

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02836E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836E - JULIET EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON
 14-D-@-00394 - Juliet Creek Road - UNDER

Features Crossed: COQUIHALLA HWY #5 / JULIET CREEK / JULIET CREEK ROAD

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		100					N
4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		95	5				N
7. Wing/Retaining Walls		100					N
8. Embankment		100					N
9. Footings/Piling							Y
10. Pier Columns/Walls/Cribs		99	1				N
11. Bearings		100					N
12. Caps		99	1				N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		100					N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y
DECK :							
30. Sub Deck/Cross Ties		70	30				N
31. Wearing Surface		95	5				N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		99			1		N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting			100				N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 87.000

Note: First abutment is South as shown on the drawings.
 Upstream channel is West

Main Span Length: 36.000

Main Span Type: STRINGER

Spans: 3

Urgency: 4

BCI Rating: 2.05

Adjusted BCI Rating: 2.13

Inspector/Inspected By: T. RYU

On 2019/05/09

Amendment/Partial Inspection?

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Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2019:

- bearings cracking at piers
- Seismic Bolts are broken on bearings
- damaged approaches - scheduled to be repaved during summer 2018 Phase 1 paving project

Utility Concerns Note: 2 metal conduits under east parapet

Item Notes:

- | | | |
|------|--------------------------|--|
| 1 . | Debris Risk | 2019:
- no debris build up at time of inspection |
| 2 . | Channel | 2015 low water |
| 4 . | Substructure Scour | 2019:
- monitor for scour

Previous Notes:
2014 scour caused by drain near downstream pile, north pier by road |
| 6 . | Abutments | 2019:
- monitor abutments for delamination.

Previous Notes:
Abt delaminated at previously injected area at s abt, s/w corner under bearing.
2013 footing exposed
2016- south abutment has multiple areas of delam |
| 8 . | Embankment | high fill north end |
| 10 . | Pier Columns/Walls/Cribs | 2015 pier 2, downstream column minor delam/spall |
| 11 . | Bearings | 2019:
- bearings cracking at piers
- Pier 2, Bay 4: Seismic bolts are broken

Previous Notes:
2016 - bearings cracking at piers |
| 12 . | Caps | 2019:
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Previous Notes:
suspect piers delaminated. no delam noted at abutments
2009 - heavy delaminated areas both pier caps including most areas previously epoxy injected.
2011 - about 30% cap surface area delaminated
2012 - repaired
2015 delam returning in isolated areas mostly associated with seismic blackout |
| 17 . | Girders | 2 girders (# 3 & 4) on north abutment spalled at ends. In one case exposing bar.
2009 exposed bars at BF in a number of girders particularly at pier 1. Also noted web ends cracked. no exposed strands noted.
2011 no new spalls noted
2012 repaired |
| 19 . | Bracing/Diaphragms | 2011 spalls at end diaphragm
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| 30 . | Sub Deck/Cross Ties | 2019:
- subdeck cracks with efflorescence particularly north span. |

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District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

31 . Wearing Surface

2007 deck survey noted 4.6% delam
 Many transverse and diagonal cracks, future pothole at span 3
 2009 spot chained on span 3 slow lane. Deep wide sounding delaminations particularly the right wheelpath which is where a rubbled portion of concrete is. Numerous cracks.
 2010 js deck survey, 0.4% delam
 2011 slow lane chained around patch area. patch sound but there are some 4m2 delam around it
 2013 linseeded
 2015 no patches last CY
 2016 - noted 2 potholes MR
 2017 - 1 pothole

32 . Deck Joints

2010 during moderate rainfall no joints leak, s abt and 2 pier caps dry. slow lane north abt wet where polycraft has failed
 2012 spray patched over polycraft
 2016 - noted water on abutments at North

35 . Railings/Parapets

2019:
 - monitor rail for tightness.

Previous Notes:

2015 approach slow lane steel rail loose but bolts are tight.

39 . Signing/Lighting

Juliet bridge sign hanger bent.

40 . Roadway Approaches

2018:
 - approaches scheduled to be repaved during 2018 Phase 1 summer paving project

Previous Notes:

paving in 2006 took care of north end.
 Interface between concrete and asphalt failing at north approach.
 2011 - north end spray patched in May

Item Condition Photos:

6 . Abutments



Filename: abt 1 delam.JPG



Filename: 2013 se corner.JPG

10 . Pier Columns/Walls/Cribs



Filename: 2015 spall other side of column. this photo shows cap delam.JPG

12 . Caps



Filename: 2011 north piercap.JPG



Filename: P7140028.JPG



Filename: 2012 pier 2 complete.JPG
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Item Condition Photos:

17 Girders



Filename: 2011 at pier #1.JPG

19 Bracing/Diaphragms



Filename: 2011 shows delam.JPG

31 Wearing Surface



Filename: P5180164.JPG

32 Deck Joints



Filename: PB010222.JPG
Filename: PB010220.JPG

Inspection Notes:**General Inspection Notes**

2009 Snooper
2011 Snooper

Other Posted Hazard Warning Signs

4.9m height restriction under bridge (part of U turn route)

Drainage Area Description

Juliet Creek

**BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
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Inspection Notes:

Rehab Work Notes

Deck rehabilitation completed in Summer 2002. Seismic restraints altered at that time.

Deck inspection in 2007, 4.6% delam

Deck inspection in 2010, 0.4% delam

Maintenance Work Notes

Surtreat application test area with Levelton's (sept 1999)

Epoxy injection on pier and abutments

deck DPS'd and cracksealed 1 year after resurfacing.

2008, 2009, 2010, 2011 & 2013 linseed applications

2009 deck epoxy injection, approach patching and polycraft at bridge ends

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SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		95	5				N
7. Wing/Retaining Walls		100					N
8. Embankment		100					N
9. Footings/Piling							Y
10. Pier Columns/Walls/Cribs		99	1				N
11. Bearings		100					N
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13. Corbels							Y
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SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		100					N
18. Portals							Y
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20. Truss Chords/Arch Ribs							Y
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24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
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HYDROTECHNICAL :							
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2. Channel		100					N
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4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		95	5				N
7. Wing/Retaining Walls		100					N
8. Embankment		90	5	5			N
9. Footings/Piling						100	N
10. Pier Columns/Walls/Cribs		99	1				N
11. Bearings		95	5				N
12. Caps		99	1				N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		100					N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		50			50		N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y
DECK :							
30. Sub Deck/Cross Ties		60	25	15			N
31. Wearing Surface		70	20	10			N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		95		5			N
36. Median Barrier							Y
37. Drains/Pipes		95		5			N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting		75	25				N
40. Roadway Approaches		80	20				N
41. Roadway Flares		98	2				N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 87.000

Note: First abutment is South as shown on the drawings.
 Upstream channel is West

Main Span Length: 36.000

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Spans: 3

Urgency: 4

BCI Rating: 2.18

Adjusted BCI Rating: 2.37

Inspector/Inspected By: KELLY MCKEN/TMACK

On 2021/04/23

Amendment/Partial Inspection?

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Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2021

- wearing surface has numerous patches ,delaminations ,patches and transverse cracks
- subdeck has extensive map cracking and efflorescence

Utility Concerns Note: 2 metal conduits under east parapet

Item Notes:

- | | | |
|------|--------------------------|---|
| 1 . | Debris Risk | 2021
- no debris at time of inspection |
| 2 . | Channel | 2021
- skew is 40 degrees (considered poor) but both piers are inline and well outside of channel
- banks appears stable
- bed appears stable
- adequacy is good , waterway matches floodway |
| 3 . | Erosion Protection | 2021
- adequate rip rap on both banks |
| 4 . | Substructure Scour | No scour problems noted at the time of the inspection |
| 5 . | Foundation Movement | No foundation movement noted |
| 6 . | Abutments | 2021
South abutment
- breast wall has previous epoxy injection
- breast wall under girder A large delamination
- bearing seat under bearing A large wide crack
- breast wall 4 other medium delaminations

North abutment
- breast wall has previous epoxy injection
- bearing seat west side of girder A large delamination |
| 8 . | Embankment | 2021
South abutment
- east corner scour (footing exposed , drain extension fallen off)
North abutment
- east and west corner scour |
| 9 . | Footings/Piling | 2021
- both abutments are on buried spread footings
- piers are steel piles filled with concrete to ground level |
| 10 . | Pier Columns/Walls/Cribs | 2021
- pier 2 column 5 south face large delamination at top
- pier 2 column 2 north face medium delamination at bottom |

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Item Notes:

- | | |
|--------------------------|--|
| 11 . Bearings | 2021
South abutment
- plain elastomeric pad with teflon and steel sole plates (2 per girder side x side)
- pier 1 plain elastomeric pad with teflon and sole plate
- pier 1 span 2 bearing A has 2 large splits
- pier 2 plain elastomeric pad with teflon and sole plate
- medium corrosion of sole plates
North abutment
- plain elastomeric pads with fine cracks

- vertical steel seismic rods ,one per bay at both abutments and piers
- medium corrosion
- pier 2 bay 4 seismic rods broken at top of cap
- several have been welded after breaking |
| 12 . Caps | 2021
- pier 2 north face 4 medium delaminations
- pier 1 and 2 bays 2,3 concrete lateral restraints (shear keys)

2011 - about 30% cap surface area delaminated (repaired 2012) |
| 17 . Girders | 2021
- 5 precast concrete I beam girders per span
- no observed defects |
| 19 . Bracing/Diaphragms | Concrete diaphragms between the girders |
| 26 . Pins/Bolts/Rivets | Broken bolts at some of the pier locations where the bottom flange tie plates are between the girders |
| 30 . Sub Deck/Cross Ties | 2021
- span 1 extensive map cracking with efflorescence
- span 2 numerous patches ,delaminations ,map cracking and efflorescence
- span 3 areas of heavy efflorescence and map cracking
- small patches and delaminations |
| 31 . Wearing Surface | 2021
- span 1 slow lane several large delaminations and transverse cracks
- span 2 transverse cracks
- span 3 wide transverse cracks , several large delaminations around patches

2010 js deck survey, 0.4% delam
2007 deck survey noted 4.6% delam |
| 32 . Deck Joints | 2021
South abutment
- cellular strip seal no visible signs of tears
- pier 1 compression seal no visible signs of tears
- pier 2 compression seal no visible signs of tears
North abutment
- no joint |
| 35 . Railings/Parapets | 2021
- cast in place concrete parapet with galvanized steel parapet rail
- south east rail first section damaged and loose
- north west rail damaged and not attached with missing connection in 2nd last section |

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Item Notes:

37 . Drains/Pipes

2021

- both abutments have drain extensions that flow into flume on embankment
- drains on the east side only
- south east extension disconnected

South east road catch basin at abutment , large drainpipe unattached causing heavy side bank scour

38 . Coating (Railings)

2021

- galvanized railing in good condition with some minor scapes

39 . Signing/Lighting

2021

- 2 reflective W54s with minor damage on south end only (traffic north bound only)

40 . Roadway Approaches

2021

- South approach
- slow lane patched and settled
 - asphalt breaking up at joint

North approach

- slow lane has large patch that has settled
- asphalt breaking up at joint

41 . Roadway Flares

2021

- South approach
- west side bullnose misaligned
 - east side bullnose connection broken

North approach

- east side bullnose not attached

Item Condition Photos:

1 Debris Risk



Filename: 023 02836E bridge
looking west upstream.JPG

2 Channel



Filename: 022 02836E bridge
looking east downstream.JPG

3 Erosion Protection



Filename: 020 02836E bridge
looking west upstream.JPG

**BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report**

Criteria: Structure No = 02836E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836E - JULIET EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

6 Abutments



Filename: 024 02836E south abutment.JPG



Filename: 029 02836E south abutment delams in the breastwall.JPG



Filename: 050 02836E north abutment bearing area.JPG



Filename: 051 02836E north abutment west end delam in the bearing seat.JPG

8 Embankment



Filename: 027 02836E south abutment east end embankment scour exposing the footing.JPG

9 Footings/Piling



Filename: 035 02836E pier 1 north face.JPG

10 Pier Columns/Walls/Cribs



Filename: 2015 spallother side of column. this photo shows cap delam.JPG

11 Bearings



Filename: 032 02836E pier 1 span 2 bearing A elastomeric bearing with Teflon and stainless cracks pad.JPG



Filename: 041 02836E pier 2 seismic restraints broken and welded.JPG



Filename: 042 02836E pier 2 span 3 bearing C elastomeric with Teflon and stainless.JPG

Condition Inspection Report

Criteria: Structure No = 02836E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836E - JULIET EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

12 Caps



Filename: 035 02836E pier 1 north
face.JPG



Filename: 043 02836E pier 2 north
face.JPG

17 Girders



Filename: 036 02836E span 2
subdeck looking north.JPG

19 Bracing/Diaphragms



Filename: 2011 shows delam.JPG

26 Pins/Bolts/Rivets



Filename: 034 02836E pier 1 girder
D bottom flange connection plate
bolt broken.JPG

Condition Inspection Report

Criteria: Structure No = 02836E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836E - JULIET EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

30 Sub Deck/Cross Ties



Filename: 024 02836E south abutment.JPG



Filename: 045 02836E span 3 bay 3 efflorescence and delams in the subdeck.JPG



Filename: 044 02836E span 3 looking north eff and cracking in bay 4 at pier 2.JPG



Filename: 036 02836E span 2 subdeck looking north.JPG

31 Wearing Surface



Filename: 007 02836E bridge deck looking north.JPG



Filename: 013 02836E span 3 slow lane asphalt filled pothole.JPG



Filename: 009 02836E span 1 delams in the wearing surface.JPG



Filename: 008 02836E span 1 extensive cracking in the wearing surface.JPG

32 Deck Joints



Filename: 006 02836E south abutment strip seal joint.JPG



Filename: 010 02836E pier 1 compression seal joint.JPG



Filename: 012 02836E pier 2 compression seal joint.JPG

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836E - JULIET EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Condition Photos:**35 Railings/Parapets**

Filename: 014 02836E north west
corner damage to the parapet
railing.JPG



Filename: 015 02836E bridge deck
looking south.JPG

37 Drains/Pipes

Filename: 005 02836E south east
corner drain pipe disconnected and
fill washed out.JPG



Filename: 031 02836E steel conduit
down the east side under the
soffit.JPG



Filename: 027 02836E south
abutment east end embankment
scour exposing the footing.JPG

39 Signing/Lighting

Filename: 004 (02836E)2021 south
approach.JPG

40 Roadway Approaches

Filename: 006(02836E)2021 south
abutment strip seal joint.JPG



Filename: 016(02836E)2021 north
abutment no joint.JPG



Filename: 017(02836E)2021 north
abutment east side large pothole in
the approach.JPG

Inspection Notes:**General Inspection Notes**

2009 Snooper
2011 Snooper

Other Posted Hazard Warning Signs

4.9m height restriction under bridge (part of U turn route)

Rehab Work Notes

2021
- recommend resurfacing

Deck rehabilitation completed in Summer 2002. Seismic restraints altered at that time.

Deck inspection in 2007, 4.6% delam

Deck inspection in 2010, 0.4% delam

Condition Inspection Report

Criteria: Structure No = 02836E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836E - JULIET EAST**Status:** Open/In Use**Inspection Type:** Routine Condition**Region:** 2 - Southern Interior Region**District:** 6 - Thompson Nicola District**Contract Area:** 14 - Nicola CA**Inspection Notes:****Maintenance Work Notes**

2021

- reattach drain extension south abutment
- patch the pothole in the wearing surface
- repair the damaged parapet rail at the north west corner

Maintenance Work Notes

Surtreat application test area with Levelton's (sept 1999)
Epoxy injection on pier and abutments
deck DPS'd and cracksealed 1 year after resurfacing.
2008,2009, 2010, 2011 & 2013 linseed applications
2009 deck epoxy injection, approach patching and polycraft at bridge ends
2010 slow lane north end of bridge needs polycraft re-applied
2011 north approach spray patched

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON
 14-D-@-00394 - Juliet Creek Road - UNDER

Features Crossed: COQUIHALLA HWY #5 / JULIET CREEK ROAD / JULI
 ET
 CRE
 EK

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		100					N
4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		96	4				N
7. Wing/Retaining Walls		100					N
8. Embankment							Y
9. Footings/Piling							Y
10. Pier Columns/Walls/Cribs		100					N
11. Bearings		100					N
12. Caps		100					N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		100					N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y
DECK :							
30. Sub Deck/Cross Ties		70	20	10			N
31. Wearing Surface		70	20	10			N
32. Deck Joints		66			34		N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		98	1	1			N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting			100				N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 87.000

Note: First abutment is North. Upstream channel is West

Main Span Length: 36.000

Main Span Type: STRINGER

Spans: 3

Urgency: 3

BCI Rating: 2.14

Adjusted BCI Rating: 2.23

Inspector/Inspected By: T. RYU

On 2019/05/09

Amendment/Partial Inspection?

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2018:

- enhanced deck inspection required. Extensive deterioration in deck and subdeck

Previous Notes:

deck

abutment delam

Item Notes:

1 . Debris Risk

2019:

- no debris at time of inspection

General Note:

- minimal debris risk

6 . Abutments

2019:

- multiple areas of delamination.

Previous Notes:

one large delamination at west end of south abutment under bearing area.

2014 now 2 delam areas

2016 - multiple areas on abutment seat and bearing area

10 . Pier Columns/Walls/Cribs

2018:

- concrete columns are good

Previous Notes:

Small delam in patch.

2012 repaired

2014 one 20cm square delam noted on pier 2, instream face

11 . Bearings

2019:

- bearing plates are rusty

Previous Notes:

60 bearing pads, 2 per girder end.

North abt (10) elastomeric pad slightly squashed and splitting.

South abt (10) light rust on exposed steel. Neoprene stainless steel surface OK.

12 . Caps

2018:

- pier cap repairs are holding

Previous Notes:

Suspect delaminated areas on pier.

2009 - viewed from ground, suspect cracks and delaminations

2010 - pier 1 about 5m2 delam, pier 2 about 20m2 delam

2011 - size of delam increasing

2012 repaired

17 . Girders

2019:

- efflorescence present. Monitor

Previous Notes:

2009 - efflorescence at some girder ends

2010 - efflorescence on: girders 3, 4 & 5 at north abt; 2 outside girders over pier 2, west

side spalled and both have cracks in web at ends of girders; pier 1, span 2 girder #1 has

spall at BF and efflorescence above bearing area; pier 1 span girders #5 (both) have

bottom flange spalling and or cracks; pier 2 span 2 girder 4 cracked BF

2012 - repaired

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

30 . Sub Deck/Cross Ties

2019:

- Span 2, Bay 2 & 3: significant subdeck repairs needed
- Span 3, Bay 2, 3, 4: significant subdeck repairs needed
- Span 3: downstream soffit is spalled & delaminated

Previous Notes:

efflorescence various areas thought subdeck. Old full depth formwork still there.
 2016 - efflorescence and map cracking, water leaking through deck

31 . Wearing Surface

2019:

- deck requires enhanced inspection
- Span 2, Bay 2 & 3: significant wearing repairs needed, subdeck deficiencies reflect through to wearing surface
- Span 3, Bay 2, 3, 4: significant wearing repairs needed, subdeck deficiencies reflect through to wearing surface

Previous Notes:

1st 2 patches put in 2007 (south span)
 2007 deck survey showed 11% delam
 future patches expected in north span
 DECK NOT CHAINED. Wide cracks in north end of center span and north span.
 cracksealed areas need to be redone.
 2009 - epoxy injected last year. Spot chained seems sound
 2010 - JS deck survey found 0.6% delam
 2011 deck not chained, 1 old patch depressed
 2012 deck not chained
 2014 4 shallow dish type potholes on deck, 3 in slow lane & 1 in passing lane. Rees believes deck has 5% delam
 2015 all potholes filled although a new one is developing in fast lane span 3. to date 1 patch on span 1, 9 on span 2 & 15 on span 3 for total of 25 patches or 1% of deck
 2016 - 2 shallow potholes noted

32 . Deck Joints

2019:

- deck joints damaged.
- leakage during heavy rainfall

Previous Notes:

2012 south joint pushed in, leaks
 2013 fast lane south joint squeezed down
 2014 tried to find leak at pier 1 joint area using pails of water. No leak detected
 2016 - water apparent on south abutment seat. this seal is completely pushed through in fast lane
 2017 - above condition worsens

35 . Railings/Parapets

Spall on top of parapet at NE corner.
 2009 - one chair loose and one rail bolt missing
 2012 spall noted above has worsened

37 . Drains/Pipes

2018:

- drainage in place at abutments

38 . Coating (Railings)

2019:

- superficial damage to coatings

39 . Signing/Lighting

2019:

- monitor signs for damage.

General Note:

- signs often laid down for winter

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

40 . Roadway Approaches

North end paved in 2006.

Slow lane coming off bridge has been repaired, 1m wide strip. Presently shallow potholes particularly slow lane.

2009 - south end rough, polycrafted post inspection

2010, a right wheelpath settlement in slow lane approach in polycraft is about 1 1/2" deep.

2014 patch from last year holding

41 . Roadway Flares

chipped and scrapped (from snow plow).

2012 one piece chipped and right flare full of WAB

Item Condition Photos:

12 Caps



Filename: pier 1.JPG Filename: pier
2 bottom.JPG Filename: pier 2.JPG

17 Girders



Filename: girder bottom flange.JPG
Filename: girder web.JPG



Filename: 2011 cap 2.JPG

32 Deck Joints



Filename: 2012 joint 1 failure.JPG



Filename: 2013.JPG

35 Railings/Parapets



Filename: 2012 parapet defect.JPG

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Condition Photos:**37 Drains/Pipes**

Filename: 2010 drain treatment.JPG

40 Roadway Approaches

Filename: 2009 polycraft.JPG

Filename: 2012 polypatch failure.JPG
Filename: 2012 sb approach straypatched.JPG**41 Roadway Flares**

Filename: 2012 south flare.JPG

Inspection Notes:**General Inspection Notes**

2010 Snooper
 2014 Snooper

Other Posted Hazard Warning Signs

4.9m height restriction for traffic under bridge.

Drainage Area Description

Juliet Creek

Rehab Work Notes

resurfaced in 1999
 seismic restraint issue resolved at that time

Maintenance Work Notes

2008 - epoxy injected 199sq m of delaminated deck, patched 1.5 sq m deck and crack sealed 434 lm m deck. Total bill about \$65,000 thru quantified plan.
 2009, 2010, 2011 & 2013 - linseed applications
 2011 - pier cap repair was to happen this year but was delayed
 2012 - Pier caps repaired between 9 May thru to Jul
 future, abutment repairs & seal replacement
 2013 replace seal in 2014

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON
 14-D-@-00394 - Juliet Creek Road - UNDER

Features Crossed: COQUIHALLA HWY #5 / JULIET CREEK ROAD / JULI
 ET
 CRE
 EK

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		100					N
4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		96	4				N
7. Wing/Retaining Walls		100					N
8. Embankment							Y
9. Footings/Piling							Y
10. Pier Columns/Walls/Cribs		100					N
11. Bearings		100					N
12. Caps		100					N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		100					N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y
DECK :							
30. Sub Deck/Cross Ties		70	20	10			N
31. Wearing Surface		70	20	10			N
32. Deck Joints		66			34		N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		98	1	1			N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting			100				N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 87.000

Note: First abutment is North. Upstream channel is West

Main Span Length: 36.000

Main Span Type: STRINGER

Spans: 3

Urgency: 3

BCI Rating: 2.14

Adjusted BCI Rating: 2.23

Inspector/Inspected By: T. Ryu

On 2020/05/14

Amendment/Partial Inspection?

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2018:

- enhanced deck inspection required. Extensive deterioration in deck and subdeck

Previous Notes:

deck

abutment delam

Item Notes:

1 . Debris Risk

2019:

- no debris at time of inspection

General Note:

- minimal debris risk

6 . Abutments

2019:

- multiple areas of delamination.

Previous Notes:

one large delamination at west end of south abutment under bearing area.

2014 now 2 delam areas

2016 - multiple areas on abutment seat and bearing area

10 . Pier Columns/Walls/Cribs

2018:

- concrete columns are good

Previous Notes:

Small delam in patch.

2012 repaired

2014 one 20cm square delam noted on pier 2, instream face

11 . Bearings

2019:

- bearing plates are rusty

Previous Notes:

60 bearing pads, 2 per girder end.

North abt (10) elastomeric pad slightly squashed and splitting.

South abt (10) light rust on exposed steel. Neoprene stainless steel surface OK.

12 . Caps

2018:

- pier cap repairs are holding

Previous Notes:

Suspect delaminated areas on pier.

2009 - viewed from ground, suspect cracks and delaminations

2010 - pier 1 about 5m2 delam, pier 2 about 20m2 delam

2011 - size of delam increasing

2012 repaired

17 . Girders

2019:

- efflorescence present. Monitor

Previous Notes:

2009 - efflorescence at some girder ends

2010 - efflorescence on: girders 3, 4 & 5 at north abt; 2 outside girders over pier 2, west

side spalled and both have cracks in web at ends of girders; pier 1, span 2 girder #1 has

spall at BF and efflorescence above bearing area; pier 1 span girders #5 (both) have

bottom flange spalling and or cracks; pier 2 span 2 girder 4 cracked BF

2012 - repaired

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

30 . Sub Deck/Cross Ties

2019:

- Span 2, Bay 2 & 3: significant subdeck repairs needed
- Span 3, Bay 2, 3, 4: significant subdeck repairs needed
- Span 3: downstream soffit is spalled & delaminated

Previous Notes:

efflorescence various areas thought subdeck. Old full depth formwork still there.
 2016 - efflorescence and map cracking, water leaking through deck

31 . Wearing Surface

2019:

- deck requires enhanced inspection
- Span 2, Bay 2 & 3: significant wearing repairs needed, subdeck deficiencies reflect through to wearing surface
- Span 3, Bay 2, 3, 4: significant wearing repairs needed, subdeck deficiencies reflect through to wearing surface

Previous Notes:

1st 2 patches put in 2007 (south span)
 2007 deck survey showed 11% delam
 future patches expected in north span
 DECK NOT CHAINED. Wide cracks in north end of center span and north span.
 cracksealed areas need to be redone.
 2009 - epoxy injected last year. Spot chained seems sound
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 2015 all potholes filled although a new one is developing in fast lane span 3. to date 1 patch on span 1, 9 on span 2 & 15 on span 3 for total of 25 patches or 1% of deck
 2016 - 2 shallow potholes noted

32 . Deck Joints

2019:

- deck joints damaged.
- leakage during heavy rainfall

Previous Notes:

2012 south joint pushed in, leaks
 2013 fast lane south joint squeezed down
 2014 tried to find leak at pier 1 joint area using pails of water. No leak detected
 2016 - water apparent on south abutment seat. this seal is completely pushed through in fast lane
 2017 - above condition worsens

35 . Railings/Parapets

Spall on top of parapet at NE corner.
 2009 - one chair loose and one rail bolt missing
 2012 spall noted above has worsened

37 . Drains/Pipes

2018:

- drainage in place at abutments

38 . Coating (Railings)

2019:

- superficial damage to coatings

39 . Signing/Lighting

2019:

- monitor signs for damage.

General Note:

- signs often laid down for winter

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

40 . Roadway Approaches

North end paved in 2006.

Slow lane coming off bridge has been repaired, 1m wide strip. Presently shallow potholes particularly slow lane.

2009 - south end rough, polycrafted post inspection

2010, a right wheelpath settlement in slow lane approach in polycraft is about 1 1/2" deep.

2014 patch from last year holding

41 . Roadway Flares

chipped and scrapped (from snow plow).

2012 one piece chipped and right flare full of WAB

Item Condition Photos:

12 Caps



Filename: pier 1.JPG Filename: pier
2 bottom.JPG Filename: pier 2.JPG

17 Girders



Filename: girder bottom flange.JPG
Filename: girder web.JPG



Filename: 2011 cap 2.JPG

32 Deck Joints



Filename: 2012 joint 1 failure.JPG



Filename: 2013.JPG

35 Railings/Parapets



Filename: 2012 parapet defect.JPG

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Condition Photos:**37 Drains/Pipes**

Filename: 2010 drain treatment.JPG

40 Roadway Approaches

Filename: 2009 polycraft.JPG

Filename: 2012 polypatch failure.JPG
Filename: 2012 sb approach straypatched.JPG**41 Roadway Flares**

Filename: 2012 south flare.JPG

Inspection Notes:**General Inspection Notes**

2010 Snooper
 2014 Snooper

Other Posted Hazard Warning Signs

4.9m height restriction for traffic under bridge.

Drainage Area Description

Juliet Creek

Rehab Work Notes

resurfaced in 1999
 seismic restraint issue resolved at that time

Maintenance Work Notes

2008 - epoxy injected 199sq m of delaminated deck, patched 1.5 sq m deck and crack sealed 434 lm m deck. Total bill about \$65,000 thru quantified plan.
 2009, 2010, 2011 & 2013 - linseed applications
 2011 - pier cap repair was to happen this year but was delayed
 2012 - Pier caps repaired between 9 May thru to Jul
 future, abutment repairs & seal replacement
 2013 replace seal in 2014

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON
 14-D-@-00394 - Juliet Creek Road - UNDER

Features Crossed: COQUIHALLA HWY #5 / JULIET CREEK ROAD / JULI
 ET
 CRE
 EK

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		90	10				N
4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		90	10				N
7. Wing/Retaining Walls		100					N
8. Embankment		75	25				N
9. Footings/Piling						100	N
10. Pier Columns/Walls/Cribs		99	1				N
11. Bearings		90	10				N
12. Caps		99	1				N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		98	2				N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y
DECK :							
30. Sub Deck/Cross Ties		40	35	25			N
31. Wearing Surface		70	20	10			N
32. Deck Joints		66			34		N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		99	1				N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting			100				N
40. Roadway Approaches		95	5				N
41. Roadway Flares		99	1				N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 87.000

Note: First abutment is North. Upstream channel is West

Main Span Length: 36.000

Main Span Type: STRINGER

Spans: 3

Urgency: 4

BCI Rating: 2.15

Adjusted BCI Rating: 2.38

Inspector/Inspected By: KELLY MCKEN/TMACK

On 2021/04/22

Amendment/Partial Inspection?

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2021

- wearing surface has numerous patches, delaminations, potholes and transverse cracks
- subdeck in all spans has extensive map cracking, efflorescence, patches and delaminations

Item Notes:

- | | | |
|------|--------------------------|---|
| 1 . | Debris Risk | 2021
- no debris at time of inspection |
| | | |
| 2 . | Channel | 2021
- skew is 40 degrees (considered poor) but both piers are inline and well outside of channel
- bank appears stable
- bed appears stable
- adequacy is good, waterway matches floodway |
| | | |
| 3 . | Erosion Protection | 2021
- rip rap both banks at the piers
- some rip rap has sloughed in to the creek |
| | | |
| 4 . | Substructure Scour | 2021
- no scour observed |
| | | |
| 5 . | Foundation Movement | No foundation movement noted |
| | | |
| 6 . | Abutments | 2021
North abutment
- breast wall under girder D 2 medium delaminations
- breast wall under girder E and between B,C large delaminations

South abutment
- breast wall under girders A and E large delaminations |
| | | |
| 8 . | Embankment | 2021
- south west corner has embankment scour |
| | | |
| 9 . | Footings/Piling | 2021
- both abutments on buried spread footings
- piers are steel piles filled with concrete to ground level with concrete columns above |
| | | |
| 10 . | Pier Columns/Walls/Cribs | 2021
- pier 2 column 5 south face small delamination |
| | | |
| 11 . | Bearings | 2021
North abutment
- plain elastomeric pads with fine cracks
- pier 1 laminated elastomeric pads with teflon and steel soul plate
- fine cracks in outside bearings both sides with mild corrosion on sole plates
- pier 2 laminated elastomeric pads with teflon and steel soul plate
fine cracks in outside bearings both sides with mild corrosion on soul plates
South abutment
- plain elastomeric pad with teflon and steel soul plate (2 per girder side x side)
- fine cracks with mild corrosion on soul plates

- vertical steel seismic rods one per bay at both abutments and piers
- medium corrosion
- several have been welded after breaking |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|--------------------------|--|
| 12 . Caps | 2021
- pier 2 south face above column 5 small delamination
- underside of cap by column 5 has 2 medium sized delaminations
- pier 1 and 2 bays 2,3 concrete lateral restraints (shear keys)

2012 - repaired
2010 - pier 1 about 5m2 delam, pier 2 about 20m2 delam |
| 17 . Girders | 2021
- 5 precast concrete I beam girders per span
- piers 1 and 2 girder ends in several locations have small spalls and show efflorescence
- span 3 girder C and E east face several fine cracks aprox 3m from abutment in top flange and web with efflorescence |
| 19 . Bracing/Diaphragms | 2021
- concrete diaphragms between the girders
- appear in good condition
- large delam on the inside face of the diaphragm at pier 2 span 3 bay 4 |
| 26 . Pins/Bolts/Rivets | Bolts holding the tie plates between the bottom flanges of the girders at the piers
- several of the bolts are broken |
| 30 . Sub Deck/Cross Ties | 2021
- span 1 bays 2,3,4 large areas of map cracking with efflorescence , delaminations and moisture
- span 2 all bays large areas of map cracking with efflorescence ,delaminations , patches
- span 3 all bays large areas of heavy map cracking with efflorescence ,delaminations , patches
- wet areas in the subdeck
- west side soffit cracking and efflorescence |
| 31 . Wearing Surface | 2021
- light general overall wear
- numerous patches, transverse cracks in all spans , spot checks reveal delaminations
- span 2 slow lane large deep pothole with exposed rebar
- span 3 extensive patching and delams

2015 to date 1 patch on span 1, 9 on span 2 & 15 on span 3 for total of 25 patches
2007 deck survey showed 11% delam |
| 32 . Deck Joints | 2021
North abutment
- no joint
- pier 1 compression seal no visible signs of tears
- pier 2 compression seal no visible signs of tears
- loud noise at joint when traffic drives over, possible armour issue no visible damage observed
South abutment
- compression seal pushed through in fast lane |
| 35 . Railings/Parapets | 2021
- cast in place parapet with galvanized steel rail
- parapet top north east corner has medium spall |
| 37 . Drains/Pipes | 2021
- drain pipes on the west side only
- both abutments have drain extensions that flow into flume on embankment |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- 38 . Coating (Railings) 2021
 - galvanized parapet
 - minor damage to coatings
- 39 . Signing/Lighting 2021
 - W54s on both sides at the north end of the bridge
 - bridge name sign on the north west corner
- General Note:
 - signs often laid down for winter
- 40 . Roadway Approaches 2021
 North approach
 - asphalt cracking and breaking up at the abutment
 South approach
 - cracking at joint
 - small pothole
- 41 . Roadway Flares 2021
 - west side chipped and scrapped

Item Condition Photos:

- 1 Debris Risk



Filename: 016 02836W upstream
 channel looking west.JPG

- 2 Channel



Filename: 017 02836W bridge
 looking east downstream.JPG

- 3 Erosion Protection



Filename: 018 06006 rip rap on the
 downstream channel looking
 east.JPG

BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST
Region: 2 - Southern Interior Region

Status: Under Construction
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

6 Abutments



Filename: 024 02836W north
abutment delams in the
breastwall.JPG



Filename: 025 02836W north
abutment west end large delam in
the breastwall under girder E.JPG



Filename: 046 02836W south
abutment.JPG



Filename: 047 02836W south
abutment west end large delam in
the end of the ballast wall.JPG



Filename: 053 02836W south
abutment large delams in the
breastwall between girders D and
E.JPG

8 Embankment



Filename: 048 02836W south
abutment west end embankment
scour.JPG

9 Footings/Piling



Filename: 036 02836W pier 2 north
face.JPG

10 Pier Columns/Walls/Cribs



Filename: 041 02836W pier 2 south
face.JPG

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST
Region: 2 - Southern Interior Region

Status: Under Construction
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:**11 Bearings**

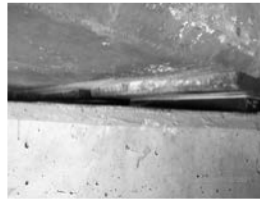
Filename: 030 02836W pier 1
typical bearings.JPG



Filename: 032 02836W pier 1
vertical seismic restraints.JPG



Filename: 037 02836W pier 2
bearing D elastomeric with Teflon
and stainless.JPG



Filename: 050 02836W south
abutment double elastomeric
bearings with Teflon and
stainless.JPG

12 Caps

Filename: 029 02836W pier 1 north
face east end medium delam in the
top corner.JPG



Filename: 041 02836W pier 2 south
face.JPG

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST
Region: 2 - Southern Interior Region

Status: Under Construction
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

17 Girders



Filename: girder bottom flange.JPG
Filename: girder web.JPG



Filename: 043 02836W span 3
girder C eff and fine vertical crack in
the web of the girder.JPG



Filename: 042 02836W span 3
looking south.JPG



Filename: 027 02836W span 1
looking north.JPG

19 Bracing/Diaphragms



Filename: 038 02836W pier 2 span
3 bay 4 large delam in the
diaphragm.JPG

26 Pins/Bolts/Rivets



Filename: 039 02836W pier 2 girder
D connection plated bolt broken on
the east side.JPG



Filename: 040 02836W pier 2 girder
E connection plate bolt broken.JPG

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST
Region: 2 - Southern Interior Region

Status: Under Construction
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

30 Sub Deck/Cross Ties



Filename: 027 02836W span 1 looking north.JPG



Filename: 042 02836W span 3 looking south.JPG



Filename: 035 02836W span 2 pier 2 west end large spall with exposed rebar underside of the luminaire.JPG



Filename: 033 02836W span 2 looking south.JPG



Filename: 028 02836W north abutment span 1 bay 4 cracking and heavy eff in the subdeck.JPG

31 Wearing Surface



Filename: 004 02836W bridge deck looking south.JPG



Filename: 011 02836W span 3 looking south.JPG



Filename: 010 02836W span 2 large deep pothole in the slow lane near pier 2.JPG



Filename: 009 02836W pier 2 compression seal joint.JPG



Filename: 008 02836W span 2 looking south.JPG



Filename: 005 02836W span 1 slow lane cracks and patches in the wearing surface.JPG

32 Deck Joints



Filename: 007 02836W pier 1 compression seal joint.JPG



Filename: 009 02836W pier 2 compression seal joint.JPG



Filename: 014 02836W south abutment compression seal joint falling through.JPG

Condition Inspection Report

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST

Region: 2 - Southern Interior Region

Status: Under Construction

District: 6 - Thompson Nicola District

Inspection Type: Routine Condition

Contract Area: 14 - Nicola CA

Item Condition Photos:

35 Railings/Parapets



Filename: 013 02836W bridge deck looking north.JPG

37 Drains/Pipes



Filename: 017 02836W bridge looking east downstream.JPG



Filename: 023 02836W north abutment bearing area.JPG



Filename: 048 02836W south abutment west end embankment scour.JPG

39 Signing/Lighting



Filename: 002 02836W north approach.JPG

40 Roadway Approaches



Filename: 003 02836W north abutment no joint.JPG



Filename: 014 02836W south abutment compression seal joint falling through.JPG

41 Roadway Flares



Filename: 002 02836W north approach.JPG



Filename: 015 02836W south approach.JPG

Inspection Notes:

General Inspection Notes

2010 Snooper

2014 Snooper

Drainage Area Description

Juliet Creek

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02836W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02836W - JULIET WEST**Status:** Under Construction**Inspection Type:** Routine Condition**Region:** 2 - Southern Interior Region**District:** 6 - Thompson Nicola District**Contract Area:** 14 - Nicola CA**Inspection Notes:****Rehab Work Notes**

2021

- recommend resurfacing

resurfaced in 1999

seismic restraint issue resolved at that time

Maintenance Work Notes

2008 - epoxy injected 199sq m of delaminated deck, patched 1.5 sq m deck and crack sealed 434 lm m deck. Total bill about \$65,000 thru quantified plan.

2009, 2010, 2011 & 2013 - linseed applications

2011 - pier cap repair was to happen this year but was delayed

2012 - Pier caps repaired between 9 May thru to Jul

future, abutment repairs & seal replacement

2013 replace seal in 2014

Maintenance Work Notes

2021

- south abutment west side first section of wildlife fence needs repair

- north abutment east side first section of wildlife fence needs repair

- patch the potholes and repair the delam areas

- patch the delams in the north and south abutments

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		95	4		1		N
7.	Wing/Retaining Walls		100					N
8.	Embankment							Y
9.	Footings/Piling							Y
10.	Pier Columns/Walls/Cribs		100					N
11.	Bearings		100					N
12.	Caps		97		2	1		N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers		100					N
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)		90	10				N
DECK :								
30.	Sub Deck/Cross Ties		95		5			N
31.	Wearing Surface		100					N
32.	Deck Joints		25	75				N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		95	5				N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 82.700

Note: First abutment is South. Upstream channel is East

Main Span Length: 43.700

Main Span Type: STRINGER

Spans: 3

Urgency: 3

BCI Rating: 2.07

Adjusted BCI Rating: 2.08

Inspector/Inspected By: T. RYU

On 2019/05/09

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2019:
 - leaking joints

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- delaminations on abutments and caps
- deck deterioration

Utility Concerns Note: fiber optics unders east parapet

Item Notes:

- | | | |
|------|---------------------|--|
| 1 . | Debris Risk | 2019:
- no debris risk at time of inspection |
| 3 . | Erosion Protection | 2014 Rip Rap on North side is being undermined and is depositing angular Rip Rap into the channel |
| 4 . | Substructure Scour | 2019:
- no signs of scour at time of inspection |
| 5 . | Foundation Movement | 2019:
- no signs of movement at time of inspection |
| 6 . | Abutments | 2019:
- north abutment: fine vertical cracks on north abutment.
- south abutment: numerous fine to medium vertical cracks, some with efflorescence.

Previous Notes:
2009 - the south east corner near bearing spalled about 1/2 m square. In between girders 2 & 3 on the south abutment a 0.3 m spall/delam.
2011 - south abutment has 3 delam areas as above, just slightly larger now
2012 north abutment also has small delam
2015 about 5m2 spall/delam on abut #1 |
| 11 . | Bearings | 2010 - MC loosened off overtightened bolts on 1 Nov using Snooper |
| 12 . | Caps | 2019:
- spalling on caps due to leakage through cold joints.
- tops of caps are wet during heavy rainfall
- east end of pier cap #2 spalled |
| 28 . | Live Load Vibration | 2019:
- monitor live load vibration. |
| 29 . | Coating (Structure) | Weathering steel bottom flange has some granular area.
Outside bottom flange has flaking sheets of rust. |
| 30 . | Sub Deck/Cross Ties | Span #3 map cracking with efflorescence throughout span. Large spall northeast overhang.
Span 1 and 2 - cracks with efflorescence in random areas. |
| 31 . | Wearing Surface | 2008 - deck spot chained, no delam noted. Some transverse cracks. One narrow hole in span #1, slow lane about 8" long and up to 3/4" deep.
2009 deck spot chain around joints and seam - no delam found. Small pothole at south span slow lane.
2010 - 1.6% delam during JS 2009 deck survey. Deck wet so no cracks, if any, were noted
2012 spot chained, delam in areas associated with and beside cracks including cold joint
2013 washed, epoxy injected, cracksealed deck then linseeded it
2015 spot hammered, no delam |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

32 . Deck Joints

2019:
 - all joints leaking.

Previous Notes:

2008 inspected after recent rain, no leaks detected although south joint at mid area of slowlane appears to be pushed down.

2009 - checked during bridge washing and Snooper. No leaks. Popout at joint area at bent 1 above utility pipes.

2012 south seal pushed down about 10cm for about 1m

2013 north pier leaks as does north abt

2014 Both joints above piers are suspected to be leaking onto the caps below. South seal is porposing, leaking onto abutment below.

2015 about 2.5m of expansion seal (south end) is depressed about 30mm

2016 - due to possible leaks and water apparent on caps and abutments, raitng lowered

35 . Railings/Parapets

2011 Rail bolt missing at right approach
 2013 transition damaged, fast lane coming off bridge
 2015 slow lane approach (2 sections) steel rail loose

40 . Roadway Approaches

paved in 2006. North end breaking apart, early stages
 2010 spray patched but leaks on the abutment
 2011 spray patched both ends
 2014 - Spraypatching on both ends
 2016 - sparypatching both ends

41 . Roadway Flares

2019:
 - monitor for deterioration

Previous Notes:

Numerous areas of minor impact damage.

2014 - Spaling and exposed rebar on flare to parapet transition.

Item Condition Photos:

6 . Abutments



Filename: abt north.JPG



Filename: abt south delam.JPG



Filename: 2015 abt #1.JPG



Filename: 2015 abt #1 outside.JPG

12 . Caps



Filename: 2015 cap #2.JPG

BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST
Region: 2 - Southern Interior Region

Status: Under Construction
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

31 Wearing Surface



Filename: deck crack.JPG

32 Deck Joints



Filename: 2015 joint #1.JPG



Filename: 2015 joint #1 fast lane.JPG

35 Railings/Parapets



Filename: parapet north median.JPG

Inspection Notes:

General Inspection Notes

2011 snoopers/VSA cleaned piers
2014 Inspected with Jarret. Alluvial fans noted from road drainage at the bottom of both embankments.
2015 snoopers

Rehab Work Notes

Deck resurfaced in 2004

Maintenance Work Notes

2013 96m² injection and 130 lm crackseal then linseeded deck
2014 Linseeded deck in 2014

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		95	4		1		N
7.	Wing/Retaining Walls		100					N
8.	Embankment							Y
9.	Footings/Piling							Y
10.	Pier Columns/Walls/Cribs		100					N
11.	Bearings		100					N
12.	Caps		97		2	1		N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers		100					N
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)		90	10				N
DECK :								
30.	Sub Deck/Cross Ties		95		5			N
31.	Wearing Surface		100					N
32.	Deck Joints		25	75				N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		95	5				N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 82.700

Note: First abutment is South. Upstream channel is East

Main Span Length: 43.700

Main Span Type: STRINGER

Spans: 3

Urgency: 3

BCI Rating: 2.07

Adjusted BCI Rating: 2.08

Inspector/Inspected By: T. Ryu

On 2020/05/07

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2019:
 - leaking joints

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- delaminations on abutments and caps
- deck deterioration

Utility Concerns Note: fiber optics unders east parapet

Item Notes:

- | | | |
|------|---------------------|--|
| 1 . | Debris Risk | 2019:
- no debris risk at time of inspection |
| 3 . | Erosion Protection | 2014 Rip Rap on North side is being undermined and is depositing angular Rip Rap into the channel |
| 4 . | Substructure Scour | 2019:
- no signs of scour at time of inspection |
| 5 . | Foundation Movement | 2019:
- no signs of movement at time of inspection |
| 6 . | Abutments | 2019:
- north abutment: fine vertical cracks on north abutment.
- south abutment: numerous fine to medium vertical cracks, some with efflorescence.

Previous Notes:
2009 - the south east corner near bearing spalled about 1/2 m square. In between girders 2 & 3 on the south abutment a 0.3 m spall/delam.
2011 - south abutment has 3 delam areas as above, just slightly larger now
2012 north abutment also has small delam
2015 about 5m2 spall/delam on abut #1 |
| 11 . | Bearings | 2010 - MC loosened off overtightened bolts on 1 Nov using Snooper |
| 12 . | Caps | 2019:
- spalling on caps due to leakage through cold joints.
- tops of caps are wet during heavy rainfall
- east end of pier cap #2 spalled |
| 28 . | Live Load Vibration | 2019:
- monitor live load vibration. |
| 29 . | Coating (Structure) | Weathering steel bottom flange has some granular area.
Outside bottom flange has flaking sheets of rust. |
| 30 . | Sub Deck/Cross Ties | Span #3 map cracking with efflorescence throughout span. Large spall northeast overhang.
Span 1 and 2 - cracks with efflorescence in random areas. |
| 31 . | Wearing Surface | 2008 - deck spot chained, no delam noted. Some transverse cracks. One narrow hole in span #1, slow lane about 8" long and up to 3/4" deep.
2009 deck spot chain around joints and seam - no delam found. Small pothole at south span slow lane.
2010 - 1.6% delam during JS 2009 deck survey. Deck wet so no cracks, if any, were noted
2012 spot chained, delam in areas associated with and beside cracks including cold joint
2013 washed, epoxy injected, cracksealed deck then linseeded it
2015 spot hammered, no delam |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

32 . Deck Joints

2019:
 - all joints leaking.

Previous Notes:

2008 inspected after recent rain, no leaks detected although south joint at mid area of slowlane appears to be pushed down.

2009 - checked during bridge washing and Snooper. No leaks. Popout at joint area at bent 1 above utility pipes.

2012 south seal pushed down about 10cm for about 1m

2013 north pier leaks as does north abt

2014 Both joints above piers are suspected to be leaking onto the caps below. South seal is porposing, leaking onto abutment below.

2015 about 2.5m of expansion seal (south end) is depressed about 30mm

2016 - due to possible leaks and water apparent on caps and abutments, raitng lowered

35 . Railings/Parapets

2011 Rail bolt missing at right approach
 2013 transition damaged, fast lane coming off bridge
 2015 slow lane approach (2 sections) steel rail loose

40 . Roadway Approaches

paved in 2006. North end breaking apart, early stages
 2010 spray patched but leaks on the abutment
 2011 spray patched both ends
 2014 - Spraypatching on both ends
 2016 - sparypatching both ends

41 . Roadway Flares

2019:
 - monitor for deterioration

Previous Notes:

Numerous areas of minor impact damage.

2014 - Spaling and exposed rebar on flare to parapet transition.

Item Condition Photos:

6 . Abutments



Filename: abt north.JPG



Filename: abt south delam.JPG



Filename: 2015 abt #1.JPG



Filename: 2015 abt #1 outside.JPG

12 . Caps



Filename: 2015 cap #2.JPG

BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST
Region: 2 - Southern Interior Region

Status: Under Construction
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

31 Wearing Surface



Filename: deck crack.JPG

32 Deck Joints



Filename: 2015 joint #1.JPG



Filename: 2015 joint #1 fast lane.JPG

35 Railings/Parapets



Filename: parapet north median.JPG

Inspection Notes:

General Inspection Notes

2011 snooper/VSA cleaned piers
2014 Inspected with Jarret. Alluvial fans noted from road drainage at the bottom of both embankments.
2015 snooper

Rehab Work Notes

Deck resurfaced in 2004

Maintenance Work Notes

2013 96m2 injection and 130 lm crackseal then linseeded deck
2014 Linseeded deck in 2014

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		95	4		1		N
7.	Wing/Retaining Walls		100					N
8.	Embankment							Y
9.	Footings/Piling							Y
10.	Pier Columns/Walls/Cribs		100					N
11.	Bearings		100					N
12.	Caps		97		2	1		N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers		100					N
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)		90	10				N
DECK :								
30.	Sub Deck/Cross Ties		95		5			N
31.	Wearing Surface		100					N
32.	Deck Joints		25	75				N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		95	5				N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 82.700

Note: First abutment is South. Upstream channel is East

Main Span Length: 43.700

Main Span Type: STRINGER

Spans: 3

Urgency: 3

BCI Rating: 2.07

Adjusted BCI Rating: 2.08

Inspector/Inspected By: T. Ryu

On 2021/07/14

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2021:
 - leaking joints

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- delaminations on abutments and caps
- deck deterioration

Utility Concerns Note: fiber optics unders east parapet

Item Notes:

- | | | |
|------|---------------------|--|
| 1 . | Debris Risk | 2019:
- no debris risk at time of inspection |
| 3 . | Erosion Protection | 2014 Rip Rap on North side is being undermined and is depositing angular Rip Rap into the channel |
| 4 . | Substructure Scour | 2019:
- no signs of scour at time of inspection |
| 5 . | Foundation Movement | 2019:
- no signs of movement at time of inspection |
| 6 . | Abutments | 2019:
- north abutment: fine vertical cracks on north abutment.
- south abutment: numerous fine to medium vertical cracks, some with efflorescence.

Previous Notes:
2009 - the south east corner near bearing spalled about 1/2 m square. In between girders 2 & 3 on the south abutment a 0.3 m spall/delam.
2011 - south abutment has 3 delam areas as above, just slightly larger now
2012 north abutment also has small delam
2015 about 5m2 spall/delam on abut #1 |
| 11 . | Bearings | 2010 - MC loosened off overtightened bolts on 1 Nov using Snooper |
| 12 . | Caps | 2019:
- spalling on caps due to leakage through cold joints.
- tops of caps are wet during heavy rainfall
- east end of pier cap #2 spalled |
| 28 . | Live Load Vibration | 2019:
- monitor live load vibration. |
| 29 . | Coating (Structure) | Weathering steel bottom flange has some granular area.
Outside bottom flange has flaking sheets of rust. |
| 30 . | Sub Deck/Cross Ties | Span #3 map cracking with efflorescence throughout span. Large spall northeast overhang.
Span 1 and 2 - cracks with efflorescence in random areas. |
| 31 . | Wearing Surface | 2008 - deck spot chained, no delam noted. Some transverse cracks. One narrow hole in span #1, slow lane about 8" long and up to 3/4" deep.
2009 deck spot chain around joints and seam - no delam found. Small pothole at south span slow lane.
2010 - 1.6% delam during JS 2009 deck survey. Deck wet so no cracks, if any, were noted
2012 spot chained, delam in areas associated with and beside cracks including cold joint
2013 washed, epoxy injected, cracksealed deck then linseeded it
2015 spot hammered, no delam |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST

Status: Under Construction

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

32 . Deck Joints

2019:
 - all joints leaking.

Previous Notes:

2008 inspected after recent rain, no leaks detected although south joint at mid area of slowlane appears to be pushed down.
 2009 - checked during bridge washing and Snooper. No leaks. Popout at joint area at bent 1 above utility pipes.
 2012 south seal pushed down about 10cm for about 1m
 2013 north pier leaks as does north abt
 2014 Both joints above piers are suspected to be leaking onto the caps below. South seal is porposing, leaking onto abutment below.
 2015 about 2.5m of expansion seal (south end) is depressed about 30mm
 2016 - due to possible leaks and water apparent on caps and abutments, raitng lowered

35 . Railings/Parapets

2011 Rail bolt missing at right approach
 2013 transition damaged, fast lane coming off bridge
 2015 slow lane approach (2 sections) steel rail loose

40 . Roadway Approaches

paved in 2006. North end breaking apart, early stages
 2010 spray patched but leaks on the abutment
 2011 spray patched both ends
 2014 - Spraypatching on both ends
 2016 - sparypatching both ends

41 . Roadway Flares

2019:
 - monitor for deterioration

Previous Notes:

Numerous areas of minor impact damage.
 2014 - Spaling and exposed rebar on flare to parapet transition.

Item Condition Photos:

6 . Abutments



Filename: abt north.JPG



Filename: abt south delam.JPG



Filename: 2015 abt #1.JPG



Filename: 2015 abt #1 outside.JPG

12 . Caps



Filename: 2015 cap #2.JPG

**BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report**

Criteria: Structure No = 02837E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837E - BOTTLETOP EAST
Region: 2 - Southern Interior Region

Status: Under Construction
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

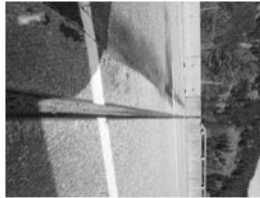
Item Condition Photos:

31 Wearing Surface



Filename: deck crack.JPG

32 Deck Joints



Filename: 2015 joint #1.JPG



Filename: 2015 joint #1 fast lane.JPG

35 Railings/Parapets



Filename: parapet north median.JPG

Inspection Notes:

General Inspection Notes

2011 snoopers/VSA cleaned piers
2014 Inspected with Jarret. Alluvial fans noted from road drainage at the bottom of both embankments.
2015 snoopers

Rehab Work Notes

Deck resurfaced in 2004

Maintenance Work Notes

2013 96m² injection and 130 lm crackseal then linseeded deck
2014 Linseeded deck in 2014

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		100					N
8.	Embankment		100					N
9.	Footings/Piling							Y
10.	Pier Columns/Walls/Cribs		99	1				N
11.	Bearings		100					N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		67	33				N
28.	Live Load Vibration			100				N
29.	Coating (Structure)		100					N
DECK :								
30.	Sub Deck/Cross Ties		95	5				N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		98		2			N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		50	50				N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 82.700

Note: Upstream channel is East

Main Span Length: 43.700

Main Span Type: STRINGER

Spans: 3

Urgency: 1

BCI Rating: 2.06

Adjusted BCI Rating: 2.06

Inspector/Inspected By: T. RYU

On 2019/05/09

Amendment/Partial Inspection?

Item Notes:

Condition Inspection Report

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
|------|--------------------------|---|
| 1 . | Debris Risk | 2019:
- no signs of debris at time of inspection |
| 3 . | Erosion Protection | 2014 Rip Rap on North side is being undermined and is depositing angular Rip Rap into the channel |
| 4 . | Substructure Scour | 2019:
- scour along rip rap. Monitor |
| 6 . | Abutments | 2011 - about 1/3m delam at south abutment
2017 - delam remains in 2 locations at south abutment |
| 10 . | Pier Columns/Walls/Cribs | Medium delamination at the bottom of the 4th column - pier 2 .
2013 rats nest on pier 2 back again |
| 11 . | Bearings | 2019:
- continue to monitor expansion bearings

Previous Notes:
2010 - Teflon from bearing at pier 2, girder 4 is separating and cracked. Almost all expansion bearing nuts are too tight
2011 - VSA loosened off all nuts using snoopers in 2010 |
| 12 . | Caps | 2010 - no delam found on either cap
2014 - Suspected Water pooling on both caps likely due to leaking joint |
| 26 . | Pins/Bolts/Rivets | one bolt missing from splice plate.
2010 - the splice plate on girder #2 (span 2) has 1 short bolt (with no nut) put in upside down. Previously marked.
2011 - bolt replaced with a slightly smaller diameter bolt which needed to be persuaded to fit. |
| 27 . | Camber/Sag | 2019:
- slight sag in girders near center span. |
| 28 . | Live Load Vibration | 2019:
- live load vibration present. Continue to monitor for increase in vibration |
| 29 . | Coating (Structure) | Weathering steel. Outside bottom flanges light sheet rust. |
| 30 . | Sub Deck/Cross Ties | 2019:
- Efflorescence present

Previous Notes:
2010 - Span 1 efflorescence, Span 2 efflorescence in random areas and 1 old full depth repair form, Span 3 efflorescence near center lanes, 3 full depth repairs, 1 core and 1 form failure, no issues |
| 31 . | Wearing Surface | 2019:
- transverse cracking present. Monitor for delaminations

Previous Notes:
Deck not chained
2009 - deck spot chained around joints & seam no delam found, no cracks noted
2010 - JS deck survey in 2009, 0.1% delam
2011 - 1st medium crack noted center span driving lane
2012 spot chained, delam limited to sections of cold joint
2013 washed, injected, cracksealed then linseeded deck
2014 Transverse cracking in wearing surface. Deck not chained |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- 32 . Deck Joints 2010 - underside of seals looks as if condensation is present. Appears as if forms slipped during resurfacing causing concrete to meander a bit under seal at pier 1
 2014 - On both pier joints suspect leaking.
- 35 . Railings/Parapets Rail at north west end of bridge has 3 missing chair bolts
 2014 - Both Railings are raised on both sides on the bridge, signs of impact to railing chair in fastbound lane.
 2015 approach steel rail on slow lane loose
- 40 . Roadway Approaches paved in 2006
 2011 spraypatched
 2014 Spraypatched
 2015 concrete breaking apart at slowlane coming off bridge. Asphalt patches smooth ride
- 41 . Roadway Flares 2019:
 - CRB present
 - monitor scour under NW corner

Item Condition Photos:

- 11 Bearings



Filename: too tight.JPG Filename:
teflon.JPG

- 26 Pins/Bolts/Rivets



Filename: (02837W)2011
undersized bolt.JPG

- 29 Coating (Structure)



Filename: (02837W) girder bottom
flange coating.JPG

- 30 Sub Deck/Cross Ties



Filename: subdeck n end.JPG

Condition Inspection Report

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Condition Photos:

32 Deck Joints



Filename: meandering
concrete.JPG

Inspection Notes:**General Inspection Notes**

Geodetic marker 89C263 on wing.
2010 Snooper, seismic block on pier 1 is missing 2 nuts but remaining 5 are nutted
2014 - Inspected by Jarret, Alluvial fans noted from road drainage at the bottom of both embankments.

Drainage Area Description

Coldwater River

Rehab Work Notes

Resurfaced in 2004
Highway paved in 2006

Maintenance Work Notes

2013 epoxy injected 26m2, crasealed 33 lm then linseeded deck
2014 Linseeded deck

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		100					N
8.	Embankment		100					N
9.	Footings/Piling							Y
10.	Pier Columns/Walls/Cribs		99	1				N
11.	Bearings		100					N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		67	33				N
28.	Live Load Vibration			100				N
29.	Coating (Structure)		100					N
DECK :								
30.	Sub Deck/Cross Ties		95	5				N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		98		2			N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		50	50				N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 82.700

Note: Upstream channel is East

Main Span Length: 43.700

Main Span Type: STRINGER

Spans: 3

Urgency: 1

BCI Rating: 2.06

Adjusted BCI Rating: 2.06

Inspector/Inspected By: T. Ryu

On 2020/05/07

Amendment/Partial Inspection?

Item Notes:

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
|------|--------------------------|---|
| 1 . | Debris Risk | 2019:
- no signs of debris at time of inspection |
| 3 . | Erosion Protection | 2014 Rip Rap on North side is being undermined and is depositing angular Rip Rap into the channel |
| 4 . | Substructure Scour | 2019:
- scour along rip rap. Monitor |
| 6 . | Abutments | 2011 - about 1/3m delam at south abutment
2017 - delam remains in 2 locations at south abutment |
| 10 . | Pier Columns/Walls/Cribs | Medium delamination at the bottom of the 4th column - pier 2 .
2013 rats nest on pier 2 back again |
| 11 . | Bearings | 2019:
- continue to monitor expansion bearings

Previous Notes:
2010 - Teflon from bearing at pier 2, girder 4 is separating and cracked. Almost all expansion bearing nuts are too tight
2011 - VSA loosened off all nuts using snoopers in 2010 |
| 12 . | Caps | 2010 - no delam found on either cap
2014 - Suspected Water pooling on both caps likely due to leaking joint |
| 26 . | Pins/Bolts/Rivets | one bolt missing from splice plate.
2010 - the splice plate on girder #2 (span 2) has 1 short bolt (with no nut) put in upside down. Previously marked.
2011 - bolt replaced with a slightly smaller diameter bolt which needed to be persuaded to fit. |
| 27 . | Camber/Sag | 2019:
- slight sag in girders near center span. |
| 28 . | Live Load Vibration | 2019:
- live load vibration present. Continue to monitor for increase in vibration |
| 29 . | Coating (Structure) | Weathering steel. Outside bottom flanges light sheet rust. |
| 30 . | Sub Deck/Cross Ties | 2019:
- Efflorescence present

Previous Notes:
2010 - Span 1 efflorescence, Span 2 efflorescence in random areas and 1 old full depth repair form, Span 3 efflorescence near center lanes, 3 full depth repairs, 1 core and 1 form failure, no issues |
| 31 . | Wearing Surface | 2019:
- transverse cracking present. Monitor for delaminations

Previous Notes:
Deck not chained
2009 - deck spot chained around joints & seam no delam found, no cracks noted
2010 - JS deck survey in 2009, 0.1% delam
2011 - 1st medium crack noted center span driving lane
2012 spot chained, delam limited to sections of cold joint
2013 washed, injected, cracksealed then linseeded deck
2014 Transverse cracking in wearing surface. Deck not chained |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- 32 . Deck Joints 2010 - underside of seals looks as if condensation is present. Appears as if forms slipped during resurfacing causing concrete to meander a bit under seal at pier 1
2014 - On both pier joints suspect leaking.
- 35 . Railings/Parapets Rail at north west end of bridge has 3 missing chair bolts
2014 - Both Railings are raised on both sides on the bridge, signs of impact to railing chair in fastbound lane.
2015 approach steel rail on slow lane loose
- 40 . Roadway Approaches paved in 2006
2011 spraypatched
2014 Spraypatched
2015 concrete breaking apart at slowlane coming off bridge. Asphalt patches smooth ride
- 41 . Roadway Flares 2019:
- CRB present
- monitor scour under NW corner

Item Condition Photos:

- 11 Bearings

Filename: too tight.JPG
Filename: teflon.JPG

- 26 Pins/Bolts/Rivets

Filename: (02837W)2011
undersized bolt.JPG

- 29 Coating (Structure)

Filename: (02837W) girder bottom
flange coating.JPG

- 30 Sub Deck/Cross Ties



Filename: subdeck n end.JPG

Condition Inspection Report

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Condition Photos:

32 Deck Joints

Filename: meandering
concrete.JPGInspection Notes:**General Inspection Notes**

Geodetic marker 89C263 on wing.
2010 Snooper, seismic block on pier 1 is missing 2 nuts but remaining 5 are nutted
2014 - Inspected by Jarret, Alluvial fans noted from road drainage at the bottom of both embankments.

Drainage Area Description

Coldwater River

Rehab Work Notes

Resurfaced in 2004
Highway paved in 2006

Maintenance Work Notes

2013 epoxy injected 26m2, crasealed 33 lm then linseeded deck
2014 Linseeded deck

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		100					N
8.	Embankment		100					N
9.	Footings/Piling							Y
10.	Pier Columns/Walls/Cribs		99	1				N
11.	Bearings		100					N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		67	33				N
28.	Live Load Vibration			100				N
29.	Coating (Structure)		100					N
DECK :								
30.	Sub Deck/Cross Ties		95	5				N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		98		2			N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		50	50				N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 82.700

Note: Upstream channel is East

Main Span Length: 43.700

Main Span Type: STRINGER

Spans: 3

Urgency: 1

BCI Rating: 2.06

Adjusted BCI Rating: 2.06

Inspector/Inspected By: T. Ryu

On 2021/07/14

Amendment/Partial Inspection?

Item Notes:

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
|------|--------------------------|---|
| 1 . | Debris Risk | 2019:
- no signs of debris at time of inspection |
| 3 . | Erosion Protection | 2014 Rip Rap on North side is being undermined and is depositing angular Rip Rap into the channel |
| 4 . | Substructure Scour | 2019:
- scour along rip rap. Monitor |
| 6 . | Abutments | 2011 - about 1/3m delam at south abutment
2017 - delam remains in 2 locations at south abutment |
| 10 . | Pier Columns/Walls/Cribs | Medium delamination at the bottom of the 4th column - pier 2 .
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- continue to monitor expansion bearings

Previous Notes:
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| 27 . | Camber/Sag | 2019:
- slight sag in girders near center span. |
| 28 . | Live Load Vibration | 2019:
- live load vibration present. Continue to monitor for increase in vibration |
| 29 . | Coating (Structure) | Weathering steel. Outside bottom flanges light sheet rust. |
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Previous Notes:
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| 31 . | Wearing Surface | 2019:
- transverse cracking present. Monitor for delaminations

Previous Notes:
Deck not chained
2009 - deck spot chained around joints & seam no delam found, no cracks noted
2010 - JS deck survey in 2009, 0.1% delam
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2012 spot chained, delam limited to sections of cold joint
2013 washed, injected, cracksealed then linseeded deck
2014 Transverse cracking in wearing surface. Deck not chained |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- 32 . Deck Joints 2010 - underside of seals looks as if condensation is present. Appears as if forms slipped during resurfacing causing concrete to meander a bit under seal at pier 1
2014 - On both pier joints suspect leaking.
- 35 . Railings/Parapets Rail at north west end of bridge has 3 missing chair bolts
2014 - Both Railings are raised on both sides on the bridge, signs of impact to railing chair in fastbound lane.
2015 approach steel rail on slow lane loose
- 40 . Roadway Approaches paved in 2006
2011 spraypatched
2014 Spraypatched
2015 concrete breaking apart at slowlane coming off bridge. Asphalt patches smooth ride
- 41 . Roadway Flares 2019:
- CRB present
- monitor scour under NW corner

Item Condition Photos:

- 11 Bearings



Filename: too tight.JPG Filename:
teflon.JPG

- 26 Pins/Bolts/Rivets



Filename: (02837W)2011
undersized bolt.JPG

- 29 Coating (Structure)



Filename: (02837W) girder bottom
flange coating.JPG

- 30 Sub Deck/Cross Ties



Filename: subdeck n end.JPG

Condition Inspection Report

Criteria: Structure No = 02837W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02837W - BOTTLETOP WEST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

32 Deck Joints



Filename: meandering
concrete.JPG

Inspection Notes:**General Inspection Notes**

Geodetic marker 89C263 on wing.
2010 Snooper, seismic block on pier 1 is missing 2 nuts but remaining 5 are nutted
2014 - Inspected by Jarret, Alluvial fans noted from road drainage at the bottom of both embankments.

Drainage Area Description

Coldwater River

Rehab Work Notes

Resurfaced in 2004
Highway paved in 2006

Maintenance Work Notes

2013 epoxy injected 26m2, crasealed 33 lm then linseeded deck
2014 Linseeded deck

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02838E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838E - MURRAY EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COLDWATER RIVER / COQUIHALLA HWY #5

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		50	50				N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		90		10			N
7.	Wing/Retaining Walls		99	1				N
8.	Embankment		100					N
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		99		1			N
12.	Caps		95	5				N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)							Y
DECK :								
30.	Sub Deck/Cross Ties		100					N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		100					N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 68.000

Note: First abutment is South. Upstream channel is West

Main Span Length: 40.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.02

Adjusted BCI Rating: 2.08

Inspector/Inspected By: T. Ryu

On 2019/06/20

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2018:
 - rip rap placement required

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02838E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838E - MURRAY EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- monitor corrosion on bearing plates
- monitor delam on abutments and wingwalls

Previous Notes:
 pier caps

Utility Concerns Note: 2 metal conduits under east parapet

Item Notes:

- | | | |
|------|----------------------|--|
| 2 . | Channel | 2015 low water |
| 3 . | Erosion Protection | 2018:
- rip rap required

Previous Notes:
2011 missing rock mid north pier but since it's on piles the threat is minimal
2014 no change |
| 4 . | Substructure Scour | 2018:
- scour at north abutment |
| 5 . | Foundation Movement | 2018:
- no signs of movement at time of inspection |
| 6 . | Abutments | 2018:
- delaminations at both abutments |
| 7 . | Wing/Retaining Walls | 2018:
- delaminations at wingwalls

Previous Notes:
n/w corner has small delamination |
| 11 . | Bearings | 2018:
- some corrosion present on bearing plates. Monitor
- elastomeric bearing pads are in good condition |
| 12 . | Caps | North pier, delaminations at west end and under drain at east end. on top of pier delaminated at west end and center, instream side.
South pier, 3 small delaminations on north face.
2009 - additionally to above I noted wide cracks at north pier, span 3, 2nd bearing.
2011 - delam still minimal, spray painted.
2015 about 8m2 for delam repair for pier #2. Pier #1 has spall at base
2016 - concrete work on caps has mitigated delam |
| 17 . | Girders | 2011 main span upstream girder splice grout defect |
| 26 . | Pins/Bolts/Rivets | 2018:
- Span 2, Bay 3, Pier 1: seismic bolts are very loose. Do these need to be tightened?

Previous Notes:
2015 all expansion double nut bolts to be checked, most are over tightened. |
| 30 . | Sub Deck/Cross Ties | 2018:
- sub deck in very good condition |
| 31 . | Wearing Surface | 2008 not chained but on JS list. deck wet so didn't note cracks
2009 - JS chained deck, no delam
2012 - 2 cracks on span 1, spot chained cracks, no delam |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02838E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838E - MURRAY EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|-------------------------|---|
| 32 . Deck Joints | 2018:
- joints look good. Monitor for leakage

Previous Notes:
2013 no problems. Parapet seals good |
| 35 . Railings/Parapets | A few fine vertical cracks / a few rust stains
2009 - 3 spalled areas
2010 - 6 or so chair bolts bent
2012 - approach rail bolts bent
2015 minor spalled and cracked parapet areas |
| 37 . Drains/Pipes | 2015 need to add drain extensions to pier drains |
| 38 . Coating (Railings) | 2013 no broken chairs noted |
| 40 . Roadway Approaches | 2006 paved
2011 spraypatched
2012 no polypatch
2013 south approach has 75mm gap
2014 approach asphalt potholing
2015 patched but still a bump
2016 - spraypatch has come loose in slow lane, small pothole
2017 - spraypatched |
| 41 . Roadway Flares | 2012 CRB approach run slightly misaligned
2015 remains same, slow lane approach |

Inspection Notes:**Drainage Area Description**

Coldwater River

Maintenance Work Notes

polypatch both approaches
 future pier cap repair, abou 8m2 on pier 2, zero planned for pier 1
 loosen pier cap nuts (expansion)
 2016 - rehab on pier caps through QP

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02838E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838E - MURRAY EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COLDWATER RIVER / COQUIHALLA HWY #5

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		50	50				N
4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		90		10			N
7. Wing/Retaining Walls		99	1				N
8. Embankment		100					N
9. Footings/Piling		100					N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		99		1			N
12. Caps		95	5				N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		100					N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y
DECK :							
30. Sub Deck/Cross Ties		100					N
31. Wearing Surface		100					N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		100					N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 68.000

Note: First abutment is South. Upstream channel is West

Main Span Length: 40.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.02

Adjusted BCI Rating: 2.08

Inspector/Inspected By: T. Ryu

On 2020/05/06

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2018:
 - rip rap placement required

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02838E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838E - MURRAY EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- monitor corrosion on bearing plates
- monitor delam on abutments and wingwalls

Previous Notes:
 pier caps

Utility Concerns Note: 2 metal conduits under east parapet

Item Notes:

- | | | |
|------|----------------------|--|
| 1 . | Debris Risk | 2020:
- no signs of debris at time of inspection |
| 2 . | Channel | 2015 low water |
| 3 . | Erosion Protection | 2018:
- rip rap required

Previous Notes:
2011 missing rock mid north pier but since it's on piles the threat is minimal
2014 no change |
| 4 . | Substructure Scour | 2018:
- scour at north abutment |
| 5 . | Foundation Movement | 2020:
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Previous Notes:
n/w corner has small delamination |
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2015 about 8m2 for delam repair for pier #2. Pier #1 has spall at base
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| 17 . | Girders | 2011 main span upstream girder splice grout defect |
| 26 . | Pins/Bolts/Rivets | 2018:
- Span 2, Bay 3, Pier 1: seismic bolts are very loose. Do these need to be tightened?

Previous Notes:
2015 all expansion double nut bolts to be checked, most are over tightened. |
| 27 . | Camber/Sag | 2020:
- no sag noted at time of inspection |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02838E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838E - MURRAY EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|--------------------------|---|
| 28 . Live Load Vibration | 2020:
- none noted at time of inspection |
| 30 . Sub Deck/Cross Ties | 2018:
- sub deck in very good condition |
| 31 . Wearing Surface | 2008 not chained but on JS list. deck wet so didn't note cracks
2009 - JS chained deck, no delam
2012 - 2 cracks on span 1, spot chained cracks, no delam |
| 32 . Deck Joints | 2018:
- joints look good. Monitor for leakage

Previous Notes:
2013 no problems. Parapet seals good |
| 35 . Railings/Parapets | A few fine vertical cracks / a few rust stains
2009 - 3 spalled areas
2010 - 6 or so chair bolts bent
2012 - approach rail bolts bent
2015 minor spalled and cracked parapet areas |
| 37 . Drains/Pipes | 2015 need to add drain extensions to pier drains |
| 38 . Coating (Railings) | 2013 no broken chairs noted |
| 40 . Roadway Approaches | 2006 paved
2011 spraypatched
2012 no polypatch
2013 south approach has 75mm gap
2014 approach asphalt potholing
2015 patched but still a bump
2016 - spraypatch has come loose in slow lane, small pothole
2017 - spraypatched |
| 41 . Roadway Flares | 2012 CRB approach run slightly misaligned
2015 remains same, slow lane approach |

Inspection Notes:**Drainage Area Description**

Coldwater River

Maintenance Work Notes

polypatch both approaches
 future pier cap repair, abou 8m2 on pier 2, zero planned for pier 1
 loosen pier cap nuts (expansion)
 2016 - rehab on pier caps through QP

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02838E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838E - MURRAY EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COLDWATER RIVER / COQUIHALLA HWY #5

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		50	50				N
4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		90		10			N
7. Wing/Retaining Walls		99	1				N
8. Embankment		100					N
9. Footings/Piling		100					N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		99		1			N
12. Caps		95	5				N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		100					N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y
DECK :							
30. Sub Deck/Cross Ties		100					N
31. Wearing Surface		100					N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		100					N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 68.000

Note: First abutment is South. Upstream channel is West

Main Span Length: 40.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.02

Adjusted BCI Rating: 2.08

Inspector/Inspected By: T. Ryu

On 2021/05/06

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2018:
 - rip rap placement required

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02838E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838E - MURRAY EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- monitor corrosion on bearing plates
- monitor delam on abutments and wingwalls

Previous Notes:
 pier caps

Utility Concerns Note: 2 metal conduits under east parapet

Item Notes:

- | | | |
|------|----------------------|--|
| 1 . | Debris Risk | 2020:
- no signs of debris at time of inspection |
| 2 . | Channel | 2015 low water |
| 3 . | Erosion Protection | 2018:
- rip rap required

Previous Notes:
2011 missing rock mid north pier but since it's on piles the threat is minimal
2014 no change |
| 4 . | Substructure Scour | 2018:
- scour at north abutment |
| 5 . | Foundation Movement | 2020:
- no signs of movement at time of inspection |
| 6 . | Abutments | 2018:
- delaminations at both abutments |
| 7 . | Wing/Retaining Walls | 2018:
- delaminations at wingwalls

Previous Notes:
n/w corner has small delamination |
| 11 . | Bearings | 2018:
- some corrosion present on bearing plates. Monitor
- elastomeric bearing pads are in good condition |
| 12 . | Caps | North pier, delaminations at west end and under drain at east end. on top of pier delaminated at west end and center, instream side.
South pier, 3 small delaminations on north face.
2009 - additionally to above I noted wide cracks at north pier, span 3, 2nd bearing.
2011 - delam still minimal, spray painted.
2015 about 8m2 for delam repair for pier #2. Pier #1 has spall at base
2016 - concrete work on caps has mitigated delam |
| 17 . | Girders | 2011 main span upstream girder splice grout defect |
| 26 . | Pins/Bolts/Rivets | 2018:
- Span 2, Bay 3, Pier 1: seismic bolts are very loose. Do these need to be tightened?

Previous Notes:
2015 all expansion double nut bolts to be checked, most are over tightened. |
| 27 . | Camber/Sag | 2020:
- no sag noted at time of inspection |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02838E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838E - MURRAY EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|--------------------------|---|
| 28 . Live Load Vibration | 2020:
- none noted at time of inspection |
| 30 . Sub Deck/Cross Ties | 2018:
- sub deck in very good condition |
| 31 . Wearing Surface | 2008 not chained but on JS list. deck wet so didn't note cracks
2009 - JS chained deck, no delam
2012 - 2 cracks on span 1, spot chained cracks, no delam |
| 32 . Deck Joints | 2018:
- joints look good. Monitor for leakage

Previous Notes:
2013 no problems. Parapet seals good |
| 35 . Railings/Parapets | A few fine vertical cracks / a few rust stains
2009 - 3 spalled areas
2010 - 6 or so chair bolts bent
2012 - approach rail bolts bent
2015 minor spalled and cracked parapet areas |
| 37 . Drains/Pipes | 2015 need to add drain extensions to pier drains |
| 38 . Coating (Railings) | 2013 no broken chairs noted |
| 40 . Roadway Approaches | 2006 paved
2011 spraypatched
2012 no polypatch
2013 south approach has 75mm gap
2014 approach asphalt potholing
2015 patched but still a bump
2016 - spraypatch has come loose in slow lane, small pothole
2017 - spraypatched |
| 41 . Roadway Flares | 2012 CRB approach run slightly misaligned
2015 remains same, slow lane approach |

Inspection Notes:**Drainage Area Description**

Coldwater River

Maintenance Work Notes

polypatch both approaches
 future pier cap repair, abou 8m2 on pier 2, zero planned for pier 1
 loosen pier cap nuts (expansion)
 2016 - rehab on pier caps through QP

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02838W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838W - MURRAY WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		50	50				N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		100					N
8.	Embankment		100					N
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		100					N
12.	Caps		95	5				N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)							Y
DECK :								
30.	Sub Deck/Cross Ties		100					N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets			100				N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 68.000

Note: First abutment is North. Upstream channel is West

Main Span Length: 40.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.07

Adjusted BCI Rating: 2.11

Inspector/Inspected By: T. Ryu

On 2019/06/20

Amendment/Partial Inspection?

Item Notes:

3 . Erosion Protection 2011 north pier apparently missing rip rap but since pier is on piles not an issue

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02838W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838W - MURRAY WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|--------------------------|---|
| 12 . Caps | North pier, bottom 100mm of n/w corner delaminated for about 1500mm long. small delam below outside girder.
South pier, 2 delaminated areas at west end and wide cracks at top and bottom north face west end.
2010 - virtually no change in above since previous inspections
2012 delam doubled in size, now about 1m2
2014 delam remarked, still growing
2016- cortez performed some rehab on piers, removed old conc and replaced |
| 17 . Girders | 2010 bf cracked |
| 19 . Bracing/Diaphragms | 2011 - main span north upstream brace has 3 bolts which appear to be skewed |
| 30 . Sub Deck/Cross Ties | Heavily map pattern cracking aunder south span and just past south pier. |
| 31 . Wearing Surface | 2008 deck not chained, on JS list. few transverse cracks noted
2010 - JS 2009 survey, 0% delam
2012 - about a dozen cracks mainly span 2 slow lane. Spot chained, 1 delam area
2015 still no potholes |
| 35 . Railings/Parapets | railing impact 2 areas repaired early 2007. Spalled area under old bolt holes
2012 - approach rail bolts damaged
2014 approach rail damaged, 3 chairs damaged. near end of bridge the rail is also damaged but still functional. in fast lane one chair is missing bolt
2015 transition on south end fast lane damaged |
| 39 . Signing/Lighting | 2015 only 1 reflector serviceable |
| 40 . Roadway Approaches | short 10m approach patched not sufficient tie in.
2010 - polypatch installed last year holding up well
2011 spray patched
2013 poltpatch at north approach good |
| 41 . Roadway Flares | 2010 - CMB coming off of bridge has spall but leaving concrete attached to no post.
2017 - CRB at SE corner spalling |

Inspection Notes:**General Inspection Notes**

2010 - Snooper
 2014 Snooper

Rehab Work Notes

Resurfaced in 2006
 2016- pier cap work through QP

Maintenance Work Notes

candidate for injection by 2014

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02838W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838W - MURRAY WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		50	50				N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		100					N
8.	Embankment		100					N
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		100					N
12.	Caps		95	5				N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)							Y
DECK :								
30.	Sub Deck/Cross Ties		100					N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets			100				N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 68.000

Note: First abutment is North. Upstream channel is West

Main Span Length: 40.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.07

Adjusted BCI Rating: 2.11

Inspector/Inspected By: T. Ryu

On 2020/05/06

Amendment/Partial Inspection?

Item Notes:

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02838W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838W - MURRAY WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
|------|---------------------|---|
| 1 . | Debris Risk | 2020:
- no debris noted at time of inspection |
| 3 . | Erosion Protection | 2011 north pier apparently missing rip rap but since pier is on piles not an issue |
| 5 . | Foundation Movement | 2020:
- no signs of movement at time of inspection |
| 12 . | Caps | North pier, bottom 100mm of n/w corner delaminated for about 1500mm long. small delam below outside girder.
South pier, 2 delaminated areas at west end and wide cracks at top and bottom north face west end.
2010 - virtually no change in above since previous inspections
2012 delam doubled in size, now about 1m2
2014 delam remarked, still growing
2016- cortez performed some rehab on piers, removed old conc and replaced |
| 17 . | Girders | 2010 bf cracked |
| 19 . | Bracing/Diaphragms | 2011 - main span north upstream brace has 3 bolts which appear to be skewed |
| 27 . | Camber/Sag | 2020:
- no signs of sag at time of inspection |
| 30 . | Sub Deck/Cross Ties | Heavily map pattern cracking aunder south span and just past south pier. |
| 31 . | Wearing Surface | 2008 deck not chained, on JS list. few transverse cracks noted
2010 - JS 2009 survey, 0% delam
2012 - about a dozen cracks mainly span 2 slow lane. Spot chained, 1 delam area
2015 still no potholes |
| 35 . | Railings/Parapets | railing impact 2 areas repaired early 2007. Spalled area under old bolt holes
2012 - approach rail bolts damaged
2014 approach rail damaged, 3 chairs damaged. near end of bridge the rail is also damaged but still functional. in fast lane one chair is missing bolt
2015 transition on south end fast lane damaged |
| 39 . | Signing/Lighting | 2015 only 1 reflector serviceable |
| 40 . | Roadway Approaches | short 10m approach patched not sufficient tie in.
2010 - polypatch installed last year holding up well
2011 spray patched
2013 poltpatch at north approach good |
| 41 . | Roadway Flares | 2010 - CMB coming off of bridge has spall but leaving concrete attached to no post.
2017 - CRB at SE corner spalling |

Inspection Notes:**General Inspection Notes**

2010 - Snooper
 2014 Snooper

Rehab Work Notes

Resurfaced in 2006
 2016- pier cap work through QP

Maintenance Work Notes

candidate for injection by 2014

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02838W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838W - MURRAY WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		50	50				N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		100					N
8.	Embankment		100					N
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		100					N
12.	Caps		95	5				N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)							Y
DECK :								
30.	Sub Deck/Cross Ties		100					N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets			100				N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 68.000

Note: First abutment is North. Upstream channel is West

Main Span Length: 40.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.07

Adjusted BCI Rating: 2.11

Inspector/Inspected By: T. Ryu

On 2021/05/06

Amendment/Partial Inspection?

Item Notes:

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02838W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02838W - MURRAY WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
|------|---------------------|---|
| 1 . | Debris Risk | 2020:
- no debris noted at time of inspection |
| 3 . | Erosion Protection | 2011 north pier apparently missing rip rap but since pier is on piles not an issue |
| 5 . | Foundation Movement | 2020:
- no signs of movement at time of inspection |
| 12 . | Caps | North pier, bottom 100mm of n/w corner delaminated for about 1500mm long. small delam below outside girder.
South pier, 2 delaminated areas at west end and wide cracks at top and bottom north face west end.
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| 17 . | Girders | 2010 bf cracked |
| 19 . | Bracing/Diaphragms | 2011 - main span north upstream brace has 3 bolts which appear to be skewed |
| 27 . | Camber/Sag | 2020:
- no signs of sag at time of inspection |
| 30 . | Sub Deck/Cross Ties | Heavily map pattern cracking under south span and just past south pier. |
| 31 . | Wearing Surface | 2008 deck not chained, on JS list. few transverse cracks noted
2010 - JS 2009 survey, 0% delam
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| 35 . | Railings/Parapets | railing impact 2 areas repaired early 2007. Spalled area under old bolt holes
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2014 approach rail damaged, 3 chairs damaged. near end of bridge the rail is also damaged but still functional. in fast lane one chair is missing bolt
2015 transition on south end fast lane damaged |
| 39 . | Signing/Lighting | 2015 only 1 reflector serviceable |
| 40 . | Roadway Approaches | short 10m approach patched not sufficient tie in.
2010 - polypatch installed last year holding up well
2011 spray patched
2013 poltpatch at north approach good |
| 41 . | Roadway Flares | 2010 - CMB coming off of bridge has spall but leaving concrete attached to no post.
2017 - CRB at SE corner spalling |

Inspection Notes:**General Inspection Notes**

2010 - Snooper
 2014 Snooper

Rehab Work Notes

Resurfaced in 2006
 2016- pier cap work through QP

Maintenance Work Notes

candidate for injection by 2014

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COLDWATER RIVER / COQUIHALLA HWY #5

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection			100				N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		98	1	1			N
8.	Embankment		100					N
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		100					N
12.	Caps		91	8		1		N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)							Y
DECK :								
30.	Sub Deck/Cross Ties		98		2			N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		90	10				N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 65.000

Note: First abutment is South. Upstream channel is East

Main Span Length: 37.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.03

Adjusted BCI Rating: 2.15

Inspector/Inspected By: T. Ryu

On 2019/06/20

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: cap repairs

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Utility Concerns Note: 2 metal conduits under east parapet

Item Notes:

- | | | |
|------|----------------------|--|
| 2 . | Channel | 2015 low water |
| 6 . | Abutments | a few vertical cracks at both abutments, some with efflorescence
2014 during rainfall noted road runoff ponding at ends of abt seats |
| 7 . | Wing/Retaining Walls | small spall south-east wing/wall
small 300mm by 200mm shallow delamination north-west wing/wall
2009 - above delamination now spall
2014 degradation slow |
| 12 . | Caps | north pier has 3 delaminated areas on west end including a spall at the bottom of the cap measuring 500mm by 100mm which has exposed the bar.
south pier has large spalled area west end, rebar exposed.
2009 - south pier, west end spalled area not noticeably changed since last year
2010 no noticeable change
2012 clean
2014 inspected during rainfall, all cap ends wet and drains splash onto bottom of caps
2015 pier 1 delam top of west end and pier cap 2 side & top of west end. nothing urgent
2016 - some small pier cap rehab by cortex has repaired spalls |
| 17 . | Girders | 2 drilled holes in upstream girder near mid center span
2017 - small chip in stringer 2 at South abutment on east side |
| 30 . | Sub Deck/Cross Ties | Parapet/deck soffets under both joints heally cracked with some spalling. Cracks and efflorescence under span 3, fast lane. |
| 31 . | Wearing Surface | 2008 not chained but on JS list. no cracks noted but deck was wet therefore difficult to note
2009 JS chained, 0.1% delam
2010 cracks in all 3 spans
2012 linseed application
2014 linseed application |
| 35 . | Railings/Parapets | 2009 - one chair, mid span 1 passing lane missing the 2 bolts.
2010 - most of the slow lane bolts on span 1 are bent
2012 - bolts broken and some missing in fast lane
2015 2 sections of steel rail loose, slow lane approach |
| 39 . | Signing/Lighting | cast in numbers on southeast wing/wall read 2398E |
| 40 . | Roadway Approaches | paved in 2006
2013 spray patch failing at fastlane approach
2014 new spray patch both ends |

Item Condition Photos:

- 3 Erosion Protection



Filename: missing on piers.JPG

Condition Inspection Report

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

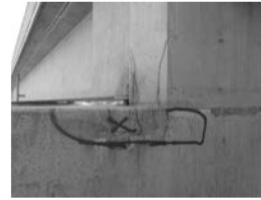
Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

12 Caps



Filename: pier 2.JPG



Filename: 2015 cap #1 sw corner.JPG



Filename: 2015 cap #1 west end.JPG



Filename: 2015 cap 2.JPG

35 Railings/Parapets



Filename: 2012 rail bolts missing.JPG

Inspection Notes:**General Inspection Notes**

2011 - Snooper
2015 Snooper with RCMP support

Drainage Area Description

Coldwater River

Maintenance Work Notes

crackseal and polypatch approaches
most bearing bolts too tight
2014 deck linseeded
2016 - cortez did small pier cap rehab work

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COLDWATER RIVER / COQUIHALLA HWY #5

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection			100				N
4. Substructure Scour		100					N

SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		100					N
7. Wing/Retaining Walls		98	1	1			N
8. Embankment		100					N
9. Footings/Piling		100					N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		100					N
12. Caps		91	8		1		N
13. Corbels							Y
14. Dolphins/Fenders							Y

SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		100					N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y

DECK :							
30. Sub Deck/Cross Ties		98		2			N
31. Wearing Surface		100					N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		90	10				N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N

APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 65.000

Note: First abutment is South. Upstream channel is East

Main Span Length: 37.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.03

Adjusted BCI Rating: 2.15

Inspector/Inspected By: T. Ryu

On 2020/05/12

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: cap repairs

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Utility Concerns Note: 2 metal conduits under east parapet

Item Notes:

- | | | |
|------|----------------------|--|
| 2 . | Channel | 2015 low water |
| 6 . | Abutments | a few vertical cracks at both abutments, some with efflorescence
2014 during rainfall noted road runoff ponding at ends of abt seats |
| 7 . | Wing/Retaining Walls | small spall south-east wing/wall
small 300mm by 200mm shallow delamination north-west wing/wall
2009 - above delamination now spall
2014 degradation slow |
| 12 . | Caps | north pier has 3 delaminated areas on west end including a spall at the bottom of the cap measuring 500mm by 100mm which has exposed the bar.
south pier has large spalled area west end, rebar exposed.
2009 - south pier, west end spalled area not noticeably changed since last year
2010 no noticeable change
2012 clean
2014 inspected during rainfall, all cap ends wet and drains splash onto bottom of caps
2015 pier 1 delam top of west end and pier cap 2 side & top of west end. nothing urgent
2016 - some small pier cap rehab by cortex has repaired spalls |
| 17 . | Girders | 2 drilled holes in upstream girder near mid center span
2017 - small chip in stringer 2 at South abutment on east side |
| 30 . | Sub Deck/Cross Ties | Parapet/deck soffets under both joints heally cracked with some spalling. Cracks and efflorescence under span 3, fast lane. |
| 31 . | Wearing Surface | 2008 not chained but on JS list. no cracks noted but deck was wet therefore difficult to note
2009 JS chained, 0.1% delam
2010 cracks in all 3 spans
2012 linseed application
2014 linseed application |
| 35 . | Railings/Parapets | 2009 - one chair, mid span 1 passing lane missing the 2 bolts.
2010 - most of the slow lane bolts on span 1 are bent
2012 - bolts broken and some missing in fast lane
2015 2 sections of steel rail loose, slow lane approach |
| 39 . | Signing/Lighting | cast in numbers on southeast wing/wall read 2398E |
| 40 . | Roadway Approaches | paved in 2006
2013 spray patch failing at fastlane approach
2014 new spray patch both ends |

Item Condition Photos:

- 3 Erosion Protection



Filename: missing on piers.JPG

BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

12 Caps



Filename: pier 2.JPG



Filename: 2015 cap #1 sw corner.JPG



Filename: 2015 cap #1 west end.JPG



Filename: 2015 cap 2.JPG

35 Railings/Parapets



Filename: 2012 rail bolts missing.JPG

Inspection Notes:

General Inspection Notes

2011 - Snooper
2015 Snooper with RCMP support

Drainage Area Description

Coldwater River

Maintenance Work Notes

crackseal and polypatch approaches
most bearing bolts too tight
2014 deck linseeded
2016 - cortez did small pier cap rehab work

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COLDWATER RIVER / COQUIHALLA HWY #5

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection			100				N
4. Substructure Scour		100					N

SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		100					N
7. Wing/Retaining Walls		98	1	1			N
8. Embankment		100					N
9. Footings/Piling		100					N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		100					N
12. Caps		91	8		1		N
13. Corbels							Y
14. Dolphins/Fenders							Y

SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		100					N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y

DECK :							
30. Sub Deck/Cross Ties		98		2			N
31. Wearing Surface		100					N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		90	10				N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N

APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 65.000

Note: First abutment is South. Upstream channel is East

Main Span Length: 37.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating:

Adjusted BCI Rating:

Inspector/Inspected By: T. Ryu

On 2021/07/21

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2021:

- Monitor wingwalls and abutments for spalls and delaminations

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- monitor deck for pothole development and deterioration
- monitor approaches for aging and deterioration
- monitor joints for leakage and wear

Utility Concerns Note: 2 metal conduits under east parapet

Item Notes:

- | | | |
|------|----------------------|---|
| 1 . | Debris Risk | 2021:
- no debris risk present at time of inspection |
| 2 . | Channel | 2021:
- skew - good
- adequacy - good
- channel bed - good
- channel bank - good |
| 3 . | Erosion Protection | 2021:
- rip rap shows signs of movement & is undersized |
| 4 . | Substructure Scour | 2021:
- no signs of scour |
| 5 . | Foundation Movement | 2021:
- no signs of movement at time of inspection |
| 6 . | Abutments | 2021:
- minor cracking present. Monitor |
| 7 . | Wing/Retaining Walls | 2021:
- minor cracking present.
- small spall on SE wing/wall. Monitor
- small delam in NW wingwall. Monitor
- small 300mm by 200mm shallow delamination north-west wing/wall |
| 8 . | Embankment | 2021:
- generally good condition |
| 9 . | Footings/Piling | 2021:
- no signs of movement
- generally good condition |
| 11 . | Bearings | 2021:
- no signs of slippage |
| 12 . | Caps | 2021:
- some delaminations and spalls present
- monitor rehabbed areas for deterioration |
| | | Previous Notes:

2016 - some small pier cap rehab by cortex has repaired spalls |
| 17 . | Girders | 2021:
- girders are in alignment
- monitor for cracks and deterioration |
| | | Previous Notes:
2017 - small chip in stringer 2 at South abutment on east side |
| | | General Notes:
- 2 drilled holes in upstream girder near mid center span |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- 19 . Bracing/Diaphragms 2021:
- generally good condition
- 26 . Pins/Bolts/Rivets 2021:
- generally good condition
- 27 . Camber/Sag 2021:
- no changes noted at time of inspection
- 28 . Live Load Vibration 2021:
- no excess vibration noted at time of inspection
- 30 . Sub Deck/Cross Ties 2021:
- monitor for efflorescence, cracking and spalls

Previous Notes:

Parapet/deck soffets under both joints healily cracked with some spalling. Cracks and efflorescence under span 3, fast lane.

- 31 . Wearing Surface 2021:
- general aging of deck
- monitor for pothole developement
- 32 . Deck Joints 2021:
- monitor joints for leakage and wear
- 35 . Railings/Parapets 2021:
- rail in alignment
- monitor bolts for breakage and wear
- 37 . Drains/Pipes 2021:
- all drains clear at time of inspection
- 38 . Coating (Railings) 2021:
- coating in good condition with signs of general wear
- 39 . Signing/Lighting 2021:
- monitor W-54s for wear and reflectivity

General Note:

- cast in numbers on southeast wing/wall read 2398E

- 40 . Roadway Approaches 2021:
- monitor for deterioration

Item Condition Photos:

- 3 Erosion Protection



Filename: missing on piers.JPG

Condition Inspection Report

Criteria: Structure No = 02839E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839E - BROOKMERE EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

12 Caps



Filename: pier 2.JPG



Filename: 2015 cap #1 sw corner.JPG



Filename: 2015 cap #1 west end.JPG



Filename: 2015 cap 2.JPG

35 Railings/Parapets



Filename: 2012 rail bolts missing.JPG

Inspection Notes:**General Inspection Notes**

2011 - Snooper
2015 Snooper with RCMP support

Drainage Area Description

Coldwater River

Maintenance Work Notes

crackseal and polypatch approaches
most bearing bolts too tight
2014 deck linseeded
2016 - cortez did small pier cap rehab work

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection			100				N
4. Substructure Scour		100					N

SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		100					N
7. Wing/Retaining Walls		90	10				N
8. Embankment		100					N
9. Footings/Piling		100					N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		100					N
12. Caps		98	2				N
13. Corbels							Y
14. Dolphins/Fenders							Y

SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		99	1				N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y

DECK :							
30. Sub Deck/Cross Ties		100					N
31. Wearing Surface		100					N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		97		3			N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N

APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 65.000

Note: First abutment is North. Upstream channel is East

Main Span Length: 37.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.02

Adjusted BCI Rating: 2.15

Inspector/Inspected By: T. Ryu

On 2019/06/20

Amendment/Partial Inspection?

Item Notes:

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
|------|----------------------|---|
| 3 . | Erosion Protection | Original rock appears to have moved but since piers are on piles there is no issue at this time |
| 7 . | Wing/Retaining Walls | 2014 erosion behind southwest wing
2015 water ingress from highway blocked so above erosion stable |
| 12 . | Caps | 2010 - North pier, delamination and spalled at west end of cap and under drain (which spills onto cap) on east side, about 3m2.
South pier, delamination at west end of cap about 2m2
2014 during rainfall noted cap ends all wet and deck drains contribute to wet caps
2016 - small rehab done on spalling pier caps by cortex |
| 17 . | Girders | spall on main (upstream) girder at south end by diaphragm w/ exposed rebar.
2010 - no further growth noted, measures 35cm long x 15cm high |
| 26 . | Pins/Bolts/Rivets | North abutment 2 outside anchor bolts are double nutted 6 inside are single nutted. |
| 31 . | Wearing Surface | 2008 not chained but on JS list. Some cracks noted center span
2009 JS chained, no delam
2011 no defects noted
2012 spot chained, no delam, few minor cracks both sides of pier 1. linseed application
2014 linseed application |
| 35 . | Railings/Parapets | Slow lane, center span has popout at base of parapet which is bar depth.
2010 - isolated chairs on right side have damaged bolts, no issue as yet. Scaling on right parapet at south seal where joint was put in in 2006. Grout repair to sawcut in passing lane parapet failing, no issues.
2015 3 chair at right approach have damaged bolts. parapet at joint 2 slow lane minor disintegration |
| 40 . | Roadway Approaches | resurfacing project only had 10m approach paving. doesn't ride as well as it should.
2011 spraypatched
2014 spraypatched |
| 41 . | Roadway Flares | 2013 sw corner scoured under transition no post. MR sent |

Item Condition Photos:

- 3 Erosion Protection



Filename: 2011 pier 2.JPG

- 7 Wing/Retaining Walls



Filename: 2014 10 29 wing washout.JPG

BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

12 Caps



Filename: P9100071.JPG Filename:
P9100070.JPG

17 Girders



Filename: 2010 span 1 pier 1 girder
A spall.JPG

35 Railings/Parapets



Filename: parapet.JPG Filename:
chair.JPG

40 Roadway Approaches



Filename: north approach.JPG
Filename: south approach.JPG

Inspection Notes:

General Inspection Notes

2010 - Snooper

Drainage Area Description

Coldwater River. Fish spawning area just west of bridge.

Rehab Work Notes

Resurfacing in 2006

Maintenance Work Notes

repair girder spall
2012 & 2014 linseed

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection			100				N
4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		100					N
7. Wing/Retaining Walls		90	10				N
8. Embankment		100					N
9. Footings/Piling		100					N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		100					N
12. Caps		98	2				N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		99	1				N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)							Y
DECK :							
30. Sub Deck/Cross Ties		100					N
31. Wearing Surface		100					N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		97		3			N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 65.000

Note: First abutment is North. Upstream channel is East

Main Span Length: 37.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.02

Adjusted BCI Rating: 2.15

Inspector/Inspected By: T. Ryu

On 2020/05/21

Amendment/Partial Inspection?

Item Notes:

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
|------|----------------------|---|
| 3 . | Erosion Protection | Original rock appears to have moved but since piers are on piles there is no issue at this time |
| 7 . | Wing/Retaining Walls | 2014 erosion behind southwest wing
2015 water ingress from highway blocked so above erosion stable |
| 12 . | Caps | 2010 - North pier, delamination and spalled at west end of cap and under drain (which spills onto cap) on east side, about 3m2.
South pier, delamination at west end of cap about 2m2
2014 during rainfall noted cap ends all wet and deck drains contribute to wet caps
2016 - small rehab done on spalling pier caps by cortex |
| 17 . | Girders | spall on main (upstream) girder at south end by diaphragm w/ exposed rebar.
2010 - no further growth noted, measures 35cm long x 15cm high |
| 26 . | Pins/Bolts/Rivets | North abutment 2 outside anchor bolts are double nutted 6 inside are single nutted. |
| 31 . | Wearing Surface | 2008 not chained but on JS list. Some cracks noted center span
2009 JS chained, no delam
2011 no defects noted
2012 spot chained, no delam, few minor cracks both sides of pier 1. linseed application
2014 linseed application |
| 35 . | Railings/Parapets | Slow lane, center span has popout at base of parapet which is bar depth.
2010 - isolated chairs on right side have damaged bolts, no issue as yet. Scaling on right parapet at south seal where joint was put in in 2006. Grout repair to sawcut in passing lane parapet failing, no issues.
2015 3 chair at right approach have damaged bolts. parapet at joint 2 slow lane minor disintegration |
| 40 . | Roadway Approaches | resurfacing project only had 10m approach paving. doesn't ride as well as it should.
2011 spraypatched
2014 spraypatched |
| 41 . | Roadway Flares | 2013 sw corner scoured under transition no post. MR sent |

Item Condition Photos:

- 3 Erosion Protection



Filename: 2011 pier 2.JPG

- 7 Wing/Retaining Walls



Filename: 2014 10 29 wing washout.JPG

Condition Inspection Report

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

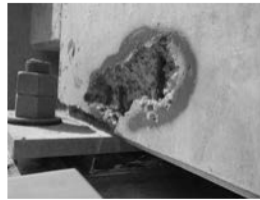
Item Condition Photos:

12 Caps



Filename: P9100071.JPG
Filename: P9100070.JPG

17 Girders



Filename: 2010 span 1 pier 1 girder
A spall.JPG

35 Railings/Parapets



Filename: parapet.JPG
Filename: chair.JPG

40 Roadway Approaches



Filename: north approach.JPG
Filename: south approach.JPG

Inspection Notes:**General Inspection Notes**

2010 - Snooper

Drainage Area Description

Coldwater River. Fish spawning area just west of bridge.

Rehab Work Notes

Resurfacing in 2006

Maintenance Work Notes

repair girder spall
2012 & 2014 linseed

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection			100				N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		90	10				N
8.	Embankment		100					N
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		100					N
12.	Caps		98	2				N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		99	1				N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)							Y
DECK :								
30.	Sub Deck/Cross Ties		100					N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		97		3			N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 65.000

Note: First abutment is North. Upstream channel is East

Main Span Length: 37.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.02

Adjusted BCI Rating: 2.15

Inspector/Inspected By: T. RYU

On 2021/07/21

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2021:

- monitor deck for potholes and delams

Condition Inspection Report

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- monitor joints for leakage
- monitor approaches for deterioration

Item Notes:

- | | | |
|------|----------------------|---|
| 1 . | Debris Risk | 2021:
- minimal debris risk present on site |
| 2 . | Channel | 2021:
- skew - good
- adequacy - good
- channel bed - good
- channel bank - good |
| 3 . | Erosion Protection | 2021:
- some rip rap in place.
- rip rap is undersized; some movement noted. |
| 4 . | Substructure Scour | 2021:
- no significant scour noted |
| 5 . | Foundation Movement | 2021:
- no signs of movement at time of inspection |
| 6 . | Abutments | 2021:
- monitor for cracking and delams
- generally good condition |
| 7 . | Wing/Retaining Walls | 2021:
- monitor for cracking and delams
- generally good condition

Historical Notes:
2014 erosion behind southwest wing
2015 water ingress from highway blocked so above erosion stable |
| 8 . | Embankment | 2021:
- generally good condition |
| 9 . | Footings/Piling | 2021:
- no signs of movement |
| 11 . | Bearings | 2021:
- generally good condition |
| 12 . | Caps | 2010 - North pier, delamination and spalled at west end of cap and under drain (which spills onto cap) on east side, about 3m2.
South pier, delamination at west end of cap about 2m2
2014 during rainfall noted cap ends all wet and deck drains contribute to wet caps
2016 - small rehab done on spalling pier caps by cortex |
| 17 . | Girders | spall on main (upstream) girder at south end by diaphragm w/ exposed rebar.
2010 - no further growth noted, measures 35cm long x 15cm high |
| 26 . | Pins/Bolts/Rivets | North abutment 2 outside anchor bolts are double nutted 6 inside are single nutted. |
| 27 . | Camber/Sag | 2021:
- no sag noted at time of inspection |
| 28 . | Live Load Vibration | 2021:
- light vibration with passing traffic |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|--------------------------|---|
| 30 . Sub Deck/Cross Ties | 2021:
- generally good condition |
| 31 . Wearing Surface | 2021:
- general wear and aging. Monitor for pothole and delamination development
- minor cracking in place |
| 32 . Deck Joints | 2021:
- general wear
- monitor for leaking |
| 35 . Railings/Parapets | Slow lane, center span has popout at base of parapet which is bar depth.
2010 - isolated chairs on right side have damaged bolts, no issue as yet. Scaling on right parapet at south seal where joint was put in in 2006. Grout repair to sawcut in passing lane parapet failing, no issues.
2015 3 chair at right approach have damaged bolts. parapet at joint 2 slow lane minor disintegration |
| 37 . Drains/Pipes | 2021:
- good condition |
| 38 . Coating (Railings) | 2021:
- good condition |
| 39 . Signing/Lighting | 2021:
- general wear. Monitor reflectivity |
| 40 . Roadway Approaches | 2021:
- wear and aging. |
| 41 . Roadway Flares | 2021:
- crbs have wear but in good condition |

Item Condition Photos:

- 3 Erosion Protection



Filename: 2011 pier 2.JPG

- 7 Wing/Retaining Walls



Filename: 2014 10 29 wing washout.JPG

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02839W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02839W - BROOKMERE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

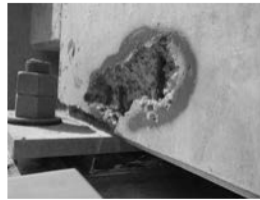
Contract Area: 14 - Nicola CA

Item Condition Photos:

12 Caps

Filename: P9100071.JPG
Filename: P9100070.JPG

17 Girders

Filename: 2010 span 1 pier 1 girder
A spall.JPG

35 Railings/Parapets

Filename: parapet.JPG
Filename: chair.JPG

40 Roadway Approaches

Filename: north approach.JPG
Filename: south approach.JPGInspection Notes:**General Inspection Notes**

2010 - Snooper

Drainage Area Description

Coldwater River. Fish spawning area just west of bridge.

Rehab Work Notes

Resurfacing in 2006

Maintenance Work Notesrepair girder spall
2012 & 2014 linseed

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON
 14-D-@-00355 - Brodie Siding Road - UNDER

Features Crossed: COLDWATER RIVER / BRODIE SIDING ROAD / COQ
 UIHA
 LLA
 HWY
 #5

	Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		90	10				N
7.	Wing/Retaining Walls		100					N
8.	Embankment		100					N
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		95	5				N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		98	2				N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		99	1				N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)							Y
DECK :								
30.	Sub Deck/Cross Ties		90		10			N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		95		5			N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		50	40	10			N
41.	Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 73.000

Note: First abutment is South. Upstream channel is West

Main Span Length: 37.500

Main Span Type: STRINGER

Spans: 3

Urgency: 4

BCI Rating: 2.04

Adjusted BCI Rating: 2.09

Inspector/Inspected By: T. Ryu

On 2019/06/20

Amendment/Partial Inspection?

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2018:

- deck delaminations
- rail bolts worn and missing (urgency 3)
- approaches will be repaved shortly
- Span 2, Pier 1(?), Bearing A: - seat is cracked. Previously marked and crack does not appear to have widened
- Span 3, Pier 2, Seismic Bearing 'c': only one bolt present. Bolt is very tight and the pad is very loose (urgency 4)

Utility Concerns Note: 2 metal conduits under east parapet. fiber optics under north span.

Item Notes:

- | | |
|--------------------------|---|
| 6 . Abutments | <p>2011 north abutment, east end delaminating. about 70% of epoxy injection still holding.
 2013 50% injection OK
 2016 - epoxy good in center of north abutment, east end delam</p> |
| 11 . Bearings | <p>2018:
 - Span 2, Pier 1(?), Bearing A: - seat is cracked. Previously marked and crack does not appear to have widened
 - Span 3, Pier 2, Seismic Bearing 'c': only one bolt present. Bolt is very tight and the pad is very loose.</p> <p>Previous Notes:
 Bearings at both abutments slightly squashed, piers good
 2017 - bearing pedestal has chipped away a little bit under stringer 4 at North end</p> |
| 12 . Caps | <p>2018:
 - repairs appear to have been completed. Cap is in good condition</p> <p>Previous Notes:
 Abutment ends delaminating as epoxy injection site fail. Numerous additional sites. Both piers but primarily at ends with some in center of bridge. No major spalls.
 2009 - Most of the previously epoxy injected area are delaminated with isolated spalling. The majority of the poor areas are at the lower ends of the caps.
 2011 pair 2 delaminations primarily at east end. pier 2 delaminated on top where seismic anchors are. the east end is almost totally shot
 2015 pier caps repairs completed last couple of years</p> |
| 17 . Girders | <p>Girder 3E impact damage above roadway with 3 stirrups exposed, repaired in July 2003. still solid in 2007 but cracked on top of repair
 2010 girder cracks at pier #1 marked during 2009 snoop inspection
 2011 span 1 girder 1 has exposed bar in web at end likely caused by lack of cover. span 2 girder 1 has 2 shallow spalls, 1 at each end.
 2014 no notable change
 2015 span 1 downstream and span 2 downstream each have delaminated areas and exposed bar</p> |
| 26 . Pins/Bolts/Rivets | <p>Seismic restraint bolt at Pier #2, Bay #3 north side single nut half threaded. North abutment 2nd bay in from left (west) missing pin and nut.</p> |
| 30 . Sub Deck/Cross Ties | <p>Areas of map cracking / efflorescence near piers and abutments.
 Random areas of transverse cracks with efflorescence.
 2008 parapet soffit cracked at ne end of bridge</p> |
| 31 . Wearing Surface | <p>2018:
 - epoxy injected deck
 - delams in various locations</p> <p>Previous Notes:
 little in the way on unsealed cracks. Deck not chained. This deck in much better (fewer cracks) than sister bridge.
 2008 - deck not chained but is on JS list
 2009 - driving lane spot chained, about 2 small delaminated areas per span. over a dozen fine to wide cracks in deck.
 2010 - 3.2% delaminated, JS 2009 deck survey. Many cracks
 2013 injected in 2011 then linseed and cracksealed in 2012</p> |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- 32 . Deck Joints Rehab completed 2003. Includes parapet wrap
- 35 . Railings/Parapets
 2018:
 - rail bolts worn and missing
 - previously noted rail damage has been repaired
- Previous Notes:
 2009 1 rail post damaged and 2 reflective spalls on outside of parapet all in center span, east side.
 2010 numerous bolts missing from slow lane side, span 1
 2012 missing bolts remain missing but no further damage noted
 2015 bus accident in June required rail and parapet repairs. Emergency repairs completed soon after accident. Permanent repairs (slow lane parapet) pending
- 37 . Drains/Pipes
 South end trough below downspout rusted through at bottom.
 Pipe at north end between the 2 bridges has outlet covered however a buried line is near there.
 2008 - MR sent for trough above
 2009 - down drain rusted clean through.
 2011 repaired last year
- 40 . Roadway Approaches
 2018:
 - deck approaches broken
 - repaving project in progress at time of inspection. Approaches should be excellent shortly.
- Previous Notes:
 north end paved in 2005, south end paved in 2006.
 2011 both approaches spray patched, north side passing lane already starting to fail.
 2013 both approaches spraypatched
 2017 - properly patched

Item Condition Photos:

6 Abutments



Filename: north abt.JPG

12 Caps



Filename: north cap.JPG

17 Girders


 Filename: span 2.JPG
 span 3.JPG
 Filename: span 1 left.JPG


Filename: 2015 over pier 1.JPG

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

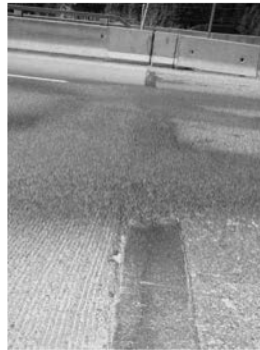
Item Condition Photos:

35 Railings/Parapets



Filename: PB160524.JPG
Filename: PB160523.JPG

40 Roadway Approaches



Filename: Pnorth approach.JPG

Inspection Notes:**General Inspection Notes**

2009 Snooper
2011 Snooper
2015 snooper

Drainage Area Description

Coldwater River

Rehab Work Notes

Pier caps and abutments epoxy injected by 2002.
Resurfaced in 2003
Approaches paved in 2005 (north end) and 2006 (south end)

Maintenance Work Notes

repair drains as noted. Pier cap repairs required, plan for fall of 2010
deck epoxy injected in 2012
abutments & caps repaired in 2014 and 2015 (south and both respectively)
plan to repair spalled girders over pier 1 in 2015/16

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON
 14-D-@-00355 - Brodie Siding Road - UNDER

Features Crossed: COLDWATER RIVER / BRODIE SIDING ROAD / COQ
 UIHA
 LLA
 HWY
 #5

	Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		90	10				N
7.	Wing/Retaining Walls		100					N
8.	Embankment		100					N
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		95	5				N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		98	2				N
18.	Portals							Y
19.	Bracing/Diaphragms		100					N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		99	1				N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)							Y
DECK :								
30.	Sub Deck/Cross Ties		90		10			N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		95		5			N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		50	40	10			N
41.	Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 73.000

Note: First abutment is South. Upstream channel is West

Main Span Length: 37.500

Main Span Type: STRINGER

Spans: 3

Urgency: 4

BCI Rating: 2.04

Adjusted BCI Rating: 2.09

Inspector/Inspected By: T. Ryu

On 2020/05/28

Amendment/Partial Inspection?

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2018:

- deck delaminations
- rail bolts worn and missing (urgency 3)
- approaches will be repaved shortly
- Span 2, Pier 1(?), Bearing A: - seat is cracked. Previously marked and crack does not appear to have widened
- Span 3, Pier 2, Seismic Bearing 'c': only one bolt present. Bolt is very tight and the pad is very loose (urgency 4)

Utility Concerns Note: 2 metal conduits under east parapet. fiber optics under north span.

Item Notes:

- | | |
|--------------------------|---|
| 6 . Abutments | <p>2011 north abutment, east end delaminating. about 70% of epoxy injection still holding.
 2013 50% injection OK
 2016 - epoxy good in center of north abutment, east end delam</p> |
| 11 . Bearings | <p>2018:
 - Span 2, Pier 1(?), Bearing A: - seat is cracked. Previously marked and crack does not appear to have widened
 - Span 3, Pier 2, Seismic Bearing 'c': only one bolt present. Bolt is very tight and the pad is very loose.</p> <p>Previous Notes:
 Bearings at both abutments slightly squashed, piers good
 2017 - bearing pedestal has chipped away a little bit under stringer 4 at North end</p> |
| 12 . Caps | <p>2018:
 - repairs appear to have been completed. Cap is in good condition</p> <p>Previous Notes:
 Abutment ends delaminating as epoxy injection site fail. Numerous additional sites. Both piers but primarily at ends with some in center of bridge. No major spalls.
 2009 - Most of the previously epoxy injected area are delaminated with isolated spalling. The majority of the poor areas are at the lower ends of the caps.
 2011 pair 2 delaminations primarily at east end. pier 2 delaminated on top where seismic anchors are. the east end is almost totally shot
 2015 pier caps repairs completed last couple of years</p> |
| 17 . Girders | <p>Girder 3E impact damage above roadway with 3 stirrups exposed, repaired in July 2003. still solid in 2007 but cracked on top of repair
 2010 girder cracks at pier #1 marked during 2009 snoop inspection
 2011 span 1 girder 1 has exposed bar in web at end likely caused by lack of cover. span 2 girder 1 has 2 shallow spalls, 1 at each end.
 2014 no notable change
 2015 span 1 downstream and span 2 downstream each have delaminated areas and exposed bar</p> |
| 26 . Pins/Bolts/Rivets | <p>Seismic restraint bolt at Pier #2, Bay #3 north side single nut half threaded. North abutment 2nd bay in from left (west) missing pin and nut.</p> |
| 30 . Sub Deck/Cross Ties | <p>Areas of map cracking / efflorescence near piers and abutments.
 Random areas of transverse cracks with efflorescence.
 2008 parapet soffit cracked at ne end of bridge</p> |
| 31 . Wearing Surface | <p>2018:
 - epoxy injected deck
 - delams in various locations</p> <p>Previous Notes:
 little in the way on unsealed cracks. Deck not chained. This deck in much better (fewer cracks) than sister bridge.
 2008 - deck not chained but is on JS list
 2009 - driving lane spot chained, about 2 small delaminated areas per span. over a dozen fine to wide cracks in deck.
 2010 - 3.2% delaminated, JS 2009 deck survey. Many cracks
 2013 injected in 2011 then linseed and cracksealed in 2012</p> |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- 32 . Deck Joints Rehab completed 2003. Includes parapet wrap
- 35 . Railings/Parapets
 2018:
 - rail bolts worn and missing
 - previously noted rail damage has been repaired
- Previous Notes:
 2009 1 rail post damaged and 2 reflective spalls on outside of parapet all in center span, east side.
 2010 numerous bolts missing from slow lane side, span 1
 2012 missing bolts remain missing but no further damage noted
 2015 bus accident in June required rail and parapet repairs. Emergency repairs completed soon after accident. Permanent repairs (slow lane parapet) pending
- 37 . Drains/Pipes
 South end trough below downspout rusted through at bottom.
 Pipe at north end between the 2 bridges has outlet covered however a buried line is near there.
 2008 - MR sent for trough above
 2009 - down drain rusted clean through.
 2011 repaired last year
- 40 . Roadway Approaches
 2018:
 - deck approaches broken
 - repaving project in progress at time of inspection. Approaches should be excellent shortly.
- Previous Notes:
 north end paved in 2005, south end paved in 2006.
 2011 both approaches spray patched, north side passing lane already starting to fail.
 2013 both approaches spraypatched
 2017 - properly patched

Item Condition Photos:

6 Abutments



Filename: north abt.JPG

12 Caps



Filename: north cap.JPG

17 Girders


 Filename: span 2.JPG
 span 3.JPG
 Filename: span 1 left.JPG


Filename: 2015 over pier 1.JPG

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

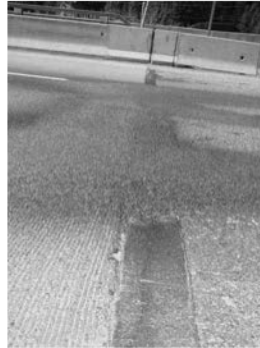
Item Condition Photos:

35 Railings/Parapets



Filename: PB160524.JPG
Filename: PB160523.JPG

40 Roadway Approaches



Filename: Pnorth approach.JPG

Inspection Notes:**General Inspection Notes**

2009 Snooper
2011 Snooper
2015 snooper

Drainage Area Description

Coldwater River

Rehab Work Notes

Pier caps and abutments epoxy injected by 2002.
Resurfaced in 2003
Approaches paved in 2005 (north end) and 2006 (south end)

Maintenance Work Notes

repair drains as noted. Pier cap repairs required, plan for fall of 2010
deck epoxy injected in 2012
abutments & caps repaired in 2014 and 2015 (south and both respectively)
plan to repair spalled girders over pier 1 in 2015/16

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON
 14-D-@-00355 - Brodie Siding Road - UNDER

Features Crossed: COLDWATER RIVER / BRODIE SIDING ROAD / COQ
 UIHA
 LLA
 HWY
 #5

	Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		98		2			N
7.	Wing/Retaining Walls		100					N
8.	Embankment		90		10			N
9.	Footings/Piling		50				50	N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		100					N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		98		2			N
18.	Portals							Y
19.	Bracing/Diaphragms		99		1			N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		99	1				N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)							Y
DECK :								
30.	Sub Deck/Cross Ties		95	5				N
31.	Wearing Surface		80	18	2			N
32.	Deck Joints		75		25			N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		95		5			N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		90	10				N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		75	25				N
41.	Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 73.000

Note: First abutment is South. Upstream channel is West

Main Span Length: 37.500

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.07

Adjusted BCI Rating: 2.06

Inspector/Inspected By: KMCKEN/TMACKAY

On 2021/09/29

Amendment/Partial Inspection?

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2021
 - joint seal needs replacement at pier 1
 - minor rail repair
 - crack seal deck

Utility Concerns Note: 2 metal conduits under east parapet. fiber optics under north span.

Item Notes:

- | | | |
|-----|----------------------|--|
| 1 . | Debris Risk | 2021
- banks appear stable
- wide/high clearance
- piers outside of channel
- minor debris on south bank |
| 2 . | Channel | 2021
Skew- less than 15 degrees
Bed - appears stable
Banks - appear stable
Adequacy -good |
| 3 . | Erosion Protection | 2021
North Bank
- well keyed , minor settlement

South Bank
- no rip rap present |
| 4 . | Substructure Scour | 2021
- no observed areas of scour |
| 5 . | Foundation Movement | 2021
- no indication of foundation movement |
| 6 . | Abutments | 2021
South Abutment
- concrete repairs (2014-15)
- numerous epoxy injection ports in breast wall and abutment seat (injected 2002)
- breast wall under girder E 1200mm x 800 delamination

North Abutment
- concrete repairs (2014-15)
- numerous epoxy injection ports in breast wall and abutment seat (injected 2002) |
| 7 . | Wing/Retaining Walls | 2021
South Abutment
- good condition

North Abutment
- good condition |
| 8 . | Embankment | 2021
South Abutment
- no issues

North Abutment
- signifigant erosion channel under bay 3 |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

9 . Footings/Piling

2021

Abutments on buried spread footings (50 not inspected)

Pier 1

- steel pipe piles in good condition

Pier 2

- steel pipe piles in good condition

11 . Bearings

2021

Seismic restraint rods and pads at abutments and piers in all bays

Vertical restraints in all spans in exterior bays

South Abutment (fixed)

- plain elastomeric pads in good condition

- bay 1 missing seismic rod and pad (not installed?)

- seismic restraint pads appear in good condition

Pier 1 Span 1 (expansion)

- good condition

- seismic pads too tight

Pier1 Span 2 (fixed)

-plain elastomeric pad in good condition

- seismic restraint pads appear in good condition

Pier2 Span 2 (expansion)

- not visible, laminated elastomeric pad with stainless steel and teflon

Pier2 Span 3 (expansion)

- laminated elastomeric pad in good condition

- seismic restraint pads appear in good condition

North Abutment (fixed)

- plain elastomeric pads in good condition

- bay 2 missing seismic rod and pad (not installed?)

12 . Caps

2021

Pier 1

- epoxy injection (2002)

- concrete repair (2014-15)

- good condition

Pier 2

- epoxy injection (2002)

- concrete repair (2014-15)

- good condition

17 . Girders

2021

5 concrete I girders per span

Span 1

- pier 1 girder E exterior web medium delamination / spall with exposed corroded rebar

Span 2

- pier 1 girder E exterior web large delamination / spall with exposed corroded rebar

Span 3

- good condition

Previous

Girder 3E impact damage above roadway with 3 stirrups exposed, (repaired in July 2003.)

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|--------------------------|--|
| 19 . Bracing/Diaphragms | 2021
Concrete diaphragms at abutments and piers
Bolted steel diaphragms in all spans (2 sets in span 2)
South Abutment
- good condition

Span 1
- bay 1 several loose bolts in diaphragm (rated under 26)
- good condition

Span 2
- good condition

Span 3
- good condition

North Abutment
- epoxy injected (2002)
- bay 4 medium delamination in underside of diaphragm |
| 26 . Pins/Bolts/Rivets | 2021
- steel diaphragm bolts appear in good condition
- span 1 bay 1 several loose bolts in diaphragm |
| 27 . Camber/Sag | 2021
- slight camber in all spans |
| 28 . Live Load Vibration | 2021
- no excessive vibration observed |
| 30 . Sub Deck/Cross Ties | 2021
Span 1
-several fine transverse cracks with efflorescence
- east soffit several delaminations

Span 2
- good condition

Span 3
- bay 2 near north abutment 1 small patch |
| 31 . Wearing Surface | 2021
Span 1
- numerous wide transverse cracks in both lanes
- small delaminations near cracks

Span 2
- numerous wide transverse cracks in both lanes
- small delaminations near cracks

Span 3
- numerous wide transverse cracks in both lanes
- small delaminations near cracks

Previous
2012
- linseed and cracksealed
2011
- epoxy injection |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

32 . Deck Joints

2021
 South Abutment
 - no joint

Pier 1
 - compression seal
 - small tears in slow lane
 - armour appears in good condition

Pier 2
 - compression seal
 - appears in good condition

North Abutment
 - no joint

35 . Railings/Parapets

2021
 Concrete parapet with galvanized steel rectangular rail
 West Rail
 - good condition

East Rail
 - top rail bolt missing above pier 2
 - post 2 north of pier 2 , post 1 south of pier 2 missing bolts
 - posts 6-10 south of pier 2 missing bolts
 - south abutment rail damage

Previous
 2015
 - bus accident in June required rail and parapet repairs. Emergency repairs completed soon after accident. Permanent repairs (slow lane parapet) pending

37 . Drains/Pipes

2021
 8 galvanized steel drains on east side only
 - south abutment has drain extension

38 . Coating (Railings)

2021
 - galvanizing in generally good condition
 - minor scrapes
 - light corrosion on impacted rail at southeast end

39 . Signing/Lighting

2021
 South Approach
 West
 - reflective W54 on tubular post attached to CRB
 - feature name sign , crack
 - salmon habitat sign

40 . Roadway Approaches

2021
 South Approach
 - smooth level transition
 - asphalt patch along sealed joint

North Approach
 - minor settlement
 - small potholes at joint area in slow lane
 - minor cracking

Previous
 2018:
 - repaving project in progress at time of inspection

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

41 . Roadway Flares

2021

South Approach

West

- minor scrapes and cracks

East

- typical scrapes

- numerous areas of light to medium scaling

- numerous small spalls

North Approach

West

- minor scrapes and cracks

East

- typical scrapes

- areas of light to medium scaling

- numerous small spalls

Item Condition Photos:

1 Debris Risk



Filename: 031 02840E bridge
looking west upstream.JPG

2 Channel



Filename: 030 02840E downstream
channel looking east.JPG



Filename: 031 02840E bridge
looking west upstream.JPG

3 Erosion Protection



Filename: 049 02840E north bank
rip rap.JPG

6 Abutments



Filename: 032 02840E south
abutment.JPG



Filename: 035 02840E south
abutment epoxy injection ports in
the breast wall.JPG



Filename: 058 02840E north
abutment.JPG

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Region: 2 - Southern Interior Region

Status: Open/In Use

District: 6 - Thompson Nicola District

Inspection Type: Routine Condition

Contract Area: 14 - Nicola CA

Item Condition Photos:

8 Embankment



Filename: 059 02840E north abutment embankment scour.JPG

9 Footings/Piling



Filename: 044 02840E pier 1 piles.JPG

11 Bearings



Filename: 034 02840E south abutment typical plain elastomeric bearing.JPG



Filename: 036 02840E south abutment bay 1 vertical seismic restraint but no horizontal.JPG



Filename: 042 02840E pier 1 span 1 laminated elastomeric bearing.JPG



Filename: 045 02840E pier 1 span 2 plain elastomeric bearings.JPG



Filename: 052 02840E pier 2 span 3 laminated elastomeric bearings.JPG



Filename: 061 02840E north abutment plain elastomeric bearing.JPG



Filename: 063 02840E north abutment bay 2 horizontal seismic restraint bolt is missing.JPG

12 Caps



Filename: 040 02840E pier 1 south face.JPG



Filename: 050 02840E pier 2 north face.JPG

**BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report**

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

17 Girders



Filename: 043 02840E pier 1 east end delams, spalls and exposed rebar in the webs of girders 1E and 2E.JPG

19 Bracing/Diaphragms



Filename: 046 02840E pier 1 north face.JPG



Filename: 063 02840E north abutment bay 2 epoxy injection.JPG



Filename: 064 02840E north abutment bay 4 delamination in diaphragm.JPG

30 Sub Deck/Cross Ties



Filename: 038 02840E span 1 subdeck looking south.JPG



Filename: 056 02840E span 3 looking north.JPG



Filename: 047 02940E span 2 subdeck looking north.JPG

31 Wearing Surface



Filename: 014 02840E span 1 transverse cracks in the wearing surface.JPG



Filename: 021 02840E span 3 transverse cracks in the wearing surface.JPG



Filename: 017 02840E span 2 transverse cracks in the wearing surface.JPG

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Condition Photos:**32 Deck Joints**

Filename: 009 02840E south
abutment no joint.JPG



Filename: 015 02840E pier 1
compression seal joint.JPG



Filename: 018 02840E pier 2
compression seal joint.JPG



Filename: 023 02840E north
abutment no joint.JPG

35 Railings/Parapets

Filename: PB160524.JPG
Filename: PB160523.JPG



Filename: 012 02480E south
abutment east end of the rail impact
damage and missing bolt.JPG



Filename: 019 02840E pier 2 east
side missing connection bolt in the
parapet railing.JPG



Filename: 013 02840E west parapet
looking north.JPG

37 Drains/Pipes

Filename: 027 02840E east side
drains .JPG



Filename: 037 02840E south
abutment east end delam at the
drain pipe.JPG

39 Signing/Lighting

Filename: 003 02840E bridge name
and feature crossed sign at the
south abutment.JPG



Filename: 007 02840E south
approach W54 on the west flare
only.JPG

**BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report**

Criteria: Structure No = 02840E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840E - BRODIE EAST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

40 Roadway Approaches



Filename: 008 02840E south approach at the joint.JPG



Filename: 024 02840E north approach at the joint.JPG

41 Roadway Flares



Filename: 006 02840E south approach west flare.JPG



Filename: 024 02840E north approach at the joint.JPG

Inspection Notes:

General Inspection Notes

2009 Snooper
2011 Snooper
2015 snooper

Drainage Area Description

Coldwater River

Rehab Work Notes

2021
- no rehab required
Previous
2018
- approaches repaved?
2014/15
- concrete repaired at abutments and caps
2012
- deck epoxy injected
2003
- resurfaced
2002
- pier caps and abutments epoxy injected

Maintenance Work Notes

2021
- replace joint seal at pier 1
- repair rail at southeast end
- replace missing bolts in rail posts
- restore north approach
- seal cracks in deck
- tighten bolts in diaphragm span 1 bay 1

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / BRODIE SIDING ROAD
/ COLDWATER RIVER

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		50	50				N
4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		90	8	2			N
7. Wing/Retaining Walls		100					N
8. Embankment			100				N
9. Footings/Piling							Y
10. Pier Columns/Walls/Cribs		100					N
11. Bearings		100					N
12. Caps		100					N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		99	1				N
18. Portals							Y
19. Bracing/Diaphragms		99	1				N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)		100					N
DECK :							
30. Sub Deck/Cross Ties		100					N
31. Wearing Surface		80	20				N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		98	2				N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches		100					N
41. Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 73.000

Note: First abutment is North . Upstream channel is West

Main Span Length: 37.500

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.05

Adjusted BCI Rating: 2.1

Inspector/Inspected By: T. Ryu

On 2019/06/20

Amendment/Partial Inspection?

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2018:
 - deck: transverse cracking and various areas of delamination
 - subdeck delamination

Utility Concerns Note: Fiber optics under north span along road under bridge. No conduits under parapets

Item Notes:

6 . Abutments Epoxy injected areas at south abutment delaminated, north abutment generally sound.
 2013 one small area on north abt delam, otherwise injection holding
 2014 3 delam areas marked out on south abt
 2015 repaired
 2016 - considerable delam on these abutments.

8 . Embankment 2018:
 - erosion at both abutment embankments

10 . Pier Columns/Walls/Cribs 2018:
 - Piers are in good condition

11 . Bearings 2018:
 - Span 2, Pier 1: Bearings 'a'-'d' are twisted
 Bearing 'c' is heavily twisted
 Bearing 'e' is good

Previous Notes:

2010 - Bearings at both abutments (fixed) slightly squashed. Bearing at piers good.
 2014 no change from previous notes

12 . Caps 2018:
 - Pier Caps need to be cleaned of concrete debris

Previous Notes:

2009 - This bridge is similar to the East bridge which, when inspected by the Snooer had delaminated areas in previously expoy injected repaired areas and as such got the same rating even though a detailed inspection wasn't done.
 2010 - pier delaminations only on downside (superelevated) which is also the slow lane side where the plows throw snow. Pier 2 about 3m2 delaminated
 2014 about 4m2 delam on pier 1 and 3m2 on pier 2
 2015 repaired

17 . Girders 2010 - span 1 girder 1 and girder 5 web cracked at over pier 1. span 2 girder 1 end cracked behind bearing.

19 . Bracing/Diaphragms 2018:
 - bracing is good, all bolts in place.

Previous Notes:

one bolt center span wedged
 Seismic restraint bolt missing from east diaphragm, north abut.
 2010 - girder line 2, north span missing one bolt each side of steel frame. Concrete Diaphragm pier 1 north side missing both nuts on seismic restraint bolt. diaphragm cracked at bottom between girderlines 2 & 3 at pier #1

26 . Pins/Bolts/Rivets 2018:
 - bracing is good, all bolts in place.
 - Span 1, Pier 1, Bay 2: Seismic bolts are not snugged up

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

30 . Sub Deck/Cross Ties

2018:

- overall sub deck is in good condition
- Bay 2 has 2 x visible delaminations/spalls.
- Span 3, Bay 4: large and deep delamination with exposed rebar
- Bay 4 has residual forms in place
- delamination on the soffit. Monitor

Previous Notes:

some efflorescence remains after resurfacing project. Poor formwork on full depth patches (center span) result in 'ugly' finish. One form each in place under span 1 and span 2.

31 . Wearing Surface

2018:

- deck has some transverse cracking
- chaining indicates taht deck has various areas of delamination. Monitor

Previous Notes:

No Delaminations. Some newer cracks to be sealed.

2008 - deck not chained but is on JS list

2010 - JS chained deck in 2009, 4.6% delam

2011 - no patches but deck cracked

2012 - inhected in 2011, spot chained previous delam areas, wide cracks remain

2015 tining wearing thing on driving lane, still holding on passing lane

35 . Railings/Parapets

2010 - heavily map pattern cracked and stained.

2015 steel rail minor damage

37 . Drains/Pipes

2018:

- drains appear to be in good condtion

Previous Notes:

northwest drain (downspout) disconnected. some drains missing bolts, not an issue

2008 MR issued for above

2009 downspout rusted clean through. Medial drain pipe at north end (shared) plugged.

2010 repaired

2013 sw drain plugged

40 . Roadway Approaches

2010 - both approaches treated with Polycraft in 2009, some settlement issues and 1" max depression in north end slowlane between wheelpaths.

2012 - spraypatched over failed polycraft treatment.

2013 & 14 fast lanes polypatch still holding, slow lane spraypatched

Item Condition Photos:

3 Erosion Protection



Filename: n pier at access road.JPG



Filename: 2012 progress.jpg

Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

12 Caps



Filename: 2010 top.JPG
Filename: 2010.JPG

17 Girders



Filename: bottom flange.JPG
Filename: close up.JPG

19 Bracing/Diaphragms



Filename: missing nut.JPG

37 Drains/Pipes



Filename: 2009 repair.JPG

40 Roadway Approaches



Filename: north dip.JPG
Filename: south.JPG



Filename: 2011 spraypatched.JPG

Inspection Notes:**General Inspection Notes**

2018:

- Snooper Inspection

Previous Notes:

2010 Snooper inspection

2014 Snooper inspection, marked out cap area for this years' work

Drainage Area Description

Coldwater River

Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Inspection Notes:**Rehab Work Notes**

exoxy injection of caps and abutment complete in 2000
deck and joints rehabilitated in 2003
hwy north of bridge paved in 2005
hwy south of bridge paved in 2006

Maintenance Work Notes

repair cap delam areas. Crack seal deck (50m).
Polycraft approach treatment scheduled for 2009.
Deck epoxy injection in 2011
Use snoopers to clean both caps, instream side.
linseed in 2012
Pier cap work complete for both piers on both Brodies

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
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Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / BRODIE SIDING ROAD
/ COLDWATER RIVER

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		50	50				N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		90	8	2			N
7.	Wing/Retaining Walls		100					N
8.	Embankment			100				N
9.	Footings/Piling							Y
10.	Pier Columns/Walls/Cribs		100					N
11.	Bearings		100					N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		99	1				N
18.	Portals							Y
19.	Bracing/Diaphragms		99	1				N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)		100					N
DECK :								
30.	Sub Deck/Cross Ties		100					N
31.	Wearing Surface		80	20				N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		98	2				N
36.	Median Barrier							Y
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 73.000

Note: First abutment is North . Upstream channel is West

Main Span Length: 37.500

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.05

Adjusted BCI Rating: 2.1

Inspector/Inspected By: T. RYU

On 2020/05/29

Amendment/Partial Inspection?

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2018:
 - deck: transverse cracking and various areas of delamination
 - subdeck delamination

Utility Concerns Note: Fiber optics under north span along road under bridge. No conduits under parapets

Item Notes:

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BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
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Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

30 . Sub Deck/Cross Ties

2018:

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Previous Notes:

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2013 sw drain plugged

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2013 & 14 fast lanes polypatch still holding, slow lane spraypatched

Item Condition Photos:

3 Erosion Protection



Filename: n pier at access road.JPG



Filename: 2012 progress.jpg

Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

12 Caps



Filename: 2010 top.JPG
Filename: 2010.JPG

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Filename: bottom flange.JPG
Filename: close up.JPG

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Filename: missing nut.JPG

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Filename: 2009 repair.JPG

40 Roadway Approaches



Filename: north dip.JPG
Filename: south.JPG



Filename: 2011 spraypatched.JPG

Inspection Notes:**General Inspection Notes**

2018:

- Snooper Inspection

Previous Notes:

2010 Snooper inspection

2014 Snooper inspection, marked out cap area for this years' work

Drainage Area Description

Coldwater River

BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Inspection Notes:

Rehab Work Notes

exoxy injection of caps and abutment complete in 2000
deck and joints rehabilitated in 2003
hwy north of bridge paved in 2005
hwy south of bridge paved in 2006

Maintenance Work Notes

repair cap delam areas. Crack seal deck (50m).
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BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

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Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / BRODIE SIDING ROAD
/ COLDWATER RIVER

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		100					N
4. Substructure Scour		100					N
SUBSTRUCTURE :							
5. Foundation Movement		100					N
6. Abutments		85		15			N
7. Wing/Retaining Walls		100					N
8. Embankment		70	30				N
9. Footings/Piling		50				50	N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		100					N
12. Caps		99		1			N
13. Corbels							Y
14. Dolphins/Fenders							Y
SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		98		2			N
18. Portals							Y
19. Bracing/Diaphragms		95		5			N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)		100					N
DECK :							
30. Sub Deck/Cross Ties		85	10	5			N
31. Wearing Surface		80	18	2			N
32. Deck Joints			100				N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		99		1			N
36. Median Barrier							Y
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N
APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches		70	30				N
41. Roadway Flares		70	20	5	5		N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 73.000

Note: First abutment is North . Upstream channel is West

Main Span Length: 37.500

Main Span Type: STRINGER

Spans: 3

Urgency: 3

BCI Rating: 2.13

Adjusted BCI Rating: 2.15

Inspector/Inspected By: KMCKEN/TMACKAY

On 2021/09/29

Amendment/Partial Inspection?

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Urgency Notes:

Urgency Rating Note: 2021
 - numerous wide transverse cracks in deck in all spans
 - delaminations and old epoxy injections in all spans
 - delaminations in south abutment

Utility Concerns Note: Fiber optics under north span along road under bridge. No conduits under parapets

Item Notes:

- | | | |
|-----|----------------------|--|
| 1 . | Debris Risk | 2021
- banks appear stable
- wide/high clearance
- piers outside of channel
- wood debris observed in rip rap |
| 2 . | Channel | 2021
Skew - less than 15 degrees
Bed - appears stable
Bank - appears stable
Adequacy - good |
| 3 . | Erosion Protection | 2021
North Bank
- well keyed with minor settlement

South Bank
- no rip rap present |
| 4 . | Substructure Scour | 2021
No observed areas of scour |
| 5 . | Foundation Movement | 2021
No indication of foundation movement |
| 6 . | Abutments | 2021
North Abutment
- numerous vertical epoxy injection locations in breast wall and abutment seat (injected in 2000)
- bay 4 abutment seat 2 small delaminations
- west side ballast wall medium delamination
- east end shear key medium delamination
- breast wall under girder E solid new concrete repair

South Abutment
- numerous vertical epoxy injection locations in breast wall and abutment seat (injected in 2000)
- breast wall under girder B 800mm x 900 delamination , 540mm x 400 demaination in abutment seat
- breast wall under girder C 1200mm x 1100 delamination , large wide crack in front of bearing
- breast wall under girder E 1000mm x 1500 delamination |
| 7 . | Wing/Retaining Walls | 2021
North Abutment
- good condition

South Abutment
- good condition |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

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Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

8 . Embankment

2021

North Abutment

- several areas of moderate erosion

South Abutment

- moderate erosion on west side along drain

9 . Footings/Piling

2021

Abutments on buried spread footings (50 not inspected)

Pier 1

- steel pipe piles with minor pitting near ground level

Pier 2

- steel pipe piles in good condition

11 . Bearings

2021

Seismic restraint rods and pads at abutments and piers in all bays

Vertical restraints in all spans in exterior bays only , pier 2 span 2 in all bays

North Abutment (fixed)

- plain elastomeric pads in good condition

- bay 1 missing seismic restraint rod and pad in diaphragm

Pier 1 Span 1 (expansion)

- laminated elastomeric pads in good condition

- seismic restraint pads appear in good condition

Pier 1 Span 2 (expansion)

- not visible , laminated elastomeric pad with stainless steel and teflon

(previous note) bearing A,D twisted, bearing C heavily twisted

- seismic restraint pads appear in good condition

Pier 2 Span 2 (fixed)

- plain elastomeric pads in good condition

- seismic restraint pads appear in good condition

Pier 2 Span 3 (expansion)

- laminated elastomeric pads in good condition

- seismic restraint pads appear in good condition

South Abutment (fixed)

- plain elastomeric pads in good condition

- seismic restraint pads appear in good condition

12 . Caps

2021

Pier 1

- cap in good condition

- concrete debris on top of cap

Pier 2

- concrete debris on top of cap

North Face

- small delamination under girders C,D,E

- medium delamination between piles B-C in lower portion and underside of cap

Previous

2014 about 4m2 delam on pier 1 and 3m2 on pier 2

- repaired 2015

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

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Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

17 . Girders

2021

5 concrete I girders per span

Span 1

- pier 1 girder E exterior wear pad corroded and rubber pad sheared (between exterior flange and shear key)

Span 2

- pier 2 girder E exterior web medium delamination and spall with exposed rebar near end
- pier 2 girder E spall in bottom flange near end

Span 3

- pier 2 girder E exterior web small delamination and spall with exposed rebar near end
- pier 2 girder D spall with exposed rebar in bottom flange near bearing

19 . Bracing/Diaphragms

2021

Concrete diaphragms at abutments and piers
 Bolted steel diaphragms in all spans (2 sets in span 2)
 North Abutment
 - vertical epoxy injection ports in all diaphragms

Pier 1 Span 1

- appear in good condition
- steel diaphragms in good condition

Pier 1 Span 2

- appear in good condition
- steel diaphragms in good condition

Pier 2 Span 2

- bay 3 delamination bottom section
- steel diaphragms in good condition

Pier 2 Span 3

- bay 2 delamination and spall bottom section
- bay 3 large delamination and spall with exposed rebar in bottom section
- bay 4 large delamination in bottom section
- steel diaphragms in good condition

South Abutment

- good condition

26 . Pins/Bolts/Rivets

2021

- steel diaphragm bolts appear in good condition

27 . Camber/Sag

2021

- slight camber in all spans

28 . Live Load Vibration

2021

- no excessive vibration

29 . Coating (Structure)

2021

- galvanizing on steel diaphragms in good condition

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

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Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- 30 . Sub Deck/Cross Ties 2021
 Span 1
 - bay 2 near north abutment approximately 1m x 1m map cracking with efflorescence
 - west soffit has large delamination near abutment and pier 1 joint area
 Span 2
 - bay 2 midspan large patch ,areas of map cracking with efflorescence and small wet area
 - bay 3 midspan areas of map cracking with efflorescence
 - bay 4 north of pier 2 large patch ,areas of map cracking with efflorescence
 - west soffit cracks and delaminations along drip edge
 Span 3
 - bay 2 small patch , numerous areas of fine cracks with efflorescence
 - bay 4 areas of fine cracks with efflorescence , small spall with exposed rebar (no corrosion)
 - west soffit large delamination at joint area
- 31 . Wearing Surface 2021
 Span 1
 - small pothole and delamination near abutment
 - numerous wide transverse cracks
 - epoxy injection ports
 - spot checks show small areas of delamaintion near wide cracks in all spans
 Span 2
 - wide transverse and diagonal cracks
 - epoxy injection ports
 Span 3
 - transverse cracks
 2012
 - epoxy injected
- 32 . Deck Joints 2021
 North Abutment
 - no joint
 Pier 1
 - compression seal (rated fair due to possible leakage from debonding)
 - armour appears in good conditon
 - areas where seal appears to be starting to debond from armour
 Pier 2
 - compression seal
 - armour appears in good conditon
 - areas where seal appears to be starting to debond from armour
 South Abutment
 - no joint
- 35 . Railings/Parapets 2021
 Concrete parapet with galvanized steel rectangular rail
 West Rail
 - rail anchor post #1 bent and cracked from impact
 - minor spalls in several bottom corners of parapet
 East Rail
 - areas of fine vertical cracks in parapet
- 37 . Drains/Pipes 2021
 8 galvanized steel drains on west side of bridge only
 - south abutment has drain extension connected to steel pipe

**BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report**

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|-------------------------|--|
| 38 . Coating (Railings) | 2021
- galvanizing on steel rail in good condition |
| 39 . Signing/Lighting | 2021
North Approach
- feature name and salmon habitat sign on telespar east side at abutment |
| 40 . Roadway Approaches | 2021
North Approach
- level transition
- several transverse cracks
- areas of crack sealing

South Approach
- settlement in east lane
- crack sealed
- patches |
| 41 . Roadway Flares | 2021
North Approach
West
- typical scrapes and small spalls
- numerous CRBs with large cracks and heavy delamination
East
- typical scrapes with light scaling and cracks

South Approach
West
- typical scrapes
- several spalls and delaminations
East
- scrapes and small delamination at parapet connection |

Item Condition Photos:

1 Debris Risk



Filename: 032 02840W bridge looking east downstream.JPG

2 Channel



Filename: 031 02840W upstream channel looking west.JPG



Filename: 034 02840W channel looking east downstream.JPG

Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02840W - BRODIE WEST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:**3 Erosion Protection**

Filename: 060 02840W north bank.JPG

6 Abutments

Filename: 036 02840W north abutment.JPG



Filename: 039 02840W north abutment numerous epoxy sealed vertical cracks in the breastwall.JPG



Filename: 045 02840W north abutment bay 4 small delam in the top of the bearing area.JPG



Filename: 049 02840W north abutment west end delam in the ballast wall.JPG



Filename: 040 02840W north abutment east end delam in the shear key.JPG



Filename: 081 02840W south abutment.JPG



Filename: 085 02840W south abutment large delams in the breast wall between girders B and C.JPG



Filename: 090 02840W south abutment west end large delam in the breastwall at the drain.JPG

8 Embankment

Filename: 037 02840W north abutment embankment scour.JPG



Filename: 091 02840W south abutment west end embankment scour along the drain pipe.JPG

Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
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Structure No: 02840W - BRODIE WEST

Region: 2 - Southern Interior Region

Status: Open/In Use

District: 6 - Thompson Nicola District

Inspection Type: Routine Condition

Contract Area: 14 - Nicola CA

Item Condition Photos:

9 Footings/Piling



Filename: 064 02840W pier 2 north face.JPG

11 Bearings



Filename: 041 02840W north abutment typical plain elastomeric bearings.JPG



Filename: 058 02840W pier 1 span 1 laminated elastomeric bearings.JPG



Filename: 069 02840W pier 2 span 2 plain elastomeric bearing.JPG



Filename: 074 02840W pier 2 span 3 laminated elastomeric bearings.JPG



Filename: 083 02840W south abutment typical plain elastomeric bearings.JPG



Filename: 042 02840W north abutment bay 1 missing horizontal seismic restraint.JPG



Filename: 047 02840W north abutment horizontal and vertical seismic restraints in the outside bays.JPG

12 Caps



Filename: 056 02840W pier 1 north face.JPG



Filename: 065 02840W pier 2 north face small delams in the cap.JPG

**BRITISH COLUMBIA MINISTRY OF TRANSPORTATION
BRIDGE MANAGEMENT INFORMATION SYSTEM
Condition Inspection Report**

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Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

17 Girders



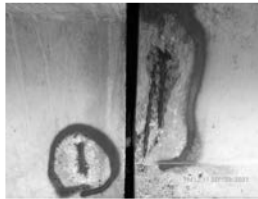
Filename: 059 02840W pier 1 span 1 west end wear plate corroding.JPG



Filename: 078 02840W pier 2 south face spall and exposed rebar in the bottom flange of girder 3D.JPG



Filename: 071 02840W pier 2 span 2 small spall in the end of the bottom flange girder 2E.JPG



Filename: 067 02840W pier 2 spalls and exposed rebar in the webs of girders 2E and 3E.JPG

19 Bracing/Diaphragms



Filename: 043 02840W north abutment epoxy filled cracks in the concrete diaphragms.JPG



Filename: 052 02840 span 1 steel diaphragms .JPG



Filename: 070 02840W pier 2 north side delam in the underside of the diaphragm in bay 3.JPG



Filename: 075 02840W pier 2 south face bay 2 delam and spall in the bottom of the diaphragm.JPG



Filename: 077 02840W pier 2 south face bay 3 large delam in the bottom of the diaphragm.JPG



Filename: 079 02840W pier 2 south side bay 4 delam in the diaphragm.JPG

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BRIDGE MANAGEMENT INFORMATION SYSTEM
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Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
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Structure No: 02840W - BRODIE WEST
Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

30 Sub Deck/Cross Ties



Filename: 044 02840W span 1 bay 2 at the north abutment cracks and efflorescence in the subdeck.JPG



Filename: 080 02840 span 3 subdeck looking south.JPG



Filename: 066 02840W pier 2 west end delams in the soffit at the joint.JPG



Filename: 062 02840W span 2 looking north 2 large patches in bay 2.JPG



Filename: 053 02840W span 1 west side delams in the soffit.JPG

31 Wearing Surface



Filename: 010 02840W span 1 small pothole near the north abutment.JPG



Filename: 021 02840W span 3 looking north.JPG



Filename: 018 02840W span 2 transverse cracks in the wearing surface.JPG



Filename: 014 02840W span 1 transverse cracks in the wearing surface.JPG

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BRIDGE MANAGEMENT INFORMATION SYSTEM
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Region: 2 - Southern Interior Region

Status: Open/In Use
District: 6 - Thompson Nicola District

Inspection Type: Routine Condition
Contract Area: 14 - Nicola CA

Item Condition Photos:

32 Deck Joints



Filename: 008 02840W north abutment no joint.JPG



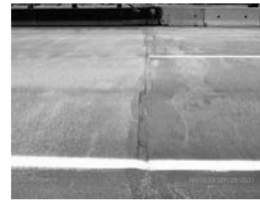
Filename: 016 02840W pier 1 compression seal joint.JPG



Filename: 019 02840W pier 2 compression seal joint.JPG



Filename: 020 02840W pier 2 end of the compression seal joint.JPG



Filename: 022 02840W south abutment no joint.JPG

35 Railings/Parapets



Filename: 011 02840W west parapet looking south.JPG



Filename: 013 02840W east parapet looking south.JPG



Filename: 012 02840W north abutment west parapet rail first rail post pedestal is cracked.JPG

37 Drains/Pipes



Filename: 091 02840W south abutment west end embankment scour along the drain pipe.JPG

39 Signing/Lighting



Filename: 002 02840W bridge name and feature crossed.JPG

40 Roadway Approaches



Filename: 007 02840W north approach crack sealing.JPG



Filename: 023 02840W south abutment approach asphalt.JPG

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02840W - Include Inspection Condition Photos = Y
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Structure No: 02840W - BRODIE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Condition Photos:**41 Roadway Flares**

Filename: 004 02840W north
approach west flare spalls.JPG



Filename: 005 02840W north
approach west side delams and
spalls in the approach flare.JPG



Filename: 006 02840W north
approach east flare 1 CRB with
small spalls.JPG



Filename: 025 02840W south
approach west flare scaling and
delams.JPG

Inspection Notes:**General Inspection Notes**

2021

- added component 9
- removed component 10
- northwest wildlife fence needs repair

2018

- Snooper Inspection

Drainage Area Description

Coldwater River

Rehab Work Notes

2021

- no rehab required
- 2011 deck epoxy injection
- 2003 deck and joints rehabilitated
- 2000 epoxy injection of caps and abutment

Maintenance Work Notes

2021

- restore approaches
- seal cracks in deck
- patch pothole in span 1
- repair delaminations in diaphragms and abutment
- repair northwest wildlife fencing
- clean concrete or pier caps
- replace broken rail post anchor #1 west

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02841E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841E - KINGSVALE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		100					N
4. Substructure Scour		100					N

SUBSTRUCTURE :							
5. Foundation Movement	100						N
6. Abutments		92		6	2		N
7. Wing/Retaining Walls		100					N
8. Embankment			100				N
9. Footings/Piling		100					N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		50	50				N
12. Caps		90	10				N
13. Corbels							Y
14. Dolphins/Fenders							Y

SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		99		1			N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)		100					N

DECK :							
30. Sub Deck/Cross Ties		95		5			N
31. Wearing Surface		87	13				N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		97			3		N
36. Median Barrier		97			3		N
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N

APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches	100						N
41. Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 78.000

Note: Upstream is East

Main Span Length: 42.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.04

Adjusted BCI Rating: 2.06

Inspector/Inspected By: T. Ryu

On 2019/06/20

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2018:

- ebankment erosion due to undersized and misaligned drain flumes\

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02841E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841E - KINGSVALE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- bearing pads are cracked at both abutments
- bearing pads are slipping out at Pier 2
- Pier 1, 2, 3: minor corrosion at waterline. Monitor

Item Notes:

- | | | |
|------|--------------------|--|
| 1 . | Debris Risk | 2012 some upstream logs, should be no problem |
| 2 . | Channel | 2015 river low |
| 4 . | Substructure Scour | 2018:
- drain flumes are undersized & misaligned. Water is spilling over and scouring out embankment |
| 6 . | Abutments | North abutment - large delamination at east end, approximately 2 square m.
2008 - north abt localized spalling
2009 - in addition to above small delaminated area under girder #2, south abt
2012 delam area remains stable
2015 abt #2 has some 12m3 delam/spall at east end
2016 - small repair made at NE corner of abutment
south abutment has delam and spalling under girder 2 |
| 8 . | Embankment | 2018:
- drain flumes are undersized & misaligned. Water is spilling over and scouring out embankment |
| 9 . | Footings/Piling | 2018:
- Pier 2, Piles 1, 2, 3: minor corrosion near waterline. Monitor for deterioration |
| 11 . | Bearings | 2018:
- Pier 2 Cap: bearings are slipping
- North Abutment: all bearing pads are cracked

Previous Notes:
Bearings at both abutments squashed and cracking. Pier bearing pads good shape.
2011 photos of abt pads
2016 - some bearings on North abutment are slightly off bearing seats at least 3 of 5
2 bearings with similar symptoms on South abutment |
| 12 . | Caps | 2018:
- Pier 1 Cap, Span 2: repairs holding; minor debris on both pier caps

Previous Notes:
Wide cracks / efflorescence /rust stains, delamination in both caps at east end. Extends to almost whole of both ends including the exposed wrap around.
2008 - view from ground cracks not measured but seem to be getting larger.
2011 - south cap spalled exposing bars at bottom
2015 east end of cap at pier 1 has 5.5m2 spall/delam up to 75mm deep with exposed heavily corroded bar. Pier 2 has 6.7m2 delam/spall on both south & north faces as well as 5.5m2 on end, total about 19m2.
2016 - cap repairs by cortez completed in june |
| 17 . | Girders | 2018:
- monitor girders. Current inspection found outside of pier caps to be in good condition. Possible that previously noted delamination areas could not be reached during inspection.

Previous Notes:
2015 outside girders on spans 2 & 3 delaminated web and BF about 2m2 |
| 19 . | Bracing/Diaphragms | 2018:
- no deficiencies noted. |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02841E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841E - KINGSVALE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|--------------------------|--|
| 26 . Pins/Bolts/Rivets | 2018:
- all in place

Previous Notes:
seismic bolts repaired in 2003. instream side of pier 2 all have single nuts. |
| 28 . Live Load Vibration | 2018:
- no excess vibration noted at time of inspection |
| 29 . Coating (Structure) | Weathering steel pipe piles. |
| 30 . Sub Deck/Cross Ties | 2010 only 1 area (span 3 slow lane) with efflorescence
2015 some efflorescence span 2 but span 3 remains primary concern. No delam noted span 3 by pier 2 area which looks bad |
| 31 . Wearing Surface | 2018:
-monitor deck conditon. No significant potholes noted at time of inspection.

Previous Notes:
2011 13% delam from from JS 2010 survey
2014 deck not chained but cracks are less wide than west bridge
2015 no deck patches in past few years, very wide cracks |
| 32 . Deck Joints | 2012 in november the joint armour st n pier center section north side blew out, apparant weld failure
2013 replaced with compression joint late 2012. Joint over pier #1 appear OK
2016 - South pier joint replaced in fall 2015 |
| 35 . Railings/Parapets | shared median parapet leaks
2009 - 1 sq ft chuck of CIP transition at the south approach (median) broke off.
2010 - in addition to above second chair from south end missing both bolts
2011 - must chair bolts bent/damaged
2016 - transition from guard rail to parapet on centerline South end is cracked spalled and desintegrated |
| 36 . Median Barrier | 2011 south end spalled and median seal leaks
2013 spall similar size as last note
2014 spall continues to marginally increase |
| 39 . Signing/Lighting | no lights on bridge.
2013 junction box dislodged, mr sent |
| 40 . Roadway Approaches | 2018:
- newly repaved in 2018, project underway at time of inspection

Previous Notes:
Paved in 2005
2011 north asphalt approach ravelling
2012 spray patched
2014 north end ravelling |

Inspection Notes:**General Inspection Notes**

2009 - Southern terminus of inlaid thermal lane line project in May.
 2012 - VSA opened up the deck at the joint area to allow for closer armour inspection. Terry MacKay and Sam Pantaleo also attended.
 2013 Cortez replaced with compression seal later in the year
 2015 snooper

Rehab Work Notes

Last resurfaced in 1992

Condition Inspection Report

Criteria: Structure No = 02841E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841E - KINGSVALE EAST**Status:** Open/In Use**Inspection Type:** Routine Condition**Region:** 2 - Southern Interior Region**District:** 6 - Thompson Nicola District**Contract Area:** 14 - Nicola CA**Inspection Notes:****Maintenance Work Notes**

Seal median leak. Crack seal deck (50m). Repair delaminated areas in next few years.
replace pier 2 joint armour.

Maintenance Work Notes

Remove median seal, clean area and replace.
Seal parapet openings.
Reinstall/tighten seismic restraint nut and washer missing from riverside, north pier.

Maintenance Work Notes

crack sealed deck in 2001

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

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Structure No: 02841E - KINGSVALE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		100					N
4. Substructure Scour		100					N

SUBSTRUCTURE :							
5. Foundation Movement	100						N
6. Abutments		92		6	2		N
7. Wing/Retaining Walls		100					N
8. Embankment			100				N
9. Footings/Piling		100					N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		50	50				N
12. Caps		90	10				N
13. Corbels							Y
14. Dolphins/Fenders							Y

SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		99		1			N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
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22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)		100					N

DECK :							
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APPROACHES :							
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40. Roadway Approaches	100						N
41. Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 78.000

Note: Upstream is East

Main Span Length: 42.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.04

Adjusted BCI Rating: 2.06

Inspector/Inspected By: T. Ryu

On 2020/05/14

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2018:

- embankment erosion due to undersized and misaligned drain flumes\

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

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Region: 2 - Southern Interior Region

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Contract Area: 14 - Nicola CA

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- Pier 1, 2, 3: minor corrosion at waterline. Monitor

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BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

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Structure No: 02841E - KINGSVALE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|--------------------------|--|
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2016 - South pier joint replaced in fall 2015 |
| 35 . Railings/Parapets | shared median parapet leaks
2009 - 1 sq ft chuck of CIP transition at the south approach (median) broke off.
2010 - in addition to above second chair from south end missing both bolts
2011 - must chair bolts bent/damaged
2016 - transition from guard rail to parapet on centerline South end is cracked spalled and desintegrated |
| 36 . Median Barrier | 2011 south end spalled and median seal leaks
2013 spall similar size as last note
2014 spall continues to marginally increase |
| 39 . Signing/Lighting | no lights on bridge.
2013 junction box dislodged, mr sent |
| 40 . Roadway Approaches | 2018:
- newly repaved in 2018, project underway at time of inspection

Previous Notes:
Paved in 2005
2011 north asphalt approach ravelling
2012 spray patched
2014 north end ravelling |

Inspection Notes:General Inspection Notes

2009 - Southern terminus of inlaid thermal lane line project in May.
 2012 - VSA opened up the deck at the joint area to allow for closer armour inspection. Terry MacKay and Sam Pantaleo also attended.
 2013 Cortez replaced with compression seal later in the year
 2015 snooper

Rehab Work Notes

Last resurfaced in 1992

Condition Inspection Report

Criteria: Structure No = 02841E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841E - KINGSVALE EAST**Status:** Open/In Use**Inspection Type:** Routine Condition**Region:** 2 - Southern Interior Region**District:** 6 - Thompson Nicola District**Contract Area:** 14 - Nicola CA**Inspection Notes:****Maintenance Work Notes**

Seal median leak. Crack seal deck (50m). Repair delaminated areas in next few years.
replace pier 2 joint armour.

Maintenance Work Notes

Remove median seal, clean area and replace.
Seal parapet openings.
Reinstall/tighten seismic restraint nut and washer missing from riverside, north pier.

Maintenance Work Notes

crack sealed deck in 2001

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02841E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841E - KINGSDALE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005N - Rte 5 NB - Coquihalla - ON

Features Crossed: COQUIHALLA HWY #5 / COLDWATER RIVER

Component Group/Component	E	G	F	P	V	X	N/A
HYDROTECHNICAL :							
1. Debris Risk		100					N
2. Channel		100					N
3. Erosion Protection		100					N
4. Substructure Scour		100					N

SUBSTRUCTURE :							
5. Foundation Movement	100						N
6. Abutments		92		6	2		N
7. Wing/Retaining Walls		100					N
8. Embankment			100				N
9. Footings/Piling		100					N
10. Pier Columns/Walls/Cribs							Y
11. Bearings		50	50				N
12. Caps		90	10				N
13. Corbels							Y
14. Dolphins/Fenders							Y

SUPERSTRUCTURE :							
15. Floor Beams/Transoms							Y
16. Stringers							Y
17. Girders		99		1			N
18. Portals							Y
19. Bracing/Diaphragms		100					N
20. Truss Chords/Arch Ribs							Y
21. Arch Ties							Y
22. Truss Diagonals							Y
23. Truss Rods/Verticals							Y
24. Cables							Y
25. Panels							Y
26. Pins/Bolts/Rivets		100					N
27. Camber/Sag		100					N
28. Live Load Vibration		100					N
29. Coating (Structure)		100					N

DECK :							
30. Sub Deck/Cross Ties		95		5			N
31. Wearing Surface		87	13				N
32. Deck Joints		100					N
33. Curbs/Wheelguards							Y
34. Sidewalk(s)							Y
35. Railings/Parapets		97			3		N
36. Median Barrier		97			3		N
37. Drains/Pipes		100					N
38. Coating (Railings)		100					N

APPROACHES :							
39. Signing/Lighting		100					N
40. Roadway Approaches	100						N
41. Roadway Flares		100					N

1st Abutment Position: S

Year Built: 1985 Estimated? ☐

Length (m): 78.000

Note: Upstream is East

Main Span Length: 42.000

Main Span Type: STRINGER

Spans: 3

Urgency: 2

BCI Rating: 2.04

Adjusted BCI Rating: 2.06

Inspector/Inspected By: T. Ryu

On 2021/05/06

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: 2021:

- embankment erosion due to undersized and misaligned drain flumes

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02841E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841E - KINGSVALE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

- bearing pads are cracked at both abutments
- bearing pads are slipping out at Pier 2
- Pier 1, 2, 3: minor corrosion at waterline. Monitor

Item Notes:

- | | | |
|------|--------------------|--|
| 1 . | Debris Risk | 2021:
- minor debris build up |
| 2 . | Channel | 2021:
- channel bank:
- channel bed:
- skew:
- adequacy: |
| 3 . | Erosion Protection | 2021:
- monitor |
| 4 . | Substructure Scour | 2018:
- drain flumes are undersized & misaligned. Water is spilling over and scouring out embankment |
| 6 . | Abutments | 2021:
- monitor delaminations |
| 8 . | Embankment | 2021:
- drain flumes are undersized & misaligned. Water is spilling over and scouring out embankment |
| 9 . | Footings/Piling | 2018:
- Pier 2, Piles 1, 2, 3: minor corrosion near waterline. Monitor for deterioration |
| 11 . | Bearings | 2018:
- Pier 2 Cap: bearings are slipping
- North Abutment: all bearing pads are cracked

Previous Notes:
Bearings at both abutments squashed and cracking. Pier bearing pads good shape.
2011 photos of abt pads
2016 - some bearings on North abutment are slightly off bearing seats at least 3 of 5
2 bearings with similar symptoms on South abutment |
| 12 . | Caps | 2018:
- Pier 1 Cap, Span 2: repairs holding; minor debris on both pier caps

Previous Notes:
Wide cracks / efflorescence /rust stains, delamination in both caps at east end. Extends to almost whole of both ends including the exposed wrap around.
2008 - view from ground cracks not measured but seem to be getting larger.
2011 - south cap spalled exposing bars at bottom
2015 east end of cap at pier 1 has 5.5m2 spall/delam up to 75mm deep with exposed heavily corroded bar. Pier 2 has 6.7m2 delam/spall on both south & north faces as well as 5.5m2 on end, total about 19m2.
2016 - cap repairs by cortez completed in june |
| 17 . | Girders | 2018:
- monitor girders. Current inspection found outside of pier caps to be in good condition. Possible that previously noted delamination areas could not be reached during inspection.

Previous Notes:
2015 outside girders on spans 2 & 3 delaminated web and BF about 2m2 |
| 19 . | Bracing/Diaphragms | 2021:
- no deficiencies noted. |

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02841E - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841E - KINGSVALE EAST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | |
|--------------------------|--|
| 26 . Pins/Bolts/Rivets | 2018:
- all in place

Previous Notes:
seismic bolts repaired in 2003. instream side of pier 2 all have single nuts. |
| 28 . Live Load Vibration | 2021:
- no excess vibration noted at time of inspection |
| 29 . Coating (Structure) | Weathering steel pipe piles. |
| 30 . Sub Deck/Cross Ties | 2010 only 1 area (span 3 slow lane) with efflorescence
2015 some efflorescence span 2 but span 3 remains primary concern. No delam noted span 3 by pier 2 area which looks bad |
| 31 . Wearing Surface | 2018:
-monitor deck condtion. No significant potholes noted at time of inspection.

Previous Notes:
2011 13% delam from from JS 2010 survey
2014 deck not chained but cracks are less wide than west bridge
2015 no deck patches in past few years, very wide cracks |
| 32 . Deck Joints | 2012 in november the joint armour st n pier center section north side blew out, apparant weld failure
2013 replaced with compression joint late 2012. Joint over pier #1 appear OK
2016 - South pier joint replaced in fall 2015 |
| 35 . Railings/Parapets | shared median parapet leaks
2009 - 1 sq ft chuck of CIP transition at the south approach (median) broke off.
2010 - in addition to above second chair from south end missing both bolts
2011 - must chair bolts bent/damaged
2016 - transition from guard rail to parapet on centerline South end is cracked spalled and desintegrated |
| 36 . Median Barrier | 2011 south end spalled and median seal leaks
2013 spall similar size as last note
2014 spall continues to marginally increase |
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- newly repaved in 2018, project underway at time of inspection

Previous Notes:
Paved in 2005
2011 north asphalt approach ravelling
2012 spray patched
2014 north end ravelling |

Inspection Notes:General Inspection Notes

2009 - Southern terminus of inlaid thermal lane line project in May.
 2012 - VSA opened up the deck at the joint area to allow for closer armour inspection. Terry MacKay and Sam Pantaleo also attended.
 2013 Cortez replaced with compression seal later in the year
 2015 snooper

Rehab Work Notes

Last resurfaced in 1992

Condition Inspection Report

Criteria: Structure No = 02841E - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841E - KINGSVALE EAST**Status:** Open/In Use**Inspection Type:** Routine Condition**Region:** 2 - Southern Interior Region**District:** 6 - Thompson Nicola District**Contract Area:** 14 - Nicola CA**Inspection Notes:****Maintenance Work Notes**

Seal median leak. Crack seal deck (50m). Repair delaminated areas in next few years.
replace pier 2 joint armour.

Maintenance Work Notes

Remove median seal, clean area and replace.
Seal parapet openings.
Reinstall/tighten seismic restraint nut and washer missing from riverside, north pier.

Maintenance Work Notes

crack sealed deck in 2001

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02841W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841W - KINGSVALE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COLDWATER RIVER / COQUIHALLA HWY #5

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		100					N
8.	Embankment							Y
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		94		3	3		N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		95	5				N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)		100					N
DECK :								
30.	Sub Deck/Cross Ties		95	5				N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		99	1				N
36.	Median Barrier		99	1				N
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 78.000

Note: Upstream is East

Main Span Length: 42.000

Main Span Type: STRINGER

Spans: 3

Urgency: 1

BCI Rating: 2.02

Adjusted BCI Rating: 2.03

Inspector/Inspected By: T. Ryu

On 2019/06/20

Amendment/Partial Inspection?

Urgency Notes:

Utility Concerns Note: 2014 junction box not on mount at n/w wing. Notified Ross via photo and description sent by iphone

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02841W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841W - KINGSVALE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
|------|---------------------|--|
| 6 . | Abutments | Fine vertical cracks in both abutments. |
| 11 . | Bearings | North abutment Elastomeric pads slightly squashed and cracked.
South abutment Elastomeric pads squashed and split.
Pier bearings not squashed, have fine cracks.
2017 - at NW corner bearing has twisted 40 degrees and is falling off of its pad. bearing next to it has 1 corner falling off of its pad |
| 17 . | Girders | 2010 span 2, each of the 5 girders have a 3cm dia hole completely thru the 14cm thick web located just south of their respective cross bracing at the north ends (3 sets on cross bracing). |
| 19 . | Bracing/Diaphragms | 2010 seismic restraints double nutted, exception is the single nutted river side girder line #1 & #3 at pier 2 which are single nutted. Diaphragm bolts are loose whereas restraint bolts going into caps are tighter.
Pier 1, diaphragm 2 is about 15% delaminated |
| 30 . | Sub Deck/Cross Ties | efflorescence near abutment and piers. Full depth forms still under south span. 2 vertical bars exposed at north end.
2010 some newer efflorescence lines under parapet |
| 31 . | Wearing Surface | Numerous transverse cracks up to 2mm in width, some previously cracksealed.
2009 - deck not chained, on JS list
2010 - JS survey in 2009, 1.7% delam
2011 - epoxy injection in progress, over \$36k
2014 not chained but numerous medium cracks |
| 35 . | Railings/Parapets | map pattern cracking throughout the exterior of CIP
2012 minor impact damage to steel rail at sw end
2013 south end, 2 chairs with broken bolts
2014 1 chair bent (still functional) and 3 missing/broken bolts |
| 36 . | Median Barrier | 2010, shared median continues to leak. There is a seal in it, mostly intact but squeezing out.
2013 still undulating across span |
| 39 . | Signing/Lighting | one luminaire on bridge.
2010 conduit is uncovered at north end (shoulder).
2013 conduit box dislodged, MR sent
2014 conduit box dislodged, email sent to Westcana |
| 40 . | Roadway Approaches | 2009 - polypatch treatment
2010 - south (jointless) end not treated
2012 spraypatched
2014 spraypatched |

Inspection Notes:**General Inspection Notes**

2008 bridge substructure very clean
 2009 south end of May inlayed thermal project
 2010 Snooper
 2014 4C and post rain
 2015 met Gene Moscoso and Bob Alexander on site to discuss game fence tie in

Rehab Work Notes

Deck rehab completed in August 2003 included repairing seismic restraints and 18m approaches

Condition Inspection Report

Criteria: Structure No = 02841W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841W - KINGSVALE WEST**Status:** Open/In Use**Inspection Type:** Routine Condition**Region:** 2 - Southern Interior Region**District:** 6 - Thompson Nicola District**Contract Area:** 14 - Nicola CA**Inspection Notes:****Maintenance Work Notes**

Clean out median then re-seal, plan for 2015.
consider using future washings of the caps using Snooper access particularly
for center span.

Maintenance Work Notes

Remove median seal, clean area and replace.
Seal parapet openings.
Reinstall/tighten seismic restraint nut and washer missing from riverside, north
pier.
Patch deck.

Maintenance Work Notes

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02841W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841W - KINGSVALE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COLDWATER RIVER / COQUIHALLA HWY #5

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		100					N
8.	Embankment							Y
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		94		3	3		N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
15.	Floor Beams/Transoms							Y
16.	Stringers							Y
17.	Girders		100					N
18.	Portals							Y
19.	Bracing/Diaphragms		95	5				N
20.	Truss Chords/Arch Ribs							Y
21.	Arch Ties							Y
22.	Truss Diagonals							Y
23.	Truss Rods/Verticals							Y
24.	Cables							Y
25.	Panels							Y
26.	Pins/Bolts/Rivets		100					N
27.	Camber/Sag		100					N
28.	Live Load Vibration		100					N
29.	Coating (Structure)		100					N
DECK :								
30.	Sub Deck/Cross Ties		95	5				N
31.	Wearing Surface		100					N
32.	Deck Joints		100					N
33.	Curbs/Wheelguards							Y
34.	Sidewalk(s)							Y
35.	Railings/Parapets		99	1				N
36.	Median Barrier		99	1				N
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 78.000

Note: Upstream is East

Main Span Length: 42.000

Main Span Type: STRINGER

Spans: 3

Urgency: 1

BCI Rating: 2.02

Adjusted BCI Rating: 2.03

Inspector/Inspected By: T. Ryu

On 2020/05/01

Amendment/Partial Inspection?

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BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02841W - Include Inspection Condition Photos = Y
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Structure No: 02841W - KINGSVALE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
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Rehab Work Notes

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Condition Inspection Report

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- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841W - KINGSVALE WEST**Status:** Open/In Use**Inspection Type:** Routine Condition**Region:** 2 - Southern Interior Region**District:** 6 - Thompson Nicola District**Contract Area:** 14 - Nicola CA**Inspection Notes:****Maintenance Work Notes**

Clean out median then re-seal, plan for 2015.
consider using future washings of the caps using Snooper access particularly
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Maintenance Work Notes

Remove median seal, clean area and replace.
Seal parapet openings.
Reinstall/tighten seismic restraint nut and washer missing from riverside, north
pier.
Patch deck.

Maintenance Work Notes

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

Condition Inspection Report

BBAKHT

Criteria: Structure No = 02841W - Include Inspection Condition Photos = Y
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Structure No: 02841W - KINGVALE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

RFI: 14-D-@-00005S - Rte 5 SB - Coquihalla - ON

Features Crossed: COLDWATER RIVER / COQUIHALLA HWY #5

Component Group/Component		E	G	F	P	V	X	N/A
HYDROTECHNICAL :								
1.	Debris Risk		100					N
2.	Channel		100					N
3.	Erosion Protection		100					N
4.	Substructure Scour		100					N
SUBSTRUCTURE :								
5.	Foundation Movement		100					N
6.	Abutments		100					N
7.	Wing/Retaining Walls		100					N
8.	Embankment							Y
9.	Footings/Piling		100					N
10.	Pier Columns/Walls/Cribs							Y
11.	Bearings		94		3	3		N
12.	Caps		100					N
13.	Corbels							Y
14.	Dolphins/Fenders							Y
SUPERSTRUCTURE :								
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32.	Deck Joints		100					N
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34.	Sidewalk(s)							Y
35.	Railings/Parapets		99	1				N
36.	Median Barrier		99	1				N
37.	Drains/Pipes		100					N
38.	Coating (Railings)		100					N
APPROACHES :								
39.	Signing/Lighting		100					N
40.	Roadway Approaches		100					N
41.	Roadway Flares		100					N

1st Abutment Position: N

Year Built: 1985 Estimated? ☐

Length (m): 78.000

Note: Upstream is East

Main Span Length: 42.000

Main Span Type: STRINGER

Spans: 3

Urgency: 1

BCI Rating: 2.02

Adjusted BCI Rating: 2.03

Inspector/Inspected By: T. Ryu

On 2021/05/06

Amendment/Partial Inspection?

Urgency Notes:

Utility Concerns Note: 2014 junction box not on mount at n/w wing. Notified Ross via photo and description sent by iphone

BRIDGE MANAGEMENT INFORMATION SYSTEM

27 May 2022

BBAKHT

Condition Inspection Report

Criteria: Structure No = 02841W - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841W - KINGSVALE WEST

Status: Open/In Use

Inspection Type: Routine Condition

Region: 2 - Southern Interior Region

District: 6 - Thompson Nicola District

Contract Area: 14 - Nicola CA

Item Notes:

- | | | |
|------|---------------------|--|
| 6 . | Abutments | Fine vertical cracks in both abutments. |
| 11 . | Bearings | North abutment Elastomeric pads slightly squashed and cracked.
South abutment Elastomeric pads squashed and split.
Pier bearings not squashed, have fine cracks.
2017 - at NW corner bearing has twisted 40 degrees and is falling off of its pad. bearing next to it has 1 corner falling off of its pad |
| 17 . | Girders | 2010 span 2, each of the 5 girders have a 3cm dia hole completely thru the 14cm thick web located just south the their respective cross bracing at the north ends (3 sets on cross bracing). |
| 19 . | Bracing/Diaphragms | 2010 seismic restraints double nutted, exception is the single nutted river side girder line #1 & #3 at pier 2 which are single nutted. Diaphragm bolts are loose whereas restraint bolts going into caps are tighter.
Pier 1, diaphragm 2 is about 15% delaminated |
| 30 . | Sub Deck/Cross Ties | efflorescence near abutment and piers. Full depth forms still under south span. 2 vertical bars exposed at north end.
2010 some newer efflorescence lines under parapet |
| 31 . | Wearing Surface | Numerous transverse cracks up to 2mm in width, some previously cracksealed.
2009 - deck not chained, on JS list
2010 - JS survey in 2009, 1.7% delam
2011 - epoxy injection in progress, over \$36k
2014 not chained but numerous medium cracks |
| 35 . | Railings/Parapets | map pattern cracking throughout the exterior of CIP
2012 minor impact damage to steel rail at sw end
2013 south end, 2 chairs with broken bolts
2014 1 chair bent (still functional) and 3 missing/broken bolts |
| 36 . | Median Barrier | 2010, shared median continues to leak. There is a seal in it, mostly intact but squeezing out.
2013 still undulating across span |
| 39 . | Signing/Lighting | one luminaire on bridge.
2010 conduit is uncovered at north end (shoulder).
2013 conduit box dislodged, MR sent
2014 conduit box dislodged, email sent to Westcana |
| 40 . | Roadway Approaches | 2009 - polypatch treatment
2010 - south (jointless) end not treated
2012 spraypatched
2014 spraypatched |

Inspection Notes:**General Inspection Notes**

2008 bridge substructure very clean
 2009 south end of May inlayed thermal project
 2010 Snooper
 2014 4C and post rain
 2015 met gene msooses and bob alexander on site to discuss game fence tie in

Rehab Work Notes

Deck rehab completed in August 2003 included repairing seismic restraints and 18m approaches

Condition Inspection Report

Criteria: Structure No = 02841W - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = Y

Structure No: 02841W - KINGSVALE WEST**Status:** Open/In Use**Inspection Type:** Routine Condition**Region:** 2 - Southern Interior Region**District:** 6 - Thompson Nicola District**Contract Area:** 14 - Nicola CA**Inspection Notes:****Maintenance Work Notes**

Clean out median then re-seal, plan for 2015.
consider using future washings of the caps using Snooper access particularly
for center span.

Maintenance Work Notes

Remove median seal, clean area and replace.
Seal parapet openings.
Reinstall/tighten seismic restraint nut and washer missing from riverside, north
pier.
Patch deck.

Maintenance Work Notes