## Bridge Culvert Inspection

| | | | |
|---|---|---|---|
| Bridge File Number | 01025 -1 Bridge Culvert | Form Type | CUL1 |
| Year Built | 1967 | Lot No. | 4 |
| Bridge or Town Name | GIBBONS | Inspector Name | Wade Nanninga |
| Located Over | TRIBUTARY TO NORTH SASKATCHEWAN RIVER, 6.64, WATERCRS-ST | Inspector Class | BR CLS B |
| | | Assistant Name | |
| Located On | 643:02 C1 14.307 | Assistant Class | |
| Water Body Cl./Year | | Inspection Date | 19-May-2011 |
| Navigabil. Cl./Year | | Data Entry By | Theresa Lacusta |
| Legal Land Location | SE SEC 18 TWP 56 RGE 21 W4M | Data Entry Date | 08-Jun-2011 |
| Longitude, Latitude | -113:06:21, 53:50:04 | Reviewer Name | Arnold Assenheimer |
| Road Authority | Alberta Transportation (AIT) | Review Date | 30-May-2011 |
| Contract Main. Area | CMA09 | Dept. Reviewer Name | Brent Herrick |
| Clear Roadway/Skew | 12.6 / | Dept. Review Date | 14-Jun-2011 |
| AADT/Year | 2,480 / 2010 (A) | Follow-Up By | |
| Road Classification | RCU-210-110 | | |
| Detour Length (km) | 5 | | |

### Bridge Culvert Information

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Number of Culverts | | 1 | | | | | | |
| Pipe # | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 1 | U/S | - | 1800 | MP | 8 | 125X26 | 2.8 | ROUND |
| 1 | MAIN | - | 1800 | MP | 95 | 68X13 | 2.8 | ROUND |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

## Utilities (Located at)

| | | | |
|---|---|---|---|
| Utility Attachments | | | |
| Telephone | West r/w & East r/w. | Gas | |
| Power | 4 OH lines East r/w. | Municipal | Water West r/w. |
| Others | | Problem (Y/N) | No |
| Remarks | BF tag installed on top of West concrete headwall. | | |

## Approach Road / Embankment

| | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| Horizontal Alignment | | 5 | 5 | Horizontal curve to south ~ 30m from crossing. No passing both directions. |
| Vertical Alignment | | 7 | 7 | |
| Roadway Width (m) | 12.600 | | | |
| Embankment | | 9 | 8 | (2:1 on East side. Owned by railway. Nov.18/2003) Could not access railway land. Rock lined ditches & geotextile. |
| Sideslope (__:1) | 4.0 | | | |
| (Height of Cover(m) : **8**) | | | | |
| Guardrail (Y/N) | Yes | | | Installed West side only. |
| **Approach Road / Embankment General Rating** | | **5** | **5** | |

## Upstream End

| Culvert Component | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| Direction | | W | | |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE | | | |
| Headwall | | 9 | 9 | |
| Collar | | 9 | 9 | |
| Wingwalls | | X | X | |
| (Shape : ) | | | | |

| Upstream End | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| Cutoff Wall | | N | N | |
| Bevel End | | 8 | 8 | |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 400 | | | |
| Scour Protection | | N | 7 | |
| (Type : **RIP RAP**) | | | | |
| (Avg. Rock Size(mm) : **300**) | | | | |
| Scour/Erosion | | N | 7 | |
| Beavers (Y/N) | Yes | | | 10m u/s. |
| **Upstream End General Rating** | | **8** | **7** | |

| Bridge Culvert Barrel | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Pipe # : **1, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 1800, Type: MP**) | | | | |
| Barrel Last Accessible Date | 12-Mar-2008 | | | Only accessible 20m from u/s due to water depth.<br>Viewed from end-looks ok.<br>Measured 1910 x 1650 12-Mar-2008 |
| **Special Features** | | | | |
| Special Feature | | | | 8m length U/S bevel, 125 x 26 corr profile. |
| (Type : ) | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Roof | | 5 | N | |
| Measured Rise (mm) | 1910 | | | At c/l. |
| Measured At Ring No. | | | | |
| Sag (mm) | 110 | | | Upwards<br>6.1% |
| Percent Sag | 6 | | | |
| Sidewall | | 4 | N | |
| Measured Span (mm) | 1650 | | | At c/l. |
| Measured At Ring No. | | | | |
| Deflection (mm) | 150 | | | Inwards<br>8.3% |
| Percent Deflection | 8 | | | |
| Floor | | N | N | 700m water/silt |
| Bulge (mm) | | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 6 | 5 | |
| Separation (mm) | 80 | | | |
| Longitudinal Seams | | 5 | 5 | Riveted seams. Rusting. |
| Total No. of Cracked Rings | 0 | | | |
| Total No. of Rings with Two Cracked Seams | | | | |
| Min. Remaining Steel Between Cracks (mm) | | | | |
| Proper Lap (Y/N) | | | | |
| Longitudinal Stagger (Y/N) | | | | |
| Coating | | 5 | 5 | Minor superficial rust upper 1/2. |
| Corrosion By Soil (Y/N) | | | | |
| Corrosion By Water (Y/N) | Yes | | | |

## Bridge Culvert Barrel

| Culvert Component | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| (Pipe # : **1, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 1800, Type: MP**) | | | | |
| Camber POS/ZERO/NEG | ZERO | | | |
| Ponding (Y/N) | No | | | |
| Fish Passage Adequacy | | X | 5 | |
| Baffle | | X | X | |
| (Type : ) | | | | |
| Waterway Adequacy | | 6 | 6 | |
| Icing (Y/N) | No | | | 300mm silt along floor. |
| Silting (Y/N) | Yes | | | |
| Drift (Y/N) | Yes | | | |
| **Barrel Extension General Rating** | | **4** | **4** | |

## Downstream End

| Culvert Component | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| Direction | | E | | |
| End Treatment (Concrete, Steel, Others, None) | NONE | | | |
| Headwall | | X | X | |
| Collar | | X | X | |
| Wingwalls | | X | X | |
| (Shape : ) | | | | |
| Cutoff Wall | | X | X | |
| Bevel End | | X | X | |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | | | | |
| Above/Below (mm) | 0 | | | |
| Scour Protection | | N | N | (Fill eroded 1.5m back along pipe on South side and approx 2.5m on North side. 17/Nov/2004) No access-CN row fenced off. |
| (Type : ) | | | | |
| (Avg. Rock Size(mm) : ) | | | | |
| Scour/Erosion | | N | N | |
| Beavers (Y/N) | Yes | | | (Dam in outlet. Nov.18,2003) |
| **Downstream End General Rating** | | **4** | **4** | G.R. carried forward from 17/Nov/2004. |

## Structure Usage

| | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| **Channel (U/S and D/S)** | | | | |
| Alignment | | 6 | 6 | |
| Bank Stability | | 6 | 6 | |
| HWM (m below Top of Culvert) | | | | HWM not visible. |
| Drift (Y/N) | No | | | |
| Channel Bottom Degrading/Aggrading | DEGRADING | | | (Degrading D/S only Nov.18/03) 10m u/s. |
| Beavers (Y/N) | Yes | | | |
| (Fish Compensation Measure 1 : **NONE**) | | | | |
| (Fish Compensation Measure 2 : **NONE**) | | | | |
| **Channel General Rating** | | **6** | **6** | |

| Maintenance Recommendations | | | | | | |
|---|---|---|---|---|---|---|
| Inspector Recommendations | Year | Inspector Comments | Department Comments | Target Year | Est. Cost | Cat # |
| SHOTCRETE REPAIRS | | | | | | |
| PLACE ADDITIONAL RIP RAP | | | | | | |
| REMOVE DRIFT ACCUMULATION | | | | | | |
| INSTALL CONCRETE/STEEL LINING | | | | | | |
| INSTALL STRUTS | | | | | | |
| INSTALL CONCRETE COLLAR/CUTOFF | | | | | | |
| REPAIR SEAMS | | | | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Structural Condition Rating (Last/Now) (%)** | **44.4/44.4** | **Sufficiency Rating (Last/Now) (%)** | **54.8/52.4** | Est. Repl. Yr | 2024 | Maint. Reqd. (Y/N) | No |

| | | | |
|---|---|---|---|
| Special Comments for Next Inspection | Monitor deflections. Confirm erosion @ d/s end when visible. | 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 | Dave Lam | Previous Assistant's Name | | | |
| Next Inspection Date | 19-Aug-2014 | Previous Inspection Date | 12-Mar-2008 | | |
| Inspection Cycle (Default) (months) | 39 | | | | |
| Comment | | | | | |