

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
G-001	TITLE SHEET
G-002	SUMMARY OF ESTIMATED BID QUANTITIES
G-003	GENERAL NOTES
G-004	OVERALL SITE PLAN
C-001	LEEVE ROAD PLAN
C-002	PUMP STATION SITE PLAN
C-003	DETAIL SITE PLAN
C-004	GEOTECHNICAL BORING LOCATIONS (SHEET 1)
C-005	GEOTECHNICAL BORING LOGS (SHEET 2)
C-006	GEOTECHNICAL BORING LOGS (SHEET 3)
C-007	GEOTECHNICAL BORING LOGS (SHEET 4)
C-008	GEOTECHNICAL BORING LOGS (SHEET 5)
C-009	GEOTECHNICAL BORING LOGS (SHEET 6)
C-010	GEOTECHNICAL BORING LOGS (SHEET 7)
S-001	PLAN AND ELEVATIONS (SHEET 1)
S-002	PLAN AND ELEVATIONS (SHEET 2)
S-003	PILE LAYOUT
S-004	PRECAST PRESTRESSED PILES SECTIONS AND DETAILS
S-005	PUMP STATION SUBSTRUCTURE
S-006	PUMP STATION SLAB PLAN
S-007	CAP BEAM SECTIONS AND DETAILS
S-008	CONCRETE SLAB SECTIONS AND DETAILS
S-009	PUMP STATION BUILDING PLAN
S-010	DISCHARGE PIPE LAYOUT PLAN
S-011	PIPE LAYOUT ELEVATION
S-012	PIPE PENETRATION ELEVATION
S-013	DISCHARGE PIPE DETAILS (SHEET 1)
S-014	DISCHARGE PIPE DETAILS (SHEET 2)
S-015	WALKWAY AND HANDRAIL DETAILS
S-016	PUMP STATION FOUNDATION AND TRASH SCREEN SECTIONS AND DETAILS (SHEET 1)
S-017	PUMP STATION FOUNDATION AND TRASH SCREEN SECTIONS AND DETAILS (SHEET 2)

ELECTRICAL DRAWINGS

E-001	PUMP STATION BUILDING ELECTRICAL PLAN
E-002	ELECTRICAL NOTES AND BLOCK DIAGRAM

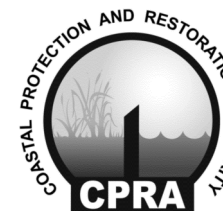
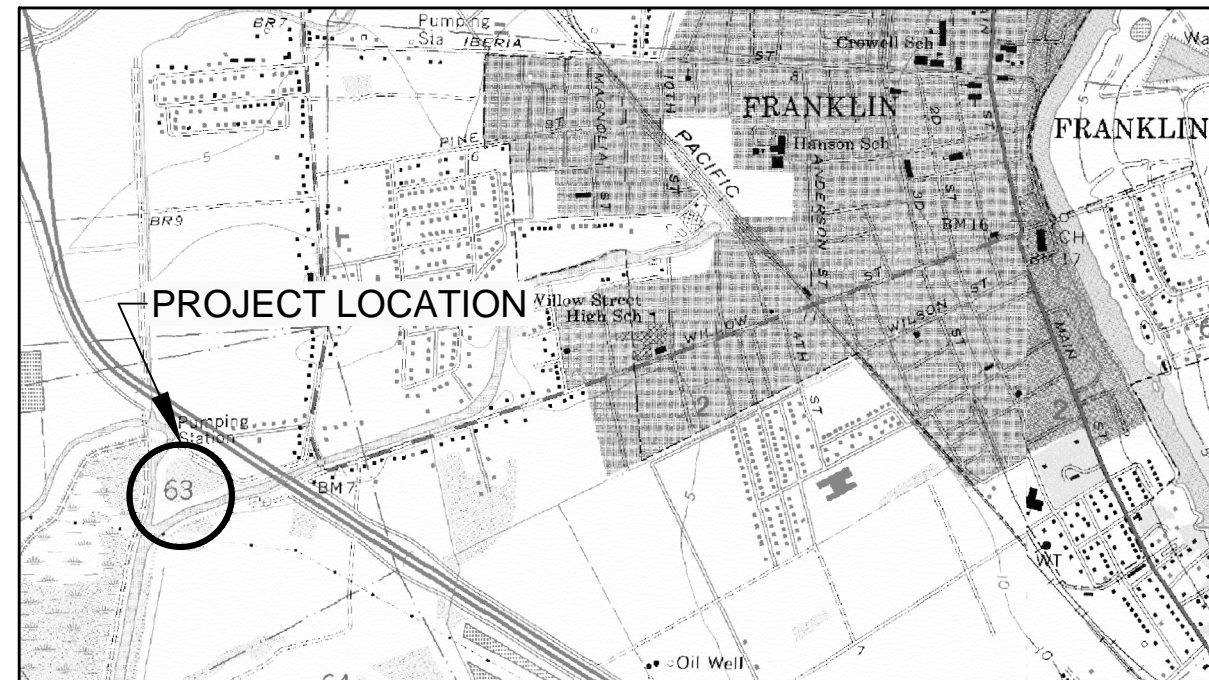
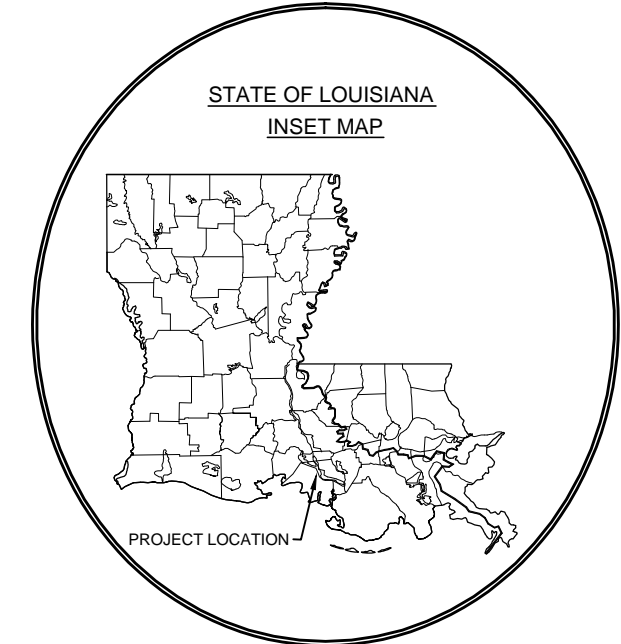
LICENSURE CLASSIFICATION REQUIREMENTS:

MAJOR CLASSIFICATION: HEAVY CONSTRUCTION

HEAVY CONSTRUCTION:

STATE OF LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY

Franklin Canal Flood Protection System PHASE II - PUMP STATION PROJECT# TV-52 St. Mary Parish, Louisiana



CHIEF - ENGINEERING DIVISION

ENGINEER MANAGER

ENGINEER SUPERVISOR

PROJECT ENGINEER

				Shaw Environmental & Infrastructure, Inc. (A CB&I COMPANY)	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	TITLE SHEET	
				OFFICE LOCATIONS: 197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434	4171 ESSEN LANE BATON ROUGE, LA. 70809 PHONE: 225.932.2758	STATE PROJECT NUMBER: TV-52	
					DRAWN BY: TOT DESIGNED BY: MCD	APPROVED BY:	DATE: AUGUST 2013
REV.	DATE	DESCRIPTION	BY				SHEET G-001

WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.

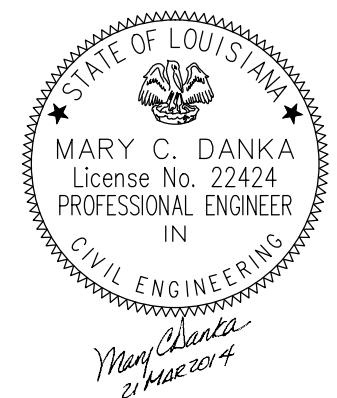
Base Bid			
Item No.	Description	Quantity	Unit
1	Mobilization & Demobilization	1	LS
2	Surveying	1	LS
3	Exterior Signage	2	EA
4	Geotextile Separator	244	SY
5	Temporary Silt Fencing	620	LF
6	18" Square Precast Prestressed Concrete (PPC) Piles	841	LF
7	12" Diameter Steel Pipe Piles	144	LF
8	Articulated Concrete Block Revetment	637	SF
9	Precast Concrete Capsills	3	EA
10	Precast Concrete Deck, 10.5"	450	SF
11	Precast Concrete Deck, 10"	276	SF
12	Trash Screen	1	LS
13	Pre-engineered Metal Building - 18'x25'	1	LS
14	Connecting Walkway (Platform to Floodwall Walkway)	1	LS
15	Pump Station Handrail	43	LF
16	Pump System	2	EA
17	Discharge Pipe System, Pump 1	1	LS
18	Discharge Pipe System, Pump 2	1	LS
19	Natural Gas Supply	1	LS
20	Electrical Service and Amenities	1	LS
21	Discharge Pipe Supports, Flood Side	1	LS
22	Discharge Pipe Supports, Protected Side	2	EA
23	Discharge Pipe Supports, Under Deck	2	EA
24	Seeding and Fertilizing	1.1	AC
25	Placement of Onsite Riprap	1	LS
26	East Side Walkway	1	LS

Alternate No. 1			
Item No.	Description	Quantity	Unit
27	Deck Opening Cover Plate	2	EA
28	Geotextile Separator	58	SY
29	18" Square Precast Prestressed Concrete (PPC) Piles	561	LF
30	Articulated Concrete Block Revetment	525	SF
31	Precast Concrete Capsills	2	EA
32	Precast Concrete Deck, 10.5"	450	SF
33	Precast Concrete Deck, 10"	276	SF
34	Deduction For Pre-engineered Metal Building 18'x25'	1	LS
35	Pre-engineered Metal Building 18'x50'	1	LS
36	Pump Station Handrail	25	LF
37	Discharge Pipe Supports, Protected Side	7	EA
38	Discharge Pipe Supports, Under Deck	2	EA
39	Trash Screen	1	LS
40	12" Diameter Steel Pipe Piles	506	LF
41	Electrical Service and Amenities	1	LS
42	Deduction For East Side Walkway	1	LS

Alternate No. 2			
Item No.	Description	Quantity	Unit
43	Deduction For Deck Opening Cover Plate	1	EA
44	Pump System No. 3	1	EA
45	Discharge Pipe System, Pump 3	1	LS

Alternate No. 3			
Item No.	Description	Quantity	Unit
46	Deduction For Deck Opening Cover Plate	1	EA
47	Pump System No. 4	1	EA
48	Discharge Pipe System, Pump 4	1	LS

QUANTITIES SHOWN ARE FOR BID PURPOSES ONLY. THE OWNER RESERVES THE RIGHT TO ADJUST QUANTITIES HIGHER OR LOWER WITHOUT ADJUSTMENT OF THE UNIT PRICE.



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						STATE PROJECT NUMBER: TV-52	DATE: AUGUST 2013	
O	03/21/14	ISSUED FOR CONSTRUCTION	MCD			APPROVED BY:		SHEET G-002
REV.	DATE	DESCRIPTION	BY	OFFICE LOCATIONS: 197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434 4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758	DRAWN BY: TOT	DESIGNED BY: MCD		

SCOPE OF WORK

- CONTRACTOR WILL VISIT THE SITE PRIOR TO BID AND REVIEW THE PLANS & SPECIFICATIONS OF THE WORK AT THE PUMP STATION SITE.

UTILITIES

- LOCATION OF UTILITIES INDICATED ON THE PLAN SHEETS ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE BASED, IN PART, ON INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES BEFORE STARTING CONSTRUCTION.
- CONTRACTOR SHALL CONTACT OWNER OF ALL AFFECTED UTILITY COMPANIES AT LEAST THREE (3) WORKING DAYS PRIOR TO BEGINNING OF CONSTRUCTION AROUND THEIR RESPECTIVE UTILITIES:
 - LOUISIANA ONE-CALL: 1-800-272-3020
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, SCHEDULING, AND NOTICES TO UTILITY OWNERS.
- EXISTING UTILITIES SHALL BE RELOCATED BY UTILITY OWNER IF NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE RESPECTIVE UTILITY COMPANIES FOR THE REMOVAL OR RELOCATION OF THE EXISTING UTILITIES WHICH INTERFERE WITH THE WORK.
- ALL WORK CONDUCTED NEAR HIGH VOLTAGE POWER LINES SHALL BE IN ACCORDANCE WITH EM385-1-1, OSHA AND ELECTRIC UTILITY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES WHICH OCCURS DURING CONSTRUCTION AND SHALL IMMEDIATELY REPORT ANY DAMAGE TO THE UTILITY ENTITIES. ALL REPAIRS OF THE DAMAGED UTILITIES SHALL BE DONE BY THE RESPECTIVE UTILITY ENTITY. ALL REPAIR COSTS SHALL BE BORNE BY THE CONTRACTOR.

MATERIALS:

- ALL NECESSARY MATERIALS FOR COMPLETION OF THIS PROJECT TO BE FURNISHED BY THE CONTRACTOR.

INSTALLATION:

- INSTALLATION SHALL BE IN ACCORDANCE WITH THE INTENT OF THE CONTRACT DRAWINGS AND SPECIFICATIONS.
- GUIDE TEMPLATE PILING AND TIMBERS SHALL BE FURNISHED BY CONTRACTOR AT NO DIRECT PAY TO INSURE PLACEMENT OF PILES WITHIN TOLERANCE.
- GUIDE TEMPLATE PILINGS SHALL BE CUT AND REMOVED 1'-0" BELOW MUD LINE AT CONTRACTOR'S EXPENSE IF WITHIN 2.5 X DIAMETER CLEAR OF EXISTING AND PROPOSED STEEL PIPE PILES 10' CLEAR OF PROPOSED CAISSONS FOR RECEIVING STRUCTURE, AND 2 X DIAMETER CLEAR OF PPC PILES.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION. ENGINEER MAY PROHIBIT ANY MEANS AND METHODS THAT IN THE ENGINEER'S OPINION COMPROMISE THE COMPLETED PROJECT.
- CONTRACTOR SHALL MAKE ALL ATTEMPTS POSSIBLE TO MINIMIZE THE CLOSURE OF CANALS TO MARINE TRAFFIC. ANY CLOSURE OF CANALS MUST BE COORDINATED IN ADVANCE WITH THE ENGINEER, SURFACE LEASE HOLDERS & U.S.C.G.
- CONTRACTOR TO MAINTAIN 20 FT. NAVIGABLE CLEAR OPENING AT ALL TIMES

GENERAL NOTES:

- CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE START OF CONSTRUCTION AND COMPLETELY INFORM HIMSELF RELATIVE TO THE EXISTING CONDITIONS.
- ALL ELEVATIONS ARE GIVEN IN FEET AND REFER TO NORTH AMERICAN VERTICAL DATUM (NAVD 88).
- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, EXISTING ELEVATIONS AND CONDITIONS ON THE PLANS PRIOR TO ORDERING MATERIAL, COMMENCEMENT OF CONSTRUCTION, AND PREPARATION OF SHOP DRAWINGS. THE ENGINEER SHALL BE NOTIFIED OF ALL DISCREPANCIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEY(S) REQUIRED FOR PROJECT DIMENSION CONTROL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT THE WORK AND VERIFYING ALL MEASUREMENTS AND GRADES PRIOR TO BEGINNING OF CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE PROJECT CENTERLINE AND ADDITIONAL TEMPORARY BENCH MARKS FOR CONSTRUCTION PURPOSES.
- THE LINES AND GRADES SHOWN ON THE PLANS MAY BE VARIED SLIGHTLY BY THE ENGINEER IN THE FIELD IF CONDITIONS JUSTIFY SUCH A VARIATION. THE CONTRACTOR SHALL NOT BE ENTITLED TO AN EXTRA PAYMENT OTHER THAN WHATEVER INCREASE IN CONTRACT QUANTITIES IS INVOLVED.
- DIMENSIONS AND/OR ELEVATIONS MARKED (+/-) ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ACTUAL DIMENSIONS IN THE FIELD.
- DIMENSIONS AND/OR ELEVATIONS MARKED THUS (N.T.S.) ARE NOT SHOWN TO SCALE.
- THE CONTRACTOR SHALL MAKE HIS OWN INTERPRETATION OF THE CHARACTER AND CONDITION OF THE MATERIALS WHICH WILL BE ENCOUNTERED ELSEWHERE FROM THE BORING AND CONE PENETROMETER TESTS LOCATIONS. THE CONTRACTOR, AT HIS OWN EXPENSE, MAY MAKE ADDITIONAL SURVEYS AND INVESTIGATION AS HE DEEMS NECESSARY TO DETERMINE CONDITIONS WHICH WILL AFFECT THE PERFORMANCE OF THE WORK.
- THE CONTRACTOR SHALL DESIGN AND PROVIDE ANY REQUIRED EXCAVATIONS, COFFERDAMS, AND Dewatering SYSTEMS THAT ARE ALLOWED BY THE ENGINEER. DESIGN TO BE STAMPED BY A PROFESSIONAL ENGINEER IN THE STATE OF LOUISIANA AND TO BE APPROVED BY OWNER'S ENGINEER
- ITEMS OR FEATURES NOTED AS "EXISTING" ON DRAWINGS MAY OR MAY NOT BE EXISTING.
- OWNER RESERVES THE RIGHT TO ACCESS AND INSPECT ALL WORK INCLUDING NON DESTRUCTIVE TESTING ON WELDS.

DESIGN NOTES

- DESIGN SPECIFICATIONS: STRUCTURAL DESIGN IS IN ACCORDANCE WITH "2006 INTER-NATIONAL BUILDING CODE", ACI 318-08/318R-08 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", AND AISC "MANUAL OF STEEL CONSTRUCTION", THIRTEENTH EDITION ALLOWABLE STRESS DESIGN.
- DESIGN CRITERIA: STRUCTURAL STEEL MEMBERS AND CONNECTIONS ARE DESIGNED BY ALLOWABLE STRESS DESIGN METHOD. STRUCTURAL CONCRETE MEMBERS ARE DESIGNED BY STRENGTH DESIGN METHOD.
- DESIGN WIND SPEED 140 MPH.

STEEL NOTES:

- ALL STRUCTURAL STEEL SHALL BE ASTM A36 UNLESS OTHERWISE NOTED.
 - HSS TUBE SHALL CONFORM TO ASTM A500 GR. B.
 - W SHAPES - ASTM A992, Fy=50 ksi.
CHANNELS, ANGLES, AND PLATES UNLESS NOTED OTHERWISE - ASTM A36, Fy=36 ksi.
ROUND STRUCTURAL TUBES AND STEEL PILES SHALL BE STRUCTURAL PIPE OR FABRICATED FROM STRUCTURAL PLATE, SEAMLESS OR WELDED PIPE, WITH LONGITUDINAL WELDS AND CIRCUMFERENTIAL BUTT WELDS, SHALL CONFORM TO ONE OF THE FOLLOWING -
1. API 5L PSL 1 GRADE X42, NO SPIRAL WELDS, Fy=42 ksi.
2. ASTM A500 GRADE B (ROUND) Fy=42 ksi.
 - FABRICATED PIPE SHALL BE FABRICATED FROM ONE OF THE FOLLOWING PLATES -
1. ASTM A572 GRADE 42, Fy=42 ksi.
2. API SPEC 2H GRADE 42, Fy=42 ksi.
3. ASTM A633 GRADE A, Fy=42 ksi.
- FABRICATED STRUCTURAL PIPE SHALL BE FABRICATED IN ACCORDANCE WITH API SPEC 2B. HYDROSTATIC TESTING MAY BE OMITTED.
- PIPE 12" DIAMETER OR SMALLER SHALL BE ASTM A53 GRADE B, Fy=35 ksi.
- STEEL SHEET PILE HOT ROLLED - ASTM A572 GR 50, Fy=50 ksi.
- BOLTS IN STRUCTURAL STEEL CONNECTIONS SHALL CONFORM TO ASTM A325, UNLESS NOTED OTHERWISE.
- TIMBER PILE BOLTS SHALL CONFORM TO ASTM A307 (GALVANIZED), UNLESS OTHERWISE NOTED. TIMBER PILE WASHERS FOR BOLTS SHALL CONFORM TO CAST Ogee GRAY IRON HOT DIPPED GALVANIZED.
- ALL LIFTING HOLES IN STEEL SHEET PILE TO BE FILLED WITH 3/8" PLATE. (STABBING HOLES IN PERMANENT SECTIONS OF PIPE PILES NOT ALLOWED)
- DIMENSIONS SHOWN OR CALLED FOR ARE FINAL DIMENSIONS: ALLOWANCES MUST BE MADE FOR MACHINING.
- TO PREVENT CORROSION BY MOISTURE BETWEEN STEEL SURFACES IN CONTACT, ALL SUCH CONTACTS SHALL BE SEALED WATERTIGHT BY RUNNING A CONTINUOUS 1/8" FILLET WELD ALONG ALL EDGES OF THE CONTACT, UNLESS OTHERWISE NOTED. (DOES NOT INCLUDE PLATED EDGES OR MEMBER ENDS).
- ALL WELDING SHALL BE ELECTRIC WELDING. WORKMANSHIP AND TECHNIQUE, WHERE APPLICABLE, SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE AWS D1.1 OR LATEST VERSION THEREOF, UNLESS OTHERWISE NOTED.
- WELDING SYMBOLS SHOWN ARE THOSE ADOPTED BY THE AMERICAN WELDING SOCIETY AND INDICATE ONLY SIZE AND TYPE OF WELDS REQUIRED. DETAILED INFORMATION SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBMITTED BY THE CONTRACTOR FOR APPROVAL.
- ANCHOR RODS, CONCRETE ANCHORS, CONCRETE BRACKETS, WASHERS, AND NUTS SHALL BE HOT DIPPED GALVANIZED (AFTER FABRICATION) AS PER ASTM A153.
- STRUCTURAL STEEL FABRICATION AND ERECTION SHALL CONFORM TO THE A.I.S.C. MANUAL OF STEEL CONSTRUCTION 13th EDITION AND API RP2A-WSD. UNLESS NOTED OTHERWISE.
- CONNECTIONS SHALL BE SHOP WELDED UNLESS NOTED OTHERWISE.
- ALL MISCELLANEOUS HARDWARE WHICH IS SPECIFIED TO BE GALVANIZED SHALL BE COATED IN ACCORDANCE WITH ASTM A-153, AFTER FABRICATION. DAMAGED GALVANIZED COATS THAT ARE NOT TO BE EMBEDDED IN MORE THAN THREE (3) INCHES OF CONCRETE SHALL BE REPAIRED WITH COLD APPLIED, ZINC RICH, ORGANIC PAINT, OR OTHER APPROVED METHOD OF REPAIR.
- CONTRACTOR TO PROVIDE PREQUALIFIED FULL PENETRATION BUTT JOINT WELDS TO SPLICE WALKWAY SUPPORT BEAMS & FRAMING.

PRE-CAST PRE-STRESSED CONCRETE

- PRE-CAST AND PRE-CAST PRE-STRESSED CONCRETE WILL PERFORM TO SATISFY BOTH STRENGTH AND SERVICEABILITY REQUIREMENTS SET FORTH BY AMERICAN CONCRETE INSTITUTE ACI-318, AND THE PRESTRESSED CONCRETE INSTITUTE FOR PRE-CAST CONCRETE.

CATHODIC PROTECTION:

- NATURAL GAS DISTRIBUTION LINE WILL BE PROTECTED AGAINST GALVANIC CORROSION BY UTILIZING PASSIVE TYPE CATHODIC PROTECTION. DESIGN OF CATHODIC PROTECTION MUST COMPLY WITH ESTABLISHED STANDARDS AND TECHNIQUES.

PILING NOTES:

- SEE STRUCTURAL DRAWINGS FOR THE FOLLOWING:
 - PILE CUTOFF ELEVATION
 - TIP ELEVATION
 - DESIGN CAPACITY
- PILE REQUIREMENTS FOR SIZE, TYPE AND MAXIMUM DESIGN LOADS REQUIREMENTS SHALL BE AS DESCRIBED ON THE PLANS AND IN THE SPECIFICATIONS.
- CONTRACTOR SHALL PROBE AT PILE LOCATIONS TO ENSURE THERE ARE NO SUBSURFACE OBSTRUCTIONS. REMOVAL OF OBSTRUCTIONS AT NO DIRECT PAY.
- TOLERANCES - P.P.C. PILES
 - VERTICAL PLUS 0, MINUS 1 INCH
 - LATERAL 1/2 INCH
 - STEEL PIPE PILES
 - VERTICAL PLUS 0, MINUS 1/2 INCH
 - LATERAL ± 2 INCH

REINFORCEMENT EMBEDMENT AND SPLICE NOTES:

- USE THE BASIC TABLE IF ALL OF THE FOLLOWING CONDITIONS ARE MET:
 - CENTER TO CENTER BAR SPACING LATERALLY IS AT LEAST 4 BAR DIAMETERS
 - CONCRETE COVER IS AT LEAST 2 BAR DIAMETERS, AND
 - EDGE DISTANCE TO THE FIRST BAR IN A LAYER IS AT LEAST 2 BAR DIAMETERS.
- THE ALTERNATE TABLE MAY BE USED IF ALL OF THE FOLLOWING CONDITIONS ARE MET:
 - CENTER TO CENTER BAR SPACING LATERALLY IS AT LEAST 6 BAR DIAMETERS
 - CONCRETE COVER IS AT LEAST 2 BAR DIAMETERS, AND
 - EDGE DISTANCE TO THE FIRST BAR IN A LAYER IS AT LEAST 2.5 BAR DIAMETERS.
- IF CONCRETE COVER OR EDGE DISTANCE IS LESS THAN 2 BAR DIAMETERS OR THE CENTER TO CENTER BAR SPACING LATERALLY IS LESS THAN 4 DIAMETERS, SEE ACI 318 FOR APPROPRIATE GUIDANCE.
- TOP BARS ARE HORIZONTAL BARS AND BARS INCLINED LESS THAN 45 DEGREES WITH RESPECT TO A HORIZONTAL PLANE WHICH ARE PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
- THE TABLE SHOWN BELOW IS FOR NORMAL WEIGHT CONCRETE AND UNCOATED REINFORCING BARS. IF EPOXY COATED BARS ARE USED, SEE ACI 318 FOR ADDITIONAL CONSIDERATIONS.

REINFORCEMENT EMBEDMENT AND SPLICE TABLE								
BAR SIZE	BASIC TABLE				ALTERNATE TABLE			
	MINIMUM EMBEDMENT LENGTH, INCHES		MINIMUM LAP LENGTH INCHES		MINIMUM EMBEDMENT LENGTH, INCHES		MINIMUM LAP LENGTH INCHES	
	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
5	27	21	35	27	27	21	35	27
6	32	25	42	32	32	25	42	32
7	37	29	49	37	37	29	49	37
8	45	35	59	45	43	33	56	43
9	57	44	74	57	48	37	63	48

PAINT SPECIFICATIONS:

- PAINT STRUCTURAL STEEL ENTIRE EXPOSED SURFACE AREA AS REQUIRED IN SPECIFICATIONS.
- STEEL REQUIRING PAINT TO BE "SHOP" PAINTED PRIOR TO INSTALLATION.
- REQUIRED FABRICATION TO BE COORDINATED WITH BLASTING AND PAINTING TO AVOID DAMAGE TO COATINGS.
- CONTRACTOR TO BLAST AND PAINT ALL SURFACES WITH DAMAGE TO COATINGS ABOVE THE WATERLINE AFTER FABRICATION IS COMPLETED.
- PAINT SYSTEM: REFER TO TECHNICAL SPECIFICATIONS.

CONCRETE NOTES:

- CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH (f'c) OF 4000 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED. PRECAST CONCRETE DECK f'c=5000 PSI, PPC PILES IS 6000 PSI.
- ALL REINFORCING STEEL SHALL BE ASTM A-615, UNLESS OTHERWISE NOTED.
- REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH (Fy) OF 60,000 PSI.
- CONSTRUCTION JOINTS SHALL BE PROVIDED WHERE SHOWN.
- UNLESS OTHERWISE NOTED, PROVIDE 3/4" CHAMFER AT ALL EXPOSED JOINTS, EDGES, EXTERNAL CORNERS, AND VERTICAL EXPANSION JOINTS.
- ALL REINFORCEMENT SHALL HAVE A MINIMUM COVER OF 3" UNLESS OTHERWISE NOTED.
- ALL BENDS OF REINFORCEMENT AND ALL BAR SPACERS AND SUPPORTS SHALL BE IN ACCORDANCE WITH ACI SP-66 (AMERICAN CONCRETE INSTITUTE DETAILING MANUAL - LATEST EDITION).
- REINFORCING BAR DESIGNATION NUMBERS CONFORM TO THE NUMBERING SYSTEM OF THE CONCRETE REINFORCING STEEL INSTITUTE.
- REINFORCING BARS SHALL BE CONTINUOUS AT ALL CORNERS UNLESS OTHERWISE NOTED.
- THE EMBEDMENT AND SPLICE TABLE, SHALL BE USED IN DETERMINING LAP SPLICES AND EMBEDMENT LENGTHS WHERE LENGTHS ARE NOT OTHERWISE INDICATED. SPLICE LENGTHS SHALL BE BASED ON THE SMALLER BAR BEING LAPPED. THE CONTRACTOR WILL BE ALLOWED TO MAKE SPLICES IN ADDITION TO THOSE INDICATED IN THE DRAWINGS, WHERE ESSENTIAL TO CONSTRUCTABILITY, SUBJECT TO APPROVAL BY THE ENGINEER. SPLICES OTHER THAN THOSE SHOWN ON THE DRAWING AND OTHER THAN ANY ADDITIONAL SPLICES REQUIRED BY THE ENGINEER WILL BE AT THE CONTRACTOR'S EXPENSE.
- MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS" ACI-301-05.
- REINFORCING DETAILS SHALL CONFORM WITH "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" ACI-315-99.
- PROVIDE ALL BARS, CHAIRS, ACCESSORIES, ETC. REQUIRED TO MAINTAIN ALL REINFORCING IN PROPER LOCATION AND ORIENTATION.
- WHERE CONTINUOUS REINFORCING IS DESIGNATED (UNLESS NOTED OTHERWISE), LAP BARS WITH FULL TENSION LAP SPLICES, AT NON-CONTINUOUS ENDS OF ALL BEAMS AND SLAB, PROVIDE ACI 90 DEGREE HOOK TOP BARS, EXCEPT AT CORNERS, OMIT HOOKS ON EXTERIOR BARS AND PROVIDE CORNER "L" BARS (EXTERIOR HORIZONTAL TOP, BOTTOM, AND ALL INTERMEDIATE BARS) LAPPING 24 BAR DIAMETERS IN EACH DIRECTION.

REPAIRS:

- DEFECTIVE WELD SHALL BE REMOVED BY AIR CARBONATE OR OXYGEN GOUGING TO SOUND METAL. THE SURFACES SHALL BE REWELDED IN COMPLIANCE WITH ARTICLE 6.6 OF AWS D1.1. WELDS THAT HAVE BEEN REPAIRED SHALL BE RE-TESTED BY THE SAME METHOD USED IN THE ORIGINAL INSPECTION. ALL COST OF REPAIRS AND RE-TESTING SHALL BE BORNE BY THE CONTRACTOR, EXCEPT FOR REPAIR OF MEMBERS CUT TO REMOVE TEST COUPONS WHICH WERE FOUND TO CONTAIN ACCEPTABLE WELDS.

MATERIAL STORAGE:

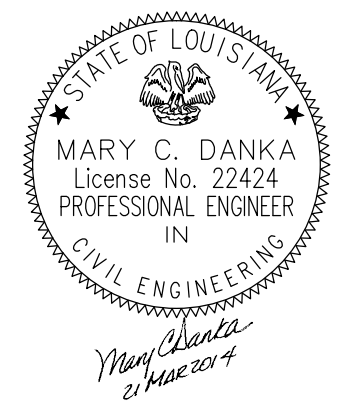
- STEEL PIPES, PILES, PLATES OR ANY STEEL MATERIAL (FABRICATED OR NON-FABRICATED) IS TO BE STORED AND HANDLED IN SUCH A MANNER THAT SAGGING OR BENDING IS AVOIDED. ALL STEEL MATERIALS TO BE STORED ON THE GROUND SHALL BE STACKED AND BLOCKED IN SUCH A WAY THAT ALL STEEL MATERIAL HAVE A UNIFORM SUPPORT ALONG IT'S ENTIRE LENGTH.

WORKMANSHIP:

- THE CONTRACTOR SHALL UTILIZE WELDING PROCEDURES COMPATIBLE WITH THE TYPE OF MATERIAL BEING WORKED ON, AND SHALL EXERCISE CAUTION TO MINIMIZE RESIDUAL STRESSES AND DISTORTIONS CAUSED BY EXCESSIVE HEAT. APPROVAL OF THE CONTRACTOR'S WELDING PROCEDURES WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PRODUCING A FINISHED STRUCTURE MEETING ALL REQUIREMENTS OF THESE SPECIFICATIONS.

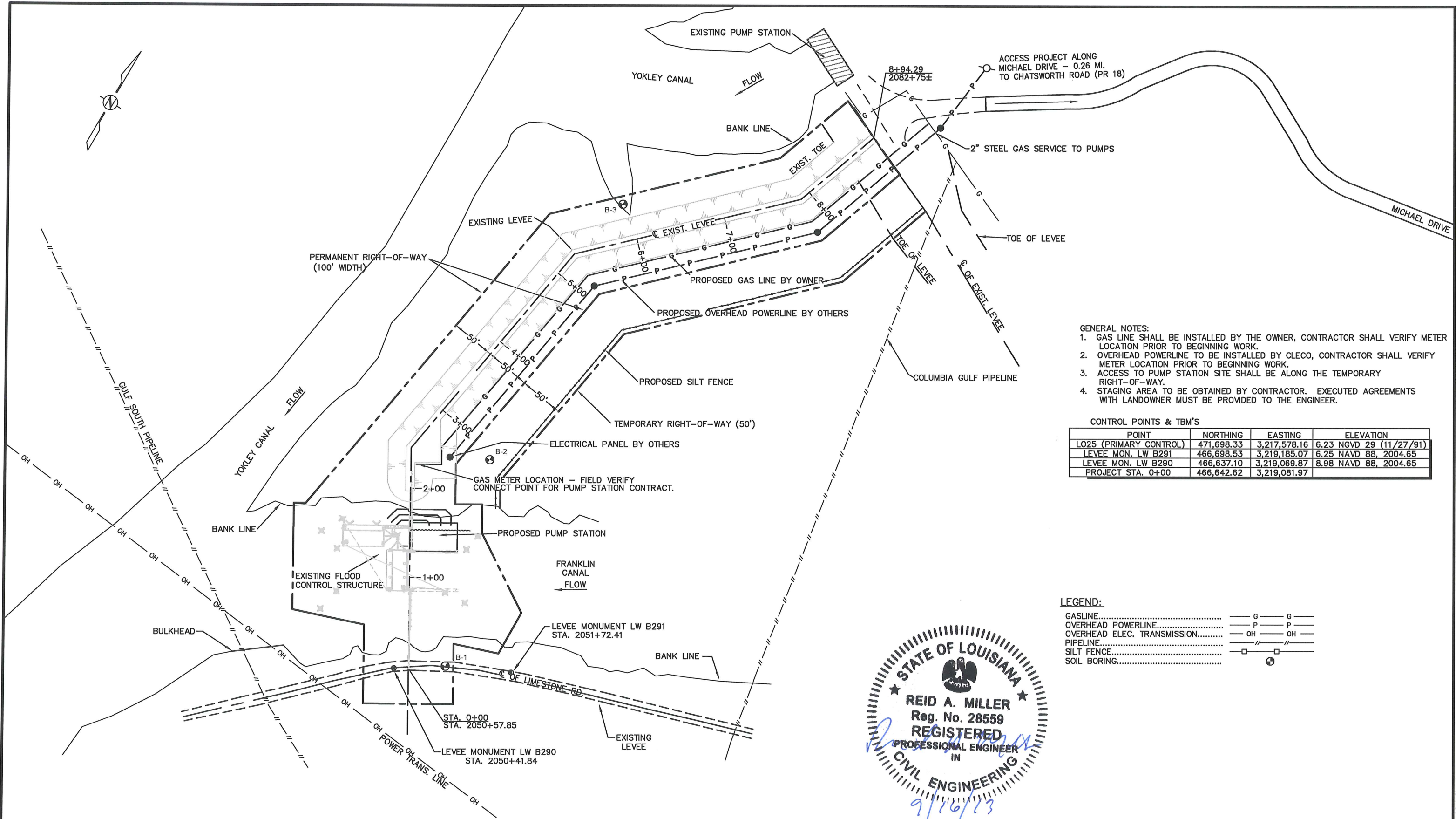
ABBREVIATIONS:

- AWS -AMERICAN WELDING SOCIETY
- EL -ELEVATION
- FLG PL -FLANGE PLATE
- FS -FAR SIDE
- MFG -MANUFACTURE
- NS -NEAR SIDE
- PL -PLATE
- SCH -SCHEDULE
- STD -STANDARD
- HDC -HOT DIPPED GALVANIZED
- TOS -TOP OF STEEL
- CSK -COUNTERSUNK
- FRP -FIBERGLASS REINFORCED PLASTIC



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REV.	DATE	DESCRIPTION	BY	OFFICE LOCATIONS: 197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434	4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758	DRAWN BY: TOT	DESIGNED BY: MCD	APPROVED BY:	SHEET G-003

WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FAINING OF INKS ON THIS DRAWING.



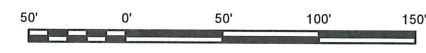
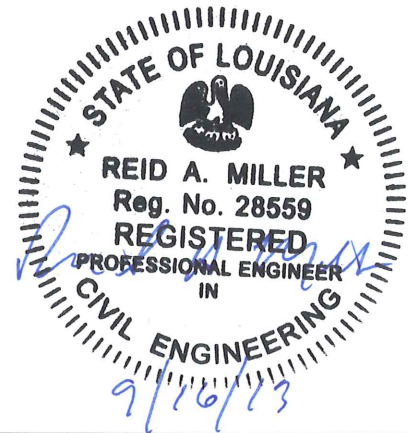
- GENERAL NOTES:**
1. GAS LINE SHALL BE INSTALLED BY THE OWNER, CONTRACTOR SHALL VERIFY METER LOCATION PRIOR TO BEGINNING WORK.
 2. OVERHEAD POWERLINE TO BE INSTALLED BY CLECO, CONTRACTOR SHALL VERIFY METER LOCATION PRIOR TO BEGINNING WORK.
 3. ACCESS TO PUMP STATION SITE SHALL BE ALONG THE TEMPORARY RIGHT-OF-WAY.
 4. STAGING AREA TO BE OBTAINED BY CONTRACTOR. EXECUTED AGREEMENTS WITH LANDOWNER MUST BE PROVIDED TO THE ENGINEER.

CONTROL POINTS & TBM'S

POINT	NORTHING	EASTING	ELEVATION
LO25 (PRIMARY CONTROL)	471,698.33	3,217,578.16	6.23 NGVD 29 (11/27/91)
LEVEE MON. LW B291	466,698.53	3,219,185.07	6.25 NAVD 88, 2004.65
LEVEE MON. LW B290	466,637.10	3,219,069.87	8.98 NAVD 88, 2004.65
PROJECT STA. 0+00	466,642.62	3,219,081.97	

LEGEND:

GASLINE.....	— G — G —
OVERHEAD POWERLINE.....	— P — P —
OVERHEAD ELEC. TRANSMISSION.....	— OH — OH —
PIPELINE.....	— // — // —
SILT FENCE.....	— □ — □ —
SOIL BORING.....	⊕



REV.	DATE	DESCRIPTION	BY
0	8/1/13	ISSUED FOR CONSTRUCTION	RAM

MILLER ENGINEERS & ASSOC., INC.
 P.O. BOX 223, 601 MAIN ST.
 FRANKLIN, LA. 70538
 (337) 828-1950

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

DRAWN BY: REK DESIGNED BY: RAM

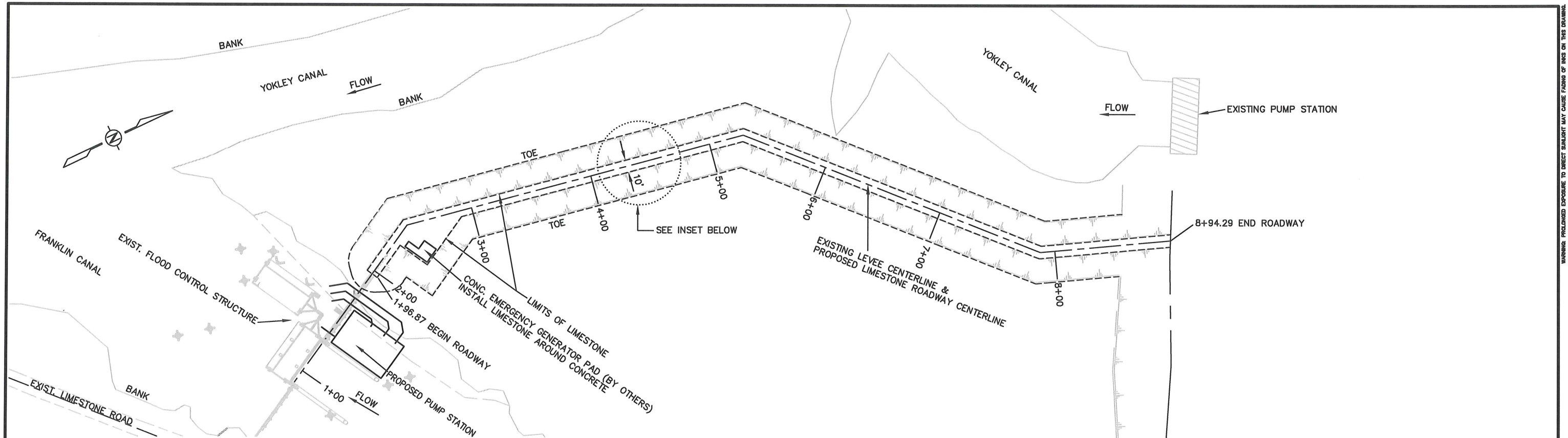
OVERALL SITE PLAN

STATE PROJECT NUMBER: TV-52

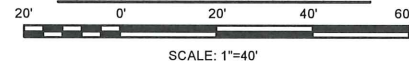
FEDERAL PROJECT NUMBER: DATE: MAY 8, 2012

APPROVED BY: SHEET G - 004

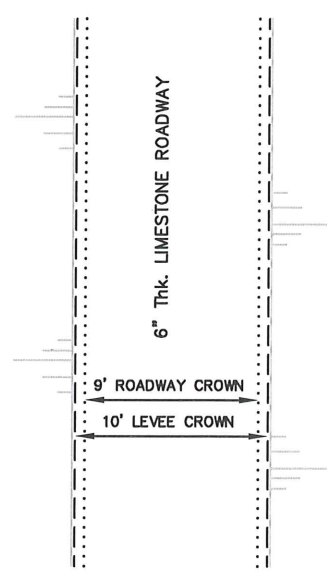
03/27/13 8:45 AM Project Coord to Coastal Protection and Restoration Authority of Louisiana Dept



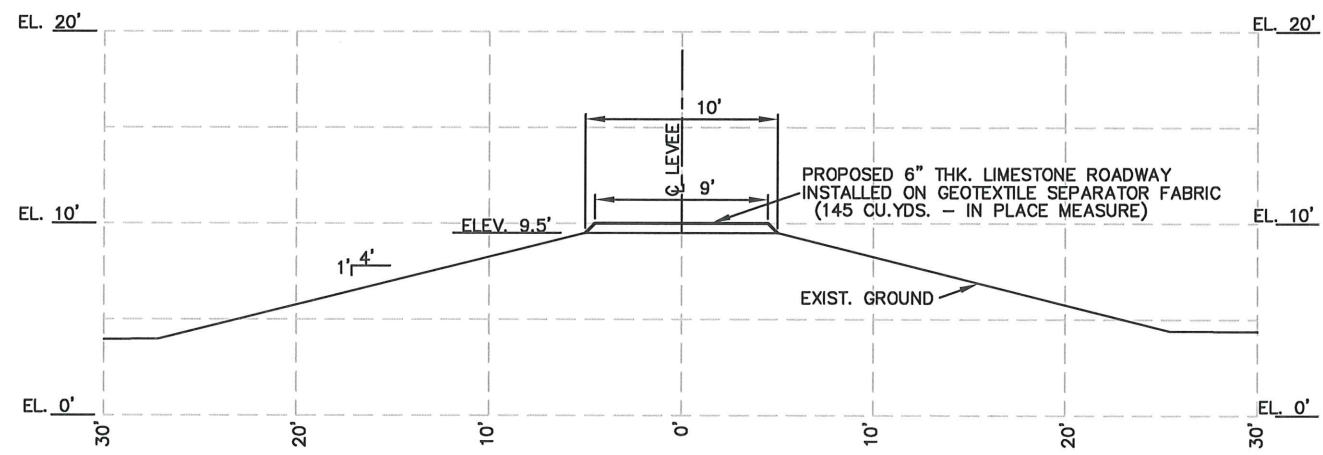
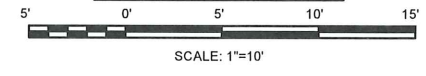
LEVEE ROAD PLAN



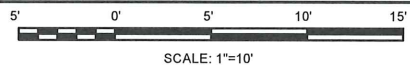
- NOTES:
1. LIMESTONE USED FOR LEVEE SURFACING SHALL BE NO. 610 INSTALLED ON GEOTEXTILE FABRIC.
 2. LIMESTONE SHALL BE COMPACTED TO 75% RELATIVE DENSITY TO ACHIEVE FINAL THICKNESS AS SHOWN. COMPACTION SHALL BE PERFORMED WITH A RUBBER-TIRED ROLLER OR OTHER METHODS APPROVED BY THE ENGINEER.
 3. SEQUENCE OF CONSTRUCTION: CONSTRUCT LEVEE ROAD PRIOR TO CONSTRUCTION OF PUMP STATION. REGRADE/RESHAPE ROAD SURFACE PRIOR TO FINAL ACCEPTANCE.



TYPICAL INSET



TYPICAL LEVEE SECTION



REV.	DATE	DESCRIPTION	BY
0	8/1/13	ISSUED FOR CONSTRUCTION	RAM

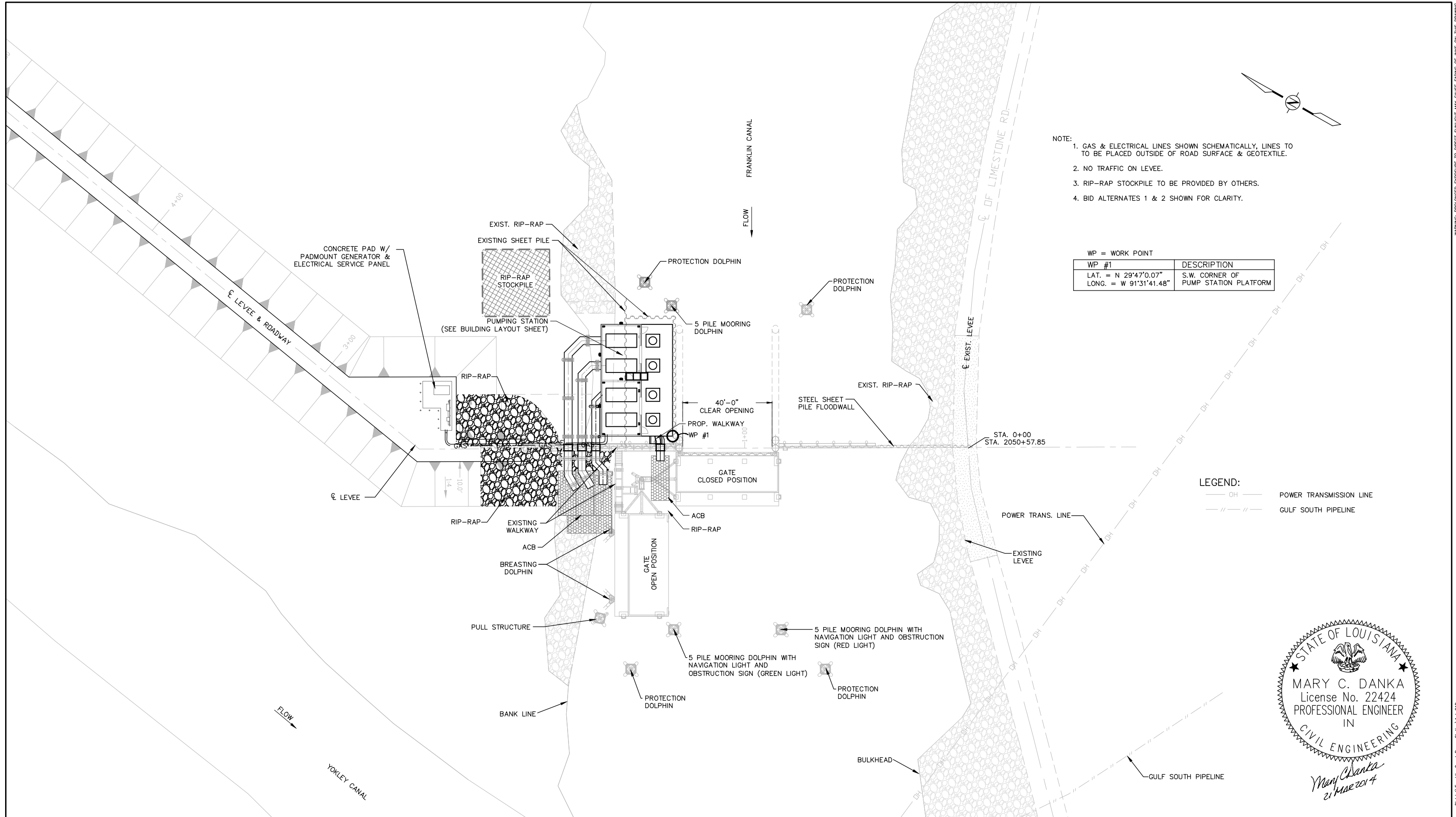
MILLER ENGINEERS & ASSOC., INC.
P.O. BOX 223, 601 MAIN ST.
FRANKLIN, LA. 70538
(337) 828-1950

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

DRAWN BY: REK DESIGNED BY: RAM

LEVEE ROAD PLAN	
STATE PROJECT NUMBER: TV-52	DATE: MAY 8, 2013
FEDERAL PROJECT NUMBER:	APPROVED BY:
	SHEET C-001

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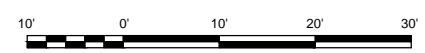
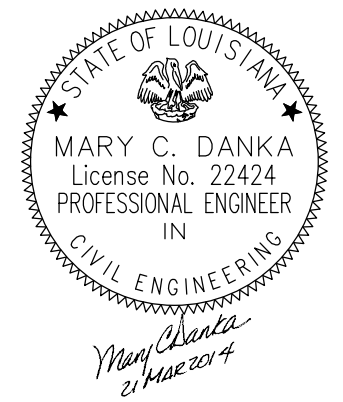
- NOTE:
1. GAS & ELECTRICAL LINES SHOWN SCHEMATICALLY, LINES TO BE PLACED OUTSIDE OF ROAD SURFACE & GEOTEXTILE.
 2. NO TRAFFIC ON LEVEE.
 3. RIP-RAP STOCKPILE TO BE PROVIDED BY OTHERS.
 4. BID ALTERNATES 1 & 2 SHOWN FOR CLARITY.

WP = WORK POINT

WP #1	DESCRIPTION
LAT. = N 29°47'0.07"	S.W. CORNER OF PUMP STATION PLATFORM
LONG. = W 91°31'41.48"	

LEGEND:

— OH —	POWER TRANSMISSION LINE
— // —	GULF SOUTH PIPELINE



REV.	DATE	DESCRIPTION	BY
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD

Shaw Environmental & Infrastructure, Inc.
(A CB&I COMPANY)

OFFICE LOCATIONS:
 197 ELYSIAN DRIVE
 HOUMA, LA. 70363
 PHONE: 985.868.3434
 4171 ESSEN LANE
 BATON ROUGE, LA 70809
 PHONE: 225.932.2758

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: TOT DESIGNED BY: MCD

PUMP STATION SITE PLAN

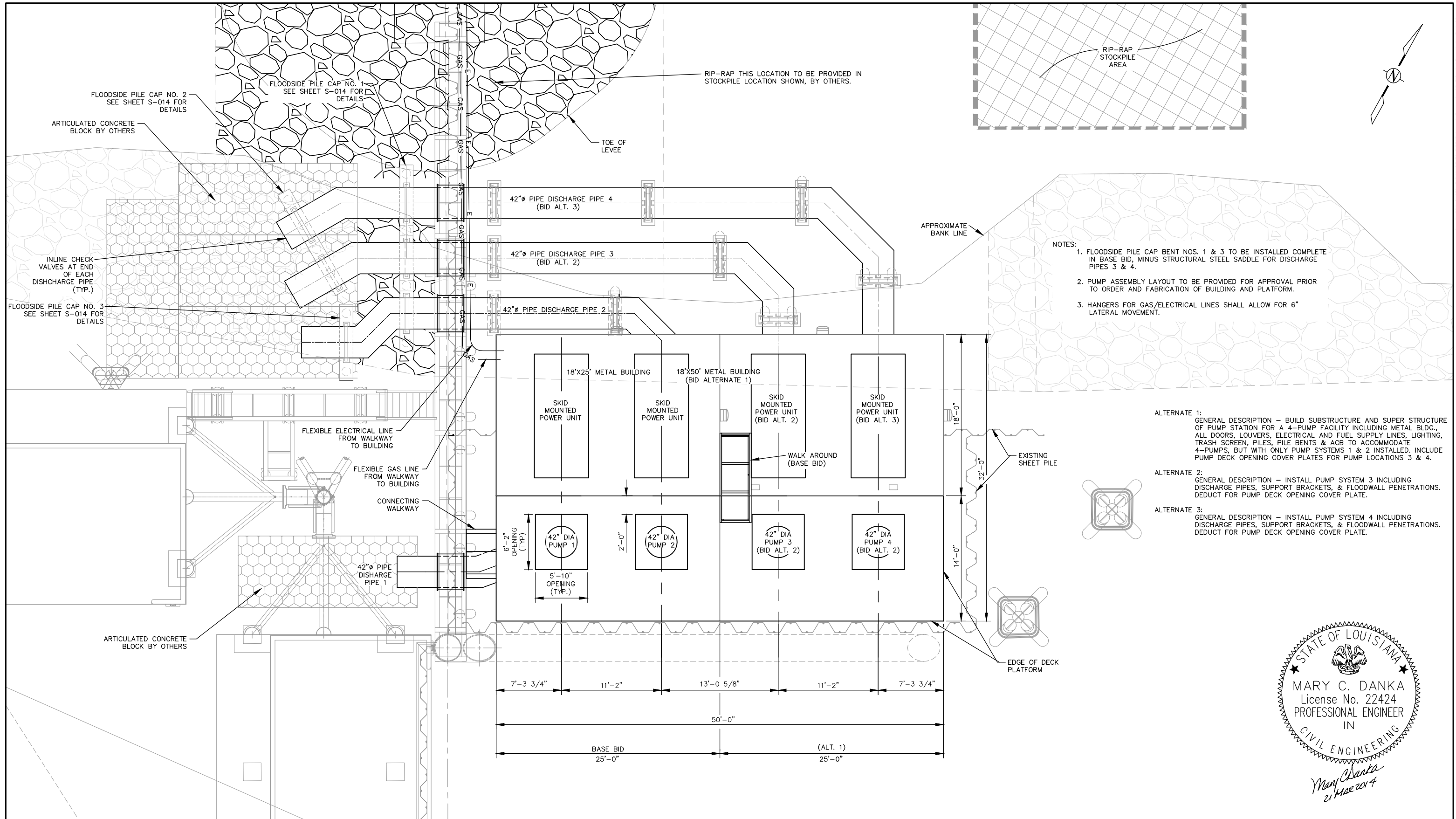
STATE PROJECT NUMBER: TV-52

APPROVED BY:

DATE: AUGUST 2013

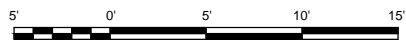
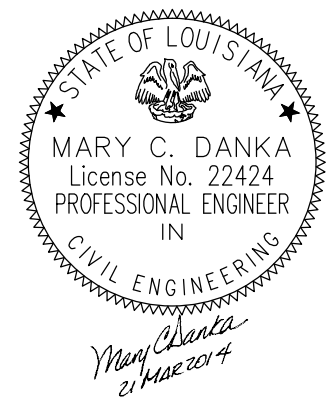
SHEET C-002

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- NOTES:
1. FLOODSIDE PILE CAP BENT NOS. 1 & 3 TO BE INSTALLED COMPLETE IN BASE BID, MINUS STRUCTURAL STEEL SADDLE FOR DISCHARGE PIPES 3 & 4.
 2. PUMP ASSEMBLY LAYOUT TO BE PROVIDED FOR APPROVAL PRIOR TO ORDER AND FABRICATION OF BUILDING AND PLATFORM.
 3. HANGERS FOR GAS/ELECTRICAL LINES SHALL ALLOW FOR 6" LATERAL MOVEMENT.

- ALTERNATE 1:
GENERAL DESCRIPTION - BUILD SUBSTRUCTURE AND SUPER STRUCTURE OF PUMP STATION FOR A 4-PUMP FACILITY INCLUDING METAL BLDG., ALL DOORS, LOUVERS, ELECTRICAL AND FUEL SUPPLY LINES, LIGHTING, TRASH SCREEN, PILES, PILE BENTS & ACB TO ACCOMMODATE 4-PUMPS, BUT WITH ONLY PUMP SYSTEMS 1 & 2 INSTALLED. INCLUDE PUMP DECK OPENING COVER PLATES FOR PUMP LOCATIONS 3 & 4.
- ALTERNATE 2:
GENERAL DESCRIPTION - INSTALL PUMP SYSTEM 3 INCLUDING DISCHARGE PIPES, SUPPORT BRACKETS, & FLOODWALL PENETRATIONS. DEDUCT FOR PUMP DECK OPENING COVER PLATE.
- ALTERNATE 3:
GENERAL DESCRIPTION - INSTALL PUMP SYSTEM 4 INCLUDING DISCHARGE PIPES, SUPPORT BRACKETS, & FLOODWALL PENETRATIONS. DEDUCT FOR PUMP DECK OPENING COVER PLATE.



REV.	DATE	DESCRIPTION	BY
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD

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HOUMA, LA. 70363
PHONE: 985.868.3434

4171 ESSEN LANE
BATON ROUGE, LA 70809
PHONE: 225.932.2758

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

DRAWN BY: TOT DESIGNED BY: MCD

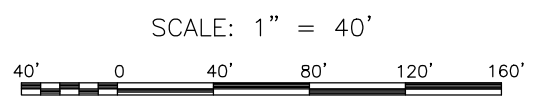
DETAIL SITE PLAN	
STATE PROJECT NUMBER: TV-52	DATE: AUGUST 2013
APPROVED BY:	SHEET C-003

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LEGEND:
 — OH — POWER TRANSMISSION LINE
 — " — " — GULF SOUTH PIPELINE
 — G — GAS LINE



REV.	DATE	DESCRIPTION	BY
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD

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 (A CB&I COMPANY)

OFFICE LOCATIONS:
 197 ELYSIAN DRIVE
 HOUMA, LA. 70363
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 BATON ROUGE, LA. 70809
 PHONE: 225.932.2758

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

DRAWN BY: TOT DESIGNED BY: MCD

GEOTECHNICAL BORING LOCATIONS SHEET 1

STATE PROJECT NUMBER: TV-52

APPROVED BY:

DATE: AUGUST 2013

SHEET C-004

LOG OF BORING AND TEST RESULTS
ST. MARY PARISH LEVEE DISTRICT
FLOODGATE STRUCTURE AT FRANKLIN DRAINAGE CANAL
ST. MARY PARISH, LOUISIANA

(Sheet 1 of 3)



Ground Elev.: 9.1 Datum: NAVD88 Gr. Water Depth: See Text Job No.: 20749 Date Drilled: 8/31-9/01/09 Boring: 1 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	SPT R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	a	C	LL	PL	PI	
0					70' Wash													
10																		
20																		
30							NS	0-70										
40																		
50																		

Comments: Latitude: 29° 46.986' N
Longitude: 91° 31.673' W

LOG OF BORING AND TEST RESULTS
ST. MARY PARISH LEVEE DISTRICT
FLOODGATE STRUCTURE AT FRANKLIN DRAINAGE CANAL
ST. MARY PARISH, LOUISIANA

(Sheet 2 of 3)



Ground Elev.: 9.1 Datum: NAVD88 Gr. Water Depth: See Text Job No.: 20749 Date Drilled: 8/31-9/01/09 Boring: 1 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	SPT R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	a	C	LL	PL	PI	
50					70' Wash													
60																		
70					Stiff tan & light gray clay	CH												
74.75					Stiff reddish-tan & light gray clay w/concretions	CH	1	74-75	36	85	116	OB	0	1142				
80					Stiff tan & light gray clay w/concretions	CH	2	79-80							85	19	46	CONS
84.85					w/ilt pockets & concretions		3	84-85	34	89	119	OB	0	1788				
89-90					w/ilt pockets & fissures		4	89-90	43									
94-95					Stiff tan & gray clay w/ilt pockets	CH	5	94-95	41	81	113	OB	0	1074				
98-100							6	98-100	31	90	118	UC	-	1208				

Comments: Latitude: 29° 46.986' N
Longitude: 91° 31.673' W

LOG OF BORING AND TEST RESULTS
ST. MARY PARISH LEVEE DISTRICT
FLOODGATE STRUCTURE AT FRANKLIN DRAINAGE CANAL
ST. MARY PARISH, LOUISIANA

(Sheet 3 of 3)



Ground Elev.: 9.1 Datum: NAVD88 Gr. Water Depth: See Text Job No.: 20749 Date Drilled: 8/31-9/01/09 Boring: 1 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	SPT R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	a	C	LL	PL	PI	
100					Stiff gray clay w/ilt pockets	CH												
104-105					w/ilt lenses, trace of wood, & concretions		7	104-105	35	87	117	OB	0	1640				
109-110					Stiff gray & light brown clay w/ilt pockets	CH	8	109-110							55	19	36	CONS
114-115							9	114-115	37	84	116	OB	0	1537				
119-120					Very stiff gray & tan clay w/ilt pockets & concretions	CH	10	119-120	39	82	114	UC	-	1135				
124-125					Very stiff greenish-gray & tan clay w/ilt pockets	CH	11	124-125	28	96	123	UC	-	2034				
129-130					Very stiff gray & tan clay	CH	12	129-130							63	22	41	CONS
134-135					w/ilt pockets & concretions		13	134-135	27	97	123	OB	0	2380				
139-140							14	139-140	30	93	121	UC	-	2549				
144-145					Extremely stiff gray & tan clay	CH	15	144-145	29	95	122	UC	-	2553				
148-150							16	148-150	29	94	121	UC	-	2134				

Comments: Latitude: 29° 46.986' N
Longitude: 91° 31.673' W



Shaw Environmental & Infrastructure, Inc. (A CB&I COMPANY)			
OFFICE LOCATIONS:			
197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434		4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758	
REV.	DATE	DESCRIPTION	BY
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD

COASTAL PROTECTION AND RESTORATION AUTHORITY	
450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	
DRAWN BY: TOT	DESIGNED BY: MCD

GEOTECHNICAL BORING LOGS SHEET 2	
STATE PROJECT NUMBER: TV-52	
APPROVED BY:	DATE: AUGUST 2013
	SHEET C-005

WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.

LOG OF BORING AND TEST RESULTS
 ST. MARY PARISH LEVEE DISTRICT
 FLOODGATE STRUCTURE AT FRANKLIN DRAINAGE CANAL
 ST. MARY PARISH, LOUISIANA



Ground Elev.: 4.5 Datum: NAVD88 Gr. Water Depth: See Text Job No.: 20749 Date Drilled: 9/02/09 Boring: 2 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	φ	C	LL	PL	PI	
0					7' Wash													
10																		
20																		
30							NS	0-70										
40																		
50																		

Comments: Latitude: 29° 47.023' N
 Longitude: 91° 31.687' W

LOG OF BORING AND TEST RESULTS
 ST. MARY PARISH LEVEE DISTRICT
 FLOODGATE STRUCTURE AT FRANKLIN DRAINAGE CANAL
 ST. MARY PARISH, LOUISIANA



Ground Elev.: 4.5 Datum: NAVD88 Gr. Water Depth: See Text Job No.: 20749 Date Drilled: 9/02/09 Boring: 2 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	φ	C	LL	PL	PI	
50					7' Wash													
60																		
70					Dense tan silty sand	SM												
74-75					Stiff gray & tan clay w/silt pockets & lenses	CH	1	74-75	26	97	123	OB	0	1048				
79-80					washed fragments		2	79-80	39	82	114	OB	0	1148				
84-85					Medium stiff gray & tan clay w/silt pockets & lenses, & shell fragments	CH	3	84-85	36									
89-90					Stiff gray & tan clay w/silt pockets & lenses	CH	4	89-90	42	80	113	OB	0	788				
94-95							5	94-95	37	84	115	UC	-	1068				
99-100					w/silt pockets		6	99-100	40	80	112	OB	0	1218				

Comments: Latitude: 29° 47.023' N
 Longitude: 91° 31.687' W

LOG OF BORING AND TEST RESULTS
 ST. MARY PARISH LEVEE DISTRICT
 FLOODGATE STRUCTURE AT FRANKLIN DRAINAGE CANAL
 ST. MARY PARISH, LOUISIANA



Ground Elev.: 4.5 Datum: NAVD88 Gr. Water Depth: See Text Job No.: 20749 Date Drilled: 9/02/09 Boring: 2 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	S P L R	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
										Dry	Wet	Type	φ	C	LL	PL	PI	
100					Medium stiff gray & tan clay w/silt pockets & layers	CH												
104-105					Stiff gray & brown clay w/silty sand pockets & lenses, & shell fragments	CH	7	104-105	39	81	112	UC	-	513				
109-110					Stiff gray clay w/silt pockets	CH	8	109-110	32									
114-115					Very stiff gray clay w/silty sand pockets & lenses	CH	9	114-115	24	103	127	UC	-	1862				
119-120					Very stiff greenish-gray clay w/concretions	CH	10	119-120	21	108	131	OB	0	2288				
124-125					Very stiff light gray & tan clay w/concretions & trace of decayed wood (figured)	CH	11	124-125	32	91	119	OB	0	2051				
129-130					Very stiff light gray, tan, & brown clay w/silt lenses, trace of decayed wood, & concretions	CH	12	129-130	32	90	119	UC	-	2211				
134-135					Extremely stiff gray & tan clay	CH	13	134-135	32									
139-140							14	139-140	36	86	117	UC	-	1478				
144-145							15	144-145	26	98	124	OB	0	3884				
149-150							16	149-150	27									

Comments: Latitude: 29° 47.023' N
 Longitude: 91° 31.687' W



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4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758			
REV.	DATE	DESCRIPTION	BY
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD

COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	
DRAWN BY: TOT	DESIGNED BY: MCD

GEOTECHNICAL BORING LOGS SHEET 3	
STATE PROJECT NUMBER: TV-52	
APPROVED BY:	DATE: AUGUST 2013
	SHEET C-006

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EUSTIS ENGINEERING

LOG OF BORING AND TEST RESULTS
 ST. MARY PARISH LEVEE DISTRICT
 FLOODGATE STRUCTURE AT FRANKLIN DRAINAGE CANAL
 ST. MARY PARISH, LOUISIANA

(Sheet 1 of 2)



Ground Elev.: 4.5 Datum: NAVD88 Gr. Water Depth: See Text Job No.: 20749 Date Drilled: 9/03/09 Boring: 3 Refer to "Legends & Notes"

Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	#	C	LL	PL	PI	
0				Very stiff gray & brown silty clay w/shell fragments	CL	1	2-3	22	100	122	UC	--	3645				
3.50				Medium stiff brown & tan clay w/roots & silt pockets	CH	2	5-6	29	95	123	OB	0	817	51	18	33	
1.00				Soft dark gray clay w/silt pockets & roots	CH	3	8-9	42	80	113	OB	0	488				
0.75				Medium stiff light gray & tan silty clay w/concretions	CL	4	11-12	32	90	119	UC	--	557				
10				Medium stiff brown & light gray silty clay w/sandy silt layers	CL	5	14-15	31	90	119	OB	0	528				
0.25				w/concretions		6	19-20	32	90	119	UC	--	610				
20				w/concretions		7	24-25	29	93	120	OB	0	609	39	20	10	
1.25				Soft light gray, brown, & tan silty clay w/concretions	CL	8	29-30	38	83	114	OB	0	323				
30				w/concretions		9	34-35	34	87	118	OB	0	335				
0.25				Very stiff tan & gray & light gray clay w/concretions	CH	10	39-40	37	85	116	UC	--	351				
40				w/decayed wood		11	44-45	23									
2.25						12	49-50	29	94	122	UC	--	2350				
50																	

Comments: Latitude: 29° 47.078' N
 Longitude: 91° 31.690' W

EUSTIS ENGINEERING

LOG OF BORING AND TEST RESULTS
 ST. MARY PARISH LEVEE DISTRICT
 FLOODGATE STRUCTURE AT FRANKLIN DRAINAGE CANAL
 ST. MARY PARISH, LOUISIANA

(Sheet 2 of 2)



Ground Elev.: 4.5 Datum: NAVD88 Gr. Water Depth: See Text Job No.: 20749 Date Drilled: 9/03/09 Boring: 3 Refer to "Legends & Notes"

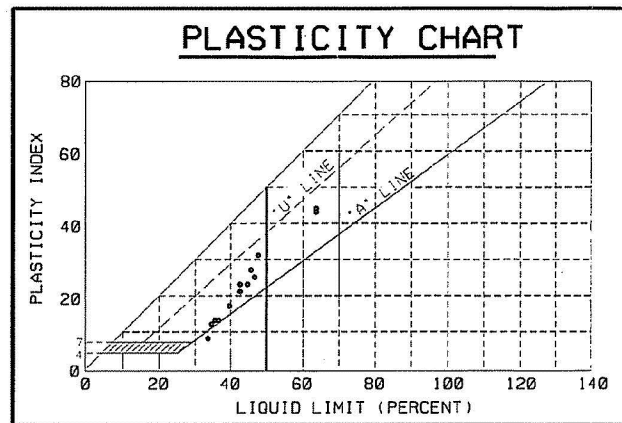
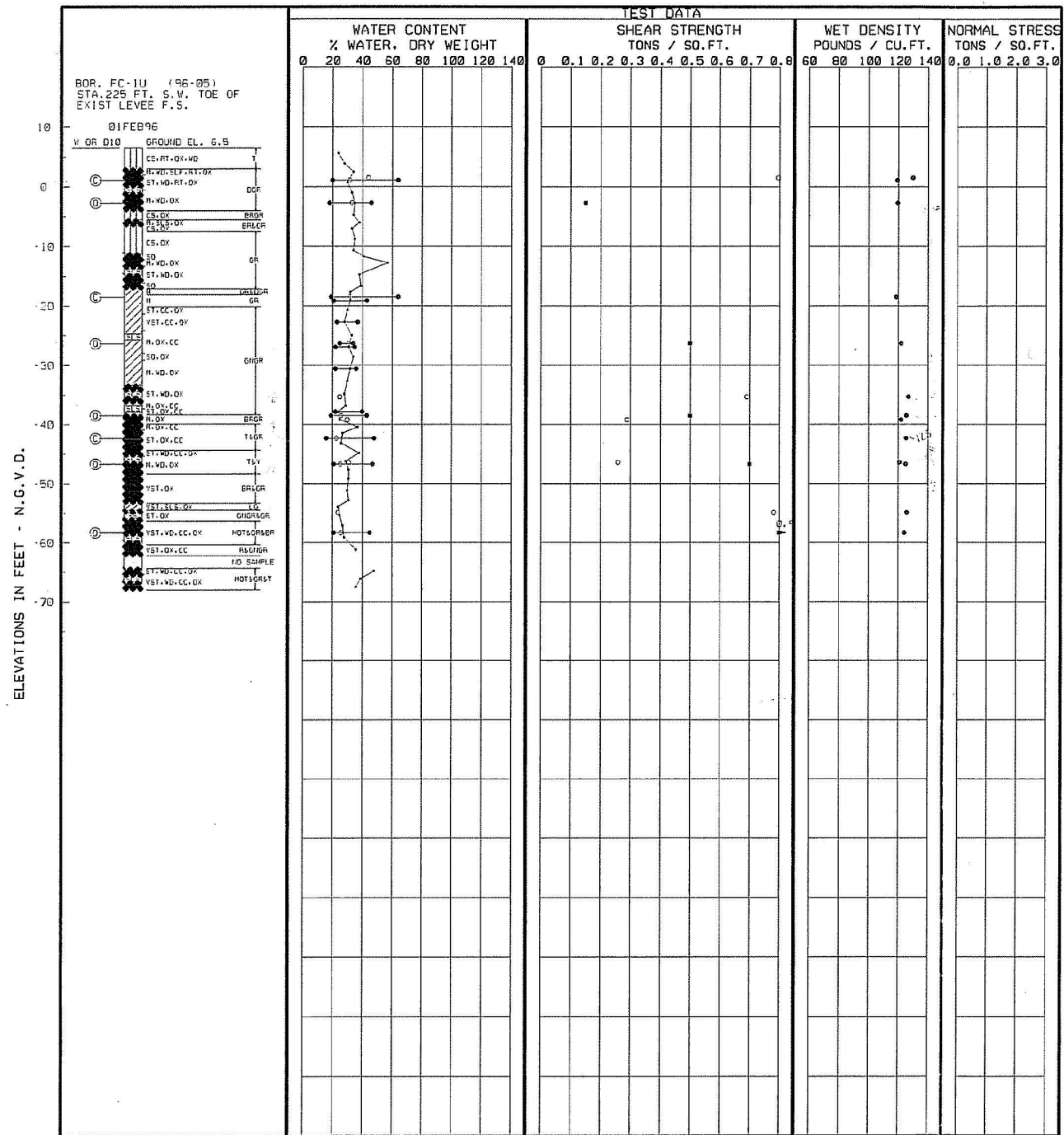
Scale In Feet	PP	SPT	Symbol	Visual Classification	USC	Sample Number	Depth In Feet	Water Content Percent	Density		Shear Tests			Atterberg Limits			Other Tests
									Dry	Wet	Type	#	C	LL	PL	PI	
50				Very stiff tan & gray & light gray clay w/decayed wood	CH												
2.75				w/concretions (fissured)		13	54-55	29									
60				Very stiff tan & gray silty clay w/silt lenses	CL	14	59-60	30	93	122	UC	--	1974				
2.50				Very stiff tan & gray clay w/concretions	CH	15	64-65	33									
3.50						16	69-70	33									
70				w/trace of silt & concretions		17	74-75	31									
2.25						18	79-80	26									
80																	
3.25																	
90																	
100																	

Comments: Latitude: 29° 47.078' N
 Longitude: 91° 31.690' W



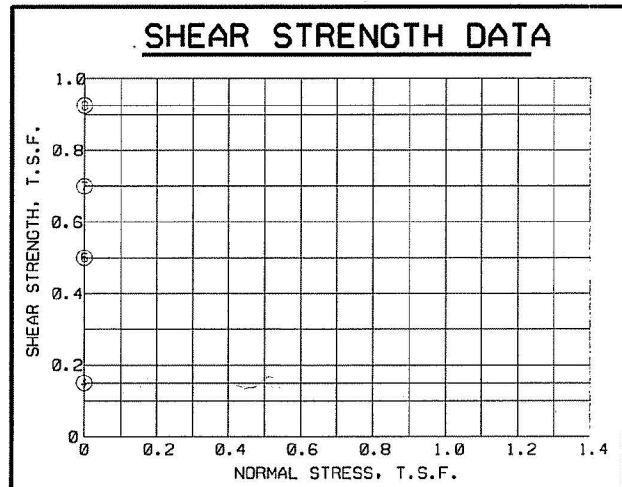
		Shaw Environmental & Infrastructure, Inc. (A CB&I COMPANY)		COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		GEOTECHNICAL BORING LOGS SHEET 4	
						STATE PROJECT NUMBER: TV-52	
O 03/21/14		ISSUED FOR CONSTRUCTION		MCD		DATE: AUGUST 2013	
REV.	DATE	DESCRIPTION		BY	DRAWN BY: TOT		DESIGNED BY: MCD
						APPROVED BY:	
						SHEET C-007	

WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.



TABULAR TEST DATA

ENVELOPE NO.	EL.	TYPE	STRENGTH		CLASS
			ϕ	c - 15F	
1	1.10	C	0.0	0.000	CH
2	18.50	C	0.0	0.000	CH
3	42.30	C	0.0	0.000	CH
4	2.70	O	0.0	0.150	CL
5	26.30	O	0.0	0.500	HL
6	38.50	O	0.0	0.500	CL
7	46.70	O	0.0	0.700	CL
8	58.30	O	0.0	0.925	CL



NOTES

- - (UC) UNCONFINED COMPRESSION TEST
 - - (Q) UNCONSOLIDATED - UNDRAINED TRIAXIAL SHEAR TEST
 - ▲ - (R) CONSOLIDATED - UNDRAINED TRIAXIAL SHEAR TEST
 - - (S) CONSOLIDATED - DRAINED DIRECT SHEAR TEST
 - WP WL ATTERBERG LIMITS
- BORING WAS TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER.
 FOR SOIL BORING LEGEND SEE PLATE A.
 FOR LOCATION OF BORINGS SEE PLATE
 FOR DETAILED TEST DATA SEE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

DESIGNED BY: _____ PLOT SCALE: _____ PLOT DATE: _____ CAD FILE: _____
 DRAWN BY: _____ FILE NO. _____
 CHECKED BY: _____ DATE: _____



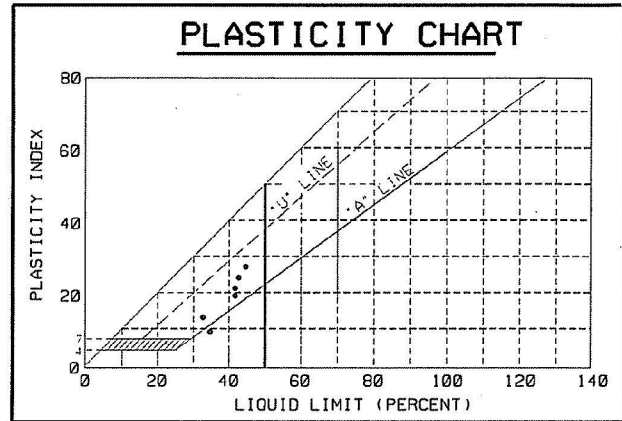
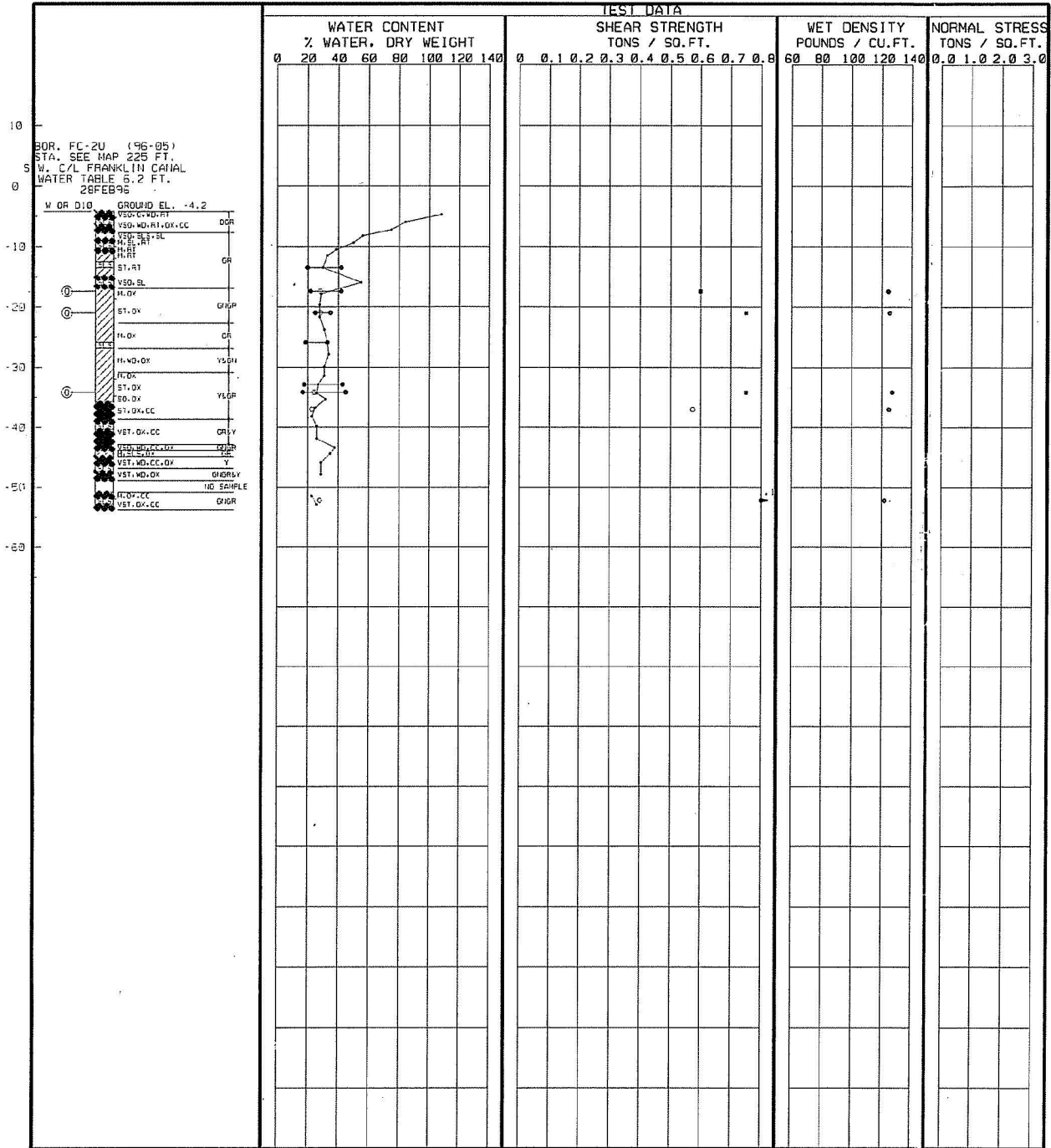
Mary C. Danka
 21 MAR 2014

FC-1U

			Shaw Environmental & Infrastructure, Inc. (A CB&I COMPANY)		COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		GEOTECHNICAL BORING LOGS SHEET 5	
			OFFICE LOCATIONS: 197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434		4171 ESSEN LANE BATON ROUGE, LA. 70809 PHONE: 225.932.2758		STATE PROJECT NUMBER: TV-52	
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD					DATE: AUGUST 2013
REV.	DATE	DESCRIPTION	BY			APPROVED BY:		SHEET C-008

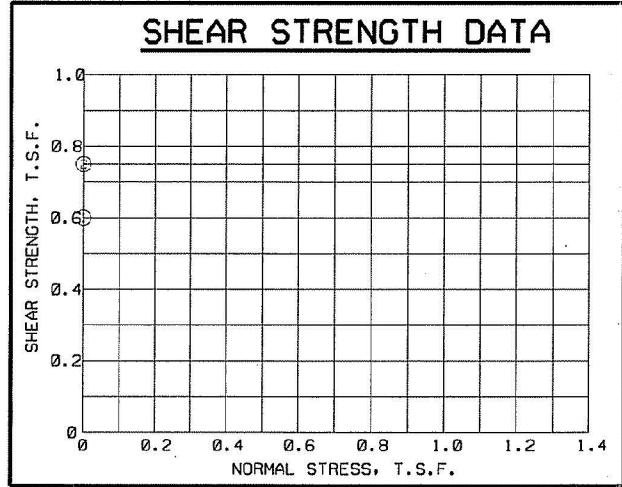
WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.

ELEVATIONS IN FEET - N.G.V.D.



TABULAR TEST DATA

ENVELOPE NO.	EL.	TYPE	STRENGTH		CLASS
			ϕ	C · TSF	
1	-17.40	0	0.0	0.600	CL
2	-21.00	0	0.0	0.750	CL
3	-34.20	0	0.0	0.750	CL



NOTES

- - (UC) UNCONFINED COMPRESSION TEST
 - - (U) UNCONSOLIDATED - UNDRAINED TRIAXIAL SHEAR TEST
 - ▲ - (R) CONSOLIDATED - UNDRAINED TRIAXIAL SHEAR TEST
 - - (S) CONSOLIDATED - DRAINED DIRECT SHEAR TEST
 - - ω_p ω_n ω_L ATTERBERG LIMITS
- BORING WAS TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER.
FOR SOIL BORING LEGEND SEE PLATE A.
FOR LOCATION OF BORINGS SEE PLATE
FOR DETAILED TEST DATA SEE

U.S. Army ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____

PLOT SCALE: _____
PLOT DATE: _____
DATE: _____

CADD FILE: _____
FILE NO.: _____

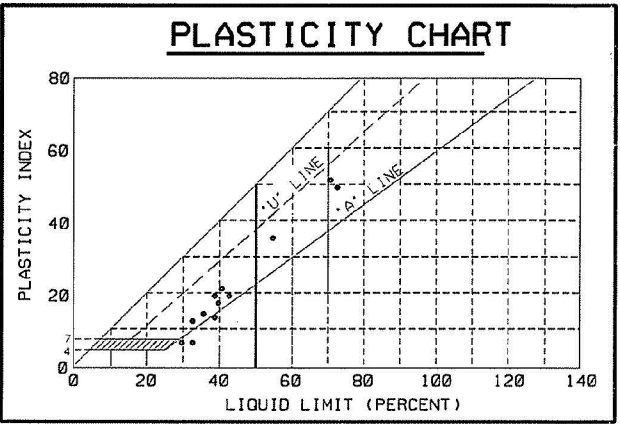
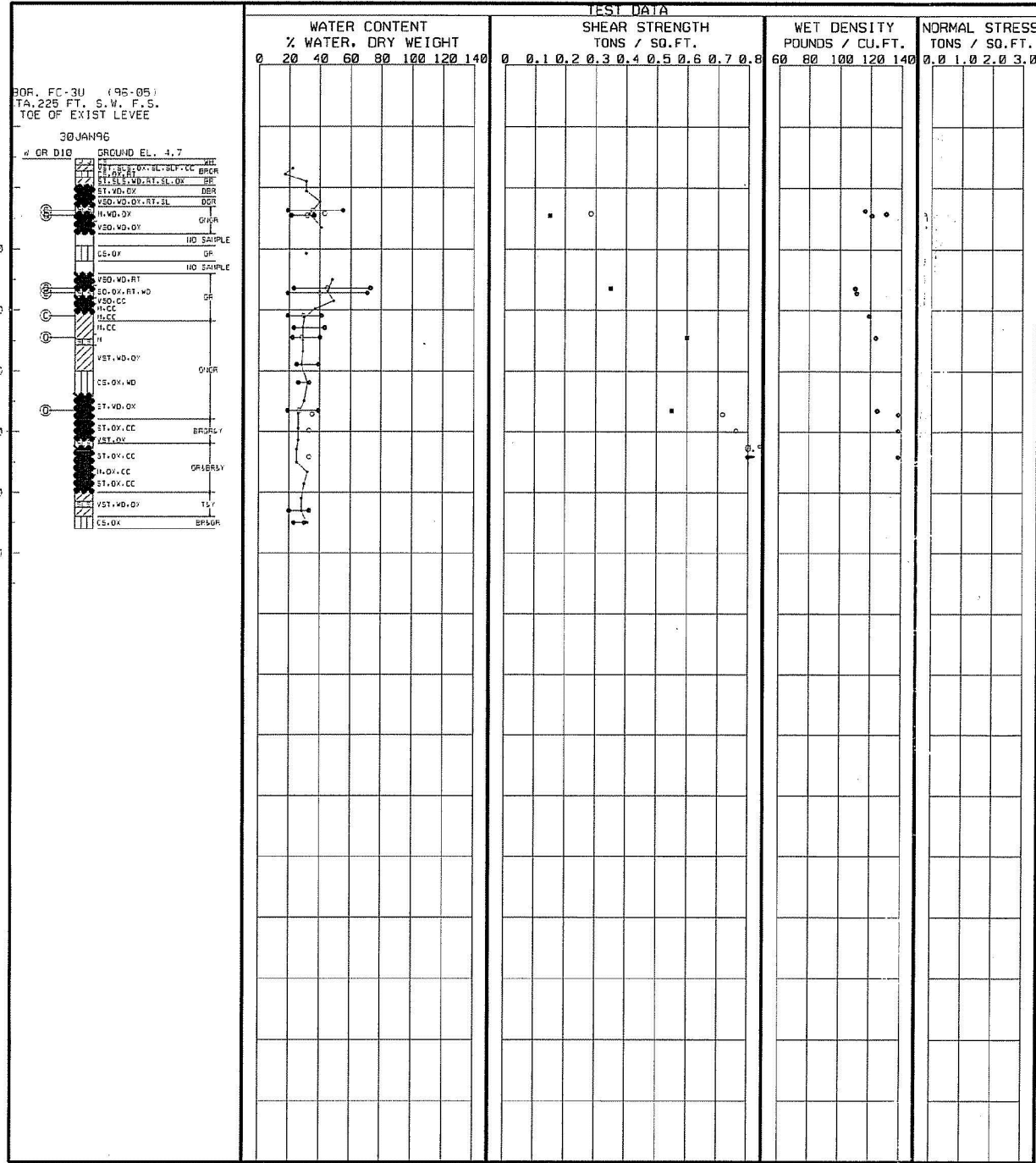


Mary Danka
21 MAR 2014

PLATE

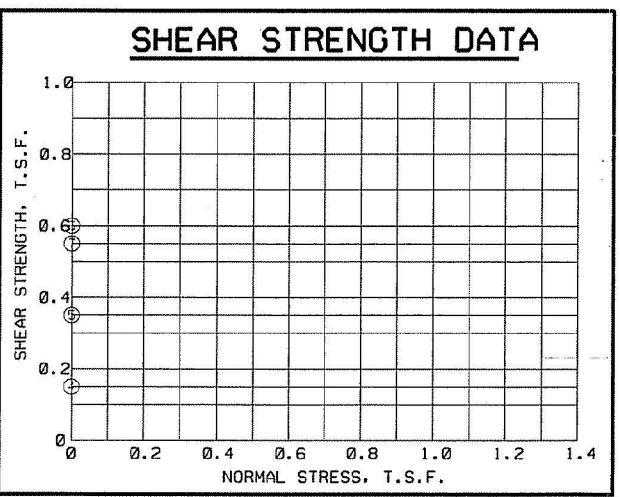
		Shaw Environmental & Infrastructure, Inc. (A CB&I COMPANY)		COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		GEOTECHNICAL BORING LOGS SHEET 6		
		OFFICE LOCATIONS: 197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434		4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758		STATE PROJECT NUMBER: TV-52		DATE: AUGUST 2013
REV.	DATE	DESCRIPTION	BY	DRAWN BY: TOT	DESIGNED BY: MCD	APPROVED BY:	SHEET C-009	
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD					

ELEVATIONS IN FEET - N.C. V.D.



TABULAR TEST DATA

ENVELOPE NO.	EL.	TYPE	STRENGTH		CLASS
			ϕ	c - TSF	
1	-3.70	C	0.0	0.000	CH
2	-17.20	C	0.0	0.000	CH
3	-20.90	C	0.0	0.000	CL
4	-4.50	0	0.0	0.150	CL
5	-16.40	0	0.0	0.350	CH
6	-24.50	0	0.0	0.600	CL
7	-36.50	0	0.0	0.550	CL



NOTES

- - (UC) UNCONFINED COMPRESSION TEST
- - (O) UNCONSOLIDATED - UNDRAINED TRIAXIAL SHEAR TEST
- ▲ - (R) CONSOLIDATED - UNDRAINED TRIAXIAL SHEAR TEST
- - (S) CONSOLIDATED - DRAINED DIRECT SHEAR TEST
- _P ○_N ○_L - ATTERBERG LIMITS

BORING WAS TAKEN WITH A 5 INCH DIAMETER STEEL TUBE PISTON TYPE SAMPLER.
FOR SOIL BORING LEGEND SEE PLATE A.
FOR LOCATION OF BORINGS SEE PLATE FOR DETAILED TEST DATA SEE

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

DESIGNED BY: _____ PLOT SCALE: _____ PLOT DATE: _____ CASE FILE: _____
DRAWN BY: _____ DATE: _____ FILE NO. _____
CHECKED BY: _____

STATE OF LOUISIANA

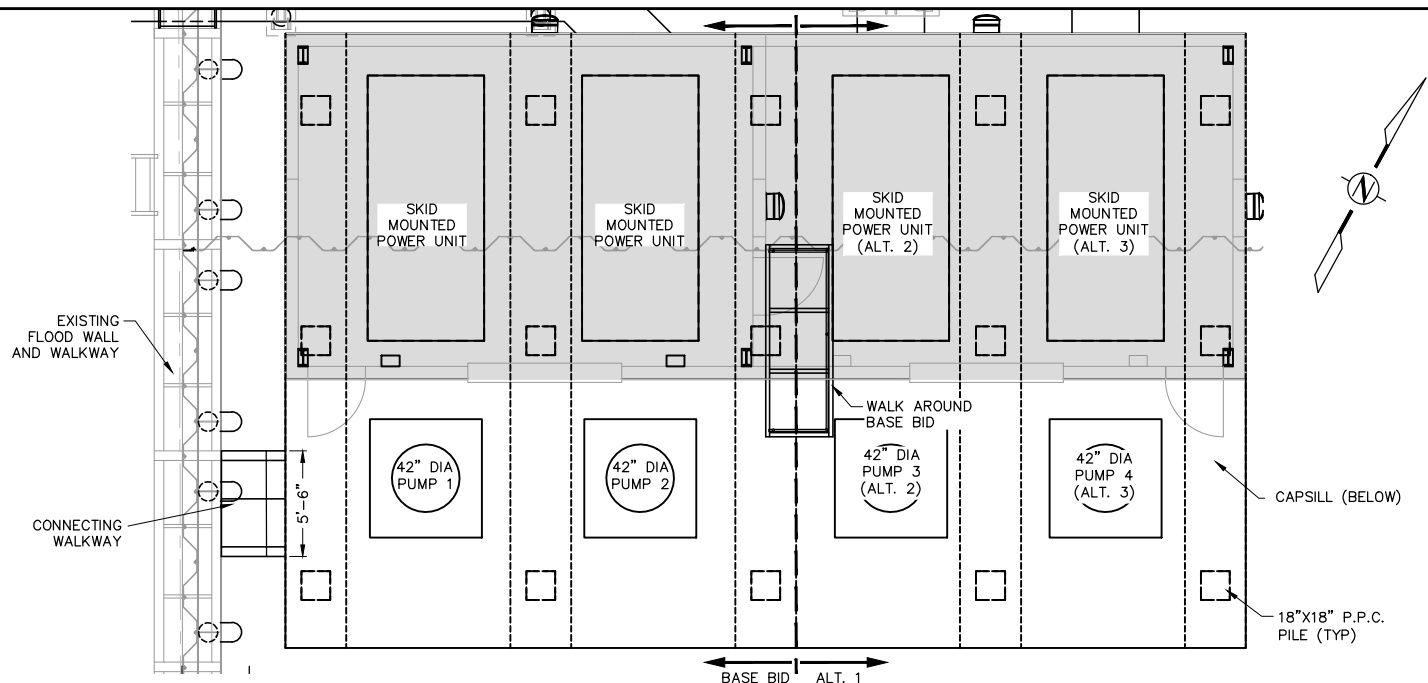
MARY C. DANKA
License No. 22424
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

Mary C. Danka
21 MAR 2014

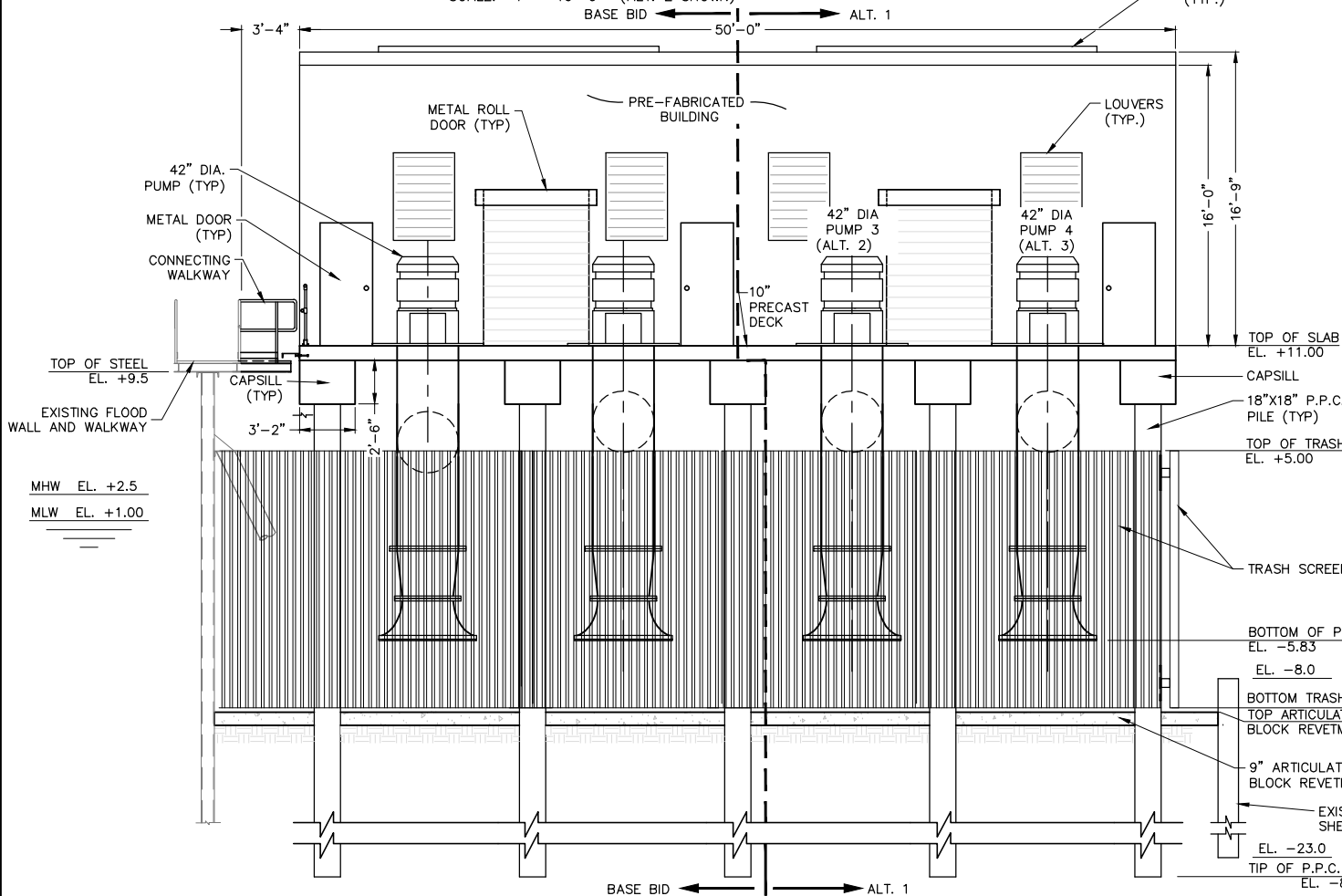
Shaw Environmental & Infrastructure, Inc. (A CB&I COMPANY)			COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		GEOTECHNICAL BORING LOGS SHEET 7	
OFFICE LOCATIONS: 197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434			4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758		STATE PROJECT NUMBER: TV-52	
O	03/21/14	ISSUED FOR CONSTRUCTION	MCD			DATE: AUGUST 2013
REV.	DATE	DESCRIPTION	BY	DRAWN BY: TOT	DESIGNED BY: MCD	APPROVED BY:
						SHEET C-010

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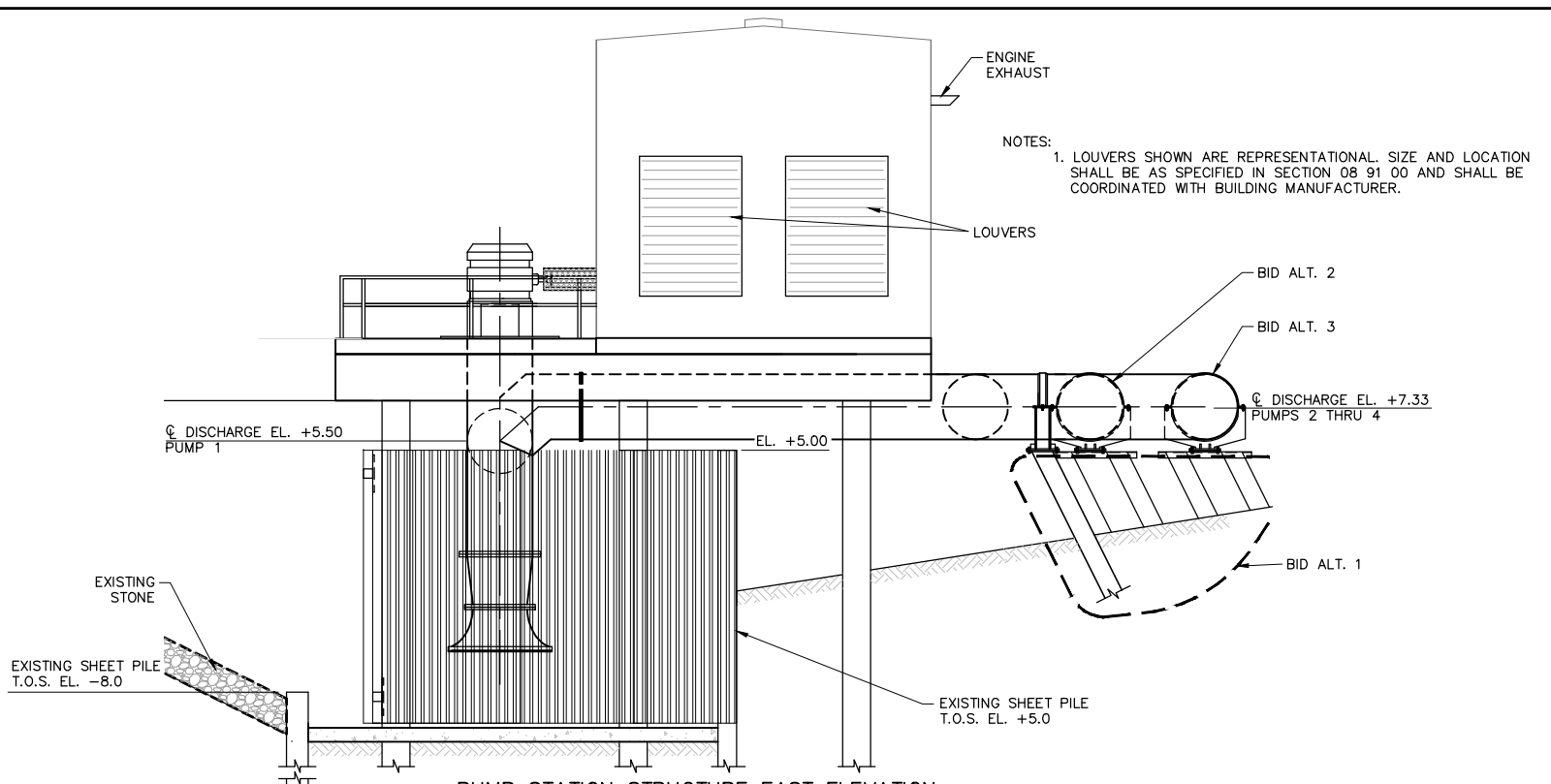
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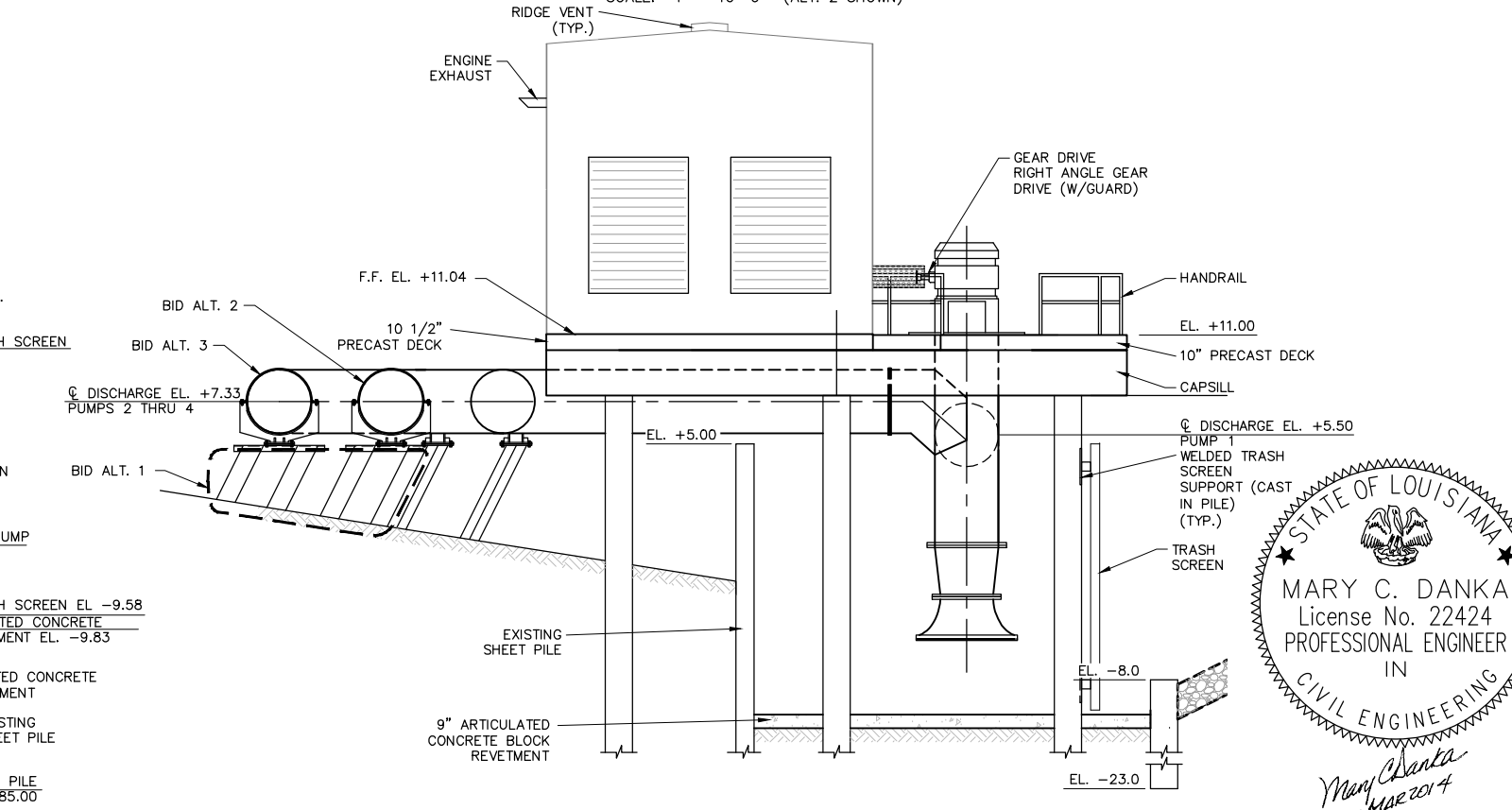
PUMP STATION STRUCTURE PLAN
SCALE: 1" = 10'-0" (ALT. 2 SHOWN)



PUMP STATION STRUCTURE SOUTH ELEVATION
SCALE: 1" = 10'-0" (ALT. 2 SHOWN)



PUMP STATION STRUCTURE EAST ELEVATION
SCALE: 1" = 10'-0" (ALT. 2 SHOWN)



PUMP STATION STRUCTURE WEST ELEVATION
SCALE: 1" = 10'-0" (ALT. 2 SHOWN)

NOTES:
1. LOUVERS SHOWN ARE REPRESENTATIONAL. SIZE AND LOCATION SHALL BE AS SPECIFIED IN SECTION 08 91 00 AND SHALL BE COORDINATED WITH BUILDING MANUFACTURER.

MHW EL. +2.5
MLW EL. +1.00



REV.	DATE	DESCRIPTION	BY
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD

Shaw Environmental & Infrastructure, Inc.
(A CB&I COMPANY)

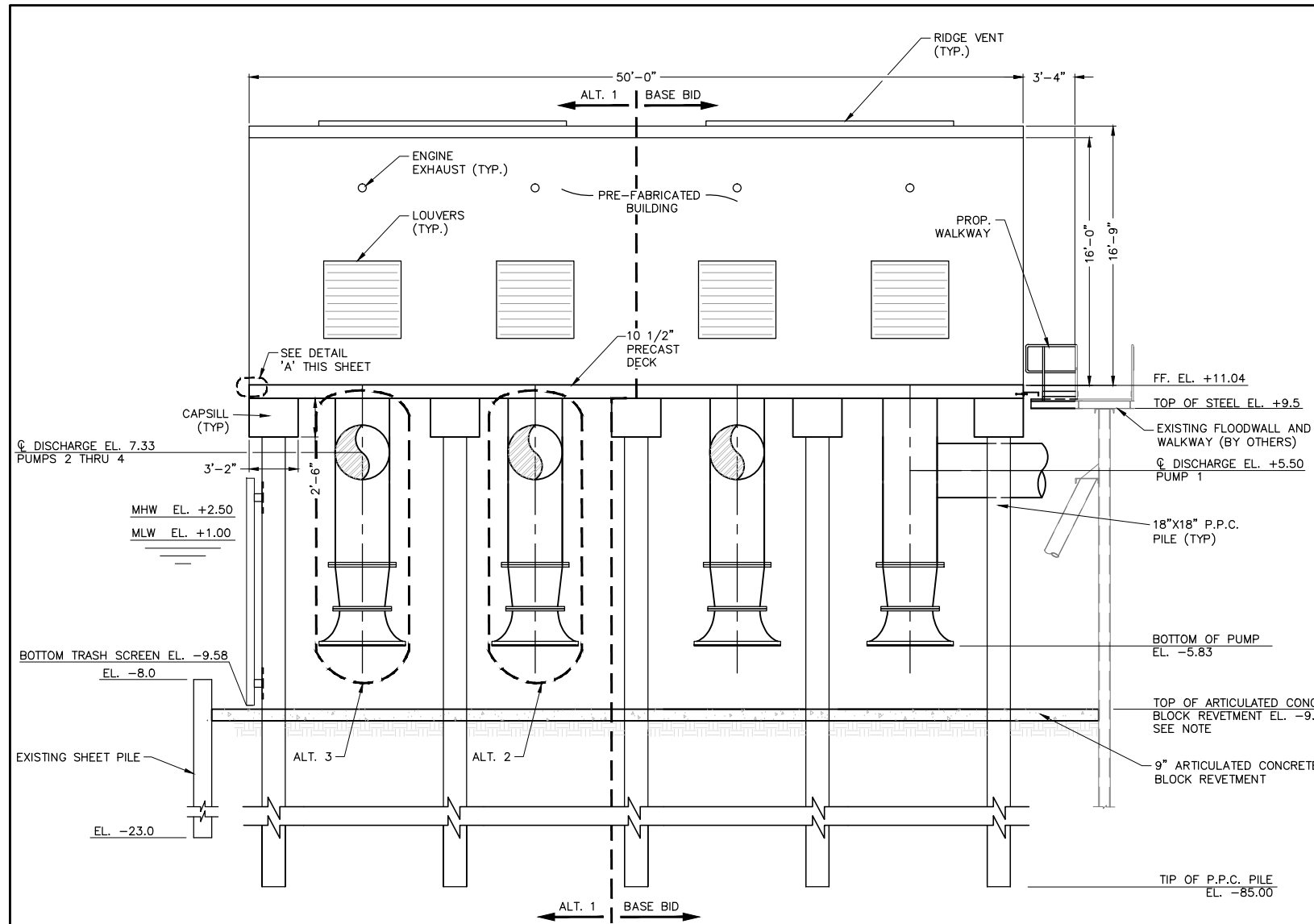
OFFICE LOCATIONS:
197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434
4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801
DRAWN BY: TOT
DESIGNED BY: MCD

PLAN AND ELEVATIONS SHEET 1
STATE PROJECT NUMBER: TV-52
APPROVED BY:

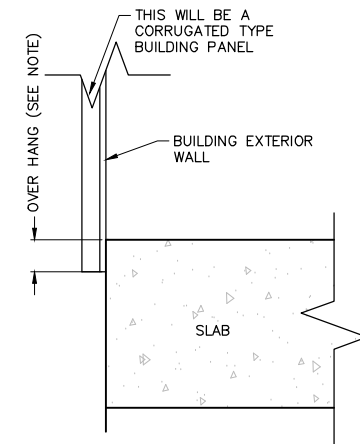
DATE: AUGUST 2013
SHEET S-001

WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.



PUMP STATION STRUCTURE NORTH ELEVATION
SCALE: 1" = 10'-0" (ALT. 2 SHOWN)

NOTE:
1. PLACEMENT OF ARTICULATED CONCRETE BLOCK SHALL HAVE TOP OF BLOCK AT EL. -9.83. TOLERANCE FOR PLACEMENT IS +2", -0".



NOTE: NORTH, WEST AND EAST SIDES - 2" OVERHANG, SOUTH SIDE - 1/4" OVERHANG

DETAIL 'A'
SCALE: 1" = 1'-0"



REV.	DATE	DESCRIPTION	BY
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD

Shaw Environmental & Infrastructure, Inc.
(A CB&I COMPANY)

OFFICE LOCATIONS:
197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434
4171 ESSEN LANE BATON ROUGE, LA. 70809 PHONE: 225.932.2758

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: TOT

DESIGNED BY: MCD

PLAN AND ELEVATIONS
SHEET 2

STATE PROJECT NUMBER: TV-52

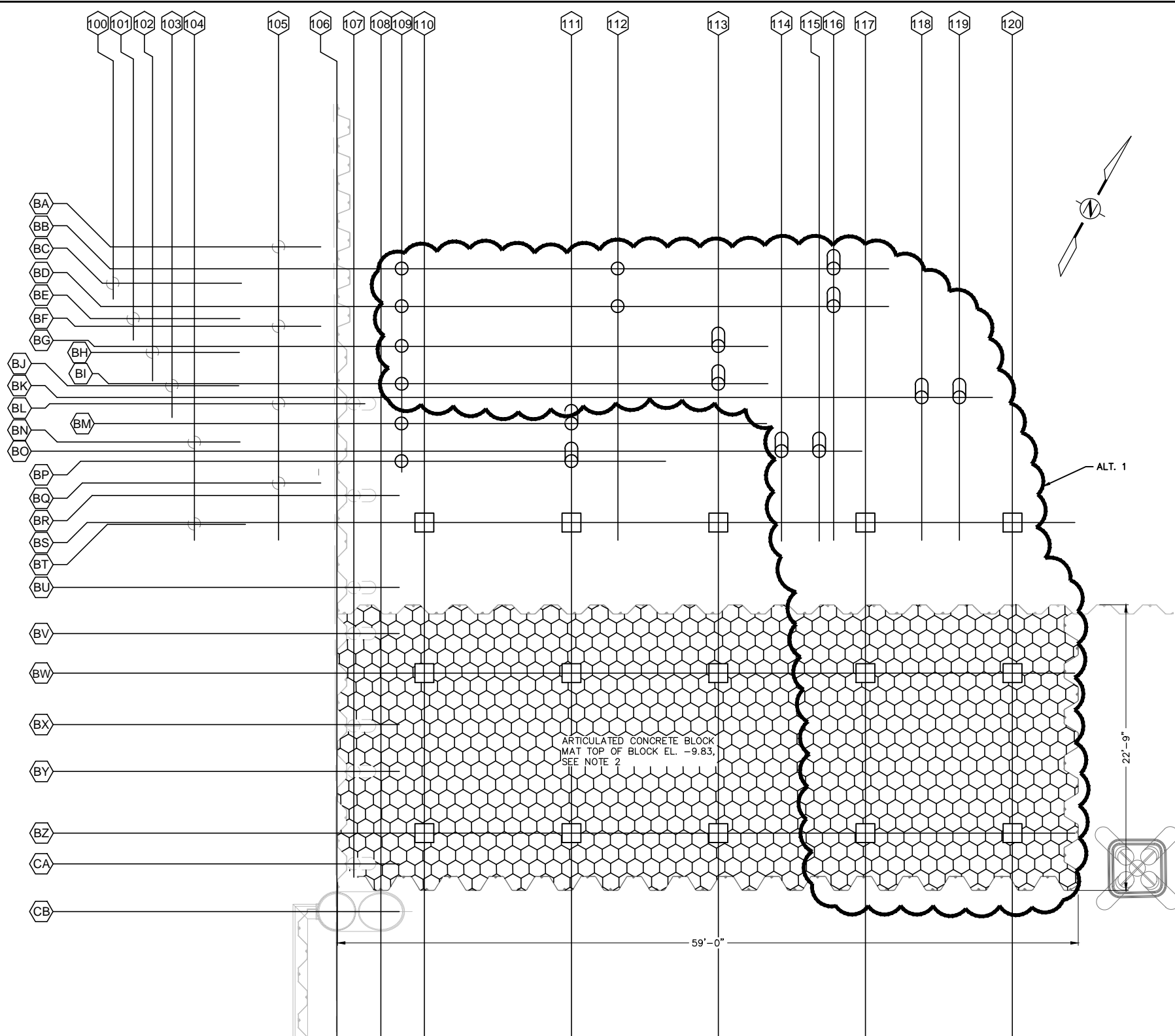
APPROVED BY:

DATE: AUGUST 2013

SHEET S-002

WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.

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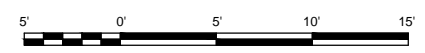
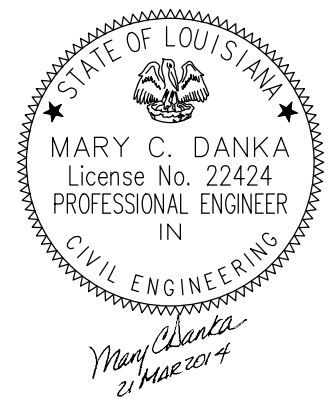


PROPOSED PILE SCHEDULE									
GRID LINE	NORTHING	EASTING	PILE TYPE	WALL THK.	PILE TIP EL.	PILE CUT-OFF EL.	PILE LENGTH (FT.)	INSTALL	BID
BB109	466802.151	3218997.480	12"Ø STEEL PILE	0.375"	-30.00	+4.88	35.00	VERTICAL	ALT. 1
BB112	466810.606	3219012.457	12"Ø STEEL PILE	0.375"	-30.00	+4.88	35.00	VERTICAL	ALT. 1
BB116	466819.060	3219027.435	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	ALT. 1
BD109	466799.539	3218998.955	12"Ø STEEL PILE	0.375"	-30.00	+4.88	35.00	VERTICAL	ALT. 1
BD112	466807.933	3219013.932	12"Ø STEEL PILE	0.375"	-30.00	+4.88	35.00	VERTICAL	ALT. 1
BD116	466816.447	3219028.909	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	ALT. 1
BG109	466796.781	3219000.512	12"Ø STEEL PILE	0.375"	-30.00	+4.88	35.00	VERTICAL	ALT. 1
BG113	466809.176	3219022.471	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	ALT. 1
BI109	466794.169	3219001.987	12"Ø STEEL PILE	0.375"	-30.00	+4.88	35.00	VERTICAL	ALT. 1
BI113	466806.564	3219023.946	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	ALT. 1
BK118	466813.580	3219038.580	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	ALT. 1
BK119	466815.055	3219041.192	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	ALT. 1
BM109	466791.404	3219003.533	12"Ø STEEL PILE	0.375"	-30.00	+4.88	35.00	VERTICAL	BASE BID
BM111	466798.050	3219015.307	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	BASE BID
BO114	466804.353	3219030.965	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	ALT. 1
BO115	466805.828	3219033.578	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	ALT. 1
BP109	466788.792	3219005.008	12"Ø STEEL PILE	0.375"	-30.00	+4.88	35.00	VERTICAL	BASE BID
BP111	466795.437	3219016.782	12"Ø STEEL PILE	0.375"	-30.00	+4.88	37.00	BATTERED	BASE BID
BS110	466785.432	3219008.984	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	BASE BID
BS111	466791.187	3219019.180	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	BASE BID
BS113	466796.943	3219029.377	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	BASE BID
BS117	466802.698	3219039.573	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	ALT. 1
BS120	466808.453	3219049.769	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	ALT. 1
BW110	466774.982	3219014.883	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	BASE BID
BW111	466780.737	3219025.079	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	BASE BID
BW113	466786.493	3219035.275	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	BASE BID
BW117	466792.248	3219045.471	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	ALT. 1
BW120	466798.003	3219055.668	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	ALT. 1
BZ110	466763.879	3219021.151	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	BASE BID
BZ111	466769.634	3219031.347	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	BASE BID
BZ113	466775.389	3219041.543	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	BASE BID
BZ117	466781.145	3219051.739	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	ALT. 1
BZ120	466786.900	3219061.935	18"X18" PPC PILE	N/A	-85.00	+8.42	93.42	VERTICAL	ALT. 1

* PDA PILES

EXISTING PILES	
GRID LINE	PILE TYPE
BA105	VERTICAL STEEL
BC100	VERTICAL STEEL
BE101	VERTICAL STEEL
BF105	VERTICAL STEEL
BH102	VERTICAL STEEL
BJ103	VERTICAL STEEL
BL105	VERTICAL STEEL
BL107	BATTERED STEEL
BN104	VERTICAL STEEL
BQ105	VERTICAL STEEL
BR107	BATTERED STEEL
BT104	VERTICAL STEEL
BU107	BATTERED STEEL
BV107	BATTERED STEEL
BX107	BATTERED STEEL
BY107	BATTERED STEEL
CA107	BATTERED STEEL
CB106	CAISSON
CB108	CAISSON

- NOTE:
- PRE-CONSTRUCTION SURVEY TO LOCATE ALL EXISTING PILE LOCATIONS.
 - CONTRACTOR SHALL REMOVE SINGULAR BLOCK ELEMENT AS NECESSARY TO DROP ACB MATS OVER PPC PILES. MATS SHALL BE STRAPPED TOGETHER EVERY 5' (MIN.) AND AS RECOMMENDED BY MANUFACTURER.
 - SEE DETAIL A SHEET S-010 FOR MAT TIE DETAIL.



REV.	DATE	DESCRIPTION	BY
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD

Shaw Environmental & Infrastructure, Inc.
(A CB&I COMPANY)

OFFICE LOCATIONS:
197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434
4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758

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

DRAWN BY: TOT DESIGNED BY: MCD

PILE LAYOUT

STATE PROJECT NUMBER: TV-52

APPROVED BY:

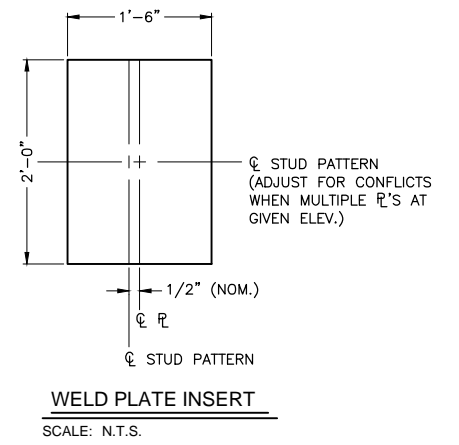
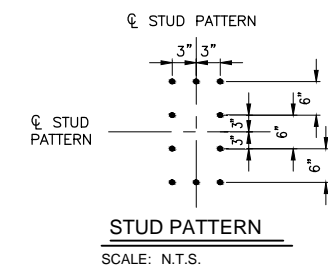
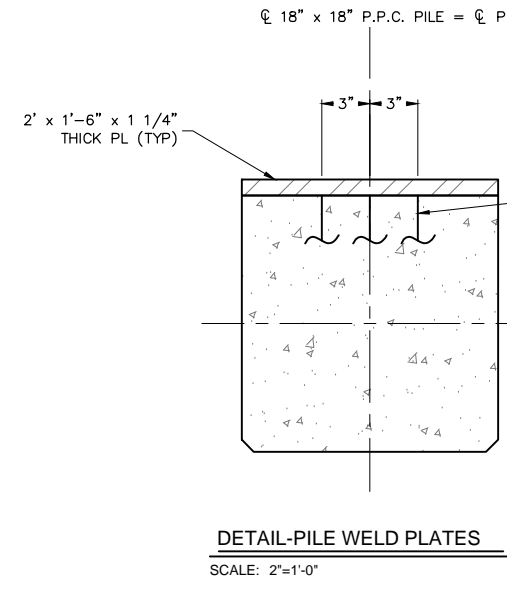
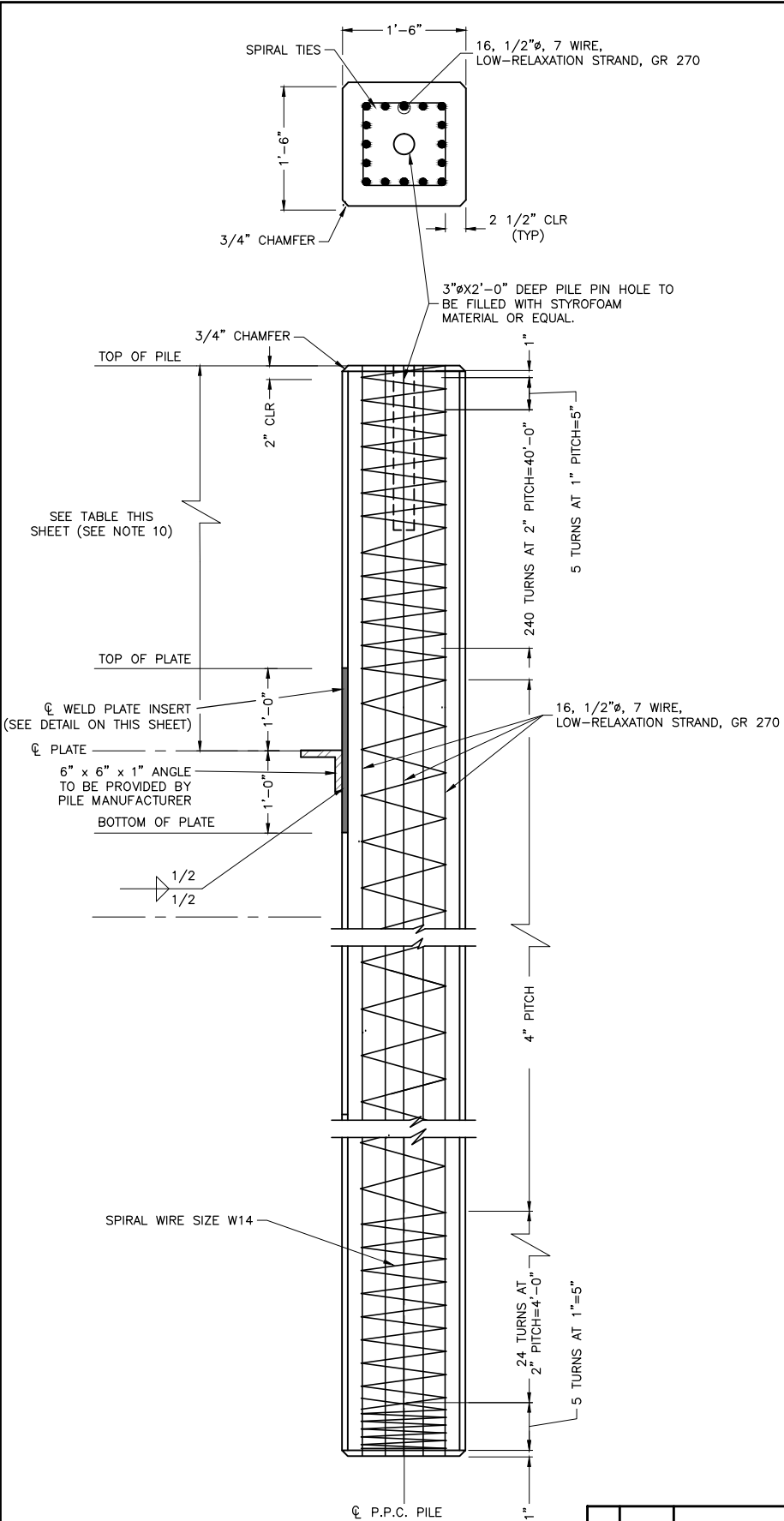
DATE: AUGUST 2013

SHEET S-003

WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.

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WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.



PILE #	TRASH SCREEN PLATE ϕ DISTANCE TO TOP OF PILE (FT.)	SUPPORT PLATE DISTANCE TO TOP OF PILE (FT.)
BS 113	N/A	4.987
BS 117	N/A	4.987
BS 120	N/A	4.987
BW 110	N/A	6.817
BW 111	N/A	4.987
BW 113	4.917, 16.667 +	4.987
BW 120	4.917, 16.667 *	N/A
BZ 110	4.917, 16.667 *	6.817
BZ 111	4.917, 16.667 *	N/A
BZ 113	4.917, 16.667 *	N/A
BZ 117	4.917, 16.667 *	N/A
BZ 120	4.917, 16.667 *	N/A

BID ALT. 1 LOCATION
BID ALT. 1 LOCATION

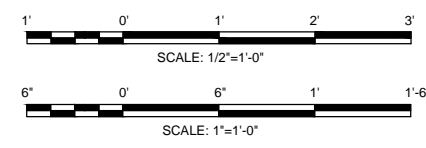
* DENOTES PLATES TO INCLUDE 6"x6"x1" ANGLE
+ BASE BID ONLY
SEE SHEET S-005 FOR ϕ LOCATIONS & NUMBER

PILE SCHEDULE	
PILE ULTIMATE CAPACITY	
TENSION	COMPRESSION
98 TONS	152 TONS

- NOTES:
- STRANDS SHALL BE 0.5" DIAMETER, 7 WIRE, GRADE 270, LOW-RELAXATION CONFORMING TO ASTM A416. REINFORCING BARS SHALL BE DEFORMED ASTM, A615.
 - WEIGHT-340 LBS./LF NOMINAL BASED ON 150 LBS. PER CU./FT. OF CONCRETE.
 - THE TENSIONING LOAD IN EACH STRAND SHALL BE 29 KIPS, RESULTING IN A MINIMUM EFFECTIVE PRESTRESS OF 1,100 PSI OR GREATER AFTER LOSSES.
 - STEEL WELD-PLATE SHALL BE ASTM A572-GRADE 60.
 - MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 6,000 PSI AT 28 DAYS. THE INITIAL COMPRESSIVE STRENGTH OF THE CONCRETE AT THE TIME OF RELEASE SHALL BE A MINIMUM OF 3,900 PSI.
 - PILE LIFT POINTS TO BE PROVIDED BY THE FABRICATOR IN ACCORDANCE WITH SPECIFICATIONS.
 - COLD DRAWN WIRE SPIRAL REINFORCEMENT SHALL CONFORM TO ASTM A82.
 - STUD MATERIAL SHALL BE ASTM A193 GR. B7, 125 KSI OR F1554, GR. 105 OR APPROVED EQUAL.
 - STRUCTURAL STEEL ANGLE AND WELD PLATE INSERTS TO BE HOT DIP GALVANIZED STEEL.
 - REFER TO SHEET S-016 FOR WELD PLATE LOCATIONS.

NOTE:
GRIND PRESTRESSED STRANDS FLUSH WITH PILE HEAD AND PILE TIP AND PAINT WITH AN APPROVED EPOXY PAINT.

18"x18" PRESTRESSED PRECAST CONCRETE PILE
SCALE: 1/2"=1'-0"



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Shaw Environmental & Infrastructure, Inc.
(A CB&I COMPANY)

OFFICE LOCATIONS:
197 ELYSIAN DRIVE
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PHONE: 985.868.3434

4171 ESSEN LANE
BATON ROUGE, LA 70809
PHONE: 225.932.2758

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

DRAWN BY: TOT
DESIGNED BY: MCD

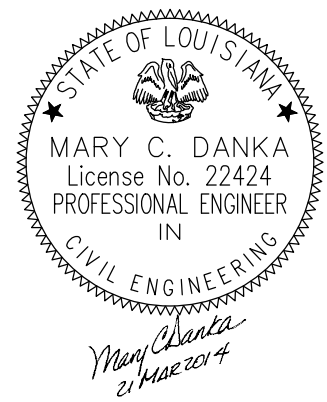
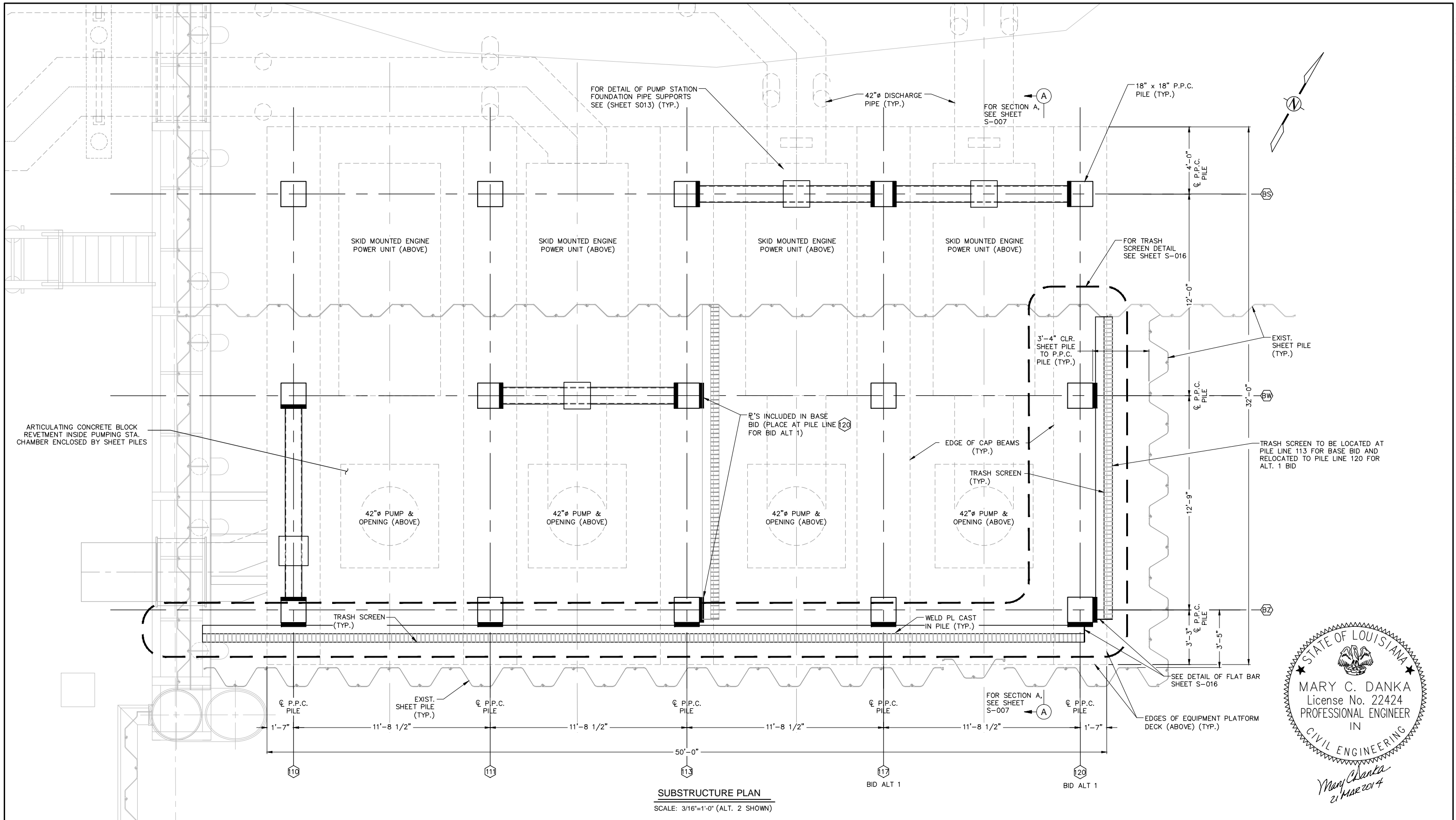
PRECAST PRESTRESSED PILES SECTIONS & DETAILS

STATE PROJECT NUMBER: TV-52

DATE: AUGUST 2013

SHEET S-004





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

DRAWN BY: TOT DESIGNED BY: MCD

PUMP STATION SUBSTRUCTURE

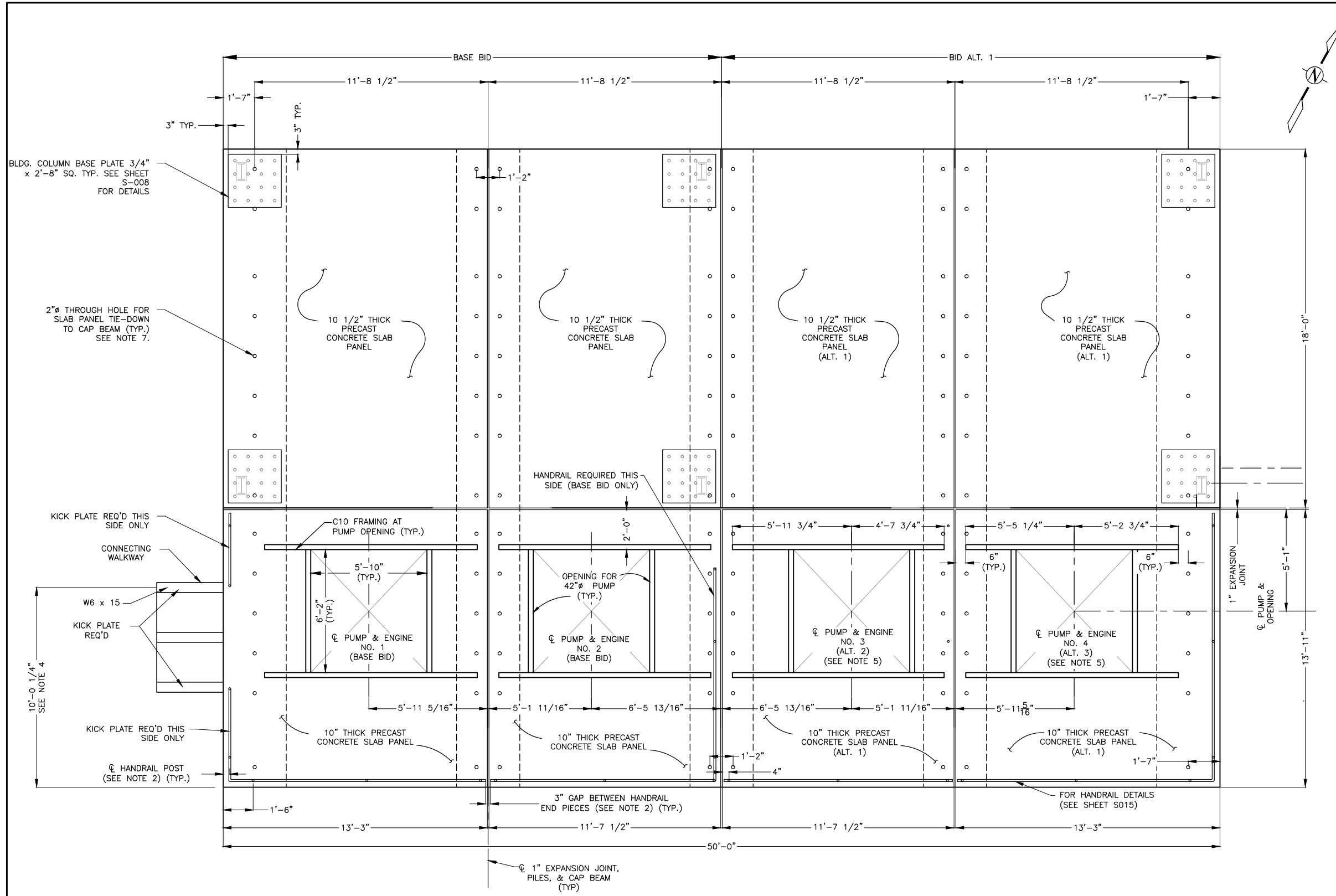
STATE PROJECT NUMBER: TV-52

APPROVED BY:

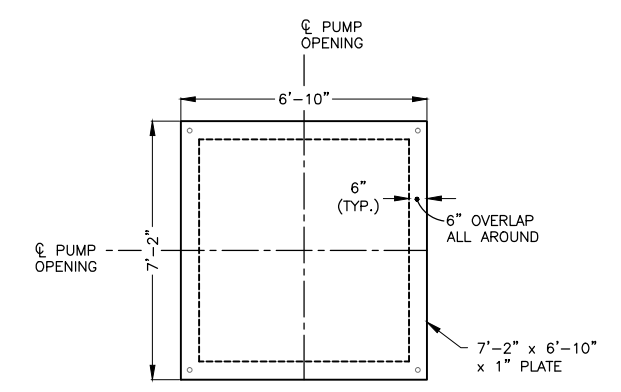
DATE: AUGUST 2013
SHEET S-005

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- GENERAL NOTES:**
1. REFER TO SHEET G003 FOR GENERAL NOTES.
 2. FOR HANDRAIL STD. DETAIL, REFER TO SHEET S-015.
 3. ALL SLAB JOINTS ARE 1". SEE DETAILS, SHEET S-008.
 4. WALKWAY LOCATION TO BE VERIFIED IN FIELD. W6 x 15 SECTION TO BE FIELD END SPLICED TO EXISTING WALKWAY W6 x 15 SECTION.
 5. FOR BID ALT. 1, SEE DETAIL 'A' WHERE COVER PLATE WILL BE INSTALLED IN PLACE OF PUMPS 3 AND 4. UTILIZE SAME BOLT PATTERN AS FOR BASE PLATE.
 6. PUMP OPENING SIZE SHALL BE VERIFIED WITH PUMP MANUFACTURER.
 7. DIMENSIONS OF 2"Ø THROUGH HOLES FOR SLAB PANEL TIE-DOWN TO CAP BEAM TO BE PROVIDED BY CONTRACTOR IN SHOP DRAWINGS.



DETAIL A
SCALE: 3/16" = 1'-0"

PUMP STATION PLATFORM PLAN
SCALE: 3/16" = 1'-0"



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

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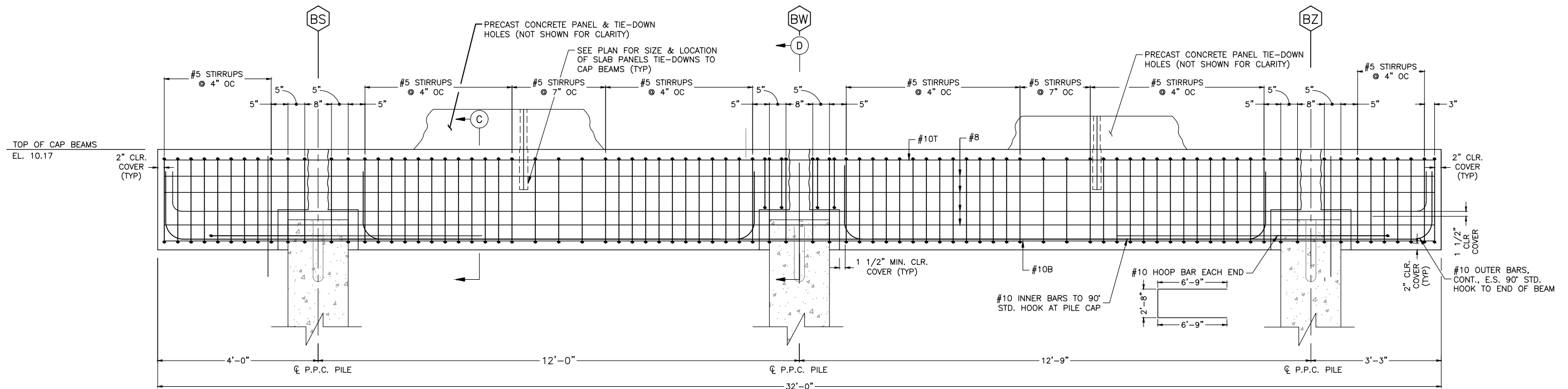
PUMP STATION SLAB PLAN

STATE PROJECT NUMBER: TV-52

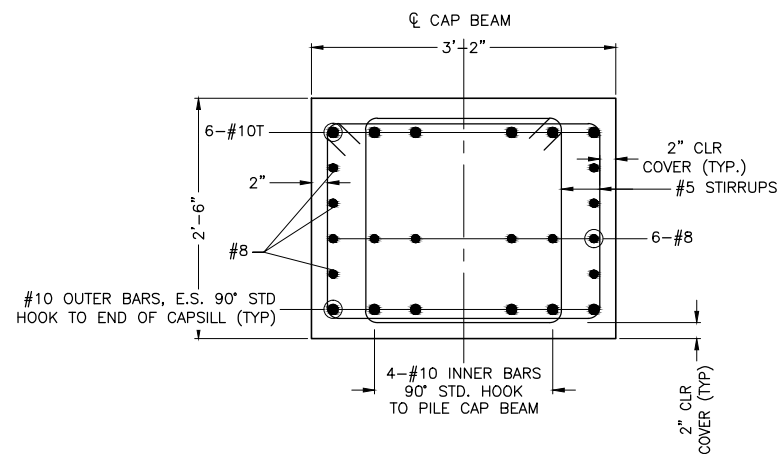
DATE: JUNE 2013

SHEET S-006

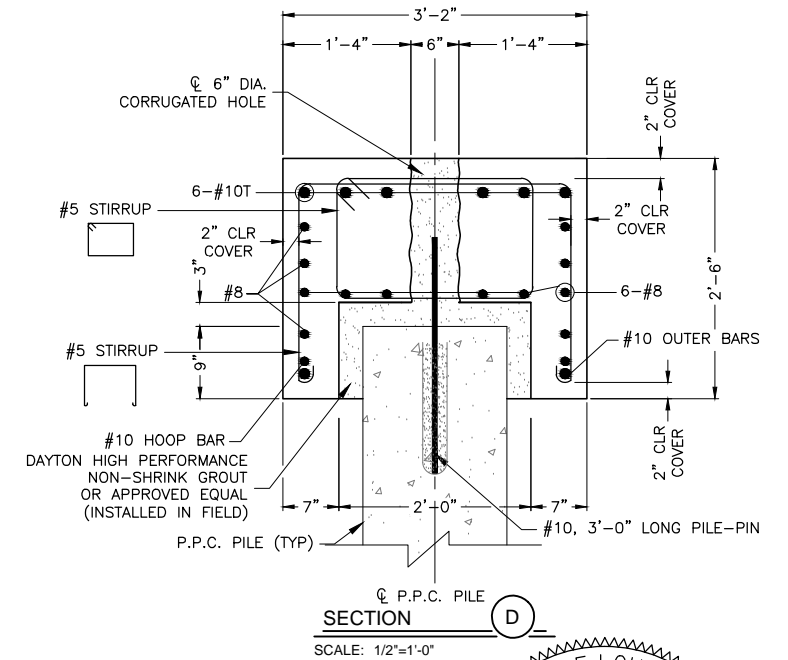
WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.



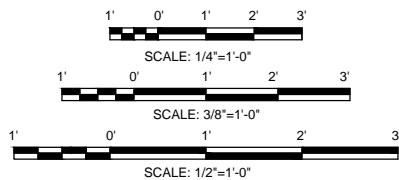
SECTION-PRECAST CONCRETE CAP BEAM REINFORCING
SCALE: 3/8"=1'-0" (3 REQ'D) (2 REQ'D ALT. 1)



SECTION C
SCALE: 1/2"=1'-0"



SECTION D
SCALE: 1/2"=1'-0"



- NOTES:
1. FOR GENERAL NOTES SEE DRAWING G-003.
2. FOR PLATFORM BEAMS ARRANGEMENT SEE S-005.
3. GROUT HOLES AS SHOWN ON THIS SHEET ARE FOR ILLUSTRATION PURPOSES ONLY, CONTRACTOR SHALL COORDINATE GROUT HOLES LOCATIONS AND SIZES TO BEST SUIT CONTRACTOR'S PRECAST CONCRETE INSTALLATION PLAN.

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COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

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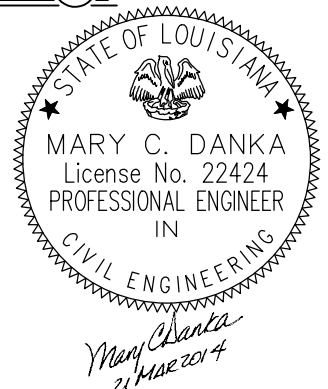
CAP BEAM SECTIONS AND DETAILS

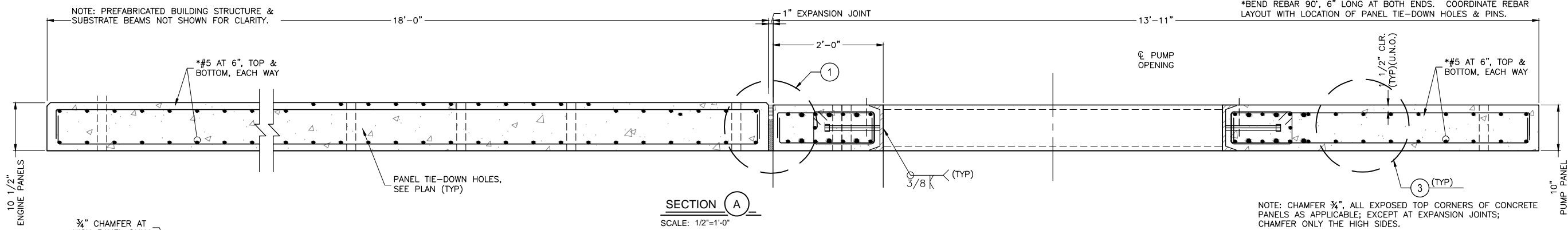
STATE PROJECT NUMBER: TV-52

APPROVED BY:

DATE: JUNE 2013

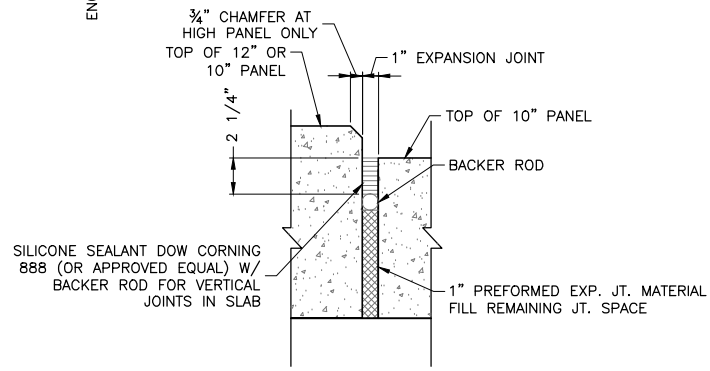
SHEET S-007



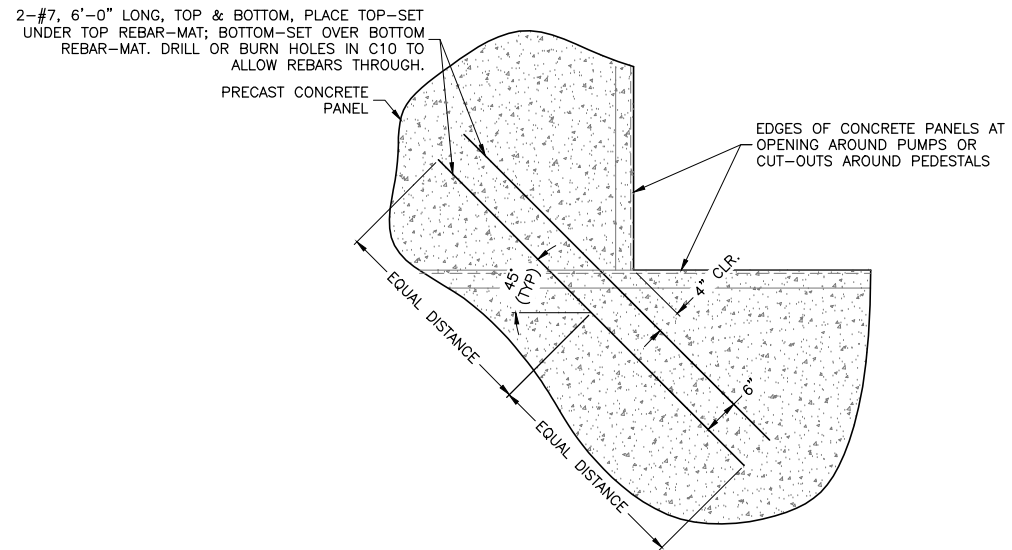


SECTION A
SCALE: 1/2"=1'-0"

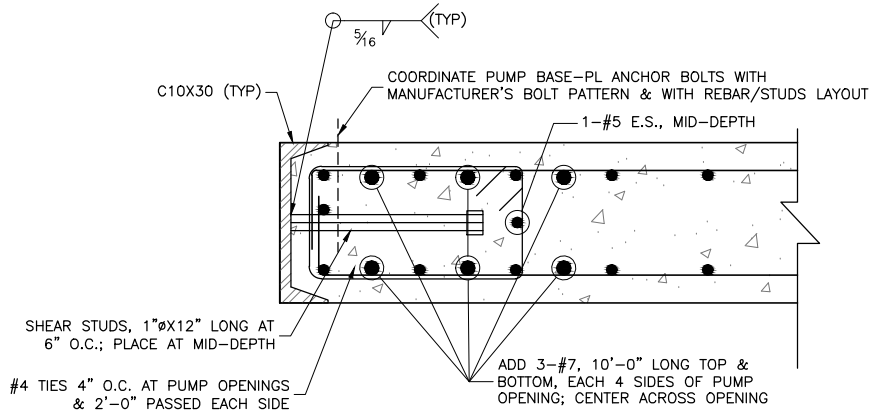
*BEND REBAR 90°, 6" LONG AT BOTH ENDS. COORDINATE REBAR LAYOUT WITH LOCATION OF PANEL TIE-DOWN HOLES & PINS.



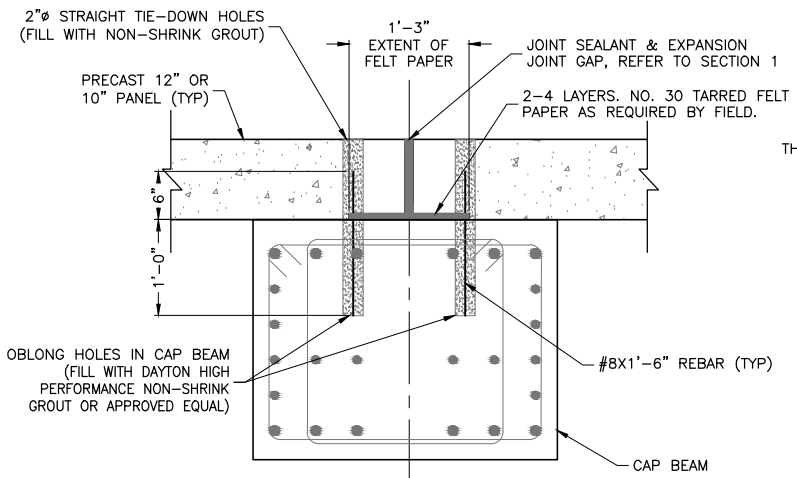
SECTION/DETAIL 1
SCALE: 1"=1'-0"



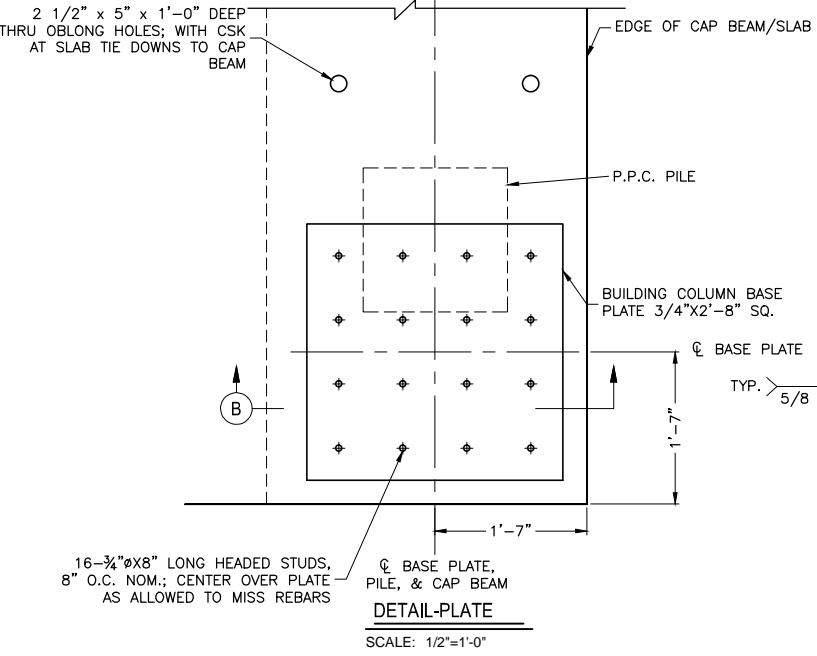
DETAIL-PAN, ADDITIONAL CORNER REINFORCEMENT AT CUT-OUTS AROUND PUMP OPENINGS
SCALE: 3/8"=1'-0"



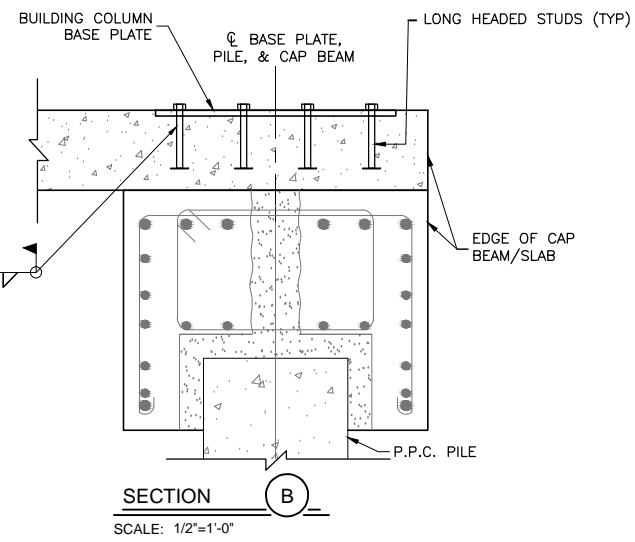
DETAIL 3
SCALE: 1"=1'-0"



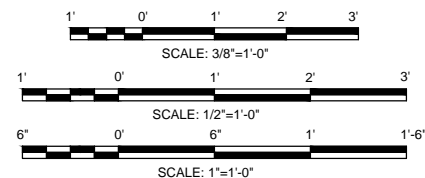
SECTION-SLAB TO CAP BEAM CONNECTION AT DROP DOWELS
SCALE: 1/2"=1'-0"



DETAIL-PLATE
SCALE: 1/2"=1'-0"



SECTION B
SCALE: 1/2"=1'-0"



NOTES:
1. REFER TO SHEET G-003 FOR GENERAL NOTES.

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

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DESIGNED BY: FM

CONCRETE SLAB SECTIONS AND DETAILS

STATE PROJECT NUMBER: TV-52

APPROVED BY:

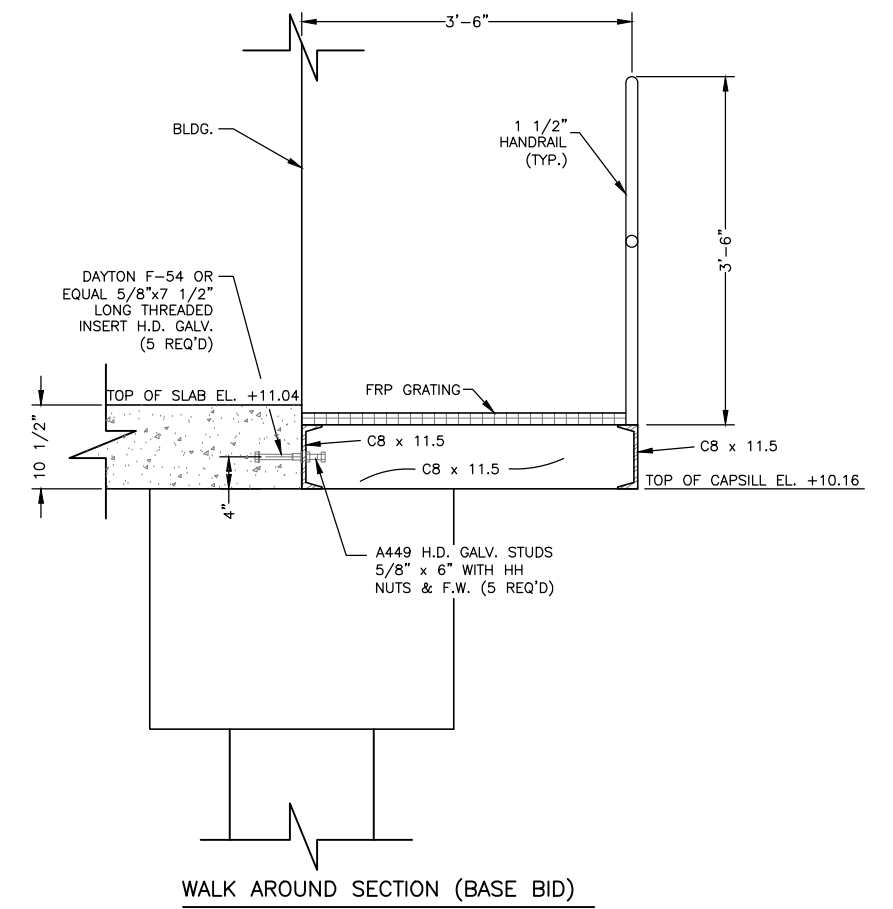
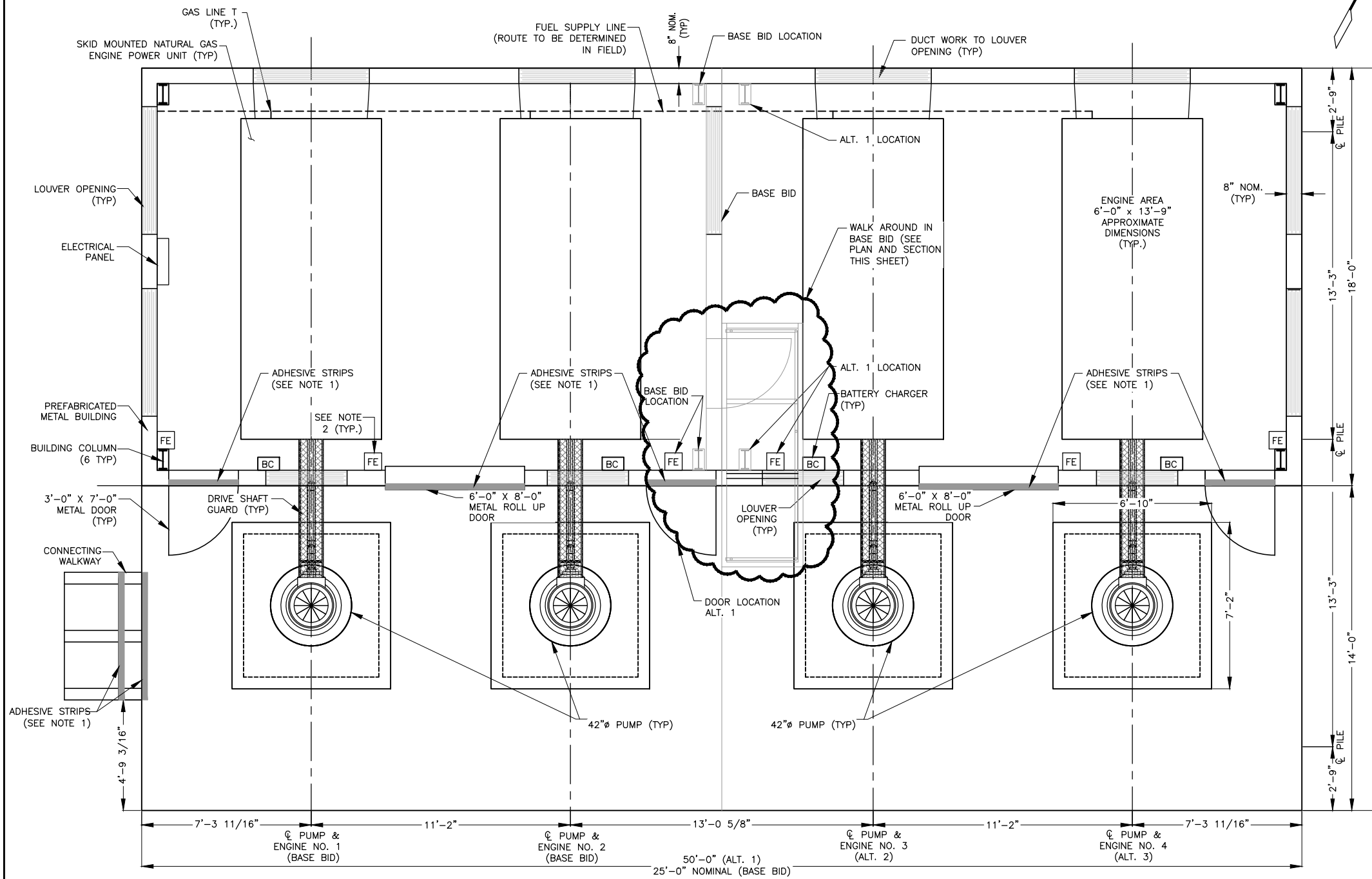


DATE: JUNE 2013

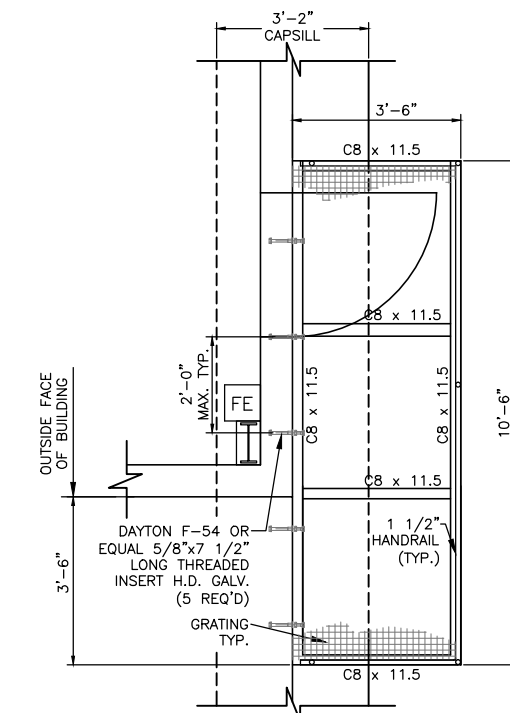
SHEET S-008

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- GENERAL NOTES:**
1. PLACE ADHESIVE 3M SAFETY-WALK SLIP-RESISTANT YELLOW TAPE (2") OR APPROVED EQUAL AS INDICATED ON PLANS. CLEAN & PRIME SURFACE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
 2. PLACE 10 - LB. CLASS ABC FIRE EXTINGUISHER WITH APPROPRIATE WALL MOUNTING.



WALK AROUND SECTION (BASE BID)
SCALE: 1/2" = 1'-0"



WALK AROUND PLAN (BASE BID)
SCALE: 1/4" = 1'-0"

- LEGEND:**
- FE FIRE EXTINGUISHER
 - BC BATTERY CHARGER

FLOOR PLAN
SCALE: 3/16" = 1'-0"
ALTERNATE 1 BUILDING SHOWN
BASE BID AS NOTED



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450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

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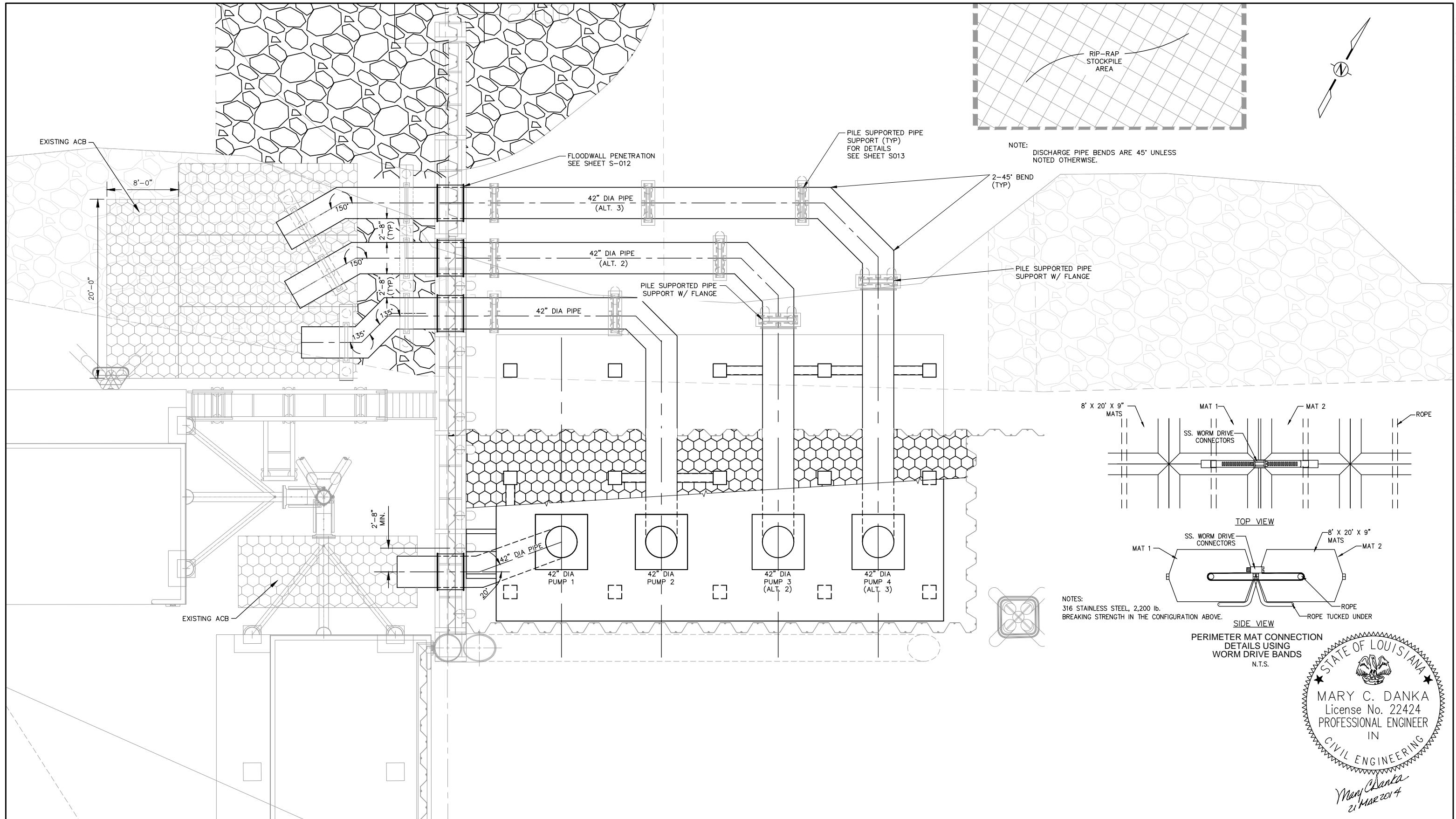
PUMP STATION BUILDING PLAN

STATE PROJECT NUMBER: TV-52

APPROVED BY:

DATE: AUGUST 2013

SHEET S-009



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COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: TOT DESIGNED BY: MCD

DISCHARGE PIPE LAYOUT PLAN

STATE PROJECT NUMBER: TV-52

APPROVED BY:

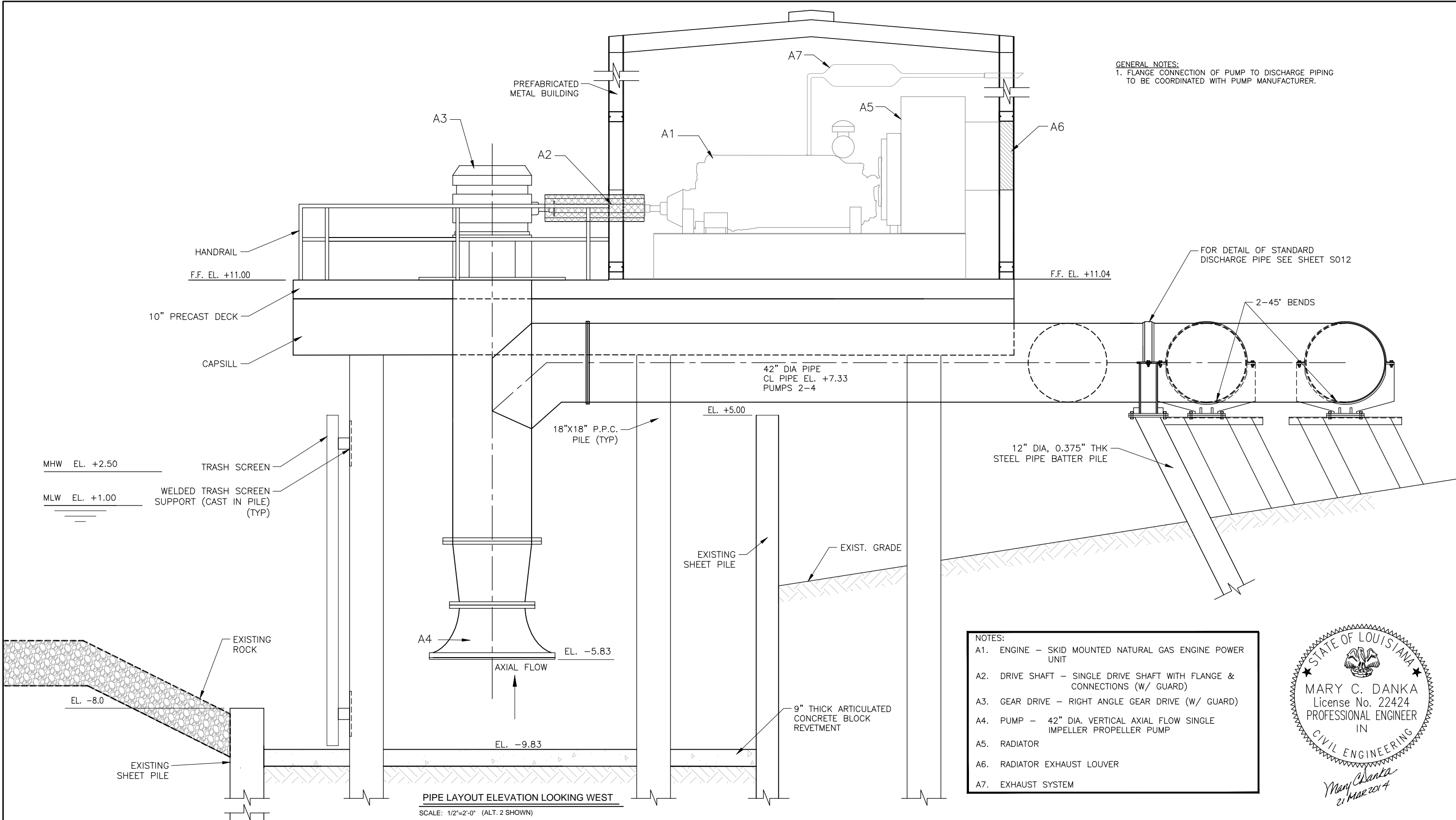
DATE: AUGUST 2013

SHEET S-010



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GENERAL NOTES:
 1. FLANGE CONNECTION OF PUMP TO DISCHARGE PIPING TO BE COORDINATED WITH PUMP MANUFACTURER.

- NOTES:
- A1. ENGINE - SKID MOUNTED NATURAL GAS ENGINE POWER UNIT
 - A2. DRIVE SHAFT - SINGLE DRIVE SHAFT WITH FLANGE & CONNECTIONS (W/ GUARD)
 - A3. GEAR DRIVE - RIGHT ANGLE GEAR DRIVE (W/ GUARD)
 - A4. PUMP - 42" DIA. VERTICAL AXIAL FLOW SINGLE IMPELLER PROPELLER PUMP
 - A5. RADIATOR
 - A6. RADIATOR EXHAUST LOUVER
 - A7. EXHAUST SYSTEM



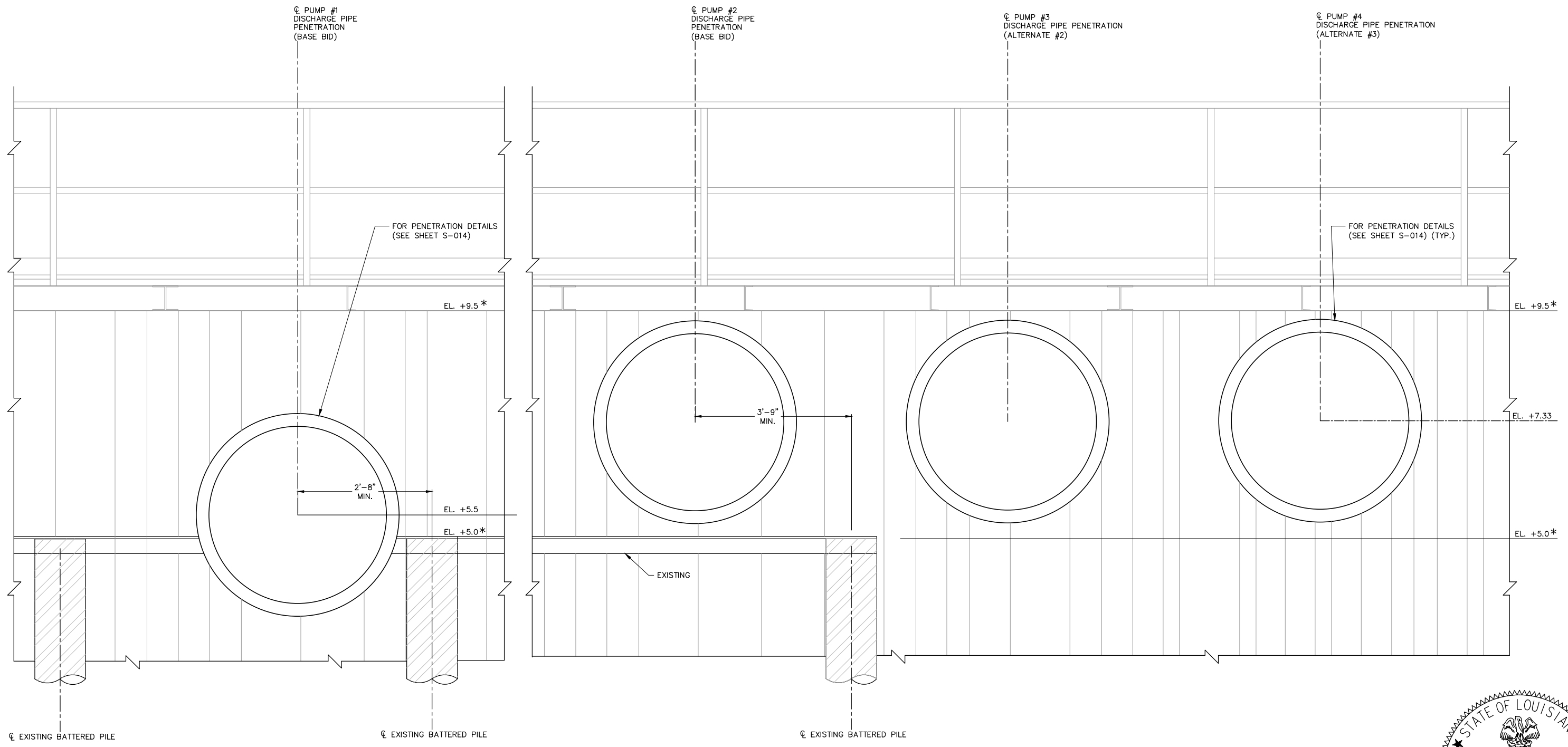
PIPE LAYOUT ELEVATION LOOKING WEST
 SCALE: 1/2"=2'-0" (ALT. 2 SHOWN)

				Shaw Environmental & Infrastructure, Inc. (A CB&I COMPANY)		COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		PIPE LAYOUT ELEVATION	
				OFFICE LOCATIONS: 197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434		4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758		STATE PROJECT NUMBER: TV-52	
								DATE: AUGUST 2013	
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FLOODWALL PENETRATION ELEVATION
(PUMP 1)

SCALE: 1/2"=1'-0"

FLOODWALL PENETRATION ELEVATION
(PUMPS 2,3 & 4)

SCALE: 1/2"=1'-0"

* ELEVATIONS TO BE FIELD VERIFIED



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PIPE PENETRATION ELEVATION

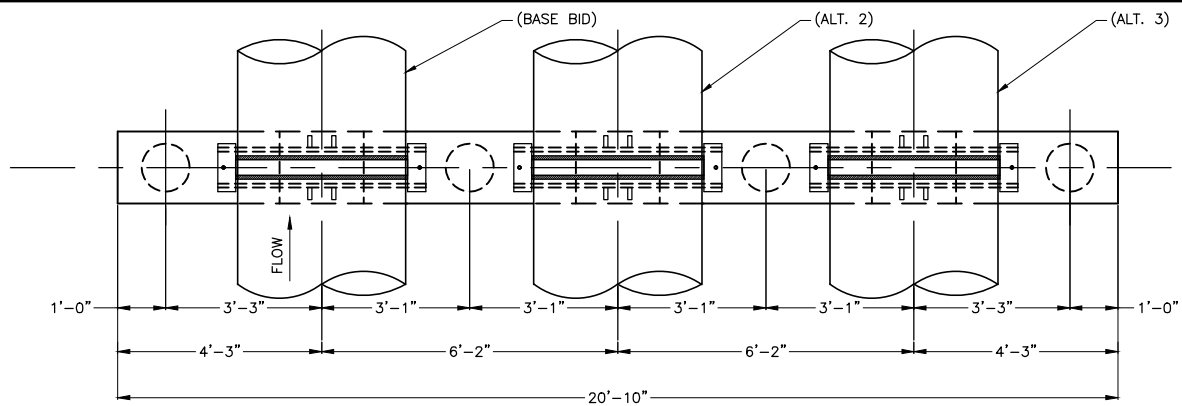
STATE PROJECT NUMBER: TV-52

APPROVED BY:

DATE: AUGUST 2013

SHEET S-012

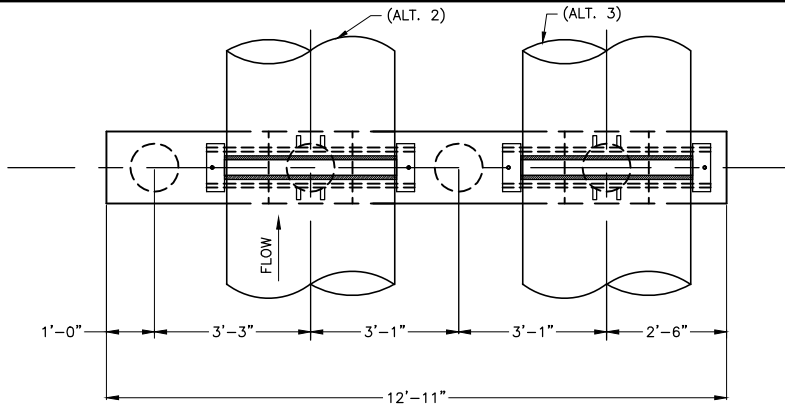
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FLOODSIDE PILE CAP ①

PLAN VIEW

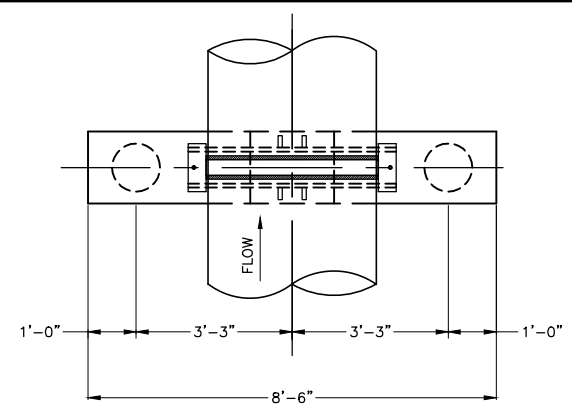
SCALE: 1/4"=1'-0"



FLOODSIDE PILE CAP ②

PLAN VIEW

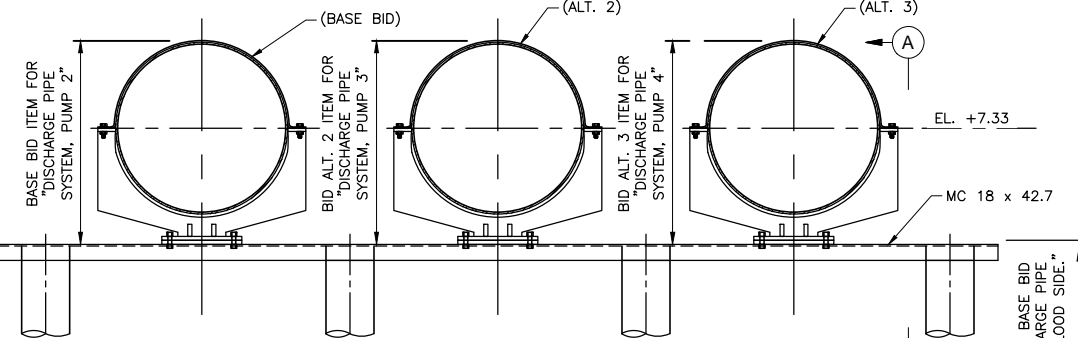
SCALE: 1/4"=1'-0"



FLOODSIDE PILE CAP ③

PLAN VIEW

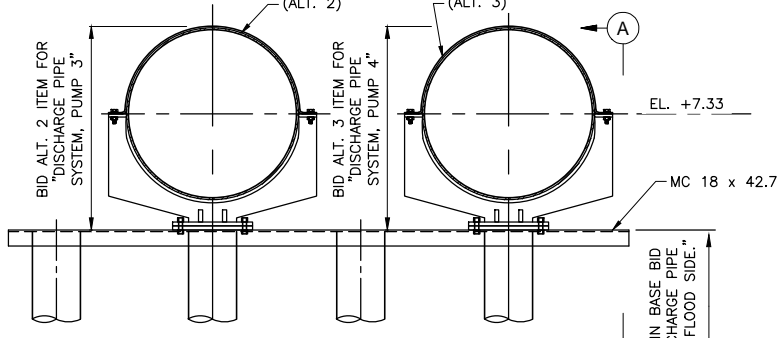
SCALE: 1/4"=1'-0"



FLOODSIDE PILE CAP ①

ELEVATION VIEW

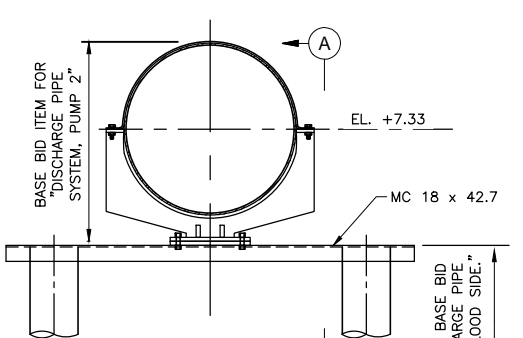
SCALE: 1/4"=1'-0"



FLOODSIDE PILE CAP ②

ELEVATION VIEW

SCALE: 1/4"=1'-0"

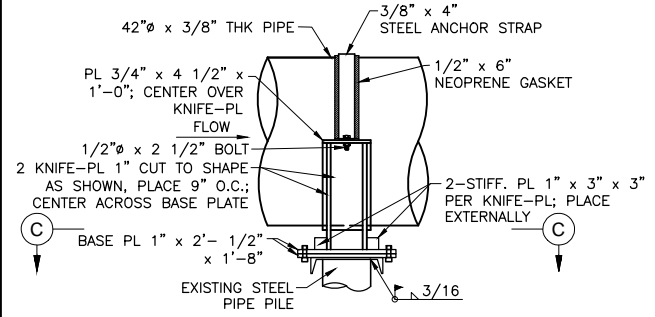


FLOODSIDE PILE CAP ③

ELEVATION VIEW

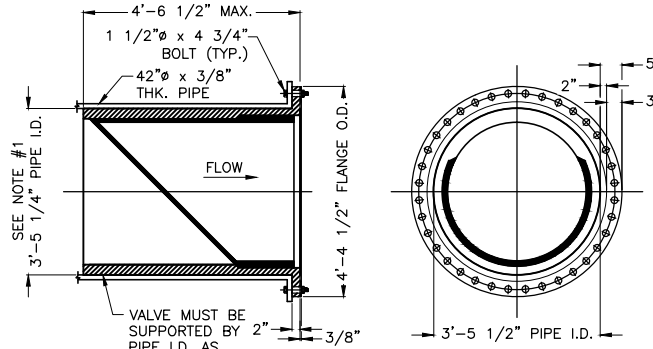
SCALE: 1/4"=1'-0"

NOTE:
FLANGE SIZE AND BOLT PATTERN TO MATCH MANUFACTURER'S.



SECTION 'A-A'

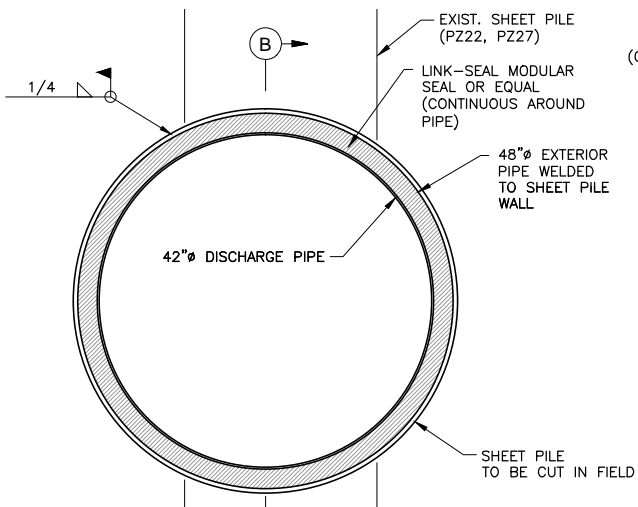
SCALE: 1/4"=1'-0"



42" CHECK VALVE (FLANGE DOWNSTREAM)

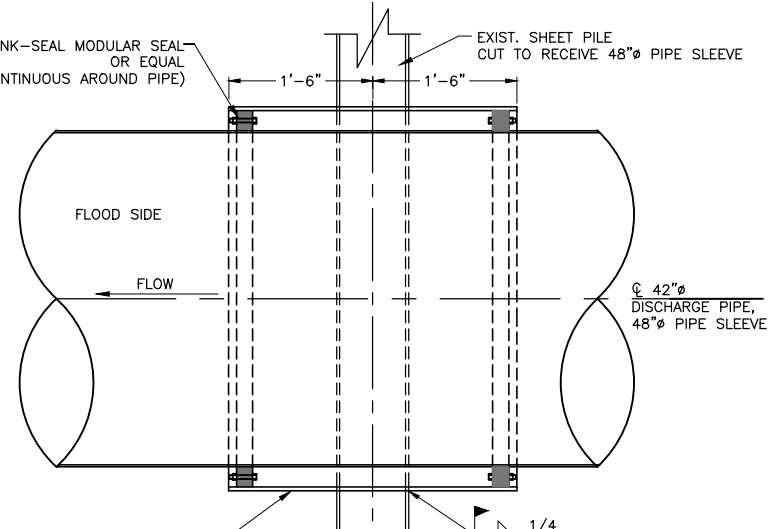
SCALE: 1/4"=1'-0"

TIDEFLEX CHECKMATE VALVE OR APPROVED EQUAL



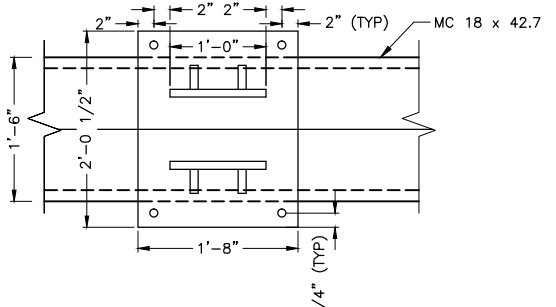
FLOODWALL PENETRATION

SCALE: 1/2"=1'-0"



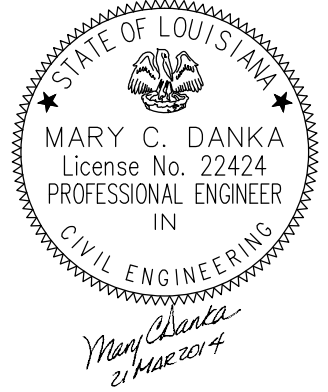
SECTION B

SCALE: 1/2"=1'-0"



SECTION 'C-C'

SCALE: 1/2"=1'-0"



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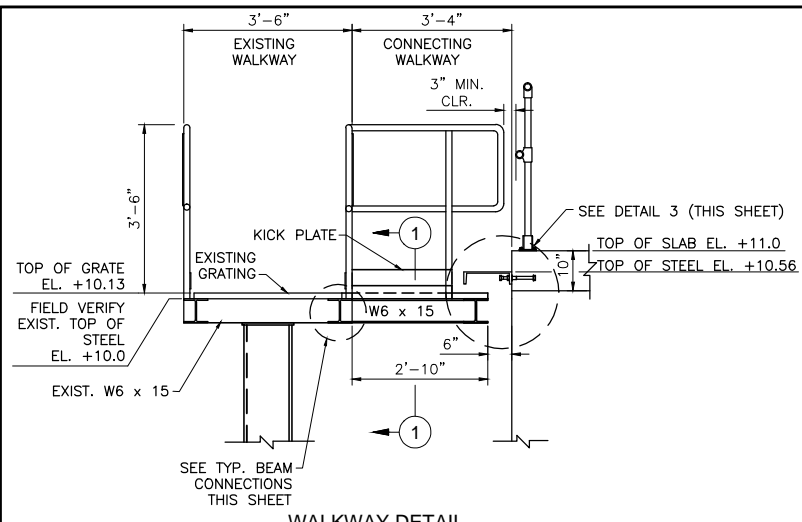
OFFICE LOCATIONS:
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COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
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DISCHARGE PIPE DETAILS SHEET 2
STATE PROJECT NUMBER: TV-52
APPROVED BY:

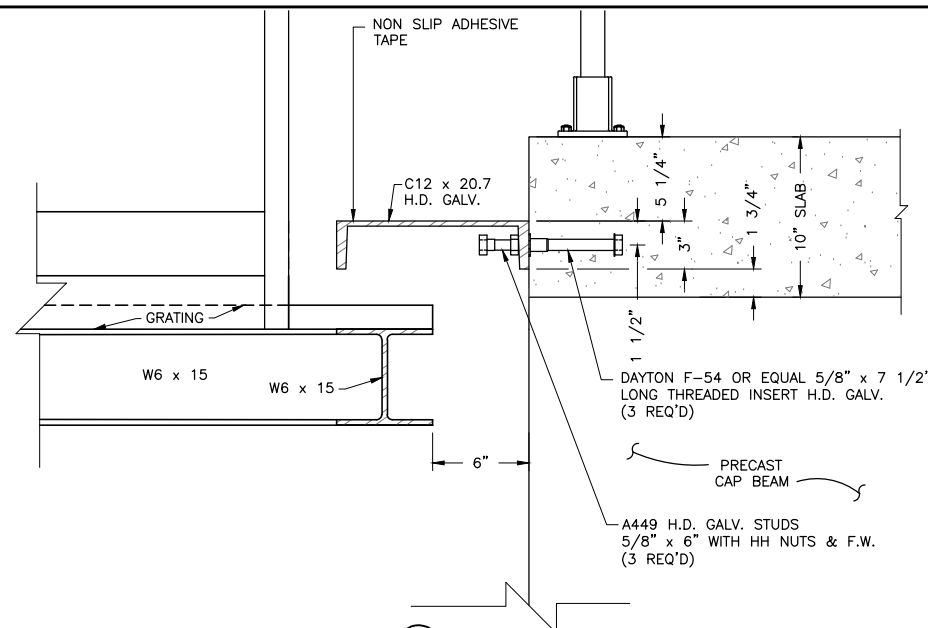
DATE: AUGUST 2013
SHEET S-014

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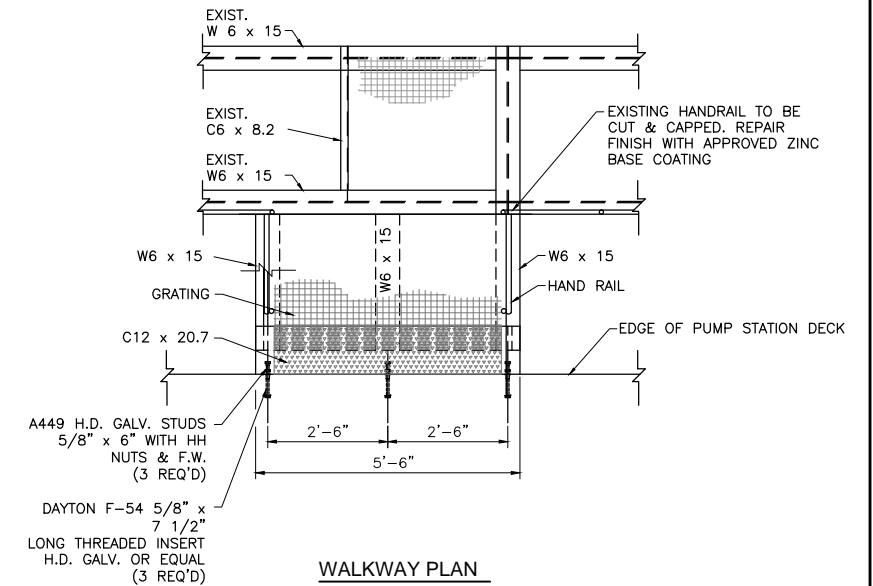
WALKWAY DETAIL

SCALE: 1/4"=1'-0"



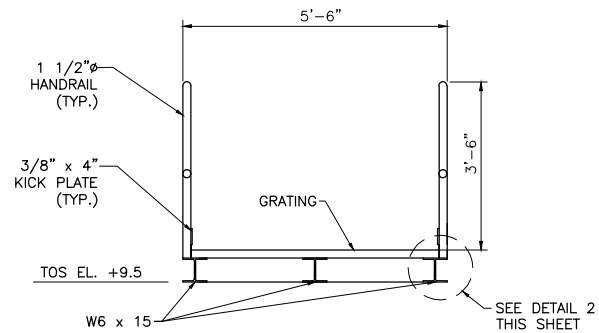
DETAIL 3

SCALE: 1"=1'-0"



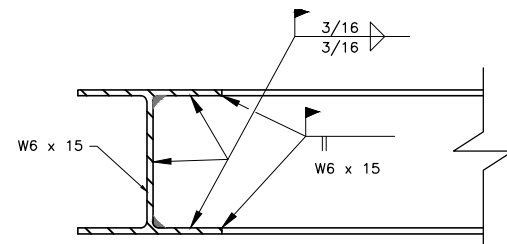
WALKWAY PLAN

SCALE: 1/4"=1'-0"



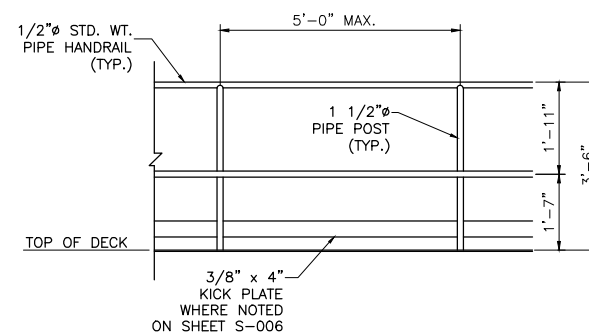
SECTION 1

SCALE: 1/4"=1'-0"



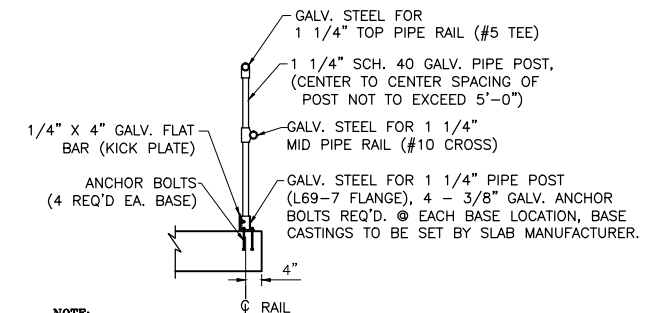
TYPICAL BEAM CONNECTIONS

SCALE: N.T.S.



PUMP STATION TYPICAL HANDRAIL DETAIL

SCALE: 1/4"=1'-0"

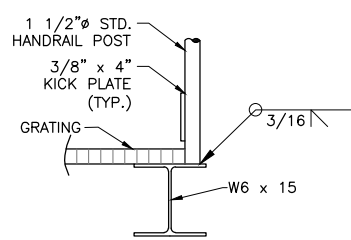


PUMP STATION STATIONARY HANDRAIL DETAIL WITH KICK PLATE

SCALE: 1/4"=1'-0"

NOTES:

1. GRATING SHALL BE 1 1/2" x 1 1/2" x 1 1/2" FRP (MOLDED TYPE).
2. KICK PLATE REQUIRED ONLY WHERE NOTED ON SHEET XX.



DETAIL 2

SCALE: 3/4"=1'-0"

REV.	DATE	DESCRIPTION	BY
0	03/21/14	ISSUED FOR CONSTRUCTION	MCD

Shaw Environmental & Infrastructure, Inc.
(A CB&I COMPANY)

OFFICE LOCATIONS:
197 ELYSIAN DRIVE HOUMA, LA. 70363 PHONE: 985.868.3434
4171 ESSEN LANE BATON ROUGE, LA 70809 PHONE: 225.932.2758

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: TOT

DESIGNED BY: MCD

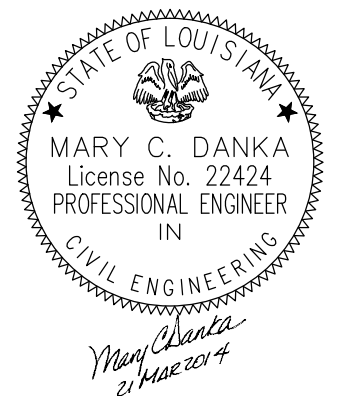
WALKWAY AND HANDRAIL DETAILS

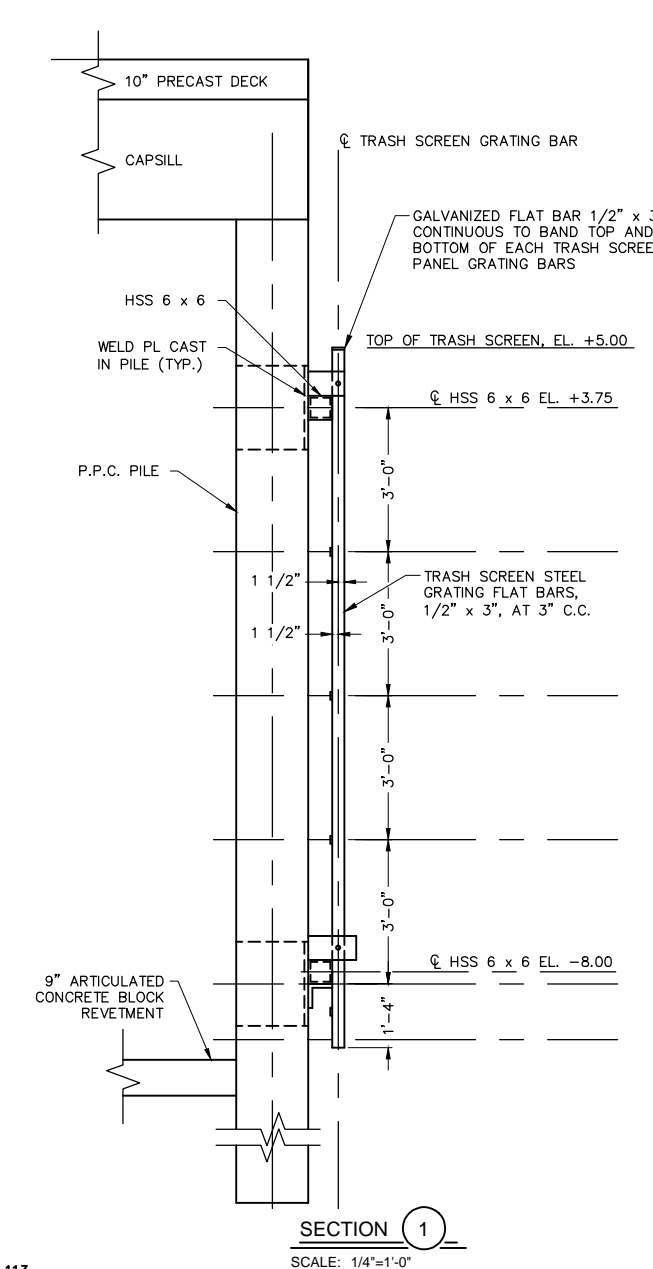
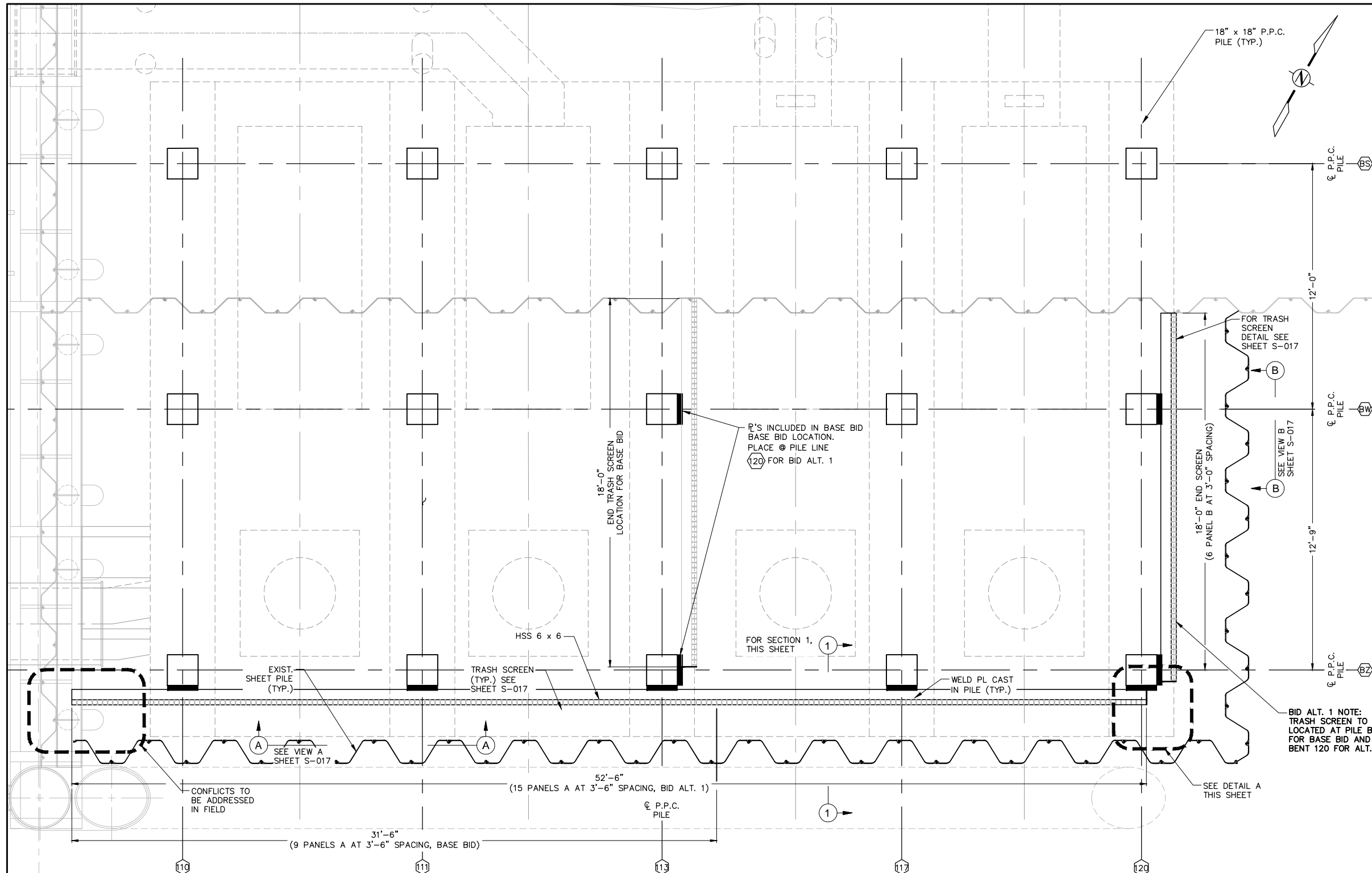
STATE PROJECT NUMBER: TV-52

APPROVED BY:

DATE: AUGUST 2013

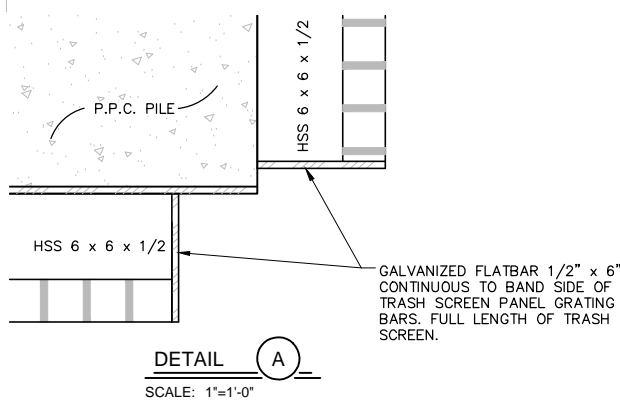
SHEET S-015





BID ALT. 1 NOTE:
TRASH SCREEN TO BE
LOCATED AT PILE BENT 113
FOR BASE BID AND PILE
BENT 120 FOR ALT. 1 BID

SECTION 1
SCALE: 1/4"=1'-0"



DETAIL A
SCALE: 1"=1'-0"

SUBSTRUCTURE PLAN
SCALE: 3/16"=1'-0"
BID ALTERNATE 1 SHOWN
BASE BID AS NOTED

REV.	DATE	DESCRIPTION	BY
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COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: TOT
DESIGNED BY: KLP

PUMP STATION FOUNDATION AND TRASH SCREEN SECTIONS AND DETAILS SHEET 1

STATE PROJECT NUMBER: TV-52

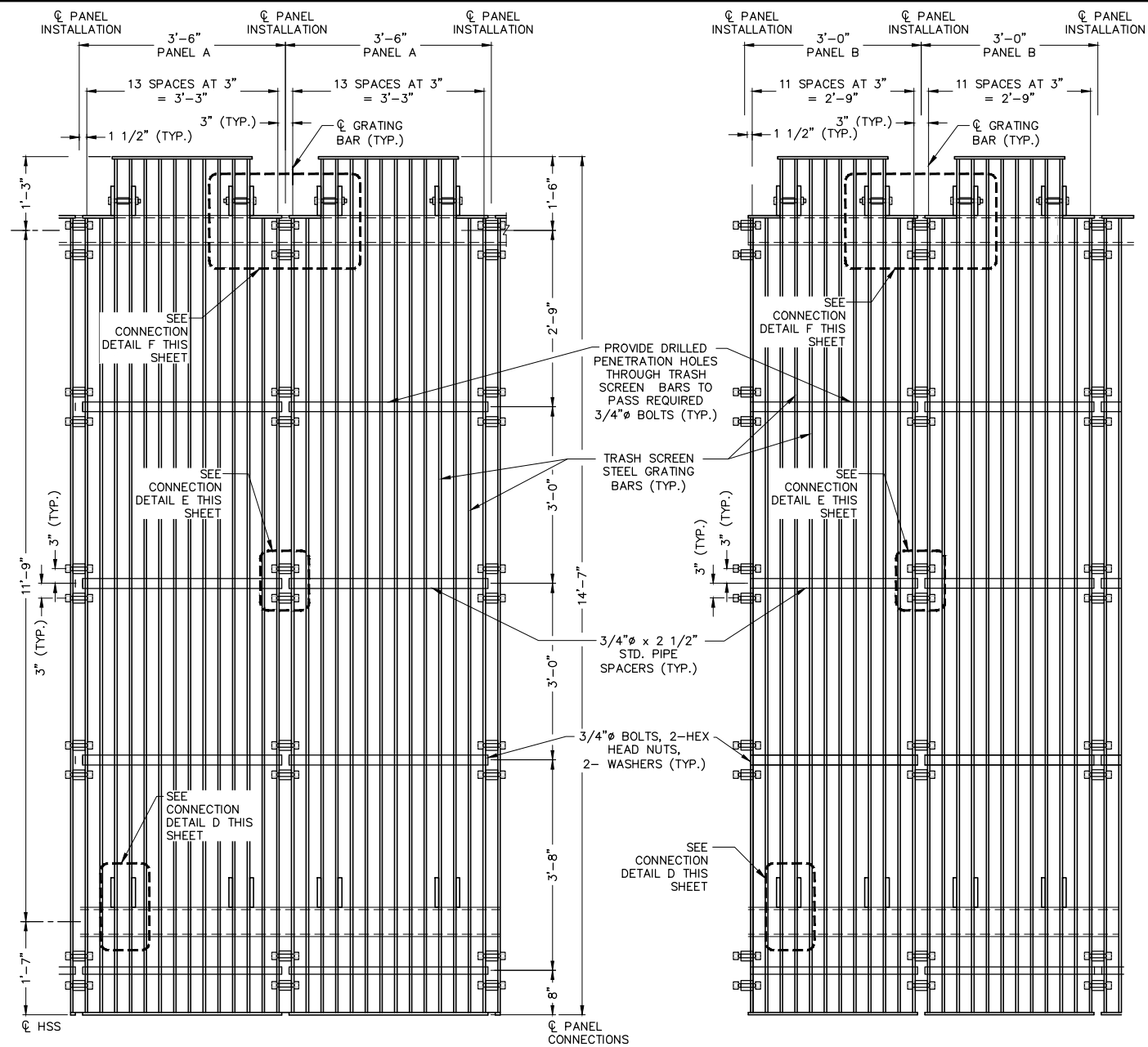
DATE: JUNE 2013

SHEET S-016



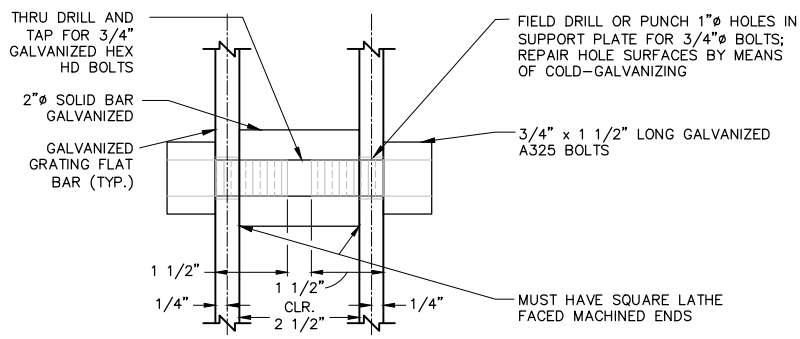
WARNING: PROLONGED EXPOSURE TO DIRECT SUNLIGHT MAY CAUSE FADING OF INKS ON THIS DRAWING.

P:\DWG\CUSTOMERS\Mary_Porah\ST_Mary_Seals\State\Fromah_Canal_Pump_Station\AutoCAD



VIEW A
SCALE: 3/8"=1'-0"

VIEW B
SCALE: 3/8"=1'-0"



DETAIL E
SCALE: 6"=1'-0"

PROVIDE DRILLED PENETRATION HOLES THROUGH TRASH SCREEN BARS TO PASS REQUIRED 3/4" Ø BOLTS (TYP.)

TRASH SCREEN STEEL GRATING BARS (TYP.)

3/4" Ø x 2 1/2" STD. PIPE SPACERS (TYP.)

3/4" Ø BOLTS, 2-HEX HEAD NUTS, 2- WASHERS (TYP.)

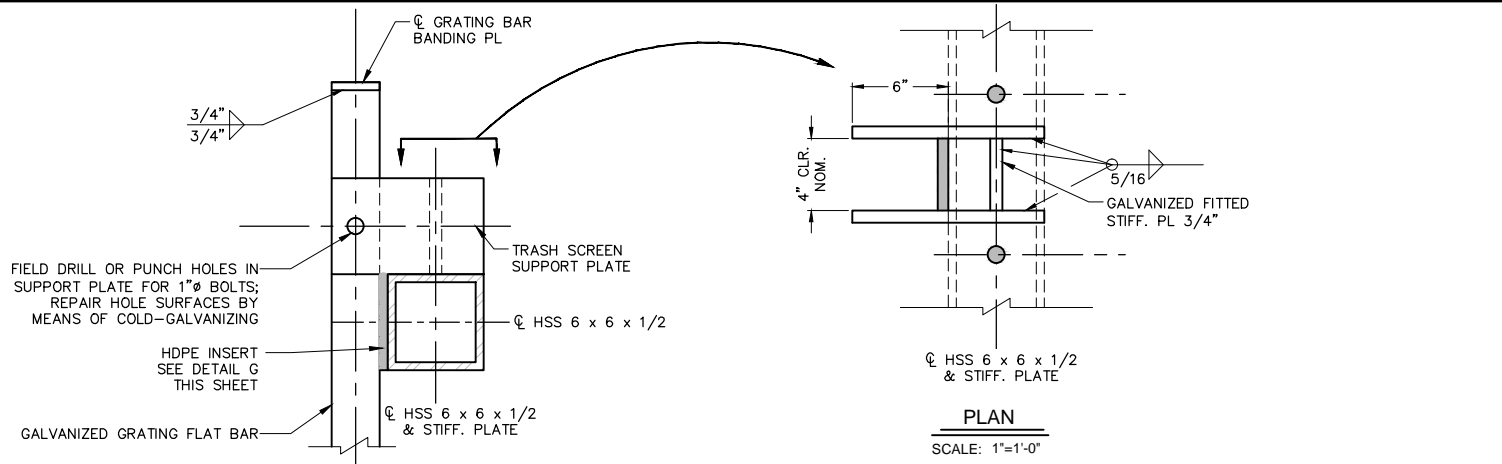
SEE CONNECTION DETAIL F THIS SHEET

SEE CONNECTION DETAIL E THIS SHEET

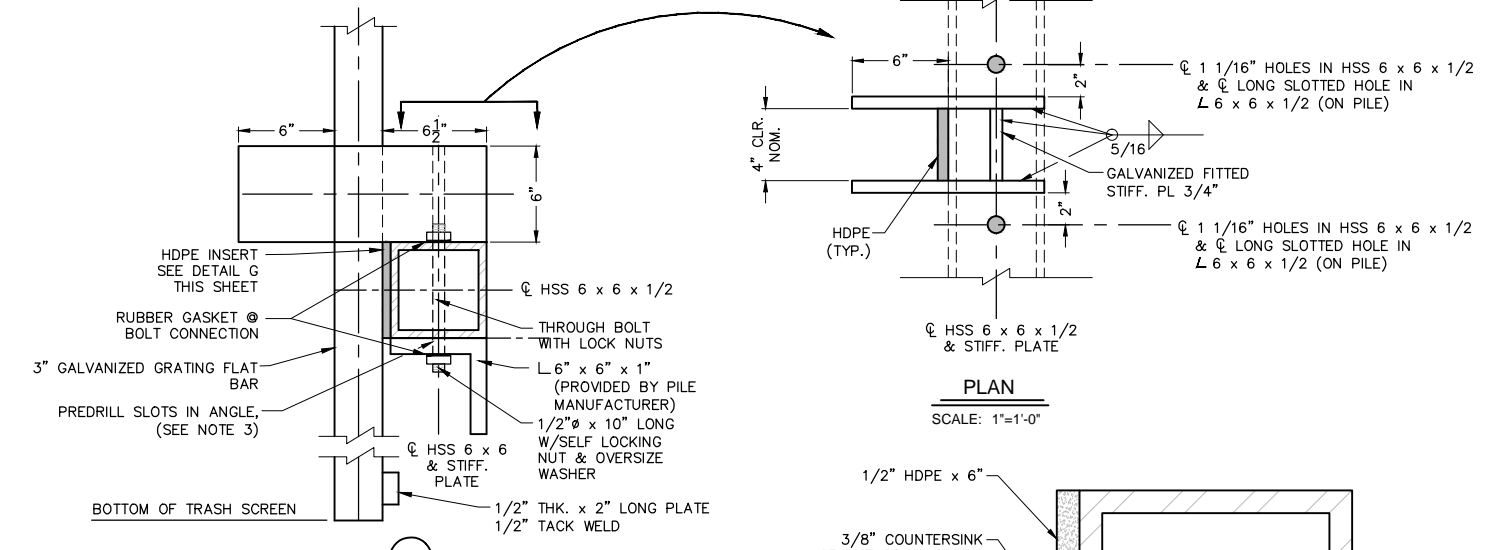
SEE CONNECTION DETAIL D THIS SHEET

SEE CONNECTION DETAIL D THIS SHEET

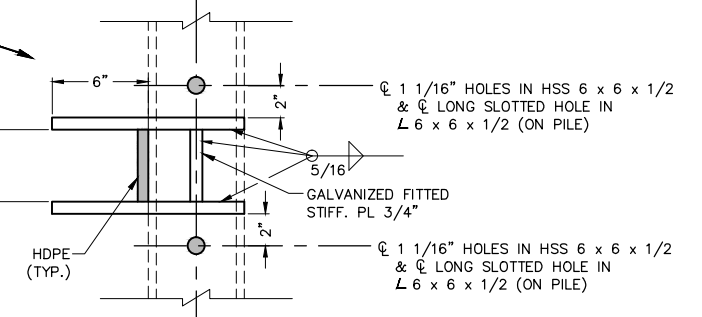
- NOTE:**
- ALL STEEL TO BE HOT DIP GALVANIZED THIS SHEET.
 - SUPPORT ANGLE LOCATIONS TO BE FIELD VERIFIED PRIOR TO FABRICATION.
 - LOCATION OF SLOTS IN L 6 x 6 x 1 WELDED TO PILE SHALL BE FIELD VERIFIED. FABRICATION OF TRASH SCREEN SHALL MATCH LOCATIONS L 6 x 6 SLOTS W/HOLES IN HSS 6 x 6 x 1/2.



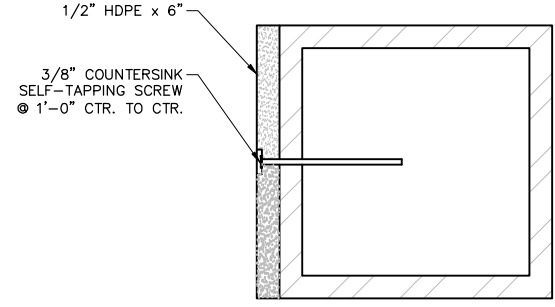
DETAIL C
SCALE: 1"=1'-0"



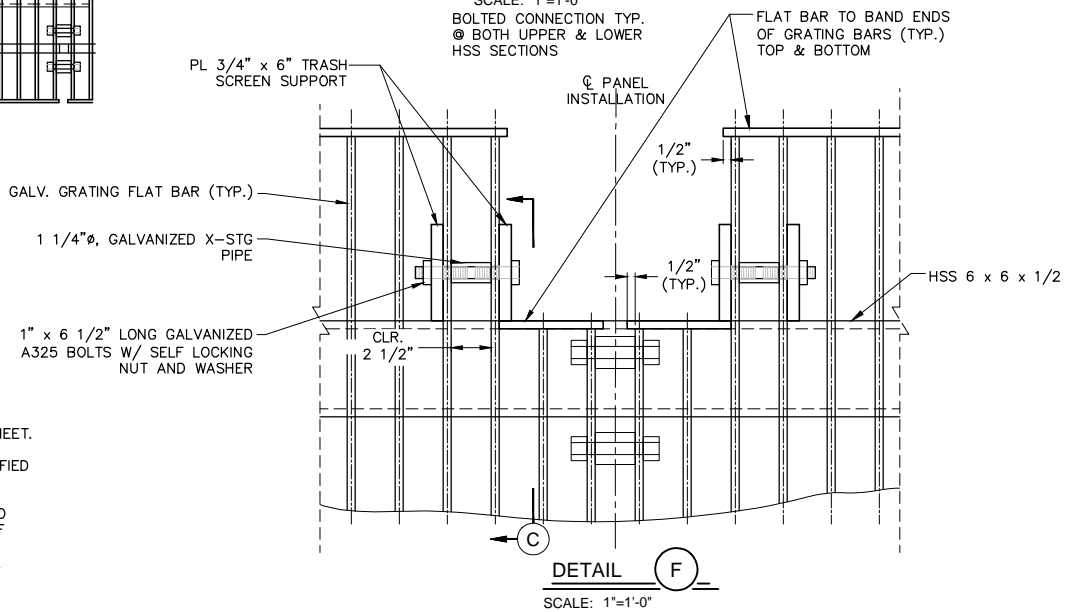
DETAIL D
SCALE: 1"=1'-0"



PLAN
SCALE: 1"=1'-0"



DETAIL G
SCALE: 1/2"=1'-0"



DETAIL F
SCALE: 1"=1'-0"



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

DRAWN BY: TOT
DESIGNED BY: KLP

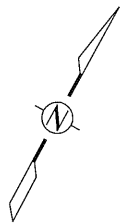
PUMP STATION FOUNDATION AND TRASH SCREEN SECTIONS AND DETAILS SHEET 2

STATE PROJECT NUMBER: TV-52

APPROVED BY:

DATE: JUNE 2013
SHEET S-017

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1 1/2" C, 3-1/4" # 2
W/1-C # 6 GRN GND
(NOTE 2)

FLUORESCENT LIGHT FIXTURE,
MOUNTED 10'-0" ABOVE FINISH
FLOOR (TYPICAL)

BASE BID ALTERNATE BIDS
(UNLESS NOTED OTHERWISE)

FLEXIBLE CONNECTION
(NOTE 3)

ELECTRICAL PANEL, TOP
OF PANEL MOUNTED 6'-0"
ABOVE FINISH FLOOR

BATTERY CHARGER
POWER UNIT No. 1
(NOTE 4)

BATTERY CHARGER
POWER UNIT No. 2
(NOTE 4)

BATTERY CHARGER
POWER UNIT No. 3
(NOTE 4) (ALT. 2)

BATTERY CHARGER
POWER UNIT No. 4
(NOTE 4) (ALT. 2)

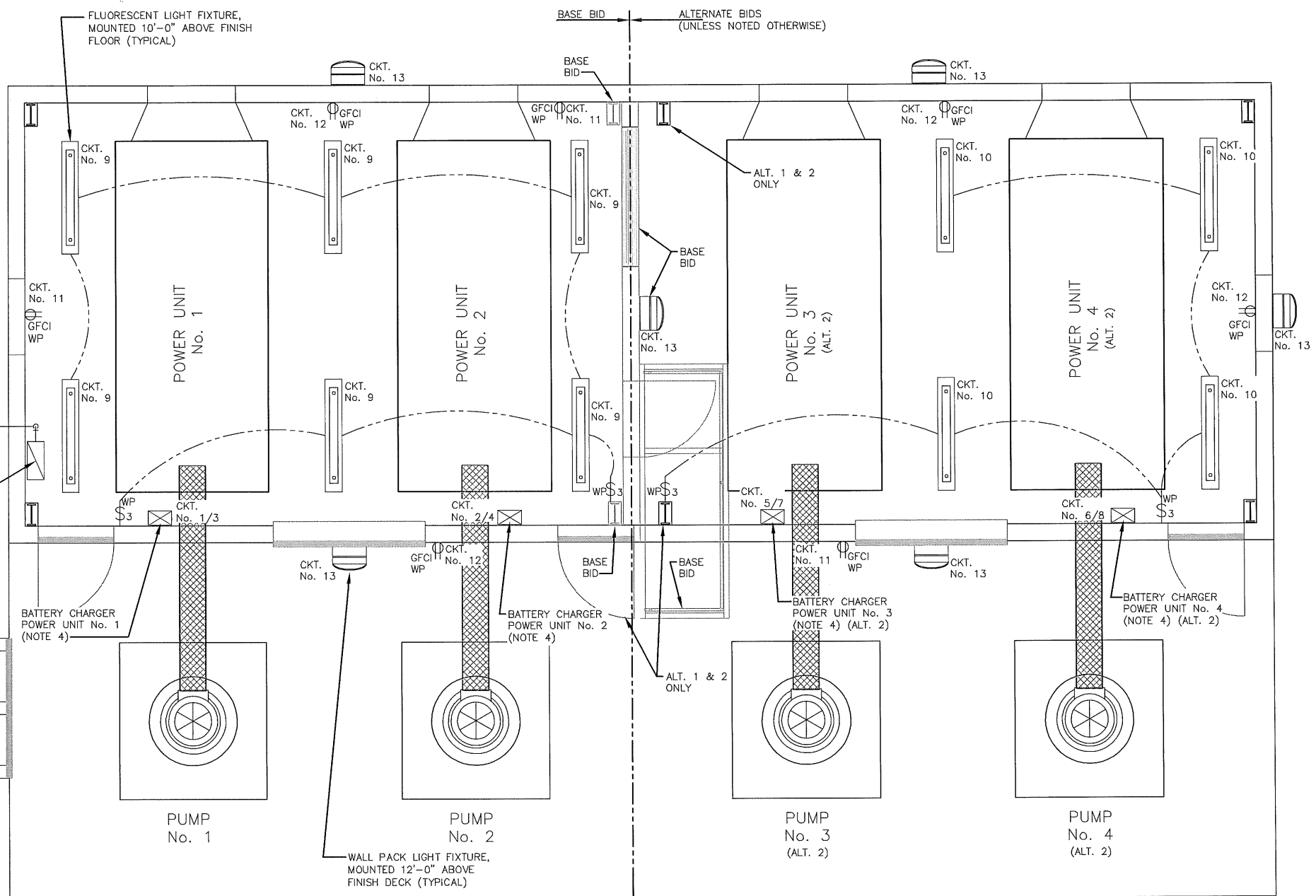
WALL PACK LIGHT FIXTURE,
MOUNTED 12'-0" ABOVE
FINISH DECK (TYPICAL)

NOTES:

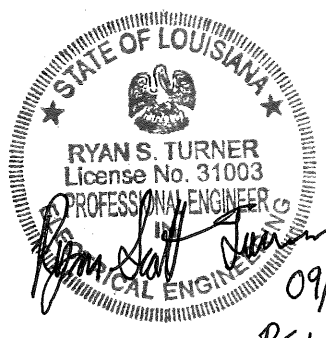
1. FOR ELECTRICAL GENERAL NOTES AND LEGEND, SEE ELECTRICAL NOTES & BLOCK DIAGRAM, DRAWING No. E-002.
2. CONTINUE TO ELECTRICAL SERVICE PANEL, BY WAY OF WALKWAY AND UNDERGROUND. CONTRACTOR TO ROUTE AND SUPPORT, AS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR CONDUIT TO BE SUPPORTED PER APPLICABLE CODES.
3. DUE TO THE DEFLECTION OF THE WALKWAY CAUSED BY STORM WATERS, THE CONDUIT INSTALLATION AT THIS LOCATION SHALL BE FLEXIBLE TO ALLOW A FOUR (4) INCH DECREASE IN DISTANCE BETWEEN WALKWAY AND PUMP HOUSE. SEALTITE LIQUID-TIGHT FLEXIBLE METAL CONDUIT (LFMC) WITH A GROUND BONDING JUMPER IS ACCEPTABLE FOR INSTALLATION AT THIS LOCATION.
4. BATTERY CHARGER SUPPLIED BY THE PUMP SYSTEM VENDOR AND ENERGIZED BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE REQUIRED CIRCUIT SIZE AND CIRCUIT CONNECTION METHOD WITH THE BATTERY CHARGER SUPPLIED.
5. LIGHTING OF THE ACCESS WALKWAY TO BE PROVIDED BY OTHERS.

REFERENCE DRAWINGS:

- E-002 ELECTRICAL NOTES & BLOCK DIAGRAM
- C-002 PUMP STATION SITE PLAN



PLAN:
SCALE: 3/8" = 1'-0"



09/13/13
REV 1

REV.	DATE	DESCRIPTION	BY
I	09/13/13	REVISED FOR CONSTRUCTION	TT
O	08/05/13	ISSUED FOR CONSTRUCTION	PH

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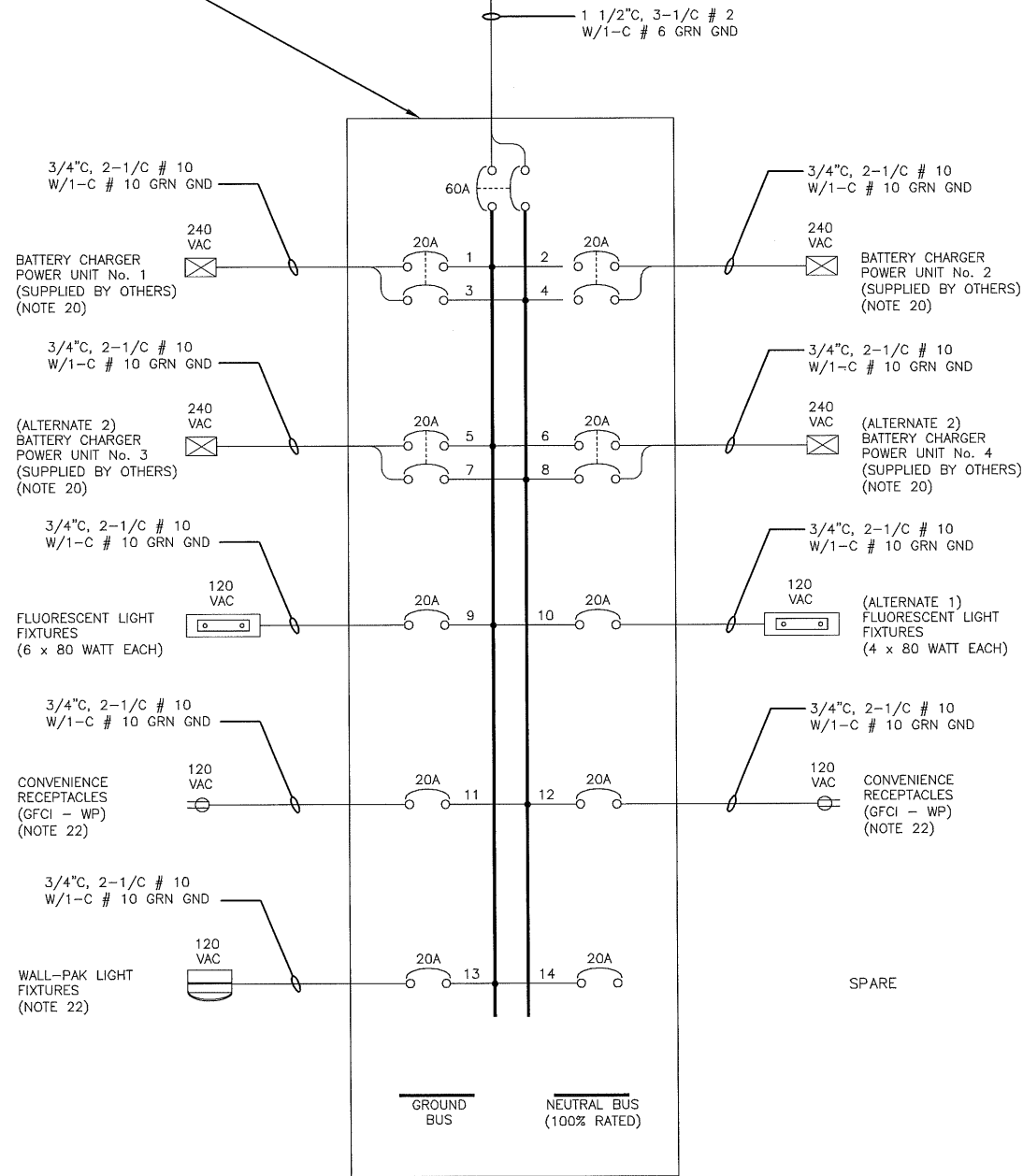
DRAWN BY: PH DESIGNED BY: PH

PUMP STATION BUILDING ELECTRICAL PLAN	
STATE PROJECT NUMBER: TV-52	DATE: AUGUST 2013
APPROVED BY: RST	SHEET E-001

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ELECTRICAL PANEL, NEMA 4X, CROUSE-HINDS XLPB SERIES 1Ø, 120/240V, 60Hz, 10kAIC 125A BUS, 60A MAIN BREAKER, 4-2 POLE 20A BKR 6-1 POLE 20A BKR 6-SPACES

ELECTRICAL SERVICE PANEL (BY OTHERS)
CONTRACTOR TO INSTALL A 2-POLE 60 AMP CIRCUIT BREAKER, AS REQUIRED



ELECTRICAL LEGEND:

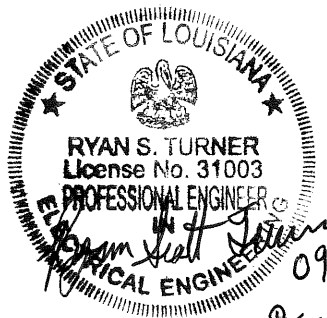
- ELECTRICAL PANEL, NEMA 4X, CROUSE-HINDS XLPB SERIES (OR APPROVED EQUAL) 1Ø, 120/240V, 60Hz, 10kAIC 125A BUS, 60A MAIN BREAKER, 4-2 POLE 20A BKR 6-1 POLE 20A BKR 6-SPACES
- BATTERY CHARGER (SUPPLIED BY OTHERS) (NOTE 20)
- FLUORESCENT LIGHT FIXTURE CROUSE-HINDS FVN SERIES (OR APPROVED EQUAL) 80W, 120VAC, 60Hz CLASS 1, DIV. 2 2-40W BULB FIXTURE
- WALL PACK, METAL HALIDE LIGHT FIXTURE CROUSE-HINDS CHAMP-PAK SERIES (OR APPROVED EQUAL) MARINE & WET LOCATION 100W, 120VAC, 60Hz 1-BULB FIXTURE WITH BUILT IN PHOTO EYE
- INDUSTRIAL GRADE, 3-WAY SWITCH, 20A, 120VAC, (HUBBELL HBL1223) IN CAST IRON SINGLE GANG BOX (0-2/GEDNEY TYPE FD) WITH GASKETED LOCKING TOGGLE SWITCH COVER (0-2/GEDNEY FS-1-WSCA) (OR APPROVED EQUAL) (MOUNTED 48" AFF)
- WEATHER RESISTANT, INDUSTRIAL GRADE, DUPLEX RECEPTACLE, 20A, 125VAC, 2P-3W-G, NEMA 5-20R (HUBBELL GFR5362TR) IN CAST IRON SINGLE GANG BOX (0-2/GEDNEY TYPE FD) WITH GASKETED COVER (0-2/GEDNEY FS-1-GFCA) (OR APPROVED EQUAL) (MOUNTED 18" AFF)
- GFCI WP
- GFCI
- WP WEATHERPROOF

ELECTRICAL GENERAL NOTES:

1. ALL ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC), NFPA, NEMA, ANSI STANDARDS, NATIONAL ELECTRICAL SAFETY CODE AND RULES/REGULATIONS OUTLINED IN ANY FEDERAL, STATE OR LOCAL ORDINANCE AND CODES.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL PERMITS AND INSPECTIONS AS REQUIRED BY FEDERAL, STATE OR LOCAL ORDINANCES. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TEMPORARY POWER REQUIRED FOR CONSTRUCTION PURPOSES.
3. **CAUTION:** UNCHARTED AND/OR UNDOCUMENTED OBSTRUCTIONS MAY EXIST. PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ANY POSSIBLE UNDERGROUND UTILITIES THAT ARE NOT SHOWN ON THE CONTRACT DOCUMENTS.
4. ANY NECESSARY FIELD CHANGES TO DRAWINGS SHALL BE RECORDED AND BROUGHT TO OWNER'S AGENT ATTENTION. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL RETURN ONE SET OF PRINTS WITH ALL FIELD CHANGES INDICATED ON THEM.
5. ALL ABOVE GROUND CONDUIT AND FITTINGS SHALL BE HOT DIPPED RIGID GALVANIZED STEEL (U.L. LISTED) AND SHALL BE A MINIMUM OF 3/4" IN DIAMETER. ALL UNDERGROUND CONDUIT SHALL BE SCH. 80 PVC AND UNDERGROUND CONDUIT ELBOW FITTINGS SHALL BE PVC COATED RIGID GALVANIZED STEEL WITH URETHANE INTERIOR COATING. CONDUIT FITTINGS SHALL BE FORM 7 AND ALL CONDUIT BENDS 1 1/2" AND LARGER SHALL BE FACTORY LONG RADIUS ELBOWS.
6. FACTORY AND FIELD CUT STEEL CONDUIT THREADS SHALL BE CLEANED WITH A DEGREASER AND COATED TO A 4.0 MIL DRY FILM THICKNESS WITH ZINC GALVANIZED SPRAY PAINT, THEN COATED WITH PENETROX "A" BEFORE MAKING JOINTS. CONDUIT JOINTS TO BE SCREWED TIGHT TO ENSURE GOOD CONDUCTIVITY.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDUIT FITTINGS, DRAINS, BREATHERS, ETC, NOT SHOWN BUT REQUIRED FOR A COMPLETE ELECTRICAL INSTALLATION CONSISTENT WITH GOOD ENGINEERING PRACTICE AND THE REQUIREMENTS DEFINED IN THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC).
8. CONTRACTOR IS RESPONSIBLE FOR CONDUIT TO BE SUPPORTED PER APPLICABLE CODES. CONDUIT SHALL BE SUPPORTED FROM BUILDING STRUCTURAL STEEL. PROVIDE ADDITIONAL SUPPORT STEEL AS REQUIRED. ALL FIELD FABRICATED STEEL CONDUIT SUPPORTS THAT WILL BE ATTACHED TO STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANIZED. ALL WELDS SHALL BE TOUCHED UP WITH A COLD GALVANIZED SPRAY.
9. CONDUIT RUNS SHALL BE ROUTED PARALLEL WITH THE BUILDING STRUCTURAL STEEL. FIELD ROUTED CONDUIT AND SUPPORTS SHALL BE INSTALLED TO AVOID INTERFERENCES WITH MECHANICAL EQUIPMENT.
10. WHEN REQUIRED, UNISTRUT CONDUIT SUPPORTS SHALL BE P-1000 OR P-1001 GALVANIZED STEEL CHANNEL WITH UNISTRUT PIPE CLAMPS FOR MULTIPLE CONDUIT RUNS.
11. ALL CONDUIT FITTINGS AND JUNCTION BOXES SHALL BE INSTALLED IN READILY ACCESSIBLE LOCATIONS WITH THE COVERED OPENING ORIENTED FOR MAXIMUM ACCESSIBILITY.
12. INSTALL AT LEAST ONE PULL FITTING IN EVERY 300 FEET OF A CONDUIT RUN. NO MORE THAN THREE (3) 90 DEGREE CONDUIT BENDS SHALL BE ALLOWED BETWEEN PULL FITTINGS.
13. CONDUIT CONNECTIONS TO SHEET METAL ENCLOSURES SHALL BE MADE WITH A GROUNDING MYERS HUB FITTINGS (OR APPROVED EQUAL).
14. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH LOCAL REGULATIONS AND THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC).
15. CONDUIT FITTINGS AND BOXES CONTAINING CONDUCTOR SPLICES SHALL BE SIZED PER THE REQUIREMENTS DEFINED IN THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC).
16. UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTORS SHALL BE TYPE THWN, 600V, 75°C INSULATED COPPER. CONDUCTOR SIZE SHALL BE BASED ON 40°C AMBIENT TEMPERATURE. SIZE # 10 AWG CONDUCTORS SHALL BE SOLID CABLES AND # 8 AWG & LARGER CONDUCTORS SHALL BE STRANDED CABLES.
17. ALL ELECTRICAL CIRCUITS SHALL INCLUDE A SEPARATE NEUTRAL CONDUCTOR (WHERE REQUIRED).
18. ALL ELECTRICAL CIRCUITS SHALL INCLUDE A SEPARATE GREEN, THWN COPPER EQUIPMENT GROUNDING CONDUCTOR, SIZED PER THE REQUIREMENTS DEFINED IN THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC), TO GROUND THE ELECTRICAL EQUIPMENT TO THE POWER PANEL.
19. EQUIPMENT INSTALLATION SHALL COMPLY WITH WORKING CLEARANCES AND DEDICATED EQUIPMENT SPACE REQUIREMENTS DEFINED IN THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC).
20. BATTERY CHARGER SUPPLIED BY THE PUMP SYSTEM VENDOR AND ENERGIZED BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE REQUIRED CIRCUIT SIZE AND CIRCUIT CONNECTION METHOD WITH THE BATTERY CHARGER SUPPLIER.
21. ELECTRICAL CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRICAL EQUIPMENT WITH ALL OTHER CONTRACTORS (CIVIL / STRUCTURAL / MECHANICAL) PRIOR TO COMMENCEMENT OF PROJECT AND DURING ALL PHASES OF CONSTRUCTION.
22. SOME ELECTRICAL LOADS ARE FOR BASE BID AND ALTERNATE 1. FOR QUANTITY OF ELECTRICAL LOADS, REFER TO PUMP STATION BLDG ELECTRICAL PLAN ON DRAWING E-001.

REFERENCE DRAWINGS:

- E-001 PUMP STATION BLDG ELECTRICAL PLAN
- C-002 PUMP STATION SITE PLAN



REV 1

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450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: PH DESIGNED BY: PH

ELECTRICAL NOTES & BLOCK DIAGRAM

STATE PROJECT NUMBER: TV-52

DATE: AUGUST 2013

APPROVED BY: RST

SHEET E-002

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