

| Bridge Culvert Inspection | | | |
|---------------------------|---|---------------------|----------------|
| Bridge File Number | 77573 -1 Bridge Culvert | Form Type | CUL1 |
| Year Built | 1974 | Lot No. | 4 |
| Bridge or Town Name | BAWLF | Inspector Name | Owen Salava |
| Located Over | 2ND ORDER TRIBUTARY TO VERMILION RIVER, 6.5.44.1, WATERCRS-ST | Inspector Class | BR CLS A |
| Located On | 26:10 C1 30.817 | Assistant Name | |
| Water Body Cl./Year | | Assistant Class | |
| Navigabil. Cl./Year | | Inspection Date | 06-Nov-2012 |
| Legal Land Location | SW SEC 5 TWP 47 RGE 16 W4M | Data Entry By | Marcia Chavez |
| Longitude, Latitude | -112:18:52, 53:01:04 | Data Entry Date | 21-Nov-2012 |
| Road Authority | Alberta Transportation (AIT) | Reviewer Name | John O'Brien |
| Contract Main. Area | CMA16 | Review Date | 15-Nov-2012 |
| Clear Roadway/Skew | 9.4 / | Dept. Reviewer Name | Andrew Smikles |
| AADT/Year | 1,510 / 2011 (A) | Dept. Review Date | 26-Nov-2012 |
| Road Classification | RAU-209-110 | Follow-Up By | |
| Detour Length (km) | 6 | | |

Bridge Culvert Information

| | | | | | | | | |
|--------------------------|--------|------|----------------|------|--------|---------------|--------------------|-------|
| Number of Culverts | 1 | | | | | | | |
| Pipe # | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 1 | MAIN | - | 1524 | MP | 34.1 | 68X13 | 3.5 | ROUND |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

Utilities (Located at)

| | | | |
|---------------------|------------------------------|---------------|--------------------|
| Utility Attachments | | | |
| Telephone | South r/w. | Gas | Crosses 100m West. |
| Power | 2 wires OH 25m North of c/l. | Municipal | |
| Others | | Problem (Y/N) | No |
| Remarks | | | |

Approach Road / Embankment

| | | Last | Now | Explanation of Condition |
|--|-------|----------|----------|--------------------------|
| Horizontal Alignment | | 8 | 8 | |
| Vertical Alignment | | 9 | 9 | |
| Roadway Width (m) | 9.400 | | | |
| Embankment | | 8 | 8 | |
| Sideslope (__:1) | 3.0 | | | |
| (Height of Cover(m) : 3.4) | | | | |
| Guardrail (Y/N) | No | | | |
| Approach Road / Embankment General Rating | | 8 | 8 | |

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 | | 7 | 6 | |
| Heaving (mm) | 100 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 100 | | | |
| Scour Protection | | 7 | 6 | Well grassed over visible rock. |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 300) | | | | |
| Scour/Erosion | | 7 | 6 | |
| Beavers (Y/N) | No | | | |
| Upstream End General Rating | | 7 | 6 | |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1 , Primary Span, Location Code: MAIN , Span (mm): , Rise (mm): 1524 , Type: MP) | | | | |
| Barrel Last Accessible Date | 06-Nov-2012 | | | |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 7 | 6 | At mid span. |
| Measured Rise (mm) | 1510 | | | |
| Measured At Ring No. | | | | |
| Sag (mm) | 14 | | | |
| Percent Sag | 1 | | | |
| Sidewall | | 6 | 6 | @ mid span. |
| Measured Span (mm) | 1500 | | | |
| Measured At Ring No. | | | | |
| Deflection (mm) | 24 | | | 1.6% |
| Percent Deflection | 1 | | | |
| Floor | | 4 | 4 | Scaling rust lower 1/4. Loss of section - no action. |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 4 | 4 | Couplers scaled along floor - no action. |
| Separation (mm) | 175 | | | At N end circular seam (photo). |
| Longitudinal Seams | | 6 | 6 | Riveted. Superficial corrosion. |
| Total No. of Cracked Rings | 0 | | | |
| Total No. of Rings with Two Cracked Seams | 0 | | | |
| Min. Remaining Steel Between Cracks (mm) | | | | |
| Proper Lap (Y/N) | Yes | | | |
| Longitudinal Stagger (Y/N) | Yes | | | |
| Coating | | 4 | 4 | Lower 1/3 is heavily scaled with deep pitting. Alkaline stains. Heavy rusting on some rivets & seams. Loss of section on floor - no action. |
| Corrosion By Soil (Y/N) | Yes | | | |
| Corrosion By Water (Y/N) | Yes | | | |
| Camber POS/ZERO/NEG | NEG | | | |
| Ponding (Y/N) | No | | | |

| Bridge Culvert Barrel | | | | |
|---|-------|------|-----|--|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1524, Type: MP) | | | | |
| Fish Passage Adequacy | | 7 | 7 | |
| Baffle | | X | X | |
| (Type :) | | | | |
| Waterway Adequacy | | 8 | 6 | |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | No | | | |
| Drift (Y/N) | No | | | |
| Barrel General Rating | | 6 | 6 | |
| 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 | | 7 | 6 | |
| Heaving (mm) | 150 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 300 | | | |
| Scour Protection | | 4 | 6 | |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 300) | | | | |
| Scour/Erosion | | 4 | 6 | Excavated area 10m d/s, not typical scour shape. |
| Beavers (Y/N) | No | | | |
| Downstream End General Rating | | 4 | 6 | |
| Structure Usage | | | | |
| | | Last | Now | Explanation of Condition |
| Channel (U/S and D/S) | | | | |
| Alignment | | 8 | 8 | Man made channel. |
| Bank Stability | | 5 | 5 | Sloughing at NE bank ~20m d/s, no problem yet. |
| HWM (m below Top of Culvert) | | | | HWM not visible. |
| Drift (Y/N) | No | | | |
| Channel Bottom Degrading/Aggrading | | | | Unknown. |
| Beavers (Y/N) | No | | | |
| (Fish Compensation Measure 1 : NONE) | | | | |
| (Fish Compensation Measure 2 : NONE) | | | | |
| Channel General Rating | | 8 | 8 | |

| 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) (%) | 66.7/66.7 | Sufficiency Rating (Last/Now) (%) | 70.8/65.5 | Est. Repl. Yr | 2020 | Maint. Req'd. (Y/N) | No |
| Special Comments for Next Inspection | No maintenance recommended at this time, however pipe should be replaced or lined when hwy is upgraded. Monitor floor, consider concrete floor if steel softens or perforates. | | 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 | 06-Aug-2014 | | Previous Inspection Date | 10-Dec-2010 | | | |
| Inspection Cycle (Default) (months) | 21 | | | | | | |
| Comment | | | | | | | |