

WisDOT Local Bridge Improvement Assistance Program

Eligible Bridge List Guidance and Template Report Example

INTRODUCTION

WisDOT Bureau of Structures generates the Eligible Bridge List based on current Wisconsin Asset Management practices and policies, to assist local units of government in determining eligible work concepts for bridges. As in previous program cycles, a rehabilitation report is required to be submitted with the application for Local Bridge Program funding. However, to streamline the process for writing rehabilitation reports, template reports have been created for certain work actions to be used in conjunction with the Eligible Bridge List. These template reports are intended to streamline the report writing process for local units of government to use in place of a standard rehabilitation report in some instances.

A local unit of government may propose a bridge work action different than the work action shown on the Eligible Bridge List. If this is desired, a template report may not be used, and a standard rehabilitation report as required in previous program cycles must be submitted.

USING THE ELIGIBLE BRIDGE LIST AND TEMPLATE REPORTS

On the Eligible Bridge List, in the column with the heading 'Base Eligibility', it indicates whether the bridge is eligible for **Rehabilitation** or **Replacement**. For bridges that have a base eligibility of **Rehabilitation**, WisDOT Asset Management has determined, based on various factors, the appropriate work action. This work action is shown in the column with the heading 'Template report to use'. If a work action is shown in this column, the associated template report may be used in place of a standard rehabilitation report. For bridges that have a base eligibility of **Replacement**, "N/A" is shown in the column with the heading 'Template report to use'. As in previous program cycles, no report is required to submit these bridges for replacement, as they have a sufficiency rating of 50 or less.

For a select subset of bridges which have a base eligibility of Rehabilitation, it has been determined that Replacement is the most cost effective option (in lieu of Rehabilitation). For these bridges, 'Replace Structure' will be shown as the work action in the column labeled 'Template Report to use'. Furthermore, the template titled '*Rehabilitation Report for Bridge Local Program Funding – Replace Structure*' may be used in place of the standard rehabilitation report for this subset of bridges.

The following is the list of template reports that can be downloaded from the WisDOT Local Bridge Program website.

- ***Rehabilitation Report for Bridge Local Program Funding – Replace Structure***
- ***Rehabilitation Report for Bridge Local Program Funding – Concrete Overlay****
- ***Rehabilitation Report for Bridge Local Program Funding – Paint***
- ***Rehabilitation Report for Bridge Local Program Funding – Deck Replacement****

*Note: The 'Template report to use' column lists two work actions that do not have template reports: **concrete overlay (with paint as secondary work)**, and **deck replacement (with paint as secondary work)**. For these work actions, the concrete overlay or redeck report should be used, and if painting is to be done with the project, as recommended, paint should be included as a secondary work item listed in the report.

CREATING A COST ESTIMATE

WisDOT Bureau of Structures has provided a cost estimate tool to aid local municipalities in developing structures cost estimates for work to be done under the Local Bridge Program. The tool provides unit costs for various work activities. This tool can be downloaded from the WisDOT Local Program Website.

SUBMITTING A TEMPLATE REPORT

The example in this document shows the user the documents and where to find the information that is needed to fill out the '*Rehabilitation Report for Bridge Local Program Funding – Replace Structure*' template report. Other template reports are similar.

Completed template reports and associated attachments should be sent via email to your WisDOT Regional Local Program Manager for review.

Blank Template Report

Structure ID: _____ Feature On: _____
Date: _____ Feature Under: _____
County: _____ Municipality: _____ of _____

Introduction

This report will serve as the "independently funded engineering study" to determine if bridge _____ in the _____ of _____ meets the eligibility criteria as established in Wisconsin Administrative Code Trans 213.

Bridge Description

_____ is a _____ span _____ bridge built in year _____. The following rehabilitation work has been completed (attach additional page if more space needed):

It is _____ feet long and _____ feet wide. It is _____ Fracture Critical _____ Load Posted
_____ Scour Critical _____ Other: _____

Wisconsin Administrative Code Trans 213

Wisconsin Administrative Code Trans 213 addresses county, city, village, and township funding eligibility for local bridge replacements and local bridge rehabilitation. Local bridges that are deficient and have a sufficiency rating less than or equal to 80 are eligible for replacement funding if replacing the bridge is more cost effective than rehabilitating the bridge.

Bridges that are eligible for replacement must satisfy the following criteria:

1. The proposed replacement is more cost effective than rehabilitating the bridge.

Deficiency Analysis

A bridge is deficient if it is considered structurally deficient (SD) or functionally obsolete (FO). The following table summarizes the appraisal ratings for _____ in comparison to the criteria for being defined as SD or FO. The data was taken from (complete one):

- The most recent Eligible Bridge List, dated _____
- HSIS on _____

Rehabilitation Report for Bridge Local Program Funding - Replace Structure

Structure ID: _____ Feature On: _____
 Date: _____ Feature Under: _____
 County: _____ Municipality: _____ of _____

Deficiency Analysis Table

Description	NBI Item #	Appraisal Rating*	Bridge is SD or FO if one of the following is met:	Eligible?	
Deck Rating	(58)		<=4	Yes	No
Superstructure Rating	(59)		<=4	Yes	No
Substructure Rating	(60)		<=4	Yes	No
Culvert Rating	(62)		<=4	Yes	No
Structural Evaluation	(67)		<=3	Yes	No
Deck Geometry	(68)		<=3	Yes	No
Underclearance	(69)		<=3	Yes	No
Waterway Adequacy	(71)		<=3	Yes	No
Approach Roadway Alignment	(72)		<=3	Yes	No

*Note: NBI appraisal ratings can be found on the Eligible Bridge List or in HSIS.

_____ is considered deficient based on Trans 213 criteria and is therefore eligible for Federal replacement funds.

Replacement Analysis

The following table summarizes the _____ bridge ratings in comparison to Trans 213 criteria for rehabilitation:

Description		Trans 213 Standard	Eligible?
Bridge Sufficiency Rating		80 or less	Eligible
Cost Effective Rehabilitation	No	Rehabilitation is not cost effective	Eligible
Cost Effective Replacement	Yes	Replacement is cost effective	Eligible
Engineering Study	Provided by WisDOT Bureau of Structures	Funded independently	Eligible

_____ meets the replacement criteria in Trans 213 and thus is eligible for Federal replacement funds.

Structure ID: _____ Feature On: _____
 Date: _____ Feature Under: _____
 County: _____ Municipality: _____ of _____

Cost-Effective Replacement

The latest inspection data is used to determine work action eligibility. Initially the current inspection condition data is compared to the eligibility criteria for a work action. If the criteria for one work action are not met, the criteria for a different work action are checked. Work actions are checked in order of most cost-effective. If no work actions are eligible for the current year using the current inspection data, the condition data is deteriorated to project the condition in the next year. The work action criteria are then checked for the projected deteriorated condition data. This process continues until either a work action is found eligible, or until each year of the analysis period is checked and no work actions are found to be eligible based on the projected deteriorated condition data. The analysis period used for this report is seven years.

Recommended Alternative – Replacement

Replacement is a cost-effective alternative for this bridge. Replacement is shown as the recommended alternative on the Eligible Bridge List dated _____ provided by WisDOT. To be recommended

for replacement, one of the following set of criteria must be met using current inspection condition or projected deteriorated condition:

- Substructure NBI \leq 3 AND one of the following:
 - Scour Critical
 - Max Vehicle Weight in HSIS $<$ 80 kips
 - Fracture Critical AND Bridge Age $>$ 50
 - Superstructure NBI \leq 3
 - Deck NBI \leq 3
 - Bridge Age $>$ 75
- Superstructure NBI \leq 3 AND Fracture Critical AND Bridge Age $>$ 40
- Culvert NBI \leq 3
- Deck NBI \leq 3 AND one of the following:
 - Bridge Age $>$ 75
 - Bridge Age $>$ 40 AND Max Vehicle Weight in HSIS $<$ 80 kips

Additional eligible criteria that may be met using current inspection condition is:

- Substructure NBI \leq 4 AND one of the following:
 - The timber piles have 30% or more of the total number of piles in Condition State 4 (CS4)
 - The timber piles have 50% or more of the total number of piles in Condition State 3 (CS3) and Condition State 4 (CS4)

Rehabilitation Report for Bridge Local Program Funding - Replace Structure

Structure ID: _____ Feature On: _____
Date: _____ Feature Under: _____
County: _____ Municipality: _____ of _____

The estimated cost for the structure replacement work is _____

This alternative meets the Trans 213 criteria for Federal bridge replacement funding. However, this report and the scope shown as eligible for funding are subject to review by WisDOT Bureau of Structures (BOS). BOS reserves the right to review the scope and inspection data, and to deny any application in which the recommended scope results from incomplete or inaccurate inspection data or for which a more cost-effective alternative is available.

Appendix

- Most recent inspection report
- Cost estimate

Completed by:

Consultant _____

Owner _____

Other: _____

Eligible Bridge List (Subset)

Bridge Sufficiency Rating

WisDOT Bureau of Structures Eligible Bridge List
Data from May 16, 2023

Item numbers in these columns correspond to NBI Items numbers to be reported in Deficiency Analysis Table in Template Report

Table with columns: Structure #, Region, County, Owner, Municipality, Feature On, Feature Under, Deck Area (sf), Sufficiency, Item 58, Item 59, Item 60, Item 62, Item 67, Item 68, Item 69, Item 71, Item 72, Deficiency, Base Eligibility, Template Report to Use. The table lists bridge data for various counties including Ashland, Barron, Bayfield, Bay Mills, Brown, Buffalo, Calumet, Chippewa, Clark, Columbia, Crawford, Dane, Dodge, Dunn, Eau Claire, and Lincoln.

Inspection Report
(with guidance for filling out report)



Inspection Report for
B-17-366
CTH HH over SPRING CREEK
Jul 13, 2022



If structure is Fracture Critical, it will be indicated here.

Type	Prior	Team Leader	Frequency (mos)	Performed
Routine	07-08-21	Binder, Dustin (6523)	12	X
Interim	08-07-19	Coset, Madison (9025)	0	
Non-Destructive Evaluation	08-07-19	Coset, Madison (9025)	72	
SIA Review	07-09-20	Knaack, William S (7501)	48	X

Start Coordinates		End Coordinates (optional)	
Latitude	44°53'58.16"N	Latitude	
Longitude	91°39'59.62"W	Longitude	
Owner	COUNTY	Maintainer	COUNTY

		Team members	
Time Log	Hours 0	Minutes 29	Jon Hodgson Sarah Knaack
Weather	Temperature (f) 62	Condition Overcast	

Inspector	Name	Number	Signature	Signature Date
	Knaack Jr., William S	7508	<i>William S Knaack Jr.</i> E-signed by William S. Knaack Jr.(wknaack)	07-29-22

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Identification & Location

Feature On: CTH HH	Section Town Range: S13 T28N R11W	Structure Number: B-17-366
Feature Under: SPRING CREEK	County: DUNN	
Location 0.22M E of CTH H-North	Municipality: ELK MOUND	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 40	Bridge Roadway Width: 40.0	Total Length: 25.0
Approach Pavement Width: 26	Deck Width: 42.4	Deck Area (sq ft): 1060

Traffic

Lanes	ADT	ADT year	Traffic Pattern
2	50	2022	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS23	Overburden depth (in): 2.0	Last rating date: 11-04-10	Controlling:
Operating rating: HS38	Deck surface material: BITUMINOUS	Control location:	
Posting:	Emergency Vehicle Weight Limit (tons):		
Re-rate for capacity (Y/N):	Re-rate notes:		

Hydraulic

If bridge is load-posted, it will be indicated here.

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 68.0

Span(s)

of spans

If bridge is scour-critical, it will be indicated here.

Span	Material	Configuration	Depth (in)	Length (ft)	Main
1	STEEL	DECK GIRDER		25.0	Y

Expansion joint(s)

type of superstructure

Temperature:

File:63	New:62
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Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Construction History

"year of construction" and "rehab work and year"

Year	Work Performed
2016	OVERLAY - BITUMINOUS
1998	OVERLAY - BITUMINOUS
1937	NEW STRUCTURE



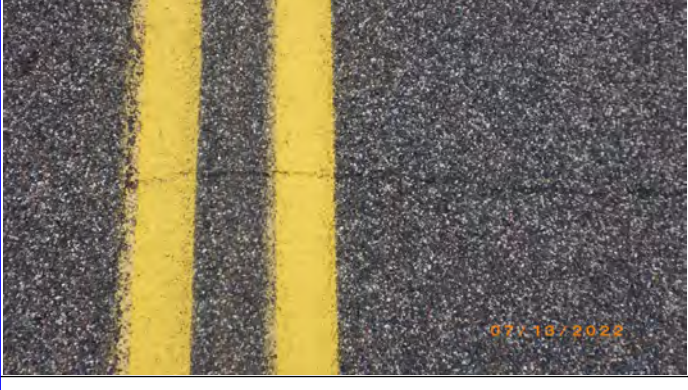
Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Approach - Patch Bituminous	Binder, Dustin (6523)	COMPLETE	10/26/16	2016
Comment: Repare approaches and AC overlay on deck.		Status Comment:		

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Structure No.: **B-17-366**

Maintenance Items				
Item	Priority	Recommended by	Status	Status change
Misc - Other Work	HIGH	Knaack Jr., William S (7508)	IDENTIFIED	07/24/22
Comment: Monitor column decay, girder corrosion. Install steel piles at wings to prevent tipping. Encase timber piles along abutments		Status Comment:		
Deck - Clean and Sweep Deck/Drains	MEDIUM	Knaack Jr., William S (7508)	IDENTIFIED	07/24/22
Comment: Sweep deck of debris at edges Status Comment:				
Approach - Other Work	LOW	Knaack Jr., William S (7508)	IDENTIFIED	07/24/22
Comment: Install proper end treatments at approach guardrail. Status Comment:				
Deck - Seal Surface Cracks	LOW	Knaack Jr., William S (7508)	IDENTIFIED	07/24/22
Comment: Seal cracks in Ac overlay. Status Comment:				



For rehabilitation-type projects, potential Secondary Work activities can be found under Maintenance Items here. Additional input from inspector should be considered when selecting Secondary Work activities to be included.

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Structure No.: **B-17-366**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State					
						1	2	3	4		
X	12		Reinforced Concrete Deck-Black Steel Reinforcing	SF	1,054	0	984	70	0		
		1080	Delamination - Spall - Patched Area Spalls with exposed rebar at drain locations of underdeck. Spalls forming at corners at outside girders and bearings.	SF		0	0	20	0		
		1130	Cracking (RC) Open angular cracks with heavy efflo. at corners of underdeck at outside girders - spalls forming. Hairline map cracking throughout underdeck. Cracking with efflo. at drains.	SF		0	984	50	0		
		8000	Wearing Surface (Bare) SF under railing removed.	SF	201	0	201	0	0		
		3220	Crack (Wearing Surface) Transverse cracks throughout. Could not inspect, covered in pea gravel.	SF		0	175	0	0		
		8911	Abrasion, Wear, or Rutting (Wear. Surf.) Concrete surface weathered with exposed aggregate throughout, no loose aggregate.	SF		0	26	0	0		
		8511	AC Overlay	SF	791	779	12	0	0		
		3220	Crack (Wearing Surface) 12 SF cs2 cracking.	SF		0	12	0	0		
		X	107		Steel Open Girder	LF	245	0	145	100	0
				1000	Corrosion Pack rust, section loss and active corrosion at girder ends at bearings. Spot corrosion and section loss at drain locations, and outside girder flanges. Minor freckled rust on inside girders. Top flange and girder ends - CS3 throughout.	LF		0	145	100	0
8516	Painted Steel			SF	1,470	0	0	1,080	390		
3440	Effectiveness (Steel Protective Coatings) Paint system failed at outside flanges, drains, and bearing ends. Minor freckling throughout.			SF		0	0	1,080	390		
X	216		Timber Abutment Minor decay of timber planks submerged in water.	LF	88	44	44	0	0		
		1140	Decay/Section Loss Minor decay of timber planks at waterline.	LF		0	44	0	0		
X	228		Timber Pile	EA	20	0	0	20	0		
		1140	Decay/Section Loss 2019 resistograph findings only: CS1-14, CS2-5, CS3-1. Wing piles shall not be coded under this element. 8 Wing piles hollow & cracked (Cond. 3/4) P14 SE wing pile - hollow, done (Cond. 4) West Abutment - P3-P5 from North - Decay, brooming at waterline (Cond. 3), P6-P9 - Punky at waterline (Cond. 2). P10-P12 - Decay, brooming at waterline (Cond. 3). East Abutment - P3-P5 from North - Decay, brooming at waterline (Cond. 3), P6-P9 - Punky at waterline (Cond. 2). P10-P12 - Decay, brooming at waterline (Cond. 3). Above is 2019 report. Below is 2022 and beyond. All have measurable section loss if picked.	EA		0	0	20	0		

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X	235		Timber Cap	LF	88	0	88	0	0
			minor splits and deterioration/decay at ends						
		1150	Checks-Shakes-Cracks-Splits-Delam	LF		0	20	0	0
			Minor splits at ends of caps, and some bearings from bolted connections.						
		1180	Abrasion-Wear (Timber)	LF		0	68	0	0
			Timber cap weathered and "drying out", more decay at ends.						
X	313		Fixed Bearing	EA	20	0	0	20	0
			split in caps from bolts, rust/corrosion						
		1000	Corrosion	EA		0	0	20	0
			Pack rust and active corrosion at bearings.						
X	330		Metal Bridge Rail	LF	49	0	46	3	0
			beamguard attached across bridge; scrapes, rusting, paint system failing						
		1000	Corrosion	LF		0	46	0	0
			Original metal bridge rail corroded and paint failing throughout.						
		1080	Delamination - Spall - Patched Area	LF		0	0	3	0
			CS3 spall North side near center 3LF						
X	8400		Integral Wingwall	EA	4	0	1	3	0
			NE top plank split/broke, SE planks moving						
		8902	Wall Movement	EA		0	1	3	0
			SE wing top (4) planks pushing inward +/-3". All 4 wing pilings CS3 decay.						

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Structure No.: **B-17-366**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	9001		Drainage - Ends of Structure	EA	4	4	0	0	0
X	9004		Drainage downspouts rusting, corroded. Drains open	EA	4	0	4	0	0
X	9030		Signs - Object Markers	EA	4	4	0	0	0
X	9041		Slope Protection- Bare No flow (standing water only)	EA	2	2	0	0	0
X	9167		Steel Diaphragm minor rust forming. Freckled rust	EA	9	0	9	0	0
X	9323		Approach Roadway - Asphalt	EA	2	2	0	0	0

NBI Ratings

	File	New
Deck	4	4
Superstructure	5	4
Substructure	4	4
Culvert	N	N
Channel	7	7
Waterway	8	8

Structure Specific Notes

Lots of swallow nests.

Inspection Specific Notes

Inspector Site-Specific Safety Considerations

Low clearance, much.

Routine Specific Procedures

Special Requirements

	Chk	Hours	Cost	Comments
Testing Equipment	X			IML Resistograph 2019, tapes in HSI. Dry suit, waders.

**Underwater Probe Form
B-17-366**

General Site Conditions - Scour

None

General Site Conditions - Embankment Erosion/Conditions

Good

Substructure Notes

Chk	Unit	Max Water Depth(ft)	Mode	Notes
X	Cardinal	3.5	Wade	West Abutment
X	Non Cardinal	3.5	Wade	East Abutment

Routine Item 1

Looking East.



b17-366_22_Rd1.jpg

Routine Item 2

CS3 spall bridge railing curb side.



b17-366_22_Rd2.jpg

Routine Item 3

Looking North.



b17-366_22_Rd3.jpg

Routine Item 4

CS3 decay timber piles, grass growing from pile.



b17-366_22_Rd4.jpg

Linked Element(s):
Timber Pile

Routine Item 5

CS3/4 paint, CS3 corrosion, steel girder.



b17-366_22_Rd5.jpg

Linked Element(s):
Steel Open Girder
Steel Open Girder -> Painted Steel

Routine Item 6

CS3 top flange steel girder



b17-366_22_Rd6.jpg

Linked Element(s):
Steel Open Girder

Routine Item 7

CS3 wingwall pile decay.



b17-366_22_Rd7.jpg

Linked Element(s):
Integral Wingwall

Routine Item 8

CS3 deck spall/crack



b17-366_22_Rd8.jpg

Linked Element(s):

Reinforced Concrete Deck-Black Steel Reinforcing

Routine Item 9

CS3 deck spall at girder.



b17-366_22_Rd9.jpg

Linked Element(s):

Steel Open Girder

Routine Item 10

CS3 fixed bearing corrosion.



b17-366_22_Rd10.jpg

Linked Element(s):

Fixed Bearing

STRUCTURE INVENTORY AND APPRAISAL FIELD REVIEW FORM

B-17-366
CTH HH over SPRING CREEK

LOCATION

(3) Municipality:
 (16) Latitude(° ' "):
 (17) Longitude(° ' "):

ELK MOUND
44°53'58.16"N
91°39'59.62"W

TRAFFIC SERVICE

(28A) Lanes On:
 (28B) Lanes Under:
 (102) Traffic Pattern On:
 (102) Traffic Pattern Under:
 (19) Detour Length(mi):

2	
0	
-NO TRAFFIC -ONE WAY TRAFFIC <input checked="" type="checkbox"/> -TWO WAY TRAFFIC	
<input checked="" type="checkbox"/> -NO TRAFFIC -ONE WAY TRAFFIC -TWO WAY TRAFFIC	
1	

GEOMETRY

(49) Structure Length(ft):
 (50) Sidewalk Width(ft):
 (50) Curb Width(ft):
 (52) Culvert Barrel Length(ft):
 (34) Skew:
 (51) Bridge Roadway Width(ft):
 (52) Deck Width(ft):
 Right Wingwall Length(ft):
 Left Wingwall Length(ft):
 (32) Approach Roadway Width(ft):
 (47) Minimum Horizontal(ft):
 (55) Minimum Right Lateral(ft):
 (56) Minimum Left Lateral(ft):

25.0	
Left: 0.0	Right: 0.0
2.5	
Angle(°):	Direction: -RIGHT FORWARD -LEFT FORWARD
Cardinal	Non-Cardinal
40.0	40.0
42.4	42.4
15.0	15.0
15.0	15.0
40	40
Cardinal Under Clearance	Non-Cardinal Under Clearance

RAILING APPRAISAL

(36A) Bridge Rail Adequacy:
 (36B) Transition Adequacy:
 (36C) Approach Guardrail Adequacy:
 (36D) Guardrail Termination Adequacy:
 Outer Rail:

<input checked="" type="checkbox"/> -SUB-STANDARD -STANDARD -NOT APPLICABLE
<input checked="" type="checkbox"/> -SUB-STANDARD -STANDARD -NOT APPLICABLE
-SUB-STANDARD <input checked="" type="checkbox"/> -STANDARD -NOT APPLICABLE
<input checked="" type="checkbox"/> -SUB-STANDARD -STANDARD -NOT APPLICABLE

Left	Right	Type
		TYPE F (TWO SQUARE TUBES) - STEEL(8)
		TYPE F (3 SQUARE TUBES) - STEEL(65)
		TYPE F (4 SQUARE TUBES) - STEEL(72)
		TYPE M-STEEL 3 SQUARE TUBES(93)
		SLOPED FACE PARAPET LF(91)
		SLOPED FACE PARAPET HF(92)
		VERTICAL FACE PARAPET TYPE A(74)
		TYPE W-THRIE BEAM(79)
		TYPE H ON VERTICAL PARAPET(80)
		TIMBER(38)
X	X	OTHER(99) (Please specify) Left: DOUBLE Z WITH CONCRETE POSTS.(24) Right: DOUBLE Z WITH CONCRETE POSTS.(24)

Transition Type:

X	CONT GUARD RAIL
	NO APP GRDRL
	NO ATTACHMENT
	22 MM(7/8") BOLT (Please enter quantity)
	25 MM(1") BOLT (Please enter quantity)
	OTHER (Please specify)

Approach Attachment Rail Note:
 Guardrail Termination Type:

(2) 6in channel and guardrail across bridge	
	(01) ENERGY ABSORBING TERMINAL/EAT
X	(02) TURN DOWN
	(99) OTHER (Please specify)

Guardrail Termination Note:

buried	
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ROADWAY ALIGNMENT APPRAISAL

(72) Approach Alignment Appraisal:

	3 Intolerable- Substantial speed reduction
	6 Fair- Minor speed reduction
X	8 Good- No speed reduction

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Cost Estimate

Bureau of Structures Cost Estimate Calculations - May 16, 2023				
TYPE OF ACTIVITY	UNIT	UNIT COST*	FORMULA	NOTES
REPLACE STRUCTURE	DECK AREA (SF)	\$220 PER SF	(deck area)*220*1.05	5% multiplier to assume that new bridge is larger than old. 2022 structure costs for a flat slab bridge. January 2022 - September 2022 costs available.
REPLACE DECK	DECK AREA (SF)	\$105 PER SF	(deck area)*105*1.05	5% multiplier to assume the new deck is larger than old. 2019 cost increased by 15%.
REPLACE DECK AND BEARINGS	DECK AREA (SF) BEARINGS (EA)	\$105 PER SF DECK \$3200 PER BEARING	(deck area)*105*1.05+(# of bearings *3200)	See notes for "replace deck" and "repair or replace bearings".
CONCRETE OVERLAY	DECK AREA (SF)	\$46 PER SF	(deck area)*46	Cost is from 2019 data with 15% increase.
CONCRETE OVERLAY AND JOINT REPAIR	DECK AREA (SF) JOINT (LF)	\$46 PER SF DECK \$500 PER LF JOINT	(deck area)*46 + total_length_joint*500	See notes for "concrete overlay" and "joint repair".
CONCRETE OVERLAY, JOINT REPAIR, AND BEARING REHABILITATION	DECK AREA (SF) BEARINGS (EA) JOINT (LF)	\$46 PER SF DECK \$500 PER LF JOINT \$3200 PER BEARING	(deck area)*46 + total_length_joint*500 + (# of bearings*3200)	See notes for "concrete overlay", "joint repair", and "repair or replace bearings".
CULVERT REPLACEMENT	BARREL LENGTH (LF)	\$3600 PER LF	(culvert barrel length) * 3600	Assumes a two-cell concrete box culvert as the replacement structure.
REPAIR OR REPLACE BEARINGS	BEARINGS (EA)	\$3200 PER BEARING	(# of bearings)*3200	Assumes bearings are replaced with laminated elastomeric bearings.
REPAIR OR REPLACE JOINTS	JOINTS (LF)	\$500 PER LF JOINT	total_length_joint*500	Assumes joints to be replaced are strip seals. Cost is from 2023 data and includes strip seal and joint repair.
REPAIR OR REPLACE JOINTS AND BEARINGS	BEARINGS (EA) JOINTS (LF)	\$500 PER LF JOINT \$3200 PER BEARING	total_length_joint*500 + (# of bearings*3200)	See notes for "joint repair" and "repair or replace bearings".
REPAINT SUPERSTRUCTURE	PAINT (SF)	\$38 PER SF	superstructure_paint_area*38	2019 cost + \$15/sf.

*The square foot costs include all items shown on the structure plan except removing old structure. Costs also include a proportionate share of the project's mobilization, as well as structural approach slab costs, if applicable. However, square footage does not include the structural approach slabs, and is based on the length of the bridge from abutment to abutment. (It is realized that this yields a slightly higher square footage bridge cost for those bridges with structural approach slabs.)

Use the Bureau of Structures Cost Estimate tool above to determine the cost estimate for replacing the structure.

Note: The Bureau of Structures Cost Estimate tool includes estimated costs for a variety of work activities. Include estimates for all applicable activity types for rehabilitation projects.

The deck area indicated in the table can be found in the geometry section of the bridge inspection report as shown here:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 40	Bridge Roadway Width: 40.0	Total Length: 25.0
Approach Pavement Width: 26	Deck Width: 42.4	Deck Area (sq ft): 1060

Use the formula in the tool, corresponding to the activity type, to determine the estimated cost for replacement.

$$\text{Estimated Cost} = (\text{deck area}) * 220 * 1.05$$

$$\text{Estimated Cost} = (1060) * 220 * 1.05$$

$$\text{Estimated Cost} = \$244,860$$

Completed Template Report

Structure ID: _____ Feature On: _____
Date: _____ Feature Under: _____
County: _____ Municipality: _____ of _____

Introduction

This report will serve as the "independently funded engineering study" to determine if bridge _____ in the _____ of _____ meets the eligibility criteria as established in Wisconsin Administrative Code Trans 213.

Bridge Description

_____ is a _____ span _____ bridge built in year _____. The following rehabilitation work has been completed (attach additional page if more space needed):

It is _____ feet long and _____ feet wide. It is _____ Fracture Critical _____ Load Posted
_____ Scour Critical _____ Other: _____

Wisconsin Administrative Code Trans 213

Wisconsin Administrative Code Trans 213 addresses county, city, village, and township funding eligibility for local bridge replacements and local bridge rehabilitation. Local bridges that are deficient and have a sufficiency rating less than or equal to 80 are eligible for replacement funding if replacing the bridge is more cost effective than rehabilitating the bridge.

Bridges that are eligible for replacement must satisfy the following criteria:

1. The proposed replacement is more cost effective than rehabilitating the bridge.

Deficiency Analysis

A bridge is deficient if it is considered structurally deficient (SD) or functionally obsolete (FO). The following table summarizes the appraisal ratings for _____ in comparison to the criteria for being defined as SD or FO. The data was taken from (complete one):

- The most recent Eligible Bridge List, dated _____
- HSIS on _____

Rehabilitation Report for Bridge Local Program Funding - Replace Structure

Structure ID: _____ Feature On: _____
 Date: _____ Feature Under: _____
 County: _____ Municipality: _____ of _____

Deficiency Analysis Table

Description	NBI Item #	Appraisal Rating*	Bridge is SD or FO if one of the following is met:	Eligible?	
Deck Rating	(58)		<=4	Yes	No
Superstructure Rating	(59)		<=4	Yes	No
Substructure Rating	(60)		<=4	Yes	No
Culvert Rating	(62)		<=4	Yes	No
Structural Evaluation	(67)		<=3	Yes	No
Deck Geometry	(68)		<=3	Yes	No
Underclearance	(69)		<=3	Yes	No
Waterway Adequacy	(71)		<=3	Yes	No
Approach Roadway Alignment	(72)		<=3	Yes	No

*Note: NBI appraisal ratings can be found on the Eligible Bridge List or in HSIS.

_____ is considered deficient based on Trans 213 criteria and is therefore eligible for Federal replacement funds.

Replacement Analysis

The following table summarizes the _____ bridge ratings in comparison to Trans 213 criteria for rehabilitation:

Description		Trans 213 Standard	Eligible?
Bridge Sufficiency Rating		80 or less	Eligible
Cost Effective Rehabilitation	No	Rehabilitation is not cost effective	Eligible
Cost Effective Replacement	Yes	Replacement is cost effective	Eligible
Engineering Study	Provided by WisDOT Bureau of Structures	Funded independently	Eligible

_____ meets the replacement criteria in Trans 213 and thus is eligible for Federal replacement funds.

Structure ID: _____ Feature On: _____
Date: _____ Feature Under: _____
County: _____ Municipality: _____ of _____

Cost-Effective Replacement

The latest inspection data is used to determine work action eligibility. Initially the current inspection condition data is compared to the eligibility criteria for a work action. If the criteria for one work action are not met, the criteria for a different work action are checked. Work actions are checked in order of most cost-effective. If no work actions are eligible for the current year using the current inspection data, the condition data is deteriorated to project the condition in the next year. The work action criteria are then checked for the projected deteriorated condition data. This process continues until either a work action is found eligible, or until each year of the analysis period is checked and no work actions are found to be eligible based on the projected deteriorated condition data. The analysis period used for this report is seven years.

Recommended Alternative – Replacement

Replacement is a cost-effective alternative for this bridge. Replacement is shown as the recommended alternative on the Eligible Bridge List dated _____ provided by WisDOT. To be recommended for replacement, one of the following set of criteria must be met using current inspection condition or projected deteriorated condition:

- Substructure NBI \leq 3 AND one of the following:
 - Scour Critical
 - Max Vehicle Weight in HSIS $<$ 80 kips
 - Fracture Critical AND Bridge Age $>$ 50
 - Superstructure NBI \leq 3
 - Deck NBI \leq 3
 - Bridge Age $>$ 75
- Superstructure NBI \leq 3 AND Fracture Critical AND Bridge Age $>$ 40
- Culvert NBI \leq 3
- Deck NBI \leq 3 AND one of the following:
 - Bridge Age $>$ 75
 - Bridge Age $>$ 40 AND Max Vehicle Weight in HSIS $<$ 80 kips

Additional eligible criteria that may be met using current inspection condition is:

- Substructure NBI \leq 4 AND one of the following:
 - The timber piles have 30% or more of the total number of piles in Condition State 4 (CS4)
 - The timber piles have 50% or more of the total number of piles in Condition State 3 (CS3) and Condition State 4 (CS4)

Rehabilitation Report for Bridge Local Program Funding - Replace Structure

Structure ID: _____ Feature On: _____
Date: _____ Feature Under: _____
County: _____ Municipality: _____ of _____

The estimated cost for the structure replacement work is

This alternative meets the Trans 213 criteria for Federal bridge replacement funding. However, this report and the scope shown as eligible for funding are subject to review by WisDOT Bureau of Structures (BOS). BOS reserves the right to review the scope and inspection data, and to deny any application in which the recommended scope results from incomplete or inaccurate inspection data or for which a more cost-effective alternative is available.

Appendix

- Most recent inspection report
- Cost estimate

Completed by:

Consultant

Owner

Other: