



NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 STRUCTURE MANAGEMENT UNIT

ATTENTION: PAR SUBMITTED FOR BENT 1 PILE 1; STRUCTURE HAS BEEN RESURFACED; BEAMS AND BEARINGS HAVE BEEN REPAINTED; CHANGE TO STRUCTURE DATA

# Structure Safety Report

## Routine Element Inspection - Contract

INSPECTION DATE: 04/23/2020

DIVISION: 4 COUNTY: JOHNSTON STRUCTURE NUMBER: 500085 FREQUENCY: 24 MONTHS

FACILITY CARRIED: I95 SBL I-95 SBL MILE POST: 90.5

LOCATION: 0.8 MI.N.JCT US301/701 0.8 MILES NORTH OF JUNCTION WITH US301/701

FEATURE INTERSECTED: BLACK CREEK

LATITUDE: 35° 27' 59.08" LONGITUDE: 78° 22' 50.65"

SUPERSTRUCTURE: \_\_\_\_\_

SUBSTRUCTURE: \_\_\_\_\_

SPANS: 4 SPANS. SEE SPAN PROFILE SHEET FOR SPAN DETAILS

FRACTURE CRITICAL  TEMPORARY SHORING  SCOUR CRITICAL  SCOUR PLAN OF ACTION

NBI GRADES: DECK 6 SUPERSTRUCTURE 7 SUBSTRUCTURE 6 CULVERT N

POSTED SV: Not Posted POSTED TTST: Not Posted

OTHER SIGNS PRESENT: (2)- DELINEATORS



Sign noticed issued for	Number Required
<u>NO</u> WEIGHT LIMIT	<u>0</u>
<u>NO</u> DELINEATORS	<u>0</u>
<u>NO</u> NARROW BRIDGE	<u>0</u>
<u>NO</u> ONE LANE BRIDGE	<u>0</u>
<u>NO</u> LOW CLEARANCE	<u>0</u>

DIRECTION OF INSPECTION S-N

DIRECTION MATCHES PLANS YES

LOOKING NORTH

INSPECTED BY W. O. KEITH	SIGNATURE <i>W. O. Keith</i>	ASSISTED BY R. ASENCIO
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NATIONAL BRIDGE INVENTROY ----- STRUCTURE INVENTORY AND APPRAISAL

06/22/2020

**IDENTIFICATION**

(1) STATE NAME NORTH CAROLINA BRIDGE 500085  
 (8) STRUCTURE NUMBER (FEDERAL) 1010085  
 (5) INVENTORY ROUTE (ON/UNDER) ON 111000950  
 (2) STATE HIGHWAY DEPARTMENT DISTRICT 4  
 (3) COUNTY CODE (FEDERAL) 101 (4) PLACE CODE 24520  
 (6) FEATURE INTERSECTED BLACK CREEK  
 (7) FACILITY CARRIED I95 SBL  
 (9) LOCATION 0.8 MI.N.JCT US301/701  
 (11) MILEPOINT 90.5  
 (12) BASE HIGHWAY NETWORK 1  
 (13) LRS INVENTORY ROUTE & SUBROUTE 10095  
 (16) LATITUDE 35° 27' 59.08" (17) LONGITUDE 78° 22' 50.65"  
 (98) BORDER BRIDGE STATE CODE PERCENT SHARED  
 (99) BORDER BRIDGE STRUCTURE NUMBER

SUFFICIENCY RATING 48.28  
 STATUS = Structurally Deficient

**CLASSIFICATION**

(112) NBIS BRIDGE SYSTEM YES  
 (104) HIGHWAY SYSTEM Inventory Route is on NHS 1  
 (26) FUNCTIONAL CLASS Urban Principal Arterial - Interstate 11  
 (100) STRAHNET HIGHWAY Interstate STRAHNET Route 1  
 (101) PARALLEL STRUCTURE The left structure of parallel bridges L  
 (102) DIRECTION OF TRAFFIC 1-way traffic 1  
 (103) TEMPORARY STRUCTURE Temporary Structure or Conditions T  
 (110) DESIGNATED NATIONAL NETWORK - on national network for trucks 1  
 (20) TOLL On Free Road 3  
 (21) MAINT - 01  
 (22) OWNER - 01  
 (37) HISTORICAL SIGNIFICANCE - 5

**STRUCTURE TYPE AND MATERIAL**

(43) STRUCTURE TYPE MAIN Steel  
 TYPE Stringer/Multi-beam or girder CODE 302  
 (44) STRUCTURE TYPE APPROACH  
 TYPE CODE  
 (45) NUMBER OF SPANS IN MAIN UNIT 4  
 (46) NUMBER OF SPANS IN APPROACH 0  
 (107) DECK STRUCTURE TYPE CODE 1  
 (108) WEARING SURFACE/PROTECTIVE SYSTEM  
 (A) TYPE OF WEARING SURFACE CODE 6  
 (B) TYPE OF MEMBRANE CODE 0  
 (C) TYPE OF DECK PROTECTION CODE 0

**CONDITION**

(58) DECK 6  
 (59) SUPERSTRUCTURE 4  
 (60) SUBSTRUCTURE 6  
 (61) CHANNEL & CHANNEL PROTECTION 7  
 (62) CULVERTS N

**LOAD RATING AND POSTING**

(31) DESIGN LOAD H 20 + Mod 6  
 (63) OPERATING RATING METHOD - Load Factor 1  
 (64) OPERATING RATING - HS-36 69  
 (65) INVENTORY RATING METHOD - 1  
 (66) INVENTORY RATING HS-22 41  
 (70) BRIDGE POSTING No Posting Required 5  
 (41) STRUCTURE OPEN, POSTED, OR CLOSED D

**AGE AND SERVICE**

(27) YEAR BUILT 1955  
 (106) YEAR RECONSTRUCTED 0  
 (42) TYPE OF SERVICE ON - Highway  
 OFF - Waterway CODE 15  
 (28) LANES ON STRUCTURE 2 LANES UNDER STRUCTURE 0  
 (29) AVERAGE DAILY TRAFFIC 22750  
 (30) YEAR OF ADT 2018 (109) TRUCK ADT PCT 16  
 (19) BYPASS OR DETOUR LENGTH 1.0

**APPRAISAL**

(67) STRUCTURAL EVALUATION 4  
 (68) DECK GEOMETRY 3  
 (69) UNDERCLEARANCES, VERT & HORIZ N  
 (71) WATERWAY ADEQUACY 4  
 (72) APPROACH ROADWAY ALIGNMENT 3  
 (36) TRAFFIC SAFETY FEATURES 0111  
 (113) SCOUR CRITICAL BRIDGES 8

**GEOMETRIC DATA**

(48) LENGTH OF MAXIMUM SPAN 50.0  
 (49) STRUCTURE LENGTH 202.0  
 (50) CURB OR SIDEWALK: LEFT 0.0 RIGHT 0.0  
 (51) BRIDGE ROADWAY WIDTH, CURB TO CURB 28.0  
 (52) DECK WIDTH OUT TO OUT 33.5  
 (32) APPROACH ROADWAY WITH (W/ SHOULDERS) 38.0  
 (33) BRIDGE MEDIAN Open median CODE 1  
 (34) SKEW 0 (35) STRUCTURE FLARED 0  
 (10) INVENTORY ROUTE MIN VERT CLEAR 999.9  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 28.0  
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 999.9  
 (54) MIN VERT UNDERCLEAR: REFERENCE 0.0  
 (55) MIN LAT UNDERCLEARANCE RT: REFERENCE N 0.0  
 (56) MIN LAT UNDERCLEARANCE LT: 0.0

**PROPOSED IMPROVEMENTS**

(75) TYPE OF WORK CODE  
 (76) LENGTH OF STRUCTURE IMPROVEMENT  
 (94) BRIDGE IMPROVEMENT COST  
 (95) ROADWAY IMPROVEMENT COST  
 (96) TOTAL PROJECT COST  
 (97) YEAR OF IMPROVEMENT COST ESTIMATE  
 (114) FUTURE ADT 45,500 YEAR OF FUTURE ADT 2040

**NAVIGATION DATA**

(38) NAVIGATION CONTROL - CODE 0  
 (111) PIER PROTECTION CODE  
 (39) NAVIGATION VERTICAL CLEARANCE 0.0  
 (116) VERT - LIFT BRIDGE NAV MIN VERT CLEAR 0.0  
 (40) NAVIGATION HORIZONTAL CLEARANCE 0.0

**INSPECTION**

(90) INSPECTION DATE 04/20 (91) FREQUENCY 24  
 (92) CRITICAL FEATURE INSPECTION (93) CFI DATE  
 A) FRACTURE CRIT DETAIL A)  
 B) UNDERWATER INSP B)  
 C) OTHER SPECIAL INSP C)  
 SCOUR

## Superstructure Build Details

Span Number 1

Span Length 51.5000

Skew 90.0000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
1	Reinforced Concrete Deck	Reinforced Concrete Deck	1537 Square Feet		
4	Movable Bearing	Movable Bearing	4 Each	Legacy Red Lead Primer Systems with Various Topcoats	4
2	Concrete and Metal Railing	Other Bridge Railing	104 Feet	Galvanized Protective System	608
4	Plate Girder	Steel Open Girder/Beam	208 Feet	Legacy Red Lead Primer Systems with Various Topcoats	1968
1	Concrete Wearing Surface	Wearing Surface	0 Square Feet		
1	Standard Joint	Pourable Joint Seal	30 Feet		
4	Fixed Bearing	Fixed Bearing	4 Each	Legacy Red Lead Primer Systems with Various Topcoats	4

Span Number 2

Span Length 50.0000

Skew 90.0000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
1	Standard Joint	Pourable Joint Seal	30 Feet		
4	Fixed Bearing	Fixed Bearing	4 Each	Legacy Red Lead Primer Systems with Various Topcoats	4
2	Concrete and Metal Railing	Other Bridge Railing	100 Feet	Galvanized Protective System	598
1	Reinforced Concrete Deck	Reinforced Concrete Deck	1492 Square Feet		
4	Movable Bearing	Movable Bearing	4 Each	Legacy Red Lead Primer Systems with Various Topcoats	4
4	Plate Girder	Steel Open Girder/Beam	200 Feet	Legacy Red Lead Primer Systems with Various Topcoats	1912
1	Concrete Wearing Surface	Wearing Surface	0 Square Feet		

Span Number 3

Span Length 50.0000

Skew 90.0000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
1	Reinforced Concrete Deck	Reinforced Concrete Deck	1492 Square Feet		
1	Standard Joint	Pourable Joint Seal	30 Feet		
2	Concrete and Metal Railing	Other Bridge Railing	100 Feet	Galvanized Protective System	598

## Superstructure Build Details

4	Plate Girder	Steel Open Girder/Beam	200 Feet	Legacy Red Lead Primer Systems with Various Topcoats	1912
4	Fixed Bearing	Fixed Bearing	4 Each	Legacy Red Lead Primer Systems with Various Topcoats	4
1	Concrete Wearing Surface	Wearing Surface	0 Square Feet		
4	Movable Bearing	Movable Bearing	4 Each	Legacy Red Lead Primer Systems with Various Topcoats	4

Span Number 4

Span Length 50.2500

Skew 90.0000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
1	Concrete Wearing Surface	Wearing Surface	0 Square Feet		
4	Plate Girder	Steel Open Girder/Beam	204 Feet	Legacy Red Lead Primer Systems with Various Topcoats	1920
4	Fixed Bearing	Fixed Bearing	4 Each	Legacy Red Lead Primer Systems with Various Topcoats	4
4	Movable Bearing	Movable Bearing	4 Each	Legacy Red Lead Primer Systems with Various Topcoats	4
2	Standard Joint	Pourable Joint Seal	60 Feet		
1	Reinforced Concrete Deck	Reinforced Concrete Deck	1500 Square Feet		
2	Concrete and Metal Railing	Other Bridge Railing	102 Feet	Galvanized Protective System	598

# Structure Element Scoring

Structure Number: **500085**

Inspection Date 4/23/2020

Element Number	Parent Number	Element Name	Location	Total Quantity	Level 1 Quantity	Level 2 Quantity	Level 3 Quantity	Level 4 Quantity
12	0	Reinforced Concrete Deck	Deck	6021	4411	1610	0	0
107	0	Steel Open Girder/Beam	Beam	812	804	8	0	0
515	107	Steel Protective Coating	Beam	7712	7712	0	0	0
205	0	Reinforced Concrete Column	Piles and Columns	6	0	1	5	0
215	0	Reinforced Concrete Abutment	Abutments	64	17	40	7	0
225	0	Steel Pile	Piles and Columns	2	2	0	0	0
234	0	Reinforced Concrete Pier Cap	Caps	145	93	32	20	0
301	0	Pourable Joint Seal	Expansion Joints	150	150	0	0	0
311	0	Movable Bearing	Bearing Device	16	16	0	0	0
515	311	Steel Protective Coating	Bearing Device	16	16	0	0	0
313	0	Fixed Bearing	Bearing Device	16	16	0	0	0
515	313	Steel Protective Coating	Bearing Device	16	16	0	0	0
321	0	Reinforced Concrete Approach Slabs	Approaches	1500	1475	0	25	0
333	0	Other Bridge Railing	Bridge Rail	406	338	50	18	0
515	333	Steel Protective Coating	Bridge Rail	2402	2402	0	0	0
510	0	Wearing Surface	Wearing Surfaces	0	0	0	0	0

# Summary of Maintenance Needs

Maintenance By Defect

Structure Number: 500085

Inspection Date: 04/23/2020

<b>MMS Code</b>	<b>Element Name</b>	<b>Defect Name</b>	<b>Recommended Quantity</b>
3326	Reinforced Concrete Deck	Cracking (RC and Other)	1600 Square Feet
3314	Steel Open Girder/Beam	Damage	8 Feet
3348	Reinforced Concrete Column	Exposed Rebar	7 Each
3348	Reinforced Concrete Column	Cracking (RC and Other)	6 Each
3348	Reinforced Concrete Column	Delamination/Spall	11 Each
3350	Reinforced Concrete Abutment	Delamination/Spall	4 Feet
3350	Reinforced Concrete Abutment	Cracking (RC and Other)	7 Feet
3348	Reinforced Concrete Pier Cap	Exposed Rebar	2 Feet
3348	Reinforced Concrete Pier Cap	Cracking (RC and Other)	9 Feet
3348	Reinforced Concrete Pier Cap	Delamination/Spall	2 Feet
3353	Reinforced Concrete Approach Slabs	Cracking (RC and Other)	25 Square Feet
3318	Other Bridge Railing	Delamination/Spall	22 Feet

## Element Structure Maintenance Quantities

Structure Number: **500085**

Inspection Date **04/23/2020**

Location	MMS Code	Description	Maint Quantity	Total Quantity	Severe Quantity	Poor Quantity	Fair Quantity	Good Quantity
Abutments	3350	Maintenance of Concrete Wings and Wall	11	64	0	7	40	17
Approaches	3353	Maintenance of Concrete Bridge Approach Slabs	25	1500	0	25	0	1475
Beam	3314	Maintenance Steel Superstructure Components	8	812	0	0	8	804
Beam	3342	Clean and Paint Steel	0	7712	0	0	0	7712
Bearing Device	3334	Bridge Bearing	0	32	0	0	0	32
Bearing Device	3342	Clean and Paint Steel	0	32	0	0	0	32
Bridge Rail	3318	Maintenance of Concrete Bridge Rail	22	406	0	18	50	338
Bridge Rail	3342	Clean and Paint Steel	0	2402	0	0	0	2402
Caps	3348	Maintenance of Concrete Substructure	13	145	0	20	32	93
Deck	3326	Maintenance of Concrete Deck	1600	6021	0	0	1610	4411
Expansion Joints	3310	Maintenance of Standard Bridge Expansion Joints	0	150	0	0	0	150
Piles and Columns	3348	Maintenance of Concrete Substructure	24	6	0	5	1	0
Piles and Columns	3354	Maintenance of Steel Substructure Components	0	2	0	0	0	2
Wearing Surfaces	2816	Asphalt Surface Repair	0	0	0	0	0	0

# Priority Actions Request

Structure Number 500085

Bent 1

3348      Pile 1      Reinforced Concrete Column

Priority Level	Defect Type	Quantity	Defect Description
2	Delamination/Spall	1	Bent 1 Pile 1: (PAR) 12" x 5" x 1" SPALL WITH EXPOSED REBAR ON SOUTH FACE AT BOTTOM OF CAP.



## Element Condition and Maintenance Data

Structure Number: 500085

Inspection Date: 04/23/2020

### Span 1 Deck

#### Reinforced Concrete Deck

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	1,537	1,137	400	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
12	Cracking (RC and Other)	400 SF MAP CRACKING UP TO 1/32" AT RANDOM THROUGHOUT UNDERSIDE OF DECK	2	400	400 Square Feet

General Comments

### Span 1 Left Bridge Rail

#### Concrete and Metal Railing

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
333	Other Bridge Railing	52	41	8	3	0 Feet
515	Steel Protective Coating	304	304	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
333	Delamination/Spall	(3) up to 10" x 6" x 1" deep spall on outside face of concrete rail PHOTO TAKEN NEAR END BENT 1	3	3	3 Feet
333	Cracking (RC and Other)	(8) x up to 1/64" vertical and transverse cracks on concrete rail and curb	2	8	Feet

General Comments

### Span 1 Right Bridge Rail

#### Concrete and Metal Railing

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
333	Other Bridge Railing	52	44	6	2	0 Feet
515	Steel Protective Coating	304	304	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
333	Delamination/Spall	2- UP TO 7" x 6" x 1" spall on outside face of rail NEAR BENT 1	3	2	2 Feet
333	Cracking (RC and Other)	(5) x up to 1/64" vertical and transverse cracks on concrete rail and curb	2	5	Feet
333	Delamination/Spall	3" x 2" x 1/2" SPALL TOP OF POST 8	2	1	1 Feet

General Comments

### Span 1 Beam 1

#### Plate Girder

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
107	Steel Open Girder/Beam	52	51	1	0	0 Feet
515	Steel Protective Coating	492	492	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
107	Damage	7" x 31" area of replaced beam at End Bent 1	2	1	1 Feet

General Comments

**Span 1** **Beam 2**  
**Plate Girder**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
107	Steel Open Girder/Beam	52	49	3	0	0 Feet
515	Steel Protective Coating	492	492	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
107	Damage	20" x 12" X 3/8" plate welded to bottom flange at Bent 1	2	2	2 Feet
107	Damage	7" x 31" area of replaced beam at End Bent 1	2	1	1 Feet

General Comments

**Span 1** **Beam 3**  
**Plate Girder**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
107	Steel Open Girder/Beam	52	51	1	0	0 Feet
515	Steel Protective Coating	492	492	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
107	Damage	7" x 31" area of replaced beam at End Bent 1	2	1	1 Feet

General Comments

**Span 1** **Beam 4**  
**Plate Girder**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
107	Steel Open Girder/Beam	52	51	1	0	0 Feet
515	Steel Protective Coating	492	492	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
107	Damage	7" x 31" area of replaced beam at End Bent 1	2	1	1 Feet

General Comments

**Span 2** **Deck**  
**Reinforced Concrete Deck**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	1,492	1,092	400	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
12	Cracking (RC and Other)	400 SF MAP CRACKING UP TO 1/32" AT RANDOM THROUGHOUT UNDERSIDE OF DECK	2	400	400 Square Feet

General Comments

**Span 2 Left Bridge Rail****Concrete and Metal Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
333	Other Bridge Railing	50	43	4	3	0 Feet
515	Steel Protective Coating	299	299	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
333	Delamination/Spall	(4) up to 9" x 6" x 1" deep spalls on outside face of concrete rail	3	3	3 Feet
333	Cracking (RC and Other)	(4) x up to 1/64" vertical and transverse cracks on concrete rail and curb	2	4	Feet

**General Comments****Span 2 Right Bridge Rail****Concrete and Metal Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
333	Other Bridge Railing	50	44	6	0	0 Feet
515	Steel Protective Coating	299	299	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
333	Cracking (RC and Other)	(4) x up to 1/64" vertical and transverse cracks on concrete rail and curb	2	4	Feet
333	Delamination/Spall	7" x 5" x 1" deep spall on outside face of concrete rail 10' FROM BENT 1	2	1	1 Feet
333	Patched Area	4" x 3" area of sound patch on top of Post 9	2	1	Feet

**General Comments****Span 2 Beam 2****Plate Girder**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
107	Steel Open Girder/Beam	50	48	2	0	0 Feet
515	Steel Protective Coating	478	478	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
107	Damage	20" x 12" plate welded to bottom flange at Bent 1	2	2	2 Feet

**General Comments****Span 3 Deck****Reinforced Concrete Deck**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	1,492	1,092	400	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
12	Cracking (RC and Other)	400 SF MAP CRACKING UP TO 1/32" AT RANDOM THROUGHOUT UNDERSIDE OF DECK	2	400	400 Square Feet

**General Comments**

**Span 3 Left Bridge Rail****Concrete and Metal Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
333	Other Bridge Railing	50	42	5	3	0 Feet
515	Steel Protective Coating	299	299	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
333	Delamination/Spall	(5) up to 7" x 8" x 1" deep spalls on outside face of concrete rail	3	3	3 Feet
333	Cracking (RC and Other)	(4) x up to 1/64" vertical and transverse cracks on concrete rail and curb	2	4	Feet
333	Patched Area	5" x 2" area of sound patch on top of concrete Post 3	2	1	Feet

**General Comments****Span 3 Right Bridge Rail****Concrete and Metal Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
333	Other Bridge Railing	50	45	5	0	0 Feet
515	Steel Protective Coating	299	299	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
333	Cracking (RC and Other)	(5) x up to 1/64" vertical and transverse cracks on concrete rail and curb	2	5	Feet

**General Comments****Span 4 Deck****Reinforced Concrete Deck**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	1,500	1,090	410	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
12	Cracking (RC and Other)	400 SF MAP CRACKING UP TO 1/32" AT RANDOM THROUGHOUT UNDERSIDE OF DECK	2	400	400 Square Feet
12	Damage	4' x 2.5' TIMBER STAY IN PLACE FORM WORK IN BAY 1 AT END BENT 2.( 1' X 1' SIMILAR IN BAY 3)	2	10	Square Feet

**General Comments****Span 4 Left Bridge Rail****Concrete and Metal Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
333	Other Bridge Railing	51	35	10	6	0 Feet
515	Steel Protective Coating	299	299	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
333	Delamination/Spall	(4) up to 10" x 9" x 1" deep spalls on outside face of concrete rail	3	4	4 Feet
333	Delamination/Spall	1" x 4" x 2" deep spall on concrete Post 6	3	1	1 Feet
333	Delamination/Spall	2" x 10" x 6" deep spall on concrete Post 7	3	1	1 Feet

Structure Number: **500085**Inspection Date: **04/23/2020**

333	Cracking (RC and Other)	(7) x up to 1/64" vertical and transverse cracks on concrete rail and curb	2	7	Feet
333	Cracking (RC and Other)	6" x up to 1/32" diagonal crack on top of concrete rail near Posts 2	2	1	Feet
333	Delamination/Spall	(2) up to 3" x 5" x 1" deep spalls on end post	2	1	1 Feet
333	Delamination/Spall	6" x 1" x 1/2" deep spall with exposed rebar on top of curb, 7' from Bent 3	2	1	Feet

**General Comments**

### Span 4 Right Bridge Rail

#### Concrete and Metal Railing

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
333	Other Bridge Railing	51	44	6	1	0 Feet
515	Steel Protective Coating	299	299	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
333	Delamination/Spall	2" x 8" x 10" deep spall with exposed rebar on concrete Post 7 (Post 6 similar)	3	1	1 Feet
333	Cracking (RC and Other)	(5) x up to 1/32" vertical and transverse cracks on concrete rail and curb	2	5	Feet
333	Delamination/Spall	5" x 4" x 1/2" deep spall on outside face of concrete rail BETWEEN POST 7 & 8	2	1	1 Feet

**General Comments**

### Bent 1 Cap 1

#### Reinforced Concrete Pier Cap

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
234	Reinforced Concrete Pier Cap	27	17	8	2	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
234	Cracking (RC and Other)	18" up to 1/8" horizontal crack on Span 1 face under Bay 1	3	2	2 Feet
234	Cracking (RC and Other)	2' X UP TO 1/32" HORIZONTAL CRACK UNDER BAY 2 NEAR TOP SOUTH FACE	2	2	Feet
234	Cracking (RC and Other)	42" x 24" area of hairline vertical and horizontal cracks on Span 1 face under Bay 1	2	4	Feet
234	Delamination/Spall	12" x 24" area of delamination with hairline vertical, diagonal cracks on Span 1 face at West end	2	1	1 Feet
234	Exposed Rebar	(2) up to 3" x 3" x 1" deep spall with exposed rebar on corbel on Span 1 face	2	1	1 Feet

**General Comments**

### Bent 1 Pile 1

#### Reinforced Concrete Column

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
205	Reinforced Concrete Column	1	0	0	1	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
205	Cracking (RC and Other)	30" up to 1/8" vertical crack on Span 1 face	3		3 Each
205	Exposed Rebar	(PAR) 12" x 5" x 1" SPALL WITH EXPOSED REBAR ON SOUTH FACE AT BOTTOM OF CAP.	3	1	1 Each

<b>205</b>	Exposed Rebar	2" x 6" x 1/2" deep spall with exposed rebar on Span 1 face of strut	2	1	Each
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**General Comments****Bent 1 Pile 2****Reinforced Concrete Column**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
205	Reinforced Concrete Column	1	0	0	1	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
205	Delamination/Spall	8" X 2" X 1/4" SPALL AT BOTTOM OF CAP WITH ADJACENT 18" up to 1/16" vertical crack on Span 1 face	3	1	2 Each
205	Exposed Rebar	(2) up to 3" x 2" x 1/2" deep spall with exposed rebar on corbel and strut on Span 1 face	2		1 Each
205	Exposed Rebar	2- UP TO 3" DIAMETER x 1/2" deep spall with exposed rebar on Span 1 face of corbel	2		2 Each

**General Comments****End Bent 1 Cap 1****Reinforced Concrete Pier Cap**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
234	Reinforced Concrete Pier Cap	32	16	1	15	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
234	Cracking (RC and Other)	16" up to 1/16" diagonal crack under Beam 4 (Beam 1 similar)	3	3	3 Feet
234	Cracking (RC and Other)	5' up to 1/32" horizontal crack WITH RUST STAINING under Bay 1	3	5	Feet
234	Cracking (RC and Other)	6' x 1/16" horizontal crack under Bay 2	3	6	Feet
234	Delamination/Spall	4" x 4" x 2" deep spall on Pile Cap 1	3	1	1 Feet
234	Cracking (RC and Other)	14" x up to 1/64" vertical crack under Beam 4	2	1	Feet

**General Comments****End Bent 1 Abutment****Reinforced Concrete Abutment**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
215	Reinforced Concrete Abutment	32	11	21	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
215	Cracking (RC and Other)	28" x up to 1/64" horizontal crack at West end	2	3	Feet
215	Cracking (RC and Other)	6' x up to 1/64" horizontal crack WITH EFFLORESCENCE in Bay 1 (Bays 2 and 3 similar)	2	18	Feet

**General Comments**

**Bent 2 Cap 1****Reinforced Concrete Pier Cap**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
234	Reinforced Concrete Pier Cap	27	19	8	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
234	Patched Area	4' x 15" area of sound patch on Span 2 face under Beam 3 (Beam 2 similar)	2	8	Feet
234	Patched Area	DEFECT NOT FOUND 4-22-2020, 30" x 30" area of sound patch on East face	1		Feet

**General Comments****Bent 2 Pile 1****Reinforced Concrete Column**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
205	Reinforced Concrete Column	1	0	0	1	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
205	Delamination/Spall	10" x 2" x 2" deep spall on Span 3 face of strut	3	1	1 Each
205	Abrasion/Wear (PSC/RC)	4' ABRASION/WEAR 15' FROM BOTTOM OF CAP	2		Each
205	Delamination/Spall	4" x 2" area of honeycombing on SOUTHWEST corner 5' FROM BOTTOM OF CAP	2		1 Each
205	Delamination/Spall	4" x 3" x 1" deep spall on Span 3 face of corbel under strut	2		1 Each
205	Exposed Rebar	2" x 6" x 1/2" deep spall with exposed rebar on Span 3 face of strut	2		1 Each

**General Comments****Bent 2 Pile 2****Reinforced Concrete Column**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
205	Reinforced Concrete Column	1	0	1	0	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
205	Abrasion/Wear (PSC/RC)	4' ABRASION/WEAR 15' FROM BOTTOM OF CAP	2	1	Each
205	Exposed Rebar	2" x 6" x 1/2" deep spall with exposed rebar on Span 3 face of strut	2		1 Each

**General Comments****End Bent 2 Cap 1****Reinforced Concrete Pier Cap**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
234	Reinforced Concrete Pier Cap	32	30	2	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
234	Cracking (RC and Other)	15" x up to 1/64" horizontal crack under Bay 3	2	2	Feet

**General Comments**

**End Bent 2 Abutment****Reinforced Concrete Abutment**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
215	Reinforced Concrete Abutment	32	6	19	7	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
215	Cracking (RC and Other)	7' x up to 1/16" horizontal crack with efflorescence in Bay 3	3	7	7 Feet
215	Cracking (RC and Other)	12" x up to 1/64" diagonal crack at West end	2	1	Feet
215	Cracking (RC and Other)	6' x up to 1/64" horizontal crack with efflorescence in Bay 1	2	6	Feet
215	Cracking (RC and Other)	8' x 2' area of delaminated patch in Bay 2	2	8	Feet
215	Delamination/Spall	(2) up to 24" x 12" area of delamination in Bay 1	2	4	4 Feet

**General Comments****Bent 3 Cap 1****Reinforced Concrete Pier Cap**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
234	Reinforced Concrete Pier Cap	27	11	13	3	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
234	Cracking (RC and Other)	4' up to 1/16" horizontal crack on Span 3 BOTTOM face UNDER BEAM 2	3	3	4 Feet
234	Cracking (RC and Other)	VERTICAL CRACKS AND HORIZONTAL CRACKS UP TO 1/32" AT RANDOM THROUGHOUT	2	12	Feet
234	Exposed Rebar	4" x 6" x 1" deep spall with exposed rebar on Span 3 face at East end	2	1	1 Feet
234	Exposed Rebar	MOVED TO PILE 1 4-23-2020, (2) up to 3" x 6" x 1" deep spall with exposed rebar on West face of corbel	1		Feet

**General Comments****Bent 3 Pile 1****Reinforced Concrete Column**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
205	Reinforced Concrete Column	1	0	0	1	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
205	Cracking (RC and Other)	3' up to 1/16" vertical crack on Span 4 face	3		3 Each
205	Delamination/Spall	14" X UP TO 6" X 2" SPALL WITH ADJACENT 1' DIAMETER DELAMINATION ON SOUTHEAST CORNER 2' FROM BOTTOM OF CAP.	3	1	2 Each
205	Abrasion/Wear (PSC/RC)	3' ABRASION/WEAR 15' FROM BOTTOM OF CAP	2		Each
205	Delamination/Spall	(2) up to 3" x 6" x 1" deep spalls with exposed rebar on West face of corbel	2		2 Each

**General Comments**



**Bent 3****Pile 2****Reinforced Concrete Column**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
205	Reinforced Concrete Column	1	0	0	1	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
205	Delamination/Spall	4" x 4" x 3" deep spall on Span 3 face of corbel under strut	3		1 Each
205	Delamination/Spall	6" x 8" x 1" deep spall with exposed rebar on Span 3 face of corbel above strut	3	1	1 Each
205	Abrasion/Wear (PSC/RC)	3' ABRASION/WEAR x' FROM BOTTOM OF CAP	2		Each

**General Comments****Approach 2****Reinforced Concrete Approach Slab**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
321	Reinforced Concrete Approach Slabs	750	725	0	25	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
321	Cracking (RC and Other)	25' X UP TO 1/8" LONGITUDINAL CRACK AT CENTERLINE OF ROADWAY.	3	25	25 Square Feet

**General Comments**

## Elements Verified

Location	Name	Component	Element Name	Amount
Span 1	Deck	Reinforced Concrete Deck	Reinforced Concrete Deck	1537
Span 1	Beam 1	Plate Girder	Steel Open Girder/Beam	52
Span 1	Beam 2	Plate Girder	Steel Open Girder/Beam	52
Span 1	Beam 3	Plate Girder	Steel Open Girder/Beam	52
Span 1	Beam 4	Plate Girder	Steel Open Girder/Beam	52
Span 1	Left Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	52
Span 1	Right Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	52
Span 1	Expansion Joint at End Bent 1	Standard Joint	Pourable Joint Seal	30
Span 1	Far Bearing	Movable Bearing	Movable Bearing	1
Span 1	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 1	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 1	Far Bearing	Movable Bearing	Movable Bearing	1
Span 1	Far Bearing	Movable Bearing	Movable Bearing	1
Span 1	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 1	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 1	Far Bearing	Movable Bearing	Movable Bearing	1
Span 2	Deck	Reinforced Concrete Deck	Reinforced Concrete Deck	1492
Span 2	Beam 1	Plate Girder	Steel Open Girder/Beam	50
Span 2	Beam 2	Plate Girder	Steel Open Girder/Beam	50
Span 2	Beam 3	Plate Girder	Steel Open Girder/Beam	50
Span 2	Beam 4	Plate Girder	Steel Open Girder/Beam	50
Span 2	Left Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	50
Span 2	Right Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	50
Span 2	Expansion Joint at Bent 1	Standard Joint	Pourable Joint Seal	30
Span 2	Far Bearing	Movable Bearing	Movable Bearing	1
Span 2	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 2	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 2	Far Bearing	Movable Bearing	Movable Bearing	1
Span 2	Far Bearing	Movable Bearing	Movable Bearing	1
Span 2	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 2	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 2	Far Bearing	Movable Bearing	Movable Bearing	1
Span 3	Deck	Reinforced Concrete Deck	Reinforced Concrete Deck	1492
Span 3	Beam 1	Plate Girder	Steel Open Girder/Beam	50
Span 3	Beam 2	Plate Girder	Steel Open Girder/Beam	50
Span 3	Beam 3	Plate Girder	Steel Open Girder/Beam	50
Span 3	Beam 4	Plate Girder	Steel Open Girder/Beam	50
Span 3	Left Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	50
Span 3	Right Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	50
Span 3	Expansion Joint at Bent 2	Standard Joint	Pourable Joint Seal	30
Span 3	Far Bearing	Movable Bearing	Movable Bearing	1
Span 3	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 3	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 3	Far Bearing	Movable Bearing	Movable Bearing	1

## Elements Verified

Location	Name	Component	Element Name	Amount
Span 3	Far Bearing	Movable Bearing	Movable Bearing	1
Span 3	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 3	Near Bearing	Fixed Bearing	Fixed Bearing	1
Span 3	Far Bearing	Movable Bearing	Movable Bearing	1
Span 4	Deck	Reinforced Concrete Deck	Reinforced Concrete Deck	1500
Span 4	Beam 1	Plate Girder	Steel Open Girder/Beam	51
Span 4	Beam 2	Plate Girder	Steel Open Girder/Beam	51
Span 4	Beam 3	Plate Girder	Steel Open Girder/Beam	51
Span 4	Beam 4	Plate Girder	Steel Open Girder/Beam	51
Span 4	Left Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	51
Span 4	Right Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	51
Span 4	Expansion Joint at Bent 3	Standard Joint	Pourable Joint Seal	30
Span 4	Expansion Joint at End Bent 2	Standard Joint	Pourable Joint Seal	30
Span 4	Wearing Surface	Concrete Wearing Surface	Wearing Surface	0
Span 4	Far Bearing	Fixed Bearing	Fixed Bearing	1
Span 4	Near Bearing	Movable Bearing	Movable Bearing	1
Span 4	Near Bearing	Movable Bearing	Movable Bearing	1
Span 4	Far Bearing	Fixed Bearing	Fixed Bearing	1
Span 4	Far Bearing	Fixed Bearing	Fixed Bearing	1
Span 4	Near Bearing	Movable Bearing	Movable Bearing	1
Span 4	Near Bearing	Movable Bearing	Movable Bearing	1
Span 4	Far Bearing	Fixed Bearing	Fixed Bearing	1
Bent 1	Cap 1	Reinforced Concrete Pier Cap	Reinforced Concrete Pier Cap	27
Bent 1	Pile 1	Reinforced Concrete Column	Reinforced Concrete Column	1
Bent 1	Pile 2	Reinforced Concrete Column	Reinforced Concrete Column	1
End Bent 1	Cap 1	Reinforced Concrete Pier Cap	Reinforced Concrete Pier Cap	32
End Bent 1	Abutment	Reinforced Concrete Abutment	Reinforced Concrete Abutment	32
Bent 2	Cap 1	Reinforced Concrete Pier Cap	Reinforced Concrete Pier Cap	27
Bent 2	Pile 1	Reinforced Concrete Column	Reinforced Concrete Column	1
Bent 2	Pile 2	Reinforced Concrete Column	Reinforced Concrete Column	1
End Bent 2	Cap 1	Reinforced Concrete Pier Cap	Reinforced Concrete Pier Cap	32
End Bent 2	Abutment	Reinforced Concrete Abutment	Reinforced Concrete Abutment	32
Bent 3	Cap 1	Reinforced Concrete Pier Cap	Reinforced Concrete Pier Cap	27
Bent 3	Pile 1	Reinforced Concrete Column	Reinforced Concrete Column	1
Bent 3	Pile 2	Reinforced Concrete Column	Reinforced Concrete Column	1

# General Inspection Notes

# National Bridge and NC Inspection Items

Structure Number: 500085

Inspection Date: 04/23/2020

## National Bridge Inventory Items

Item	Grade Scale	Grade
Item 58: Deck	0 - 9 , N	6
Item 59: Superstructure	0 - 9 , N	7
Item 60: Substructure	0 - 9 , N	6
Item 61: Channel and Channel Protection	0 - 9 , N	7
Item 62: Culvert	0 - 9 , N	N
Item 71: Waterway Adequacy	0 - 9 , N	7
Item 72: Approach Roadway Alignment	0 - 9 , N	8

Note: If NBI Inspection Item is not present, code NBI item with "N"

## NC SMU Inspection Items

Item	Grade Scale	Grade	Maint. Qty.	Maint. Code
Deck Debris	G, F, P, or C	G	0	3376
Drainage System	G, F, P, or C	G	0	3332
Utilities	G, F, P, or C			
Slope Protection	G, F, P, or C	G	0	3352
Scour	G, F, P, or C	G		
Wingwall	G, F, P, or C	F	5	3350
Field Scour Evaluation		G		
Drift	G, F, P, or C	G	0	3366
Fender System	G, F, P, or C			
Movable Span Machinery	G, F, P, or C			
Response to Live Load	G, F, P, or C	G		
Superstructure Paint Code		A		

Note: If NC SMU Inspection Item is not present, leave NC SMU item blank

## Inspection Information

Item	Grade Scale	Grade
Sign Noticed Issued	YES/NO	N
Priority Maintenance Request Submitted	YES/NO	Y
Inspection Time	Hours	5
Traffic Control Time	Hours	
Snooper Time	Hours	
Ladder Used	YES/NO	Y
Bucket Truck Used	YES/NO	N
Boat Used	YES/NO	N
Other Equipment Used	YES/NO	N

# National Bridge and NC SMU Inspection Item Details

Structure Number: 500085

Inspection Date: 04/23/2020

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<b>Item</b>	Deck - Item 58	<b>Grade</b>	6	<b>Maint Code</b>		<b>Qty.</b>	0
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**Details** DECK HAS BEEN RESURFACED WITH CONCRETE OVERLAY AND JOINTS HAVE BEEN REPLACED SINCE PREVIOUS 2018 INSPECTION.

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<b>Item</b>	Superstructure - Item 59	<b>Grade</b>	7	<b>Maint Code</b>		<b>Qty.</b>	0
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**Details** GRADE INCREASED DUE TO BEAMS AND BEARINGS WERE CLEANED AND REPAINTED SINCE PREVIOUS 2018 INSPECTION.

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<b>Item</b>	Wingwalls	<b>Grade</b>	F	<b>Maint Code</b>	3350	<b>Qty.</b>	5
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**Details** 2 - UP TO 6" x 3" x 1" SPALLS ON TOP OF SOUTHWEST WINGWALL.

2 - 14" x 5" x 1" SPALLS ON TOP OF SOUTHEAST WINGWALL.

UP TO 24" x 12" x 2" SPALL ON TOP OF NORTHEAST WINGWALL.



Approach 2: 25' X UP TO 1/8" LONGITUDINAL CRACK AT CENTERLINE OF ROADWAY



Span 4 Right Bridge Rail: 2" x 8" x 10" deep spall with exposed rebar on concrete Post 7 (Post 6 similar)



Span 3 Right Bridge Rail: (5) x up to 1/64" vertical and transverse cracks on concrete rail and curb (PHOTO TAKEN NEAR MIDSPAN)



Span 2 Right Bridge Rail: 4" x 3" area of sound patch on top of Post 9





Span 2 Right Bridge Rail: 7" x 5" x 1" deep spall on outside face of concrete rail 10' FROM BENT 1



Span 1 Right Bridge Rail: 3" x 2" x 1/2" SPALL TOP OF POST 8



Span 1 Right Bridge Rail: 2- UP TO 7" x 6" x 1" spall on outside face of rail NEAR BENT 1



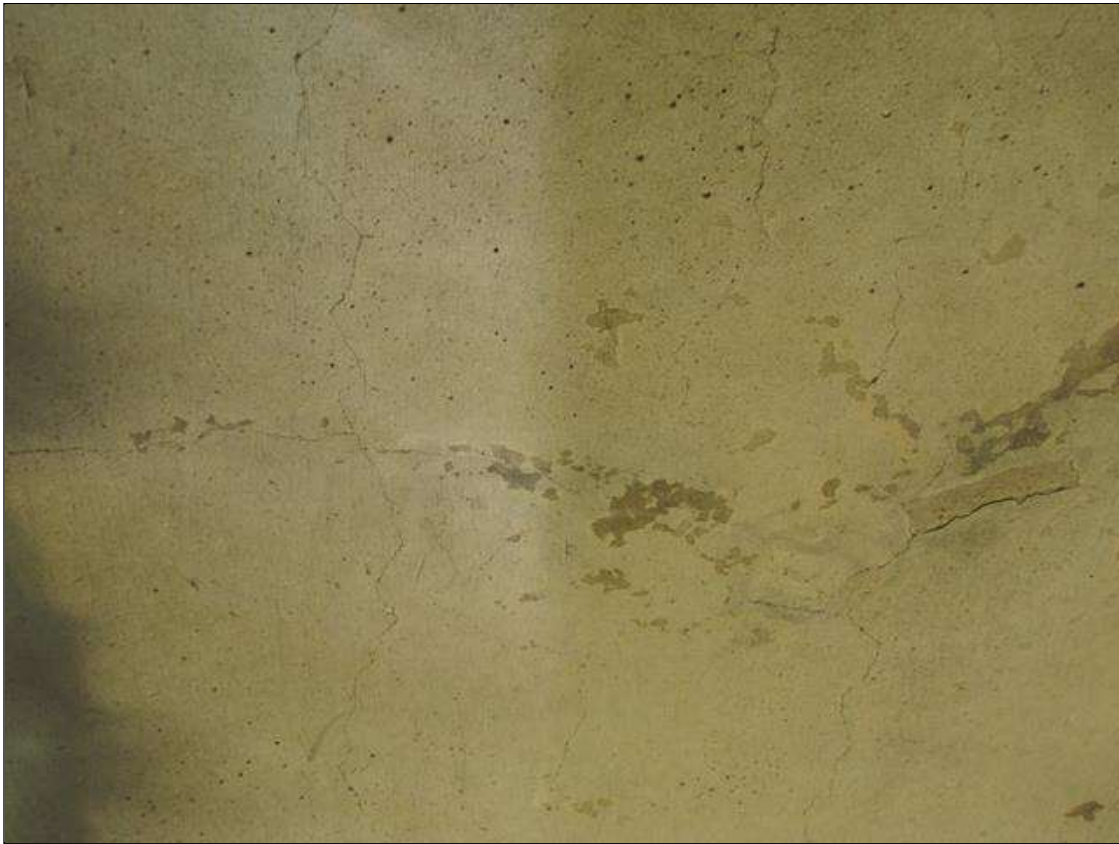
End Bent 1 Cap 1: 5' up to 1/32" horizontal crack WITH RUST STAINING under Bay 1



End Bent 1 Cap 1: 6' x 1/16" horizontal crack under Bay 2



End Bent 1 Cap 1: 16" up to 1/16" diagonal crack under Beam 4 (Beam 1 similar)



Span 1 Deck: 400 SF MAP CRACKING UP TO 1/32" AT RANDOM THROUGHOUT UNDERSIDE OF DECK (PHOTO TAKEN BAY2 MIDSPAN).



End Bent 1 Abutment/Backwall : 6' x up to 1/64" horizontal crack WITH EFFLORESCENCE in Bay 1 (Bays 2 and 3 similar)



Span 1 Beam 3: 7" x 31" REPAIR AT END BENT 1



Bent 1 Cap 1: 18" up to 1/8" horizontal crack on Span 1 face under Bay 1



Bent 1 Cap 1: 42" x 24" area of hairline vertical and horizontal cracks on Span 1 face under Bay 1



Bent 1 Cap 1: 2' X UP TO 1/32" HORIZONTAL CRACK UNDER BAY 2 NEAR TOP SOUTH FACE



Bent 2 Cap 1: 4' x 15" area of sound patch on Span 2 face under Beam 3 (Beam 2 similar)



Bent 2 Pile 1: 4" x 2" area of honeycombing on SOUTHWEST corner 5' FROM BOTTOM OF CAP



Bent 1 Pile 1: (PAR) 12" x 5" x 1" SPALL WITH EXPOSED REBAR ON SOUTH FACE AT BOTTOM OF CAP.



Bent 1 Pile 1: 30" up to 1/8" vertical crack on Span 1 face





Bent 1 Pile 1: 2" x 6" x 1/2" deep spall with exposed rebar on Span 1 face of strut



Bent 1 Pile 2: 8" X 2" X 1/4" SPALL AT BOTTOM OF CAP WITH ADJACENT 18" up to 1/16" vertical crack on Span 1 face



Bent 1 Pile 2: (2) up to 3" x 2" x 1/2" deep spall with exposed rebar on corbel and strut on Span 1 face



Bent 1 Pile 2: 2- UP TO 3" DIAMETER x 1/2" deep spall with exposed rebar on Span 1 face of corbel



Span 1 Beam 2: 20" x 12" X 3/8" plate welded to bottom flange at Bent 1 (similar span 2 beam 2 at bent 1)



End Bent 1 Cap 1: 4" x 4" x 2" deep spall on Pile Cap 1



End Bent 1 Abutment/Backwall : 28" x up to 1/64" horizontal crack at West end



Wingwalls: 2 - UP TO 6" x 3" x 1" SPALLS ON TOP OF SOUTHWEST WINGWALL



Wingwalls: 2 - 14" x 5" x 1" SPALLS ON TOP OF SOUTHEAST WINGWALL



Span 1 Left Bridge Rail: (3) up to 10" x 6" x 1" deep spall on outside face of concrete rail (PHOTO TAKEN NEAR END BENT 1)



Span 2 Left Bridge Rail: (4) x up to 1/64" vertical and transverse cracks on concrete rail and curb



Span 3 Left Bridge Rail: 5" x 2" area of sound patch on top of concrete Post 3



Span 4 Left Bridge Rail: 6" x 1" x 1/2" deep spall with exposed rebar on top of curb, 7' from Bent 3



Span 4 Left Bridge Rail: 1" x 4" x 2" deep spall on concrete Post 6



Span 4 Left Bridge Rail: 2" x 10" x 6" deep spall on concrete Post 7



Span 4 Left Bridge Rail: (2) up to 3" x 5" x 1" deep spalls on end post





Bent 3 Cap 1: 4' up to 1/16" horizontal crack on Span 3 BOTTOM face UNDER BEAM 2



Bent 3 Cap 1: VERTICAL AND HORIZONTAL CRACKS UP TO 1/32" AT RANDOM THROUGHOUT (PHOTO TAKEN SOUTH FACE UNDER BEAM 2)



Bent 3 Pile 1: 14" X UP TO 6" X 2" SPALL WITH ADJACENT 1' DIAMETER DELAMINATION ON SOUTHEAST CORNER 2' FROM BOTTOM OF CAP.



Bent 3 Pile 1: (2) up to 3" x 6" x 1" deep spall with exposed rebar on West face of corbel



Bent 3 Pile 2: 6" x 8" x 1" deep spall with exposed rebar on Span 3 face of corbel above strut



Bent 3 Pile 1: 3' ABRASION/WEAR 15' FROM BOTTOM OF CAP



Bent 2 Pile 2: 2" x 6" x 1/2" deep spall with exposed rebar on Span 3 face of strut



Bent 2 Pile 1: 10" x 2" x 2" deep spall on Span 3 face of strut



Bent 2 Pile 2: 4' ABRASION/WEAR 15' FROM BOTTOM OF CAP



End Bent 2 Abutment/Backwall : 6' x up to 1/64" horizontal crack with efflorescence in Bay 1



End Bent 2 Abutment/Backwall : 8' x 2' area of delaminated patch in Bay 2



End Bent 2 Abutment/Backwall : 7' x up to 1/16" horizontal crack with efflorescence in Bay 3



Span 4 Deck: 4' x 2.5' TIMBER STAY IN PLACE FORM WORK IN BAY 1 AT END BENT 2.( 1' X 1' SIMILAR IN BAY 3)



Wingwalls: UP TO 24" x 12" x 2" SPALL ON TOP OF NORTHEAST WINGWALL

# Stream Bed Soundings

(Profile diagram on following sheet)

County **JOHNSTON**

Structure Number: **500085**

Inspection Date **04/22/2020**

Sounding recorded from: **Top of East Bridge Rail**

Highwater Mark Distance

Location of Highwater Mark

Distance (Station) ft.	Downstream Sounding ft.	Upstream Sounding ft.	Description
0.000	2.300	0.000	FILL FACE
1.000	2.300	0.000	
1.100	6.100	0.000	TOP OF CAP
2.500	6.100	0.000	
2.510	6.300	6.300	GROUND AT FACE OF CAP
38.000	18.500	0.000	
48.500	24.700	0.000	WSWE
50.500	25.600	25.600	BENT 1
75.000	29.900	0.000	
100.500	26.500	27.200	BENT 2
110.000	24.700	0.000	WSWE
125.000	24.800	0.000	
150.500	24.300	24.300	BENT 3
168.000	22.200	0.000	
199.600	7.000	6.900	GROUND AT FACE OF CAP
199.700	6.100	0.000	
200.900	6.100	0.000	TOP OF CAP
201.200	2.300	0.000	
202.200	2.300	0.000	FILL FACE



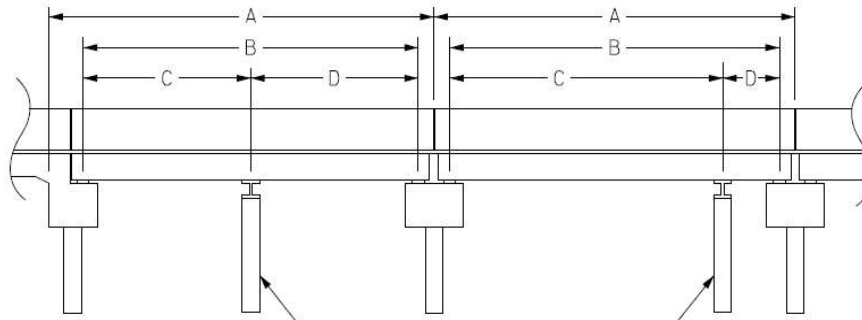


# Structure Data Worksheet

## Span Profile

County: **JOHNSTON**

Structure Number: **500085**



A: SPAN LENGTH  
 B: BEARING TO BEARING  
 C: DISTANCE FROM NEAR BEARING  
 D: DISTANCE TO FAR BEARING

CRUTCH / HELPER BENTS

Span Number	Span Length	Bearing to Bearing	Crutch/ Helper Bent	Distance to Near Bearing	Distance to Far Bearing
1	51.500	49.800			
2	50.000	49.000			
3	50.000	49.000			
4	50.250	48.250			



NORTHEAST GUARDRAIL TERMINAL (NORTHWEST SIMILAR)



LOOKING SOUTH



JOINT OVER END BENT 2 LOOKING WEST



NORTH APPROACH



JOINT OVER BENT 3 LOOKING WEST



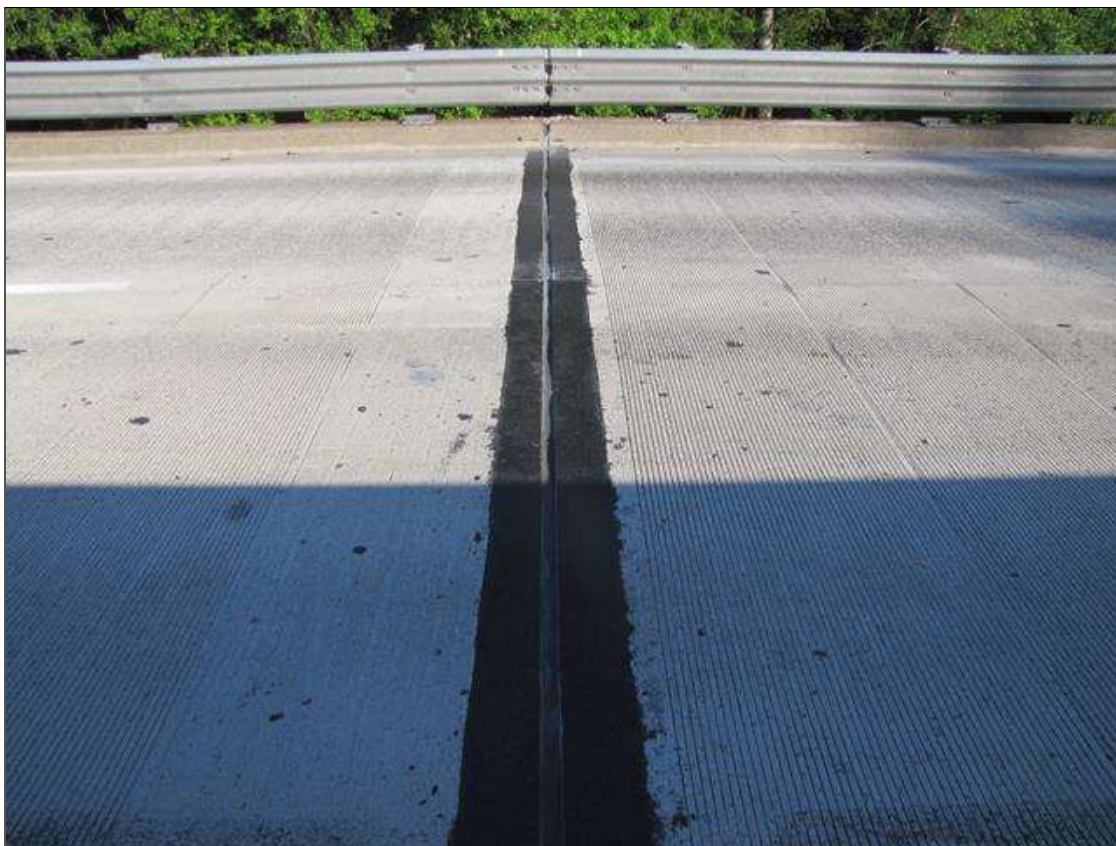
WEST BRIDGE RAIL EAST SIMILAR



JOINT OVER BENT 2 LOOKING WEST



DOWNSTREAM VIEW FROM BRIDGE LOOKING EAST



JOINT OVER BENT 1



SOUTH APPROACH



JOINT OVER END BENT 1 LOOKING WEST



GUARDRAIL POST SPACING 18" SOUTHEAST CORNER SHOWN (OTHERS SIMILAR)





GUARDRAIL POST SPACING 75" SOUTHEAST SHOWN (OTHERS SIMILAR)



EAST PROFILE



LOOKING NORTH



SOUTHWEST GUARDRAIL TERMINAL (SOUTHEAST SIMILAR)



BEARING ASSEMBLY AT END BENT 1 (BEAM 2 SHOWN)



INTERMEDIATE DIAPHRAGM SPAN 1 BAY 2 LOOKING NORTH



BENT 1 DIAPHRAGM SPAN 1 BAY 2 (OTHERS SIMILAR)



END BENT 1 ELEVATION



BENT 1 ELEVATION LOOKING NORTH



BENT 2 ELEVATION LOOKING NORTH



BEARING ASSEMBLY AT BENT 1 (BEAM 3 SHOWN)



SOUTHWEST WINGWALL



UPSTREAM VIEW FROM BRIDGE LOOKING WEST



BEARING ASSEMBLY AT BENT 3 (BEAM 2 SHOWN)



BENT 3 ELEVATION LOOKING NORTH



SUPERSTRUCTURE UNDERSIDE SPAN 3 LOOKING NORTH





DOWNSTREAM VIEW FROM BANK UNDER SPAN 2



UPSTREAM VIEW FROM BANK UNDER SPAN 2



END BENT 2 ELEVATION



END BENT 2 SLOPE PROTECTION



WEST PROFILE



CONCRETE WEARING SURFACE SPAN 4 LOOKING SOUTH


# **BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS**

Bridge: 500085

County JOHNSTON


Date:


**These Repairs Should Be Made Within Twelve Months From Date Of This Inspection**

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
 3348	Maintain Concrete Substructure Components	LF	1	Bent 1 Pile 1: (PAR) 12" x 5" x 1" SPALL WITH EXPOSED REBAR ON SOUTH FACE AT BOTTOM OF CAP.	

## Key

 Priority Maintenance Item

 Critical Finding Item

 Priority Maintenance Level Not Determined

## BRIDGE INSPECTOR'S RECOMMENDATION FOR PRIORITY MAINTENANCE REPAIRS

Bridge: 500085

County JOHNSTON

THE FOLLOWING MAINTENANCE ITEMS HAVE BEEN SUBMITTED IN CONJUNCTION WITH A PRIORITY MAINTENANCE REQUEST

MMS Code	MMS Description	Quantity
3348	Maintain Concrete Substructure Components	1 LF
Location:		
Bent/Span No.		
Priority Level	Status	
Priority Maintenance	Division Bridge Maintenance Notification	
Submitted Date:	Submitted By:	Assisted By:
04/23/2020	W. O. KEITH	
Details		
Bent 1 Pile 1: (PAR) 12" x 5" x 1" SPALL WITH EXPOSED REBAR ON SOUTH FACE AT BOTTOM OF CAP.		

# Bridge Inspection Field Sketch



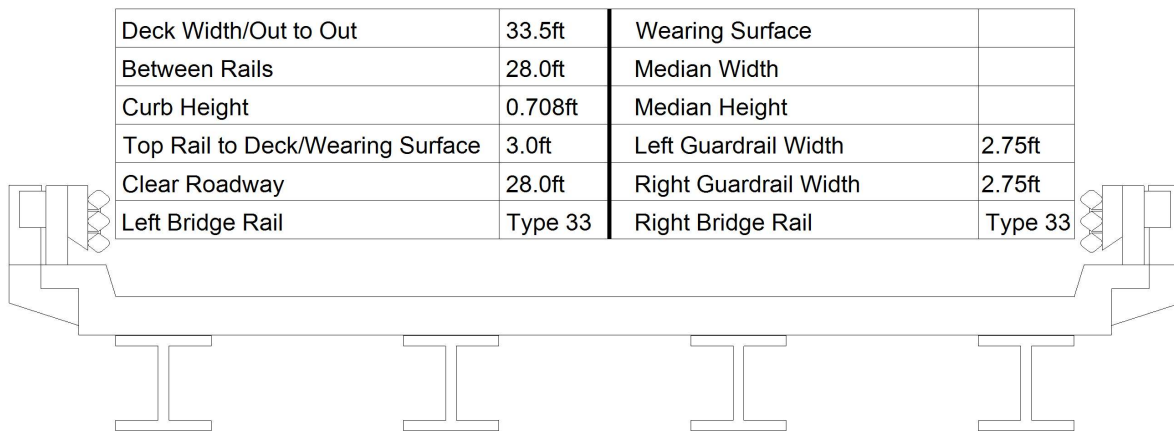
Roadway	24ft Wide	2 Paved Lanes	Looking South
Left Shoulder	12ft Wide	4ft Paved	8ft Unpaved
Right Shoulder	18ft Wide	10ft Paved	8ft Unpaved
Left Guardrail			
Right Guardrail			

MEASUREMENTS TAKEN 370' NORTH OF END BENT 2

MEASUREMENTS MODIFIED BY WOK/RA 4-23-2020: SHOULDER DIMS.

<b>Title</b> APPROACH ROADWAY		<b>Description</b> LOOKING SOUTH	
<b>Bridge No:</b> 500085	<b>Drawn By:</b> GGW	<b>Date:</b> 04/13/2006	<b>File Name:</b> S0214000202

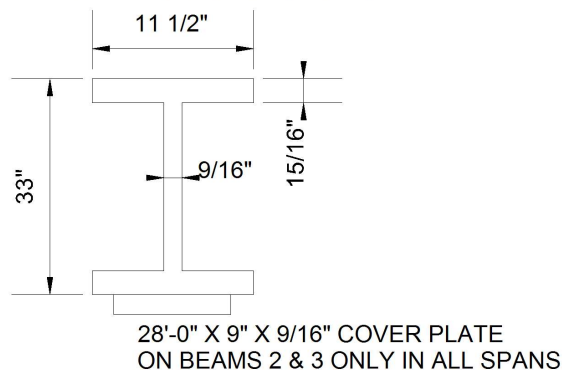
# Bridge Inspection Field Sketch



Measurements for Span #	1		
Deck Thickness	0.729	Left Overhang	4.75
Top of Rail to Bottom of Beam	6.44	Right Overhang	4.75

Beam No	Beam Type	Spacing	Comments
1	Steel I Beam	8ft	W33 X 130 IBEAM
2	Steel I Beam	8ft	W33 X 130 IBEAM
3	Steel I Beam	8ft	W33 X 130 IBEAM
4	Steel I Beam		W33 X 130 IBEAM

## TYPICAL BEAM SKETCH



MODIFIED BY WOK/RA 4-23-2020  
 MODIFIED BETWEEN RAILS, CLEAR, RAIL TO WEARING SURFACE & BOTTOM OF BEAM, AND DECK THICKNESS  
 REMOVED AWS & ADDED BEAM AND COVER PLATE DATA

**Title**

TYPICAL SECTION

**Description**

LOOKING NORTH

Bridge No: 500085

Drawn By: GGW

Date: 04/13/2006

File Name: S0214000203

# Bridge Inspection Field Sketch



<b>Cap Information</b>			Material Cast-in-Place Concrete							
Length	Width	Height	Left Overhang	Right Overhang	Left Beam to End of Cap.	Right Beam to End of Cap.				
27.000 ft.	2.500 ft.	2.500 ft.	5.000 ft.	5.000 ft.	1.500 ft.	1.500 ft.				
<b>Subcap Information</b>			Material							
Length	Width	Height	Left Overhang	Right Overhang	Left Pile to Splice.					
<b>Sill Information</b>			Material							
Length	Width	Height								
Pile #	Material	Spacing	Width/Dia.	Height	Length	Orientation	Driven?	Replacement?	Removed?	Collar?
1	Concrete	17 ft.	2.333 ft.			Vertical	No	No	No	No
2	Concrete		2.333 ft.			Vertical	No	No	No	No
							SKETCH VERIFIED BY WOK/RA 4-23-2020			
<b>Bent/Abutment #:</b> 1			<b>Similar Bents:</b> BENTS 2 & 3							

<b>Title</b>				<b>Description</b>			
SUBSTRUCTURE				INTERIOR BENT 1			
CHECKED BY: WCM 4/25/2016							
Bridge No:	500085	Drawn By:	WTW	Date:	4/23/2014	File Name:	S0018014612