

| Bridge Culvert Inspection | | | |
|---------------------------|---|---------------------|---------------------|
| Bridge File Number | 80778 -1 Bridge Culvert | Form Type | CUL1 |
| Year Built | 1985 | Lot No. | 4 |
| Bridge or Town Name | GROVEDALE | Inspector Name | Russel Vanderschaaf |
| Located Over | 2ND ORDER TRIBUTARY TO CUTBANK RIVER, 8.10.58.20.2.1, WATERCRS-ST | Inspector Class | BR CLS B |
| Located On | 40:38 C1 48.165 | Assistant Name | |
| Water Body Cl./Year | | Assistant Class | |
| Navigabil. Cl./Year | | Inspection Date | 23-Aug-2012 |
| Legal Land Location | SW SEC 4 TWP 65 RGE 5 W6M | Data Entry By | Lisa Fairhurst |
| Longitude, Latitude | -118:42:05, 54:35:32 | Data Entry Date | 28-Sep-2012 |
| Road Authority | Alberta Transportation (AIT) | Reviewer Name | Eric Carcoux |
| Contract Main. Area | CMA05 | Review Date | 24-Sep-2012 |
| Clear Roadway/Skew | 10.2 / -63 deg. (LHF) | Dept. Reviewer Name | Steve Pasquan |
| AADT/Year | 1,220 / 2011 (A) | Dept. Review Date | 07-Jan-2013 |
| Road Classification | RAU-211.8-110 | Follow-Up By | |
| Detour Length (km) | 100 | | |

Bridge Culvert Information

| | | | | | | | | |
|--------------------------|--------|------|----------------|------|--------|---------------|--------------------|-------|
| Number of Culverts | 1 | | | | | | | |
| Pipe # | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 1 | MAIN | - | 2430 | SP | 208.5 | 152X51 | 4.0 | ROUND |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

Utilities (Located at)

| | | | |
|---------------------|---------------|---------------|----|
| Utility Attachments | | | |
| Telephone | | Gas | |
| Power | 6 W o/h W r/w | Municipal | |
| Others | | Problem (Y/N) | No |
| Remarks | | | |

Approach Road / Embankment

| | | Last | Now | Explanation of Condition |
|--|--------|----------|----------|---|
| Horizontal Alignment | | 8 | 8 | Long gradual sag curve. Passing both directions. |
| Vertical Alignment | | 7 | 7 | |
| Roadway Width (m) | 10.200 | | | |
| Embankment | | N | 4 | (D/S end N. side of pipe (area 20mx20m) Slide, channel washing away the toe of slide. Ditch erosion gullies at SW 2mx800x30m),SE(600x800x10)NE(800x600x20) Scour developing along s. side of collar from road runoff. Vegetation. |
| Sideslope (__:1) | 3.0 | | | |
| (Height of Cover(m) : 16) | | | | |
| Guardrail (Y/N) | Yes | | | WEST side only. |
| Approach Road / Embankment General Rating | | 7 | 7 | |

Upstream End

| Culvert Component | | Last | Now | Explanation of Condition |
|---|----------|------|-----|--------------------------|
| Direction | | E | | |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE | | | |
| Headwall | | 7 | 7 | |
| Collar | | N | 7 | |
| Wingwalls | | X | X | |
| (Shape :) | | | | |
| Cutoff Wall | | N | N | |

| Upstream End | | | | |
|---|-------------|----------|----------|---|
| Culvert Component | | Last | Now | Explanation of Condition |
| Bevel End | | N | 4 | |
| Heaving (mm) | 75 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 200 | | | |
| Scour Protection | | N | 4 | EROSION FROM DITCHES SCOURING ALONG S EDGE OF COLLAR |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 300) | | | | |
| Scour/Erosion | | N | 4 | |
| Beavers (Y/N) | No | | | |
| Upstream End General Rating | | 4 | 4 | |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1 , Primary Span, Location Code: MAIN , Span (mm): , Rise (mm): 2430 , Type: SP) | | | | |
| Barrel Last Accessible Date | 23-Aug-2012 | | | |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 6 | 6 | Upward deflection |
| Measured Rise (mm) | 2590 | | | |
| Measured At Ring No. | 60 | | | |
| Sag (mm) | 160 | | | |
| Percent Sag | 7 | | | |
| Sidewall | | 4 | 4 | Inward deflection R49 @ 9:00 115mm left between bolts.-photo |
| Measured Span (mm) | 2286 | | | |
| Measured At Ring No. | 60 | | | |
| Deflection (mm) | 149 | | | |
| Percent Deflection | 6 | | | |
| Floor | | N | 5 | |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | Yes | | | |
| Circumferential Seams | | 7 | 7 | Staggered 4N |
| Separation (mm) | 0 | | | |
| Longitudinal Seams | | 4 | 4 | R49 @ 9:00 115mm left between bolts. |
| Total No. of Cracked Rings | 1 | | | |
| Total No. of Rings with Two Cracked Seams | 0 | | | |
| Min. Remaining Steel Between Cracks (mm) | 115 | | | |
| Proper Lap (Y/N) | No | | | |
| Longitudinal Stagger (Y/N) | No | | | |
| Coating | | 6 | 5 | Minor superficial rust on floor of pipe 400mm wide strip. |
| Corrosion By Soil (Y/N) | Yes | | | |
| Corrosion By Water (Y/N) | Yes | | | |
| Camber POS/ZERO/NEG | ZERO | | | |
| 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): 2430, Type: SP) | | | | |
| Fish Passage Adequacy | | 7 | 7 | |
| Baffle | | X | X | |
| (Type :) | | | | |
| Waterway Adequacy | | 7 | 7 | |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | No | | | |
| Drift (Y/N) | No | | | |
| Barrel General Rating | | 4 | 4 | |
| Downstream End | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| Direction | | W | | |
| End Treatment (Concrete, Steel, Others, None) | STEEL | | | |
| Headwall | | X | X | |
| Collar | | X | X | |
| Wingwalls | | X | X | |
| (Shape :) | | | | |
| Cutoff Wall | | X | X | |
| Bevel End | | N | 5 | Top of bevel is deflecting inwards 200mm. |
| Heaving (mm) | 150 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 500 | | | |
| Scour Protection | | N | 5 | Sandstone. |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 300) | | | | |
| Scour/Erosion | | N | 5 | |
| Beavers (Y/N) | No | | | |
| Downstream End General Rating | | 5 | 5 | |
| 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 | NONE | | | Stable Beaver noted d/s |
| Beavers (Y/N) | Yes | | | |
| (Fish Compensation Measure 1 : NONE) | | | | |
| (Fish Compensation Measure 2 : NONE) | | | | |
| Channel General Rating | | 7 | 7 | |

| 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) (%) | 44.4/44.4 | Sufficiency Rating (Last/Now) (%) | 52.8/52.8 | Est. Repl. Yr | 2030 | Maint. Req. (Y/N) | No |
| Special Comments for Next Inspection | Minor erosion gullies and d/s bevel Monitor cracks at R49 and R23 | | 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 | Russel Vanderschaaf | | Previous Assistant's Name | | | | |
| Next Inspection Date | 23-May-2014 | | Previous Inspection Date | 24-Nov-2010 | | | |
| Inspection Cycle (Default) (months) | 21 | | | | | | |
| Comment | | | | | | | |