**REHABILITATION STRUCTURE SURVEY REPORT**

Wisconsin Department of Transportation

DT1696 4/2017

[ ]  **Grade Separation**  [ ]  **Stream Crossing** [ ]  **Culvert**

[x]  **Railroad**  [ ]  **Retaining Wall** [ ]  **Noise Barrier**

[ ]  **Sign Structure** [ ]  **Other:**

For guidance see: [**http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/strct/survey.aspx**](http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/strct/survey.aspx)

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| --- | --- | --- |
| Design Project ID 1067-01-05 | Construction Project ID1067-01-85 | Highway (Project Name)CW RR Bridges B-28-0018,19 |
| Final Plan Due Date6/1/2019 | Preliminary Plan Due Date2/15/2019 | [x]  Town [ ]  Village [ ]  CityJohnson Creek |
| PS&E Date8/1/2019 (Advanced) | Letting Date1/14/2020 (Advanced) | CountyJefferson |
| Structure NumberB-28-018 | Section7 | Town07N | Range14E |
| Station STA. 674+69.78 | Latitude: 430509.44Longitude: 884621.84 | [x]  YES [ ]  NO Structure Located on National Highway System |
|  |  | **Traffic Forecast Data** |
| For Survey and CADD FilesHorizontal Coordinate System: NAD 83 (2011)Vertical Datum: NAVD 88 |  |
|  | Design Year | Average Daily Traffic (ADT) | Roadway Design Speed | Functional Class |
| Feature OnIH 94 EB | Feature OnTBD Final Design | TBD Final Design | 70 | Interstate - Rural |
| Feature UnderCNW RR | Feature UnderN/A | N/A | N/A | N/A |
| Region Contact: Jim Buschkopf(Area Code) Telephone Number(s): (608) 884-7133Email: james.buschkopf@dot.wi.gov | Consultant Contact: Matt Krippner(Area Code) Telephone Number(s): (608) 828-8123Email: matthew.krippner@aecom.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:

[x]  C. New Bearings 3, 8, 9, 22

[ ]  D. New Railings 15–17, 20–23

[x]  E. Curb and Sidewalk Repair 2, 3, 16, 22, 23

[x]  F. Abutment Repair 2, 3, 12, 16

[x]  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

[x]  J. Joint Repair 2, 3, 8, 16, 19, 22

[x]  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:

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| **Field Information Required**If no structure number exists provide the following:Small County Mapon 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.[x]  2. Outline deficient areas on existing structure plan or drawing.[x]  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.[x]  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.[x]  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.[x]  12. Estimated Quantities: Preparation, Decks, Type 1 Sq. Yd. 0 Preparation, Decks, Type 2 Sq. Yd. 0 Full Depth Deck Repair Sq. Yd. 0 Galvanic Anodes? no Concrete Surface Repair Superstructure Sq. Ft. 15 Galvanic Anodes? no Concrete Surface Repair Substructure Sq. Ft. 40 Galvanic Anodes? no Curb Repair LF. 20 Galvanic Anodes? no[ ]  13. Sufficiency number: \_\_\_\_ (obtain from HSI Bridge Inventory System)[ ]  14. Appraisal and Condition Rating |
|  |  | **Deck Condition** | **Superstructure Condition** | **Substructure Condition** | **Load Capacity Appraisal** | **Structural EVAL Appraisal** |
|  | **Current** |  |  |  |  |  |
| [ ]  15. Load Ratings |
|  | **Current**Calculated Date:  | **Inventory** | **Operational** |
|  |  |  |  |
|  | **After** |  |  |

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| [x]  16. Utilities on/near Structure. (WisDOT policy is to avoid placing utilities on the structure.) [ ]  Yes [x]  No

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| **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:      [x]  22. Hazardous waste (asbestos) to be removed?  [ ]  Yes [x]  No If Yes – Explain: See below[x]  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 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**

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

02. Deficient areas of deck are shown on sheet 4 of 5 of B-28-0018\_pln.pdf

03. Photographs are in B-28-0018\_pic.doc

08. Date: 11/1/2018

 a) North Joint: East Side = 3/4”, CL = 3/4”, West Side = 3/4”

 South Joint: East Side = 7/8”, CL = 7/8”, West Side = 7/8”

 b) N/A Continuous steel girders

 c) East Abutment

G1: Top Flange = N/A encased in diaphragm, Bottom Flange = 3 1/4”

G2: Top Flange = N/A encased in diaphragm, Bottom Flange = 2 1/4”

G3: Top Flange = N/A encased in diaphragm, Bottom Flange = 0 1/4”

G4: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 1/2”

G5: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 1/2”

G6: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 3/4”

G7: Top Flange = N/A encased in diaphragm, Bottom Flange = 2 1/4”

G8: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 3/4”

G9: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 3/4”

G10: Top Flange = N/A encased in diaphragm, Bottom Flange = 2”

G11: Top Flange = N/A encased in diaphragm, Bottom Flange = 2 1/2”

G12: Top Flange = N/A encased in diaphragm, Bottom Flange = 2 3/4”

G13: Top Flange = N/A encased in diaphragm, Bottom Flange = 2 3/4”

 West Abutment

G1: Top Flange = N/A encased in diaphragm, Bottom Flange = 3”

G2: Top Flange = N/A encased in diaphragm, Bottom Flange = 2 7/8”

G3: Top Flange = N/A encased in diaphragm, Bottom Flange = 0 7/8”

G4: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 1/2”

G5: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 1/2”

G6: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 1/2”

G7: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 3/8”

G8: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 1/2”

G9: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 1/2”

G10: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 3/4”

G11: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 1/2”

G12: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 3/4”

G13: Top Flange = N/A encased in diaphragm, Bottom Flange = 1 1/2”

 d) Only ambient temperature was available = 50 degrees F

09. See photos of all bearings in B-28-0018\_pic.doc, bearing conditions

12. Obtained from Infrared Deck Scans

16. No utilities on the structure

22. Asbestos was not detected.

23. No anchors will be installed in wings.

Currently replacing existing steel expansion bearings with in-kind steel expansion bearings. Through the final design process coordination with BOS will determine if laminated elastomeric bearings could be used in this situation. That will include discussion of concrete bearing blocks or shims.

There will be no deck repair. Reviewing the infrared deck scans the majority of delamination’s and deck repair areas would be replaced with joint repair.