



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

UNDERWATER BRIDGE INSPECTION REPORT

INSPECTION TYPE: 4 Year Underwater Inspection

COUNTY ONSLOW

BRIDGE NUMBER 660028 INSPECTION CYCLE 4 YRS

ROUTE NC210

ACROSS INTRACOASTAL WATE

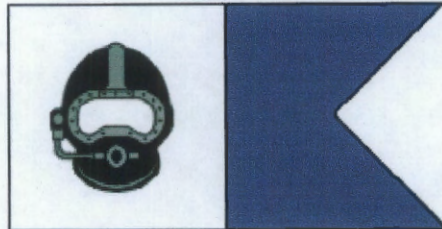
Inspection Date 05/26/2011

Inspected By WILLIAM MUELLER

Type Work Performed

Zin OK
6/24/11

Man Hours (Spec. Work Only)



Computer update: 779-1

EQUIPMENT USED

COMPRESSOR ☒

WET SUIT ☒

COMMUNICATION - AMRON ☒

SCUBA ☒

DRY SUIT ☐

COMMUNICATION OTS ☒

LIGHTS ☒

ROPE ☐

UNDERWATER PHOTOS TAKEN ☐

BOAT ☒

CONSTRUCTION EQUIPMENT ☐

DATE	DIVER	CURRENT	VISIBILITY	METEOROLOGY	DEPTH	DIVE TIME
5/25/2011	LJH	TIDAL	1.5'	90 DEG/CLEAR	6.0'	120 MIN.
5/26/2011	WRM	TIDAL	1.5'	86 DEG/CLEAR	14.2'	120 MIN.
5/26/2011	LJH	TIDAL	1.5'	86 DEG/CLEAR	14.2'	75 MIN.

NATIONAL BRIDGE INVENTORY----- STRUCTURE INVENTORY AND APPRAISAL Run Date: 07/19/2011

IDENTIFICATION					
(1) STATE NAME -NORTH CAROLINA	BRIDGE	660028	SUFFICIENCY RATING =	23	
(8) STRUCTURE NUMBER(FEDERAL)		000000001330028	STATUS =	Structurally Deficient	
INVENTORY ROUTE (ON/UNDER) - ON		131002100			
(2) STATE HIGHWAY DEPARTMENT DISTRICT		3			
(3) COUNTY CODE 133	(4) PLACE CODE	00000	CLASSIFICATION CODE		
(6) FEATURE INTERSECTED - INTRACOASTAL WATE			(112)NBIS BRIDGE SYSTEM -	YES	
(7) FACILITY CARRIED NC210			(104)HIGHWAY SYSTEM NON NHS Route	0	
(9) LOCATION .3 MI. N JCT SR1568			(26) FUNCTIONAL CLASS - Major Collector	07	
(11)MILEPOINT		0	(100)STRAHNET HIGHWAY - Not a STRAHNET Route	0	
(16)LAT 34° 29' 58.1"	(17)LONG 77° 25' 44.9"		(101)PARALLEL STRUCTURE - No Parallel Structure	N	
(98)BORDER BRIDGE STATE CODE	PCT SHARE		(102)DIRECTION OF TRAFFIC - 2-way Traffic	2	
(99)BORDER BRIDGE STRUCTURE NO			(103)TEMPORARY STRUCTURE - Not Temporary		
			(110)DESIGNATED NATIONAL NETWORK - Not Part of	0	
			(20) TOLL On Free Road	3	
			(31) MAINTAIN - State Highway Agency	01	
			(22) OWNER - State Highway Agency	01	
			(37) HISTORICAL SIGNIFICANCE - Not Eligible	5	
STRUCTURE TYPE AND MATERIAL					
(43) STRUCTURE TYPE MAIN: Prestressed Concrete					
TYPE - Stringer Multibeam or Girder	CODE	502			
(44) STRUCTURE TYPE APPR :					
TYPE -	CODE		CONDITION CODE		
(45) NUMBER OF SPANS IN MAIN UNIT		27	(58) DECK	5	
(46) NUMBER OF APPROACH SPANS			(59) SUPERSTRUCTURE	5	
(107)DECK STRUCTURE TYPE - Concrete cast-in-place	CODE	1	(60) SUBSTRUCTURE	3	
(108)WEARING SURFACE / PROTECTIVE SYSTEM :			(61) CHANNEL & CHANNEL PROTECTION	6	
(A) TYPE OF WEARING SURFACE - Concrete	CODE	1	(62) CULVERTS	N	
(B) TYPE OF MEMBRANE - None	CODE	0			
(C) TYPE OF DECK PROTECTION - None	CODE	0	LOAD RATING AND POSTING CODE		
			(31) DESIGN LOAD HS 15	3	
			(64) OPERATING RATING - HS-53	195	
			(66) INVENTORY RATING - HS-20	136	
			(70) BRIDGE POSTING - No Posting Required	5	
			(41) STRUCTURE OPEN, POSTED ,OR CLOSED	A	
			DESCRIPTION - Open, No Restriction		
AGE AND SERVICE					
(27) YEAR BUILT		1968			
(106)YEAR RECONSTRUCTED					
(42) TYPE OF SERVICE : ON - Highway					
UNDER - Waterway	CODE	15			
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE					
(29) AVERAGE DAILY TRAFFIC		3900	APPRAISAL CODE		
(30) YEAR OF ADT 2009	(109) TRUCK ADT PCT	7 %	(67) STRUCTURAL EVALUATION	3	
(19) BYPASS OR DETOUR LENGTH		99 MI	(68) DECK GEOMETRY	4	
			(69) UNDERCLEARANCES,VERTI & HORIZ	N	
			(71) WATERWAY ADEQUACY	7	
			(72) APPROACH ROADWAY ALIGNMENT	8	
			(36) TRAFFIC SAFETY FEATURES	0011	
			(113)SCOUR CRITICAL BRIDGES	5	
			SCOUR PLAN OF ACTION		
GEOMETRIC DATA					
(48) LENGTH OF MAXIMUM SPAN		132 FT			
(49) STRUCTURE LENGTH		2532 FT			
(50)CURB OR SIDEWALK: LEFT 1.7 FT RIGHT		1.7 FT			
(51) BRIDGE ROADWAY WIDTH CURB TO CURB		28.0 FT			
(52) DECK WIDTH OUT TO OUT		33.7 FT			
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)		27.0 FT			
(33) BRIDGE MEDIAN - No Median	CODE	0	PROPOSED IMPROVEMENTS		
(34) SKEW 0° (35) STRUCTURE FLARED		NO	(75) TYPE OF WORK -	CODE	
(10) INVENTORY ROUTE MIN VERT CLEAR		99 FT 99 IN	(76) LENGTH OF STRUCTURE IMPROVEMENT	0 FT	
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR		28.0 FT	(94) BRIDGE IMPROVEMENT COST		
(53) MIN VERT CLEAR OVER BRIDGE RDWY		99 FT 99 IN	(95) ROADWAY IMPROVEMENT COST		
(54) MIN VERT UNDERCLEAR REF Not a Highway or Railroad			(96) TOTAL PROJECT COST		
(55) MIN LAT UNDERCLEAR RT REF Not a Highway or Railroad		99.9 FT	(97) YEAR OF IMPROVEMENT COST ESTIMATE	20	
(56) MIN LAT UNDERCLEAR LT REF -		0.0 FT	(114)FUTURE ADT 7800	(115) YEAR FUTURE ADT	2025
NAVIGATION DATA					
(38) NAVIGATION CONTROL - Navigational Control	CODE	1	(90) INSPECTION DATE	08/10/2010	
(111)PIER PROTECTION - In Place Functioning	CODE	2	(92) CRITICAL FEATURE INSPECTION :	(93) CFI DATE	
(39) NAVIGATION VERTICAL CLEARANCE		65	A) FRACTURE CRIT DETAIL - NO	A)	
(116)VERT - LIFT BRIDGE NAV MIN VERT CLEAR			B) UNDERWATER INSP - YES 48Mo	B) 05/01/2011	
(40) NAVIGATION HORIZONTAL CLEARANCE		90	C) OTHER SPECIAL INSP NO	C)	
			SCOUR		

BRIDGE INSPECTION RECORD AND SUMMARY

INSPECTION TYPE 4 Year Underwater Inspection
 BRIDGE NO. 660028 COUNTY ONSLOW ROUTE NC210 OVER INTRACOASTAL WATE
 STRUCTURE TYPE REINFORCED CONCRETE FLOOR/PRESTRESSED CONCRETE GIRDERS
 ROUTE ORIENTATION W - E SPANS 12@92';1@96';1@132';1@96';12@92'

EVALUATION CODES: CRITICAL (C, 0 - 3); POOR (P, 4); FAIR (F, 5, 6); GOOD (G, 7 - 9)

INSPECTION ITEM			ITEM 61		
DECK ITEMS			ITEM 61		
GRADES			ITEM 61		
1. WEARING SURFACE			45. CHANNEL & CHANNEL PROT.	a. WATERWAY	G
				b. ALIGNMENT	G
				c. SCOUR	F
2. DECK NO. OF EA TYPE				d. SLOPE PROT., RIP-RAP, DIKES, ETC.	
a. CONCRETE			50. APPROACH ROADWAY CONDITION		
b. TIMBER			51. APPROACH SLABS		
c. STEEL PLANK			52. PAINT SYSTEM CODE		
d. OPEN GRID			53. UTILITIES		
3. RAILING			54. RESPONSE TO LIVE LOAD		
a. CONCRETE			55. ESTIMATED REMAINING LIFE		
b. TIMBER					
c. ALUMINUM					
d. STEEL					
4. CURBS, WHEELGUARDS, PARAPETS, MEDIANS					
5. WALKWAYS (ON OR ATTACHED TO STRUCTURE)			60. REGULATORY SIGN NOTICE ISSUED NO		
6. DECK EXP JTS. OR DEVICES. NO. OF EACH			61. PROMPT-ACTION NOTICE ISSUED NO		
a. STEEL PL OR FINGER			62. PRESENTLY POSTED NO		
b. MISC PREFAB			63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR) 56		
c. COMPRESSION SEAL			64. TOTAL SNOOPER INSP. TIME (HRS)		
d. STANDARD JOINTS			65. TOTAL TRAFFIC CONTROL TIME (MAN HRS)		
e. OPEN JOINTS					
7. DECK DEBRIS (INCLUDES EXCESS SAND/GRAVEL)					
			70. SI&A GENERAL CONDITION RATINGS		
SUPER STR. (FM. 1 (90)B TRUSS) ITEM 59			a. DECK ITEM 58		
10. LONGITUDINAL BEAMS OR GIRDERS			b. SUPERSTRUCTURE ITEM 59		
11. LONGITUDINAL JOIST OR STRINGERS			c. SUBSTRUCTURE ITEM 60 5		
12. INT. DIAP'S, X-FRAMES, BRACING & CONN'S			d. CHANNEL & CHANNEL PROT. ITEM 61 5		
13. END DIAP'S, CURTAIN WALLS, & CONN'S					
14. FLOOR BEAMS AND CONNECTIONS			71. SI&A FIELD APPRAISAL RATINGS		
15. BEARING ASSEMBLIES (INCLUDING MISALIGN)			a. WATERWAY ADAQUACY 7		
16. DRAINAGE SYSTEM (ON STRUCTURE)			b. APPR. RDWY. ALIGNMENT		
17. MOVABLE SPAN MACHINERY					
			72. FIELD SCOUR EVALUATION E		
SUB STR. ITEMS. ITEM 60 (INCLUDE SCOUR)					
35. TIM SUB STR.			USE OF INSP. ACCESSIBILITY EQUIPMENT		
a. ABUT. & INT. BENT CAPS & RISERS			SNOOPER (CODE S, 4, OR N) HRS NO		
b. PILES, POST, SILLS, & BRACING			LADDER NO		
c. BULKHEADS, WING'S, & TIE BACKS			BUCKET TRUCK NO		
36. CONC SUB STR.			BOAT YES		
a. ABUT. & INT. BENT CAPS			OTHER NO		
b. ABUT. & BENT COL'S BREASTWALLS F					
c. ABUT. & INT. BENT PILES					
d. BACKWALLS, WING'S, RETAIN. WALLS					
e. ABUT. & BENT FOOTINGS & SILLS F					
37. STEEL SUB STR.			SPECIAL INSPECTION REQUESTED FOR		
a. ABUT. & INT. BENT CAPS & RISERS					
b. PILES, BRACING, AND BULKHEADS					
38. FOUNDATION PILES TYPE MATERIAL F			NOTE		
39. SLOPE PROT., RIP-RAP (INCLUDE DRAINAGE)					
40. FENDER SYSTEMS			80. INSPECTED BY: <i>JWR</i>		
41. DRIFT G			81. REVIEWED BY:		

BRIDGE INSPECTION RECORD AND SUMMARY

REV. 5-30-97

INSPECTION TYPE	ROUTINE	(U/W)	(FOR FENDER ONLY)	INSPECTION DATE	6/21/11
BRIDGE NO.	660028	COUNTY	ONslow	ROUTE	NC 210
STRUCTURE TYPE	TIMBER PILES AND WALERS			OVER	INTRACOASTAL WATERWAY
LENGTH	ROUTE ORIENTATION		W TO E	FOR SPANS	13 AND 14 OF SPANS
EVALUATION CODE: 0 - 2 CRITICAL, 3 & 4 POOR, 5 & 6 FAIR, 7 - 9 GOOD					
INSPECTION ITEM			ITEM 61		GRADE
DECK ITEMS			GRADE		
1 WEARING SURFACE			45 CHANNEL & CHANNEL PROT.	a. WATERWAY	8
2 DECK	a. CONCRETE			b. ALIGNMENT	8
NO. OF EA.	b. TIMBER			c. SCOUR	8
TYPE SPN.	c. STEEL PLANK			d. SLOPE PROT., DIKES	
GRADE	d. OPEN GRID			RIP-RAP ETC.	
RATES			50 APPROACH ROADWAY CONDITION		
SI & A ITEM			51 APPROACH SLABS		
58			52 PAINT SYSTEMS	CODE	
3 RAILING	a. CONCRETE		53 UTILITIES		
	b. TIMBER		54 RESPONSE TO LIVE LOAD		
	c. ALUMINUM		55 ESTIMATED REMAINING LIFE		
	d. STEEL		60 REGULATORY SIGN NOTICE ISSUED	N	
4 CURBS - WHEELGUARDS - PARAPETS - MEDIANS			61 PROMPT - ACTION NOTICE ISSUED	Y	
5 WALKWAYS (ON OR ATTACHED TO STRUCTURE)			62 PRESENTLY POSTED	N/A	
6 DECK EXP. JTS. OR DEVICES	a. STEEL PL. OR FINGER PL.		63 TOT. FIELD INSP. TIME (INCLUDE WRITE UP) (M/H)	20 MHRS	
NO. OF EACH	b. MISC. PREFAB DEVICES		64 TOTAL SNOOPER INSP. TIME (HRS)		
	c. COMPRESSION SEALS		65 TOTAL TRAFFIC CONTROL TIME (M/H)		
	d. STANDARD JOINTS				
	e. OPEN JOINTS		70 SI&A GENERAL CONDITION RATINGS		
7 DECK DEBRIS (INCLUDE EXCESS SAND / GRAVEL)			a. DECK	ITEM 58	
SUPER STR. (FM. 1 (90) B TRUSS) ITEM 59			b. SUPERSTRUCTURE	ITEM 59	
10 LONGITUDINAL BEAMS OR GIRDERS			c. SUBSTRUCTURE	ITEM 60	*3
11 LONGITUDINAL JOIST OR STRINGERS			d. CHANNEL & CHANNEL PROT.	ITEM 61	8
12 INT. DIAP'S, X-FRAMES, BRACING, & CONN'S			71 SI&A FIELD APPRAISAL RATINGS		
13 END DIAP'S, CURTAIN WALLS, & CONN'S			a. WATERWAY ADEQUACY	N/A	
14 FLOOR BEAMS AND CONNECTIONS			b. APPR. RDWY. ALIGNMENT		
15 BEARINGS ASSEMBLIES (INCLUDE MISALIGN)					
16 DRAINAGE SYSTEMS (ON STRUCTURES)					
17 MOVABLE SPAN MACHINERY			72 FIELD SCOUR EVALUATION	N/A	
SUB STR ITEMS, ITEM 60 (INCLUDE SCOUR)					
35 TIM. SUB STR.	a. ABUT. & INT. BENT CAPS & RISERS		USE OF INSP. ACCESSIBILITY EQUIPMENT		
	b. PILES, POST, SILLS, & BRACING		SNOOPER (CODE P, S, 4 or N)	N	
	c. BULKHEADS, WING'S, & TIE BACKS		LADDER	Y/N	N
36 CONC. SUB STR.	a. ABUT. & INT. BENT CAPS		OVERSIDE LADDER	Y/N	N
	b. ABUT. & BENT COL'S & BREASTWALLS		BUCKET TRUCK	Y/N	N
	c. ABUT. & INT. BENT PILES		BOAT	Y/N	Y
	d. BACKWALLS - WING'S - RETAIN. WALLS		OTHER	Y/N	N
	e. ABUT. AND BENT FOOTINGS & SILLS				
37 STEEL SUB. STR.	a. ABUT. & INT. BENT CAPS & RISERS		NOTE: * ITEM 70C FOR FENDER ONLY		
	b. PILES AND BRACING AND BULKHEADS				
38 FOUNDATION PILES TYPE MATERIAL					
39 SLOPE PROT., RIP - RAP (INCLUDE DRAINAGE)					
40 FENDER SYSTEMS	3				
41 DRIFT			80 INSPECTED BY:	W.R. MUELLER <i>W.R. Mueller</i>	
			81 REVIEWED BY:	<i>W.R. Mueller</i>	

SPECIAL INSPECTION REQUESTED FOR :

Bridge I&A Form 1(82)H		<h1 style="text-align: center;">FIELD INSPECTION REPORT</h1> <h2 style="text-align: center;"><u>Bridge Inspeccion & Analysis</u></h2>	
State of North Carolina Dept. of Transportation Division of Highways			
Team Leader WILLIAM MUELLER			
Assisted By PGR,LJH			
Item No.	Grade		
36b	F	CONCRETE COLUMNS BENTS 13 AND 14 ARE FOOTED BENTS ON SILLS WITH COLUMNS HAVING RANDOM HAIRLINE CRACKS AND SMALL SHALLOW SPALLS THROUGHOUT.	
36e	F	FOOTINGS AND SILLS RANDOM CRACKS TO 1/16" EXTEND OUT AND UP THE SIDES. THE FOOTINGS HAVE HONEYCOMB AREAS ON CORNERS AND ON THE UNDERSIDE. AREAS OF COARSE AGGREGATE EXPOSED WITH HAIRLINE TO 1/16" CRACKS. BENT 13 WEST FACE CRACKS TO 1/16" X FULL HEIGHT. LOCATED 12.8' AND 4.3' FROM THE EAST END. EAST FACE CRACKS TO 1/16" X FULL HEIGHT. LOCATED 12.5' AND 20.3' FROM THE EAST END. BENT 14 WEST FACE SPALL 16" X 2" X 1.5" PENETRATION. LOCATED 7.3' FROM THE SOUTH END. SPALL 4' X 3" X 1.5" PENETRATION. LOCATED 12' FROM THE SOUTH END. SPALL 14" X 16" X 1" PENETRATION. LOCATED 13.5' FROM THE NORTH END. EAST FACE AREA OF CONCRETE LAITANCE 18" X 1" PENETRATION AT THE TOP OF THE FOOTING NORTHWEST CORNER. NORTH FACE 2 SPALLS 3" X 1.5" X 1" PENETRATION AT THE NORTHWEST CORNER. BOTH FOOTINGS HAVE RANDOM VOIDS AT JUNCTION OF FOOTING AND SILLS DUE TO CONCRETE CRUMBLING AWAY. 8" HIGH MAX. X 2' PROBE MAX. BENTS 13 AND 14 SILLS HAVE NUMEROUS CRACKS RANGING FROM 1" TO 7" WIDE WITH PROBES FROM 1" TO 8". SILLS ALSO HAVE AREAS OF CONCRETE LAITANCE AND SPALLS. FOOTINGS AT BENT 13 AND 14 HAVE SEVERAL CRACKS AND SPALLS.	
38	F	CONCRETE FOUNDATION PILES NUMEROUS PILES HAVE HAIRLINE TO 1/32" CRACKS WITH EFFLO. IN THE TIDAL ZONE. RANDOM PILES CRACKED TO 1/8". REFER TO CRACK SHEETS.	
41	G	DRIFT NO PROBLEMS NOTED	
45a	G	WATERWAY NO PROBLEMS NOTED.	
45b	G	CHANNEL ALIGNMENT NO PROBLEMS NOTED.	

Bridge I&A Form 1(82)H State of North Carolina Dept. of Transportation Division of Highways		FIELD INSPECTION REPORT <u>Bridge Inspeccion & Analysis</u>	
Team Leader WILLIAM MUELLER			
Assisted By PGR,LJH			
Item No.	Grade		
45c	F	SCOUR BENT 13 NW- 0.0' SW- 1.5' NE- 2.2' SE- 3.8' BENT 14 NW- 5.4' SW- 1.2' NE- 5.0' SE- 0.0' NORTHWEST CORNER BENT 14 3 CONCRETE PILES EXPOSED FOR 2.5'. SCOUR 5.4' VERTICAL X 9' LONG ACROSS NORTH SIDE X 9' LONG ACROSS WEST SIDE.(SEE SCOUR PROFILE)	
72	E	FIELD SCOUR EVALUATION SCOUR HAS OCCURRED EXPOSING PILES ON A PILE FOOTING SUBSTRUCTURE.	

BRIDGE INSPECTOR'S RECOMMENDATIONS FOR MAINTENANCE REPAIRS

Bridge: 660028

County: **ONSLOW**

Division: **3**

Insp. By **William R. Mueller**

Date **6/21/11** Check By:

Date _____

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

[illegible]

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 660028

County ONSLOW

Date: 05/26/2011

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	1000	SPALLED FOOTINGS AND VERTICAL CRACKS AS NOTED IN CRACK SHEETS	

Key



Priority Maintenance Item



Critical Finding Item



Priority Maintenance Level Not Determined



BENT 4 NORTHWEST CORNER SPALL ON FOOTING



BENT 5 NORTHWEST CORNER SPALL ON FOOTING



BENT 6 P-2 F-3 H/L - 1/16" CRACK



BENT 12 SPAN 13 SIDE

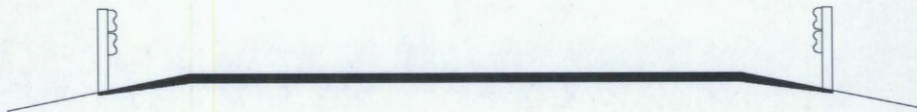


MARINE GROWTH BENT 13



MARINE GROWTH ON PILES

Bridge Inspection Field Sketch



Roadway	27ft Wide	2 Paved Lanes	Looking East
Left Shoulder	3ft Wide		3ft Unpaved
Right Shoulder	3.5ft Wide		3.5ft Unpaved
Left Guardrail	3ft from road		
Right Guardrail	3.5ft from road		

Title

APPROACH ROADWAY

Description

WEST APPROACH, LOOKING EAST

Bridge No: 660028

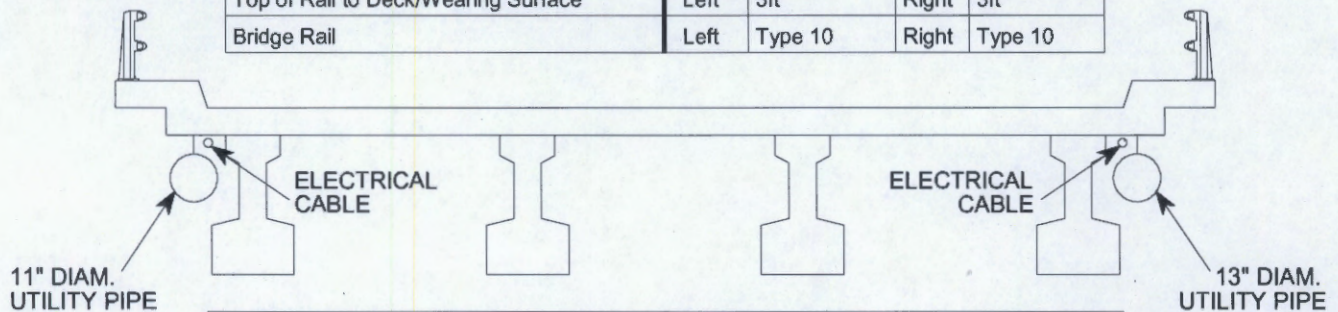
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Date: 08/20/2010

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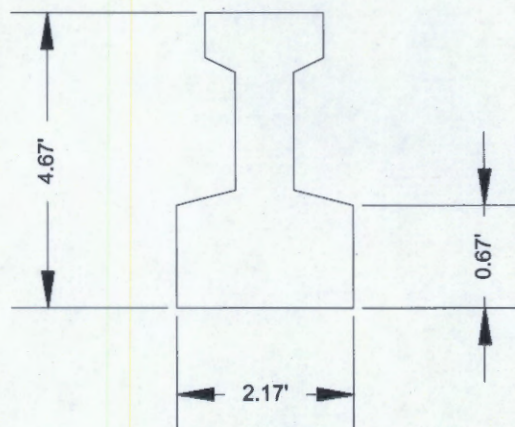
Bridge Inspection Field Sketch

Deck Width/Out to Out	33.667ft	Between Rails	31.25ft
Clear Roadway	28ft	Wearing Surface	
Median Width		Median Height	
Curb Height		Left	0.75ft
Sidewalk Width		Left	1.21ft
Clear Roadway (Rail to Median)		Left	
Guardrail Width		Left	
Top of Rail to Deck/Wearing Surface		Left	3ft
Bridge Rail		Left	Type 10



Measurements for Span #	1		
Deck Thickness	0.833	Left Overhang	4.2083
Top of Rail to Bottom of Beam	8.25	Right Overhang	4.2083

Beam Number	Beam Type	Spacing	Comments
1	PPC Girder	8.42ft	
2	PPC Girder	8.42ft	
3	PPC Girder	8.42ft	
4	PPC Girder	ft	



TYPICAL GIRDER SECTION

Title

TYPICAL SECTION

Description

LOOKING EAST

Bridge No: 660028

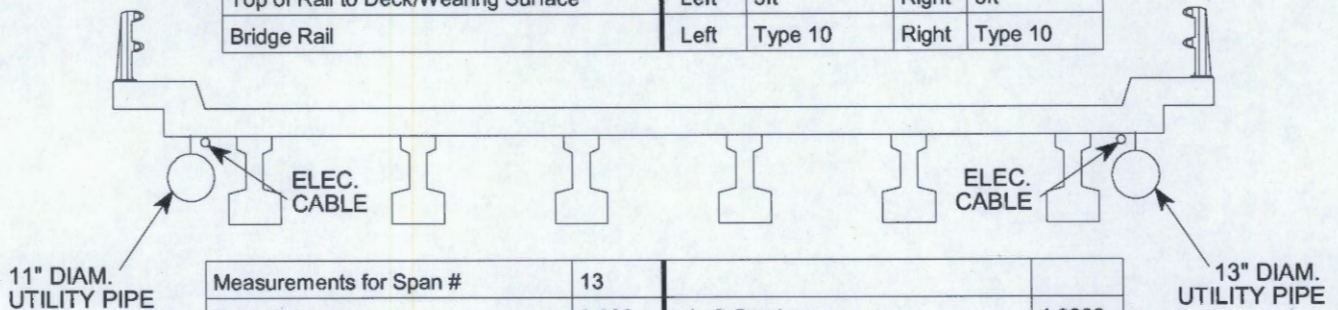
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Date: 08/23/2010

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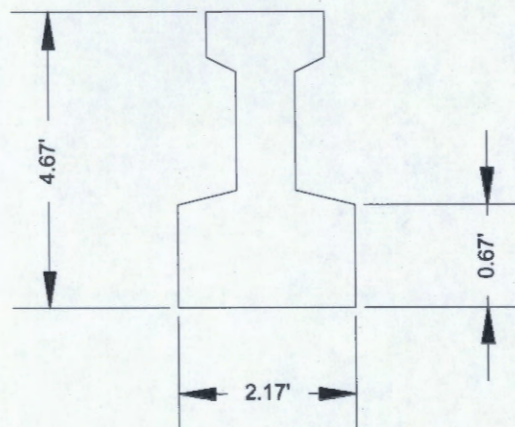
Bridge Inspection Field Sketch

Deck Width/Out to Out	33.667ft	Between Rails	31.25ft
Clear Roadway	28ft	Wearing Surface	
Median Width		Median Height	
Curb Height		Left	0.75ft
Sidewalk Width		Left	1.21ft
Clear Roadway (Rail to Median)		Left	
Guardrail Width		Left	
Top of Rail to Deck/Wearing Surface		Left	3ft
Bridge Rail		Left	Type 10



Measurements for Span #	13		
Deck Thickness	0.833	Left Overhang	4.0833
Top of Rail to Bottom of Beam	8.25	Right Overhang	4.0833

Beam Number	Beam Type	Spacing	Comments
1	PPC Girder	5ft	
2	PPC Girder	5ft	
3	PPC Girder	5ft	
4	PPC Girder	5ft	
5	PPC Girder	5ft	
6	PPC Girder	ft	



TYPICAL GIRDER SECTION

Title

TYPICAL SECTION - SPANS 13, 14 & 15

Description

LOOKING EAST

Bridge No: 660028

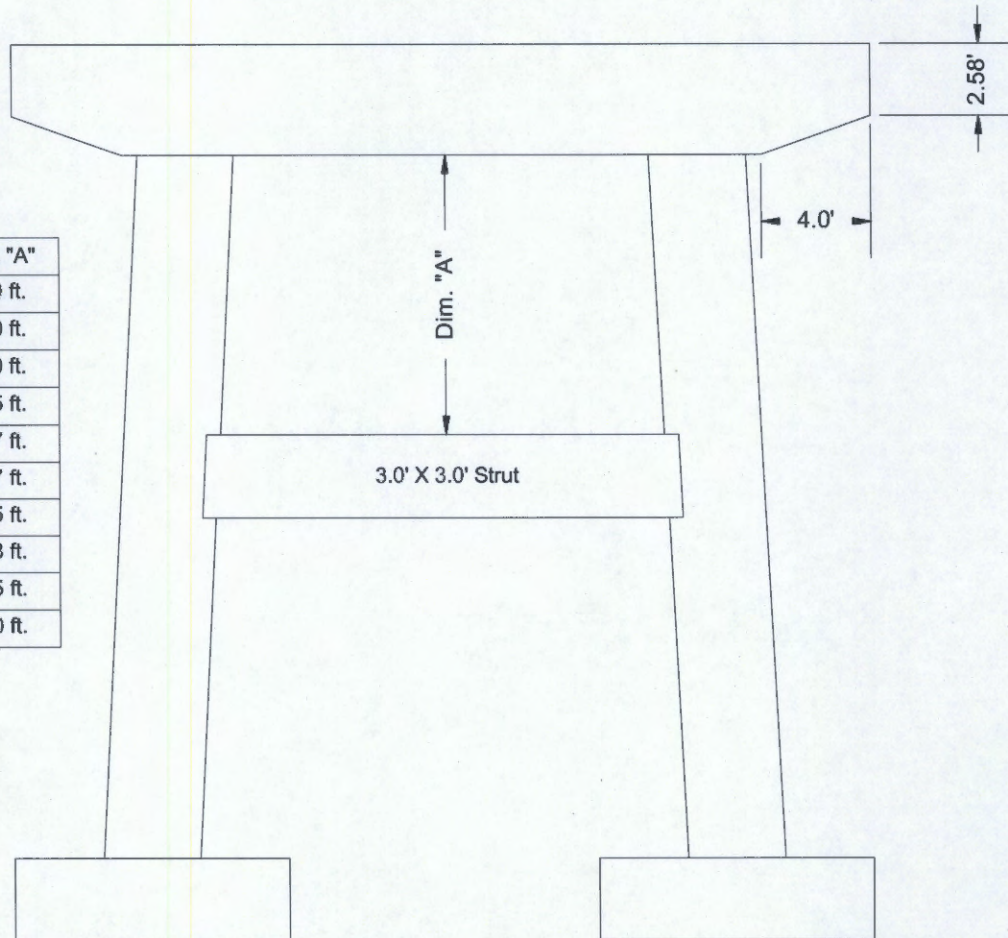
Drawn By: FER

Date: 08/23/2010

File Name: S0318000047

Bridge Inspection Field Sketch

BENT	Dim. "A"
1	10.00 ft.
2	11.50 ft.
3	12.50 ft.
4	13.25 ft.
5	15.17 ft.
22	15.17 ft.
23	13.25 ft.
24	13.33 ft.
25	11.75 ft.
26	10.00 ft.



Cap Information			Material Cast-in-Place Concrete							
Length	Width	Height	Left Overhang	Right Overhang	Left Beam to End of Cap.	Right Beam to End of Cap.				
31.250 ft.	3.667 ft.	4.000 ft.	6.330 ft.	6.330 ft.	3.000 ft.	3.000 ft.				
Subcap Information			Material							
Length	Width	Height	Left Overhang	Right Overhang	Left Pile to Splice.					
Sill Information			Material							
Length	Width	Height								
10.0 ft.	10.0 ft.	5.0 ft.	x2 PILE CAPS							
Pile #	Material	Spacing	Width/Dia.	Height	Length	Orientation	Driven?	Replacement?	Removed?	Collar?
1	Concrete	18.58 ft.	3.5 ft.			Battered	No	No	No	No
2	Concrete		3.5 ft.			Battered	No	No	No	No
Bent/Abutment #:			1	Similar Bents:		2 - 5, 22 - 26				

Title
SUBSTRUCTURE ELEVATION

Description
BENT 1, LOOKING EAST

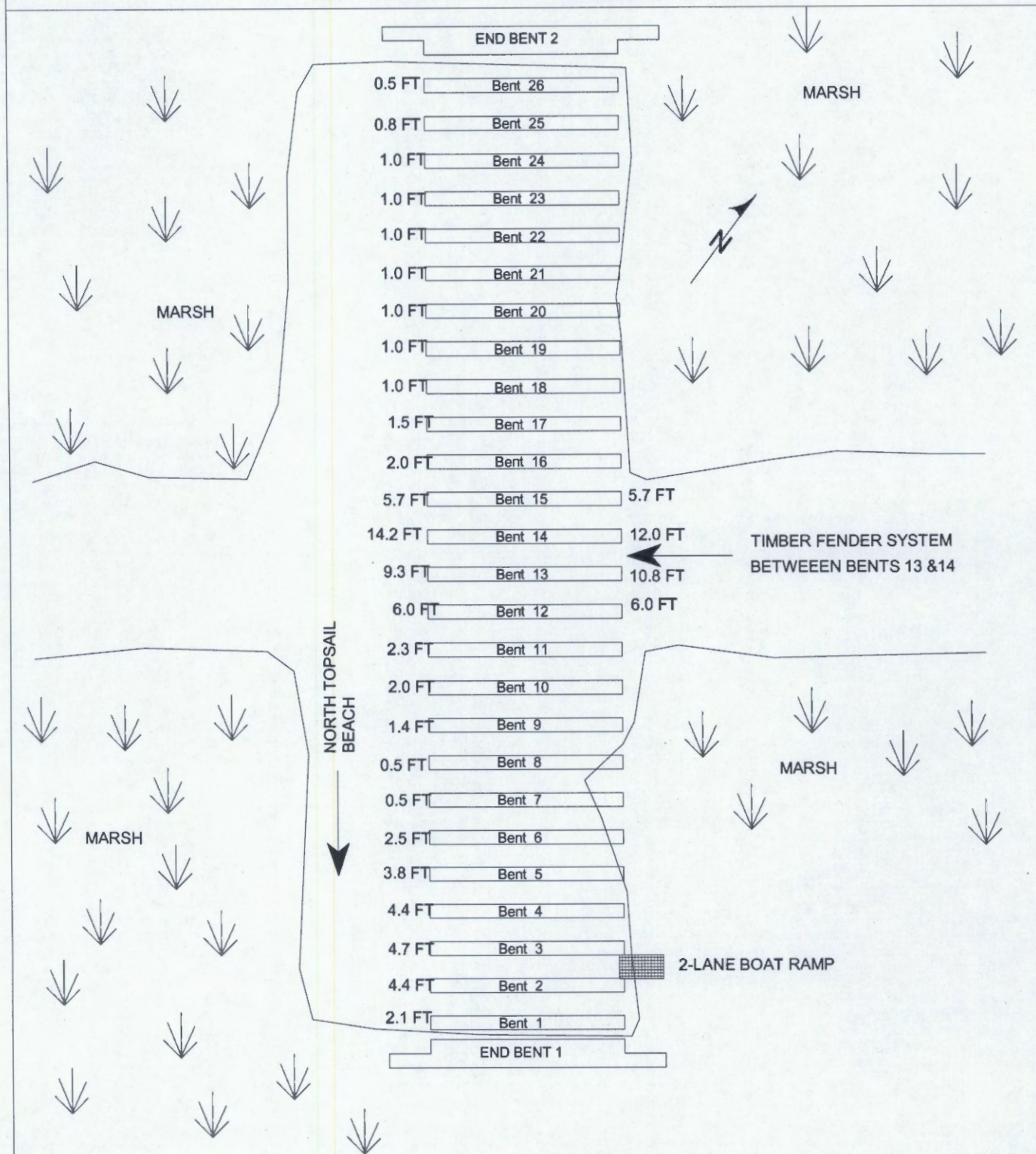
Bridge No: 660028

Drawn By: FER

Date: 08/23/2010

File Name: S0318000053

Bridge Inspection Field Sketch



Title

PLAN VIEW

Description

CHANNEL OVERVIEW

Bridge No: 660028

Drawn By: FER

Date: 80/23/2010

File Name: S0178000440

Bridge Inspection Field Sketch

IN COASTAL WATERS HTM IS TAKEN AS W/S

HTM=HIGH TIDE MARK LTM=LOW TIDE MARK M/L=MUD LINE W/S=WATER SURFACE BOF=BOTT. OF FOOTING

BT.#	PILE #	FACE	LOCATION	REMARKS
1 RF	4	2	FOOTING	HONEYCOMB 9" X 15" X 1/4" PENETRATION
1 LF	4	2	FOOTING	HONEYCOMB 12" X 6" X 1/2" PENETRATION'
1 LF	2	3	FOOTING TO M/L	2 CRACKS H/L TO 1/16"
1 LF	1	2	FOOTING DOWN 2'	SPALL 5" DIA. X 1/2" DEEP.
2 RF	1	5	FOOTING TO M/L	H/L TO 1/32"
2 LF	1	2	FOOTING TO M/L	1/64" CRACK WITH EFFLO.
2 LF	6	2	FOOTING TO M/L	H/L TO 1/64" WITH EFFLO.
2 LF	6	5	FOOTING TO M/L	H/L TO 1/64"
2 LF	6	8	FOOTING TO M/L	H/L TO 1/64" WITH EFFLO.
2 LF	4	2	FOOTING	HONEYCOMB 9" X 2" X 1/2" PENETRATION
2 LF	5	2	FOOTING	HONEYCOMB 12" X 12" X 1/2" PENETRATION
2 RF	1	2	FOOTING TO M/L	2 CRACKS H/L TO 1/16"
2 LF	1	1&2	FOOTING TO M/L	H/L-1/16"
3 RF	7	6	FOOTING TO M/L	1/32" CRACK
3 RF	7	8	FOOTING TO M/L	1/32" CRACK
3 LF	5	5	FOOTING DOWN 2'	H/L TO 1/16" WITH EFFLO.
3 RF	3	1	FOOTING TO M/L	H/L TO 1/16"
3 RF	3	6	FOOTING TO M/L	1/32" CRACK WITH EFFLO.
3 LF	1	2&4	FOOTING TO M/L	H/L TO 1/16"
4 LF	7	7	FOOTING TO M/L	H/L TO 1/64"WITH EFFLO.
4 LF	1	2	HTM DOWN 8"	SPALL 2.5"X 1.5"X 1/4"PENETRATION
4 LF	7	1	FOOTING TO M/L	H/L TO 1/16"
4 LF	7	6	FOOTING TO M/L	H/L TO 1/16"
4 RF	1	2	2" ABOFE W/L	SPALL 4" X 3.5" X 1/4" PENETRATION
4 RF	2	6	FOOTING TO M/L	H/L TO 1/32"
5 LF	7	7	FOOTING TO M/L	H/L-1/16"
5 RF	7	4	FOOTING TO M/L	H/L-1/16"
5 RF	7	6	FOOTING TO M/L	1/16" SPALLED TO 1/8"
5 LF	4	6	FOOTING TO M/L	H/L TO 1/16"
5 LF	5	5	FOOTING TO M/L	H/L TO 1/16" WITH EFFLO. SPALLED TO 1/4"
6 RF	7	2	FOOTING	HONEYCOMB 10" X 6" X 1/2" PENETRATION
6 LF	2	3	FOOTING DOWN 2'	2 CRACKS H/L TO 1/8, H/L TO 1/6"
6 LF	4	6	FOOTING	HONEYCOMB 18" X 12" X 3/4" PENETRATION
6 LF	4	4	FOOTING TO M/L	H/L TO 1/16"
7 RF	6	7	FOOTING	HONEYCOMB 38" X 12" X 1/2" PENETRATION
7 LF	2	3	FOOTING TO M/L	H/L TO 1/16"
10 RF	8	4	FOOTING	SPALL 12" X 14"X 3/4" PENETRATION
10 RF	1	3	FOOTING TO M/L	H/L TO 1/32"
10 LF	6	1	FOOTING TO M/L	H/L TO 1/64"

Title

CRACK SHEET 1

Description

CRACK SHEET 1

Bridge No: 660028

Drawn By: 0

Date: 0

File Name: S0178000441

Bridge Inspection Field Sketch

IN COASTAL WATERS HTM IS TAKEN AS W/S

HTM=HIGH TIDE MARK LTM=LOW TIDE MARK M/L=MUD LINE W/S=WATER SURFACE BOF=BOTT. OF FOOTING

BT. #	PILE #	FACE	LOCATION	REMARKS
11 LF	6	8	HTM	SPALL 6" DIA. X 1/2" DEEP
11 RF	1		CORNER OF FOOTING	SHEARED EXPOSING STEEL
11 RF	4	6	FOOTING	SPALL 18" X 6" X 1/2" PENETRATION
11 RF	4	5	FOOTING	SPALL 18" X 6" X 1/2" PENETRATION
11 RF	1	2	FOOTING DOWN 2'	H/L TO 1/16"
11 LF	8	6	FOOTING DOWN 10"	SPALL 3" X 4" X 1/2" PENETRATION
11 LF	3	1	FOOTING	H/L TO 1/16"
12 RF	1	6	HTM	SPALL 3" DIA. X 1/2" PENETRATION
12 LF	3	4	M/L UP 3'	H/L - 1/16"
12 RF	1	2	FOOTING DOWN 3'	SPALL 12" X 12" X 1/4" PENETRATION
12 LF	1		FOOTING	SPALL 18" X 6" X 1" PENETRATION
12 LF	4	1	FOOTING DOWN 3'	H/L TO 1/16" W/ RUST STAINS
12 LF	2	8	FOOTING TO M/L	H/L TO 1/32"
12 LF	5	2	FOOTING TO M/L	H/L TO 1/32"
12 LF	7	2	FOOTING TO M/L	H/L TO 1/32"
15 LF	1	2	2' ABOVE M/L	H/L TO 1/16"
15 LF	4	1	M/L UP 4.5'	H/L TO 1/8" SPALLED TO 1/2" W/ RUST STAINS
15 RF	2		FOOTING	SPALL 1' X 2' X 3/4" PENETRATION
15 LF	6	3 & 4	FOOTING TO M/L	H/L TO 1/32" EFFLO.
15 LF	6	6	FOOTING TO M/L	H/L TO 1/16"
16 RF	3	8	FOOTING DOWN 2'	H/L TO 1/16"
16 RF	3	4	FOOTING DOWN 2'	H/L TO 1/16"
16 RF	2	2	FOOTING DOWN 2'	H/L TO 1/16"
16 LF	8	3	FOOTING TO M/L	H/L TO 1/16"
17 RF	2	3	FOOTING TO M/L	H/L TO 1/16"
17 RF	3	2	FOOTING TO M/L	H/L TO 1/16"
17 RF	2	2	FOOTING TO M/L	H/L TO 1/16"
17 LF	8	1	FOOTING TO M/L	H/L TO 1/16"
17 LF	1	3	FOOTING TO M/L	H/L TO 1/16"
17 LF	1	8	FOOTING TO M/L	H/L TO 1/16"
17 LF	1	7	FOOTING TO M/L	H/L TO 1/16"
17 LF	3	3&4	FOOTING TO M/L	H/L TO 1/16"
17 LF	3	2	FOOTING TO M/L	H/L TO 1/16"
18 RF			FOOTING	RANDOM RUST STAINS
18 RF	3	3	FOOTING TO M/L	H/L TO 1/16"
18 RF	7		FOOTING	HONEYCOMB 3' X 3'

Title

CRACK SHEET 2

Description

CRACK SHEET 2

Bridge No: 660028

Drawn By: 0

Date: 0

File Name: S0178000442

Bridge Inspection Field Sketch

IN COASTAL WATERS HTM IS TAKEN AS W/S

HTM=HIGH TIDE MARK LTM=LOW TIDE MARK M/L=MUDLINE W/S=WATER SURFACE BOF=BOTT. OF FOOTING

[illegible]**Title**

CRACK SHEET 3

Description

CRACK SHEET 3

Bridge No: 660028

Drawn By: 0

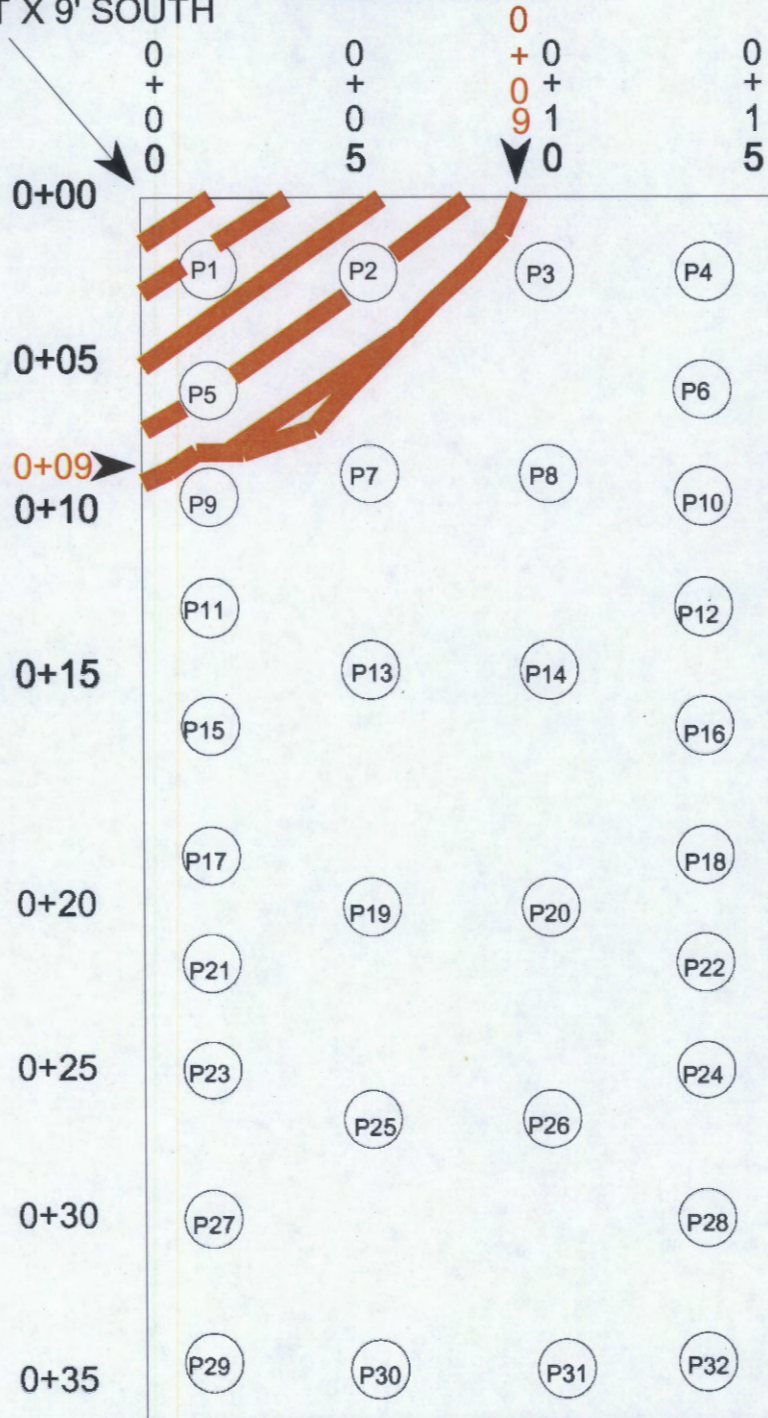
Date: 0

File Name: S0178000443

Bridge Inspection Field Sketch

UNDERMINED AREA
2.5' V X 9' EAST X 9' SOUTH
PROBE 9.5'

SCOUR PROFILE



*SKETCH LAYOUT AND PILE SPACINGS TAKEN FROM 5/20/02 U/W INSPECTION REPORT

Title

SCOUR PROFILE

Description

BENT 14 SCOUR

Bridge No: 660028

Drawn By: LJH

Date: 5/31/2011

File Name: T0178000389



LOOKING WEST ALONG SOUTH SIDE FROM FENDER



LOOKING NORTH



BENT 14 SPAN 15 SIDE



LOOKING EAST ALONG SOUTH SIDE



LOOKING EAST ALONG NORTH SIDE



LOOKING SOUTH



LOOKING WEST ALONG NORTH SIDE