## Bridge Inspection

| | | | |
|---|---|---|---|
| Bridge File Number | 75070 -1 Bridge | Form Type | CON |
| Year Built/Year Supstr | 1960/1960 | Lot No. | 2 |
| | | Inspector Name | Tom Carey |
| Bridge or Town Name | DUCHESS | Inspector Class | BR CLS A |
| Located Over | MATZHIWIN CREEK, 3.15, WATERCRS-ST | Assistant Name | |
| Located On | 36:08 C1 23.437 | Assistant Class | |
| Water Body Cl./Year | | Inspection Date | 16-Feb-2012 |
| Navigabil. Cl./Year | | Data Entry By | Anne Roberts |
| Legal Land Location | NE SEC 6 TWP 22 RGE 14 W4M | Data Entry Date | 24-Mar-2012 |
| Longitude, Latitude | -111:55:53, 50:50:31 | Reviewer Name | Garry Roberts |
| Road Authority | Alberta Transportation (AIT) | Review Date | 26-Feb-2012 |
| Contract Main. Area | CMA23 | Dept. Reviewer Name | Tim Davies |
| Clear Roadway/Skew | 11 / | Dept. Review Date | 29-Mar-2012 |
| AADT/Year | 1,420 / 2011 (A) | Follow-Up By | |
| Road Classification | RAU-211.8-110 | | |
| Detour Length (km) | 3 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Allowable Load (t): | Single | CS1 44 GIRDER | Semi | CS2 70 GIRDER | Train | CS3 93 GIRDER | ---> On Critical Spans<br>--->Critical Member |
| Design Loading: | | HS20 | | | | | ---> Primary Span |

## Posting Information

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Required Load Posting (t) | | | Single | | Semi | | Truck Train | |
| Posted Loading (t) | | | Single | | Semi | | Truck Train | |
| Posted: | Lane | NB | At Junction (Y/N) | No | In Advance (Y/N) | No | At Bridge (Y/N) | No |
| Posted: | Lane | SB | At Junction (Y/N) | No | In Advance (Y/N) | No | At Bridge (Y/N) | No |
| Remarks | Not Required | | | | | | | |

| | |
|---|---|
| Hazard Marker At Bridge (Y/N) | Yes |
| Remarks | |
| Other Sign Types | Curve-creek id |

## Utilities (Located at)

| | | | |
|---|---|---|---|
| Utility Attachments | | | |
| Telephone | East side r/w | Gas | |
| Power | High voltage W. side 50 m from | Municipal | |
| Others | c.l. | Problem (Y/N) | No |
| Remarks | Fibre optics @ E RW | | |

## Approach Road

| | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| Horizontal Alignment | | 5 | 5 | No passing on both hills due to sag curve and horizontal curves on both hills. |
| Vertical Alignment | | 5 | 5 | |
| Roadway Width (m) | 10.300 | | | Patched |
| Approach Bump | | 3 | 5 | |
| Guardrail (Y/N) | Yes | | | Not bolted to bridge at NE and SE<br>Not Thriebeam |
| Guardrail | | 4 | 4 | |
| Length (m) | 50.000 | | | |
| Current Standard (Y/N) | No | | | |
| Termination Type | TURNED DOWN | | | |
| Drainage | | 4 | 4 | Hole in ACP at approach curb at NE - 200x100mm |
| **Approach Road General Rating** | | **5** | **5** | |

## Superstructure

| Bridge Component | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| (Primary Span : **CT, 3 Spans, Lengths(m): 12.8-18.3-12.8, A-Ident Number:** ) | | | | |
| **Special Features** | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Wearing Surface/Deck Top Detail Ratings | | | | |
| | N (%) | 1 (%) | 2 (%) | 3 (%) |
| **Last** | 0 | 0 | 0 | 0 |
| **Now** | 0.0 | 0.0 | 0.0 | 0.0 |
| Wearing Surface | | 5 | 5 | Worn off 3 m2 area at SE and NW<br>Chipseal on epoxy on concrete |
| (Material Type : **CONCRETE - CONVENTIONAL CHIP SEAL COAT**) | | | | |
| (Thickness(mm) : **50**) | | | | |
| Deck Top | | N | N | |
| Deck Rideability | | 7 | 7 | |
| Deck Joints | | 4 | 4 | Leakage @ E & W ends of south abut - South abut joint leaks, activity at SW |
| Temperature (deg. C) | 0 | | | |
| (Expansion Type : **GLAND (WABO-MAUER, TRANSFLEX, ETC)**) | | | | |
| (Fixed Type : ) | | | | |
| Gap Size (mm) | Gap Location | | | |
| 50 | North | | | |
| 50 | South | | | |
| Deck Drainage | | 7 | 4 | Leakage at SW joint is corroding ext. bearing |
| Drains Clogged (Y/N) | No | | | |
| Curbs/Median | | 3 | 3 | both curbs have parging on top & face.<br>Both curbs have some parging scaling & exposed rebar<br>East Fascia at North span is severely scaling |
| (Curb Type : **Standard**) | | | | |
| Scaling (Percent Area) | 5 | | | |
| Bridge Rail | | 7 | 7 | No washers on nuts |
| (Type : **STEEL BRIDGE TUBE**) | | | | |
| Bridge Rail Posts | | 5 | 5 | |
| (Type : **GALVANIZED POST STEEL;GALVANIZED POST STEEL**) | | | | |
| Bridge Rail/Posts Coating | | 7 | 7 | |
| (Type : ) | | | | |
| Sidewalk | | X | X | |
| Girders | | 5 | 5 | Some narrow vert. flexual cracks and isolated corrosion stains.<br>Corrosion SW & SE exterior girders at drains which are extended |
| Diaphragms/Cross Frame | | 6 | 6 | 0.5 mm wide vertical cracks- most<br>some 1mm wide |
| Bearings | | 6 | 6 | (@ full expansion @ N @ 24 deg C)<br>Sliping plates @ Abuts<br>Rockers @ N pier - fixed @ S pier<br><br>Corrosion abuts ext brgs - Worst at South Abutment |
| Temperature (deg. C) | 0 | | | |
| (Expansion Type : **SLIDING PLATE;ROCKER BEARING**) | | | | |
| (Fixed Type : **STEEL SLIDING PLATES WITH BRONZE PLATE IN BETWEEN**) | | | | |
| Coating Adequate (Y/N) | No | | | |
| Functioning (Y/N) | Yes | | | |
| Deck Underside | | 5 | 5 | Isolated cracks with efflorescence. |
| Stains (Percent Area) | 5 | | | |

| Superstructure | | | | |
|---|---|---|---|---|
| **Bridge Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Primary Span : **CT, 3 Spans, Lengths(m): 12.8-18.3-12.8, A-Ident Number:** ) | | | | |
| **Span Alignment Problems** | | | | |
| Vertical (Y/N) | No | | | |
| Horizontal (Y/N) | No | | | |
| **Superstructure General Rating** | | **5** | **5** | |

| Substructure | | | | |
|---|---|---|---|---|
| **Bridge Component** | | **Last** | **Now** | **Explanation of Condition** |
| **Abutments** | | | | |
| Bearing Seats | | 7 | 7 | |
| Backwalls/Breastwalls | | 6 | 6 | |
| Wingwalls | | 6 | 6 | |
| Piles | | N | N | |
| Paint/Coating | | X | X | |
| Abutment Stability | | 7 | 7 | |
| Scour/Erosion | | 8 | 8 | |
| **Piers/Bents** | | | | |
| (Type : **PIER-COLUMN**) | | | | Corrosion stain @ N pier @ N side @ W end |
| Bearing Seats/Caps | | 6 | 6 | |
| (Type : **CONCRETE**) | | | | |
| Pier Shaft/Piles | | 7 | 7 | |
| Nose Plate | | X | X | |
| Paint/Coating | | X | X | |
| (Colour Description : ) | | | | |
| (Colour Code : ) | | | | |
| Pier Stability | | 7 | 7 | |
| Scour | | 9 | 9 | |
| Debris (Y/N) | No | | | |
| **Substructure General Rating** | | **6** | **6** | |

| Structure Usage | | | | |
|---|---|---|---|---|
| | | **Last** | **Now** | **Explanation of Condition** |
| **Channel** | | | | |
| (U/S Direction : **W**) | | | | Steep cut banks u/s & d/s |
| (D/S Direction : **E**) | | | | Stable in vicinity of bridge |
| Alignment | | 7 | 7 | |
| Bank Stability | | 7 | 7 | |
| HWM (m below Top of Curb) | 5.0 | | | (April 29/08) |
| Drift (Y/N) | No | | | |
| Slope Protection | | 9 | 9 | Bagged concret + concrete rubble |
| (Type : ) | | | | |

| Structure Usage | | | |
|---|---|---|---|
| | Last | Now | Explanation of Condition |
| Guidebank/Spurs | X | X | |
| Adequacy of Opening | 9 | 9 | |
| (Fish Compensation Measure 1 : **NONE**) | | | |
| (Fish Compensation Measure 2 : **NONE**) | | | |
| **Channel General Rating** | **7** | **7** | |

## Maintenance Recommendations

| Inspector Recommendations | Year | Inspector Comments | Department Comments | Target Year | Est. Cost | Cat # |
|---|---|---|---|---|---|---|
| REPAIR/REPLACE BRIDGE RAIL | | | | | | |
| GALVANIZE/PAINT BRIDGE RAIL | | | | | | |
| RETROFIT BRIDGE RAIL | | | | | | |
| SEAL CURBS | 2013 | - 0.5m3 NH | | | | |
| PATCH DECK | | | | | | |
| SEAL DECK | | | | | | |
| OVERLAY DECK | | | | | | |
| REPAIR/REPLACE DECK JOINTS | 2013 | South abut. joint | | | | |
| RESET/ PAINT BEARINGS | 2013 | Exteriors at abutments | | | | |
| WASHING | | | | | | |
| SHOTCRETE REPAIRS | | | | | | |
| REPAIR ABUTMENT SCOUR/EROSION | | | | | | |
| PLACE ADDITIONAL RIP RAP | | | | | | |
| REMOVE DRIFT ACCUMULATION | | | | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | 2013 | Patch hole at NE ACP to curb area | | | | |
| OTHER ACTION | 2013 | Bolt in guardrail to parapets | | | | |
| OTHER ACTION | | | | | | |

| **Structural Condition Rating (Last/Now) (%)** | **61.1/61.1** | **Sufficiency Rating (Last/Now) (%)** | **73.2/73.2** | Est. Repl. Yr | 2028 | Maint. Reqd. (Y/N) | Yes |
|---|---|---|---|---|---|---|---|

| Special Comments for Next Inspection | | Department Comments | |
|---|---|---|---|

| Maintenance Reviewed By | | Date | | Estimated Total | 0 |
|---|---|---|---|---|---|
| Proposed Long-Term Strategy | | | | | |
| On 3-Year Program (Y/N) | | | | | |
| Proposed Action | | | | | |
| Previous Inspector's Name | Tom Carey | Previous Assistant's Name | | | |
| Next Inspection Date | 16-Nov-2013 | Previous Inspection Date | 22-Jun-2010 | | |
| Inspection Cycle (Default) (months) | 21 | | | | |
| Comment | | | | | |