

| Bridge Culvert Inspection |  |                     |                 |
|---------------------------|--|---------------------|-----------------|
| Bridge File Number        | 79282 -1 Bridge Culvert                        | Form Type           | CUL1            |
| Year Built                | 1981   | Lot No.             | 2               |
| Bridge or Town Name       | GURNEYVILLE                                    | Inspector Name      | Todd Warshawski |
| Located Over              | TRIBUTARY TO MURIEL CREEK, 7.5.10, WATERCRS-ST | Inspector Class     | BR CLS B        |
| Located On                | 657:02 C1 7.076                                | Assistant Name      |                 |
| Water Body Cl./Year       |  | Assistant Class     |                 |
| Navigabil. Cl./Year       |  | Inspection Date     | 14-Dec-2011     |
| Legal Land Location       | NE SEC 23 TWP 59 RGE 6 W4M                     | Data Entry By       | Theresa Lacusta |
| Longitude, Latitude       | -110:47:13, 54:07:14                           | Data Entry Date     | 10-Jan-2012     |
| Road Authority            | Alberta Transportation (AIT)                   | Reviewer Name       | Eric Carcoux    |
| Contract Main. Area       | CMA08  | Review Date         | 30-Dec-2011     |
| Clear Roadway/Skew        | 9 / 30 deg. (RHF)                              | Dept. Reviewer Name | Brent Herrick   |
| AADT/Year                 | 710 / 2010 (A)                                 | Dept. Review Date   | 18-Jan-2012     |
| Road Classification       | RCU-210-110                                    | Follow-Up By        |                 |
| Detour Length (km)        | 50   |                     |                 |

**Bridge Culvert Information**

|                          |                   |      |                |      |        |               |                    |       |
|--------------------------|-------------------|------|----------------|------|--------|---------------|--------------------|-------|
| Number of Culverts       | 1                 |      |                |      |        |               |                    |       |
| Pipe #                   | Barrel            | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 1                        | MAIN              | -    | 2400           | MP   | 37     | 75X25         | 2.8                | ROUND |
| Special Features         | VERT STEEL STRUTS |      |                |      |        |               |                    |       |
| Special Features Comment |                   |      |                |      |        |               |                    |       |

**Utilities (Located at)**

|                     |   |               |    |
|---------------------|---|---------------|----|
| Utility Attachments |   |               |    |
| Telephone           | North r/w.                                | Gas           |    |
| Power               | 2 wires North r/w x's hwy 30m West.       | Municipal     |    |
| Others              |   | Problem (Y/N) | No |
| Remarks             | BF tag installed @ top of South end roof. |               |    |

**Approach Road / Embankment**

|  | Last     | Now      | Explanation of Condition                        |
|--|----------|----------|---|
| Horizontal Alignment                             | 7        | 7        | Resident accesses SE & SW.                      |
| Vertical Alignment                               | 8        | 8        |   |
| Roadway Width (m)                                | 9.000    |          |   |
| Embankment                                       | 7        | 7        |   |
| Sideslope ( __:1)                                | 3.0      |          |   |
| (Height of Cover(m) : 2.2)                       |          |          |   |
| Guardrail (Y/N)                                  | Yes      |          | Strike damage, broken post at NE turn down end. |
| <b>Approach Road / Embankment General Rating</b> | <b>7</b> | <b>7</b> |   |

**Upstream End**

| Culvert Component                             | Last  | Now | Explanation of Condition |
|---|-------|-----|--------------------------|
| Direction                                     | S     |     |                          |
| 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   |             | 6        | N        | (East side of bevel dented & torn. 20/Mar/2002) Under water/ice.   |
| Heaving (mm)  | 100         |          |          |  |
| Invert Above/Below Stream Bed   | BELOW       |          |          |  |
| Above/Below (mm)  | 300         |          |          |  |
| Scour Protection  |             | 6        | N        | Not much rock visible, grassed over.   |
| (Type : <b>RIP RAP</b> )  |             |          |          |  |
| (Avg. Rock Size(mm) : <b>300</b> )  |             |          |          |  |
| Scour/Erosion   |             | 6        | N        |  |
| Beavers (Y/N)   | Yes         |          |          | Large dam at inlet.  |
| <b>Upstream End General Rating</b>  |             | <b>6</b> | <b>N</b> | GR was 6 on 10-Aug-2008  |
| Bridge Culvert Barrel   |             |          |          |  |
| Culvert Component   |             | Last     | Now      | Explanation of Condition   |
| (Pipe # : <b>1</b> , Primary Span, Location Code: <b>MAIN</b> , Span (mm): , Rise (mm): <b>2400</b> , Type: <b>MP</b> ) |             |          |          |  |
| Barrel Last Accessible Date   | 20-Mar-2002 |          |          | Ice to crown approx. 400mm.<br>100mm x 100mm HSS tube struts 1200mm OC. 75mm x 100mm HSS tube whaler top and bottom. |
| <b>Special Features</b>   |             |          |          |  |
| Special Feature   |             |          | N        |  |
| (Type : <b>VERT STEEL STRUTS</b> )  |             |          |          |  |
| Special Feature   |             |          |          |  |
| (Type : )   |             |          |          |  |
| Roof  |             | N        | N        | (Measured 2690 at 1/3L and 2/3L. 02/Mar/2002)<br>(Previously rated "2" from 20/Mar/2002)                             |
| Measured Rise (mm)  | 2690        |          |          |  |
| Measured At Ring No.  |             |          |          |  |
| Sag (mm)  | 290         |          |          |  |
| Percent Sag   | 12          |          |          |  |
| Sidewall  |             | N        | N        | (Previously rated "2" from 20/Mar/2002)  |
| Measured Span (mm)  |             |          |          |  |
| Measured At Ring No.  |             |          |          |  |
| Deflection (mm)   | 240         |          |          |  |
| Percent Deflection  | 12          |          |          |  |
| Floor   |             | N        | N        |  |
| Bulge (mm)  | 0           |          |          |  |
| Measured At Ring No.  |             |          |          |  |
| Abrasion (Y/N)  | No          |          |          |  |
| Circumferential Seams   |             | N        | N        |  |
| Separation (mm)   | 65          |          |          |  |
| Longitudinal Seams  |             | N        | N        | (20 cracked corrugations on 2nd section of pipe from South. 20mm steel remaining between cracks. 2002/03/20)         |
| Total No. of Cracked Rings  | 4           |          |          |  |
| Total No. of Rings with Two Cracked Seams   |             |          |          |  |
| Min. Remaining Steel Between Cracks (mm)  | 20          |          |          |  |
| Proper Lap (Y/N)  |             |          |          |  |
| Longitudinal Stagger (Y/N)  |             |          |          |  |
| Coating   |             | 5        | N        | Minor superficial rust of floor & lower sidewalls.-10-Aug-2008   |
| Corrosion By Soil (Y/N)   |             |          |          |  |
| Corrosion By Water (Y/N)  | Yes         |          |          |  |
| Camber POS/ZERO/NEG   | NEG         |          |          |  |

| Bridge Culvert Barrel   |       |          |          |  |
|---|-------|----------|----------|--|
| Culvert Component   |       | Last     | Now      | Explanation of Condition   |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2400, Type: MP) |       |          |          |  |
| Ponding (Y/N)   | Yes   |          |          | 1.2m-10-Aug-2008   |
| Fish Passage Adequacy   |       | 7        | 7        |  |
| Baffle  |       | X        | X        |  |
| (Type : )   |       |          |          |  |
| Waterway Adequacy   |       | 7        | 5        |  |
| Icing (Y/N)   | Yes   |          |          |  |
| Silting (Y/N)   | No    |          |          |  |
| Drift (Y/N)   | Yes   |          |          |  |
| <b>Barrel General Rating</b>  |       | <b>4</b> | <b>4</b> | Rating raised by 2 because of struts.<br>GR carried fwd from 10-Aug-2008 |
| Downstream End  |       |          |          |  |
| Culvert Component   |       | Last     | Now      | Explanation of Condition   |
| Direction   |       | N        |          |  |
| End Treatment (Concrete, Steel, Others, None)   | STEEL |          |          |  |
| Headwall  |       | X        | X        |  |
| Collar  |       | X        | X        |  |
| Wingwalls   |       | X        | X        |  |
| (Shape : )  |       |          |          |  |
| Cutoff Wall   |       | X        | X        |  |
| Bevel End   |       | N        | N        | (NE corner lockseam pulled apart for 300mm. 02/Mar/2002)<br>Submerged.   |
| Heaving (mm)  | 100   |          |          |  |
| Invert Above/Below Stream Bed   | BELOW |          |          |  |
| Above/Below (mm)  | 300   |          |          |  |
| Scour Protection  |       | 6        | N        | Not much rock visible, grassed over.-10-Aug-2008                         |
| (Type : <b>RIP RAP</b> )  |       |          |          |  |
| (Avg. Rock Size(mm) : <b>300</b> )  |       |          |          |  |
| Scour/Erosion   |       | 6        | N        |  |
| Beavers (Y/N)   | Yes   |          |          | Heavy drift buildup @ opening - photo.                                   |
| <b>Downstream End General Rating</b>  |       | <b>5</b> | <b>N</b> | GR was 5 on 10-Aug-2010  |
| Structure Usage   |       |          |          |  |
|   |       | Last     | Now      | Explanation of Condition   |
| Channel (U/S and D/S)   |       |          |          |  |
| Alignment   |       | 7        | 7        |  |
| Bank Stability  |       | 7        | 7        |  |
| HWM (m below Top of Culvert)  |       |          |          | HWM not visible  |
| Drift (Y/N)   | No    |          |          |  |
| Channel Bottom Degrading/Aggrading  |       |          |          |  |
| Beavers (Y/N)   | Yes   |          |          |  |
| (Fish Compensation Measure 1 : <b>NONE</b> )  |       |          |          |  |
| (Fish Compensation Measure 2 : <b>NONE</b> )  |       |          |          |  |
| <b>Channel General Rating</b>   |       | <b>7</b> | <b>7</b> |  |

| Maintenance Recommendations                       |   |  |                           |               |           |                   |     |
|---|---|--|---------------------------|---------------|-----------|-------------------|-----|
| Inspector Recommendations                         | Year  | Inspector Comments                       | Department Comments       | Target Year   | Est. Cost | Cat #             |     |
| SHOTCRETE REPAIRS                                 |   |  |                           |               |           |                   |     |
| PLACE ADDITIONAL RIP RAP                          |   |  |                           |               |           |                   |     |
| REMOVE DRIFT ACCUMULATION                         | 2012  | Remove dam from u/s and d/s.             |                           |               |           |                   |     |
| INSTALL CONCRETE/STEEL LINING                     |   |  |                           |               |           |                   |     |
| INSTALL STRUTS                                    |   |  |                           |               |           |                   |     |
| INSTALL CONCRETE COLLAR/CUTOFF                    |   |  |                           |               |           |                   |     |
| REPAIR SEAMS                                      |   |  |                           |               |           |                   |     |
| OTHER ACTION                                      | 2012  | Replace damage guardrail post.           |                           |               |           |                   |     |
| OTHER ACTION                                      |   |  |                           |               |           |                   |     |
| OTHER ACTION                                      |   |  |                           |               |           |                   |     |
| OTHER ACTION                                      |   |  |                           |               |           |                   |     |
| <b>Structural Condition Rating (Last/Now) (%)</b> | <b>44.4/44.4</b>  | <b>Sufficiency Rating (Last/Now) (%)</b> | <b>55.2/47.4</b>          | Est. Repl. Yr | 2026      | Maint. Req. (Y/N) | Yes |
| Special Comments for Next Inspection              | 93/02/18 - 19 cracked.<br>94/09/21 cracked.<br>99/10/21 cracked 10mm steel left.<br>00/10/21 cracked 20m of steel left. Monitor cracks. |  | 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                              | 14-Mar-2015   |  | Previous Inspection Date  | 10-Aug-2008   |           |                   |     |
| Inspection Cycle (Default) (months)               | 39  |  |                           |               |           |                   |     |
| Comment   |   |  |                           |               |           |                   |     |