



REHABILITATION STRUCTURE SURVEY REPORT

Wisconsin Department of Transportation
DT1696 4/2017

RECEIVED
06/27/2019
BUREAU OF STRUCTURES

- ☐ Grade Separation ☒ Stream Crossing ☐ Culvert
☐ Railroad ☐ Retaining Wall ☐ Noise Barrier
☐ Sign Structure ☐ Other: _____

For guidance see: <http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/strct/survey.aspx>

| | | | | |
|--|---|---|---|---|
| Design Project ID 1196-04-02 | Construction Project ID 1196-04-77 | Highway (Project Name) USH 53 | | |
| Final Plan Due Date 3/1/2020 | Preliminary Plan Due Date 6/28/2019 | <input checked="" type="checkbox"/> Town <input type="checkbox"/> Village <input type="checkbox"/> City Chetek | | |
| PS&E Date 5/1/2020 | Letting Date 11/10/2020 | County Barron | | |
| Structure Number B-03-0020 | | Section 31 | Town 33N | Range 10W |
| Station 415+70 | Latitude: 451804.67 Longitude: 913918.11 | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Structure Located on National Highway System | | |
| For Survey and CADD Files Horizontal Coordinate System: NAD83 (2011), Barron County Coordinate System Vertical Datum: NAVD88 (2012) | | Traffic Forecast Data | | |
| Feature On USH 53 SB | | Design Year Feature On 2023 | Average Daily Traffic (ADT) 7,320 | Roadway Design Speed 80 |
| Feature Under Chetek River | | Feature Under | | Functional Class Principal Arterial |
| Region Contact: Brendan Dirkes (Area Code) Telephone Number(s): 715-395-3026 Email: Brendan.Dirkes@dot.wi.gov | | Consultant Contact: Brett Oftedahl (Area Code) Telephone Number(s): 608-251-4843 Email: brett.oftedahl@strand.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: Wing Replacement

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. <u>100</u> | |
| Preparation, Decks, Type 2 | Sq. Yd. <u>50</u> | |
| Full Depth Deck Repair | Sq. Yd. <u>15</u> | Galvanic Anodes? _____ |
| Concrete Surface Repair Superstructure | Sq. Ft. <u>50</u> | Galvanic Anodes? _____ |
| Concrete Surface Repair Substructure | Sq. Ft. <u>60</u> | Galvanic Anodes? _____ |
| Curb Repair | LF. <u>0</u> | Galvanic Anodes? _____ |

☒ 13. Sufficiency number: 93.4 (obtain from HSI Bridge Inventory System)

☒ 14. Appraisal and Condition Rating

| | Deck Condition | Superstructure Condition | Substructure Condition | Load Capacity Appraisal | Structural EVAL Appraisal |
|---------|----------------|--------------------------|------------------------|-------------------------|---------------------------|
| Current | 5 | 6 | 7 | 5 | 6 |

☒ 15. Load Ratings

| | Inventory | Operational |
|---------------------------------------|-------------------------------|-------------------------------|
| Current Calculated Date: 8/21/2013 | HS16 | HS29 |
| After Completed by Bridge Designer | Completed During Final Design | Completed During Final Design |

- ☒ 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? Wing 3 and Wing 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:

- ☐ 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 0.015 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.

Construction History:

1972: New Structure

1992: Concrete Overlay

Anticipated Rehabilitation Work:

The proposed work includes removing existing concrete overlay, placing a new concrete overlay, concrete surface repair at abutments and parapets, replacing wingwalls at all wings, epoxy sealing girder ends (end 3 feet), and cleaning parapets.

Construction Staging:

A single southbound lane will be maintained across the bridge during construction. At a minimum, a 12-foot lane and two 2-foot shoulders (16 feet clear width) is anticipated to be provided at all times. The maintained 16-foot clear width will allow for USH 53 to remain an OSOW Wind Tower Route.

Geotechnical Coordination:

No Geotechnical Services will be required for this rehabilitation project.

Approach Slabs:

ADT is estimated at 7,320 for 2023. Per FDM 14-10-15, Structural/Concrete approach slabs are required for roads with traffic volumes greater than 3,500 ADT, however this is a rehabilitation project and WisDOT Bridge Manual policy states that structural approach slabs shall not be used on rehabilitation projects, unless approved otherwise. After discussions with the Region, concrete approach slabs will be utilized.

Existing Structure Information:

See select existing structure plans and most recent Inspection Report in the "B-03-0020_oth" file.

Asbestos Report:

An asbestos report has been completed and Asbestos Containing Material (ACM) was not detected on the structure. See the "B-03-0020_oth" file for a copy of the report.

Bridge Deck Repair Quantities:

Bridge deck repair quantities (Preparation Decks Type 1, Preparation Decks Type 2, and Full Depth Deck Repair) were provided by the Region.