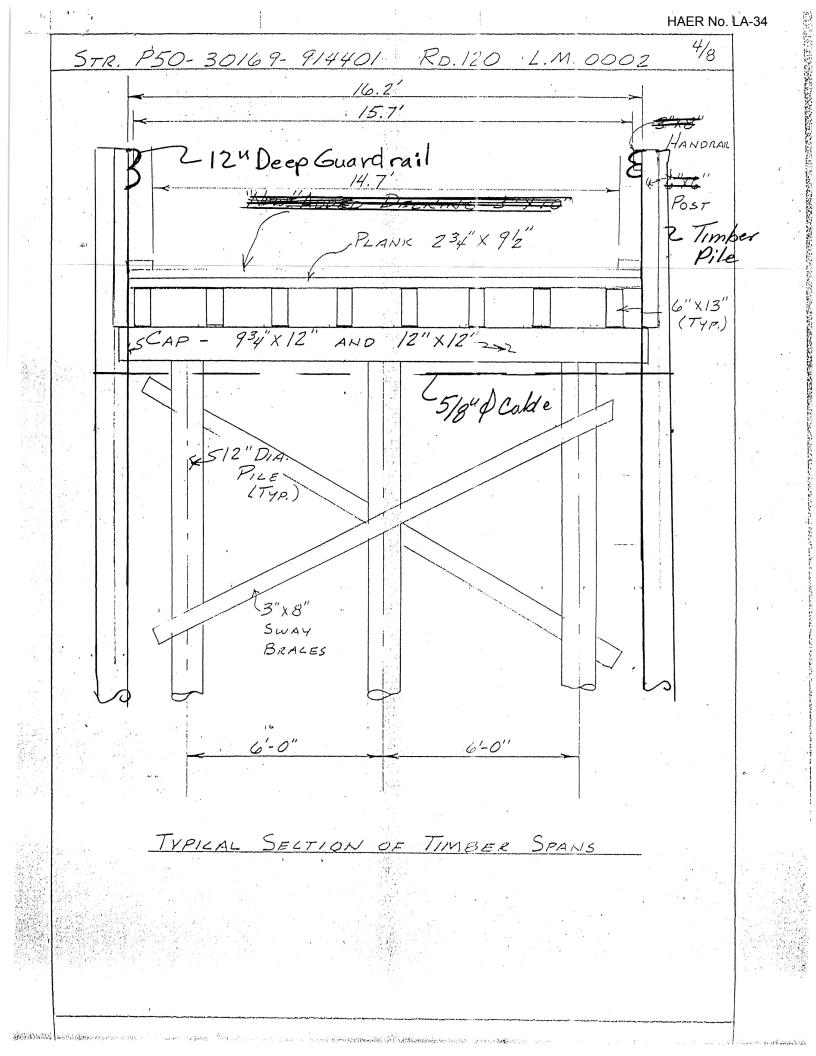
HAER No. LA-34 22-141 50 SHEETS 22-142 100 SHEETS 22-144 200 SHEETS 2 Levee (Gavel) N New Asphalt Rdwy-20' One Way Pontoon - 14? Width 5 Guardrail Guardrail Asphald Rowy - 20' Guardrail Curve Speed Sign 45MPH 12" Guardrail Gravel × Stop Sign • Hazard Marker © Slippery When Wet © Bridge May Keln Cold Weather General Plan of Bridge & Rdwy Approaches

2-3" STEEL PIPE FOR 12"Deep Guard rail APRON TOWER (Piles(Typ.) 2"STEFL (2" STEEL DI HYDRAULIC SPAN3 SPAN4 SPAN5 SPAN6 SAANI SATANZL SPAN7 SPAN 8 CYLINDER 45"x 3.5 x 4 n TR CHANNEL ABUTMENTÉBENT 2 ÉBENT 3 ÉBENT 4 ÉBENT 5 ÉBENT 6 ÉBENT 7 ÉBENT 8 D 5 0 1 30169-10.7' 9.5' 10.1 10.2' 10.6' 9.2' 10.5 10.1 104416 80.9' m とり 50 te. 120 とう 1/10 1.000 1/8

HAER No. LA-34

HAER No. LA-34 7ea/side 12" Deep Guardrail K548" WHEEL WGX20 and all the 18"X6" WIDE FLANGE BEAM -12"X6" WIDE FLANGE BEAM (FLOOR BEAM, TYP.) (STRINGER) 1- 34" STEEL CABLE 20'APRON 1-14" STEEL CABLE & BENTIO 20' APRON (NOT SHOWN FOR) CLARITY & BENT 9 K-CONC. BLOCK - A E STEEL CABLE 7.5 HP. MOTOR FOR HYDRAULIC SYSTEM WATER LEVEL------& SBARGE -2-2 52.0' 81.0' 512" STEEL CABLE 7 MA 4 0 SECTION A-A Ro A G N 71 11 0 "1518" X6" WIDE FLANGE BEAM (TYP.) S 0 [LI] 3 HP. MOTOR ามา 8/2 Operator House 52 STEEL CABLE

HAER No. LA-34 3/S -2-3" STEEL PIPE APRON TOWER "12" Deep Guordrail PILES (TYP.) -12"DEEP GAURDRAIL 12"STEEL DELL 0441 15"x 3.5"x"4" CHANNEL SPANIO SPANII SPANIZ SPAN SPAN | 14 \mathcal{T} SPAN 15 SPAN 16 SPAN N & BENT 10 & BENT 11 & BENT 12 & BENT 13 & BENT 14 & BENT 15 & BENT 16 & BENT 17 .y. 4 2 8.8' 10.1 0 10.2' 10.8' 9.6' 10.2' 10.1' 10.7' 0 0 N S 80.5' A_E HB MA 2 2 in H 12" STEEL CABLE (TYP.)



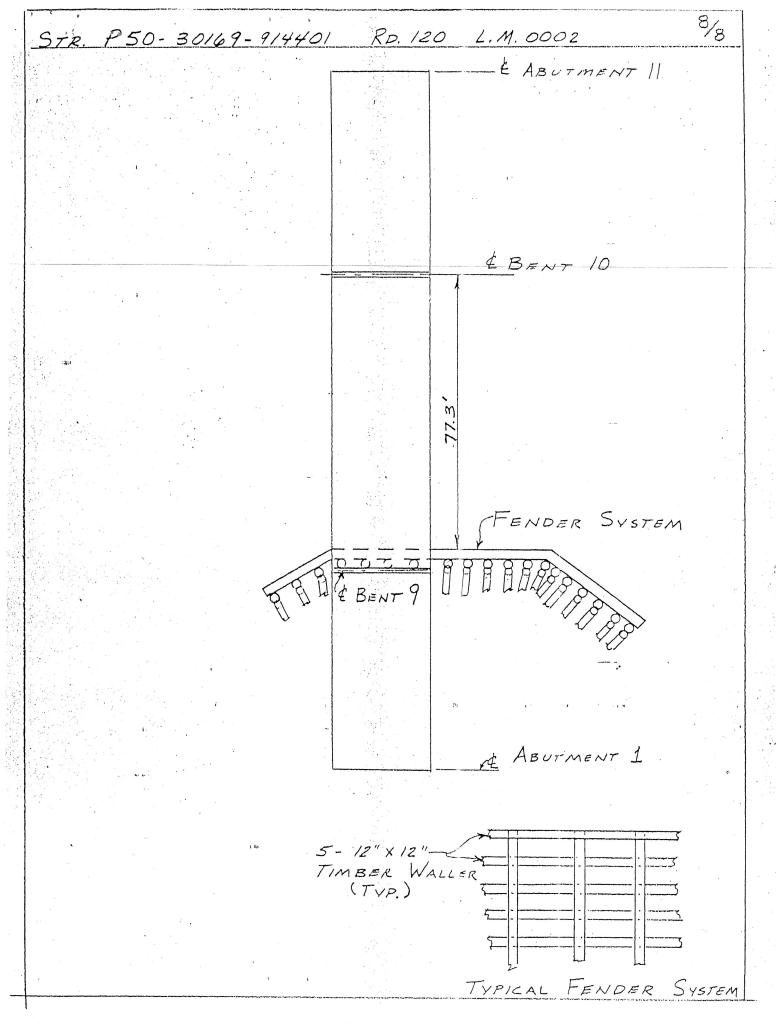
14.8' 111 * * STR P50-30169-914401 14 2 Rp. 120 L.M. 0002 12"Deep Guardrail 5/a 2-W6×20 B BARE STEEL Pion 2" STEEL DECK (TYP) 18" I-BEAM - FLOOR STRINGER BEAM 27" 27" 26.5" 26.5" 27" 27" 28" TYPICAL SECTION OF ROADWAY AT SUPPORTS OVER BARGE .6.5 12" 18″ TYPICAL SECTION STRINGER TYPICAL SECTION OF 18" I-BEAM FLOOR BEAM

6/8 STR P-50-30169-91-4401 RD. 120 L.M. 0002 APRON TOWER 3" STEEL PIPE-14.5 12"Deep Guarchrai STEEL DECK STEEL CABLE WGXZO BEAM 1 26.25 26.5" 26.5" 26.15 26.0" 26.0" 165" APRON AT BENTS 9 \$ 10 8" 2"R BEAM 1 SECTION 24' 3' 3' ASPHALT TYPILAL SECTION ROADWAY

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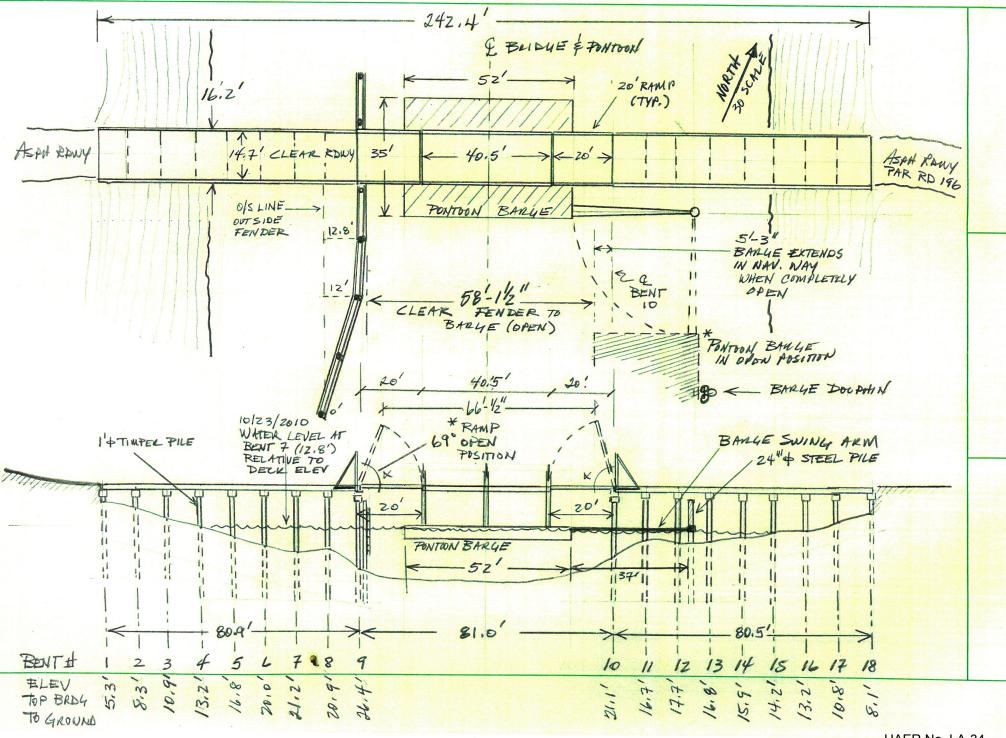
7/8 STR. P50-30169-914401 Rp. 120 L.M. 0002 56 HYPRAULIC LINES & ABUTMENT 18 244 - Steel Pile F- CLUSTER OF 3 PILES TM BARGE 11/ 6" OPENED POSITIONZ TEEL PIPE (TYP.) FOR OPENING FOR CLOSING - 3H.P. MOTOR. - CAT HEAD 5-3 H.P. ELEC. MOTOR CAT HEAD BARGE IN CLOSED POSITION 7.5H.P. MOTOR 58" STEEL CABLE FOR HYD. SYSTEM Fender System Used for Anchor CE ABUTMENT 1 With the Market and Antonio and An HAER No. LA-34 in the second states of the second states and the second second second second second second second second second

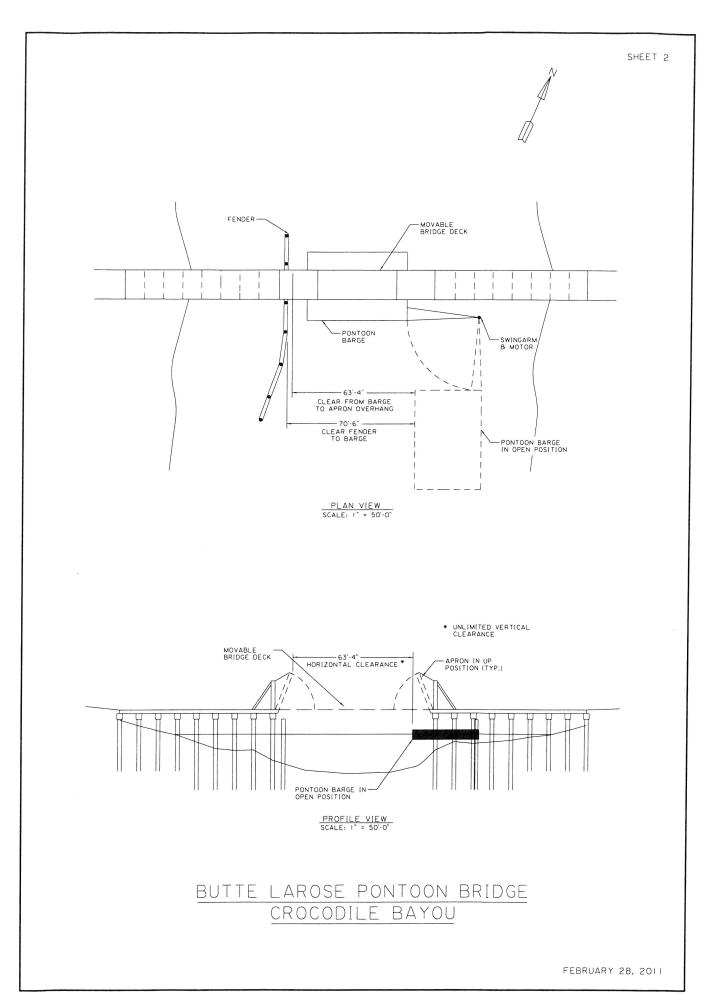


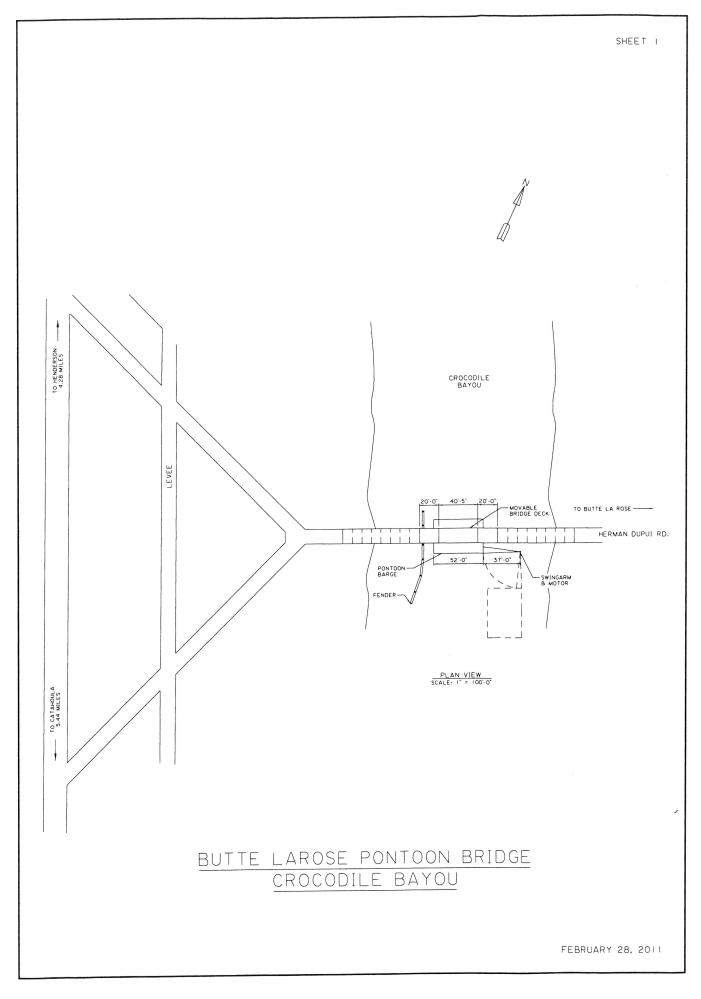
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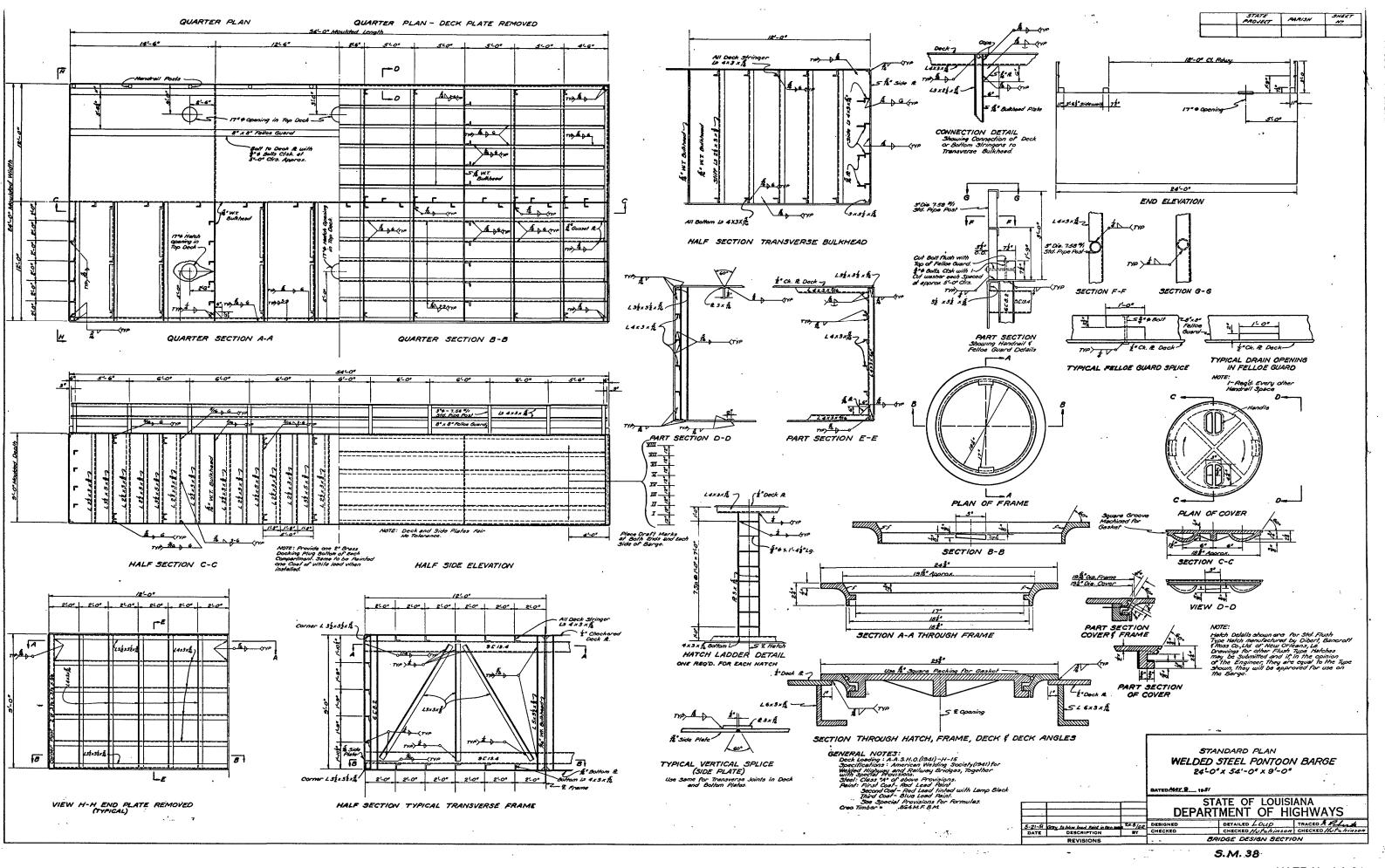
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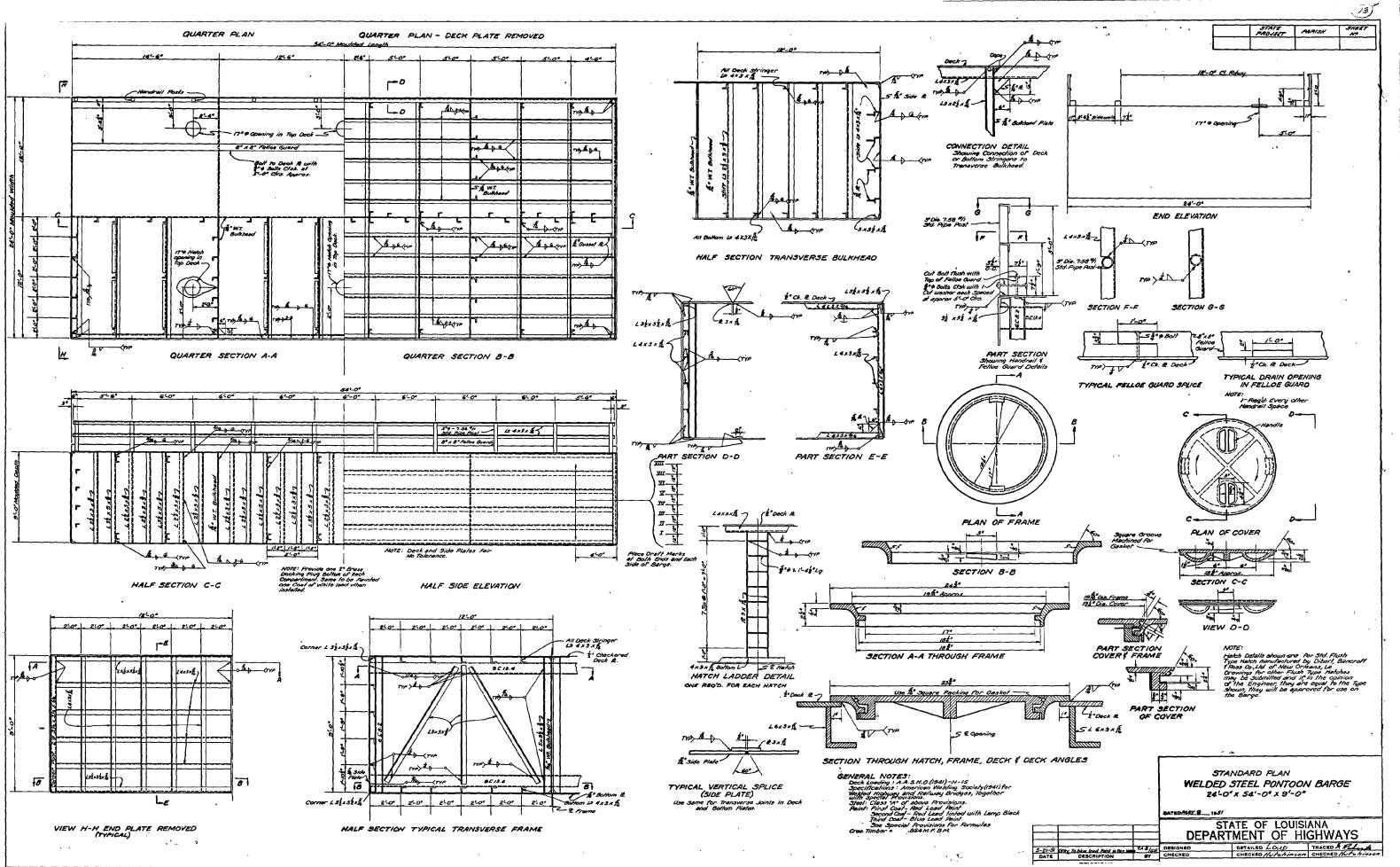








HAER No. LA-34



HAER No. LA-34

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	6 (Tripod) BS CK 501 503		
Sta 500	A CK 20120		1



BRIDGE 200896.txt

Status: VALID Registration

Mean Absolute Error:

for Enabled Constraints = 0.015 ft

for Disabled Constraints = 0.000 ft Date: 2017.10.05 10:33:00

Database name : BRIDGE 200896 crocodile bayou

ScanWorlds

CONTROL2.txt (Leveled) 101: SW-003 (Leveled) 103: SW-004 (Leveled) 104: SW-005 (Leveled) 105: SW-008 (Leveled) 106: SW-002 (Leveled) 108: SW-001 (Leveled) Station-002: SW-007 (Leveled)

Constraints

CONSE	Laliius								
Name	ScanWorld	ScanWorld	Туре	On/Off	Weight	Error	Error Vector	Horz	Vert
108	CONTROL2.txt (Leveled)	108: SW-001 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.030 ft	(0.002, 0.002, -0.030) ft	0.003 ft	-0.030 ft
101	CONTROL2.txt (Leveled)	101: SW-003 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.021 ft	(0.014, 0.013, -0.009) ft	0.019 ft	-0.009 ft
13	CONTROL2.txt (Leveled)	104: SW-005 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.008 ft	(0.003, 0.005, -0.006) ft	0.006 ft	-0.006 ft
13	CONTROL2.txt (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.019 ft	(-0.017, 0.001, -0.007) ft	0.017 ft	-0.007 ft
103	CONTROL2.txt (Leveled)	103: SW-004 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.007 ft	(0.006, 0.004, -0.001) ft	0.007 ft	-0.001 ft
10	CONTROL2.txt (Leveled)	103: SW-004 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.006 ft	(0.005, -0.001, -0.003) ft	0.005 ft	-0.003 ft
10	CONTROL2.txt (Leveled)	105: SW-008 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.016 ft	(0.012, -0.002, -0.011) ft	0.012 ft	-0.011 ft
10	CONTROL2.txt (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.009 ft	(0.008, 0.001, 0.000) ft	0.009 ft	0.000 ft
104	CONTROL2.txt (Leveled)	104: SW-005 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.025 ft	(-0.023, -0.009, 0.005) ft	0.024 ft	0.005 ft
12	CONTROL2.txt (Leveled)	101: SW-003 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.015 ft	(-0.009, 0.004, 0.012) ft	0.010 ft	0.012 ft
12	CONTROL2.txt (Leveled)	108: SW-001 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.019 ft	(-0.006, 0.007, 0.017) ft	0.009 ft	0.017 ft
12	CONTROL2.txt (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.021 ft	(-0.007, 0.018, 0.010) ft	0.019 ft	0.010 ft
105	CONTROL2.txt (Leveled)	105: SW-008 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.018 ft	(-0.004, -0.009, 0.015) ft	0.010 ft	0.015 ft
105	CONTROL2.txt (Leveled)	106: SW-002 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.015 ft	(0.002, -0.010, 0.011) ft	0.010 ft	0.011 ft
105	CONTROL2.txt (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.026 ft	(0.011, -0.022, 0.006) ft	0.025 ft	0.006 ft
106	CONTROL2.txt (Leveled)	106: SW-002 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.011 ft	(0.002, 0.000, -0.011) ft	0.002 ft	-0.011 ft
12	101: SW-003 (Leveled)	108: SW-001 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.007 ft	(0.003, 0.003, 0.005) ft	0.004 ft	0.005 ft
12	101: SW-003 (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.014 ft	(0.002, 0.014, -0.002) ft	0.014 ft	-0.002 ft
10	103: SW-004 (Leveled)	105: SW-008 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.010 ft	(0.007, 0.000, -0.007) ft	0.007 ft	-0.007 ft
10	103: SW-004 (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.006 ft	(0.004, 0.003, 0.003) ft	0.004 ft	0.003 ft
13	104: SW-005 (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.020 ft	(-0.020, -0.004, -0.001) ft	0.020 ft	-0.001 ft
10	105: SW-008 (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.012 ft	(-0.004, 0.003, 0.011) ft	0.005 ft	0.011 ft
105	105: SW-008 (Leveled)	106: SW-002 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.007 ft	(0.005, -0.001, -0.005) ft	0.005 ft	-0.005 ft
105	105: SW-008 (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.022 ft	(0.015, -0.013, -0.009) ft	0.020 ft	-0.009 ft
105	106: SW-002 (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.016 ft	(0.009, -0.012, -0.004) ft	0.015 ft	-0.004 ft
12	108: SW-001 (Leveled)	Station-002: SW-007 (Leveled)	Coincident: Vertex - Vertex	On	1.0000	0.013 ft	(-0.001, 0.011, -0.008) ft	0.011 ft	-0.008 ft

ScanWorld Transformations CONTROL2.txt (Leveled) translation: (0.000, 0.000, 0.000) ft rotation: (0.0000, 1.0000, 0.0000):0.000 deg

101: SW-003 (Leveled) translation: (3153980.569, 648256.892, 25.796) ft rotation: (0.0000, 0.0000, 1.0000):48.199 deg

103: SW-004 (Leveled) translation: (3153778.865, 648118.061, 19.857) ft rotation: (0.0000, 0.0000, 1.0000):-158.236 deg

104: SW-005 (Leveled) translation: (3153746.568, 648188.561, 18.971) ft rotation: (-0.0000, -0.0000, -1.0000):-144.530 deg

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BRIDGE 200896.txt

105: SW-008 (Leveled) translation: (3153687.404, 648310.183, 20.213) ft rotation: (-0.0000, -0.0000, -1.0000):-91.000 deg 106: SW-002 (Leveled) translation: (3153953.540, 648272.764, 17.462) ft rotation: (-0.0000, -0.0000, -1.0000):60.083 deg 108: SW-001 (Leveled) translation: (3153961.760, 648220.043, 14.133) ft rotation: (-0.0000, -0.0000, -1.0000):-96.790 deg Station-002: SW-007 (Leveled) translation: (3153718.357, 648153.576, 26.995) ft rotation: (-0.0000, -0.0000, -1.0000):-105.861 deg Unused ControlSpace Objects CONTROL2.txt (Leveled): Vertex : TargetID : 11 Vertex : TargetID : 102 Station-002: SW-007 (Leveled): Vertex : unlabeled

HAER No. LA-34 10/5/2017



State Project No. H.007020 Historic Bridge Inventory

SJB Group performed terrestrial laser scanning and created deliverables in accordance with HAER 4.0 Measured Drawings for six bridges throughout Louisiana. The six bridges surveyed under this contract were bridge numbers 008970, 009130, 014900, 058710, 200865 and 200896. The following sections are a description of the equipment and procedures used for this project.

Section I – Equipment

The equipment used in the establishment of the primary control network for this project was manufactured by Leica. Real-time kinematic GPS observations were collected using a Leica GS15 Smart Antenna "Performance" and CS15 3.5G Field Controller. Figure 12 is an image of the equipment used.



Figure 1: Photograph of Leica TS15 Total Station and Leica CS/GS15 GPS uni

Parks & Planning

Transportation

Site Development

Utility Systems

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Construction Services

Environmental Services

Real Estate Services

P. O. Box 1751 Baton Rouge, Louisiana 70821-1751 (225) 769-3400 Fax (225) 769-3596 www.sjbgroup.com

Description	Model Number	Serial Number
Leica ScanStation	C10	1260997
Leica Base	GS15	1508955
Leica Rover	GS15	1509134
Leica Controller	CS15	25022556

Below is a table of the serial numbers for the equipment used for this project.

Section II – Field Procedures

Marks set via real-time kinematic GPS observations were established through a series of ten (10) second observations. Each mark was occupied three (3) times throughout the day from at least two (2) different base stations for a total of six (6) observations. Primary control marks were periodically cross checked throughout the day to ensure an accurate basis of measurement.

Section III - Equipment

Scanning was performed with the Leica ScanStation C-10, serial number 120997, in conjunction with HDS 6 inch circular planar fixed height (1.472 meters) targets



Figure 2: Photograph of Leica ScanStation C10

Section IV – Field Procedures

Scanning observations were made by independent instrument locations which included a minimum of four HDS targets on Secondary Control Marks. At each scanning location the C10 collects observed data relative to the instrument and builds a data set which identifies the HDS target marks. Each data set is called a "Scan World" for the purposes of computation.

Section V – Data Processing

The separate Scan Worlds were "registered" using Leica Cyclone Version 8.0 software which merges the independent observations by resection and statistical comparison of the State Plane values associated with each of the HDS target locations. The State Plane resolution data set which merges all scanned information is presented in Appendix "E." TopoDOT version 9.0.0.0 was used to extract features from the point cloud registered in Leica Cyclone.