

# Coos Bay Rail Link Bridge Condition Assessment

## Final Report



*Prepared For:*



Oregon International Port of Coos Bay

September 26, 2008



DAVID EVANS  
AND ASSOCIATES INC.



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AND ASSOCIATES INC.

September 26, 2008

Mr. Michael Gaul  
Port of Coos Bay  
P. O. Box 1215  
Coos Bay, OR 97420

**SUBJECT: COOS BAY RAIL LINK (LINE) BRIDGE CONDITION ASSESSMENT**

Dear Mike:

Enclosed is the Final Bridge Condition Assessment Report for the Coos Bay Rail Link in accordance with Task 5 of our contract. We have completed a review of the 2007 Osmose Railroad Services, Inc. Bridge Inspection Reports and conducted visual inspections of the bridges on the Line. We have developed opinions of anticipated bridge costs associated with resuming rail operations, along with short and long-term bridge system costs and costs to remove the bridge system and replace all bridges with new structures. This report documents our study methodology and findings.

As you know, David Evans and Associates, Inc. (DEA) is a national leader in sustainable design and management solutions, and has consistently provided its clients with award-winning approaches to transportation, energy, water resources, and land development design, planning, and management. As a result, the company has consistently ranked among Engineering News Record's Top 100 Pure Design firms in the U.S. and among the leaders in many of its local markets.

We have extensive experience in transportation projects, especially in Oregon, and have the capability to provide design-build services for our projects. In July 2008, the ODOT Rail Division retained our to firm prepare a Bridge Condition Study on 331 significant (length greater than 100 feet) short line railroad bridges, which included bridges from nearly all short lines in the state. Our cost estimates are based upon our extensive experience with bridge work in the Pacific Northwest, as well as experience derived from ODOT Rail's Bridge Condition Study.

In the last two years, we have successfully delivered design and construction engineering services for six Coos County bridges. We are a recognized leader for steel truss bridge rehabilitation in Oregon and have most recently been selected to provide professional design and construction engineering services for the rehabilitation of the Coos Bay Railroad Bridge, which is a significant steel truss bridge. We have a unique understanding of the cost of construction in Coos County. For more about DEA, please visit our web site at [www.deainc.com](http://www.deainc.com).

If you have any questions, please call me at (503) 361-8635.

Sincerely,

**DAVID EVANS AND ASSOCIATES, INC.**

Jeff Parker, P.E.  
Project Manager

cc: Sandra Brown, Troutman Sanders LLP

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**Oregon International Port of Coos Bay**

**September 26, 2008**

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DAVID EVANS  
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# Coos Bay Rail Link Bridge Condition Assessment

## TABLE OF CONTENTS

*Main Text below included in Volume I of the Port's Supplemental Reply, filed September 30, 2008*

	<u>Page</u>
Project Background.....	1
Purpose and Need for Report.....	1
Existing Information.....	1
<i>Rail Line Location and History.....</i>	<i>1</i>
<i>Osmose Railroad Services, Inc. (Osmose) Bridge Inspection Reports .....</i>	<i>1</i>
Study Organization and Methodology.....	2
<i>Existing Osmose Data Collection and Tabulation.....</i>	<i>2</i>
<i>Bridge Inspections.....</i>	<i>2</i>
Cost Estimating.....	3
<i>Osmose Bridge Repair Recommendations .....</i>	<i>3</i>
<i>Rail Operation Considerations Influencing Bridge Costs .....</i>	<i>3</i>
<i>Cost Estimating Methodology.....</i>	<i>4</i>
<i>Immediate Bridge Costs to Begin Operations.....</i>	<i>5</i>
<i>Anticipated Short-Term Bridge Costs (years 2, 3, 4, 5).....</i>	<i>6</i>
<i>Anticipated Long-Term Bridge Costs (beyond 5 years from start of operation) .....</i>	<i>6</i>
<i>Rehabilitation of Bridge System.....</i>	<i>6</i>
<i>Replacement Value of Bridge System.....</i>	<i>6</i>
<i>Removal Cost of Bridge System .....</i>	<i>6</i>
Summary.....	7

## ATTACHMENTS

- Attachment 1: Existing 2007 Osmose Railroad Services, Inc. (Osmose) Bridge Inspection Reports (*see Volume III of Reply of the Oregon International Port of Coos Bay, filed September 12, 2008*)
- Attachment 2: 2008 David Evans and Associates, Inc. Visual Inspections (*in Volume II of Supplemental Reply, filed September 30, 2008*)
- Attachment 3: Calculations for Costs (Priority 2-3-4 Repairs, Rehabilitation, Replacement, Removal) (*in Volume II of Supplemental Reply, filed September 30, 2008*)
- Attachment 4: Bridge Location Maps (*in Volume II of Supplemental Reply, filed September 30, 2008*)
- Attachment 5: Annual Inspection Bridge No. 716.40 (*in Volume III of Supplemental Reply, filed September 30, 2008*)

# **Coos Bay Rail Link Bridge Condition Assessment Final Report**

## **Project Background**

The Oregon International Port of Coos Bay (Port) is seeking to acquire the Coos Bay Rail Link (Line) from the Central Oregon & Pacific Railroad, Inc. (CORP). The location of the Line is between milepost 652.114, near Danebo, OR and milepost 763.130, near Cordes, OR. The Port retained David Evans and Associates, Inc. (DEA) to perform a condition assessment (Study) of the bridges along the Line. The findings of this Study are included and summarized in this report, to be submitted to the Port on September 29, 2008.

## **Purpose and Need for Report**

The objective of this report is to provide opinions of costs to bring the 107 bridges located along the Line (reference Attachment 4 for bridge location maps) to a condition that would allow the Line to reopen as well as anticipated short-term and anticipated long-term costs of the bridge system associated with owning and operating the Line.

The Study is based upon a visual assessment of the bridges, quantification of repairs based on recommendations noted in bridge inspection reports completed by Osmose Railroad Services, Inc. (Osmose) in 2007, and development of an opinion of probable bridge system costs which a new owner may encounter. Three costs for each bridge have been evaluated—those anticipated to open the Line to traffic (immediate), those anticipated to occur over for the next 5 years (short-term), and those anticipated to occur beyond 5 years (long-term).

## **Existing Information**

### **Rail Line Location and History**

The following brief narrative is provided for the user of this report to understand, in context, the approximate age of the bridge structures studied and ownership since construction. The Line is approximately 111 miles long and located entirely in Oregon, while traversing portions of Coos, Douglas and Lane Counties.

The Southern Pacific Railroad (SPRR) opened the Line from Eugene to Marshfield (now know as Coos Bay) in 1916. The section of the Line from Eugene to Coos Bay is the proposed Coos Bay Rail Link. SPRR sold the Line on December 31, 1994 to CORP.

The existing bridge system was designed and constructed for a Cooper E-50 – E-60 design load. This load carrying design capacity is  $\frac{3}{4}$  of a new rail bridge designed today.

### **Osmose Railroad Services, Inc. (Osmose) Bridge Inspection Reports**

The Port provided to the Study Team the Bridge Inspection Reports completed by Osmose in 2005 and 2007. Due to the large size of these documents, only the 2007 reports are bound in this report for the Port as Attachment 1 and we understand that the 2007 and 2005 Osmose Reports were included in Volume III and IV respectively of Reply of the Oregon International Port of Coos Bay, filed September 12, 2008.

DEA has reviewed existing Bridge Inspection Reports completed by Osmose in 2007 and tabulated prioritized repairs noted in those reports, which were provided by the Port of Coos Bay.

# Coos Bay Rail Link Bridge Condition Assessment Final Report

## Study Organization and Methodology

The primary elements of the Study are:

- Existing Osmose data collection and tabulation
- Bridge Inspections
- Development of opinions of cost for recommended repairs

Each of these Study activities is described below:

### Existing Osmose Data Collection and Tabulation

The 2005 and 2007 Osmose Bridge Inspection Reports summarized and prioritized recommended repair work for each bridge. This repair work was quantified from both of the inspection reports for each bridge. From this work, the Study Team was able to identify the repairs that were recommended in 2007 but not noted for 2005. Note that much of the work identified in the 2005 report as Priority 2 and 3 remains on the 2007 report as maintenance deferred. By examination of repair work completed in the 2007 Osmose reports, we estimate approximately less than 1% of the repairs recommended by Osmose in 2005 were completed by the time the 2007 Osmose inspections were conducted. We understand that in November 2007, CORP put forward a cost estimate for Phase I bridge repairs of \$6.75 million, which appears to be based on priority 2 repairs; and a cost estimate for Phase II bridge repairs of \$3.75 million, which appears to be based on priority 3 repairs. We have been told by the Port's counsel that no detail was provided for these estimates and that the back-up for these estimates was not provided to the Port in response to discovery served on CORP. As noted below, DEA has provided summary and detailed estimates for the repairs needed for these bridges by priority based upon 2009 dollars.

### Bridge Inspections

The Study Team conducted visual inspections of the bridges (with the exception of Bridge No. 716.40) on the Line from September 13th to September 18th. Field reports for the 2008 DEA Visual Inspections are included in Attachment 2 of this report. In addition, the Study Team conducted an annual inspection of Bridge No. 716.40 and this report is included as Attachment 5 of this report.

The following narrative has been included for an understanding of the level of review involved for three general categories of bridge inspection:

1. A visual inspection is the basic inspection and is conducted for observation review; no material tests are performed. The observations take place from the bridge deck and/or areas accessed by foot below. For this Study, visual inspections were conducted to review the Osmose routine Bridge Inspection Reports and to identify obvious additional damage which may have occurred since the Line was embargoed. In addition, this visual inspection was conducted to correlate the Study Team's understanding of the bridges' conditions and general state of maintenance with the repair recommendations contained in the Osmose report.
2. An annual or biannual routine inspection builds on the visual inspection and is generally the industry standard inspection for routine inspections. A structural member condition inventory is assembled for each structural element (beam, column, pile, cap etc.).
3. A detailed inspection represents the next level of inspection and is generally conducted prior to a major bridge rehabilitation or in order to establish a safe load capacity. A detailed inspection includes the evaluation of each structural element for its condition, which is a more in-depth, time intensive inspection than a routine inspection and can include supplemental equipment to include ladders, mechanical lifts, and boats. A detailed inspection can include limited material testing, including limited boring of representative timber members to establish if any interior deterioration is occurring; and for steel, the actual steel thickness is measured to determine the remaining structural section. A structural member condition inventory is assembled for each structural element (beam, column, pile, cap etc.). This inspection includes a load capacity analysis based upon

## Coos Bay Rail Link Bridge Condition Assessment Final Report

the remaining structural section for each member. Calculations and a summary of the load capacity are submitted in a load rating report.

None of the inspection categories include underwater inspections unless scour or other problems are noted. Both the routine and detailed inspections include an itemization of repairs for each bridge. Our teams also prepared itemized repair recommendations and costs for all visually inspected bridges based upon the 2007 Osmose inspection report and any additional data gathered during the visual inspection of each bridge.

### Cost Estimating

#### Osmose Bridge Repair Recommendations

The Osmose Bridge Inspection Reports prioritize recommended bridge repair work based on the following designations, which we have also used in our report:

**Priority 1 – Emergency:** Stop operation over the structure and perform repairs immediately. There are no Priority 1 repairs noted in the 2007 reports. The visual inspections by DEA did not find new Priority 1 repairs required for bridges; however, due to ship/bridge unreported accidents, scour associated with high flow events, debris collisions with bridge elements, etc. which may occur prior to opening the Line, we recommend the new rail operator conduct a visual track and bridge inspection immediately prior to opening the Line. Also, during our visual inspection, slides were noted along the rail Line that stop operations and would need to be cleared and stabilized prior to opening the Line.

**Priority 2 – 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. Repairs classified as Priority 2 are recommended to be complete prior to opening the Line to rail traffic.

**Priority 3 – Condition could become unsafe and should be monitored frequently:** Repair in the near future.

**Priority 4 – Condition is substandard and should be monitored.** Condition may require repairs within one to five years.

**Priority 5 – Either no defects or only minor defects were found.** Repairs not recommended at this time, but condition of structure should be monitored.

#### Rail Operation Considerations Influencing Bridge Costs

The following discussion relates to the costs to immediately open the bridge system to traffic, as well as short- and long-term bridge system costs and how they are influenced heavily by the intended operational plans for the Line. If the use of the Line changes and additional capacity (heavier cars and faster speeds) is required, the cost to maintain and improve the Line increases. All costs noted in this section (Priority 2, 3, 4, Rehabilitation, Replacement, and Removal) are noted in Figures 1 and 2 located in the Summary of this report. More detailed calculations for these costs is contained in Attachment 3 of this report.

A railroad with limited freight, seeking to maintain the Line with minimal expenditures, will keep operating with the rail Line under the conditions which existed prior to the embargo, i.e. E-60 maximum loading, slow speeds less than 10 mph on bridges, all rail cars loaded to meet the E-60 loading capacity, and spacing of cars to avoid having maximum loaded cars adjacent to each other. The initial cost to get this bridge system up and running under the operating conditions in place prior to the embargo is the cost of the Priority 2 repairs. In addition, this railroad bridge system may cost approximately \$1,200,000 annually to correct new Priority 2 repairs identified during annual bridge inspections. However, there will also be unanticipated and indeterminate expenditures. This amount is influenced by the continued past practice of deferred maintenance (Priority 3 and 4), which delayed maintenance until they become a Priority 1 or 2. This is the primary assumption for development of costs to begin operations, as well as short-term and long-term bridge costs identified in this report. This is the assumption used by railroads to operate a line for profit, with limited revenue or freight. This method of management of a bridge

## **Coos Bay Rail Link Bridge Condition Assessment Final Report**

system can be maintained indefinitely. However, with this method, at some point in time, the continued deterioration of the system will yield unexpected and relatively large expenditures to correct nearly 100 years of deferred maintenance. When this time will arrive is not known. However, our opinion is that the largest expenditures will occur when currently designated Priority 3 and 4 repairs for the steel truss spans in the system (especially the Siuslaw and Umpqua River) are deemed by future bridge inspectors to be Priority 1 or 2. When this occurs, in order to maintain operations, the Port can expect large unplanned expenditures, which are impossible to fully quantify or schedule. We cannot determine if this point is 5, 10 or 50 years in the future. The only way to avoid unanticipated expenditures of a bridge system this age is to proactively invest in the bridges to arrest deterioration and restore the condition of the bridge system by reversing several decades of deferred maintenance.

A railroad with a plan to gradually incorporate improvements to upgrade the Line to E-80 standards, while maintaining current operations at the E-60 maximum, would slowly upgrade the bridge system with the average speed being 30 mph. The cars would still be loaded to meet the E-60 loading and require spacing of cars to avoid having cars hauling maximum loads adjacent to each other. The initial cost to get this operation up and running would include the Priority 2 and 3 repairs. This railroad will cost approximately \$750,000 per year to maintain and another \$1,750,000 per year for upgrades changing out structures on some sort of priority basis (probably matched to speed). This means current repairs are done to maintain the E-60 standards but portions of the Line would be upgraded to E-80 and higher speeds over a long period of time. This method of railroad operations will slowly begin reversing the deferred maintenance of the bridge system.

A railroad with an immediate need for increased capacity improvements to upgrade much of the bridge system to a higher standard now, meaning we would still operate with E-60 engines but could handle E 72 rail car loads (286,000 pound cars) on the bridges and tunnels while having a lower speed, the average could start around 25 mph. This bridge system would cost approximately \$70,000,000 to get up and running; the big change being heavier rail and ties on bridges. This would require a more detailed study of the bridges currently carrying the lighter loads to be assured that the current steel bridges could handle the higher loads. This bridge system will cost approximately \$500,000 per year to maintain and another \$1,500,000 per year for upgrades for approximately 15-20 years to finish the upgrade cycle.

### **Cost Estimating Methodology**

Opinions for five primary costs (immediate cost to start operation, short-term (within 5 years), long-term (beyond 5 years), rehabilitation, and complete replacement costs) were developed for each bridge. Calculations for each of these costs are contained in Attachment 3 of this report. In addition, the estimated cost to remove all of the bridges has been calculated. These costs have been summarized in Figures No. 1 and No. 2 of this report.

The basis of cost was developed by quantifying the repair recommendations and applying unit costs for each repair. In addition, these costs include an allowance for design and construction engineering. All costs assume a competitive bid for the work by qualified general contractors in the spring of 2009. It should be noted that during repair of items recommended in the report, typically other damaged members that may have been hidden are found, thereby increasing the amount of the work from that shown in the report. Consistent with industry standard, a construction contingency has been added to all costs to account for this unidentified work. All costs in this report are assumed to be 2009 dollars. Future budgetary numbers should be increased for inflation accordingly.

The 2005 and 2007 Osmose Bridge Inspection Reports summarized and prioritized recommended repair work for each bridge. This repair work was quantified from both inspection reports for each bridge. From this work, the Study Team was able to identify the repairs that were recommended in 2007 but not noted for 2005. This difference is assumed to represent the incremental deterioration of the Line over a two year span. Our visual inspections took place during September 2008 and our understanding is the transfer of ownership for the Line is projected for March 2009. Therefore, there will be six months of additional deterioration of the Line beyond the condition observed by our inspectors in September 2008. The Study Team did consider that a lack of traffic on the

## Coos Bay Rail Link Bridge Condition Assessment Final Report

Line, from September 2007 to spring 2009, would generally be favorable for decreased deterioration of the bridge system during this time. However, the traffic on the Line from 2005 to 2007 is considered light and the deterioration of materials accelerate as they age. Therefore, these two factors were considered to cancel each other and the base cost of immediate and short-term repairs were increased an amount equal to the difference in recommended repairs and their associated costs from 2005 to 2007 prorated for six months. This increase is intended to account for six months of deterioration of the bridge system in the Pacific Northwest climate from the date of our visual inspection in September 2008 to March of 2009. This increase has been calculated to consist of an additional \$40,775 of Priority 2 repairs, \$81,100 of Priority 3 repairs, and \$442,575 of Priority 4 repairs.

Another consideration is that while the system is not operating, many repairs can be accomplished more efficiently or cost-effectively and there may be some advantages to accomplishing Priority 3 and 4 repairs at this time. Another factor is that aggregating items together to produce large volume contracts can reduce unit prices. For instance, removing a stringer while doing track and tie upgrade projects is much easier and should be accomplished at the same time. These types of considerations have not been included in the Study at this time, as the methodology of the capital improvement program for this Line has not been established.

Cost of bridge system administration is not included in this Study. However, this bridge system should be inspected yearly or biennially. This annual cost (identified by Osmose) is approximately \$50,000.00 dollars per year (2009 cost).

### **Immediate Bridge Costs to Begin Operations**

The basis of the immediate bridge repair costs were developed assuming the Line will have limited freight in the first 5 years with corresponding minimal expenditures for maintenance. The following considerations determined our estimated cost to begin bridge system operations:

- We quantified Priority 2 repairs recommended in the 2007 Osmose reports and applied unit costs for each repair.
- We quantified repairs identified during the 2008 DEA visual inspections and applied unit costs for each repair.
- We have increased the value of the Priority 2 repairs by \$40,775 to reflect additional deterioration of the bridge system, which will occur from September 2008 to March 2009.
- One year cost to reestablish an annual inspection program is \$50,000.
- Our routine inspection of Bridge 716.40 (Siuslaw) recommends a load rating be performed on the steel truss spans of this bridge prior to start of operations. We have assumed this recommendation would hold true for Bridge 739.68 (Umpqua) Cost for each analysis is \$50,000 resulting in a total cost of \$100,000.

Cost calculations for typical and unique repairs by bridge are included in Attachment 3.

The total cost of Osmose and DEA identified Priority 2 repairs is \$9,211,395, coupled with the \$40,775 of additional repairs anticipated for deterioration, which will occur prior to transfer of Line ownership, \$50,000 for inspection, \$100,000 for load ratings of Bridge Numbers 716.4 and 739.68 yields a total bridge system cost to begin operations of \$9,402,170.

# Coos Bay Rail Link Bridge Condition Assessment Final Report

## Anticipated Short-Term Bridge Costs (Years 2, 3, 4, 5)

The basis of the short-term bridge operating cost was developed by addition of the following considerations:

- We assigned a \$1,200,000 (2009 dollars) per year for a bridge maintenance budget assuming the Line would be operated to minimize expenditures.
- We allowed for \$50,000 per year inspection budget.

The total short-term (four total years) costs assuming the Line is managed to minimize expenditures is \$5,000,000.

Note: The short-term bridge costs can be exceeded if Priority 3 and 4 repairs are down-graded to Priority 1 or 2. A conservative upward boundary for short-term costs may be the magnitude of the Priority 3 repairs or \$15,000,000. This amount is approximately equal to the risk of operating the system, while minimizing expenditures.

## Anticipated Long-Term Bridge Costs (Beyond 5 Years from Start of Operation)

The basis of the short-term bridge operating cost was developed by addition of the following considerations:

- We assigned a \$1,200,000 (2009 dollars) per year for a bridge maintenance budget assuming the Line would be operated to minimize expenditures.
- We allowed for \$50,000 per year inspection budget.

The long-term costs, assuming the Line is managed to minimize expenditures, is \$1,250,000 per year (2009 dollars).

Note: The long-term bridge costs can be exceeded if Priority 3 and 4 repairs are down-graded to Priority 1 or 2. A conservative upward boundary for long-term costs may be the magnitude of the Priority 3 and 4 repairs or \$30,000,000. This amount is approximately equal to the risk of operating the system, while minimizing expenditures.

## Rehabilitation of Bridge System

Another reasonable assumption for the long-term bridge costs for a bridge system of this age could be assumed to be the cost to rehabilitate and upgrade the entire bridge system with an increase in capacity and service life. This cost is estimated to be approximately \$119,000,000. This rehabilitation would indefinitely restore the bridge system for the foreseeable future and reduce or eliminate unplanned expenditures on the Line, as well as reduce or eliminate unplanned loss of service resulting from the discovery of new Priority 1 or 2 repairs. These bridge costs are a planning level estimate based upon a competitive bid of the work by qualified contractors. Rehabilitation cost calculations are noted in Attachment 3.

## Replacement Value of Bridge System

The cost to construct this bridge system should the Line need to be reestablished in the future is \$400,000,000. This cost is for the bridges only and does not include costs associated with reestablishing the track, ballast, general grading, signals, communication systems, signage, and right of way. This cost is presented in 2009 dollars, which will need to be increased for anticipated year of construction. These costs are a planning level estimate based upon a competitive bid of the work by qualified contractors. In addition, these costs have been increased to provide an allowance for design and construction engineering, as well as a contingency to account for conceptual understanding of the replacement requirements. Replacement calculations are noted in Attachment 3.

## Removal Cost of Bridge System

Nearly all materials in the existing bridge system are hazardous waste and consist primarily of creosote treated timbers or have lead based paint on the steel. The cost to remove and dispose of this bridge system (including contractor mobilization and contingencies) is estimated to be \$31,840,725. This cost does not include the cost of permitting the removal of these bridges, which primarily exist in waterways influencing endangered species. As discussed in the Reply Verified Statement of Dana Siegfried of DEA filed by the Port on September 12, because

# Coos Bay Rail Link Bridge Condition Assessment Final Report

work will need to occur during the approved in-water work windows for these sites, costs for labor during these times will be at a premium. In addition, our experience relating to the demolition of a large steel truss over an environmentally sensitive waterway results in our opinion that any bridge removal in Oregon will require work to be isolated from waters, i.e. coffer dams, and each truss span will be required to be fully coated (to contain lead), picked up as one piece, moved off site and out of waters or wetlands, and then dismantled and disposed of the lead coated members in a legal manner, followed by removal of the concrete foundations. Our removal costs incorporate these factors but do not include removal costs of several generations of treated timber ties and other materials, which have been routinely discarded along the Line over the years. Removal cost calculations are included as a part of the replacement calculations noted above and are included in Attachment 3.

## Summary

Priority 2-3-4, rehabilitation, replacement, and removal costs for the bridge system are summarized by bridge in Figures No. 1 and 2. All costs are calculated for 2009 construction. There is no additional allowance for inflation due to construction in subsequent years.

Rehabilitation expenditures will reduce the Port's exposure to unplanned expenditures, interruptions of service, as well as increase the systems' capacity.

## Abbreviations used in Figures 1 and 2 below

AR	Arch	PCI	Prestressed concrete "I" beam
BD	Ballast deck trestle	PCB	Prestressed concrete box
BM	Beam span	PCS	Prestressed concrete slab
CTG	Concrete "T" girder	RCS	Reinforced concrete slab
CB	Concrete box	IB	Steel "I" beam
CBG	Concrete box girder	SBS	Steel beam span
CS	Concrete slab	SPT	Steel pile trestle
DPT	Deck pinned truss	TPCT	Thru pinned connected truss
DPG	Deck plate girder	TPT	Thru pinned truss
DPLG	Deck plate lattice girder	TPG	Thru plate girder
DRT	Deck riveted truss	TRT	Thru riveted truss
FT	Frame trestle-all timber	WFB	Wide flange beam
OD	Open deck	WFBS	Wide flange beam span
PT	Pile trestle-all timber	WSP	Wide steel beam

**Coos Bay Rail Link Bridge Condition Assessment  
Final Report**

**Coos Bay Rail Link Bridge Cost Summary Figure No. 1**

BRIDGE LOCATION	EXISTING BRIDGE			PRIORITY LEVEL COSTS			OVERALL TOTAL COSTS	
	STRUCTURE DESCRIPTION	YEAR BUILT	SPANS OVER	PRIORITY 2	PRIORITY 3	PRIORITY 4	REHABILITATION	REPLACEMENT
				TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
652.21	120 ft OD PT	1940	Amazon creek	\$161,760	\$2,400	\$39,200	\$396,000	\$859,815
652.58	8 ft OD PT		Drainage	\$0	\$12,800	\$0	\$0	\$57,321
656.12	100 ft OD TRT	1912	Coyote Creek	\$0	\$14,875	\$59,500	\$907,500	\$3,403,125
657.12	120 ft OD PT	1941	Coyote Creek	\$12,800	\$25,760	\$32,960	\$396,000	\$859,815
657.96	30 ft BD PT	1927	Coyote Creek	\$0	\$0	\$29,120	\$99,000	\$214,954
658.17	120 ft OD SPT	1923	Water	\$46,240	\$16,640	\$17,120	\$594,000	\$948,915
660.89	90 ft OD PT	1943	Drainage	\$12,800	\$16,320	\$26,080	\$297,000	\$644,861
661.28	90 ft OD PT, 63 ft OD TPG, 90 ft OD PT	1932, 1914, & 1932	Long Tom Creek	\$12,800	\$102,880	\$105,280	\$1,009,800	\$2,448,245
661.73	135 ft OD PT	1934	Long Tom Overflow	\$0	\$27,200	\$52,640	\$445,500	\$967,292
662.59	345 ft OD PT	1936	Long Tom Overflow	\$52,000	\$120,320	\$87,360	\$1,138,500	\$2,471,968
664.00	100 ft OD TRT, 135 ft BD PT	1914 & 1926	Long Tom Creek	\$56,000	\$216,125	\$5,250	\$1,397,550	\$4,616,884
664.62	90 ft OD PT, 100 ft OD TRT, 90 ft OD PT	1939, 1914, & 1939	Long Tom Creek	\$14,000	\$88,900	\$76,650	\$1,560,900	\$4,971,557
664.85	75 ft OD PT, 100 ft OD TRT, 75 ft OD PT	1939, 1914, & 1939	Long Tom Creek	\$35,000	\$118,125	\$30,800	\$1,452,000	\$4,735,108
665.49	105 ft OD PT, 100 ft OD TRT, 90 ft OD PT	1933, 1914, & 1933	Elk Creek	\$15,750	\$45,500	\$23,975	\$1,615,350	\$5,089,782
666.21	60 ft BD PT	1930	over Rd.	\$1,600	\$0	\$16,000	\$198,000	\$443,891
667.28	75 ft OD PT	1928	Drainage	\$0	\$22,400	\$20,160	\$247,500	\$537,384
667.40	90 ft OD PT, 160 ft OD DPG, 45 ft OD PT	1933, 1914, & 1934	Noti Creek and Vaughn Rd	\$427,200	\$107,200	\$70,720	\$1,501,500	\$2,232,512
668.50	154 ft OD PT, 120 ft OD DPG, 90 ft OD PT	1933, 1944, & 1921	Noti Creek	\$104,160	\$55,040	\$54,880	\$1,597,200	\$2,779,788
671.89	90 ft OD PT	1943	over RD.	\$0	\$29,920	\$67,840	\$297,000	\$665,837
674.03	30 ft OD PT	1956	Stream	\$22,720	\$320	\$18,560	\$99,000	\$214,954
676.23	60 ft OD DPG	1913	Chikkahominy Creek	\$32,640	\$11,200	\$0	\$396,000	\$1,054,350
677.05	60 ft OD SPT	1914	Walker Creek	\$2,400	\$45,120	\$16,320	\$297,000	\$474,458
677.80	56 ft OD PT, 80 ft OD TPG, 45 ft OD PT	1932, 1914, & 1951	Wild Cat Creek	\$0	\$55,840	\$29,120	\$861,300	\$2,194,818
678.43	75 ft OD PT, 122 ft OD TPG, 45 ft OD PT	1921, 1914, & 1927	Wild Cat Creek	\$8,000	\$193,600	\$53,280	\$1,201,200	\$3,103,304
680.17	150 ft OD TRT	1914	Wild Cat Creek	\$0	\$71,050	\$24,500	\$1,361,250	\$5,817,075
680.46	102 ft OD TPG	1914	Wild Cat Creek	\$80,000	\$326,400	\$2,400	\$673,200	\$2,903,175
680.77	102 ft OD TPG	1914	Wild Cat Creek	\$40,000	\$42,080	\$0	\$673,200	\$2,903,175

**Coos Bay Rail Link Bridge Condition Assessment  
Final Report**

**Coos Bay Rail Link Bridge Cost Summary Figure No. 1**

BRIDGE LOCATION	EXISTING BRIDGE			PRIORITY LEVEL COSTS			OVERALL TOTAL COSTS	
	STRUCTURE DESCRIPTION	YEAR BUILT	SPANS OVER	PRIORITY 2	PRIORITY 3	PRIORITY 4	REHABILITATION	REPLACEMENT
				TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
681.05	162 ft OD TPG	1914	Wild Cat Creek	\$83,200	\$6,400	\$82,400	\$1,069,200	\$2,979,059
681.45	222 ft OD DPG	1914	Wild Cat Creek	\$104,800	\$160,800	\$2,400	\$1,465,200	\$4,082,414
682.18	200 ft OD TPG, 50 ft OD DPG	1914	Siuslaw River	\$88,000	\$148,800	\$116,000	\$1,650,000	\$6,360,131
683.36	155 ft OD TPG, 200 ft OD TRT, 120 ft OD TPG	1914	Siuslaw River	\$98,175	\$20,125	\$10,150	\$3,811,500	\$15,945,909
687.03	65 ft OD PT	1922	Rock Creek	\$0	\$63,680	\$32,320	\$214,500	\$465,733
687.88	90 ft OD PT	1922	Meadow Creek	\$12,160	\$45,920	\$25,760	\$297,000	\$644,861
689.23	15 ft BD PT	1926	Creek	\$640	\$8,000	\$3,200	\$0	\$102,713
690.47	45 ft OD TPG	1914	San Antonio Creek	\$22,560	\$2,400	\$0	\$297,000	\$341,550
690.85	64 ft OD TPG, 114 ft OD TRT, 108 ft OD TPG	1914	Siuslaw River	\$29,400	\$39,025	\$220,850	\$2,283,270	\$8,124,612
691.05	70 ft OD DPG, 250 ft OD TRT, 135 ft OD PT	1914 & 1934	Siuslaw River	\$259,875	\$279,125	\$476,000	\$3,267,000	\$11,970,356
691.38	15 ft OD FT	1914	Creek	\$8,000	\$12,800	\$960	\$0	\$102,713
692.06	16 ft BD PT		Creek	\$32,000	\$0	\$12,800	\$0	\$109,560
693.27	75 ft BD PT	1928	Creek	\$640	\$21,760	\$12,960	\$247,500	\$537,384
694.32	150 ft OD PT, 200 ft OD TPT, 90 ft OD PT	1936, 1914, & 1925	Siuslaw River	\$458,850	\$344,050	\$126,175	\$2,686,200	\$9,886,668
694.78	90 ft OD DPG, 150 ft OD TRT, 90 ft OD DPG	1914	Siuslaw River	\$216,300	\$304,938	\$810,250	\$2,668,050	\$9,296,430
694.98	15 ft OD FT	1914	Creek	\$0	\$20,160	\$0	\$0	\$102,713
696.66	75 ft BD FT, 150 ft OD TRT, 135 ft OD PT	1914, 1914, & 1921	Lake Creek	\$3,325	\$62,300	\$154,175	\$2,123,550	\$7,696,825
700.37	120 ft OD PT	1939	Thompson Creek	\$10,400	\$76,480	\$26,560	\$396,000	\$859,815
702.65	135 ft OD PT	1938	Creek	\$37,600	\$13,600	\$17,280	\$445,500	\$967,292
702.95	60 ft OD PT	1946	Creek	\$22,720	\$22,400	\$0	\$198,000	\$429,908
710.20	105 ft BD PT	1925	Olsen Creek	\$35,520	\$14,400	\$30,880	\$346,500	\$752,338
711.37	75 ft BD PT	1928	Creek	\$19,040	\$800	\$30,080	\$247,500	\$537,384
711.67	75 ft BD PT	1931	Creek	\$24,000	\$27,200	\$34,400	\$247,500	\$537,384
712.16	60 ft BD PT	1926	Creek	\$8,000	\$20,160	\$42,720	\$198,000	\$429,908
712.80	60 ft OD PT	1927	Creek and Access Rd.	\$34,400	\$20,160	\$19,200	\$198,000	\$429,908
716.40	4 ft OD TPG, 2670 ft OD PT, 400 ft OD TPT, 284 ft OD TR	1933, 1933, 1915, & 1931	Siuslaw river	\$2,462,040	\$2,408,175	\$884,450	\$16,327,740	\$69,877,691
718.12	30 ft BD CB	1975	slough	\$8,000	\$0	\$12,800	\$0	\$0
719.07	105 ft OD PT	1932	Creek and Private Access	\$64,320	\$63,360	\$26,560	\$346,500	\$752,338
719.21	315 ft OD PT	1939	Private Access and Marsh	\$154,240	\$117,760	\$98,240	\$1,039,500	\$2,257,014
724.22	120 ft BD CB	1970	Maple Creek	\$8,000	\$12,800	\$0	\$0	\$0
725.96	646 ft OD PT	1975	Lake Siltcoos	\$61,120	\$29,440	\$17,600	\$2,131,800	\$4,628,671

**Coos Bay Rail Link Bridge Condition Assessment  
Final Report**

**Coos Bay Rail Link Bridge Cost Summary Figure No. 1**

BRIDGE LOCATION	EXISTING BRIDGE			PRIORITY LEVEL COSTS			OVERALL TOTAL COSTS	
	STRUCTURE DESCRIPTION	YEAR BUILT	SPANS OVER	PRIORITY 2 TOTAL	PRIORITY 3 TOTAL	PRIORITY 4 TOTAL	REHABILITATION TOTAL	REPLACEMENT TOTAL
	726.31	990 ft OD PT	1973	Lake Siltcoos	\$481,440	\$125,120	\$260,800	\$3,267,000
727.35	1200 ft BD CB	1977	Lake Siltcoos	\$7,040	\$800	\$0	\$0	\$0
728.51	270 ft OD PT	1930	Lake Siltcoos	\$96,320	\$177,280	\$57,120	\$891,000	\$1,934,584
729.04	390 ft OD PT	1932	Wetland	\$198,080	\$132,320	\$166,560	\$1,287,000	\$2,794,399
729.17	480 ft BD CB	1981	Lake Tahkenitch	\$7,360	\$12,800	\$0	\$0	\$0
730.56	990 ft OD PT, 120 ft OD CB, 102 ft OD DPG	1953, 1915, & Steel 1915	Lake Tahkenitch	\$96,000	\$449,920	\$376,960	\$4,534,200	\$17,798,839
731.65	945 ft OD PT, 102 ft OD DPG, 1245 ft OD PT	1960, 1918, & 1915	Lake Tahkenitch	\$49,280	\$1,082,560	\$776,000	\$7,900,200	\$17,567,327
732.84	375 ft OD PT, 28 ft OD DPG, 228 ft OD PT	1915, 1915, & 1944	Lake Tahkenitch	\$30,720	\$252,960	\$219,520	\$2,174,700	\$4,541,984
733.88	1120 ft BD CB	1980	Lake Tahkenitch	\$0	\$12,800	\$0	\$0	\$0
733.95	1178 ft BD CB	1980	Lake Tahkentich	\$6,400	\$21,200	\$0	\$0	\$0
735.86	80 ft OD PT	1931	Wetland	\$57,920	\$27,200	\$49,280	\$264,000	\$573,210
736.03	50 ft OD PT	1926	Jack Frank creek	\$27,520	\$41,600	\$17,600	\$165,000	\$358,256
736.51	48 ft OD PT	1926	Grade Separation	\$0	\$28,160	\$39,520	\$158,400	\$314,820
737.33	90 ft BD PT	1931	Jack Franz Creek	\$0	\$0	\$43,040	\$297,000	\$644,861
738.70	30 ft OD PT	1927	Grade Separation	\$58,400	\$36,640	\$32,960	\$99,000	\$196,763
738.94	405 ft OD PT	1915	Smith River slough	\$3,840	\$97,440	\$83,200	\$1,336,500	\$2,901,876
739.14	375 ft OD PT, 50 ft OD TPG, 165 ft OD PT	1937, 1915, & 1915	Smith River slough	\$154,400	\$396,960	\$132,800	\$2,112,000	\$4,264,549
739.43	288 ft OD PT, 92 ft OD TPG, 119 ft OD PT	1915	Smith River slough	\$61,120	\$145,600	\$141,600	\$1,950,300	\$4,608,017
739.68	80 ft OD PT, 1125 ft OD TPT, 360 ft OD TPT, 60 ft OD PT	1915	Umpqua River	\$1,698,200	\$4,922,750	\$5,524,400	\$13,984,575	\$85,714,419
740.25	60 ft OD PT	1914	over Rd	\$16,000	\$3,200	\$31,200	\$198,000	\$443,891
740.84	60 ft OD PT	1980	Scofield creek	\$2,400	\$12,800	\$0	\$198,000	\$443,891
741.35	60 ft OD PT	1915	Creek	\$7,360	\$34,720	\$33,760	\$198,000	\$429,908
741.74	45 ft OD PT	1915	Creek	\$23,680	\$37,120	\$31,360	\$148,500	\$322,431
742.05	45 ft OD PT	1915	Creek - Wetland	\$0	\$65,120	\$8,000	\$148,500	\$322,431
742.24	120 ft OD PT	1928	Creek - Wetland	\$0	\$14,400	\$64,960	\$396,000	\$859,815
742.72	135 ft OD PT	1915	Scofield creek	\$0	\$21,120	\$89,120	\$445,500	\$967,292
742.95	60 ft OD PT	1936	Creek	\$0	\$65,760	\$18,560	\$198,000	\$429,908
743.20	45 ft BD PT	1929	Grade Separation	\$0	\$36,160	\$10,400	\$148,500	\$295,144
743.73	135 ft OD PT	1934	Scofield creek	\$238,400	\$54,560	\$50,240	\$445,500	\$967,292
743.88	120 ft OD PT	1934	Scofield creek	\$12,800	\$91,200	\$42,080	\$396,000	\$859,815
743.97	105 ft OD PT	1932	Scofield creek	\$8,240	\$94,720	\$77,760	\$346,500	\$752,338

**Coos Bay Rail Link Bridge Cost Summary Figure No. 1**

BRIDGE LOCATION	EXISTING BRIDGE			PRIORITY LEVEL COSTS			OVERALL TOTAL COSTS	
	STRUCTURE DESCRIPTION	YEAR BUILT	SPANS OVER	PRIORITY 2 TOTAL	PRIORITY 3 TOTAL	PRIORITY 4 TOTAL	REHABILITATION TOTAL	REPLACEMENT TOTAL
	744.24	75 ft BD PT	1929	Wind creek	\$400	\$10,560	\$24,800	\$247,500
744.44	75 ft BD PT	1929	Wind creek	\$0	\$7,200	\$3,200	\$247,500	\$537,384
744.70	75 ft BD PT	1929	Wind creek	\$0	\$3,200	\$25,760	\$247,500	\$537,384
744.83	75 ft BD PT	1929	Wind creek	\$0	\$0	\$13,600	\$247,500	\$537,384
748.06	90 ft BD PT	1931	Small Creek	\$14,720	\$0	\$0	\$297,000	\$644,861
748.44	30 ft BD PT	1929	Small Creek	\$0	\$0	\$24,800	\$99,000	\$214,954
748.68	75 ft OD FT	1915	Small Creek	\$89,760	\$26,400	\$39,680	\$247,500	\$537,384
749.89	930 ft BD CB	1978	Black Lake	\$7,040	\$12,800	\$0	\$0	\$0
750.46	960 ft OD PT, 60 ft OD SBS, 513 ft OD PT	1930, 1915, & 1930	North Lake	\$29,600	\$139,200	\$8,160	\$5,256,900	\$11,657,584
751.02	320 ft OD PT	1915	North Lake	\$32,000	\$25,600	\$28,320	\$1,056,000	\$2,292,840
752.99	180 ft OD PT	1932	Ten Mile creek	\$0	\$16,000	\$35,200	\$594,000	\$1,289,723
753.48	105 ft OD PT	1932	Grade Separation	\$12,800	\$5,440	\$20,400	\$346,500	\$688,669
753.97	41 ft OD SBS	1929	over hwy	\$800	\$0	\$10,400	\$270,600	\$311,782
755.63	75 ft OD PT	1940	Clear Lake	\$8,160	\$12,800	\$33,920	\$247,500	\$537,384
756.13	75 ft OD FT	1915	Saunders Lake	\$20,000	\$16,000	\$3,200	\$247,500	\$537,384
756.55	75 ft OD PT		Saunders Lake	\$64,000	\$59,200	\$42,240	\$247,500	\$537,384
757.37	75 ft OD PT	1915	Butterfield Lake	\$57,120	\$13,600	\$20,160	\$247,500	\$537,384
761.13	45 ft OD SPT	1912	Tidal Creek	\$26,880	\$61,760	\$8,160	\$222,750	\$355,843
<b>PRIORITY SUBTOTAL</b>				<b>\$9,211,395</b>	<b>\$15,039,783</b>	<b>\$13,007,685</b>	<b>\$118,973,085</b>	<b>\$399,517,887</b>
<b>Estimated Increased Repair Costs for 6 Months of Additional Deterioration to Projected Ownership Transfer March 2009</b>				<b>\$40,775</b>	<b>\$81,100</b>	<b>\$442,575</b>		
<b>TOTAL COST</b>				<b>\$9,252,170</b>	<b>\$15,120,883</b>	<b>\$13,450,260</b>		

**Coos Bay Rail Link Bridge Condition Assessment  
Final Report**

<b>Coos Bay Rail Link Bridge Removal Cost Summary Figure No. 2</b>				
<b>BRIDGE LOCATION</b>	<b>EXISTING BRIDGE</b>			<b>OVERALL REMOVAL COSTS</b>
	<b>STRUCTURE DESCRIPTION</b>	<b>YEAR BUILT</b>	<b>SPANS OVER</b>	<b>TOTAL</b>
652.21	120 ft OD PT	1940	Amazon creek	\$36,000
652.58	8 ft OD PT		Drainage	\$2,400
656.12	100 ft OD TRT	1912	Coyote Creek	\$125,000
657.12	120 ft OD PT	1941	Coyote Creek	\$36,000
657.96	30 ft BD PT	1927	Coyote Creek	\$9,000
658.17	120 ft OD SPT	1923	Water	\$90,000
660.89	90 ft OD PT	1943	Drainage	\$27,000
661.28	90 ft OD PT, 63 ft OD TPG, 90 ft OD PT	1932, 1914, & 1932	Long Tom Creek	\$101,250
661.73	135 ft OD PT	1934	Long Tom Overflow	\$40,500
662.59	345 ft OD PT	1936	Long Tom Overflow	\$103,500
664.00	100 ft OD TRT, 135 ft BD PT	1914 & 1926	Long Tom Creek	\$165,500
664.62	90 ft OD PT, 100 ft OD TRT, 90 ft OD PT	1939, 1914, & 1939	Long Tom Creek	\$179,000
664.85	75 ft OD PT, 100 ft OD TRT, 75 ft OD PT	1939, 1914, & 1939	Long Tom Creek	\$170,000
665.49	105 ft OD PT, 100 ft OD TRT, 90 ft OD PT	1933, 1914, & 1933	Elk Creek	\$183,500
666.21	60 ft BD PT	1930	over Rd.	\$37,500
667.28	75 ft OD PT	1928	Drainage	\$22,500
667.40	90 ft OD PT, 160 ft OD DPG, 45 ft OD PT	1933, 1914, & 1934	Noti Creek and Vaughn Rd	\$160,500
668.50	154 ft OD PT, 120 ft OD DPG, 90 ft OD PT	1933, 1944, & 1921	Noti Creek	\$213,250
671.89	90 ft OD PT	1943	over RD.	\$56,250
674.03	30 ft OD PT	1956	Stream	\$9,000
676.23	60 ft OD DPG	1913	Chickahominy Creek	\$45,000
677.05	60 ft OD SPT	1914	Walker Creek	\$45,000
677.80	56 ft OD PT, 80 ft OD TPG, 45 ft OD PT	1932, 1914, & 1951	Wild Cat Creek	\$90,300
678.43	75 ft OD PT, 122 ft OD TPG, 45 ft OD PT	1921, 1914, & 1927	Wild Cat Creek	\$127,500
680.17	150 ft OD TRT	1914	Wild Cat Creek	\$630,000
680.46	102 ft OD TPG	1914	Wild Cat Creek	\$76,500
680.77	102 ft OD TPG	1914	Wild Cat Creek	\$76,500

**Coos Bay Rail Link Bridge Condition Assessment  
Final Report**

<b>Coos Bay Rail Link Bridge Removal Cost Summary Figure No. 2</b>				
BRIDGE LOCATION	EXISTING BRIDGE			OVERALL REMOVAL COSTS
	STRUCTURE DESCRIPTION	YEAR BUILT	SPANS OVER	TOTAL
	681.05	162 ft OD TPG	1914	Wild Cat Creek
681.45	222 ft OD DPG	1914	Wild Cat Creek	\$166,500
682.18	200 ft OD TPG, 50 ft OD DPG	1914	Siuslaw River	\$187,500
683.36	155 ft OD TPG, 200 ft OD TRT, 120 ft OD TPG	1914	Siuslaw River	\$456,250
687.03	65 ft OD PT	1922	Rock Creek	\$19,500
687.88	90 ft OD PT	1922	Meadow Creek	\$27,000
689.23	15 ft BD PT	1926	Creek	\$4,500
690.47	45 ft OD TPG	1914	San Antonio Creek	\$33,750
690.85	64 ft OD TPG, 114 ft OD TRT, 108 ft OD TPG	1914	Siuslaw River	\$271,500
691.05	70 ft OD DPG, 250 ft OD TRT, 135 ft OD PT	1914 & 1934	Siuslaw River	\$405,500
691.38	15 ft OD FT	1914	Creek	\$4,500
692.06	16 ft BD PT		Creek	\$4,800
693.27	75 ft BD PT	1928	Creek	\$22,500
694.32	150 ft OD PT, 200 ft OD TPT, 90 ft OD PT	1936, 1914, & 1925	Siuslaw River	\$912,000
694.78	90 ft OD DPG, 150 ft OD TRT, 90 ft OD DPG	1914	Siuslaw River	\$765,000
694.98	15 ft OD FT	1914	Creek	\$4,500
696.66	75 ft BD FT, 150 ft OD TRT, 135 ft OD PT	1914, 1914, & 1921	Lake Creek	\$693,000
700.37	120 ft OD PT	1939	Thompson Creek	\$36,000
702.65	135 ft OD PT	1938	Creek	\$40,500
702.95	60 ft OD PT	1946	Creek	\$18,000
710.20	105 ft BD PT	1925	Olsen Creek	\$31,500
711.37	75 ft BD PT	1928	Creek	\$22,500
711.67	75 ft BD PT	1931	Creek	\$22,500
712.16	60 ft BD PT	1926	Creek	\$18,000
712.80	60 ft OD PT	1927	Creek and Access Rd.	\$18,000
716.40	54 ft OD TPG, 2670 ft OD PT, 400 ft OD TPT, 284 ft OD TRT	1933, 1933, 1915, & 1931	Siuslaw river	\$3,714,300
718.12	30 ft BD CB	1975	slough	\$0
719.07	105 ft OD PT	1932	Creek and Private Access	\$31,500
719.21	315 ft OD PT	1939	Private Access and Marsh	\$94,500
724.22	120 ft BD CB	1970	Maple Creek	\$0
725.96	646 ft OD PT	1975	Lake Siltcoos	\$193,800

**Coos Bay Rail Link Bridge Condition Assessment  
Final Report**

<b>Coos Bay Rail Link Bridge Removal Cost Summary Figure No. 2</b>				
BRIDGE LOCATION	EXISTING BRIDGE			OVERALL REMOVAL COSTS
	STRUCTURE DESCRIPTION	YEAR BUILT	SPANS OVER	TOTAL
	726.31	990 ft OD PT	1973	Lake Siltcoos
727.35	1200 ft BD CB	1977	Lake Siltcoos	\$0
728.51	270 ft OD PT	1930	Lake Siltcoos	\$81,000
729.04	390 ft OD PT	1932	Wetland	\$117,000
729.17	480 ft BD CB	1981	Lake Tahkenitch	\$0
730.56	990 ft OD PT, 120 ft OD CB, 102 ft OD DPG	1953, 1915, & Steel 1915	Lake Tahkenitch	\$409,500
731.65	945 ft OD PT, 102 ft OD DPG, 1245 ft OD PT	1960, 1918, & 1915	Lake Tahkenitch	\$733,500
732.84	375 ft OD PT, 28 ft OD DPG, 228 ft OD PT	1915, 1915, & 1944	Lake Tahkenitch	\$201,900
733.88	1120 ft BD CB	1980	Lake Tahkenitch	\$0
733.95	1178 ft BD CB	1980	Lake Tahkentich	\$0
735.86	80 ft OD PT	1931	Wetland	\$24,000
736.03	50 ft OD PT	1926	Jack Frank creek	\$15,000
736.51	48 ft OD PT	1926	Grade Separation	\$14,400
737.33	90 ft BD PT	1931	Jack Franz Creek	\$27,000
738.70	30 ft OD PT	1927	Grade Separation	\$9,000
738.94	405 ft OD PT	1915	Smith River slough	\$121,500
739.14	375 ft OD PT, 50 ft OD TPG, 165 ft OD PT	1937, 1915, & 1915	Smith River slough	\$199,500
739.43	288 ft OD PT, 92 ft OD TPG, 119 ft OD PT	1915	Smith River slough	\$191,100
739.68	80 ft OD PT, 1125 ft OD TPT, 360 ft OD TPT, 60 ft OD PT	1915	Umpqua River	\$6,279,000
740.25	60 ft OD PT	1914	over Rd	\$37,500
740.84	60 ft OD PT	1980	Scofield creek	\$37,500
741.35	60 ft OD PT	1915	Creek	\$18,000
741.74	45 ft OD PT	1915	Creek	\$13,500
742.05	45 ft OD PT	1915	Creek - Wetland	\$13,500
742.24	120 ft OD PT	1928	Creek - Wetland	\$36,000
742.72	135 ft OD PT	1915	Scofield creek	\$40,500
742.95	60 ft OD PT	1936	Creek	\$18,000
743.20	45 ft BD PT	1929	Grade Separation	\$13,500
743.73	135 ft OD PT	1934	Scofield creek	\$40,500
743.88	120 ft OD PT	1934	Scofield creek	\$36,000
743.97	105 ft OD PT	1932	Scofield creek	\$31,500

**Coos Bay Rail Link Bridge Condition Assessment  
Final Report**

<b>Coos Bay Rail Link Bridge Removal Cost Summary Figure No. 2</b>				
BRIDGE LOCATION	EXISTING BRIDGE			OVERALL REMOVAL COSTS
	STRUCTURE DESCRIPTION	YEAR BUILT	SPANS OVER	TOTAL
	744.24	75 ft BD PT	1929	Wind creek
744.44	75 ft BD PT	1929	Wind creek	\$22,500
744.70	75 ft BD PT	1929	Wind creek	\$22,500
744.83	75 ft BD PT	1929	Wind creek	\$22,500
748.06	90 ft BD PT	1931	Small Creek	\$27,000
748.44	30 ft BD PT	1929	Small Creek	\$9,000
748.68	75 ft OD FT	1915	Small Creek	\$22,500
749.89	930 ft BD CB	1978	Black Lake	\$0
750.46	960 ft OD PT, 60 ft OD SBS, 513 ft OD PT	1930, 1915, & 1930	North Lake	\$486,900
751.02	320 ft OD PT	1915	North Lake	\$96,000
752.99	180 ft OD PT	1932	Ten Mile creek	\$54,000
753.48	105 ft OD PT	1932	Grade Separation	\$31,500
753.97	41 ft OD SBS	1929	over hwy	\$30,750
755.63	75 ft OD PT	1940	Clear Lake	\$22,500
756.13	75 ft OD FT	1915	Saunders Lake	\$22,500
756.55	75 ft OD PT		Saunders Lake	\$22,500
757.37	75 ft OD PT	1915	Butterfield Lake	\$22,500
761.13	45 ft OD SPT	1912	Tidal Creek	\$33,750
<b>OVER WATER</b>				<b>\$20,959,250</b>
<b>OVER ROADWAY</b>				<b>\$199,500</b>
<b>OVER LAND</b>				<b>\$68,400</b>
<b>SUBTOTAL</b>				<b>\$21,227,150</b>
<b>10% MOBILIZATION</b>				<b>\$2,122,715</b>
<b>40% CONSTRUCTION CONTINGENCIES</b>				<b>\$8,490,860</b>
<b>TOTAL COST</b>				<b>\$31,840,725</b>