



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

06-09-2016

BRIDGE INSPECTION REPORT

INSPECTION TYPE: ELECTRICAL - NORMAL SCHEDULED

COUNTY 065 BRIDGE NUMBER 0013 INSPECTION CYCLE 2 YRS

ROUTE 065 US017 ACROSS CAPE FEAR RIVER M.P. _____

LOCATION CAPE FEAR MEMORIAL BRIDGE - WILMINGTON

PRIMARY DRIVE TYPE PLC CONTROLLED VARIABLE FREQUENCY

BACK-UP DRIVE TYPE REDUNDANT MOTOR / DRIVE PER SIDE AND STAND-ALONE EMERGENCY DRIVES

ELECTRICAL SERVICE 480 VOLT / 3 PHASE / 60 HZ

LONGITUDE 77°57'07.3"W

LATITUDE 34°13'39.1"N

PRESENT CONDITION FAIR

TRAFFIC CAMERAS 8 ROADWAY - 5 MAINTENANCE

INSPECTION DATE 06-09-2016

TRAFFIC GATES 4 B&B ROADWAY

NUMBER OF MOTORS 4 MAIN - 2 AUX

ROADWAY LIGHTS 41

NUMBER OF BRAKES 6 MAIN - 2 AUX

BRIDGE SCHEDULE ON DEMAND

BRIDGE TYPE VERTICAL LIFT SPAN

YEARLY OPENINGS 180

YEAR CONSTRUCTED 1969

YEAR OF LAST REHAB 2008



LOOKING NORTH

AASHTO Inspection Manual Sections & Scope of Work		Condition at Inspection			AASHTO Inspection Frequency		Comments
Section	AASHTO Movable Bridge Electrical Inspection - General	Good	Poor but operable	Needs repair	Routine (2 yr)	In Depth (6 yr)	
2.5.9	Emergency and Manual Drives	X			X		
2.5.9.1	Emergency Drive Motors / Engines	X			X		
	Brake Operation (if applicable)	X			X		
	Brake Wheel Condition (if applicable)		X		X		SOME SURFACE RUST
	Clutch Operation	X			X		
	Drive Operates as Intended	X			X		
2.5.9.2	Manual Drives (if applicable)				X		N/A
	Operates as Intended				X		N/A
2.8	Electrical components	X			X		
2.8.4	Motors	X			X		
2.8.4.1	Traffic Gate Motors	X			X		
	Bearings quiet	X			X		
	No excessive vibration	X			X		
	No excessive heat	X			X		
	All components tight	X			X		
	Lock/Wedge Motors	X			X		
	Bearings quiet	X			X		
	No excessive vibration	X			X		
	No excessive heat	X			X		
	All components tight	X			X		
	Brake Motors	X			X		
	Bearings quiet	X			X		
	No excessive vibration	X			X		
	No excessive heat	X			X		
	All components tight	X			X		

AASHTO Inspection Manual Sections & Scope of Work		Condition at Inspection			AASHTO Inspection Frequency		Comments
Section	AASHTO Movable Bridge Electrical Inspection - Bascule	Good	Poor but operable	Needs repair	Routine (2 yr)	In Depth (6 yr)	
2.8.6	Brakes	X			X		
	Shoe clearance 1/8 " or less	X			X		
	Shoes dragging	X			X		
	Shoes glazed	X			X		
	Shoes excessively worn	X			X		
	Drum surface condition		X		X		SOME SURFACE RUST
	Fluid levels (thrusters)	X			X		
	Coil condition (solenoids)	X			X		
2.8.7	Electric Cables	X			X		
	Submarine Cables (if applicable)				X		N/A
	Proper support				X		N/A
	No damage to exterior insulation				X		N/A
	Megger testing values (attach results)					Note 1	
2.8.7	Electric Cables	X					
	Aerial Cables (if applicable)				X	Note 2	INSPECTION IN SEPT. 2016
	Proper support				X		
	No damage to exterior insulation				X		
	Megger testing values (attach results)					Note 1	
2.8.7.2	Terminal Connections (Wires & Cables)			X	X	Note 4	See notes 4 and 5
	Connections tight	X			X		
	Condition of insulation	X			X		
2.8.8.1	Incoming Power	X			X		
	No oil leakage from transformers	X			X		
	No blown fuse jacks	X			X		
	No loose hardware or supports	X			X		

Section	Discrepancies Noted	Details and Comments
2.8.7	Deviation from recommended schedule	<p>Note 1 - Obtaining proper megger values for conductors in a submarine or aerial cable involves removing each conductor from the terminal strip. For safety considerations, power should be removed which necessitates periods of bridge inoperability. Also, terminal strips of questionable condition may require replacement to accommodate such testing. NCDOT will conduct megger testing of submarine and aerial cables ONLY if troubleshooting efforts indicate that megging is warranted. Megger testing of motors will remain on the recommended schedule.</p>
2.8.7	Aerial cable inspection	<p>Note 2 - Aerial cables are inspected after Labor Day every year. Any discrepancies noted are repaired during the inspection and not carried over for any length of time.</p>
2.9.3.1	Seating proximities damaged	<p>Note 3 - All four seating proximity switches show signs of damage or deterioration due to the sand blasting and/or painting of the bridge structure. Recommend replacing all switches.</p>
2.8.7.2	Light fixtures need replacing	<p>Note 4 - Several light fixtures in stairwell are in need of replacement.</p>
2.8.7.2	Abandoned wiring needs removal	<p>Note 5 - Abandoned wiring gives appearance of a safety issue. Recommend removal of wiring and/or conduit or installation of junc box and termination of wiring inside.</p>
		<p>The bridge is in overall very good electrical condition after a major refurbishment in 2008</p>

Note 3



Note 3



Note 4



Note 4



Note 5

