NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE MANAGEMENT UNIT

ATTENTION: sketches revised, clearances revised

Structure Safety Report

Routine Element Inspection - Contract

STRUCTURE NUMBER: 110134 **SAP STRUCTURE NO:** 0120134 **FHWA STRUCTURE NO:** 000000000230134

DIVISION: 13 **COUNTY:** BURKE **INSPECTION DATE:** 10/25/2023 **FREQUENCY:** 24 MONTHS

FACILITY CARRIED: SR1922 **MILE POST:**

LOCATION: 0.5 MI.S.JCT.SR1924

FEATURE INTERSECTED: I-40

LATITUDE: 35° 43' 2.22" **LONGITUDE:** 81° 40' 21.47"

SUPERSTRUCTURE: RC DECK ON PPC GIRDERS (CONTINUOUS); SIP FORMS; APPROACH SLABS

SUBSTRUCTURE: E.BTS: RC CAP ON STL. PILES; INT.BTS; RC CAP ON RC COLS. / CONC. FTGS / STEEL PILES

SPANS: 2 SPANS. SEE SPAN PROFILE SHEET FOR SPAN DETAILS

☐ FRACTURE CRITICAL ☐ TEMPORARY SHORING ☐ SCOUR CRITICAL ☐ SCOUR PLAN OF ACTION

GRADES: (Inspector/NBI Coding) **DECK** 6 / 6 **SUPERSTRUCTURE** 8 / 8 **SUBSTRUCTURE** 7 / 7 **CULVERT** N / N

POSTED SV: Not Posted **POSTED TTST:** Not Posted

OTHER SIGNS PRESENT: none

south approach looking north

Sign noticed issued for		Number Required
NO	**WEIGHT LIMIT**	0
NO	**DELINEATORS**	0
NO	**NARROW BRIDGE**	0
NO	**ONE LANE BRIDGE**	0
NO	**LOW CLEARANCE**	0

DIRECTION OF INSPECTION S-N

DIRECTION MATCHES PLANS

INSPECTED BY	SIGNATURE	ASSISTED BY
Mike Mills		Isaiah Chapman

IDENTIFICATION

(1) STATE NAME NORTH CAROLINA BRIDGE **110134**
(8) STRUCTURE NUMBER (FEDERAL) **0230134**
(5) INVENTORY ROUTE (ON/UNDER) ON **31019220**
(2) STATE HIGHWAY DEPARTMENT DISTRICT **13**
(3) COUNTY CODE (FEDERAL) **23** (4) PLACE CODE **44400**
(6) FEATURE INTERSECTED **I-40**
(7) FACILITY CARRIED **SR1922**
(9) LOCATION **0.5 MI.S.JCT.SR1924**
(11) MILEPOINT **0.0**
(12) BASE HIGHWAY NETWORK **0**
(13) LRS INVENTORY ROUTE & SUBROUTE **0**
(16) LATITUDE **35° 43' 2.22"** (17) LONGITUDE **81° 40' 21.47"**
(98) BORDER BRIDGE STATE CODE PERCENT SHARED
(99) BORDER BRIDGE STRUCTURE NUMBER

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE MAIN **Prestressed Concrete continuous**
TYPE **Stringer/Multi-beam or girder** CODE **602**
(44) STRUCTURE TYPE APPROACH
TYPE CODE
(45) NUMBER OF SPANS IN MAIN UNIT **2**
(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 **1**

AGE AND SERVICE

(27) YEAR BUILT **2015**
(106) YEAR RECONSTRUCTED **0**
(42) TYPE OF SERVICE ON - **Highway**
OFF - **Highway** CODE **11**
(28) LANES ON STRUCTURE **2** LANES UNDER STRUCTURE **8**
(29) AVERAGE DAILY TRAFFIC **10500**
(30) YEAR OF ADT **2018** (109) TRUCK ADT PCT **6**
(19) BYPASS OR DETOUR LENGTH **0.0**

GEOMETRIC DATA

(48) LENGTH OF MAXIMUM SPAN **104.0**
(49) STRUCTURE LENGTH **210.0**
(50) CURB OR SIDEWALK: LEFT **8.9** RIGHT **0.0**
(51) BRIDGE ROADWAY WIDTH, CURB TO CURB **65.2**
(52) DECK WIDTH OUT TO OUT **76.9**
(32) APPROACH ROADWAY WITH (W/ SHOULDERS) **63.0**
(33) BRIDGE MEDIAN CODE **6**
(34) SKEW **7** (35) STRUCTURE FLARED **1111**
(10) INVENTORY ROUTE MIN VERT CLEAR **999.9**
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR **0.0**
(53) MIN VERT CLEAR OVER BRIDGE RDWY **999.9**
(54) MIN VERT UNDERCLEAR: REFERENCE **H** **19.5**
(55) MIN LAT UNDERCLEARANCE RT: REFERENCE **H** **29.5**
(56) MIN LAT UNDERCLEARANCE LT: **11.4**

NAVIGATION DATA

(38) NAVIGATION CONTROL - CODE **7**
(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**

SUFFICIENCY RATING **100.00**
STATUS =

CLASSIFICATION — CODE

(112) NBIS BRIDGE SYSTEM **Y**
(104) HIGHWAY SYSTEM **Inventory Route not on NHS** **0**
(26) FUNCTIONAL CLASS **Urban Minor Collector** **16**
(100) STRAHNET HIGHWAY **Not a STRAHNET Route** **0**
(101) PARALLEL STRUCTURE **0**
(102) DIRECTION OF TRAFFIC **2-way traffic** **2**
(103) TEMPORARY STRUCTURE
(110) DESIGNATED NATIONAL NETWORK - **on national network for trucks** **0**
(20) TOLL **On Free Road** **3**
(21) MAINT - **01**
(22) OWNER - **01**
(37) HISTORICAL SIGNIFICANCE - **5**

CONDITION — CODE

(58) DECK **6**
(59) SUPERSTRUCTURE **8**
(60) SUBSTRUCTURE **7**
(61) CHANNEL & CHANNEL PROTECTION **N**
(62) CULVERTS **N**

LOAD RATING AND POSTING — CODE

(31) DESIGN LOAD **HL 93** **A**
(63) OPERATING RATING METHOD - **RFR - Load and Resistance Factor** **3**
(64) OPERATING RATING - **HS-43** **77**
(65) INVENTORY RATING METHOD - **3**
(66) INVENTORY RATING **HS-28** **50**
(70) BRIDGE POSTING **No Posting Required** **5**
(41) STRUCTURE OPEN, POSTED, OR CLOSED **A**
DESCRIPTION **Open, no restriction**

APPRAISAL — CODE

(67) STRUCTURAL EVALUATION **7**
(68) DECK GEOMETRY **N**
(69) UNDERCLEARANCES, VERT & HORIZ **6**
(71) WATERWAY ADEQUACY **N**
(72) APPROACH ROADWAY ALIGNMENT **8**
(36) TRAFFIC SAFETY FEATURES **N**
(113) SCOUR CRITICAL BRIDGES **N**

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 **21,000** YEAR OF FUTURE ADT **2040**

INSPECTION

(90) INSPECTION DATE **10/23** (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

Structure Number **110134** County **BURKE** Run Date **01/12/2024**

Span Number	Facility Carried	Inventory Route	Maximum Minimum Vertical Clearance	Milepoint	Base Highway	LRS Inventory Route	Functional Classification	Number of Lanes	Average Daily Traffic	Year of Average Daily Traffic	Total Horizontal Clearance	*See Note Below*					STRAHNET Highway	Direction of Traffic	National Highway System	National Truck Network
												Reference Feature	Minimum Vertical Underclearance	Rigth Lateral Underclearance	Left Lateral Underclearance	Underclearance Appraisal Grade				
	7	5	10	11	12	13	26	28	29	30	47	54A	54	55	56	69	100	102	104	110
1	I 40 E	11000400	19.3	104.3	1	10040	11	2	25000	2019	68.3	H	17.9	32.0	11.0	6		1	☐	☐
2	I 40 W	11000400	21.5	104.3	1	10040	11	2	25000	2019	67.0	H	19.4	31.0	11.4	6		1	☐	☐

Note: Items 54, 55, and 56 are not reported FHWA under route data points but are collected for each under route to determine the minimum value for Underclearance Appraisal Item 69.

Superstructure Build Details

Span Number 1 **Span Length** 103.000 **Skew** 97.647

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
11	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	11 Each	Galvanized Protective System	11
1	Reinforced Concrete Deck	Reinforced Concrete Deck	7923 Square Feet		
2	Concrete and Metal Railing	Other Bridge Railing	206 Feet		
11	Elastomeric Bearing Pad	Elastomeric Bearing	11 Each		
11	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	1122 Feet		

Span Number 2 **Span Length** 107.000 **Skew** 97.647

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
11	Elastomeric Bearing Pad	Elastomeric Bearing	11 Each		
1	Reinforced Concrete Deck	Reinforced Concrete Deck	8231 Square Feet		
11	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	11 Each	Galvanized Protective System	11
2	Concrete and Metal Railing	Other Bridge Railing	214 Feet		
11	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	1166 Feet		

Structure Element Scoring

Structure Number: **110134**

Inspection Date **10/25/2023**

Element Number	Parent Number	Element Name	Location	Total Quantity	Level 1 Quantity	Level 2 Quantity	Level 3 Quantity	Level 4 Quantity
12		Reinforced Concrete Deck	Deck	16,154	15,250	69	835	0
109		Prestressed Concrete Open Girder/Beam	Beam	2,288	2,284	4	0	0
205		Reinforced Concrete Column	Piles and Columns	4	4	0	0	0
215		Reinforced Concrete Abutment	Abutments	212	199	13	0	0
225		Steel Pile	Piles and Columns	31	31	0	0	0
234		Reinforced Concrete Pier Cap	Caps	245	238	7	0	0
310		Elastomeric Bearing	Bearing Device	44	44	0	0	0
515	310	Steel Protective Coating	Bearing Device	22	22	0	0	0
321		Reinforced Concrete Approach Slabs	Approaches	1,846	1,800	24	22	0
333		Other Bridge Railing	Bridge Rail	420	373	36	11	0

Summary of Maintenance Needs

Maintenance By Defect

Structure Number: **110134** Inspection Date: **10/25/2023**

MMS Code	Element Name	Defect Name	Recommended Quantity
3326	Reinforced Concrete Deck	Cracking (RC and Other)	964 Square Feet
3353	Reinforced Concrete Approach Slabs	Cracking (RC and Other)	46 Square Feet
3318	Other Bridge Railing	Cracking (RC and Other)	11 Feet

Element Structure Maintenance Quantities

Structure Number: **110134** Inspection Date **10/25/2023**

Location	MMS Code	Description	Maint Quantity	Total Quantity	Severe Quantity	Poor Quantity	Fair Quantity	Good Quantity
Beam	3306	Maintenance Concrete Superstructure Components	0	2288	0.000	0.000	4.000	2284.000
Bearing Device	3334	Bridge Bearing	0	22	0.000	0.000	0.000	22.000
Bearing Device	3334	Bridge Bearing	0	22	0.000	0.000	0.000	22.000
Bearing Device	3342	Clean and Paint Steel	0	22	0.000	0.000	0.000	22.000
Bridge Rail	3318	Maintenance of Concrete Bridge Rail	11	420	0.000	11.000	36.000	373.000
Deck	3326	Maintenance of Concrete Deck	964	16154	0.000	835.000	69.000	15250.000
Abutments	3350	Maintenance of Concrete Wings and Wall	0	212	0.000	0.000	13.000	199.000
Caps	3348	Maintenance of Concrete Substructure	0	245	0.000	0.000	7.000	238.000
Piles and Columns	3348	Maintenance of Concrete Substructure	0	4	0.000	0.000	0.000	4.000
Piles and Columns	3354	Maintenance of Steel Substructure Components	0	31	0.000	0.000	0.000	31.000
Approaches	3353	Maintenance of Concrete Bridge Approach Slabs	46	1846	0.000	22.000	24.000	1800.000

Element Condition and Maintenance Data

Structure Number: **110134** Inspection Date: **10/25/2023**

Span 1 Deck

Reinforced Concrete Deck

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
12	Reinforced Concrete Deck	7,923	7,635	33	255	0	Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ 12	Cracking (RC and Other)	multiple transverse cracks up to 1/16 inch wide, in top of deck, southbound lanes, near bent 1.	3	255	255	Square Feet
☑ 12	Cracking (RC and Other)	throughout center mountable median, multiple transverse cracks [up to full width x up to 1/16 inch]	3		24	Square Feet
☑ 12	Cracking (RC and Other)	3 - longitudinal cracks up to 1/32 inch wide x up to 4 feet long, extending from end bent 1 joint, in northbound lanes.	2	9	9	Square Feet
☑ 12	Cracking (RC and Other)	6 - longitudinal cracks up to 1/32 inch wide x up to 4 feet long, extending from end bent 1 joint, in south bound lanes.	2	24	24	Square Feet
☑ 12	Cracking (RC and Other)	(2023 moved to left rail) 8 - up to full width transverse cracks up to 1/16 inch wide in sidewalk.	1			Square Feet

General Comments

Span 1 Beam 1

Prestressed Concrete Girder

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
109	Prestressed Concrete Open Girder/Beam	102	100	2	0	0	Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ 109	Efflorescence/Rust Staining	bent 1 closure pour, at seams, efflorescence	2			Feet
☑ 109	Efflorescence/Rust Staining	near bent 1, top flange, right face, efflorescence (2 feet)	2	2		Feet

General Comments

Span 1 Beam 2

Prestressed Concrete Girder

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
109	Prestressed Concrete Open Girder/Beam	102	100	2	0	0	Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ 109	Efflorescence/Rust Staining	near bent 1, top flange, left face, efflorescence (2 feet)	2	2		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	103	91	6	6	0	Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ **333**	Cracking (RC and Other)	sidewalk at random, transverse cracks (up to 1/16 inch x 9 feet)	3	6	6	Feet
☑ **333**	Cracking (RC and Other)	up to full height x 1/64 inch vertical cracks in top of rail extending down face	2	6		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	103	94	9	0	0	Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ **333**	Cracking (RC and Other)	up to full height x 1/64 inch vertical cracks in top of rail extending down face	2	9		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	8,231	7,615	36	580	0	Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ **12**	Cracking (RC and Other)	5 - full width transverse cracks up to 1/16 inch wide, in north bound lanes, near bent 1.	3	180	180	Square Feet
☑ **12**	Cracking (RC and Other)	multiple full width transverse cracks up to 1/16 inch wide, near bent 1, in south bound lanes.	3	400	400	Square Feet
☑ **12**	Cracking (RC and Other)	throughout center mountable median, multiple transverse cracks [up to full width x up to 1/16 inch]	3		36	Square Feet
☑ **12**	Cracking (RC and Other)	3 - longitudinal cracks up to 1/32 inch wide x up to 4 feet long, in south bound lanes, at end bent 2.	2	12	12	Square Feet
☑ **12**	Cracking (RC and Other)	6 - longitudinal cracks up to 1/32 inch wide x up to 4 feet long, in north bound lanes, at end bent 2.	2	24	24	Square Feet
☑ **12**	Cracking (RC and Other)	(2023 moved to left rail) 5 - full width transverse cracks up to 1/32 inch wide, in top of sidewalk.	1			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	107	92	10	5	0	Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ **333**	Cracking (RC and Other)	sidewalk at random, transverse cracks (up to 1/16 inch x 9 feet)	3	5	5	Feet

☑ **333**	Cracking (RC and Other)	up to full height x 1/64 inch vertical cracks in top of rail extending down face		2	10		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	107	96	11	0	0	Feet

Element Number	Defect Type	Defect Description		CS	CS Qty	Maint Qty	
☑ **333**	Cracking (RC and Other)	up to full height x 1/64 inch vertical cracks in top of rail extending down face		2	11		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	106	99	7	0	0	Feet

Element Number	Defect Type	Defect Description		CS	CS Qty	Maint Qty	
☑ **215**	Efflorescence/Rust Staining	at multiple beams, at bottom flange, diagonal crack (hairline x 4 inch) with efflorescence		2	6		Feet
☑ **215**	Efflorescence/Rust Staining	bay 6 closure pour, diagonal crack (hairline x 1 foot) with efflorescence		2	1		Feet

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	84	78	6	0	0	Feet

Element Number	Defect Type	Defect Description		CS	CS Qty	Maint Qty	
☑ **234**	Cracking (RC and Other)	below bay 6, vertical crack (1/64 inch x full height)		2	1		Feet
☑ **234**	Efflorescence/Rust Staining	below beam 10, at construction joint with abutment, efflorescence (2 feet)		2	2		Feet
☑ **234**	Efflorescence/Rust Staining	below beam 8, at construction joint with abutment, efflorescence (2 feet)		2	3		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	106	100	6	0	0	Feet

Element Number	Defect Type	Defect Description		CS	CS Qty	Maint Qty	
☑ **215**	Cracking (RC and Other)	at bay 6, at construction joint, vertical crack, full height x up to 0.012 inch		2	1		Feet

☑ **215**	Efflorescence/Rust Staining	at multiple beams, at bottom flange, diagonal crack (hairline x 4 inch) with efflorescence		2	5		Feet

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	84	83	1	0	0	Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ **234**	Cracking (RC and Other)	vertical crack up to 1/32 inch wide, in front face, below bay 6.	2	1		Feet
☑ **234**	Efflorescence/Rust Staining	(2023 moved to abutment) horizontal hairline crack with efflorescence, below girder 10, girder 6 and girder 8 and girder 9 similar	1			Feet

General Comments

Approach 1 — Slab

Reinforced Concrete Approach Slab

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
321	Reinforced Concrete Approach Slabs	923	894	24	5	0	Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ **321**	Cracking (RC and Other)	2 diagonal x 1/16 inch cracks in far right corner of approach slab, 40 inches long and 16 inches long	3	5	5	Square Feet
☑ **321**	Cracking (RC and Other)	2 longitudinal cracks up to full length x up to 1/32 inch wide, in left northbound lane	2	24	24	Square Feet

General Comments

Approach 2 — Slab

Reinforced Concrete Approach Slab

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
321	Reinforced Concrete Approach Slabs	923	906	0	17	0	Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
☑ **321**	Cracking (RC and Other)	2 diagonal x 1/16 inch cracks in near right corner of approach slab, 58 inches long and 20 inches long	3	5	5	Square Feet
☑ **321**	Cracking (RC and Other)	full length longitudinal crack up to 1/16 inch wide in south bound lanes, near west shoulder.	3	12	12	Square Feet

General Comments

Elements Verfied

Location	Name	Component	Element Name	Amount
Span 1	Deck	Reinforced Concrete Deck	Reinforced Concrete Deck	7923
Span 1	Beam 1	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 2	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 3	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 4	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 5	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 6	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 7	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 8	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 9	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 10	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Beam 11	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	102
Span 1	Left Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	103
Span 1	Right Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	103
Span 1	Far Bearing 1	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 2	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 3	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 4	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 5	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 6	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 7	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 8	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 9	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 10	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 1	Far Bearing 11	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Deck	Reinforced Concrete Deck	Reinforced Concrete Deck	8231
Span 2	Beam 1	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 2	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 3	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 4	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 5	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 6	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 7	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 8	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 9	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 10	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Beam 11	Prestressed Concrete Girder	Prestressed Concrete Open Girder/Beam	106
Span 2	Left Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	107
Span 2	Right Bridge Rail	Concrete and Metal Railing	Other Bridge Railing	107
Span 2	Near Bearing 1	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Near Bearing 2	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Near Bearing 3	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Near Bearing 4	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Near Bearing 5	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Near Bearing 6	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1

Elements Verfied

Location	Name	Component	Element Name	Amount
Span 2	Near Bearing 7	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Near Bearing 8	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Near Bearing 9	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Near Bearing 10	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Span 2	Near Bearing 11	Elastomeric Bearing with Metal Plates	Elastomeric Bearing	1
Bent 1	Cap 1	Reinforced Concrete Pier Cap	Reinforced Concrete Pier Cap	77
Bent 1	Pile 1	Reinforced Concrete Column	Reinforced Concrete Column	1
Bent 1	Pile 2	Reinforced Concrete Column	Reinforced Concrete Column	1
Bent 1	Pile 3	Reinforced Concrete Column	Reinforced Concrete Column	1
Bent 1	Pile 4	Reinforced Concrete Column	Reinforced Concrete Column	1
End Bent 1	Cap 1	Reinforced Concrete Pier Cap	Reinforced Concrete Pier Cap	84
End Bent 1	Abutment	Reinforced Concrete Abutment	Reinforced Concrete Abutment	106
End Bent 2	Cap 1	Reinforced Concrete Pier Cap	Reinforced Concrete Pier Cap	84
End Bent 2	Abutment	Reinforced Concrete Abutment	Reinforced Concrete Abutment	106
Approach1	Slab	Reinforced Concrete Approach Slab	Reinforced Concrete Approach Slabs	923
Approach2	Slab	Reinforced Concrete Approach Slab	Reinforced Concrete Approach Slabs	923

General Inspection Notes

National Bridge and NC Inspection Items

Structure Number: 110134 **Inspection Date:** 10/25/2023

National Bridge Inventory Items

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

Note:

Items 58,59,60,62 reflect this inspection only.

For overall NBI coding grade, see cover sheet.

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			
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		**0**	**3364**
Movable Span Machinery	G, F, P, or C			
Response to Live Load	G, F, P, or C	**G**		
Superstructure Paint Code				

Note: If NC SMU Insepction 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	**N**
Inspection Time	Hours	**4**
Traffic Control Time	Hours	
Snooper Time	Hours	
Ladder Used	YES/NO	**N**
Bucket Truck Used	YES/NO	**N**
Boat Used	YES/NO	**N**
Other Equipment Used	YES/NO	**N**
Portion of Structure in > 3' of water	YES/NO	**N**

National Bridge and NC SMU Inspection Item Details

Structure Number: 110134 **Inspection Date:** 10/25/2023

Item Ladder Used **Grade** N **Maint Code** **Qty.** 0

Details pole camera used

Span 1 Beam 1: near bent 1, top flange, right face, efflorescence (2 feet)

Span 1 Beam 1: bent 1 closure pour, at seams, efflorescence

End Bent 1 Cap 1: below beam 8, at construction joint with abutment, efflorescence (2 feet)

End Bent 1 Abutment: bay 6 closure pour, diagonal crack (hairline x 1 foot) with efflorescence

End Bent 1 Cap 1: below bay 6, vertical crack (1/64 inch x full height)

End Bent 1 Abutment: at multiple beams, at bottom flange, diagonal crack (hairline x 4 inch) with efflorescence

End Bent 2 Cap 1: vertical crack up to 1/32 inch wide, in front face, below bay 6.

End Bent 2 Abutment: at bay 6, at construction joint, vertical crack, full height x up to 0.012 inch

Span 1 Left Bridge Rail: up to full height x 1/64 inch vertical cracks in top of rail extending down face

Span 1 Left Bridge Rail: sidewalk at random, transverse cracks (up to 1/16 inch x 9 feet)

Span 2 Left Bridge Rail: sidewalk at random, transverse cracks (up to 1/16 inch x 9 feet)

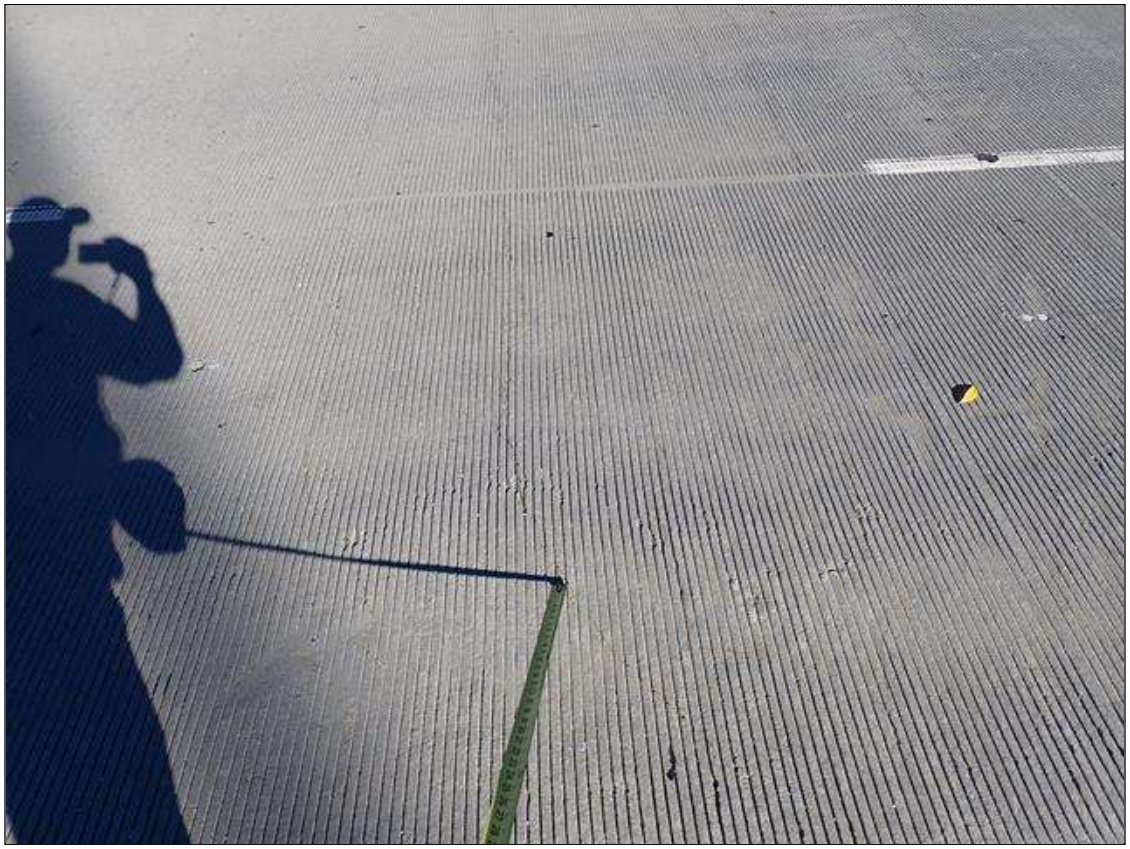
Span 2 Left Bridge Rail: up to full height x 1/64 inch in top of rail extending down face

Approach 2 : full length longitudinal crack up to 1/16 inch wide in south bound lanes, near west shoulder.

Approach 2 : 2 diagonal x 1/16 inch cracks in near right corner of approach slab, 58 inches long and 20 inches long

Span 2 Deck: throughout center mountable median, multiple transverse cracks [up to full width x up to 1/16 inch]

Span 2 Deck: multiple full width transverse cracks up to 1/16 inch wide, near bent 1, in south bound lanes.



Span 2 Deck: 5 - full width transverse cracks up to 1/16 inch wide, in north bound lanes, near bent 1.

Span 2 Deck: 3 - longitudinal cracks up to 1/32 inch wide x up to 4 feet long, in south bound lanes, at end bent 2.

Span 1 Deck: 3 - longitudinal cracks up to 1/32 inch wide x up to 4 feet long, extending from end bent 1 joint, in northbound lanes.

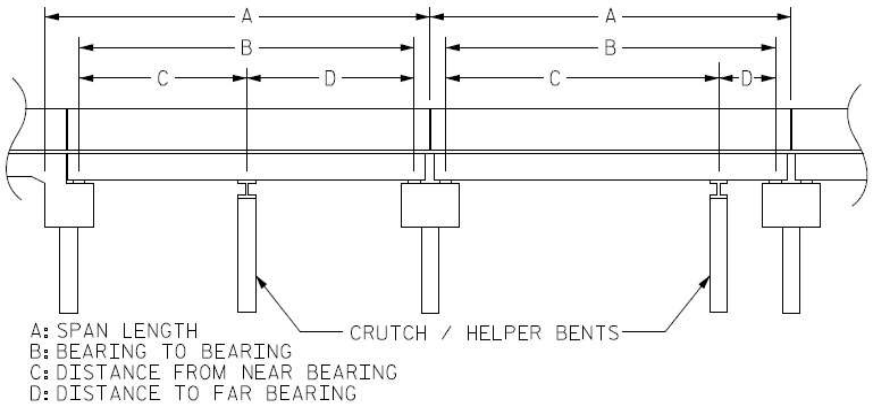
Span 1 Deck: multiple transverse cracks up to 1/16 inch wide, in top of deck, southbound lanes, near bent 1.

Approach 1 : 2 diagonal x 1/16 inch cracks in far right corner of approach slab, 40 inches long and 16 inches long

Structure Data Worksheet

Span Profile

County: **BURKE** Structure Number: **110134**



Span Number	Span Length	Bearing to Bearing	Crutch/ Helper Bent	Distance to Near Bearing	Distance to Far Bearing
1	103.000	100.104			
2	107.000	104.104			

Structure Number: 110134 Span: 1 Route Name: I 40 E

roadway under span 1, looking east (I-40 eastbound)

Route Number: 11000400	**Route Name:** I 40 E			**Reference Feature:** H
Minimum Vertical Clearance 17.917 feet	**Maximum Minimum Vertical Clearance** 19.250 feet			
Total Horizontal Clearance 68.300 feet	**Lateral Clearances: Left:** 11.000 feet **Right** 32.000 feet			
☑ **Base Highway Network**	**LRS Inventory Route, Sub Route Number** 10040			
Milepost: 104.260	**Number of Lanes:** 2	**ADT:** 25000	**Year of ADT:** 2019	**Percentage of Trucks:** 16
☑ **National Highway System**		☐ **STRAHNET Highway Designator**		
Functional Classification 11	Local Principal Arterial - Interstate	**Direction of Traffic:** 1	1 - way traffic	

Structure Number: 110134 Span: 2 Route Name: I 40 W

roadway under span 2, looking west (I-40 westbound)

Route Number: 11000400	**Route Name:** I 40 W			**Reference Feature:** H
Minimum Vertical Clearance 19.420 feet	**Maximum Minimum Vertical Clearance** 21.500 feet			
Total Horizontal Clearance 67.000 feet	**Lateral Clearances: Left:** 11.370 feet **Right** 31.000 feet			
☑ **Base Highway Network**	**LRS Inventory Route, Sub Route Number** 10040			
Milepost: 104.260	**Number of Lanes:** 2	**ADT:** 25000	**Year of ADT:** 2019	**Percentage of Trucks:** 16
☑ **National Highway System**		☐ **STRAHNET Highway Designator**		
Functional Classification 11 Local Principal Arterial - Interstate		**Direction of Traffic:** 1 1 - way traffic		

Bridge Inspection Field Sketch

Left Lanes			
Roadway	33ft Wide	3 Paved Lanes	South Bound
Right Shoulder	12ft Wide	2ft Paved	10ft Unpaved
Left Shoulder			
Right Guardrail			
Left Guardrail			
Median	4ft Wide	0.5ft High	
Right Lanes			
Roadway	24ft Wide	2 Paved Lanes	North Bound
Left Shoulder			
Right Shoulder	2ft Wide	2ft Paved	
Left Guardrail			
Right Guardrail	2ft from road		

Measurements recorded 30 feet south of end bent 1

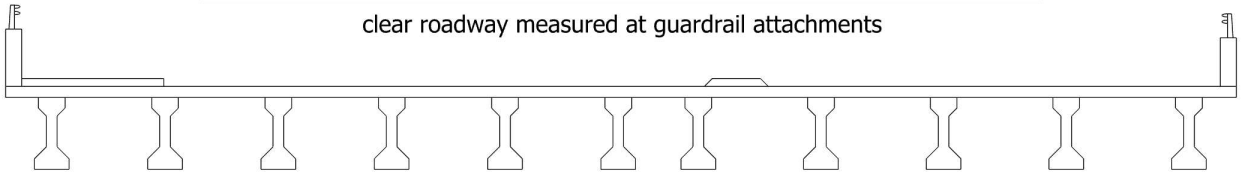
Title	Description
APPROACH ROADWAY	LOOKING NORTH

Structure No: 110134	Drawn By: ITChapman	Date: 10/25/2023	Filename: S000918000534.wes

Bridge Inspection Field Sketch

Deck Width/Out to Out	76.917ft	Between Rails			74.083ft
Clear Roadway	64.92ft	Wearing Surface			
Median Width	4ft	Median Height			0.5ft
Curb Height		Left	6in	Right	
Sidewalk Width		Left	8.875ft	Right	
Clear Roadway (Rail to Median)		Left	35ft*	Right	25.92ft**
Guardrail Width		Left	17in	Right	17in
Top of Rail to Deck/Wearing Surface		Left	5.083ft	Right	4.542ft
Bridge Rail Type		Left	Type 56	Right	Type 56

clear roadway measured at guardrail attachments



Measurements for Span #	1		
Deck Thickness	8.256in	Left Overhang	2.875ft
Top of Rail to Bottom of Beam (Avg)	10ft	Right Overhang	2.958ft

Beam #	Beam Type	Width	Height	Spacing	From
1	Prestressed Concrete Girder	26in	54in	2.875ft	Left Edge of Deck
2	Prestressed Concrete Girder	26in	54in	7.083ft	Beam 1
3	Prestressed Concrete Girder	26in	54in	7.083ft	Beam 2
4	Prestressed Concrete Girder	26in	54in	7.083ft	Beam 3
5	Prestressed Concrete Girder	26in	54in	7.083ft	Beam 4
6	Prestressed Concrete Girder	26in	54in	7.083ft	Beam 5
7	Prestressed Concrete Girder	26in	54in	5ft	Beam 6
8	Prestressed Concrete Girder	26in	54in	7.667ft	Beam 7
9	Prestressed Concrete Girder	26in	54in	7.667ft	Beam 8
10	Prestressed Concrete Girder	26in	54in	7.667ft	Beam 9
11	Prestressed Concrete Girder	26in	54in	7.667ft	Beam 10

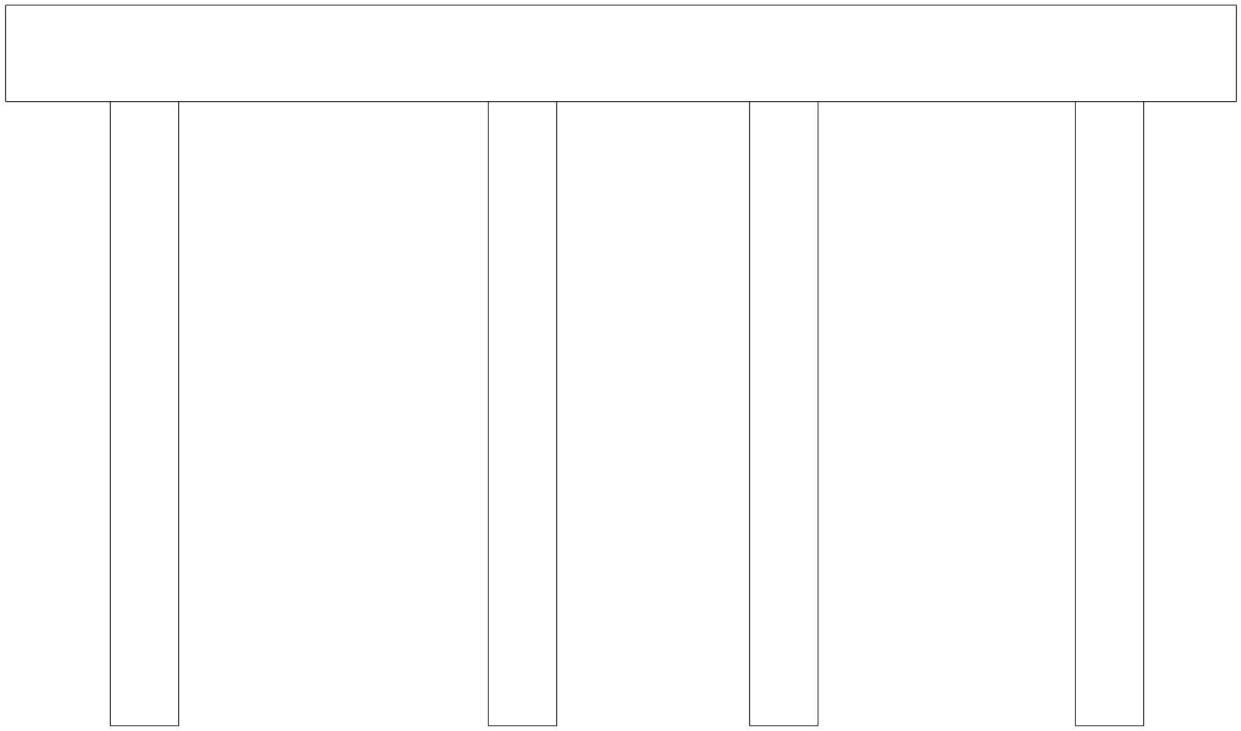
*varies from 24ft to 35ft

*varies from 25.92ft to 37.167ft

Title	Description
TYPICAL SECTION	LOOKING NORTH

Structure No:	Drawn By:	Date:	Filename:
110134	ITChapman	10/25/2023	S000918000535.wes

Bridge Inspection Field Sketch



Caps							
#	Name	Type	Length	Width	Height	Left Beam to End of Cap	Right Beam to End of Cap
1	Cap 1	Reinforced Concrete Pier Cap	76.417ft	51in	72in	2.365ft	3.083ft

Piles							
#	Name	Type	Spacing	From	Height/Diam.	Width	Length
1	Pile 1	Reinforced Concrete Column	8.625ft	Left End of Bent	49in	49in	
2	Pile 2	Reinforced Concrete Column	23.5ft	Pile 1	49in	49in	
3	Pile 3	Reinforced Concrete Column	16.333ft	Pile 2	49in	49in	
4	Pile 4	Reinforced Concrete Column	20.167ft	Pile 3	49in	49in	

Title	Description
BENT 1	LOOKING NORTH

Structure No: 110134	Drawn By: ITChapman	Date: 10/25/2023	Filename: S000918000536.wes

east profile looking west

end bent 1 and slope protection

southeast wingwall

southwest wingwall

west profile looking east

roadway under span 1, looking east (I-40 eastbound)

superstructure underside

bent 1

intermediate diaphragm

end diaphragm

southeast guardrail and termination

south approach looking north

southeast guardrail transition

southeast guardrail attachment

right bridge rail

left bridge rail

end of approach slab 1

bridge deck

south approach looking south

roadway looking east

roadway looking west

bent 1 deck

north approach looking north

end of approach slab 2

northwest guardrail attachment

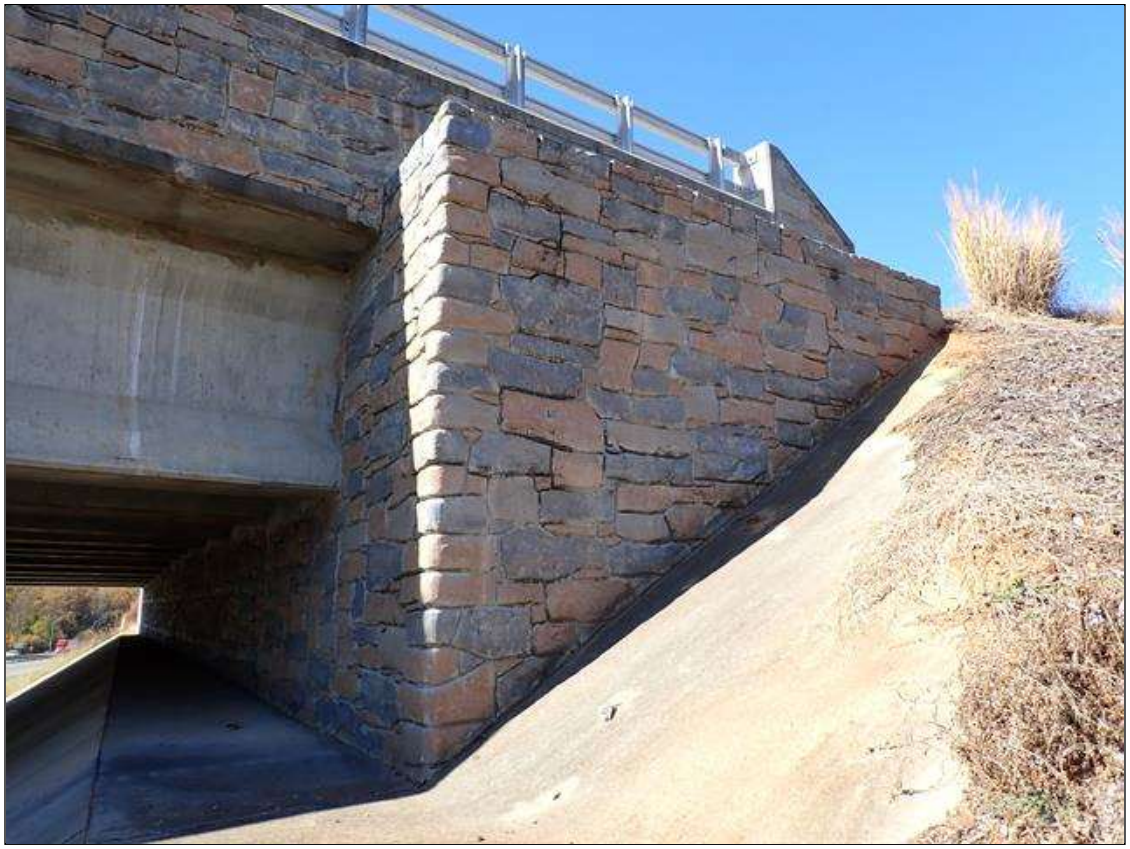
northwest guardrail transition

north approach looking south

northwest guardrail and termination

northwest wingwall

typical beams at abutment



northeast wingwall

roadway under span 2, looking west (I-40 westbound)

end bent 2 and slope protection

interior bearing assembly

beams over bent