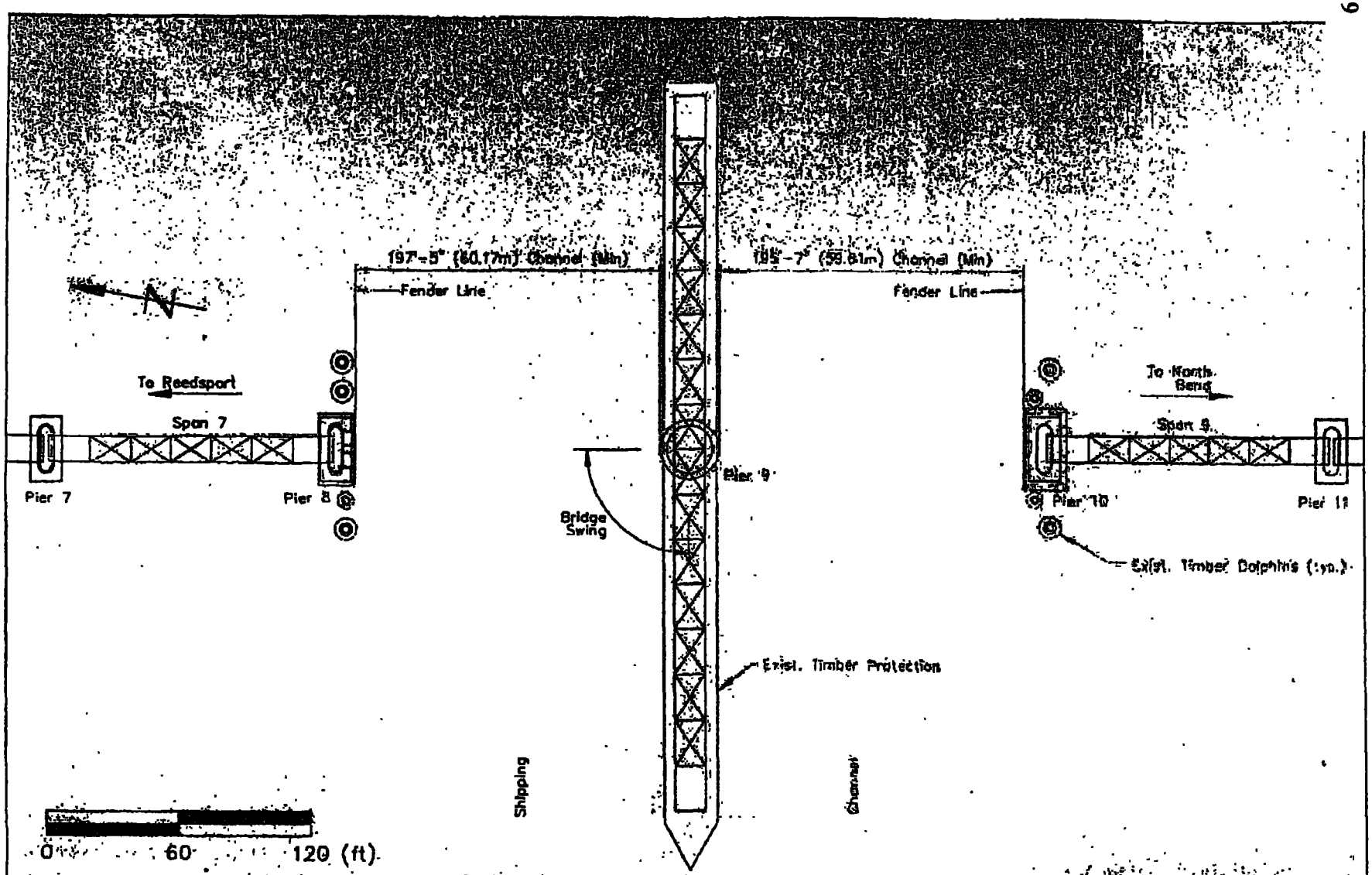
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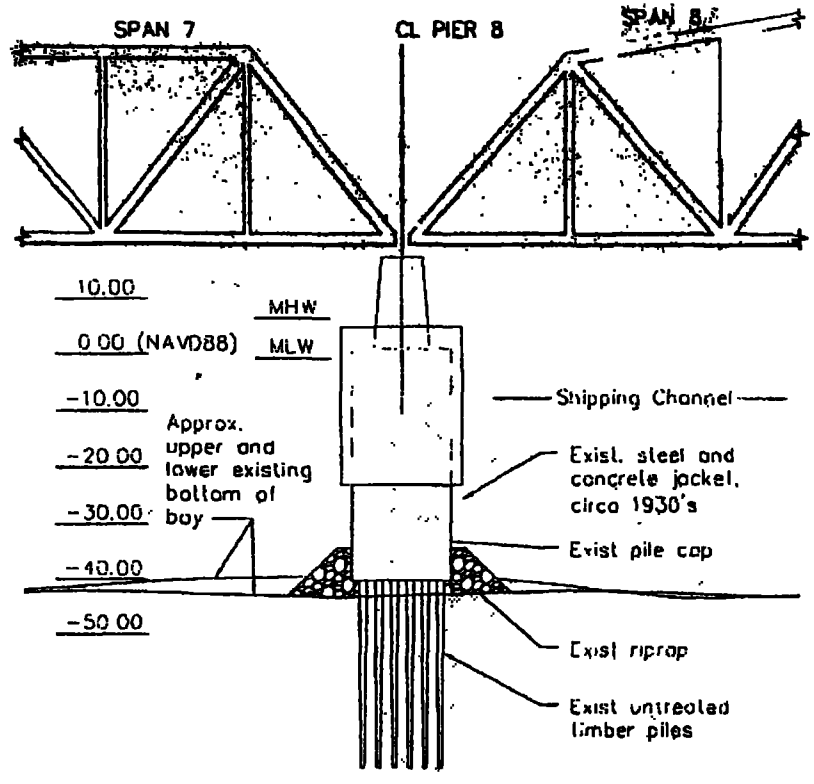


JE JACOBS 5005 SW MEADOWS RD LAKE OSWEGO, OREGON TEL: 503-624-3000 JACOBS CIVIL, INC. FAX: 503-624-3289	DATE AUGUST 2002	OREGON INTERNATIONAL PORT OF COOS BAY COOS BAY RAILROAD BRIDGE COOS BAY CHANNEL MILE 9.0 (14.5 km) NORTH BEND, COOS COUNTY, OREGON	BRIDGE PLAN AND ELEVATION — SHEET 4 OF 9

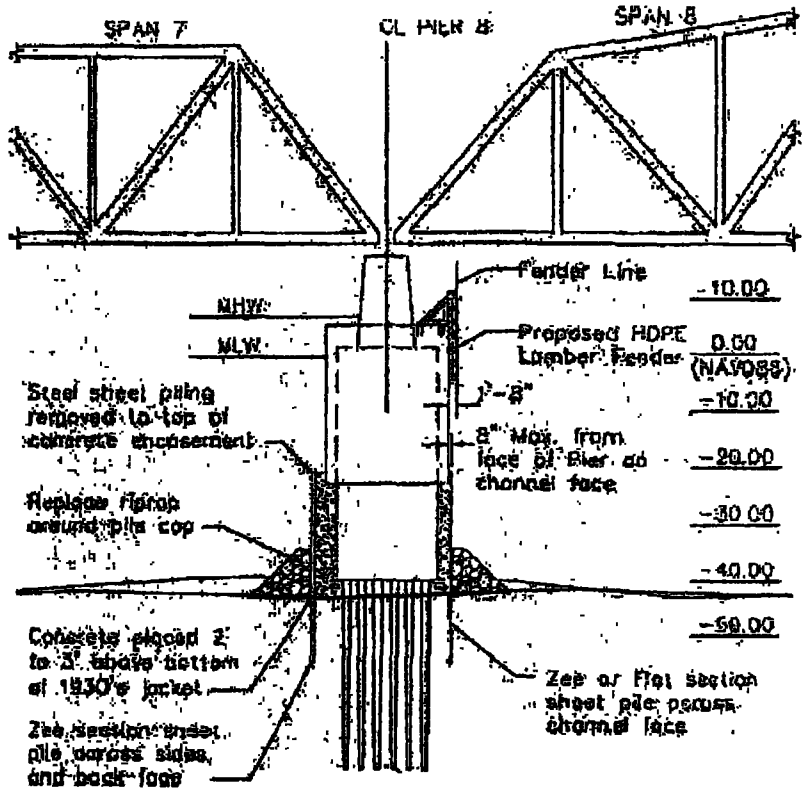
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EXISTING CONDITION



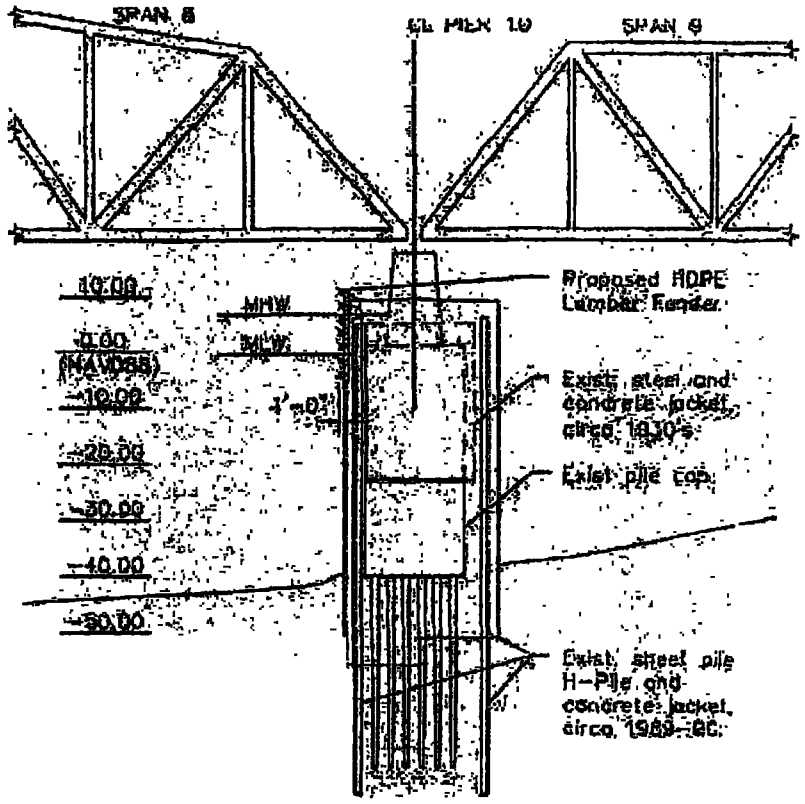
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JACOBS 5005 SW MEADOWS RD LAKE OSWEGO, OREGON TEL: 503-624-3000 JACOBS CIVIL, INC. FAX: 503-624-3289	TE AUGUST 2002	OREGON INTERNATIONAL PORT OF COOS BAY COOS BAY RAILROAD BRIDGE COOS BAY CHANNEL MILE 9.0 (14.5 km) NORTH BEND, COOS COUNTY, OREGON	PIER 8 ELEVATIONS	SHEET 5 OF 9

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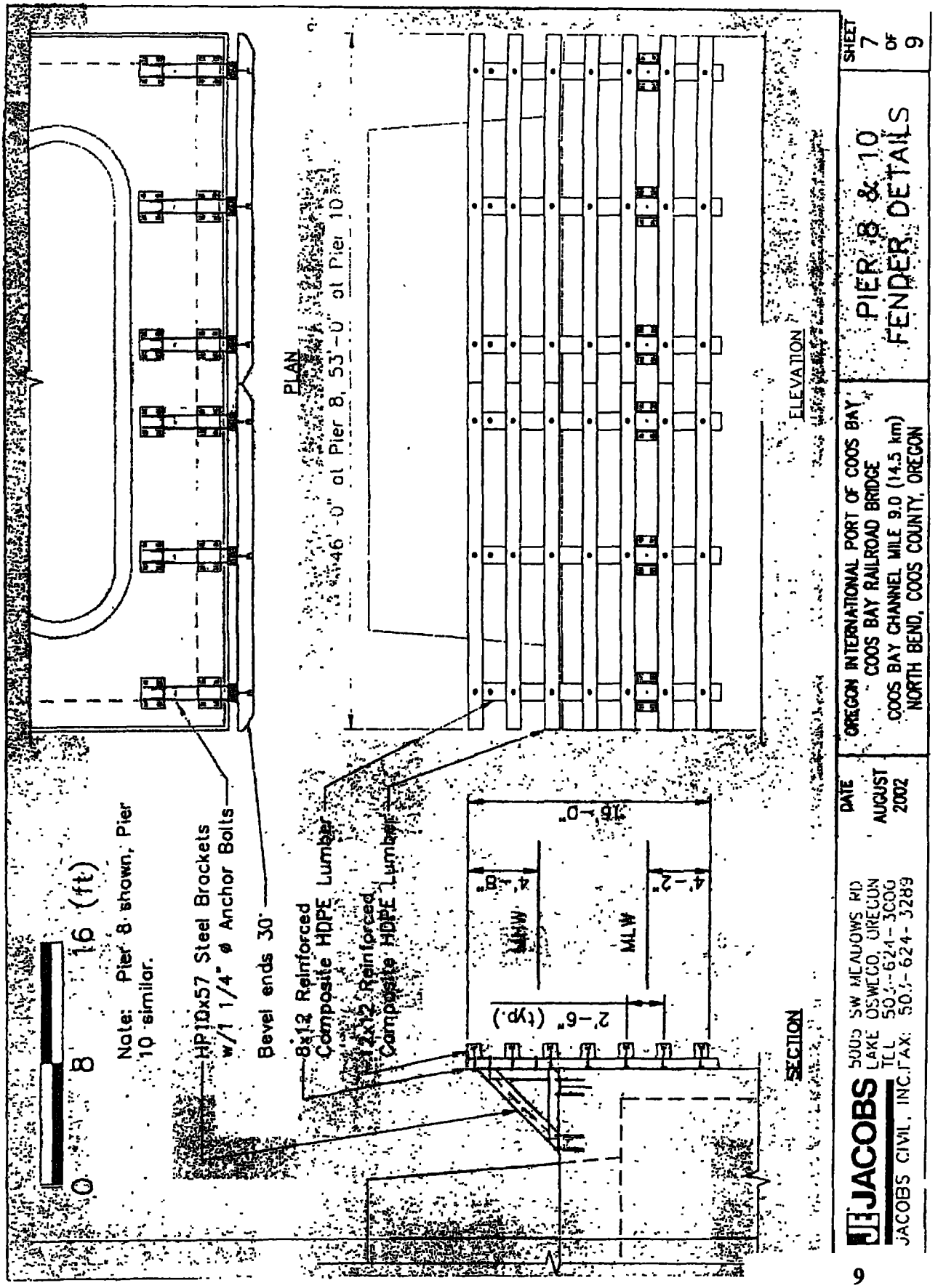


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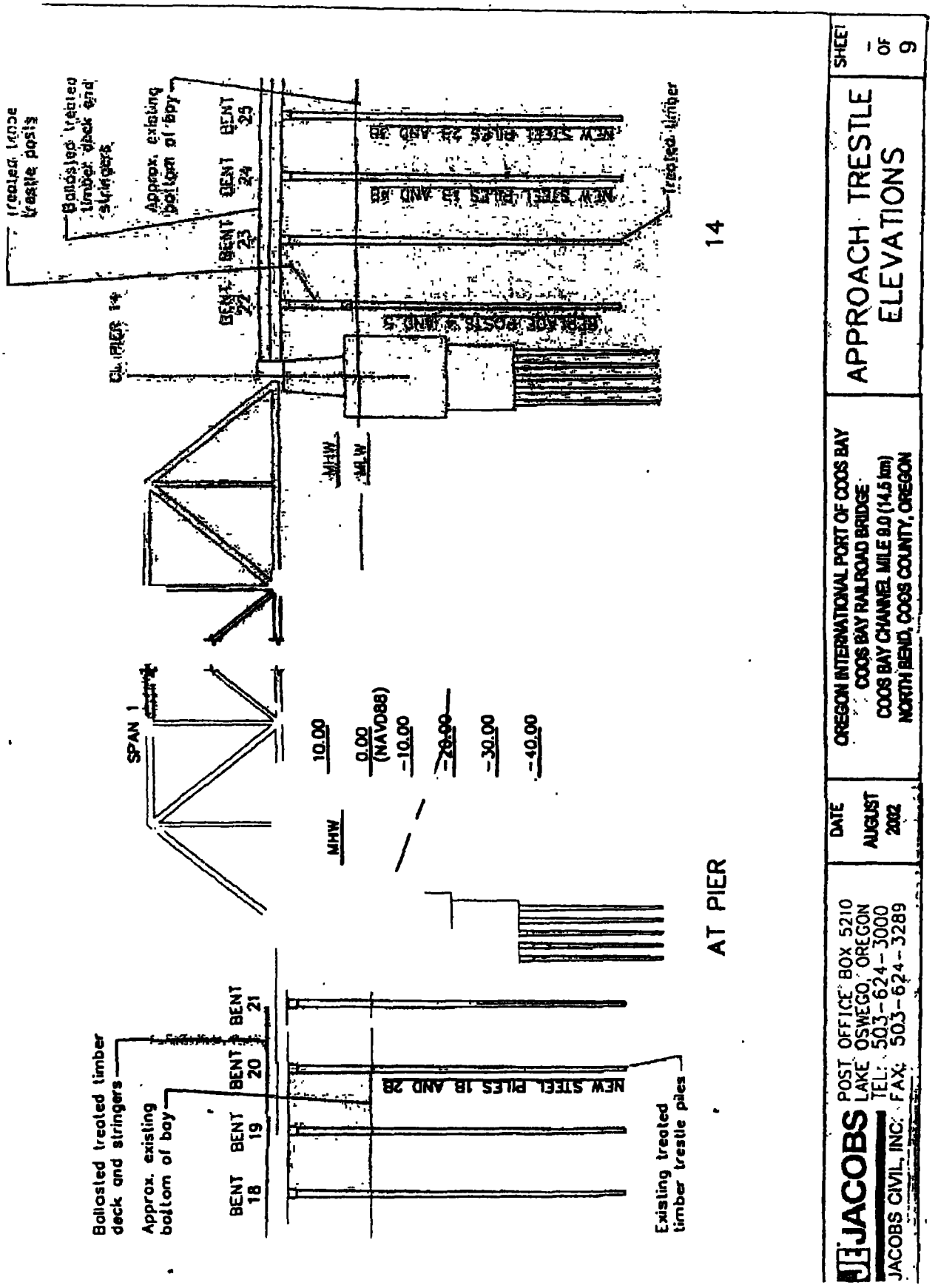
JACOBS 5005 SW MEADOWS RD LAKE OSWEGO, OREGON TEL: 503-624-3000 JACOBS CIVIL, INC. FAX: 503-624-3289	DATE AUGUST 2002	OREGON INTERNATIONAL PORT OF COOS BAY COOS BAY RAILROAD BRIDGE COOS BAY CHANNEL MILE 9.0 (14.5 km) NORTH BEND, COOS COUNTY, OREGON	PIER 10 ELEVATION	SHEET 6 OF 9

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JACOBS
POST OFFICE BOX 5210
LAKE OSWEGO, OREGON
TEL: 503-624-3000
FAX: 503-624-3289
JACOBS CIVIL, INC.

DATE
AUGUST 2002

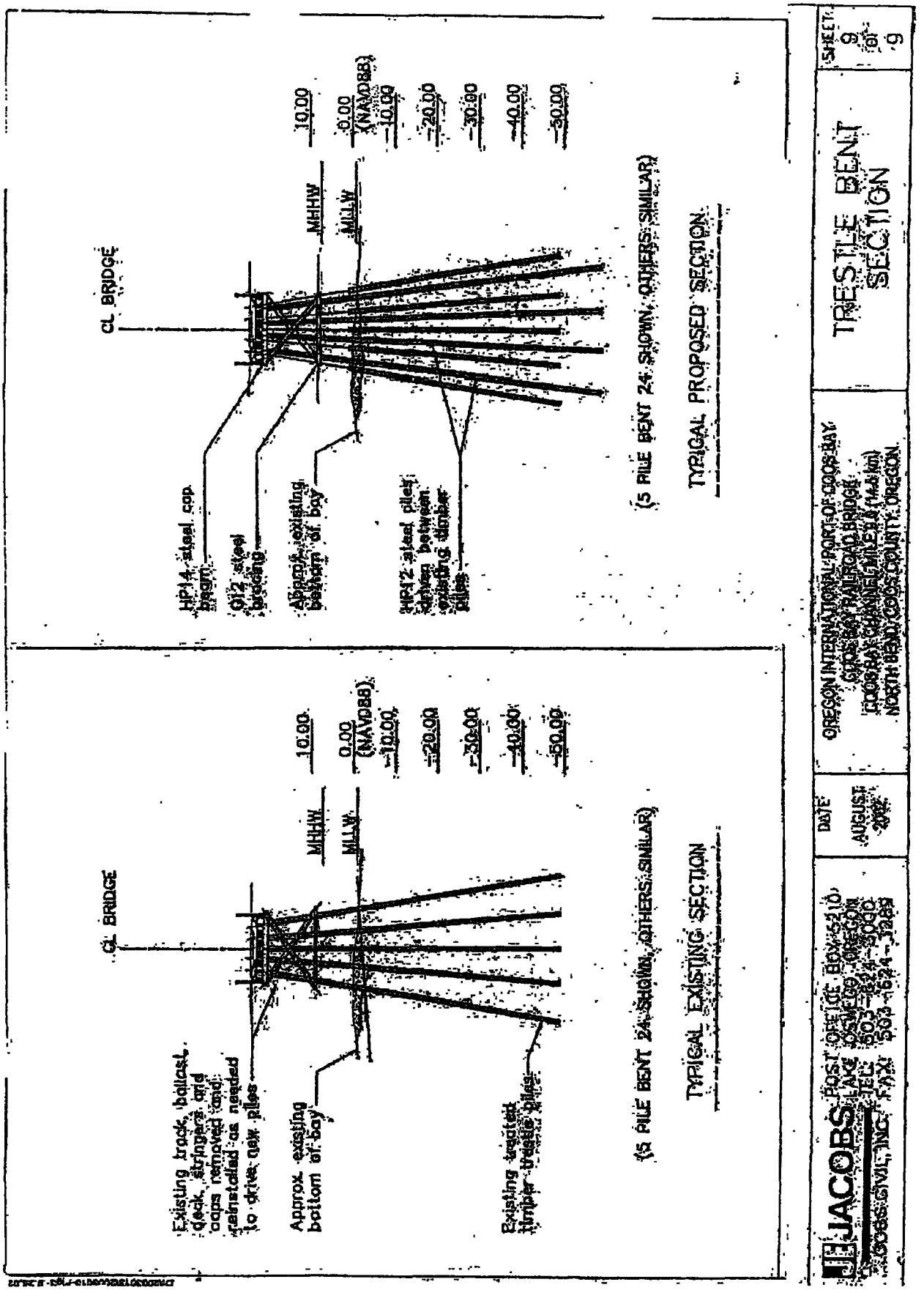
OREGON INTERNATIONAL PORT OF COOS BAY
COOS BAY RAILROAD BRIDGE
COOS BAY CHANNEL MILE 9.0 (14.5 km)
NORTH BEND, COOS COUNTY, OREGON

APPROACH TRESTLE ELEVATIONS

SHEET - OF 9

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Regional Conditions

(a) In-water Work Windows: All in-water work, including temporary fills or structures, shall occur between October 1 and February 15. An exception to these time periods requires specific approval from the Corps. On tribal lands the Corps will coordinate exceptions to the timing guidelines with the Environmental Protection Agency.

(b) Upland Disposal: All excess material will be taken to a suitable upland location for disposal. The material shall be placed in a location and manner that prevents its discharge into waterways or wetlands.

(c) Heavy Equipment: Heavy equipment shall be operated from the bank and not placed in the stream unless specifically authorized by the District Engineer. Heavy equipment must be placed on mats or similar precautions must be taken to minimize damage to wetland resources.

(d) Fish Screening: Fish Screening will comply with standards approved by the National Marine Fisheries Service or the Oregon Department of Fish & Wildlife, as appropriate.

(e) Cultural Resources & Human Burials: If at any time, during the conduct of the work authorized, the permittee or agent(s) discovers human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, that may be affected, they must notify the District Engineer.

(f) Fish Passage: Permittee shall insure activities authorized by nationwide permit will not restrict passage of aquatic life. Activities such as the installation of culverts or diversion structures, or other modifications to channel morphology must be designed to be consistent with fish passage standards developed by the Oregon Department of Fish and Wildlife (ODFW) and the National Marine Fisheries Service (NMFS). This guidance can be found in the most recent edition of the document entitled "ODFW standards and Criteria for Stream Road Crossings". The streambed shall be returned to pre-construction contours after construction unless the purpose of the activity is to eliminate a fish barrier.

(g) Riparian Vegetation Protection & Restoration: When working in waters of the United States or riparian areas the construction boundary shall be minimized to the maximum extent practicable. Permittee shall mark and clearly define the construction boundary before beginning work. Native riparian vegetation will be successfully established along tributaries where the vegetation was removed by construction. The plantings shall start at the ordinary high water mark and extend 10 feet back from the top of the bank. The plantings must be completed by the end of the first planting season following the disturbance.

(h) Erosion Controls: Adequate erosion control devices shall be installed and maintained in good working order throughout construction to prevent the unauthorized discharge of material into a wetland or tributary. The devices shall be installed to maximize their effectiveness, i.e. sediment fences shall generally be buried or similarly secured. These controls shall be maintained until permanent erosion controls are in-place.

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(i) Maps and drawings: In addition to the items required in nationwide permit general condition 13, all preconstruction notifications shall contain maps showing the project location as well as plan-view and cross-sectional drawings showing the proposed work. The map(s) shall be of a scale and detail to clearly identify the project location(s). Drawings shall be sufficient in number and detail to accurately portray the project.

(j) Bank Protection: Riprap shall be clean, durable, angular rock. The use of other materials such as broken concrete, asphalt, tires, wire, steel posts or similar materials is not authorized. The project design shall minimize the placement of rock and maximize the use of vegetation and organic material such as root wads to the extent practicable. Riparian plantings shall be included in all project designs unless the permittee can demonstrate they are not practicable. The permittee must notify the District Engineer in accordance with nationwide permit general condition #13 if the activity involves the placement of more than 10 cubic yards of riprap per 100 linear feet of streambank.

(k) Inspection of project site: The permittee must allow representatives of the Corps to inspect the authorized activity to confirm compliance with nationwide permit terms and conditions. Personnel from the Oregon Department of Environmental Quality and the Department of Land Conservation and Development are considered to be authorized "representatives" for the purpose of Section 401 Water Quality or Coastal Zone Management inspections. For projects on tribal land the Environmental Protection Agency is considered an authorized representative. A request for access to the site will normally be made sufficiently in advance to allow a property owner or representative to be on site with the agency representative making the inspection.

(l) Sale of property/transfer of permit: If you sell the property associated with this permit, you must transfer the permit to the new owner(s) and obtain their signature(s). A copy of this permit with the new owner(s) signature shall be sent to this office to validate the transfer of this permit authorization

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Nationwide Permit General Conditions
(From the January 15, 2002 Federal Register, Vol. 67, No. 10)

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C. Nationwide Permit General Conditions

The following General Conditions must be followed in order for any authorization by an NWP to be valid:

1. *Navigation*. No activity may cause more than a minimal adverse effect on navigation.

2. *Proper Maintenance*. Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.

3. *Soil Erosion and Sediment Controls*. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

4. *Aquatic Life Movements*. No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

5. *Equipment*. Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.

6. *Regional and Case-By-Case Conditions*. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)). The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state or tribe in its Section 401 Water Quality Certification and Coastal Zone Management Act consistency determination

7. *Wild and Scenic Rivers*. No activity may occur in a component of the National Wild and Scenic River System; or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

8. *Tribal Rights*. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

9. *Water Quality*. (a) In certain states and tribal lands an individual 401 Water Quality Certification must be obtained or waived (See 33 CFR 330.4(c)). (b) For NWPs 12, 14, 17, 18, 32, 39, 40, 42, 43, and 44, where the state or tribal 401 certification (either generically or individually) does not require or approve water quality management measures, the permittee must provide water quality management measures that will ensure that the authorized work does not result in more than minimal degradation of water quality (or the Corps determines that compliance with state or local standards, where applicable, will ensure no more than minimal adverse effect on water quality). An important component of water quality management includes stormwater management that minimizes degradation of the downstream aquatic system, including water quality (refer to General Condition 21 for stormwater management requirements). Another important component of water quality management is the establishment and maintenance of vegetated buffers next to open waters, including streams (refer to General Condition 19 for vegetated buffer requirements for the NWPs).

This condition is only applicable to projects that have the potential to affect water quality. While appropriate measures must be taken, in most cases it is not necessary to conduct detailed studies to identify such measures or to require monitoring.

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10. *Coastal Zone Management*. In certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see 33 CFR Section 330.4(d)).

11. *Endangered Species*. (a) No activity is authorized under any NWP, which is likely to jeopardize the continued existence of a threatened or endangered species, or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the *notification* must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the FWS or NMFS the District Engineer may add species-specific regional endangered species conditions to the NWPs.

(b) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their world wide web pages at *http://www.fws.gov/r9endspp/endspp.html* and *http://www.nmfs.noaa.gov/prot_res/overview/es.html* respectively.

12. *Historic Properties*. No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the District Engineer has complied with the provisions of 33 CFR Part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the *notification* must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

13. *Notification*.

(a) Timing: where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a preconstruction *notification* (PCN) as early as possible. The District Engineer must determine if the *notification* is complete within 30 days of the date of receipt and can request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the *notification* is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the District Engineer that the activity may proceed under the NWP with any special conditions imposed by the District or Division Engineer; or

(2) If notified in writing by the District or Division Engineer that an Individual Permit is required; or

(3) Unless 45 days have passed from the District Engineer's receipt of the complete *notification* and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Notification: The *notification* must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), Regional General Permit(s), or Individual Permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be

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provided when necessary to show that the activity complies with the terms of the NWP (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) For NWPs 7, 12, 14, 18, 21, 34, 38, 39,40, 41, 42, and 43, the PCN must also include a delineation of affected special aquatic sites, including wetlands, vegetated shallows (e.g., submerged aquatic vegetation, seagrass beds), and riffle and pool complexes (see paragraph 13(f));

(5) For NWP 7 (Outfall Structures and Maintenance), the PCN must include information regarding the original design capacities and configurations of those areas of the facility where maintenance dredging or excavation is proposed;.

(6) For NWP 14 (Linear Transportation Projects), The PCN must include a compensatory mitigation proposal to offset permanent losses of waters of the US and a statement describing how temporary losses of waters of the US will be minimized to the maximum extent practicable;

(7) For NWP 21 (Surface Coal Mining Activities), the PCN must include an Office of Surface Mining (OSM) or state-approved mitigation plan, if applicable. To be authorized by this NWP, the District Engineer must determine that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are minimal both individually and cumulatively and must notify the project sponsor of this determination in writing;

(8) For NWP 27 (Stream and Wetland Restoration), the PCN must include documentation of the prior condition of the site that will be reverted by the permittee;

(9) For NWP 29 (Single-Family Housing), the PCN must also include:

(i) Any past use of this NWP by the Individual Permittee and/or the permittee's spouse;

(ii) A statement that the single-family housing activity is for a personal residence of the permittee;

(iii) A description of the entire parcel, including its size, and a delineation of wetlands. For the purpose of this NWP, parcels of land measuring ¼-acre or less will not require a formal on-site delineation. However, the applicant shall provide an indication of where the wetlands are and the amount of wetlands that exists on the property. For parcels greater than ¼-acre in size, formal wetland delineation must be prepared in accordance with the current method required by the Corps. (See paragraph 13(f));

(iv) A written description of all land (including, if available, legal descriptions) owned by the prospective permittee and/or the prospective permittee's spouse, within a one mile radius of the parcel, in any form of ownership (including any land owned as a partner, corporation, joint tenant, co-tenant, or as a tenant-by-the-entirety) and any land on which a purchase and sale agreement or other contract for sale or purchase has been executed;

(10) For NWP 31 (Maintenance of Existing Flood Control Projects), the prospective permittee must either notify the District Engineer with a PCN prior to each maintenance activity or submit a five year (or less) maintenance plan. In addition, the PCN must include all of the following:

(i) Sufficient baseline information identifying the approved channel depths and configurations and existing facilities. Minor deviations are authorized, provided the approved flood control protection or drainage is not increased;

(ii) A delineation of any affected special aquatic sites, including wetlands; and,

(iii) Location of the dredged material disposal site;

(11) For NWP 33 (Temporary Construction, Access, and Dewatering), the PCN must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources;

(12) For NWPs 39, 43 and 44, the PCN must also include a written statement to the District Engineer explaining how avoidance and minimization for losses of waters of the US were achieved on the project site;

(13) For NWP 39 and NWP 42, the PCN must include a compensatory mitigation proposal to offset losses of waters of the US or justification explaining why compensatory mitigation should not be required. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

(14) For NWP 40 (Agricultural Activities), the PCN must include a compensatory mitigation proposal to offset losses of waters of the US. This NWP does not authorize the relocation of greater than 300 linear-feet of existing serviceable drainage ditches constructed in non-tidal streams unless, for drainage ditches constructed in intermittent non-tidal streams, the District Engineer waives this criterion in writing, and the District Engineer has determined that the project complies with all terms and conditions of this NWP, and that any adverse impacts of the project on the aquatic environment are minimal, both individually and cumulatively;

(15) For NWP 43 (Stormwater Management Facilities), the PCN must include, for the construction of new stormwater management facilities, a maintenance plan (in accordance with state and local requirements, if

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applicable) and a compensatory mitigation proposal to offset losses of waters of the US. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

(16) For NWP 44 (Mining Activities), the PCN must include a description of all waters of the US adversely affected by the project, a description of measures taken to minimize adverse effects to waters of the US, a description of measures taken to comply with the criteria of the NWP, and a reclamation plan (for all aggregate mining activities in isolated waters and non-tidal wetlands adjacent to headwaters and any hard rock/mineral mining activities);

(17) For activities that may adversely affect Federally-listed endangered or threatened species, the PCN must include the name(s) of those endangered or threatened species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work; and

(18) For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

(c) Form of *Notification*: The standard Individual Permit application form (Form ENG 4345) may be used as the *notification* but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(18) of General Condition 13. A letter containing the requisite information may also be used.

(d) District Engineer's Decision: In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may submit a proposed mitigation plan with the PCN to expedite the process. The District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary. The District Engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the District Engineer will expeditiously review the proposed compensatory mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then the District Engineer will notify the applicant either: (1) that the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an Individual Permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the District Engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitigation plan is required under item (2) above, no work in waters of the US will occur until the District Engineer has approved a specific mitigation plan.

(e) Agency Coordination: The District Engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

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For activities requiring *notification* to the District Engineer that result in the loss of greater than ½-acre of waters of the US, the District Engineer will provide immediately (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy to the appropriate Federal or state offices (USFWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 15 calendar days before making a decision on the *notification*. The District Engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The District Engineer will indicate in the administrative record associated with each *notification* that the resource agencies' concerns were considered. As required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, the District Engineer will provide a response to NMFS within 30 days of receipt of any Essential Fish Habitat conservation recommendations. Applicants are encouraged to provide the Corps multiple copies of *notifications* to expedite agency *notification*.

(f) Wetland Delineations: Wetland delineations must be prepared in accordance with the current method required by the Corps (For NWP 29 see paragraph (b)(9)(iii) for parcels less than ¼-acre in size). The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 45-day period will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

14. *Compliance Certification*. Every permittee who has received NWP verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter and will include: (a) A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions;
(b) A statement that any required mitigation was completed in accordance with the permit conditions; and (c) The signature of the permittee certifying the completion of the work and mitigation.

15. *Use of Multiple Nationwide Permits*. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the US authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit (e.g. if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the US for the total project cannot exceed 1/3-acre).

16. *Water Supply Intakes*. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in the proximity of a public water supply intake except where the activity is for repair of the public water supply intake structures or adjacent bank stabilization.

17. *Shellfish Beds*. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4.

18. *Suitable Material*. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may consist of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the CWA).

19. *Mitigation*. The District Engineer will consider the factors discussed below when determining the acceptability of appropriate and practicable mitigation necessary to offset adverse effects on the aquatic environment that are more than minimal.

(a) The project must be designed and constructed to avoid and minimize adverse effects to waters of the US to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland impacts requiring a PCN, unless the District Engineer determines in writing that some other form of mitigation would be more

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environmentally appropriate and provides a project-specific waiver of this requirement. Consistent with National policy, the District Engineer will establish a preference for restoration of wetlands as compensatory mitigation, with preservation used only in exceptional circumstances.

(d) Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the NWPs. For example, ¼-acre of wetlands cannot be created to change a ¾-acre loss of wetlands to a ½-acre loss associated with NWP 39 verification. However, ½-acre of created wetlands can be used to reduce the impacts of a ½-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with NWPs.

(e) To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purposes. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferably in the same watershed.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., easements, deed restrictions) of vegetated buffers to open waters. In many cases, vegetated buffers will be the only compensatory mitigation required. Vegetated buffers should consist of native species. The width of the vegetated buffers required will address documented water quality or aquatic habitat loss concerns. Normally, the vegetated buffer will be 25 to 50 feet wide on each side of the stream, but the District Engineers may require slightly wider vegetated buffers to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the Corps will determine the appropriate compensatory mitigation (e.g., stream buffers or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where vegetated buffers are determined to be the most appropriate form of compensatory mitigation, the District Engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland impacts.

(g) Compensatory mitigation proposals submitted with the "*notification*" may be either conceptual or detailed. If conceptual plans are approved under the verification, then the Corps will condition the verification to require detailed plans be submitted and approved by the Corps prior to construction of the authorized activity in waters of the US.

(h) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases that require compensatory mitigation, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

20. *Spawning Areas*. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., excavate, fill, or smother downstream by substantial turbidity) of an important spawning area are not authorized.

21. *Management of Water Flows*. To the maximum extent practicable, the activity must be designed to maintain preconstruction downstream flow conditions (e.g., location, capacity, and flow rates). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters) and the structure or discharge of dredged or fill material must withstand expected high flows. The activity must, to the maximum extent practicable, provide for retaining excess flows from the site, provide for maintaining surface flow rates from the site similar to preconstruction conditions, and provide for not increasing water flows from the project site, relocating water, or redirecting water flow beyond preconstruction conditions. Stream channelizing will be reduced to the minimal amount necessary, and the activity must, to the maximum extent practicable, reduce adverse effects such as flooding or erosion downstream and upstream of the project site, unless the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow.

This condition is only applicable to projects that have the potential to affect waterflows." While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.

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22. *Adverse Effects From Impoundments*. If the activity creates an impoundment of water, adverse effects to the aquatic system due to the acceleration of the passage of water, and/or the restricting its flow shall be minimized to the maximum extent practicable. This includes structures and work in navigable waters of the US, or discharges of dredged or fill material.

23. *Waterfowl Breeding Areas*. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

24. *Removal of Temporary Fills*. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

25. *Designated Critical Resource Waters*. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the District Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Except as noted below, discharges of dredged or fill material into waters of the US are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, and 44 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the US may be authorized by the above NWPs in National Wild and Scenic Rivers if the activity complies with General Condition 7. Further, such discharges may be authorized in designated critical habitat for Federally listed threatened or endangered species if the activity complies with General Condition 11 and the USFWS or the NMFS has concurred in a determination of compliance with this condition.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, *notification* is required in accordance with General Condition 13, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The District Engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

26. *Fills Within 100-Year Floodplains*. For purposes of this General Condition, 100-year floodplains will be identified through the existing Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps or FEMA-approved local floodplain maps.

(a) Discharges in Floodplain; Below Headwaters. Discharges of dredged or fill material into waters of the US within the mapped 100-year floodplain, below headwaters (i.e. five cfs), resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, 43, and 44.

(b) Discharges in Floodway; Above Headwaters. Discharges of dredged or fill material into waters of the US within the FEMA or locally mapped floodway, resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, and 44.

(c) The permittee must comply with any applicable FEMA-approved state or local floodplain management requirements.

27. *Construction Period*. For activities that have not been verified by the Corps and the project was commenced or under contract to commence by the expiration date of the NWP (or modification or revocation date), the work must be completed within 12-months after such date (including any modification that affects the project).

For activities that have been verified and the project was commenced or under contract to commence within the verification period, the work must be completed by the date determined by the Corps.

For projects that have been verified by the Corps, an extension of a Corps approved completion date may requested. This request must be submitted at least one month before the previously approved completion date.

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2002/01274

December 20, 2002

Mr. Fred P. Patron
Senior Transportation Planning Engineer
Federal Highway Administration, Oregon Division
530 Center Street NE
Salem, OR 97301

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation for Coos Bay Railroad Bridge Rehabilitation Project, Coos County, Oregon.

Dear Mr. Patron:

Enclosed is the biological opinion (Opinion) prepared by the National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act (ESA) on the effects of funding the proposed Coos Bay Railroad Bridge Rehabilitation Project in Coos County, Oregon. In this Opinion, NOAA Fisheries concludes that the proposed action is not likely to jeopardize the continued existence of ESA-listed Oregon Coast coho salmon *(Oncorhynchus kisutch)*. As required by section 7 of the ESA, NOAA Fisheries includes reasonable and prudent measures with nondiscretionary terms and conditions that NOAA Fisheries believes are necessary to minimize the potential for incidental take associated with this action.

This Opinion also serves as consultation on essential fish habitat pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and its implementing regulations (50 CFR part 600).

If you have any questions regarding this consultation, please contact Jim Collins of my staff in the Oregon Habitat Branch at 541.957.3389.

Sincerely,

for Michael R Course

D. Robert Lohn
Regional Administrator

cc: Molly Cary, ODOT
Ken Franklin, ODOT
John Raasch, ODOT

Enclosure (4)

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Endangered Species Act - Section 7 Consultation
&
Magnuson-Stevens Act
Essential Fish Habitat Consultation

BIOLOGICAL OPINION

Coos Bay Railroad Bridge Rehabilitation Project
Coos County, Oregon.

Agency:	Federal Highway Administration
Consultation Conducted By:	NOAA Fisheries, Northwest Region
Date Issued:	December 20, 2002
Issued by:	for Michael R Crowe D. Robert Lohn Regional Administrator
Refer to:	**2002/01274**

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1. ENDANGERED SPECIES ACT

1.1 Background

On October 30, 2002, the National Marine Fisheries Service (NOAA Fisheries) received a biological assessment (BA) and a request from the Federal Highway Administration (FHWA) for Endangered Species Act (ESA) section 7 formal consultation for the Coos Bay Railroad Bridge Rehabilitation Project. The Oregon Department of Transportation (ODOT) proposes replacement of the bridge, which crosses Coos Bay near the town of North Bend, Oregon. This biological opinion (Opinion) is based on the information presented in the BA and discussions with the applicant.

The FHWA determined that Oregon Coast (OC) coho salmon (*Oncorhynchus kisutch*) may occur within the project area. OC coho salmon were listed as threatened under the ESA on August 10, 1998 (63 FR 42587), and protective regulations were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). The FHWA, using methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996), determined that the proposed action is likely to adversely affect OC coho salmon.

This Opinion is based on the information presented in the BA and developed through correspondence to obtain additional information and clarity. The objective of this Opinion is to determine whether the actions to remove the existing structure and construct a new structure are likely to jeopardize the continued existence of OC coho salmon. This consultation is undertaken under section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

1.2 Proposed Action

1.2.1 Project Purpose

This project is designed to rehabilitate the Coos Bay Railroad Bridge, which crosses over Coos Bay. The bridge supports a single track on a 98.4 meter (m) timber north-approach trestle, 12 steel truss spans totaling 677.5 m, and a 173.4 m timber south-approach trestle. Span 8 is a 143.1 m movable swing span in the main shipping channel within Coos Bay. When open to marine traffic, the swing span allows a shipping channel width of 62.5 m on each side of the center support pier. The railroad bridge serves to link the Oregon International Port of Coos Bay to the rail system, which is linked to rail lines throughout the Northwest.

Inspections of the bridge revealed extensive corrosion on the steel truss section, deteriorated piles in the approach trestles, and scour around one of the support piers. The project will involve replacing corroded structural members and improving the coating system on the steel structures, as well as fortifying one pier footing and replacing some of the pilings that support the bridge approaches.

1.2.2 Steel Truss Repairs

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The 12 span, steel truss sections of the bridge will require the replacement of several beams, approximately 6,000 rivets, and 1,200 lacing bars. In addition, the steel bridge rests on bearings atop the concrete piers, held in place by anchor bolts. The corroded bearings, or "roller nests" have all locked in the maximum expansion position. The corroded roller nests will be replaced with sliding bearing assemblies, consisting of a sheet bonded to a lower steel bearing plate and a polished stainless steel plate upper sliding surface edge welded to an upper steel bearing plate. The corroded anchor bolts will be replaced by core drilling around the existing anchor bolts and replacing them in-kind with new anchor bolts epoxy-bonded in the core-drilled holes. Historical drawings indicate that thin lead sheets were used between the concrete piers and the bearing pedestals to assure that the weight transfer through the bearing was uniform on the concrete. Removal of these lead sheets will be a part of the replacement process for these bearings.

These structural repairs on the various bridge spans are expected to take some four to five months to complete. All work on the steel truss will be completed above the mean higher high tide (MHHT).

1.2.3 Track Tie Replacement

Track ties need to be replaced across approximately two-thirds of the length of the steel spans to ensure the safe operation of the structure. The slender main members are highly susceptible to damage, buckling, and collapse from impact forces, which would compound the damage should a derailment occur. Ties can best be replaced with panelized track-tie sections, a standard railroad maintenance procedure. Since removal of the existing track-tie panels is already necessary to install stringer cover plates, the tie replacement should be done at the same time. The track rails may be reused. Current standards require the installation of a maintenance walkway to one side of tracks on bridges. The newer track-tie panels on Spans 1, 2, 9, 10, 11, and 12 already have extended sleepers at regular spacing to support a walkway. Extended sleepers (or intermittent longer ties), walkway planks, and cable handrails will be included as part of the track-tie replacement to provide a walkway across the 12 truss spans.

1.2.4 Coating System Rehabilitation

Due to the proximity of the bridge to the marine environment, the bridge was subjected to high concentrations of salt, which led to corrosion of the bridge surface and its interior properties. This resulted in a surface that no longer protects the structure from deterioration. This phase of the project includes removing the coating system in the areas where it is failing and reapplying a new zinc-based coating system.

The coating system rehabilitation process requires a controlled environment for successful adhesion to the bridge. In order to achieve this, a containment system with negative air will be employed, including an air ventilation and collection system to collect dust and filter it out of the air. This system normally requires air-impenetrable walls with rigid or flexible framing, fully sealed joints, airlock or resealable entryways, and negative air is achieved by forced or natural

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air flow and exhaust air filtration. This process also ensures that the paint and all debris will be contained and would not enter the waterway.

1.2.5 Pier 8 Foundation Protection

The existing riprap around the pier base will be removed (likely with a clamshell bucket suspended from a barge-mounted crane) to allow for the driving of steel sheet piles around the existing footing. This riprap is approximately 14.6 m below mean low low water (MLLW) and consists of no more than 447 m^3. The riprap would be temporarily stockpiled as close as practicable to the pier for later use.

Steel sheet piles will be installed in a rectangle approximately 1 m outside of and around the existing pier footing. Each of the sheets would be lowered to the channel bottom via a barge-mounted crane, and will extend vertically for an estimated 15.6 m, so that their upper edge extends above mean high water. Several individual sheets would form each side of the enclosure. The sheets will be attached to each other at the edges by a knuckle joint with a groove. These sheets are often placed and driven in pairs. The sheets will initially be driven only a few feet in to withstand the current. Bracing will then be attached. Using either a vibratory hammer or an impact hammer supported by a barge-mounted, pile-driving rig, the sheet piles will be driven further into the substrate, sliding past each other as each one is driven in. Once completed, the piling would be embedded 4.6 m into the channel bottom. The contractor will install the sheet piles to completion in a continuous process over a condensed period of days. Once the sheet piles are in place, steel beams will be installed in a horizontal frame around the outside of the sheet piles at several vertical levels to strengthen the sheet piles against fluid pressures from the concrete fill.

Once the four-sided sheet pile structure is in place around the pier, any fish inhabiting the water in the enclosure will be removed and returned to the bay by an ODFW or ODOT biologist. Isolated salmonids or other fish will be removed by traps, nets, electrofishing, or other means before any dewatering or concrete pouring operations begin.

Once fish removal is complete, concrete will then be filled in behind the sheet pile cofferdam approximately 1 m above the existing pile cap. This would require a maximum of 534.4 m^3 of concrete. The footprint of the new concrete encasement around the pier footer is estimated to be 58.6 to 78.1 m^2.

After the concrete has cured, the steel sheet piling will be cut off flush with the top of the concrete. The existing riprap will then be replaced around the base of the pier footing.

To reduce debris accumulation, a fender system will be constructed along the side of the Piers 8 and 10 footers that are facing the navigation channel. The fender system will be designed to utilize UHMW (Ultra High Molecular Weight) polyethylene backed by steel, or possibly HDPE (High Density Polyethylene) "timbers," either alone or backed by steel. The assembled fender panels will be placed from either a barge or from the ends of Spans 7 and 9. The panels will be

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connected together and anchored to the footings with steel bolts. Setting the panels into place and making the connections should take an estimated two weeks. The actions will most likely be accomplished from a barge-mounted crane when the tide is high enough to provide safe clearance. The total in-water work on Pier 8 is anticipated to last 45 days.

1.2.6 Trestle Bent Pile Replacements

On either end of the steel bridge spans, the approaches are timber trestle spans consisting of five or six piles per trestle bent. Five piles, and at least two square posts need replacement in these trestle bents (adjacent to Piers 1 and 14). These bents are in shallow tidal areas. The project proposes to replace all piles with steel piles at bents 20, 22, and 24. At Bent 25, one timber pile will be replaced with two steel piles. The existing track, ballast, deck, stringers, caps, and bracing will be removed as necessary to drive new piles at bents 20, 22, 24, and 25. This work will be performed from the railroad deck, using a rail-mounted crane.

Bents 20, 22, and 24 will be replaced with four-pile steel bents with steel caps and bracing. This operation will use a total of 12 steel H-piles. At Bent 25, two steel H-piles will be installed on either side of the failing central timber pile. In all cases, the steel piles will be driven between existing timber piles with an impact hammer supported by a rail or truck-mounted, pile-driving rig. The piles will be uncoated and approximately 0.3 m square.

An attempt will be made to completely remove the timber piles. If complete removal is unsuccessful, the timber piles being replaced will be cut off approximately 0.6 m above the mud line. The rail-mounted crane would remove the upper portion. The rot is at or near the mudline, and the piles may break.

The steel piles of bents 20, 22, and 24 will be connected together at the top with a steel cap beam and braced with diagonal and horizontal members. At Bent 25, the timber members removed for pile installation will be reinstalled. Damaged or deteriorated timber trestle and deck members will be replaced.

The in-water work on the pile bents is estimated to last 10 days. With a cross section of 0.3 m^2 apiece, the 14 new H-piles would cover approximately 4.2 m^2 of mudflat surface.

1.3 Biological Information

Within the Coos watershed, NOAA Fisheries listed the OC coho salmon as threatened under the ESA on August 10, 1998 (63 FR 42587). Protective regulations were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42422).

OC coho salmon are known to spawn and rear in the Coos watershed. Adult coho salmon enter the Coos River in late September and spawn from October through January, with the majority of spawning activity occurring in smaller, low gradient tributaries. Coho salmon use the Coos estuary within the project area primarily as a migration corridor and for juvenile rearing. The

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downstream migration of coho salmon smolts typically occurs from early February through May, but may extend into June. Due to location of the project in the Coos estuary, OC coho salmon are not expected to be within the project area during the ODFW in-water work period (October 1 to February 15).

1.4 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NOAA Fisheries must determine whether the action is likely to jeopardize the listed species. This analysis involves the definition of the biological requirements and current status of the listed species, and the evaluation of the relevance of the environmental baseline to the species' current status.

Subsequently, NOAA Fisheries evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NOAA Fisheries must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NOAA Fisheries finds that the action is likely to jeopardize the listed species, NOAA Fisheries must identify reasonable and prudent alternatives for the action. For the proposed action, NOAA Fisheries' jeopardy analysis considers direct or indirect mortality of fish attributable to the action.

1.4.1 Biological Requirements

The first step in the methods NOAA Fisheries uses for applying the ESA section 7(a)(2) to listed coho salmon is to define the species' biological requirements that are most relevant to each consultation. NOAA Fisheries also considers the current status of the listed species, taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NOAA Fisheries starts with the determinations made in its decision to list OC coho salmon for ESA protection and also considers new available data that is relevant to the determination.

The relevant biological requirements are those necessary for OC coho salmon to survive and recover to naturally-reproducing population levels, at which time protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful migration and holding in the action area. The current status of the OC coho salmon, based upon their risk of extinction, has not significantly improved since the

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species was listed. The Coos estuary serves as an adult and juvenile migration corridor, as well as juvenile rearing habitat.

1.4.2 Environmental Baseline

The current range-wide status of the identified ESU may be found in Nickelson *et al.* (1992) and Weitkamp *et. al* (1995). The identified action would occur within the range of OC coho salmon. The action area is the area that is directly and indirectly affected by the action. The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. As such, the action area for the proposed activity includes the immediate area where the Coos Bay Railroad Bridge Rehabilitation Project would occur, and those areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this Opinion, the action area is the channel and adjacent riparian area for approximately 500 m upstream and downstream of the project site. Temporary indirect impacts (disruption of primary productivity and food resources), and potential direct affects (sediment, pollutant discharge and hydraulics) to Coos Bay would be caused by the in-water work.

The Coos Bay estuary is the second largest estuary in Oregon. It is approximately 13,300 acres in size (Cortright *et al.* 1987), averaging nearly 1 km wide by 24 km miles long. The bay has approximately 30 tributaries. The major tributary into Coos Bay is the Coos River from the east, which joins the bay approximately 7.5 km upstream from the project site. The Coos Bay estuary is classified as a drowned river mouth-type estuary, where winter flows discharge high volumes of sediment through the estuary. In summer, when discharge is lower, seawater inflow dominates this type of estuary. Extensive filling and diking of Coos Bay and its sloughs, estuaries, and tributaries have changed the form and function of the estuary. Approximately 90% of Coos Bay marshes have been permanently lost to dikes and landfills (Proctor *et al.*1980). Approximately 72,000 tons of sediment, mainly silts and clays, pour into the Coos Bay estuary every year (Schultz 1990).

Based on the best available information regarding the current status of OC coho salmon range-wide, the population status, trends, genetics, and the poor environmental baseline conditions within the action area, NOAA Fisheries concludes that the biological requirements of OC coho salmon are not currently being met. Degraded habitat, resulting from agricultural practices, forestry practices, road building, and residential construction, indicate that many aquatic habitat indicators are not properly functioning within the Coos watershed. Actions that do not maintain or restore properly functioning aquatic habitat conditions would be likely to jeopardize the continued existence of OC coho salmon.

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1.5 Analysis of Effects

1.5.1 Effects of Proposed Action

The following proposed actions have the potential to impact OC coho salmon:

Construction Equipment. Accidental release of fuel, oil, and other contaminants may occur. Operation of back-hoes, excavators, cranes, and other equipment requires the use of fuels, lubricants, *etc.*, which, if spilled into a water body channel, or into the adjacent riparian zone, can injure or kill aquatic organisms. Petroleum-based contaminants (such as fuel, oil, and some hydraulic fluids) contain poly-cyclic aromatic hydrocarbons (PAHs), which can be acutely toxic to salmonids at high levels of exposure and can also cause chronic lethal and acute and chronic sublethal effects to aquatic organisms (Neff 1985). Similarly, exposure to herbicides can have lethal and sublethal effects on salmonids, aquatic invertebrates, aquatic vegetation, and target and non-target riparian vegetation (Spence *et al.* 1996). To minimize the potential of pollutants entering the waterway, construction equipment, materials and refueling would be staged at least 45 m from the MHHT.

Pile Installation. NOAA Fisheries expects that there will be short-term effects to coho salmon resulting from installation of the proposed piles and containment structure. Timing of the pile installation and removal will occur during the designated in-water work period. The short-term effects associated with pile installation will be: (1) Increases in sedimentation and turbidity; (2) loss of benthic habitats; and (3) displacement of coho salmon. Long-term spatial and temporal effects may include changes in hydraulics and channel geometry, loss of benthic resources, and disruption of salmonid migration patterns. Additionally, these effects may reduce light penetration and inhibit primary production in the lower estuary, depending on the intensity of the effect.

Contaminated Water. Contaminated water will be generated from the construction of the proposed scour protection. Additionally, untreated stormwater runoff from the barge will be directly imported into the Coos Estuary. Contaminated water, especially water with a high or low pH, has the potential to injure of kill fish. Contaminated water is defined as water with an increase in turbidity that is equal to or greater than 10% of background levels and/or water with a pH greater than or less than one point of background levels. Contaminated water from the barge use will be minimal in relation to the estuary and is not expected to have more than a negligible impact. Untreated stormwater runoff is not expected, in quantifiable terms, to adversely affect coho salmon.

Sedimentation. Potential sedimentation impacts to listed salmonids from the proposed actions include both direct and indirect effects. Potential direct effects include mortality from exposure to suspended sediments (turbidity) and contaminants resulting from construction. Potential indirect effects include behavioral changes resulting from elevated turbidity levels (Sigler *et al.* 1984, Berg and Whitman *et al.* 1982, Gregory 1988).

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The influences of suspended sediment and turbidity to fish reported in the literature range from beneficial to detrimental. Elevated total suspended solids (TSS) conditions have been reported to enhance cover conditions, reduce piscivorus fish/bird predation rates, and improve survival. Elevated TSS conditions have also been reported to cause physiological stress, reduce growth, and adversely affect survival. Of key importance in considering the detrimental effects of TSS on fish is the frequency and the duration of the exposure, not just the TSS concentration.

Behavioral avoidance of turbid waters by salmonids may be one of the most important effects of suspended sediments (DeVore *et al.* 1980, Scannell 1988). Salmonids have been observed to move laterally and downstream to avoid turbidity plumes (Sigler *et al.* 1984, Lloyd 1987, Scannell 1988). Juvenile salmonids tend to avoid streams that are chronically turbid, such as glacial streams or those disturbed by human activities, unless the fish need to traverse these streams along migration routes (Lloyd *et al.* 1987). In addition, a documented positive effect is providing refuge and cover from predation (Gregory and Levings 1998).

Fish that remain in turbid, or elevated TSS, waters experience a reduction in predation from piscivorus fish and birds (Gregory and Levings 1998). In systems with intense predation pressure, this provides a beneficial trade off (*e.g.*, enhanced survival) to the cost of potential physical effects (*e.g.*, reduced growth). Turbidity levels of about 23 Nephalometric Turbidity Units (NTU) have been found to minimize bird and fish predation risks (Gregory 1993). Exposure duration is a critical determinant of the occurrence and importance of physical or behavioral effects (Newcombe and MacDonald 1991). Salmonids have evolved in systems that periodically experience short-term pulses (days to weeks) of high suspended sediment loads, often associated with flood events, and are adapted to such high pulse exposures. Adult and larger juvenile salmonids may be little affected by the high concentrations of suspended sediments that occur during storm and snowmelt runoff episodes (Bjornn and Reiser 1991). However, research shows that chronic exposure can cause physiological stress responses that can increase maintenance energy and reduce feeding and growth (Redding *et al.* 1987, Lloyd 1987, Servizi and Martens 1991).

Turbidity, at moderate levels, has the potential to adversely affect primary and secondary productivity, and at high levels, has the potential to injure and kill adult and juvenile fish, and may also interfere with feeding (Spence *et al.* 1996). Newly emerged salmonid fry may be vulnerable to even moderate amounts of turbidity (Bjornn and Reiser 1991). Other behavioral effects on fish, such as gill flaring and feeding changes, have been observed in response to pulses of suspended sediment (Berg and Northcote 1985). Fine, redeposited sediments also have the potential to adversely affect primary and secondary productivity (Spence *et al.* 1996), and to reduce incubation success (Bell 1991) and cover for juvenile salmonids (Bjornn and Reiser 1991). Because the potential for turbidity should be localized and brief, and the potential for fish being present is minimal, the probability of direct mortality is negligible.

Construction-related effects necessary to complete the proposed action would be minimized by implementation of effective erosion and pollution control measures, and completing all work within the MHHT during the ODFW approved in-water work period.

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Stream Hydraulics. The placement of fill material below the MHHT would typically result in simplification of habitat and increased stream velocities under the structure. However, the small amount of fill proposed in relation to the size of the bay at the site of the bridge crossing is negligible, so hydraulics are not expected to be impacted.

Shading-Barge Use. Barges supporting heavy equipment may be used to install the proposed scour protection. Shading is not expected, in quantifiable terms, to lead to an increase in predation on coho salmon. Barge use is not expected to adversely affect coho salmon.

Scour Protection. The proposed scour protection will permanently eliminate a maximum of 78.1 m^2 of estuarine habitat for coho salmon. Loss of this habitat, while long-term, is not expected to adversely affect coho salmon migration patterns or rearing behaviors, or significantly impact the overall functions of deep pool habitat for salmonids, or significantly alter the ecology of the estuary. Changes in hydraulics from the new footing are not expected to be significant.

Work Area Isolation and Fish Removal. Construction of the scour protection will require work area isolation from the flowing water. Fish removal activities will be in accordance with NOAA Fisheries' fish handling guidelines.. Any ESA-listed fish removed from the isolated work area will experience high stress with the possibility of up to a 5% delayed mortality rate, depending on the rescue method.

Work area isolation can result in a loss of aquatic invertebrates due to dewatering or changes in water quality within the contained area. In addition, sediment-laden water created within isolated work areas could escape, resulting in impacts to the aquatic environment downstream of the project site.

The adverse effects of these activities on OC coho salmon and their riparian and aquatic habitats will be avoided or minimized by carrying out the construction methods and approaches described in the BA (pages 36-42).

1.5.2 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area is defined as Coos Bay, 500 m upstream and downstream of the Coos Bay Railroad Bridge.

Many actions occur within the Coos watershed, and within the action area itself. Non-federal activities within the action area are expected to increase with a projected 34% increase in human population over the next 25 years in Oregon (Oregon Department of Administrative Services 1999). Thus, NOAA Fisheries assumes that future private and state actions would continue within the action area, but at increasingly higher levels as population density increases. NOAA Fisheries assumes that future FHWA transportation projects in the Coos watershed would be

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reviewed through separate section 7 consultation processes and therefore are not considered cumulative effects.

1.6 Conclusion

NOAA Fisheries determined that, when the effects of the FHWA's proposed action (funding the Coos Bay Railroad Bridge Rehabilitation Project) are added to the environmental baseline and cumulative effects occurring in the action area, they are not likely to jeopardize the continued existence of OC coho salmon. These conclusions are based on the following considerations: (1) All in-water work and other construction activities within the MHHT elevation would take place according to the ODFW in-water work period to protect fish and wildlife resources; (2) work area isolation (including use of NOAA Fisheries' guidelines for proper fish handling) and other conservation measures will be in place to avoid or minimize adverse affects to water quality; (3) potential effects of from the loss of habitat as a result of the scour protection are insignificant in relation to the size of the estuary, and (4) disturbance to tidally-influenced mudflats resulting from the pile replacement will be minimized by completing the work from the existing railroad bridge. Therefore, the proposed action is not expected to prevent or delay the achievement of properly functioning habitat conditions in the action area.

1.7 Reinitiation of Consultation

As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of authorized incidental take is exceeded, any operations causing such take must cease pending reinitiation of consultation.

2. INCIDENTAL TAKE STATEMENT

Section 9 and rules promulgated under section 4(d) of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. "Harass" is defined as actions that create the likelihood of injuring listed species by annoying it to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. "Incidental take" is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is

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incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

2.1 Amount and Extent of the Take

NOAA Fisheries anticipates that the action covered by this Opinion is reasonably certain to result in incidental take of OC coho salmon because of detrimental effects from sediment pulses, increased pollutant levels, and the slight possibility of juvenile presence in the vicinity of the project site during in-water work. NOAA Fisheries expects the possibility exists for incidental take of up to 20 juvenile coho salmon during work area isolation and handling of fish. Take resulting from the effects of other project actions covered by this Opinion is largely unquantifiable in the short term, and not expected to be measurable in the long term. The extent of the take is limited to the action area.

2.2 Reasonable and Prudent Measures

The measures described below are non-discretionary. They must be implemented so that they become binding conditions in order for the exemption in section 7(a)(2) to apply. The FHWA has the continuing duty to regulate the activities covered in this incidental take statement. If the FHWA fails to require ODOT to adhere to the terms and conditions of the incidental take statement through enforceable terms added to the document authorizing this action, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

The Coos Bay Railroad Bridge Rehabilitation Project includes a set of "conservation measures" designed to minimize take of ESA-listed species. These are described on pages 36 to 42 of the October 25, 2002 BA. Specific measures for in-water and bank work, clearing and grubbing, bridge rehabilitation, erosion control, hazardous materials, and site-specific conservation and habitat remediation measures are also included.

NOAA Fisheries believes that the following reasonable and prudent measures, along with the conservation measures described in the BA, are necessary and appropriate to minimize the likelihood of take of ESA-listed fish resulting from implementation of this Opinion. These reasonable and prudent measures would also minimize adverse effects to designated critical habitat.

The FHWA shall:

1. Minimize the likelihood of incidental take by limiting the time of in-water work as necessary to avoid harming vulnerable salmon life stages, including migration and rearing.

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2. Minimize the likelihood of incidental take from in-water work by ensuring that the in-water work areas are isolated from flowing water.
3. Minimize the amount and extent of incidental take from construction activities in or near the waterway through development and implementation of effective erosion and pollution control measures throughout the area of disturbance and for the life of the project.
4. Minimize the amount and extent of take from loss of instream habitat by implementing measures to minimize impacts to riparian and instream habitat, or where impacts are unavoidable, to replace or restore lost riparian and instream functions.
5. Ensure effectiveness of implementation of the reasonable and prudent measures, all fish handling, and erosion control measures through monitoring and evaluation both during and following construction.

2.3 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above for each category of activity. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1 (in-water timing and minimizing the extent of in-water work), the FHWA shall ensure that:
   a. Construction impacts will be confined to the minimum area necessary to complete the project.
      i. Survey and mark the MHHT at the project site prior to commencement of work.
      ii. All work within the active channel that could potentially contribute sediment or toxicants to downstream fish-bearing waters will be completed within the ODFW in-water work period (October 1 to February 15).
   b. Extensions of the in-water work period, including those for work outside the wetted stream perimeter but below the MHHT, must have the concurrence of a NOAA Fisheries biologist.

2. To implement reasonable and prudent measure #2 (isolation of in-water work area and proper fish handling methods), the FHWA shall ensure that the work area is well isolated from the active flowing stream within a coffer dam (constructed of sandbags, sheet pilings, inflatable bags, *etc.*), or a similar structure, in order to minimize the potential for sediment entrainment. The FHWA shall also ensure that during fish capture and salvage NOAA Fisheries-approved fish handling techniques will be practiced.
   a. During in-water work within the MHHT, if the project involves either significant channel disturbance or use of equipment within the wetted channel, ensure that the work area is well isolated from the active flowing stream within a cofferdam (constructed of sand bags, sheet pilings, inflatable bags, *etc.*) or similar structure,

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to minimize the potential for sediment entrainment. After the coffer dam is in place, any fish trapped in the isolation pool will be removed by a permitted ODOT and/or ODFW biologist prior to de-watering, using NOAA Fisheries-approved methods.

i. Any water intake structure authorized under this Opinion must have a fish screen installed, operated and maintained in compliance with NOAA Fisheries' fish screen criteria.
   (1) Water pumped from the work isolation area will be discharged into an upland area providing over-ground flow before returning to the creek. Discharge will occur so that it does not cause erosion.
   (2) Discharges into potential fish spawning areas or areas with submerged vegetation are prohibited.

ii. Fish Salvage.
   (1) Prior to and intermittently during pumping, attempts will be made to salvage and release fish from the work isolation area as is prudent to minimize risk of injury. If the fish salvaging aspect of this project requires the use of seine equipment to capture fish, it must be accomplished as follows:
      (a) Seining will be conducted by or under the supervision of a fishery biologist experienced in such efforts and all staff working with the seining operation must have the necessary knowledge, skills, and abilities to ensure the safe handling of all ESA-listed fish.
      (b) ESA-listed fish must be handled with extreme care and kept in water to the maximum extent possible during seining and transfer procedures. The transfer of ESA-listed fish must be conducted using a sanctuary net that holds water during transfer, whenever necessary, to prevent the added stress of an out-of-water transfer.
      (c) Seined fish must be released as near as possible to capture sites.
      (d) The transfer of any ESA-listed fish from the applicant to third-parties other than NOAA Fisheries personnel requires written approval from NOAA Fisheries.
      (e) The applicant must obtain any other Federal, state, and local permits and authorizations necessary for the conduct of the seining activities.
      (f) The applicant must allow NOAA Fisheries, or its designated representative, to accompany field personnel during the seining activity, and allow such representative to inspect the applicant's seining records and facilities.
      (g) A description of any seine and release effort will be included in a post-project report, including the name and address of the supervisory fish biologist, methods used to

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isolate the work area and minimize disturbances to ESA-listed species, stream conditions prior to and following placement and removal of barriers, the means of fish removal, the number of fish removed by species, the condition of all fish released, and any incidence of observed injury or mortality.

iii. If fish salvaging requires the use of electrofishing equipment to capture fish, it must be accomplished as follows (NMFS 1998):

(1) Electrofishing may not occur in the vicinity of listed adults in spawning condition or in the vicinity of redds containing eggs.

(2) Equipment must be in good working condition. Operators must go through the manufacturer's preseason checks, adhere to all provisions, and record major maintenance work in a log.

(3) A crew leader having at least 100 hours of electrofishing experience in the field using similar equipment must train the crew. The crew leader's experience must be documented and available for confirmation; such documentation may be in the form of a logbook. The training must occur before an inexperienced crew begins any electrofishing, and must also be conducted in waters that do not contain listed fish.

(4) Measure conductivity and set voltage as follows:

Conductivity (umhos/cm)	Voltage
Less than 100	900 to 1100
100 to 300	500 to 800
Greater than 300	150 to 400

(5) Direct current (DC) must be used at all times.

(6) Each session must begin with pulse width and rate set to the minimum needed to capture fish. These settings should be gradually increased only to the point where fish are immobilized and captured. Start with pulse width of 500us and do not exceed 5 milliseconds. Pulse rate should start at 30Hz and work carefully upwards. In general, pulse rate should not exceed 40 Hz, to avoid unnecessary injury to the fish.

(7) The zone of potential fish injury is 0.5 m from the anode. Care should be taken in shallow waters, undercut banks, or where fish can be concentrated because in such areas the fish are more likely to come into close contact with the anode.

(8) The monitoring area must be worked systematically, moving the anode continuously in a herringbone pattern through the water. Do not electrofish one area for an extended period.

(9) The crew must carefully observe the condition of the sampled fish. Dark bands on the body and longer recovery times are signs of

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injury or handling stress. When such signs are noted, the settings for the electrofishing unit may need adjusting. Sampling must be terminated if injuries occur or abnormally long recovery times persist.

(10) Whenever possible, a block net must be placed below the area being sampled to capture stunned fish that may drift downstream.

(11) The electrofishing settings must be recorded in a logbook along with conductivity, temperature, and other variables affecting efficiency. These notes, together with observations on fish condition, will improve technique and form the basis for training new operators.

iv. Fish Passage. Passage shall be provided for both adult and juvenile forms of salmonid species throughout the construction period. The FHWA/ODOT will ensure passage of fish as per ORS 498.268 and ORS 509.605 (Oregon's fish passage guidance).

3. To implement reasonable and prudent measure #3 (erosion and pollution control), the FHWA will ensure that:

a. The Contractor will develop and implement a site-specific spill prevention, containment, and control plan (SPCCP), and is responsible for containment and removal of any toxicants released. The Contractor will be monitored by the ODOT Engineer to ensure compliance with this SPCCP.

b. Material removed during excavation will only be placed in locations that prevent their entry into streams, wetlands, or other water bodies.

c. During excavation, native streambed materials will be stockpiled above the MHHT.

d. The following erosion and pollution control materials are onsite:

i. A supply of erosion control materials (*e.g.*, silt fence and straw bales) is on site to respond to sediment emergencies. Sterile straw or hay bales will be used when available to prevent introduction of weeds.

ii. An oil-absorbing, floating boom is available on-site during all phases of construction.

iii. All temporary erosion controls (*e.g.*, straw bales, silt fences) are in place and appropriately installed downslope of project activities within the riparian area. Effective erosion control measures will be in place at all times during the contract, and will remain and be maintained until such time that permanent erosion control measures are effective.

e. All exposed or disturbed areas will be stabilized to prevent erosion.

i. Areas of bare soil within 45 m of waterways, wetlands or other sensitive areas will be stabilized by native seeding[1], mulching, and placement of

[1] By Executive Order 13112 (February 3, 1999), Federal agencies are not authorized to permit, fund or carry out actions that are likely to cause, or promote, the introduction or spread of invasive species. Therefore, only native vegetation that is indigenous to the project vicinity, or the region of the state where the project is located, shall be used.

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erosion control blankets and mats, if applicable, within 14 days of exposure.

ii. All other areas will be stabilized quickly as reasonable, but within 14 days of exposure.

iii. Seeding outside of the growing season will not be considered adequate nor permanent stabilization.

f. All erosion control devices will be inspected during construction to ensure that they are working adequately.

i. Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, and monthly on inactive sites.

ii. If inspection shows that the erosion controls are ineffective, work crews will be mobilized immediately, during working and off-hours, to make repairs, install replacements, or install additional controls as necessary.

g. Erosion control measures will be judged ineffective when turbidity plumes are evident in waters occupied by listed salmonids during any part of the year.

h. If soil erosion and sediment resulting from construction activities is not effectively controlled, the engineer will limit the amount of disturbed area to that which can be adequately controlled.

i. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground 12 cm. Catch basins will be maintained so that no more than 15 cm of sediment depth accumulates within traps or sumps.

j. Sediment-laden water created by construction activity will be filtered before it leaves the right-of-way or enters a stream or other water body.

k. Any hazardous materials spill will be reported to NOAA Fisheries.

i. In the event of a hazardous materials or petrochemical spill, immediate action shall be taken to recovery toxic materials from further impacting aquatic or riparian resources.

ii. In the event of a hazardous materials or petrochemical spill, a detailed description of the quantity, type, source, reason for the spill, and actions taken to recover materials will be documented. The documentation should include photographs.

l. The bridge, barge, containment structure, and other work platforms will have containment measures in place that minimize any potential of petrochemicals or hazardous materials from entering the river.

i. The bridge, barge, containment structure, and other work platforms shall be constructed to self-contain petrochemicals and hazardous materials.

ii. The bridge, barge, containment structure, and other work platforms will be maintained to preserve containment integrity throughout the term of the project.

m. Refueling and hazardous materials.

i. All staging and refueling shall occur at least 45 m from the MHHT, except as stated below.

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(1) Fuel storage locations within 45 m of the MHHT shall have containment measures in place that meet or exceed 100% containment.
(2) No auxiliary fuel tanks are stored within 45 m of the MHHT.

ii. Hazardous materials stored within 45 m of the MHHT shall have containment measures in place that meet or exceed 100% containment.

iii. The barges used for construction operations implement the following condition:
(1) No hazardous materials will be stored on the barge or other work platforms.
(2) Barge use is limited to construction operations associated with the scour protection activities.
(3) The refueling plans for barge operations are submitted to NOAA Fisheries for review and approval prior to any on-the-ground construction operations.

4. To implement reasonable and prudent measure #4 (minimizing loss of instream habitat), FHWA will ensure that:
a. During excavation, native streambed material will be stockpiled out of the two-year flood plain.
b. During project design ODOT will work to minimize the amount of riprap used. Where riprap is necessary, only clean, non-erodible, upland angular rock of sufficient size for long-term armoring will be employed. Riprap will not be "end-dumped" within the wetted channel.
c. Alteration or disturbance of stream banks and existing riparian vegetation will be minimized. Where bank work is necessary, bank protection material shall be placed to maintain normal waterway configuration whenever possible.
d. Temporary access roads will be designed as follows:
i. Temporary access roads will not cross streams.
ii. Alteration of existing native vegetation will be minimized in the construction, use, and maintenance of temporary access roads.
iii. Existing roadways or travel paths will be used whenever reasonable.
iv. Vehicles and machinery must cross riparian areas at right angles to the main channel wherever reasonable.
v. Temporary roads within 45 m of streams will avoid, minimize and mitigate soil disturbance and compaction by clearing vegetation to ground level and placing clean gravel over geotextile fabric.
vi. No treated wood may be used within or above the MHHT.
e. All project operations, except efforts to minimize storm or high flow erosion, will cease under high flow conditions that may result in inundation of the immediate work area.

5. To implement reasonable and prudent measure #7 (monitoring and reporting), the FHWA shall ensure that:

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a. Within 90 days of completing the project, the FHWA/ODOT will submit a monitoring report to NOAA Fisheries describing success in meeting their permit conditions. This report will consist of the following information:

i. Project identification.
   (1) Project name.
   (2) Starting and ending dates of work completed for this project.
   (3) The FHWA contact person.
   (4) Monitoring reports shall be submitted to:
   NOAA Fisheries
   Oregon Habitat Branch, Habitat Conservation Division
   Attn: 2002/01274
   525 NE Oregon Street, Suite 500
   Portland, OR 97232-2778

ii. Isolation of in-water work area. A report of any fish salvage activity including:
   (1) The name and address of the supervisory fish biologist.
   (2) Methods used to isolate the work area and minimize disturbances to ESA-listed species.
   (3) Stream conditions before and following placement and removal of barriers.
   (4) The means of fish removal.
   (5) The number of fish removed by species.
   (6) The location and condition of all fish released.
   (7) Any incidence of observed injury or mortality.

iii. Pollution and erosion control.
   (1) A summary of pollution and erosion control inspection reports, including descriptions of any failures experienced with erosion control measures, efforts made to correct them and a description of any accidental spills of hazardous materials.

iv. A narrative assessment of the project's effects on natural stream function.

v. Photographic documentation of environmental conditions at the project site and compensatory mitigation site(s) (if any) before, during and after project completion.
   (1) Photographs will include general project location views and close-ups showing details of the project area and project, including pre- and post-construction.
   (2) Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.
   (3) Relevant habitat conditions including characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project.

vi. Post-construction impacts.

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(1) The FHWA/ODOT shall assess the project's impacts, temporary and permanent, and compare them to the impacts assessed in the 2002 BA. This written assessment will be provided to NOAA Fisheries for review. If the actual impacts exceed those outlined in the BA then the FHWA/ODOT will provide additional mitigation to offset those impacts.

3. MAGNUSON-STEVENS ACT

3.1 Background

On October 30, NOAA Fisheries received a letter from FHWA requesting essential fish habitat (EFH) consultation pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) for the subject action. The objective of the EFH consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action. This consultation is undertaken pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and its implementing regulations (50 CFR 600).

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of EFH: "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50 CFR 600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

1. Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.

2. NOAA Fisheries shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH.

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3. Federal agencies shall within 30 days after receiving conservation recommendations from NOAA Fisheries provide a detailed response in writing to NOAA Fisheries regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the Federal agency shall explain its reasons for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and up slope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NOAA Fisheries is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for federally-managed fisheries within the waters of Washington, Oregon, and California. The designated EFH for groundfish and coastal pelagic species encompasses all waters from the mean high water line, and upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon and California, seaward to the boundary of the U.S. exclusive economic zone (370.4 km)(PFMC 1998a, 1998b). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and long-standing, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years) (PFMC 1999). In estuarine and marine areas, designated salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent of the exclusive economic zone (370.4 km) offshore of Washington, Oregon, and California, north of Point Conception to the Canadian border.

Detailed descriptions and identifications of EFH for the groundfish species are found in the Final Environmental Assessment/Regulatory Impact Review for Amendment 11 to *The Pacific Coast Groundfish Management Plan* (PFMC 1998a) and the NMFS *Essential Fish Habitat for West Coast Groundfish Appendix* (Casillas *et al.* 1998). Detailed descriptions and identifications of EFH for the coastal pelagic species are found in Amendment 8 to the *Coastal Pelagic Species Fishery Management Plan* (PFMC 1998b). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of the potential adverse effects to these species' EFH from the proposed action is based on this information.

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3.4 Proposed Action

The proposed actions are detailed in section 1.2. The action area is defined as Coos Bay, 500 m upstream and downstream of the Coos Bay Railroad Bridge. The Coos Bay area has been designated as EFH for various life stages of chinook salmon, coho salmon, coastal pelagic, and groundfish species (Table 1).

3.5 Effects of Proposed Action

The proposed action is reasonably certain to cause short-term degradation of EFH due to increases in total suspended solids, suspension and redistribution of contaminated sediments, and temporary degradation of benthic habitat for macro invertebrates.

3.6 Conclusion

NOAA Fisheries believes that the proposed action will adversely affect EFH for Pacific salmon, coastal pelagic, and groundfish species.

3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the MSA, NOAA Fisheries is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. The conservation recommendations outlined above in the BA (pages 36-42) and all of the reasonable and prudent measures and the terms and conditions contained in sections 2.2 and 2.3 are applicable to Pacific salmon and ground fishes. Therefore, NOAA Fisheries incorporates each of those measures here as EFH conservation recommendations.

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Table 1. Species with designated EFH found in waters of the State of Oregon.

Ground Fish Species	Blue rockfish (*S. mystinus*)	Rougheye rockfish (*S. aleutianus*)	Flathead sole (*Hippoglossoides elassodon*)
Leopard shark (*Triakis semifasciata*)	Bocaccio (*S. paucispinis*)	Sharpchin rockfish (*S. zacentrus*)	Pacific sanddab (*Citharichthys sordidus*)
Soupfin shark (*Galeorhinus zyopterus*)	Brown rockfish (*S. auriculatus*)	Shortbelly rockfish (*S. jordani*)	Petrale sole (*Eopsetta jordani*)
Spiny dogfish (*Squalus acanthias*)	Canary rockfish (*S. pinniger*)	Shortraker rockfish (*S. borealis*)	Rex sole (*Glyptocephalus zachirus*)
Big skate (*Raja binoculata*)	Chilipepper (*S. goodei*)	Silvergray rockfish (*S. brevispinus*)	Rock sole (*Lepidopsetta bilineata*)
California skate (*R. inornata*)	China rockfish (*S. nebulosus*)	Speckled rockfish (*S. ovalis*)	Sand sole (*Psettichthys melanostictus*)
Longnose skate (*R. rhina*)	Copper rockfish (*S. caurinus*)	Splitnose rockfish (*S. diploproa*)	Starry flounder (*Platyichthys stellatus*)
Ratfish (*Hydrolagus colliei*)	Darkblotched rockfish (*S. crameri*)	Stripetail rockfish (*S. saxicola*)	
Pacific rattail (*Coryphaenoides acrolepsis*)	Grass rockfish (*S. rastrelliger*)	Tiger rockfish (*S. nigrocinctus*)	**Coastal Pelagic Species**
Lingcod (*Ophiodon elongatus*)	Greenspotted rockfish (*S. chlorostictus*)	Vermillion rockfish (*S. miniatus*)	Northern anchovy (*Engraulis mordax*)
Cabezon (*Scorpaenichthys marmoratus*)	Greenstriped rockfish (*S. elongatus*)	Widow Rockfish (*S. entomelas*)	Pacific sardine (*Sardinops sagax*)
Kelp greenling (*Hexagrammos decagrammus*)	Longspine thornyhead (*Sebastolobus altivelis*)	Yelloweye rockfish (*S. ruberrimus*)	Pacific mackerel (*Scomber japonicus*)
Pacific cod (*Gadus macrocephalus*)	Shortspine thornyhead (*Sebastolobus alascanus*)	Yellowmouth rockfish (*S. reedi*)	Jack mackerel (*Trachurus symmetricus*)
Pacific whiting (Hake) (*Merluccius productus*)	Pacific Ocean perch (*S. alutus*)	Yellowtail rockfish (*S. flavidus*)	Market squid (*Loligo opalescens*)
Sablefish (*Anoplopoma fimbria*)	Quillback rockfish (*S. maliger*)	Arrowtooth flounder (*Atheresthes stomias*)	
Aurora rockfish (*Sebastes aurora*)	Redbanded rockfish (*S. babcocki*)	Butter sole (*Isopsetta isolepsis*)	**Salmon**
Bank Rockfish (*S. rufus*)	Redstripe rockfish (*S. proriger*)	Curlfin sole (*Pleuronichthys decurrens*)	Coho salmon (*O. kisutch*)
Black rockfish (*S. melanops*)	Rosethorn rockfish (*S. helvomaculatus*)	Dover sole (*Microstomus pacificus*)	Chinook salmon (*O. tshawytscha*)
Blackgill rockfish (*S. melanostomus*)	Rosy rockfish (*S. rosaceus*)	English sole (*Parophrys vetulus*)	

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3.8 Statutory Response Requirement

Please note that the MSA (section 305(b)) and 50 CFR 600.920(j) requires the Federal agency to provide a written response to NOAA Fisheries after receiving EFH conservation recommendations within 30 days of its receipt of this letter. This response must include a description of measures proposed by the agency to avoid, minimize, mitigate or offset the adverse impacts of the activity on EFH. If the response is inconsistent with a conservation recommendation from NOAA Fisheries, the agency must explain its reasons for not following the recommendation.

3.9 Supplemental Consultation

The FHWA must reinitiate EFH consultation with NOAA Fisheries if either action is substantially revised or new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920).

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4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.

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Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

January 22, 2002

D. R. McCrimmon, Jr.
Commander, U. S. Coast Guard
Thirteenth Coast Guard District
Aids to Navigation and
Waterways Management Branch
915 Second Avenue
Seattle, WA 98174-1067

RECD JAN 24 2003

Dear Commander McCrimmon,

The Department of Environmental Quality (DEQ) has reviewed U. S. Coast Guard Public Notice 02-N-03 describing proposed repairs to a bridge over navigable waters in Coos Bay, Oregon under their jurisdiction. Other work, not subject to Coast Guard permit authority, is also planned. The entire project, including the other work, was described in Army Corps of Engineers (USACE, Corps) Permit Application #2002-00934, and Division of State Lands (DSL) Permit # 26298-RF. The Oregon International Port of Coos Bay proposes to repair and restore structural integrity to the Coos Bay Railroad Bridge between North Bend and Jordan Point at Channel Mile 9.0 of Coos Bay in North Bend, Coos County Oregon (Sections 3 and 10, T25S/R13W).

The proposed Pier 8 reconstruction will include: removal and reuse of existing large riprap surrounding Pier 8; placement of sheet pile to surround the pier; placement of concrete inside the sheet pile; and replacement and addition of riprap around the new pier base. The Port also proposes to install safety fenders at the channel faces of Piers 8 and 10. Additionally five-timber bents numbered 20, 22, 24, and 25 are structurally deficient and will be replaced with 4-pile steel bents with steel caps and bracing.

On December 20, 2002 the National Marine Fisheries Service (NOAA Fisheries) completed formal consultation on the proposed project pursuant to the Endangered Species Act (ESA). The biological opinion concluded that the proposed action is not likely to jeopardize the continued existence of listed species occurring in the area, but will adversely effect essential fish habitat (EFH) for Pacific salmon, coastal pelagic, and groundfish species. As required by section 7 of the ESA, NOAA Fisheries include conservation measures and reasonable and prudent measures with nondiscretionary terms and conditions that they believe are necessary to minimize the potential for incidental take associated with this action.

This reach of Coos Bay is classified as Water Quality Limited under Section 303 (d) of the Federal Clean Water Act for the following parameter: Bacteria (Year Around).

Coos Bay supports salmonid migration and rearing.

Based on information provided by the applicant, DEQ does not anticipate violations of State Water Quality Standards, including Oregon Administrative Rule (OAR) 340-041-0026(1)(a), Antidegradation Policy for Surface Waters, provided the conditions which follow are incorporated into the permit.

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1) **Fish protection/ODFW timing:** All in-water work shall occur within the Oregon Department of Fish and Wildlife's (ODFW) preferred time window, as specified in: *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources, June 2000.* Exceptions to these guidelines must be reviewed and approved by DSL, ODFW, and NOAA Fisheries.

2) **Aquatic life movements:** No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species that normally migrate through the area. Unobstructed fish passage must be provided at all times during any authorized activity.

3) **Turbidity/erosion controls:** The authorized work shall not cause turbidity in Coos Bay to exceed 10% over natural background turbidity 100 feet downstream of the turbidity causing activity. For projects proposed in areas with no discernible gradient break (gradient of 2% or less), monitoring shall take place at 4 hour intervals and the turbidity standard may be exceeded for a maximum of one monitoring interval per 24-hour work period provided all practicable control measures have been implemented. This turbidity standard exceedance interval applies only to coastal lowlands, floodplains, and valley bottoms.

For projects in all other areas, the turbidity standard can be exceeded for a maximum of 2 hours (limited duration) provided all practicable erosion control measures have been implemented.

Turbidity shall be monitored during active in-water work periods. Monitoring points shall be an undisturbed site (representative background) 100 feet upstream from turbidity causing activity (i.e., fill or discharge point), 100 feet downstream from the fill point, and at the point of fill. A turbidimeter is recommended, however, visual gauging is acceptable. Turbidity that is visible over background is considered an exceedance of the standard.

Practicable erosion control measures which shall be implemented, as appropriate, include but are not limited to the following:

a) Place fill in the water using methods that avoid disturbance to the maximum practicable extent (e.g. placing fill with a machine rather than end-dumping from a truck);
b) Prevent all construction materials and debris from entering waterway;
c) Use filter bags, sediment fences, sediment traps or catch basins, silt curtains, leave strips or berms, Jersey barriers, or other measures sufficient to prevent movement of soil;
d) Use impervious materials to cover stockpiles when unattended or during rain event;
e) Erosion control measures shall be inspected and maintained daily, to ensure their continued effectiveness;
f) No heavy machinery in a wetland or other waterway;
g) Use a gravel staging area and construction access;
h) Fence off planted areas to protect from disturbance and/or erosion; and

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i) Flag or fence off wetlands adjacent to the construction area.

Turbidity shall be measured (or visually assessed) and recorded at the designated monitoring interval prescribed above during periods of active construction. The designated person attending the monitoring equipment shall be responsible for notifying the project foreman of any exceedance of the turbidity standard. If a 10% exceedance of the background level occurs at 100 feet below the project site, modify the activity causing the problem and continue to monitor at the proper interval. If exceedances occur with two consecutive measurements stop the activity causing the turbidity until the problem is resolved.

4) **Deleterious waste materials:**

a) Concrete will be placed below mean lower low water (MLLW) to stabilize the pier foundation. The deleterious effects of uncured cement on aquatic organisms are well documented. Watertight forms or isolation of the work area are commonly used to avoid contamination of waters by uncured cement. One of these methods, or a similarly effective method, must be employed for this project to avoid contact of uncured concrete with waters of the state;

b) This project proposes to remove an existing protective coating (paint) from portions of the bridge structure. The applicant must provide a system to contain, recover, and properly dispose of all waste from the removal operations. No spent abrasive, paint chips or dust, new paint, solvent, petroleum product, or any other deleterious material generated by the project shall be allowed to contact a water of the state;

c) Use only clean fill free of waste and polluted substances to maintain water quality;

d) Seasoned wood, only to contact waters of the state. Wood treated with preservatives must be completely dry and free of surface residue before being placed in the waterway; and,

e) Machinery refueling and maintenance is to occur off site or in a confined designated area away from all waterways. Best Management Practices (BMP's) shall be employed in order to prevent discharges of spills to surface or ground waters.

5) Spills into State waters, or onto land with a potential to enter State waters, shall be reported by contacting OERS directly at 1-800-452-0311.

6) DEQ reserves the option to modify, amend or revoke this Water Quality Certification (WQC), as necessary, in the event new information indicates that the project activities are having a significant adverse impact on State water quality or critical fish resources.

7) A copy of this WQC letter shall be kept on the job site and readily available for reference by the Corps of Engineers, DEQ personnel, the contractor, and other appropriate state and local government inspectors.

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8) This WQC is invalid if the project is operated in a manner not consistent with the project description contained in the permit application.

9) DEQ is to have site access upon request.

10) If you are dissatisfied with the conditions contained in this certification, you may request a hearing before the Environmental Quality Commission. Such request must be made in writing to the Director of DEQ within 20 days of the mailing of this certification. You may also request written information about alternative dispute resolution services under Oregon Revised Statute 183.502, including mediation or any other collaborative problem-solving process.

The DEQ hereby certifies that this project complies with the Clean Water Act and state water quality standards, if the above conditions are made a part of the Federal permit.

The applicant shall notify the DEQ of any change in the ownership, scope, or construction methods of the project subsequent to certification. If you have any questions, please contact Tom Melville, (503) 229-5845.

Sincerely,

Michael T. Llewelyn, Administrator
Water Quality Division

T:TM.Certurba.02-N-03

cc: Applicant
Kelly Urbanek, USACE
Bob Lobdell, DSL
John Blanchard, DEQ

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Oregon
Theodore R. Kulongoski, Governor

Ocean and Coastal Management Program
Department of Land Conservation and Development
635 Capitol Street, Suite 150
Salem, Oregon 97301-2540
Phone (503) 373-0050
FAX (503) 378-6033
www.lcd state.or us/coastal/html

February 4, 2003

D R. McCrimmon, Jr.
Commander, U.S. Coast Guard
Thirteenth Coast Guard District
Aids to Navigation and Waterways Management Branch
915 Second Avenue
Seattle , WA 98174-1067

Dear Commander McCrimmon:

Permit #:	**Coast Guard 02-N-03** **USCOE 2002-00934**	**Type:**	**Coast Guard bridge project** **§ 10 U.S. Rivers & Harbors Act** **§ 404 U.S. Clean Water Act**
Applicant:	**International Port of Coos Bay** **Coos Bay, OR 97420**		
Location:	**Coos Bay Channel Mile 9, North Bend, Coos County** **Sections 3 and 10 of Township 25 South, Range 13 West**		
Description:	**Reinforcement of Pier 8 and replacement of up to 14 failing timber pilings with steel pilings**		

The Department of Land Conservation and Development (DLCD) has reviewed the above referenced permit for consistency with the Oregon Coastal Management Program. To be consistent with the Oregon Coastal Management Program (OCMP), the proposed project must be consistent with: ❶ the statewide planning goals, ❷ the applicable acknowledged city or county comprehensive plans (those plans approved by the Land Conservation & Development Commission as being in compliance with the statewide planning goals), ❸ selected state authorities (e.g. those governing removal-fill, state submerged and submersible lands, water quality, fish & wildlife protections)

Findings

• The statewide planning goals do not apply directly in this case. The goals are implemented through the applicable local comprehensive plan and ordinances.

• Coos County has an acknowledged comprehensive plan. The County has reviewed the proposed activities and deemed the project consistent with the local comprehensive plan.

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• State removal-fill permit (26298-RF) has been drafted by the Oregon Division of State Lands (DSL) and issuance is imminent.

• The Oregon Department of Environmental Quality issued a water quality certification on January 22, 2002.

Pursuant to the applicant's compliance with the conditions outlined in the state water quality certification and DSL's removal-fill permit, including adherence to the state's in-water work period of October 1 through February 15, DLCD concurs with the applicant's certification that the proposal is consistent with the Oregon Coastal Management Program. The applicant is reminded that work may not begin before receipt of the state removal-fill permit.

If you have any questions or comments regarding this coastal zone management consistency finding, the consistency review process, or the Oregon Coastal Management Program, please contact me at 503-373-0050 Ext. 253 or by e-mail at *kammy.kern-korot@state.or.us*.

Sincerely,

Kamela M. Kern-Korot
Coastal Specialist

cc: Allan Rumbaugh, Port of Coos Bay (applicant)
Ed Blodgett, Jacobs Civil Inc.
Coos County Planning Office
Bob Lobdell, DSL
Kelly Urbanek, USCOE

I:\Coast\PERMITS\Kammy's permit letters and PNs\Concurrence\02-N-03, 2002-934 Coos Bay RR Bridge Repair Concurrence.doc

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

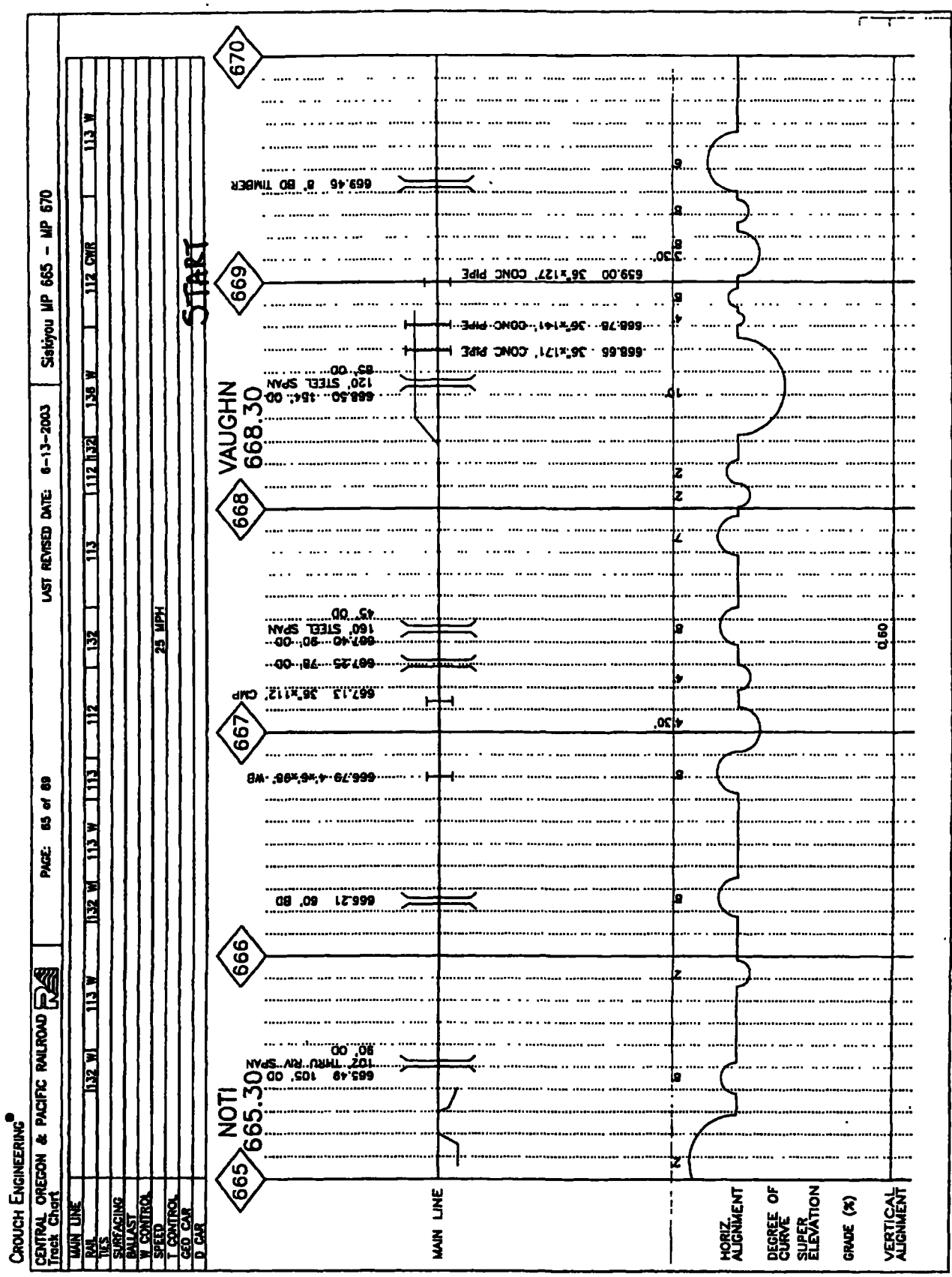
OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 15

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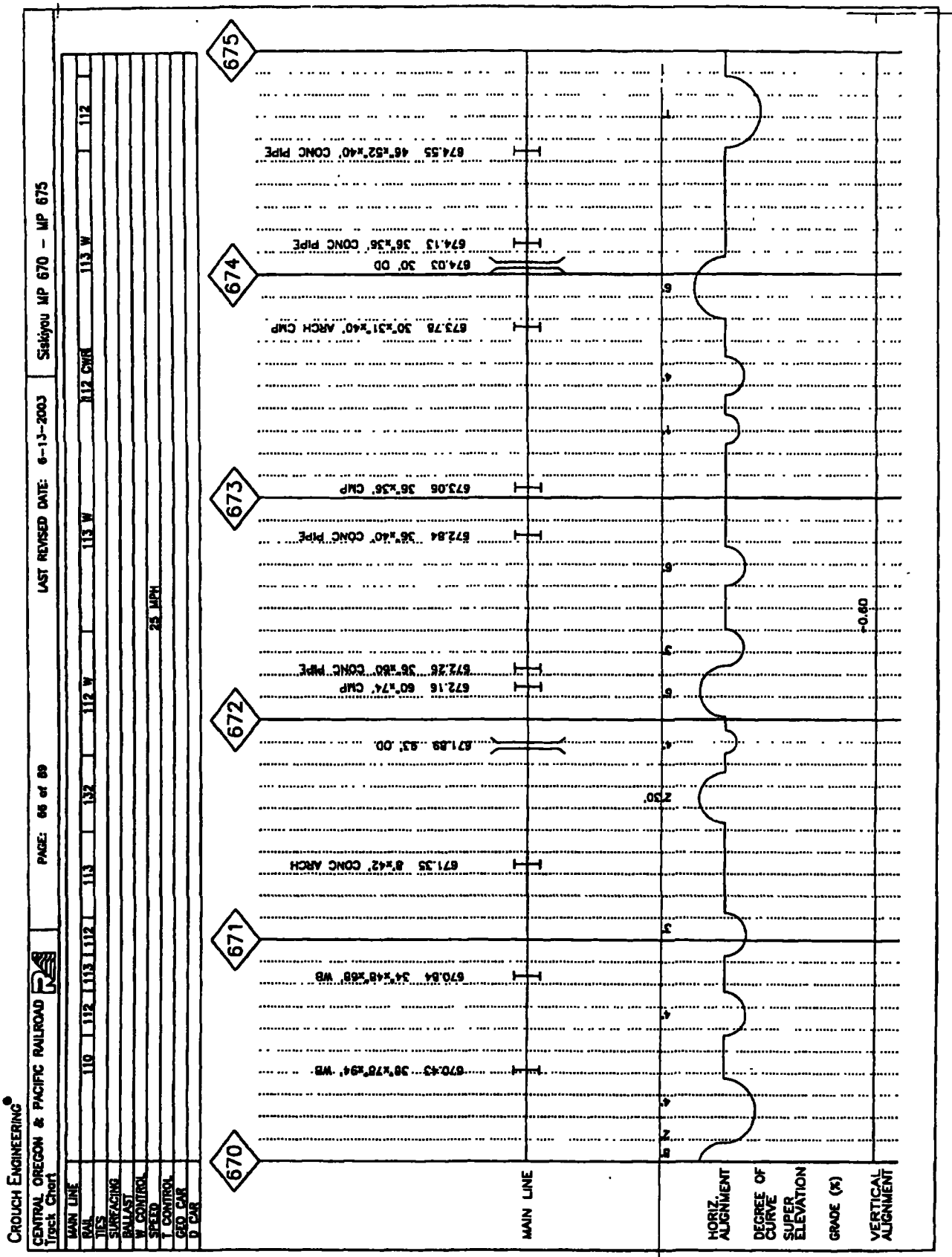
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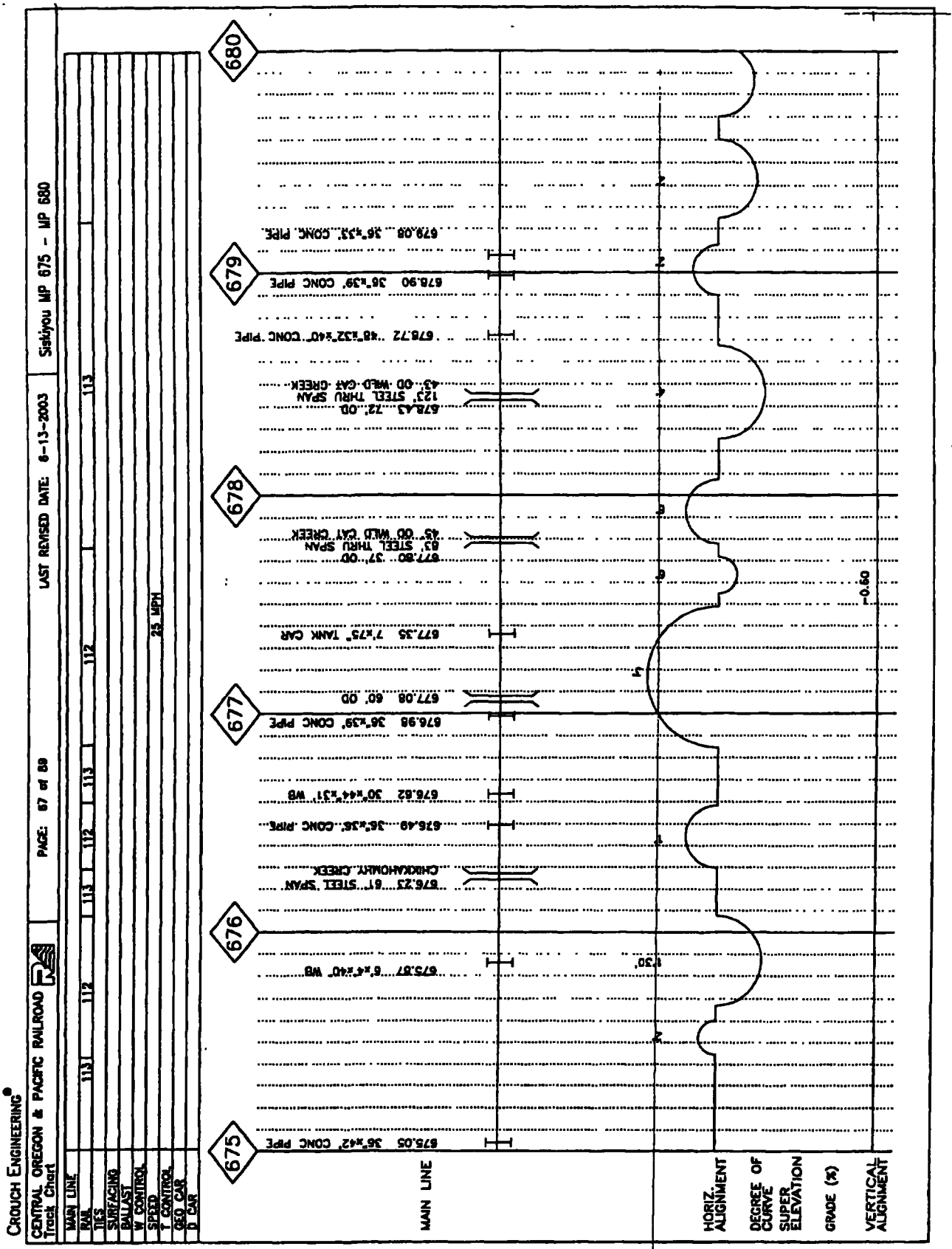
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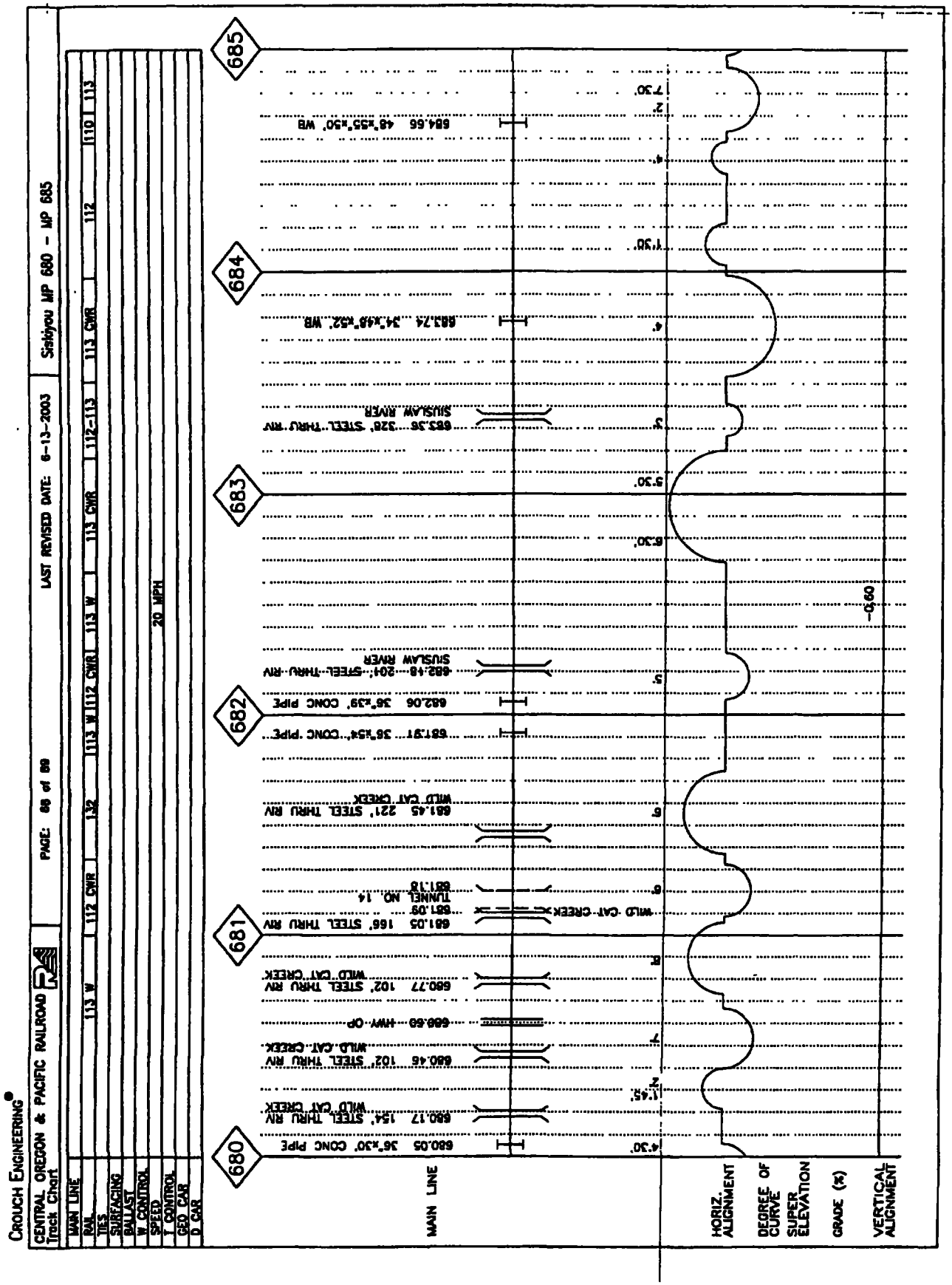


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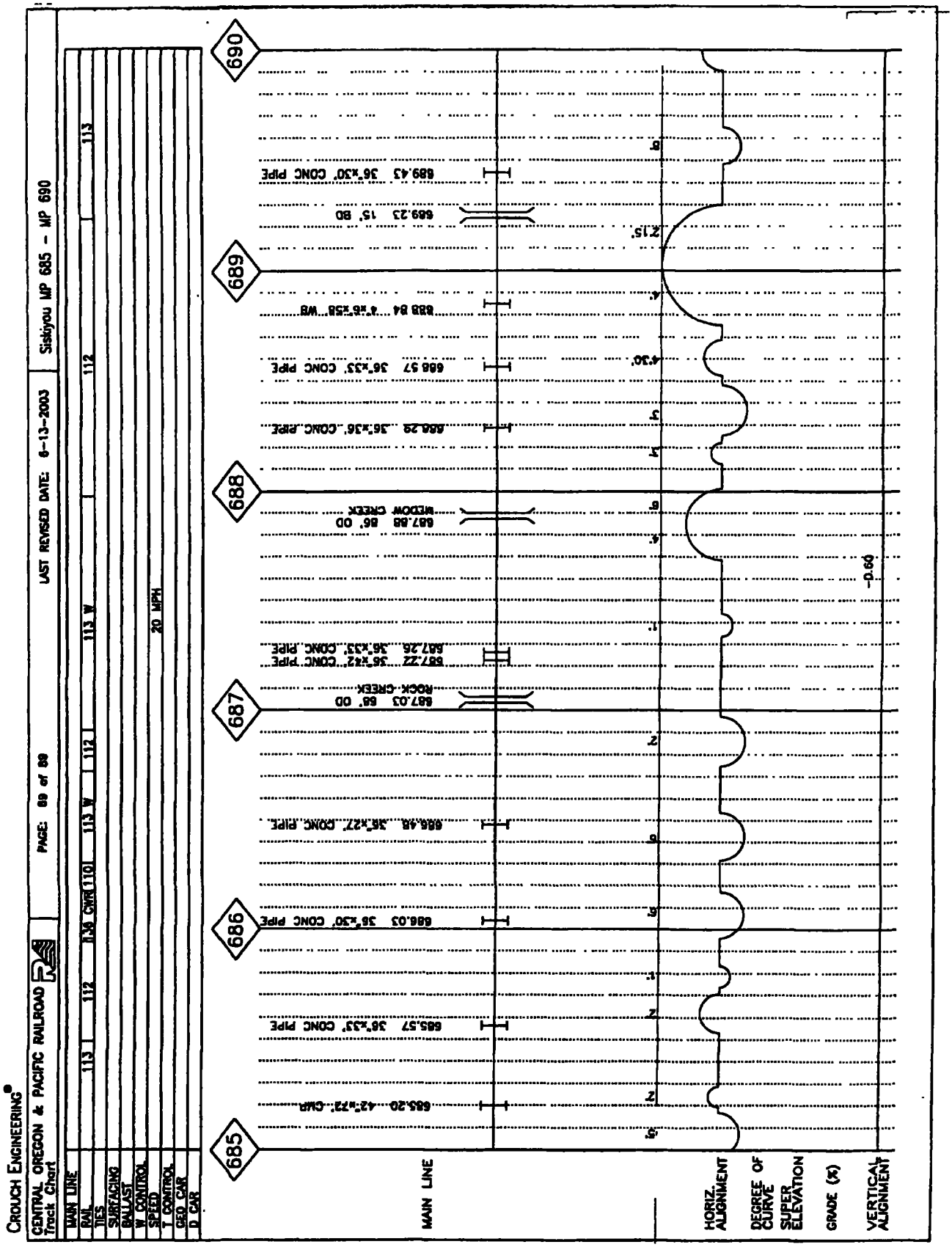
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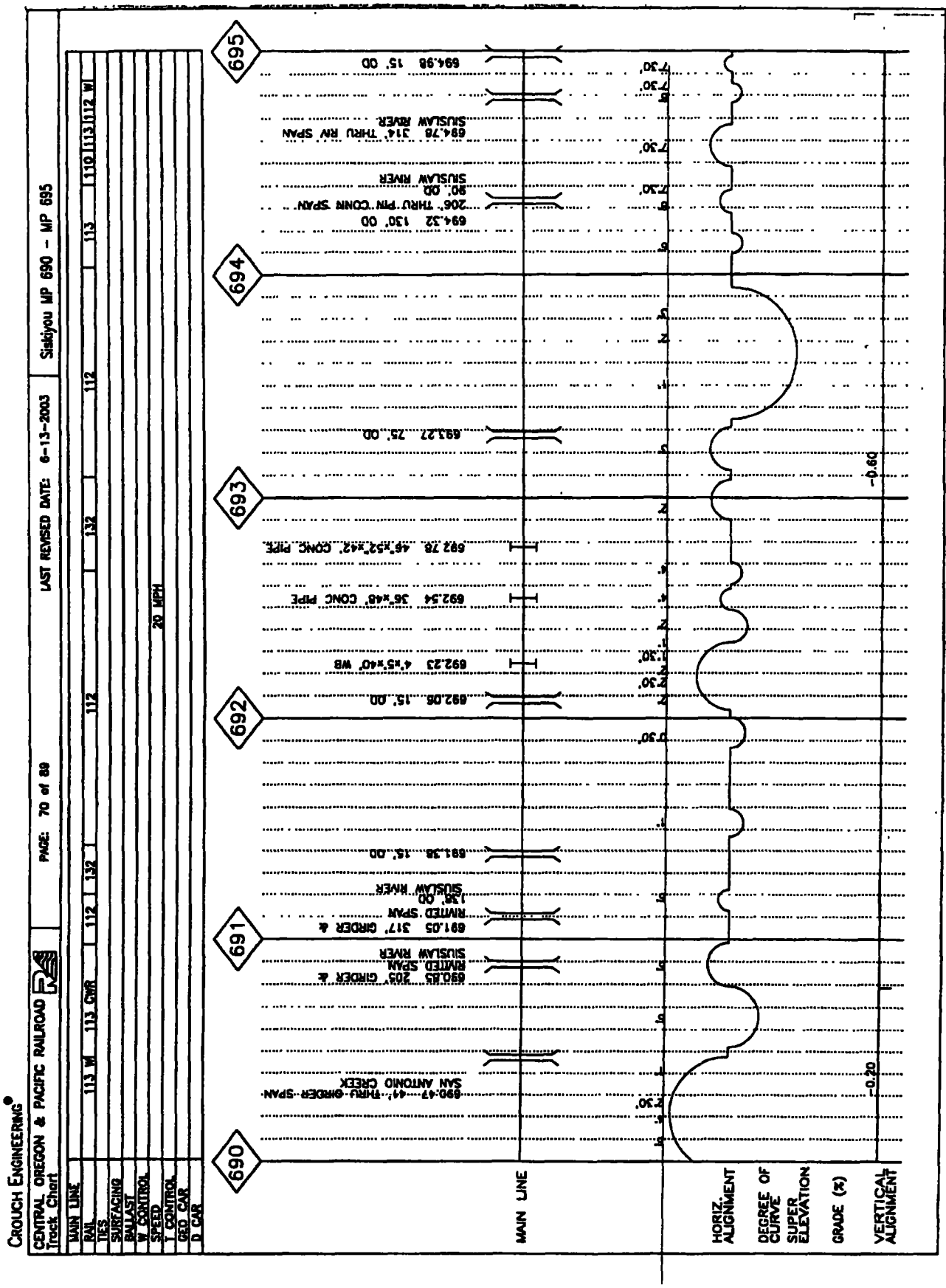
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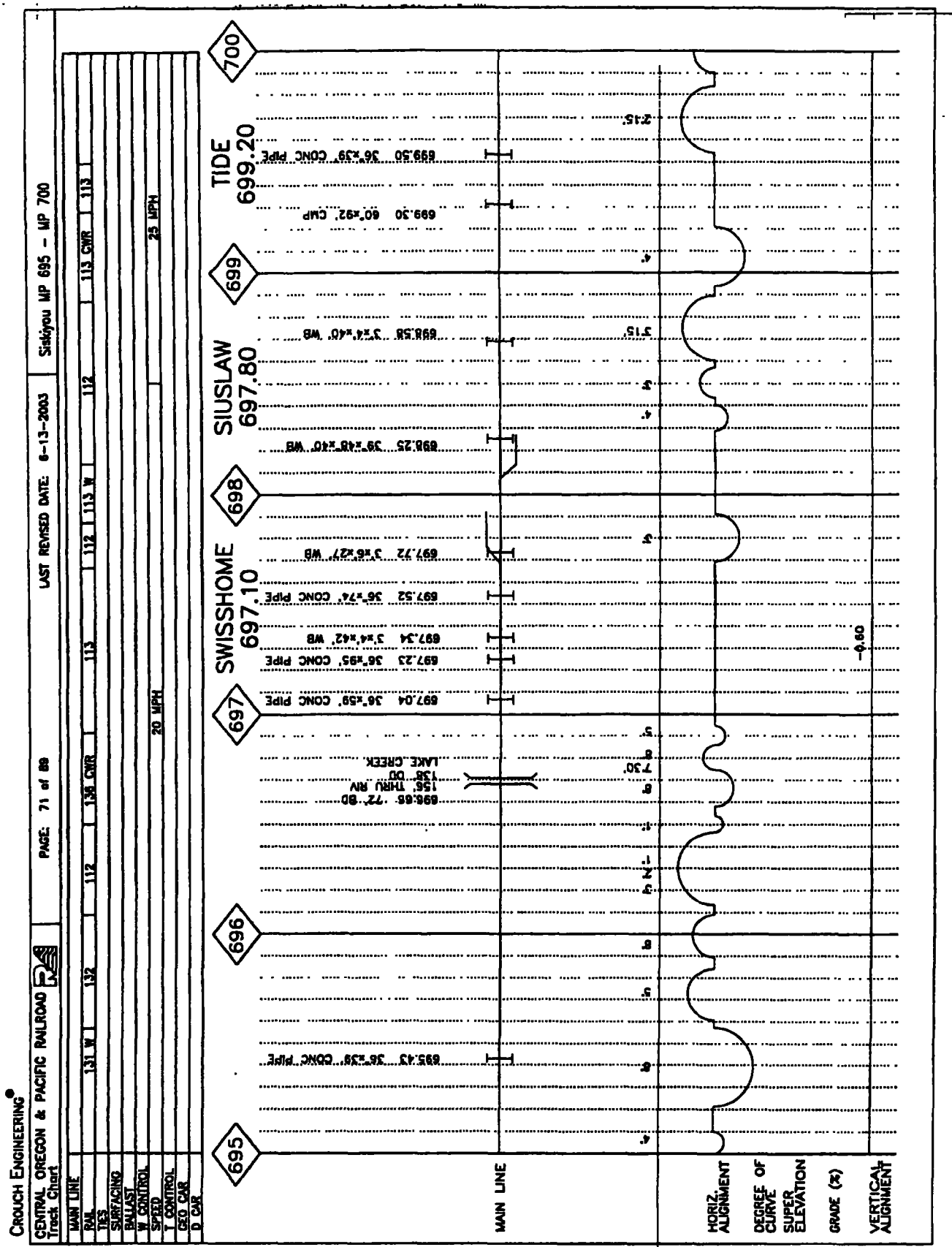
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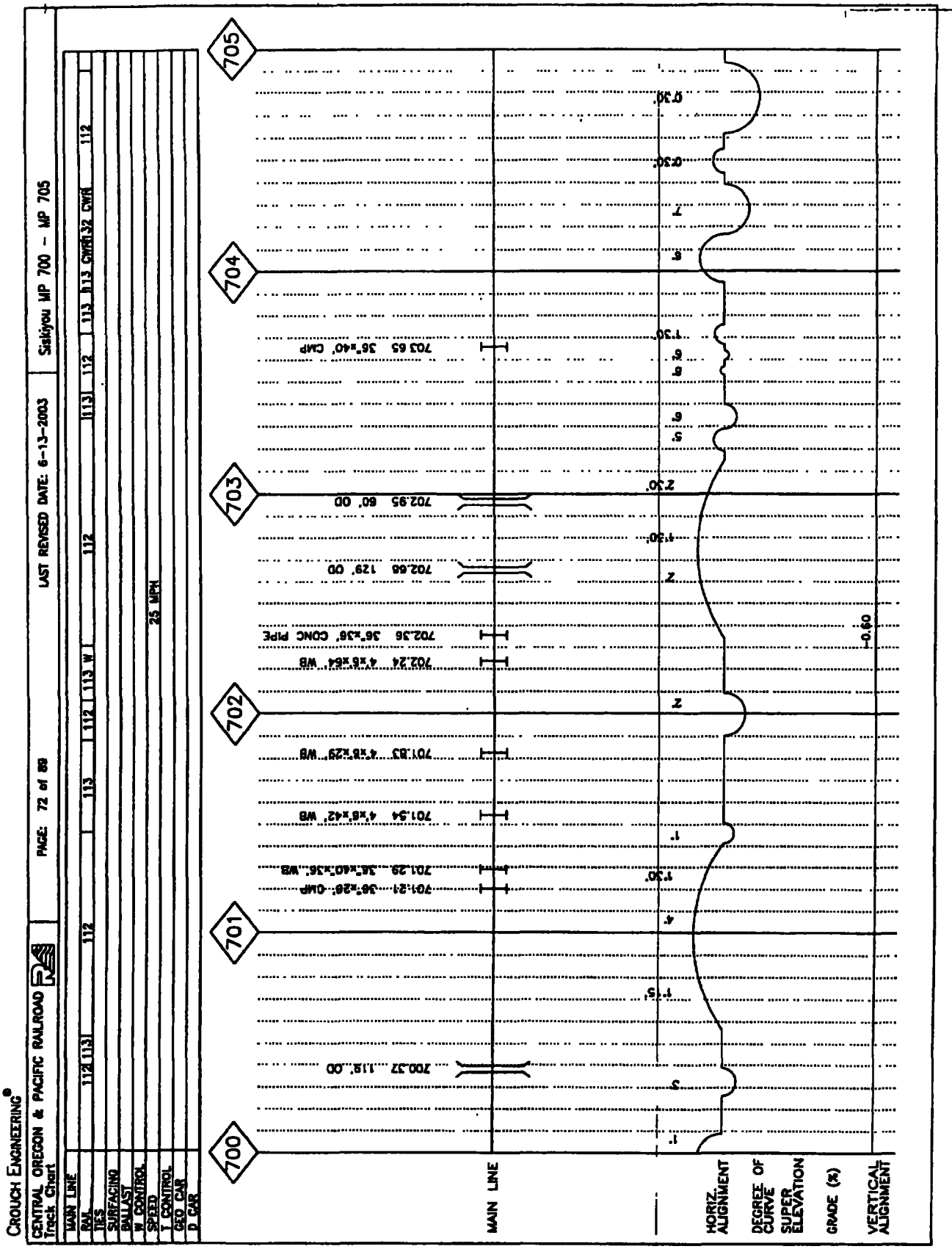
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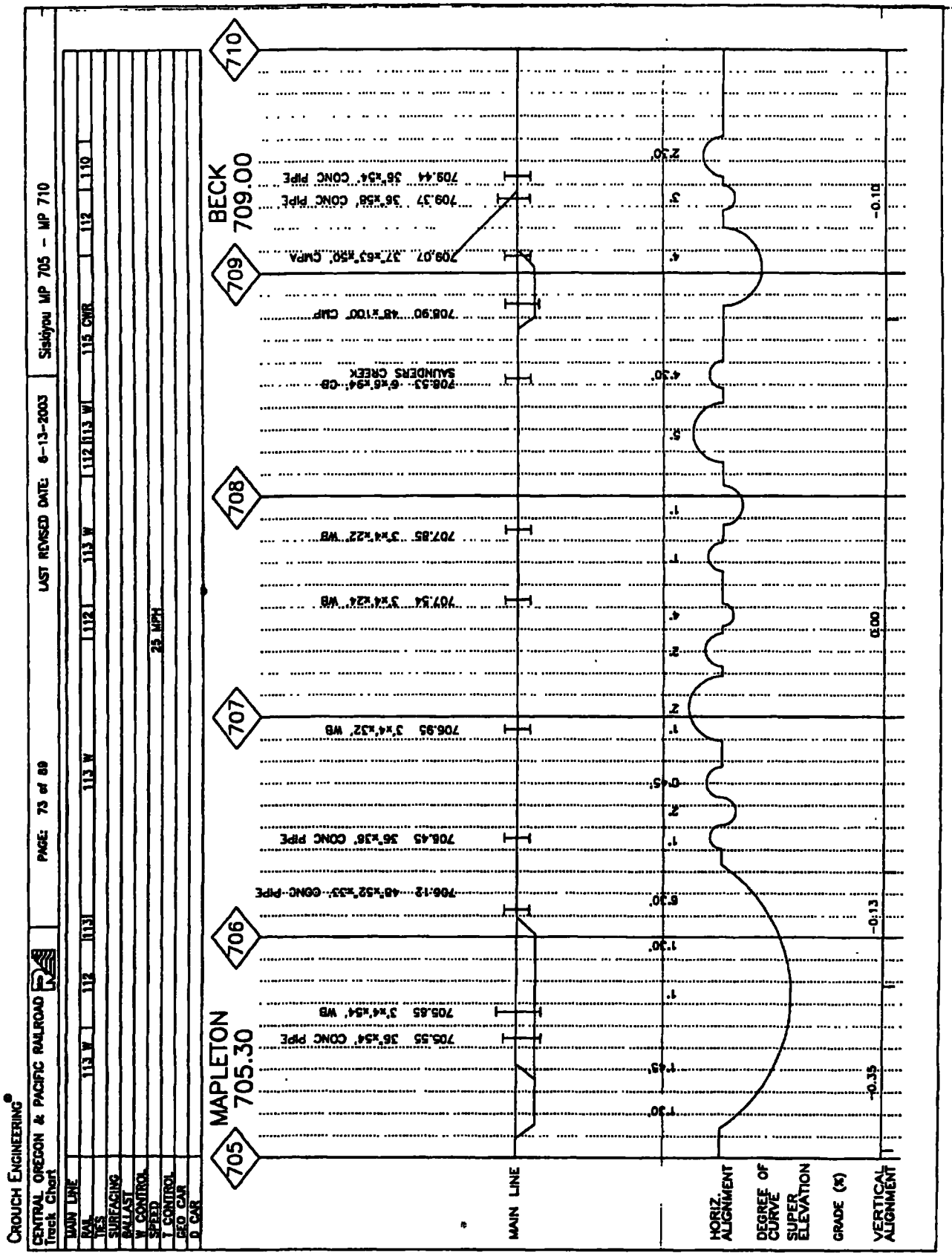
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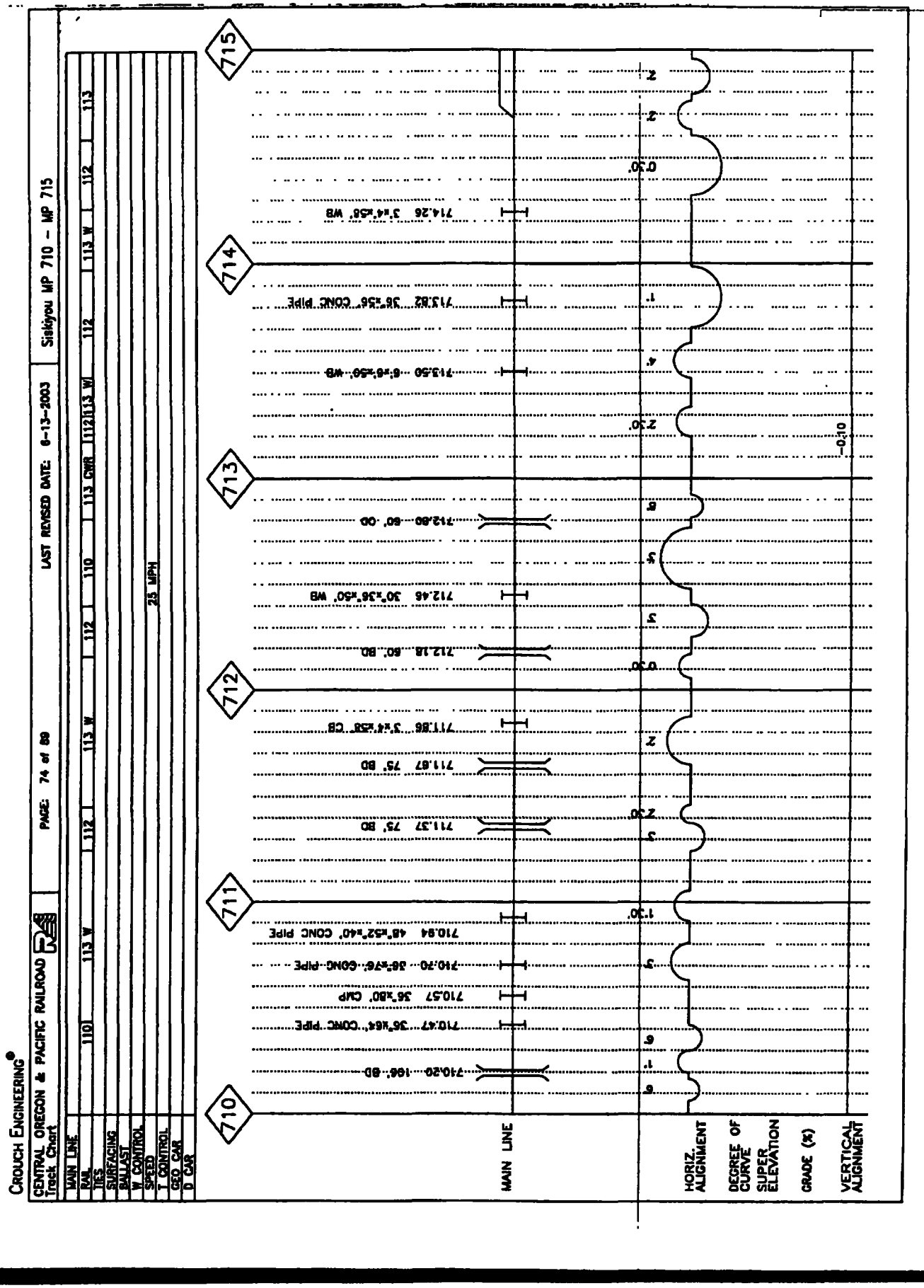
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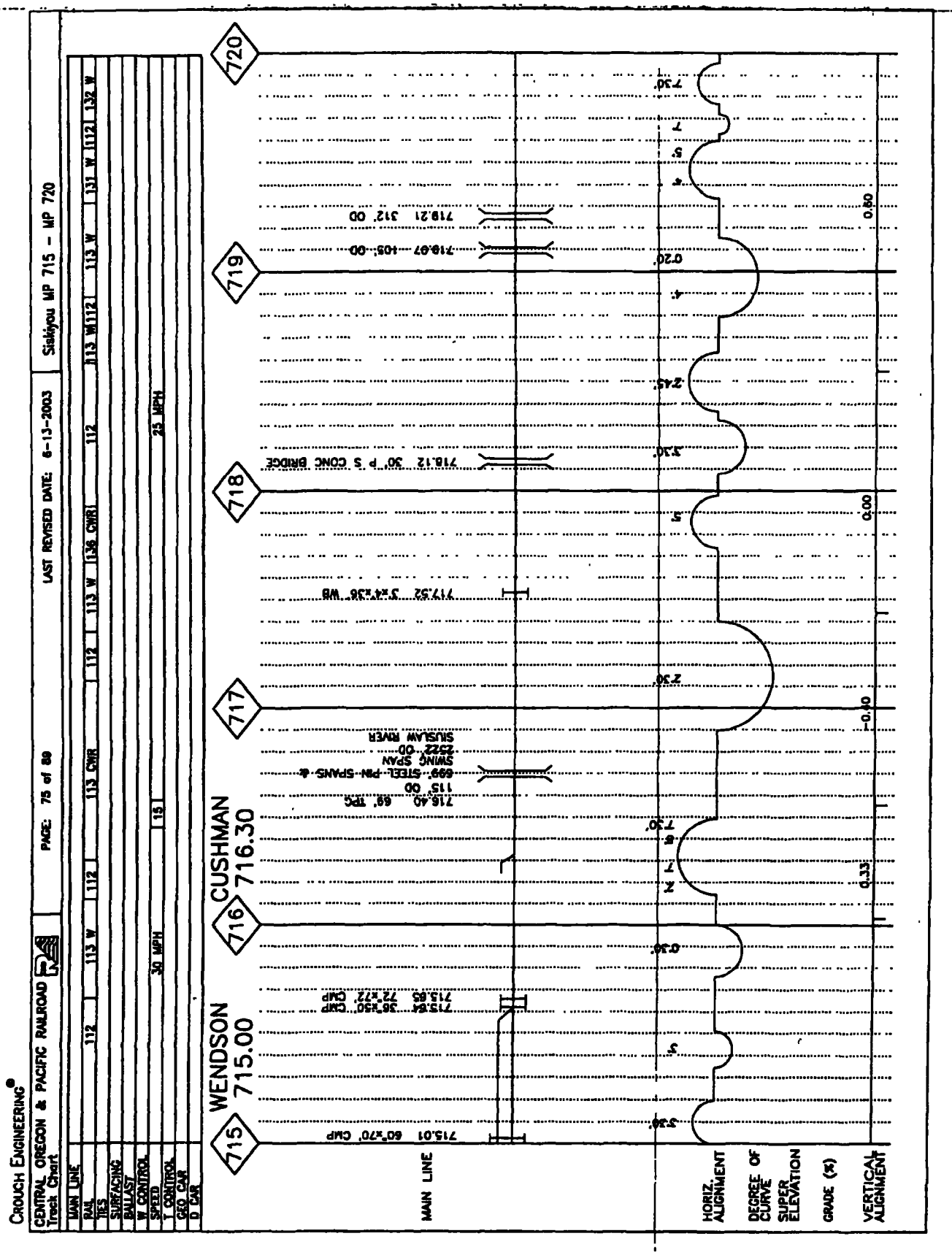
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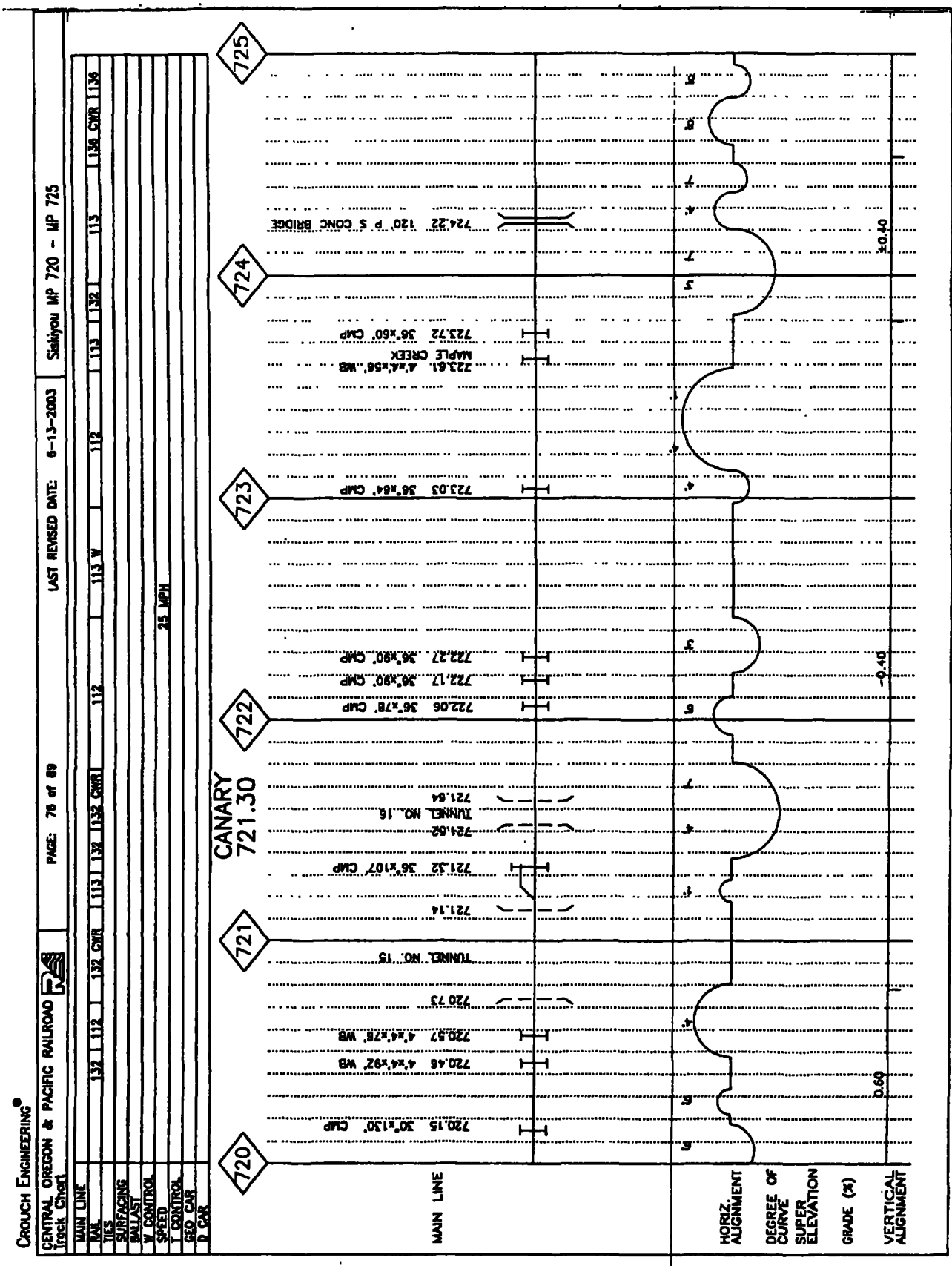
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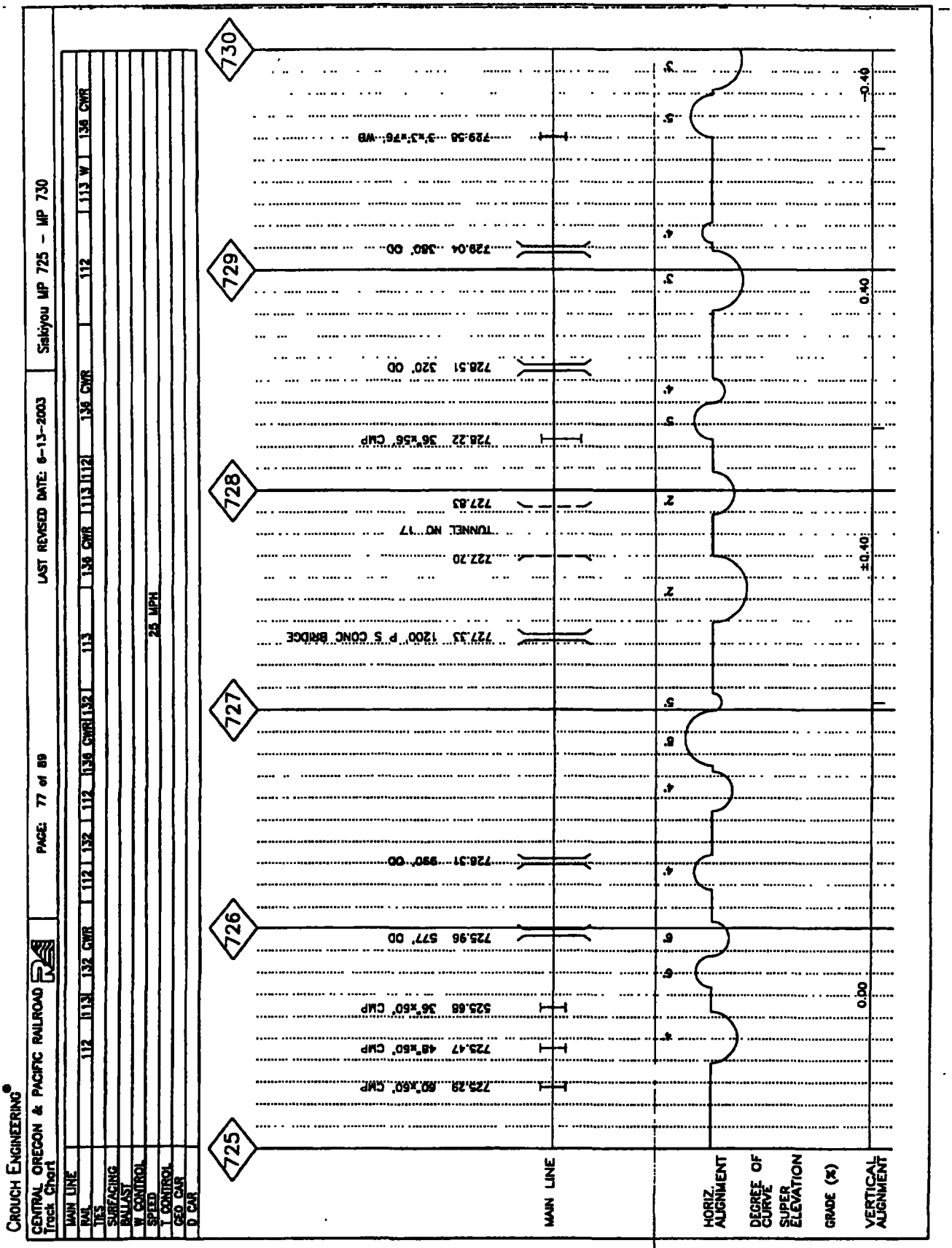
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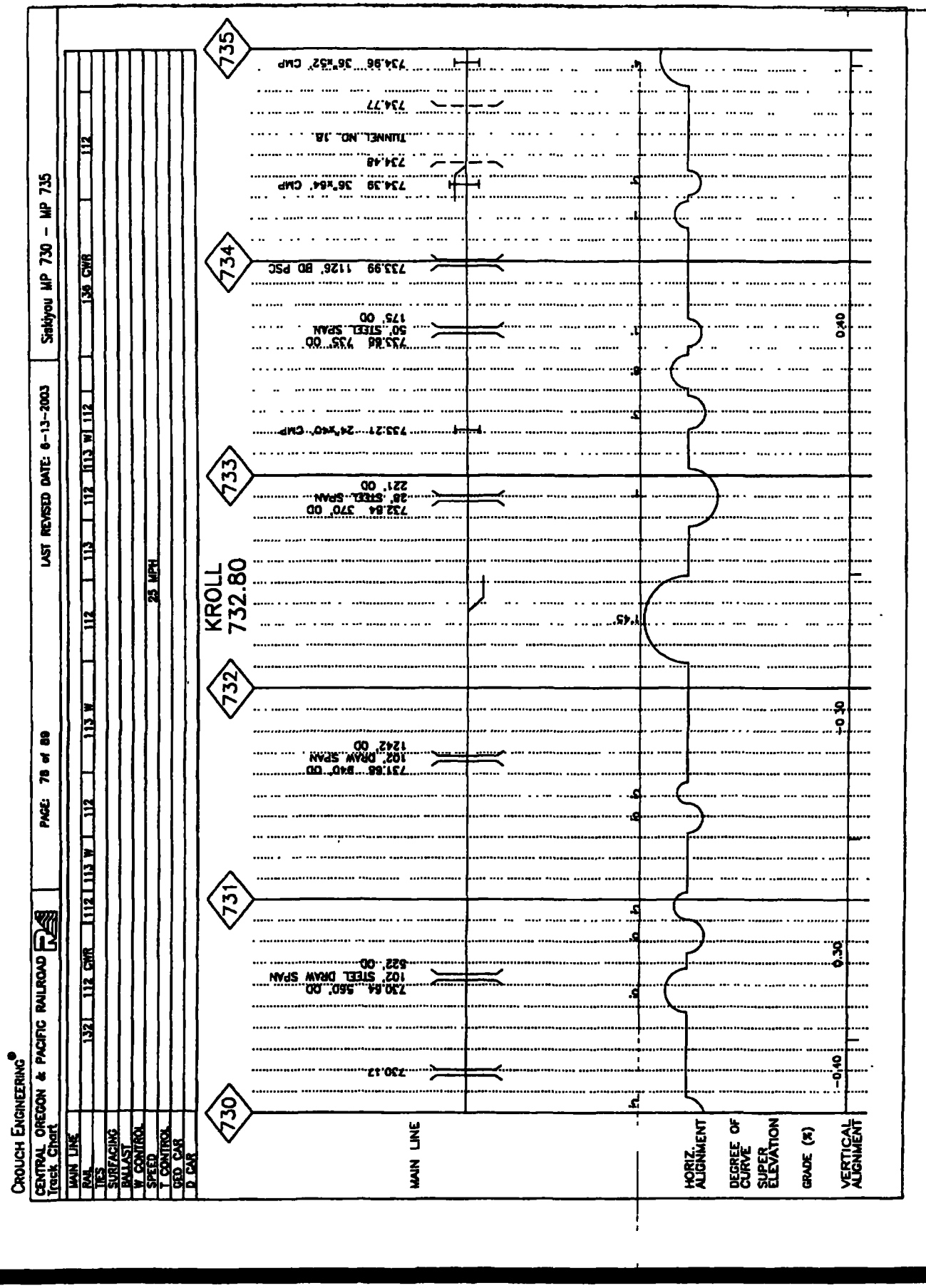
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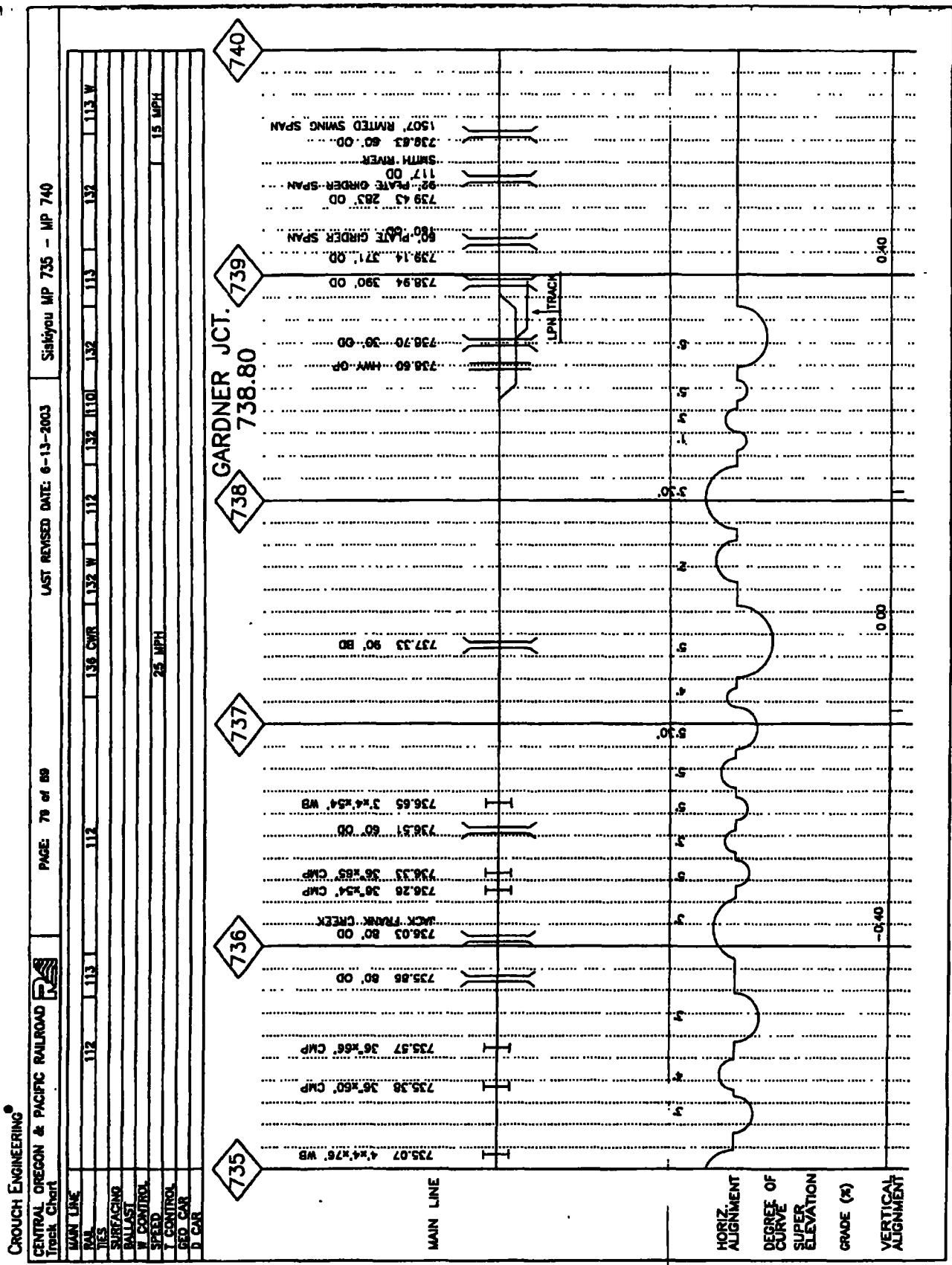
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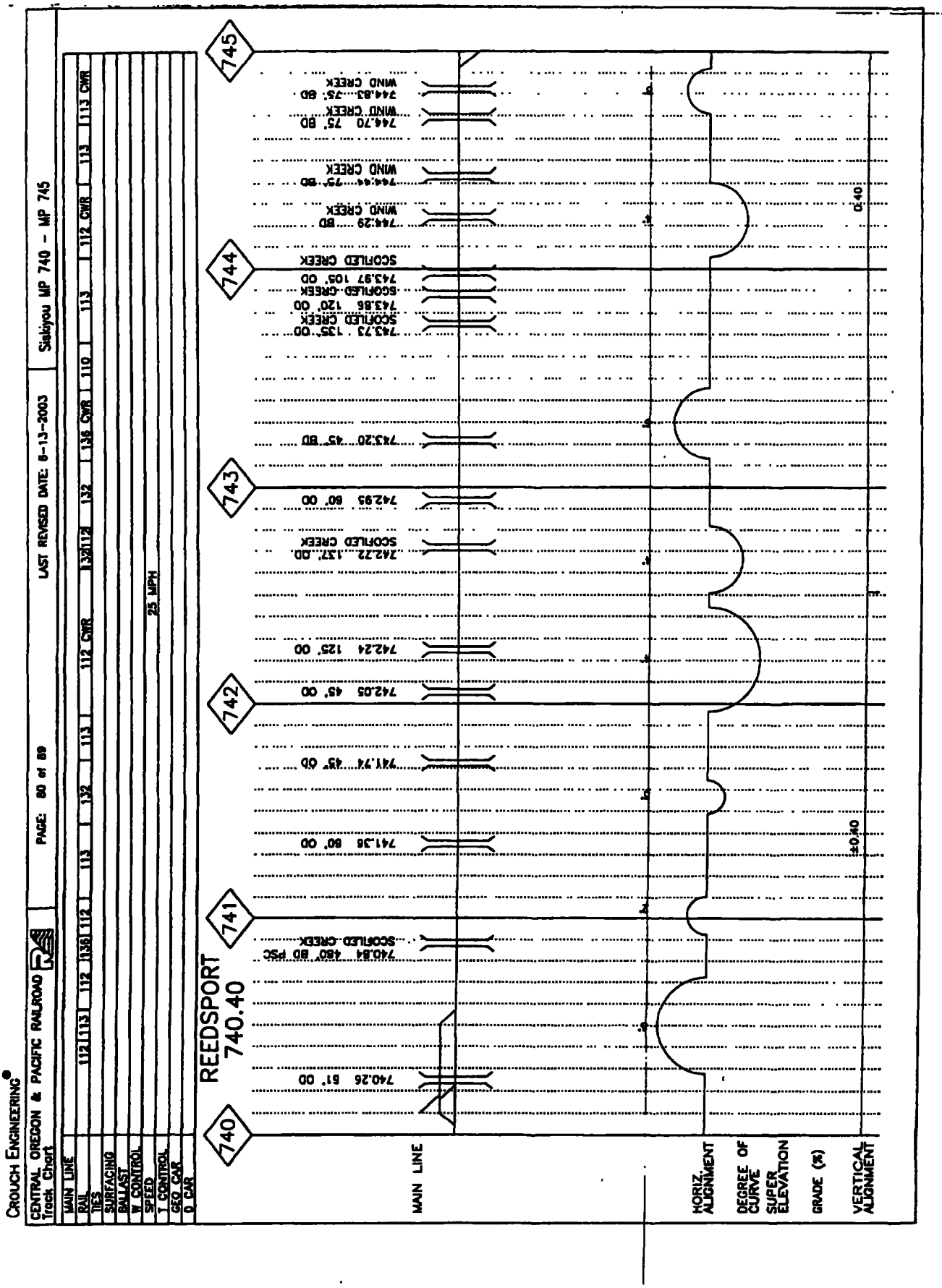
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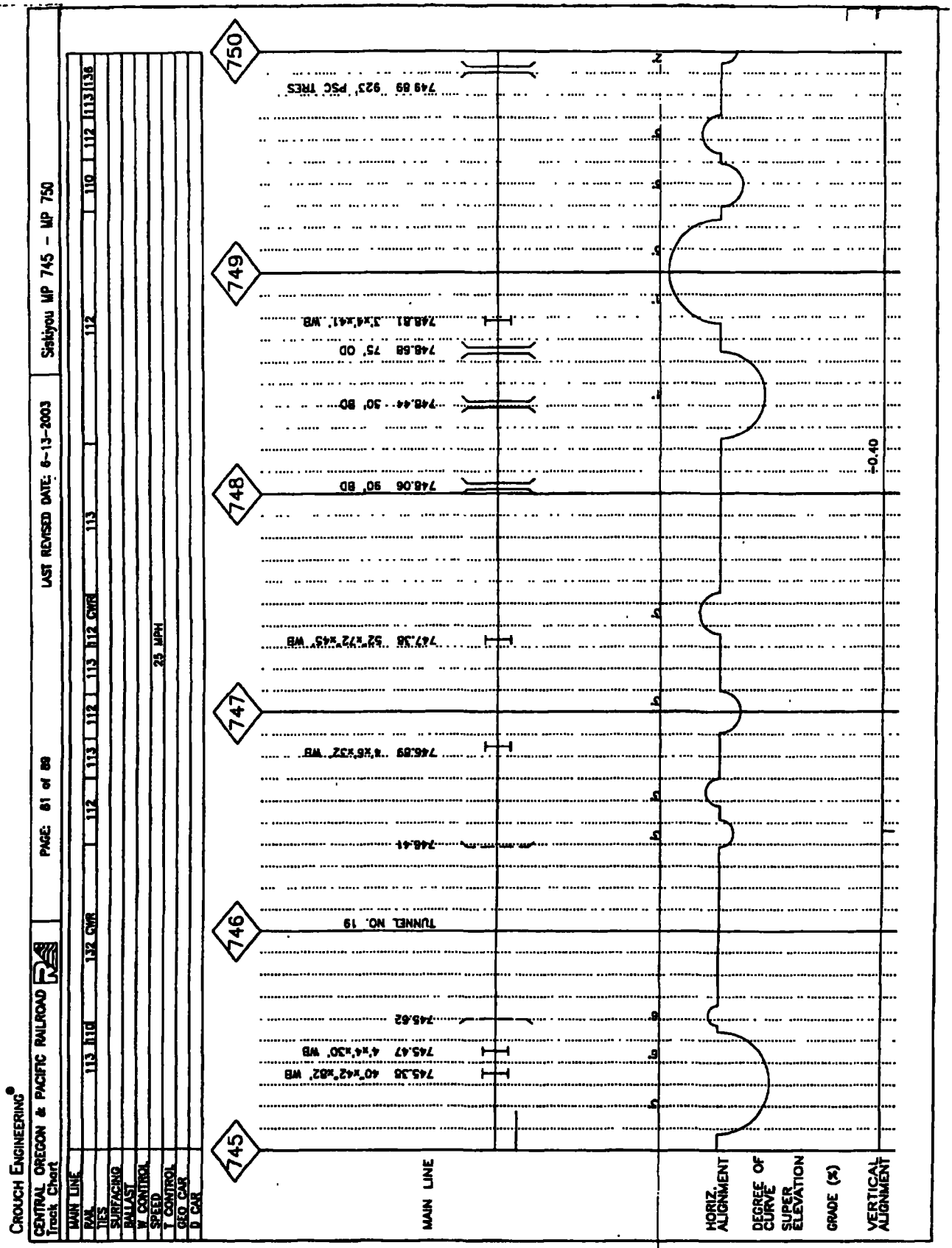


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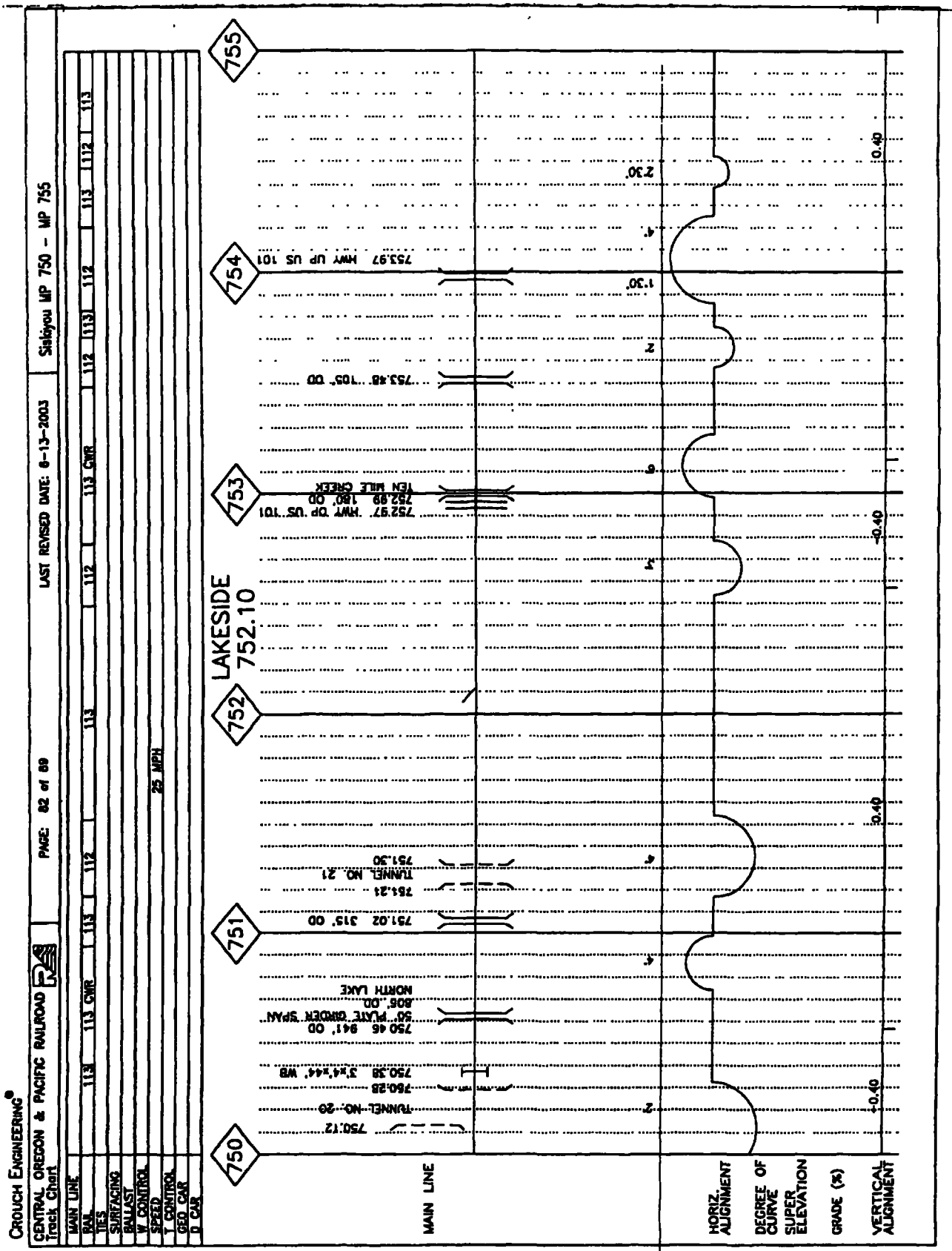


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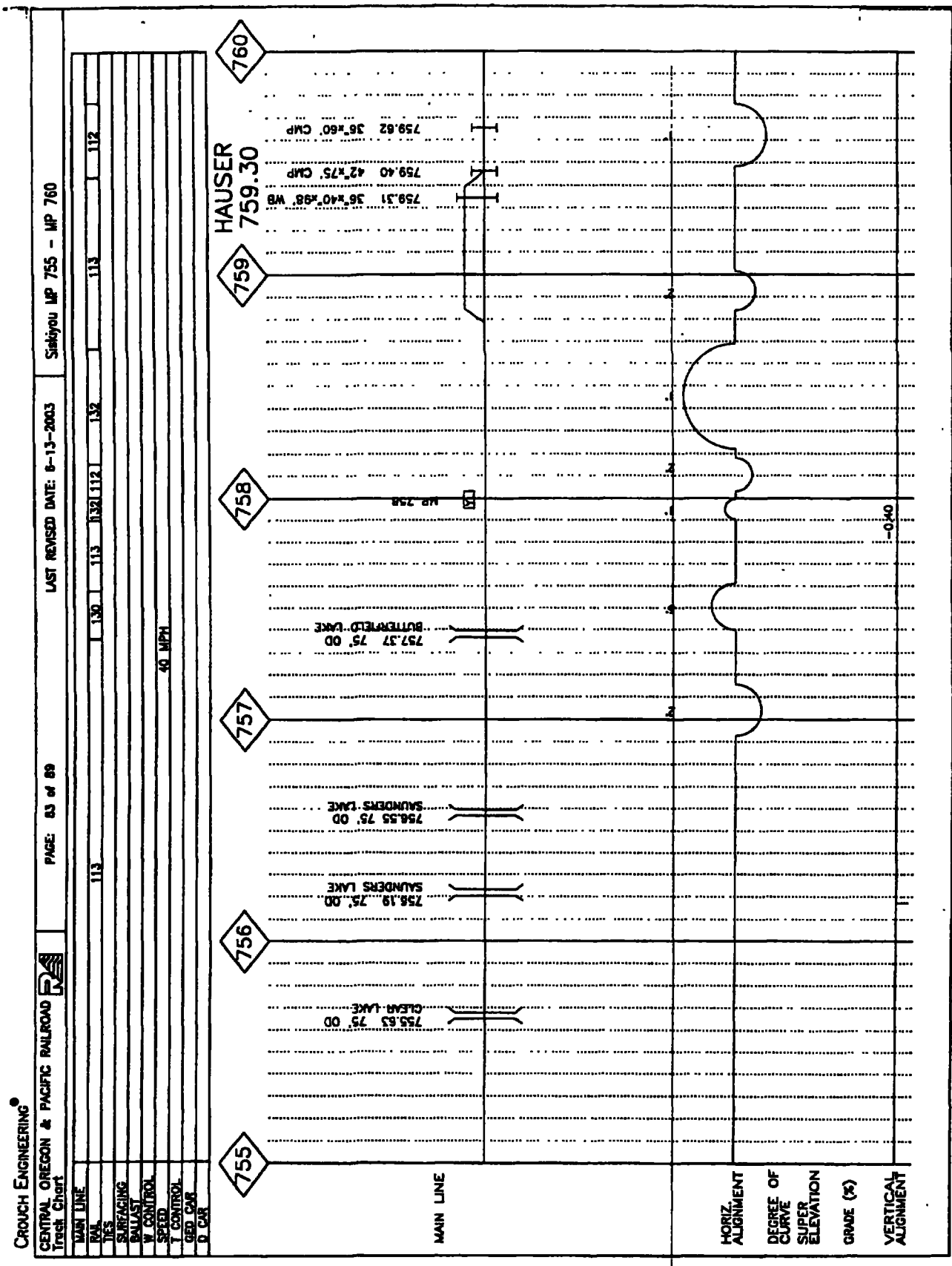
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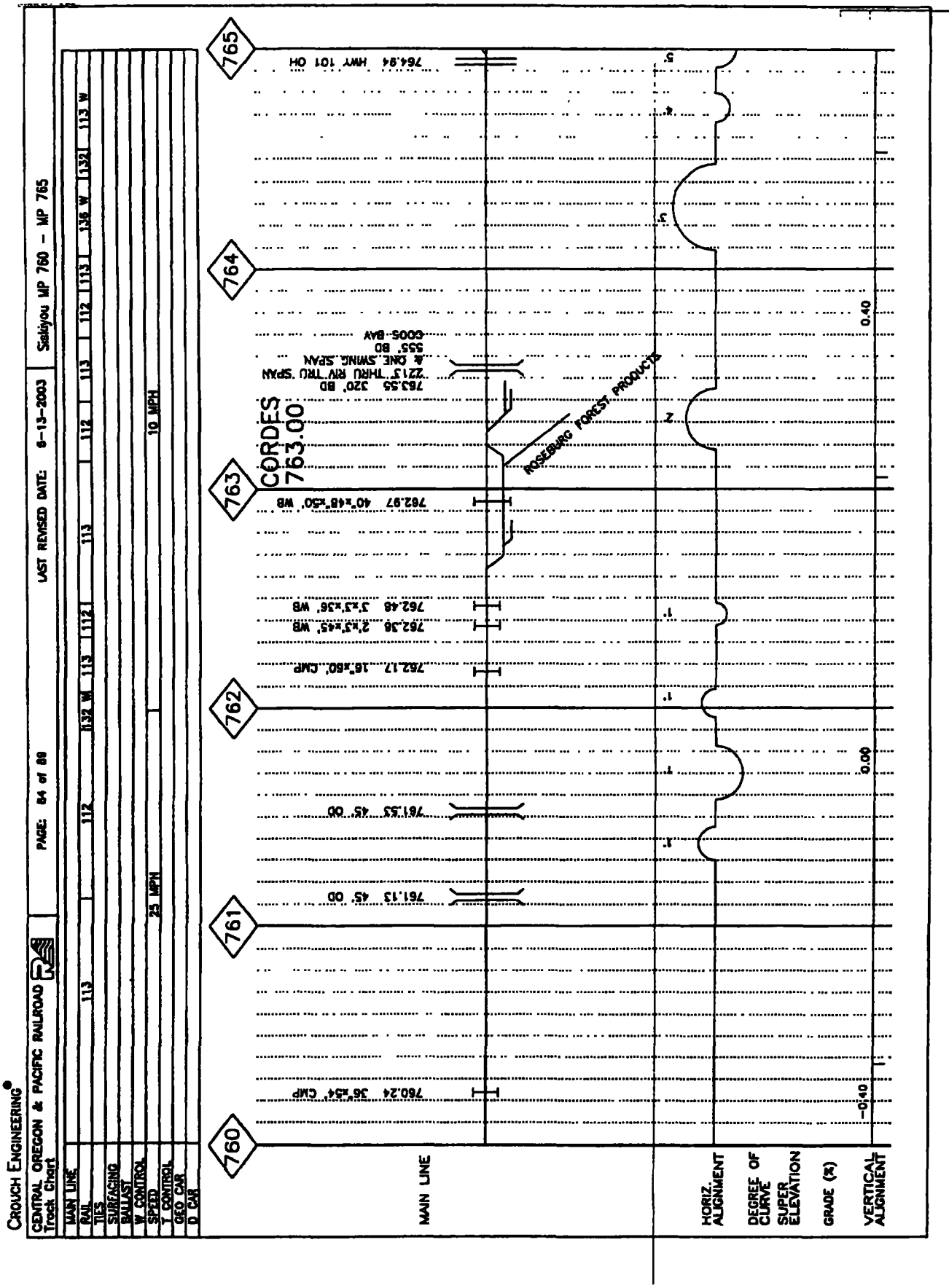
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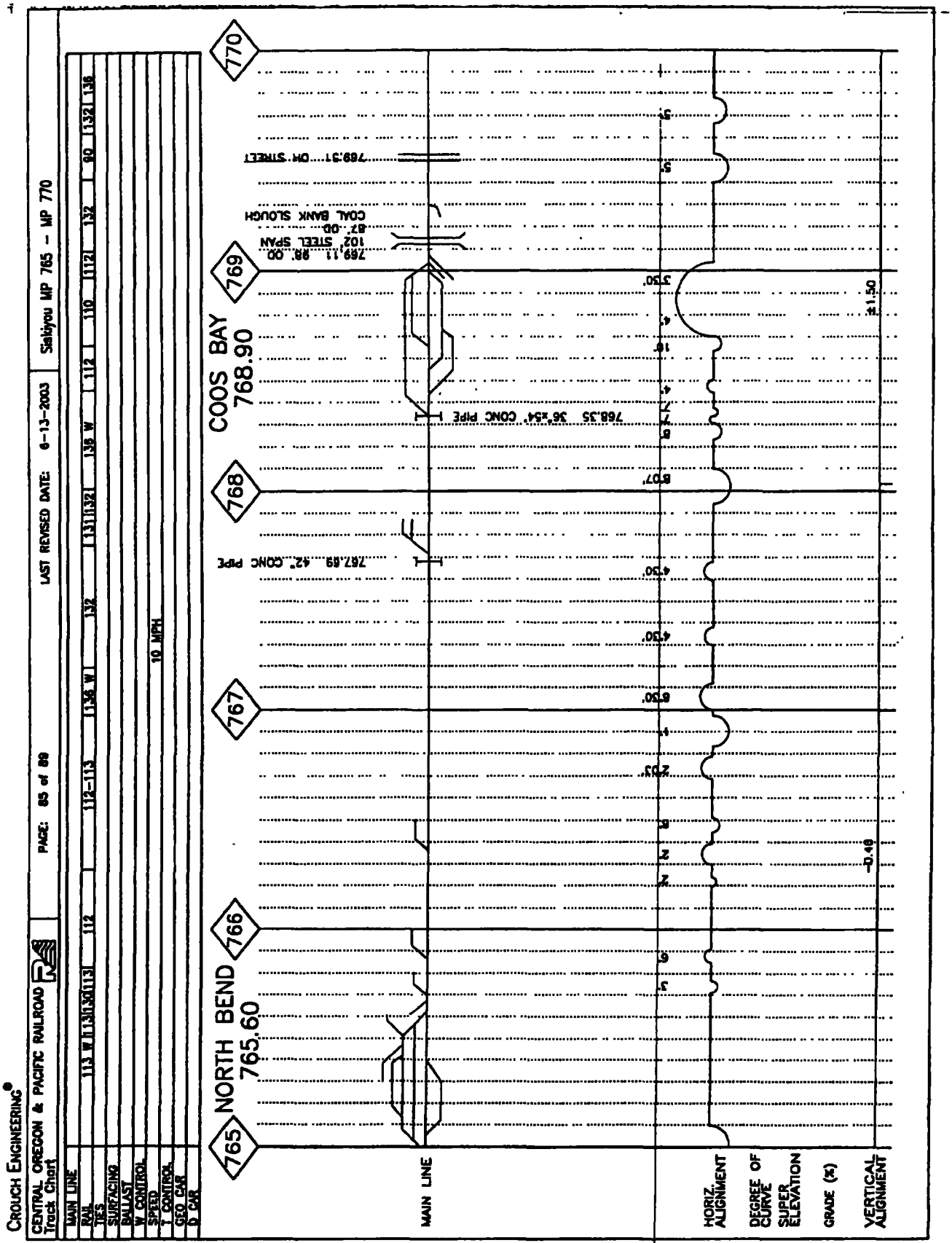
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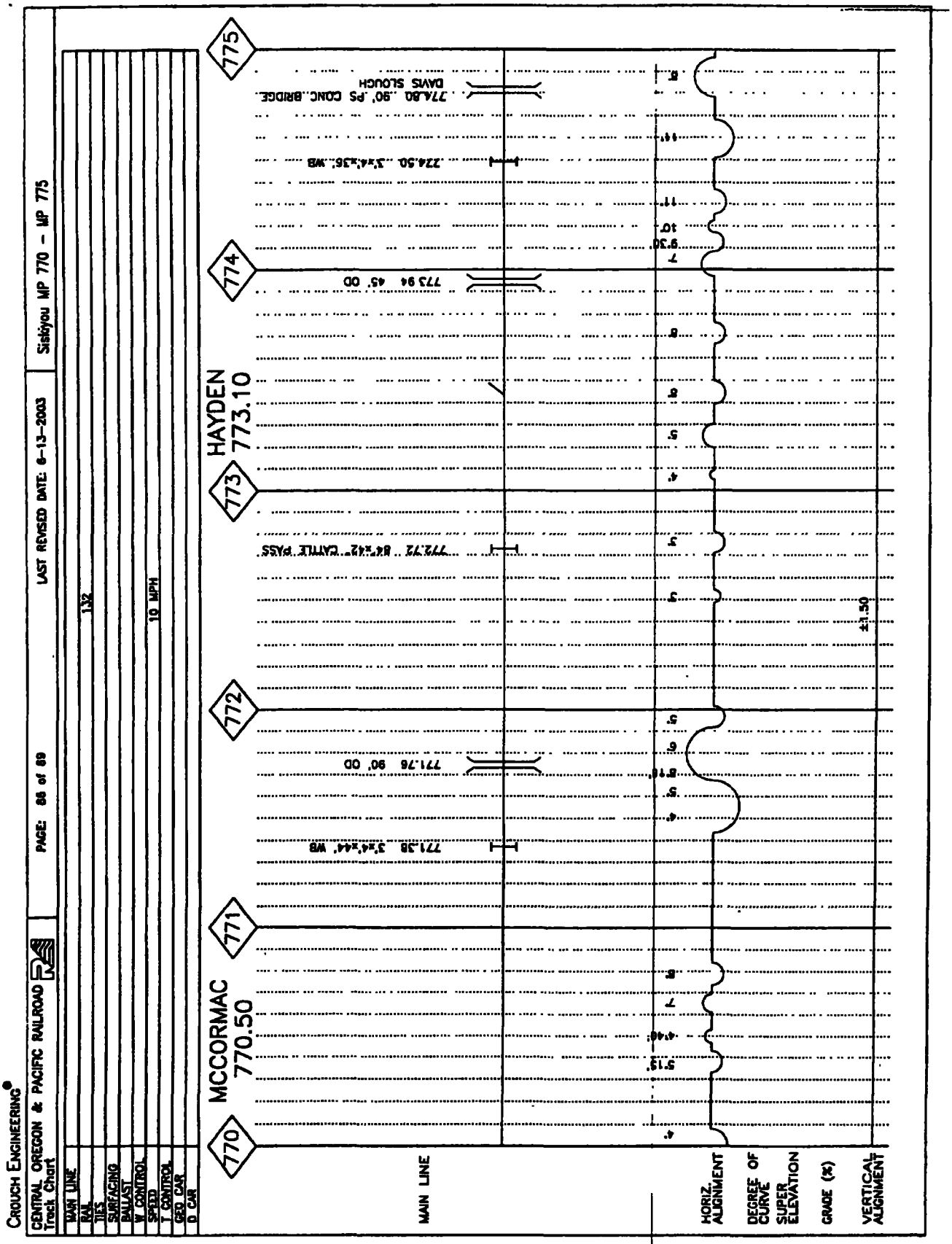
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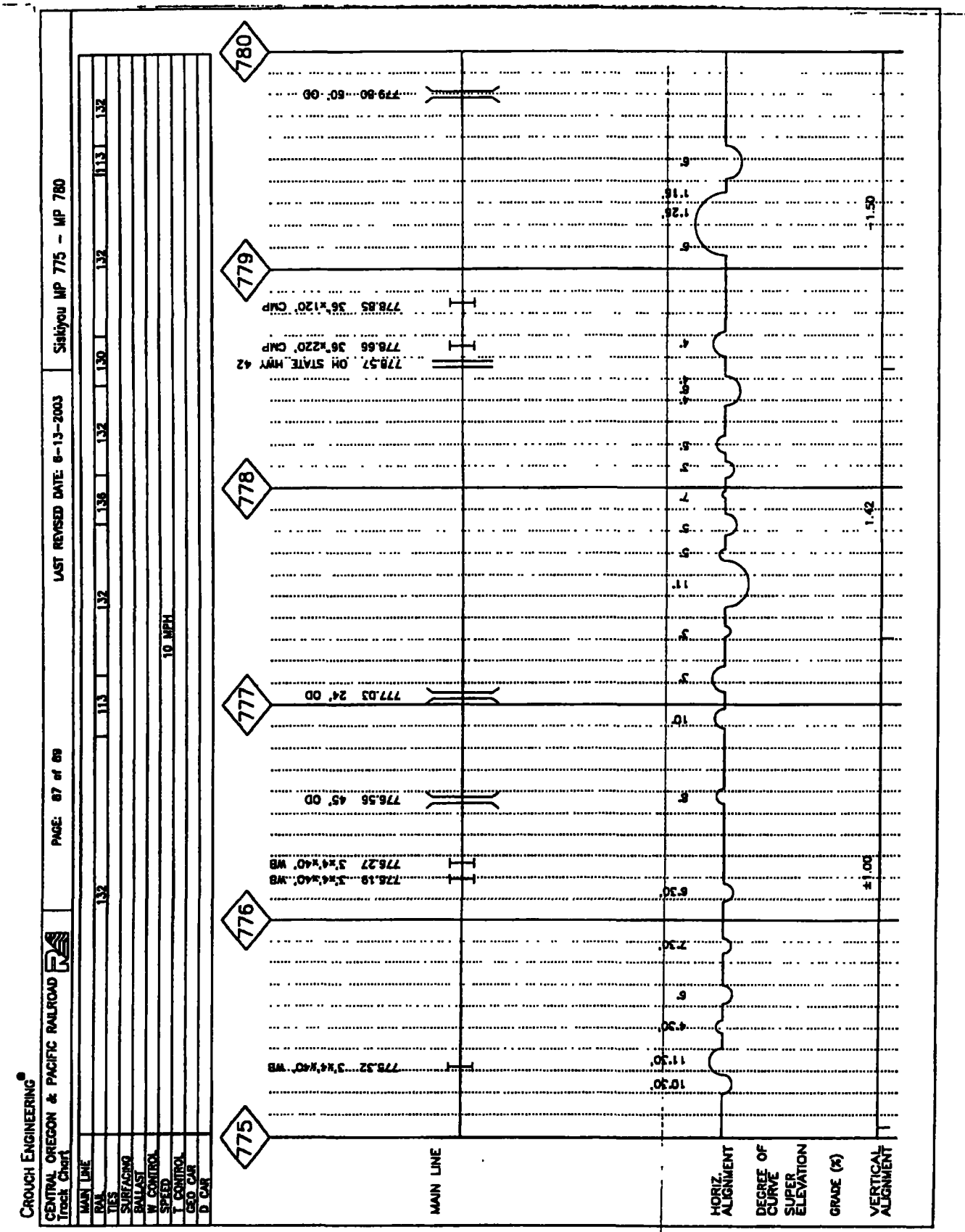
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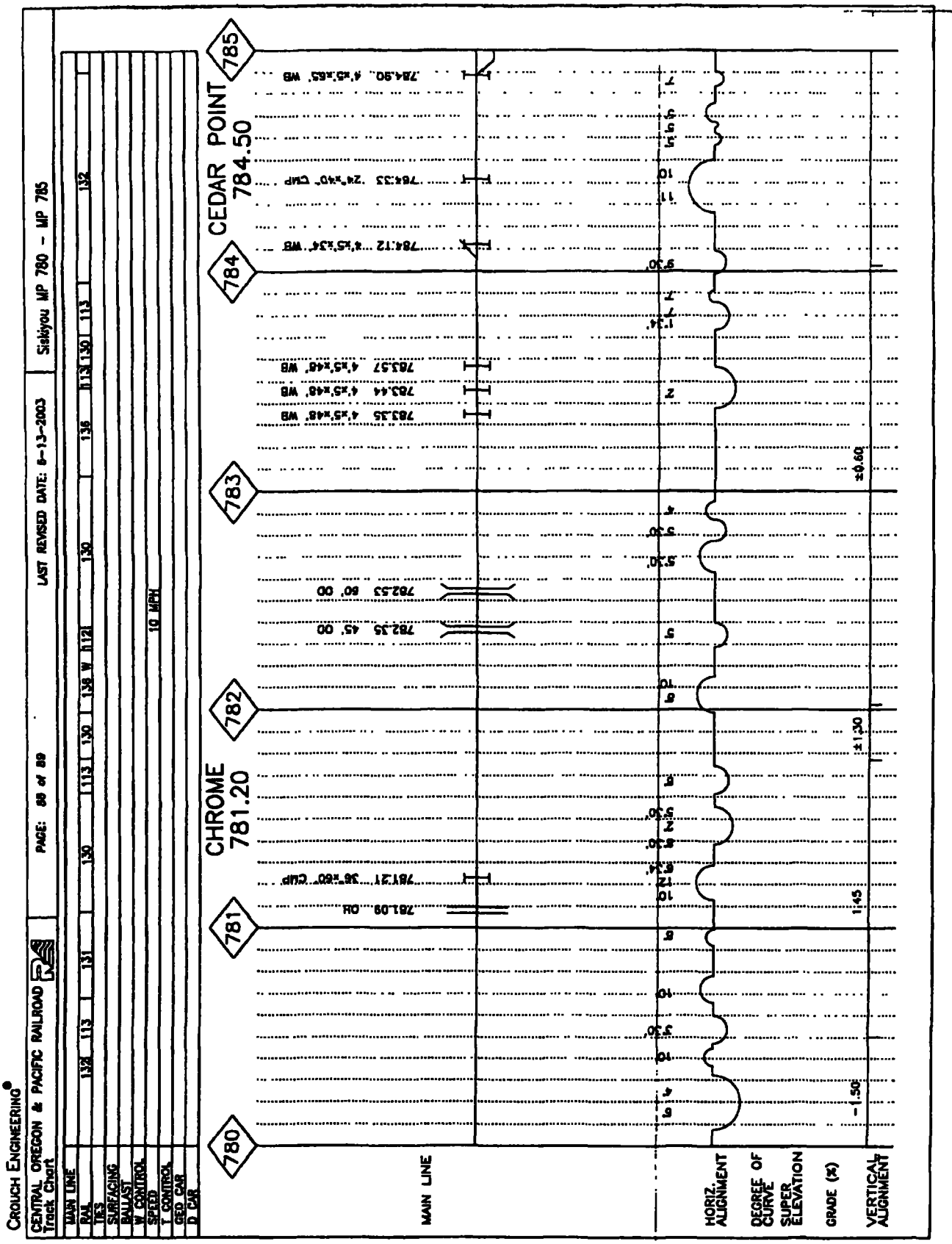
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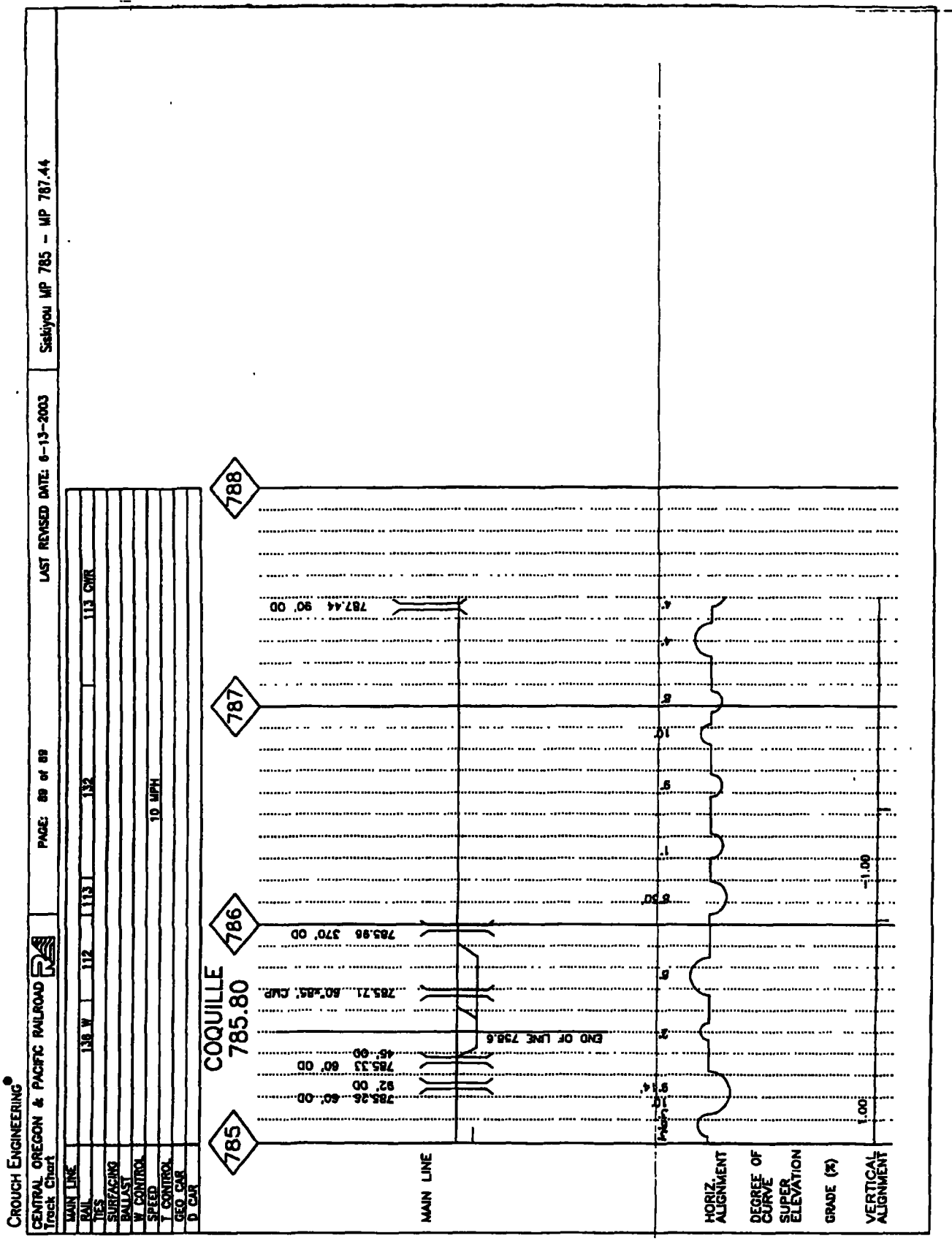
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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 16

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All Data Is Based On Date Purchase Order Was Issued						
All RailAmerica Subsidiary Railroads						
	L B Foster			Unitrac		
Year	Capital	O.E.	Total	Capital	O.E.	Total
2003	$ 536,644	$ 115,466	$ 652,110	$ -	$ 549,099	$ 549,099
2004	$ 4,076,811	$ 110,972	$ 4,187,783	$ 3,222,644	$ 82,715	$ 3,305,359
2005	$ 4,546,813	$ 69,655	$ 4,616,468	$ 4,259,072	$ 181,178	$ 4,440,250
2006	$ 1,414,243	$ 36,002	$ 1,450,245	$ 1,690,733	$ 222,426	$ 1,913,159
2007	$ 756,006	$ 40,743	$ 796,749	$ 2,857,043	$ 104,114	$ 2,961,157
2008	$ 400,366	$ 35,812	$ 436,178	$ 244,086	$ 159,278	$ 403,364
Totals	$ 11,730,883	$ 408,650	$12,139,533	$ 12,273,578	$1,298,810	$ 13,572,388
Purchase Orders Issued			241			231

CORP ONLY						
	L B Foster			Unitrac		
Year	Capital	O.E.	Total	Capital	O.E.	Total
2003	$ 1,824	$ 1,900	$ 3,724	$ -	$ -	$ -
2004	$ 1,140,000	$ 8,142	$ 1,148,142	$ -	$ -	$ -
2005	$ 1,539,710	$ 4,025	$ 1,543,735	$ -	$ -	$ -
2006	$ 14,180	$ 14,904	$ 29,084	$ -	$ -	$ -
2007	$ 453,448	$ 600	$ 454,048	$ 476,637	$ 2,530	$ 479,167
2008	$ -	$ -	$ -	$ -	$ -	$ -
Totals	$ 3,149,162	$ 29,571	$ 3,178,733	$ 476,637	$ 2,530	$ 479,167
Purchase Orders Issued			19			2

RailAmerica Capital Maintenance of Way Material Orders Issued						
	Total	Total	L B Foster		Unitrac	
Year	All Material	Rail & OTM Only	All Material	Rail & OTM Only	All Material	Rail & OTM Only
2003	$ 23,005,636	$ 6,160,877	2.3%	8.7%	0.0%	0.0%
2004	$ 32,365,324	$ 10,681,813	12.6%	38.2%	10.0%	30.2%
2005	$ 47,790,372	$ 27,722,408	9.5%	16.4%	8.9%	15.4%
2006	$ 33,845,355	$ 15,499,662	4.2%	9.1%	5.0%	10.9%
2007	$ 30,063,318	$ 11,027,767	2.5%	6.9%	9.5%	25.9%
2008	$ 10,135,427	$ 4,280,930	4.0%	9.4%	2.4%	5.7%
Totals	$177,205,432	$ 75,373,457	6.6%	15.6%	6.9%	16.3%

RailAmerica Sales of Scrap Material			RailAmerica Pending Scrap Sales - Misc. Material	
Year	L B Foster	Unitrac	L B Foster	Unitrac
2003	$0	$0	CORP	HESR
2004	$0	$0		NECR
2005	$0	$0		SCRF
2006	$0	$0		
2007	$0	$0		
2008	$0	$536,330		
Totals	$0	$536,330		

Note:
Year purchase order was issued does not equate to year in which material was received or installed.
Capital includes funds allocated for maintenance projects, special projects, and derailments.
O.E. = Operating expenses
This data cannot be used to determine the actual capital funds allocated in each year.
2008 data is from January 1, 2008 through August 31, 2008
2008 data values are lower than previous years as no orders have been issued for potential 2009 projects
Staton Company is not in our vendor data base so no orders have been issued to this company
Edward Kraemer & Sons is not in our vendor data base so no orders have been issue to this company

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 17

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SIDLEY AUSTIN LLP
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SYDNEY
TOKYO
WASHINGTON, D.C.

FOUNDED 1866

September 9, 2008

By Hand and Email
Sandra L. Brown
Michael H. Higgins
David E. Benz
Troutman Sanders, LLP
401 Ninth Street, NW Suite 1000
Washington, D.C. 20004

Re: *Oregon International Port of Coos Bay – Feeder Line Application – Coos Bay Line of the Central Oregon & Pacific Railroad, Inc.*, STB Dkt. No. 35160

Dear Counsel:

Enclosed please find CORP's Responses and Objections to the International Port of Coos Bay's Third Set of Interrogatories and Requests for the Production of Documents. Also enclosed are additional documents produced in response to those Discovery Requests, bearing Bates document identification numbers CORP-C-000440 to CORP-C-000787. Most of these documents are classified as Confidential pursuant to the Protective Order in force in the above-referenced proceeding. In accordance with that Order, those documents, and the information they contain, may not be shared with anyone except eligible persons who have executed the governing confidentiality agreement and undertaking.

If you have any questions, please contact the undersigned or Terry Hynes.

Very truly yours,

Paul A. Hemmersbaugh
Counsel to Central Oregon & Pacific Railroad

enclosures

Sidley Austin LLP is a limited liability partnership practicing in affiliation with other Sidley Austin partnerships

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BEFORE THE
SURFACE TRANSPORTATION BOARD

Oregon International Port of Coos Bay – Feeder Line Application – Coos Bay Line of the Central Oregon & Pacific Railroad, Inc.	)	Finance Docket No. 35160

CENTRAL OREGON & PACIFIC RAILROAD, INC.'S RESPONSES AND OBJECTIONS TO OREGON INTERNATIONAL PORT OF COOS BAY'S THIRD SET OF INTERROGATORIES, AND REQUESTS FOR PRODUCTION OF DOCUMENTS

Pursuant to 49 C.F.R. Part 1114 and other applicable rules and authority, Central Oregon & Pacific Railroad, Inc. ("CORP"), by its attorneys, Sidley Austin LLP, responds as follows to Oregon International Port of Coos Bay's ("The Port") Third Set of Interrogatories and Requests for the Production of Documents. (Sometimes referred to collectively hereinafter as "Discovery Requests").

General Objections

CORP's General Objections, set forth herein, apply to each and every one of the specific interrogatories and document requests that follow. CORP incorporates by reference, as if set forth in full herein and without further enumeration, all of its objections to the Port's pervious discovery requests in this proceeding (including all objections made in CORP's Responses and Objections to the Port's First and Second Sets of Discovery Requests). CORP's objections shall not waive, limit, or prejudice any objections it may later assert.

1. CORP objects to any and all definitions and/or instructions to the extent they either expand upon or conflict with 49 C.F.R. Part 1114, Subpart B. CORP further objects to these Discovery Requests to the extent that they seek to impose obligations on CORP greater than, or inconsistent with, those imposed under 49 C.F.R. Part 1114, Subpart B.

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2. CORP objects to each and every Interrogatory and Document Request to the extent that it seeks information protected by the attorney-client privilege, the attorney work product doctrine, or any other applicable privilege, protection, or exemption from discovery or disclosure. In the event that any such privileged, protected, or exempt information is inadvertently produced or provided, such disclosure or production is not intended as, and should not be construed as, a waiver of any applicable privilege, protection, or exemption.

3. CORP objects to each and every Discovery Request to the extent that it seeks information or data that is not relevant to the subject matter of this proceeding or is not reasonably calculated to lead to the discovery of admissible evidence.

4. CORP objects to each and every Document Request to the extent that it is: (a) overly broad; (b) vague and/or ambiguous; (c) fails to describe with reasonable particularity the information sought; (d) seeks information that is not within the possession, custody or control of CORP; or (e) would impose an undue burden that outweighs any relevance or probative value the information sought may have in this proceeding.

5. CORP objects to each and every Discovery Request to the extent that it requests information or material that it is: (a) already in the possession of the Port; (b) publicly available or otherwise readily available or accessible to the Port from other sources; or (c) as accessible or available to the Port as it is to CORP and producing responsive information would impose substantially the same or greater burden on CORP as it would impose on the Port.

6. CORP objects to Instruction 6 to the extent it seeks to impose obligations broader than those imposed by 49 C.F.R. Part 1114. CORP further objects to Instruction 6 on the grounds of impracticability — if a potentially responsive document has been lost or destroyed: (a) CORP would not necessarily be aware of that event; (b) CORP would most likely be unaware

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of the circumstances of loss or destruction of specific documents; and (c) CORP would be unable to determine the authors, recipients, dates of creation, or contents of any such document(s), which generally could be determined only by reviewing the unavailable document(s).

7. CORP objects to the definition of "Document" to the extent it seeks to impose obligations broader than those imposed by 49 C.F.R. Part 1114. CORP further objects to the definition of Document to the extent it seeks information or data that is privileged, protected by the attorney-client work product doctrine, or otherwise protected, exempted, or excluded from discovery or disclosure by an applicable privilege, protection, rule, or doctrine. In these Responses, CORP will interpret the term "Document," as well as other terms used in the Discovery Requests as excluding any data or other information that is protected from discovery or disclosure by such privilege, protection, doctrine, or rule.

8. CORP objects to the multiple definitions of "Identify" to the extent they seek to impose obligations beyond, in addition to, or inconsistent with discovery obligations under 49 C.F.R. Part 1114. CORP further objects to the multiple definitions of "Identify" as vague and ambiguous.

9. CORP objects to the definitions of " 'Identify' when used in reference to a natural person" or to other entities as seeking to impose obligations or requirements beyond, in addition to, or inconsistent with discovery obligations under 49 C.F.R. Part 1114. CORP has no duty to investigate or disclose the business addresses, telephone numbers, employers, and/or job titles or business activities of third parties. Furthermore, these definitions would impose an undue burden that outweighs any relevance or probative value the information sought may have in this proceeding.

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10. CORP objects to the definition of " 'Identify' when used in connection with a document" as seeking to impose obligations or requirements beyond, in addition to, or inconsistent with discovery obligations under 49 C.F.R. Part 1114. CORP has no duty to search for, gather, and catalog every document possibly implicated by an interrogatory with the more than eight pieces of information specified as required by the definition. This definition would impose an undue burden that outweighs any relevance or probative value the information sought may have in this proceeding. CORP will respond to any interrogatory asking it to "identify" particular documents as if it were a request for production of those documents and respond in accordance with 49 C.F.R.§ 1114.30.

11. CORP objects to the definitions of "relating to" and "relates to" as overly broad, unduly burdensome, vague, and ambiguous.

12. CORP objects to the broad and extensive scope of the Discovery Requests as overbroad and unduly burdensome, particularly in context of the unusually short time provided for responding to the Discovery Requests.

13. CORP objects to the Port's requests for "all" information and documents as overbroad and unduly burdensome. CORP will produce such relevant, responsive, non-privileged documents as can be located in a reasonable search.

14. CORP objects to the Port's requests relating to information relating to "the Line" as defined in Definition No. 9 to the extent that these requests call for CORP to perform special studies to obtain this information. CORP does not separately maintain data regarding "the Line" (as defined by the Port) in the ordinary course of business. CORP further objects to the definition of "Line" to the extent that it includes track over which CORP discontinued service

pursuant to the authority granted in STB Docket No. AB-515 (Sub-No. 1X), *Central Oregon & Pac. R.R., Inc.—Discontinuance Exception—in Coos County, OR.*

15. CORP objects to the Port's failure to limit its requests to a relevant time period as overbroad and unduly burdensome. The Port seeks information that is not relevant to this proceeding and is not reasonably calculated to lead to the production of admissible evidence. Subject to, and without waiving this objection, CORP's responses will cover the period from 2005 to the present, unless otherwise indicated.

16. CORP does not concede the relevance, materiality, competence, or admissibility as evidence of any of the information requested in these Discovery Requests. By producing responsive documents or information, CORP does not concede such information or documents are relevant, material, or admissible into evidence, and any such production is not intended to waive any of CORP's objections to any of these Discovery Requests. CORP reserves its rights to object on any ground to the use of the responses provided herein, in this proceeding or any appeal thereof, or in any other proceeding or action.

17. CORP objects to these Discovery Requests as duplicative, redundant, unnecessary and seeking to impose undue burdens, because CORP previously produced to the Port (on and before August 29, 2008) workpapers and other documents supporting the analyses, evaluations, and calculations described in the Response of Central Oregon & Pacific Railroad Inc. to Feeder Line Application (August 29, 2008) ("Response"). Along with its Response, CORP provided to the Port hundreds of pages of paper workpapers; a compact disk containing additional workpapers comprising more than 2600 electronic documents; and five DVDs containing a large volume of relevant Geographical Information System data and information. Subsequently, in

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response to the Port's Second Set of Discovery Requests, CORP produced approximately 150 additional pages of additional documents, as well as additional responses to interrogatories.

18. CORP further objects to these Discovery Requests as unduly burdensome, because they constitute the third set of discovery requests in a Feeder Line proceeding. In such proceedings, any discovery is generally disfavored, and the only discovery contemplated by applicable regulations is that necessary for the Applicant to obtain information required to prepare a complete Application. *See* 49 CFR § 1151.2. Here, Applicant sought and obtained such discovery from the Port, and filed a "Supplement to Feeder Line Application" on August 8, 2008. The Port's service of two additional sets of discovery requests several weeks after it filed its Supplement seeks to impose an excessive and undue burden on CORP, and is inconsistent with the letter and the spirit of discovery rules in abandonment and feeder line proceedings.

19. CORP's General Objections, Specific Objections, and responses are based upon information presently known to it. CORP reserves the right to rely upon facts, documents, or other evidence that it may develop or that may subsequently come to its attention; to assert additional objections; and to supplement or amend these responses at any time.

Specific Objections

In addition to its General Objections (which shall apply in full to each and every Discovery Request, without further enumeration), CORP also asserts Specific Objections to each Interrogatory and Document Request. CORP preserves all of its General Objections set forth above, and none of the following Specific Objections shall waive or limit the scope, breadth, generality, or applicability of those General Objections.

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INTERROGATORIES

Interrogatory No. 44 Please describe all past, current, and scheduled or reasonably anticipated relationships between CORP, RailAmerica, or any RailAmerica subsidiary, on the one hand, and L.B. Foster, Unitrac, Staton Companies, or Edward Kraemer & Sons, Inc., on the other hand, starting on or after January 1, 2003. Include in your response the type, extent, date, and dollar value of all work or projects partially or fully completed, or envisioned, by L.B. Foster, Unitrac, Staton Companies or Edward Kraemer & Sons, Inc. for CORP, RailAmerica, or any RailAmerica subsidiary.

Response:

CORP specifically objects to this Interrogatory as grossly overbroad, unduly burdensome and vexatious. CORP further objects to the phrase "past, current, and scheduled or reasonably anticipated relationships" and "work or projects . . . envisioned" as vague, ambiguous, and subject to multiple interpretations. To the extent the meaning of those phrases can be construed or interpreted, they are overbroad and unduly burdensome. CORP further objects because developing the requested information (as CORP construes the language of the interrogatory) would require a special study, which CORP declines to perform.

CORP also specifically objects to the Interrogatory because it seeks information and documents concerning "RailAmerica, or any RailAmerica subsidiary" which are not parties to this proceeding. CORP further objects that searching for, identifying, gathering, and producing the detailed requested information for 41 separate railroads in 25 States and 3 Canadian Provinces – particularly in the very short time provided for discovery responses in this proceeding – would be unduly burdensome.

CORP further objects to this Interrogatory as not relevant to matters properly at issue in this proceeding and not necessary for rebuttal or reply to evidence presented by CORP in this proceeding. The burden of searching for and producing the requested information would far outweigh any minimal potential relevance of that information.

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Subject to, and without waiving, its objections, CORP responds that, from 2005 to the present, and indeed for the six years covered by the Interrogatory (2003 through 2008), all CORP purchase orders issued to Unitrac totaled $ 479,167, or an average of approximately $80,000 per year. From 2005 to the present, all CORP purchase orders issued to LB Foster totaled $2,026,867, or an average of approximately $ 507,000 per year. From 2005 to the present, purchases of all RailAmerica railroads from L.B. Foster constitute, on average, 5.1% of those railroads' total track-related materials purchases. During the same period, Unitrac accounted for approximately 6.5% of all RailAmerica railroads' track-related materials purchases. CORP sold no rail scrap material to either LB Foster or Unitrac from 2003 through 2008.

Based upon CORP vendor records, it appears that neither CORP nor RailAmerica has made any purchases from, or entered any contracts with, Staton Company. Based upon CORP vendor records, it appears that neither CORP nor RailAmerica has made any purchases from, or entered any contracts with, Edward Kraemer & Sons. Additional responsive information is contained in documents produced with these Responses and Objections.

RESPONSES TO REQUESTS FOR PRODUCTION OF DOCUMENTS

CORP incorporates by reference to each of its responses to the following document requests all of its General Objections to these Discovery Requests, and all of its specific objections to the foregoing Interrogatories, to the full extent they are applicable.

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Document Request No. 20 **Produce all documents identified in, or that were consulted, reviewed or relied upon in preparing, developing, or providing your responses to the Interrogatory set forth above.**

Response:

CORP incorporates by reference to this response to Document Request 20 all of its objections to Interrogatory No. 44, *supra*. Subject to and without waiving its objections, CORP will produce with this response documents summarizing CORP and RailAmerica purchases from, and sales to, Unitrac and LB Foster.

Document Request No. 21 **Please produce all documents related to the development of net liquidated value ("NLV") evidence by L. B. Foster and/or Unitrac in the Abandonment Application of CORP in STB Docket AB-515 (Sub-No. 2) or the response evidence of CORP in STB Docket 35160. Please include all correspondence (letter, e-mails, faxes, notes from phone calls, etc.) between L.B. Foster and CORP, and between Unitrac and CORP. Please include all documents and information given by CORP to L.B. Foster and Unitrac, including documents describing the scope of work or the assignment. Please also include all documents and information received from L.B. Foster and Unitrac.**

Response:

CORP specifically objects to the term "related to" as vague, ambiguous and overbroad. CORP further specifically objects that information "related to" CORP's abandonment application, or STB Dkt. No. AB-515 (Sub-No. 2) is not a proper subject of discovery in this separate proceeding, and is not legally relevant to issues or evidence submitted in this proceeding. CORP also specifically objects to this Document Request as duplicative and unduly burdensome, because CORP produced underlying workpapers and documents to the Port at the same time CORP served its Response to the Port's Feeder Line Application. CORP further

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objects to this request to the extent it seeks documents or information that are not in CORP's possession or custody. Subject to, and without waiving, its objections, CORP will produce additional responsive non-privileged documents it has located in a reasonable search (to the extent such documents were not produced previously).

Document Request No. 22 Please produce all documents related to the development of bridge removal and permitting costs by Staton Companies in the response evidence of CORP in STB Docket 35160. Please include all correspondence (letters, e-mails, faxes, notes from phone calls, etc.) between Staton Companies and CORP. Please include all documents and information given by CORP to Staton Companies, including documents describing the scope of work or the assignment. Please also include all documents and information received from Staton Companies.

Response:

CORP incorporates by reference to this Response CORP's specific objections to Document Request No. 21. Subject to, and without waiving, its objections, CORP will produce additional responsive non-privileged documents it has located in a reasonable search (to the extent those documents have not been produced previously).

Document Request No. 23 Please produce all documents related to the development of bridge removal and permitting costs by Edward Kraemer & Sons, Inc. in the response evidence of CORP in STB Docket 35160. Please include all correspondence (letters, e-mails, faxes, notes from phone calls, etc.) between Edward Kraemer & Sons, Inc. and CORP. Please include all documents and information given by CORP to Edward Kraemer & Sons, Inc., including documents describing the scope of work or the assignment. Please also include all documents and information received from Edward Kraemer & Sons, Inc.

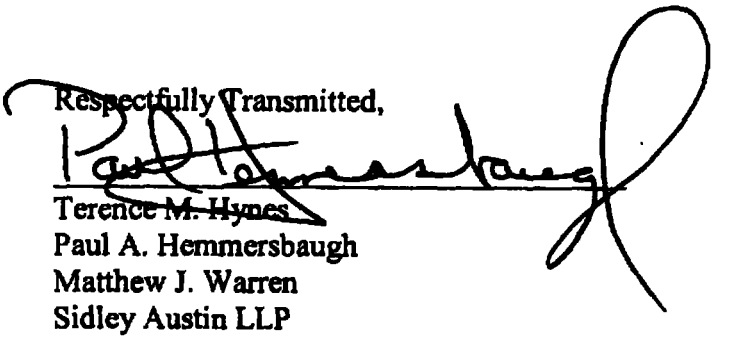
Response:

CORP incorporates by reference to this Response CORP's specific objections to Document Request No. 21. Subject to, and without waiving, its objections, CORP will conduct a

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reasonable search for responsive non-privileged documents, and produce any such documents (to the extent they have not been produced previously).

Respectfully Transmitted,



Scott G. Williams
Senior Vice President and
General Counsel
RailAmerica, Inc.
5300 Broken Sound Boulevard N.W.
Boca Raton, Florida 33487
(561) 994-6015

Terence M. Hynes
Paul A. Hemmersbaugh
Matthew J. Warren
Sidley Austin LLP
1501 K Street, N.W.
Washington, D.C. 20005
(202) 736-8000

Counsel for Central Oregon & Pacific Railroad, Inc

Dated: September 9, 2008

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VERIFICATION

I Alan Pettigrew, being duly authorized by Central Oregon & Pacific Railroad, Inc., declare under penalty of perjury, that the foregoing Responses to Applicant's Third Set of Interrogatories are true and correct to the best of my knowledge, information, and belief.



Alan Pettigrew

Dated: September 8, 2008

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CERTIFICATE OF SERVICE

I hereby certify that I have caused the foregoing Responses And Objections to the Oregon International Port of Coos Bay's Third Set of Interrogatories and Requests for the Production of Documents to be served by hand and by email this 9th day of September 2008, on counsel for the International Port of Coos Bay:

Sandra L. Brown
Michael H. Higgins
David E. Benz
Troutman Sanders LLP
401 9th Street, NW
Suite 1000
Washington, DC 20004

Richard Bryan

DC1 1252921v 2

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 18

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BEFORE THE
SURFACE TRANSPORTATION BOARD

Oregon International Port of Coos Bay – Feeder Line Application – Coos Bay Line of the Central Oregon & Pacific Railroad, Inc.	)	Finance Docket No. 35160

CENTRAL OREGON & PACIFIC RAILROAD, INC.'S RESPONSES AND OBJECTIONS TO OREGON INTERNATIONAL PORT OF COOS BAY'S SECOND SET OF INTERROGATORIES, REQUESTS FOR PRODUCTION OF DOCUMENTS

Pursuant to 49 C.F.R. Part 1114 and other applicable rules and authority, Central Oregon & Pacific Railroad, Inc. ("CORP"), by its attorneys, Sidley Austin LLP, responds as follows to Oregon International Port of Coos Bay's ("The Port") Second Set of Interrogatories and Requests for the Production of Documents. (Sometimes referred to collectively hereinafter as "Discovery Requests").

General Objections

CORP's General Objections, set forth herein, apply to each and every one of the specific interrogatories and document requests that follow. CORP incorporates by reference, as if set forth in full herein and without further enumeration, all of its objections to the Port's pervious discovery requests in this proceeding (including all objections made in CORP's Responses and Objections to the Port's First Set of Discovery Requests). CORP's objections shall not waive, limit, or prejudice any objections it may later assert.

1. CORP objects to any and all definitions and/or instructions to the extent they either expand upon or conflict with 49 C.F.R. Part 1114, Subpart B. CORP further objects to these Discovery Requests to the extent that they seek to impose obligations on CORP greater than, or inconsistent with, those imposed under 49 C.F.R. Part 1114, Subpart B.

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2. CORP objects to each and every Interrogatory and Document Request to the extent that it seeks information protected by the attorney-client privilege, the attorney work product doctrine, or any other applicable privilege, protection, or exemption from discovery or disclosure. In the event that any such privileged, protected, or exempt information is inadvertently produced or provided, such disclosure or production is not intended as, and should not be construed as, a waiver of any applicable privilege, protection, or exemption.

3. CORP objects to each and every Discovery Request to the extent that it seeks information or data that is not relevant to the subject matter of this proceeding or is not reasonably calculated to lead to the discovery of admissible evidence.

4. CORP objects to each and every Discovery Request to the extent that it is: (a) overly broad; (b) vague and/or ambiguous; (c) fails to describe with reasonable particularity the information sought; (d) seeks information that is not within the possession, custody or control of CORP; or (e) would impose an undue burden that outweighs any relevance or probative value the information sought may have in this proceeding.

5. CORP objects to each and every Discovery Request to the extent that it requests information or material that it is: (a) already in the possession of the Port; (b) publicly available or otherwise readily available or accessible to the Port from other sources; or (c) as accessible or available to the Port as it is to CORP and producing responsive information would impose substantially the same or greater burden on CORP as it would impose on the Port.

6. CORP objects to the definition of the term "Embargo" as erroneous and overbroad, particularly in light of the Port's definition of the term "Line." CORP did not suspend service or otherwise "embargo" the line segment between Vaughn, OR and Danebo, OR.

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7. CORP objects to Instruction 6 to the extent it seeks to impose obligations broader than those imposed by 49 C.F.R. Part 1114. CORP further objects to Instruction 6 on the grounds of impracticability — if a potentially responsive document has been lost or destroyed: (a) CORP would not necessarily be aware of that event; (b) CORP would most likely be unaware of the circumstances of loss or destruction of specific documents; and (c) CORP would be unable to determine the authors, recipients, dates of creation, contents, which generally could be determined only by reviewing the unavailable document.

8. CORP objects to the definition of "Document" to the extent it seeks to impose obligations broader than those imposed by 49 C.F.R. Part 1114. CORP further objects to the definition of Document to the extent it seeks information or data that is privileged, protected by the attorney-client work product doctrine, or otherwise protected, exempted, or excluded from discovery or disclosure by an applicable privilege, protection, rule, or doctrine. In these Responses, CORP will interpret the term "Document" as excluding any data or other information that is protected from discovery or disclosure by such privilege, protection, doctrine, or rule.

9. CORP objects to the multiple definitions of "Identify" to the extent they seek to impose obligations beyond, in addition to, or inconsistent with discovery obligations under 49 C.F.R. Part 1114. CORP further objects to the multiple definitions of "Identify" as vague and ambiguous.

10. CORP objects to the definitions of " 'Identify' when used in reference to a natural person" or to other entities as seeking to impose obligations or requirements beyond, in addition to, or inconsistent with discovery obligations under 49 C.F.R. Part 1114. CORP has no duty to investigate or disclose the business addresses, telephone numbers, employers, and/or job titles or business activities of third parties. Furthermore, these definitions would impose an undue

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burden that outweighs any relevance or probative value the information sought may have in this proceeding.

11. CORP objects to the definition of " 'Identify' when used in connection with a document" as seeking to impose obligations or requirements beyond, in addition to, or inconsistent with discovery obligations under 49 C.F.R. Part 1114. CORP has no duty to search for, gather, and catalog every document possibly implicated by an interrogatory with the more than eight pieces of information specified as required by the definition. This definition would impose an undue burden that outweighs any relevance or probative value the information sought may have in this proceeding. CORP will respond to any interrogatory asking it to "identify" particular documents as if it were a request for production of those documents and respond in accordance with 49 C.F.R.§ 1114.30.

12. CORP objects to the definitions of "relating to" and "relates to" as overly broad, unduly burdensome, vague, and ambiguous.

13. CORP objects to the broad and extensive scope of the Discovery Requests as overbroad and unduly burdensome, particularly in context of the unusually short time provided for responding to the Discovery Requests.

14. CORP objects to the Port's requests for "all" information and documents as unduly burdensome. CORP will produce such relevant, non-privileged information as can be located in a reasonable search.

15. CORP objects to the Port's requests relating to information relating to "the Line" as defined in Definition No. 9 to the extent that these requests call for CORP to perform special studies to obtain this information. CORP does not separately maintain data regarding "the Line" (as defined by the Port) in the ordinary course of business. CORP further objects to the

definition of "Line" to the extent that it includes track over which CORP discontinued service pursuant to the authority granted in STB Docket No. AB-515 (Sub-No. 1X), *Central Oregon & Pac. R.R., Inc.—Discontinuance Exception—in Coos County, OR.*

16. CORP objects to the Port's failure to limit its requests to a relevant time period as overbroad and unduly burdensome. The Port seeks information that is not relevant to this proceeding and is not reasonably calculated to lead to the production of admissible evidence. Subject to, and without waiving this objection, unless otherwise indicated, CORP's responses will cover the period from 2005 to the present.

17. CORP does not concede the relevance, materiality, competence, or admissibility as evidence of any of the information requested in these Discovery Requests. By producing responsive documents or information, CORP does not concede such information or documents are relevant, material, or admissible into evidence, and any such production is not intended to waive any of CORP's objections to any of these Discovery Requests. CORP reserves its rights to object on any ground to the use of the responses provided herein, in this proceeding or any appeal thereof, of in any subsequent proceeding or action.

18. CORP objects to these Discovery Requests as duplicative, unnecessary and seeking to impose undue burdens. In light of the information CORP has previously produced to the Port, in connection with proceedings before the STB (including but not limited to documents, materials, and information served on August 29, 2008).

19. CORP's General Objections, Specific Objections, and responses are based upon information presently known to it. CORP reserves the right to rely upon facts, documents, or other evidence that it may develop or that may subsequently come to its attention; to assert additional objections; and to supplement or amend these responses at any time.

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Specific Objections

In addition to its General Objections (which shall apply in full to each and every Discovery Request, without further enumeration), CORP also asserts Specific Objections to each Interrogatory and Document Request. CORP preserves all of its General Objections set forth above, and none of the following Specific Objections shall waive or limit the scope, breadth, generality, or applicability of those General Objections.

INTERROGATORIES

Interrogatory No. 42 Please explain the reasons why CORP engaged Milbor-Pita & Associates, Inc. ("Milbor-Pita") to investigate and/or prepare a report on the condition of the railroad tunnels on the Line, and please describe any actions taken by CORP to repair or reinforce the tunnels in response to the conclusions or recommendations of the report issued by Milbor-Pita dated May 5, 2004 (or any subsequent version of that report).

Response:

CORP specifically objects to Interrogatory No. 42 on the grounds that the requested information is not relevant to any issue properly before the Board in this Feeder Line proceeding, and not reasonably calculated to lead to the discovery of evidence admissible in this proceeding. CORP further objects that the referenced "report" dated May 5, 2004 was a draft summary letter, not a "report"; the actual report was issued in September 2004. Subject to, and without waiving its objections, CORP responds as follows. CORP retained Milbor-Pita Associates, Inc. ("MPA") in 2004 to assist in the rehabilitation of Tunnel No. 13 on the Siskiyou Branch. That 3000-foot mountaintop tunnel had experienced a large fire that burned all supporting timbers, which in turn resulted in a collapse of the tunnel. CORP took advantage of the presence of MBA personnel and equipment on CORP's property to commission a review of the condition of all tunnels on the CORP system, including tunnels on the Coos Bay Branch.

Further subject to and without waiving its objections, CORP states that, after receiving the MBA report, CORP applied for a "ConnectOregon" grant for various line improvements and

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repairs, including work to repair tunnels 13, 15, and 20 on the Coos Bay Subdivision (which the MBA report identified as requiring certain repairs). Also, in 2006, CORP expended approximately $1.7 million to repair and rehabilitate Tunnel 15 on the Coos Bay Branch, a tunnel the MBA report identified as having the most significant short-term (within five years) rehabilitation needs.

Interrogatory No. 43 Please describe any marketing efforts or initiatives that CORP undertook between 2004 and 2007 to increase traffic on the Line from existing shippers and/or from any new shipper. For purposes of this Interrogatory, "new shipper" means any company that had not previously shipped goods on the Line.

Response:

CORP specifically objects to this Interrogatory on the grounds that the requested information is not relevant to any issue properly before the Board in this Feeder Line proceeding, and not reasonably calculated to lead to the discovery of evidence admissible in this proceeding.

RESPONSES TO REQUESTS FOR PRODUCTION OF DOCUMENTS

CORP incorporates by reference to each of its responses to the following document requests all of its General Objections to these Discovery Requests, and all of its specific objections to the foregoing Interrogatories, to the full extent they are applicable.

Document Request No. 15 Please produce all communications between CORP and Union Pacific Railroad ("UPRR") from 2003-2007, concerning divisions required to be paid by UPRR to CORP related to traffic on the Line, including any disputes over divisions.

Response:

CORP specifically objects to this Interrogatory on the grounds that the requested information is not relevant to any issue properly before the Board in this Feeder Line proceeding, and not reasonably calculated to lead to the discovery of evidence admissible in this proceeding. Subject to and without waiving its objections, CORP states that it previously produced to the Port (either in discovery or as attachments to CORP's filings) the Cooperative Marketing

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Agreement between UPRR's predecessor Southern Pacific Transportation Company and CORP (the "CMA"), and subsequent amendments to that CMA. CORP has also previously produced relevant "speedsheets," setting forth the payments it was entitled to receive under the CMA during the relevant period. CORP further responds that the specific terms of the CMA are not relevant because the Port, or any other prospective purchaser of the Line, would be required to negotiate its own arrangement(s) with UPRR.

Document Request No. 16 Please produce all communications between CORP and UPRR from September 21, 2007 to the present, concerning UPRR's participation in CORP's proposal for a public-private partnership to restore service on the Line after the embargo.

Response:

CORP specifically objects to this Interrogatory on the grounds that the requested information is not relevant to any issue properly before the Board in this Feeder Line proceeding, and not reasonably calculated to lead to the discovery of evidence admissible in this proceeding. Subject to and without waiving its objections, CORP states that it is not aware of any responsive documents beyond CORP's proposals and UPRR's testimony and letter to the STB in April 2008. *See* Ex Parte No. 677, *Common Carrier Obligation of Railroads*, Hr. Tr. at 142-44 (Testimony of M. Hemmer); *id.*, M. Hemmer Letter to STB (April 29, 2008). CORP will continue to search, and will produce any other non-privileged responsive documents it finds in a reasonable search.

Document Request No. 17 Please produce all communications between CORP and UPRR from September 21, 2007 to the present, concerning any attempt or effort by CORP to obtain money (in any form) from UPRR to restore service on the Line after the embargo.

Response:

CORP specifically objects to this Interrogatory on the grounds that the requested information is not relevant to any issue properly before the Board in this Feeder Line proceeding, and not reasonably calculated to lead to the discovery of evidence admissible in this proceeding.

Document Request No. 18 **Please produce all documents related to the net salvage of the rail assets of the Line (rail, ties, other track material), including without limitation, any request for salvage bids issued by CORP, and any offers or responses to such request(s).**

Response:

CORP objects to this Discovery Request as duplicative, redundant, unnecessary and seeking to impose undue burdens, because CORP previously produced to the Port documents supporting and relating to salvage value and NLV (including documents produced in response to previous discovery requests and workpapers and other documents served with CORP's Response submission in this proceeding on August 29, 2008). CORP further objects to this Discovery Request to the extent that it calls for the production of documents protected by the attorney work product privilege, the attorney-client privilege, or other protections or exemptions from discovery.

Document Request No. 19 **Please produce all documents related to Interrogatories 42 and 43.**

CORP incorporates by reference its objections to Interrogatories 42 and 43. Subject to and without waiving its objections, CORP will produce a copy of the final MBA Report.

Respectfully Transmitted,

Scott G. Williams
Senior Vice President and
General Counsel
RailAmerica, Inc.
5300 Broken Sound Boulevard N.W.
Boca Raton, Florida 33487
(561) 994-6015

Terence M. Hynes
Paul A. Hemmersbaugh
Matthew J. Warren
Sidley Austin LLP
1501 K Street, N.W.
Washington, D.C. 20005
(202) 736-8000

Counsel for Central Oregon & Pacific Railroad, Inc

Dated: September 5, 2008

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CERTIFICATE OF SERVICE

I hereby certify that I have caused a copy of the foregoing Responses And Objections to the Oregon International Port of Coos Bay's Second Set of Interrogatories and Requests for the Production of Documents and Request to Enter Upon Land to be served by email, and the original to be served by first class mail, postage prepaid, this 5th day of September 2008, on counsel for the International Port of Coos Bay:

Sandra L. Brown
Michael H. Higgins
David E. Benz
Troutman Sanders LLP
401 9th Street, NW
Suite 1000
Washington, DC 20004

Paul Hemmersbaugh

DC1 1254174v.2

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 19

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
EUGENE FIELD OFFICE
1600 EXECUTIVE PARKWAY, SUITE 210
EUGENE, OREGON 97401-2156

REPLY TO
ATTENTION OF

July 10, 2008

Operations Division
Regulatory Branch
Corps No. NWP-2008-430

Mr. Terence M. Hynes
Sidley Austin LLP
1501 K Street NW
Washington, D.C. 20005-1401

Dear Mr. Hayes:

The U.S. Army Corps of Engineers (Corps) received information that Central Oregon & Pacific Railroad, Inc. (CORP) intends to abandon and discontinue service over approximately 119.5 miles of its Coos Bay Subdivision in Coos, Douglas, and Lane Counties. In addition, CORP is pursuing abandonment of a 94.13 mile segment between milepost 669.0 near Vaughn, Oregon and Milepost 763.13 south of Cordes, Oregon. CORP is also considering discontinuing service over 24.47 miles of leased railroad line.

Based on the information contained in the Combined Environmental and Historic Report, dated June 24, 2008, Docket No. AB-515 (Sub-No. 2), portions of CORP' s proposed project may require a Department of the Army Permit pursuant to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

Under Section 10 of the Rivers and Harbors Act of 1899, the Corps has authority to issue permits for structures or work in or affecting navigable waters of the United States. Limits of jurisdiction extend to the mean high water mark in tidally influenced areas and to the ordinary high water mark in non-tidal but navigable waters.

Under Section 404 of the Clean Water Act, the Corps has authority to issue permits for the placement of fill or dredged material into waters of the United States. The term "waters of the United States" include the territorial seas and tidally influenced waters up to the high tide line. "Waters" also include all other waters up to their ordinary high water mark that are part of a surface tributary system to and including navigable (non-tidal) waters of the United States. Wetlands adjacent to these waters are also "waters of the United States."

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Before authorizing work under our statutory authorities, the Corps must ensure a project complies with other applicable Federal laws and regulations such as the Endangered Species Act (ESA) and Cultural Resources laws. All actions will be coordinated with the appropriate American Native Tribes. Dependant upon the location and nature of the project and its potential to affect protected species, the Corps will coordinate with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) under ESA. In most instances, the Corps will coordinate directly with those agencies, but we may require additional information from you to complete the coordination and consultation.

Enclosed is a pamphlet explaining our permit program and a joint application form with sample drawings. If you have any questions regarding our permit program, please contact Michele E. Hanson at the letterhead address, by telephone at (541) 465-6878, email michele.e.hanson@usace.army.mil.

Sincerely,

Michele E. Hanson
for Lawrence C. Evans
Chief, Regulatory Branch

Enclosures

Copy Furnished:

Oregon Department of State Lands (Kiryuta)
Oregon Department of Land Conservation and Development (Charland)

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SIDLEY AUSTIN LLP
SIDLEY

SIDLEY AUSTIN LLP
1501 K STREET, N W
WASHINGTON, D C 20005
(202) 736 8000
(202) 736 8711 FAX

thynes@sidley com
(202) 736-8198

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FOUNDED 1866

June 24, 2008

Colonel Thomas O'Donovan, District Engineer
U.S. Army Corps of Engineers, Portland District
P.O. Box 2946
Portland, OR 97208-2946

Re: Docket No. AB-515 (Sub-No. 2X), *Central Oregon & Pacific Railroad, Inc. - Abandonment and Discontinuance - in Coos, Douglas, and Lane Counties, OR (Coquille to Vaughn)*

Dear Colonel O'Donovan:

On or about July 14, 2008, we expect to be filing with the Surface Transportation Board ("STB") an application seeking authority for Central Oregon and Pacific Railroad, Inc. ("CORP") to abandon and discontinue service over approximately 119.5 miles of its Coos Bay Subdivision in Coos, Douglas, and Lane Counties, OR. CORP will seek to abandon a 94.13 mile segment between milepost 669.0 near Vaughn, OR, and milepost 763.13 south of Cordes, OR. CORP will seek to discontinue service over approximately 24.47 miles consisting of: (1) about 22.47 miles between milepost 763.13 south of Cordes and milepost 785.6 near Coquille, OR, over a line that is leased from the Union Pacific Railroad Company; and (2) the 2.0 mile LPN Branch between Gardiner Jct., milepost 738.8, and the end of the line at milepost 2.0, leased from Longview, Portland & Northern Railway Company.

Attached is a Combined Environmental and Historic Report describing the proposed action and any expected environmental and historic effects, as well as a map (Exhibit 1) of the affected area. We are providing this report so that you may review the information that will form the basis for the STB's independent environmental analysis of this proceeding. If any of the information is misleading or incorrect, if you believe that pertinent information is missing, or if you have any questions about the STB's environmental review process, please contact the Section of Environmental Analysis (SEA), Surface Transportation Board, 395 E Street, SW, Washington, DC 20423, telephone 202-245-0295 and refer to the above Docket No. AB-515 (Sub-No. 2X).

Because the applicable statutes and regulations impose stringent deadlines for processing this action, your written comments to SEA (with a copy to our representative) would be appreciated within 3 weeks. Your comments will be considered by the STB in evaluating the environmental impacts of the contemplated action. If there are any questions concerning this proposal, please contact our representative directly. Our representative in this matter is Terence M. Hynes who may be contacted by telephone at 202-736-8198, email at thynes@sidley.com, or mail at Sidley Austin LLP, 1501 K Street, NW, Washington, DC 20005.

Sincerely,

Terence M. Hynes
Counsel for Central Oregon & Pacific Railroad, Inc. and RailAmerica, Inc.

TMH:aat
Enclosures

Sidley Austin LLP is a limited liability partnership practicing in affiliation with other Sidley Austin partnerships

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Hanson, Michele E NWP

From: Hanson, Michele E NWP
Sent: Thursday, July 10, 2008 2:44 PM
To: 'thynes@sidley.com'
Subject: Corps No. NWP-2008-430, CORP

Importance: High

Attachments: Michele E. Hanson (Michele.E.Hanson@usace.army.mil).vcf; 2008430.pdf


Michele E. Hanson (Michele.E.H...


2008430.pdf (80 KB)

Dear Mr. Hynes,

The U.S. Army Corps of Engineers is providing a response to the documented you submitted on June 24, 2008. The document has been assigned project number NWP-2008-430. Please refer to this number in future correspondence.

Because of the brief timeline for response I am emailing a copy of our letter to you. A hard copy will be placed in the mail.

Thank you for the opportunity to review CORP's plans.

Sincerely,

Shelly

Michele E. Hanson
Biologist-Project Manager
USACE-Regulatory

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 20

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EI-9657 CD

Oregon
Theodore R. Kulongoski, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregonstatelands.us.

COPY

State Land Board

Theodore R. Kulongoski
Governor

Bill Bradbury
Secretary of State

Randall Edwards
State Treasurer

August 25, 2008

Christa Dean
Surface Transportation Board
Case Control Unit
395 E Street SW
Washington DC 20423

Subject: STB Docket No. AB-515 (Sub-No. 2)

Dear Ms. Dean:

The Oregon Department of State Lands (DSL) is in receipt of the Environmental Assessment (STB Docket No. AB-515 (Sub-No. 2) for Central Oregon and Pacific Railroad Inc. Abandonment and Discontinuation of Service – in Coos, Douglas and Lane Counties, OR, dated August 15, 2008.

DSL manages the state's ownership of the beds and banks of tidal and other navigable waters in Oregon. The subject rail line includes at least 30 crossings on DSL property including, but not limited to, the Coquille River, Isthmus Slough, Davis Slough, Shinglehouse Slough, Coalbank Slough, lower Coos Bay, North Tenmile Lake, Scholfield Creek, the Umpqua River, Tahkenitch Lake, Siltcoos Lake and the Siuslaw River. The Environmental Assessment (page 6) indicates that CORP does not plan to remove any bridges as part of the proposed project. The Assessment goes on to state (page 10) that it would not be appropriate or consistent with Board precedent for SEA to recommend a condition regarding rail removal or responsibility for maintenance.

DSL is very concerned about the abandonment of structures on state property with no designated responsible party and the liability imposed upon the State by such a situation. Such abandonment may be considered a trespass pursuant to Oregon Revised Statute 273.185 and 274.992.

DSL would also like to reiterate its concern that abandoned culverts and bridges, left unmaintained, will eventually fill with debris or collapse thereby blocking fish passage. Many of the streams crossed by the CORP line are designated by the state of Oregon as Essential Salmonid Habitat, thereby receiving the highest level of state protection. Failure of these structures could block important fish migrations including federal Endangered Species Act (ESA)-listed fish species.

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This likely adverse effect to ESA-listed species does not appear to be addressed in the Environmental Assessment.

For these reasons, DSL strongly encourages the SEA to require the removal of rail appurtenances from all DSL properties and fish-bearing waterways if the abandonment is approved. The SEA's recommendation that CORP contact DSL to discuss our concerns is simply insufficient to ensure protection of the State's interest in this matter.

Thank you for the opportunity to comment on the Environmental Assessment. Please contact Kirk Jarvie at DSL, 503-986-5320, if you have questions or comments on this transmittal.

Sincerely,

Louise Solliday

Louise Solliday
Director

cc: Chris Warner, Oregon Dept. of Transportation

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 21

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E1-853

Oregon
Theodore R. Kulongoski, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St. NE, Suite C
Salem, OR 97301-1266
(503) 986-0707
FAX (503) 986-0793
www.hcd.state.or.us

August 15, 2008

Mr. Terence Hynes
Sidley Austin LLP
1501 K St NW
Washington, DC 20005

RE: SHPO Case No. 08-1481
Central OR & Pacific RR (CORP) Abandonment Project
Multiple legals, Various, Coos/Douglas/Lane County

Dear Mr. Hynes:

We have reviewed the materials submitted on the project referenced above, and we do not concur with your determination that the property is ineligible for the National Register. We believe that the rail line is eligible for the National Register of Historic Places as a linear district in accordance with 36 CFR Part 60.4.

Although we believe the property is eligible, we also believe that a no adverse effect finding is warranted for the abandonment of this line if the Central Oregon and Pacific Railroad, Inc. does not plan to remove any of the features of the rail line. If removal is planned, then additional documentation and coordination should occur with this office to mitigate for the adverse effect.

Our response here is to assist you with your responsibilities under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800). Please feel free to contact me if you have further questions, comments or need additional assistance.

Sincerely,

Sarah Jalving
Historic Compliance Specialist
(503) 986-0679 or Sarah.Jalving@state.or.us

Xc: fax to Christa Dean: Surface Transportation Board, 202-245-0454

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 22

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SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

July 16, 2007

Mr Marc Bader, Chief Engineer
Rail America Operations West
One Harbor Center Drive Suite 340
Suisun City, CA 94585

RE: TUNNEL INVENTORY – COOS BAY SUBDIVISION, OREGON

Dear Mr Bader

This report documents our observations and opinions regarding the condition of nine tunnels in the Coos Bay Subdivision, and our engineer's preliminary estimate of costs for construction of short- and long-term rehabilitation work Rail America does not seek any clearance improvement in the tunnels at this time, therefore, it was not considered in any of our recommended repairs and structural improvements in this report Maintenance or repairs of track structure or drainage conditions within the tunnels were also not included in our assessment, but poor track and drainage conditions were noted on our log forms General data on the condition of the existing tunnel conditions and supports suggested methods for repairs and maintenance and estimated rehabilitation costs are presented in Tables 1 through 10 Our engineer s estimate of tunnel rehabilitation costs is summarized separately in Table 11

The tunnel inventory was authorized by Mr Marc Bader, Chief Engineer of Rail America Operations West, on March 12, 2007 Shannon & Wilson, Inc conducted the mapping and assessment of the tunnels between March 26 and 30, 2007 Rail America provided flagging services and designated a railroad employee to escort and provide access via hy-rail to the Shannon & Wilson, Inc field crew during the tunnel visits

We visited and logged Tunnels 16 and 21 on March 26 On March 27, our project manager, Red Robinson, joined the crew and we logged Tunnels 14 and 20 and briefly visited Tunnel 13 We mapped Tunnel 13 on March 28, and we assessed Tunnels 17 and 19 on March 29 We

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completed the mapping with Tunnel 18 on the March 30 Tunnel 15 had been previously logged during the rehabilitation of a severely deteriorated and partially caved portion of the tunnel in November 2006 We revisited Tunnel 15 on July 9, 2007 to observe ground conditions and timber rib conditions adjacent to a recently collapsed timber rib at around Station 3+30

During our logging process we noted the nature and condition of the tunnel support system and the condition and stability of the rock where visible The condition of the tunnel supports and rock was prioritized according to the need for repair In our opinion, portions of the tunnels that are in need of immediate repair within six months are classified as Repair Level 1 Repair Level 2 applies to portions of the tunnels that should be repaired within the next 12 months Repair Level 3 applies to portions of the tunnels that should be repaired in the next 12 to 30 months Repair Level 4 applies to portions of the tunnels that should be completed in the next 30 to 48 months Repair Level 5 applies to portions of the tunnels that are not in need of repairs within the next 48 months, based on the current conditions, however, changes in groundwater flows into the tunnel, drainage, and general time-related deterioration of the tunnel lining or rock could lead to future needs for repair The conditions of the tunnels should be reassessed every few years and during the various repair phases

The only documentation available for review prior to our site visit and tunnel evaluation and the preparation of this report was in-house copies of the "Central Oregon Pacific Railroads Tunnel Inspection Report – Siskiyou and Coos Bay Branch," a report prepared by Shannon & Wilson Inc dated March 1994 This report also included typical drawings of timber sets and gunite/ shotcrete lining

GENERAL CONDITION OF THE TUNNELS

Based on available documents, the original tunnel construction took place in the 1880s Excavation was by drill-and-blast, with local support provided by timber sets, wood lagging, and portal structures Continuous timber sets as support, along with concrete portal structures, were

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established between 1910 and the 1920s Only the South portal of Tunnel 14 and the North portals of Tunnel 18 and Tunnel 19 are lined with shotcreted steel sets

Anticipated lifespan for cedar timber tunnel supports is normally on the order of 50 years Most of the timber supports in the Coos Bay tunnels have likely been in place for well over 50 years, possibly up to 95 years However, where the timber ribs and lagging have remained dry, they are still in fairly good shape and may provide adequate support to the rock Where groundwater is seeping from the rock and through the lining, or where the bottoms of the sets are standing in poorly drained and/or muddy drainage ditches or on low concrete footing walls where debris has accumulated and holds the groundwater, the timber supports have undergone various levels of decay In some instances, decay is limited to only the lower 1 to 2 feet of the posts Elsewhere, the decay is more pervasive and has penetrated the entire lining for several ribs in a row

The significant effort required to maintain the timber lining led one of the previous owners of the Coos Bay branch, the Southern Pacific Railroad, to a program of replacing timber sets with steel sets covered with gunite in the 1970s and early 1980s Tunnels 14, 19, and 20, with relatively stable rock conditions, were supported with only a thin layer (1 to 4 inches) of gunite after the removal of the timber lining It appears that the timber lining in Tunnel 21 was removed more recently, possibly after a tunnel fire, and steel fiber-reinforced shotcrete was used to support the tunnel At present, approximately 1,207 feet of timber lining remains in place in Tunnel 13, 1,073 feet in Tunnel 15, 417 feet in Tunnel 17, and 622 feet in Tunnel 18

SHORT-TERM OR IMMEDIATE (REPAIR LEVELS 1 AND 2) *REHABILITATION REQUIREMENTS*

Indications of severe liner and/or rock deterioration and instability requiring immediate repair (Repair Levels 1 and 2) were observed at several locations in the timber-lined sections of Tunnels 13, 15, and 18, where the timber sets are heavily decayed, crushed, and/or offset We also observed rockfall hazards at several locations in Tunnels 13 and 15, where timber sets were removed and replaced with steel sets, but the timber lagging was left in place and has now

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deteriorated and rotted away In addition, we identified rockfall hazards in two, short, unlined sections, also in Tunnel 13 Because of evident recent rockfalls, we strongly recommend immediate repairs in these areas as well

Because of the potential for rockfalls and tunnel collapse during removal and replacement of the timber sets, as experienced in a short portion of Tunnel 15, we recommend that grouted rock bolts be installed through the timber liner, and then the timber ribs be removed one rib at a time and replaced with either shotcrete or steel ribs, as shown in the tables

LONG-TERM (REPAIR LEVELS 3 THROUGH 5) REHABILITATION REQUIREMENTS

The majority of the long-term rehabilitation requirements are related to the removal and the replacement of timber sets, wood foot blocks, and timber lagging, and re-lining with steel fiber-reinforced shotcrete and rock bolts (Tunnels 13, 15, 17 and 18) The timber support in these sections of tunnel is at various stages of deterioration, consequently, isolated timber ribs could loosen and fail at any time This also includes sections in Tunnel 13 where timber lagging was left in place after timber sets were replaced with steel sets Rehabilitation work is also required in unlined sections and in areas with exposed bedrock and spalling shotcrete, some of them associated with apparent rockfall activity These conditions were observed to various extents in Tunnels 13, 14, 15, 19, 20, and 21

Recommended repairs include the application of steel fiber-reinforced shotcrete Additional support with rock bolts is required at some locations Typically, we recommend protecting and supporting unlined sections immediately We designated these areas for long-term rehabilitation requirements based on our visual observation of the bedrock conditions and the fact that they have apparently been stable over some period of time However, there is always a risk of sudden rockfalls in unlined sections or areas with only thin shotcrete/gunite cover, and if a rockfall condition develops immediate support may be needed

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An isolated rockfall occurred in Tunnel 19 roughly between Stations 35+60 and 36+00 in May 2007. A site visit was conducted on June 4, 2007, to assess the conditions. This section of the tunnel had experienced spalling in the past of thin shotcrete in the crown, and bedrock is exposed currently. At this location, the installation of additional ground support (shotcrete and, potentially, some rockbolts) may be considered at an earlier time than indicated on the summary table, and could be included during more urgent repair works in the adjacent Tunnel 18 (see above).

In Tunnel 20, which is generally lined with thin, 1- to 4-inch-thick, gunite, a 20-foot-long and a 44-foot-long section are lined with shotcreted steel sets at 3- to 4-foot spacing. Exposed bedrock above the steel sets indicates past over-break and rockfall activity in these areas, which requires remedial support. Currently, the shotcreted steel sets function as a canopy and protect the track from falling rocks to some extent, but they do not support the actively raveling rock above.

We did not include several tunnel sections lined with good-quality, sound timber in our rehabilitation program (657 feet in Tunnel 13, 745 feet in Tunnel 15, 373 feet in Tunnel 17, and 62 feet in Tunnel 18). The current conditions of timber sets, timber lagging, and wood foot blocks in these areas are generally fair to good, and we estimate a remaining average lifespan of approximately 5 to 10 years, or more. At Tunnel 15, the timber-lined sections also include areas where shotcrete was applied between the existing timber sets in order to maintain bedrock stability during repair work that was conducted in adjacent areas. However, the timber will deteriorate over time and may cause problems in these sections in the future. At locations where wood foot blocks are used to support timber sets, poor maintenance of drainage ditches can lead to rotting of the timber sets and shorten their lifespan significantly. Replacing the timber lining with rockbolts and steel fiber-reinforced shotcrete is recommended in the future in these sections in order to maintain the long-term stability of the tunnel.

We also observed several sections in Tunnel 13 where timber sets were replaced with steel sets followed by an application of shotcrete, which was applied over timber lagging that was left in

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place Based on our observations, we expect void spaces of various dimensions (potentially up to 5 feet deep) behind the existing lining in these sections Backfilling the voids with cement-based material in the future will increase the structural long-term stability of the lining and reduce the potential fire hazard of the remaining timber lagging behind the shotcrete

Had we included in our proposed rehabilitation work the removal and re-lining of all timber-lined sections and the backfilling of void spaces behind the existing shotcrete-over-steel-sets lining, and added the shotcrete quantity needed to increase the thickness of gunite-lined sections the total construction costs would have increased on the order of roughly $12,000,000

SUMMARY

Immediate tunnel stability problems are related to the progressively and intensely deteriorated and rotted condition of timber in timber-lined sections in Tunnels 13, 15, and 18 and unlined sections with associated rockfall hazard in Tunnel 13 We recommend relining and supporting these areas with steel fiber-reinforced shotcrete, rockbolts, and steel ribs, as indicated in the tables We estimate the total construction costs for the Repair Levels 1 and 2 to be in the order of $2,865,000

Long-term rehabilitation work—within the next 1 to 5 years—is required in almost all of the tunnels (except Tunnel 16) and, in general, includes the relining and supporting of tunnel sections with steel fiber-reinforced shotcrete, rockbolts, and/or steel ribs, as shown in the tables We estimate the total construction costs for the later repairs (Levels 3 to 5) to be around $3,815,000

We would be pleased to submit a detailed proposal for the engineering design work and the preparation of construction plans and specifications for your next phase of repair work on the Coos Bay Tunnels

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We appreciate the opportunity to work with you and look forward to answering any questions you have about the information in this report

Sincerely

SHANNON & WILSON, INC.

Klaus G Winkler
Senior Engineering Geologist

Robert A Robinson, L E G , L G
Senior Vice President
Director of Underground Services

Roberto J Guardia, P E
Vice President

KGW RJG RAR/kgw

Enclosures
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Important Information About Your Engineering Report

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SHANNON & WILSON, INC
Geotechnical and Environmental Consultants

Attachment to and part of Report 21-1-20713-001

Date July 16, 2007
To Mr. Mark Bunn, Chief engineer
Rail America Operations West

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

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A REPORT'S CONCLUSIONS ARE PRELIMINARY

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland

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LIST OF TUNNELS - Coos Bay Subdivision

Tunnel No.	MP @ N. Portal	Length	Tunnel Liner	Condition	Comments	Curve
13	669 47	2498 ft	Timber sets, shotcreted steel sets, steel sets with timber lagging, 100 ft unlined, 55 ft concrete portal barrels	Poor - Good	Rotting timber sets and lagging	tangent/ 8°
14	681 09	471 ft	Shotcreted steel sets, shotcreted bedrock, 50 ft N portal concrete barrel	Good	Thin shotcrete, cracking and spalling	8°
15	720 73	2,143 ft	Shotcrete over steel and timber sets, timber sets and lagging, N & S portal are 50 ft long concrete barrels	Poor - Good	Rotting timber sets and lagging, several cave-ins, recent repair work	tangent
16	721,52	633 ft	Shotcrete over timber and steel sets, N & S portal are 50 ft long concrete barrels	Good		7°
17	727 7	1,200 ft	Shotcrete over bedrock, timber sets, shotcreted steel sets, N & S portal concrete barrels	Poor - Good	Timber sets with rotting foot blocks, offsets, cracks in shotcrete	tangent/ 2°
18	734 48	1,580 ft	Shotcrete over steel and timber sets, timber sets and lagging, N & S portal are 50 ft long concrete barrels	Poor - Good	Timber sets with rotting foot blocks, offsets, cracks in shotcrete	tangent
19	745 62	4,202 ft	Shotcrete over bedrock, shotcrete over steel sets, S portal 50 ft concrete barrel	Fair - Good	Landslides over both portals, shotcrete thin and cracking, bedrock exposed	tangent/ 6°
20	750 1	874 ft	Shotcrete over bedrock, shotcrete over steel sets, S portal 50 ft concrete barrel	Fair	Large areas of spalling shotcrete with exposed bedrock	2°
21	751 2	478 ft	Shotcrete over bedrock, N & S portal are 50 ft long concrete barrels	Good		4°

Total Length 11,581 ft

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ESTIMATED CONSTRUCTION COST SUMMARY
Tunnel Assessment - Coos Bay Subdivision, Oregon

			Repair Level 1&2 (Incl 3-6)						Repair Level 1 to 6					
Tunnel #	Milepost @ N-Portal	Length (ft.)	Steel Sets (No.)	Rockbolts (LF)	Shotcrete (cy)	Remove Timber Sets (No.)	Concrete (cy)	Est. Total Construction Cost	Steel Sets (No.)	Rockbolts (LF)	Shotcrete (cy)	Remove Timber Sets (No.)	Concrete (cy)	Est. Total Construction Cost
Tunnel 13	659.47	2,466		2,070	429	36		$821,746		9126	1343	180	-	$2,799,803
Tunnel 14	661.06	471									66	-		$80,190
Tunnel 15	720.73	2,143	6	2,600	84	72		$858,465	6	6746	488	224	-	$1,589,595
Tunnel 16	721.62	633	-	-										-
Tunnel 17	727.70	1,200				-				440	38	14		$126,360
Tunnel 18	734.48	1,580		6,075	462	126		$1,470,565		7026	536	140	-	$1,712,745
Tunnel 19	743.62	4,202									191			$252,069
Tunnel 20	750.12	874							2		69		241	$116,838
Tunnel 21	751.21	479			-	-					34	-		$41,310
	Totals	14,877	6	10,745	975	238	-	$2,550,755	8	23387	2870	538	241	$6,679,748

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 23

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TUNNEL 13
Coos Bay Subdivision, Oregon
MP 669.47 to 669.94

Station		Length, ft	Repair Level	Lining		Concrete Curb		Comments	Repairs	Steel Sets		Rockbolts		Shotcrete		Concrete		Timber Sets	
From	To			Type	Set Spacing, ft	Y/N	Height above TOR, in			ft	No.	Rows	LF	ft²	cy	ft²	cy	ft	No
0+00	0+00	0		Concrete Portal				North Portal @ MP 669 47											
0+00	0+65	65		Concrete Barrel				Concrete lined ditch approx 2' below TOR											
0+65	1+02	37		Shotcrete over Steel Sets	2	Y	0	Shotcrete over steel sets at 2'-spacing shotcrete is 4"-8" thick. Concrete lined ditch extends 2' below TOR											
1+02	3+60	258		Shotcrete over Steel Sets	4	Y	0	Shotcrete over steel sets at 2'-spacing, shotcrete is flush with steel sets (~8"-10" thick), Timber lagging likely still in place Concrete lined ditch extends 2' below TOR Several drip locations heavy drip from west spring line at Sta 2+80											
3+60	4+17	57		Shotcrete over Steel Sets	2	Y	0	Shotcrete over steel sets at 4'-spacing, shotcrete is 6"-10" thick, Concrete lined ditch extends 2' below TOR											
4+17	4+34	17		Steel Sets	4	Y	0	Steel sets at 4'-spacing used as jump sets, timber lagging still in place, coarse wire mesh was installed between sets (set up for shotcrete application) Bedrock 0 5' - 2 5' behind lagging, Concrete lined ditch 2' below TOR											
4+34	4+40	6		Unlined		Y	0	Exposed bedrock Fault with 2"-offset across tunnel at Sta 4+39	- Install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and apply 4"-thick steel fiber reinforced shotcrete			1	60	432	5				
4+40	6+18	178		Timber Sets on Concrete Curb with Timber Lagging	4	Y	0	Timber sets at 4'-spacing on concrete curb with timber lagging. Bottoms of two timber sets are rotted at Sta 5+95, shifted on top of concrete curb, Bedrock 2' - 3 5' behind lagging, bedrock appears massive with healed joints, limey appearance Concrete lined ditch 2' below TOR, ditch ends at Sta 6+18 Concrete curb ends at Sta 6+18	*(Current conditions of timber lining and wood foot blocks are fair to good generally However timber will deteriorate over time and may cause problems in these sections in the future. Replacing the timber lining with rockbolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and application of 4"-thick steel fiber reinforced shotcrete)*										
6+18	6+35	17		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Dry											
6+35	6+48	13		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging; Deteriorated lagging along east wall, wood foot blocks in fair condition generally (no cracks or squeezing), Dry											
6+48	7+35	87		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, foot blocks in fair condition Dry, - End of curve at ~Sta 7+00											
7+35	8+15	80		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, two foot blocks underneath post typically in fair condition, Dry, - 3" sag along east sidewall between Sta 7+84 and 7+96											
8+15	8+86	71		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, one foot block underneath post typically, foot blocks show advanced deterioration, - 1" sag at Sta 8+45	Replace wood foot blocks with shotcrete footings OR Remove timber lining, install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			14	840	5112	64			71	19
8+86	9+92	106	3	Unlined		N		Exposed bedrock consists of sandstone with siltstone interbeds, Section is dry in general, Section is roughly 24 feet wide and 25 feet high - RQD is 90-100 (est), - Joint spacing 3'-6', 3 to 5 joint sets + random sets, surface roughness is rough to smooth, unfavorable joints direction, Medium-high to High-strength rock (75-150 MPa) (est), - Rock Mass Rating (RMR) ~85 (est), Rock Class I-II, - Large portions of the crown consist of one bedding plane, - Vertical fault across section between Sta 9+04 on the east wall and Sta 9+59 on the west wall ~ 2' of offset, RQD ~50-60 around fault, - Rock debris in ditch along both sidewalls are evidence for occasional rockfi	- Install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and apply 4"-thick steel fiber reinforced shotcrete			21	1260	8480	106				
9+92	12+74	282		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, in fair condition Dry, Bedrock consists of sandstone commonly, limey appearance	*(Current conditions of timber lining and wood foot blocks are fair to good generally However timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rockbolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and application of 4"-thick steel fiber reinforced shotcrete)*										
12+74	13+93	119	3 - 4	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging; - 1"-2"-sag along west sidewall between Sta 12+82 and 13+24, locally rotted, squeezed foot blocks, bottom of timber posts also deteriorated locally; - 2"-sag along west sidewall between Sta 13+24 and 13+35, - 2 5"-sag along west sidewall between Sta 3+55 and 13+64	- Remove timber lining, install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			24	1440	8568	158			119	31
13+93	14+19	26	2 - 3	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging; 6"-sag, Rotted foot blocks and deteriorated bottoms of posts, timber lagging is falling out and rotted away locally. Exposed bedrock appears to be competent, no significant overbreak throughout section	- Remove timber lining, install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			5	300	1872	34			26	8
14+19	14+83	64		Shotcrete over Steel Sets	2	Y	0	Shotcreted steel sets at 2'-spacing on concrete curb, Shotcrete application is 6"-10" thick Shotcrete was placed over existing timber lagging , 4'-5' wide void space between bedrock and shotcreted sets along east sidewall and in the crown, 2'-wide void space between bedrock and shotcreted sets along west sidewall	*Backfill void space behind lagging with cementations material (Void space average 3'-wide)*										

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TUNNEL 13
Coos Bay Subdivision, Oregon
MP 669.47 to 669.94

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft	Timber Sets No
14+83	14+87	4	2	Unlined		N		Exposed bedrock, Separated rock blocks in crown, obvious rockfall hazard	- Install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row) and apply 6"-thick steel fiber reinforced shotcrete			1	60	288	5				
14+87	15+12	25	2 - 3	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Advanced deterioration of wood foot blocks rotted lagging is falling out, - 4"-5"-sag along east sidewall from Sta 14+93 to 15+12	- Remove timber lining, install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row), and 6"-thick apply steel fiber reinforced shotcrete			5	360	1800	33			25	7
15+12	15+20	8	2	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Rotted and deterorated timber sets (3), advanced deterioration of wood foot blocks rotted lagging is falling out, Exposed bedrock along east sidewall, - 2"-3"-sag along west sidewall from Sta 15+00 to 15+33 (extends into following section - see below)	- Remove timber lining, install rockbolts (row-spacing 5 feet six 15'-long rockbolts per row), and apply 6"-thick steel fiber reinforced shotcrete			2	180	576	10			8	3
15+20	15+49	29	2	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging; Advanced deterioration of wood foot blocks, rotted lagging, Bedrock appears to be competent, - 7"-sag from Sta 15+29 to 15+33 and from Sta 15+33 to 15+49 along east sidewall, - 4"-sag from Sta 15+33 to 15+53 along west sidewall (extends into following section - see below)	Remove timber lining, install rockbolts (row-spacing 5 feet, five 15'-long rockbolts per row) and apply 6"-thick steel fiber reinforced shotcrete			6	450	2088	38			29	8
15+49	15+69	20	3 - 4	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Rotted lagging, Bedrock appears to be competent,	Remove timber lining, install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			4	288	1440	18			20	6
15+69	16+14	45	2	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, - Rotted timber sets and timber lagging along east sidewall between Sta 15+69 and 16+02 bedrock rubble fell through lagging - rockfall hazard - Deterorated timber posts and wood foot blocks along west sidewall between Sta 15+69 and 16+14, timber lagging is rotted and falling out	- Remove timber lining, install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row) and apply 4"-thick steel fiber reinforced shotcrete			9	648	3240	40			45	12
16+14	16+58	44	3 - 4	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Deterorated sets lagging, and wood foot blocks at various stages, - Timber lagging in 1/4-arch rotted - but mostly still in place - along west sidewall between Sta 16+34 and 16+49, deterioration along backside of timber posts, foot blocks in fair condition	- Remove timber lining, install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			9	648	3168	39			44	12
16+58	16+89	31	3	Timber Sets with Timber Lagging on Wood Foot Blocks	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Rotted lagging, condition of foot blocks fair to very poor throughout section, - Drip from crown at Sta 16+82	- Remove timber lining, install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			6	432	2232	28			31	9
16+89	17+08	19		Steel Sets on I-beams and Timber Sets with Timber Lagging	4	N		Steel sets installed between existing timber sets (timber sets at 4'-spacing), wood boards were used to strap section together steel set footings are cut I-beams in-place timber lagging generally dry	- Remove timber sets, wood foot blocks, and timber lagging, clean footings, and apply 4"-thick steel fiber reinforced shotcrete between steel sets Use shotcrete to be in steel web and for footing support					1368	17				
17+08	18+27	119		Timber Sets with Timber Lagging and Wood Foot Blocks	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Sets, lagging and foot blocks generally in fair condition, Appearantly competent bedrock close behind lagging typically - Damp lagging between Sta 17+20 to 17+36, - Damp and rotted lagging between Sta 17+61 to 17+69, - Drip at east springline at Sta 17+63, - Drip at west springline at Sta 17+67 - 3'-4'-wide void space between lagging and rock from 3'-4' below east springline to bottom of east sidewall between Sta 17+90 and 18+39	Replace wood foot blocks with shotcrete footings OR - Remove timber lining, install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			24	1728	8568	107			119	31
18+27	18+40	13	3	Timber Sets with Timber Lagging on Wood Foot Blocks	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Rotted lagging and deterorated posts along west sidewall	- Remove timber lining, install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			3	216	936	11			13	4
18+40	18+44	4	2	Unlined				Exposed bedrock with apparent recent rockfall (rock fragments up to 2'x1'x1' size)	- Install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			1	72	288	3				
18+44	19+20	76	2	Shotcrete over Steel Sets	2	Y	0	Shotcrete over steel sets at 2'-spacing on concrete curb, Shotcrete application flush with steel sets (~6"-10"-thick), Shotcrete was applied over existing timber lagging	*Backfill void space behind lagging with cementations material (Potentially 2'-wide void space)*										
19+20	19+66	46	2	Shotcrete over Steel Sets	2	Y	0	Shotcrete over steel sets at 2'-spacing on concrete curb, Shotcrete application ~4"-6"-thick, Shotcrete was applied over existing timber lagging	*Backfill void space behind lagging with cementations material (Potentially 2'-wide void space)*										
19+66	19+75	9	3	Unlined				Exposed bedrock in fair condition, RQD ~60-70% in east sidewall, ~80-90% in crown, ~70-80% in west sidewall (all est.)	- Install rockbolts (row-spacing 5 feet, six 12'-long rockbolts per row), and apply 4"-thick steel fiber reinforced shotcrete			2	144	648	8				

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TUNNEL 13
Coos Bay Subdivision, Oregon
MP 669.47 to 669.94

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No.	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft³	Concrete cy	Timber Sets ft.	Timber Sets No.
19+75	20+25	50		Steel Sets on I-beams	2	N		Steel sets at 2'-spacing on I-beams. Wire mesh was installed between sets Timber lagging was left in place Large void space between existing timber lagging and bedrock locally. - Drips from crown between Sta 19+80 to 19+98	*(Current conditions of timber lining and wood foot blocks are fair to good generally However timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rockbolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and application of 4"-thick steel fiber reinforced shotcrete* *OR* *installation of steel channel lagging between steel sets and backfilling void space with cementious material..*									
20+25	21+71	146		Shotcrete over Steel Sets	4	Y		Shotcreted steel sets at 4'-spacing. Shotcrete application is flush with steel sets, Shotcrete was placed over existing timber lagging. Shotcrete or concrete footing throughout section	*Backfill void space behind lagging with cementations material (Potentially 2'-wide void space)*										
21+71	22+97	126		Steel Sets on I-beams	2	N		Steel sets at 2'-spacing on I-beams Existing timber lagging was left in place Styrofoam was used to backfill large void space between lagging and bedrock - Drip from west springline at Sta 22+57	*(Current conditions of timber lining and wood foot blocks are fair to good generally However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rockbolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and application of 4"-thick steel fiber reinforced shotcrete* *OR* *installation of steel channel lagging between steel sets and backfilling void space with cementious material..*									
22+97	23+23	26		Steel Sets on I-beams	4	N		Steel sets at 4'-spacing on I-beams Existing timber lagging was left in place timber lagging is rotted and falling into tunnel Rock debris collected behind lagging, Occasional rock fall is evident (see below). - Rockfall material and rotted lagging on tracks along east sidewall from Sta 22+97 to 23+23	Remove timber lagging and all loose debris behind lagging - Apply 6"-thick steel fiber reinforced shotcrete between steel sets. Use shotcrete to tie in steel web and for footing support OR Install steel channel lagging between steel sets and backfill void space with cementicious material					1872	48			
23+23	23+39	16	3 - 4	Steel Sets on I-beams	4	N		Steel sets at 4'-spacing founded on I-beams, Existing timber lagging was left in place, Timber lagging rotted in places	Remove timber lagging and all loose debris behind lagging - Apply 6"-thick steel fiber reinforced shotcrete between steel sets, Use shotcrete to tie in steel web and for footing support OR Install steel channel lagging between steel sets and backfill void space with cementious material					1152	29			
23+39	23+53	14		Steel Sets on I-beams	4	N		Steel sets at 4'-spacing founded on I-beams . Existing timber lagging was left in place timber lagging is rotted and falling into tunnel Rock debris collected behind lagging, Rockfall material and rotted lagging on tracks along east sidewall	Remove timber lagging and all loose debris behind lagging - Apply 6"-thick steel fiber reinforced shotcrete between steel sets, Use shotcrete to tie in steel web and for footing support OR Install steel channel lagging between steel sets and backfill void space with cementious material					1008	26			
23+53	23+95	42	3 - 4	Steel Sets on I-beams	4	N		Steel sets at 4'-spacing founded on I-beams Existing timber lagging was left in place timber lagging is rotted and ready to fall into tunnel, Bedrock appears to be close behind lagging along east sidewall, Generally 3' to 4' of void space behind lagging in crown, Damp to wet with drips	Remove timber lagging and all loose debris behind lagging - Apply 6"-thicksteel fiber reinforced shotcrete between steel sets, Use shotcrete to tie in steel web and for footing support OR Install steel channel lagging between steel sets and backfill void space with cementious material					3024	224			
23+95	24+31	36		Steel Sets on I-beams	4	N		Steel sets at 4'-spacing founded on I-beams . Existing timber lagging was left in place, rotted timber lagging with bedrock debris behind. - Day-lighted section in crown between ~Sta 24+20 and 24+31, flowing water from crown	Remove timber lagging and all loose debris behind lagging - Apply 6"-thick steel fiber reinforced shotcrete between steel sets Use shotcrete to tie in steel web and for footing support OR Install steel channel lagging between steel sets and backfill void space with cementious material					2592	192			

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TUNNEL 13
Coos Bay Subdivision, Oregon
MP 669.47 to 669.94

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No.	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft³	Concrete cy	Timber Sets ft	Timber Sets No
24+31	24+96	65		Concrete Barrel				Concrete barrel - Crack across barrel at Sta 24+71 with some spalling and water seepage along crack											
24+96	24+96	0		Concrete Portal				South Portal @ MP 669 94											
									Total	0	0	137	9126	60752	1243	0	0	550	150

Total Length (ft)	2496
Repair Level 2 (ft)	166
Repair Level 2-3 (ft)	51
Repair Level 3 (ft)	159
Repair Level 3-4 (ft)	241
Repair Level 4 (ft)	138
Repair Level 4-5 (ft)	77
Repair Level 5 (ft)	1664

Repair Level

- Repairs should be completed immediately to <6 months
- Repairs should be completed in 0 to 12 months
- 3 — Repairs should be completed in 12 - 30 months
- Repairs should be completed in 30 - 48 months
- No immediate repairs required based on the current conditions

COST ESTIMATE FOR REPAIR LEVELS 1 AND 2 (incl Level 2-3)

Est Total Steel Sets (No)	0	(Est Unit Rates $5000/per set)	Est Total Construction Costs	$0
Est Total Rockbolts (LF)	2070	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$165 600
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction Costs	$0
Est Total Shotcrete (cy)	429	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$386 100
Est Total Timber Sets (No)	38	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs	$57,000

Est Sub Total for Level 1and 2 (incl Level 2-3) Repairs	$608 700
Mobilization (15%)	$91 305
Contingency (20%)	$121 740
Est Total of Level 1and 2 (incl Level 2-3) Construction Cost	$821,745

COST ESTIMATE FOR REPAIR LEVELS 1 TO 5

Est Total Steel Sets (No)	0	(Est Unit Rates $5000/per set)	Est Total Construction Costs	$0
Est Total Rockbolts (LF)	9126	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$730 080
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction Costs	$0
Est Total Shotcrete (cy)	1243	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$1,118,700
Est Total Timber Sets (No)	150	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs	$225,000

Est Sub Total for Repairs	$2,073,780
Mobilization (15%)	$311,067
Contingency (20%)	$414,756
Est Total of Construction Cost	$2,799,603

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TUNNEL 14
Coos Bay Subdivision, Oregon
MP 681.09 to 681.18

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs
0+00	0+00	0		Concrete Portal		N		North Portal @ MP 681 09	
0+00	0+50	50		Concrete Barrel		N		In general dry. Spalling concrete in east sidewall at Sta 0+24	
0+50	0+90	40		Shotcrete over Bedrock		N		Shotcrete cover over bedrock generally in good condition. Shotcrete is relatively thin in crown (<1") and not reinforced	
0+90	1+90	100		Shotcrete over Bedrock		N		Shotcrete cover over bedrock very thin in crown (0 5" to 1") and not reinforced thickness in sidewalls estimated to be around 2". Large areas with spalling shotcrete in crown. Crown is built up by one bedding plane	Cover spalling areas with steel fiber reinforced shotcrete to desired thickness of 4 inches, new application shall extend to the bottom of sidewalls (2"-thick over existing shotcrete)
1+90	4+51	261		Shotcrete over Bedrock		N		Shotcrete cover over bedrock generally in good condition. Shotcrete is relatively thin in crown (<1") and not reinforced	
4+51	4+71	20		Shotcrete over Steel Sets	2 and 4	Y	-3	Shotcrete over steel sets at 4'-spacing on concrete curb relatively thin shotcrete cover (2"-4"). Top of concrete curb is 2 to 3 inches below TOR. Last three steel sets at South Portal are at a 2'-spacing.	
4+71	4+71	0		Shotcrete over Steel Sets	2	Y	-3	South Portal @ MP 681 18	
Total Length (ft)		471							
Repair Level 4-5 (ft)		100							
Repair Level 5 (ft)		371							

	Steel Sets ft	Steel Sets No	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft.	Timber Sets No
Total	0	0	0	0	7200	66	0	0	0	0

Repair Level

1	Repairs should be completed immediately to <6 months
2	Repairs should be completed in 0 to 12 months
3	Repairs should be completed in 12 - 30 months
4	Repairs should be completed in 30 - 48 months
5	No immediate repairs required based on the current conditions

COST ESTIMATE FOR REPAIR LEVELS 1 TO 5

Est Total Steel Sets (No)	0	(Est Unit Rates $5000/per set)	Est Total Construction Costs	$0
Est Total Rockbolts (LF)	0	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$0
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction Costs	$0
Est Total Shotcrete (cy)	66	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$59,400
Est Total Timber Sets (No)	0	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs	$0

Est Sub Total for Repairs	$59,400
Mobilization (15%)	$8,910
Contingency (20%)	$11 880
Est Total of Construction Cost	$80 190

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TUNNEL 15
Coos Bay Subdivision, Oregon
MP 720.73 to 720.14

Station	Length, ft	Repair Level	Lining		Concrete Curb		Comments	Repairs	Steel Sets		Rock bolts		Shotcrete		Concrete		Timber Sets	
To			Type	Set Spacing, ft	Y/N	Height above TOR, in			ft	No	Rows	LF	ft²	cy	ft²	cy	ft	No
00+00	0		Concrete Portal				North Portal @ MP 720 73											
00+26	26		Concrete Barrel				Concrete Barrel											
01+35	109		Shotcrete over Steel Sets on Concrete Curb	4 0	Y	6	Steel sets covered with shotcrete spaced 4 ft concrete between sets (?)											
01+47	12		Shotcrete over Steel (and Timber?) Sets on Concrete Curb	N/A	Y	6	Steel (and timber?) sets covered with shotcrete											
02+10	63		Timber Sets on Concrete Curb with Timber Lagging	1 5	Y	6	Wood ribs spaced 1 5 ft fair condition wet slight deterioration	Remove timber sets and lagging and install rock bolts in crown and sidewalls (row-spacing 5 feet six 14'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete			12	1008	4536	57			63	43
02+15	5	3	Timber Sets on Concrete Curb with Timber Lagging	1 5	Y	6	3 timber sets offset crushed and cracked joints	Remove timber sets and lagging and install rock bolts in crown and sidewalls (row-spacing 5 feet six 14'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete			1	84	360	4			5	4
02+77	62		Timber Sets on Concrete Curb with Timber Lagging	1 0-2 0	Y	6	Wood ribs spaced 1-2 ft fair to good condition dry	Remove timber sets and lagging and install rock bolts in crown and sidewalls (row-spacing 5 feet, six 14'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete			12	1008	4464	58			62	42
02+93	16	3	Timber Sets on Concrete Curb with Timber Lagging	2 0	Y	6	Deteriorated wood sets wet - heavy dripping	Remove timber sets and lagging and install rock bolts in crown and sidewalls (row-spacing 5 feet, ten 14'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete			3	420	1152	14			16	9
03+06	13		Timber Sets on Concrete Curb with Timber Lagging	2 0	Y	6	Timber sets in fair condition, dry	*(Current conditions of timber lining a is fair to good generally However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rock bolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel. Future repairs should include installation of rock bolts (row-spacing 5 feet six 12'-long rock bolts per row) and application of 4"-thick steel fiber reinforced shotcrete)*										
03+20	14		Timber Sets on Concrete Curb with Timber Lagging	1 0-2 0	Y	6	Rotting timber sets sp 1-2 ft sheared, offset joints dry in general	Remove timber sets and lagging and install rock bolts in crown and sidewalls (row-spacing 5 feet, ten 14'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete			3	420	1008	12			14	10
03+32	12		Timber Sets on Concrete Curb with Timber Lagging	1 0-2 0	Y	6	Rotting timber sets. sp 1-2 ft, sheared offset joints wet - a timber set fell into the tunnel on 07/05/2007 at approximately Sta 3+28	Remove timber sets and lagging and install rock bolts in crown and sidewalls (row-spacing 5 feet ten 14'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete			2	280	864	10			12	9
03+56	24		Timber Sets on Concrete Curb with Timber Lagging	1 5	Y	6	Rotting timber sets spaced 1 5 ft , dry in general - the east ¼-arch segment of the timber set located at around Sta 3+43 fell into the tunnel on 01/18/2007	Remove timber sets and lagging and install rock bolts in crown and sidewalls (row-spacing 5 feet ten 14'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete			5	700	1728	21			24	17
03+72	16		Timber Sets on Concrete Curb with Timber Lagging	1 0	Y	6	Rotting timber sets, spaced 1 ft heavy dripping	Remove timber sets and lagging and install rock bolts (row-spacing 5 feet, ten to twelve 15'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete. The construction of the new liner may require the use of steel sets for temporary and permanent support, also due to the wet condition of the area backfilling of the area with concrete or shotcrete maybe required instead of applying shotcrete Prior to construction, the drilling of probe holes maybe required in order to obtain information about the current general ground condition	20	6	4	600	1440	18			16	17
03+86	14	3	Timber Sets on Concrete Curb with Timber Lagging	1 5	Y	6	Rotting timber posts along west side spaced 1 5 ft	Remove timber sets and lagging and install rock bolts (row-spacing 5 feet, six 14'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete			3	210	1008	12			14	10
04+15	29		Timber Sets on Concrete Curb with Timber Lagging	1 5-2 0	Y	6	Wood ribs fair condition - Timber sets were shotcreted during repairs in November 2006 Rock bolts were installed in crown and sidewalls north of caved in/collapsed area	*Section may require more shotcrete between the existing timber sets for completion - or remove current lining and replace with additional rock bolts and a 4" thick application of shotcrete*										
04+42	27		Steel Arches on Steel and Timber Posts Shotcreted and Backfilled	4 0	Y	6	Wood ribs w/ steel straps - 3 full steel sets (4'-spacing) were installed after a cave-in/collapse occurred in the west sidewall in November 2006 remaining section consist of arch segments only (placed on a wall plate supported by in-place timber posts). Low-strength concrete was used to backfill area between and behind steel sets. Rock bolts and/or Spiling were installed through out the section											
04+60	18		Timber Sets on Concrete Curb with Timber Lagging	4 0	Y	6	Wood ribs with longitudinal cracks in several timbers - Timber sets were shotcreted during repairs in November 2006 Rock bolts were installed in crown and sidewalls	*Section may require more shotcrete between the existing timber sets for completion - or remove current lining and replace with a 4" thick application of shotcrete*										
04+79	19		Timber Sets on Concrete Curb with Timber Lagging	2 0	Y	6	"Tight" timber sets numerous offsets, poor condition - Timber sets were partially shotcreted in sidewalls during repairs in November 2006 Rock bolts were installed in crown during repairs	*Section may require more shotcrete between the existing timber sets for completion - or remove current lining and replace with additional rock bolts and a 4" thick application of shotcrete*										
04+86	7		Shotcrete over Steel Sets on Concrete Curb	4 0	Y	6	Caved area up ~15 ft (est 10 to 15 cy of rock fall material) Section was stabilized in November 2006 with two steel sets spaced at 4 feet steel channel lagging was installed and arches and crown were backfilled with shotcrete											
05+12	26		Timber Sets on Concrete Curb with Timber Lagging	1 5	Y	6	Rotted timber and crushed butt joints Bowed sets along east sidewall were reinforced with rock bolts recently	Remove timber lining install rock bolts (row-spacing 5 feet, eight to ten - two rock bolts in each sidewall - 12'-long rock bolts per row) and apply 4"-thick steel fiber reinforced shotcrete			5	600	1872	23			26	16
05+29	17		Steel Sets on Concrete Curb	1 5	Y	6	Steel sets spaced 1 5 ft	*For long-term stability remove timber lagging behind steel sets and apply 4"-thick shotcrete over exposed ground between sets*					*224	15				

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TUNNEL 15
Coos Bay Subdivision, Oregon
MP 720.73 to 720.14

Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No	Rock bolts Rows	Rock bolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft	Timber Sets No
05+74	45		Timber Sets on Concrete Curb with Timber Lagging	1 5	Y	6	Timber sets, spaced 1 5ft with polyurethane grout Sandstone exposed in 1/4 arch	*Current condition of timber lining is fair to good generally However timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rock bolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rock bolts (row-spacing 5 feet, six 12'-long rock bolts per row) and application of 4"-thick steel fiber reinforced shotcrete*								
05+78	4		Timber Sets on Concrete Curb with Timber Lagging	2 0	Y	6	Fair wood sets dry spaced 2 ft	*Two timber sets were left in place because they appeared to be light when attempted to be removed during recent repair works However timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rock bolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel. Future repairs should include installation of rock bolts (row-spacing 5 feet, five 12'-long rock bolts per row) and application of 4"-thick steel fiber reinforced shotcrete*								
05+85	7		Shotcrete over bedrock		Y	6	Timber sets were removed and replaced with shotcrete and rock bolts											
05+92	7		Shotcrete over bedrock		Y	6	Timber sets were removed and replaced with shotcrete and rock bolts											
06+18	26	3	Timber Sets on Concrete Curb with Timber Lagging	15-2 0	Y	6	Rotted timber and crushed butt joints, thin steel starps in arch hanging segments	Remove timber lining, install rock bolts (row-spacing 5 feet, ten - two in each sidewall - 12'-long rock bolts per row), and apply 4"-thick steel fiber reinforced shotcrete			5	600	1872	23			28	18
08+89	271		Timber Sets on Concrete Curb with Timber Lagging	2 0	Y	6	Good wood sets dry spaced 2 ft	*Current conditions of timber lining is fair to good generally However timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rock bolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rock bolts (row-spacing 5 feet five 12'-long rock bolts per row) and application of 4"-thick steel fiber reinforced shotcrete*								
09+26	37		Steel Sets and Timber Sets on Concrete Curb with Timber Lagging	1 0-1 5	Y	6	Steel jump sets timber sets, wet area at Sta 12+50 - one split set hanging down in arch	Remove timber sets and timber lagging between steel jump sets, place 4"-thick shotcrete over exposed ground and tie steel sets into shotcrete application					2664	33			37	20
09+88	62		Shotcrete over Steel Sets on Concrete Curb	2 0	Y	6	Steel sets, covered with shotcrete minor drips scattered missing shotcrete in arch											
11+10	122		Timber Sets on Concrete Curb with Timber Lagging	2 0	Y	6	Wood ribs sp 2 ft, good condition, dry sand deposits at toe of posts at Sta 11+25	*Current conditions of timber lining is fair to good generally However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rock bolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rock bolts (row-spacing 5 feet five 12'-long rock bolts per row) and application of 4"-thick steel fiber reinforced shotcrete*								
12+66	156		Shotcrete over Steel Sets on Concrete Curb	2 0	Y	6	Steel ribs spaced 2 ft covered with shotcrete dry											
13+28	62		Timber Sets on Concrete Curb with Timber Lagging	2 0	Y	6	Good wood sets dry spaced 2 ft	*Current conditions of timber lining is fair to good generally However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rock bolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rock bolts (row-spacing 5 feet five 12'-long rock bolts per row) and application of 4"-thick steel fiber reinforced shotcrete*								
13+90	62		Shotcrete over Steel Sets on Concrete Curb	2 0	Y	6	Steel ribs spaced 2 ft, covered with shotcrete dry											
14+34	44		Timber Sets on Concrete Curb with Timber Lagging	2 0	Y	6	Good wood sets dry spaced 2 ft	*Current conditions of timber lining is fair to good generally However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rock bolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rock bolts (row-spacing 5 feet five 12'-long rock bolts per row) and application of 4"-thick steel fiber reinforced shotcrete*								
14+47	13	3	Steel Sets and Timber Sets on Concrete Curb with Timber Lagging	1 0-1 5	Y	6	Steel jump sets poor wood sets lost 2 sections Another timber set fell out on 11/17/2006 at approximately Sta 14+41	Remove timber sets and timber lagging between steel jump sets place 4"-thick shotcrete over exposed ground and tie steel sets into shotcrete application					936	11			13	5
15+65	118		Timber Sets on Concrete Curb with Timber Lagging	2 0	Y	6	Good wood sets dry, spaced 2 ft	*Current conditions of timber lining is fair to good generally However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rock bolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rock bolts (row-spacing 5 feet five 12'-long rock bolts per row) and application of 4"-thick steel fiber reinforced shotcrete*								
16+61	96		Shotcrete over Steel (and Timber) Sets	1 0	Y	6	Steel- and (possibly) wood ribs, spaced 1 ft, covered with shotcrete											
18+95	234		Shotcrete over Steel Sets on Concrete Curb	2 0	Y	6	Steel ribs spaced 2 ft, covered with shotcrete, local drips, scattered missing shotcrete in arch	Repair spalled shotcrete in crown and increase general thickness of shotcrete in crown (around 2 inches)					6318	58				
20+60	165		Shotcrete over Steel Sets on Concrete Curb	1 5-2 0	Y	6	Steel ribs spaced 1 5 to 2 ft, covered with shotcrete abundant drips, missing shotcrete in arch locally	Repair spalled shotcrete in crown and increase general thickness of shotcrete in crown (around 2 inches)					4455	41				

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TUNNEL 15
Coos Bay Subdivision, Oregon
MP 720.73 to 720.14

Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No	Rock bolts Rows	Rock bolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft	Timber Sets No
21+43	83		Concrete Barrel		N		Concrete Barrel longitudinal cracks in both sides some displacement along cracks	Support sidewalls of concrete barrel with rock bolts 1-2 rows on each side at a 5'-spacing bolt length estimated to be 12 feet minimum Initial work may require probe holes to determine thickness of concrete and depth to competent bedrock			4	816						
21+43	0		S-Portal		N		South Portal @ MP 721 14											
								Total	20	6	59	6746	35901	408	0	0	328	224

Length (ft)	2143
vel 1-2 (ft)	12
evel 2 (ft)	80
evel 3 (ft)	74
evel 4 (ft)	607
vel 4-5 (ft)	66
evel 5 (ft)	1304

Level
Repairs should be completed immediately to <6 months
Repairs should be completed in 0 to 12 months
Repairs should be completed in 12 - 30 months
Repairs should be completed in 30 - 48 months
No immediate repairs required based on the current conditions

COST ESTIMATE FOR REPAIR LEVELS 1 to 2

Est Total Steel Sets (No)	6	(Est Unit Rates $5000/per set)	Est Total Construction C $30 000
Est Total Rock bolts (LF)	2600	(Est Unit Rates $80/per LF)	Est Total Construction C $208 000
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction C $0
Est Total Shotcrete (cy)	84	(Est Unit Rates $900/per CY)	Est Total Construction C $75 600
Est Total Timber Sets (No)	72	(Est Removal Unit Rate $1500/per set)	Est Total Removal Co $107 500

Est Sub Total for Level 1and 2 (incl Level 2-3) Repairs	$421,100
Mobilization (15%)	$63 165
Contingency (20%)	$84 220
Est. Total of Level 1and 2 (incl Level 2-3) Construction Cost	$568 485

COST ESTIMATE FOR REPAIR LEVELS 1 TO 5

Est Total Steel Sets (No)	6	(Est Unit Rates $5000/per set)	Est Total Construction C $30,000
Est Total Rock bolts (LF)	6746	(Est Unit Rates $80/per LF)	Est Total Construction C $539,680
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction C $0
Est Total Shotcrete (cy)	408	(Est Unit Rates $900/per CY)	Est Total Construction C $367,200
Est Total Timber Sets (No)	224	(Est Removal Unit Rate $1500/per set)	Est Total Removal Co $225 000

Est Sub Total for Repairs	$1 161 880
Mobilization (15%)	$174 282
Contingency (20%)	$232 376
Est Total of Construction Cost	$1 568,538

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TUNNEL 16
Coos Bay Subdivision, Oregon
MP 721.52 to 721.64

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No	Rock bolts Rows	Rock bolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft	Timber Sets No.
0+00	0+00	0		Concrete Portal				North Portal @ MP 721.52											
0+00	0+55	55		Concrete Barrel				Concrete barrel. Scattered cracks in barrel crown. Scattered drips in crown - ⅛"-¼" open crack on east sidewall and ½" open crack on west wall at Sta 0+10. - Horizontal crack along west sidewall from Sta 0+11 to 0+55, offset in places up to ½". - Horizontal crack ¼" open along east sidewall from 0+11 to 0+55, other										
0+55	4+10	355		Shotcrete over Steel Sets	2.5	Y	6	Shotcrete over steel sets at 2.5'-spacing on concrete curb. - Drips near center line of crown between Sta 1+21 and 1+33. - Damp with discoloration along center line of crown at Sta 3+53 and at Sta 3+83. - Damp spot on west side of crown at Sta 4+00										
4+10	4+43	33		Shotcrete over Steel Sets	2.5	Y	6	Seepage in crown with dripping locally and orange discoloration											
4+43	4+56	13		Shotcrete over Steel Sets	2.5	Y	6	Dry											
4+56	4+86	30		Shotcrete over Steel Sets	2.5	Y	6	Seepage in crown with dripping locally and white to orange discoloration											
4+86	5+00	14		Shotcrete over Steel Sets	2.5	Y	6	Dry. Orange discoloration											
5+00	5+52	52		Shotcrete over Steel Sets	2.5	Y	6	Intermittent cracking in shotcrete application along center line of crown. - Seepage at west springline at Sta 5+04. - Heavy dripping and discoloration at Sta 5+11.											
5+52	5+78	26		Shotcrete over Steel Sets	2.5	Y	6	Heavy dripping along west springline between Sta 5+52 and 5+57. Flowing water at contact of steel sets and concrete barrel											
5+78	6+33	55		Concrete Barrel				Concrete barrel. Damp with local dripping - Flowing water above springline in west sidewall at Sta 5+84 and 5+92.											
6+33	6+33	0		Concrete Portal				South Portal @ MP 721.64											
Total Length (ft)		633							Total	0	0	0	0	0	0	0	0	0	0
Repair Level 5 (ft)		633																	

Repair Level

	Repairs should be completed immediately to <6 months
	Repairs should be completed in 0 to 12 months
3	Repairs should be completed in 12 - 30 months
	Repairs should be completed in 30 - 48 months
	No immediate repairs required based on the current conditions

COST ESTIMATE FOR REPAIR LEVELS 1 TO 5

Est Total Steel Sets (No)	0	(Est Unit Rates $5000/per set)	Est. Total Construction Costs	$0
Est Total Rock bolts (LF)	0	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$0
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est. Total Construction Costs	$0
Est Total Shotcrete (cy)	0	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$0
Est Total Timber Sets (No)	0	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs	$0
			Est. Sub Total for Repairs	$0
			Mobilization (15%)	$0
			Contingency (20%)	$0
			Est Total of Construction Cost	$0

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TUNNEL 17
Coos Bay Subdivision, Oregon
MP 727.70 to 727.83

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft.	Timber Sets No
0+00	0+00	0		Concrete Portal				North Portal @ MP 727.70											
0+00	1+28	128		Concrete Barrel				Concrete barrel, - Damp from Sta 0+25 to 1+28, - Crack in E-sidewall at Sta 0+52, - Crack in W-sidewall at Sta 0+57 - Crack at center line of crown from ~Sta 0+72 to 1+28 - Ditches along both sides are filled with silt and gravel depth ditches appear to be at least 18" below rail										
1+28	1+43	15		Shotcrete over Steel Sets	1-1.5	Y	6	Shotcrete over steel sets at narrow spacing on concrete curb Application is relatively thin (~4"-thick), Existing timber lagging was covered with shotcrete possibly, Track is sunk in mud, - Flowing water from ¼-arch on E-sidewall (est 5-10 gal/min) at Sta 1+39										
1+43	2+45	102		Shotcrete over Steel Sets	2	Y	6	Shotcrete over steel sets at 2'- spacing on concrete curb, Thickness of application is between 3" and 8", thinner in crown generally, Abundant drips, shotcrete is discolored at many locations tunnel dries up around Sta 2+30 generally, Very muddy track										
2+45	3+39	94		Shotcrete over Steel Sets	4	Y	6	Shotcrete over steel sets at 4'- spacing on concrete curb, Thickness of application is between 4" and 6", thinner in crown generally, Scattered drips, shotcrete is discolored in many locations Track dries up and ballast starts to become visible between Sta 2+50 and 2+60										
3+39	3+65	26		Shotcrete over Steel Sets	2	Y	6	Shotcrete over steel sets at 2'- spacing on concrete curb, Thickness of application is between 4" and 6" thinner in crown generally,										
3+65	4+29	64		Shotcrete over Steel Sets	4	Y	6	Shotcrete over steel sets at 4'- spacing on concrete curb, Thickness of application is between 4" and 6", thinner in crown generally, Dry										
4+29	4+52	23		Shotcrete over Steel Sets	2	Y	6	Shotcrete over steel sets at 2'- spacing on concrete curb, Thickness of application is between 4" and 6", thinner in crown generally,										
4+52	4+60	8		Timber Sets on Concrete Curb with Timber Lagging	4	Y	6	Timber sets at 4'-spacing on concrete curb with timber lagging, Dry	(Current conditions of timber lining and wood foot blocks are fair to good generally However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rockbolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and application of 4"-thick steel fiber reinforced shotcrete)									
4+60	5+80	120		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Dry, Timber and foot blocks are in fair to good condition, Foot blocks are covered in ballast and debris along west sidewall, Bedrock appears to be less than 2' behind timber lagging (lagging almost complete throughout section)										
5+80	5+95	15		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Dry, Timber and foot blocks are in fair to good condition generally Lagging fell out in west sidewall, rotted at bottom some rock debris behind lagging, Exposed Bedrock appears to be massive and competent	Remove timber sets and rotted timber lagging, and clean area from rock debris, - Install rockbolts (rockbolt rows at 5'-spacing, five 12'-long rockbolts per row), - Apply shotcrete to the desired thickness of 4 inches			3	180	1080	13			15	5
5+95	6+44	49		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Dry, Timber and foot blocks are in fair to good condition generally, Tracks start to become muddy again at around Sta 6+20 with signs of pumping	(Current conditions of timber lining and wood foot blocks are fair to good generally However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rockbolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and application of 4"-thick steel fiber reinforced shotcrete)									
6+44	7+29	85		Timber Sets on Concrete Curb with Timber Lagging	4	Y	6	Timber sets at 4'-spacing on concrete curb with timber lagging, Footing of posts embedded in concrete curb one inch, Dry										
7+29	7+68	39		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Dry, Timber and foot blocks are in fair to good condition generally, Tracks are in very poor condition and totally sunk in wet mud, sagging (lowered?) track at approximately Sta 7+50										
7+68	7+80	12		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, - East sidewall Rotted lagging with debris piled up 8'-12' high behind it one post is rotted, Bedrock is exposed roughly 2' behind lagging	Remove timber sets and rotted timber lagging, and clean area from rock debris, - Install rockbolts (rockbolt rows at 5'-spacing, five 12'-long rockbolts per row), - Apply shotcrete to the desired thickness of 4 inches			2	120	864	10			12	4
7+80	8+52	72		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Dry, Timber and foot blocks are in fair to good condition generally, Severe drainage problem throughout this section Track, ditches and footings of timber sets are entirely covered in wet mud	(Current conditions of timber lining and wood foot blocks are fair to good generally. However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rockbolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and application of 4"-thick steel fiber reinforced shotcrete)									
8+52	8+69	17	3	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Timber sets at 4'-spacing on wood foot blocks with timber lagging, Entire section sagged 12 inches wood boards were used to strap sets together, foot blocks are crushed, Bedrock appears to be close behind lagging	Remove timber sets and timber lagging, and clean area from rock debris, - Install rockbolts (rockbolt rows at 5'-spacing, five 12'-long rockbolts per row), - Apply shotcrete to the desired thickness of 4 inches			3	180	1224	15			17	5
8+69	9+03	34		Shotcrete over Bedrock		N		Shotcrete over bedrock, Dry											

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TUNNEL 17
Coos Bay Subdivision, Oregon
MP 727.70 to 727.83

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No.	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft.	Timber Sets No.
9+03	10+54	151		Shotcrete over Bedrock		Y	12	Shotcrete over bedrock concrete curb is present along both sides of tunnel. Track appears to be lowered in this section											
10+54	11+45	91		Shotcrete over Steel Sets	2	Y	12	Shotcrete over steel sets on concrete curb at 2'-spacing											
11+45	12+00	55		Concrete Barrel				Dnp at Sta 11+10											
12+00	12+00	0		Concrete Portal				Concrete barrel. Seepage in crown at contact of barrel and steel sets											
								South Portal @ MP 727 83											
									Total	0	0	8	480	3168	38	0	0	44	14

Total Length (ft)	1200	
Repair Level 3 (ft)	17	
Repair Level 4 (ft)	12	59
Repair Level 4-5 (ft)	15	
Repair Level 5 (ft)	1156	

Repair Level

- Repairs should be completed immediately to <6 months
- Repairs should be completed in 0 to 12 months
- 3 — Repairs should be completed in 12 - 30 months
- Repairs should be completed in 30 - 48 months
- No immediate repairs required based on the current conditions

COST ESTIMATE FOR REPAIR LEVELS 1 TO 5

Est Total Steel Sets (No)	0	(Est Unit Rates $5000/per set)	Est Total Construction Costs.	$0
Est Total Rockbolts (LF)	480	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$38,400
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction Costs	$0
Est Total Shotcrete (cy)	38	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$34 200
Est Total Timber Sets (No)	14	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs	$21 000
			Est Sub Total for Repairs	$93 600
			Mobilization (15%)	$14,040
			Contingency (20%)	$18 720
			Est Total of Construction Cost	$126 360

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TUNNEL 18
Coos Bay Subdivision, Oregon
MP 734.48 to 734.77

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft	Timber Sets No.
0+00	0+00	0		Shotcrete over Steel Sets	2	Y	12	North Portal @ Sta 734 48											
0+00	1+02	102		Shotcrete over Steel Sets	2	Y	12	Shotcrete over Steel Sets at 2'-spacing on concrete curb, Shotcrete ~6" thick over steel sets, Dry											
1+02	4+00	298		Shotcrete over Steel Sets	4	Y	12	Shotcrete over Steel Sets at 4'-spacing on concrete curb, Shotcrete ~6" thick over steel sets, Dry											
4+00	4+12	12		Shotcrete over Steel Sets	4	Y	0	Shotcrete over Steel Sets at 4'-spacing on concrete curb, Shotcrete ~6" thick over steel sets, Dry, Gradual change in curb height beginning at the North Portal (12" above TOR to 0" above TOR)											
4+12	6+94	282		Shotcrete over Steel Sets	2	Y	0 and 6	Shotcrete over Steel Sets at 2'-spacing on concrete curb Shotcrete ~6"-8" thick over steel sets, Dry generally, - Crack along center line of crown between Sta 5+70 and 6+30, drip from existing drain in crown adjacent to crack at Sta 5+82 - Abrupt change in curb height, raised 6" at Sta 5+84 - Fouled tracks										
6+94	9+05	211		Shotcrete over Steel Sets	4	Y	6 and 0	Shotcrete over Steel Sets at 2'-spacing on concrete curb Shotcrete ~6"-8" thick over steel sets Dry. - Abrupt change in curb height, lowered 6" at Sta 7+00											
9+05	9+22	17	3 - 4	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Bottom of timber posts and/or wood footing blocks show initial stages of deterioration but do not show signs of advanced distress or movement	Replacement of wood footing blocks (and bottom of timber posts when deteriorated) Establish new footing for timber sets with shotcrete on bedrock or a minimum of 2 ft below top or rail, whichever is shallower OR Remove existing timber lining, install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and apply 4"-thick steel fiber reinforced shotcrete)			3	180	1224	15			17	5
9+22	9+36	14		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Bottom of timber posts and/or wood footing blocks are severely deteriorated, show signs of crushing, squeezing, and/or shifting, and/or are cracked Set sagging along east wall	Cutting and removal of deteriorated wood footing blocks and rotted bottom sections of timber posts Establish new footing for timber sets with shotcrete on bedrock or a minimum of 2 ft below top of rail, whichever is shallower OR Remove existing timber lining, install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and apply 4"-thick steel fiber reinforced shotcrete)			3	180	1008	12			14	5
9+36	9+60	24	3 - 4	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Bottom of timber posts and/or wood footing blocks show initial stages of deterioration, but do not show signs of advanced distress or movement	Replacement of wood footing blocks (and bottom of timber posts when deteriorated) Establish new footing for timber sets with shotcrete on bedrock or a minimum of 2 ft below top or rail, whichever is shallower OR Remove existing timber lining, install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and apply 4"-thick steel fiber reinforced shotcrete)			5	300	1728	21			24	7
9+60	10+78	118		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Bottom of timber posts and/or wood footing blocks are severely deteriorated show signs of crushing, squeezing, and/or shifting, and/or are cracked Sagged posts on both sides of tunnel	Cutting and removal of deteriorated wood footing blocks and rotted bottom sections of timber posts Establish new footing for timber sets with shotcrete on bedrock or a minimum of 2 ft below top of rail, whichever is shallower OR Remove existing timber lining, install rockbolts (row-spacing 5 feet, five 15'-long rockbolts per row) and apply 6"-thick steel fiber reinforced shotcrete)			24	1440	8496	106			118	31
10+78	11+10	32		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Six posts on the east side kicked out at the bottom and shifted into tunnel by up to 2 ft (smallest distance to nearest rail is 3 5 ft , measured at top of rail) Rock fragments and crushed rotted timber lagging is caught behind displaced timber posts Bedrock is exposed locally	Removal of six existing timber sets (or shifted posts), Installation of six replacement steel sets. Installation of rockbolts (rockbolt rows at 5'-spacing, six 15'-long rockbolts per row), Application of shotcrete to the desired thickness of 6". Footing blocks and bottom of posts of the two sets to the south of the failed area need to be cut and removed and then replaced with shotcrete along the east side			6	540	2304	42			32	9
11+10	12+80	170		Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Bottom of timber posts and/or wood footing blocks are severely deteriorated, show signs of crushing, squeezing, and/or shifting, and/or are cracked Sagged posts on east side between Sta 11+10 and 12+00, sagged posts on west side between Sta 11+00 and 11+20, Sta 11+72 and 11+76 and Sta 12+72 and 12+80). - Fouled track, shoulder heaving from Sta 11+20 to 12+30	Cutting and removal of deteriorated wood footing blocks and rotted bottom sections of timber posts. Establish new footing for timber sets with shotcrete on bedrock or a minimum of 2 ft below top of rail, whichever is shallower OR Remove existing timber lining, install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and apply 4"-thick steel fiber reinforced shotcrete)			34	2040	12240	154			170	44

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TUNNEL 18
Coos Bay Subdivision, Oregon
MP 734.48 to 734.77

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No.	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft.	Timber Sets No.
12+80	13+22	42	3 - 4	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Bottom of timber posts and/or wood footing blocks show initial stages of deterioration, but do not show signs of advanced distress or movement	Replacement of wood footing blocks (and bottom of timber posts when deteriorated) Establish new footing for timber sets with shotcrete on bedrock or a minimum of 2 ft below top or rail whichever is shallower OR Remove existing timber lining, install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and apply 4"-thick steel fiber reinforced shotcrete)			8	480	3024	38			42	12
13+22	14+20	98	2	Timber Sets on Wood Foot Blocks with Timber Lagging	4	N		Bottom of timber posts and/or wood footing blocks are severely deteriorated show signs of crushing, squeezing, and/or shifting, and/or are cracked Sagged posts on east side between Sta 13+22 and 13+58 (~12"-sag) and Sta 14+06 and 14+16 (<6"-sag). Sagged posts on west side between Sta 13+22 and 13+50 and at sta 13+94 Timber posts and lagging in fair to good condition	Replacement of wood footing blocks (and bottom of timber posts when deteriorated) Establish new footing for timber sets with shotcrete on bedrock or a minimum of 2 ft below top or rail, whichever is shallower OR Remove existing timber lining, install rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and apply 4"-thick steel fiber reinforced shotcrete) (Current conditions of timber lining and wood foot blocks are fair to good generally However, timber will deteriorate over time and may cause problems in these sections in the future Replacing the timber lining with rockbolts and steel fiber reinforced shotcrete is recommended in the future in order to maintain the long-term stability of the tunnel Future repairs should include installation of rockbolts (row-spacing 5 feet, five 12'-long rockbolts per row) and application of 4"-thick steel fiber reinforced shotcrete OR Replacement of wood footing blocks and bottom of timber posts when deteriorated Establish new footing for timber sets with shotcrete on bedrock or a minimum of 2 ft below top or rail whichever is shallower)			20	1200	7056	88			98	26
14+20	14+82	62	3	Timber Sets on Concrete Curb with Timber Lagging	4	Y	6	Posts on west side shifted into tunnel at the bottom, Rubble and detached rotted timber lagging and cribbing caught behind posts between Sta 15+20 and 15+27. Timber set is missing at Sta 15+18, Timber lagging rotted and missing locally. Some timber sets are separated at butt joints and from timber lagging, Posts are rotted at the bottom along the east side between Sta 15+00 and 15+10	Removal of ten existing timber sets. Installation of rock bolts (rockbolt rows at 5'-spacing, six 15'-long rockbolts per row). Application of shotcrete to desired thickness of 6"			9	675	3240	60			45	12
14+82	15+27	45	4	Timber Sets with Timber Lagging	4	Y	6	Concrete barrel											
15+27	15+80	53	5	Concrete Barrel				South Portal @ Sta 734 77											
15+80	15+80	0		Concrete Portal					Total	0	0	112	7035	40320	536	0	0	560	149

Total Length (ft)	1580
Repair Level 1 (ft)	77
Repair Level 2 (ft)	400
epair Level 3-4 (ft)	83
Repair Level 5 (ft)	1020

epair Level·

1 Repairs should be completed immediately to <6 months
2 Repairs should be completed in 0 to 12 months
3 Repairs should be completed in 12 - 30 months
4 Repairs should be completed in 30 - 48 months
5 No immediate repairs required based on the current conditions

COST ESTIMATE FOR REPAIR LEVELS 1 AND 2

Est Total Steel Sets (No)	0	(Est Unit Rates $5000/per set)	Est Total Construction Costs	$0
Est Total Rockbolts (LF)	6075	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$486,000
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction Costs	$0
Est Total Shotcrete (cy)	462	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$415,800
Est Total Timber Sets (No)	125	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs.	$187 500
			Est Sub Total for Level 1 and 2 Repairs	$1,089 300
			Mobilization (15%)	$163 395
			Contingency (20%)	$217,860
			Est Total of Level 1 and 2 Construction Cost	$1,470,555

COST ESTIMATE FOR REPAIR LEVELS 1 TO 5

Est Total Steel Sets (No)	0	(Est Unit Rates $5000/per set)	Est Total Construction Costs	$0
Est Total Rockbolts (LF)	7035	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$562,800
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction Costs	$0
Est Total Shotcrete (cy)	536	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$482,400
Est Total Timber Sets (No)	149	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs	$223,500
			Est Sub Total for Repairs	$1,268,700
			Mobilization (15%)	$190,305
			Contingency (20%)	$253,740
			Est Total of Construction Cost	$1,712 745

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TUNNEL 19
Coos Bay Subdivision, Oregon
MP 745.62 to 746.41

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft	Timber Sets No
0+00	0+00	0		Shotcrete over Steel Sets		Y	1	North Portal @ MP 745 62 Skin slides at the west side of the portal area occurred in the past and resulted in blocked drainage (muddy track and ditches inside the tunnel)											
0+00	0+35	35		Shotcrete over Steel Sets	2	Y	1	Shotcrete ~6" thick over steel sets, dry fouled tracks											
0+35	0+50	15		Shotcrete over Steel Sets	4	Y	1	Shotcrete ~6" thick over steel sets, dry fouled tracks											
0+50	10+86	1036		Shotcrete over Bedrock		N		Shotcrete applied over bedrock, shotcrete cover is thin in general (0 5" to 2 0"-thick) - 0+00 to 2+10 (approx) 6°curved track - Drainage ditches along both sides of tunnel are in very bad shape and essentially non-existent, tracks are covered in mud (no ballast visible until ~Sta 7+00), ditches clear and show up approximately between Sta 5+00 and 6+00	In general the shotcrete application over bedrock appears to be thin (less than 2 inches) throughout the tunnel the shotcrete is not reinforced Color changes of the shotcrete indicate multiple applications in the past, suggesting repair of previously spalled shotcrete. In general, the present shotcrete cover in the tunnel is in good condition and does not show signs of cracking and advancing deterioration However spalling shotcrete was observed at several locations in the tunnel some associated with small rockfalls, It is recommended to cover exposed bedrock in areas where shotcrete is spalling (sidewalls 2"-thick, spalled areas 4"-thick) within the next 48 to 60 months in order to prevent further weathering and deterioration of bedrock and potential rockfalls this will also help to prevent the spalling from progressing into the existing shotcrete application surrounding the spalled areas. Due to the generally thin shotcrete cover new spalling of shotcrete has to be expected in the future at any location throughout the tunnel because of the good condition of the existing shotcrete cover and the dry state of the tunnel howev									
10+86	10+91	5		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (~ 5'x5') shotcrete fragments on track						360	3				
10+91	11+14	23		Shotcrete over Bedrock		N		Shotcrete applied over bedrock shotcrete cover is thin in general (0 5" to 2 0"-thick)											
11+14	11+20	6		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (~ 6'x3') associated with rock fall, shotcrete fragments and rock fragments (largest rock ~ 4'x2'x1') on track and in ditches						432	4				
11+20	11+31	11		Shotcrete over Bedrock		N		Shotcrete applied over bedrock shotcrete cover is thin in general (0 5" to 2 0"-thick)											
11+31	11+36	5		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (~ 5'x3') associated with rock fall, shotcrete fragments and small rock fragments on track						360	3				
11+36	26+32	1496		Shotcrete over Bedrock		N		Shotcrete applied over bedrock shotcrete cover is thin in general (0 5" to 2 0"-thick) color changes in shotcrete (light-gray and dark-gray) suggest multiple applications or previous shotcrete repair work Slight drip from E springline at Sta 13+60 Both ditches are silted up and muddy again starting at around Sta 26+00											
26+32	26+76	44		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (~ 6'-15'-wide area) associated with rock fall, shotcrete fragments and small rock fragments on ground						3168	29				
26+76	32+20	544		Shotcrete over Bedrock		N		Shotcrete applied over bedrock shotcrete cover is thin in general (0 5" to 2 0"-thick)											
32+20	32+40	20		Shotcrete over Bedrock		N		Spalling shotcrete across tunnel crown (~ 20'-wide) associated with rock fall shotcrete fragments and small rock fragments on ground						1440	13				
32+40	32+70	30		Shotcrete over Bedrock		N		Shotcrete applied over bedrock, shotcrete cover is thin in general (0 5" to 2 0"-thick)											
32+70	32+90	20		Shotcrete over Bedrock		N		Area with spalling shotcrete (8'x5' and 10'x4') in tunnel crown (< 1 0"-thick application) shotcrete fragments on ground, scattered small rock fragments on track at Sta 32+70						1440	13				
32+90	33+70	80		Shotcrete over Bedrock		N		Shotcrete applied over bedrock, shotcrete cover is thin in general (0 5" to 2 0"-thick)											
33+70	33+92	22		Shotcrete over Bedrock		N		Area with patches of spalling shotcrete in tunnel crown (0 5"-1 0"-thick application) shotcrete fragments on ground (no rock fragments) - track and ditches are very muddy and carry wood debris (condition continues to S-Portal)						1584	14				
33+92	35+62	170		Shotcrete over Bedrock		N		Shotcrete applied over bedrock, shotcrete cover is thin in general (0 5" to 2 0"-thick)											
35+62	35+90	28		Shotcrete over Bedrock		N		Patches of spalling shotcrete in tunnel crown (0 5"-1 0"-thick application) shotcrete fragments and scattered small rock fragments on ground						2016	18				
35+90	36+92	102		Shotcrete over Bedrock		N		Shotcrete applied over bedrock, shotcrete cover is thin in general (0 5" to 2 0"-thick)											
36+92	36+99	7		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (< 0 5"-thick application)						504	4				
36+99	37+93	96		Shotcrete over Bedrock		N		Shotcrete applied over bedrock, shotcrete cover is thin in general (0 5" to 2 0"-thick)											
37+93	38+26	33		Shotcrete over Bedrock		N		Patches of thin spalling shotcrete in tunnel crown						2376	22				
38+26	38+50	24		Shotcrete over Bedrock		N		Spalling shotcrete across tunnel crown (~ 20'-wide)						1728	16				
38+50	38+68	16		Shotcrete over Bedrock		N		Spalling shotcrete in western half of tunnel crown (~ 10'-wide approx)						1152	10				
38+68	38+84	16		Shotcrete over Bedrock		N		Shotcrete applied over bedrock shotcrete cover is thin in general (0 5" to 2 0"-thick)											
38+84	39+21	37		Shotcrete over Bedrock		N		Two 5' to 10'-wide patches of thin spalling shotcrete in tunnel crown						2664	24				
39+21	39+28	7		Shotcrete over Bedrock		N		Shotcrete applied over bedrock shotcrete cover is thin in general (0 5" to 2 0"-thick)											
39+28	39+33	5		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (5'x4')						360	3				
39+33	39+56	23		Shotcrete over Bedrock		N		Shotcrete applied over bedrock, shotcrete cover is thin in general (0 5" to 2 0"-thick)											
39+56	39+59	3		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (3'x2')						216	2				
39+59	39+97	38		Shotcrete over Bedrock		N		Shotcrete applied over bedrock shotcrete cover is thin in general (0 5" to 2 0"-thick)											
39+97	40+02	5		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (5'x5')						360	3				
40+02	41+00	98		Shotcrete over Bedrock		N		Shotcrete applied over bedrock shotcrete cover is thin in general (0 5" to 2 0"-thick)											
41+00	41+07	7		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (7'x6')						504	4				
41+07	41+38	31		Shotcrete over Bedrock		N		Shotcrete applied over bedrock, shotcrete cover is thin in general (0 5" to 2 0"-thick) - 41+21 to 41+38 Seepage at springline along W-sidewall											
41+38	41+47	9		Shotcrete over Bedrock		N		Spalling shotcrete in tunnel crown (9'x4')						648	6				
41+47	42+02	55		Concrete		N		Concrete Barrel											

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TUNNEL 19
Coos Bay Subdivision, Oregon
MP 745.62 to 746.41

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs
42+02	42+02	0	[redacted]	Concrete		N		South Portal @ MP 746 41 Skin slides at the east side of the portal area occurred in the past and resulted in blocked drainage (muddy track and ditches inside the tunnel)	
Total Length (ft)		4202							
Repair Level 4-5 (ft)		291							
Repair Level 5 (ft)		3911							

	Steel Sets		Rockbolts		Shotcrete		Concrete		Timber Sets	
	ft	No	Rows	LF	ft²	cy	ft²	cy	ft	No.
Total	0	0	0	0	21312	191	0	0	0	0

Repair Level

[redacted]	Repairs should be completed immediately to <6 months
[redacted]	Repairs should be completed in 0 to 12 months
3	Repairs should be completed in 12 - 30 months
[redacted]	Repairs should be completed in 30 - 48 months
[redacted]	No immediate repairs required based on the current conditions

COST ESTIMATE FOR REPAIR LEVELS 1 TO 5.

Est Total Steel Sets (No)	0	(Est Unit Rates $5000/per set)	Est Total Construction Costs	$0
Est Total Rockbolts (LF)	0	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$0
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction Costs	$0
Est Total Shotcrete (cy)	191	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$171 900
Est Total Timber Sets (No)	0	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs	$0
			Est Sub Total for Repairs	$171 900
			Mobilization (15%)	$25 785
			Contingency (20%)	$34 380
			total	

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TUNNEL 20
Coos Bay Subdivision, Oregon
MP 750.12 to 750.28

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No.	Rockbolts Rows	Rockbolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft³	Concrete cy	Timber Sets ft.	Timber Sets No
0+00	0+00	0		Concrete Portal		N		North Portal @ MP 750 12											
0+00	0+54	54		Concrete Barrel		N		Generally dry to damp - Thin crack with seepage on west sidewall at ~Sta 0+09, - Open crack (1/4"-wide) in east sidewall at ~Sta 0+25, - Scattered drips around Sta 0+42											
0+54	1+53	99		Shotcrete over Bedrock		N		Generally thin shotcrete cover, especially in crown, Shotcrete is not reinforced, No cracks observed, - Bedrock exposed in crown between Sta 1+43 and 1+53											
1+53	1+73	20	3	Shotcrete over Steel Sets	3 5	Y	6	Shotcreted steel sets to bridge overbreak/cave-in area (steel sets do not touch and support ground in crown) Caved-in section is 10'-15' high in crown, Loose bedrock material originating from open ground behind shotcreted steel sets piled up at the bottom of the east sidewall at each end of the section, Dry	Exposed bedrock in overbreak/caved-in area is actively deteriorating and falling out no ground support established - steel sets only work as "canopy" Establish a bulkhead on both ends of the steel set section and backfill the void space with cementicious material This may require the application of shotcrete and the construction of two additional steel sets at each end of the section	8	2			576	8	672	124		
1+73	5+08	335		Shotcrete over Bedrock		N		Generally thin shotcrete cover especially in crown Shotcrete is not reinforced, Dry in general, - 9 rockbolts scattered in crown between Sta 1+75 - 1+85, - Spalled shotcrete in crown (2'x2') at Sta 2+19 - 5 rockbolts scattered in crown between Sta 2+23 and 2+29, drip above western springline, - Spalled shotcrete (2'x2') along west wall at Sta 2+46, 2+51, and 2+58, - Seepage in west wall at roughly ~Sta 2+70 (fault?), - Spalled shotcrete in crown (3' x 1') at Sta 4+11											
5+08	5+53	45		Shotcrete over Bedrock		N		Generally thin shotcrete cover, especially in crown Shotcrete is not reinforced, Dry in general, - 5 to 7'-high overbreak area between Sta 5+08 and 5+38 across crown, shotcreted from Sta 5+08 to 5+24 with some spalling at Sta 5+10 (4'x4'), Sta 5+14 (3'x2'), Sta 5+21 (5'x2') and Sta 5+22 (1'x3'), large spalling area with bedrock exposed between Sta 5+24 and 5+38, associated with scattered rock fall as indicated by debris on tunnel floor, - Spalling on east wall at Sta 5+37 (2'x2') and Sta 5+49 (4'x6'), - Spalled shotcrete in crown at Sta 5+48 (3'x3')	Due to relatively large size of areas with spalled shotcrete (in addition to occasional rockfalls evidently), it is recommended to repair and secure the area with a 2" (over existing shotcrete in sidewalls) to 4" (over exposed bedrock)-thick steel fiber reinforced shotcrete cover					3240	30				
5+53	5+97	44		Shotcrete over Steel Sets	4' and 3'	Y	6	Shotcreted steel sets to bridge overbreak/cave-in area (steel sets do not touch and support ground in crown, locally), Overbreak is 3'-5' high in crown, No signs of instabilities or rock falls were observed, Section consists of 12 steel sets at 4'-spacing generally last 3 sets at the south end of section at 3'-spacing	Establish a bulkhead on both ends of the steel set section and backfill the void space with cementicious material. This may require the application of shotcrete at each end of the section					?	?	1056	117		
5+97	6+32	35		Shotcrete over Bedrock		N		Generally thin shotcrete over bedrock Scattered small drip locations Muddy track											
6+32	6+54	22		Shotcrete over Bedrock		N		Spalled shotcrete on east wall (8'x22')	Cover exposed bedrock in areas where shotcrete is spalling (including sidewalls 2"-thick, spalled areas 4"-thick)					1584	14				
6+54	7+14	60		Shotcrete over Bedrock		N		Generally thin shotcrete over bedrock Dry, Muddy Track.											
7+14	7+26	12		Shotcrete over Bedrock		N		Spalled shotcrete in crown (12'x9')	Cover exposed bedrock in areas where shotcrete is spalling (including sidewalls 2"-thick, spalled areas 4"-thick)					864	8				
7+26	8+20	94		Shotcrete over Bedrock		N		Generally thin shotcrete over bedrock, spalled shotcrete in crown at Sta 7+62 (3'x4')											
8+20	8+74	54		Concrete Barrel		N		-Some scowering behind concrete barrel at contact at Sta 8+20, Drip zone in crown at Sta 8+41, Seepage from crack in west sidewall at Sta 8+45	- Scowering behind concrete barrel at contact at Sta 8+20, Drip zone in crown at Sta 8+41, Seepage from crack in west sidewall at Sta 8+45										
8+74	8+74	0		Concrete Portal		N		South Portal @ MP 750 28											
									Total	8	2	0	0	6264	60	1728	241	0	0

Total Length (ft)	874
Repair Level 3 (ft)	20
Repair Level 4 (ft)	44
Repair Level 4-5 (ft)	79
Repair Level 5 (ft)	731

Repair Level,

- Repairs should be completed immediately to <6 months
- Repairs should be completed in 0 to 12 months
- 3 — Repairs should be completed in 12 - 30 months
- Repairs should be completed in 30 - 48 months
- No immediate repairs required based on the current conditions

COST ESTIMATE FOR REPAIR LEVELS 1 TO 5

Est Total Steel Sets (No)	2	(Est Unit Rates $5000/per set)	Est Total Construction Costs	$10,000
Est Total Rockbolts (LF)	0	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$0
Est Total Concrete (cy)	241	(Est Unit Rates $100/per CY)	Est Total Construction Costs	$24 100
Est Total Shotcrete (cy)	60	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$54,000
Est Total Timber Sets (No)	0	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs	$0
			Est Sub Total for Repairs	$88,100
			Mobilization (15%)	$13 215
			Contingency (20%)	$17 620
			Est Total of Construction Cost	$118 935

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TUNNEL 21
Coos Bay Subdivision, Oregon
MP 751.21 to 751.30

Station From	Station To	Length, ft	Repair Level	Lining Type	Lining Set Spacing, ft	Concrete Curb Y/N	Concrete Curb Height above TOR, in	Comments	Repairs	Steel Sets ft	Steel Sets No	Rock bolts Rows	Rock bolts LF	Shotcrete ft²	Shotcrete cy	Concrete ft²	Concrete cy	Timber Sets ft.	Timber Sets No
0+00	0+00	0		Concrete Portal		N		North Portal @ MP 751 21											
0+00	0+55	55		Concrete Barrel		N		In general dry. Thin crack across concrete barrel with some seepage at Sta 0+10											
0+55	3+63	308		Shotcrete over Bedrock		N		Shotcrete cover generally in good condition Shotcrete was applied after tunnel fire Shotcrete is steel fiber reinforced Exposed bedrock at bottom 3' 4' of sidewalls (weathered sandstone with scattered siltstone layers), bedrock debris and shotcrete rebound piled along both sidewalls. - 3 rock bolts in crown at Sta 0+70, - 4 rock bolts in crown east of center line at ~Sta 1+94, - Thin crack in crown, 4 rock bolts in crown at ~Sta 2+40	Extend 3" thick shotcrete cover to the base of the sidewalls in order to prevent excessive weathering and deterioration of exposed sandstone which could result in undermining and spalling of the existing shotcrete application					3696	34		
3+63	4+24	61		Shotcrete over Steel Sets	2.5	Y	6	Non-reinforced shotcrete over steel sets Dry. - Wire mesh exposed at ~Sta 3+75, - Scattered spalling between Sta 3+93 and 4+24).										
4+24	4+78	54		Concrete Barrel		N		Dry in general. - Moist with some dripping at Sta 4+32											
4+78	4+78	0		Concrete Portal		N		South Portal @ MP 751 30											
	Total Length (ft)	478							Total	0	0	0	0	3696	34	0	0	0	0
	Repair Level 4-5 (ft)	308																	
	Repair Level 5 (ft)	170																	

Repair Level

- 1 — Repairs should be completed immediately to <6 months
- 2 — Repairs should be completed in 0 to 12 months
- 3 — Repairs should be completed in 12 - 30 months
- 4 — Repairs should be completed in 30 - 48 months
- 5 — No immediate repairs required based on the current conditions

COST ESTIMATE FOR REPAIR LEVELS 1 TO 5

Est Total Steel Sets (No)	0	(Est Unit Rates $5000/per set)	Est Total Construction Costs	$0
Est Total Rock bolts (LF)	0	(Est Unit Rates $80/per LF)	Est Total Construction Costs	$0
Est Total Concrete (cy)	0	(Est Unit Rates $100/per CY)	Est Total Construction Costs	$0
Est Total Shotcrete (cy)	34	(Est Unit Rates $900/per CY)	Est Total Construction Costs	$30 600
Est Total Timber Sets (No)	0	(Est Removal Unit Rate $1500/per set)	Est Total Removal Costs.	$0

Est Sub Total for Repairs	$30 600
Mobilization (15%)	$4,590
Contingency (20%)	$6,120
Est Total of Construction Cost	$41,310

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 24

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SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

ALASKA
COLORADO
FLORIDA
MISSOURI
OREGON
WASHINGTON

September 21, 2007

Mr Marc Bader, Chief Engineer
Rail America Operations West
One Harbor Center Drive, Suite 340
Suisun City, CA 94585

RE: TUNNEL CONDITION ASSESSMENT FOR COOS BAY SUBDIVISION, OREGON

Dear Mr Bader

As discussed in recent phone conversations, this letter is to provide you with our concerns regarding the current conditions and potential for rock falls, and timber rib failures in the nine tunnels on the Coos Bay Subdivision of the Central Oregon and Pacific Railroad

As stated and described in detail in our tunnel inventory report dated July 2007, we identified and classified numerous sections in the tunnels, that are in various states of deterioration and, in our opinion, require immediate rehabilitation work (within six months) in order to reduce the currently high risk of rock falls and timber collapses to more acceptable levels Some of the areas – particularly in Tunnel 15 and Tunnel 18, were identified and discussed with you as early as November 2006, when emergency repairs were initiated in Tunnel 15 We also identified numerous other areas in the tunnels that need repairs, but based on our field investigations did not appear to be in as great a risk of failure, and therefore were not classified as being in need of immediate repair, although we did consider that they should be repaired within the next year or so.

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21-1-20713-001

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Since November 2006, several rock falls and failed timber sets were observed in tunnels in the Coos Bay Subdivision:

- Several partially collapsed timber sets were observed in Tunnel 15 during emergency repairs from November 2006 to January 2007
- Six timber posts in the west sidewall of Tunnel 18 shifted into the tunnel. The posts rested on deteriorated wooden foot blocks
- Several rock falls occurred in Tunnel 19 between May and July 2007. Rock falls occurred in areas of spalled shotcrete and exposed bedrock
- Failure of a timber set occurred in Tunnel 15 in June 2006 The timber set was highly deteriorated.

In our opinion, the repairs recommended for tunnel sections that were classified as Repair Level 1 and 2 in our July 2007 report, are necessary to continue relatively safe train passage. Recent rock fall events in Tunnel 19 require immediate attention as well The risk of future rock falls and failing timber sets is high under the current condition of the tunnels However, the increased seepage rate in some areas of the tunnels that normally accompanies the rainy season will contribute to an increased risk of instability and also makes the application of remedial shotcrete in these seepage areas impossible and hazardous. Consequently, it may not be safe for much of the repair work to be undertaken until the drier months of next spring and summer

We appreciate the opportunity to work with you and look forward to answering any questions you have about the information in this report

Sincerely,

SHANNON & WILSON, INC.

Robert A. Robinson
Senior Vice President
Director of Underground Services

21-1-20713-001

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 25

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Oct. 25 Salem
Nov. 14 Eugene

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Central Oregon & Pacific Railroad Partnership for Coos Bay Line

November 14, 2007

The deteriorated physical plant on the Coos Bay Line of the CORP is the result of many years of use and little funding to invest in the line.

- Originally a "redundant" Southern Pacific route, the CORP was purchased by Railtex in 1994.
  - Line was originally built in the 1890s
  - In latter years, SP did not invest heavily in the Coos Bay Line.
  - Revenues on the CORP are still set based on the original deal.
  - CORP division of revenue essentially set by UP.
- Railtex was purchased by RailAmerica in January 2000
- New RailAmerica management in place after purchase by Fortress in February 2007.
- Line has operated at a significant deficit.
  - Traffic is declining
  - Does not justify re-investment on financial basis

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The decision to shut down the line was not made hastily and was driven by increasing safety concerns.

- October 2006 – Joint inspection by FRA and ODOT found a concerning situation in Tunnel 15.
  - CORP agreed to hire a contractor to remedy the condition
- November 2006 – Tunnel 15 collapses during repairs forcing the closing of the tunnel for nearly 3 months.
  - Emergency repair costs CORP $1.7M and $500K in lost revenue
- March 2007 – CORP contracts with Shannon and Wilson to study all 9 tunnels on the Coos Bay Line.
  - Study conducted March – April
  - Report findings released in July
- May 2007 – CORP track inspector and Safety Captain starts to detect increasing amounts of water in Tunnel 15.
- July 2007 – Tunnel 15 has a timber set fail.
- August 2007 – Tunnel 19 inspections moved from vehicles to cab of locomotives due to rock fall in the tunnel.
- September 17, 2007 – Tunnel conditions have deteriorated more rapidly than anticipated and CORP management seeks approval to shut down the line.
  - Newsworthy events (Utah mine collapse and Minneapolis bridge collapse) focus CORP management's attention to potential for collapse and impact to employee safety
- September 21, 2007 – CORP and Senior RailAmerica team agree to embargo the Coos Bay Line due to safety concerns.

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Since the embargo, CORP and RailAmerica senior management have met with many stakeholders to explain the need and timing of the embargo and our path forward.

- September 24, 2007 – Bob Jones (Regional VP), Kevin Spradlin (CORP GM) and Tom Hawksworth (CORP Sales Manager) met with the Southern Oregon Transportation Working Group
  - Addressed reasoning behind the swift closure
  - Fielded questions and responded to concerns
- October 3 and 4, 2007 – RailAmerica CEO John Giles, Jones, Spradlin and Hawksworth met with customers, legislators and ODOT
  - Outlined plans for next 90 days
  - Committed to meet with stakeholders by November 15
- October 10 and 11, 2007 – FRA and ODOT conduct tunnel inspections at the behest of Representative DeFazio
  - Results not released (as of November 13)
- October 25, 2007 – RailAmerica VP Paul Lundberg, Jones and Patrick Kerr (CORP AGM) addressed the Oregon Senate Interim Committee on Transportation
- November 14, 2007 – CORP and RailAmerica meet with key stakeholders to discuss plans for a Public/Private Partnership to restore the Coos Bay Line

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Proposed capital work on the Coos Bay Line to restore it to longer term condition will cost over $23M.

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Ties: $2.42M
There are 88 miles on the Coos Bay Sub that require tie replacement. The above cost is an average of only 500 ties per mile for a total of 44,000 ties. This will remove some 10 mph slow orders and return track speed to 25 mph for a while.

Surfacing: $0.669M
This covers surfacing the above tie limits only.

Tunnel Liner Repairs: $6.68M ($2.86M 0-12 months and $3.82M 1-4 years)
These figures are based on Engineer's Estimates from the Shannon & Wilson Report and include some degree of work in all tunnels except #16.

Bridges – Phase 1: $6.75M
These repairs address defects Osmose defines as "Condition is unsafe and could cause failure at any time. Repair as soon as possible. Condition must be monitored continually until repairs have been completed".

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Proposed capital work on the Coos Bay Line (continued)

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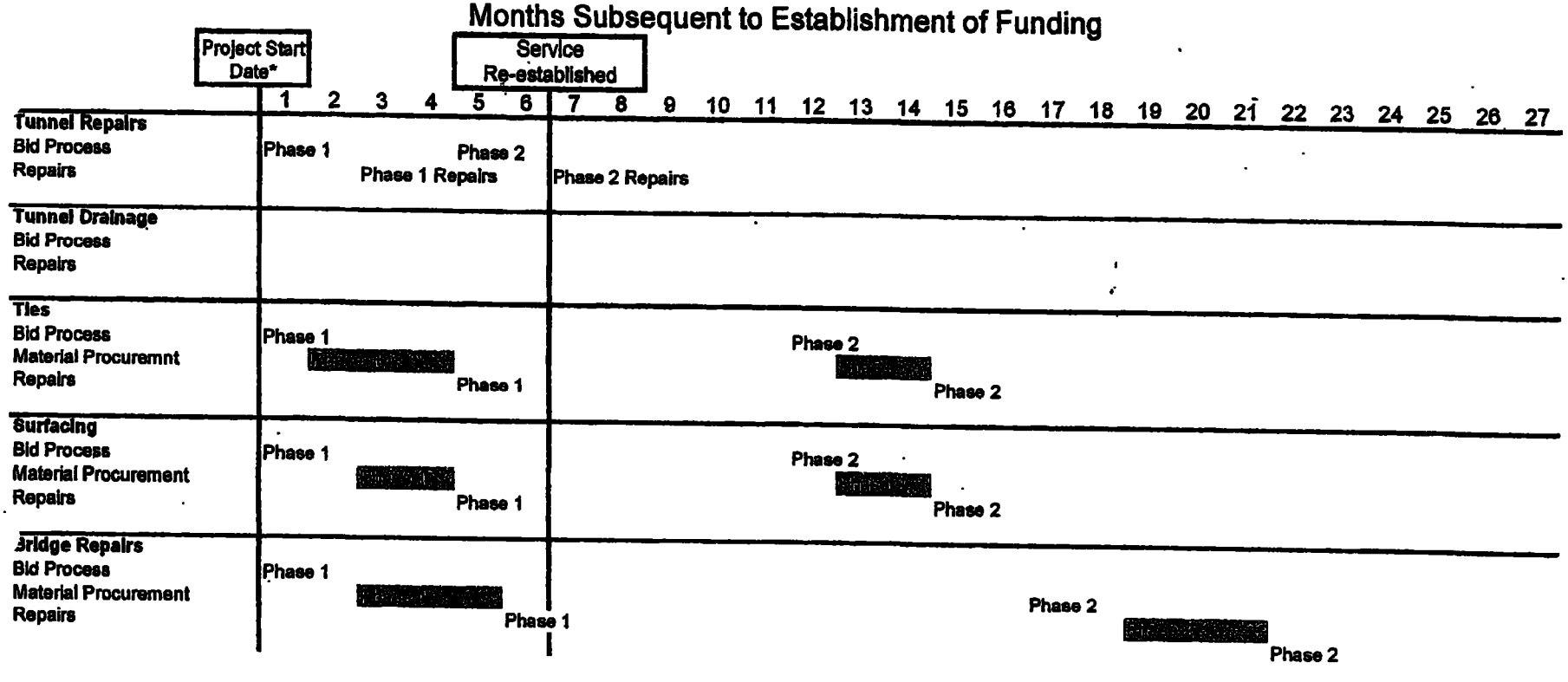
Bridges – Phase 2: $3.75M
These repairs address defects Osmose defines as "Condition could become unsafe and should be monitored frequently. Repair in the near future."

Tunnel Drainage: $3.0M (estimate)
Restore drainage in the tunnels to keep the track section free of mud and to prevent standing water at the base of timber sets.

Total $23.269M

Resumption of operations will take at least six months from the time a decision is made and funding is set.

Construction/Repair Timeline:



* Project start date will be when funding is established or March 1st due to weather, whichever is later.

- Phase 1 tunnel repairs address Level 1 & 2 items per the Shannon & Wilson report
- Phase 2 tunnel repairs address Level 3 - 5 items per the Shannon & Wilson report
- Phase 1 bridge repairs cover defects described by contract inspector as "condition is unsafe and could cause failure at any time. Repair as soon as possible. Condition must be monitored continually until repairs have been completed."
- Phase 2 bridge repairs cover defects described by contract inspector as "condition could become unsafe and should be monitored frequently. Repair in the near future."

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Proposed Public/Private Partnership for the Coos Bay Line

Nova Scotia Model

• RA's Cape Breton & Nova Scotia Railroad's Sydney Subdivision operated at a deficit for several years – railroad sought to discontinue service.

• Province of Nova Scotia's economic goals was to maintain a viable rail to Sydney

• Agreement reached with Province to provide subsidy of operating deficit and to provide capital necessary to maintain viable rail service for 5 years.

Coos Bay Capital Costs to restore line to safe, status quo operations

• $2.9m to stabilize tunnels 13, 15 and 18 to reopen the line.
• Total of $23.3M over 26 months to restore line to status quo
• Public/Private Partnership to include CORP, UP, ODOT, Port of Coos Bay, and Shippers
•$4.66M share for each stakeholder could be paid as follows:

- CORP	$4.66M from corporate funds
- UP	$4.66M from corporate funds
- ODOT	$4.66M grant
- Port of Coos Bay	$4.66M grant
- Shippers on Coos Bay line	$4.66M through a surcharge of $204 per car for 48 months (based on guaranteed 5,700 total CLs annually)

Ongoing Subsidy of Coos Bay Operations

• Coos Bay line currently operates at an annual deficit of approximately $1,500,000, making operations and future capital expenditures unsustainable.

• To assure operational viability, CORP and ODOT could enter into a 5 year agreement whereby ODOT provides up to $2m each year to defray the CORP operating deficit, and up to $2m each year (starting in year 3) for infrastructure improvements. The annual infrastructure would be reviewed jointly by ODOT and CORP.

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Our planned timeline would have the Coos Bay Line back in operation by Autumn 2008.

- November 21, 2007 – CORP will issue a formal request to all stakeholders to participate in the partnership
- December 15, 2007 – All stakeholders make determination to participate in the partnership
- March 1, 2008 – All stakeholders secure funding for their share of the partnership
  - Bid process for the repairs can commence
- May 1, 2008 – Tunnel repairs commence
- September 2008 – Coos Bay Line re-opens
  - Assumes successful repairs to the tunnels

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We look forward to a successful venture.

- CORP and RailAmerica are committed to our participation in a Public/Private Partnership
- Public/Private Partnerships are a proven model for success
- RailAmerica successfully participates in a PPP in Nova Scotia
- Please see our handout (recent article from Traffic World) for other examples

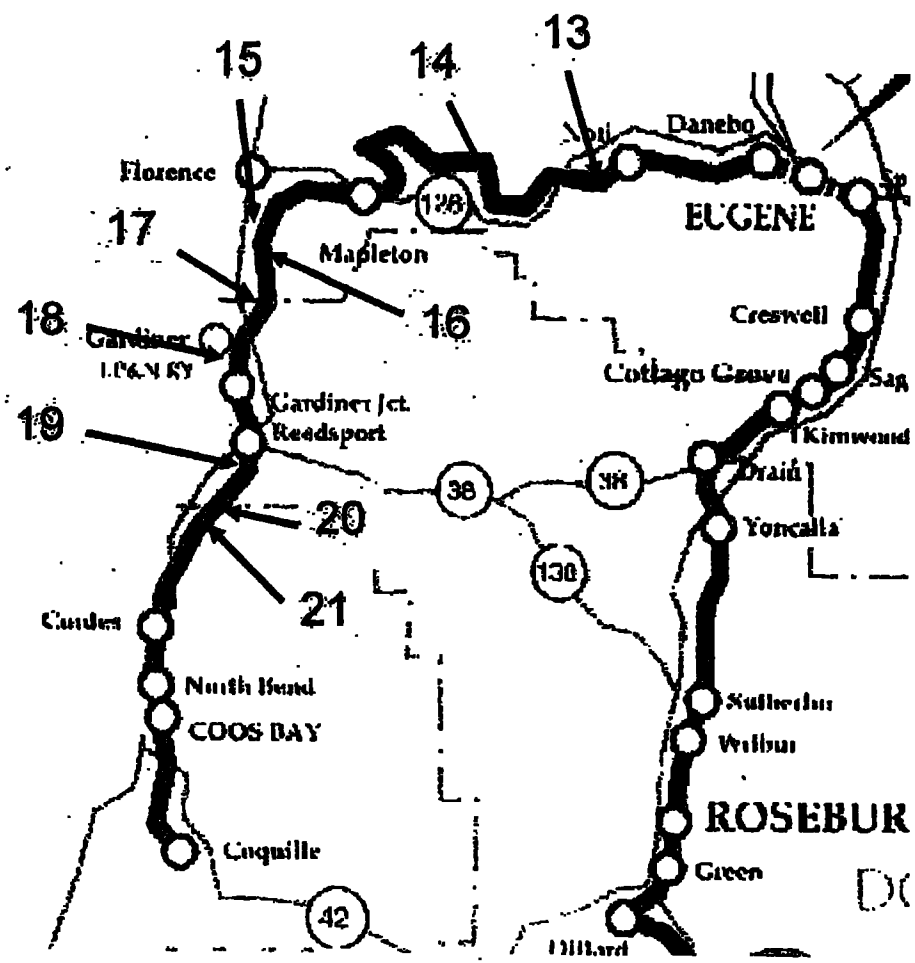
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Appendix

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Coos Bay Line Map and Tunnels



Typical current timber conditions



Typical wood deterioration in tunnels



Missing crown section (fell out)

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Coos Bay Historic Carloads and Capital Expenditures

- Coos Bay Historic Carloads from 1996

Year	Total
1996	7,131
1997	9,866
1998	10,142
1999	6,460
2000	6,431
2001	5,982
2002	8,376
2003	9,039
2004	5,849
2005	6,247
2006	5,845
2007	3,652

- Coos Bay CapEx from 2002

Year	Capital $
2002	**$199,653**
2003	**$302,242**
2004	**$191,522**
2005	**$1,121,905**
2006	**$1,815,076**
2007	**$678,213**
TOTAL	**$4,308,611**

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By Mortimer Downey and Ray Chambers

A Role for Public-Private Partnerships

The Coalition for America's Gateways and Trade Corridors

here is a growing discussion among elected officials, transportation interests and communities concerning the appropriate role for public-private partnerships in financing transportation projects.

This debate over transportation funding and the role of PPPs is linked closely to the enormous gap between available funds and the level needed to accommodate the anticipated growth in transportation demand and particularly goods movement demand.

The large backlog of transportation infrastructure projects, especially those that are passenger oriented, has absorbed much of the capacity of state departments of transportation, thereby extending the time required to develop critical freight transportation projects.

Facing this staggering shortfall in funding, traditional approaches have been increasingly augmented by partnerships of private groups with public agencies, which during the last five years have begun pumping larger amounts of money into the system.

There are many forms of PPPs and ways for the public and private sectors to collaborate as partners to leverage scarce public resources and expedite needed transportation projects, while protecting and promoting public interests.

Transportation planners at the federal, state and local levels should have access to the largest possible toolbox of financing mechanisms, strategies and options. Accordingly, there is an important — indeed, a necessary — role for PPPs as part of an overall infrastructure program, although they are only one piece of the total transportation financing picture.

rom America's earliest transportation efforts, PPPs have played a vital role in building America's transportation network, particularly within the context of goods movement. In fact, the development of our nation's transportation infrastructure historically has been a joint venture between the public and the private sectors.

History has shown trade gateway and corridor infrastructure is well suited to financing through PPPs. In our country's early decades, toll roads dominated land transportation. In the 1800s, private investment and public subsidies built the transcontinental railroads. In the early 1900s, private monies built and operated many ports and port facilities.

Today, marine terminals across the country, from the San Pedro Bay Ports to the Port Authority of New York and New Jersey, have been developed and still operate on a PPP-based model. That is, based on a defined public interest, capital is raised through public (municipal bonds, for example) or private sources to finance infrastructure, which is then often leased to private terminal operators.

In recent years, private investment has delivered substantial capacity enhancement, safety and environmental benefit with the development and operation of marine and intermodal terminals and facilities.

Today, we are seeing an evolution of the traditional PPPs to address some of our nation's critical needs for improved and expanded transportation infrastructure.

As different PPP arrangements have emerged, public acceptance and response has varied widely. The Indiana toll road lease generated criticism and debate, as have similar proposals in Pennsylvania and Ohio. It is primarily privatization of existing assets (also called "brownfield projects") that generates the most negative reactions.

Others, especially new capacity and infrastructure projects ("greenfield projects"), have generated widespread positive reaction.

artnership with the private sector can produce positive results for the public and national economy.

For example, the PrePass weigh station bypass service for commercial vehicle operators was developed in response to a decision that federal monies would not be made available for Intelligent Transportation System deployments even though the technology was a product of public research and development funds.

Today, PrePass is offered in 26 states through a PPP in which state officials and motor carriers sit as equal partners in setting operational policies.

In California, the landmark Alameda Corridor project illustrates how private investment can assist new capacity, more efficient freight movement, improved safety, reduced impact on a community and improved air quality. The follow-on Alameda Corridor-East uses a funding collaboration of cities, counties, private railroads and state and federal governments to extend these same benefits over an additional 282 miles of mainline freight corridor.

The common theme in these examples is the leveraging of public dollars and a quantifiable public benefit with little or no diminution of the use of the asset, which may be the key to gaining popular support.

Examples abound that demonstrate how market forces and private investment can help control the cost of transportation projects, optimize facility utilization, accelerate completion and delivery of project benefits beyond that possible if only traditional financing strategies were used.

Large, usually complex freight mobility projects are well suited to public-private partnerships. In fact, in most instances a strong private sector role is a necessity. The entire supply chain — highway, port and marine terminals; rail infrastructure; private ocean, rail and trucking companies, not to mention the ultimate customer, the beneficial owner of the cargo — includes both public and private sector stakeholders.

Ownership of the transportation infrastructure involved in any given project is often both public and private. Unduly restrictive policies and regulations on PPPs could constrain important freight infrastructure, such as intermodal facilities, national highway system connectors, highway/rail grade crossings and new highways or toll bridges, from going forward.

owever, public-private partnerships should not be viewed as a replacement for traditional public funding approaches.

PPPs likely will, for the foreseeable future, constitute a small percentage of overall transportation infrastructure projects,

From America's earliest transportation efforts, PPPs have played a vital role in building America's transportation network, particularly within the context of goods movement.

including freight mobility projects. Further, there must be guidelines and transparency requirements, which protect the public from transportation asset transfers that result in monopolistic abuse.

These guidelines also must preserve the integrity of the transportation planning process through state agencies and regional planning organizations. As this century progresses, we very well may find both the public and private sectors playing different roles in the development and operation of transportation infrastructure, with each sector moving closer to the middle in partnership. For example, public ports may find in helping state DOTs implement critical transportation infrastructure "outside the terminal gate," freight movement "inside the terminal gate" also may improve.

Many freight mobility projects need public-private cooperation to facilitate multimodal efficiency. Therefore the Coalition for America's Gateways and Trade Corridors offers the following recommendations to public policy makers as they consider possible legislation affecting PPPs:

- The development of new capacity is essential, whether developed through traditional funding approaches or PPPs.
- The precise circumstances surrounding each potential PPP arrangement are not the same. Each should be evaluated on its own merits.
- Revenue streams from investments should remain fair, equitable and fully transparent.
- Revenue from asset sales, leases or concessions should be reinvested in transportation projects, not diverted to other areas.
- The maintenance of our transportation infrastructure is also vital and, where appropriate, PPP approaches may offer public benefit by expediting repairs, improving operating performance and lowering costs.
- Laws and regulations should encourage and facilitate private participation in complex freight projects, especially with respect to encouraging cross-modal linkages.
- There should be strong efforts in state capitols to educate policy makers and train state DOT staffers and other relevant transportation agency professionals in the range of issues attendant to the development and negotiation of successful PPPs.
- During the next surface transportation reauthorization, public policy makers should establish a new, stable and dependable Federal Freight Trust Fund or separate and firewalled account within the federal Highway Trust Fund dedicated to freight. The 2009 reauthorization should also expand federal innovative financing and encourage maximum private participation, particularly for "greenfield" and new capacity projects.
- Public and private benefits should be measured for each PPP. The private standard should accurately project "return on investment," reflecting the fact that the private sector is in fact ready to pay for value received, while the public standard should focus on measurable public benefits (such as congestion relief, safety, energy savings and carbon pollution reduction).
- Transparency in the planning and development of any project is essential, with justification, implementation process and public benefits all made clear. PPP projects should include a public education and outreach strategy.

There is room for both traditional funding and PPPs. The history of freight mobility in America has demonstrated how partnerships can add capacity, free federal funds for other projects and concurrently improve system efficiency, safety and air quality.

Mortimer Downey, a former U.S. deputy secretary of transportation, is chairman of the Coalition for America's Gateways and Trade Corridors and is president of PB Consult. Chambers, chairman of the rail committee of CAGTC, is president of the National Railroad Construction and Maintenance Association.

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BEFORE THE
SURFACE TRANSPORTATION BOARD

STB FINANCE DOCKET NO. 35160

OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

Exhibit 26

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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
Phone (608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
October 9, 2007	10/12/07	50039610	n/30	SR-3824	11/09/2007	

RAIL AMERICA, INC.
Attn: Accounts Payable
5300 Broken Sound Blvd NW
Boca Raton, FL 33487

Job # 4891

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** follows:

Central Oregon & Pacific Railroad, Inc.

Final Billing - Repairs Complete

Bridge 625.53, NA & SA - Cottage Grove, OR	
Labor, Equipment - Lump Sum	$12,171.00
Timber: 14x16x16' (2) @ $543.72 / ea	$1,087.44
Timber: 3x10x20' (2) @ $79.48 / ea	$158.96
Bolts: 3/4"x20" (16) @ $5.52 / ea	$88.32
Connection Angles: (8) @ $8.58 / ea	$68.64
Boat Spikes: 1/2"x12" (20) @ $1.74 / ea	$34.80
Lag Screws: 3/4"x6" (16) @ $1.83 / ea	$29.28
Coos Bay Subdivision	
Deliver & Unload Coos Bay Surplus Timber - Lump Sum	$1,855.55
Coos Bay Surplus Timber:	
Surplus Timber - cost plus 10% markup	$8,990.89
Bridge 743.73 - Reedsport, OR	
Labor, Equipment - Lump Sum	$15,997.00
Timber: 8x18x32' (10) @ $796.22 / ea	$7,962.20
Timber: 8x18x30' (8) @ $746.46 / ea	$5,971.68
Bolts: 3/4"x36" (34) @ $6.91 / ea	$234.94
Drift Pins: 3/4"x24" (20) @ $3.85 / ea	$77.00
Shims: 1/2x12x16" (4) @ $3.27 / ea	$13.08
Shims: 1/4x12x16" (3) @ $2.67 / ea	$8.01
1ST & FINAL - INVOICE TOTAL	**$107,622.17**

cc: Kevin Spradlin, Gen Mgr
Marc Bader, Chief Eng

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept. No. 560, P.O. Box 8000, Buffalo, NY 14267

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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
Phone (608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
October 9, 2007	10/12/07	50039610	n/30	SR-3824	11/09/2007	

RAIL AMERICA, INC.
Attn: Accounts Payable
5300 Broken Sound Blvd NW
Boca Raton, FL 33487

Job # 4891

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** follows:

Central Oregon & Pacific Railroad, Inc.

Final Billing - Repairs Complete

Bridge 582.58 - Wilbur, OR	
Labor, Equipment - Lump Sum	$6,375.00
Timber: 14x16x16' (1) @ $543.72 / ea	$543.72
Connection Angles: (4) @ $8.58 / ea	$34.32
Boat Spikes: 1/2"x12" (12) @ $1.74 / ea	$20.88
Lag Screws: 3/4"x6" (8) @ $1.83 / ea	$14.64
Bolts: 3/4"x20" (2) @ $5.52 / ea	$11.04
Bridge 585.44 - Sutherlin, OR	
Labor, Equipment - Lump Sum	$5,796.00
Timber: 14x16x16' (1) @ $543.72 / ea	$543.72
Connection Angles: (4) @ $8.58 / ea	$34.32
Boat Spikes: 1/2"x12" (12) @ $1.74 / ea	$20.88
Lag Screws: 3/4"x6" (8) @ $1.83 / ea	$14.64
Bolts: 3/4"x20" (2) @ $5.52 / ea	$11.04
Bridge 623.10 - Divide, OR	
Labor, Equipment - Lump Sum	$5,796.00
Timber Freight: (1) @ $2,420 / LS	$2,420.00
Timber: 14x16x16' (1) @ $543.72 / ea	$543.72
Connection Angles: (4) @ $8.58 / ea	$34.32
Boat Spikes: 1/2"x12" (12) @ $1.74 / ea	$20.88
Lag Screws: 3/4"x6" (8) @ $1.83 / ea	$14.64
Bolts: 3/4"x20" (2) @ $5.52 / ea	$11.04

IMPORTANT
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INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
October 9, 2007	10/12/07	50039610	n/30	SR-3824	11/09/2007	

RAIL AMERICA, INC.
Attn: Accounts Payable
5300 Broken Sound Blvd NW
Boca Raton, FL 33487

Job # 4891

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** follows:

Central Oregon & Pacific Railroad, Inc.

Final Billing - Repairs Complete

Mobilization - Lump Sum	$7,620.00
Shoring System Freight - Lump Sum	$2,750.00
Roseburg Subdivision	
Bridge 446.26 - Central Point, OR	
Labor, Equipment - Lump Sum	$5,796.00
Material - Cost plus 10% markup	
Timber: 14x16x16' (1) @ $543.72 / ea	$543.72
Connection Angles: (4) @ $8.58 / ea	$34.32
Boat Spikes: 1/2"x12" (12) @ $1.74 / ea	$20.88
Lag Screws: 3/4"x6" (8) @ $1.83 / ea	$14.64
Bolts: 3/4"x20" (2) @ $5.52 / ea	$11.04
Bridge 474.15 - Grants Pass, OR	
Labor, Equipment - Lump Sum	$5,796.00
Timber: 12x14x18' (1) @ $400.54 / ea	$400.54
Boat Spikes: 1/2"x12" (20) @ $1.74 / ea	$34.80
Bolts: 3/4"x20" (2) @ $5.52 / ea	$11.04
Bridge 568.24 - Green OR	
Labor, Equipment - Lump Sum	$6,955.00
Timber: 14x16x16' (1) @ $543.72 / ea	$543.72
Connection Angles: (4) @ $8.58 / ea	$34.32
Boat Spikes: 1/2"x12" (12) @ $1.74 / ea	$20.88
Lag Screws: 3/4"x6" (8) @ $1.83 / ea	$14.64
Bolts: 3/4"x20" (2) @ $5.52 / ea	$11.04

IMPORTANT
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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
Phone (608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Contract Date	Framework Order No.	Terms	Invoice Number	Invoice Date	Salesman
May 18, 2006	05/18/06		n/30	SR-3555	09/29/2006	

RAIL AMERICA, INC. **Job # 4585**
Attn: Accounts Payable
5300 Broken Sound Blvd NW
Boca Raton, FL 33487

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** follows:

Central Oregon & Pacific Railroad, Inc.

Final Billing - Repairs Complete

Bridge 739.68 NA; Shim Chord 2 at Bent 2 - Reedsport, OR
Labor, Equipment and Material - No cost to Owner $0.00

Bridge 741.35 - Reedsport, OR
Labor, Equipment and Material - Lump Sum $5,331.00

Bridge 769.11 NA & SA & Main Sec - Coos Bay, OR
Labor, Equipment and Material - Lump Sum $115,493.00

1ST & FINAL - INVOICE TOTAL **$186,385.00**

cc: John Bullion, Asst Gen Mgr
Marc Bader, Chief Eng

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept No. 560, P.O. Box 8000, Buffalo, NY 14267

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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
Phone (608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Contract Date	Framework Order No.	Terms	Invoice Number	Invoice Date	Salesman
May 18, 2006	05/18/06		n/30	SR-3555	09/29/2006	

RAIL AMERICA, INC. **Job # 4585**
Attn: Accounts Payable
5300 Broken Sound Blvd NW
Boca Raton, FL 33487

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** follows:

Central Oregon & Pacific Railroad, Inc.

Final Billing - Repairs Complete

Mobilization - Lump Sum	$8,145.00
Roseburg Subdivision	
Bridge 446.26 - Central Point, OR	
Labor, Equipment and Material - Lump Sum	$5,929.00
Credit: CO #1, dated 09/05/06, work not completed due to high water conditions	($5,929.00)
Bridge 545.24 - Riddle, OR	
Labor, Equipment and Material - Lump Sum	$6,116.00
Bridge 568.24 - Green, OR	
Labor, Equipment and Material - Lump Sum	$6,986.00
Credit: CO #1, dated 09/05/06, work not completed due to high water conditions	($6,986.00)
Bridge 577.07 - Winchester, OR	
Labor, Equipment and Material - Lump Sum	$6,458.00
Bridge 608.22 Siding, NA - Drain, OR	
Labor, Equipment and Material - Lump Sum	$4,263.00
Coos Bay Subdivision	
Bridge 665.49 NA & SA - Noti, OR	
Labor, Equipment and Material - Lump Sum	$7,532.00
Bridge 678.43 NA - Richardson, OR	
Labor, Equipment and Material - Lump Sum	$4,327.00
Bridge 687.03 - Richardson, OR	
Labor, Equipment and Material - Lump Sum	$15,751.00
Bridge 737.33 - Gardiner, OR	
Labor, Equipment and Material - Lump Sum	$12,969.00

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept No 560, P.O Box 8000, Buffalo, NY 14267

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EXHIBIT I

SCOPE OF WORK (continued)

CENTRAL OREGON & PACIFIC RAILROAD, INC.

COOS BAY SUBDIVISION (*continued*)

Bridge 739.68 North Approach - Reedsport, OR

1. Shim Chord 2 at Bent 2 at no cost to OWNER.
   Note: Monitor bent for settlement during future inspections.

Bridge 741.35 - Reedsport, OR

1. Shim under both chords of Bent 2.
2. Replace cap on Bent 4.

Bridge 769.11 - Coos Bay, OR

North Approach

1. Replace all bridge ties.
2. Replace all guard timber.
3. Replace walkway supports on both sides of bridge.
4. Replace handrail on both sides of bridge.
5. Existing grating to be reused.

Main Section

1. Replace all bridge ties.
2. Replace all guard timber.
3. Replace walkway supports on both sides of bridge.
4. Replace handrail on both sides of bridge.
5. Existing grating to be reused.

South Approach

1. Replace all bridge ties.
2. Replace all guard timber.
3. Replace walkway supports on both sides of bridge.
4. Replace handrail on both sides of bridge.
5. Existing grating to be reused.

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EXHIBIT I

SCOPE OF WORK

CENTRAL OREGON & PACIFIC RAILROAD, INC.

Central Oregon & Pacific - 2006 Timber Repair Program

1. Mobilize men, materials and equipment to site.

ROSEBURG SUBDIVISION

Bridge 446.26 - Central Point, OR

1. Cut down the pile tops and replace the cap on Bent 2 with an oversized cap.

Bridge 545.58 - Riddle, OR

1. Cut the base of the posts and replace the sill on Bent 3. Sill is setting on concrete.

Bridge 568.24 - Green, OR

1. Cut down the pile tops and replace the cap on Bent 5.

Bridge 577.07 - Winchester, OR

1. Cut down the pile tops and replace the cap on Bent 3.

Bridge 608.22 Siding, North Approach - Drain, OR

1. Cut down the pile tops and replace the cap on Bent 2.

COOS BAY SUBDIVISION

Bridge 665.49 - Noti, OR

North Approach

1. Cut down the pile tops and replace the cap and shim on Bent 2 with a cap and subcap.

South Approach

1. Cut down the pile tops and replace the cap on Bent 3 with an oversized cap.

Bridge 678.43 North Approach - Richardson, OR

1. Cut down the pile tops and replace the cap and shim on Bent 2 with a cap and subcap.

Bridge 687.03 - Richardson, OR

1. Replace the ties and guard timber.

Bridge 737.33 - Gardiner, OR

1. Cut down the pile tops and replace the cap on Bent 6 with an oversized cap.
2. Cut down the pile tops and replace the cap on Bent 7 with an oversized cap.

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Scope of Work (continued):

COOS BAY SUBDIVISION (continued)

Bridge 737.33 - Gardiner, OR

1. Cut down the pile tops and replaced the cap on Bent 6 with an oversized cap.
2. Cut down the pile tops and replaced the cap on Bent 7 with an oversized cap.

Bridge 739.68 North Approach - Reedsport, OR

1. Shimmed Chord 2 at Bent 2 at no cost to OWNER.
   Note: Monitor bent for settlement during future inspections.

Bridge 741.35 - Reedsport, OR

1. Shimmed under both chords of Bent 2.
2. Replaced cap on Bent 4.

Bridge 769.11 - Coos Bay, OR

North Approach

1. Replaced all bridge ties.
2. Replaced all guard timber.
3. Replaced walkway supports on both sides of bridge.
4. Replaced handrail on both sides of bridge.
5. Existing grating was reused.

Main Section

1. Replaced all bridge ties.
2. Replaced all guard timber.
3. Replaced walkway supports on both sides of bridge.
4. Replaced handrail on both sides of bridge.
5. Existing grating was reused.

South Approach

1. Replaced all bridge ties.
2. Replaced all guard timber.
3. Replaced walkway supports on both sides of bridge.
4. Replaced handrail on both sides of bridge.
5. Existing grating was reused.

Modifications to the Original Scope of Work:

Due to high water conditions, the contracted repairs (listed below) were unable to be completed, therefore, a credit was issued for this work:

ROSEBURG SUBDIVISION

Bridge 446.26 - Central Point, OR

1. Cut down the pile tops and replace the cap on Bent 2 with an oversized cap. *CREDIT ISSUED*

Bridge 568.24 - Green, OR

1. Cut down the pile tops and replace the cap on Bent 5. *CREDIT ISSUED*

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CENTRAL OREGON & PACIFIC RAILROAD, INC.

Job No: 4585

STRUCTURAL

REPAIR REPORT

Roseburg Subdivision
Bridges: 545.58, 577.07 & 608.22 Siding, North Approach

Coos Bay Subdivision
Bridges: 665.49 North & South Approach, 678.43 North Approach, 687.03, 737.33, 739.68 North Approach, 741.35, 769.11 North & South Approach & Main Section

Foreman: Otis Atkinson **Project Mgr.: Mark Kipper**

During the week of July 7, 2006, an Osmose crew mobilized in to begin the repairs for the Central Oregon & Pacific Railroad. This important project was completed on August 23, 2006. The scope of work was accomplished as follows:

Scope of Work:

Central Oregon & Pacific - 2006 Timber Repair Program

1. Mobilized men, materials and equipment to site.

ROSEBURG SUBDIVISION

Bridge 545.58 - Riddle, OR

1. Cut the base of the posts and replaced the sill on Bent 3.

Bridge 577.07 - Winchester, OR

1. Cut down the pile tops and replaced the cap on Bent 3.

Bridge 608.22 Siding, North Approach - Drain, OR

1. Cut down the pile tops and replaced the cap on Bent 2.

COOS BAY SUBDIVISION

Bridge 665.49 - Noti, OR

North Approach

1. Cut down the pile tops and replaced the cap and shim on Bent 2 with a cap and subcap.

South Approach

1. Cut down the pile tops and replaced the cap on Bent 3 with an oversized cap.

Bridge 678.43 North Approach - Richardson, OR

1. Cut down the pile tops and replaced the cap and shim on Bent 2 with a cap and subcap.

Bridge 687.03 - Richardson, OR

1. Replaced the ties and guard timber.

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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
(608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
December 22, 2004	12/27/04		n/30	SR-3309	08/15/05	

CENTRAL OREGON & PACIFIC RAILROAD, INC. **Job # 4186**
Attn: Dan Lovelady, General Manager
333 S. E. Mosher
Roseburg, OR 97470

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** as follows:

Final Billing - Job Copmplete

Labor & Equipment - Lump Sum, 10.50% Complete	$14,711.00
Labor & Equipment - Credit for Bridge 446.26 unworkable due to high water	($6,658.00)
Materials - materials to date plus 10% markup	$157.86

Roseburg Subdivision
Bridge 446.26 - Central Point, OR
Bridge 464.80 Main - Rogue River, OR
Bridge 567.19 - Green, OR
Bridge 589.88, Section 2 - Oakland, OR
Bridge 608.62, Section 3 - Drain, OR
Bridge 615.20 - Safley, OR
Bridge 644.10 WYE - Goshen, OR

Coos Bay Subdivision
Bridge 662.59 - Veneta, OR
Bridge 691.05, Section 3 - Richardson, OR
Bridge 696.66, Section 3, Swisshome, OR
Bridge 742.24 - Reedsport, OR
Bridge 743.97 - Reedsport, OR
Bridge 744.24 - Reedsport, OR
Bridge 756.13 - Hauser, OR

2ND & FINAL - INVOICE TOTAL **$8,210.86**

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept. No 560, P O Box 8000, Buffalo, NY 14267

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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
(608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
December 22, 2004	12/27/04		n/30	SR-3273	06/10/05	

CENTRAL OREGON & PACIFIC RAILROAD, INC. **Job # 4186**
Attn: Dan Lovelady, General Manager
333 S. E. Mosher
Roseburg, OR 97470

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** as follows:

Progress Billing

Labor - Lump Sum, 89.50% Complete	$125,396.00
Materials - materials to date plus 10% markup	$46,837.54

Roseburg Subdivision
Bridge 446.26 - Central Point, OR
Bridge 464.80 Main - Rogue River, OR
Bridge 567.19 - Green, OR
Bridge 589.88, Section 2 - Oakland, OR
Bridge 608.62, Section 3 - Drain, OR
Bridge 615.20 - Safley, OR
Bridge 644.10 WYE - Goshen, OR

Coos Bay Subdivision
Bridge 662.59 - Veneta, OR
Bridge 691.05, Section 3 - Richardson, OR
Bridge 696.66, Section 3, Swisshome, OR
Bridge 742.24 - Reedsport, OR
Bridge 743.97 - Reedsport, OR
Bridge 744.24 - Reedsport, OR
Bridge 756.13 - Hauser, OR

1ST PARTIAL - INVOICE TOTAL **$172,233.54**

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept. No. 560, P O Box 8000, Buffalo, NY 14267

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EXHIBIT I

SCOPE OF WORK (continued)

CENTRAL OREGON & PACIFIC RAILROAD, INC.

2005 Repair Program (continued)

Coos Bay Subdivision

Bridge 662.59 - Veneta, OR

1. Frame out Bent 9 at 8 feet.
2. Post out Pile 1 & 5 of Bent 23 at 7 feet.
3. Cut down the pile tops and replace the cap on Bent 23 with an oversized cap.

Bridge 691.05, Section 3 - Richardson, OR

1. Cut down the pile tops and replace the cap and shim on Bent 8 with a new cap and subcap.
2. Post out Pile 1 & 2 of Bent 8 at 16 feet.

Bridge 696.66 Section 3 - Swisshome, OR

1. Cut down pile tops and replace cap and shim on Bent 2 with an oversized cap.
2. Replace all stringers with new timber stringers. (One span is 17'-9")

Bridge 742.24 - Reedsport, OR

1. Cut down the pile tops and replace the cap on Bent 1.
2. Post out Pile 5 & 6 of Bent 4 at 14 feet.
3. Frame out Bent 7 at 12 feet.
4. Surface bridge by shimming bents.

Bridge 743.97 - Reedsport, OR

1. Frame out Bent 7 at 9 feet.

Bridge 744.24 - Reedsport, OR

1. Cut down the pile tops and replace the cap on Bent 4.
2. Replace both sway braces on Bent 4.

Bridge 756.13 - Hauser, OR

1. Repost Post 1, 2 & 3 of Bent 3 at 13 feet.

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EXHIBIT I

SCOPE OF WORK

CENTRAL OREGON & PACIFIC RAILROAD, INC.

2005 Repair Program

Roseburg Subdivision

Bridge 446.26 - Central Point, OR

1. Cut down the pile tops and replace the cap on Bent 2 with an oversized cap.
2. Post out Pile 1 of Bent 2 at 10 feet.

Bridge 464.80 Main - Rogue River, OR

1. Cut down the pile tops and replace the cap on Bent 4.
2. Cut the base of the posts and replace the sill on Bent 4.

Bridge 567.19 - Green, OR

1. Replace all 28 ties and the guard timbers.

Bridge 589.88 Section 2 - Oakland, OR

1. Post out Pile 1 & 3 of Bent 8 at 12 feet.
2. Post out Pile 1 & 4 of Bent 9 at 12 feet.
3. Post out Pile 1 & 4 of Bent 11 at 12 feet.
4. Replace the cap on Bent 15 with a new cap, no pile cuts.
5. Frame out Bent 20 at 11 feet.

Bridge 608.62, Section 3 - Drain, OR

1. Post out Pile 1, 3 & 5 of Bent 16 at 10 feet.

Bridge 615.20 - Safley, OR

1. Post out Pile 2, 3 & 6 of Bent 5 at 15 feet.

Bridge 644.10 WYE - Goshen, OR

1. Cut down the pile tops and double cap Bents 4 & 5.

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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
(608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
May 12, 2004	06/01/04		n/30	SR-3238	03/28/2005	

CENTRAL OREGON & PACIFIC RAILROAD, INC. **Job # 3982**
Attn: Mr. Dan Lovelady, General Manager
333 S. E. Mosher
Roseburg, OR 97470

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** as follows:

Final Billing - Job Complete

Roseburg Subdivision & Coos Bay Subdivision	
Labor, Equipment and Material - Lump Sum	$80,150.00
Bridge 769.11 North Approach - Coos Bay, OR	
Labor, Equipment and Material - Lump Sum	$53,035.00
Change Order 01, dated 12/14/04 - Lump Sum	$14,173.00
Substitute welded steel pile bents & steel posts for treated timber material due to environmental restrictions	
2ND & FINAL - INVOICE TOTAL	**$147,358.00**

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept. No 560, P.O. Box 8000, Buffalo, NY 14267

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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
(608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
May 12, 2004	06/01/04		n/30	SR-3197	12/22/2004	

CENTRAL OREGON & PACIFIC RAILROAD, INC. **Job # 3982**
Attn: Mr. Dan Lovelady, General Manager
333 S. E. Mosher
Roseburg, OR 97470

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** as follows:

Progress Billing for Work Completed

Roseburg Subdivision & Coos Bay Subdivision
Mobilization, Labor, Equipment and Material - Lump Sum $84,959.00

1ST PARTIAL - INVOICE TOTAL **$84,959.00**

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept No 560, P.O. Box 8000, Buffalo, NY 14267

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EXHIBIT I

SCOPE OF WORK (continued)

CENTRAL OREGON & PACIFIC RAILROAD, INC.

Coos Bay Subdivision (continued)

Bridge 732.84 South Approach - Kroll, OR

1. Cut down the pile tops and replace the cap on Bent 5 with an oversized cap.

Bridge 735.86 - Kroll, OR

1. Cut down the pile tops and replace the cap on Bent 2 with a new cap and subcap.
2. Cut down the pile tops and replace the cap on Bent 4 with a new cap and subcap.
3. Cut down the pile tops and replace the cap on Bent 5 with a new cap and subcap.

Bridge 736.03 - Gardiner, OR

1. Cut down the pile tops and replace the cap on Bent 4.
2. Cut down the pile tops and replace the cap and shim on Bent 6 with a cap and subcap.

REVISED 2004 Repair Program Lump Sum $165,109

Bridge 769.11 N. Approach - Coos Bay, OR

1. Post Piles 1 & 4 Bent 1. Scope of work assumes Piles 2 & 3 are still carrying load. Proposal also assumes existing backwall, although deteriorated, will function without rebuilding. If these assumptions are incorrect additional work may be required.
2. Replace reject cap with oversize cap at Bent 2.
3. Post Piles 1 & 4 Bent 3. Scope assumes Piles 2 & 3 are still carrying load. OWNER replaced cap at Bent 4.
4. Post Pile 2 Bent 5. Scope assumes Piles 1, 3 & 4 are still carrying load.
5. Reset shims Bent 6.
6. Excavate and frame out Bent 7 estimated at 9 ft.
7. Excavate and frame out Bent 9 estimated at 10 ft.
8. Excavate at frame out Bent 11 estimated at 10 ft.
9. Excavate and frame out Bent 13 estimated at 11 ft. Framing of bents assumes sound piling for cutoffs will be found within 1 ft of the existing groundline. Scope also assumes permitting will not be required for excavation in the tidal zone to frame out the bents.
10. Shim top of Pile 2 Bent 8.
11. Replace stringer to cap shim at Bent 14.

Bridge 769.11 N. Approach Lump Sum $53,035

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EXHIBIT I

SCOPE OF WORK

CENTRAL OREGON & PACIFIC RAILROAD, INC.

Central Oregon & Pacific – REVISED 2004 Repair Program

1. Mobilize men, materials and equipment to site.

Roseburg Subdivision

Bridge 456.78 Section 2 - Gold Hill, OR

1. Cut down the post tops and replace the cap on Bent 19.
2. Cut down the post tops and replace the cap on Bent 20.
3. Cut down the post tops and replace the cap on Bent 22.

Bridge 590.75 - Oakland, OR

1. Post out Piles 3, 4 & 6 of Bent 3 at 12 feet.
2. Post out Piles 2 & 5 of Bent 7 at 13 feet. (Priority 3)

Coos Bay Subdivision

Bridge 662.59 - Veneta, OR

1. Frame out Bent 9 at 8 feet.

Bridge 730.56 Sec. 3 - Kroll, OR

1. Frame out Bent 7 at 12 feet.

Bridge 730.56 Sec. 5 - Kroll, OR

1. Post out Piles 1, 3, 4 & 7 of Bent 6 at 12 feet.
2. Post out Piles 4, 5 & 7 of Bent 31 at 12 feet.

Bridge 731.65 S. Approach - Kroll, OR

1. Post out Piles 1, 5, 6 & 7 of Bent 157 at 12 feet.
2. Cut down the pile tops and replace the cap on Bent 7.
3. Cut down the pile tops and replace the cap on Bent 39.
4. Cut down the pile tops and replace the cap on Bent 99.

Bridge 732.84 North Approach - Kroll, OR

1. Cut down the pile tops and replace the cap and subcap on Bent 1.
2. Cut down the pile tops and replace the cap on Bent 6 with a cap and subcap.
3. Replace Posts 2 - 6 on Bent 21 and install a new cap.
4. Post out Piles 1 & 7 of Bent 21 at 10 feet.
5. Install new sway braces on Bent 21.

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Madison, WI 53708
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INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
April 16, 2003	05/08/03		n/30	SR-2940	11/11/03	

CENTRAL OREGON & PACIFIC RAILROAD **Job # 3690**
Attn: Dan Lovelady, General Manager
333 S. E. Mosher
Roseburg, OR 97470

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** as follows:

Final Billing - Job Complete

Bridge 739.68 (North Approach) - Reedsport, OR	
Material	$547.73
Bridge 748.68 - Lakeside, OR	
Material	$817.96
Bridge 756.13 - Hauser, OR	
Material	$335.63
Bridge 769.11 (North & South Approach) - Coos Bay, OR	
Material	$4,823.18
Additional Work Bridge 769.11 (South Approach) - Coos Bay, OR	
Change Order #1, dated 08/01/03 - Lump Sum	$766.00
Additional Work Bridge 742.72 - Reedsport, OR	
Change Order #2, dated 08/14/03 - Lump Sum	$13,845.00
1ST & FINAL - INVOICE TOTAL	**$195,276.89**

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept. No. 560, P.O. Box 8000, Buffalo, NY 14267

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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
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INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
April 16, 2003	05/08/03		n/30	SR-2940	11/11/03	

CENTRAL OREGON & PACIFIC RAILROAD
Attn: Dan Lovelady, General Manager
333 S. E. Mosher
Roseburg, OR 97470

Job # 3690

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** as follows:

Final Billing - Job Complete

Roseburg Subdivision & Coos Bay Subdivision
Mobilization, Labor & Equipment - Lump Sum $147,525.00

Roseburg Sub
Bridge 482.65 - Merlin, OR
Material $465 06

Bridge 515.82 - Glendale, OR
Material $4,075.21

Bridge 582.58 - Wilbur, OR
Material $718.80

Bridge 582.74 - Wilbur, OR
Material $420.90

CoosBay Sub
Bridge 678.43 - Richardson, OR
Material $18,134.04

Bridge 694.32 (North & South Approach) - Swisshome, OR
Material $1,092.39

Bridge 702.65 - Mapleton, OR
Material $492.29

Bridge 712.80 - Wendson, OR
Material $1,217.70

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept. No. 560, P.O. Box 8000, Buffalo, NY 14267

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Osmose

Osmose Railroad Services, Inc.
4546 Tompkins Drive, Madison WI 53716
(608) 221-2292 • Fax: (608) 221-0618

HAH ✓ MTT ✓ MJT ✓ DJO RJS

Change Order Proposal

Date of C.O.	08/14/03	C. O. #:	2
Customer:	Central Oregon & Pacific	Attention:	Mr. Jim Underwood
Phone #:	541-957-2512	Fax #:	541-957-0686
Location:	Reedsport, OR	Bridge #:	742.72
Date of Contract:	Verbal 05/02/03	Job #:	3690

Attached please find our quote for additional work to be performed on the above-mentioned project. If this quote is acceptable, please sign and return a copy *prior* to the date, as listed below, to avoid any possible delay in the project.

Description:

Bridge 742.72 - Reedsport, OR

1. Pick up 28 Railroad supplied bridge ties in Mapleton, OR.
2. Move men and equipment into Bridge 742.72.
3. Replace 3 ties at rail joint in Span 1.
4. Replace east side guard rail timber 16 ft long in Span 1.
5. Replace 5 ties at rail joint near Bent 3.
6. Replace 3 ties at joint in Span 4.
7. Cut fire damaged barrel platform off bridge in Span 5.
8. Replace 2 ties at rail joint in Span 5.
9. Replace east guard timber 16 ft long in Span 6.
10. Replace 4 ties at rail joint in Span 8.
11. Replace 11 ties in Span 9.
12. Railroad to tamp up south approach (currently very low).
13. Replace broken and crushing cap at Bent 6. Pile tops to be cut for new cap installation and new shim to be installed over 1/2 of cap.

CONTINGENCIES:

1. Work under change order to be completed per the contingencies in the original contract.
2. CONTRACTOR will invoice for these repairs in January of 2004.
3. Railroad to supply ties. CONTRACTOR to supply new cap, guard timbers, stringer to cap shims and hardware.

Written acceptance requested prior to: 8/14/03

ESTIMATED TOTAL ADDITIONAL COST **$13,845.00**

Osmose Railroad Services, Inc.		OWNER:	
Per:	Mike Tweet	Per:	Dan Lovelady
Title:	Vice President	Title:	General Manager
Date:	8/14/03	Date:	8/18/03

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Contract File

Osmose.

Osmose Railroad Services, Inc.
4546 Tompkins Drive, Madison WI 53716
(608) 221-2292 • Fax: (608) 221-0618

MH ✓
MTT
MJT ✓
DJO
RJS copy

Change Order Proposal

Date of C.O. 08/01/03		C. O. #:	1
Customer:	Central Oregon & Pacific	Attention:	Mr. Dan Lovelady
Phone #:	541-957-2512	Fax #:	541-957-0686
Location:	Coos Bay, OR	Bridge #:	769.11
Date of Contract:	Verbal 05/02/03	Job #:	3690

Attached please find our quote for additional work to be performed on the above-mentioned project. If this quote is acceptable, please sign and return a copy *prior* to the date, as listed below, to avoid any possible delay in the project.

Description:

Excavate and backfill base of existing timber piling to determine condition and if an efficient and cost effective repair is possible as opposed to driving new bents.

Provide all labor, material and equipment complete.

Written acceptance must be mailed or faxed prior to: 8/5/03

TOTAL ADDITIONAL COST **$766.00**

Osmose Railroad Services, Inc.

Per: Roger L. Coates Roger L. Coates
Title: Project Manager
Date: 8/01/03

OWNER:

Per: Dan Lovelady
Title: General Manager
Date: 8/01/03

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EXHIBIT I

SCOPE OF WORK (continued)

CENTRAL OREGON & PACIFIC RAILROAD INC.

COOS BAY SUBDIVISION (continued)

Bridge: 694.32 (North Approach) - Swisshome, OR

1. Cut down the pile tops and replace the cap on Bent 4 with an oversized cap.
2. Shim the top of Pile 1 of Bent 2.

Bridge: 694.32 (South Approach) - Swisshome, OR

1. Cut down the pile tops and replace the cap on Bent 2 with an oversized cap.
2. Cut down the pile tops and replace the cap on Bent 3 with an oversized cap.

Bridge: 702.65 - Mapleton, OR

1. Cut down the pile tops and replace the tapered elevation shim and cap on Bent 7 with a new cap and subcap.

Bridge: 712.80 - Wendson, OR

1. Cut down the pile tops and replace the cap and shim on Bent 3 with a new cap and subcap.
2. Post out Piles 2 & 4 of Bent 3 at 11 feet. (Priority 3)

Bridge: 739.68 (North Approach) - Reedsport, OR

1. Cut down the pile tops and replace the cap on Bent 2 with an oversized cap.
2. Post out Post 1 of Bent 2 at 10 feet. (Priority 3)

Bridge: 748.68 - Lakeside, OR

1. Perform a detailed stringer inspection.
2. Cut down the pile tops and replace the cap and shim on Bent 2. (Priority 3 - replace 1" shim is Priority 2)
3. Cut down the pile tops and replace the cap on Bent 3.

Bridge: 756.13 - Hauser, OR

1. Shift the deck and the stringer chords to align the rail.

Bridge: 769.11 (North Approach) - Coos Bay, OR

1. Cut down the pile tops and replace the cap on Bent 2.
2. Remove packing bolts in both stringer chords between Bents 6 through 14.
3. Install a helper stringer from Bents 6 - 14 and pack the stringer chords.

Bridge: 769.11 (South Approach) - Coos Bay, OR

1. Cut down the pile tops and replace the cap on Bent 1 with an oversized cap.
2. Post out all 4 piles of Bent 6 at 12 feet.

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EXHIBIT I

SCOPE OF WORK

CENTRAL OREGON & PACIFIC RAILROAD INC.

2003 Maintenance Budget

1. Mobilize men, materials and equipment to site.

ROSEBURG SUBDIVISION

Bridge: 482.65 - Merlin, OR

1. Cut down the pile tops and replace the cap on Bent 6 with an oversized cap.
2. Shim the top of Pile 5 of Bent 5.

Bridge: 515.82 - Glendale, OR

1. Reframe Bent 5 at 9 feet and replace the mudblocks.
2. Survey bridge and replace cap to stringer shims to improve surface of bridge.
3. Reframe Bent 2 at 8 feet and replace the mudblocks.
4. Replace the tapered subcap on Bent 4.

Bridge: 582.58 - Wilbur, OR

1. Post out Piles 1 & 3 of Bent 9 at 10 feet.

Bridge: 582.74 - Wilbur, OR

1. Cut down the pile tops and replace the cap on Bent 3 with an oversized cap.

COOS BAY SUBDIVISION

Bridge: 678.43 - Richardson, OR

1. Replace the guard timber and ties on both approaches. (Railroad to provide 91 ties 8x8x9')
2. Replace the guard timber and ties on the TPG span, hook bolting every third tie. (96 ties tapered from 13.5" to 10" x 10"x10')

NOTE: All ties to be anchor spiked (8 spikes per tie)

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OSMOSE RAILROAD SERVICES, INC.
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
(608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Agreement Date	Terms	P. O. Number	Invoice Number	Invoice Date	Salesman
June 21, 2002	07/08/02	n/30		SR-2759	01/15/03	

CENTRAL OREGON & PACIFIC RAILROAD **Job # 3428**
Attn: Dan Lovelady, General Manager
P. O. Box 1083
Roseburg, OR 97470

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** as follows:

Final Billing

Mobilization, Labor, Equipment and Material	$36,840.93
Br 456.78 - Gold Hill, OR	
Br 509.80 - Glendale, OR	
Br 567.58 - Green OR	
Br 627.38 - Cottage Grove, OR	
Br 660.89 - Veneta, OR	
Br 664.0 - Noti, OR	
Br 668.50 - Vaughn, OR	
Br 693.27 - Swisshome, OR	
Br 726.31 - Kroll, OR	
Br 738.94 - Gardiner Jct, OR	
2ND & FINAL - INVOICE TOTAL	**$36,840.93**

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept. No. 560, P O Box 8000, Buffalo, NY 14267

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OSMOSE, INC. - Railroad Division
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
(608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Agreement Date	Terms	P. O. Number	Invoice Number	Invoice Date	Salesman
June 21, 2002	07/08/02	n/30		SR-2709	11/14/02	

CENTRAL OREGON & PACIFIC RAILROAD
Attn: Dan Lovelady, General Manager
P. O. Box 1083
Roseburg, OR 97470

Job # 3428

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's bridge structure(s) located in the **State of Oregon** as follows:

Partial Billing
Lump Sum $138,485.00

1ST PARTIAL - INVOICE TOTAL **$138,485.00**

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept. No. 560, P.O. Box 8000, Buffalo, NY 14267

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EXHIBIT 1

SCOPE OF WORK (Continued)

CENTRAL OREGON & PACIFIC RAILROAD, INC.

Coos Bay Subdivision

Bridge 660.89 - Veneta, OR
1. Cut down the pile tops and replace the cap and shim on Bent 1 with a cap and subcap.
2. Cut down the pile tops and replace the cap and shim on Bent 5 with a cap and subcap. (priority 3)
3. Cut down the pile tops and replace the cap and shim on Bent 7 with a cap and subcap. (priority 3)

Bridge 664.00 S. Approach - Noti, OR
1. Frame out Bent 4 at 13 feet.
2. Post out Pile 1 & 2 of Bent 7 at 13 feet. (priority 3)

Bridge 668.50 S. Approach - Vaughn, OR
1. Replace all stringers with timber.

Bridge 693.27 - Swisshome, OR
1. Cut down the post tops and replace the cap on Bent 2.

Bridge 726.31 - Kroll, OR
1. Perform a detailed inspection of the stringers.

Bridge 738.94 - Gardiner Jct, OR
1. Cut down the pile tops and replace the cap on Bent 3.
2. Cut down the pile tops and replace the cap on Bent 4.
3. Cut down the pile tops and replace the cap on Bent 27.
4. Frame out Bent 28 at 4 feet.

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EXHIBIT 1

SCOPE OF WORK

CENTRAL OREGON & PACIFIC RAILROAD, INC.

Central Oregon & Pacific - 2002 Maintenance
1. Mobilize men, materials and equipment to site.

Roseburg Subdivision

Bridge 456.78 - Gold Hill, OR
1. Cut down the post tops and replace the cap on Bent 3.
2. Cut base of posts and replace the sill on Bent 3. (priority 3)
3. Cut down the post tops and replace the cap on Bent 6.
4. Cut down the post tops and replace the cap on Bent 14.
5. Cut down the post tops and replace the cap on Bent 17.

Bridge 509.80 - Glendale, OR
1. Frame out Bent 3 at 12 feet.
2. Frame out Bent 4 at 10 feet.

Bridge 567.58 - Green, OR
1. Cut down the pile tops and double cap Bent 2, or use a concrete cap and timber subcap.

Bridge 627.38 S. Approach - Cottage Grove, OR
1. Cut down the pile tops and replace the cap on Bent 9 with an oversized cap.
2. Cut down the pile tops and replace the cap on Bent 10 with an oversized cap.

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OSMOSE, INC. - Railroad Division
4546 Tompkins Drive, P. O. Box 8276
Madison, WI 53708
(608) 221-2292 / Fax (608) 221-0618

INVOICE

Date of Proposal	Agreement Date	P. O. Number	Terms	Invoice Number	Invoice Date	Salesman
March 23, 2001	04/03/01		n/30	SR-2506	11/20/01	

CENTRAL OREGON & PACIFIC RAILROAD, INC.
Attn: Charles McLean, Gen. Mgr.
P. O. Box 1083
Roseburg, OR 97470

Job # 2971

Furnish all supervision, labor, tools, equipment, and material necessary or required for the repair of Owner's timber bridge structure(s) located in the **State of Oregon** as follows:

2001 Billing - Final Invoice will be billed January 2002
Roseburg & Coos Bay Subdivision

Bridges:
Br 578.01 - Winchester, OR
Br 678.43 - Richardson, OR
Br 687.03 - Richardson, OR
Br 689.23 - Richardson, OR
Br 691.38 - Richardson, OR
Br 702.65 - Mapleton, OR
Br 710.20 - Beck, OR
Br 711.37 - Beck, OR
Br 711.67 - Beck, OR
Br 712.80 - Cushman, OR
Br 716.40 North Approach - Cushman, OR
Br 716.40 South Approach - Cushman, OR
Br 726.31 - Kroll, OR
Br 729.04 - Kroll, OR
Br 730.56 - Kroll, OR
Br 731.65 - Kroll, OR

1ST PARTIAL - INVOICE TOTAL **$199,764.00**

IMPORTANT
ALL REMITTANCES SHOULD BE MADE DIRECTLY TO Dept. No. 560, P O. Box 8000, Buffalo, NY 14267

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Credits

Bridge 687.03 – Richardson, OR
Replaced Sub-cap on Bent 1, instead of Replacing Cap on Bent 4

Credit - Labor	$420.00
Credit – Material	$100.00

Bridge 729.04 – Knoll, OR
Installed Girts & Towers

Credit – Labor	$3,360.00
Credit – Material	$723.60

Bridge 731.65 – Knoll, OR

Credit – Material	$2,146.50

Total Credits

Credit on Labor	$3,780.00
Credit on Material	$2,970.10
TOTAL CREDITS	$6,750.10

Additional Cost for Changes in the Scope of Work

Extra Labor & Equipment	$23,169.00
Credit on Material	($6,750.10)
TOTAL COST FOR ADDITIONAL WORK LESS CREDIT	$16,418.90

If you agree with this change in the scope of work, please sign and date below and return a copy to us as soon as possible. If you have any questions, please do not hesitate to call. We appreciate being of continued service to Central, Oregon & Pacific Railroad.

Sincerely,

Mark Kipper
Project Manager

Accepted By: [signature]
For: [signature]
Date: 9-18-01

MK:jk

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#2971

September 18, 2001

Mr. Charles McLean, General Manager
CENTRAL OREGON & PACIFIC RAILROAD
333 S. H. Mosher, P.O. Box 1083
Roseburg, OR 9 7470

Dear Mr. McLean:

Below is the a copy of the original scope of work for Bridge 731.65 in Kroll, OR and the changes to the scope of work we propose. We have also listed out the credits in the estimated cost and the additional cost for the new scope of work.

Bridge 731.65 – Original Scope of Work

1. Frame out Bent 37 at 13 feet - new sill to be placed on top of existing sill on Piles 2 – 6 and on top of pile cut off at pile 1 & 7.
2. Frame out Bent 103 at 13 feet - new sill to be placed on top of existing sill on Piles 2 – 6 and on top of pile cut off at pile 1 & 7.
3. Frame out Bent 147 at 13 feet - new sill to be placed on top of existing sill on Piles 1 – 6 and on top of pile cut off at pile 1 & 7.

Bridge '731.65 – New Scope of Work

1. Bent 10, Post Pile 2 at 10'.
2. Bent 37, Post Pile 1 at water line.
   Renew Posts 3, 4, 5 & 6.
   Post Pile 7 at 2' – 4' below water.
   Replace cap with cuts.
3. Bent 103, Post Pile 1 at waterline.
   Renew Post 3 & 4.
   Post Pile 7 2' – 4' below water.
   Replace cap with cuts.
4. Bent 147, Renew Post 2, 3 & 6.
   Pile 7 2' – 4' below waterline.
   Replace cap with cuts.

Due to the high water level, a two man diver crew will be need to assist our crew with working under water.

Due to the change in the Scope of Work the price will include:

Extra Labor (in addition to original price)	$15,119.00
Diver Team	$ 8,050.00
TOTAL COST FOR ADDITIONAL WORK	$23,169.00

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Bridge 711.67 - 5 Span BDPT - Beck, OR
1. Frame out Bent 5 at 11 feet.
2. Frame out Bent 6 at 4 feet.

Bridge 712.80 - 4 Span ODPT - Cushman, OR
1. Frame out Bent 4 at 11 feet.

Bridge 716.40 North Approach - 9 Span ODPT - Cushman, OR
1. Frame out Bent 2 at 16 feet - to be framed at groundline.

Bridge 716.40 South Approach - 170 Span ODPT/FT - Cushman, OR
1. Cut pile tops and replace cap on Bent 18.
2. Cut pile tops and replace cap on Bent 124.

Bridge 726.31 - 65 Span ODFT - Kroll, OR
1. Replace stringers 5 & 7 in Span 65 - requires trimming stringers in Span 64 to center parting lines over cap.

Bridge 729.04 - 26 Span ODPT - Kroll, OR
1. Pull Bent 26 to center parting lines and drift stringers.
2. Install tower bracing in Spans 24 & 25 and hog jaw braces from top of Bent 26 to the bottom of bent 27.

Bridge 730.56 North Approach (Sec 3) - 18 Span ODPT - Kroll, OR
1. Frame out Bent 7 at 12 feet.

Bridge 731.65 South Approach - 166 Span ODPT/FT - Kroll, OR
1. Frame out Bent 37 at 13 feet - new sill to be placed on top of existing sill on Piles 2 – 6 and on top of pile cut off at pile 1 & 7.
2. Frame out Bent 103 at 13 feet - new sill to be placed on top of existing sill on Piles 2 – 6 and on top of pile cut off at pile 1 & 7.
3. Frame out Bent 147 at 13 feet - new sill to be placed on top of existing sill on Piles 1 – 6 and on top of pile cut off at pile 1 & 7.
4. Install shims and drift pins on Bent 138.
5. Jack stringers on Bent 10, of the North Approach, & shim Chord 2 - Inspect pile condition to determine if Bent should be framed, Bent is leaning west.

CONTINGENCIES:
1. Proposal is based on CONTRACTOR stacking all retired timber at the end of each bridge along OWNER's right-of-way.
2. Proposal is based on CONTRACTOR receiving an 8 hour uninterrupted work window each day, during daylight hours, for the duration of the project. If OWNER fails to provide the uninterrupted window, CONTRACTOR may bill OWNER $75 per hour for each employee present until window is provided.
3. Proposal is based on locating suitable pile cutoffs within 2' below groundline or 1' below existing water line at time of repairs when posting piling or framing bents.
4. Proposal is based on working a minimum of five 10-hour days per week. OWNER to provide flagging at no cost to CONTRACTOR.

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3/23/01

EXHIBIT I

SCOPE OF WORK

CENTRAL OREGON & PACIFIC RAILROAD

ROSEBURG SUBDIVISION

Bridge 578.01 - North Approach - 40 Span BDPT/FT - Winchester, OR

1. Cut pile tops and replace cap on Bent 10.
2. Cut pile tops and replace cap on Bent 14.
3. Post out Pile 3 of Bent 14 at 16 feet.
4. Cut pile tops and replace cap on Bent 22.
5. Cut pile tops and replace cap on Bent 26.
6. Post out Post 1 of Bent 26 at 20 feet.

COOS BAY SUBDIVISION

Bridge 678.43 - South Approach - 3 Span ODPT - Richardson, OR

1. Post out Pile 4 & 5 of Bent 2 at 12 feet.
2. Frame out Bent 3 at 11 feet.

Bridge 687.03 - 5 Span ODPT - Richardson, OR

1. Pull Bent 3 to center stringer parting lines over cap.
2. Install tower bracing in Spans 2 and 4.
3. Cut pile tops and replace bottom cap on Bent 4 - reuse top cap.
4. Spot in 6 ties - 3 at each joint bar over Bents 2 & 3.

Bridge 689.23 - 1 Span BDPT - Richardson, OR

1. Frame out Bent 1 at 6 feet.

Bridge 691.38 - 1 Span ODFT - Richardson, OR

1. Frame out Bent 1 at 5 feet.
2. Frame out Bent 2 at 5 feet.

Bridge 702.65 - 9 Span ODPT/FT - Mapleton, OR

1. Replace cap on Bent 2 reusing existing elevation shim.

Bridge 710.20 - 7 Span BDPT - Beck, OR

1. Frame out Bent 4 at 17 feet.

Bridge 711.37 - 5 Span BDPT - Beck, OR

1. Cut pile tops and replace cap on Bent 2.

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BEFORE THE
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OREGON INTERNATIONAL PORT OF COOS BAY
—FEEDER LINE APPLICATION—
COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

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HEADLINE: Rail Right-of-Way Valuation

BYLINE: Miltenberger, Frederick D.

BODY:

Railroad companies continually abandon unprofitable lines. This article presents three valuation scenarios for rights-of-way, including net liquidation value for formal abandonment purposes, post-abandonment market value analysis, and the possibility of corridor enhancement. While not every corridor is a candidate for non-rail corridor use, an alternative use may enhance a rail corridor's value. Such factors as timing and location are examined, and the results of several previous studies on rail corridor values are considered in this article.

Several thousand miles of rail right-of-way have been abandoned in the United States over the last 20 years. In a number of cases they have simply been disassembled and sold on a piecemeal basis. When a alternative corridor use is found, however, a right-of-way may well sell at more than at-the-fence (ATF) value.

During the 1970s the concept of net liquidation value, which included the premise that the highest and best use of rail right-of-way was for non-rail purposes, dominated the valuation of rail right-of-way. Many Eastern railroad companies were then in bankruptcy. To preserve a semblance of rail service, the United States Congress enacted the Regional Rail Reorganization Act of 1973 and the Railroad Revitalization and Regulatory Reform Act of 1976. In addition, the Consolidated Rail Corporation and Amtrak were created. The rights-of-way of many bankrupt roads were conveyed to these new corporations using legislatively and administratively defined concepts rather than market value concepts.(1)

In the current market appraisers may be asked to value rail rights-of-way because of abandonment, to facilitate the sale of individual parcels subsequent

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to abandonment, and for alternative corridor use.

ABANDONMENT APPRAISALS

National carriers currently analyze routes to determine their profitability. When a particular route is unprofitable and is likely to remain so, service is often discontinued. In some instances, the tracks may be leased to a regional carrier who is in a position to operate more profitably than the national carrier.(2) In other cases, a national carrier may decide to abandon the line. Because it is the public policy of the United States to maintain rail service when possible, abandonment is not a unilateral decision of the carrier. Any abandonment proceeding must be filed with the Interstate Commerce Commission (ICC).

Users of rail service and the public in general have the right to oppose an abandonment. If, however, the ICC determines that an abandonment is appropriate, the carrier involved must first offer the right-of-way to other railroads.

The ICC has established guidelines for valuing a right-of-way in an abandonment proceeding. When an abandonment is contemplated, the appraiser must follow ICC guidelines. Those guidelines were first delineated as a result of the Chicago and Northwestern Transportation Company abandonment between Ringwood, Illinois, and Geneva, Wisconsin. The ICC decision indicated that the concept of net liquidation value should Include portions of right-of-way owned in fee only and that other rights in land were not to be valued, which is the general rule. In respect to easements and other lesser interests, state law is followed. This policy further requires an appraiser to consider the disposition of a number of small land parcels, the cost of marketing those parcels, and the preparation of documents of conveyance as well as the time involved in marketing.(3)

In his article, "Rail Corridor Sales," Clifford A. Zoll discusses the Staggers Rail Act of 1980 and the decision of the ICC in the Chicago and Northwestern Transportation Company Abandonment. According to Zoll, "The Staggers Act has brought a entirely new dimension to the appraiser's approach to the valuation of rail corridors. Because of the flexibility of the Act, may railroads now request the appraiser to estimate first the net liquidation value as interpreted by.the ICC in C & NW GLA hearing and then provide either an ATF value estimate or a going-concern value estimate."(4) The ICC definition of value for abandonment purposes is as follows.

The net liquidation value, for their highest and best non-rail use purposes, of the rail properties on the line to be subsidized which are used and required for performance of the services requested by the arson offering the subsidy. This value shall be determined by computing the current appraised market value of such properties for other than rail transportation purposes, less all costs of dismantling and disposition of improvements necessary to make the remaining properties available for their highest and best use and complying with applicable zoning, land use, and environmental regulations.

In an abandonment appraisal, a appraiser normally estimates the ATF value of land adjacent to the right-of-way. The characteristics of adjacent land are likely to be at least somewhat different than the characteristics of the right-of-way--particularly in terms of topography, shape, and soil characteristics. Typical purchasers may therefore assign the right-of-way a different value than that of surrounding lands. When possible, an appraiser should research case studies on past right-of-way sales to determine the difference, if any, between the ATF values assigned by the marketplace and the values of actual rights-of-way.

In the experience of the author, typical buyers are willing to pay between 40% and 60% of ATF values for agricultural lands in the Midwest. On a parcel-by-parcel basis, considerable variation occurs. The 40% to 60% range represents a typical reaction to right-of-way offerings. The difference is less a result of size and shape than of the fact that a typical buyer must bear the cost of clearing a right-of-way to merge it into a farming operation. To some

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extent, a typical buyer also considers the fact that because some ballast will remain in the cleared right-of-way, the productivity of a right-of-way is somewhat less than that of adjoining lands--particularly in dry years. Further, a typical buyer places a right-of-way under a heavy program of fertilization for the First two years to four years to bring the former right-of-way to reasonable productivity levels.

The reaction of buyers to urban land may be different. In many instances, urban right-of-way is at grade or nearly at grade with surrounding lands, and little, if any, clearing is required. In such cases a buyer may be willing to pay ATF value for that land. Unlike in agricultural areas, productivity is not a consideration in urban settings.

Often railroads own land outside of an operating right-of-way. Such parcels as former station sites as well as excess land acquired for nonoperating use are typically excluded from an abandonment appraisal. It therefore is necessary to appropriately classify operating and nonoperating lands.

In most instances, case studies can serve as a basis for discounting ATF values. The costs associated with a sale of a number of small parcels must then be considered. These costs include brokerage fees and legal fees. It appears reasonable, for example, to apply prevailing brokerage fees in the area as a sales expense, and to provide for deed preparation and other legal expenses.

The last step in an abandonment valuation is to consider the issue of a holding period. Some right-of-way parcels may be attractive to adjoining property owners and will thus sell quickly. In other cases, the parcels may be less attractive or the adjoining property owners may not have the financial strength to acquire them. Such parcels may tie longer to sell. With the help of an aggressive marketing effort, a typical disposal period for a stretch of rail right-of-way is from one year to three years. However, a typical holding period is more difficult to define. The author has thus arbitrarily assigned an average holding period of approximately 1.5 years and further discounted the value of the right-of-way by a present worth factor that reflects the risk associated with investments in land.

While the ICC definition of value for abandonment purposes raises the issues of the cost of dismantling as well as the disposition of improvements, these aspects have not been factors in the author's past assignments. Typically, the salvage value of rail, ties, and other track materials greatly exceeds the cost of their dismantling. When a property is not conveyed to another railroad company, the rail and other track materials are usually salvaged. Depending on the status of the metals market, this can be extremely profitable to a railroad company.

POST-ABANDONMENT APPRAISALS

Occasionally, an appraiser may be asked to value specific land parcels that have previously been abandoned. In such cases, ICC guidelines do not apply. While it is appropriate to consider whether the market reacts differently to right-of-way than it does to ATF property, the consideration of sale expense and legal fees required under ICC regulations is not necessary. The discount for a holding period may be applicable, depending on the nature of the specific parcel to be appraised.

In an abandonment appraisal, an appraiser may analyze several hundred parcels. In a post-abandonment appraisal, however, an appraiser typically examines one parcel. In the case of a single parcel, the motivations of typical buyers are both easier to consider and more significant. In some instances, those motivations might cause a buyer to be willing to pay more than ATF values. For example, a right-of-way that cut diagonally across several farming parcels sold to surrounding property owners for more than ATF value. Their motivation was to join their farms into a single unit and to eliminate point rows, thus increasing the efficiency of overall farming operations.

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In another instance, a right-of-way in an industrial area also sold for more than ATF value. The purchaser, an adjoining land owner, was able to significantly increase the security of his industrial facility by acquiring the right-of-way and fencing it. In older areas, buildings commonly encroach on rail right-of-way. After abandonment, a premium may be attached to those parcels on which an encroachment exists.

Post-abandonment appraisals are market value appraisals; therefore, prevailing appraisal theory and practice are followed. This is not the case in an abandonment appraisal because of the use of net liquidation value concepts, even though the process begins with the market value of ATF parcels.

CORRIDOR ENHANCEMENT

An early reference to the possibility of enhanced value for rail corridors appears in George R. Beetle's "Railway Right-of-Way Use and Economic Value," in which he notes that, "Proposals to abandon railroad branch lines are numerous today. If those proposals are implemented, many miles of assembled right-of-way may be lost. The difficulties encountered and the costs incurred by many in recent years attempting to assemble new right-of-way confirm the fact that assembled right-of-way represents a resource for society that should not be discarded lightly. Railroad right-of-way now perceived as uneconomic may have valuable future uses for highways, utility lines, pipelines, and even special-purpose railroads that may become necessary if energy resources continue to be depleted.(6)

Further, John P. Dolman and Charles F. Seymour list 22 alternative corridor uses in their article, "Valuation of Transportation Communication Corridors," observing that, "A long narrow strip of land has value because of its ability to connect two points with resulting benefit. If there is economic advantage to connecting these points with a long narrow strip of land, it becomes a transportation/communications corridor, which, in truth, enjoys special value characteristics.(7) Dolman and Seymour further note that "The best evidence of real estate value usually is the price obtained for similar properties in the marketplace.

The two sources of data to development enhancement factors are acquisition cost of a substitute corridor and sales of other existing corridors."(8)

In "Rail Corridor Sales," Zoll examined 82 right-of-way sales between 1975 and 1983. Of those transactions, 72 involved abandoned corridors, 46.34% were purchased for continued transportation use, 14.64% were for return to agricultural use, and 13.41% were for transmission line use.

One of the main objectives of this analysis is to determine the relationship of an appraiser's at the fence (ATF) estimated unit value to the sale unit price to determine what effect, if any, continuity has on sale prices. In 41 transactions the independent appraiser's per acre unit value and per acre ATF unit value were furnished. In these 41 cases, the range in ATF unit value to sales price was 0.18 to 3.73. The median ratio was 1.0000. Twenty sales had ratios below 1.0000, 21 sales had ratios of 1.0000 or above, and the ratios above 1.00 ranged from 1.05 to 3.73.

Two of the sales whose ATF/sale price ratios were below 1 (0.96 and 0.873) included in the total sale price a very substantial amount of non-real estate. "Engineering" succeeded in getting a major portion of the price allocated to non-real estate either to avoid showing a loss or to minimize loss for that department. The amount remaining was allocated to real estate and was not representative of the corridor price. This may be e case with other sales with ratios below 1.00, because in many sales only a small portion of the price was allocated to real estate. In most sales with ratios above 1, however, the full sale price applied to real estate and none to non-real estate.(9)

In respect to rail corridors, Zoll concludes that, "When a need for a corridor exists, a reasonable ATF price ratio will vary from 1.10 to 2.00

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depending upon the extent of the need and the cost of substitution. The upper range of this ratio may be higher in special urban situations.(10)

In a working paper, David Harris equates the value of rail corridors to the cost of acquiring electrical transmission line easements in Mississippi and Tennessee. His analysis of the acquisition of some 241 parcels reveals that of total costs, the land costs were approximately 55% and acquisition costs were 45%.(11) Clearly, ATF values are not the only component to consider when a corridor is prepared for use.

Harris further notes that the Tennessee Department of Transportation estimates its administrative costs at $ 2,500 per parcel and that, if condemnation is involved, those costs are 33% of the fee simple value.(12) In the case of the Virginia Department of Transportation, administrative costs were estimated at $ 1,500 per parcel, and condemnation costs at approximately 30% of fee simple value.

Harris's study shows that significant differences exist between the acquisition of an electrical transmission line and a rail corridor. He suggests such adjustments as changing from easement to fee simple, accounting for more significant damages to the residue, and considering administrative costs, and concludes that the corridor enhancement factor may be as much as 2.52 times greater than ATF value. This estimate is within the range of enhancement factors found in the Zoll study previously discussed. Both the Zoll and Harris studies support the general conclusion reached by Dolman and Seymour that, when economic benefit is derived, corridor enhancement value exists. In addition, the acquisition cost of an existing corridor clearly may be less than the cost of establishing a new corridor, and an existing corridor also may be acquired more quickly. Both, however, are economically beneficial to a potential user of the corridor.

In 1985 a railroad acquired 28.63 acres in northeastern Indiana. The purpose of the acquisition was to establish a new rail corridor to serve an industrial plant. The acquired land area was in a largely agricultural neighborhood. The acquisition cost was $ 13,338 per acre, which was substantially higher than prevailing agricultural values. This transaction demonstrates the relatively high cost of acquiring new corridors.

The author has examined several transactions in which a premium has been paid for a corridor. For example, in 1989 Penn Central Corporation sold 21.85 miles of right-of-way averaging 100 feet in width to a pipeline company in east central Indiana. The purchase price was equivalent to $ 1,159 per acre. ATF values were $ 500 per acre to $ 700 per acre. Assuming an average ATF value of $ 600 per acre, this sale produced an enhancement factor over ATF values of 1.93. In another instance, in 1986 a railroad sold 24.2 acres in a 4.14-mile strip to a power company. The property, located in northeastern Indiana, was purchased at approximately $ 2,479 per acre. At the time, the prevailing agricultural values were from $ 600 per acre to $ 700 per acre. Assuming an average ATF value of $ 650 per acre, this corridor enhancement premium was 3.8 times ATF values. Another case occurred in 1981, when Penn Central Corporation sold 16.7 miles of right-of-way in Ohio to a utility company for $ 3,125 per acre. Land values in the area ranged from $ 1,250 per acre to $ 2,439 per acre. Again, there is evidence of enhanced corridor value. Finally, in 1984, a railroad sold 15.5 miles in central Illinois to a utility company for $ 2,794 per acre for the 187.88 acres. When contrasted with their sale in the following year of 20 miles for non-corridor use at $ 536.26 per acre, the corridor sold for approximately 5.29 times the disassembly or speculative purchase price in the same locale.

CONCLUSION

The relevant rail right-of-way literature reveals that both at the time of rail reorganization in the 1970s and under current ICC regulation, rail right-of-way has been valued differently depending on whether for legal or administrative purposes. Such approaches do not conform with normal market value definitions.

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Further, those familiar with the valuation process clearly perceive that corridor values may be greater than ATF values. The independent studies of both Harris and Zoll, respectively, suggest that viable corridors have a value higher than ATF value. The Zoll study is particularly relevant because it is based on the analysis of actual rail corridor transactions. The author's investigation of rail corridor transactions suggests that enhancement of corridor values does occur. That enhancement generally is within the range of 1.10 to 3.73 found in the Zoll study.

In the case of rail corridor enhancement, several unresolved issues remain. The fact that a number of rail corridors have been disassembled and sold piecemeal implies that not every corridor is a candidate for non-rail corridor use. Little research has been undertaken to identify which attributes make a continuation of a corridor viable.

Another issue is timing. Some corridor sales examined by the author in which a premium was paid occurred considerably later than the abandonment. Thus, even if a particular strip of rail right-of-way has attributes that make it a viable corridor for non-rail use, there is no assurance that the non-rail use will emerge quickly. In some instances, holding cost and opportunity cost could conceivably offset the enhanced value finally received.

1. For a general discussion of net liquidation value, administrative and legal matters, see Edward B. Atherton, The 120,000-Mile Valuation Problem, The Appraisal Journal (July 1978): 340.

2. More regional carriers are in existence than is commonly thought. The Official Railway Guide, (New York: International Thompson Transport Press Sept.-Oct. 1989)for example. lists over 20 regional carriers operating in Indiana. These carriers operate from as few as 1 mile or 3 miles of tracks to 150 miles or more of tracks. See pages C98-C103.

3. Interstate Commerce Commission. AB-1 (Sub-No. 70F). Chicago and Northwestern Transportation Company-Abandonment Between Ringwood. Illinois, and Geneva, Wisconsin. 1981.

4. Clifford A. Zoll, Rail Corridor Sales." The Appraisal Journal (July 1985): 381.

5. ICC Regulation 49 C.F.R. sec 1152.3 (c).

6. George A Beetle, Railway Right-of-Way Use and Economic value," The Appraisal Journal (0ctober 1977): 518.

7. John P. Dolman and Charles F. Seymour, "Valuation of Transportation/Communication Corridors. The Appraisal Journal (0ctober 1978): 515.

8. Ibid., 519.

9. Zoll, 384.

10. Ibid., 387.

11. David Harris, unpublished working paper. 1989.

12. Ibid.

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COOS BAY LINE
OF THE CENTRAL OREGON & PACIFIC RAILROAD, INC.

REPLY OF THE OREGON INTERNATIONAL PORT OF COOS BAY

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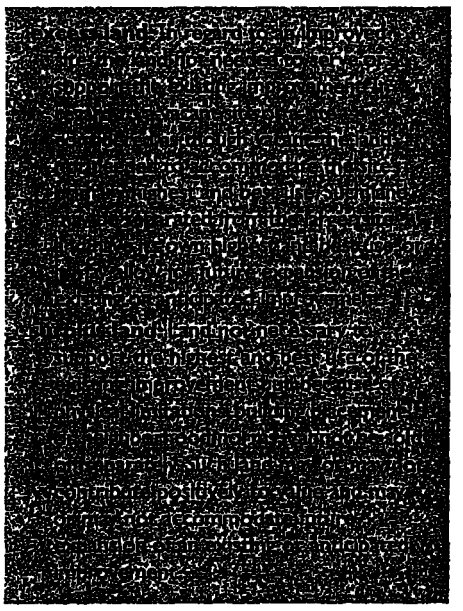
subdivided to achieve a higher and better use is commonly sold in bulk at a price less than the sum of the retail prices of its components. The lower unit price for the bulk sale reflects market allowances for risk, time, management, development and related costs, sales costs, profit, and other considerations associated with dividing and marketing the land.

Excess Land and Surplus Land

A given land use has an optimum parcel size, configurations, and land-to-building ratio. Any extra or remaining land not needed to support the specific use may have a different value than the land area needed to support the improvement. The portion of property that represents an optimal site for the existing improvements will reflect a typical land-to-building ratio. Land area needed to support the existing or ideal improvement can be identified and quantified by the appraiser. Any remaining site area is either excess land or surplus land.

Excess land, in regard to an improved site, is land that is not needed to serve or support the existing improvement. In regard to a vacant site or a site considered as though vacant, excess land is not needed to accommodate the site's primary highest and best use. Such land may have its own highest and best use or may allow for future expansion of the existing or anticipated improvement. If the excess land is marketable or has value for a future use, its market value as vacant land is added to the estimated value of the economic entity.

Surplus land is not needed to support the existing improvement and typically cannot be separated from the property and sold off. Surplus land does not have an independent highest and best use and may contribute a minimal value.



As an example, consider a residential property comprising a single-family home and two standard-size lots in a fully developed subdivision. If the house was situated within the boundaries of a single lot and the normal land area for properties in the neighborhood is a single lot, then the second, vacant lot would most likely be considered excess land, which could be separated from the lot of the existing structure for future development to that parcel's highest and best use. If land values in the neighborhood is $1.00 per square foot, then the excess land in this situation would probably add the full $1.00 per square foot to the value of the subject property (i.e., the house and the two lots). If the typical land area for properties in

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the neighborhood were a double lot, regardless of building placement, then the same property would have neither excess land nor surplus land.

Now consider an industrial park where land-to-building ratios for warehouse properties range from 2.8-to-1 to 3.5-to-1 and land value is $2.00 per square foot. The subject property is a 20,000-sq.-ft. warehouse on a 100,000-sq.-ft. site, which results in a land-to-building ratio of 5-to-1, well above the market area norm. If the additional land not needed to support the highest and best use of the existing property were in the back portion of the site, lacking access to the street, that land would probably be considered surplus land because it could not be separated from the site and does not have an independent highest and best use. In this situation, the surplus land would probably still contribute positively to the value of the subject property (because the existing improvements could still be expanded onto the surplus land), but it would also most likely be worth much less than the $2.00 per square foot price commanded by vacant land elsewhere in the industrial park. If an adjacent property owner could expand onto the unused portion of the site of the subject property, that land could then be considered excess land because it could be separated from the existing property and used by the other property owner. In this case, the value of the excess land could be comparable to that of vacant land elsewhere in the industrial park or it may even command a premium if the owner of the adjacent property needs the land to complete an assemblage.

Topography

Topographical studies provide information about land's contour, grading, natural drainage, soil conditions, view, and general physical usefulness. Sites may differ in value due to these physical characteristics. Steep slopes often impede building construction. Natural drainage can be advantageous or, if a site is downstream from other properties or is a natural drainage basin for the area, it may have severely limited use. Adequate drainage systems can offset the topographic and drainage problems that would otherwise inhibit the development of such a site. Upland land area or land with good drainage can typically support more intensive uses.

In describing topography, an appraiser must employ the terminology used in the area. What is described as a steep hill in one part of the country may be considered a moderate slope in another. In some instances, descriptions of a property's topography may be taken from published sources such as topographic maps (see Figure 9.1).

Topographical characteristics, such as soil quality, slope, drainage, and bearing strength of the soil, determine the suitability of a land area for agricultural use or a proposed improvement.

Geodetic Survey Program

Topographic maps prepared under the direction of the U.S. Geological Survey, which are referred to as *quadrangles* or *quads*, provide information that is useful in land descriptions. (See Figure 9.2.) Base lines, principal meridians,

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Rail Corridor Sales

by Clifford A. Zoll, MAI

A great many articles have been written on the valuation of transportation and communication corridors. They have dealt with the nature of such corridors, their uses, ownership, and the art of appraising them. Some articles have considered the unique characteristics, special benefits, assemblage valuation, demand for existing corridors, and methodology resulting from the quite different concepts of value compared with more conventional appraisal value estimates.[1]

This is not to say that the same basic methods of appraisal do not apply. In corridor appraisals the appraiser must clearly identify the subject matter, ascertain the purpose of the appraisal, fully state the assumptions, limitations, and conditions, identify the highest and best use of the subject corridor, and determine the date of the valuation. The purpose of this article is to present an analysis of actual sales in an effort to set forth factual data that may be useful in appraising and marketing rail corridors.

1. See for example John P. Dolman and Charles F. Seymour, "Valuation of Transportation/Communication Corridors," *The Appraisal Journal* (October 1978): 509-522.

Clifford A. Zoll, MAI, is president of Clifford A. Zoll, Blackmore and Associates of Chicago, a full service commercial and industrial real estate firm. Mr. Zoll has been engaged in numerous aspects of the real estate business such as mortgage financing and trust (bank) real estate asset management, and as an appraiser and real estate counselor.

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The appraisal of railroad corridors almost always involves land only. The appraisals do not include rail, ballast, ties, tie plates, turnouts, signal systems, or rolling stock. Occasionally they may include a building that was a passenger station, a freight house, or a round house. The subject land is usually a long strip 100 feet in width, with larger widths where there have been stations, side tracks, assembly yards, or service buildings. The corridors were usually assembled by acquiring parts of larger ownerships, and may have been obtained by warranty deed, quitclaim deed, railroad deed for use, condemnation, easement, map filing, adverse possession, or ordinance.

One railroad vice president for real estate said the condition of title of a specific line has a significant bearing on negotiations that lead to an agreed upon sales price. The selling railroad would tell a prospective purchaser, who planned to continue using the line for rail purposes, that title is sufficient for the buyer's intended use. Therefore the price should reflect an assemblage value. The purchaser would argue that alternative purchasers such as adjoining owners would probably pay less than net liquidation value or at the fence value. *Net liquidation value* is the estimated aggregate price, discounted for time required for sale, that adjoining owners pay for the tracts of land to which the selling railroad has good title. *At the fence value (ATF)* is the estimated sale price based on the unit price of sales of similar land adjoining the subject. Obviously this price is greater than net liquidation (unit) price.

THE STAGGERS RAIL ACT OF 1980

This act (Public Law 96-448) provides that if a financially responsible entity files an offer to purchase a line of a railroad seeking to abandon it, and while the request is pending before the Interstate Commerce Commission, the abandonment certificate may be postponed for 30 days to permit the railroad and the prospective purchaser time to negotiate a mutually acceptable transaction.

If they fail to do so, either party may request the ICC to establish the selling price. After the selling price is established the prospective purchaser may withdraw the offer, while the railroad is required to sell at that price even though it may view the price as unacceptably low. Either party may appeal the decision of the ICC.

CHICAGO & NORTH WESTERN ABANDONMENT

One of the first cases under the provisions of the Staggers Rail Act involved the abandonment of a line between Ringwood, Illinois, and Lake Geneva, Wisconsin, owned by the Chicago & North Western Transportation Company (C&NW).[2] The prospective purchaser was the Geneva Lake Area Joint Transit Commission (GLA). The C&NW asked $1,913,536 (land $753,100, track and structures $1,160,436); GLA offered $985,000 (land $275,000, track and struc-

2. Interstate Commerce Ruling in Chicago & North Western Transportation Company Abandonment between Ringwood, Illinois, and Lake Geneva, Wisconsin, ICC Docket #AB-1 (Sub-No. 70F), July 22, 1981.

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tures $710,000). The C&NW based its valuation on the appraisal value of the land as an assembled transportation corridor plus net salvage value of track and other materials. Statute 49 USC 1905 (f)(1)(C) provides simply that "in no case shall the commission set a price below the fair market value of the line."

The commission then discussed the valuation standard and noted Section 401 of the Staggers Act provides that the purchase price cannot be set at less than the net liquidation value or the going-concern value. This provision of the act gives rise to a flexible interpretation for going-concern value that probably includes assemblage or continuity value and would be greater than net liquidation value as previously defined. Since abandonment had been requested, only the net liquidation value was considered.

The railroad's appraiser was directed to assume that 1) title was transferrable, 2) title was good and salable for rail purposes, and 3) the highest and best use was a rail transportation corridor because the prospective purchaser intended to use the entire corridor for transportation purposes. The appraiser defined fair market value as acquisition cost for rail purposes and established an *ATF* value, plus 20% for assemblage for the entire corridor of 208.297 acres.

The GLA appraiser valued only those tracts of land that had been conveyed to the railroad by warranty or quitclaim deed, a total of 94.0209 acres. The acreage was valued at its net liquidation value if sold to adjoining landowners and discounted for selling time and selling costs. No assemblage value was included. The ICC determined that a deed be issued for the entire right-of-way, the purchase price to be

Net land valuation	$ 275,000
Net improvements	728,321
Purchase price	$1,003,321

This contrasted with the C&NW request for $1,913,321.

C&NW appealed but was denied further consideration. GLA was unable to fund the purchase and close within the specified time, including extensions. C&NW then filed with the ICC a claim for damages in the amount of $21,000, requesting the ICC to order GLA to pay this sum to C&NW. This request was granted and an order to pay issued.

The Staggers Act has brought an entirely new dimension to the appraiser's approach to the valuation of rail corridors. Because of the flexibility of the act, many railroads now request the appraiser to estimate first the net liquidation value as interpreted by the ICC in the C&NW-GLA hearing and then provide either an *ATF* value estimate or a going-concern value estimate.

BOSTON & MAIN CORPORATION AND MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

This case presents another view. It was an arbitration proceeding before Richard J. Schoenfeld, Jr., who determined that the highest and best use for a piece of

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land was as a transportation corridor.[3] Schoenfeld concluded that the most appropriate definition of fair market value appeared in *Olson* v. *United States*.

> Just compensation includes all elements of value that inhere in the property, but it does not exceed the market value fairly determined. The sum required to be paid the owner does not depend upon the uses to which he has devoted his land but it is to be arrived at upon just consideration of all the uses for which it is suitable. The highest and most profitable use for which the property is adaptable and needed or likely to be needed in the reasonably near future is to be considered, not necessarily as a measure of value, but to the full extent that the prospect of demand for such use affects the market value.[4]

The arbitrator noted the land had been acquired by condemnation and would revert in the event the land was not used for the purpose for which it was taken and that it was an easement in perpetuity. Schoenfeld then discussed the theory of special enhancement (assemblage) and concluded that a factor of two was applicable. Finally, he considered the per mile costs of comparable right-of-way transactions.

A recent ruling of the U.S. Court of Appeals for the Seventh Circuit confirmed the decision of the ICC that the context of fair market value means net liquidation value for nonrail use, even though the prospective purchaser intends to use the line for a transit system.[5]

Thus the appraiser is confronted with a problem. Should the appraisal contain two values? One would be with assemblage employing the principle of substitution, the other of net liquidation value as interpreted by the ICC and the court of appeals from the Staggers Rail Act.

LOCATION AND TIME

Data on 82 right-of-way sales has been obtained in 22 states and for a recent period of time. This is shown in the tables on the following pages. There is a concentration by number of sales, 58.5%, in Minnesota, Illinois, Iowa, Washington, and Wisconsin. If the major urban land sales indicated in the notes are eliminated from consideration, then the mean acreage sales price was $1,818 per acre and is reasonably representative of the majority of sales.

However, two major sales are included. One involved 13,755 acres of a right-of-way from Minnesota to Montana at an average price of $807 per acre. The other was 6,775 acres from Washington to Wisconsin at an average price of $1,374 per acre. Both sales included some, but little, acreage in urban areas through which the corridors passed. In terms of time 81.7% of the sales occurred from 1979 through 1982. The number of transactions was probably restricted by high inflation, rising interest rates, and a slowing economy. However, these sales were an indication of the market at that time.

3. Arbitration proceedings before Richard J. Schoenfeld, Jr., Boston & Main Corporation and Massachusetts Bay Transportation Authority, August 30, 1971.
4. *Olson* v. *United States*, 292 U.S. 246.
5. U.S. 7th Circuit Court of Appeals 81-2195.

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TABLE 1

Location

Florida	1[b]	North Tier of Western States	2
Delaware	1	Nebraska	2
Idaho	1	New Jersey	2[a]
Illinois	9	New York	4
Indiana	1[a]	Ohio	4
Iowa	9[c]	Oklahoma	1
Maine	2	Pennsylvania	2[b]
Maryland	2	Rhode Island	1
Massachusetts	2	South Dakota	3
Michigan	2	Washington	9[a]
Minnesota	16	Wisconsin	6

a. Indicates a sale in a city or town at a rate in excess of $10,000 to $15,000 per acre.
b. Includes one sale in the city at a rate of more than $100,000 per acre.
c. Involves five sales in towns or cities ranging from $16,000 to $91,000 per acre.

TABLE 2

Time (Yearly Corridor Sales)

1975	1
1977	5
1978	8
1979	12
1980	18
1981	26
1982	11
1983	1
Total	82

SELLERS AND BUYERS

Of the 82 sales, 72 were abandoned corridors—though some of the corridors contained usable rails in place at the time of sale—eight were operating lines, and two were the sale of an aerial easement only. The railroad land sold was to be used as shown in table 3.

Among buyers there was a strong concentration in political bodies, either for immediate use or land bank purposes (see table 4).

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TABLE 3

Buyers' Indicated Rail Corridor Land Use

	Number	Percent of total
Continued transportation	38	46.34
Return to agricultural use	12	14.64
For transmission corridors	11	13.41
Miscellaneous uses	9	10.98
Recreation	5	6.10
Highways	5	6.10
Right-of-way bank	2	2.43
Total	82	100.00

TABLE 4

Buyers of Rail Corridors

	Number	Percent of total
States, counties, municipal bodies or agencies	29	35.37
Other railroads	17	20.73
Adjoining owners	15	18.29
Industries	11	13.41
Utilities	10	12.20
Total	82	100.00

SUBJECT PROPERTY

The nature and characteristics of the sale properties is shown in table 5. Since the data furnished by the cooperating railroads were not complete in all respects, the figures in parentheses indicate the number of sales involved in each of the statistics.

SALE PRICE

The sale price allocated to the real estate of $128,159,250 ranged in unit price per acre from $128 for a sale of 78 acres in rural South Dakota, to $206,650 for a corridor acquired for a rapid transit line in a major city in Florida. There were 11 sales of urban land at unit prices in excess of $10,000 per acre, involving 425.085 acres for a total price of $43,202,764 or an average of $101,633 per acre. The remaining 46,743.602 acres brought an average of $1,818 per acre.

CONTINUITY FACTOR

One of the main objectives of this analysis is to determine the relationship of an appraiser's at the fence *(ATF)* estimated unit value to the sale unit price to

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TABLE 5

Characteristics of Rail Corridors Sold

Total acres in all corridors	47,209	(81)
Total corridor acres sold	47168	(81)
Noncorridor acres included in sales	63	(7)
Miles of corridor sold	2,970	(82)[a]
Total sale price	$187,727,517	(82)[b]
Portion of sale price allocated to real estate	$128,195,250	(81)
Terms of sale	all cash	(81)

Width of corridors

100′	54
100′–200′	4
200′	2
60′–100′	2
160′–300′	1
100′–160′	1
100′–430′	1
100′–210′	1
20′–200′	1
20′–120′	1
50′	1

a. Includes one sale of 59 miles for which no acreage was provided and thus was not included in acreage figures.
b. Includes one sale for $2,950,000 for which no acreage is given.

determine what effect, if any, continuity has on sale prices. In 41 transactions the independent appraiser's per acre unit value and per acre *ATF* unit value were furnished. In these 41 cases

The range in *ATF* unit value to sales price was	0.18 to 3.73
The median ratio was	1.0000
20 sales had ratios below	1.0000
21 sales had ratios of	1.0000 or above
The ratios above 1.00 ranged from	1.05 to 3.73

Two of the sales whose *ATF*/sale price ratios were below 1 (0.96 and 0.873) included in the total sale price a very substantial amount of nonreal estate. "Engineering" succeeded in getting a major portion of the price allocated to nonreal estate either to avoid showing a loss or to minimize loss for that department. The amount remaining was allocated to real estate and was not representative of the corridor price. This may be the case with other sales with ratios below 1.00, because in many sales only a small portion of the price was allocated to real estate. In most sales with ratios above 1, however, the full sale price applied to real estate and none to nonreal estate.

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HIGHEST AND BEST USE

It is incumbent on the appraiser to determine the highest and best use of the subject corridor. Continued rail use may or may not be one of the potential uses as a corridor. There are many others including, but not limited to, highways, transmission of electricity, gas lines, oil pipe lines, coal slurry lines, fiber optic cables, telephone wire lines, and recreational paths.

If no demand for use requiring continuity exists, then the most logical use is tied in with that of the adjoining property, but such use might bring only liquidation prices.

PROCEDURES IN APPRAISING RAIL CORRIDORS

The railroad should supply the appraiser with engineering valuation maps that show each parcel as acquired, and its area. The corridor involved should be outlined, say, in red, and each parcel to which the railroad has good title shown in another color. Presumably the remaining parcels are easements acquired by condemnation, railroad deed, or adverse possession, and which are subject to reversion if no longer used for rail purposes.

Next an appraiser should ascertain the nature of the assignment. For example, an appraiser may be asked to estimate the market value of only the fee owned parcels with allowance for time and the administrative costs of liquidation. He or she may also be asked to estimate the value of the entire right-of-way for use as a corridor. The work papers will include a tabulation of all parcels showing the acreage of each, and distinguishing the fee owned parcels from those subject to revision.

The high-level car inspection will permit an appraiser to record on the valuation maps the nature of the adjoining land use, terrain, hills, swampland, woodlands, urban uses, pastures, and croplands. A parcelization of the right-of-way can now be made grouping subject parcels that are adjoined by similar land.

Sales that can be used for comparison and computation of *ATF* unit prices must be obtained and analyzed. After *ATF* unit prices have been established for each parcel, an estimate of their *ATF* values can be made.

Net liquidation value is less than *ATF* price. Thus an appraiser will determine the ratio of net liquidation prices to *ATF* prices in other similar cases. These may range from 30% to 75% of *ATF* unit prices, requiring a judgment by the appraiser on the appropriate ratio applicable to the subject. Multiplying the *ATF* value estimate by the appropriate ratio indicates a probable price that can be obtained. This price must then be discounted to reflect the appraiser's judgment of the administrative costs and the time required for liquidation. There may also be parcels that the appraiser believes will not be sold and must be abandoned.

In estimating "corridor value" the appraiser multiplies the *ATF* value estimate by the figure representing the appropriate enhancement factor. This factor is determined by comparing known corridor sale prices to their *ATF* value estimates and using the factor most representative of similar corridors. There is no discount for time or extensive administrative costs since a sale of the entire right-of-way is projected within a reasonable time.

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CONCLUSIONS

A review of the foregoing and its supporting data shows that the seller's motives were primarily to liquidate unnecessary abandoned corridors at the best possible price. Railroad operating departments have been willing to see excess railroad land sold or otherwise used to the maximum only since 1950, though such land had no apparent rail operation usefulness. The benefits of doing so are becoming more and more apparent and there will probably be more marketing of rail corridor land and more need for appraisals.

Government bodies will continue to be the largest number of purchasers, particularly given the present state of the economy.

Sale unit prices will continue to reflect potential use value, or the lack of it.

Unit prices will vary widely, depending on location, potential use, and possible cost of a substitute site.

When a need for a corridor exists, a reasonable *ATF*/price ratio will vary from 1.10 to 2.00 depending on the extent of the need and the cost of substitution. The upper range of this ratio may be higher in special urban situations.

Where need for a corridor does not exist, the *ATF*/price ratio will vary somewhat up or down from 0.50.

When abandonment is sought the upper limit of value will be set by the ICC definition of market value which will be the net liquidation value of only those parcels of the right-of-way to which the railroad has good title. This conclusion could be substantially modified if some railroad successfully contests the ICC ruling in the C&NW-GLA case.

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