

## BRIDGE DATA ELEMENTS

FOCUS AREA	DATA ELEMENTS	EXPLANATION	POSSIBLE PARAMETERS to be MEASURED and DATA to be SUBMITTED	Desire to Collect
<b>Deck &amp; Concrete Assessment</b>	Reinforcement location, size, spacing, cover	Determine thickness of concrete, cover over reinforcing steel, and location, size, spacing of embedded reinforcing steel.	Map information in a scaled pdf figure of defined areas by bridge number provided	
	Chloride content	Determine chloride content of concrete utilizing equipment that can determine results directly in field	Report chloride content by bridge number provided and by locations designated	
	Overclearance	Determine vertical overclearance by remote or traveling equipment, so as not to interfere with traffic.	Height (ft. & in.) by bridge number provided	
	Deck voids and cracking	Determine location and extent of deck concrete voids and cracking using advanced NDE devices such as impact echo, infrared thermography, UPV/SPV tomography, radar tomographic imaging.	Map voids and cracking in a pdf figure by bridge number provided	
	Deck delamination	Determine delaminated areas of concrete decks	Map delaminated areas in a pdf figure by bridge number provided	
	Length and width	Electronically determine dimensions of bridge structure components.	Dimensions (ft. & in.) by bridge number provided	
	Alkali-silica reactivity	Detect presence of alkali-silica reactivity in concrete by field methods	Report level of reactivity by bridge number provided and by locations designated	
<b>Superstructure Assessment</b>	Steel condition	Determine quality of metals and welds to determine location and extent of any cracks or defects using NDE devices and advanced versions of ultrasonic, magnetic particle, and dye penetrant methods	Map information in a scaled pdf figure of defined areas by bridge number provided	
	Void detection in concrete members	Determine location/ extent of voids in concrete members and tendon ducts.	Map voids in a pdf figure of the areas defined by bridge number provided	
	Concrete strength	Determine strength of concrete by NDE methods	Report concrete strength measured (psi) at predetermined locations and by bridge number provided	
	Timber condition	Determine physical quality of timber members by determining areas/ extent of deteriorating timber	Report condition of timber at predetermined locations and by bridge number provided	
	Underclearance	Determine vertical underclearance by remote or traveling equipment, so as not to interfere with traffic.	Height (ft. & in.) by bridge number provided	
	Load capacity	Determine load distribution or carrying capacity of individual elements and total elements of structures by load testing.	Report data determined by bridge number provided and element	
	Steel condition	Determine quality of metals and welds to determine location and extent of any cracks or defects using NDE devices and advanced versions of ultrasonic, magnetic particle, and dye penetrant methods	Map information in a scaled pdf figure of defined areas by bridge number provided	

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<b>Substructure Assessment</b>	Drilled shaft condition	Demonstrate evaluation of concrete drilled shafts for voids, poor quality concrete, anomalies, and other defects.	Demonstrate and provide data as produced by device by bridge number provided and by locations designated	
	Concrete and steel pile condition	Evaluate concrete and steel piles for voids, poor quality concrete, anomalies, and other defects.	Demonstrate and provide data as produced by device by bridge number provided and by locations designated	
	Timber pile condition	Determine physical quality of timber piles by determining areas/ extent of deteriorating timber.	Demonstrate and provide data as produced by device by bridge number provided	
	Culvert load capacity	Determine load carrying capacity of concrete and metal box, arch, and circular culverts.	Demonstrate and provide data as produced by device by bridge number provided	
<b>Inaccessible Area and Underwater Assessment, Health Monitoring and Remote Sensing</b>	Cameras	Demonstrate capabilities of cameras/ photography equipment used to aid in determining physical condition of inaccessible or underwater structure members..	Demonstrate and provide data as produced by device by bridge number provided	
	Robotic inspection devices	Demonstrate robotic inspection equipment used to determine physical condition of inaccessible area or underwater structure members.	Demonstrate and provide data as produced by device by bridge number provided	
	Sounding equipment	Demonstrate advances in equipment for scour measurement.	Demonstrate and provide data as produced by device by bridge number provided	
	Underwater communications	Demonstrate underwater communication equipment used during structure inspections.	Demonstrate and provide data as produced by device by bridge number provided	
	Manual tools	Demonstrate unique manual tools used during underwater structure inspections.	Demonstrate and provide data as produced by device by bridge number provided	
	Remote sensing	Demonstrate applications and use of remote sensors.	Demonstrate and provide data as produced by device by bridge number provided	
	Health monitoring	Demonstrate remote monitoring of various bridge components for detection of deficiencies.	Demonstrate and provide data as produced by device by bridge number provided	