



NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 STRUCTURE MANAGEMENT UNIT

ATTENTION: **IMPACT DAMAGE IN SPAN 4 TO BEAMS 3, 4, 5, AND DIAPH. 2 IN BAY 4. INSPECTON REQUESTED BY DIVISION. SEVERE DAMAGE TO BEAM 5. PM ISSUED.**

Structure Safety Report Supplemental Element Inspection

COUNTY: RANDOLPH STRUCTURE NUMBER: 750205 FREQUENCY: None

FACILITY CARRIED: SR1462 MILE POST: _____

LOCATION: 0.1 MI. W. JCT. SR1455

FEATURE INTERSECTED: I73, I74, US220

LATITUDE: 35° 43' 11.27" LONGITUDE: 79° 49' 34.09"

SUPERSTRUCTURE: REINFORCED CONCRETE DECK ON I-BEAMS

SUBSTRUCTURE: END BENTS:RC CAP & STEEL PILES, INT.BENT#1:RC CAP & PPC PILES, INT.BENT#2,3&4:RCP&B, PIL

SPANS: 2@43'0", 2@54'0", 1@43'0" SIMPLE, COMPOSITE

FRACTURE CRITICAL TEMPORARY SHORING SCOUR CRITICAL SCOUR PLAN OF ACTION

PRESENT CONDITION: Poor INSPECTION DATE: 07/12/2017

POSTED SV: Not Posted POSTED TTST: Not Posted

OTHER SIGNS PRESENT: _____



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 W-E

DIRECTION MATCHES PLANS _____

LOOKING NORTH THROUGH SPAN 4

INSPECTED BY JEREMY WHITE	SIGNATURE 	ASSISTED BY M. McNEESE, J. FRENCH, B. CLEAVER
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Structure Element Scoring

Structure Number: 750205

Inspection Date 7/12/2017

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	9541	4305	5114	122	0
107	0	Steel Open Girder/Beam	Beam	1185	1138	17	0	30
515	107	Steel Protective Coating	Beam	10503	10489	0	0	14
205	0	Reinforced Concrete Column	Piles and Columns	9	6	3	0	0
215	0	Reinforced Concrete Abutment	Abutments	100	38	12	50	0
220	0	Reinforced Concrete Pile Cap/Footing	Footing	24	24	0	0	0
226	0	Prestressed Concrete Pile	Foundation Pile	2	2	0	0	0
226	0	Prestressed Concrete Pile	Piles and Columns	27	25	2	0	0
233	0	Prestressed Concrete Pier Cap	Caps	50	44	6	0	0
234	0	Reinforced Concrete Pier Cap	Caps	214	151	57	6	0
301	0	Pourable Joint Seal	Expansion Joints	200	200	0	0	0
311	0	Movable Bearing	Bearing Device	25	25	0	0	0
515	311	Steel Protective Coating	Bearing Device	50	50	0	0	0
313	0	Fixed Bearing	Bearing Device	50	50	0	0	0
515	313	Steel Protective Coating	Bearing Device	50	50	0	0	0
331	0	Reinforced Concrete Bridge Railing	Bridge Rail	474	0	462	0	12
515	331	Steel Protective Coating	Bridge Rail	0	0	0	0	0

Summary of Maintenance Needs

Maintenance By Defect

Structure Number: 750205

Inspection Date: 07/12/2017

MMS Code	Element Name	Defect Name	Recommended Quantity
3314	Steel Open Girder/Beam	Damage	47 Feet

Element Structure Maintenance Quantities

Structure Number: 750205

Inspection Date 07/12/2017

Location	MMS Code	Description	Maint Quantity	Total Quantity	Severe Quantity	Poor Quantity	Fair Quantity	Good Quantity
Abutments	3350	Maintenance of Concrete Wings and Wall	162	100	0	50	12	38
Beam	3314	Maintenance Steel Superstructure Components	47	1185	30	0	17	1138
Beam	3342	Clean and Paint Steel	0	10503	14	0	0	10489
Bearing Device	3334	Bridge Bearing	0	75	0	0	0	75
Bearing Device	3342	Clean and Paint Steel	0	100	0	0	0	100
Bridge Rail	3318	Maintenance of Concrete Bridge Rail	474	474	12	0	462	0
Bridge Rail	3342	Clean and Paint Steel	0	0	0	0	0	0
Caps	3348	Maintenance of Concrete Substructure	73	264	0	6	63	195
Deck	3326	Maintenance of Concrete Deck	5235	9541	0	122	5114	4305
Expansion Joints	3310	Maintenance of Standard Bridge Expansion Joints	0	200	0	0	0	200
Footing	3348	Maintenance of Concrete Substructure	0	24	0	0	0	24
Foundation Pile	3348	Maintenance of Concrete Substructure	0	2	0	0	0	2
Piles and Columns	3348	Maintenance of Concrete Substructure	23	36	0	0	5	31

Element Condition and Maintenance Data

Structure Number: 750205Inspection Date: 07/12/2017

Span 1 Reinforced Concrete Deck 1

Reinforced Concrete Deck

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	1,731	0	1,701	30	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

- 2' DIAGONAL CRACK UP TO 1/16", EAST BOUND LANE, AT BENT 1 JOINT, 3' FROM SOUTH LANE LINE.
- 2' DIAGONAL CRACK UP TO 1/16", EAST BOUND LANE, AT CENTER LINE, 3' FROM SOUTH LANE LINE.
- (5) 2' DIAGONAL CRACKS UP TO 1/16" AT 2' CENTERS, WEST BOUND LANE, AT BENT 1. UNDERSIDE OF DECK IS HAIRLINE MAP CRACKED.
- 8' TRANSVERSE CRACK UP TO 1/2" WITH A 2' X 4" X 3" SPALL, UNDERSIDE OF DECK, BETWEEN BEAMS 1 AND 2, BETWEEN BENT 1 END DIAPHRAGMS.
- 4' TRANSVERSE CRACK UP TO 1/4" WITH 18" X 4" X 3" SPALL WITH EXPOSED REINFORCING, UNDERSIDE OF DECK, BETWEEN BENT 1 END DIAPHRAGMS, BAY 3.
- 3' TRANSVERSE CRACK UP TO 1/4", UNDERSIDE OF DECK, BETWEEN BENT 1 END DIAPHRAGMS, BAY 4.
- CONCRETE BUILDUP OVER GIRDER 1 HAS VERTICAL HAIRLINE CRACKS AT AVERAGE 1' CENTERS EXTENDING FULL WIDTH INTO OVERHANG.

Span 1 Plate Girder 1

Plate Girder

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
107	Steel Open Girder/Beam	43	43	0	0	0 Feet
515	Steel Protective Coating	387	387	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

Span 1 Concrete Railing 1

Concrete Railing

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	43	0	43	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

- VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

Span 1 Concrete Railing 2**Concrete Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	43	0	43	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

Span 2 Reinforced Concrete Deck 1**Reinforced Concrete Deck**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	1,731	0	1,691	40	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

2' DIAGONAL CRACK UP TO 1/16", EAST BOUND LANE, AT BENT 1 JOINT, 3' FROM SOUTH LANE LINE.

2' DIAGONAL CRACK UP TO 1/16", EAST BOUND LANE, AT BENT 2, 3' FROM SOUTH LANE LINE.

(5) 2' DIAGONAL CRACKS UP TO 1/16" AT 2' CENTERS, WEST BOUND LANE, AT BENT 2.
UNDERSIDE OF DECK IS HAIRLINE MAP CRACKED.

2' X 1' DELAMINATION, UNDERSIDE OF DECK, BETWEEN BENT 1 END DIAPHRAGMS, BAY 3.

3' TRANSVERSE CRACK UP TO 1/4" UNDERSIDE OF DECK, BETWEEN BENT 1 END DIAPHRAGMS, BAY 4.

7' X 3" X 1" AREA OF RANDOM POPOUTS, UNDERSIDE OF DECK, NORTH SIDE OF BEAM 4 AT BENT 1.

3' TRANSVERSE CRACK UP TO 1/4", BETWEEN BENT 2 END DIAPHRAGMS, BAY 4.

(2) 2' TRANSVERSE CRACK UP TO 1/4", BETWEEN BENT 2 END DIAPHRAGMS, BAY 3 ON EITHER END.

8' TRANSVERSE CRACK UP TO 1/4", BETWEEN BENT 2 END DIAPHRAGMS, BAY 2.

8' TRANSVERSE CRACK UP TO 1/4" WITH 3' X 8" X 3" SPALL, BETWEEN BENT 2 END DIAPHRAGMS , BAY 1.

Span 2 Concrete Railing 1**Concrete Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	43	0	43	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

Span 2 Concrete Railing 2
Concrete Railing

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	43	0	43	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

Span 3 Reinforced Concrete Deck 1
Reinforced Concrete Deck

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	2,174	2,132	10	32	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

(2) 2' DIAGONAL CRACKS UP TO 1/16" AT 3' CENTERS, EAST BOUND LANE, 3' FROM SOUTH LANE LINE.

(3) 2' DIAGONAL HAIRLINE CRACK AT 3' AVERAGE CENTERS, WEST BOUND LANE, AT BENT 3. UNDERSIDE OF DECK IS HAIRLINE MAP CRACKED.

8' TRANSVERSE CRACK UP TO 1/4", UNDERSIDE OF DECK, BETWEEN BENT 3 END DIAPHRAGMS, ALL BAYS.

Span 3 Concrete Railing 1
Concrete Railing

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	54	0	54	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

Span 3 Concrete Railing 2
Concrete Railing

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	54	0	54	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

Span 4 Deck**Reinforced Concrete Deck**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	2,174	2,173	1	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
12	Damage	1/4"D x 6" DIAMETER SPALL AT TOP FLANGE OF BEAM 5 IN BAY 4 LOCATED 20' FROM BENT 4	2	1	Square Feet

General Comments

(3) 2' DIAGONAL HAIRLINE CRACKS AT 2' CENTERS, EAST BOUND LANE, 3' FROM SOUTH LANE LINE AT BENT 3.

2' DIAGONAL CRACK UP TO 1/16", EAST BOUND LANE, AT BENT 4, 3' FROM SOUTH LANE LINE.

(3) 2' DIAGONAL HAIRLINE CRACKS AT 2' CENTERS, 2' FROM NORTH LANE LINE, BENT 4, WEST BOUND LANE.

(2) 2' DIAGONAL HAIRLINE CRACKS AT 3' AVERAGE CENTERS, AT NORTH LANE LINE, WEST BOUND LANE, AT BENT 3.

UNDERSIDE OF DECK IS HAIRLINE MAP CRACKED.

8' TRANSVERSE CRACK UP TO 1/4", UNDERSIDE OF DECK, BETWEEN BENT 3 END DIAPHRAGMS, ALL BAYS.

Span 4 Beam 3**Plate Girder**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
107	Steel Open Girder/Beam	54	48	6	0	0 Feet
515	Steel Protective Coating	459	456	0	0	3 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
107	Damage	(2) 2"L x 1/2"W x 3/16" INDENTIONS IN SOUTH EDGE OF BOTTOM COVER PLATE AND BOTTOM FLANGE LOCATED 19' FROM BENT 4	2	1	1 Feet
107	Damage	2"L x 2"W x 1/8"D GOUGE IN SOUTH EDGE OF COVER PLATE, LOCATED 19'-6" FROM BENT 4	2	1	1 Feet
107	Damage	4"L SECTION ALONG SOUTH EDGE OF BOTTOM FLANGE AND COVER PLATE BENT UP 3/16", LOCATED 19'-6" FROM BENT 4 BEARING	2	1	1 Feet
107	Damage	9"L x 2"W SCRAPE ON BOTTOM COVER PLATE APPROX. 1/32"D, LOCATED 19' FROM BENT 4 BEARING	2	1	1 Feet
107	Damage	APPROX 4"L x 1/2"W SCRAPE ON SOUTH FACE OF WEB, LOCATED 4-1/2" UP FROM BOTTOM FLANGE AND 19' FROM BENT 4 BEARING	2	1	1 Feet
107	Damage	APPROX. 2"L x 1/2" SCRAPE ON SOUTH FACE OF WEB, LOCATED 9" UP FROM BOTTOM FLANGE AT BAY 2 DIAPHRAGM #2 CONNECTION	2	1	1 Feet
515	Damage	EXPOSED STEEL AT IMPACT AREAS	4	3	Square Feet

General Comments**Span 4 Beam 4****Plate Girder**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
107	Steel Open Girder/Beam	54	43	11	0	0 Feet
515	Steel Protective Coating	459	456	0	0	3 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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Structure Number: **750205**

Inspection Date: **07/12/2017**

107	Damage	(2) 3"L x 6"W AREAS OF 1/8"D SCRAPES ON BOTTOM COVER PLATE, LOCATED 19'-6" FROM BENT 4 BEARING	2	1	1	Feet
107	Damage	10LF OF BEAM OUT OF PLUMB 1/4" TO THE NORTH - CENTER POINT AT DIAPHRAGM #2 CONNECTION.	2	10	10	Feet
515	Damage	EXPOSED STEEL AT IMPACT AREAS	4	3		Square Feet

General Comments

Span 4 Beam 5 Plate Girder

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
107	Steel Open Girder/Beam	54	24	0	0	30 Feet
515	Steel Protective Coating	486	478	0	0	8 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
107	Damage	INITIAL POINT OF IMPACT (POI) AT 17'-6" FROM BENT 4 BEARING. BEAM OUT OF PLUMB 9" TO THE NORTH AT POI - TOTAL OF 30LF OF BEAM DEFLECTED FROM INT. DIAPHRAGM #1 IN BAY 4 TO BENT 4 BEARING. --- 7"L x 2-3/4"W TEAR IN SOUTH HALF OF BOTTOM FLANGE AT POI - 9" OF BOTTOM FLANGE REMAINING. --- OUTSIDE EDGE OF BOTTOM FLANGE SCRAPED AND GOUGED UP TO 1/4"D ACROSS 11" AREA ADJACENT TO POI. --- 17"H x 36"W x 3"D DEFORMATION IN WEB AT POI, BEGINNING 3" FROM TOP FLANGE. --- BOTTOM HALF OF DIAPHRAGM #2 BENT TO THE WEST APROX. 8" AT BEAM 5 CONNECTION, w/ DAMAGE TO ENTIRE LENGTH OF DIAPHRAGM CONNECTION BRACKET - MAX DEFLECTION OF 6" TO THE WEST.	4	30	30 Feet
515	Damage	EXPOSED STEEL AT IMPACT AREAS	4	8	Square Feet

General Comments

Span 4 Expansion Joint Standard Joint

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
301	Pourable Joint Seal	50	50	0	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

TEMPORARY REPAIR TO EXPANSION JOINT MATERIAL IN NORTH SIDEWALK.

Span 4 Left Bridge Rail Concrete Railing

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	54	0	54	0	0 Feet
515	Steel Protective Coating	0	0	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

Span 4 Right Bridge Rail**Concrete Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	54	0	54	0	0 Feet
515	Steel Protective Coating	0	0	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

Span 5 Deck**Reinforced Concrete Deck**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	1,731	0	1,711	20	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

(2) 2' DIAGONAL CRACKS UP TO 1/16", NORTH LANE LINE, BENT 4, WEST BOUND LANE.
UNDERSIDE OF DECK IS HAIRLINE MAP CRACKED.
20' LONGITUDINAL CRACK UP TO 1/2", BEAM 1 EXTERIOR BUILDUP AT BENT 4.

Span 5 Left Bridge Rail**Concrete Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	43	0	43	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

Span 5 Right Bridge Rail**Concrete Railing**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
331	Reinforced Concrete Bridge Railing	43	0	31	0	12 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

12' IMPACT DAMAGE TO RAIL WITH DISCONNECTED RAIL POST, 6' FROM BENT 4. (PM)

VERTICAL HAIRLINE CRACKS AT 1' CENTERS IN BRIDGE RAIL PARAPET.

End Bent 1**Reinforced Concrete Pier 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	50	45	5	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

3' X 6" X 6" DELAMINATION, TOP CORNER OF CAP, BELOW BAY 4.

2' X 6" X 6" DELAMINATION, TOP CORNER OF CAP, BELOW SOUTH OVERHANG.

Bent 1**Reinforced Concrete Pier 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	41	28	10	3	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

2'-6" X 5" X 5" DELAMINATION/SPALL, BOTTOM WEST FACE OF CAP, BETWEEN PILES 1 AND 2.

4' X 4" X 4" CORNER DELAMINATION, BOTTOM WEST FACE OF CAP, AT PILE 3.

2' X 5" X 2" CORNER DELAMINATION, BOTTOM WEST FACE OF CAP, BETWEEN PILES 2 AND 3, NEXT TO PILE 3.

2' X 5" X 2" CORNER DELAMINATION, BOTTOM EAST FACE OF CAP, BETWEEN PILES 4 AND 5, NEXT TO PILE 3.

2' X 8" DELAMINATION, EAST FACE OF CAP, BELOW BEAM 3.

4' X 8" X 3" DELAMINATION, BOTTOM EAST FACE OF CAP BETWEEN PILES 2 AND 3.

Bent 1**Prestressed Concrete Pile 3****Prestressed Concrete Pile**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
226	Prestressed Concrete Pile	1	0	1	0	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

10" X 2" X 2" DELAMINATION, SOUTHEAST CORNER OF PILE AT CAP.

Bent 1**Prestressed Concrete Pile 8****Prestressed Concrete Pile**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
226	Prestressed Concrete Pile	1	0	1	0	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

2' X 9" X 6" SOUND TEMPORARY REPAIR, SOUTHWEST CORNER, AT CAP.

End Bent 1**Reinforced Concrete Abutment 1****Reinforced Concrete Abutment**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
215	Reinforced Concrete Abutment	50	0	0	50	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

MAP CRACKING UP TO 1/16", FACE OF CURTAIN WALL, ENTIRE ABUTMENT.

Bent 2**Reinforced Concrete Pier 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	41	27	14	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

4' X 10" X 4" DELAMINATION, BOTTOM WEST FACE OF CAP, BELOW BEAM 2.

10' X 18" DELAMINATION, WEST FACE OF CAP, BELOW BEAM 3.

End Bent 2**Prestressed Concrete Pier Cap 1****Prestressed Concrete Pier Cap**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
233	Prestressed Concrete Pier Cap	50	44	6	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

6' X 8" DELAMINATION, WEST FACE OF CAP, BELOW BAY 3.

End Bent 2**Reinforced Concrete Abutment 1****Reinforced Concrete Abutment**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
215	Reinforced Concrete Abutment	50	38	12	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

3' X 6" DELAMINATION, FACE OF CURTAIN WALL, BAY 4.

3' X 6" DELAMINATION, FACE OF CURTAIN WALL, BAY 4, NEXT TO BEAM 4.

3' X 6" DELAMINATION, FACE OF CURTAIN WALL, BAY 3, NEXT TO BEAM 3.

3' X 6" DELAMINATION, FACE OF CURTAIN WALL, BAY 2, NEXT TO BEAM 2.

Bent 3 Reinforced Concrete Pier 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	41	21	20	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

12' X 11" DELAMINATION, TOP WEST FACE OF CAP, BELOW BAY 2.

18" X 4" X 2" DELAMINATION, BOTTOM WEST FACE OF CAP, BELOW BEAM 2.

3' X 4" X 4" DELAMINATION WITH RUST STAINING, BOTTOM EAST FACE, BELOW BEAM 4.

3' X 4" X 4" DELAMINATION, TOP EAST FACE OF CAP, BELOW BAY 4.

Bent 3 Reinforced Concrete Column 1**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
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General Comments

4' X 4" X 4" DELAMINATION, SOUTHWEST CORNER OF COLUMN, AT CAP.

Bent 3 Reinforced Concrete Column 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
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General Comments

2' X 4" X 4" DELAMINATION, NORTHWEST CORNER, AT CAP.

8' X 4" X 4" DELAMINATION, SOUTHEAST CORNER OF COLUMN.

Bent 3 Reinforced Concrete Column 3**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
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General Comments

3' X 4" X 4" DELAMINATION, NORTHWEST CORNER AT CAP.

3' X 4" X 4" DELAMINATION, NORTHEAST CORNER AT CAP.

Bent 4**Reinforced Concrete Pier 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	41	30	8	3	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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General Comments

4' OF TEMPORARY REPAIR, EAST FACE AND UNDERSIDE OF CAP, BELOW BEAM 2.

3' HORIZONTAL CRACK UP TO 1/4", BELOW BEAM 3, EAST FACE.

1' X 1' DELAMINATION, EAST FACE OF CAP, BELOW BAY 3.

3' X 4" X 4" DELAMINATION, BOTTOM EAST FACE OF CAP, BELOW BEAM 4.

Elements Verified

Location	Name	Component	Element Name	Amount
Span 4	Beam 3	Plate Girder	Steel Open Girder/Beam	54
Span 4	Beam 4	Plate Girder	Steel Open Girder/Beam	54
Span 4	Beam 5	Plate Girder	Steel Open Girder/Beam	54

General Inspection Notes

Span 1

Span 4

Expansion Joint

TEMPORARY REPAIR TO EXPANSION JOINT MATERIAL IN NORTH SIDEWALK.

National Bridge and NC Inspection Items

Structure Number: 750205

Inspection Date: 07/12/2017

National Bridge Inventory Items

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

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			
Drainage System	G, F, P, or C		0	3332
Utilities	G, F, P, or C			
Slope Protection	G, F, P, or C			
Scour	G, F, P, or C			
Wingwall	G, F, P, or C		0	3350
Field Scour Evaluation				
Drift	G, F, P, or C		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		
Estimated Remaining Life	0 - 100 Years			
Superstructure Paint Code		I		

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

Inspection Information

Item	Grade Scale	Grade
Regulatory Sign Noticed Issued	YES/NO	N
Priority Maintenance Request Submitted	YES/NO	Y
Inspection Time	Hours	3
Traffic Control Time	Hours	2
Snooper Time	Hours	0
Ladder Used	YES/NO	N
Bucket Truck Used	YES/NO	Y
Boat Used	YES/NO	N
Other Equipment Used	YES/NO	Y

National Bridge and NC SMU Inspection Item Details

Structure Number: 750205

Inspection Date: 07/12/2017

Item	Superstructure - Item 59	Grade	Maint Code	Qty.	0
Details	IMPACT DAMAGE IN SPAN 4 TO BEAMS 3,4,5 AND DIAPHRAGM #2 IN BAY 4. SEVERE DAMAGE TO BEAM 5 AT INITIAL POINT OF IMPACT - 17'-6" FROM BENT 4 BEARING. VERTICAL CLEARANCE AT POI IS 15'. SEE ELEMENT ITEMS FOR DETAILS. PM ISSUED.				

Item	Other Equipment Used	Grade	Y	Maint Code	Qty.	0
Details	CLIMBING HARNESS					



Span 4 Beam 5: LOOKING WEST ALONG SOUTH SIDE - INITIAL POINT OF IMPACT (POI) AT 17'-6" FROM BENT 4 BEARING. BEAM OUT OF PLUMB 9" TO THE NORTH AT POI - TOTAL OF ~30LF OF BEAM DEFLECTED FROM DIAPHRAGM #1 IN BAY 4 TO BENT 4 BEARING.



Span 4 Beam 5: INITIAL POINT OF IMPACT (POI) AT 17'-6" FROM BENT 4 BEARING. BEAM OUT OF PLUMB 9" TO THE NORTH AT POI - TOTAL OF 30LF OF BEAM DEFLECTED FROM INT. DIAPHRAGM #1 IN BAY 4 TO BENT 4 BEARING.



SPAN 4 BEAM 5: 7"L x 2-3/4"W TEAR IN SOUTH HALF OF BOTTOM FLANGE AT POI.



SPAN 4 BEAM 5: BOTTOM VIEW OF 7"L x 2-3/4"W TEAR IN SOUTH HALF OF BOTTOM FLANGE AT POI - 9" OF BOTTOM FLANGE REMAINING.



SPAN 4 BEAM 5: OUTSIDE EDGE OF BOTTOM FLANGE SCRAPED AND GOUGED UP TO 1/4"D ACROSS 11" AREA ADJACENT TO POI



SPAN 4 BEAM 5: 17"H x 36"W x 3"D DEFORMATION IN WEB AT POI, BEGINNING 3" FROM TOP FLANGE



SPAN 4 BEAM 5: (2) 1" DIAMETER SCRAPES IN TOP FLANGE AT POI



SPAN 4 BEAM 5: OVERVIEW OF NORTH SIDE OF DAMAGE TO BEAM WEB AND DIAPHRAGM #2 AT POI



Span 4 Deck: 1/4"D x 6" DIAMETER SPALL IN BOTTOM OF DECK AT TOP FLANGE OF BEAM 5 IN BAY 4 LOCATED 20' FROM BENT 4



SPAN 4 BAY 4: BOTTOM HALF OF DIAPHRAGM #2 BENT TO THE WEST APROX. 8" AT BEAM 5 CONNECTION.



SPAN 4 BAY 4: DAMAGE TO ENTIRE LENGTH OF DIAPHRAGM #2 BEAM 5 CONNECTION BRACKET - MAX DEFLECTION OF 6" TO THE WEST.



SPAN 4 BAY 4: 2"L x 1/2"H x 1/8"D INDENTION IN DIAPHRAGM #2 BEAM 5 CONNECTION BRACKET DUE TO CONTACT WITH DIAPHRAGM BOTTOM FLANGE



Span 4 Beam 4: 10LF OF BEAM OUT OF PLUMB 1/4" TO THE NORTH - CENTER POINT AT DIAPHRAGM #2 CONNECTION



SPAN 4 BAY 4: TOP 4" OF DIAPHRAGM #2 CONNECTION TO BEAM 4 BENT 2" TO THE EAST



Span 4 Beam 4: (2) 3"L x 6"W AREAS OF 1/8"D SCRAPES ON BOTTOM COVER PLATE, LOCATED 19'-6" FROM BENT 4 BEARING



Span 4 Beam 4 : ALT. VIEW - (2) 3"L x 6"W AREAS OF 1/8"D SCRAPES ON BOTTOM COVER PLATE, LOCATED 19'-6" FROM BENT 4 BEARING



Span 4 Beam 3: 4"L SECTION ALONG SOUTH EDGE OF BOTTOM FLANGE AND COVER PLATE BENT UP 3/16", LOCATED 19'-6" FROM BENT 4 BEARING



Span 4 Beam 3: 9"L x 2"W SCRAPE ON BOTTOM COVER PLATE APPROX. 1/32"D, LOCATED 19' FROM BENT 4 BEARING



Span 4 Beam 3: ALT. VIEW - 2"L x 2"W x 1/8"D GOUGE IN SOUTH EDGE OF COVER PLATE, LOCATED 19'-6" FROM BENT 4



Span 4 Beam 3: 2"L x 2"W x 1/8"D GOUGE IN SOUTH EDGE OF COVER PLATE, LOCATED 19'-6" FROM BENT 4



Span 4 Beam 3: (2) 2"L x 1/2"W x 3/16" INDENTIONS IN SOUTH EDGE OF BOTTOM COVER PLATE AND BOTTOM FLANGE LOCATED 19' FROM BENT 4



Span 4 Beam 3: APPROX 4"L x 1/2"W SCRAPE ON SOUTH FACE OF WEB, LOCATED 4-1/2" UP FROM BOTTOM FLANGE AND 19' FROM BENT 4 BEARING



Span 4 Beam 3: APPROX. 2"L x 1/2" SCRAPE ON SOUTH FACE OF WEB, LOCATED 9" UP FROM BOTTOM FLANGE AT BAY 2 DIAPHRAGM #2 CONNECTION



SPAN 4 BAY 4: LOOKING UP AT POI - BEAM 5, DIAPHRAGM #2, BEAM 4 SHOWN



LOOKING NORTH THROUGH SPAN 4