

| Bridge Culvert Inspection | | | |
|---------------------------|--|---------------------|---------------|
| Bridge File Number | 01482 -1 Bridge Culvert | Form Type | CULE |
| Year Built | 1952 | Lot No. | 2 |
| Bridge or Town Name | WALSH | Inspector Name | Tom Carey |
| Located Over | 2ND ORDER TRIBUTARY TO MACKAY CREEK, 28.2.3, WATERCRS-ST | Inspector Class | BR CLS A |
| Located On | 1:22 R1 37.585;1:22 L1 37.566 | Assistant Name | |
| Water Body Cl./Year | | Assistant Class | |
| Navigabil. Cl./Year | | Inspection Date | 08-Feb-2012 |
| Legal Land Location | NW SEC 30 TWP 11 RGE 1 W4M | Data Entry By | Lauren Korte |
| Longitude, Latitude | -110:08:14, 49:56:22 | Data Entry Date | 25-Mar-2012 |
| Road Authority | Alberta Transportation (AIT) | Reviewer Name | Garry Roberts |
| Contract Main. Area | CMA23 | Review Date | 26-Feb-2012 |
| Clear Roadway/Skew | 26 / -28 deg. (LHF) | Dept. Reviewer Name | Tim Davies |
| AADT/Year | 5,160 / 2011 (A) | Dept. Review Date | 29-Mar-2012 |
| Road Classification | RFD-412.4-130 | Follow-Up By | |
| Detour Length (km) | 1 | | |

Bridge Culvert Information

| Number of Culverts | 1 | | | | | | | |
|--------------------------|--------|------|----------------|------|--------|---------------|--------------------|-----------|
| Pipe # | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 1 | U/S | 5400 | 1800 | MP | 51 | 125X26 | 2.8 | ROUND |
| 1 | MAIN | 4560 | 1520 | BP | 77 | | | RECTANGLE |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

Utilities (Located at)

| | | | |
|---------------------|-----------------------------------|---------------|----|
| Utility Attachments | | | |
| Telephone | Fibre optics South ROW. | Gas | |
| Power | North side, 1-wire, 20m FROM C.L. | Municipal | |
| Others | | Problem (Y/N) | No |
| Remarks | | | |

Approach Road / Embankment

| | Last | Now | Explanation of Condition |
|--|----------|----------|--------------------------------------|
| Horizontal Alignment | 9 | 9 | 600 mm median drain 7 m to the West. |
| Vertical Alignment | 9 | 9 | |
| Roadway Width (m) | 26.000 | | |
| Embankment | 8 | 8 | |
| Sideslope (__:1) | 4.0 | | |
| (Height of Cover(m) : 0.6) | | | |
| Guardrail (Y/N) | Yes | | |
| Approach Road / Embankment General Rating | 9 | 9 | |

Upstream End

| Culvert Component | Last | Now | Explanation of Condition |
|---|-------|-----|---------------------------|
| Direction | S | | South 3 - CSP- West pipe. |
| End Treatment (Concrete, Steel, Others, None) | STEEL | | |
| Headwall | X | X | |
| Collar | X | X | |
| Wingwalls | X | X | |
| (Shape :) | | | |

| Upstream End | | | | |
|---|-------------|----------|----------|---------------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| Cutoff Wall | | X | X | |
| Bevel End | | 6 | 6 | |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 300 | | | |
| Scour Protection | | 7 | 7 | |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 450) | | | | |
| Scour/Erosion | | 7 | 7 | |
| Beavers (Y/N) | No | | | |
| Upstream End General Rating | | 6 | 6 | |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): 1800, Rise (mm): 1800, Type: MP, Cell Sequence: 1) | | | | |
| Barrel Last Accessible Date | 08-Feb-2012 | | | |
| Special Features | | | | |
| Special Feature | | | | West Pipe. |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 6 | 6 | |
| Measured Rise (mm) | 1730 | | | |
| Measured At Ring No. | 3 | | | |
| Sag (mm) | 70 | | | |
| Percent Sag | 4 | | | |
| Sidewall | | 6 | 6 | |
| Measured Span (mm) | 1825 | | | |
| Measured At Ring No. | 3 | | | |
| Deflection (mm) | 25 | | | |
| Percent Deflection | 2 | | | |
| Floor | | N | N | 100 mm DP ice. |
| Bulge (mm) | | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | | | | |
| Circumferential Seams | | 5 | 5 | 40mm vertical separation at R1. |
| Separation (mm) | 30 | | | |
| Longitudinal Seams | | X | X | |
| Total No. of Cracked Rings | 0 | | | |
| Total No. of Rings with Two Cracked Seams | 0 | | | |
| Min. Remaining Steel Between Cracks (mm) | 0 | | | |
| Proper Lap (Y/N) | | | | |
| Longitudinal Stagger (Y/N) | | | | |
| Coating | | 5 | 5 | Minor superficial. |
| Corrosion By Soil (Y/N) | No | | | |
| Corrosion By Water (Y/N) | Yes | | | |
| Camber POS/ZERO/NEG | ZERO | | | |

| Bridge Culvert Barrel | | | | |
|--|-------------|----------|----------|--|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): 1800, Rise (mm): 1800, Type: MP, Cell Sequence: 1) | | | | |
| Ponding (Y/N) | No | | | |
| 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 Extension General Rating | | 6 | 6 | |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): 1800, Rise (mm): 1800, Type: MP, Cell Sequence: 2) | | | | |
| Barrel Last Accessible Date | 08-Feb-2012 | | | Middle Pipe. |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 7 | 7 | |
| Measured Rise (mm) | 1745 | | | |
| Measured At Ring No. | 2 | | | |
| Sag (mm) | 55 | | | |
| Percent Sag | 3 | | | |
| Sidewall | | 7 | 7 | |
| Measured Span (mm) | 1829 | | | |
| Measured At Ring No. | 2 | | | |
| Deflection (mm) | 29 | | | |
| Percent Deflection | 1 | | | |
| Floor | | N | N | 100mm ice. |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | | | | |
| Circumferential Seams | | 7 | 5 | @ D/S ring. |
| Separation (mm) | 80 | | | |
| 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 | | 4 | 4 | Moderate corrosion at exposed roof area. Superficial and some scaling at floor. |
| Corrosion By Soil (Y/N) | Yes | | | |
| Corrosion By Water (Y/N) | Yes | | | |
| Camber POS/ZERO/NEG | ZERO | | | |

| Bridge Culvert Barrel | | | | |
|--|-------------|----------|----------|--|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): 1800, Rise (mm): 1800, Type: MP, Cell Sequence: 2) | | | | |
| Ponding (Y/N) | No | | | |
| 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 Extension General Rating | | 7 | 7 | |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): 1800, Rise (mm): 1800, Type: MP, Cell Sequence: 3) | | | | |
| Barrel Last Accessible Date | 08-Feb-2012 | | | East pipe. |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 7 | 7 | |
| Measured Rise (mm) | 1755 | | | |
| Measured At Ring No. | 3 | | | |
| Sag (mm) | 45 | | | |
| Percent Sag | 2 | | | |
| Sidewall | | 7 | 7 | |
| Measured Span (mm) | 1840 | | | |
| Measured At Ring No. | 3 | | | |
| Deflection (mm) | 40 | | | |
| Percent Deflection | 2 | | | |
| Floor | | N | N | 100mm DP ice. |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | | | | |
| Circumferential Seams | | 7 | 5 | At D/S. |
| Separation (mm) | 60 | | | |
| 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 | | 5 | 4 | Superficial rust on the lower part of The CSP- some scaling. Corrosion at exposed roof area. |
| Corrosion By Soil (Y/N) | Yes | | | |
| Corrosion By Water (Y/N) | Yes | | | |
| Camber POS/ZERO/NEG | ZERO | | | |

| Bridge Culvert Barrel | | | | |
|---|----|----------|----------|--------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): 1800, Rise (mm): 1800, Type: MP, Cell Sequence: 3) | | | | |
| Ponding (Y/N) | No | | | |
| 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 Extension General Rating | | 7 | 7 | |

| Bridge Culvert Barrel | | | | |
|--|-------------|------|-----|--------------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1520, Rise (mm): 1520, Type: BP, Cell Sequence: 1) | | | | |
| Barrel Last Accessible Date | 08-Feb-2012 | | | |
| Special Features | | | | |
| Special Feature | | | | West Pipe- concrete box. |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 6 | 6 | Narrow longitudinal cracks. |
| Measured Rise (mm) | | | | |
| Measured At Ring No. | | | | |
| Sag (mm) | | | | |
| Percent Sag | | | | |
| Sidewall | | 6 | 6 | Isolated wide vertical cracks. |
| Measured Span (mm) | | | | |
| Measured At Ring No. | | | | |
| Deflection (mm) | | | | |
| Percent Deflection | | | | |
| Floor | | 6 | 6 | |
| Bulge (mm) | | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | | | | |
| Circumferential Seams | | 6 | X | |
| Separation (mm) | | | | |
| Longitudinal Seams | | X | X | |
| Total No. of Cracked Rings | 0 | | | |
| Total No. of Rings with Two Cracked Seams | 0 | | | |
| Min. Remaining Steel Between Cracks (mm) | 0 | | | |
| Proper Lap (Y/N) | | | | |
| Longitudinal Stagger (Y/N) | | | | |
| Coating | | X | X | |
| Corrosion By Soil (Y/N) | No | | | |
| Corrosion By Water (Y/N) | No | | | |
| Camber POS/ZERO/NEG | ZERO | | | |

| Bridge Culvert Barrel | | | | |
|--|----|----------|----------|--------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1520, Rise (mm): 1520, Type: BP, Cell Sequence: 1) | | | | |
| Ponding (Y/N) | No | | | |
| 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 | | 6 | 6 | |

| Bridge Culvert Barrel | | | | |
|--|-------------|------|-----|----------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1520, Rise (mm): 1520, Type: BP, Cell Sequence: 2) | | | | |
| Barrel Last Accessible Date | 08-Feb-2012 | | | Middle Pipe- concrete box. |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 7 | 7 | |
| Measured Rise (mm) | | | | |
| Measured At Ring No. | | | | |
| Sag (mm) | | | | |
| Percent Sag | | | | |
| Sidewall | | 7 | 7 | |
| Measured Span (mm) | | | | |
| Measured At Ring No. | | | | |
| Deflection (mm) | | | | |
| Percent Deflection | | | | |
| Floor | | 6 | 5 | Medium scaling @ D/S. |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 6 | X | |
| Separation (mm) | | | | |
| 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 | | | |
| Camber POS/ZERO/NEG | ZERO | | | |

| Bridge Culvert Barrel | | | | |
|--|----|----------|----------|--------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1520, Rise (mm): 1520, Type: BP, Cell Sequence: 2) | | | | |
| Ponding (Y/N) | No | | | |
| 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 | | 7 | 7 | |

| Bridge Culvert Barrel | | | | |
|--|-------------|------|-----|--------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1520, Rise (mm): 1520, Type: BP, Cell Sequence: 3) | | | | |
| Barrel Last Accessible Date | 08-Feb-2012 | | | East pipe- concrete box. |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 7 | 7 | |
| Measured Rise (mm) | | | | |
| Measured At Ring No. | | | | |
| Sag (mm) | | | | |
| Percent Sag | | | | |
| Sidewall | | 7 | 7 | |
| Measured Span (mm) | | | | |
| Measured At Ring No. | | | | |
| Deflection (mm) | | | | |
| Percent Deflection | | | | |
| Floor | | 6 | 6 | |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 6 | X | |
| Separation (mm) | | | | |
| 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 | | | |
| Camber POS/ZERO/NEG | ZERO | | | |

| Bridge Culvert Barrel | | | | |
|---|-----------|----------|----------|---|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1520, Rise (mm): 1520, Type: BP, Cell Sequence: 3) | | | | |
| Ponding (Y/N) | No | | | |
| 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 | | 7 | 7 | |
| Downstream End | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| Direction | | N | | North end. Concrete boxes. |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE | | | |
| Headwall | | 5 | 5 | Medium scaling & isolated spalling. |
| Collar | | X | X | |
| Wingwalls | | 5 | 5 | Medium scaling. |
| (Shape :) | | | | |
| Cutoff Wall | | X | X | |
| Bevel End | | X | X | |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 200 | | | |
| Scour Protection | | 6 | 6 | Well ingrown. |
| (Type :) | | | | |
| (Avg. Rock Size(mm) :) | | | | |
| Scour/Erosion | | 6 | 6 | |
| Beavers (Y/N) | No | | | |
| Downstream End General Rating | | 5 | 5 | |
| Structure Usage | | | | |
| | | Last | Now | Explanation of Condition |
| Channel (U/S and D/S) | | | | |
| Alignment | | 6 | 5 | Flows from over flow of pond to SE- Enters @ 900 angle. |
| Bank Stability | | 7 | 7 | Willows growing throughout channel. |
| HWM (m below Top of Culvert) | 0.5 | | | (1.1 m HWM SB U/S 0.3 m D/S 940317) |
| Drift (Y/N) | No | | | |
| Channel Bottom Degrading/Aggrading | DEGRADING | | | |
| Beavers (Y/N) | No | | | |
| (Fish Compensation Measure 1 : NONE) | | | | |
| (Fish Compensation Measure 2 : NONE) | | | | |
| Channel General Rating | | 6 | 5 | |

| 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) (%) | 67.6/67.0 | Est. Repl. Yr | 2020 | 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 | Garry Roberts | | Previous Assistant's Name | | | | |
| Next Inspection Date | 08-Nov-2013 | | Previous Inspection Date | 13-Jul-2010 | | | |
| Inspection Cycle (Default) (months) | 21 | | | | | | |
| Comment | | | | | | | |