| Bridge Culvert Inspection                           |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
|---|--|--------|----------------------------------|--------------|--------------------------|-----------------|------------------|-----------------------|--------------|---------------|-----------------------|-------|--|
| Bridge File Num                                     | Bridge File Number 81153 -1 Bridge Culvert |        |                                  |              |                          | Form Type       |                  |                       | CUL1         |               |                       |       |  |
| Year Built 1989                                     |  |        |                                  |              |                          |                 | Lot No           |                       |              | 4             |                       |       |  |
| Bridge or Town                                      | Name                                       | LEDUC  | ;                                |              |                          |                 | Inspec           | tor Name              |              | Todd Warshav  | wski                  |       |  |
| Located Over  |  |        | RDER TRIBUTA<br>K, 6.95.2.6.2, W |              |                          | MUD             | Inspector Class  |                       | BR CLS B     |               |                       |       |  |
| Located On  |  |        | C1 10.487                        | ATEROIN      | J-J1                     |                 |                  | ant Name              |              |               |                       |       |  |
| Water Body Cl./                                     |  | 014.02 | 01 10.407                        |              |                          | Assistant Class |                  |                       |              |               |                       |       |  |
| Navigabil. Cl./Ye                                   |  |        |                                  |              |                          |                 |                  | tion Date             |              | 15-Mar-2012   |                       |       |  |
|   |  | S/W SE | C 14 TWP 49 R                    | OE 24 W      | // [//                   |                 | Data E           |                       |              | Theresa Lacus | sta                   |       |  |
|   |  |        | 1:55, 53:13:43                   |              | Data Entry Date          |                 |                  | 10-Apr-2012           |              |               |                       |       |  |
|   |  |        | Transportation                   | <b>(ΔΙΤ)</b> |                          | Reviewer Name   |                  |                       | Eric Carcoux |               |                       |       |  |
| Road Authority Alberta  Contract Main. Area CMA11   |  |        | •                                |              | Review Date              |                 |                  | 09-Apr-2012           |              |               |                       |       |  |
| Clear Roadway/Skew 10 /                             |  |        | <u> </u>                         |              | Dept. Reviewer Name      |                 |                  |                       |              |               |                       |       |  |
| AADT/Year   | ORCW                                       |        | 2011 (A)                         |              | Dept. Review Date        |                 | 11-Apr-2012      |                       |              |               |                       |       |  |
| Road Classificat                                    | tion                                       | RCU-2  | <u> </u>                         |              |                          |                 | Follow-Up By     |                       |              |               |                       |       |  |
| Detour Length (                                     |  | 3      |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Bridge Culvert Information                          |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Number of Culverts 1                                |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Pipe #  | Barrel                                     |        | Span Rise (or I                  |              | Dia.) Type               |                 |                  | Length                |              | Corr. Profile | Pl./Slab<br>Thickness | Shape |  |
| 1   | MAIN                                       |        | -                                | 1600         |                          | MP              |                  | 45                    |              | 75X25         | 2.8                   | ROUND |  |
| Special Feature                                     | s  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Special Feature                                     |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Utilities (Located at)                              |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Utility Attachments                                 |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Telephone West ditch.                               |  |        |                                  |              |                          | Gas             |                  | 16m North of culvert. |              |               |                       |       |  |
| Power 2 wires 22m East of c/l.                      |  |        |                                  |              |                          | Municipal       |                  |                       |              |               |                       |       |  |
| Others  |  |        |                                  |              |                          |                 | Problem (Y/N) No |                       |              |               |                       |       |  |
| Remarks Tag @ West end of pipe.                     |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
|   |  |        |                                  | A            | pproa                    | ch Road         | d / Emb          | ankment               |              |               |                       |       |  |
|   |  |        | Last                             | Now          | Explanation of Condition |                 |                  |                       |              |               |                       |       |  |
| Horizontal Alignment                                |  |        |                                  | 7            | 8                        |                 |                  |                       |              |               |                       |       |  |
| Vertical Alignment                                  |  | 40.000 | 000                              |              | 7                        |                 |                  |                       |              |               |                       |       |  |
| Roadway Width (m)                                   |  | 10.000 |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Embankment  |  |        |                                  | 8            | 8                        |                 |                  |                       |              |               |                       |       |  |
| Sideslope (   |  |        | 3.0                              |              |                          |                 |                  |                       |              |               |                       |       |  |
| (Height of Cover(m): 5.5)                           |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Guardrail (Y/N)                                     |  | No     |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Approach Road / Embankment General Rating           |  |        |                                  | 7            | 7                        |                 |                  |                       |              |               |                       |       |  |
|   |  |        |                                  |              |                          | Upstre          | am End           |                       |              |               |                       |       |  |
| <b>Culvert Compo</b>                                | nent                                       |        |                                  |              | Last                     | Now             | Explan           | ation of              | Condi        | tion          |                       |       |  |
| Direction   |  |        |                                  | W            |                          |                 |                  |                       |              |               |                       |       |  |
| End Treatment (Concrete, Steel, STEEL Others, None) |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Headwall  |  |        | Х                                | Х            |                          |                 |                  |                       |              |               |                       |       |  |
| Collar  |  |        | Х                                | Х            |                          |                 |                  |                       |              |               |                       |       |  |
| Wingwalls   |  |        | X                                | X            |                          |                 |                  |                       |              |               |                       |       |  |
| (Shape: )   |  |        |                                  |              |                          |                 |                  |                       |              |               |                       |       |  |
| Cutoff Wall   |  |        | X                                | X            |                          |                 |                  |                       |              |               |                       |       |  |

|   |                      |          | Heetus        | om End   |
|---|----------------------|----------|---------------|--|
| Culvert Component                                   |                      |          |               | eam End  |
| Culvert Component Bevel End                         |                      | Last 7   | Now 7         | Explanation of Condition                         |
| Heaving (mm)  | 50                   | /        |               |  |
| Invert Above/Below Stream Bed                       |                      |          |               |  |
|   | 500                  |          |               |  |
| Above/Below (mm) Scour Protection                   | 500                  | N        | 6             |  |
| (Type : RIP RAP)                                    |                      | IN       | 0             |  |
| , , ,   |                      |          |               |  |
| (Avg. Rock Size(mm) : <b>300</b> )<br>Scour/Erosion |                      | N        | 6             |  |
| SCOUI/ETOSIOTI                                      |                      | IN       | 6             |  |
| Beavers (Y/N)                                       | No                   |          |               |  |
| Upstream End General Rating                         |                      | 7        | 6             |  |
|   |                      | Brid     | dge <u>Cu</u> | Ivert Barrel                                     |
| Culvert Component                                   |                      |          | Now           | Explanation of Condition                         |
| (Pipe # : 1, Primary Span, Local                    | tion Code: MAIN, Spa | an (mm   | ı):           | , Rise (mm): 1600, Type: MP)                     |
| Barrel Last Accessible Date                         | 12-Dec-2008          |          |               | Viewed from ends, shape and condition appear ok. |
| Special Features                                    |                      |          |               |  |
| Special Feature                                     |                      |          |               |  |
| (Type:)   |                      |          |               |  |
| Special Feature                                     |                      |          |               |  |
| (Type:)   |                      | <u>'</u> |               |  |
| Roof  |                      | 7        | 7             | Sag estimated at less than 5%.                   |
| Measured Rise (mm)                                  |                      |          |               |  |
| Measured At Ring No.                                |                      |          |               |  |
| Sag (mm)  | 0                    |          |               |  |
| Percent Sag   |                      |          |               |  |
| Sidewall  |                      | 7        | 7             |  |
| Measured Span (mm)                                  | 1655                 |          |               | Deflection estimated at less than 5%.            |
| Measured At Ring No.                                | 11                   |          |               |  |
| Deflection (mm)                                     | 55                   |          |               | 3.4% - Dec, 2008                                 |
| Percent Deflection                                  | 3                    |          |               | 3.4% - Dec, 2006                                 |
| Floor   |                      | N        | N             | Ice covered.                                     |
| Bulge (mm)  |                      |          |               | 100 00101041                                     |
| Measured At Ring No.                                |                      |          |               |  |
| Abrasion (Y/N)                                      |                      |          |               |  |
| Circumferential Seams                               |                      | 7        | N             |  |
| Separation (mm)                                     | 10                   |          | 1.4           | -  |
| Longitudinal Seams                                  |                      | X        | Х             |  |
| Total No. of Cracked Rings                          |                      |          |               |  |
| Total No. of Rings with Two Cracked Seams           |                      |          |               |  |
| Min. Remaining Steel<br>Between Cracks (mm)         |                      |          |               |  |
| Proper Lap (Y/N)                                    |                      |          |               |  |
| Longitudinal Stagger (Y/N)                          |                      |          |               |  |
|   |                      | 6        | N             |  |
| Coating  Correction By Soil (V/N)                   | No                   | 0        | IN            |  |
| Corrosion By Soil (Y/N)                             |                      |          |               | -  |
| Corrosion By Water (Y/N)                            | Yes                  |          |               |  |
| Camber POS/ZERO/NEG                                 | NEG                  |          |               |  |
| Ponding (Y/N)                                       | Yes                  |          |               | (380mm. 05/Oct/2005)                             |

|   |                      | Brid  | Ivert Barrel |                                     |  |  |  |  |  |  |  |  |
|---|----------------------|-------|--------------|-------------------------------------|--|--|--|--|--|--|--|--|
| Culvert Component                                   |                      |       | Now          | Explanation of Condition            |  |  |  |  |  |  |  |  |
| (Pipe # : 1, Primary Span, Locat                    | tion Code: MAIN, Spa | n (mm | ):           | , Rise (mm): 1600, Type: MP)        |  |  |  |  |  |  |  |  |
| Fish Passage Adequacy                               |                      | 7     | 7            |                                     |  |  |  |  |  |  |  |  |
| Baffle  |                      | N     | Х            |                                     |  |  |  |  |  |  |  |  |
| (Type:)   |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Waterway Adequacy                                   |                      | 5     | 5            |                                     |  |  |  |  |  |  |  |  |
| Icing (Y/N)   | No                   |       |              |                                     |  |  |  |  |  |  |  |  |
| Silting (Y/N)                                       | No                   |       |              |                                     |  |  |  |  |  |  |  |  |
| Drift (Y/N)   | No                   |       |              |                                     |  |  |  |  |  |  |  |  |
| Barrel General Rating                               |                      | 7     | 7            |                                     |  |  |  |  |  |  |  |  |
| Downstream End                                      |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Culvert Component                                   |                      | Last  | Now          | Explanation of Condition            |  |  |  |  |  |  |  |  |
| Direction   |                      | Е     |              |                                     |  |  |  |  |  |  |  |  |
| End Treatment (Concrete, Steel, STEEL Others, None) |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Headwall  |                      |       | X            |                                     |  |  |  |  |  |  |  |  |
| Collar  |                      | Х     | X            |                                     |  |  |  |  |  |  |  |  |
| Wingwalls   |                      | X     | X            |                                     |  |  |  |  |  |  |  |  |
| (Shape: )   |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Cutoff Wall   |                      | Х     | X            |                                     |  |  |  |  |  |  |  |  |
| Bevel End   |                      |       | 7            |                                     |  |  |  |  |  |  |  |  |
| Heaving (mm)  | 50                   |       |              |                                     |  |  |  |  |  |  |  |  |
| Invert Above/Below Stream Bed BELOW                 |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Above/Below (mm) 600                                |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Scour Protection                                    |                      |       | 6            | Not much visible, small rock 200mm. |  |  |  |  |  |  |  |  |
| (Type : RIP RAP)                                    |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| (Avg. Rock Size(mm) : 200)                          |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Scour/Erosion                                       |                      |       | 6            |                                     |  |  |  |  |  |  |  |  |
| eavers (Y/N) No                                     |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Downstream End General Rating                       |                      |       | 6            |                                     |  |  |  |  |  |  |  |  |
|   |                      | S     | tructu       | re Usage                            |  |  |  |  |  |  |  |  |
|   |                      | Last  | Now          | Explanation of Condition            |  |  |  |  |  |  |  |  |
| Channel (U/S and D/S)                               |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Alignment   |                      |       | 7            |                                     |  |  |  |  |  |  |  |  |
| Bank Stability                                      |                      |       | 8            |                                     |  |  |  |  |  |  |  |  |
| HWM (m below Top of Culvert)                        |                      |       |              | HWM not visible.                    |  |  |  |  |  |  |  |  |
| Drift (Y/N) No                                      |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Channel Bottom AGGRADING Degrading/Aggrading        |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| Beavers (Y/N) No                                    |                      |       |              |                                     |  |  |  |  |  |  |  |  |
| (Fish Compensation Measure 1 :                      | NONE)                |       |              |                                     |  |  |  |  |  |  |  |  |
| (Fish Compensation Measure 2 :                      | NONE)                |       |              |                                     |  |  |  |  |  |  |  |  |
| Channel General Rating                              |                      |       | 7            |                                     |  |  |  |  |  |  |  |  |

|  |             |           | Maintenand                        | e Recommen | dations                |               |      |                |           |       |
|--|-------------|-----------|-----------------------------------|------------|------------------------|---------------|------|----------------|-----------|-------|
| Inspector Recommendations                  | Year        | Inspector | r Comments                        |            | Department Con         | nments        |      | Target Year    | Est. Cost | Cat # |
| SHOTCRETE REPAIRS                          |             |           |                                   |            |                        |               |      |                |           |       |
| PLACE ADDITIONAL RIP RAP                   |             |           |                                   |            |                        |               |      |                |           |       |
| REMOVE DRIFT ACCUMULATION                  |             |           |                                   |            |                        |               |      |                |           |       |
| INSTALL CONCRETE/STEEL LINING              | i           |           |                                   |            |                        |               |      |                |           |       |
| INSTALL STRUTS                             |             |           |                                   |            |                        |               |      |                |           |       |
| INSTALL CONCRETE COLLAR/CUTO               | OFF         |           |                                   |            |                        |               |      |                |           |       |
| REPAIR SEAMS                               |             |           |                                   |            |                        |               |      |                |           |       |
| OTHER ACTION                               |             |           |                                   |            |                        |               |      |                |           |       |
| OTHER ACTION                               |             |           |                                   |            |                        |               |      |                |           |       |
| OTHER ACTION                               |             |           |                                   |            |                        |               |      |                |           |       |
| OTHER ACTION                               |             |           |                                   |            |                        |               |      |                |           |       |
| Structural Condition Rating (Last/N (%)    | ow) 77.8/7  | 7.8       | Sufficiency Rating (Last/Now) (%) |            | 69.3/67.4              | Est. Repl. Yr | 2037 | Maint. Re      | qd. (Y/N) | No    |
| Special<br>Comments for<br>Next Inspection |             |           |                                   |            | Department<br>Comments |               |      |                |           |       |
| Maintenance Reviewed By                    |             |           |                                   |            | Date                   |               |      | Estimated Tota | I 0       |       |
| Proposed Long-Term Strategy                |             |           |                                   |            |                        |               |      |                |           |       |
| On 3-Year Program (Y/N)                    |             |           |                                   |            |                        |               |      |                |           |       |
| Proposed Action                            |             |           |                                   |            |                        |               |      |                |           |       |
| Previous Inspector's Name                  | Jason Saly  |           |                                   | Previous   | s Assistant's Name     | Bryce Clayton | n    |                |           |       |
| Next Inspection Date                       | 15-Jun-2015 |           |                                   | Previous   | Inspection Date        | 12-Dec-2008   |      |                |           |       |
| Inspection Cycle (Default) (months)        | 39          |           |                                   |            | ·                      |               |      |                |           |       |
| Comment                                    |             |           |                                   |            |                        |               |      |                |           |       |