

| Bridge Culvert Inspection |                              |  |                     |                 |
|---------------------------|------------------------------|--|---------------------|-----------------|
| Bridge File Number        | 01590 -1 Bridge Culvert      |  | Form Type           | CUL1            |
| Year Built                | 1972                         |  | Lot No.             | 4               |
| Bridge or Town Name       | ISLAND LAKE                  |  | Inspector Name      | Todd Warshawski |
| Located Over              | TRAIL-ANIMAL, OVER SP        |  | Inspector Class     | BR CLS B        |
| Located On                | 2:42 C1 25.404               |  | Assistant Name      |                 |
| Water Body Cl./Year       |                              |  | Assistant Class     |                 |
| Navigabil. Cl./Year       |                              |  | Inspection Date     | 29-Mar-2013     |
| Legal Land Location       | NE SEC 26 TWP 67 RGE 24 W4M  |  | Data Entry By       | Theresa Lacusta |
| Longitude, Latitude       | -113:32:34, 54:49:49         |  | Data Entry Date     | 17-Apr-2013     |
| Road Authority            | Alberta Transportation (AIT) |  | Reviewer Name       | Eric Carcoux    |
| Contract Main. Area       | CMA10                        |  | Review Date         | 03-Apr-2013     |
| Clear Roadway/Skew        | 10.4 /                       |  | Dept. Reviewer Name | Brent Herrick   |
| AADT/Year                 | 1,510 / 2012 (A)             |  | Dept. Review Date   | 23-Apr-2013     |
| Road Classification       | RAU-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   | -    | 1964           | CP   | 27.4   |               |                    | ROUND |
| Special Features           |        |      |                |      |        |               |                    |       |
| Special Features Comment   |        |      |                |      |        |               |                    |       |

| Posting Information                  |      |               |               |  |                  |    |      |    |               |  |                  |    |
|--------------------------------------|------|---------------|---------------|--|------------------|----|------|----|---------------|--|------------------|----|
| Required Vert. Clearance Posting (m) |      |               |               |  |                  |    |      |    |               |  |                  |    |
| Posted Vertical Clearance (Y/N)      |      |               |               |  |                  |    |      |    |               |  |                  |    |
| Posted:                              | Lane | NB            | On Bridge (m) |  | In Advance (Y/N) | No | Lane | SB | On Bridge (m) |  | In Advance (Y/N) | No |
| Remarks                              |      | Not required. |               |  |                  |    |      |    |               |  |                  |    |

| Utilities (Located at) |          |                      |                  |
|------------------------|----------|----------------------|------------------|
| Utility Attachments    |          |                      |                  |
| Telephone              | East r/w |                      | Gas              |
| Power                  |          |                      | Municipal        |
| Others                 |          |                      | Problem (Y/N) No |
| Remarks                |          | BF tag on West side. |                  |

| Approach Road / Embankment                       |        |          |          |                                    |
|--|--------|----------|----------|------------------------------------|
|  |        | Last     | Now      | Explanation of Condition           |
| Horizontal Alignment                             |        | 7        | 7        | Located on a curve, superelevated. |
| Vertical Alignment                               |        | 8        | 8        |                                    |
| Roadway Width (m)                                | 10.400 |          |          |                                    |
| Embankment                                       |        | 8        | 8        |                                    |
| Sideslope (___:1)                                | 3.0    |          |          |                                    |
| (Height of Cover(m) : 1.2)                       |        |          |          |                                    |
| Guardrail (Y/N)                                  | Yes    |          |          |                                    |
| <b>Approach Road / Embankment General Rating</b> |        | <b>7</b> | <b>7</b> |                                    |

| Upstream End                                  |  |      |     |                          |
|---|--|------|-----|--------------------------|
| <b>Culvert Component</b>                      |  | Last | Now | Explanation of Condition |
| Direction                                     |  | W    |     |                          |
| End Treatment (Concrete, Steel, Others, None) |  | NONE |     |                          |
| Headwall                                      |  | X    | X   |                          |
| Collar  |  | X    | X   |                          |

| Upstream End  |             |          |          |  |
|---|-------------|----------|----------|--|
| Culvert Component   |             | Last     | Now      | Explanation of Condition   |
| Wingwalls   |             | X        | X        |  |
| (Shape : )  |             |          |          |  |
| Cutoff Wall   |             | X        | X        |  |
| Bevel End   |             | X        | X        |  |
| Heaving (mm)  | 100         |          |          |  |
| Invert Above/Below Stream Bed   | BELOW       |          |          |  |
| Above/Below (mm)  | 300         |          |          |  |
| Scour Protection  |             | X        | X        |  |
| (Type : <b>NATURAL</b> )  |             |          |          |  |
| (Avg. Rock Size(mm) : )   |             |          |          |  |
| Scour/Erosion   |             | X        | X        |  |
| Beavers (Y/N)   | No          |          |          |  |
| <b>Upstream End General Rating</b>  |             | <b>8</b> | <b>8</b> |  |
| Bridge Culvert Barrel   |             |          |          |  |
| Culvert Component   |             | Last     | Now      | Explanation of Condition   |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1964, Type: CP) |             |          |          |  |
| Barrel Last Accessible Date   | 29-Mar-2013 |          |          |  |
| <b>Special Features</b>   |             |          |          |  |
| Special Feature   |             |          |          |  |
| (Type : )   |             |          |          |  |
| Special Feature   |             |          |          |  |
| (Type : )   |             |          |          |  |
| Roof  |             | 6        | 6        | Longitudinal medium crack on roof. Intermittent, R5,7,9,10.              |
| Measured Rise (mm)  | 1948        |          |          | U/S  |
| Measured At Ring No.  | 7           |          |          | Rise not measured due to ice.  |
| Sag (mm)  | 32          |          |          |  |
| Percent Sag   | 2           |          |          |  |
| Sidewall  |             | 7        | 7        |  |
| Measured Span (mm)  | 1990        |          |          |  |
| Measured At Ring No.  | 7           |          |          |  |
| Deflection (mm)   | 10          |          |          |  |
| Percent Deflection  | 1           |          |          |  |
| Floor   |             | 5        | N        | Small spall on floor, 3rd ring. Wide cracks in floor near c/l. -Jul-2009 |
| Bulge (mm)  | 0           |          |          | Water/ice covered  |
| Measured At Ring No.  |             |          |          |  |
| Abrasion (Y/N)  | No          |          |          |  |
| Circumferential Seams   |             | 6        | 6        | Minor leakage and soil infiltration.                                     |
| Separation (mm)   | 45          |          |          |  |
| 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        |  |
| Corrosion By Soil (Y/N)   | No          |          |          |  |
| Corrosion By Water (Y/N)  | No          |          |          |  |

| Bridge Culvert Barrel   |     |          |          |                          |
|---|-----|----------|----------|--------------------------|
| Culvert Component   |     | Last     | Now      | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1964, Type: CP) |     |          |          |                          |
| Camber POS/ZERO/NEG   | NEG |          |          |                          |
| Ponding (Y/N)   | No  |          |          |                          |
| Fish Passage Adequacy   |     | X        | X        |                          |
| Baffle  |     | X        | X        |                          |
| (Type : )   |     |          |          |                          |
| Waterway Adequacy   |     | X        | X        |                          |
| Icing (Y/N)   | No  |          |          |                          |
| Silting (Y/N)   | No  |          |          |                          |
| Drift (Y/N)   | No  |          |          |                          |
| <b>Barrel General Rating</b>  |     | <b>6</b> | <b>6</b> |                          |

| 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)                                  | 50   |          |          |                          |
| Invert Above/Below Stream Bed                 |      |          |          |                          |
| Above/Below (mm)                              | 0    |          |          |                          |
| Scour Protection                              |      | X        | X        |                          |
| (Type : <b>NATURAL</b> )                      |      |          |          |                          |
| (Avg. Rock Size(mm) : )                       |      |          |          |                          |
| Scour/Erosion                                 |      | X        | X        |                          |
| Beavers (Y/N)                                 | No   |          |          |                          |
| <b>Downstream End General Rating</b>          |      | <b>8</b> | <b>8</b> |                          |

| Structure Usage           |    |      |     |   |
|---------------------------|----|------|-----|---|
|                           |    | Last | Now | Explanation of Condition                          |
| <b>Grade Separation</b>   |    |      |     |   |
| Road Alignment            |    | 9    | X   | Small spall on floor and cracks noticed.-Jul,2009 |
| Roadway Surface           |    | 6    | N   |   |
| (Type : <b>CONCRETE</b> ) |    |      |     |   |
| Icing (Y/N)               | No |      |     |   |

| Structure Usage                        |      |          |          |                          |
|--|------|----------|----------|--------------------------|
|  |      | Last     | Now      | Explanation of Condition |
| Traffic Safety Features                |      | X        | X        |                          |
| Type                                   | NONE |          |          |                          |
| Lighting                               |      | X        | X        |                          |
| Barrel Leakage (Y/N)                   | Yes  |          |          | At seams                 |
| Drainage                               |      | 6        | 6        |                          |
| Structure In Use (Y/N)                 | Yes  |          |          | Snow mobiles.            |
| <b>Grade Separation General Rating</b> |      | <b>6</b> | <b>6</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                                      |                  |  |                           |               |           |                   |    |
| OTHER ACTION                                      |                  |  |                           |               |           |                   |    |
| OTHER ACTION                                      |                  |  |                           |               |           |                   |    |
| OTHER ACTION                                      |                  |  |                           |               |           |                   |    |
| <b>Structural Condition Rating (Last/Now) (%)</b> | <b>66.7/66.7</b> | <b>Sufficiency Rating (Last/Now) (%)</b> | <b>77.5/77.5</b>          | Est. Repl. Yr | 2035      | Maint. Req. (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                         | Kris Bosters     |  | Previous Assistant's Name |               |           |                   |    |
| Next Inspection Date                              | 29-Dec-2014      |  | Previous Inspection Date  | 07-Jul-2011   |           |                   |    |
| Inspection Cycle (Default) (months)               | 21               |  |                           |               |           |                   |    |
| Comment   |                  |  |                           |               |           |                   |    |