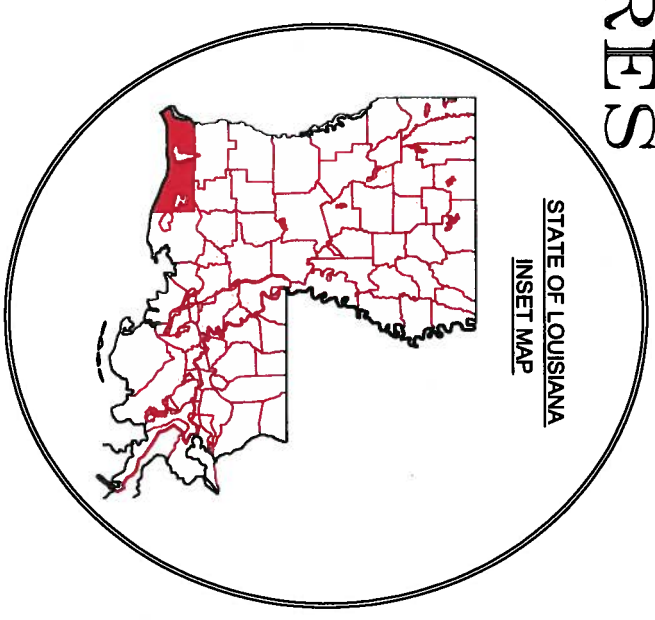
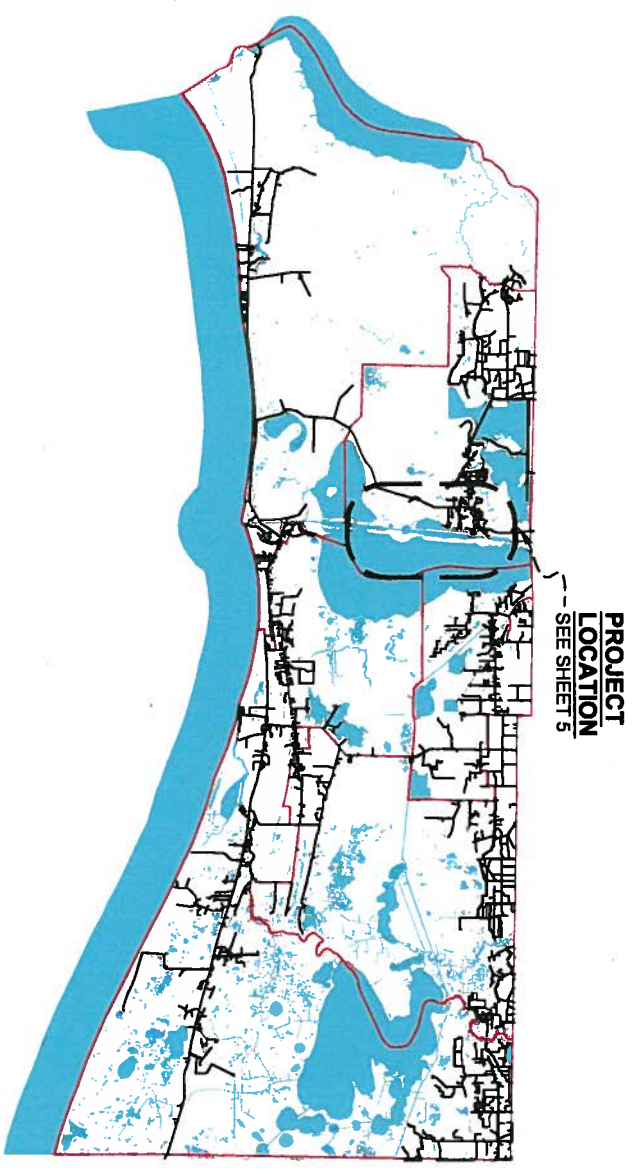


STATE OF LOUISIANA  
 COASTAL PROTECTION AND RESTORATION AUTHORITY

POST HURRICANE REPAIR OF  
 SABINE WATER CONTROL STRUCTURES  
 STATE PROJECT NO. CS-23  
 CAMERON PARISH

INDEX TO SHEETS

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32	TYPICAL GATE LIFTING ASSEMBLY & STEMS
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34	TYPICAL IB7 LIFTING ASSEMBLY
35	TYPICAL STAIR DETAILS & GENERAL NOTES



RESTORATION ENGINEERING CHIEF

ENGINEER MANAGER

PROJECT ENGINEER



FEDERAL PROJECT SPONSOR

TYPE OF CONSTRUCTION

CLASSIFICATION III (HEAVY CONSTRUCTION)

REV.	DATE	DESCRIPTION	BY



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POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES

STATE PROJECT NUMBER: CS-23  
 FEDERAL PROJECT NUMBER:

VICINITY MAP & INDEX TO SHEETS

DATE: 12/20/2011

APPROVED BY: LONNIE HARPER, P.E.

SHEET 1 OF 35

**SUMMARY OF BASE BID ITEMS**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	MOBILIZATION AND DEMOBILIZATION TO HOG ISLAND GULLY STRUCTURE (S1)	NA	LUMP SUM
2	TEMPORARY SIGNS AND BARRICADES FOR HOG ISLAND GULLY STRUCTURE (S1)	NA	LUMP SUM
3	MODIFY STRUCTURAL STEEL PLATFORM FOR HOG ISLAND GULLY STRUCTURE (S1)	NA	LUMP SUM
4	PROVIDE AND INSTALL ROTORK 1Q35FA1684 ACTUATORS, NEW DS89 GEAR DRIVE, REFURBISHED 189 GEAR DRIVE, DRIVE SHAFT AND DUAL STEM LIFTING ASSEMBLY FOR HOG ISLAND GULLY STRUCTURE (S1)	4	EACH
5	PROVIDE AND INSTALL ROTORK 1Q25FA1484 ACTUATORS, NEW DS87 GEAR DRIVE, REFURBISHED 187 GEAR DRIVE, DRIVE SHAFT AND DUAL STEM LIFTING ASSEMBLY FOR HOG ISLAND GULLY STRUCTURE (S1)	4	EACH
6	REFURBISH AND INSTALL ROTORK 1Q20FA1484 ACTUATORS, REFURBISHED 187 AND/OR 189 GEAR DRIVE, AND SINGLE LIFTING ASSEMBLY FOR HOG ISLAND GULLY STRUCTURE (S1)	4	EACH
7	PERFORM MAINTENANCE TASKS TO THE LIFT GATES FOR HOG ISLAND GULLY STRUCTURE (S1)	12	EACH
8	RECONNECT ELECTRICAL COMPONENTS FOR HOG ISLAND GULLY STRUCTURE (S1)	NA	LUMP SUM
9	MOBILIZATION AND DEMOBILIZATION TO HEADQUARTERS CANAL STRUCTURE (S2)	NA	LUMP SUM
10	TEMPORARY SIGNS AND BARRICADES FOR HEADQUARTERS CANAL STRUCTURE (S2)	NA	LUMP SUM
11	REFURBISH AND REINSTALL ROTORK 1Q12FA1084 ACTUATOR & 1B5 GEAR DRIVE FOR HEADQUARTERS CANAL STRUCTURE (S2)	1	EACH
12	RECONNECT ELECTRICAL COMPONENTS FOR HEADQUARTERS CANAL STRUCTURE (S2)	NA	LUMP SUM
13	MOBILIZATION AND DEMOBILIZATION FOR WEST COVE CANAL STRUCTURE (S3)	NA	LUMP SUM
14	TEMPORARY SIGNS AND BARRICADES FOR WEST COVE CANAL STRUCTURE (S3)	NA	LUMP SUM
15	MODIFY STRUCTURAL STEEL PLATFORM FOR WEST COVE CANAL STRUCTURE (S3)	NA	LUMP SUM
16	PROVIDE AND INSTALL ROTORK 1Q35FA1684 ACTUATORS, NEW DS89 GEAR DRIVE, REFURBISHED 189 GEAR DRIVE, DRIVE SHAFT AND DUAL STEM LIFTING ASSEMBLY FOR WEST COVE CANAL STRUCTURE (S3)	3	EACH
17	PROVIDE AND INSTALL ROTORK 1Q25FA1484 ACTUATORS, NEW DS87 GEAR DRIVE, REFURBISHED 187 GEAR DRIVE, DRIVE SHAFT AND DUAL STEM LIFTING ASSEMBLY FOR WEST COVE CANAL STRUCTURE (S3)	3	EACH
18	REFURBISH AND INSTALL ROTORK 1Q20FA1484 ACTUATORS, REFURBISHED 187 AND/OR 189 GEAR DRIVE, AND SINGLE LIFTING ASSEMBLY FOR WEST COVE CANAL STRUCTURE (S3)	4	EACH
19	PERFORM MAINTENANCE TASKS TO THE LIFT GATES FOR WEST COVE CANAL STRUCTURE (S3)	10	EACH
20	RECONNECT ELECTRICAL COMPONENTS FOR WEST COVE CANAL STRUCTURE (S3)	NA	LUMP SUM
<b>SUMMARY OF ADD ALTERNATE BID ITEMS</b>			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
21	PERFORM GATE MODIFICATION IN A FABRICATION SHOP	0	LUMP SUM
22	PERFORM GATE MODIFICATION IN A FABRICATION SHOP, BRUSH BLAST AND PAINT ENTIRE LIFT GATES.	0	LUMP SUM

**NOTES:**  
THE LIFTING ASSEMBLY INCLUDES GATE STEMS, ACTUATOR PEDESTALS, BEARING PLATES, AND STEM COVERS.

**PROJECT FEATURES**

**HOG ISLAND GULLY STRUCTURE (S1)** - PROJECT WILL REPAIR AN EXISTING WATER CONTROL STRUCTURE CONSISTING OF FOUR (4) EIGHT FOOT WIDE BAYS AND TWO (2) THREE AND A HALF FOOT WIDE BAYS. EACH BAY HAS TWO (2) GATES, WITH EACH GATE BEING LIFTED BY A SINGLE STEM MECHANISM. THE SINGLE STEM LIFTING MECHANISMS WILL BE REPLACED WITH A DUAL STEM ARRANGEMENT ON THE EIGHT FOOT WIDE BAYS. THE SUPPORT PLATFORM AND EXISTING POWER SUPPLY SYSTEM WILL BE MODIFIED TO ACCOMMODATE THE PROPOSED LIFTING SYSTEMS.

**HEADQUARTERS CANAL STRUCTURE (S2)** - PROJECT WILL REPAIR AN EXISTING WATER CONTROL STRUCTURE CONSISTING OF THREE (3) FIVE FOOT DIAMETER BY FIFTY-SIX FOOT LONG CORRUGATED ALUMINUM PIPES WITH GATES. THE EXISTING LIFTING DEVICE WILL BE REMOVED, REFURBISHED, AND REINSTALLED. THE STRUCTURE WILL BE CHECKED FOR PROPER OPERATION AND ALL TIMBER USED TO CONSTRUCT THE SUPPORT PLATFORM WILL BE REPAIRED AS NECESSARY. THE EXISTING POWER SUPPLY SYSTEM AND ELECTRICAL EQUIPMENT WILL BE RESTORED.

**WEST COVE CANAL STRUCTURE (S3)** - PROJECT WILL REPAIR AN EXISTING WATER CONTROL STRUCTURE CONSISTING OF THREE (3) EIGHT FOOT WIDE BAYS AND TWO (2) THREE AND A HALF FOOT WIDE BAYS. EACH BAY HAS TWO (2) GATES, WITH EACH GATE BEING LIFTED BY A SINGLE STEM MECHANISM. THE SINGLE STEM LIFTING MECHANISMS WILL BE REPLACED WITH A DUAL STEM ARRANGEMENT ON THE EIGHT FOOT WIDE BAYS. THE SUPPORT PLATFORM AND EXISTING POWER SUPPLY SYSTEM WILL BE MODIFIED TO ACCOMMODATE THE PROPOSED LIFTING SYSTEMS.

**HEADQUARTERS CANAL STRUCTURE (S2)  
MATERIAL LIST**

ITEM NO.	DESCRIPTION	QUANTITY	MATERIAL / FINISH	PAGE
1	REFURBISH ROTORK ACTUATOR & GEAR DRIVE	1 EA.	ALUMINUM/POLYESTER PAINT	13-14



REV.	DATE	DESCRIPTION	BY



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APPROVED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF  
SABINE WATER CONTROL STRUCTURES

STATE PROJECT NUMBER: CS-23

FEDERAL PROJECT NUMBER:

PROJECT FEATURES &  
SUMMARY OF BID ITEMS

DATE: 12/20/2011

SHEET 2 OF 35

**HOG ISLAND GULLY STRUCTURE (S1)  
MATERIAL LIST**

ITEM NO.	DESCRIPTION	QUANTITY	MATERIAL / FINISH	PAGE	ITEM NO.	DESCRIPTION	QUANTITY	MATERIAL / FINISH	PAGE
1	SINGLE STEM 1B7 ACTUATOR ASSEMBLY	2 EA.	ALUMINUM/POLYESTER PAINT	34	24A	PART "R"	16 EA.	ALUMINUM	28
1A	IQ20FA141B4 ACTUATORS - REFURBISHED	2 EA.	ALUMINUM/POLYESTER PAINT	34	24B	PART "S"	16 EA.	ALUMINUM	28
1B	1B7 GEAR DRIVE - REFURBISHED	2 EA.	ALUMINUM/POLYESTER PAINT	34	24C	TYPICAL STEM CONNECTOR PIN	16 EA.	STAINLESS STEEL	29
2	SINGLE STEM 1B9 ACTUATOR ASSEMBLY	2 EA.	ALUMINUM/POLYESTER PAINT	33	25	PART "T" - REFURBISHED	6 EA.	ALUMINUM	30
2A	IQ20FA141B4 ACTUATORS - REFURBISHED	2 EA.	ALUMINUM/POLYESTER PAINT	33	26	PART "T" - NEW	4 EA.	ALUMINUM	30
2B	1B9 GEAR DRIVE - REFURBISHED	2 EA.	ALUMINUM/POLYESTER PAINT	33	27	PART "U" - REFURBISHED	6 EA.	ALUMINUM	30
3	DUAL STEM 1B7 ACTUATOR ASSEMBLY	4 EA.	ALUMINUM/POLYESTER PAINT	34	28	PART "U" - NEW	4 EA.	ALUMINUM	30
3A	IQ25FA181B4 ACTUATORS - NEW	4 EA.	ALUMINUM/POLYESTER PAINT	34	28	ASSEMBLY "C" - REFURBISHED	6 EA.	STEEL / HOT DIPPED GALV.	30
3B	DSB7 GEAR DRIVE WITH DRIVE LINE AND COVER - NEW	4 EA.	ALUMINUM/POLYESTER PAINT	34	30	PART "Y" - REFURBISHED	6 EA.	ALUMINUM	30
3C	1B7 GEAR DRIVE - REFURBISHED	4 EA.	ALUMINUM/POLYESTER PAINT	34	31	ASSEMBLY "C" - NEW	4 EA.	STEEL / HOT DIPPED GALV.	30
4	DUAL STEM 1B9 ACTUATOR ASSEMBLY	4 EA.	ALUMINUM/POLYESTER PAINT	33	31A	PART "V"	4 EA.	STEEL / HOT DIPPED GALV.	30
4A	IQ35FA181B4 ACTUATORS - NEW	4 EA.	ALUMINUM/POLYESTER PAINT	33	31B	PART "Z"	4 EA.	STEEL / HOT DIPPED GALV.	30
4B	DSB9 GEAR DRIVE WITH DRIVE LINE AND COVER - NEW	4 EA.	ALUMINUM/POLYESTER PAINT	33	31C	PART "AA"	32 EA.	STEEL / HOT DIPPED GALV.	30
4C	1B9 GEAR DRIVE - REFURBISHED	4 EA.	ALUMINUM/POLYESTER PAINT	33	31D	4" Ø SCHEDULE 10 PIPE	12 L.F.	STEEL / HOT DIPPED GALV.	30
5	PART "A"	2 EA.	STEEL / HOT DIPPED GALV.	12	31E	PART "Y" - NEW	4 EA.	ALUMINUM	30
6	PART "C"	240 EA.	STEEL / HOT DIPPED GALV.	23	32	ASSEMBLY "D" - REFURBISHED	6 EA.	STEEL / HOT DIPPED GALV.	30
7	ASSEMBLY "A"	2 EA.	STEEL / HOT DIPPED GALV.	23	33	PART "X" - REFURBISHED	6 EA.	ALUMINUM	30
7A	PART "E"	0 EA.	STEEL / HOT DIPPED GALV.	23	34	ASSEMBLY "D" - NEW	4 EA.	STEEL / HOT DIPPED GALV.	30
7B	PART "G"	8 EA.	STEEL / HOT DIPPED GALV.	23	34A	PART "W"	4 EA.	STEEL / HOT DIPPED GALV.	30
7C	PART "H"	2 EA.	STEEL / HOT DIPPED GALV.	24	34B	PART "Z"	4 EA.	STEEL / HOT DIPPED GALV.	30
8	PART "D"	20 EA.	STEEL / HOT DIPPED GALV.	23	34C	PART "AA"	32 EA.	STEEL / HOT DIPPED GALV.	30
9	PART "F"	40 EA.	STEEL / HOT DIPPED GALV.	23	34D	4" Ø SCHEDULE 10 PIPE	12 L.F.	STEEL / HOT DIPPED GALV.	30
10	PART "H"	20 EA.	STEEL / HOT DIPPED GALV.	24	34E	PART "X" - NEW	4 EA.	ALUMINUM	30
11	PART "J"	14 EA.	STEEL / HOT DIPPED GALV.	25	35	ASSEMBLY "E"	8 EA.	ALUMINUM	31
12	PART "K" - REFURBISHED	6 EA.	ALUMINUM	26	35A	PART "BB"	8 EA.	ALUMINUM	31
13	PART "K" - NEW	4 EA.	ALUMINUM	26	35B	PART "CC"	16 EA.	UHMMW PLASTIC	31
14	PART "L"	8 EA.	STEEL / HOT DIPPED GALV.	26	36	ASSEMBLY "F"	2 EA.	ALUMINUM	31A
15	PART "M"	4 EA.	STEEL / HOT DIPPED GALV.	26	36A	PART "GG"	2 EA.	ALUMINUM	31A
16	PART "N"	10 EA.	ALUMINUM	27	36B	PART "CC"	8 EA.	UHMMW PLASTIC	31
17	PART "O"	10 EA.	ALUMINUM	27	37	TYPICAL 1B8 STEM IN 7'-4" BAY RIGHT HAND THREAD	4 EA.	STAINLESS STEEL	32
18	1/4" THICK ALUMINUM PLATE 1'-6" X 8'-3/4"	4 EA.	ALUMINUM	27	38	TYPICAL 1B8 STEM IN 7'-4" BAY LEFT HAND THREAD	4 EA.	STAINLESS STEEL	32
19	PART "P"	10 EA.	ALUMINUM	28	39	TYPICAL 1B8 STEM IN 3'-0" BAY LEFT HAND THREAD	2 EA.	STAINLESS STEEL	32
20	PART "Q"	10 EA.	ALUMINUM	28	40	TYPICAL 1B7 STEM IN 7'-4" BAY LEFT HAND THREAD	4 EA.	STAINLESS STEEL	32
21	1/4" THICK ALUMINUM PLATE 1'-6" X 8'-1/4"	4 EA.	ALUMINUM	28	41	TYPICAL 1B7 STEM IN 7'-4" BAY RIGHT HAND THREAD	4 EA.	STAINLESS STEEL	32
22	PART "EE"	4 EA.	ALUMINUM	28A	42	TYPICAL 1B7 STEM IN 3'-0" BAY LEFT HAND THREAD	2 EA.	STAINLESS STEEL	32
23	PART "FF"	4 EA.	ALUMINUM	28A	43	PART "DD"	2 EA.	STEEL / HOT DIPPED GALV.	35
24	ASSEMBLY "9"	16 EA.	ALUMINUM	29	44	TYPICAL STEM CONNECTOR BUSHING	4 EA.	STAINLESS STEEL	28A



REV.	DATE	DESCRIPTION	BY



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POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:

MATERIAL LIST  
HOG ISLAND GULLY  
DATE: 12/20/2011  
SHEET 3 OF 35


APPROVED BY: LONNIE HARPER, P.E.

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**WEST COVE CANAL STRUCTURE (S3)  
MATERIAL LIST**

ITEM NO.	DESCRIPTION	QUANTITY	MATERIAL / FINISH	PAGE	ITEM NO.	DESCRIPTION	QUANTITY	MATERIAL / FINISH	PAGE
1	SINGLE STEM IB7 ACTUATOR ASSEMBLY	2 EA.	ALUMINUM/POLYESTER PAINT	34	24A	PART "R"	12 EA.	ALUMINUM	29
1A	IQ20FA14/B4 ACTUATORS - REFURBISHED	2 EA.	ALUMINUM/POLYESTER PAINT	34	24B	PART "S-1"	12 EA.	ALUMINUM	29
1B	IB7 GEAR DRIVE - REFURBISHED	2 EA.	ALUMINUM/POLYESTER PAINT	34	24C	TYPICAL STEM CONNECTOR PIN	12 EA.	STAINLESS STEEL	29
2	SINGLE STEM IB9 ACTUATOR ASSEMBLY	2 EA.	ALUMINUM/POLYESTER PAINT	33	25	PART "T" - REFURBISHED	5 EA.	ALUMINUM	30
2A	IQ20FA14/B4 ACTUATORS - REFURBISHED	2 EA.	ALUMINUM/POLYESTER PAINT	33	26	PART "T" - NEW	3 EA.	ALUMINUM	30
2B	IB9 GEAR DRIVE - REFURBISHED	2 EA.	ALUMINUM/POLYESTER PAINT	33	27	PART "U" - REFURBISHED	5 EA.	ALUMINUM	30
3	DUAL STEM IB7 ACTUATOR ASSEMBLY	3 EA.	ALUMINUM/POLYESTER PAINT	34	28	PART "U" - NEW	3 EA.	ALUMINUM	30
3A	IQ26FA18/B4 ACTUATORS - NEW	3 EA.	ALUMINUM/POLYESTER PAINT	34	29	ASSEMBLY "C" - REFURBISHED	5 EA.	STEEL / HOT DIPPED GALV.	30
3B	DS87 GEAR DRIVE WITH DRIVE LINE AND COVER - NEW	3 EA.	ALUMINUM/POLYESTER PAINT	34	30	PART "V" - REFURBISHED	5 EA.	ALUMINUM	30
3C	IB7 GEAR DRIVE - REFURBISHED	3 EA.	ALUMINUM/POLYESTER PAINT	34	31	ASSEMBLY "C" - NEW	3 EA.	STEEL / HOT DIPPED GALV.	30
4	DUAL STEM IB9 ACTUATOR ASSEMBLY	3 EA.	ALUMINUM/POLYESTER PAINT	33	31A	PART "V"	3 EA.	STEEL / HOT DIPPED GALV.	30
4A	IQ35FA18/B4 ACTUATORS - NEW	3 EA.	ALUMINUM/POLYESTER PAINT	33	31B	PART "Z"	3 EA.	STEEL / HOT DIPPED GALV.	30
4B	DS89 GEAR DRIVE WITH DRIVE LINE AND COVER - NEW	3 EA.	ALUMINUM/POLYESTER PAINT	33	31C	PART "AA"	24 EA.	STEEL / HOT DIPPED GALV.	30
4C	IB9 GEAR DRIVE - REFURBISHED	3 EA.	ALUMINUM/POLYESTER PAINT	33	31D	4" Ø SCHEDULE 10 PIPE	9 L.F.	STEEL / HOT DIPPED GALV.	30
5	PART "B"	2 EA.	STEEL / HOT DIPPED GALV.	21	31E	PART "Y" - NEW	3 EA.	ALUMINUM	30
6	PART "C"	192 EA.	STEEL / HOT DIPPED GALV.	23	32	ASSEMBLY "D" - REFURBISHED	5 EA.	STEEL / HOT DIPPED GALV.	30
7	ASSEMBLY "A"	2 EA.	STEEL / HOT DIPPED GALV.	23	33	PART "X" - REFURBISHED	5 EA.	ALUMINUM	30
7A	PART "E"	0 EA.	STEEL / HOT DIPPED GALV.	23	34	ASSEMBLY "D" - NEW	3 EA.	STEEL / HOT DIPPED GALV.	30
7B	PART "G"	8 EA.	STEEL / HOT DIPPED GALV.	23	34A	PART "W"	3 EA.	STEEL / HOT DIPPED GALV.	30
7C	PART "I"	2 EA.	STEEL / HOT DIPPED GALV.	24	34B	PART "Z"	3 EA.	STEEL / HOT DIPPED GALV.	30
8	PART "D"	16 EA.	STEEL / HOT DIPPED GALV.	23	34C	PART "AA"	24 EA.	STEEL / HOT DIPPED GALV.	30
9	PART "F"	32 EA.	STEEL / HOT DIPPED GALV.	23	34D	4" Ø SCHEDULE 10 PIPE	9 L.F.	STEEL / HOT DIPPED GALV.	30
10	PART "H"	20 EA.	STEEL / HOT DIPPED GALV.	24	34E	PART "X" - NEW	3 EA.	ALUMINUM	30
11	PART "J"	12 EA.	STEEL / HOT DIPPED GALV.	24	35	ASSEMBLY "E"	6 EA.	ALUMINUM	31
12	PART "K" - REFURBISHED	5 EA.	ALUMINUM	26	35A	PART "BB"	6 EA.	ALUMINUM	31
13	PART "K" - NEW	3 EA.	ALUMINUM	26	35B	PART "CC"	12 EA.	UHMW PLASTIC	31
14	PART "L"	8 EA.	STEEL / HOT DIPPED GALV.	26	36	ASSEMBLY "F"	2 EA.	ALUMINUM	31A
15	PART "M"	4 EA.	STEEL / HOT DIPPED GALV.	26	36A	PART "GG"	2 EA.	ALUMINUM	31A
16	PART "N"	8 EA.	ALUMINUM	27	36B	PART "CC"	8 EA.	UHMW PLASTIC	31
17	PART "O"	8 EA.	ALUMINUM	27	37	TYPICAL IB9 STEM 7'-4" BAY LEFT HAND THREAD	3 EA.	STAINLESS STEEL	32
18	1/4" THICK ALUMINUM PLATE 1'-6" X 8'-3/4"	3 EA.	ALUMINUM	27	36	TYPICAL IB9 STEM 7'-4" BAY RIGHT HAND THREAD	3 EA.	STAINLESS STEEL	32
19	PART "P"	8 EA.	ALUMINUM	28	39	TYPICAL IB9 STEM 3'-0" BAY LEFT HAND THREAD	2 EA.	STAINLESS STEEL	32
20	PART "Q"	8 EA.	ALUMINUM	28	40	TYPICAL IB7 STEM 7'-4" BAY LEFT HAND THREAD	3 EA.	STAINLESS STEEL	32
21	1/4" THICK ALUMINUM PLATE 1'-6" X 8'-1/4"	3 EA.	ALUMINUM	28	41	TYPICAL IB7 STEM 7'-4" BAY RIGHT HAND THREAD	3 EA.	STAINLESS STEEL	32
22	PART "EE"	4 EA.	ALUMINUM	28A	42	TYPICAL IB7 STEM 3'-0" BAY LEFT HAND THREAD	2 EA.	STAINLESS STEEL	32
23	PART "FF"	4 EA.	ALUMINUM	28A	43	PART "DD"	2 EA.	STEEL / HOT DIPPED GALV.	36
24	ASSEMBLY "B"	12 EA.	ALUMINUM	29	44	TYPICAL STEM CONNECTOR BUSHING	4 EA.	STAINLESS STEEL	28A




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**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801  
 DRAWN BY: AARON HARPER  
 DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
 STATE PROJECT NUMBER: CS-23  
 FEDERAL PROJECT NUMBER:  
 APPROVED BY: LONNIE HARPER, P.E.

MATERIAL LIST  
 WEST COVE CANAL  
 DATE: 12/20/2011  
 SHEET 4 OF 35



**STRUCTURE NO. 1 (S1)**  
 HOG ISLAND GULLY  
 SEE SHEETS 6 THRU 12

**STRUCTURE NO. 2 (S2)**  
 HEADQUARTERS CANAL  
 SEE SHEETS 13 THRU 14

**STRUCTURE NO. 3 (S3)**  
 WEST COVE CANAL  
 SEE SHEETS 15 THRU 21

STATE HWY  
 NO. 27

CALCASIEU  
 LAKE



REV	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
 and Associates, Inc.  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Bell City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND  
 RESTORATION AUTHORITY**

450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER      DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF  
 SABINE WATER CONTROL STRUCTURES

STATE PROJECT NUMBER: CS-23

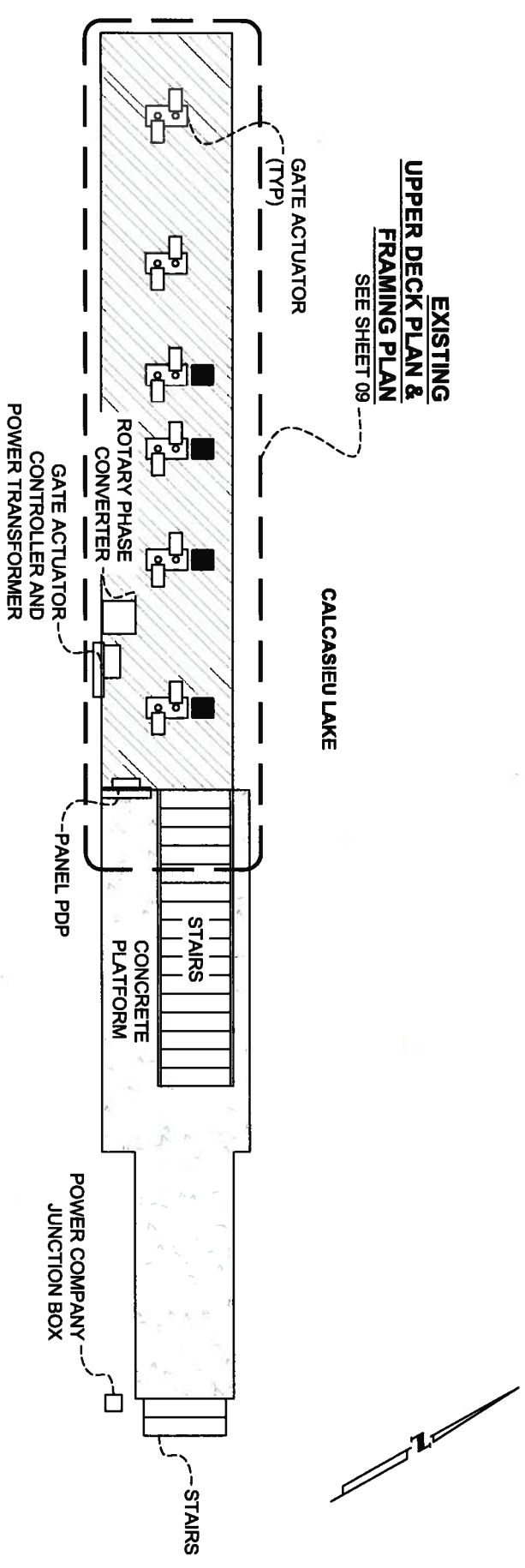
FEDERAL PROJECT NUMBER:

APPROVED BY: LONNIE HARPER, P.E.

PROJECT  
 LOCATION

DATE: 12/20/2011

SHEET 5 OF 35



**DEMOLITION AND PREPARATION TASKS:**

1. THE CONTRACTOR SHALL REMOVE ALL HANDRAILS ON THE UPPER DECK PLATFORM AND STAMP EACH TO ENSURE THEY ARE RE-INSTALLED IN THEIR ORIGINAL LOCATION. HANDRAILS SHALL BE PRESSURE WASHED PRIOR TO RE-INSTALLATION.
2. THE CONTRACTOR SHALL REMOVE AND REFURBISH ALL EXISTING GEAR DRIVES AND FOUR (4) ROTORK 1Q20FA14/84 ACTUATORS. ALL ACTUATORS, WHICH ARE NOT REUSED IN THIS PROPOSED SCOPE OF WORK SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY REFER TO THIS SHEET FOR CLARIFICATION REGARDING WHICH ACTUATORS SHALL BE REFURBISHED AND RE-INSTALLED.
3. THE CONTRACTOR SHALL REMOVE ALL ACTUATOR PEDESTALS AND PEDESTAL BEARING PLATES. ALL PEDESTALS SHALL BE SAND BLASTED. THE CONTRACTOR SHALL MACHINE THE UPPER AND LOWER BEARING PLATES OF THE PEDESTALS AND THE PEDESTAL BEARING PLATES TO GUARANTEE THE TWO MOUNTING SURFACES ARE PARALLEL. PLUM, TRUE, SQUARE AND RE-GALVANIZED (HOT DIPPED). THE CONTRACTOR SHALL PRESSURE WASH ALL EXISTING STEMS COVERS, WHICH SHALL BE REUSED. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISTING GATE STEMS.
4. THE CONTRACTOR SHALL REMOVE ALL GRATING FROM THE UPPER PLATFORM WHICH SHALL BE REUSED WHERE POSSIBLE.
5. THE CONTRACTOR SHALL PREPARE THE STEM GUIDES AND STEM GUIDE BEAMS FOR THE PROPOSED MODIFICATIONS AS SHOWN IN THE PROJECT DRAWINGS.
6. THE CONTRACTOR SHALL PREPARE THE LIFT GATES TO ACCOMMODATE THE PROPOSED MODIFICATIONS AS SHOWN IN THESE DRAWINGS, WITHOUT REMOVING THE GATES FROM THE STRUCTURE. REFER TO PROJECT SPECIFICATIONS FOR DETAILS PERTAINING TO THIS SCOPE OF WORK.
7. THE CONTRACTOR SHALL CLEAN ALL GATE GUIDE CHANNELS AND FRAMES OF ALL FOREIGN DEBRIS AND MAKE REPAIRS AS NECESSARY. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL LEAK PROOF SEALS ASSOCIATED WITH THE GATE GUIDE CHANNELS.
8. THE CONTRACTOR SHALL REPAIR ANY CONCRETE DAMAGED DURING THE CONSTRUCTION PROCESS AT NO COST TO OWNER.
9. THE CONTRACTOR SHALL PRESSURE WASH THE STAIR ASSEMBLIES AND MAKE REPAIRS AS NECESSARY. REPAIRS SHALL INCLUDE REPLACING ANY DAMAGED CLIPS, ANCHOR BOLTS, STAIR TREADS, ETC.
10. PRIOR TO THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL PERFORM LOOKOUT AND TAGGING OF ALL CIRCUITS IN ACCORDANCE WITH OSHA 1926.417. THE CONTRACTOR SHALL REMOVE AND STORE ON SITE ALL EXISTING ELECTRICAL COMPONENTS ASSOCIATED WITH THE UPPER DECK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE DURING THE REMOVAL, STORAGE AND RE-INSTALLATION OF THE ELECTRICAL EQUIPMENT AND SHALL REPLACE AT NO COST TO OWNER.

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.



DENOTES LOCATION OF ACTUATOR TO BE REFURBISHED AND RE-INSTALLED (4 RECD)

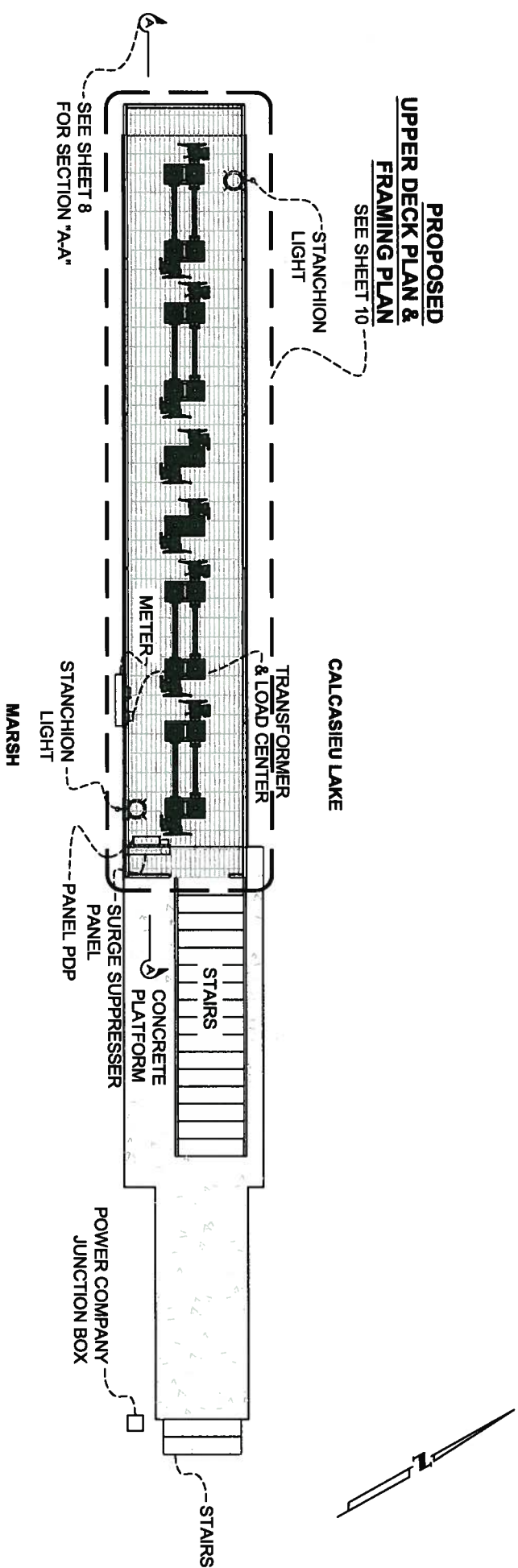
REV.	DATE	DESCRIPTION

**LONNIE G. HARPER**  
 and Associates, Inc.  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Bell City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
 DESIGNED BY: LONNIE HARPER, P.E.

<b>STRUCTURE NO. 1 - HOG ISLAND GULLY</b>	
POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES STATE PROJECT NUMBER: CS-23	EXISTING HOG ISLAND GULLY STRUCTURE DATE: 12/20/2011
FEDERAL PROJECT NUMBER: APPROVED BY: LONNIE HARPER, P.E.	SHEET 6 OF 35



**PROPOSED HOG ISLAND  
GULLY STRUCTURE**  
SCALE: NOT TO SCALE

**CONSTRUCTION TASKS:**

11. THE CONTRACTOR SHALL PERFORM ALL MODIFICATIONS TO THE LIFT GATES AS SHOWN IN THE PROJECT DRAWINGS. ALL MODIFICATIONS SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
12. THE CONTRACTOR SHALL REINSTALL ALL MODIFIED STEM GUIDE BEAMS IN THEIR ORIGINAL BAYS AND ALL REPLACEMENT STEM GUIDES.
13. THE CONTRACTOR SHALL INSTALL THE UPPER PLATFORM EXTENSIONS AS SHOWN IN THE PROJECT DRAWINGS. UPPER PLATFORM EXTENSIONS SHALL BE CONSTRUCTED IN A FABRICATION SHOP AND HOT DIPPED GALVANIZED AS A SINGLE UNIT. CONTRACTOR SHALL UTILIZE EXISTING ANCHOR BOLTS FOR ALL PROPOSED BEARING PLATES AND FRAMING WHERE NECESSARY. THE CONTRACTOR SHALL REPLACE ANY DAMAGED OR MISSING FASTENERS.
14. THE CONTRACTOR SHALL INSTALL NEW AND REFURBISHED ACTUATOR PEDESTAL BEARING PLATES AND PEDESTALS AS SHOWN IN THE PROJECT DRAWINGS.
15. THE CONTRACTOR SHALL REINSTALL THE UPPER DECK GRATING, HANDRAILS, AND ANGLES. THE CONTRACTOR SHALL REUSE THE EXISTING GRATING WHERE POSSIBLE. ANY NEW GRATING SHALL BE HOT DIPPED GALVANIZED AND OF THE SAME TYPE AS EXISTING GRATING.
16. THE CONTRACTOR SHALL REINSTALL THE STAIRWAY ASSEMBLY IN THE RELOCATED POSITION.
17. THE CONTRACTOR SHALL INSTALL GATE STEMS, ACTUATORS AND GEAR DRIVES. FOUR (4) NEW IQ35FA161B4 ACTUATORS, FOUR (4) REFURBISHED 1B9 GEAR DRIVES, FOUR (4) NEW DSB9 GEAR DRIVES, EIGHT (8) NEW 2-1/2" Ø STEMS AND DRIVE SHAFT WITH COVER SHALL BE INSTALLED ON THE LOWER GATES IN BAYS 1, 2, 5 AND 6. FOUR (4) NEW IQ25FA141B4 ACTUATORS, FOUR (4) REFURBISHED 1B7 GEAR DRIVES, FOUR (4) NEW DSB7 GEAR DRIVES, EIGHT (8) NEW 2-1/2" Ø STEMS AND DRIVE SHAFT SHALL BE INSTALLED ON THE UPPER GATES IN BAYS 1, 2, 5 AND 6. TWO (2) REFURBISHED IQ20FA141B4 ACTUATORS, 1B9 GEAR DRIVES AND TWO (2) NEW 2-1/2" Ø STEMS SHALL BE INSTALLED ON THE LOWER GATES IN BAYS 3 AND 4. TWO (2) REFURBISHED IQ20FA141B4 ACTUATORS, 1B7 GEAR DRIVES AND TWO (2) NEW 2-1/2" Ø STEMS SHALL BE INSTALLED ON THE UPPER GATES IN BAYS 3 AND 4. THE CONTRACTOR SHALL ENSURE THAT THE LIFTING ASSEMBLY (ACTUATORS, GEAR DRIVES, PEDESTALS, BEARING PLATES, STEM GUIDES AND GATE STEMS) IS IN PERFECT ALIGNMENT WITH THE GATES. NO MIS-ALIGNMENT SHALL BE ALLOWED. THE CONTRACTOR SHALL ENSURE PROPER FUNCTION OF THE LIFTING ASSEMBLY TO FULLY OPEN AND CLOSE STATE WITHOUT BINDING.
18. THE CONTRACTOR SHALL REINSTALL AND RECONNECT ALL ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL REPLACE ALL STRAPS, CLIPS, AND FASTENERS REQUIRED TO RECONNECT THE ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL LENGTHEN OR REPLACE ELECTRICAL CONDUIT AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. THE CONTRACTOR SHALL REPLACE WIRING AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. NO WIRE SPLICING SHALL BE PERMITTED. THE CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED IS DONE BY A CERTIFIED ELECTRICIAN AND MEETS ALL LOCAL, STATE, AND FEDERAL CODES.

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.



REV.	DATE	DESCRIPTION	BY

**Lonnie G. Harper**  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING

2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

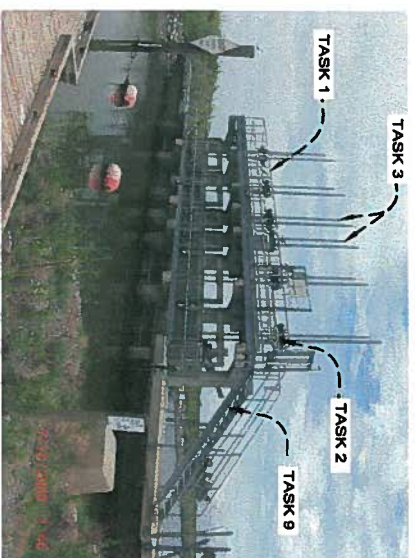
**COASTAL PROTECTION AND  
RESTORATION AUTHORITY**

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

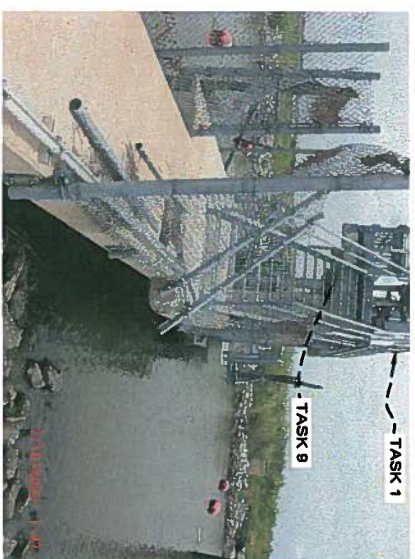
DRAWN BY: AARON HARPER      DESIGNED BY: LONNIE HARPER, P.E.

<b>STRUCTURE NO. 1 - HOG ISLAND GULLY</b>	
POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES	PROPOSED HOG ISLAND GULLY STRUCTURE
STATE PROJECT NUMBER: CS-23	DATE: 12/20/2011
FEDERAL PROJECT NUMBER:	APPROVED BY: LONNIE HARPER, P.E.
SHEET 64 OF 35	

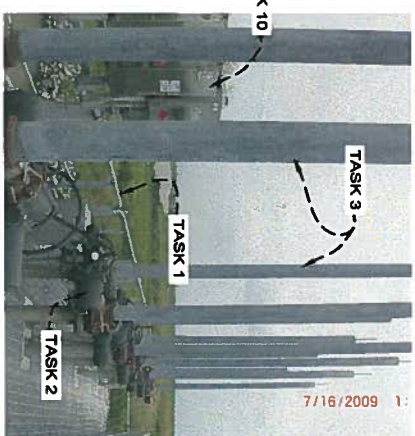
**ASBULT DRAWINGS**



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SCALE: N.T.S.



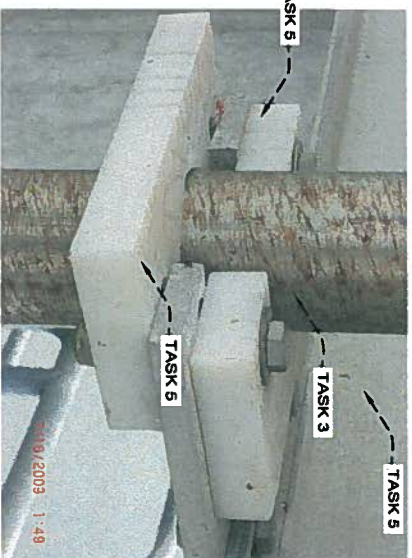
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SCALE: N.T.S.



**EXHIBIT "3"**  
SCALE: N.T.S.



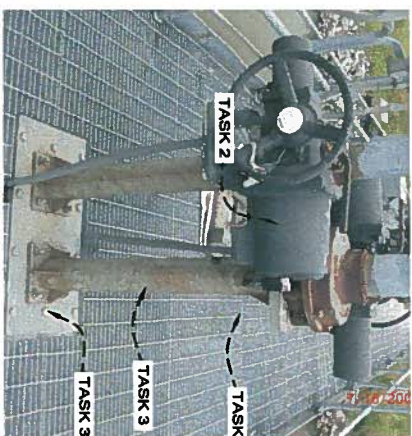
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SCALE: N.T.S.



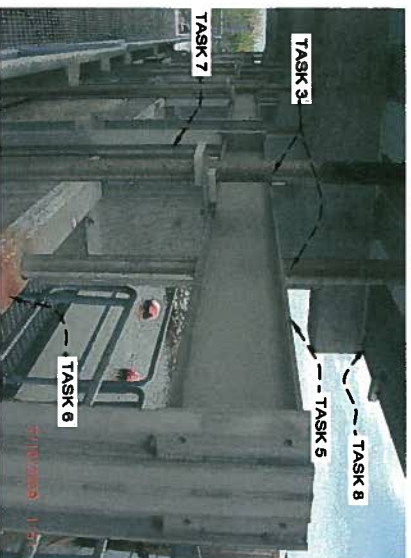
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SCALE: N.T.S.



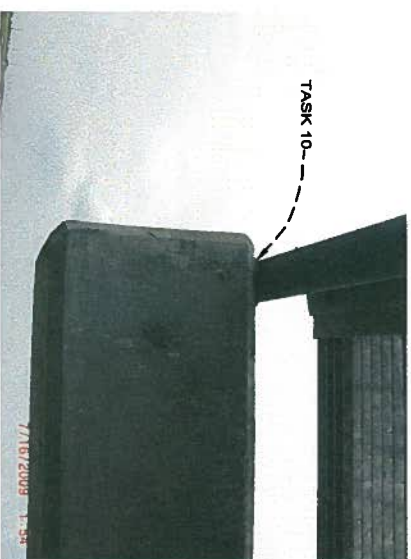
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SCALE: N.T.S.



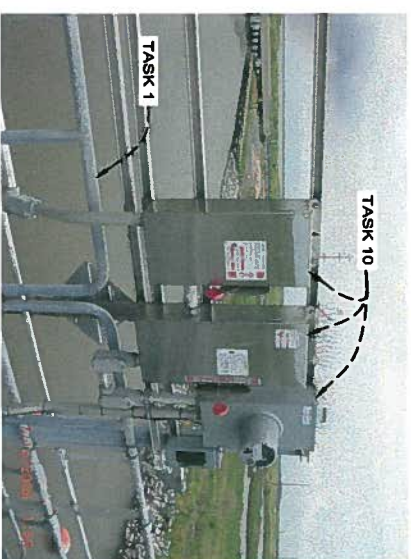
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SCALE: N.T.S.



**EXHIBIT "8"**  
SCALE: N.T.S.



**EXHIBIT "9"**  
SCALE: N.T.S.



**EXHIBIT "10"**  
SCALE: N.T.S.

**DEMOLITION AND PREPARATION TASKS:**

1. THE CONTRACTOR SHALL REMOVE ALL HANDRAILS ON THE UPPER DECK PLATFORM AND STAMP EACH TO ENSURE THEY ARE RE-INSTALLED IN THEIR ORIGINAL LOCATION. HANDRAILS SHALL BE PRESSURE WASHED PRIOR TO REINSTALLATION.
2. THE CONTRACTOR SHALL REMOVE AND REFURBISH ALL EXISTING GEAR DRIVES AND FOUR (4) ROTORK I020FA14/B4 ACTUATORS. ALL ACTUATORS, WHICH ARE NOT REUSED IN THIS PROPOSED SCOPE OF WORK SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY REFER TO SHEET 06 FOR CLARIFICATION REGARDING WHICH ACTUATORS SHALL BE REFURBISHED AND REINSTALLED.
3. THE CONTRACTOR SHALL REMOVE ALL ACTUATOR PEDESTALS AND PEDESTAL BEARING PLATES. ALL PEDESTALS SHALL BE SAND BLASTED. THE CONTRACTOR SHALL MACHINE THE UPPER AND LOWER PLATES OF THE PEDESTALS AND THE PEDESTAL BEARING PLATES TO GUARANTEE THE TWO MOUNTING SURFACES ARE PARALLEL, PLUM, TRUE, SQUARE AND RE-GALVANIZED (HOT DIPPED). THE CONTRACTOR SHALL PRESSURE WASH ALL EXISTING STEMS COVERS, WHICH SHALL BE REUSED. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISTING GATE STEMS.
4. THE CONTRACTOR SHALL REMOVE ALL GRATING FROM THE UPPER PLATFORM WHICH SHALL BE REUSED WHERE POSSIBLE.
5. THE CONTRACTOR SHALL PREPARE THE STEM GUIDES AND STEM GUIDE BEAMS FOR THE PROPOSED MODIFICATIONS AS SHOWN IN THE PROJECT DRAWINGS.
6. THE CONTRACTOR SHALL PREPARE THE LIFT GATES TO ACCOMMODATE THE PROPOSED MODIFICATIONS AS SHOWN IN THESE DRAWINGS, WITHOUT REMOVING THE GATES FROM THE STRUCTURE. REFER TO PROJECT SPECIFICATIONS FOR DETAILS PERTAINING TO THIS SCOPE OF WORK.
7. THE CONTRACTOR SHALL CLEAN ALL GATE GUIDE CHANNELS AND FRAMES OF ALL FOREIGN DEBRIS AND MAKE REPAIRS AS NECESSARY. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL LEAK PROOF SEALS ASSOCIATED WITH THE GATE GUIDE CHANNELS.
8. THE CONTRACTOR SHALL REPAIR ANY CONCRETE DAMAGED DURING THE CONSTRUCTION PROCESS AT NO COST TO OWNER.
9. THE CONTRACTOR SHALL PRESSURE WASH THE STAIR ASSEMBLIES AND MAKE REPAIRS AS NECESSARY. REPAIRS SHALL INCLUDE REPLACING ANY DAMAGED CLIPS, ANCHOR BOLTS, STAIR TREADS, ETC.
10. PRIOR TO THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL PERFORM LOOKOUT AND TAGGING OF ALL CIRCUITS IN ACCORDANCE WITH OSHA 1926.417. THE CONTRACTOR SHALL REMOVE AND STORE ON SITE ALL EXISTING ELECTRICAL COMPONENTS ASSOCIATED WITH THE UPPER DECK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE DURING THE REMOVAL, STORAGE AND RE-INSTALLATION OF THE ELECTRICAL EQUIPMENT AND SHALL REPLACE AT NO COST TO OWNER.

- GENERAL NOTES:**
1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
  2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.

3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

**STRUCTURE NO. 1 - HOG ISLAND GULLY**

REV.	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
 and Associates, Inc.  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Bell City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

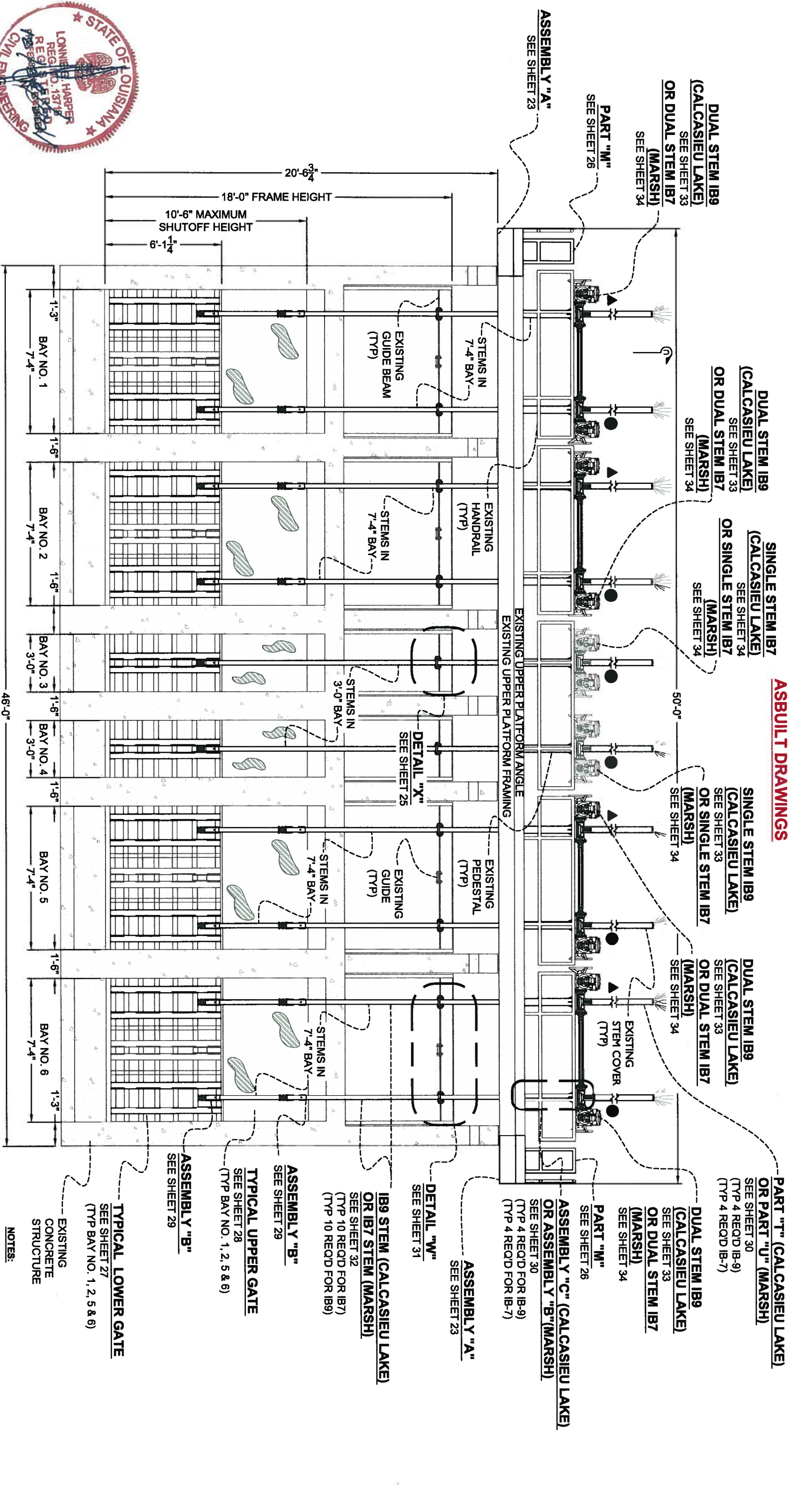
DRAWN BY: AARON HARPER      DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES STATE PROJECT NUMBER: CS-23 FEDERAL PROJECT NUMBER:	EXHIBIT "1" THRU EXHIBIT "10"
APPROVED BY: LONNIE HARPER, P.E.	DATE: 12/20/2011 SHEET 7 OF 35





**ASBUILT DRAWINGS**



**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

SEE SHEET 25 FOR SECTION "C-C"

**SECTION "A-A"**  
SCALE: 1" = 5'

- ▲ DENOTES LOCATION OF PROPOSED PEDESTAL BEARING PLATE AND PEDESTALS
- DENOTES LOCATION OF RELOCATED PEDESTAL BEARING PLATE AND PEDESTALS

- NOTES:**
1. SEE SHEET 6 FOR DEMOLITION AND PREPARATION TASKS.
  2. SEE SHEET 6A FOR CONSTRUCTION TASKS.
  3. SEE SHEET 35 FOR CONSTRUCTION NOTES.

**STRUCTURE NO. 1 - HOG ISLAND GULLY**



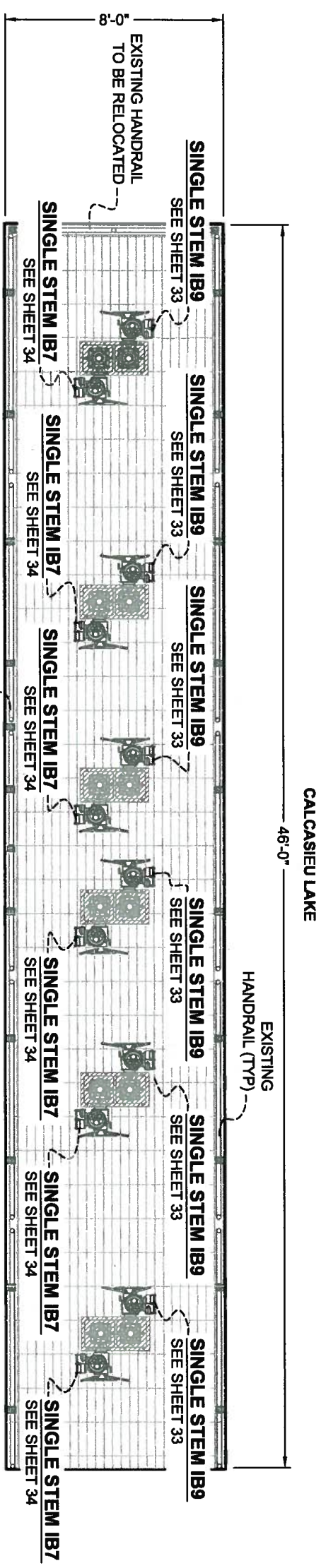
REV.	DATE	DESCRIPTION	BY

**LONNIE G. HARPER**  
and Associates, Inc.  
CIVIL ENGINEERING  
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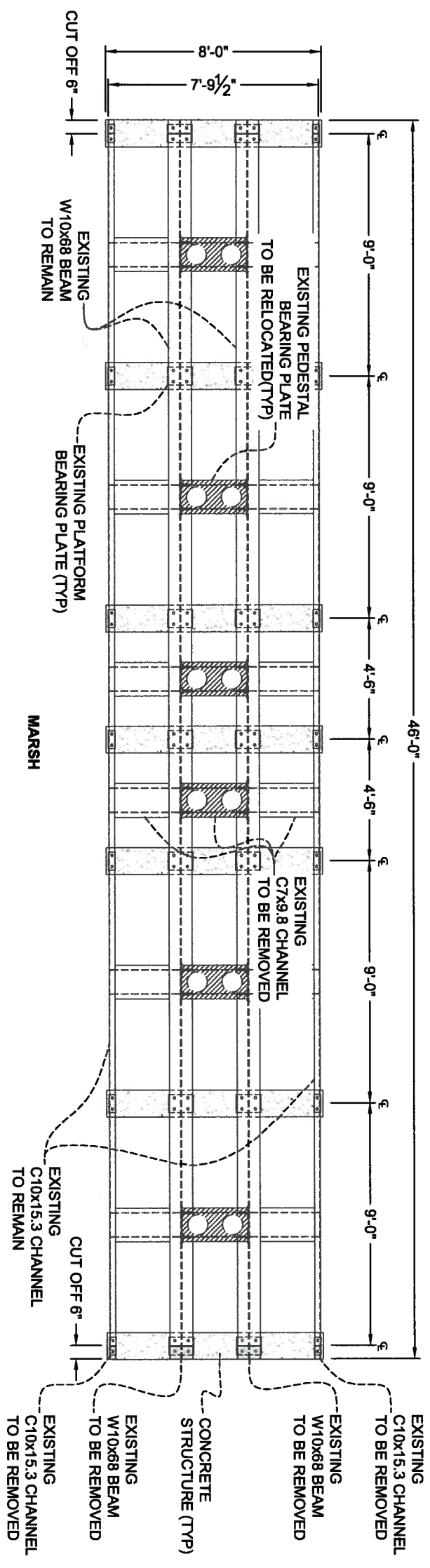
**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:  
DATE: 12/20/2011  
SHEET 8 OF 35



**EXISTING UPPER DECK PLAN**  
SCALE: 1" = 5'



**EXISTING UPPER DECK FRAMING PLAN**  
SCALE: 1" = 5'



- GENERAL NOTES:**
1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK, INC., AS REQUIRED BY CONTRACT DOCUMENTS.
  2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
  3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.
  4. THE CONTRACTOR SHALL CUT OFF 6" OF ALL EXISTING CHANNEL AND I-BEAM AT BOTH ENDS BY MECHANICAL MEANS TO ACCOMMODATE THE PROPOSED EXTENSION. AFTER CUTS HAVE BEEN PERFORMED THE ENDS SHALL BE COLD GALVANIZED.

REV.	DATE	DESCRIPTION	BY

**LONNIE G. HARPER**  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

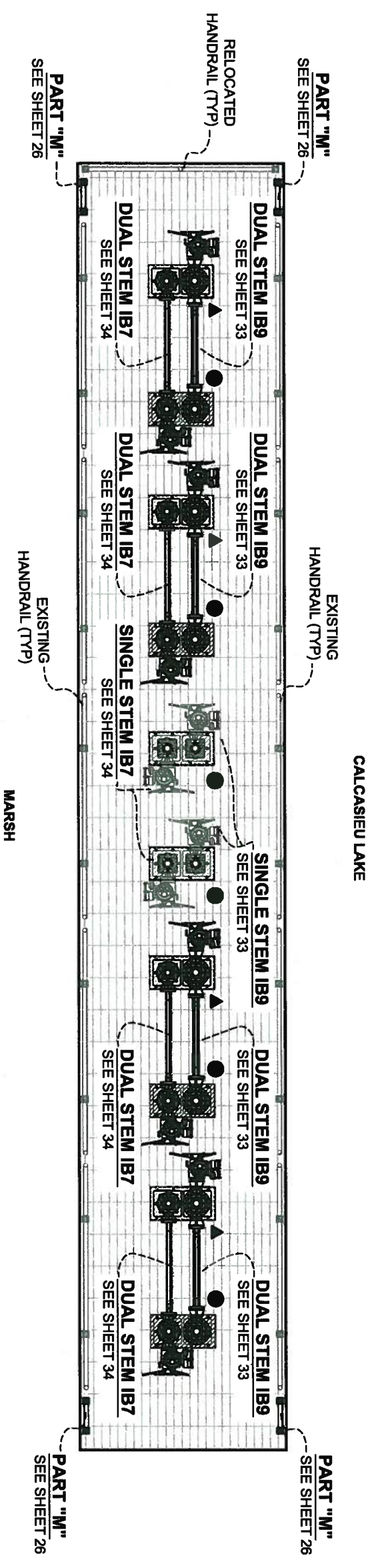
**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER      DESIGNED BY: LONNIE HARPER, P.E.

**STRUCTURE NO. 1 - HOG ISLAND GULLY STRUCTURE**

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:

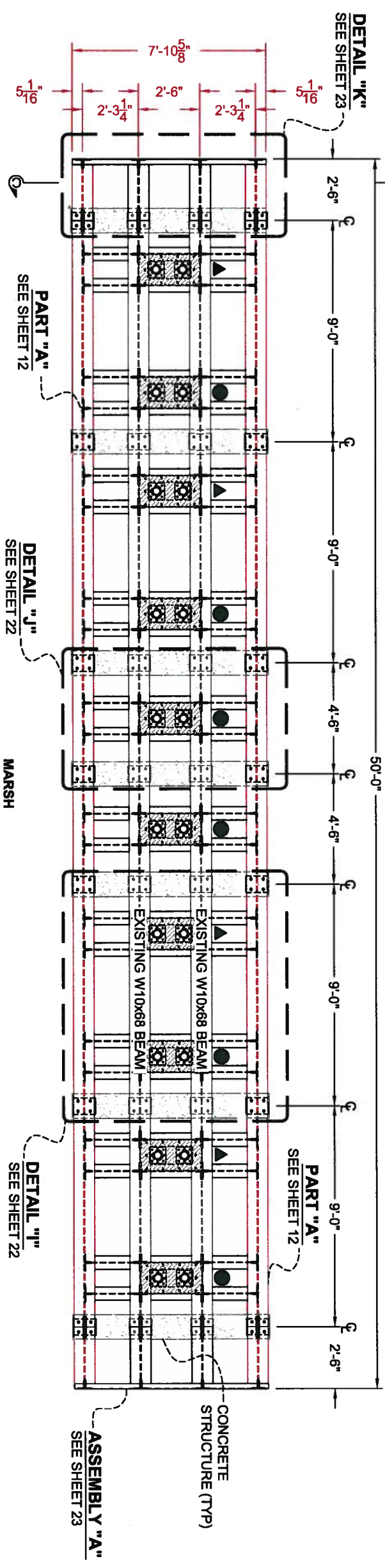
EXISTING UPPER DECK & FRAMING PLAN  
DATE: 12/20/2011  
SHEET 9 OF 35



PROPOSED UPPER DECK PLAN

SCALE: 1" = 5'

CALCASIEU LAKE



PROPOSED UPPER DECK FRAMING PLAN

SCALE: 1" = 5'

- GENERAL NOTES:**
1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
  2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
  3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

- ▲ DENOTES LOCATION OF PROPOSED PEDESTAL BEARING PLATE AND PEDESTALS
- DENOTES LOCATION OF RELOCATED PEDESTAL BEARING PLATE AND PEDESTALS

- NOTES:**
1. SEE SHEET 6 FOR DEMOLITION AND PREPARATION TASKS.
  2. SEE SHEET 6A FOR CONSTRUCTION TASKS.
  3. SEE SHEET 35 FOR CONSTRUCTION NOTES.

**STRUCTURE NO. 1 - HOG ISLAND GULLY**



REV	DATE	DESCRIPTION	BY

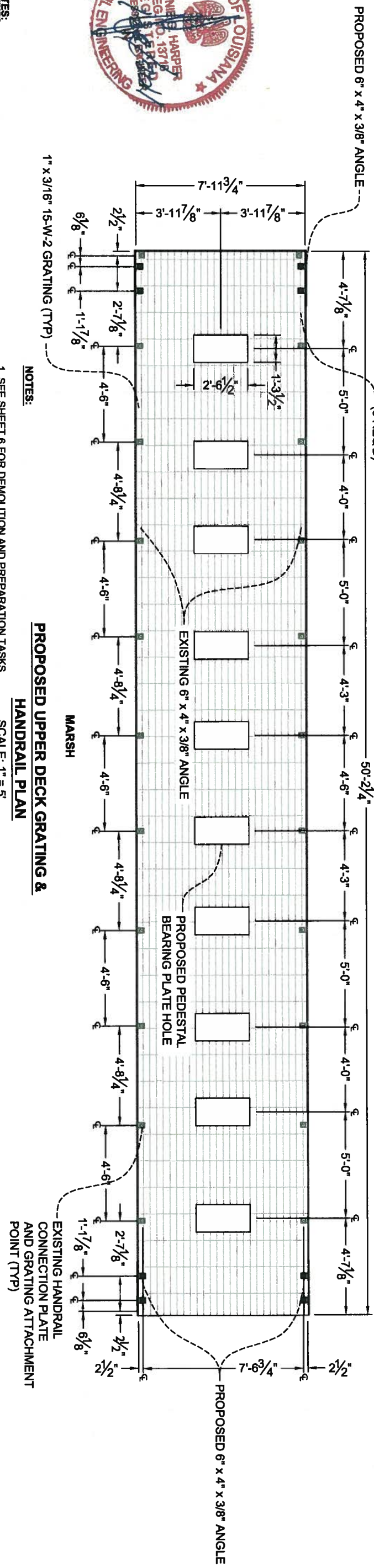
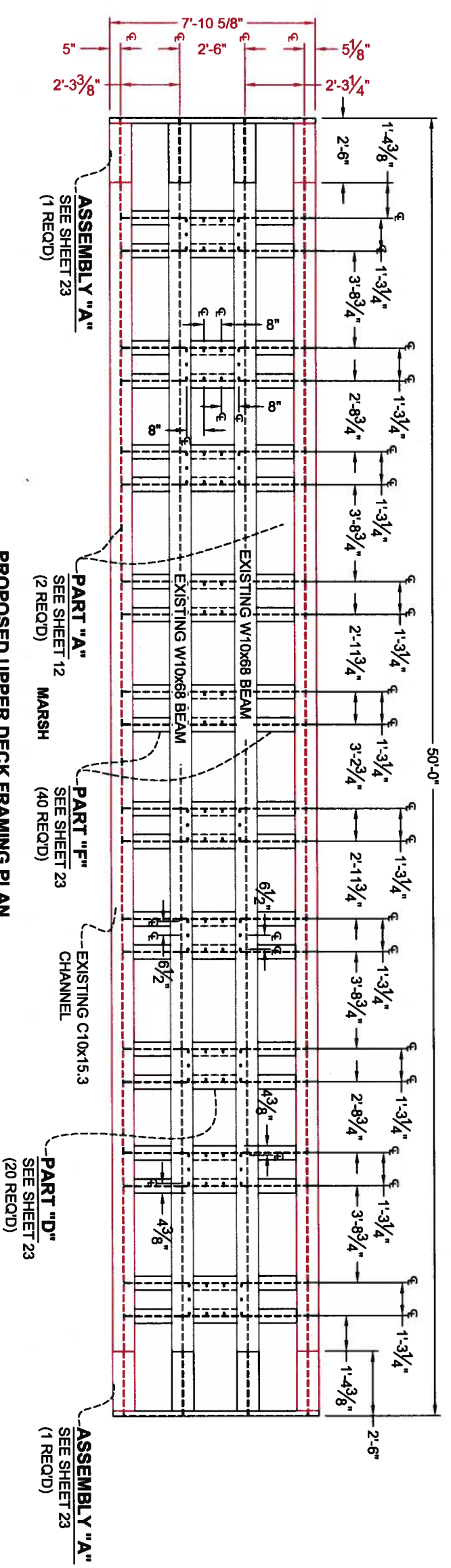
**Lonnie G. Harper and Associates, Inc.**  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 7746 Hwy 384, Belle City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
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POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
 STATE PROJECT NUMBER: CS-23  
 FEDERAL PROJECT NUMBER:  
 DATE: 12/20/2011  
 SHEET 10 OF 35

**ASBULT DRAWINGS**

CALCASIEU LAKE



- GENERAL NOTES:**
1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
  2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
  3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.
  4. EXISTING GRATING SHALL BE REUSED WHEN POSSIBLE.

- NOTES:**
1. SEE SHEET 6 FOR DEMOLITION AND PREPARATION TASKS.
  2. SEE SHEET 6A FOR CONSTRUCTION TASKS.
  3. SEE SHEET 35 FOR CONSTRUCTION NOTES.

REV.	DATE	DESCRIPTION	BY

**LONNIE G. HARPER**  
 and Associates, Inc.  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Bell City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

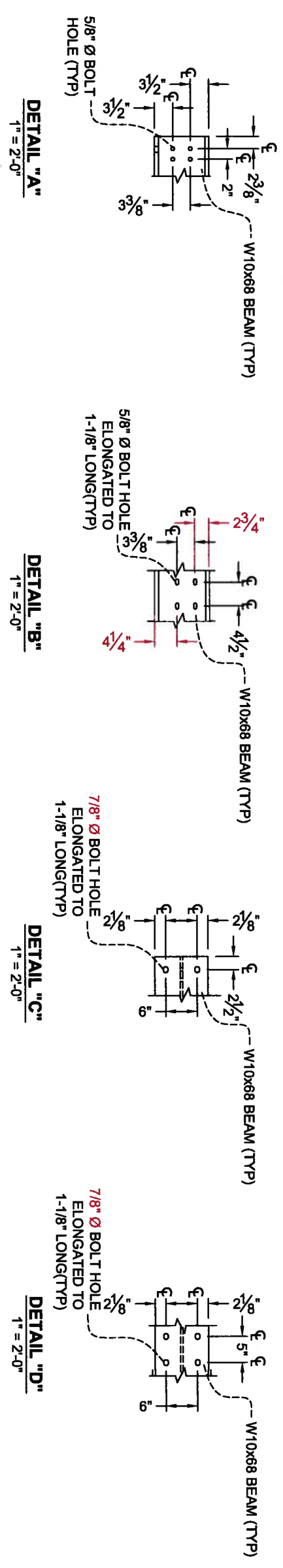
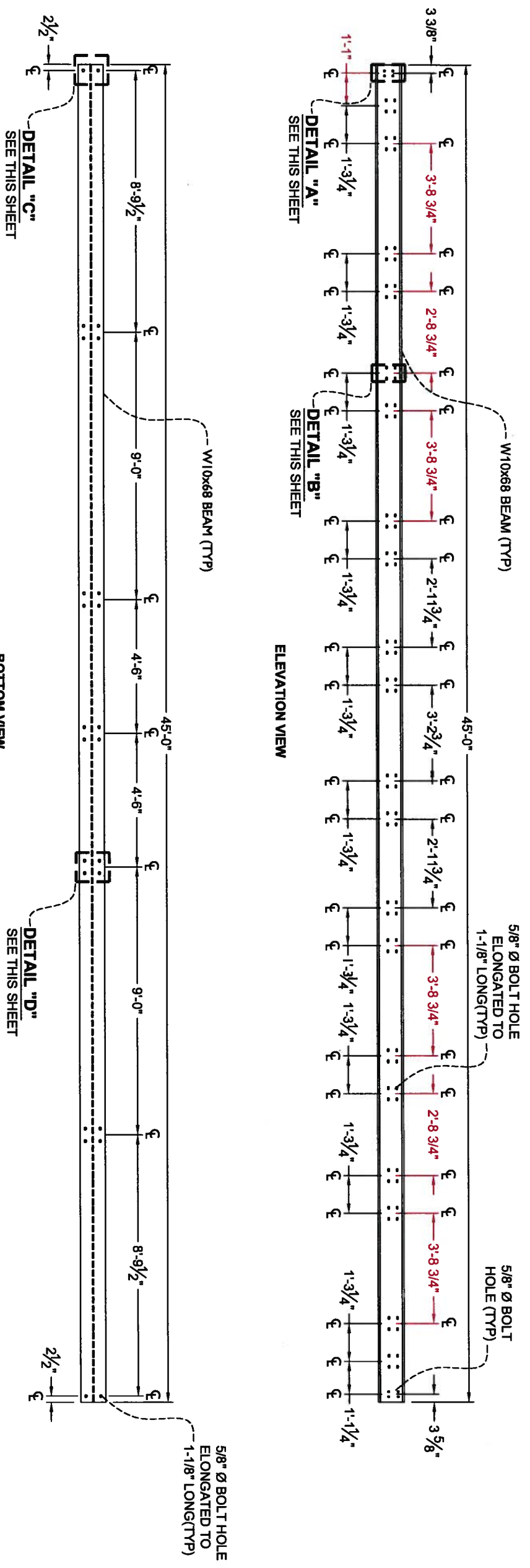
**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

**POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES**  
 STATE PROJECT NUMBER: CS-23  
 FEDERAL PROJECT NUMBER:  
 DATE: 12/20/2011  
 SHEET 11 OF 35

**STRUCTURE NO. 1 - HOG ISLAND GULLY**

DRAWN BY: AARON HARPER  
 DESIGNED BY: LONNIE HARPER, P.E.  
 APPROVED BY: LONNIE HARPER, P.E.

**ASBUILT DRAWINGS**



**NOTES:**

1. SEE SHEET 6 FOR DEMOLITION AND PREPARATION TASKS.
2. SEE SHEET 6A FOR CONSTRUCTION TASKS.
3. SEE SHEET 36 FOR CONSTRUCTION NOTES.

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.



REV.	DATE	DESCRIPTION	BY

**LONNIE G. HARPER and Associates, Inc.**  
 CIVIL ENGINEERING AND LAND SURVEYING  
 2746 Hwy 384, Bell City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
 DESIGNED BY: LONNIE HARPER, P.E.

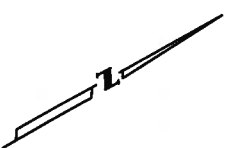
**STRUCTURE NO. 1 - HOG ISLAND GULLY**

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
 STATE PROJECT NUMBER: CS-23  
 FEDERAL PROJECT NUMBER:      

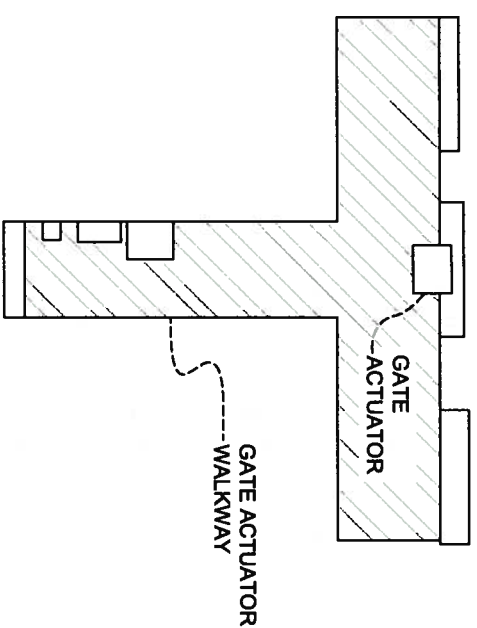
APPROVED BY: LONNIE HARPER, P.E.

PART "A" & DETAILS "A" THRU "D"  
 DATE: 12/20/2011  
 SHEET 12 OF 35

**ASBUILT DRAWINGS**



**CALCASIEU LAKE**



**DEMOLITION AND PREPARATION TASKS:**

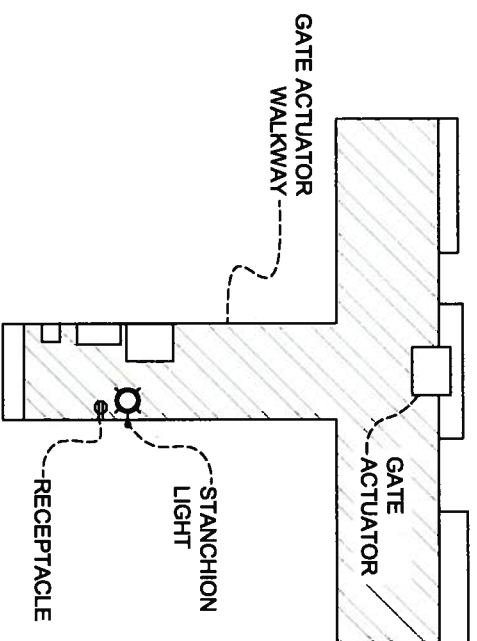
1. THE CONTRACTOR SHALL REMOVE AND REFURBISH THE EXISTING 1Q12FA10B4 ACTUATOR AND 1B5 GEAR DRIVE.
2. THE CONTRACTOR SHALL REMOVE AND VERIFY STRAIGHTNESS, CLEAN AND GREASE GATE STEM.
3. THE CONTRACTOR SHALL REMOVE, CLEAN AND STORE THE STEM COVER ON SITE.

**CONSTRUCTION TASKS:**

4. THE CONTRACTOR SHALL RE-INSTALL GATE STEM, REFURBISHED ACTUATOR AND STEM COVER.
5. THE CONTRACTOR SHALL RE-INSTALL AND RECONNECT ALL ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL REPLACE ALL STRAPS, CLIPS AND FASTENERS REQUIRED TO RE-INSTALL THE ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL LENGTHEN OR REPLACE ELECTRICAL CONDUIT AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. THE CONTRACTOR SHALL REPLACE ELECTRICAL WIRING AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. THE CONTRACTOR SHALL PROVIDE AND INSTALL LOCK OUT TAG OUT DEVICES ON ALL ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK IS PERFORMED BY A CERTIFIED ELECTRICIAN AND MEETS ALL LOCAL, STATE AND FEDERAL CODES. NO WIRE SPlicing SHALL BE PERMITTED.
6. THE CONTRACTOR SHALL ENSURE PROPER FUNCTION OF THE LIFTING ASSEMBLY TO FULLY OPEN AND CLOSE STATE WITHOUT BINDING.

**EXISTING HEADQUARTERS CANAL STRUCTURE**

**CALCASIEU LAKE**



**PROPOSED HEADQUARTERS CANAL STRUCTURE**



**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

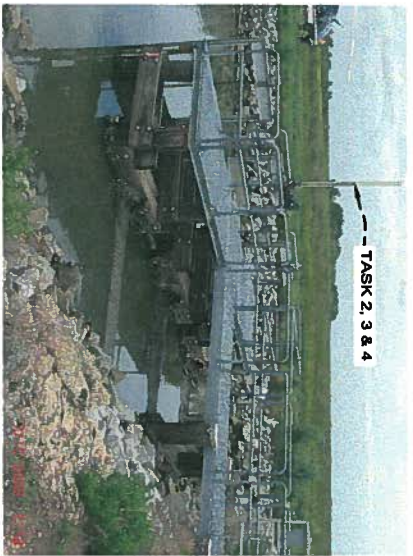
REV.	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
 and Associates, Inc.  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Bell City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801  
 DRAWN BY: AARON HARPER      DESIGNED BY: LONNIE HARPER, P.E.

<b>STRUCTURE NO. 2 - HEADQUARTERS CANAL STRUCTURE</b>	
POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES	EXISTING & PROPOSED HEADQUARTERS CANAL STR
STATE PROJECT NUMBER: CS-23	DATE: 12/20/2011
FEDERAL PROJECT NUMBER:	SHEET 13 OF 35
APPROVED BY: LONNIE HARPER, P.E.	



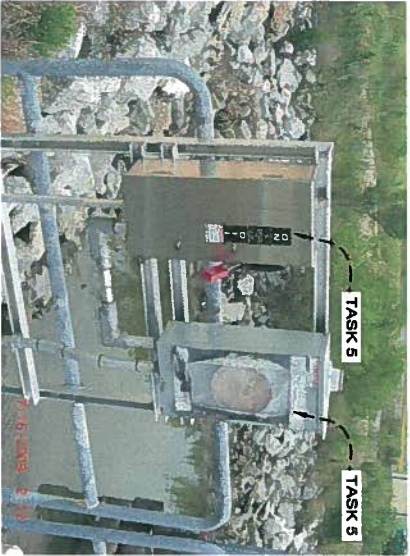
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SCALE: N.T.S.



**EXHIBIT "12"**  
SCALE: N.T.S.



**EXHIBIT "13"**  
SCALE: N.T.S.



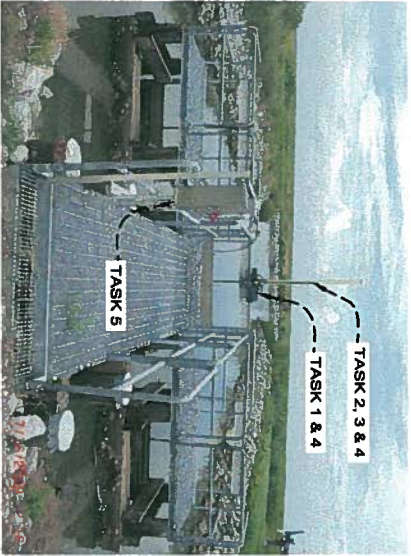
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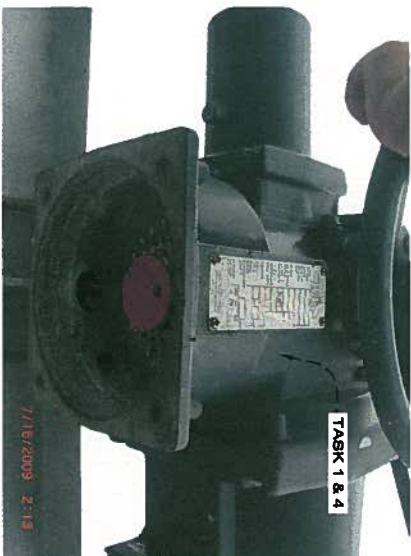
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SCALE: N.T.S.



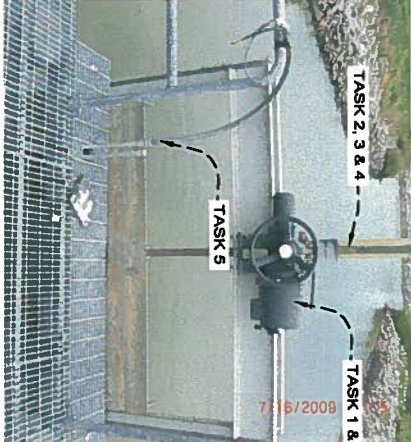
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SCALE: N.T.S.



**EXHIBIT "17"**  
SCALE: N.T.S.



**EXHIBIT "18"**  
SCALE: N.T.S.



**EXHIBIT "19"**  
SCALE: N.T.S.

- CONSTRUCTION TASKS:**
4. THE CONTRACTOR SHALL RE-INSTALL GATE STEM, REFURBISHED ACTUATOR AND STEM COVER.
  5. THE CONTRACTOR SHALL REINSTALL AND RECONNECT ALL ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL REPLACE ALL STRAPS, CLIPS AND FASTENERS REQUIRED TO REINSTALL THE ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL LENGTHEN OR REPLACE ELECTRICAL CONDUIT AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. THE CONTRACTOR SHALL REPLACE ELECTRICAL WIRING AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. THE CONTRACTOR SHALL PROVIDE AND INSTALL LOCK OUT TAG OUT DEVICES ON ALL ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK IS PERFORMED BY A CERTIFIED ELECTRICIAN AND MEETS ALL LOCAL, STATE AND FEDERAL CODES. NO WIRE SPlicing SHALL BE PERMITTED.
  6. THE CONTRACTOR SHALL ENSURE PROPER FUNCTION OF THE LIFTING ASSEMBLY TO FULLY OPEN AND CLOSE STATE WITHOUT BINDING.

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

REV.	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

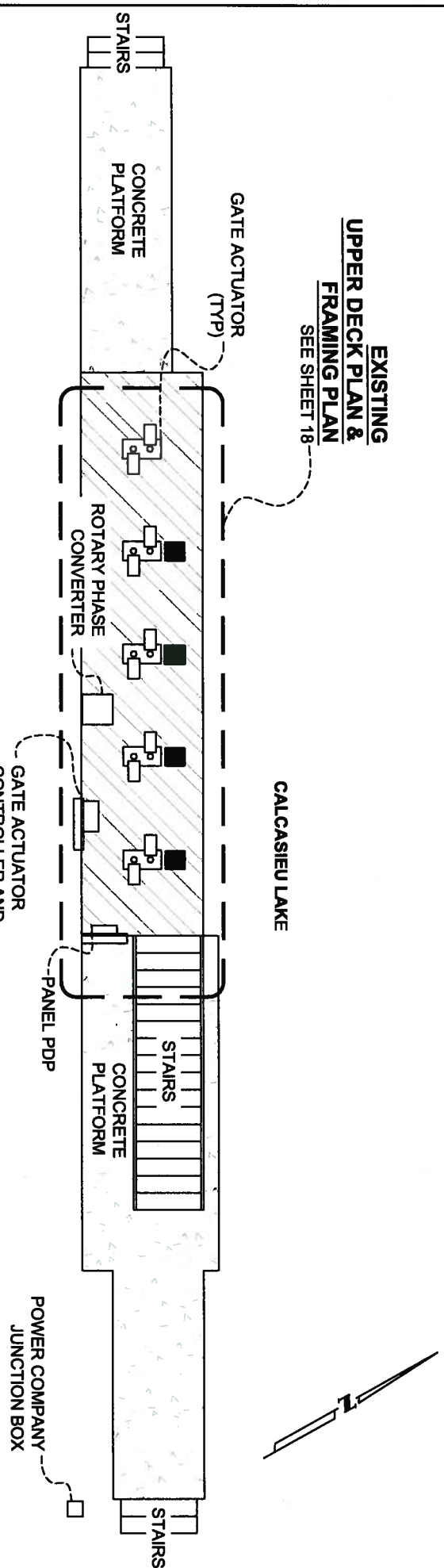
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER      DESIGNED BY: LONNIE HARPER, P.E.

**STRUCTURE NO. 2 - HEADQUARTERS CANAL STRUCTURE**

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES	EXHIBIT "11" THRU EXHIBIT "19"
STATE PROJECT NUMBER: CS-23	DATE: 12/20/2011
FEDERAL PROJECT NUMBER:	SHEET 14 OF 35
APPROVED BY: LONNIE HARPER, P.E.	





**EXISTING WEST COVE  
CANAL STRUCTURE**  
SCALE: NOT TO SCALE

**DEMOLITION AND PREPARATION TASKS:**

1. THE CONTRACTOR SHALL REMOVE ALL HANDRAILS ON THE UPPER DECK PLATFORM AND STAMP EACH TO ENSURE THEY ARE RE-INSTALLED IN THEIR ORIGINAL LOCATION. HANDRAILS SHALL BE PRESSURE WASHED PRIOR TO REINSTALLATION.
2. THE CONTRACTOR SHALL REMOVE AND REFURBISH ALL EXISTING GEAR DRIVES AND FOUR (4) ROTORK IQ20FA14/84 ACTUATORS. ALL ACTUATORS, WHICH ARE NOT REUSED IN THIS PROPOSED SCOPE OF WORK SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY REFER TO THIS SHEET FOR CLARIFICATION REGARDING WHICH ACTUATORS SHALL BE REFURBISHED AND REINSTALLED.
3. THE CONTRACTOR SHALL REMOVE ALL ACTUATOR PEDESTALS AND PEDESTAL BEARING PLATES. ALL PEDESTALS SHALL BE SAND BLASTED. THE CONTRACTOR SHALL MACHINE THE UPPER AND LOWER BEARING PLATES OF THE PEDESTALS AND THE PEDESTAL BEARING PLATES TO GUARANTEE THE TWO MOUNTING SURFACES ARE PARALLEL, PLUM, TRUE, SQUARE AND RE-GALVANIZED (HOT DIPPED). THE CONTRACTOR SHALL PRESSURE WASH ALL EXISTING STEMS COVERS, WHICH SHALL BE REUSED. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISTING GATE STEMS.
4. THE CONTRACTOR SHALL REMOVE ALL GRATING FROM THE UPPER PLATFORM WHICH SHALL BE REUSED WHERE POSSIBLE.
5. THE CONTRACTOR SHALL PREPARE THE STEM GUIDES AND STEM GUIDE BEAMS FOR THE PROPOSED MODIFICATIONS AS SHOWN IN THE PROJECT DRAWINGS.
6. THE CONTRACTOR SHALL PREPARE THE LIFT GATES TO ACCOMMODATE THE PROPOSED MODIFICATIONS AS SHOWN IN THESE DRAWINGS, WITHOUT REMOVING THE GATES FROM THE STRUCTURE. REFER TO PROJECT SPECIFICATIONS FOR DETAILS PERTAINING TO THIS SCOPE OF WORK.
7. THE CONTRACTOR SHALL CLEAN ALL GATE GUIDE CHANNELS AND FRAMES OF ALL FOREIGN DEBRIS AND MAKE REPAIRS AS NECESSARY. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL LEAK PROOF SEALS ASSOCIATED WITH THE GATE GUIDE CHANNELS.
8. THE CONTRACTOR SHALL REPAIR ANY CONCRETE DAMAGED DURING THE CONSTRUCTION PROCESS AT NO COST TO OWNER.
9. THE CONTRACTOR SHALL PRESSURE WASH THE STAIR ASSEMBLIES AND MAKE REPAIRS AS NECESSARY. REPAIRS SHALL INCLUDE REPLACING ANY DAMAGED CLIPS, ANCHOR BOLTS, STAIR TREADS, ETC.
10. PRIOR TO THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL PERFORM LOOKOUT AND TAGGING OF ALL CIRCUITS IN ACCORDANCE WITH OSHA 1926.417. THE CONTRACTOR SHALL REMOVE AND STORE ON SITE ALL EXISTING ELECTRICAL COMPONENTS ASSOCIATED WITH THE UPPER DECK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE DURING THE REMOVAL, STORAGE AND RE-INSTALLATION OF THE ELECTRICAL EQUIPMENT AND SHALL REPLACE AT NO COST TO OWNER.

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.



■ DENOTES LOCATION OF ACTUATOR TO BE REFURBISHED AND REINSTALLED (4 RECD)

REV	DATE	DESCRIPTION	BY

**LONNIE G. HARPER  
and Associates, Inc.**  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
DESIGNED BY: LONNIE HARPER, P.E.

**POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES**

STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:

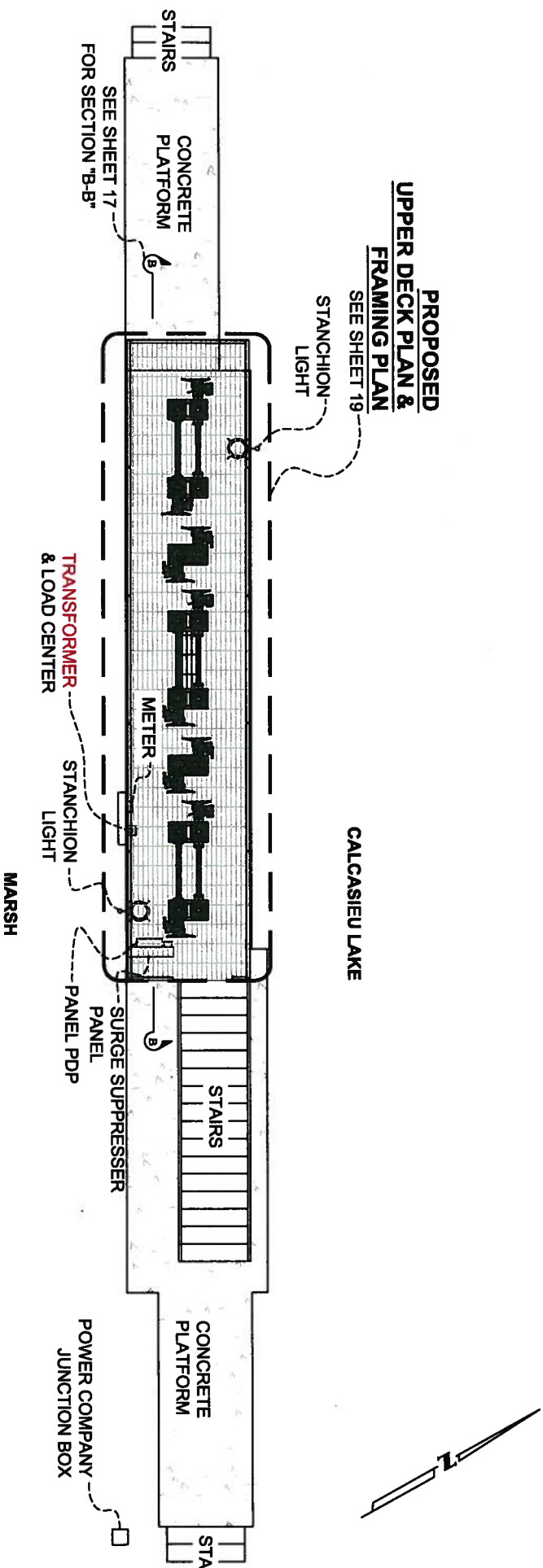
DATE: 12/20/2011  
SHEET 15 OF 35

**STRUCTURE NO. 3 - WEST COVE CANAL STRUCTURE**

EXISTING WEST COVE CANAL STRUCTURE

APPROVED BY: LONNIE HARPER, P.E.





**PROPOSED WEST COVE  
CANAL STRUCTURE**  
SCALE: NOT TO SCALE

**CONSTRUCTION TASKS:**

11. THE CONTRACTOR SHALL PERFORM ALL MODIFICATIONS TO THE LIFT GATES AS SHOWN IN THE PROJECT DRAWINGS. ALL MODIFICATIONS SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
12. THE CONTRACTOR SHALL REINSTALL ALL MODIFIED STEM GUIDE BEAMS IN THEIR ORIGINAL BAYS AND ALL REPLACEMENT STEM GUIDES.
13. THE CONTRACTOR SHALL INSTALL THE UPPER PLATFORM EXTENSIONS AS SHOWN IN THE PROJECT DRAWINGS. UPPER PLATFORM EXTENSIONS SHALL BE CONSTRUCTED IN A FABRICATION SHOP AND HOT DIPPED GALVANIZED AS A SINGLE UNIT. CONTRACTOR SHALL UTILIZE EXISTING ANCHOR BOLTS FOR ALL PROPOSED BEARING PLATES AND FRAMING WHERE NECESSARY. THE CONTRACTOR SHALL REPLACE ANY DAMAGED OR MISSING FASTENERS.
14. THE CONTRACTOR SHALL INSTALL NEW AND REFURBISHED ACTUATOR PEDESTAL BEARING PLATES AND PEDESTALS AS SHOWN IN THE PROJECT DRAWINGS.
15. THE CONTRACTOR SHALL REINSTALL THE UPPER DECK GRATING, HANDRAILS, AND ANGLES. THE CONTRACTOR SHALL REUSE THE EXISTING GRATING WHERE POSSIBLE. ANY NEW GRATING SHALL BE HOT DIPPED GALVANIZED AND OF THE SAME TYPE AS EXISTING GRATING.
16. THE CONTRACTOR SHALL REINSTALL THE STAIRWAY ASSEMBLY IN THE RELOCATED POSITION.
17. THE CONTRACTOR SHALL INSTALL GATE STEMS, ACTUATORS AND GEAR DRIVES. THREE (3) NEW IQ35FA16/B4 ACTUATORS, THREE (3) REFURBISHED IB9 GEAR DRIVES, THREE (3) NEW DS99 GEAR DRIVES, SIX (6) NEW 2-1/2" Ø STEMS AND DRIVE SHAFT WITH COVER SHALL BE INSTALLED ON THE LOWER GATES IN BAYS 1, 3, AND 5. THREE (3) NEW IQ25FA14/B4 ACTUATORS, THREE (3) REFURBISHED IB7 GEAR DRIVES, THREE (3) NEW DS87 GEAR DRIVES, SIX (6) NEW 2-1/2" Ø STEMS AND DRIVE SHAFT WITH COVER SHALL BE INSTALLED ON THE UPPER GATES IN BAYS 1, 3, AND 5. TWO (2) REFURBISHED IQ20FA14/B4 ACTUATORS, IB9 GEAR DRIVES AND TWO (2) NEW 2-1/2" Ø STEMS SHALL BE INSTALLED ON THE LOWER GATES IN BAYS 2 AND 4. TWO (2) REFURBISHED IQ20FA14/B4 ACTUATORS, IB7 GEAR DRIVES AND TWO (2) NEW 2-1/2" Ø STEMS SHALL BE INSTALLED ON THE UPPER GATES IN BAYS 2 AND 4. THE CONTRACTOR SHALL ENSURE THAT THE LIFTING ASSEMBLY (ACTUATORS, GEAR DRIVES, PEDESTALS, BEARING PLATES, STEM GUIDES AND GATE STEMS) IS IN PERFECT ALIGNMENT WITH THE GATES. NO MIS-ALIGNMENT SHALL BE ALLOWED. THE CONTRACTOR SHALL ENSURE PROPER FUNCTION OF THE LIFTING ASSEMBLY TO FULLY OPEN AND CLOSE STATE WITHOUT BINDING.
18. THE CONTRACTOR SHALL REINSTALL AND RECONNECT ALL ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL REPLACE ALL STRAPS, CLIPS, AND FASTENERS REQUIRED TO RECONNECT THE ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL LENGTHEN OR REPLACE ELECTRICAL CONDUIT AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. THE CONTRACTOR SHALL REPLACE WIRING AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. NO WIRE SPLICING SHALL BE PERMITTED. THE CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK IS PERFORMED BY A CERTIFIED ELECTRICIAN AND MEETS ALL LOCAL, STATE, AND FEDERAL CODES.

**GENERAL NOTES:**

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2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

**NOTE:**

TRANSFORMER WAS FOUND TO BE INOPERABLE DURING CONSTRUCTION. TRANSFORMER WAS NOT REPAIRED OR REPLACED UNDER THE CONSTRUCTION CONTRACT. AS A RESULT NONE OF THE LIGHTS OR RECEPTACLES ARE FUNCTIONING.



REV	DATE	DESCRIPTION	BY

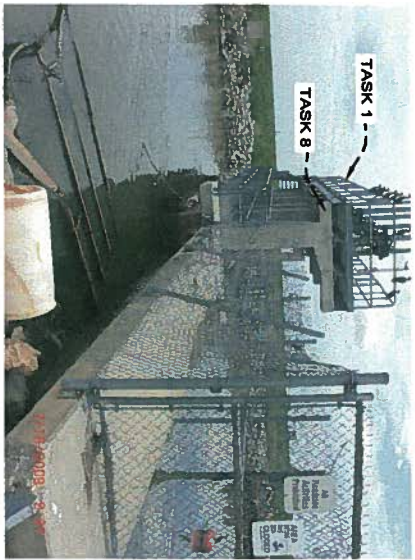
**Lonnie G. Harper and Associates, Inc.**  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

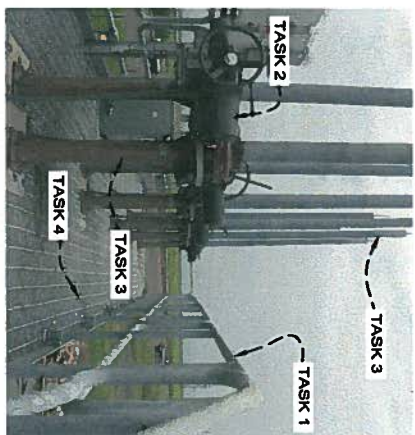
DRAWN BY: AARON HARPER  
DESIGNED BY: LONNIE HARPER, P.E.

**STRUCTURE NO. 3 - WEST COVE CANAL STRUCTURE**

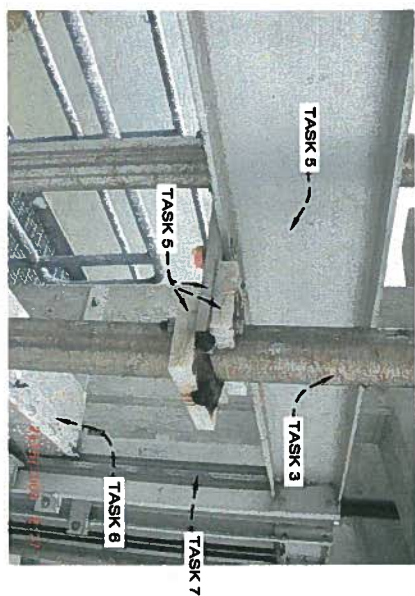
POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES	PROPOSED WEST COVE CANAL STRUCTURE
STATE PROJECT NUMBER: CS-23	DATE: 12/20/2011
FEDERAL PROJECT NUMBER:	SHEET 15A OF 35
APPROVED BY: LONNIE HARPER, P.E.	



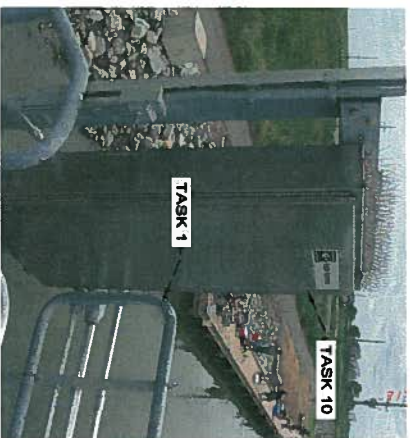
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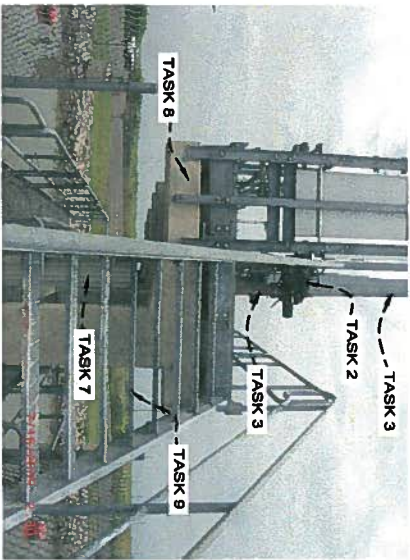
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**EXHIBIT "22"**  
SCALE: N.T.S.



**EXHIBIT "23"**  
SCALE: N.T.S.



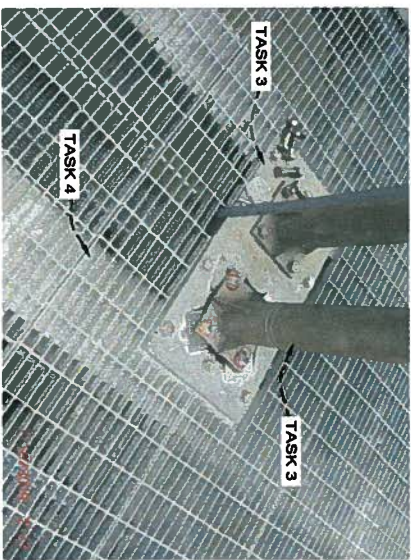
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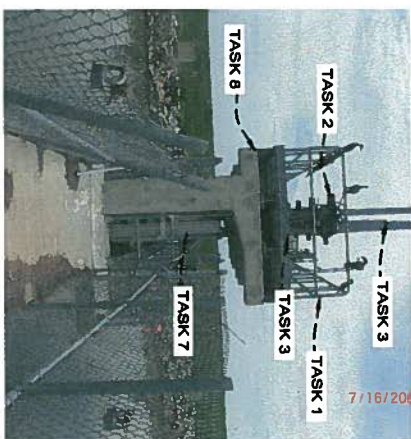
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SCALE: N.T.S.



**EXHIBIT "26"**  
SCALE: N.T.S.



**EXHIBIT "27"**  
SCALE: N.T.S.



**EXHIBIT "28"**  
SCALE: N.T.S.

**GENERAL NOTES:**

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2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

- NOTE:**
1. TRANSFORMER WAS FOUND TO BE INOPERABLE DURING CONSTRUCTION. TRANSFORMER WAS NOT REPAIRED OR REPLACED UNDER THE CONSTRUCTION CONTRACT. AS A RESULT NONE OF THE LIGHTS OR RECEPTACLES ARE FUNCTIONING.

REV	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER      DESIGNED BY: LONNIE HARPER, P.E.

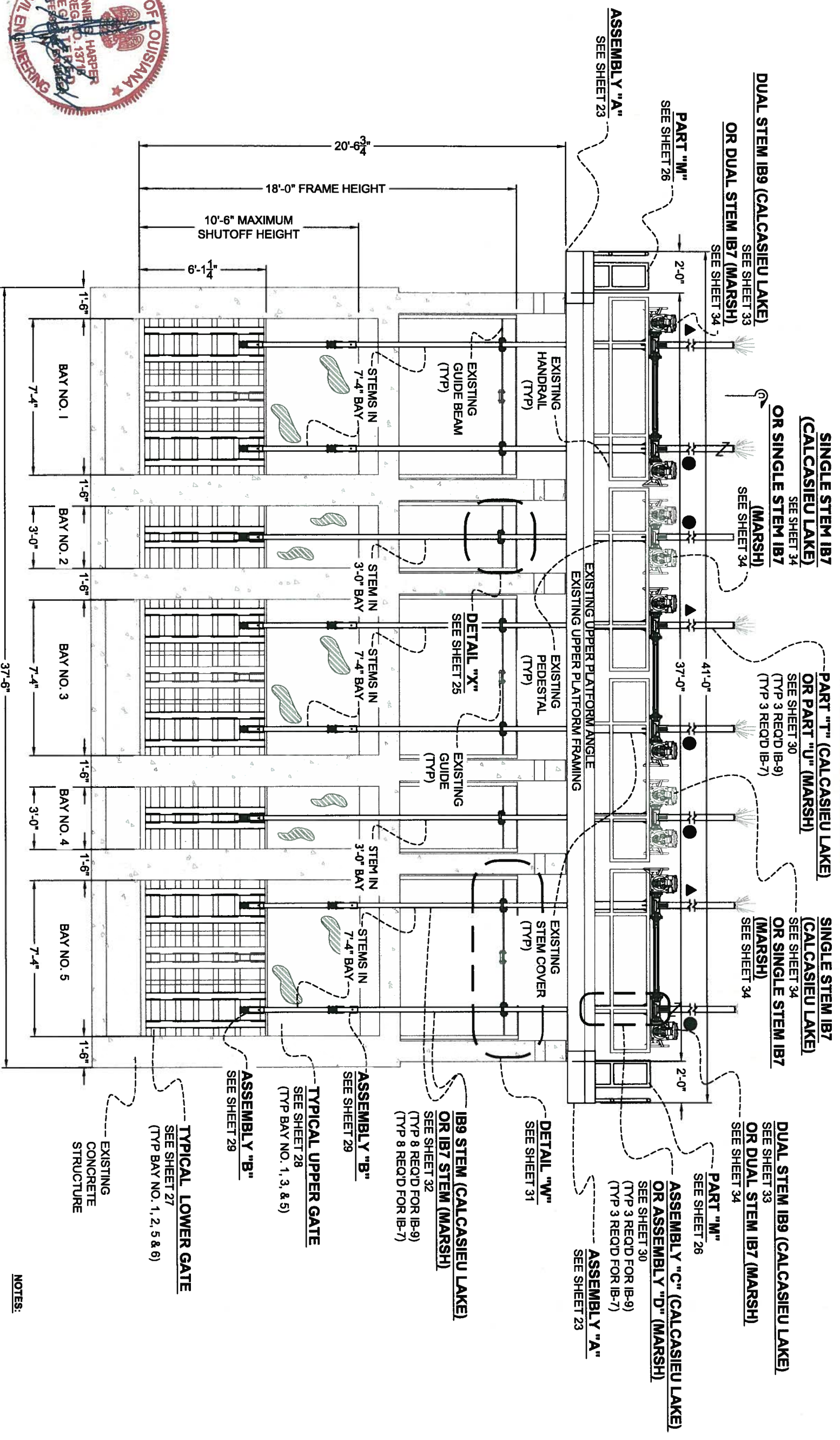
**STRUCTURE NO. 3 - WEST COVE CANAL STRUCTURE**

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES	EXHIBIT "20" THRU EXHIBIT "28"
STATE PROJECT NUMBER: CS-23	
FEDERAL PROJECT NUMBER:	DATE: 12/20/2011
	SHEET 16 OF 35

**DEMOLITION AND PREPARATION TASKS:**

1. THE CONTRACTOR SHALL REMOVE ALL HANDRAILS ON THE UPPER DECK PLATFORM AND STAMP EACH TO ENSURE THEY ARE REINSTALLED IN THEIR ORIGINAL LOCATION.
2. THE CONTRACTOR SHALL REMOVE AND REFINISH ALL EXISTING GEAR DRIVES AND FOUR (4) ROTORK 1020F141B4 ACTUATORS, ALL ACTUATORS, WHICH ARE NOT REUSED IN THIS PROPOSED SCOPE OF WORK SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY REFER TO SHEET 15 FOR CLARIFICATION REGARDING WHICH ACTUATORS SHALL BE REFURBISHED AND REINSTALLED.
3. THE CONTRACTOR SHALL REMOVE ALL ACTUATOR PEDESTALS AND PEDESTAL BEARING PLATES. ALL PEDESTALS SHALL BE SAND BLASTED. THE CONTRACTOR SHALL MACHINE THE UPPER AND LOWER PLATES OF THE PEDESTALS AND THE PEDESTAL BEARING PLATES TO GUARANTEE THE TWO MOUNTING SURFACES ARE PARALLEL, PLUM, TRUE, SQUARE AND RE-GALVANIZED (HOT DIPPED). THE CONTRACTOR SHALL PRESSURE WASH ALL EXISTING STEMS COVERS, WHICH SHALL BE REUSED. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISTING GATE STEMS.
4. THE CONTRACTOR SHALL REMOVE ALL GRATING FROM THE UPPER PLATFORM WHICH SHALL BE REUSED WHERE POSSIBLE.
5. THE CONTRACTOR SHALL PREPARE THE STEM GUIDES AND STEM GUIDE BEAMS FOR THE PROPOSED MODIFICATIONS AS SHOWN IN THE PROJECT DRAWINGS.
6. THE CONTRACTOR SHALL PREPARE THE LIFT GATES TO ACCOMMODATE THE PROPOSED MODIFICATIONS AS SHOWN IN THESE DRAWINGS, WITHOUT REMOVING THE GATES FROM THE STRUCTURE. REFER TO PROJECT SPECIFICATIONS FOR DETAILS PERTAINING TO THIS SCOPE OF WORK.
7. THE CONTRACTOR SHALL CLEAN ALL GATE GUIDE CHANNELS AND FRAMES OF ALL FOREIGN DEBRIS AND MAKE REPAIRS AS NECESSARY. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL LEAK PROOF SEALS ASSOCIATED WITH THE GATE GUIDE CHANNELS.
8. THE CONTRACTOR SHALL REPAIR ANY CONCRETE DAMAGED DURING THE CONSTRUCTION PROCESS AT NO COST TO OWNER.
9. THE CONTRACTOR SHALL PRESSURE WASH THE STAIR ASSEMBLES AND MAKE REPAIRS AS NECESSARY. REPAIRS SHALL INCLUDE REPLACING ANY DAMAGED CLIPS, ANCHOR BOLTS, STAIR TREADS, ETC.
10. PRIOR TO THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL PERFORM LOCKOUT AND TAGGING OF ALL CIRCUITS IN ACCORDANCE WITH OSHA 1926.417. THE CONTRACTOR SHALL REMOVE AND STORE ON SITE ALL EXISTING ELECTRICAL COMPONENTS ASSOCIATED WITH THE UPPER DECK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE DURING THE REMOVAL, STORAGE AND RE-INSTALLATION OF THE ELECTRICAL EQUIPMENT AND SHALL REPLACE AT NO COST TO OWNER.





**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

SEE SHEET 25 FOR SECTION "C-C"

**SECTION "B-B"**  
SCALE: 1" = 5'

- ▲ DENOTES LOCATION OF PROPOSED PEDESTAL BEARING PLATE AND PEDESTALS
- DENOTES LOCATION OF RELOCATED PEDESTAL BEARING PLATE AND PEDESTALS

- NOTES:**
1. SEE SHEET 15 FOR DEMOLITION AND PREPARATION TASKS.
  2. SEE SHEET 15A FOR CONSTRUCTION TASKS.
  3. SEE SHEET 35 FOR CONSTRUCTION NOTES.



REV	DATE	DESCRIPTION	BY

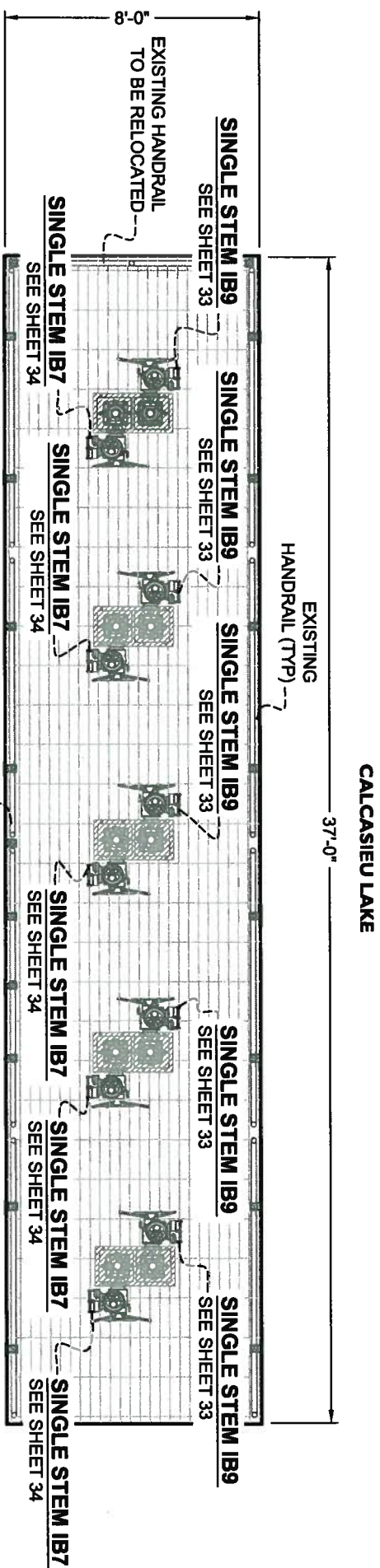
**Lonnie G. Harper and Associates, Inc.**  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:  
DATE: 12/20/2011  
SHEET 17 OF 35

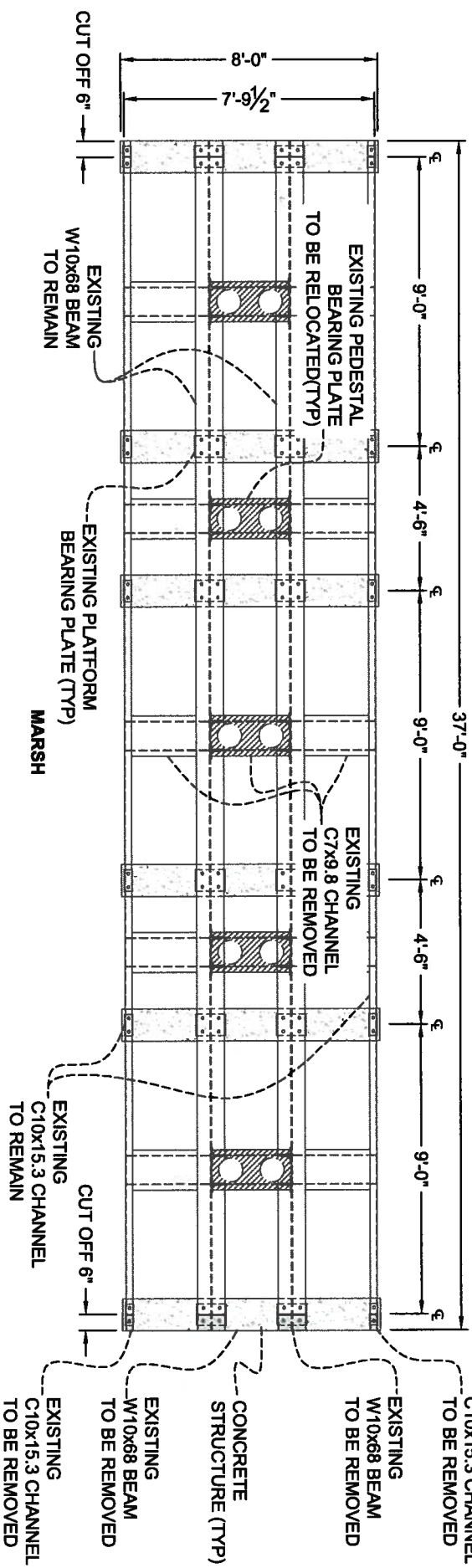
**STRUCTURE NO. 3 - WEST COVE CANAL STRUCTURE**



**EXISTING UPPER DECK PLAN**

SCALE: 1" = 5'

CALCASIEU LAKE



**EXISTING UPPER DECK FRAMING PLAN**

SCALE: 1" = 5'

**GENERAL NOTES:**

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2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.
4. THE CONTRACTOR SHALL CUT OFF 6" OF ALL EXISTING CHANNEL AND I-BEAM AT BOTH ENDS BY MECHANICAL MEANS TO ACCOMMODATE THE PROPOSED EXTENSION. AFTER CUTS HAVE BEEN PERFORMED THE ENDS SHALL BE COLD GALVANIZED.



REV.	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
 and Associates, Inc.  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Belle City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
 DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF  
 SABINE WATER CONTROL STRUCTURES

STATE PROJECT NUMBER: CS-23

FEDERAL PROJECT NUMBER:

APPROVED BY: LONNIE HARPER, P.E.

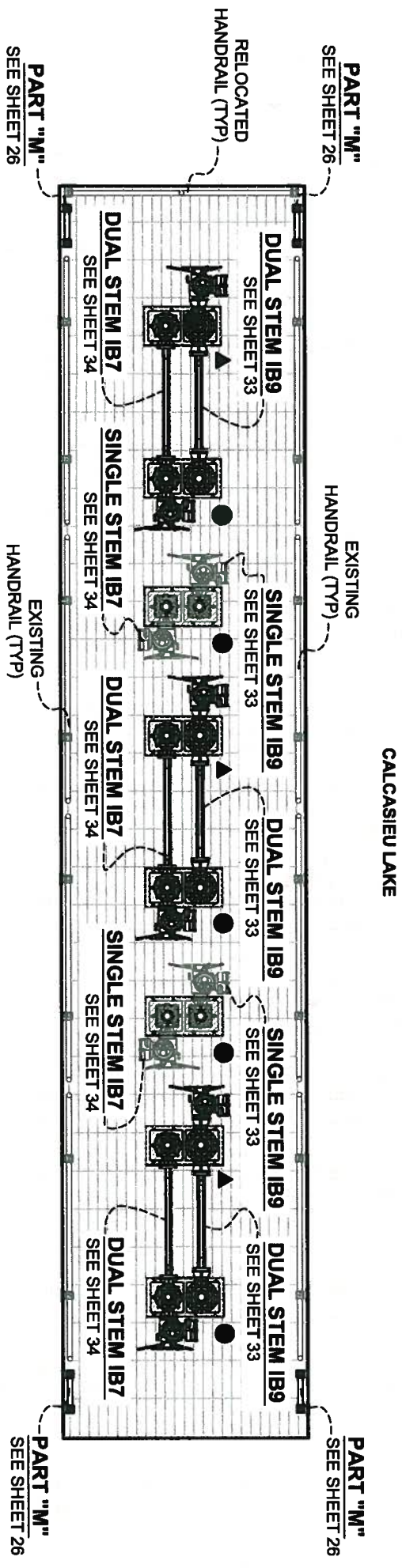
EXISTING UPPER DECK & FRAMING PLAN

DATE: 12/20/2011

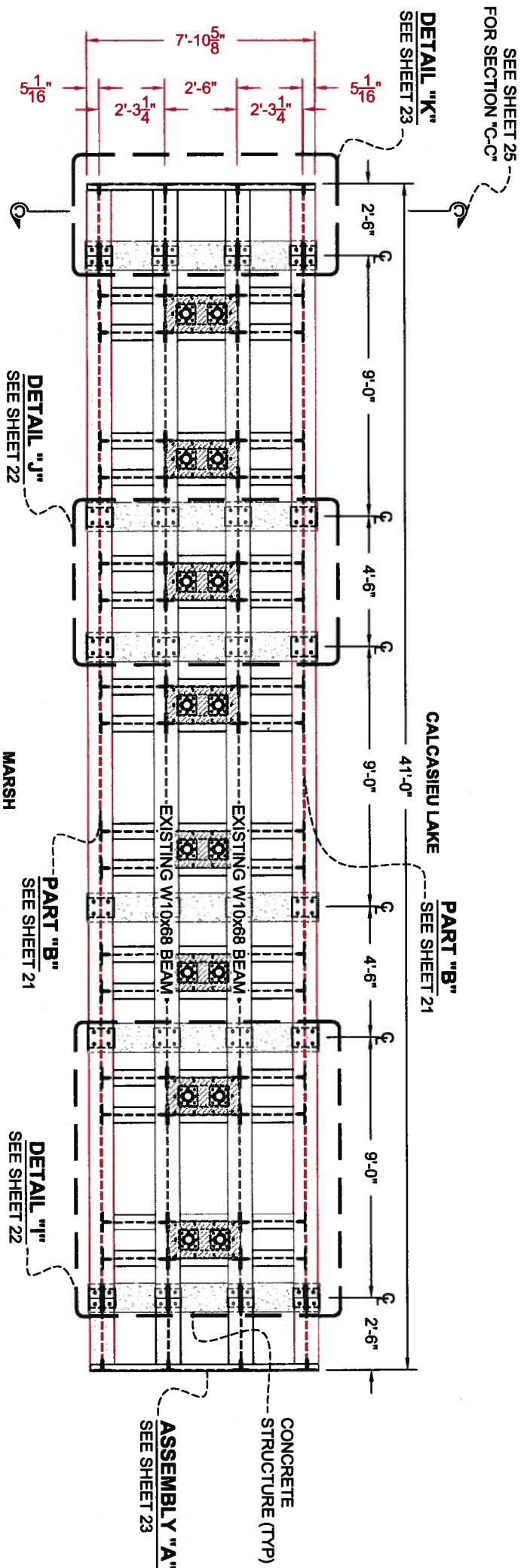
SHEET 18 OF 35

**STRUCTURE NO. 3 - WEST COVE CANAL STRUCTURE**

**ASBUILT DRAWINGS**



**PROPOSED  
UPPER DECK PLAN**  
SCALE: 1" = 5'



**PROPOSED  
UPPER DECK FRAMING PLAN**  
SCALE: 1" = 5'

▲ DENOTES LOCATION OF PROPOSED BEARING PLATE AND PEDESTALS  
● DENOTES LOCATION OF RELOCATED BEARING PLATE AND PEDESTALS



**GENERAL NOTES:**  
1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.  
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.  
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

REV	DATE	DESCRIPTION	BY



**LONNIE G. HARPER  
and Associates, Inc.**  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND  
RESTORATION AUTHORITY**  
489 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER, P.E.

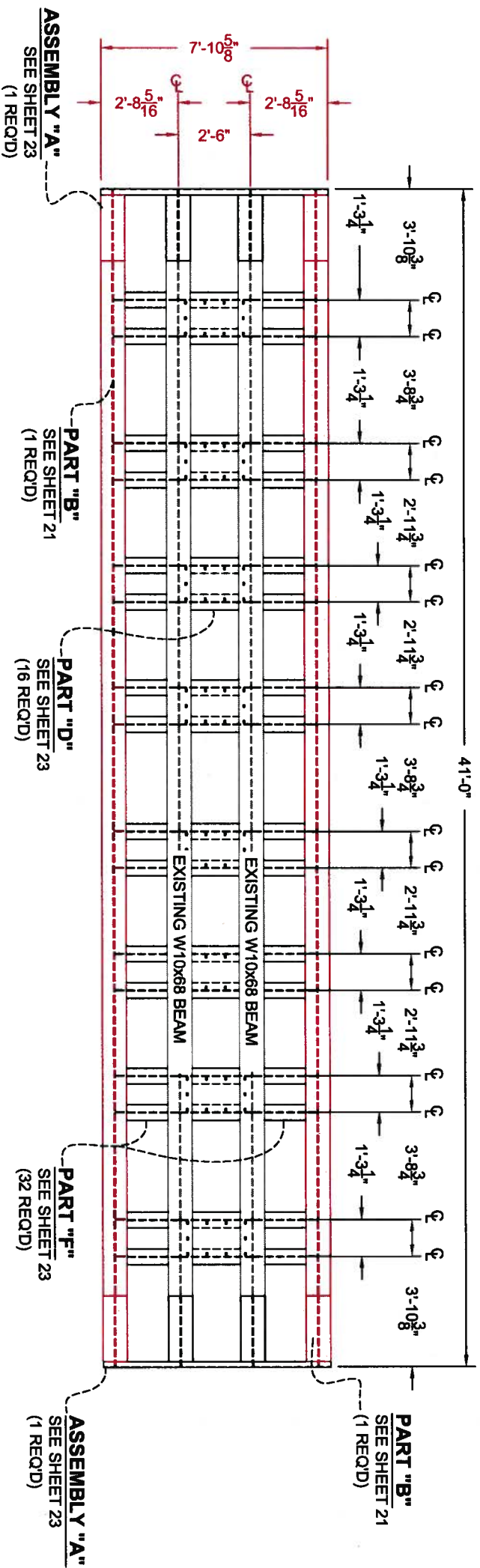
**STRUCTURE NO. 3 - WEST COVE CANAL STRUCTURE**  
POST HURRICANE REPAIR OF  
SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:  
DATE: 12/20/2011  
SHEET 19 OF 35

**NOTES:**

1. SEE SHEET 15 FOR DEMOLITION AND PREPARATION TASKS.
2. SEE SHEET 15A FOR CONSTRUCTION TASKS.
3. SEE SHEET 35 FOR CONSTRUCTION NOTES.

**ASBUILT DRAWINGS**

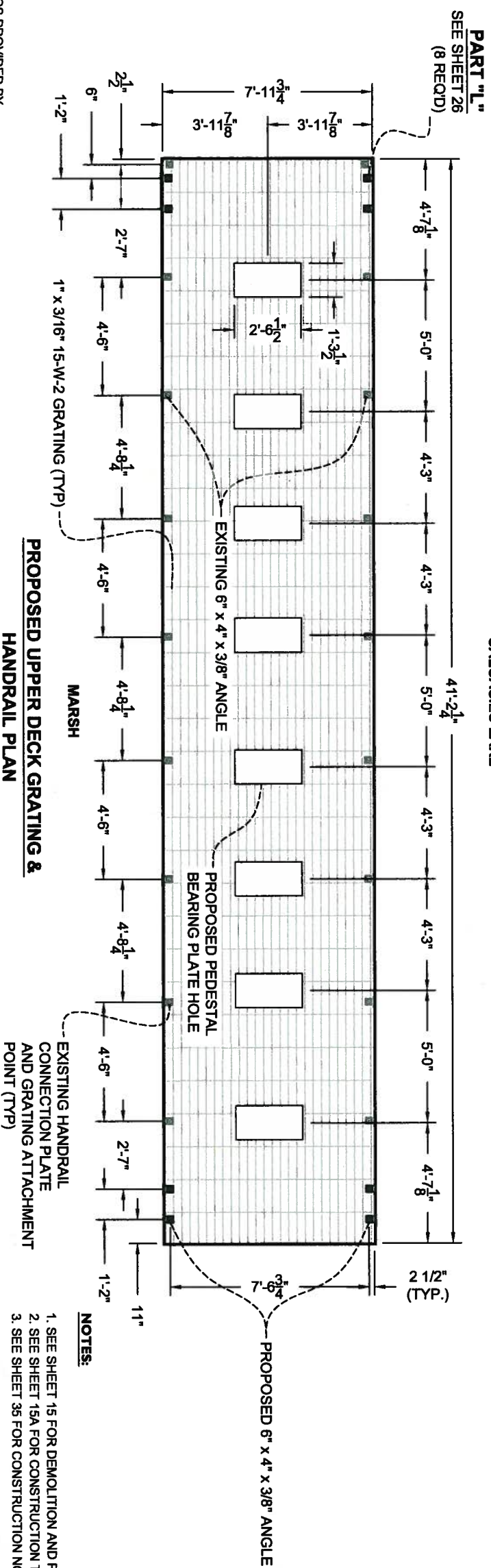
CALCASIEU LAKE



**PROPOSED UPPER DECK FRAMING PLAN**

SCALE: 1" = 5'

CALCASIEU LAKE



**PROPOSED UPPER DECK GRATING & HANDRAIL PLAN**

SCALE: 1" = 5'

EXISTING HANDRAIL CONNECTION PLATE AND GRATING ATTACHMENT POINT (TYP)

- NOTES:**
1. SEE SHEET 15 FOR DEMOLITION AND PREPARATION TASKS.
  2. SEE SHEET 15A FOR CONSTRUCTION TASKS.
  3. SEE SHEET 36 FOR CONSTRUCTION NOTES.

**STRUCTURE NO. 3 - WEST COVE CANAL STRUCTURE**



- GENERAL NOTES:**
1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
  2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
  3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.
  4. EXISTING GRATING SHALL BE REUSED WHEN POSSIBLE.

REV.	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
 and Associates, Inc.  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Bell City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

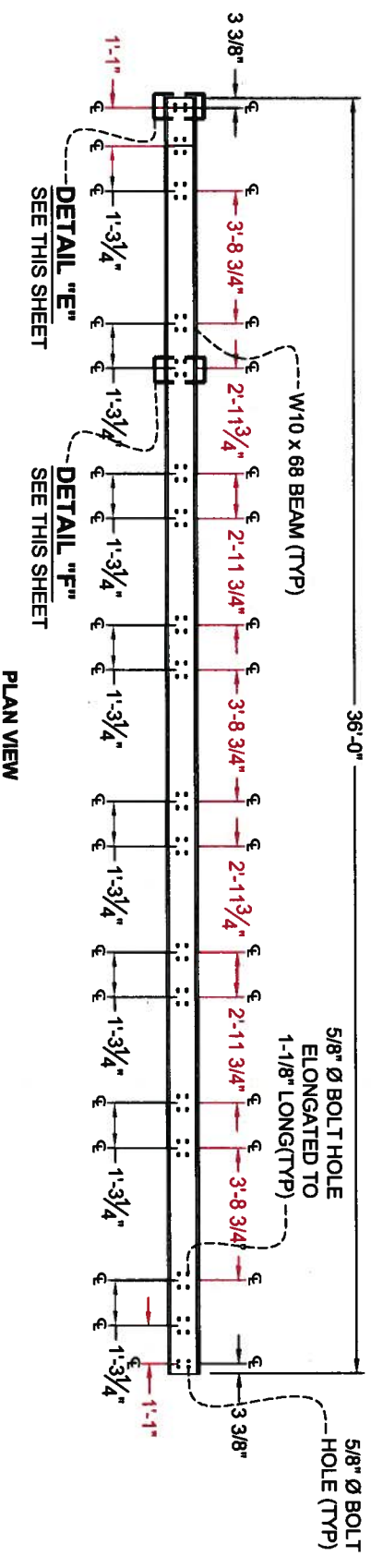
DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER, P.E.

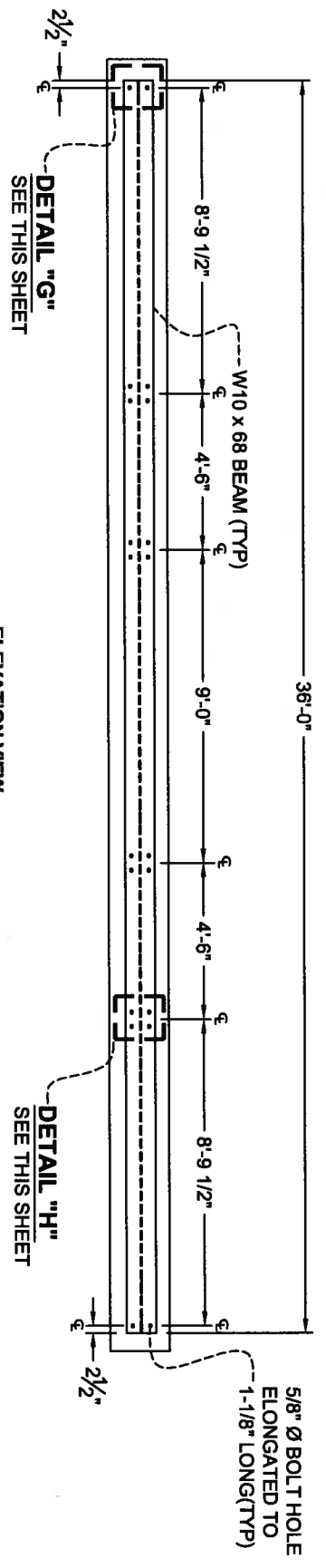
APPROVED BY: LONNIE HARPER, P.E.

STATE PROJECT NUMBER:	PROPOSED FRAMING, GRATING & HANDRAIL PLAN
CS-23	
FEDERAL PROJECT NUMBER:	
	DATE: 12/20/2011
	SHEET 20 OF 35

**ASBUILT DRAWINGS**

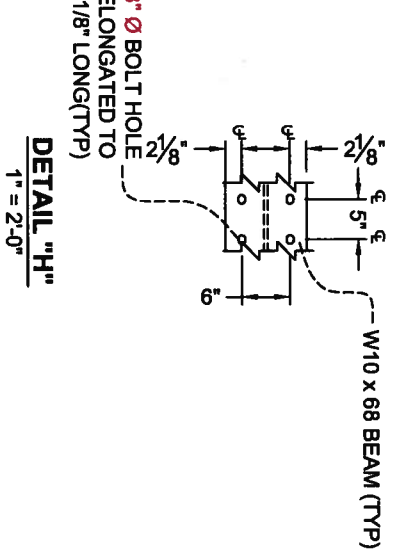
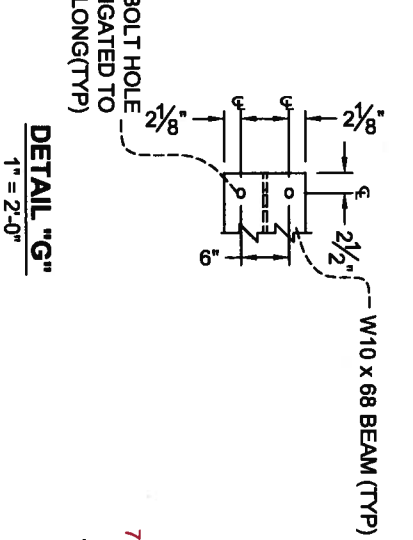
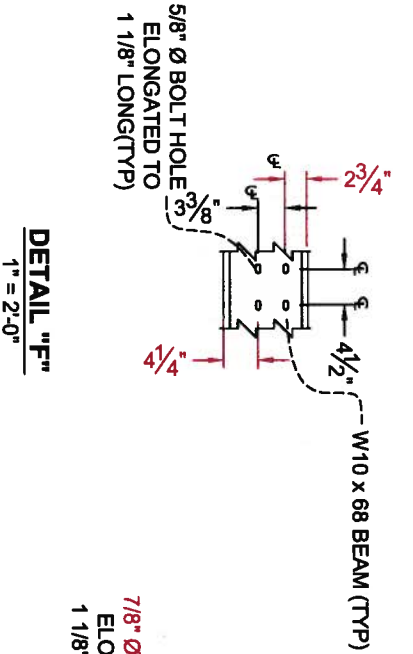
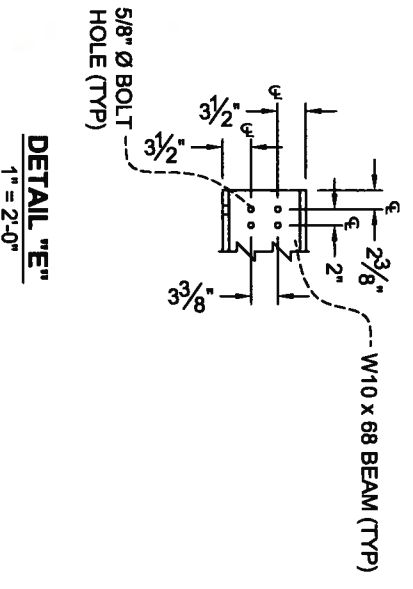


PLAN VIEW



ELEVATION VIEW

**PART "B"**  
SCALE: 1" = 5'



**GENERAL NOTES:**

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3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

**NOTES:**

1. SEE SHEET 15 FOR DEMOLITION AND PREPARATION TASKS.
2. SEE SHEET 15A FOR CONSTRUCTION TASKS.
3. SEE SHEET 35 FOR CONSTRUCTION NOTES.

REV	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
 and Associates, Inc.  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Bell City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
 DESIGNED BY: LONNIE HARPER, P.E.

**STRUCTURE NO. 3 - WEST COVE CANAL STRUCTURE**

POST HURRICANE REPAIR OF  
 SABINE WATER CONTROL STRUCTURES

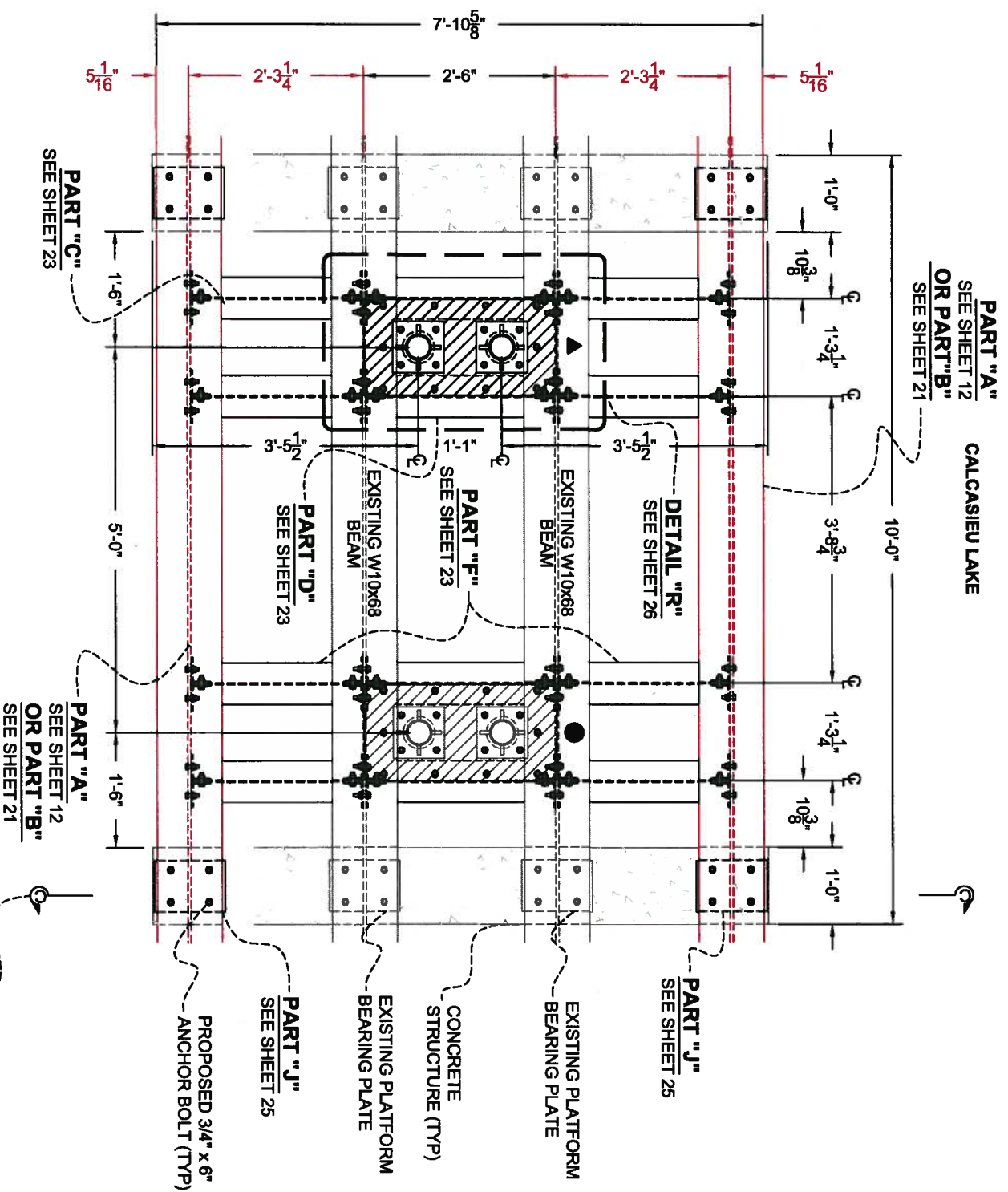
STATE PROJECT NUMBER: CS-23  
 FEDERAL PROJECT NUMBER:

PART "B" &  
 DETAILS "E" THRU "H"

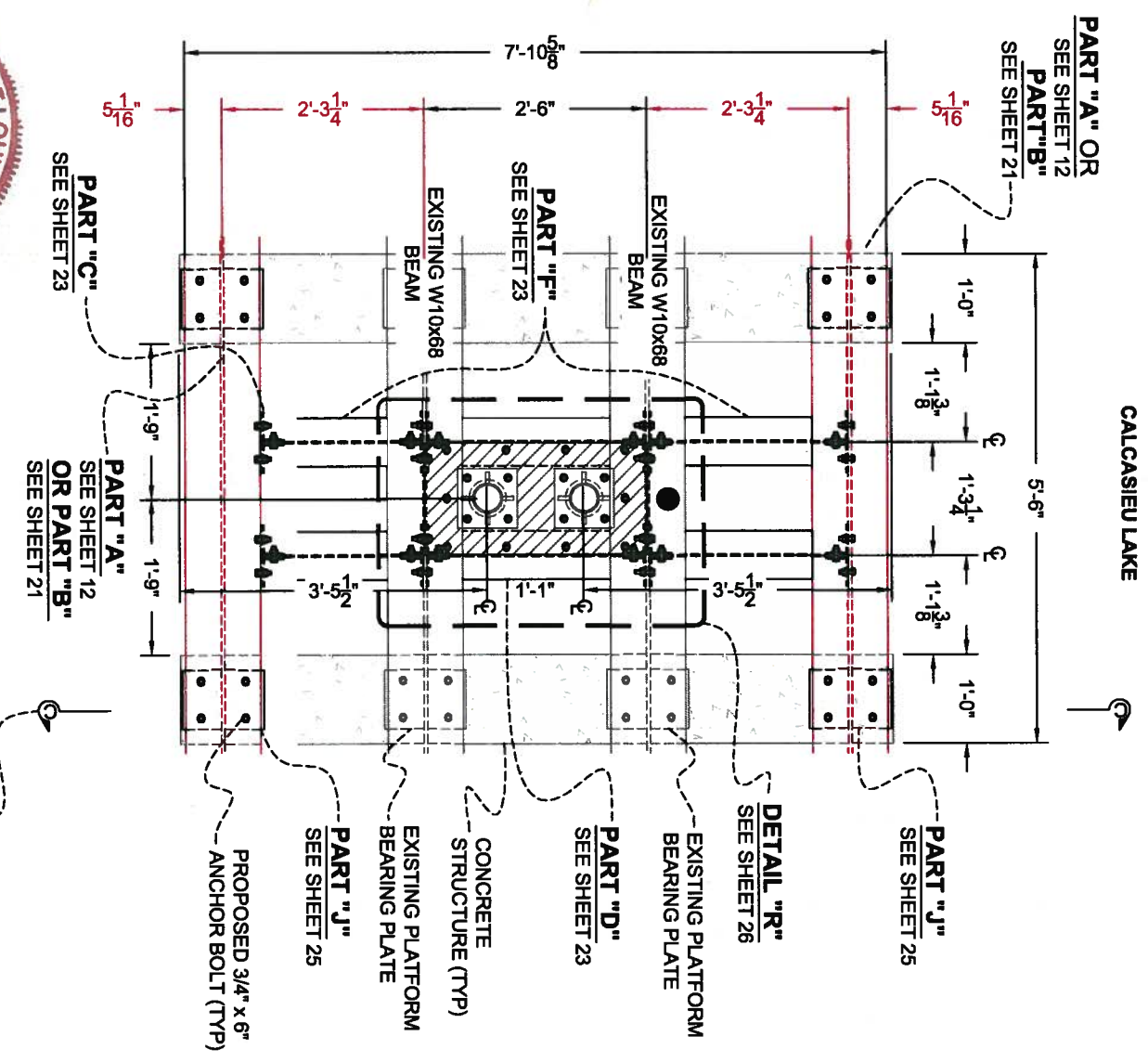
DATE: 12/20/2011

APPROVED BY: LONNIE HARPER, P.E.

SHEET 21 OF 35



DETAIL "I"  
SCALE: 1" = 2'



DETAIL "J"  
SCALE: 1" = 2'

- ▲ DENOTES LOCATION OF PROPOSED PEDESTAL BEARING PLATE AND PEDESTALS
- DENOTES LOCATION OF RELOCATED PEDESTAL BEARING PLATE AND PEDESTALS

NOTES:  
SEE SHEET 35 FOR CONSTRUCTION NOTES.

- GENERAL NOTES:**
1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
  2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
  3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.
  4. THE CONTRACTOR SHALL CUT A RADIUS ON THE EXISTING W10X68 BEAM AS REQUIRED TO ALLOW STEM PASSAGE. ALL CUTS SHALL BE MECHANICALLY PERFORMED. NO TORCH CUTTING PERMITTED.

REV	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
 and Associates, Inc.  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Bell City, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076



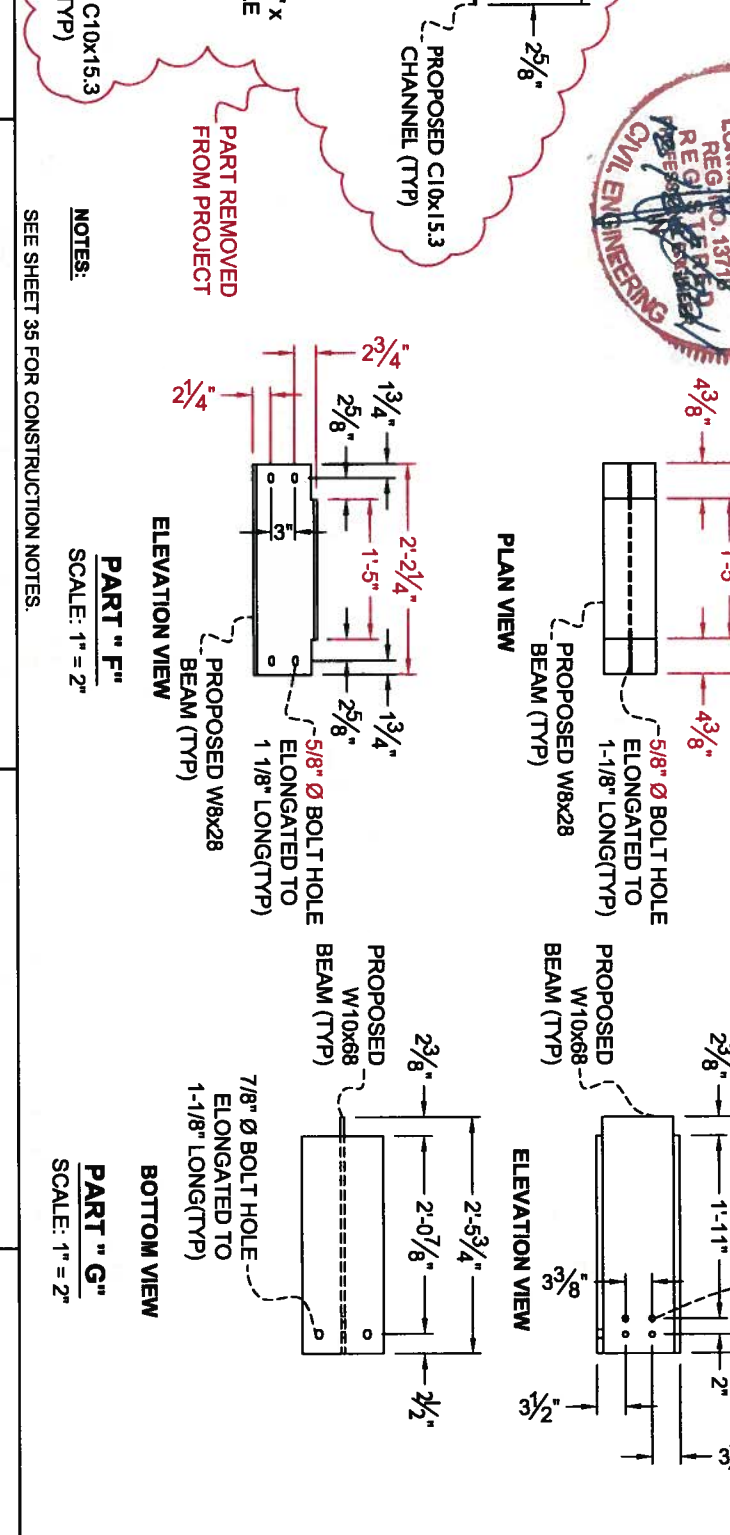
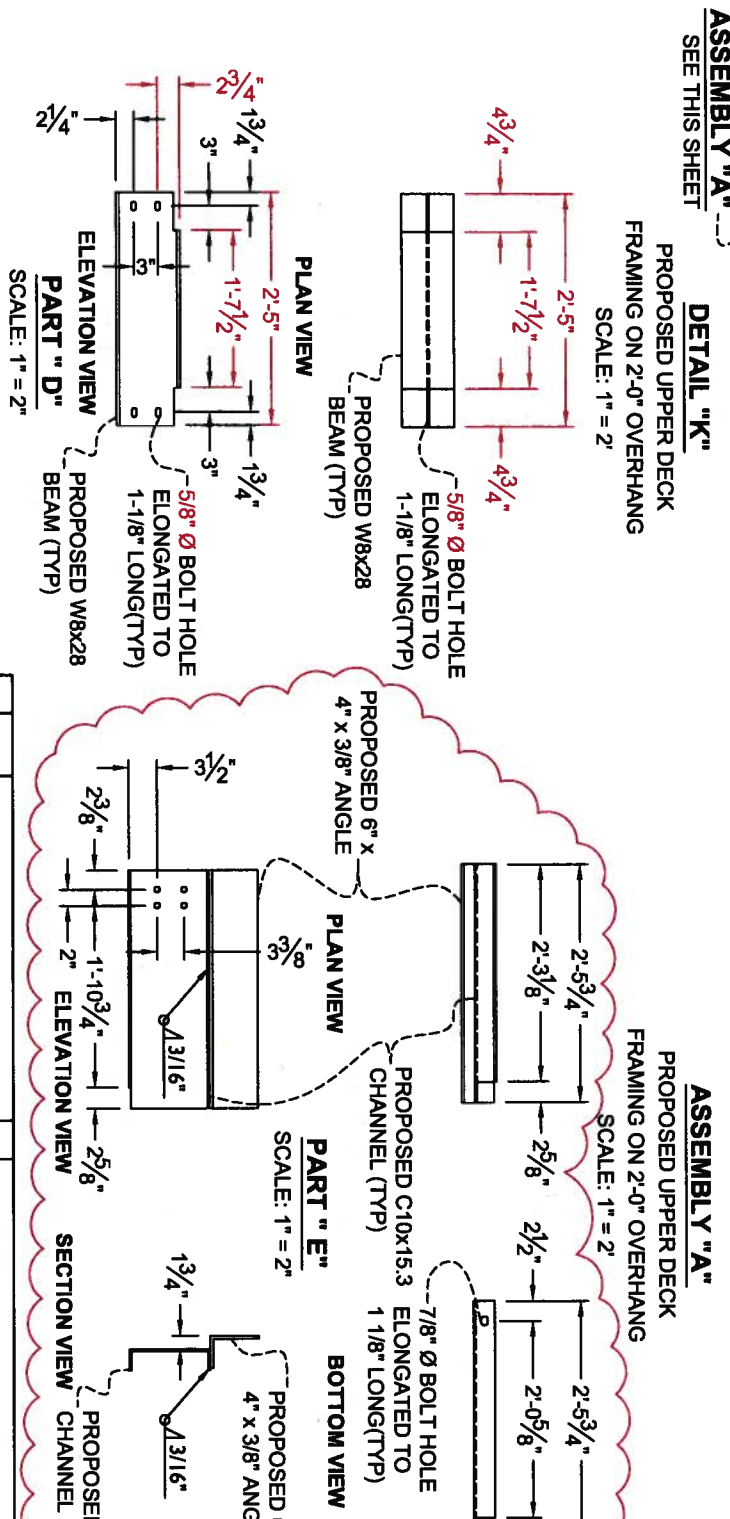
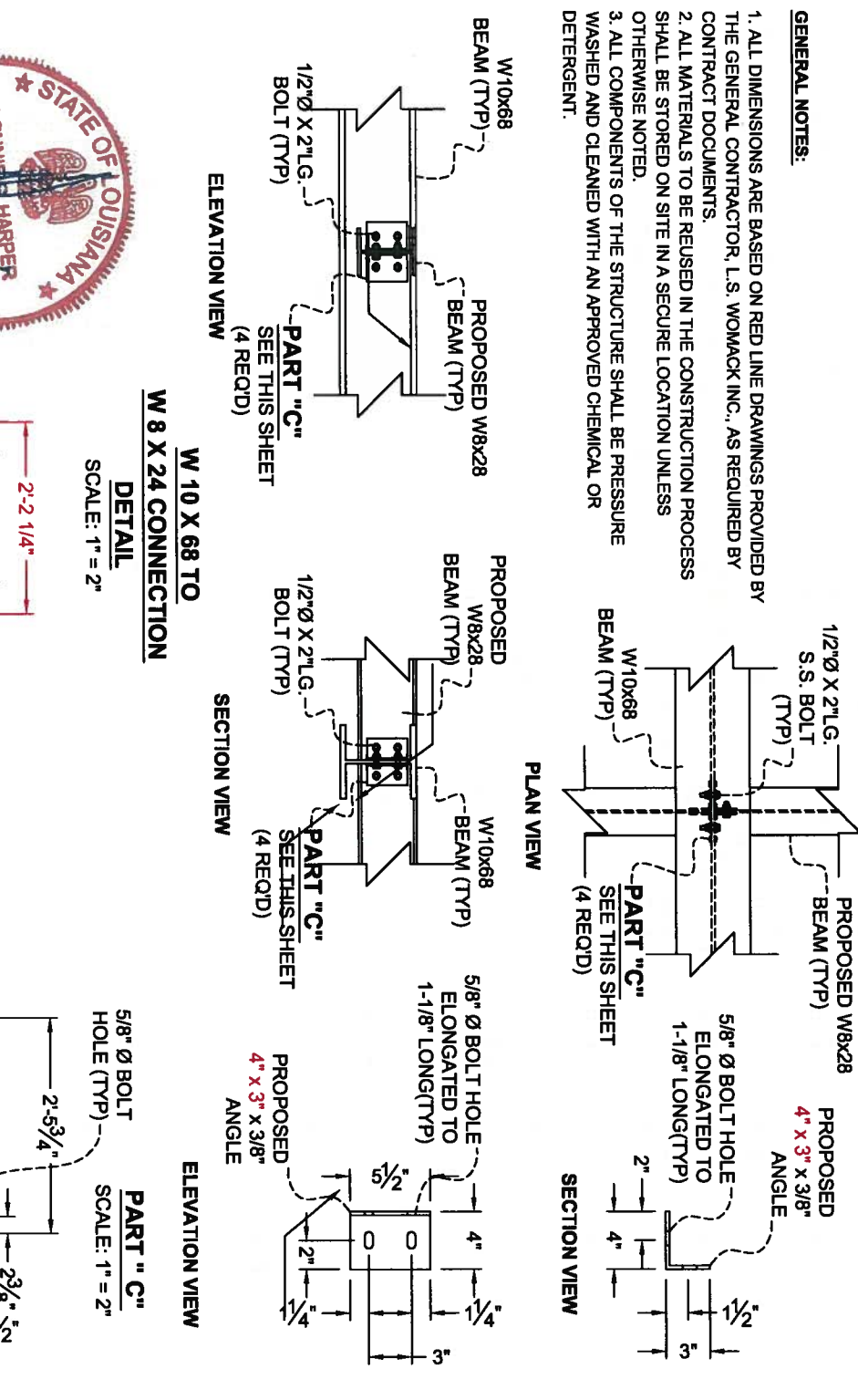
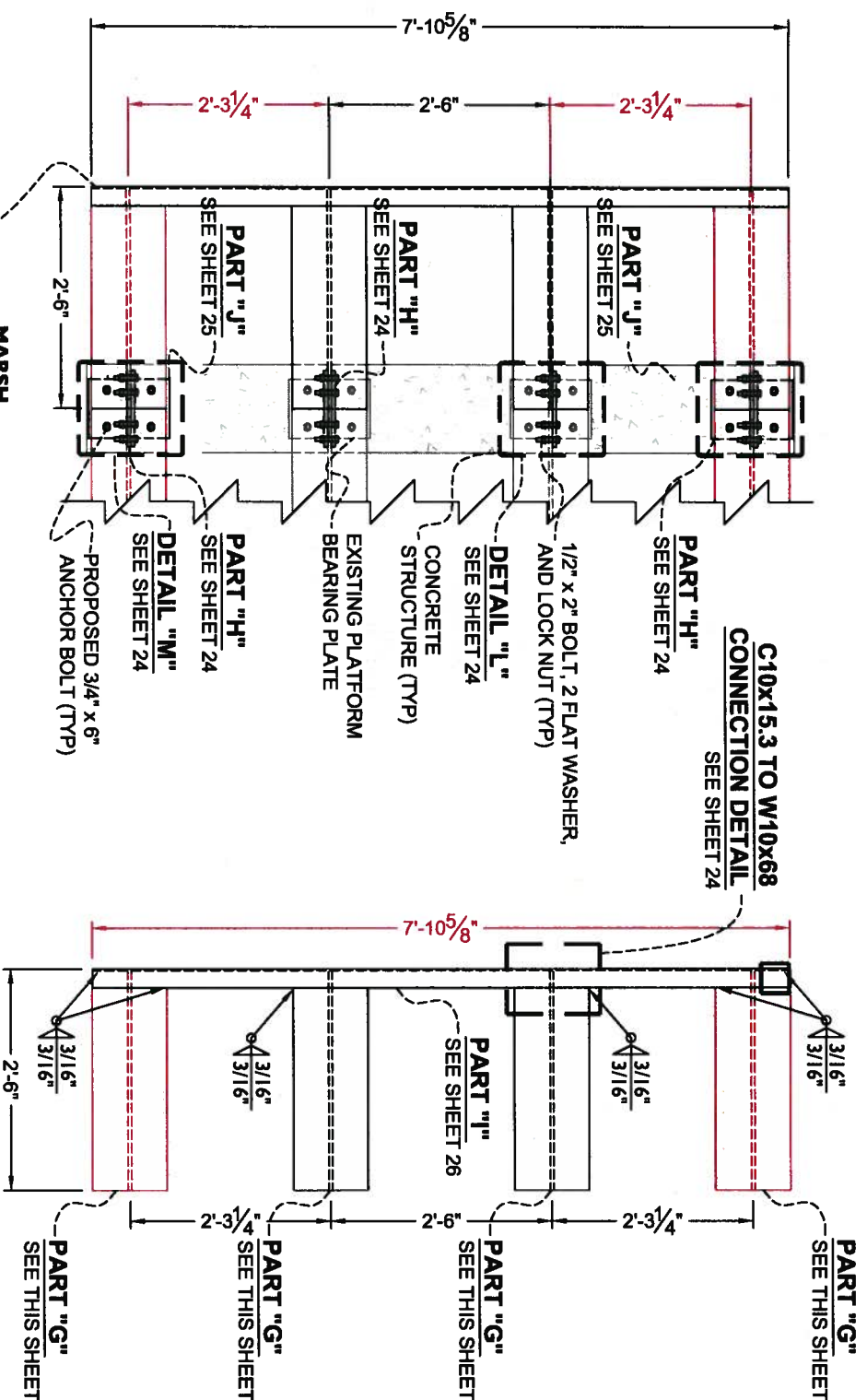
**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
 DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
 STATE PROJECT NUMBER: CS-23  
 FEDERAL PROJECT NUMBER:

DETAIL "I" & DETAIL "J"  
 DATE: 12/20/2011  
 SHEET 22 OF 35





**GENERAL NOTES:**

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NOTES:  
SEE SHEET 36 FOR CONSTRUCTION NOTES.

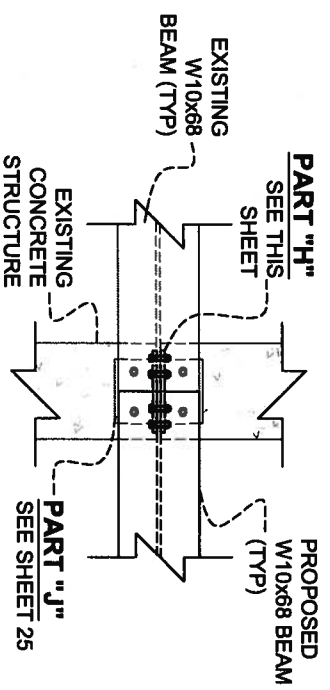
REV.	DATE	DESCRIPTION	BY

**LONNIE G. HARPER**  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

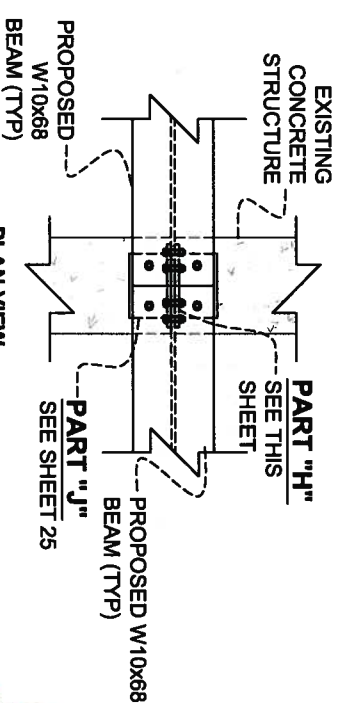
**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DESIGNED BY: LONNIE HARPER, P.E.

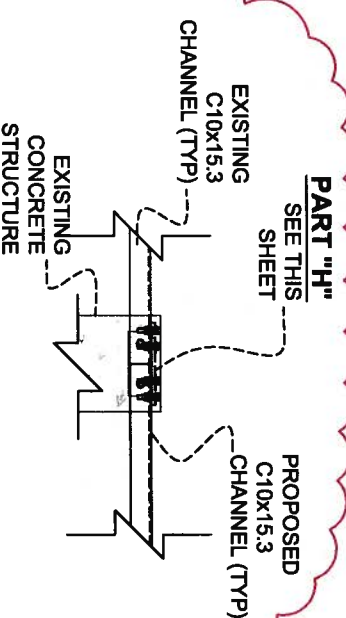
POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:  
DATE: 12/20/2011  
SHEET 23 OF 35



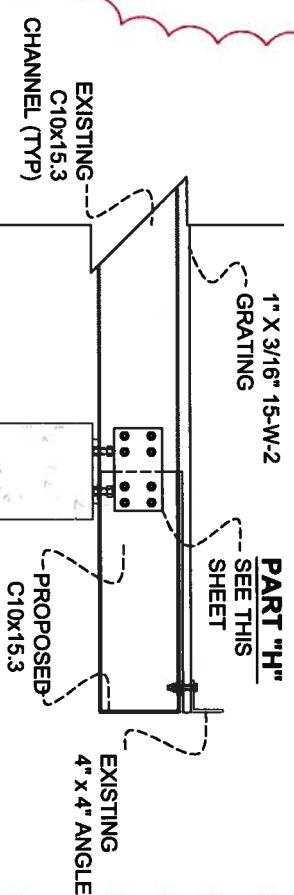
PLAN VIEW



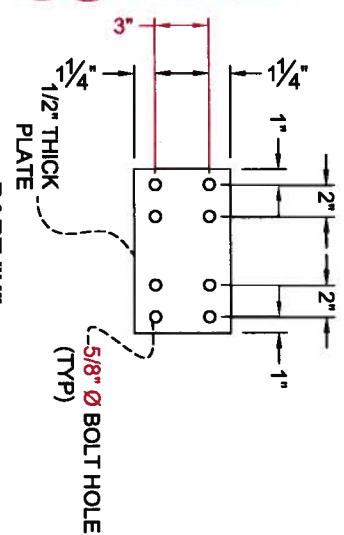
PLAN VIEW



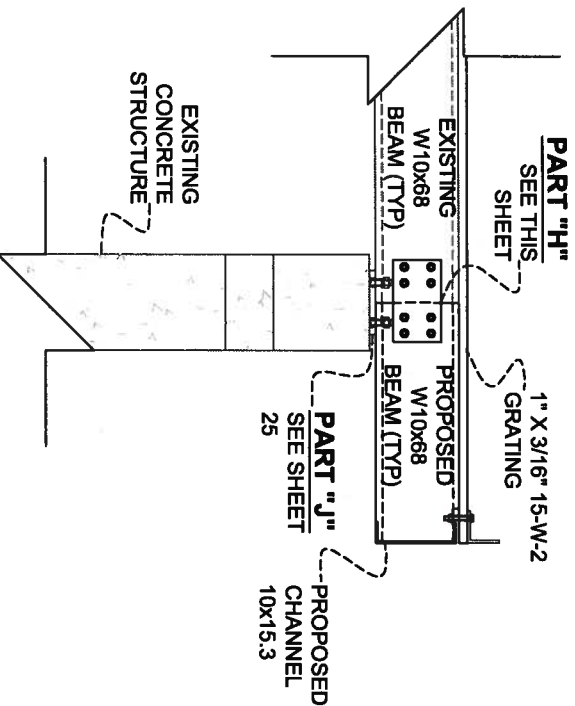
PLAN VIEW



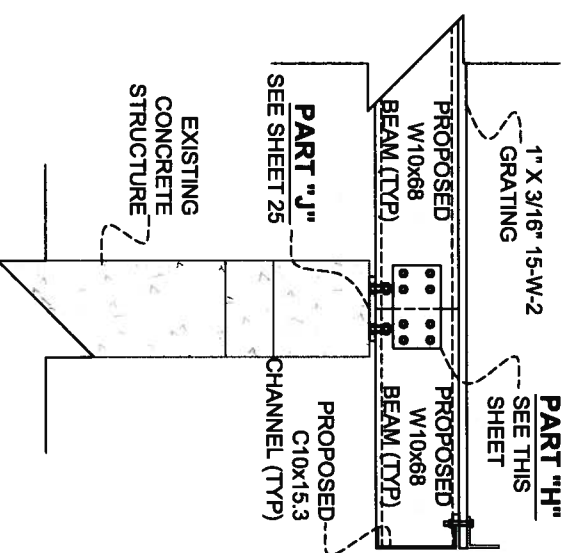
PLAN VIEW



ELEVATION VIEW



PLAN VIEW

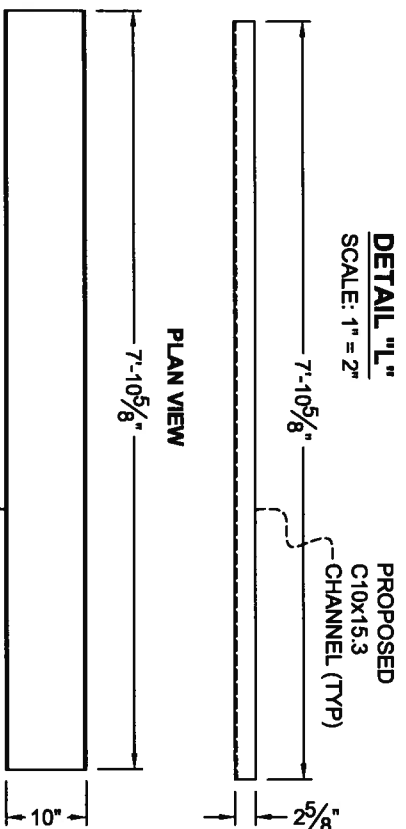


PLAN VIEW

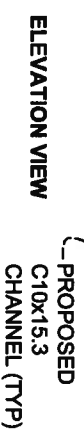
SCALE: 1" = 2"

SCALE: 1" = 2"

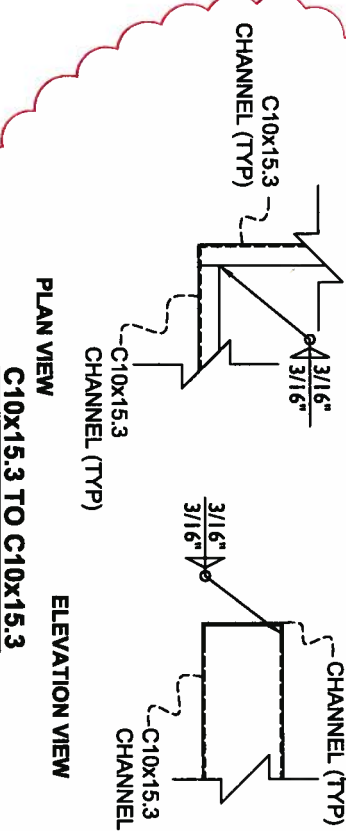
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PLAN VIEW



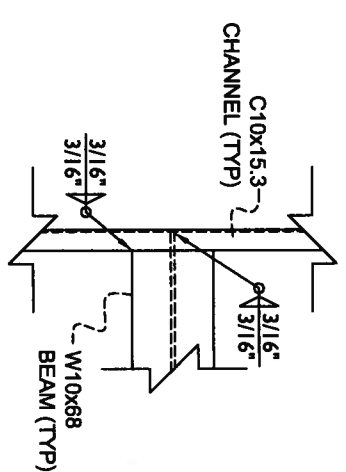
ELEVATION VIEW



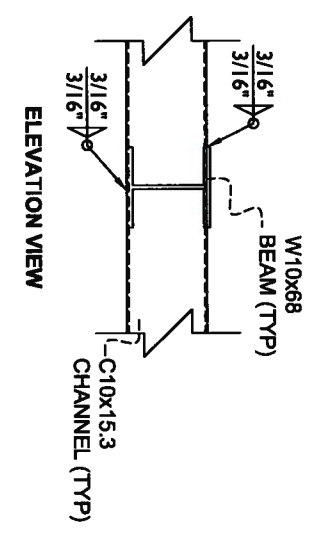
PLAN VIEW



ELEVATION VIEW



PLAN VIEW



ELEVATION VIEW

**GENERAL NOTES:**

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3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

SEE SHEET 35 FOR CONSTRUCTION NOTES.

**NOTES:**

PART REMOVED FROM PROJECT

**C10x15.3 TO W10x68 CONNECTION DETAIL**  
SCALE: 1" = 2"

REV	DATE	DESCRIPTION	BY



LONNIE G. HARPER  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Belle City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER, P.E.

APPROVED BY: LONNIE HARPER, P.E.

SHEET 24 OF 35



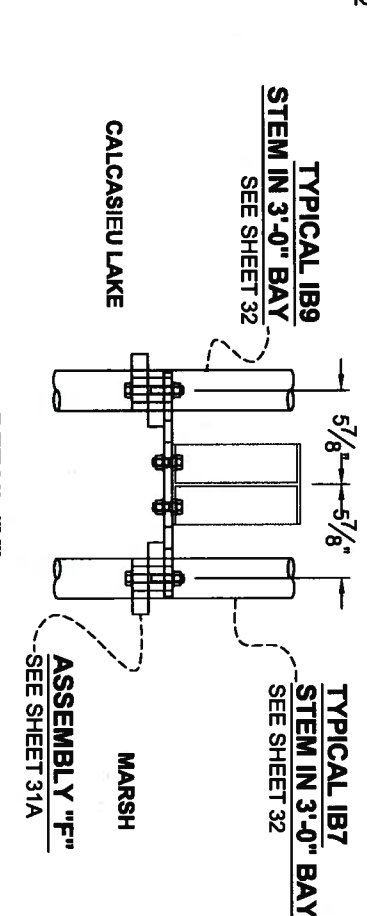
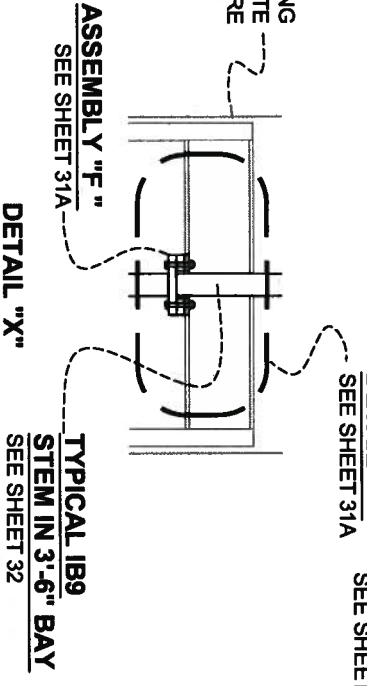
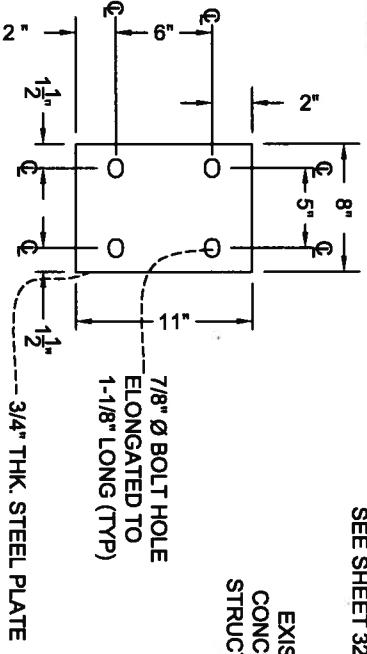
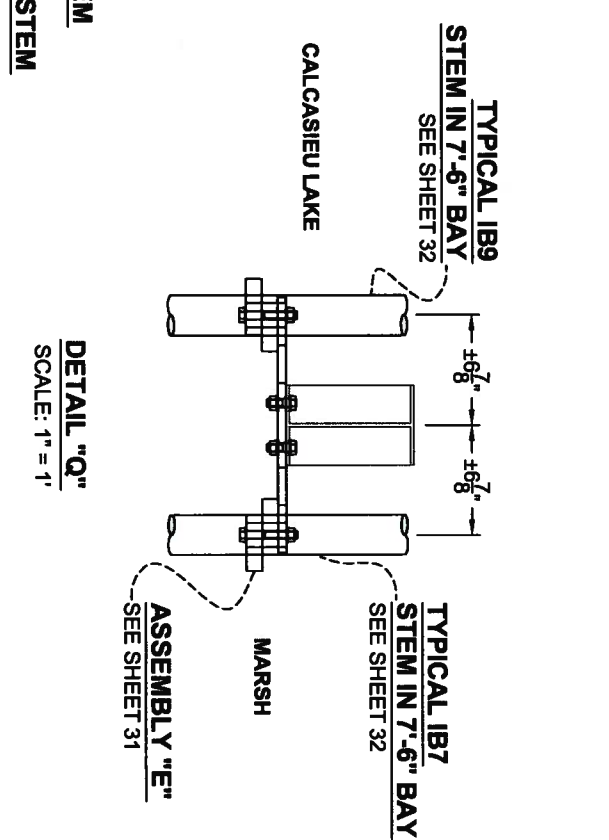
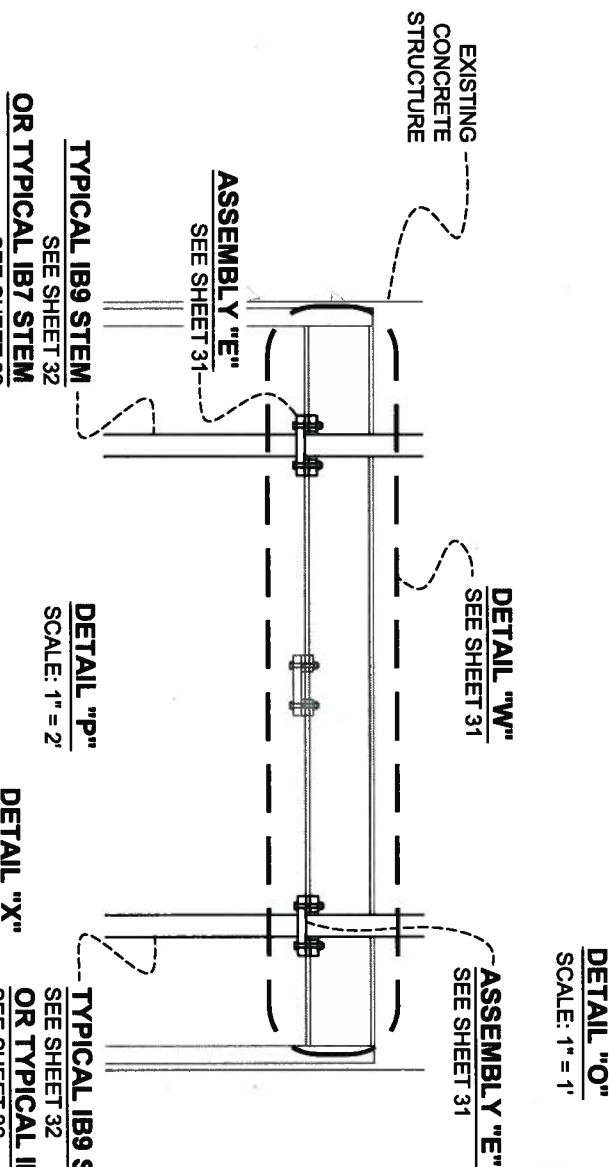
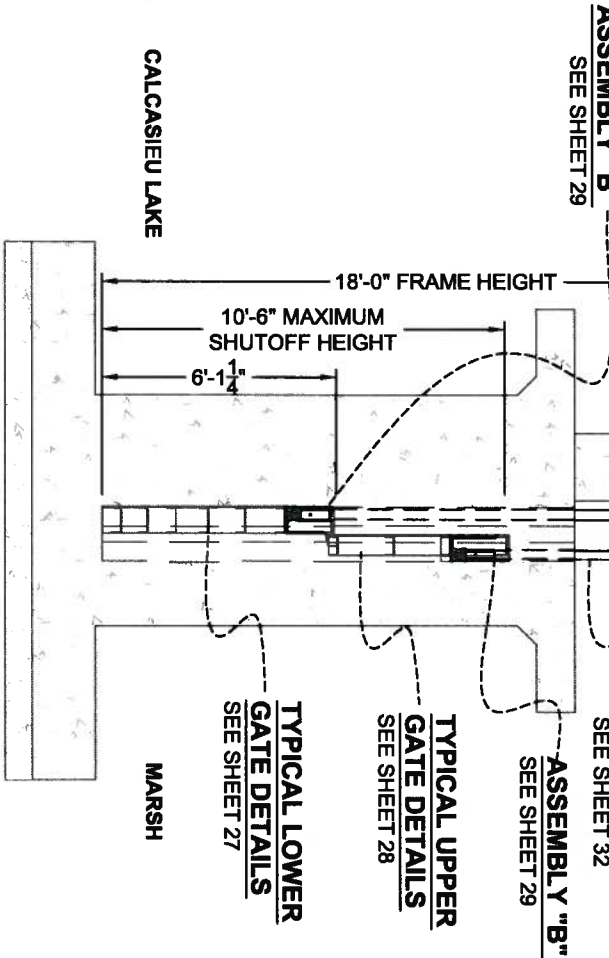
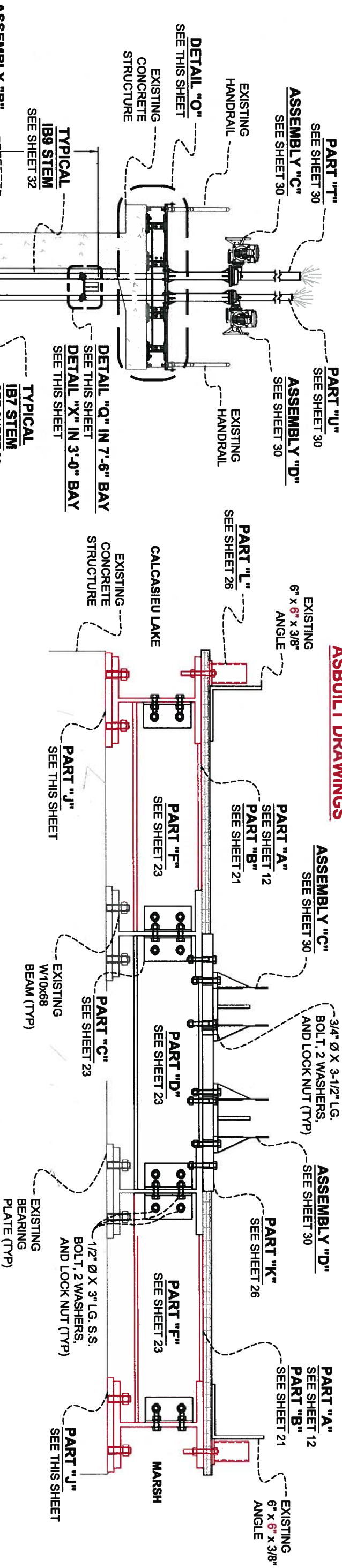
POST HURRICANE REPAIR OF  
SABINE WATER CONTROL STRUCTURES

DETAIL "L" THRU "N"  
PARTS "I" & "M"

STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:

DATE: 12/20/2011

**ASBULT DRAWINGS**



**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC. AS REQUIRED BY CONTRACT DOCUMENTS.
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3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.



REV.	DATE	DESCRIPTION	BY

**Lonnie G. Harper and Associates, Inc.**  
 CIVIL ENGINEERING  
 AND LAND SURVEYING  
 2746 Hwy 384, Belle Meade, Louisiana 70630  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

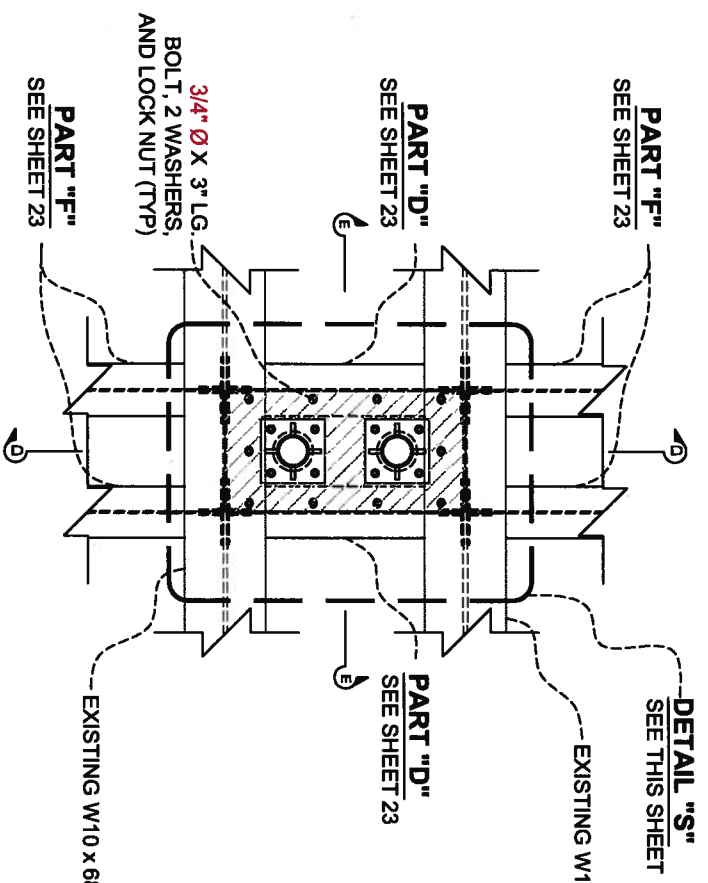
**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
 DESIGNED BY: LONNIE HARPER, P.E.

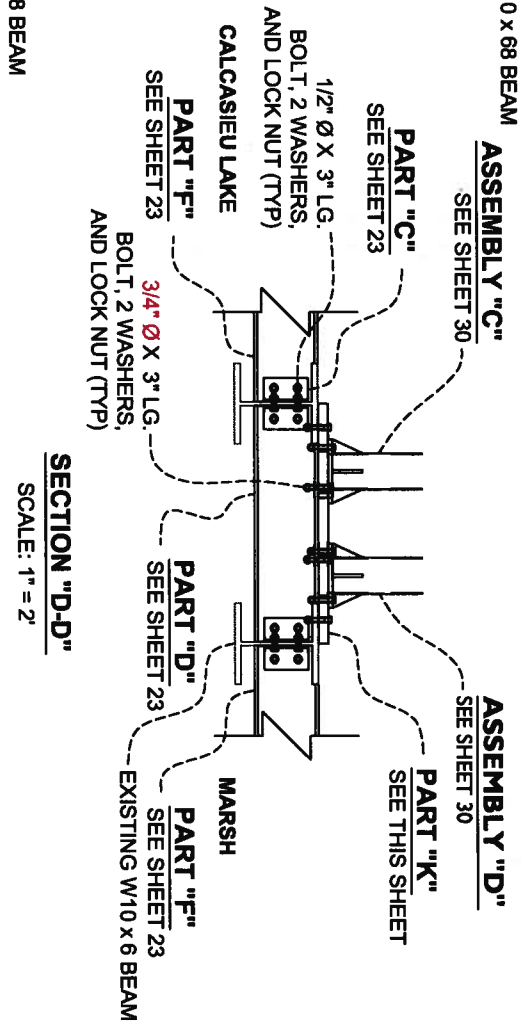
POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
 STATE PROJECT NUMBER: CS-23  
 FEDERAL PROJECT NUMBER:

SECTION "C-C" DETAIL "O" THRU "Q", "X", "Y" & PART "J"

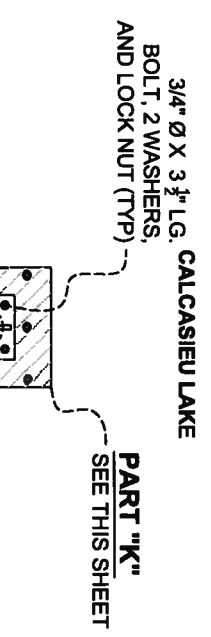
DATE: 12/20/2011  
 SHEET 25 OF 35



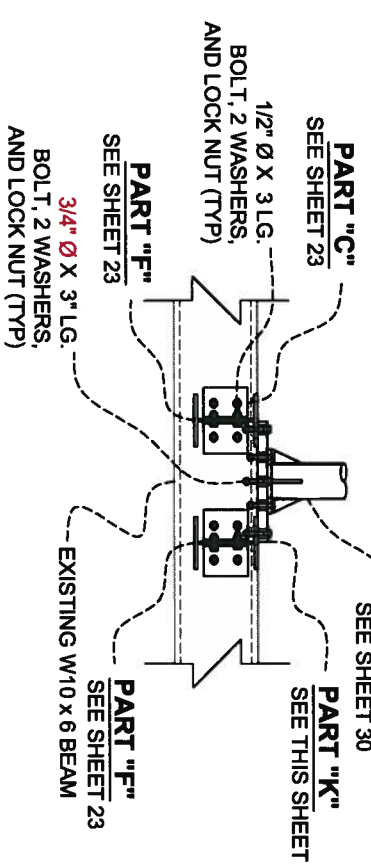
**DETAIL "R"**  
SCALE: 1" = 2'



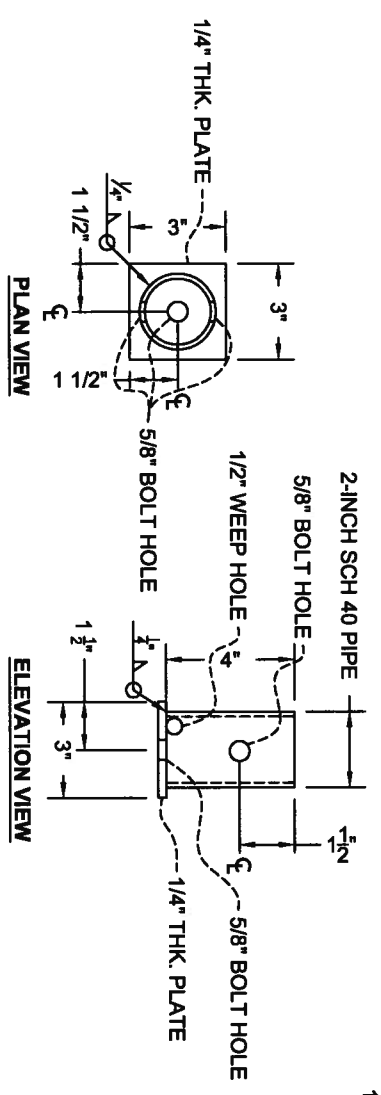
**SECTION "D-D"**  
SCALE: 1" = 2'



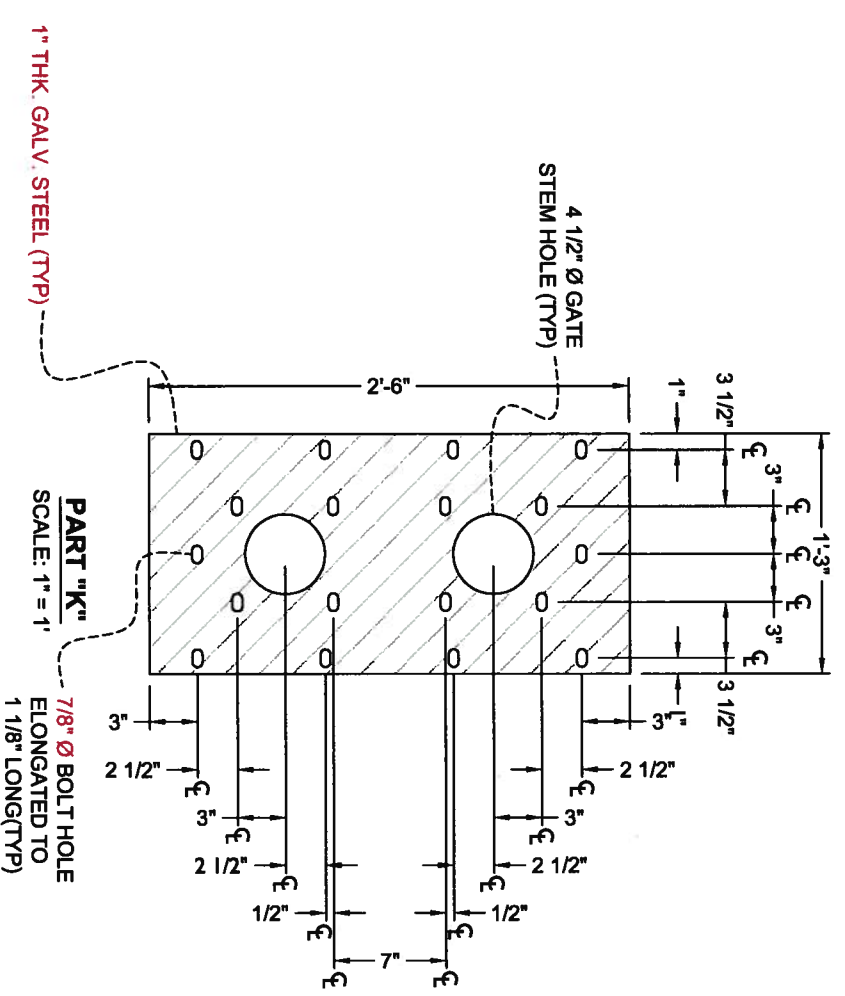
**DETAIL "S"**  
SCALE: 1" = 2'



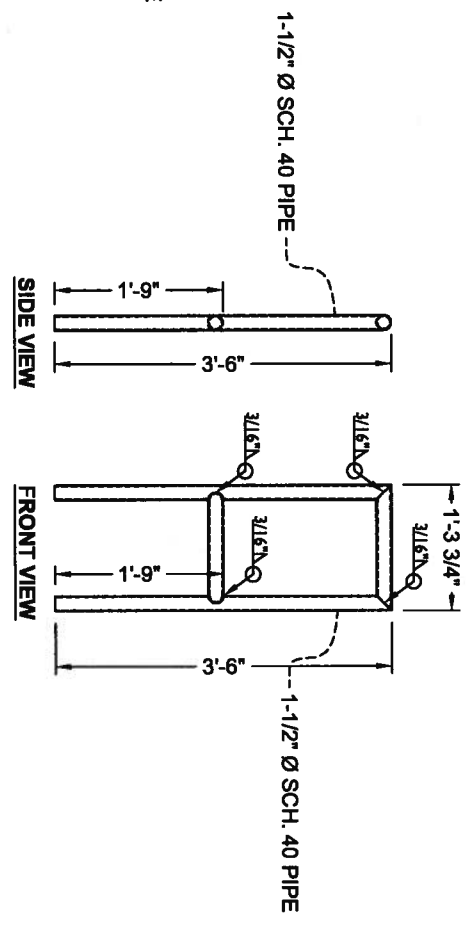
**SECTION "E-E"**  
SCALE: 1" = 2'



**PART "L"**  
SCALE: 1" = 6"



**PART "K"**  
SCALE: 1" = 1'



**PART "M"**  
SCALE: 1" = 6"

SEE SHEET 35 FOR CONSTRUCTION NOTES.

NOTES:

- GENERAL NOTES:**
1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC. AS REQUIRED BY CONTRACT DOCUMENTS.
  2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
  3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

REV	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF WATER CONTROL STRUCTURES

STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:

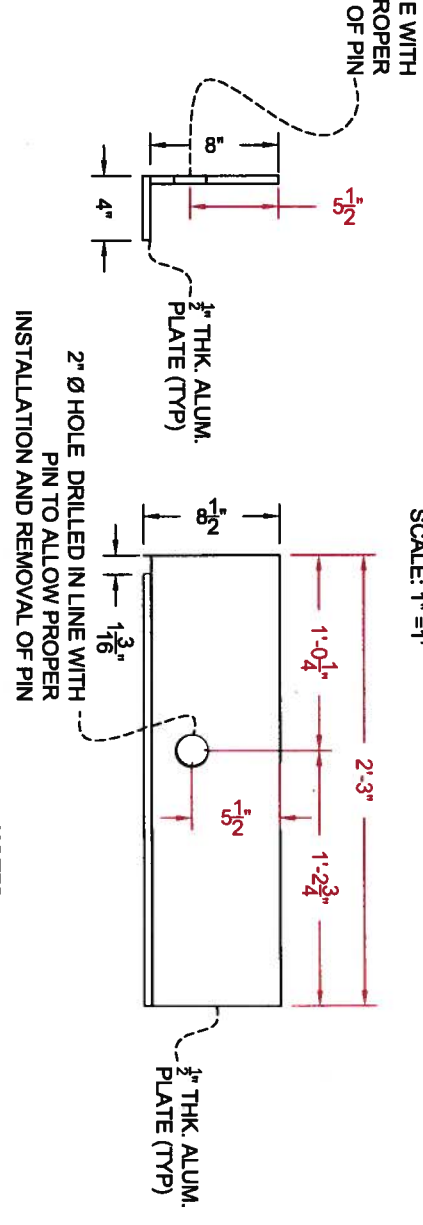
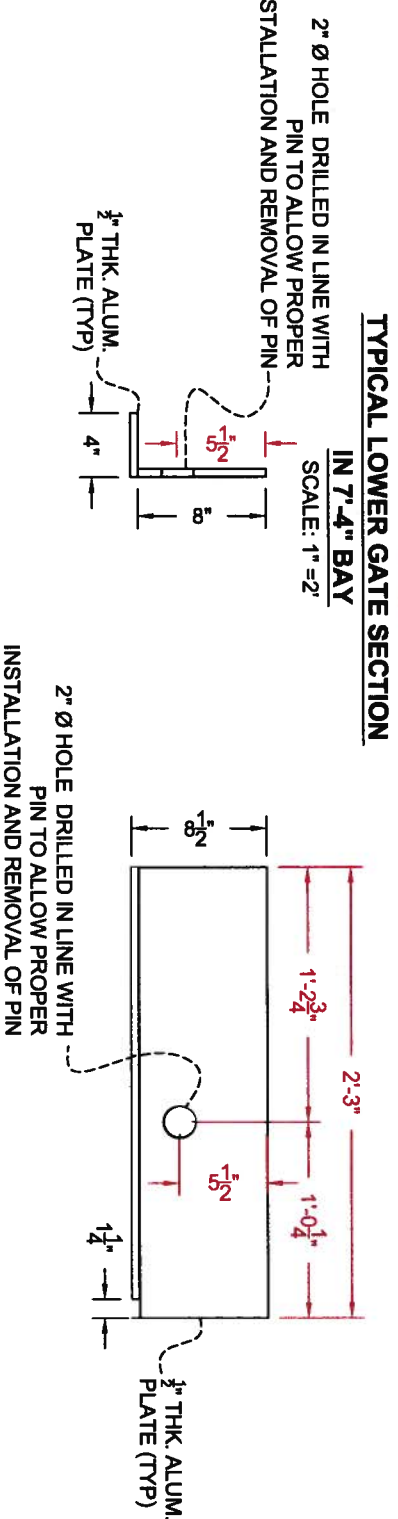
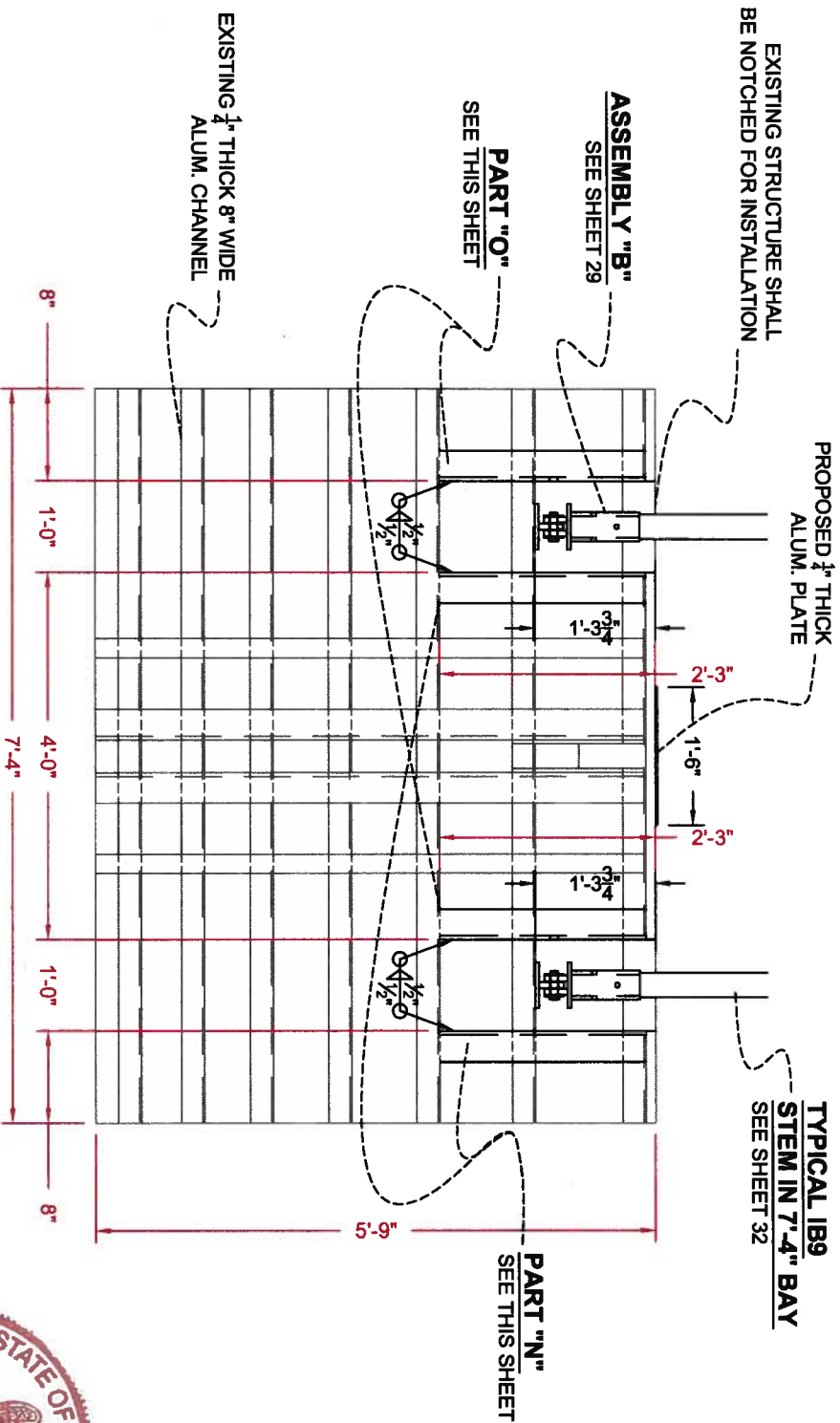
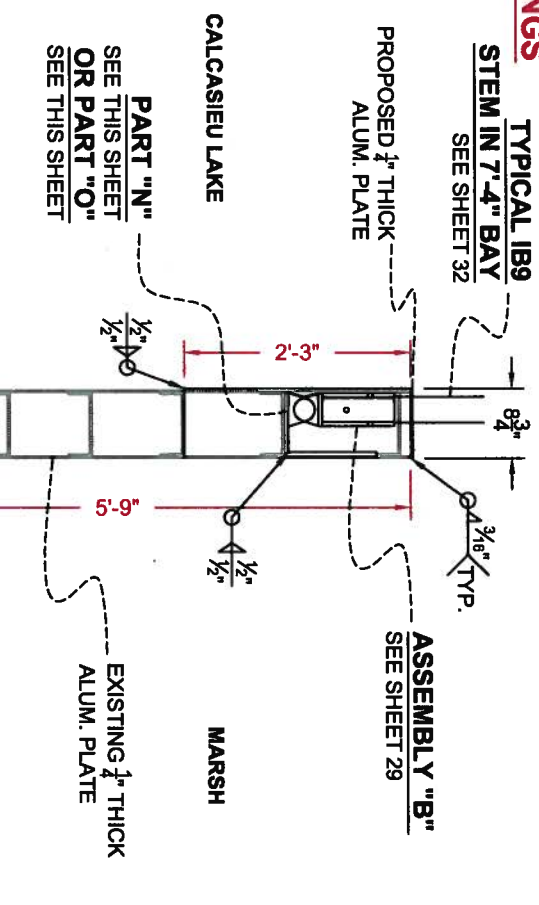
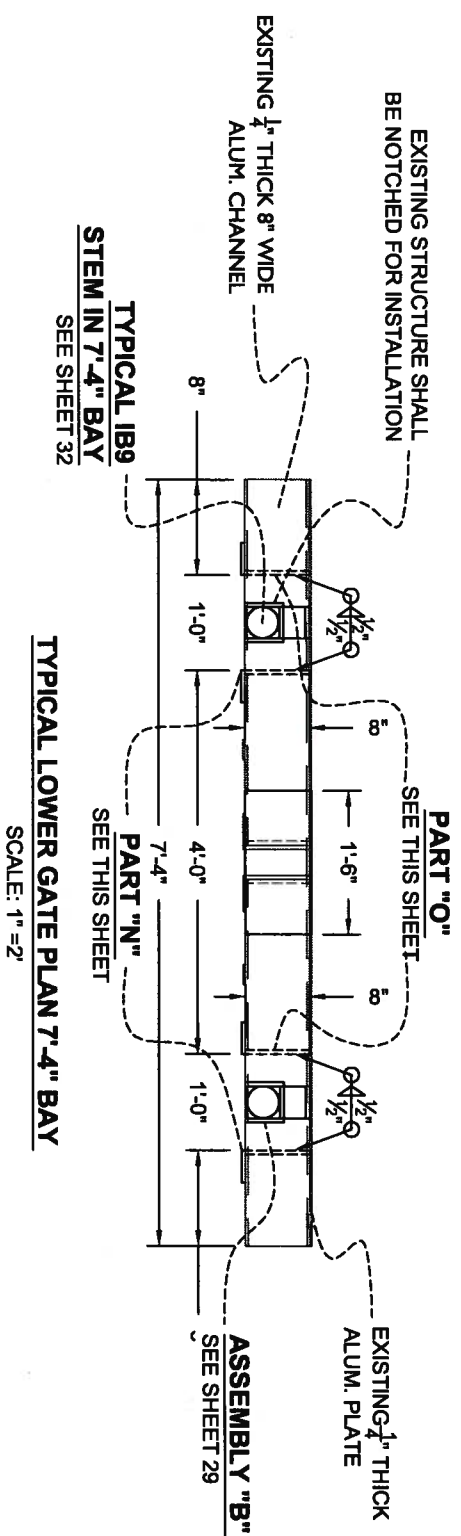
DETAILS "R" & "S",  
SECTIONS "D-D" & "E-E",  
AND PARTS "K" THRU "M"

DATE: 12/20/2011

APPROVED BY: LONNIE HARPER, P.E.  
SHEET 26 OF 35



**ASBULT DRAWINGS**



**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC. AS REQUIRED BY CONSTRUCTION DOCUMENTS.
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REV.	DATE	DESCRIPTION	BY



LONNIE G. HARPER  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER, P.E.

APPROVED BY: LONNIE HARPER, P.E.

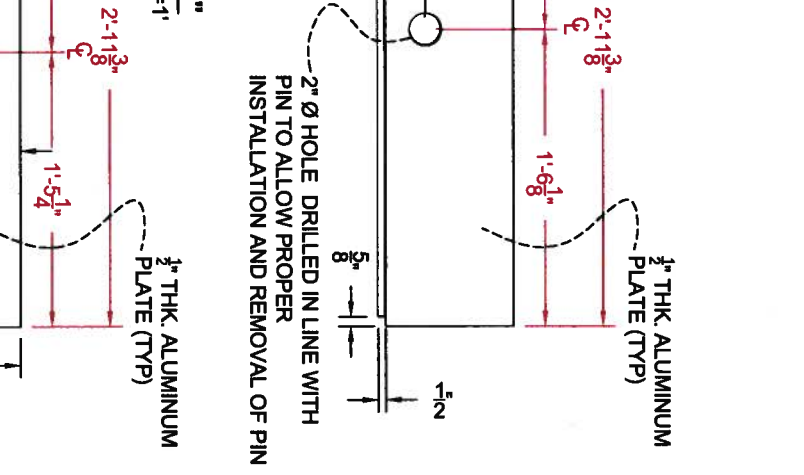
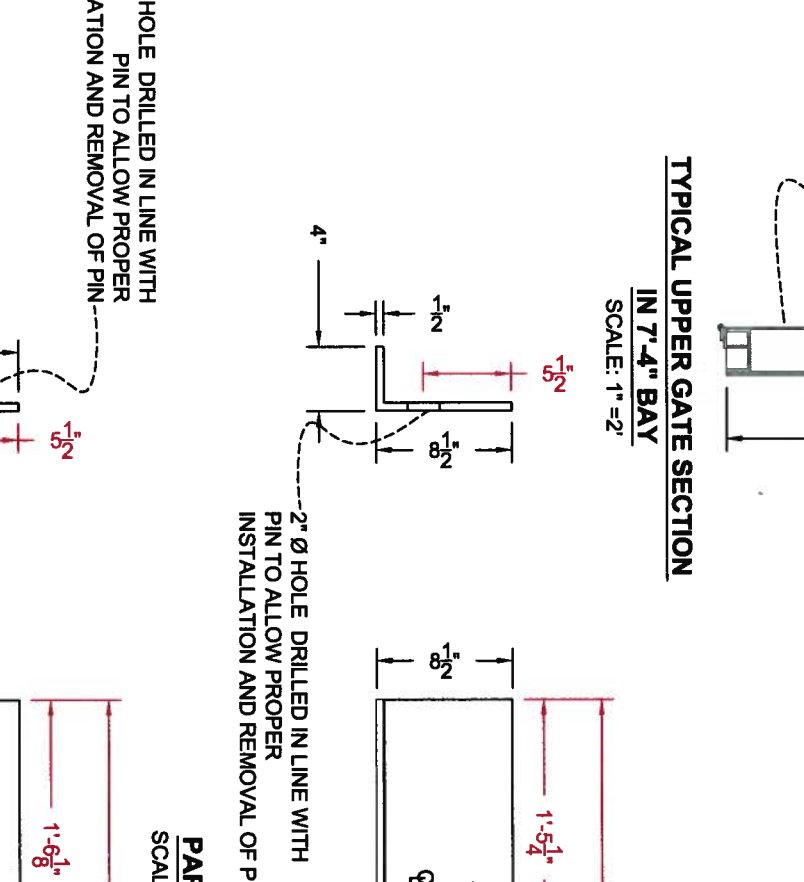
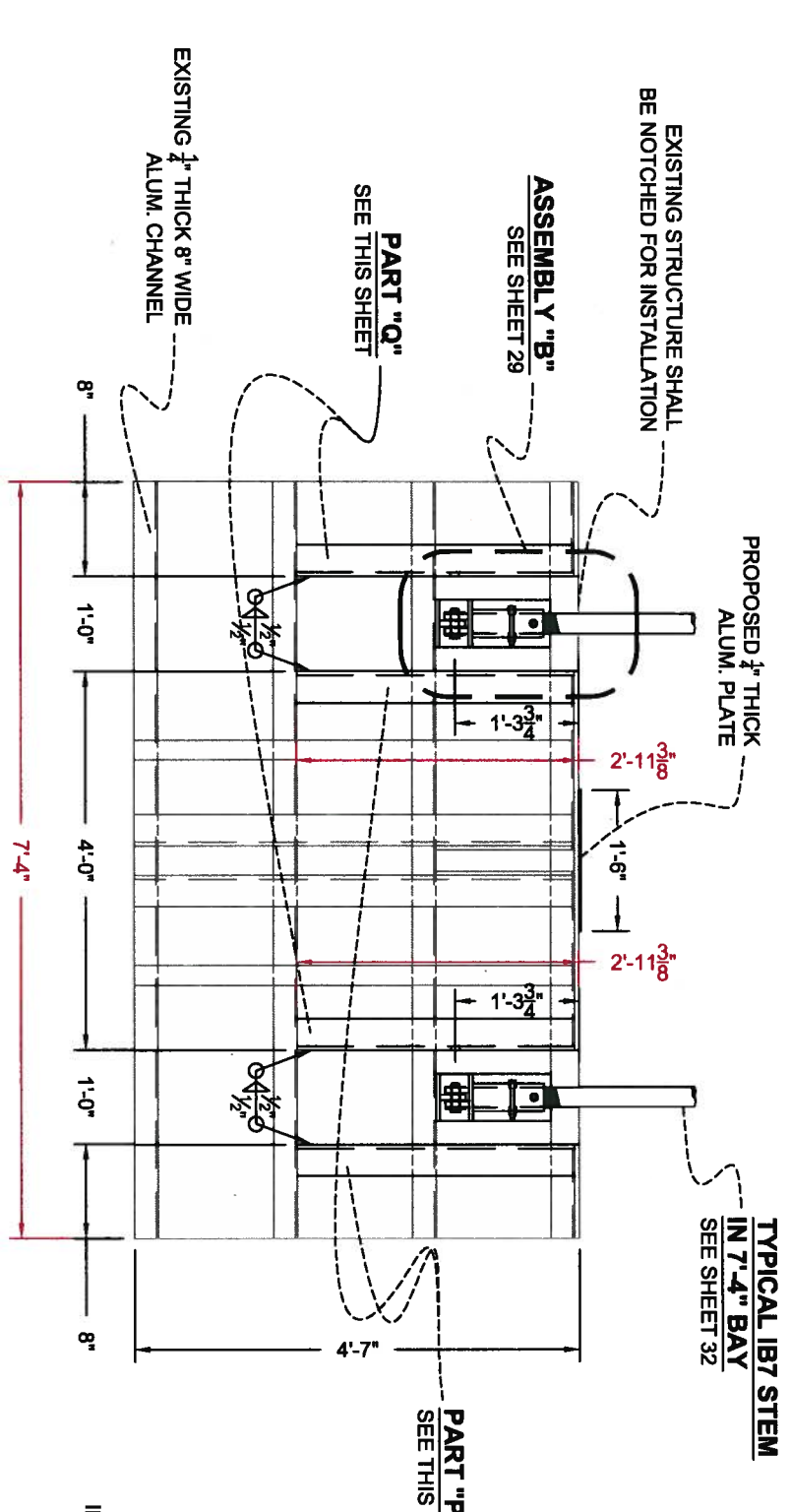
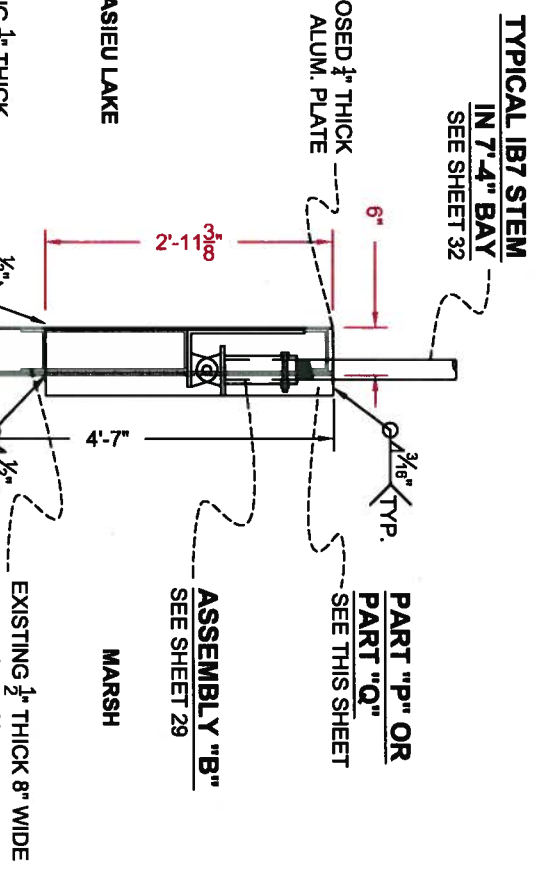
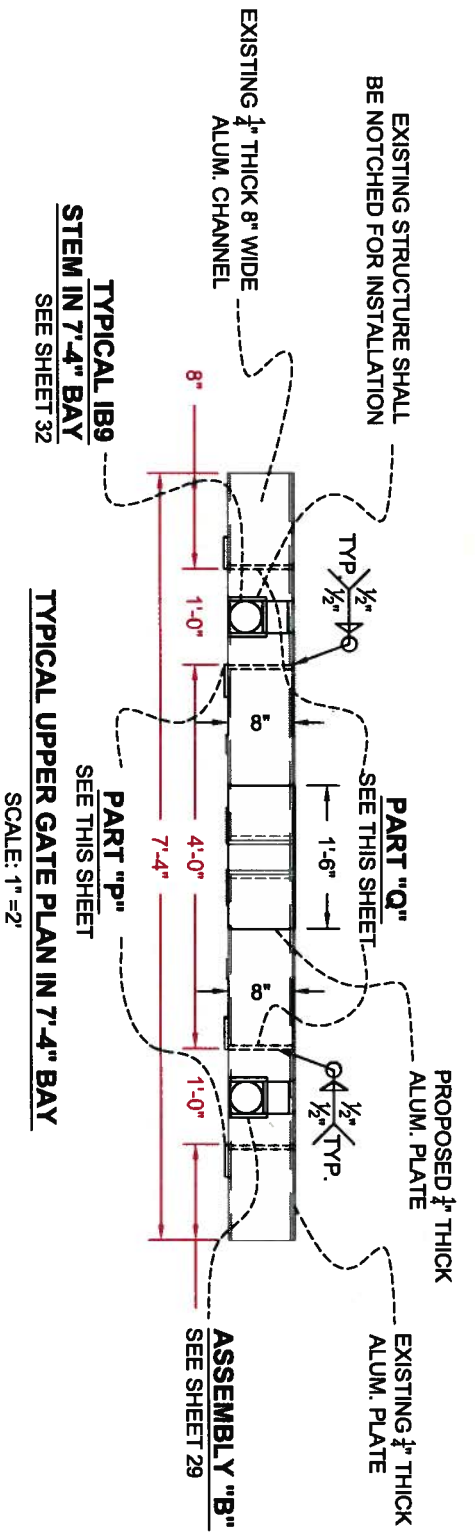
SHEET 27 OF 35

SEE SHEET 35 FOR CONSTRUCTION NOTES.

**NOTES:**

POST HURRICANE REPAIR OF WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:  
DATE: 12/20/2011  
TYPICAL LOWER GATE DETAILS & PARTS "N" & "O" IN 7'-4" BAY

**ASBUILT DRAWINGS**



**GENERAL NOTES:**

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**NOTES:**

SEE SHEET 35 FOR CONSTRUCTION NOTES.

REV.	DATE	DESCRIPTION	BY



LONNIE G. HARPER  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801  
DRAWN BY: AARON HARPER  
DESIGNED BY: LONNIE HARPER, P.E.

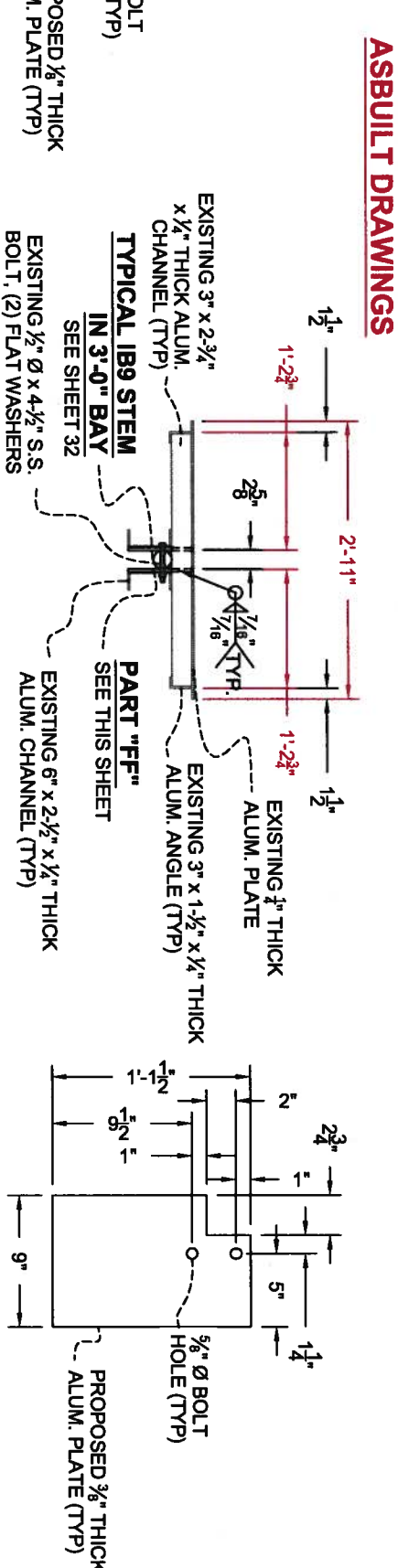
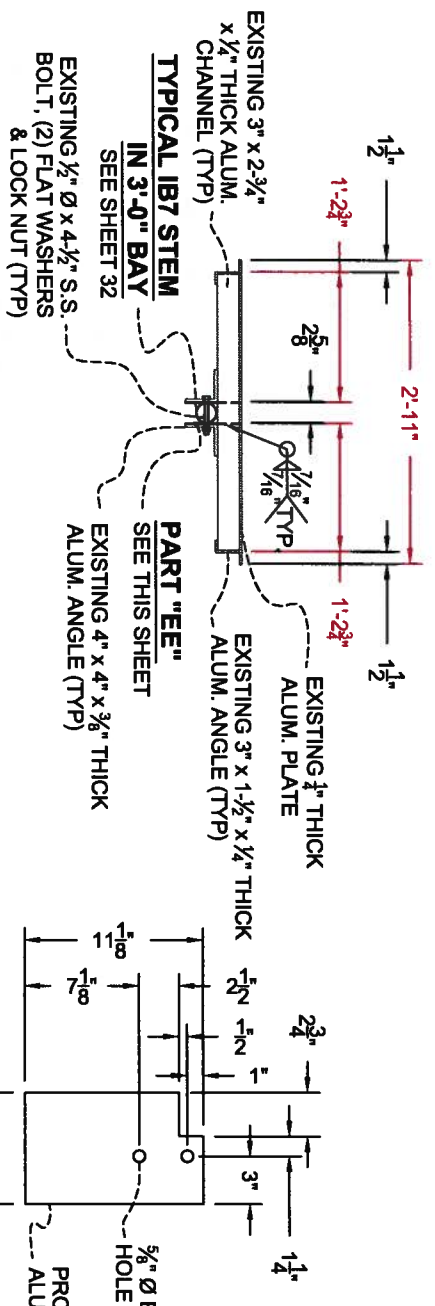
**POST HURRICANE REPAIR OF WATER CONTROL STRUCTURES**

STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:  
APPROVED BY: LONNIE HARPER, P.E.

**TYPICAL UPPER GATE DETAILS AND PARTS 'P' & 'Q' IN 7'-4" BAY**

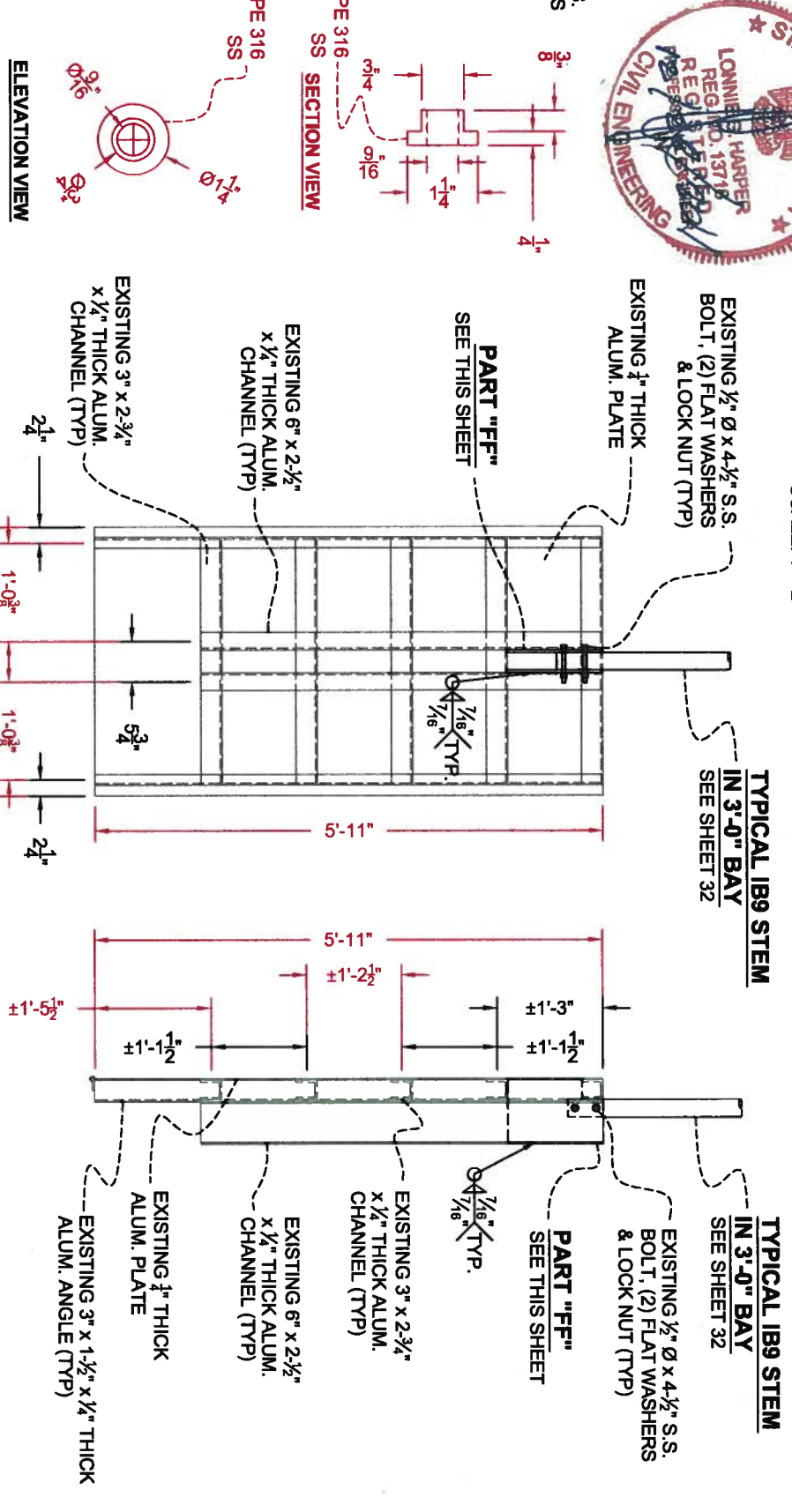
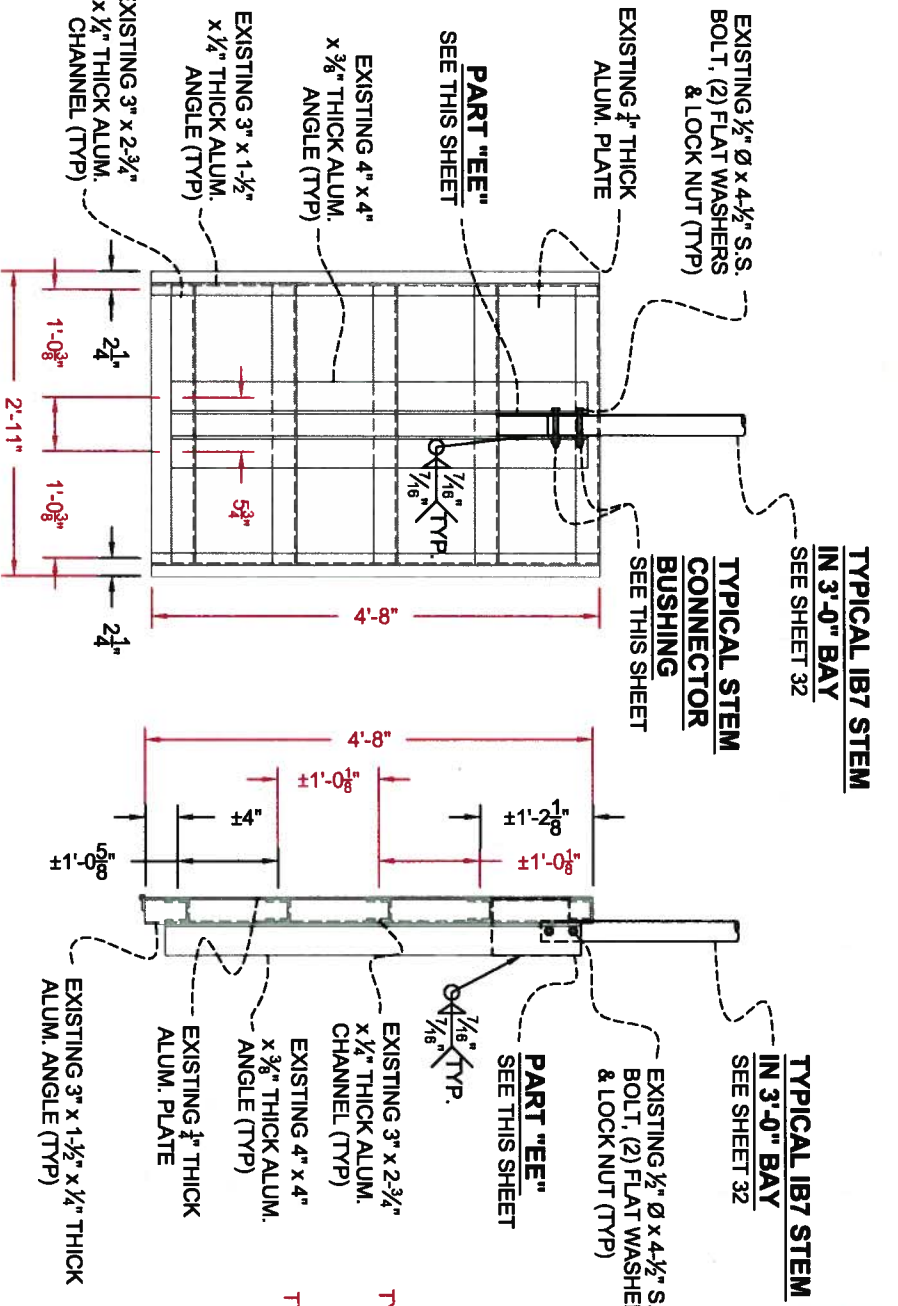
DATE: 12/20/2011  
SHEET 28 OF 35

**ASBULT DRAWINGS**



**TYPICAL UPPER GATE  
PLAN IN 3'-0" BAY**  
SCALE: 1" = 2"

**TYPICAL LOWER GATE  
PLAN IN 3'-0" BAY**  
SCALE: 1" = 2"

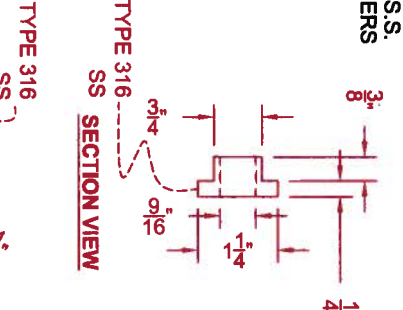


**TYPICAL UPPER GATE  
ELEVATION IN 3'-0" BAY**  
SCALE: N.T.S.

**TYPICAL UPPER GATE  
SECTION IN 3'-0" BAY**  
SCALE: N.T.S.

**TYPICAL LOWER GATE  
ELEVATION IN 3'-0" BAY**  
SCALE: N.T.S.

**TYPICAL LOWER GATE  
SECTION IN 3'-0" BAY**  
SCALE: N.T.S.



**GENERAL NOTES:**

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**NOTES:**

SEE SHEET 35 FOR CONSTRUCTION NOTES.

REV.	DATE	DESCRIPTION	BY



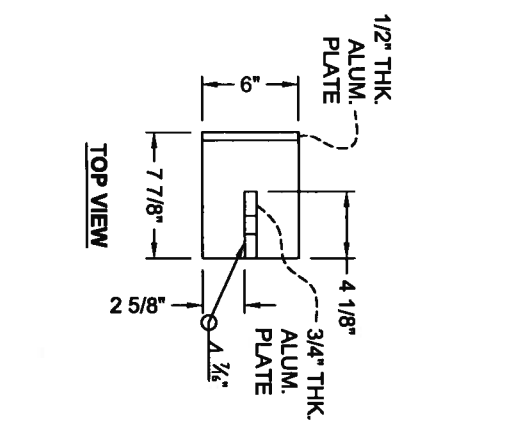
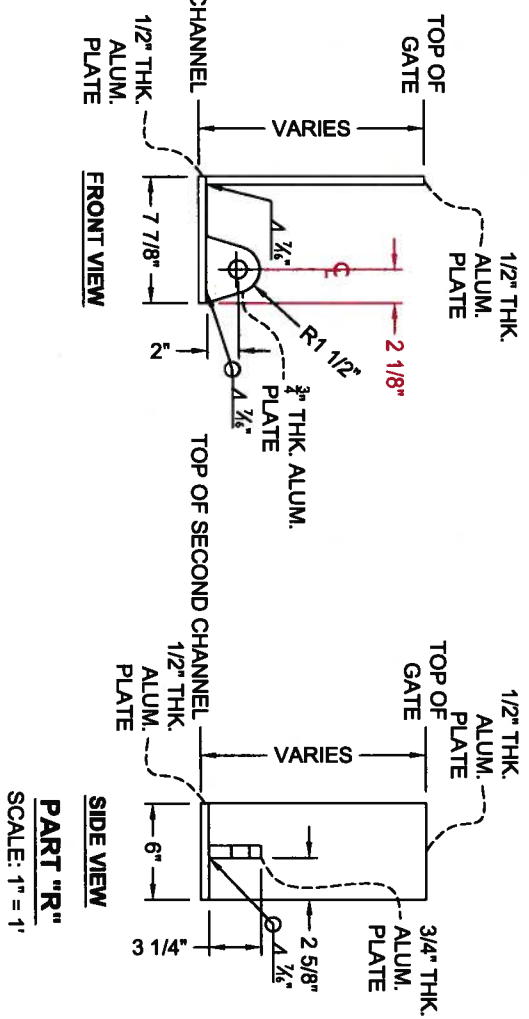
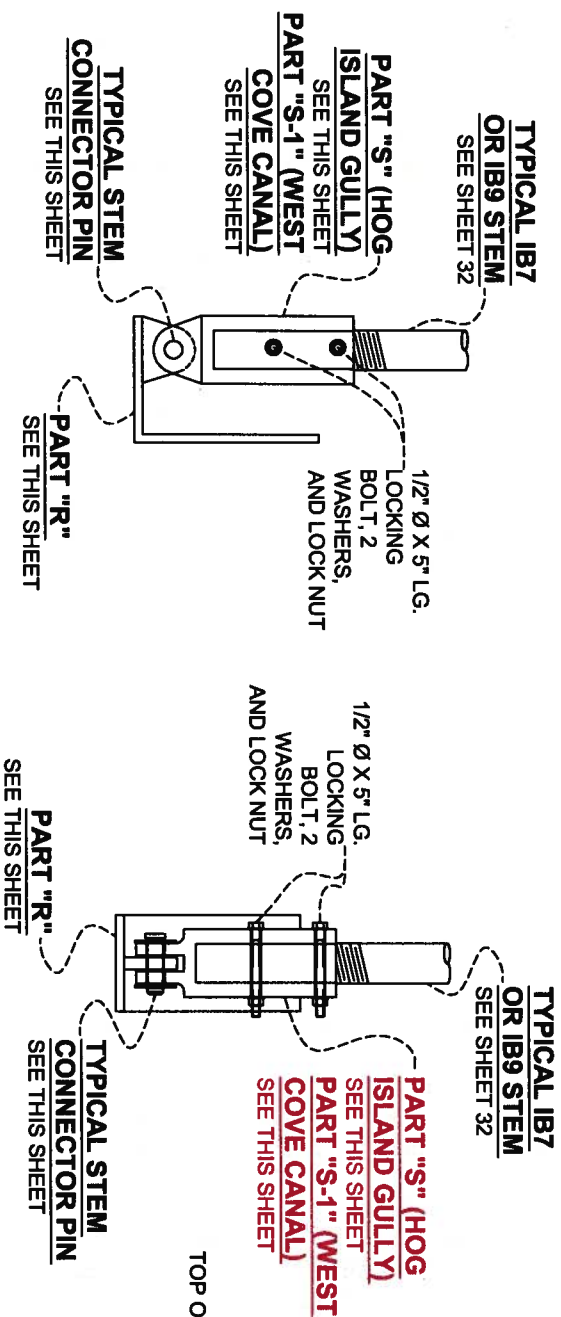
**LONNIE G. HARPER  
and Associates, Inc.**  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND  
RESTORATION AUTHORITY**

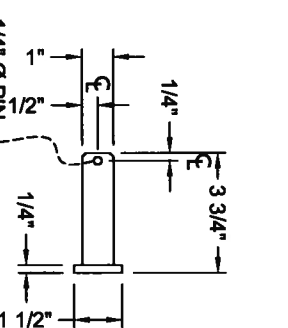
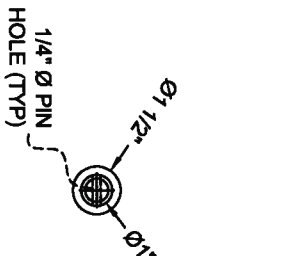
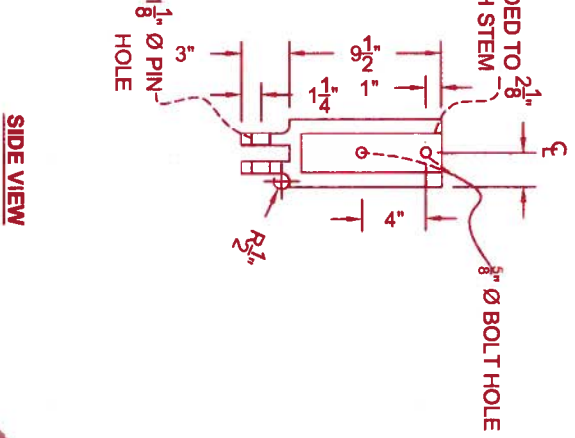
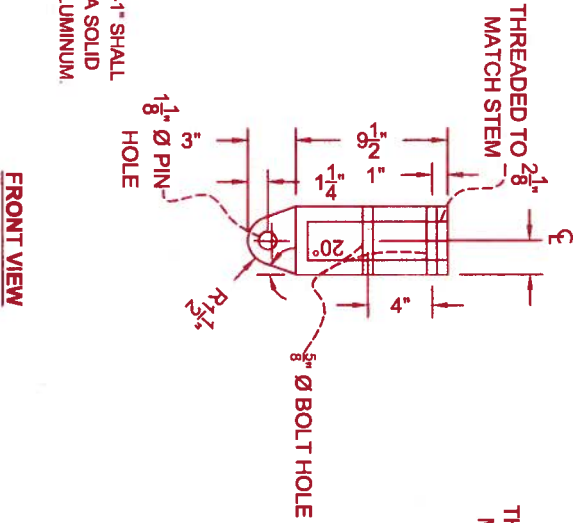
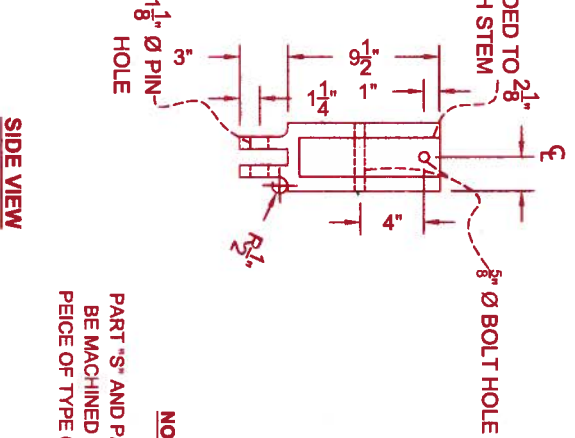
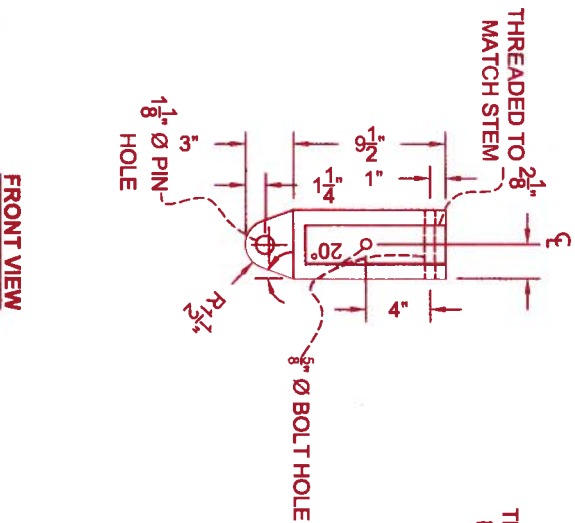
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER	DESIGNED BY: LONNIE HARPER, P.E.	APPROVED BY: LONNIE HARPER, P.E.	SHEET 28A OF 35
POST HURRICANE REPAIR OF WATER CONTROL STRUCTURES		TYPICAL UPPER & LOWER GATE DETAILS IN 3'-0" BAY & PARTS "EE" & "FF"	
STATE PROJECT NUMBER: CS-23	FEDERAL PROJECT NUMBER:	DATE: 12/20/2011	

**ASBUILT DRAWINGS**



**ASSEMBLY "B"**  
SCALE: 1" = 1'



**NOTE:**  
PART 'S' AND PART 'S-1' SHALL BE MACHINED FROM A SOLID PIECE OF TYPE 6061 ALUMINIUM.

**PART "S"**  
SCALE: 1" = 1'

**PART "S-1"**  
SCALE: 1" = 1'



**GENERAL NOTES:**

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**NOTES:**

SEE SHEET 35 FOR CONSTRUCTION NOTES.

REV.	DATE	DESCRIPTION	BY



**LONNIE G. HARPER and Associates, Inc.**  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 364, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

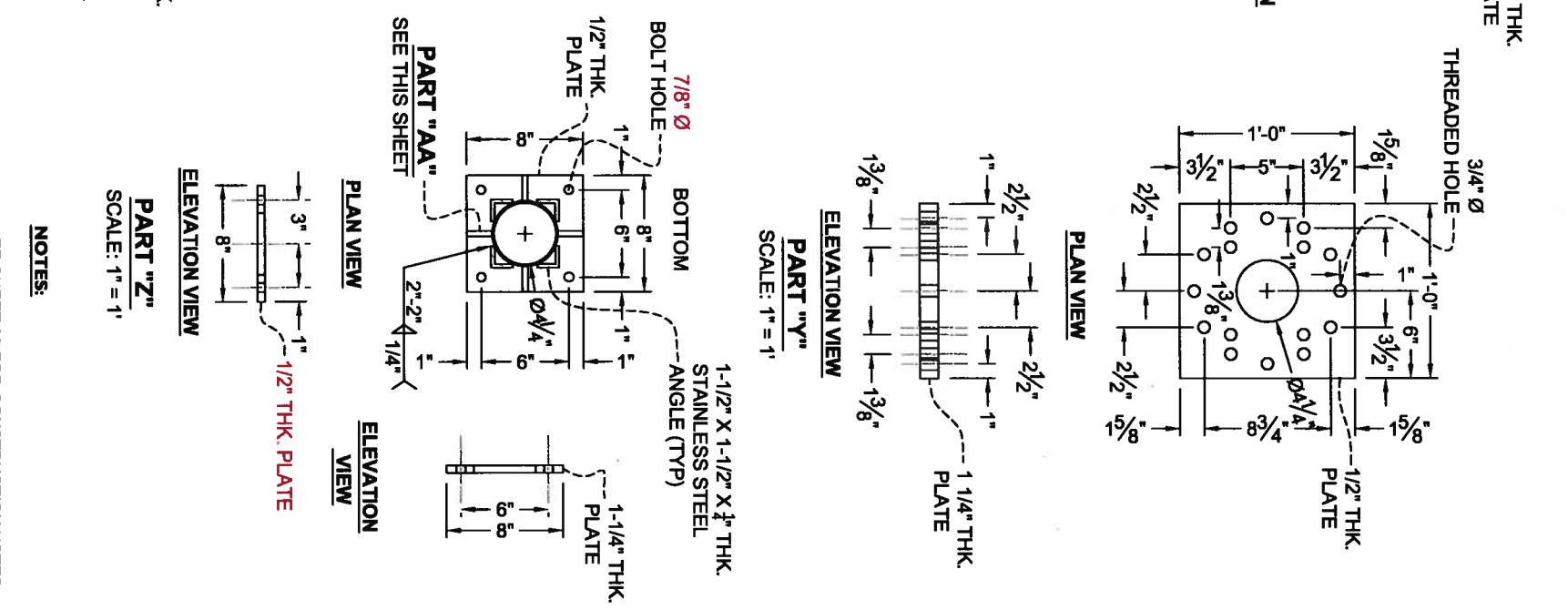
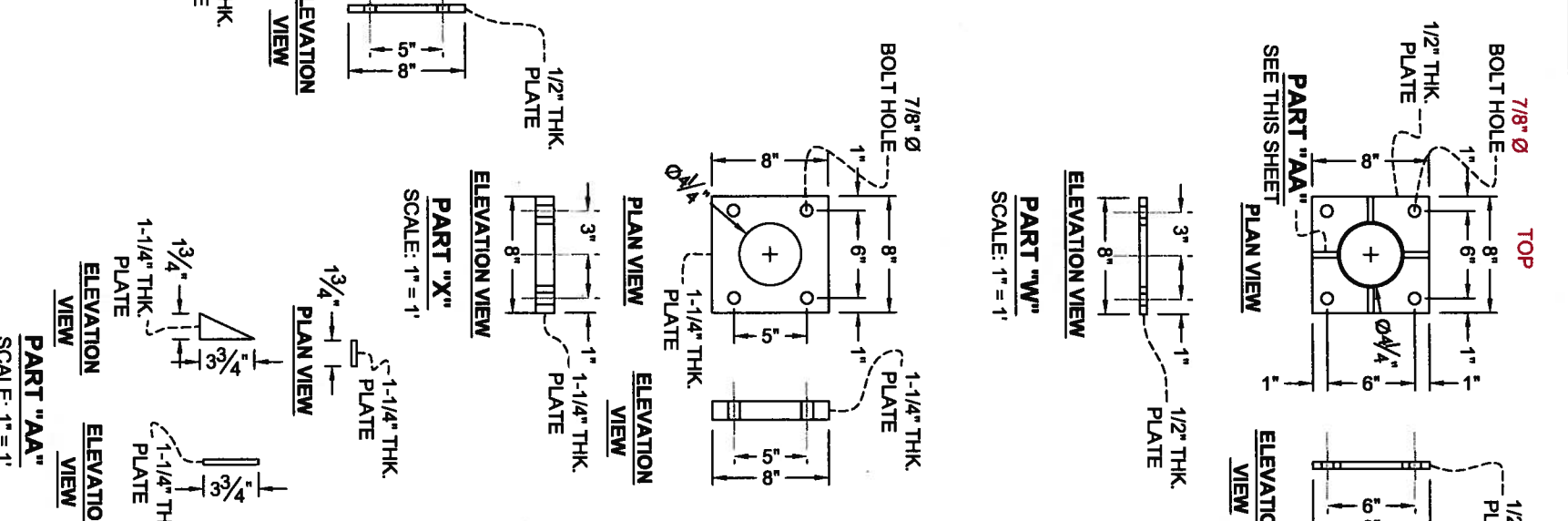
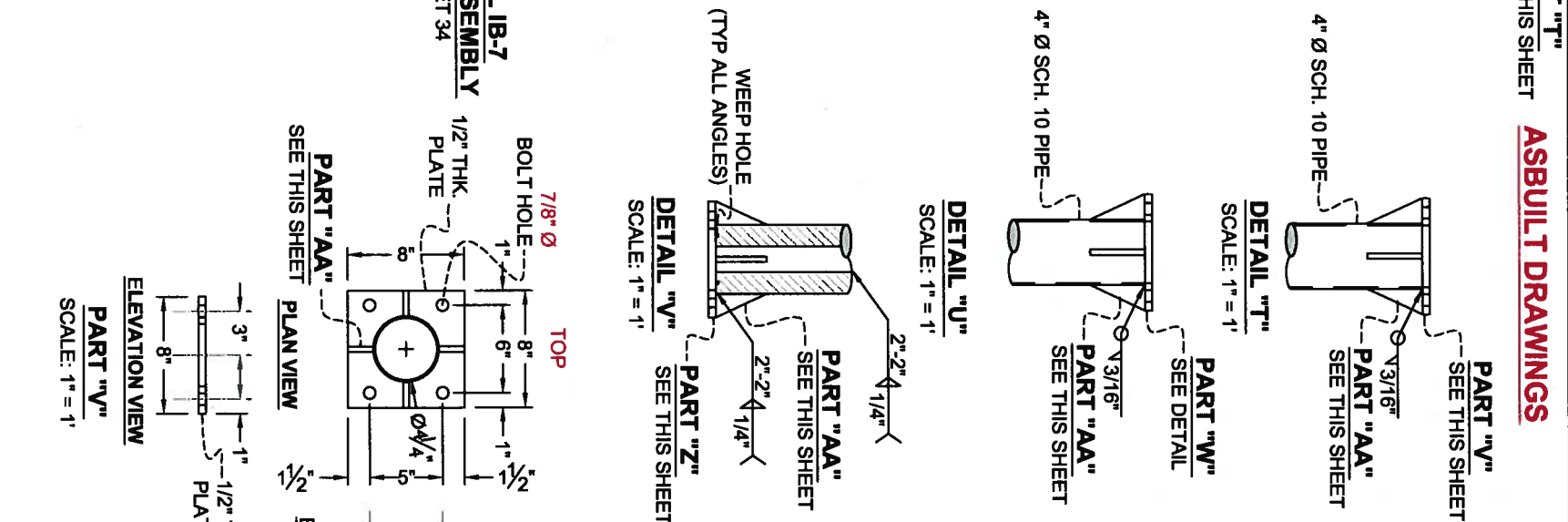
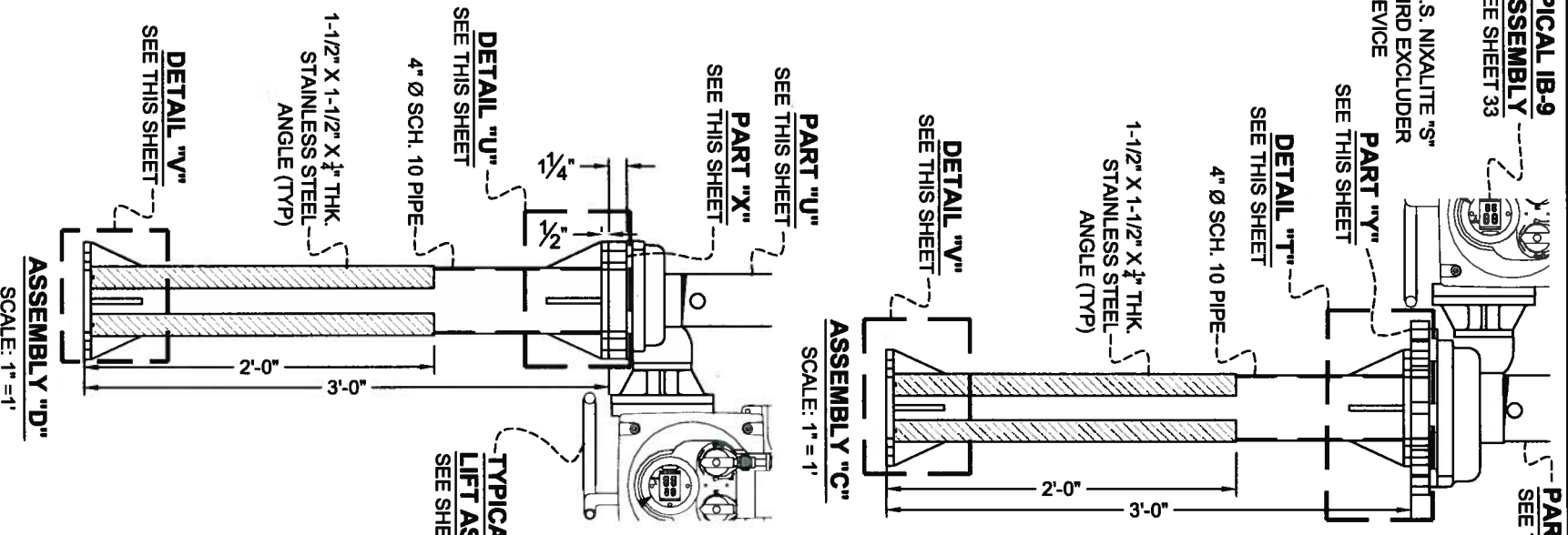
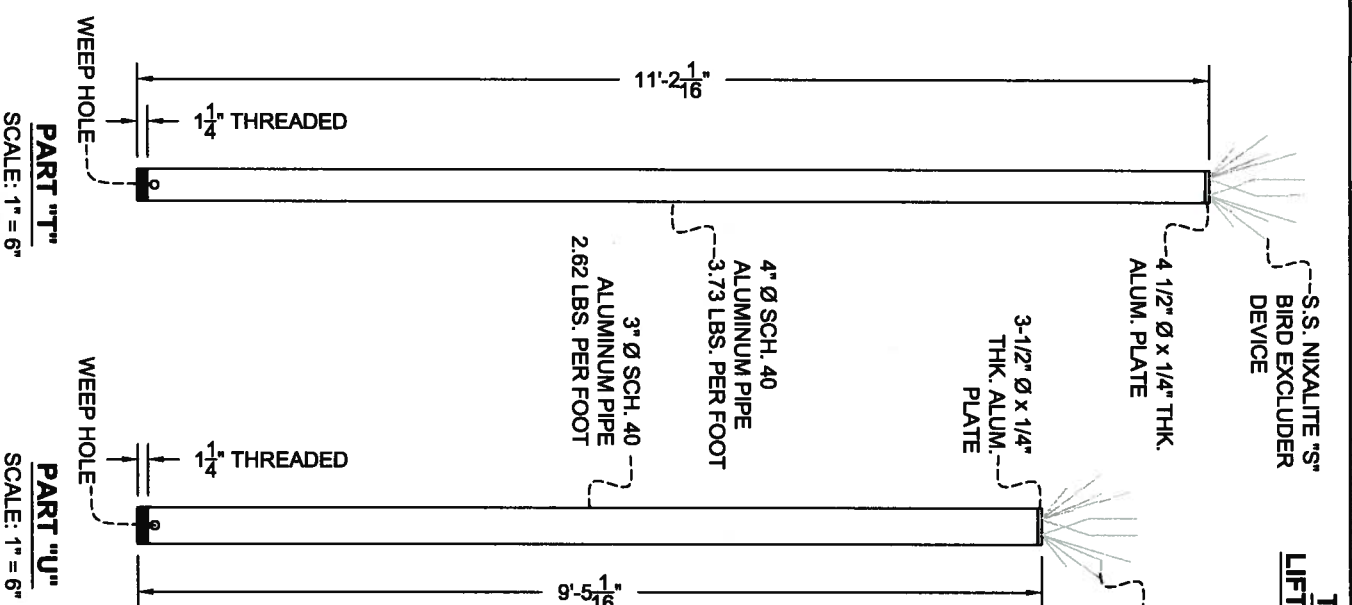
**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER  
DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:  
DATE: 12/20/2011  
APPROVED BY: LONNIE HARPER, P.E.  
SHEET 29 OF 35

ASSEMBLY "B" & PARTS "R" & "S"





**GENERAL NOTES:**

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REV.	DATE	DESCRIPTION	BY



**LONNIE G. HARPER and Associates, Inc.**  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Belle Meade, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

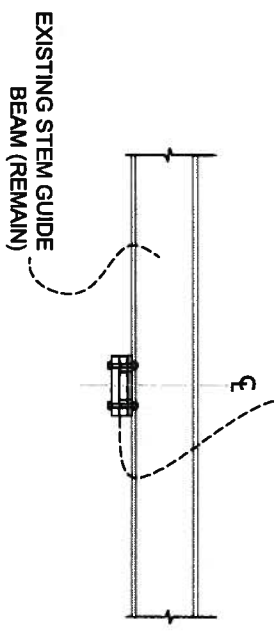
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:

ASSEMBLY "C" & "D" & PARTS "T" THRU "AA"  
DATE: 12/20/2011  
SHEET 30 OF 35

SEE SHEET 35 FOR CONSTRUCTION NOTES.

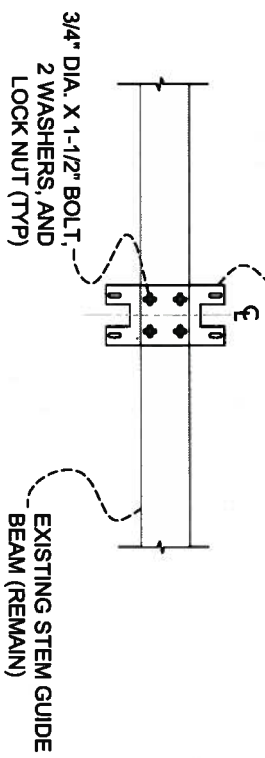
**ASSEMBLY "F"**  
SEE THIS SHEET



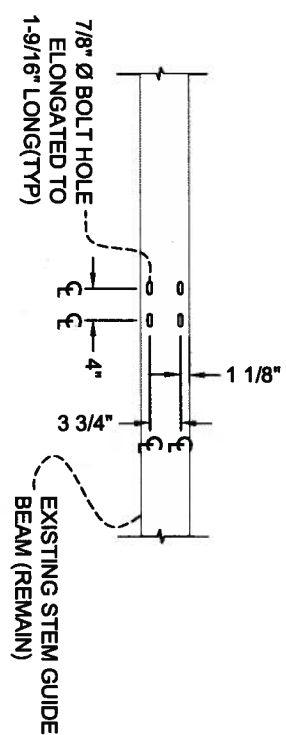
**ELEVATION VIEW**  
**DETAIL "X"**  
**IN 3'-0" BAY**  
SCALE: 1" = 2'

**ASSEMBLY "F"**  
SEE THIS SHEET

**ASBUILT DRAWINGS**

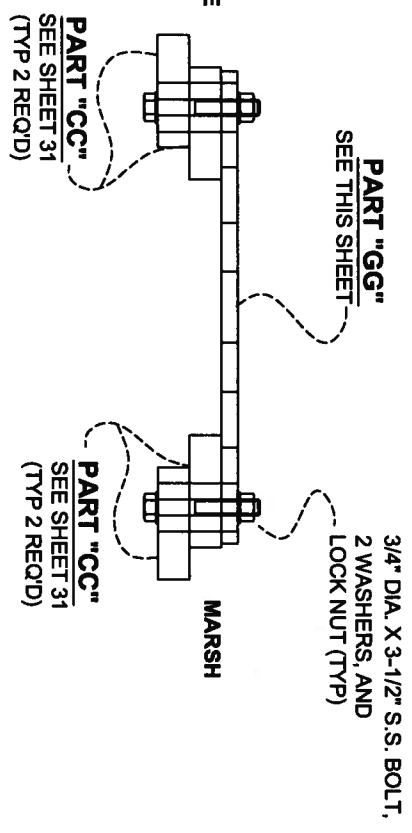


**BOTTOM VIEW WITH STEM GUIDE**  
**DETAIL "X"**  
**IN 3'-0" BAY**  
SCALE: 1" = 2'



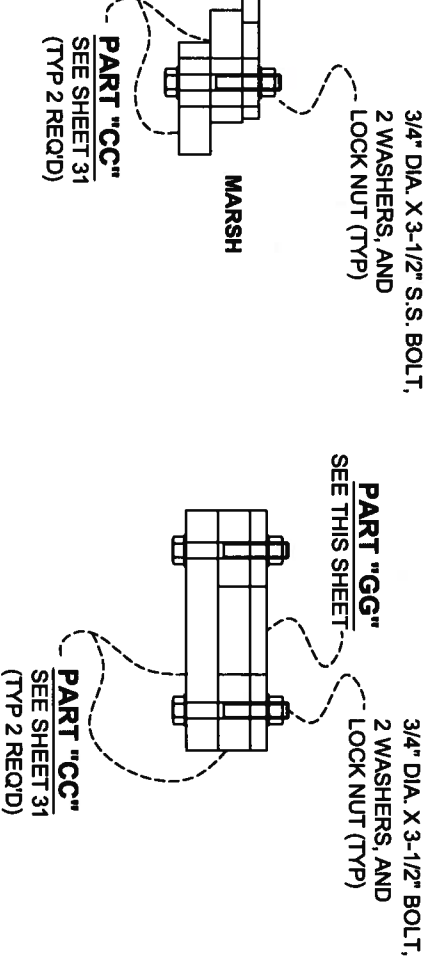
**BOTTOM VIEW WITHOUT STEM GUIDE**  
**DETAIL "X"**  
**IN 3'-0" BAY**  
SCALE: 1" = 2'

CALCASIEU LAKE



**ELEVATION VIEW**

MARSH



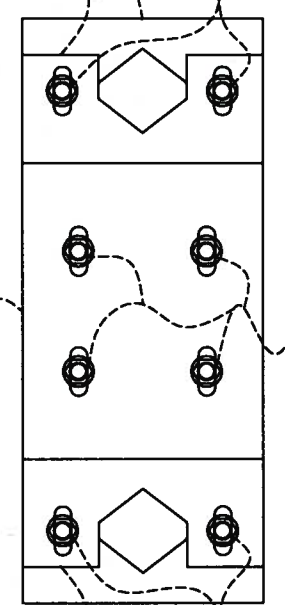
**SECTION VIEW**

3/4" DIA. X 3-1/2" S.S. BOLT,  
2 WASHERS, AND  
LOCK NUT (TYP)

3/4" DIA. X 1-1/2" BOLT,  
2 WASHERS, AND  
LOCK NUT (TYP)

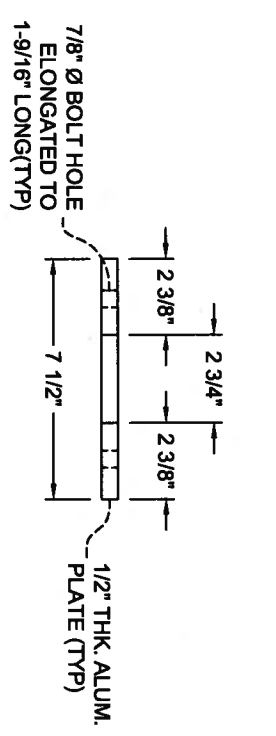
3/4" DIA. X 3-1/2" S.S. BOLT,  
2 WASHERS, AND  
LOCK NUT (TYP)

CALCASIEU LAKE  
**PART "CC"**  
SEE SHEET 31  
(TYP 2 REQ'D)



3/4" DIA. X 1-1/2" BOLT,  
2 WASHERS, AND  
LOCK NUT (TYP)

MARSH  
**PART "CC"**  
SEE SHEET 31  
(TYP 2 REQ'D)



**ASSEMBLY "F"**  
SCALE: 2" = 1'

**PART "GG"**  
SCALE: 2" = 1'

**NOTES:**

SEE SHEET 35 FOR CONSTRUCTION NOTES.

**GENERAL NOTES:**

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REV.	DATE	DESCRIPTION	BY
A	08/19/10	REVISED PER OMR REQUEST	APH



LONNIE G. HARPER  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF WATER CONTROL STRUCTURES

STATE PROJECT NUMBER: CS-23

FEDERAL PROJECT NUMBER:

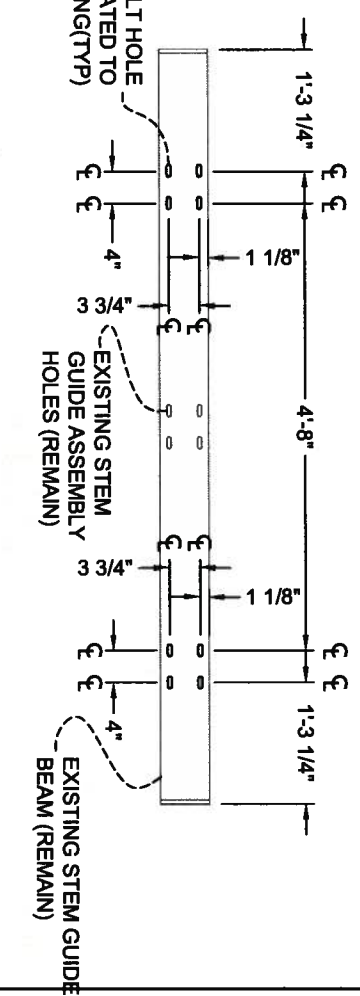
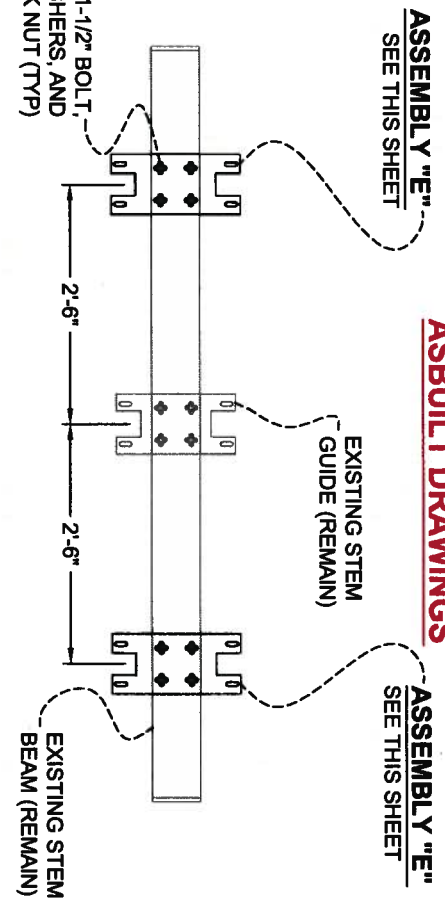
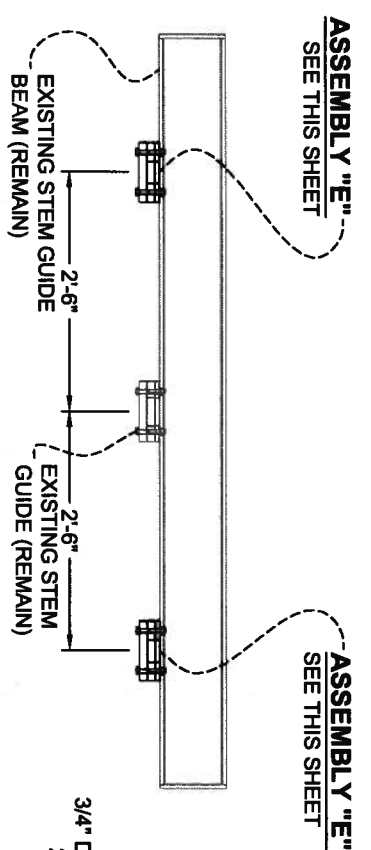
APPROVED BY: LONNIE HARPER, P.E.

DETAIL "X", ASSEMBLY "F" & PART "GG"

DATE: 12/20/2011

SHEET 31A OF 35

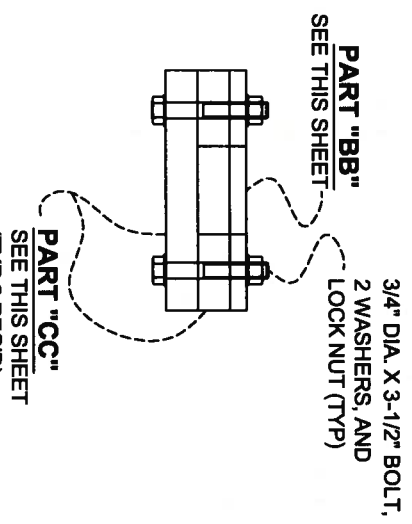
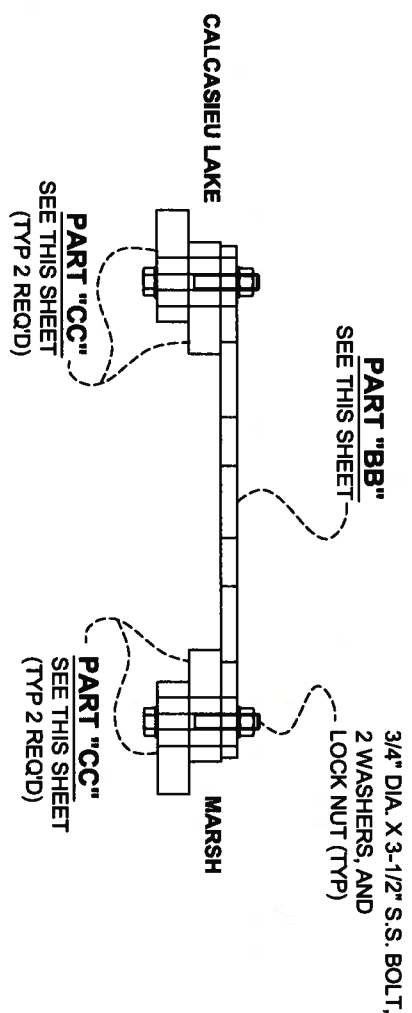
**ASBULT DRAWINGS**



**ELEVATION VIEW**  
**DETAIL "W"**  
**IN 7'-6" BAY**  
SCALE: 1" = 2'

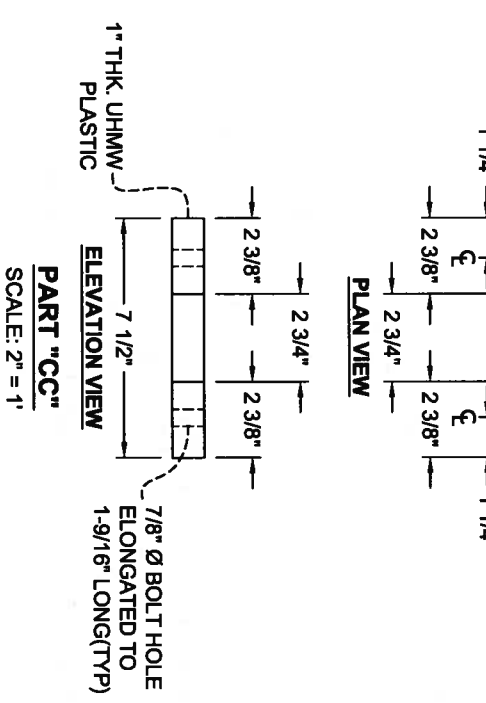
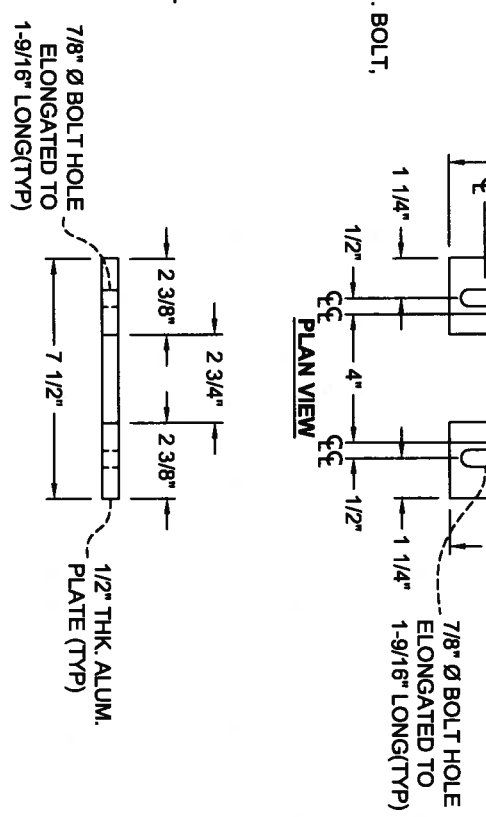
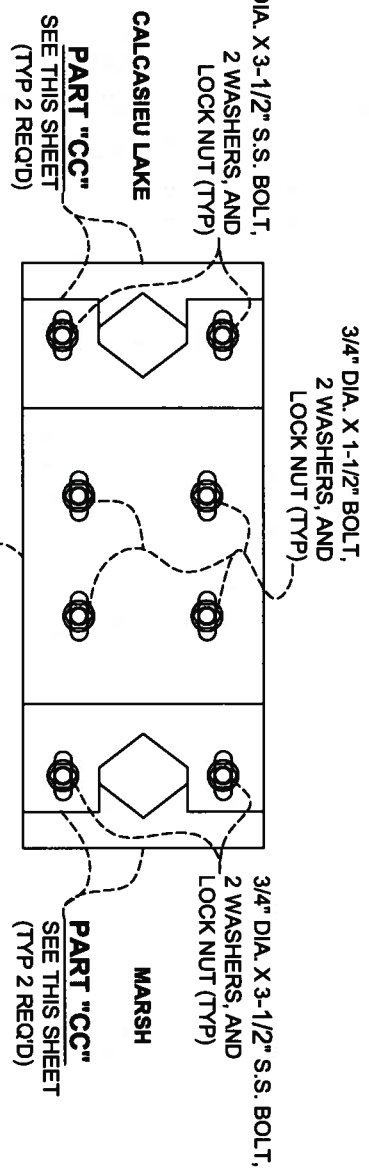
**BOTTOM VIEW WITH STEM GUIDES**  
**DETAIL "W"**  
**IN 7'-6" BAY**  
SCALE: 1" = 2'

**BOTTOM VIEW WITHOUT STEM GUIDES**  
**DETAIL "W"**  
**IN 7'-6" BAY**  
SCALE: 1" = 2'



**ELEVATION VIEW**

**SECTION VIEW**



**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.

**ASSEMBLY "E"**  
SCALE: 2" = 1'

**PART "BB"**  
SCALE: 2" = 1'

**NOTES:**

SEE SHEET 35 FOR CONSTRUCTION NOTES.



REV.	DATE	DESCRIPTION	BY



**LONNIE G. HARPER**  
and Associates, Inc.  
CIVIL ENGINEERING  
AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER, P.E.

APPROVED BY: LONNIE HARPER, P.E.

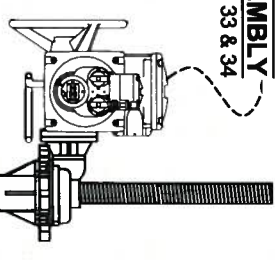
POST HURRICANE REPAIR OF  
SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:

DETAIL "W", ASSEMBLY "E"  
& PARTS "BB" & "CC"

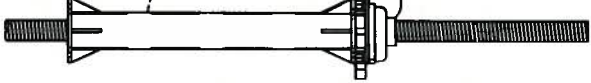
DATE: 12/20/2011

SHEET 31 OF 35

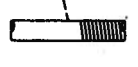
**TYPICAL ACTUATOR ASSEMBLY**  
SEE SHEET 33 & 34



**ASSEMBLY "C" OR ASSEMBLY "D"**  
SEE SHEET 30



**TYPICAL IB9 STEM OR TYPICAL IB7 STEM**  
SEE THIS SHEET

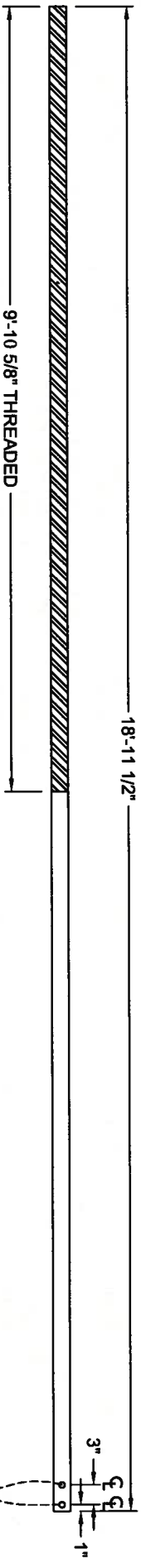


**ASSEMBLY "B"**  
SEE SHEET 29



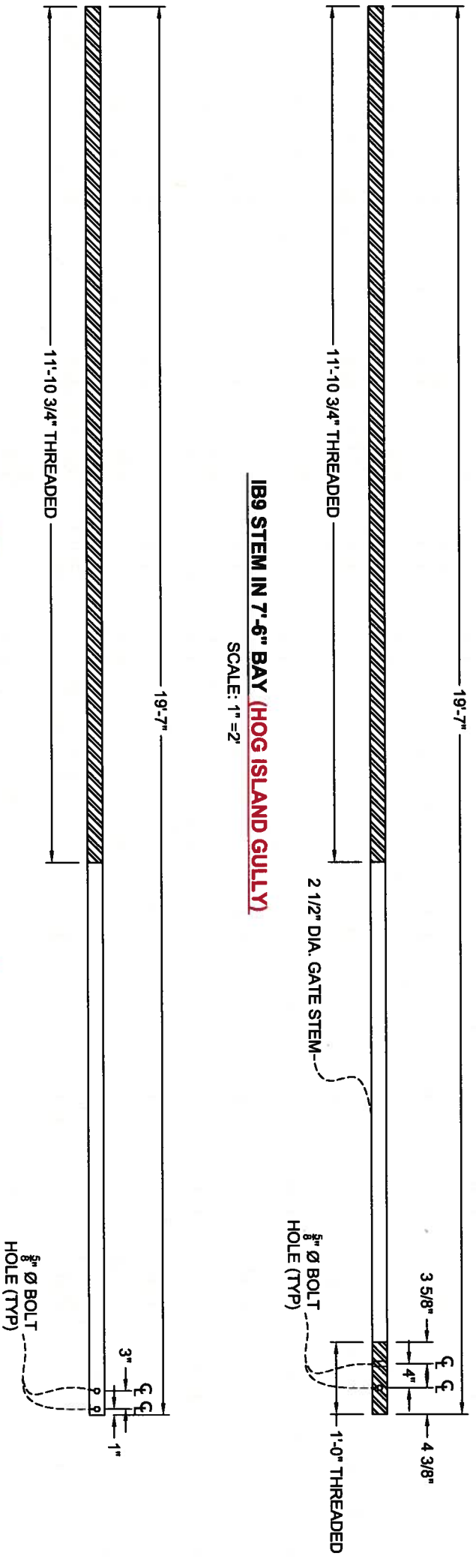
1/2" Ø x 8" LG. S.S. BOLT, 2 FLAT WASHERS AND LOCK NUT (TYP)

**TYPICAL GATE LIFTING ASSEMBLY**  
SCALE: 1" = 2'

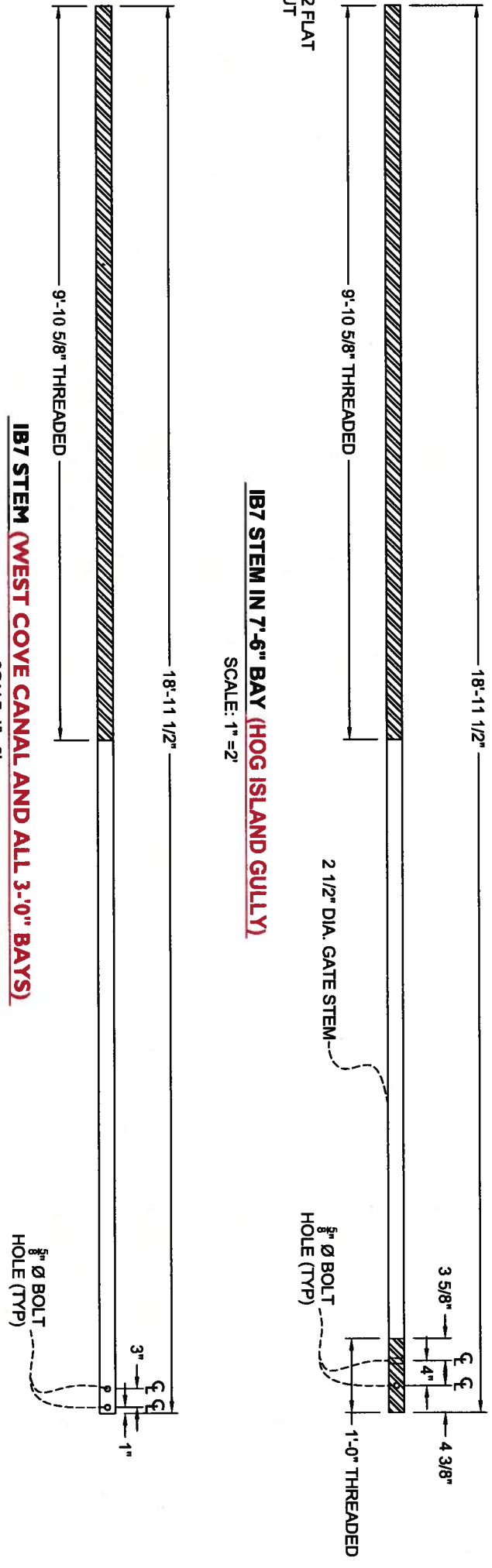


**IB7 STEM (WEST COVE CANAL AND ALL 3'-0" BAYS)**  
SCALE: 1" = 2'

**IB9 STEM (WEST COVE CANAL AND ALL 3'-0" BAYS)**  
SCALE: 1" = 2'



**IB7 STEM IN 7'-6" BAY (HOG ISLAND GULLY)**  
SCALE: 1" = 2'



**NOTES:**

SEE SHEET 35 FOR CONSTRUCTION NOTES.

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE BASED ON RED LINE DRAWINGS PROVIDED BY THE GENERAL CONTRACTOR, L.S. WOMACK INC., AS REQUIRED BY CONTRACT DOCUMENTS.
2. ALL MATERIALS TO BE REUSED IN THE CONSTRUCTION PROCESS SHALL BE STORED ON SITE IN A SECURE LOCATION UNLESS OTHERWISE NOTED.
3. ALL COMPONENTS OF THE STRUCTURE SHALL BE PRESSURE WASHED AND CLEANED WITH AN APPROVED CHEMICAL OR DETERGENT.



REV	DATE	DESCRIPTION	BY



**LONNIE G. HARPER and Associates, Inc.**  
CIVIL ENGINEERING AND LAND SURVEYING  
2746 Hwy 384, Bell City, Louisiana 70630  
PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23

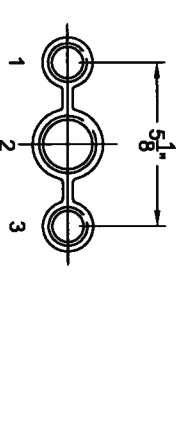
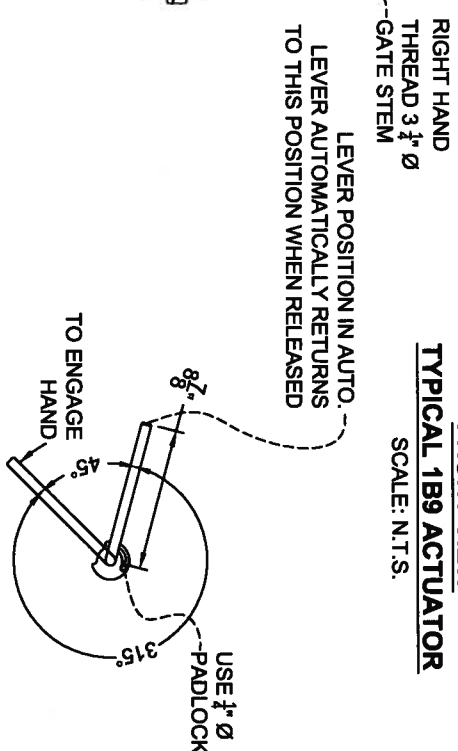
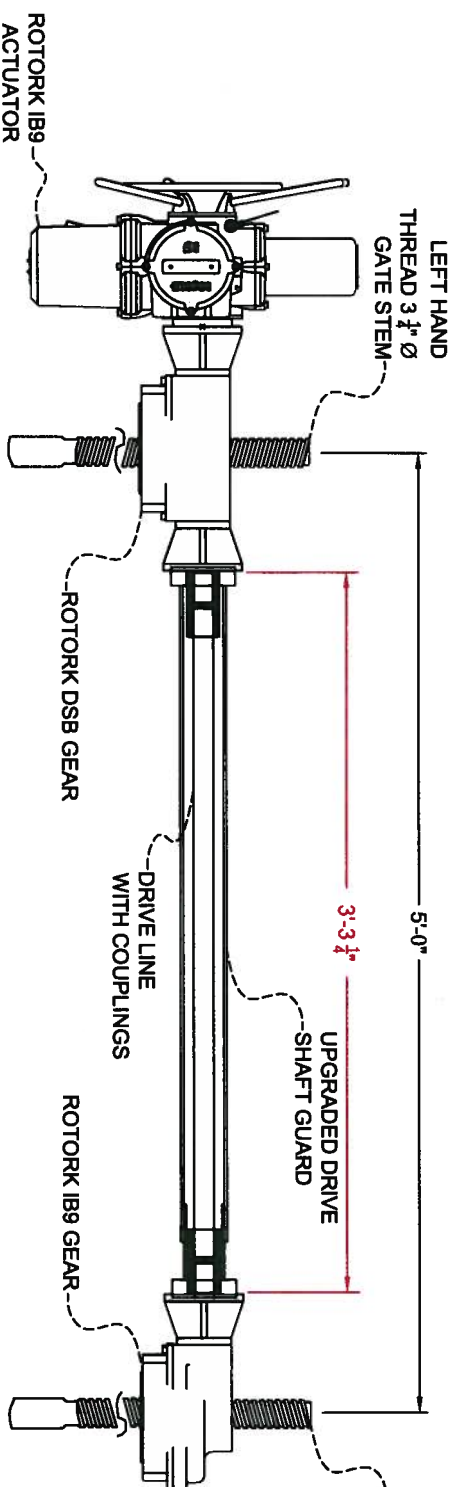
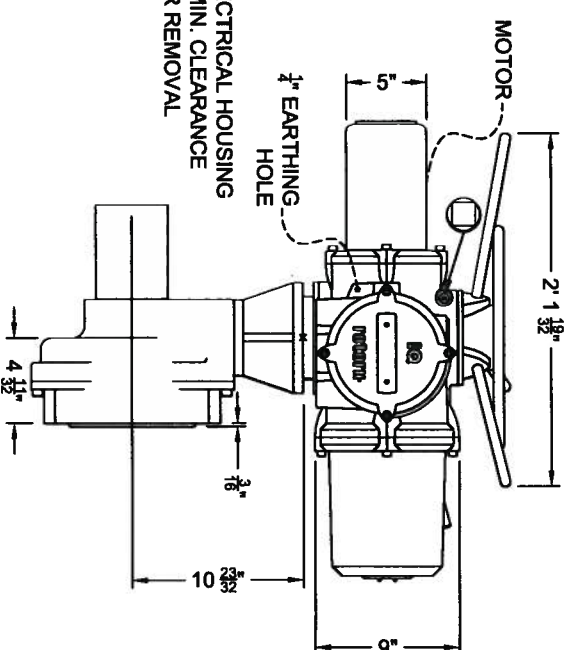
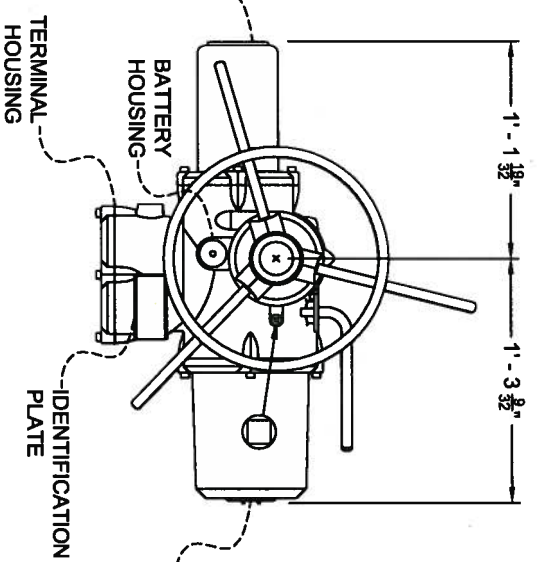
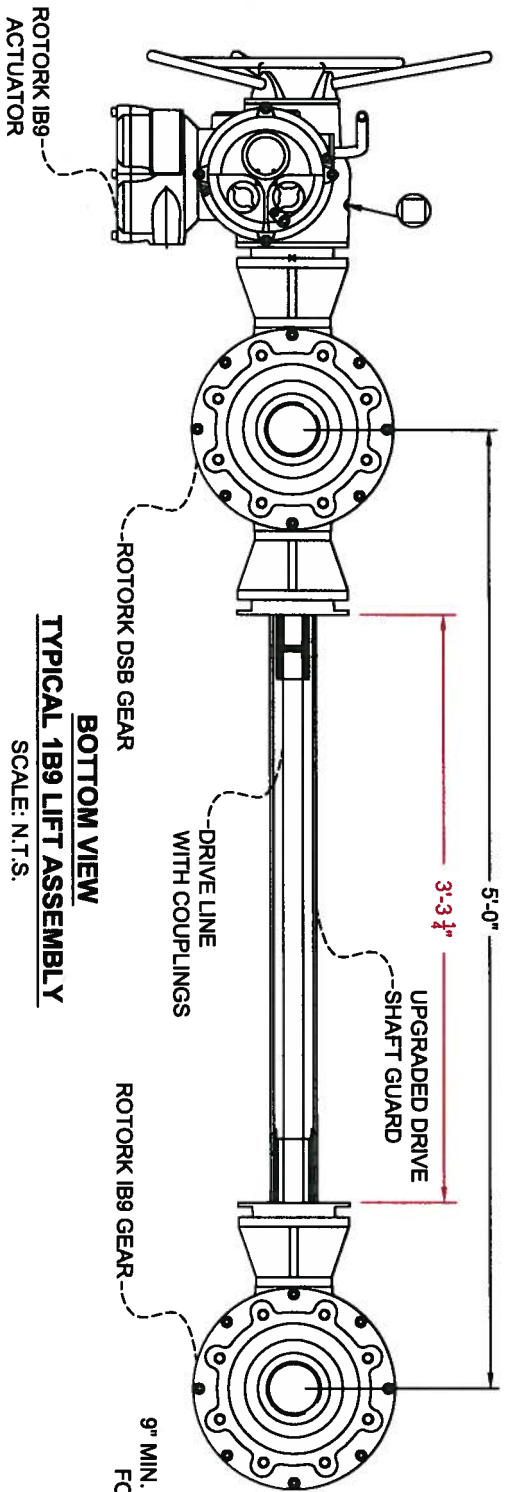
FEDERAL PROJECT NUMBER:

APPROVED BY: LONNIE HARPER, P.E.

TYPICAL GATE LIFTING ASSEMBLY AND STEMS

DATE: 12/20/2011

SHEET 32 OF 35

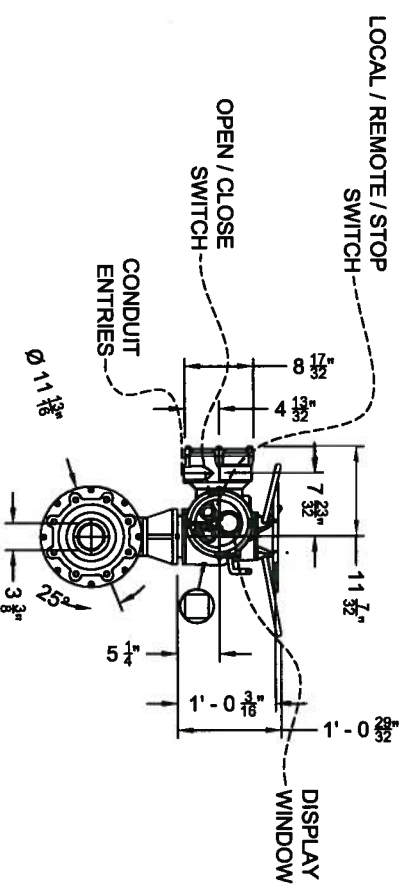


**ACTUATOR NOTES:**

- TWO SINGLE STEM LIFTING DEVICES SHALL BE INSTALLED ON HOG ISLAND GULLY AND WEST COVE CANAL. THE ROTORK DSB GEAR DRIVE, DRIVE LINE WITH COUPLING AND DRIVE SHAFT GUARD SHALL BE OMITTED ON THESE LIFTING DEVICES. THE ROTORK 1B9 GEAR DRIVE SHALL BE CONNECTED DIRECTLY TO THE ACTUATOR SPECIFIED.



NOTE: ROTORK TYPE 1B9 OR EQUIVALENT SHALL BE USED.



NOTES:  
SEE SHEET 35 FOR CONSTRUCTION NOTES.

REV	DATE	DESCRIPTION	BY



LONNIE G. HARPER  
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AND LAND SURVEYING  
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**COASTAL PROTECTION AND RESTORATION AUTHORITY**

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF  
SABINE WATER CONTROL STRUCTURES

STATE PROJECT NUMBER: CS-23

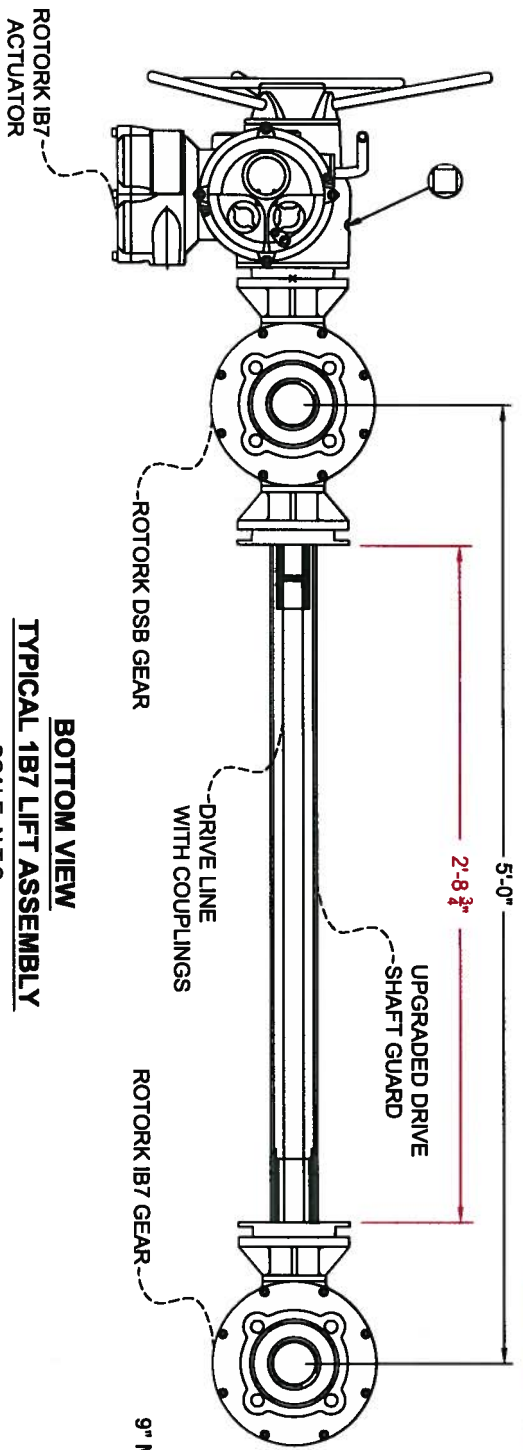
FEDERAL PROJECT NUMBER:

APPROVED BY: LONNIE HARPER, P.E.

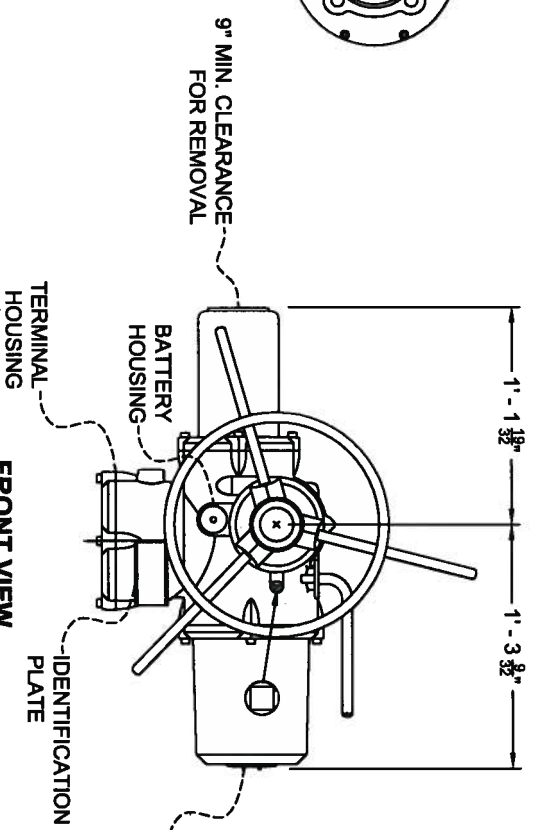
TYPICAL 1B9  
LIFTING ASSEMBLY

DATE: 12/20/2011

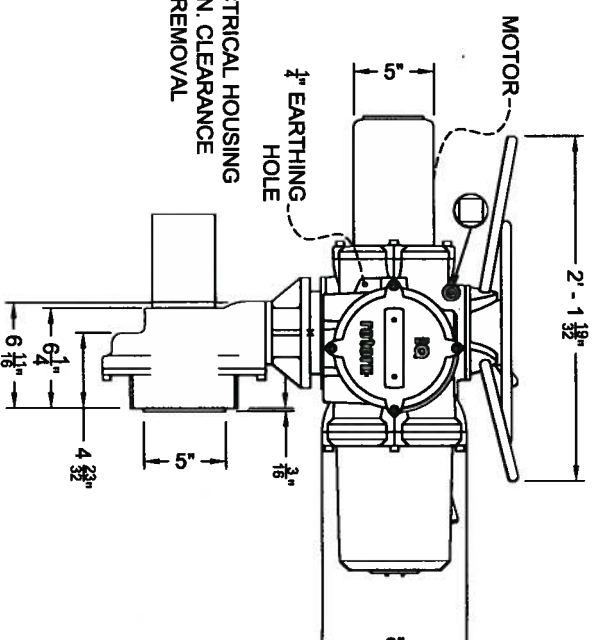
SHEET 33 OF 35



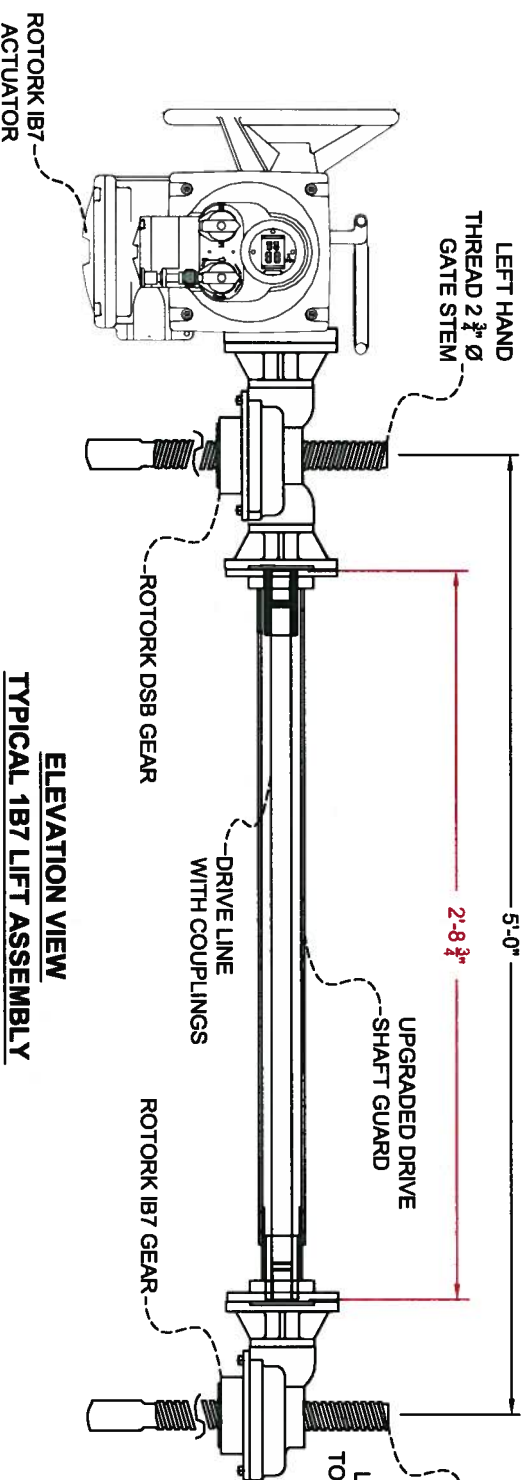
**TYPICAL 1B7 LIFT ASSEMBLY**  
SCALE: N.T.S.



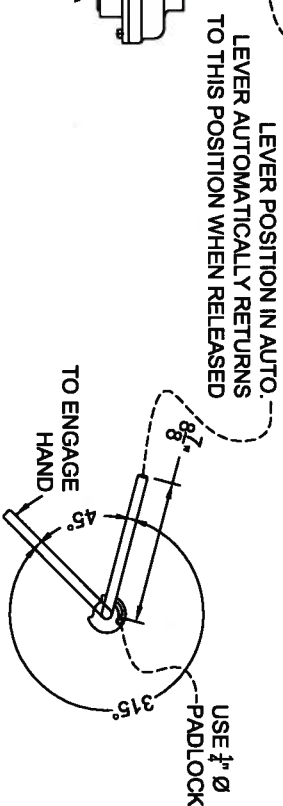
**TYPICAL 1B7 ACTUATOR**  
SCALE: N.T.S.



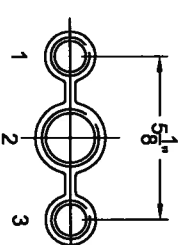
**TYPICAL 1B7 ACTUATOR**  
SCALE: N.T.S.



**TYPICAL 1B7 LIFT ASSEMBLY**  
SCALE: N.T.S.



**TYPICAL 1B7 LOCK HANDLE**  
SCALE: N.T.S.

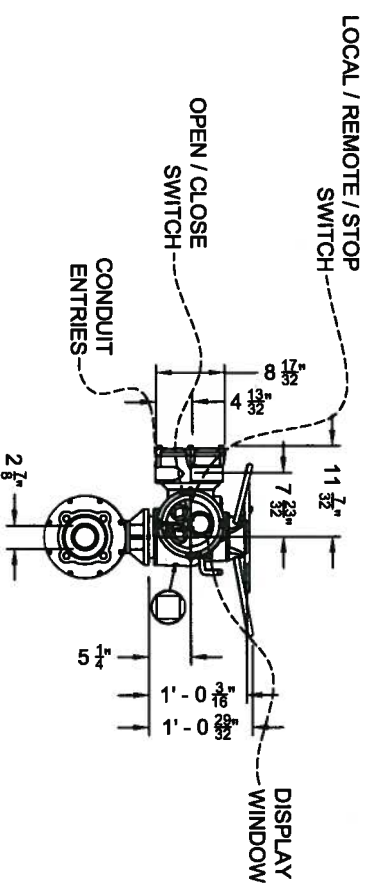


**TYPICAL 1B7 CONDUIT ENTRY**  
SCALE: N.T.S.

**ACTUATOR NOTES:**  
1. TWO SINGLE STEM LIFTING DEVICES SHALL BE INSTALLED ON HOG ISLAND GULLY AND WEST COVE CANAL. THE ROTORK DSB GEAR DRIVE, DRIVE LINE WITH COUPLING AND DRIVE SHAFT GUARD SHALL BE OMITTED ON THESE LIFTING DEVICES. THE ROTORK 1B7 GEAR DRIVE SHALL BE CONNECTED DIRECTLY TO THE ACTUATOR SPECIFIED.

OIL FILLER/DRAIN PLUG

NOTE: ROTORK TYPE 1B7 OR EQUIVALENT SHALL BE USED.



**TYPICAL 1B7 ACTUATOR**  
SCALE: N.T.S.

NOTES:

SEE SHEET 36 FOR CONSTRUCTION NOTES.



REV.	DATE	DESCRIPTION	BY



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**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

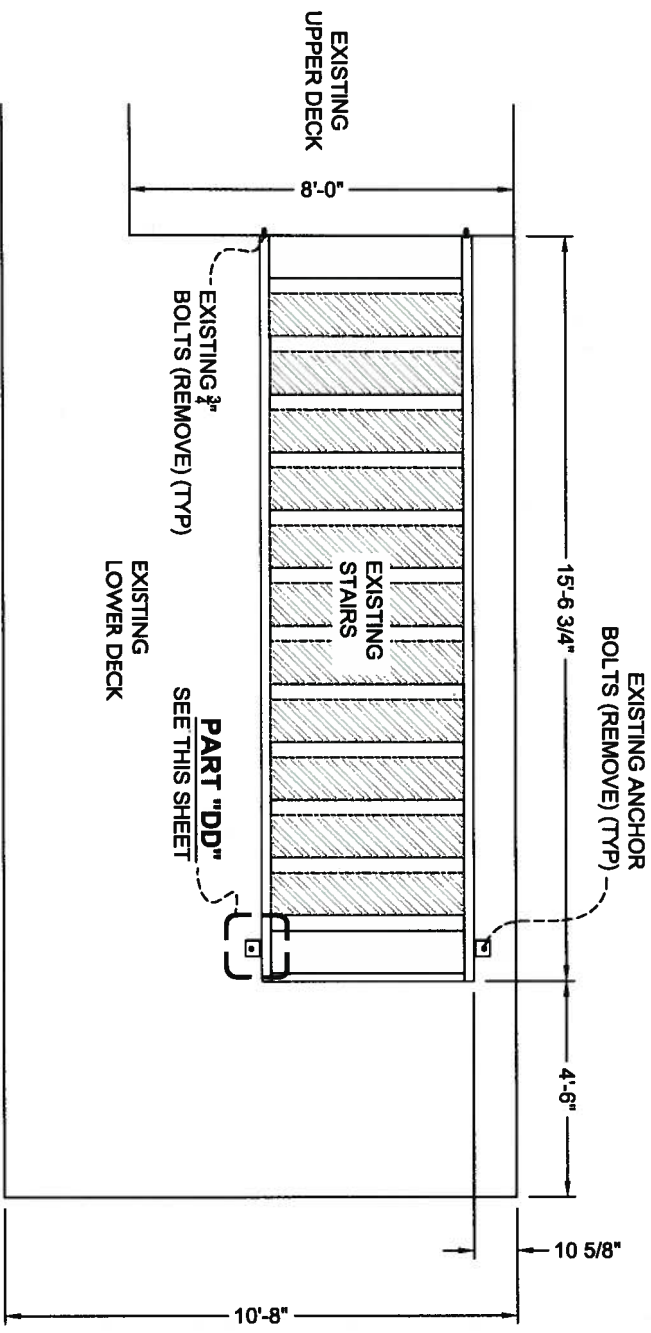
DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER, P.E.

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
STATE PROJECT NUMBER: CS-23  
FEDERAL PROJECT NUMBER:

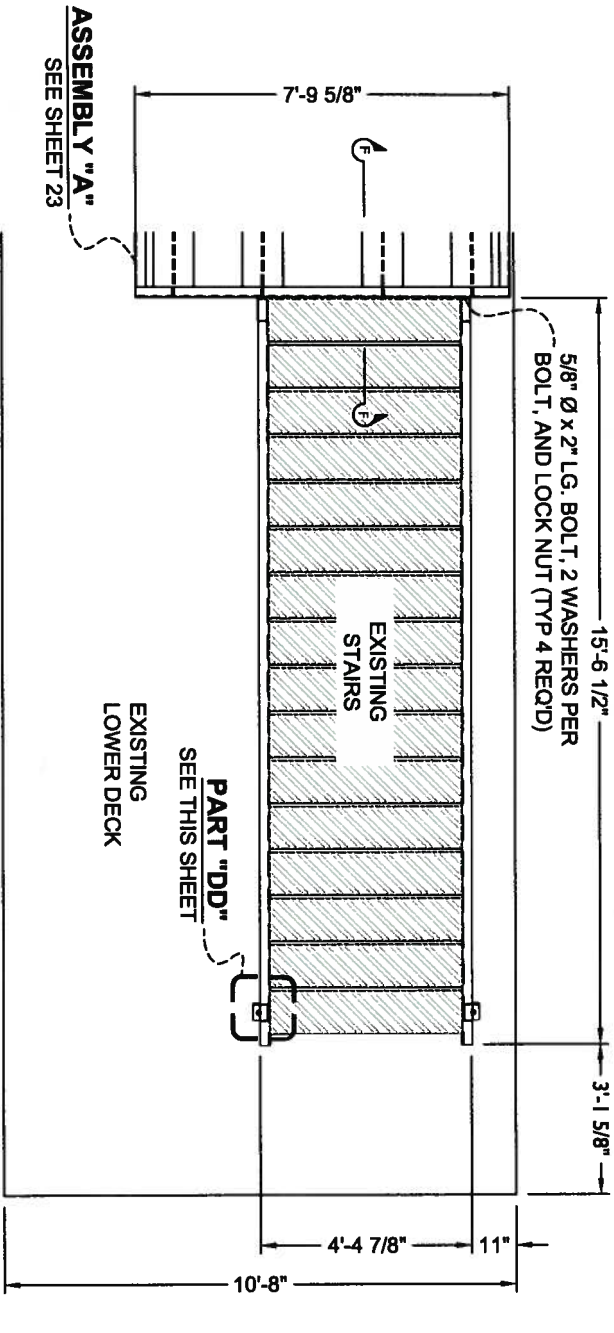
TYPICAL 1B7 LIFTING ASSEMBLY  
DATE: 12/20/2011  
APPROVED BY: LONNIE HARPER, P.E.  
SHEET 34 OF 35

**ASBUILT DRAWINGS**



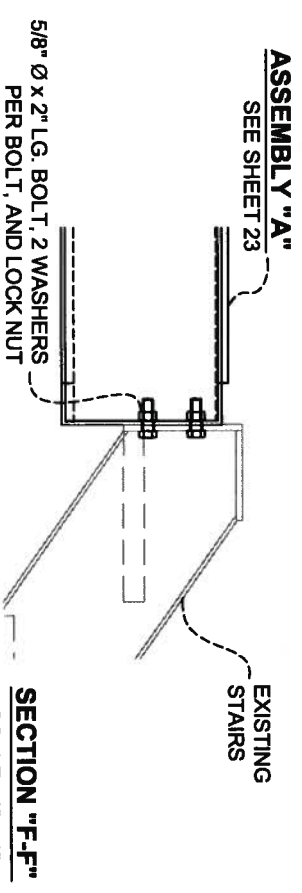
**EXISTING STAIR LAYOUT**

SCALE: 1" = 4'



**PROPOSED STAIR LAYOUT**

SCALE: 1" = 4'



**SECTION "F-F"**

SCALE: 1" = 1"

- ELECTRICAL NOTES:**
1. ALL ELECTRICAL WORK SHALL BE PERFORMED BY A CERTIFIED ELECTRICIAN.
  2. THE CONTRACTOR SHALL REINSTALL THE EXISTING ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL REPLACE ALL STRAPS, CLIPS, AND FASTENERS REQUIRED TO RECONNECT THE ELECTRICAL COMPONENTS. THE CONTRACTOR SHALL LENGTHEN OR REPLACE ELECTRICAL CONDUIT AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. THE CONTRACTOR SHALL REPLACE WIRING AS NEEDED TO PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT. NO WIRE SPLICING SHALL BE PERMITTED. THE CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED IS DONE BY A CERTIFIED ELECTRICIAN AND MEETS ALL LOCAL, STATE, AND FEDERAL CODES.

**STEM GUIDE NOTES:**

1. ALL STAINLESS STEEL SHALL BE TYPE 17-4 UNLESS OTHERWISE DENOTED.
2. ALL FASTENER HOLES SHALL BE 1/8" Ø GREATER THAN THE SPECIFIED FASTENER.
3. THE CONTRACTOR SHALL ENSURE THAT THE LIFTING ASSEMBLY (ACTUATORS, GEAR DRIVES, PEDESTALS, BEARING PLATES, STEM GUIDES AND GATE STEMS) IS IN PERFECT ALIGNMENT WITH THE GATES. NO MIS-ALIGNMENT SHALL BE ALLOWED. THE CONTRACTOR SHALL ENSURE THAT THE GATES MOVE VERTICALLY WITHOUT ANY BINDING.
4. ALL PART "BB" SHALL BE FABRICATED USING ALUMINUM PLATE AND SHALL BE FASTENED TO THE EXISTING FRAME BRACE CROSS BEAM USING 3/4" Ø x 1 1/2" LG STAINLESS STEEL BOLTS, 2 WASHERS PER BOLT, AND LOCK NUT.
5. ALL PART "CC" SHALL BE FABRICATED OF UHMW PLASTIC AND SHALL BE ATTACHED TO THE PART "BB" PLATES USING 3/4" x 3 1/2" LG STAINLESS STEEL BOLTS, 2 WASHERS PER BOLT, AND LOCK NUTS.

**PEDESTAL NOTES:**

1. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL APPURTANCES. NO HEATING, FIELD WELDING, OR TORCH BENDING SHALL BE PERMITTED.
2. ALL FASTENER HOLES SHALL BE 1/8" Ø GREATER THAN THE SPECIFIED FASTENER.
3. ALL WELDS SHALL BE 1/16" SMALLER THAN THE THINNEST CONNECTING MATERIAL UNLESS OTHERWISE DENOTED.
4. ALL LOWER PEDESTAL PLATES SHALL BE ATTACHED TO THE PEDESTAL BEARING PLATES USING 3/4" Ø x 3 1/2" LG. STAINLESS STEEL BOLTS, 2 WASHERS PER BOLT, AND LOCK NUT.
5. ALL UPPER PEDESTAL PLATES SHALL BE ATTACHED TO THE NECESSARY ACTUATOR PER MANUFACTURER'S SPECIFICATIONS USING STAINLESS STEEL FASTENERS.
6. AFTER ASSEMBLING THE PEDESTALS THE UPPER AND LOWER PLATES SHALL BE MACHINED TO GUARANTEE THE TWO MOUNTING SURFACES ARE PARALLEL. THE CONTRACTOR SHALL ENSURE THAT THE LIFTING ASSEMBLY (ACTUATORS, GEAR DRIVES, PEDESTALS, BEARING PLATES, STEM GUIDES AND GATE STEMS) IS IN PERFECT ALIGNMENT WITH THE GATES. NO MIS-ALIGNMENT SHALL BE ALLOWED. THE CONTRACTOR SHALL ENSURE THAT THE GATES MOVE VERTICALLY WITHOUT ANY BINDING.
7. NO TORCH CUTTING SHALL BE PERMITTED. ALL FIELD CUTS SHALL BE COLD GALVANIZED AFTER CUTS ARE MADE.

**STEM NOTES:**

1. ALL GATE STEMS SHALL BE OF TYPE 17-4 STAINLESS STEEL WITH GENERAL PURPOSE ACME THREADING CUT TO A SURFACE ROUGHNESS OF 32 MICRO INCHES AND 26 FT. STEM THREADS SHALL BE CUT ONLY. THE STEMS SHOULD BE STRAIGHT WITHIN 0.010 INCH-FOOT AND WILL NOT EXCEED 0.030 INCH IN ANY SIX FOOT SECTION, WHEN SHIPPED FROM THE FACTORY.
2. THE CONTRACTOR WILL PROVIDE AND INSTALL ONE LEFT HAND THREAD AND ONE RIGHT HAND THREAD 18-9 GATE STEM IN EACH 7'-4" BAY FOR A TOTAL OF SEVEN (7) LEFT HAND THREAD 18-9 AND SEVEN (7) RIGHT HAND THREAD 18-9 GATE STEMS TO BE INSTALLED ON THE LOWER GATES.
3. THE CONTRACTOR WILL PROVIDE AND INSTALL ONE LEFT HAND THREAD AND ONE RIGHT HAND THREAD 18-7 GATE STEM IN EACH 7'-4" BAY FOR A TOTAL OF SEVEN (7) LEFT HAND THREAD 18-7 AND SEVEN (7) RIGHT HAND THREAD 18-7 GATE STEMS TO BE INSTALLED ON THE UPPER GATES.
4. THE CONTRACTOR WILL PROVIDE AND INSTALL ONE LEFT HAND THREAD 18-7 GATE STEM AND ONE LEFT HAND THREAD 18-9 GATE STEM IN EACH 9'-6" BAY FOR A TOTAL OF FOUR (4) LEFT HAND THREAD 18-7 GATE STEMS AND FOUR (4) LEFT HAND THREAD 18-9 GATE STEMS TO BE INSTALLED ON THE GATES.
5. ALL STEM COVERS SHALL BE THREADED TO ACCOMMODATE ALL PROPOSED ACTUATORS.

**ACTUATOR NOTES:**

1. ALL SINGLE STEM ACTUATOR ASSEMBLIES SHALL EXCLUDE THE DRIVE LINE, COUPLINGS, DRIVE SHAFT GUARD, AND SECOND ROTORR GEAR DRIVE.
2. THE INTERSPACE PROVIDED FOR MOUNTING THE ACTUATOR OR SECOND STAGE GEARBOX ONTO THE ACTUATOR SHOULD CONFORM TO GOOD ENGINEERING PRACTICES, ENSURING ADEQUATE TOLERANCE LIMITS FOR PARALLELISM, PERPENDICULARITY AND CONCENTRICITY.

- STRUCTURAL STEEL NOTE:**
1. ALL STRUCTURAL STEEL ASSOCIATED WITH THE UPPER PLATFORM SHALL BE HOT DIPPED GALVANIZED UNLESS OTHERWISE NOTED. ANY APPROVED FIELD CUTTING SHALL BE COLD GALVANIZED AFTER COMPLETION OF MODIFICATION.

**FASTENER NOTE:**

1. ALL FASTENERS SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.

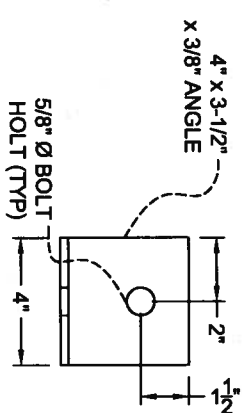
**PLATFORM, STAIR AND HANDRAIL NOTES:**

1. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL APPURTANCES. NO HEATING, FIELD WELDING, OR TORCH CUTTING SHALL BE PERMITTED.
2. ALL FRAMING, BEARING PLATES, HANDRAILS AND GRATING SHALL BE HOT DIPPED GALVANIZED.
3. ALL STAINLESS STEEL SHALL BE TYPE 17-4 UNLESS OTHERWISE DENOTED.
4. ALL FASTENER HOLES SHALL BE 1/8" Ø GREATER THAN THE SPECIFIED FASTENER.
5. ALL WELDS SHALL BE 1/16" SMALLER THAN THE THINNEST CONNECTING MATERIAL UNLESS OTHERWISE DENOTED.
6. THE CONTRACTOR SHALL INSPECT AND REPLACE ALL DEFECTIVE ANCHOR BOLTS ASSOCIATED WITH THE UPPER DECK PLATFORM.
7. THE CONTRACTOR SHALL REMOVE AND INSTALL (2) ASSEMBLY "A" PER STRUCTURE. THESE ASSEMBLIES SHALL BE SHOP FABRICATED, WELDED, HOT DIPPED GALVANIZED, AND THEN BOLTED IN THE FIELD. ALL BEAM SET BACKS HAVE BEEN OMITTED FROM THESE DRAWINGS. THE CONTRACTOR SHALL ADJUST DIMENSIONS FOR ALL SET BACKS TO ACHIEVE PROPER ASSEMBLY.
8. THE CONTRACTOR SHALL REMOVE AND RELOCATE THE EXISTING STAIR ASSEMBLY.
9. THE PORTION OF ANY EXISTING ANCHOR BOLTS FOR STAIR ATTACHMENT LOCATED ABOVE THE SURFACE OF THE CONCRETE SHALL BE REMOVED AND GROUT FILLED.
10. BOLT SPACING SHALL BE FIELD DETERMINED FOR UPPER AND LOWER CONNECTIONS ON STAIRS.
11. LOWER CLIP SHALL BE FASTENED USING 3/4" x 6" LG. STAINLESS STEEL ANCHOR BOLT, WASHER, AND LOCK NUT.
12. ALL HANDRAILS SHALL HAVE A 1/4" Ø WEEP HOLE WITHIN 1" FROM THE BOTTOM OF EACH COLUMN.
13. THE CONTRACTOR SHALL NOT DAMAGE THE EXISTING FENCE ASSOCIATED WITH THESE STRUCTURES. IF THE FENCE MUST BE REMOVED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RESTORE THE FENCE TO PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE OWNER.

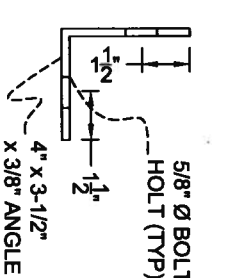
**GATE NOTES:**

1. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL APPURTANCES. HEATING, FIELD WELDING, OR TORCH CUTTING SHALL BE PERMITTED ONLY WITH PROJECT ENGINEERS APPROVAL. IF THE BASE BID IS ACCEPTED, IN THE EVENT THAT ADD ALTERNATE ONE OR TWO IS ACCEPTED NO HEATING, FIELD WELDING, OR TORCH CUTTING SHALL BE PERMITTED. THE CONTRACTOR SHALL PROVIDE A WARP PREVENTION PLAN TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO MAKING MODIFICATIONS. THIS PLAN MUST BE CERTIFIED BY AN ENGINEER REGISTERED IN THE STATE OF LOUISIANA.
2. ALL FASTENER HOLES SHALL BE 1/8" Ø GREATER THAN THE SPECIFIED FASTENER.
3. ALL WELDS SHALL BE 1/16" SMALLER THAN THE THINNEST CONNECTING MATERIAL UNLESS OTHERWISE DENOTED.
4. ALL STAINLESS STEEL SHALL BE TYPE 17-4 UNLESS OTHERWISE DENOTED.
5. ALL MODIFICATIONS TO THE GATES SHALL BE PERFORMED IN THE FIELD. WELD POINTS SHALL BE BRUSH BLASTED PRIOR TO MODIFICATION. IF ADD ALTERNATE ONE IS ACCEPTED, ALL GATE MODIFICATIONS SHALL BE PERFORMED IN A FABRICATION SHOP. WELD POINTS SHALL BE BRUSH BLASTED PRIOR TO MODIFICATION. IF ADD ALTERNATE TWO IS ACCEPTED, THE ENTIRE GATE SHALL BE BRUSH BLASTED AND COATED WITH CARBOLINE 300M BITUMASTIC PAINT.
6. THE CONTRACTOR SHALL ENSURE THAT THE LIFTING ASSEMBLY (ACTUATORS, GEAR DRIVES, PEDESTALS, BEARING PLATES, STEM GUIDES AND GATE STEMS) IS IN PERFECT ALIGNMENT WITH THE GATES. NO MIS-ALIGNMENT SHALL BE ALLOWED. THE CONTRACTOR SHALL ENSURE THAT THE GATES MOVE VERTICALLY WITHOUT ANY BINDING.

**ELEVATION VIEW**



**SECTION VIEW**



SCALE: 1" = 6"



5/8" Ø x 2" LG. BOLT, 2 WASHERS PER BOLT, AND LOCK NUT

REV	DATE	DESCRIPTION	BY



COASTAL PROTECTION AND RESTORATION AUTHORITY  
 450 LAUREL STREET  
 BATON ROUGE, LOUISIANA 70801

LONNIE G. HARPER and Associates, Inc.  
 CIVIL ENGINEERING AND LAND SURVEYING  
 2746 Hwy 384, Belle Meade, Louisiana  
 PHONE: (337) 905-1079 FAX: (337) 905-1076

POST HURRICANE REPAIR OF SABINE WATER CONTROL STRUCTURES  
 STATE PROJECT NUMBER: CS-23  
 FEDERAL PROJECT NUMBER:  
 DATE: 12/20/2011  
 SHEET 35 OF 35