REHABILITATION STRUCTURE SURVEY REPORT

DT1696 6/2012

Wisconsin Department of Transportation

RECEIVED
5/31/2019
BUREAU OF STRUCTURES

☐ **Grade Separation** ☒ **Stream Crossing** ☐ **Culvert**

☐ **Railroad** ☐ **Retaining Wall** ☐ **Noise Barrier**

☐ **Sign Structure** ☐ **Other:** _____

For guidance see: **http://dotnet/dtid_bos/extranet/structures/reports-checklists.htm**

Design Project ID 1100-17-09	Construction Project ID 1100-17-79	Highway (Project Name) IH 41/USH 41 Bridge Overlays		
Final Plan Due Date 03/01/2020	Preliminary Plan Due Date 06/01/2019	☒ Town ☐ Village ☐ City Wayne		
PS&E Date 05/01/2020	Letting Date TBD	County Washington		
Structure Number B-66-189		Section 29	Town 12 N	Range 18 E
Station 1632+88.20	Latitude: 43 deg 29'01" Longitude: 88 deg 21'59"	☒ YES ☐ NO Structure Located on National Highway System		
For Survey and CADD Files Horizontal Coordinate System: Wisconsin County Coordinate System (WCCS), Washington County, NAD 1983 (2007) Vertical Datum: North American Vertical Datum (NAVD) 1988		**Traffic Forecast Data**		
		Design Year	Average Daily Traffic (ADT)	Roadway Design Speed / Functional Class
Feature On USH 41 SB		Feature On 41	35,290 (2041)	70 MPH / Interstate - Urban
Feature Under Kohlsville River		Feature Under 0	NA	NA / NA
Region Contact: Evan Limberatos, PE (Area Code) Telephone Number(s): (262) 548-8797 Email: Evan.Limberatos@dot.wi.gov		Consultant Contact: Steven Schmitt, PE (Area Code) Telephone Number(s): (262) 821-1171 Email: sschmitt@ksinghengineering.com		

Work To Be Performed

Field Information Required
Item Number *(see Pages 2–4)*

- ☐ A. Structural Repair 1–3, 22
- ☒ B. Overlay 1–3, 10–22, 26–28, 32, 34
  - ☐ Concrete Overlay ☐ Asphalt Overlay
  - ☐ Polymer Modified Asphalt Overlay ☒ Thin Bonded Polymer Overlay
  - ☐ Other: _____
- ☐ C. New Bearings 3, 8, 9, 22
- ☐ D. New Railings 15–17, 20–23
- ☐ E. Curb and Sidewalk Repair 2, 3, 16, 22, 23
- ☐ F. Abutment Repair 2, 3, 12, 16
- ☐ G. Pier Repair 2, 3, 12, 16
- ☐ H. New Deck 1–6, 9, 10, 13–28, 32–34
- ☐ I. Widening 1–28, 30, 32–35
- ☐ J. Joint Repair 2, 3, 8, 16, 19, 22
- ☐ K. Surface Repair 2, 3, 22
- ☐ L. Raising Bridge 3, 6, 9, 16, 20–24
- ☐ M. Slope Stabilization 1–3, 30
- ☐ N. Scour Repair ..... 1, 2 or 3, 16, 19, 21, 27, 29, 31–35
- ☐ O. Painting 16, 22, 24
- ☐ P. Other: _____

Field Information Required

If no structure number exists provide the following: Small County Map on which the location of proposed structure is shown in red and any highway relocation in green. In addition, provide Location Map of scale not less than 1" = 2000' showing the structure location and number.

☒ 1. Most recent inspection report, brief history of bridge construction date, and description of repairs with dates.

☒ 2. Outline deficient areas on existing structure plan or drawing.

☒ 3. Photographs of details requiring repairs or modifications, such as: bearings, x-frames, joints, etc. Photograph all deficient areas. Clearly label all photographs.

☐ 4. Provide proposed typical section for roadway and structure showing dimensions and cross slopes.

☐ 5. Survey beam seat or girder elevations at both sides of bridge at all substructure units.

☐ 6. Provide cross-section elevations at 10 foot intervals extending across the structure and a minimum of 100 feet beyond each end. Sections should be normal to centerline and show elevations at centerline roadway and gutter line. Take elevations along joints and at floor drains.

☐ 7. Show and identify starting stationing on bridge.

☐ 8. Record measurement, temperature of the structure, and date taken for each of the following:
(a) Joint opening measured normal to joint at centerline of roadway and both curb lines.
(b) Clearance between girder ends at piers.
(c) Distance from front face of abutment backwall to closest point of girder end measured parallel to girder.
(d) Temperature of structure determined by averaging top and under deck (if accessible) readings.

☐ 9. Fixed and expansion bearings - condition and orientation.

☒10. Number and width of proposed pours including construction staging sequence.

☒11. Location of existing construction joints in the deck.

☒12. Estimated Quantities:

Preparation, Decks, Type 1	Sq. Yd. TBD	
Preparation, Decks, Type 2	Sq. Yd. TBD	
Full Depth Deck Repair	Sq. Yd. NA	Galvanic Anodes? NA
Concrete Surface Repair Superstructure	Sq. Ft. NA	Galvanic Anodes? NA
Concrete Surface Repair Substructure	Sq. Ft. NA	Galvanic Anodes? NA
Curb Repair	LF. TBD	Galvanic Anodes? NA

☒13. Sufficiency number: 97.4 (obtain from HSI Bridge Inventory System)

☒14. Appraisal and Condition Rating

	Deck Condition	Superstructure Condition	Substructure Condition	Load Capacity Appraisal	Structural EVAL Appraisal
Current	9 - Excellent	9 - Excellent	9 - Excellent	5 - Legal Load Stress Not Exceeded	9 - Condition Exceed Desirable Criteria

☒ 15. Load Ratings

	Inventory	Operational
Current Calculated Date: 1/20/2016	RF 1.59	RF 2.07
After Completed by Bridge Designer	TBD	TBD

☒ 16. Utilities on/near Structure. (WisDOT policy is to avoid placing utilities on the structure.)
☐ Yes ☒ No

Type	Owner and Contact Information	Size	Opening at Abutment	Weight	Pressure

☒ 17. Is existing bridge railing deficient?
☐ Yes ☒ No If Yes – Replacement Rail Type:

☒ 18. Drains to be:
☐ Raised ☐ Closed ☐ Downspouted ☐ New

☒ 19. Traffic maintained on bridge during work?
☒ Yes ☐ No If Yes – Include sketches

☒ 20. Will guard rail be attached?
☐ Yes ☒ No If Yes – Which corners?

☒ 21. Will work to be performed eliminate all deficiencies?
☐ Yes ☒ No If No – Explain: Outside of Scope Work

☒ 22. Hazardous waste (asbestos) to be removed?
☐ Yes ☒ No If Yes – Explain:

☐ 23. Wing location(s) for surface drain anchors:

☐ 24. Painting?
☐ Yes ☐ No If Yes – Explain on Page 4
(all, part, railing, color system, containment, bid items)

☐ 25. Desired roadway width: *(new deck / widening)* _____ Ft.
Desired sidewalk clear width: Left: _____ Ft. Right: _____ Ft.

☒ 26. Maximum increase in grade line elevation 0.5 In.

☐ 27. Benchmark description to be shown

☒ 28. Desired final cross slopes on bridge 0.02 Ft./Ft.

☐ 29. Underwater Inspection Report including:
- Streambed Cross Section With Pier, Footing and Seal Elevations
- Pier Elevation Drawings
- Pier Layout
- Hydrographic Survey

☐ 30. Slope stabilization, provide:
Type: _____ Quantity: _____ CY.
Slope: _____ Ft./Ft. Fill: _____ CY.

☐ 31. Preliminary layout of grout bags or proposed scour repair.
C.I.P. Articulated Mats (for Scour) _____ CY.
Grout Bags (for Scour) _____ CY.
Heavy Riprap _____ CY.
Extra Heavy Riprap _____ CY.

☒ 32. Report submitted with Preliminary Plan requires **no** CADD file submittal *(See ESubmittal instructions)*.

☐ 33. Report submitted for development of Preliminary Plan to structure design engineer requires CADD file (if available) submittal and Report submittal to Soils Engineer if project involves foundation modifications.

☒ 34. Coordinate with structure design engineer **before** going into the field if existing structure has no available plans, if staged construction is planned, or if there are adjoining/adjacent structures that will remain in place.

☐ 35. If project involves substructure widening coordinate with structure and/or hydraulic design engineer to determine if information on the separation and/or stream crossing SSR will be required.

Additional Information

Elaborate on other concerns such as: DNR, Local, Utility Conflicts, Aesthetics, Railing Type and Staged Construction.
Please be as detailed and specific as possible.

Supplemental Notes to Field Information Required:

1a.) Brief History of the Bridge
New Structure - 2017

1b.) Refer to B-66-0189_oth for most recent inspection report.

2.) Deficient areas are limited to the concrete wearing surface. Polymer overlay shall be applied to the entire travelled roadway width of 55-feet. See B-66-0189_oth for photos of deficient areas from the current inspection report.

10.) STAGE CONSTRUCTION
To be determined during final design.

11.) The improved tensile properties of the polymer overlay will acceptably seal any other joints in the deck.

12.) Quantities of Deck Preparation Type 1 and 2 will be determined during final design following receipt of infared thermograpghy testing report or estimated at a low percentage. The bridge was originally constructed in 2017. Full Depth Repair not anticipated due to the age of the deck. The final plan will include quantities to remove small areas of cracked and / or loose concrete at corners of approach pavement and approach curbs near the end of the deck. The concrete will be replaced under the item "Rapid Set Deck Repair".

13, 14, 15.) These values were taken from the HSI system on February 12, 2019.

16.) Polymer overlay scope of work will not impact or be impacted by any utilities.

18.) There are no existing deck drains on the structure.

19.) Overlay placement sequence and joint locations to be determined by the Contractor during construction.

20.) Guard rail will not be installed. There are beam guards located on all four of the wings. There are no plans to update or add beam guard as part of this project.

26.) Nominal thickness of polymer overlay is 1/4", having no significant impact to the existing grade line.

28.) The existing bridge cross slope will be maintained for polymer overlay.