## Bridge Culvert Inspection

| | | | |
|---|---|---|---|
| Bridge File Number | 01349 -1 Bridge Culvert | Form Type | CUL1 |
| Year Built | 1981 | Lot No. | |
| Bridge or Town Name | IRVINE | Inspector Name | Jason Rusu |
| Located Over | GROS VENTRE CREEK, 2.7.7, WATERCRS-ST | Inspector Class | BR CLS A |
| | | Assistant Name | |
| Located On | 41:04 C1 28.544 | Assistant Class | |
| Water Body Cl./Year | | Inspection Date | 14-Jan-2012 |
| Navigabil. Cl./Year | | Data Entry By | Anne Roberts |
| Legal Land Location | SW SEC 15 TWP 11 RGE 3 W4M | Data Entry Date | 29-Feb-2012 |
| Longitude, Latitude | -110:20:45, 49:54:18 | Reviewer Name | |
| Road Authority | Alberta Transportation (AIT) | Review Date | |
| Contract Main. Area | CMA23 | Dept. Reviewer Name | Tim Davies |
| Clear Roadway/Skew | 11 / | Dept. Review Date | 11-Mar-2012 |
| AADT/Year | 650 / 2010 (A) | Follow-Up By | |
| Road Classification | RAU-211.8-110 | | |
| Detour Length (km) | 250 | | |

### Bridge Culvert Information

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Number of Culverts | | 1 | | | | | | |
| Pipe # | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 1 | MAIN | 7166 | 4788 | RPE | 66.4 | 152X51 | 4.0 | ELLIPSE |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

## Utilities (Located at)

| | | | |
|---|---|---|---|
| Utility Attachments | | | |
| Telephone | West side | Gas | |
| Power | Crosses road 30 m S-1 W. | Municipal | |
| Others | | Problem (Y/N) | No |
| Remarks | | | |

## Approach Road / Embankment

| | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| Horizontal Alignment | | 6 | 6 | In curve, superelevated. |
| Vertical Alignment | | 5 | 5 | In sag curve with limited sight distance. No passing NB. |
| Roadway Width (m) | 11.000 | | | |
| Embankment | | 7 | 7 | |
| Sideslope (__:1) | 3.0 | | | |
| (Height of Cover(m) : **5**) | | | | |
| Guardrail (Y/N) | Yes | | | |
| **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 | | 6 | 6 | |
| Collar | | 6 | 6 | |
| Wingwalls | | X | X | |
| (Shape : ) | | | | |
| Cutoff Wall | | N | N | |

| Upstream End | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| Bevel End | | 5 | 5 | Superficial rust- no pitting at bevel floor |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 700 | | | |
| Scour Protection | | 7 | 6 | |
| (Type : **RIP RAP**) | | | | |
| (Avg. Rock Size(mm) : **250**) | | | | |
| Scour/Erosion | | 7 | 6 | |
| Beavers (Y/N) | No | | | |
| **Upstream End General Rating** | | **7** | **5** | |

| Bridge Culvert Barrel | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 7166, Rise (mm): 4788, Type: RPE**) | | | | |
| Barrel Last Accessible Date | 14-Jan-2012 | | | |
| **Special Features** | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Roof | | N | 7 | |
| Measured Rise (mm) | 4750 | | | |
| Measured At Ring No. | 7 | | | Est Shape is good<br>PR 7 |
| Sag (mm) | 50 | | | |
| Percent Sag | 1 | | | |
| Sidewall | | N | 6 | |
| Measured Span (mm) | 7250 | | | |
| Measured At Ring No. | 7 | | | |
| Deflection (mm) | 129 | | | Est |
| Percent Deflection | 1 | | | |
| Floor | | N | N | [400 mm MUD & WATER-average<br>with 50% - 100mm rock] |
| Bulge (mm) | | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | | | | |
| Circumferential Seams | | N | 5 | 3 missing bolt 3 o'clock R12, 2 at 2 o'clock R14 |
| Separation (mm) | 0 | | | |
| Longitudinal Seams | | N | 5 | 2% of BOLTS not torqued @ NORTH SIDEWALL |
| Total No. of Cracked Rings | 0 | | | |
| Total No. of Rings with Two Cracked Seams | 0 | | | |
| Min. Remaining Steel Between Cracks (mm) | 0 | | | |
| Proper Lap (Y/N) | No | | | |
| Longitudinal Stagger (Y/N) | No | | | |
| Coating | | N | 5 | Superficial corrosion @ bottom haunch &<br>roof @ ring #10<br>White alkali type stains thru roof<br>bolts and upper sidewall - ring 2&3 from d/s. |
| Corrosion By Soil (Y/N) | Yes | | | |
| Corrosion By Water (Y/N) | | | | |
| Camber POS/ZERO/NEG | ZERO | | | |
| Ponding (Y/N) | No | | | |

| Bridge Culvert Barrel | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 7166, Rise (mm): 4788, Type: RPE**) | | | | |
| Fish Passage Adequacy | | 7 | 7 | |
| Baffle | | X | X | |
| (Type : ) | | | | |
| Waterway Adequacy | | 8 | 8 | |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | No | | | |
| Drift (Y/N) | No | | | |
| **Barrel General Rating** | | **N** | **6** | |

| Downstream End | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| Direction | | E | | |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE | | | |
| Headwall | | 7 | 7 | |
| Collar | | 7 | 7 | |
| Wingwalls | | X | X | |
| (Shape : ) | | | | |
| Cutoff Wall | | N | N | |
| Bevel End | | 7 | 6 | |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 700 | | | |
| Scour Protection | | 4 | 5 | |
| (Type : **RIP RAP**) | | | | |
| (Avg. Rock Size(mm) : **250**) | | | | |
| Scour/Erosion | | 4 | 5 | |
| Beavers (Y/N) | No | | | |
| **Downstream End General Rating** | | **4** | **5** | |

| Structure Usage | | | | |
|---|---|---|---|---|
| | | **Last** | **Now** | **Explanation of Condition** |
| **Channel (U/S and D/S)** | | | | |
| Alignment | | 5 | 6 | |
| Bank Stability | | 4 | 5 | |
| HWM (m below Top of Culvert) | 0.0 | | | Existing flood damage |
| Drift (Y/N) | No | | | |
| Channel Bottom Degrading/Aggrading | DEGRADING | | | |
| Beavers (Y/N) | No | | | |
| (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) (%)** | **55.6/66.7** | **Sufficiency Rating (Last/Now) (%)** | **63.5/68.0** | Est. Repl. Yr | 2033 | Maint. Reqd. (Y/N) | No |
|---|---|---|---|---|---|---|---|

| 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 | Jason Rusu | Previous Assistant's Name | | | |
| Next Inspection Date | 14-Oct-2013 | Previous Inspection Date | 07-Aug-2010 | | |
| Inspection Cycle (Default) (months) | 21 | | | | |
| Comment | | | | | |