

# 2009 ECONOMIC FACT SHEET

## SAUK COUNTY INDUSTRIES SERVED BY FREIGHT RAILROAD SYSTEM

In Sauk County, 15 industries ship freight via rail with the Wisconsin & Southern Railroad. Shipping freight by rail provides these industries listed below a low cost, efficient alternative to shipping by truck or other means.

**HANKE TRUCKING**  
Reedsburg

**LORMAN IRON & STEEL**  
Reedsburg, WI

**UNITED COOPERATIVE**  
Reedsburg

**UNITED COOPERATIVE**  
Rock Springs

**UNITED COOPERATIVE**  
Prairie du Sac

**FRONTIER FARM SERVICES**  
Spring Green

**FLAMBEAU PLASTICS**  
Baraboo

**HARTJE LUMBER**  
LaValle

**SENGER LUMBER**  
Baraboo

**SENECA FOODS**  
Baraboo

**GREDE FOUNDRY**  
Reedsburg

**MIDWEST HARDWOODS**  
Reedsburg

**PACE INDUSTRIES**  
Reedsburg

**RR DONNELLEY**  
Baraboo

**FRED WEBER, INC.**  
Rock Springs

## 2009 Economic Benefits From Industries Utilizing Freight Railroads

2009 Employees (Includes Seasonal)	Total Property Taxes Paid	Property Tax Paid Directly to Sauk County	Ad Valorem Tax To State of WI (All Railroads-2009)	Total Railcar Loads
2,100	\$1,450,000	\$525,000	\$22,500,000	2,539

- With the railroad system in place today, over **\$12 million** is being saved in highway maintenance costs on an annual basis in Wisconsin.
- Rail service preserves existing highway infrastructure. There were **10,000 fewer trucks** on Sauk County roads in 2009 due directly to utilization of the railroad within the county.
- Rail service to industries in Sauk County provides a vital transportation resource linking these businesses to thousands of other businesses in national and international markets.
- Most employees working at these rail served industries live within the county less than 25 miles from work.
- **In 2009 alone, over 1.5 Million tons of commerce** were transported into and out of Sauk County. **By 2015**, this number is expected to jump to **2.4 Million tons**.

In order to further facilitate savings to Sauk County industries, it is imperative to improve rail efficiencies by providing larger capacity railcars on the system. This can be accomplished by improving the existing infrastructure to allow for 286,000 lb capacity – the industry standard.

## The 286k Issue

The national trend toward heavier railcars on large railroads - from 263,000 to 286,000 pounds per car (286k) - threatens short line and regional railroad viability. Failure to upgrade short line and regional railroad infrastructure to handle 286k railcars will force more rail traffic to be diverted to highways.

- 43% of short line and regional railroad track miles need upgrades in order to handle 286k.
- Without upgrades, short line and regional railroads face slower, partial loads or lost traffic.

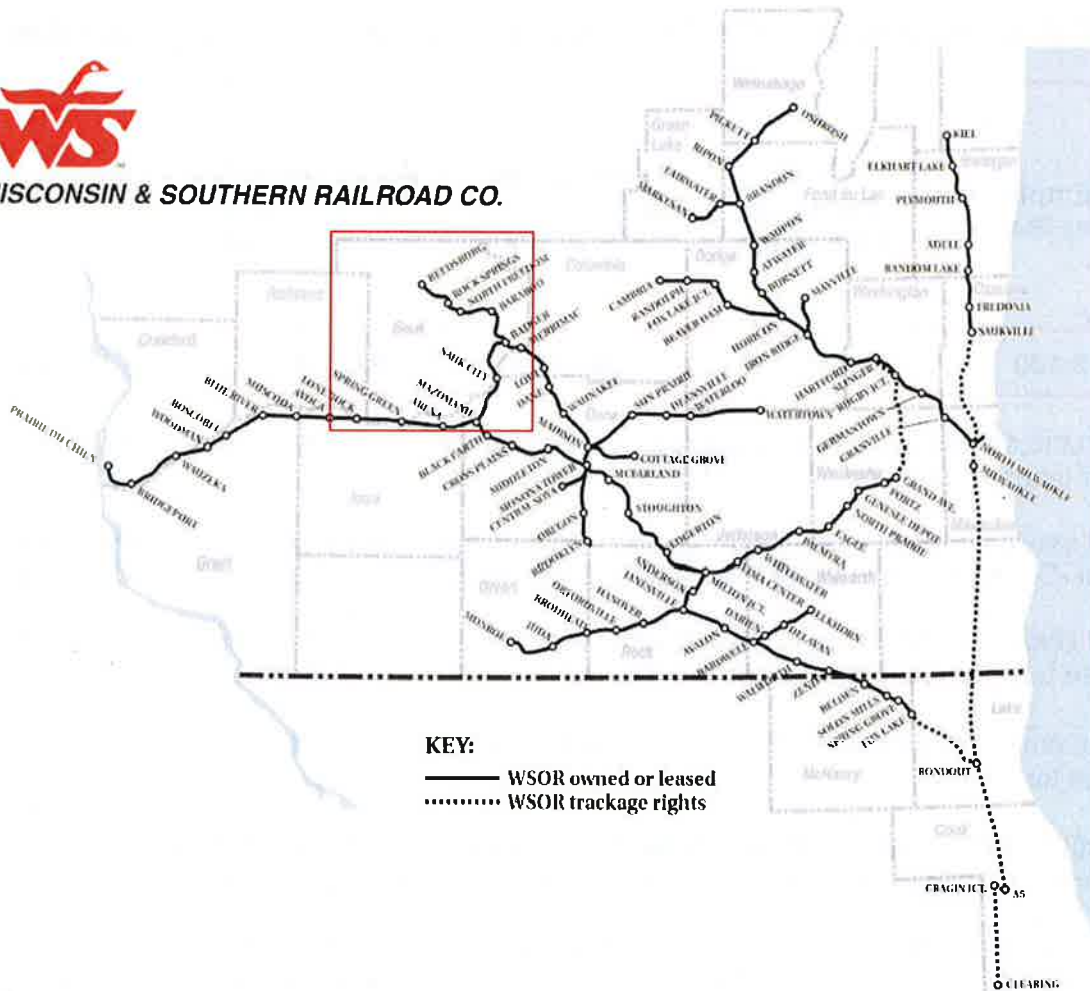
## Transportation and Environmental Benefits

One 80,000 lb truck does highway damage equivalent to 9,600 automobiles. Each railcar carries approximately 3 – 4 truckloads, depending on the commodity. For example, a 40-car train equates to at least 120 truckloads and its diversion to trucks may result in roadway damage equal to the traffic of more than 1 million automobiles. Freight moved by rail improves highway safety and congestion, and reduces dependence on foreign oil by offering a more fuel-efficient alternative. Short line and regional railroads offer shippers a cost effective and environmentally favorable transportation option.

## SAUK COUNTY



WISCONSIN & SOUTHERN RAILROAD CO.



**Wisconsin & Southern Railroad Co. March 2010**  
**Recently Emerged Critical Structure Condition Photos/Synopsis**  
**Prairie Subdivision & Fox Lake Subdivision**

**Bridge B-260 MP 183.8 Prairie Subdivision, Wisconsin River, Lone Rock, WI- March 2010 Critical Concrete Conditions**

Inspection revealed severe critical shear cracked, spalling and displaced concrete condition in load bearing areas of substructure unit pier 2 and pier 3 that was unobserved in previous site visit in fall of 2009.

The shear cracks have created a slip plane compromising the integrity of the pier shaft to safely transfer and distribute the live load (train loading) to the substructure footing, necessitating twice weekly inspections for changes and or settlement as degradation could advance rapidly and cannot be predicted. Any further degradation or detectible settlement will warrant structure removal from service immediately and follow up inspection by a structural engineer to determine if train operations can resume and under what circumstances.

Contractor effected repairs would consist of removal of degraded concrete, installation of steel bearing grillage to allow structure to remain in service during repairs, and replacement of degraded areas with steel reinforced cast in place concrete. Costs to perform the B-260 concrete repairs are estimated at \$173,000.00.



B-260 Concrete Conditions Pier 2 - 6/12/07 View West



B-260 Concrete Shear Crack, Pier 2 -3/9/10 View West



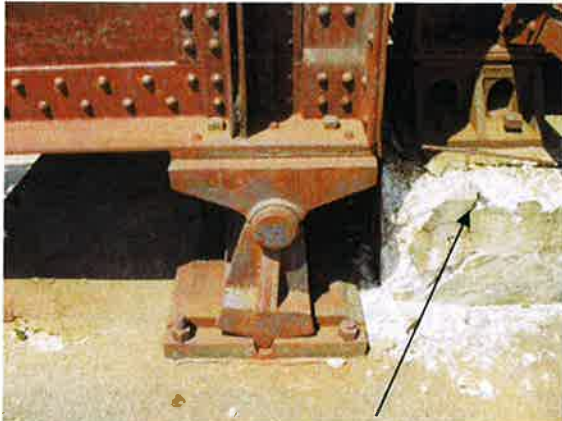
B-260 Concrete Shear Crack, Pier 2 -3/9/10 View East



B-260 Concrete Shear Crack, & Concrete Erosion/ Pop outs at Cold Joint at Waterline Pier 2 -3/9/10 View West



Bridge B-260 MP 183.8 Prairie Subdivision, Wisconsin River, Lone Rock, WI– March 2010 Critical Concrete Conditions  
(continued)



B-260 Surface Spalled Concrete Bearing 5 Riser, Pier 3, Span 8 -6/12/07



B-260 Shear Fractured Concrete -25% of Load Bearing Area, Bearing 5 Riser, North Face, Pier 3, Span 8 -3/9/10



Fracture Detail Depth Bearing 5 Riser, North Face, Pier 3 -3/9/10



Fractured/Displaced Concrete Load Bearing 5 Riser, West Face, Pier 3 -3/9/10

Bridge B-260 MP 183.8 Prairie Subdivision, Wisconsin River, Lone Rock, WI– March 2010 Critical Timber Conditions

Inspection revealed severe splayed cracked, shear cracked and decayed timber stringers, pile caps, and frame bent in the east timber approach trestle that did not exist in previous site visit in fall of 2009.

Stinger 1, span 1 was found to be splintered at the east bearing end as well as decay voided behind the connection angle. Pile caps in bents 3 and 5 exhibited moderate vertical cracks throughout length and shear cracks emanating from the primary pile load bearing points. Additionally the sub cap of frame bent 6 was found to be shear cracked and displaced at the seat. The timber conditions exhibited warrant prompt remedial action to preclude an out of service condition from arising. Additionally, tie condition on steel through girder spans 14 and 15 has degraded sufficiently that 60% of the rail holding spikes were found to be missing, in some areas 12 consecutive ties in a row. These areas were re-spiked then double spiked at time of inspection to allow the structure to remain in service but tie decay is sufficiently advanced that complete replacement of ties on spans 14 & 15 is warranted within the very near future if structure is to remain in service.

Repairs to stringers, pile caps and frame sub cap are planned by WSOR forces with inventoried materials within the next few weeks. Cost for WSOR performed repairs (labor and materials) are estimated at \$9,516.60.

Contractor effected complete timber tie deck replacement of spans 14 & 15 repairs bridge B-260 repairs are estimated at \$76,641.00.

Bridge B-260 MP 183.8 Prairie Subdivision, Wisconsin River, Lone Rock, WI- March 2010 Critical Timber Conditions



B-260 Splayed Cracking/Crushing Stringer 1, Span 1



B-260 Sub Cap(lower) Frame Bent 6 Cracking/Crushing (pier 1)



B-260 Tie Deck Span s 14 & 15 June 2007 View East



B-260 Tie Deck Span s 14 & 15 March 2010 View East  
(Note 12 Consecutive Ties Missing Spikes in Foreground)



B-260 Typical Tie Deck Condition Spans 14 & 15 March 2010



B-260 Typical Tie Deck Condition Spans 14 & 15 March 2010



Bridge B-310 MP 215.74 Prairie Subdivision, Wisconsin River, Lone Rock, WI- March 2010 Critical Concrete Conditions

March 2010 cursory inspection revealed serious diagonal shear crack in the concrete load bearing area of pier 2, emanating from bearing 1, and extending to sides and exiting the south pier nose, which did not exist in previous inspections. Additionally the structure exhibits additional alignment rotation in draw span due to field fitted and insufficiently secured wedge bearing keepers at rest pier3 and 5 bearings when structure was secured from opening by the Milwaukee Road.

The shear crack in pier 2 has compromised the integrity load bearing concrete immediately adjacent to the bearing seat which will lead to further extensive, increasingly rapid, concrete degradation and eventual loss of serviceability. Rotation of the draw span is causing uneven load distribution across the bearing shoe system and displacing the wedge bearings, which if allowed to continue will allow the beams to become unsupported creating an out of service condition with an expensive repair.

While not yet as serious as shear cracks exhibited in structure B-260 at Lone Rock, the shear crack growth rate appears is significant at pier 2 bridge, B-310 and necessitates weekly inspections for changes and or settlement as degradation could advance rapidly and cannot be predicted. Any further degradation or detectible settlement will warrant structure removal from service immediately and follow up inspection by a structural engineer to determine if train operations can resume and under what circumstances, as the two main beam design, is non-redundant and degradation failure of the load bearing concrete could cause span displacement and derailment under train loading.

Contractor effected repairs would consist of removal of degraded concrete, installation of steel bearing grillage to allow structure to remain in service during repairs, and replacement of degraded area with steel reinforced cast in place concrete, and realignment of draw span and permanent bearing fixation to prevent further rotation. Costs to perform the B-310 concrete repairs and draw span alignment are estimated at \$148,000.00.



B-310 Concrete Shear Crack Pier 2 - 3/11/10 View West



B-310 Concrete Shear Crack, Pier 2 -3/11/10 View East



B-310 Concrete Bulging Shear Crack, Pier 2 -3/11/10 View South



B-310 Misalignment of Draw Span View West

Bridge B-318 MP 218.77 Prairie Subdivision, Kickapoo River, Wauzeka, WI- March 2010 Critical Timber Conditions

Inspection revealed severe splayed cracked, shear cracked and decayed timber stringers, pile cap bent 6, and frame bent 12 in the 11 span east timber approach trestle. The general stringer condition exhibited in this structure is fair to poor as the stringers are nearing the end of their life span (age) and coupled with the low capacity (overloaded) settling bent conditions contributing to greater flexural strain, rapid stringer degradation failure is occurring and will be ongoing until complete replacement of the timber approach is effected.

Replacement of stringer 1 spans 1 & 2 and stringers 1 & 2 spans 4, 5 & 6, pile cap bent 6 and total replacement of frame bent 12 are planned by WSOR forces with inventoried materials within the next few weeks. Cost for WSOR performed repairs (labor and materials) are estimated at \$21,874.76.

These critical timber repairs will allow continued operations over the structure at 10 mph but will not address future emergency work arising in remaining original timber through degradation and pile settlement. Planned replacement of east timber approach is warranted within the next 2 to 5 years.

Contractor effected total replacement of B-318 east approach spans 1 through 11 utilizing WSOR Standard Steel Bridge design are estimated at \$836,000.00.



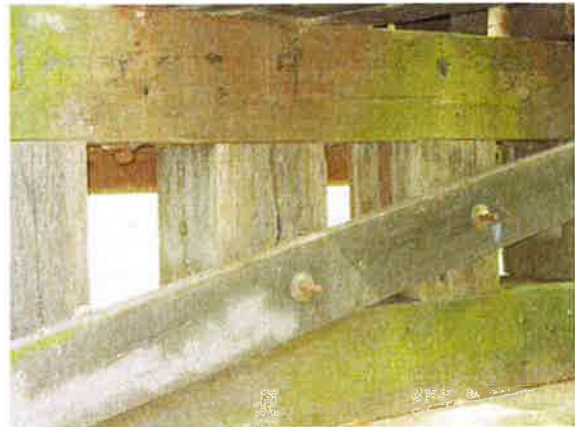
B-318 Bent 6, Typical Condition September 2007



B-318 Bent 6 Pile Cap Fracture Stringer 1 Splayed/ Shear Cracked



B-318 Bent 2, Span 1 & 2 Splayed Cracking/Crushing Stringer 1



B-318 Frame Bent 6 Cracking/Crushing Cap, Posts, & Sub Cap.



Bridge A-440 MP 55.05 Fox Lake Subdivision, Nippersink, Solon Mills, Ill. – March 2010 Critical Concrete Conditions  
(note: this structure is entirely within the State of Illinois)

Inspection revealed severe shear cracked, spalling and displaced concrete condition in load bearing areas of east abutment, substructure unit pier 1 and pier 2 and west abutment that are compromising the integrity of all substructure units. This condition is critical to the stability of the structure since the two main beam design is a non-redundant and degradation failure of the load bearing concrete could cause span displacement and derailment under train loading.

A contract with E-80 Plus Constructors has been approved and signed for repairs consisting of installation of jacking beams, removal of degraded concrete in bearing areas, installation of precast concrete bearing blocks to allow structure to remain in service during repairs, and replacement of remaining degraded areas with steel reinforced cast in place concrete. Costs to perform the A-440 concrete repairs are based at a not to exceed quote of \$165,480.00.



A-440 Concrete Conditions East Abutment Bearing 2



A-440 Concrete Shear Cracks, Bearing 1, Pier 2



A-440 Concrete Shear Crack Under and Past Bearing 1, Pier 1



A-440 Concrete Conditions East Abutment Bearing 1



Bridge A-444 MP 57.37 Fox Lake Subdivision, (over)Hwy 12, Richmond, Ill. – March 2010 Critical Concrete Conditions  
(note: this structure is entirely within the State of Illinois)

Inspections over the last 15 years reported continued deterioration of the concrete bearing shafts and wingwalls in the east and west abutments, which has now progressed substantially, with structure exhibiting shear cracks under bearings, and heavy spalling and pop-outs occasionally displacing concrete into the roadway prompting calls from the Richmond Ill. Police Department.

Shear cracking and concrete delamination are compromising the integrity of the distribution of the live load (train loading) to the substructure and further degradation could advance rapidly and cannot be predicted. Any further degradation or detectable settlement will warrant structure removal from service immediately and follow up inspection by a structural engineer to determine if train operations can resume and under what circumstances.

Contractor effected repairs would consist of removal of degraded concrete, installation of steel bearing grillages to allow structure to remain in service during repairs, and replacement of degraded areas with steel reinforced cast in place concrete. Costs to perform the A-444 concrete repairs are estimated at \$295,000.00.



A-444 Concrete Conditions East Abutment Sept. 2009 View North



A-444 East Abutment Shear Cracks, Bearing Shaft & Bearings 1 & 2



A-444 West Abutment Shear Cracks, Under Bearings 1 & 2 and Bearing Shaft



A-444 Vertical Column Cracks, Bearing Shaft & North West Wingwall

Bridge A-446 MP 57.50 Fox Lake Subdivision, (over)Trail, Richmond, Ill. – March 2010 Critical Concrete Conditions  
(note: this structure is entirely within the State of Illinois)

Joint WSOR/WDOT inspections of this structure since opening of this subdivision in 1989 reported on deterioration of the concrete bearing shafts and wingwalls in the east and west abutments and recommended study for repair or replacement due to its massive extent, and lack of necessity after abandonment of the former CNW rail line (under) at this location. Concrete deterioration has advanced substantially within the last year, and the structure is exhibiting large shear cracks under bearings, embedment of bearing shoes into concrete bearing seats, and heavy spalling is displacing concrete from the bearing shafts and wingwalls. In addition to the concrete deficiencies the open timber tie deck is poor, with numerous split and soft ties which are shifting due to decay around the anchor hardware and rail holding spikes.

Due to the extent of the shear cracks and concrete delamination further degradation could advance rapidly and cannot be predicted. Any further degradation or detectable settlement will warrant structure removal from service immediately and follow up inspection by a structural engineer to determine if train operations can resume and under what circumstances.

**Repair Options:**

Replace timber tie deck with WSOR Forces as soon as material is available for an estimated cost (labor and materials) \$10,110.25.

Contractor effected repairs would consist of removal of degraded concrete, installation of steel bearing grillages to allow structure to remain in service during repairs, and replacement of degraded areas with steel reinforced cast in place concrete. Costs to perform the A-446 concrete repairs are estimated at \$369,000.00.

Investigate if Illinois Trail Authority would allow replacement of existing structure with a 12' X 12' concrete box type structure (or similar) and replace opening with a standard fill section with a general cost estimate of \$ 203,500.00.  
(note: this scenario could take longer for approval by all parties involved than remaining structure life span will provide)



A-446 West Abutment Shear Cracks, Under Bearings and Bearing Shaft



A-446 East Abutment Shear Cracks, Bearing Shaft & North East Wingwall



A-446 Bearing Embedment into Bearing Seat Typical at all Bearings



A-446 Typical Tie Deck Condition Entire Structure



Bridge A-454 MP 63.61 Fox Lake Subdivision, (over State Line Road), Hebron, Ill. – March 2010 Critical Concrete Conditions  
(note: this structure is entirely within the State of Illinois)

Similar to structure A-446, joint WSOR/WDOT inspections of this structure since opening of this subdivision in 1989 reported on deterioration of the concrete bearing shafts and wingwalls in the east and west abutments and recommended study for repair or replacement due to its massive extent. Concrete deterioration has advanced substantially within the last year, and the structure is exhibiting shear cracks in the bearing shafts, embedment of bearing shoes into concrete bearing seats sufficient to cause stringer beam 1 to begin to rotate out of position, and moderate spalling is displacing concrete from the bearing shafts and wingwalls into the roadway.

Due to the extent of the shear cracks and comprised concrete integrity further degradation could advance rapidly and cannot be predicted, therefore, a 10 m.p.h. slow order has been placed on the structure commensurate with required twice weekly inspections for changes and or settlement. Any further degradation or detectible settlement will warrant structure removal from service immediately and follow up inspection by a structural engineer to determine if train operations can resume and under what circumstances.

Contractor effected repairs would consist of; jacking structure to correct profile deficiencies and installation of temporary shoring towers, removal of degraded concrete bearing seats and wingwalls, installation of precast concrete bearing blocks to allow structure to remain in service during repairs, and replacement of remaining degraded concrete areas with steel reinforced cast in place concrete. E-80 Plus Constructors has tendered a repair cost for structure A-454 repairs based at a not to exceed quote of \$228,826.00.



A-454 West Abutment Concrete Condition September 2007



A-454 West Abutment Shear Cracks, Bearing Shaft November 2009



A-454 East Abutment Shear Cracks, Bearing Embedment January 2010



A-454 West Abutment Stringer Beam 1 Rotation/Embedment January 2010

Bridge A-458 MP 65.0 Fox Lake Subdivision, (over HWY 120), 2.4 miles east of Zenda, WI– March 2010 Critical Concrete Conditions (note: this structure is entirely within the State of Wisconsin)

Inspection revealed severe critical shear cracked, movement displaced concrete condition at bearing 1 and sub linear shear cracking around the remaining circumference of pier 1 with similar beginning stage emanating shear cracks exhibited around and under the bearing seats of pier 2, conditions that were very advance from what was observed in previous site visits in spring of 2009. Additionally marked timber deterioration; splayed fracture and member compression was noted in timber pile trestle approach frame bent 3, pier 1 and frame bent 4, pier 2 as well as increased subsidence in track profile on east and west timber trestle approaches due to long standing out of profile conditions leading to pile settlement.

The shear cracking has compromised the integrity of pier 1 to adequately transfer and distribute the live load (train loading) requiring placement of a 10 m.p.h. slow order on the structure and twice weekly inspections for changes and or settlement as degradation could advance rapidly and cannot be predicted. The fact that the fractured pier 1 section is visibly open at the bottom indicates active rotation and further movement threatens to displace approximately 1.5 cubic yards of concrete into the roadway. Any further degradation or detectible settlement will warrant structure removal from service immediately and follow up inspection by a structural engineer to determine if train operations can resume and under what circumstances. The degraded timber condition of frame bents 3 and 4 and subsided trestle approaches are increasing the impact live load to piers 1 and 2 contributing to concrete degradation as well as timber fracture in the approach structures.

Contractor effected repairs would consist of removal of degraded concrete, installation of precast concrete bearing blocks to allow structure to remain in service during repairs, and replacement of remaining degraded concrete areas of piers 1 and 2 with steel reinforced cast in place concrete. Repairs would also include replacement of timber frame bents 3 and 4 with precast concrete riser elements and installation of deeper section pile caps on bents 1, 2, 5, & 6 to correct profile deviations and arrest pile settlement. E-80 Plus Constructors has tendered a repair cost for structure A-458 repairs based at a not to exceed quote of \$254,968.00 however use of WDOT funds will require the project to undergo engineered bid development, and bid letting.



A-458 View Elevation South September 2007



A-458 Pier 1 Shear Crack, Bearing 1 January 2010



A-458 Pier 2 Shear Cracks around Pier Periphery January 2010



A-458 Typical Timber Trestle Approach Settlement January 2010



**Wisconsin & Southern Railroad Co. March 2010**  
**Recently Emerged Critical Structure Condition Repairs**  
**Prairie Subdivision & Fox Lake Subdivision**  
**Summary Table March 2010**

	Subdivision	Location	Structure No.	Mile Post	Repair Function	Repair Priority	Estimated Cost	Repair Source
1	Prairie	Wisconsin Lone Rock	B-260	183.8	Removal of degraded concrete piers 2 and 3, installation of steel bearing grillage to allow structure to remain in service during repairs, and replacement of degraded concrete areas with steel reinforced cast in place concrete.	Critical	\$173,000.00	Project Undeveloped Contractor Undetermined
2	Prairie	Wisconsin Lone Rock	B-260	183.8	Replace Stringer 1, Span 1, replace pile cap bent 3 & 5 and sub cap bent 6 on east timber trestle approach.	Critical	\$9,516.60	WSOR Forces Scheduled
3	Prairie	Wisconsin Lone Rock	B-260	183.8	Replace entire tie deck spans 14 & 15	Severe	\$76,641.00	Project Undeveloped Contractor Undetermined
4	Prairie	Wisconsin Woodman	B-310	215.7	Removal of degraded concrete piers 2 installation of steel bearing grillage to allow structure to remain in service during repairs, replacement of degraded concrete areas with steel reinforced cast in place concrete, and realignment and securing of bearings.	Critical	\$148,000.00	Project Undeveloped Contractor Undetermined
5	Prairie	Wisconsin Wauzeka	B-318	218.8	Replacement of stringer 1 spans 1 & 2 and stringers 1 & 2 spans 4, 5 & 6, pile cap bent 6 and total replacement of frame bent 12	Critical	\$21,874.76	WSOR Forces Scheduled
6	Fox Lake	Illinois Solon Mills	A-440	55.05	Installation of jacking beams, removal of degraded concrete in bearing areas, installation of precast concrete bearing blocks to allow structure to remain in service during repairs, and replacement of remaining degraded areas with steel reinforced cast in place concrete, in east and west abutments and piers 1 & 2.	Critical	\$165,480.00	E-80 Plus Constructors Contract Signed 3/16/10
7	Fox Lake	Illinois Richmond	A-444	57.37	Removal of degraded concrete, installation of steel bearing grillages to allow structure to remain in service during repairs, and replacement of degraded concrete areas with steel reinforced cast in place concrete in areas of east and west abutments.	Critical	\$295,000.00	Project Undeveloped Contractor Undetermined
8	Fox Lake	Illinois Richmond	A-446	57.5	Replace entire structure tie deck.	Critical	\$10,110.25	WSOR Forces Not Yet Planned
9	Fox Lake	Illinois Richmond	A-446	57.5	Removal of degraded concrete, installation of steel bearing grillages to allow structure to remain in service during repairs, and replacement of degraded concrete areas with steel reinforced cast in place concrete in areas of east and west abutments.	Critical	\$369,000.00	Project Undeveloped Contractor Undetermined
10	Fox Lake	Illinois Hebron	A-454	63.61	Removal of degraded concrete, installation of precast concrete bearing blocks to allow structure to remain in service during repairs, and replacement of degraded concrete areas with steel reinforced cast in place concrete in areas of east and west abutments.	Critical	\$228,826.00	E-80 Quote Received Contract not Signed
11	Fox Lake	Wisconsin Zenda	A-458	65	Removal of degraded concrete, installation of steel bearing grillages to allow structure to remain in service during repairs, and replacement of degraded concrete areas with steel reinforced cast in place concrete in areas of pier 1 and pier 2, replacement of timber frame bent 3 and frame bent 4 with precast concrete elements, installation of deeper section pile caps on bents 1, 2, 5, & 6 to correct profile deviations and arrest pile settlement.	Critical	\$254,968.00	E-80 Quote Received Contract not Signed

Total Cost Estimate Recently Emerged Critical Condition Repairs -Prairie & Fox Lake Subdivisions \$1,752,416.61  
Total Cost Estimate Recently Emerged Critical Repairs -Prairie & Fox Lake Subdivisions - WDOT Property \$684,000.36  
Total Cost Estimate Recently Emerged Critical Repairs - Fox Lake Subdivisions Illinois Property (No WDOT Funding) \$1,068,416.25

Note 1: This Summary Table Does Not include all Repair Options for Every Listed Structure - Please See Text Above for Option Details.  
Note 2: This Summary is a Tabulation of Recently Emerged Critical Structure Conditions and **DOES NOT** include Previously Reported Structure Critical and Priority 2 Conditions.

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