
PART 2 – DETAILED VISUAL INSPECTION



Figure A.8 (s): Steel Deck

Maintenance Need: Bridge Surface Repair
Gravel should be removed from the deck surface

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Figure A.8 (t) Steel Deck – Friction Coat Break Down

Condition State: Good	Performance Deficiency: Slippery Surface
	Friction Coating has severely worn off bridge deck
Maintenance Need: Bridge Surface Repair	

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A.9 EMBANKMENTS & STREAMS

Figure A.9 (a) Embankment

Condition State: Poor	Performance Deficiency: Continuing Movement
Erosion causing many very deep, closely spaced gullies. Loss of embankment material to top of footing	<ul style="list-style-type: none"> Erosion has removed fill to below top of footing, removing frost protection, creating potential for frost heaving

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Figure A.9 (b) Embankment

Condition State: Poor	Performance Deficiency: Unstable Embankments
Loss of slope protection materials during flooding event. Water velocities were estimated to be over 3-4 m/s.	Embankment is unstable. Bank will continue to erode after loss of scour resistant materials. Site should have banks restored with slope protection materials sized for expected water velocities.

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Figure A.9 (c) Embankments

Embankment

<p>Condition State: Poor</p>	<p>Performance Deficiency: Unstable Embankment</p>
<p>Erosion of 30% to 40% of embankment</p>	<p>Erosion will continue without replacement of slope protection materials.</p>

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Figure A.9 (d) Random Rip-Rap Slope Protection

Condition State: Excellent	Performance Deficiency: None
No evidence of material deterioration	

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Figure A.9 (e) Slope Protection

<p>Condition State: Poor</p>	<p>Performance Deficiency: Unstable Embankment</p>
<p>Erosion over 20% of embankment</p>	<p>Loss of erosion protection to the embankment. Continued uncontrolled release of soil to the waterway is unacceptable and reinstatement of erosion protection materials should occur as soon as is practicable.</p>

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Figure A.9 (f) Precast Concrete Slope Protection

<p>Condition State: Poor</p>	<p>Performance Deficiency: Continuing Settlement; Continuing Movement</p>
<p>Slope paving panels broken, settling and overlapping.</p>	<ul style="list-style-type: none"> • Slope paving no longer in position and functioning. Embankment slope protection should be replaced.



Figure A.9 (g) Precast Concrete Slope Protection

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Condition State: Poor	Performance Deficiency: Continuing Settlement; Continuing Movements
Slab continuity compromised, with panels breaking up and sliding towards toe of slope.	Severe settlement and movement of the slope protection, with slabs telescoping underneath one another.



Figure A.9 (h) Streams

Condition State: Good	Performance Deficiency: Flooding/Channel Blockage
No material defects.	Maximum high-water marks above soffit of beams

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Figure A.9 (i) Meandering Stream

<p>Condition State: Poor</p>	<p>Performance Deficiency: Undermining of Foundation</p>
<p>Lack of erosion resistant materials adjacent to wingwall, upstream of structure.</p>	<p>Meandering stream is encroaching against wingwall and substructure with high potential for erosion of the embankment and scour beneath the foundation. Erosion resistant materials should be reinstated to protect the foundation.</p>



Figure A.9 (j) Streams

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Condition State: Poor	Performance Deficiency: Flooding/Channel Blockage
Aggradation of stream bed is extensive with considerable portion of the channel blocked	Channel blockage reduces flow capacity of the channel, increases flooding potential.



Figure A.9 (k) Streams

Condition State: Poor	Performance Deficiency: Flooding/Channel Blockage
Aggradation of the streambed upstream and degradation downstream due to debris buildup under structure	Partial blockage of the opening at the structure, causing high potential for flooding upstream and possible undermining due to scour with increased water velocities.

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Figure A.9 (I) Streams

Condition State: Undetermined	Performance Deficiency: Flooding/Channel Blockage
Debris blocking majority of channel will induce scour around the pier. Condition state will need to be determined through examination of the location and extent of the scour.	Debris carried and deposited against a structure during a flooding event can cause damage to the streambed after the event, by altering the water flow patterns and velocities.

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A.10 FOUNDATIONS



Figure A.10 (b) Foundation

Condition State: Not Applicable	Performance Deficiency: None
	Previous settlement of wingwall has stabilized



Figure A.10 (c) Foundation

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Condition State: Not Applicable	Performance Deficiency: None
	Movement of foundation has stabilized. It has produced wide cracks in abutment but has not affected the stability of the abutment



Figure A.10 (d) Foundation

Condition State: Not Applicable	Performance Deficiency: Continuing Movements
	Continuing increasing movement of foundation has affected stability of the pier and the superstructure

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A.11 JOINTS



Figure A.11 (a) Finger Plate Expansion Joint

Condition State: Good	Performance Deficiency: No performance deficiency.
Light rust	. Joint operating well