

| Bridge Culvert Inspection | | | |
|---------------------------|--------------------------------------|---------------------|-----------------|
| Bridge File Number | 71477 -1 Bridge Culvert | Form Type | CULE |
| Year Built/Lined | 1965/2008 | Lot No. | 4 |
| Bridge or Town Name | ELK POINT | Inspector Name | Wade Nanninga |
| Located Over | KEHIWIN CREEK, 7.12.4.2, WATERCRS-ST | Inspector Class | BR CLS A |
| Located On | 41:23 C1 1.045 | Assistant Name | |
| Water Body Cl./Year | | Assistant Class | |
| Navigabil. Cl./Year | | Inspection Date | 10-Apr-2012 |
| Legal Land Location | NW SEC 6 TWP 58 RGE 6 W4M | Data Entry By | Theresa Lacusta |
| Longitude, Latitude | -110:53:17, 53:59:14 | Data Entry Date | 08-May-2012 |
| Road Authority | Alberta Transportation (AIT) | Reviewer Name | Eric Carcoux |
| Contract Main. Area | CMA08 | Review Date | 17-Apr-2012 |
| Clear Roadway/Skew | 8.8 / 30 deg. (RHF) | Dept. Reviewer Name | Brent Herrick |
| AADT/Year | 1,500 / 2011 (A) | Dept. Review Date | 12-Jun-2012 |
| Road Classification | RAU-209-110 | Follow-Up By | |
| Detour Length (km) | 30 | | |

| Bridge Culvert Information | | | | | | | | |
|----------------------------|-----------------|------|----------------|------|--------|---------------|--------------------|-------|
| Number of Culverts | | 2 | | | | | | |
| Pipe # | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 2 | U/S FULL LINER | - | 1600 | MP | 11.3 | 125X26 | 2.8 | ROUND |
| 2 | MAIN FULL LINER | - | 1372 | SSP | 23 | | 12.0 | ROUND |
| 2 | D/S FULL LINER | - | 1600 | MP | 11.3 | 125X26 | 2.8 | ROUND |
| 3 | U/S | - | 2000 | MP | 11.3 | 125X26 | 2.8 | ROUND |
| 3 | MAIN | - | 1829 | SSP | 23 | | 12.0 | ROUND |
| 3 | D/S | - | 2000 | MP | 11.3 | 125X26 | 2.8 | ROUND |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

| Utilities (Located at) | | | |
|------------------------|--|--|------------------|
| Utility Attachments | | | |
| Telephone | | | Gas |
| Power | 3 wires OH East r/w. Power crosses road 40m south. | | Municipal |
| Others | | | Problem (Y/N) No |
| Remarks | No BF tag installed. | | |

| Approach Road / Embankment | | | | |
|--|--|----------|----------|---|
| | | Last | Now | Explanation of Condition |
| Horizontal Alignment | | 5 | 5 | Blind curve left when NB. Blind crest curve when SB. No passing either direction. Posted for 85km/hr |
| Vertical Alignment | | 5 | 5 | |
| Roadway Width (m) | | 8.800 | | |
| Embankment | | 6 | 4 | Sloughing 10m d/s next to RR65A-3mx1m |
| Sideslope (__:1) | | 3.0 | | |
| (Height of Cover(m) : 4) | | | | |
| Guardrail (Y/N) | | Yes | | E side only |
| Approach Road / Embankment General Rating | | 5 | 5 | |

| Upstream End | | | | | |
|--|--|-------------|----------|---|--|
| Culvert Component | | Last | Now | Explanation of Condition | |
| (Pipe # : 2, Span Type: Primary Span) | | | | | |
| Direction | | W | | South pipe. | |
| End Treatment (Concrete, Steel, Others, None) | | STEEL | | | |
| Headwall | | X | X | | |
| Collar | | X | X | | |
| Wingwalls (Shape :) | | X | X | | |
| Cutoff Wall | | X | X | | |
| Bevel End | | 9 | 9 | | |
| Heaving (mm) | | 50 | | | |
| Invert Above/Below Stream Bed | | BELOW | | | |
| Above/Below (mm) | | 100 | | | |
| Scour Protection (Type : RIP RAP) (Avg. Rock Size(mm) : 250) | | 7 | 7 | | |
| Scour/Erosion | | 7 | 7 | 20m & 50m u/s. | |
| Beavers (Y/N) | | Yes | | | |
| Upstream End General Rating | | 7 | 7 | | |
| Bridge Culvert Barrel | | | | | |
| Culvert Component | | Last | Now | Explanation of Condition | |
| (Pipe # : 2, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 1600, Type: MP) | | | | | |
| Barrel Last Accessible Date | | 14-Jul-2010 | | Rate u/s and d/s 1600mm, ends in this section. Water too deep to enter, viewed from u/s end - d/s submerged. | |
| Special Features | | | | | |
| Special Feature (Type :) | | | | | |
| Special Feature (Type :) | | | | | |
| Roof | | 8 | N | | |
| Measured Rise (mm) | | 1594 | | | |
| Measured At Ring No. | | | | 14-Jul-2010 | |
| Sag (mm) | | 6 | | | |
| Percent Sag | | 1 | | | |
| Sidewall | | 8 | N | | |
| Measured Span (mm) | | 1629 | | | |
| Measured At Ring No. | | | | 14-Jul-2010 | |
| Deflection (mm) | | 29 | | | |
| Percent Deflection | | 2 | | | |
| Floor | | 8 | N | | |
| Bulge (mm) | | 0 | | | |
| Measured At Ring No. | | | | | |
| Abrasion (Y/N) | | No | | | |
| Circumferential Seams | | 7 | N | Grouted connection between 1372 dia/1600 dia. | |
| Separation (mm) | | 0 | | | |

| Bridge Culvert Barrel | | | | |
|--|-------------|----------|----------|---|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 2, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 1600, Type: MP) | | | | |
| 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 | | 8 | 8 | |
| Corrosion By Soil (Y/N) | No | | | |
| Corrosion By Water (Y/N) | No | | | |
| Camber POS/ZERO/NEG | ZERO | | | |
| 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 | | 8 | N | GR 8 from July 2010. |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 2, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1372, Type: SSP) | | | | |
| Barrel Last Accessible Date | 14-Jul-2010 | | | (Only first 40% of pipe accessible. D/S blocked by drift (photo) -14-Jul-2010. Outlet submerged. Water too deep to enter-viewed from u/s end, looks good. |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 8 | N | 10m d/s. |
| Measured Rise (mm) | 1342 | | | |
| Measured At Ring No. | | | | |
| Sag (mm) | 30 | | | |
| Percent Sag | 2 | | | |
| Sidewall | | 8 | N | 10m d/s Negative deflection. |
| Measured Span (mm) | 1334 | | | |
| Measured At Ring No. | | | | |
| Deflection (mm) | 38 | | | |
| Percent Deflection | 2 | | | |
| Floor | | 8 | N | |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 7 | N | Grouted connection between 1372 dia/1600 dia. |
| Separation (mm) | 0 | | | |

| Bridge Culvert Barrel | | | | |
|--|-------|----------|----------|--|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 2, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1372, Type: SSP) | | | | |
| 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) | Yes | | | |
| Camber POS/ZERO/NEG | ZERO | | | |
| Ponding (Y/N) | No | | | |
| Fish Passage Adequacy | | 7 | 7 | |
| Baffle | | X | X | |
| (Type :) | | | | |
| Waterway Adequacy | | 7 | 7 | D/S half. Barrel partially blocked.-photo-14-Jul-2010 |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | Yes | | | |
| Drift (Y/N) | Yes | | | |
| Barrel General Rating | | 8 | N | GR previously '8' from July 2010 |
| Downstream End | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 2, Span Type: Primary Span) | | | | |
| Direction | | E | | |
| End Treatment (Concrete, Steel, Others, None) | STEEL | | | |
| Headwall | | X | X | |
| Collar | | X | X | |
| Wingwalls | | X | X | |
| (Shape :) | | | | |
| Cutoff Wall | | X | X | |
| Bevel End | | 8 | N | Submerged. |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | | | | |
| Above/Below (mm) | 0 | | | |
| Scour Protection | | 7 | 6 | |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 250) | | | | |
| Scour/Erosion | | 7 | 6 | |
| Beavers (Y/N) | Yes | | | 10m d/s. |
| Downstream End General Rating | | 7 | 6 | |

| Upstream End | | | | |
|---|-------------|----------|----------|--------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 3, Span Type: Secondary Span) | | | | |
| Direction | | W | | North pipe. |
| End Treatment (Concrete, Steel, Others, None) | STEEL | | | |
| Headwall | | X | X | |
| Collar | | X | X | |
| Wingwalls (Shape :) | | X | X | |
| Cutoff Wall | | X | X | |
| Bevel End | | 8 | 8 | |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | | | | |
| Above/Below (mm) | 0 | | | |
| Scour Protection (Type : RIP RAP) (Avg. Rock Size(mm) : 250) | | 7 | 7 | |
| Scour/Erosion | | 7 | 7 | |
| Beavers (Y/N) | Yes | | | 20m & 50m u/s. |
| Upstream End General Rating | | 7 | 7 | |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1829, Type: SSP) | | | | |
| Barrel Last Accessible Date | 10-Apr-2012 | | | |
| Special Features | | | | |
| Special Feature (Type :) | | | | |
| Special Feature (Type :) | | | | |
| Roof | | 7 | 7 | At c/l. |
| Measured Rise (mm) | 1760 | | | |
| Measured At Ring No. | | | | |
| Sag (mm) | 69 | | | |
| Percent Sag | 4 | | | |
| Sidewall | | 8 | 8 | @ cl |
| Measured Span (mm) | 1840 | | | |
| Measured At Ring No. | | | | |
| Deflection (mm) | 11 | | | |
| Percent Deflection | 1 | | | |
| Floor | | 9 | N | |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 7 | 7 | One welded seam. |
| Separation (mm) | 0 | | | |

| Bridge Culvert Barrel | | | | |
|---|------|----------|----------|--------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1829, Type: SSP) | | | | |
| 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) | Yes | | | |
| Camber POS/ZERO/NEG | ZERO | | | |
| Ponding (Y/N) | No | | | |
| Fish Passage Adequacy | | 7 | 7 | |
| Baffle | | X | X | |
| (Type :) | | | | |
| Waterway Adequacy | | 9 | 9 | |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | No | | | |
| Drift (Y/N) | Yes | | | |
| Barrel General Rating | | 7 | 7 | |

| Bridge Culvert Barrel | | | | |
|---|-------------|------|-----|---|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 3, Secondary Span, Location Code: U/S, Span (mm): , Rise (mm): 2000, Type: MP) | | | | |
| Barrel Last Accessible Date | 12-Apr-2012 | | | Rated u/s & d/s 2000mm dia. ends in this section. |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 6 | 6 | Measurements and comments based on u/s section. Mid point of u/s section. Slight roof flattening/deformation near grouted connection-likely occurred during construction. |
| Measured Rise (mm) | 1945 | | | |
| Measured At Ring No. | | | | |
| Sag (mm) | 55 | | | |
| Percent Sag | 2 | | | |
| Sidewall | | 8 | 8 | Mid point of u/s section. |
| Measured Span (mm) | 2002 | | | |
| Measured At Ring No. | | | | |
| Deflection (mm) | 2 | | | |
| Percent Deflection | | | | |
| Floor | | 8 | N | 600mm water in pipe. |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 7 | 7 | Grouted connection between 2000 dia/1829 dia. |
| Separation (mm) | 0 | | | |

| Bridge Culvert Barrel | | | | |
|---|-------|----------|----------|--------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 3, Secondary Span, Location Code: U/S, Span (mm): , Rise (mm): 2000, Type: MP) | | | | |
| 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 | | 9 | 9 | |
| Corrosion By Soil (Y/N) | No | | | |
| Corrosion By Water (Y/N) | No | | | |
| Camber POS/ZERO/NEG | ZERO | | | |
| 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 | |
| Downstream End | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 3, Span Type: Secondary Span) | | | | |
| Direction | | E | | |
| End Treatment (Concrete, Steel, Others, None) | STEEL | | | |
| Headwall | | X | X | |
| Collar | | X | X | |
| Wingwalls | | X | X | |
| (Shape :) | | | | |
| Cutoff Wall | | X | X | |
| Bevel End | | 8 | 8 | |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | | | | |
| Above/Below (mm) | 0 | | | |
| Scour Protection | | 7 | 6 | |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 250) | | | | |
| Scour/Erosion | | 7 | 6 | |
| Beavers (Y/N) | Yes | | | 10m d/s. |
| Downstream End General Rating | | 7 | 6 | |

| Structure Usage | | | | |
|--|-----------|----------|----------|---|
| | | Last | Now | Explanation of Condition |
| Channel (U/S and D/S) | | | | |
| Alignment | | 5 | 5 | 60 degree bends in alignment at both ends. Very steep banks along local road. |
| Bank Stability | | 7 | 4 | Sloughing banks both directions. |
| HWM (m below Top of Culvert) | | | | HWM not visible. |
| Drift (Y/N) | Yes | | | |
| Channel Bottom Degrading/Aggrading | DEGRADING | | | |
| Beavers (Y/N) | Yes | | | |
| (Fish Compensation Measure 1 : NONE) | | | | |
| (Fish Compensation Measure 2 : NONE) | | | | |
| Channel General Rating | | 5 | 4 | |

| 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) (%) | 67.4/65.7 | Est. Repl. Yr | 2048 | 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 | Shane Hall | | Previous Assistant's Name | | | | |
| Next Inspection Date | 10-Jan-2014 | | Previous Inspection Date | 15-Jul-2010 | | | |
| Inspection Cycle (Default) (months) | 21 | | | | | | |
| Comment | | | | | | | |