

| Bridge Culvert Inspection |   |                     |                     |
|---------------------------|---|---------------------|---------------------|
| Bridge File Number        | 73432 -2 Bridge Culvert                                 | Form Type           | CUL1                |
| Year Built/Lined          | 1959/1998   | Lot No.             | 2                   |
| Bridge or Town Name       |   | Inspector Name      | Russel Vanderschaaf |
| Located Over              | TRIBUTARY TO SLIMS CREEK,<br>8.10.41.3.1.1, WATERCRS-ST | Inspector Class     | BR CLS B            |
| Located On                | 35:08 C1 45.905   | Assistant Name      |                     |
| Water Body Cl./Year       |   | Assistant Class     |                     |
| Navigabil. Cl./Year       |   | Inspection Date     | 15-Nov-2011         |
| Legal Land Location       | SW SEC 8 TWP 96 RGE 22 W5M                              | Data Entry By       | Theresa Lacusta     |
| Longitude, Latitude       | -117:32:42, 57:18:55                                    | Data Entry Date     | 13-Dec-2011         |
| Road Authority            | Alberta Transportation (AIT)                            | Reviewer Name       | Eric Carcoux        |
| Contract Main. Area       | CMA04   | Review Date         | 12-Dec-2011         |
| Clear Roadway/Skew        | 10.5 /  | Dept. Reviewer Name | Steve Pasquan       |
| AADT/Year                 | 1,020 / 2010 (A)  | Dept. Review Date   | 11-Jan-2012         |
| Road Classification       | RAU-210-110   | Follow-Up By        |                     |
| Detour Length (km)        |   |                     |                     |

**Bridge Culvert Information**

|                          |                 |      |                |      |        |               |                    |       |
|--------------------------|-----------------|------|----------------|------|--------|---------------|--------------------|-------|
| Number of Culverts       | 1               |      |                |      |        |               |                    |       |
| Pipe #                   | Barrel          | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 2                        | MAIN FULL LINER | -    | 1200           | SSP  | 36     |               |                    | ROUND |
| Special Features         |                 |      |                |      |        |               |                    |       |
| Special Features Comment |                 |      |                |      |        |               |                    |       |

**Utilities (Located at)**

|                     |                             |               |    |  |
|---------------------|-----------------------------|---------------|----|--|
| Utility Attachments |                             |               |    |  |
| Telephone           | 40m west                    | Gas           |    |  |
| Power               | West R/W - 2 rows 11 wires. | Municipal     |    |  |
| Others              |                             | Problem (Y/N) | No |  |
| Remarks             |                             |               |    |  |

**Approach Road / Embankment**

|  |        | Last     | Now      | Explanation of Condition                 |
|--|--------|----------|----------|--|
| Horizontal Alignment                             |        | 7        | 6        | Approach S.E corner<br>S.W curve 300m S. |
| Vertical Alignment                               |        | 8        | 8        |  |
| Roadway Width (m)                                | 10.500 |          |          |  |
| Embankment                                       |        | 7        | 7        |  |
| Sideslope ( _ :1)                                | 3.5    |          |          |  |
| (Height of Cover(m) : 3.2)                       |        |          |          |  |
| Guardrail (Y/N)                                  | No     |          |          |  |
| <b>Approach Road / Embankment General Rating</b> |        | <b>7</b> | <b>6</b> |  |

**Upstream End**

| Culvert Component                             |       | Last | Now | Explanation of Condition |
|---|-------|------|-----|--------------------------|
| Direction                                     |       | E    |     | East                     |
| End Treatment (Concrete, Steel, Others, None) | STEEL |      |     |                          |
| Headwall                                      |       | X    | X   |                          |
| Collar  |       | X    | X   |                          |
| Wingwalls                                     |       | X    | X   |                          |
| (Shape : )                                    |       |      |     |                          |
| Cutoff Wall                                   |       | X    | X   |                          |

| Upstream End  |       |          |          |  |
|---|-------|----------|----------|--|
| Culvert Component   |       | Last     | Now      | Explanation of Condition   |
| Bevel End   |       | 5        | 6        |  |
| Heaving (mm)  | 0     |          |          |  |
| Invert Above/Below Stream Bed   | BELOW |          |          |  |
| Above/Below (mm)  | 200   |          |          |  |
| Scour Protection  |       | 4        | N        | Not visible, under beaver dam and snow.  |
| (Type : <b>CONCRETE</b> )   |       |          |          |  |
| (Avg. Rock Size(mm) : <b>250</b> )  |       |          |          |  |
| Scour/Erosion   |       | 4        | 4        | Scoured along S side @ toe of slope from 15m Scour due to beaver dam 1m u/s. (1m wide x 0.6m deep) |
| Beavers (Y/N)   | Yes   |          |          | 1m from u/s invert.  |
| <b>Upstream End General Rating</b>  |       | <b>4</b> | <b>4</b> |  |
| Bridge Culvert Barrel   |       |          |          |  |
| Culvert Component   |       | Last     | Now      | Explanation of Condition   |
| (Pipe # : <b>2</b> , <b>Secondary Span</b> , <b>Location Code: MAIN</b> , <b>Span (mm):</b> , <b>Rise (mm): 1200</b> , <b>Type: SSP</b> ) |       |          |          |  |
| Barrel Last Accessible Date   |       |          |          | 600mm from crown viewed from ends.<br>@ u/s and 500mm crown, viewed from d/s end.                  |
| <b>Special Features</b>   |       |          |          |  |
| Special Feature   |       |          |          | Shape appears good. Viewed from ends.<br>Water not frozen due to beavers activity.                 |
| (Type : )   |       |          |          |  |
| Special Feature   |       |          |          |  |
| (Type : )   |       |          |          |  |
| Roof  |       | N        | N        |  |
| Measured Rise (mm)  |       |          |          |  |
| Measured At Ring No.  |       |          |          |  |
| Sag (mm)  |       |          |          |  |
| Percent Sag   |       |          |          |  |
| Sidewall  |       | N        | N        |  |
| Measured Span (mm)  |       |          |          |  |
| Measured At Ring No.  |       |          |          |  |
| Deflection (mm)   |       |          |          |  |
| Percent Deflection  |       |          |          |  |
| Floor   |       | N        | N        |  |
| Bulge (mm)  |       |          |          |  |
| Measured At Ring No.  |       |          |          |  |
| Abrasion (Y/N)  |       |          |          |  |
| Circumferential Seams   |       | N        | N        |  |
| Separation (mm)   |       |          |          |  |
| Longitudinal Seams  |       | X        | X        |  |
| Total No. of Cracked Rings  |       |          |          |  |
| Total No. of Rings with Two Cracked Seams   |       |          |          |  |
| Min. Remaining Steel Between Cracks (mm)  |       |          |          |  |
| Proper Lap (Y/N)  |       |          |          |  |
| Longitudinal Stagger (Y/N)  |       |          |          |  |
| Coating   |       | X        | X        | Staining, viewed from outside.   |
| Corrosion By Soil (Y/N)   | No    |          |          |  |
| Corrosion By Water (Y/N)  | Yes   |          |          |  |
| Camber POS/ZERO/NEG   | ZERO  |          |          |  |

| Bridge Culvert Barrel  |       |          |          |  |
|--|-------|----------|----------|--|
| Culvert Component  |       | Last     | Now      | Explanation of Condition   |
| (Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: SSP) |       |          |          |  |
| Ponding (Y/N)  | No    |          |          |  |
| Fish Passage Adequacy  |       | 4        | 5        |  |
| Baffle   |       | X        | X        |  |
| (Type : )  |       |          |          |  |
| Waterway Adequacy  |       | 4        | 5        |  |
| Icing (Y/N)  | No    |          |          |  |
| Silting (Y/N)  | No    |          |          |  |
| Drift (Y/N)  | Yes   |          |          |  |
| <b>Barrel General Rating</b>   |       | <b>N</b> | <b>N</b> |  |
| Downstream End   |       |          |          |  |
| Culvert Component  |       | Last     | Now      | Explanation of Condition   |
| Direction  |       | W        |          | West   |
| End Treatment (Concrete, Steel, Others, None)  | NONE  |          |          |  |
| Headwall   |       | X        | X        |  |
| Collar   |       | X        | X        |  |
| Wingwalls  |       | X        | X        |  |
| (Shape : )   |       |          |          |  |
| Cutoff Wall  |       | X        | X        |  |
| Bevel End  |       | X        | 6        |  |
| Heaving (mm)   | 0     |          |          |  |
| Invert Above/Below Stream Bed  | BELOW |          |          |  |
| Above/Below (mm)   | 200   |          |          |  |
| Scour Protection   |       | 7        | 6        |  |
| (Type : RIP RAP)   |       |          |          |  |
| (Avg. Rock Size(mm) : 150)   |       |          |          |  |
| Scour/Erosion  |       | 7        | 6        |  |
| Beavers (Y/N)  | No    |          |          |  |
| <b>Downstream End General Rating</b>   |       | <b>7</b> | <b>6</b> |  |
| Structure Usage  |       |          |          |  |
|  |       | Last     | Now      | Explanation of Condition   |
| <b>Channel (U/S and D/S)</b>   |       |          |          |  |
| Alignment  |       | 6        | 4        | Beaverdam causing water to come from South.  |
| Bank Stability   |       | 7        | 7        |  |
| HWM (m below Top of Culvert)   |       |          |          | HWM not visible.   |
| Drift (Y/N)  | Yes   |          |          |  |
| Channel Bottom Degrading/Aggrading   |       |          |          | Stable   |
| Beavers (Y/N)  | Yes   |          |          | U/S beaver dam 30m u/s 3m high across channel 1m u/s 2m high, redirecting flow along toe of slope 15m S of pipe. |
| (Fish Compensation Measure 1 : NONE)   |       |          |          |  |
| (Fish Compensation Measure 2 : NONE)   |       |          |          |  |

| <b>Structure Usage</b>        |  |             |            |                                 |
|-------------------------------|--|-------------|------------|---------------------------------|
|                               |  | <b>Last</b> | <b>Now</b> | <b>Explanation of Condition</b> |
| <b>Channel General Rating</b> |  | <b>6</b>    | <b>4</b>   |                                 |

| 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                                      | 2012                           | Remove U/S dams.                         |                           |                |           |                   |     |
| OTHER ACTION                                      |                                |  |                           |                |           |                   |     |
| OTHER ACTION                                      |                                |  |                           |                |           |                   |     |
| OTHER ACTION                                      |                                |  |                           |                |           |                   |     |
| <b>Structural Condition Rating (Last/Now) (%)</b> | <b>55.6/55.6</b>               | <b>Sufficiency Rating (Last/Now) (%)</b> | <b>46.4/53.5</b>          | Est. Repl. Yr  | 2048      | Maint. Req. (Y/N) | Yes |
| Special Comments for Next Inspection              | Monitor scour @ u/s bevel end. |  | 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                         | Brian Pientsch                 |  | Previous Assistant's Name | Lisbeth Medina |           |                   |     |
| Next Inspection Date                              | 15-Aug-2013                    |  | Previous Inspection Date  | 16-Feb-2010    |           |                   |     |
| Inspection Cycle (Default) (months)               | 21                             |  |                           |                |           |                   |     |
| Comment   |                                |  |                           |                |           |                   |     |