REHABILITATION STRUCTURE SURVEY REPORT

Wisconsin Department of Transportation

DT1696 6/2012

RECEIVED
8/1/2019
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 1491-21-00	Construction Project ID 1491-21-71	Highway (Project Name) USH 8/141 over Crain Lane		
Final Plan Due Date Sept 1, 2020	Preliminary Plan Due Date Aug 1, 2019	☒ Town ☐ Village ☐ City Pembine		
PS&E Date Nov 1, 2020	Letting Date Mar 9, 2021	County Marinette		
Structure Number B-38-0015		Section 26	Town 37N	Range 20E
Station 1319+05.44	Latitude: 45°38'53.36" N Longitude: 87°57'53.31" W	☒ YES ☐ NO Structure Located on National Highway System		
For Survey and CADD Files Horizontal Coordinate System: Vertical Datum: NAVD88		**Traffic Forecast Data**		
		Design Year	Average Daily Traffic (ADT)	Roadway Design Speed	Functional Class
Feature On USH 8/141		Feature On 2018	4,100	60 mph	Other Principle Arterial-Rural
Feature Under Crain Lane/SOO Line/Peme Bon Won River		Feature Under 2018	200	XX mph	Local-Rural
Region Contact: Paul Zoellner (Area Code) Telephone Number(s): (920) 366-8547 Email: Paul.Zoellner@dot.wi.gov		Consultant Contact: Pat Cashin (Area Code) Telephone Number(s): (414) 359-2300 Email: pcashin@hntb.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. 425	
Preparation, Decks, Type 2	Sq. Yd. 310	
Full Depth Deck Repair	Sq. Yd. 69	Galvanic Anodes? No
Concrete Surface Repair Superstructure	Sq. Ft. _____	Galvanic Anodes? No
Concrete Surface Repair Substructure	Sq. Ft. 100	Galvanic Anodes? Yes
Curb Repair	LF. ____	Galvanic Anodes? _____

☒ 13. Sufficiency number: 64.7 (obtain from HSI Bridge Inventory System)

☒ 14. Appraisal and Condition Rating

	Deck Condition	Superstructure Condition	Substructure Condition	Load Capacity Appraisal	Structural EVAL Appraisal
Current	6	5	5	5	5

☒ 15. Load Ratings

	Inventory	Operational
Current Calculated Date: 8/14/2013	HS17	HS37
After Completed by Bridge Designer		

☒ 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: 42SS

☒ 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? All 4 corners

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

☒ 22. Hazardous waste (asbestos) to be removed?
☒ Yes ☐ No If Yes – Explain: Gaskets under tubular railing posts contain friable asbestos at 60 locations totaling 24 S.F.

☒ 23. Wing location(s) for surface drain anchors: None

☐ 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 In.

☒ 27. Benchmark description to be shown

☒ 28. Desired final cross slopes on bridge 0.01 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.

Work to be Performed:
Concrete overlay with 42SS parapet retrofit
Existing wings will be modified to accommodate 42SS parapets
Replace expansion joint at south abutment
Concrete surface repair at abutments
Debris Containment bid item included since thermography shows full depth deck preparation over railroad. Bridge Manual p. 6-35.

1. See B-38-0015_oth.pdf for most recent inspection report.
   Recent construction history:
   1970 - New Structure
   1982 - Paint Bearing
   1985 - Concrete Overlay
   1988 - Bearing - Misc. Work
   1990 - Repair Deck
   1993 - Repair Joints
   1993 - Repair Deck
   1994 - Repair Joints
   2002 - Concrete Overlay

2. See B-38-0015_oth.pdf for deficient areas.

3. See B-38-0015_pic.pdf for photographs.

8. Joint opening at south abutment not provided in time for preliminary design. The south abutment expansion joint will be completely replaced with deck replacement and to be sized appropriately during final design.

9. All piers are fixed with full depth diaphragms, and north abutment is semi-expansion with full depth diaphragm. The south abutment bearings have been switched to reinforced elastomeric bearings with little maintenance. The scope of work for this project does not include bearing work.

10. The overlay will be poured in two stages to allow for traffic to be maintained on bridge. Each stage will be approximately half of the deck width. See Construction Staging sheet included with preliminary structure plans.

17. Existing bridge railing is old brush style curb with combination railing. These railings are obsolete. New retrofit railing will be 42SS parapet to adhere to current standards. Retrofit detail shown on preliminary bridge plans.

18. No drains on bridge.

19. The new bridge deck will be poured approximately half at a time, with a single traffic lane open in each stage. A portable signal with alternating directions will be used to control traffic through the work zone. See Construction Staging sheet included with preliminary structure plans.

28. Per Region, match existing deck cross-slope.