Detailed Condition Survey
Structure Identification Sheet

Structure Name _____

Site Number _____ **MTO Region** _____

Roadway Above _____ **Below** _____

GPS Coordinates _____

Township _____ **County** _____

Structure Type _____

Number of Spans _____

Span Length(s) _____ **Roadway Width** _____

Direction of Structure _____

Deck Riding Surface _____

Year Built _____ **Last Rehabilitated** _____

LHRS & Offset _____

AADT _____

Inspector _____

Party Members _____

Inspection Date _____

Temperature _____ ^{o}C **Weather** _____

Engineer's Stamp

Detailed Condition Survey
Asphalt Covered Bridge Deck

1. Dimensions Site No. _____

Width _____ m Width _____ m
Length _____ m
Total Surveyed Area _____ m^2

2. Asphalt

Condition	Minimum (mm)	Maximum (mm)	Average (mm)

Condition: G - Good, F - Fair, P - Poor and V - Variable Good to Poor.

Remarks:

3. Waterproofing

Type	Condition		Thickness (mm)		
	WP	Bond	Min.	Max.	Avg.

Condition: G - Good, F - Fair, P - Poor and V - Variable Good to Poor.

Thickness: Only record thickness of WP membrane, but note presence of protection board in 'Type'.

Remarks:

4. Concrete Cores & Asphalt Sawn Samples

	Total Cores / Samples Taken	Number of Cores / Samples with Defects
Concrete Cores		
Asphalt Sawn Samples		

Concrete Air Entrained? **Core ID** _____ Yes [ ] Marginal [ ] No [ ]

Compressive Strength **Core ID** _____ _____ MPa
Core ID _____ _____ MPa

Concrete Cover - Cores and Sawn Samples

Minimum (mm)	Maximum (mm)	Average (mm)

Remarks:

Detailed Condition Survey
Asphalt Covered Bridge Deck

5. Corrosion Activity & Chloride Measurements

Corrosion Potential Range (V)	m^2	%	Cores and Sawn Samples			
			Total Number of Cores and Samples in Each Range	Numbe of Cores / Sawn Samples with Defects in Each Range		
				No.	m^2	% (*)
0 to -0.199						
-0.20 to -0.299						
-0.30 to -0.349						
-0.35 to -0.449						
< -0.45						

*The % should be of the entire deck area investigated. The values should be viewed cautiously and with judgement. Small number of samples can skew the results.

Chloride Content Profile

Background Chloride Content _____ %

Corrosion Potential Range (V)		0 to -0.199	-0.20 to -0.349	≤ -0.35
Corrected Chloride Content *	0 - 10 mm			
	20 - 30			
	40 - 50			
	60 - 70			
	80 - 90			
	100 - 110			

* Average chloride content as % chloride by weight of concrete after deducting background chlorides for all cores taken in each range of corrosion potential.

Chloride Content at Rebar Level

Core ID							
Chloride Content							
Corrosion Potential							
Core ID							
Chloride Content							
Corrosion Potential							

Chloride content is recorded as % chloride by weight of concrete after deducting background chlorides.

Remarks:

Detailed Condition Survey
Exposed Concrete Component

For exposed deck, soffit, sidewalks, barriers etc. Use separate form for each component.

Site No. _____

Component Type and Location _____ OSIM Identifier _____

1. Dimensions **Remarks**

Width _____ m
Length _____ m
Height _____ m
Diameter _____ m
Total Surveyed Area _____ m^2

2. Concrete Surface Defects

Cracks		Vertical	Horizontal	Diagonal	
Medum	Clean				(m)
	Stained				(m)
Wide	Clean				(m)
	Stained				(m)

Concrete Defects	Delaminations		Spalls		Patches		
							(m^2 | %)
Concrete Defects	**Honeycombing**		**AAR**		**Wet Areas**		
							(m^2 | %)
Scaling	**Light**		**Medium**		**≥ Severe**		
							(m^2 | %)

Remarks:

3. Concrete Cover & Test Results

Average Concrete Cover _____ mm

0 - 20		20 - 40		40 - 60		> 60		
								(m^2 | %)

Concrete Air Entrained? **Core ID** _____ Yes [ ] Marginal [ ] No [ ]

Compressive Strength **Core ID** _____ _____ MPa
Core ID _____ _____ MPa

Remarks:

Detailed Condition Survey
Exposed Concrete Component

Site No. _____

Component Type and Location _____ OSIM Identifier _____

4. Corrosion Activity & Chloride Measurements

Corrosion Potential Range (V)	m^2	%
0 to -0.199		
-0.20 to -0.299		
-0.30 to -0.349		
-0.35 to -0.449		
< -0.45		

Chloride Content Profile

Background Chloride Content _____ %

Corrosion Potential Range (V)		0 to -0.199		-0.20 to -0.349		≤ -0.35	
Corrected Chloride Content *	0 - 10 mm						
	20 - 30						
	40 - 50						
	60 - 70						
	80 - 90						
	100 - 110						

* Average chloride content as % chloride by weight of concrete after deducting background chlorides for all cores taken in each range of corrosion potential.

Chloride Content at Rebar Level

Core ID							
Chloride Content							
Corrosion Potential							

Chloride content is recorded as % chloride by weight of concrete after deducting background chlorides.

Remarks:

Detailed Condition Survey
Expansion Joints

Site No. _____

	Abutments				Intermediate			
	Joint 1		Joint 2		Joint 3		Joint 4	
Location **Joint Type**								
Skew Angle								
Expansion or Fixed?								
Leaking?								
Remarks *(e.g., broken armour, missing or perforated seal, broken bolts, jammed etc.)*								
	Asphalt thickness adjacent to joint							
	Apprch	**Deck**	**Deck**	**Apprch**	**N / E**	**S / W**	**N / E**	**S / W**
Measurement 1 (mm)								
Measurement 2 (mm)								
Measurement 3 (mm)								
Average (mm)								
	Concrete end dam widths							
Location	**N / E**	**S / W**	**N / E**	**S / W**	**N / E**	**S / W**	**N / E**	**S / W**
Measurement 1 (mm)								
Measurement 2 (mm)								
Measurement 3 (mm)								
Average (mm)								
	Gap dimensions							
Measurement 1 (mm)								
Measurement 2 (mm)								
Measurement 3 (mm)								
Average (mm)								
Deck Temperature	**^{o}C**		**Ambient Temperature**				**^{o}C**	

Remarks:

Detailed Condition Survey
Bearings

Site No. ____________________

____

Location ______________________________

Labelling Direction **from** __________ **to** __________

Bearing Type ______________________________

Bearing ID						
Size						
Remarks *(e.g, cracks, rust jacking, jammed anchor rod etc.)*						

Location ______________________________

Labelling Direction **from** __________ **to** __________

Bearing Type ______________________________

Bearing ID						
Size						
Remarks *(e.g, cracks, rust jacking, jammed anchor rod etc.)*						

Location ______________________________

Labelling Direction **from** __________ **to** __________

Bearing Type ______________________________

Bearing ID						
Size						
Remarks *(e.g, cracks, rust jacking, jammed anchor rod etc.)*						

Location ______________________________

Labelling Direction **from** __________ **to** __________

Bearing Type ______________________________

Bearing ID						
Size						
Remarks *(e.g, cracks, rust jacking, jammed anchor rod etc.)*						

Detailed Condition Survey
Drainage

Site No. _____

Deck Drains	Yes [ ] No [ ]
Number	
Type	
Dimensions	
Remarks	

Catch Basins	Yes [ ] No [ ]
Locations	
Remarks	

Identify location of catch basins as NE, NW, SE etc. using the same 'North' as shown on drawings.

Drainage Tubes	Yes [ ] No [ ]
Void Drains	Yes [ ] No [ ]
Remarks	

Detailed Condition Survey
Concrete Core Log

Page ___ of ___ Site No. _____

Core Number							
Location (b/t grid lines)							
Diameter (mm)							
Thickness of Asphalt (mm)							
Thickness of Asphalt at nearest Grid Point (mm)							
Concrete Thickness (mm)							
Waterproofing Type							
Condition of Asphalt[1]							
Waterproofing Type							
Waterproofing Thickness							
Condition of WP[1]							
Condition of Bond b/t WP (or Asphalt) to Concrete[1]							
Defects in Concrete[2]							
Condition of Rebar[3]							
Corrosion Potential (V)							
		TOTAL	**COR***	**TOTAL**	**COR**	**TOTAL**	**COR**
Corrected Chloride Content *	**0 - 10 mm**						
	20 - 30 mm						
	40 - 50 mm						
	60 - 70 mm						
	80 - 90 mm						
Compressive Strength (MPa)							
Air Voids	**Air Content (%)**						
	Spec. Surface (mm^2/mm^3)						
	Spacing Factor (mm)						
Test Laboratory							
Remarks *i.e. cover, orientation of rebars, presence of overlay, patch, other defects etc.*							

* Corrected Chloride Content after adjusting for background chloride

1. Conditions: G - Good, F - Fair and P - Poor

2. Defects: C - Cracked, D - Delamination, R = Rough Surface, Sc - Scaling and S - Spall

3. Rebar Condition: G - Good, LR - Light Rust, SR - Severe Rust or N/A - Not Exposed

3. Epoxy Coating Condition: ECG - Good, ECF - Fair, or ECP - Poor (with rust, debonded etc.)

Detailed Condition Survey
Asphalt Sawn Sample Log

Page ___ of ___ Site No. _____

Sample Number			
Location (b/t grid lines)			
Size (mm x mm)			
Thickness of Asphalt (mm)			
Thickness of Asphalt at nearest Grid Point (mm)			
Condition of Asphalt[1]			
Waterproofing Type			
WP Thickness (mm)			
Condition of WP[1]			
Condition of Bond b/t WP and Asphalt[1]			
Condition of Bond b/t WP (or Asphalt) to Concrete[1]			
Concrete Cover (mm) (Note orientation of rebar)			
Defects in Concrete Surface[2]			
Corrosion Potential at Nearest Grid Point			
Remarks			

1. Conditions: G - Good, F - Fair and P - Poor
2. Defects: C - Cracked, D - Delamination, R = Rough Surface, Sc - Scaling and S - Spall

Detailed Condition Survey
Survey Equipment and Calibration

Component Type _____ Site No. _____

1. Delamination Mapping

Weight of Chain _____ kg / m Other Equipment _____

2. Concrete Cover Survey

Equipment Make & Model _____

Location of Concrete Cover Check _____

Actual Depth and Rebar Diameter _____

Readings Before Test _____ During _____ End _____

3. Corrosion Activity

Half-Cell Make & Model _____

Multimeter Make & Model _____

Length and Gauge of Lead Wires _____

Deck Temperature Start _____ °C End _____ °C

Ambient Temperature Start _____ °C End _____ °C

Ground Check, Method of Connection _____

Ground Location _____ Check Location _____

Measured Resistance[1] (A) _____

Lead Resistance (B) _____ Voltage Drop _____ mV

Net Resistance (A - B) _____ Resistance Reversed _____

Grid Point Potential Reading Check

Location	Initial Reading	Check Reading[2]	Check Reading - Latex Concrete Overlay[3]

[1] *Measured resistance is the circuit resistance of the deck, including resistance of the leads.*

[2] *Check at least five readings at beginning of test and each change in ground.*

[3] *On decks with latex modified concrete overlay, check at least five locations by drilling holes through the latex concrete overlay into the original concrete substrate.*